

Import libraries

```
In [1]: # Python libraries
import os
import sys
import pandas as pd # for data manipulation
import numpy as np # for data manipulation
import tensorflow as tf
from sklearn.model_selection import train_test_split
from datetime import datetime
import time

# Plotting
import matplotlib.pyplot as plt

# To enable LaTeX and select a font
plt.rcParams.update({
    "text.usetex": True,
    "font.family": "sans-serif",
    "font.sans-serif": "Helvetica",
})

# Using ipynb import functions defined in other nb
sys.path.append("myfun/")
from ipynb.fs.defs.myfun_load_dataset import *
from ipynb.fs.full.myfun_nn import *
from ipynb.fs.defs.myfun_plot import *
```

2023-09-12 08:43:19.718551: I tensorflow/core/platform/cpu_feature_guard.cc:193] This TensorFlow binary is optimized with oneAPI Deep Neural Network Library (oneDNN) to use the following CPU instructions in performance-critical operations: SSE4.1 SSE4.2 AVX AVX2 FMA To enable them in other operations, rebuild TensorFlow with the appropriate compiler flags.

Tensorflow/Keras: 2.11.0
sklearn: 1.3.0

Data Acquisition

```
In [2]: # Load the dataset
par_dir = os.path.dirname(os.getcwd()) # parent dir
dir_name = par_dir + "/NN-interaction"
```

```
In [3]: processed_flag = 'pre'
# load the data
_, dflist = load_dataset(dir_name, processed_flag)
dataset = dflist
```

```
In [4]: # params
DOE =[1,10,1] #Design of experiment
v0_guess = 30
NUM_ITER = 500
LEARNING_RATE_v0 = 0.5
flag_save = True
```

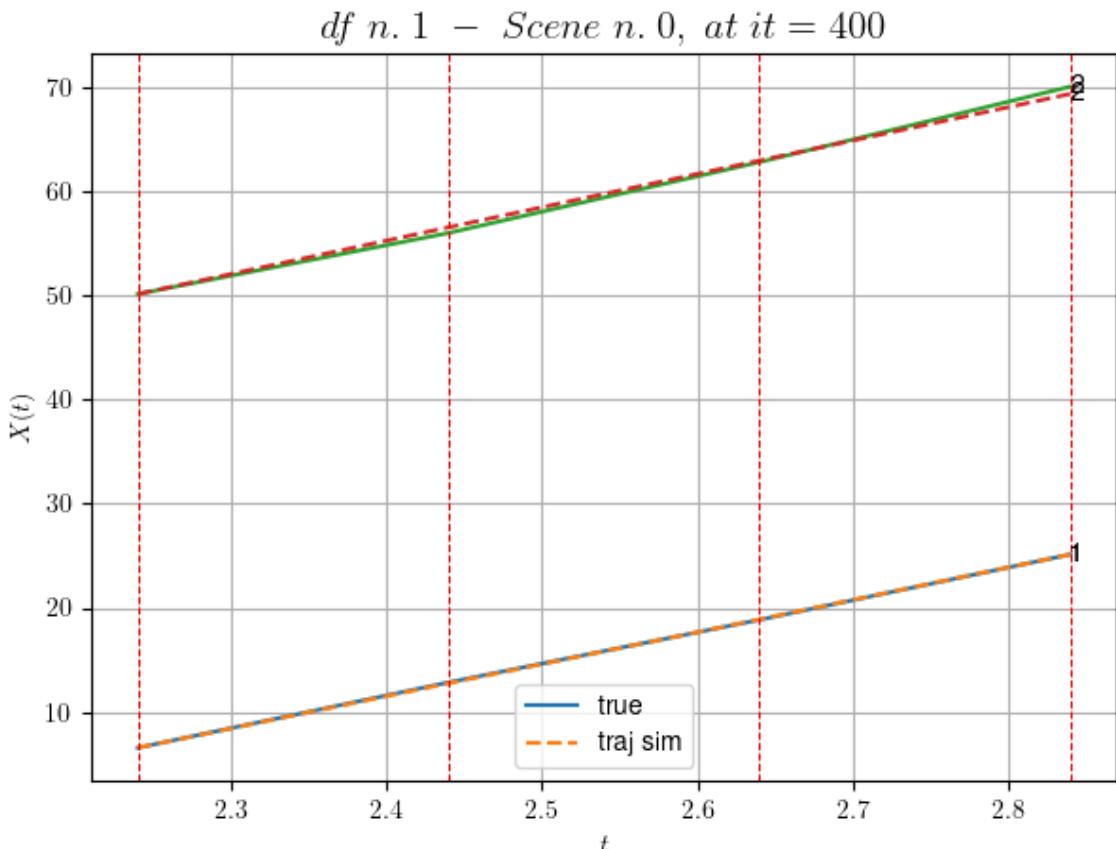
NN: 1-10-1

```
In [5]: info_nn10 = solve_nn_dataset(DOE, v0_guess, dataset, processed_flag,
```

NN structure: 1-10-1

In df n.1/10 we have 109 scenes
df n.1, scene n.0/109
=====

We have 3 time intervals inside [2.24,2.84]
* err= 0.10223810732047932
* Learning rate NN = 6.560998826898867e-06
* diff = 5.212437383106394e-08

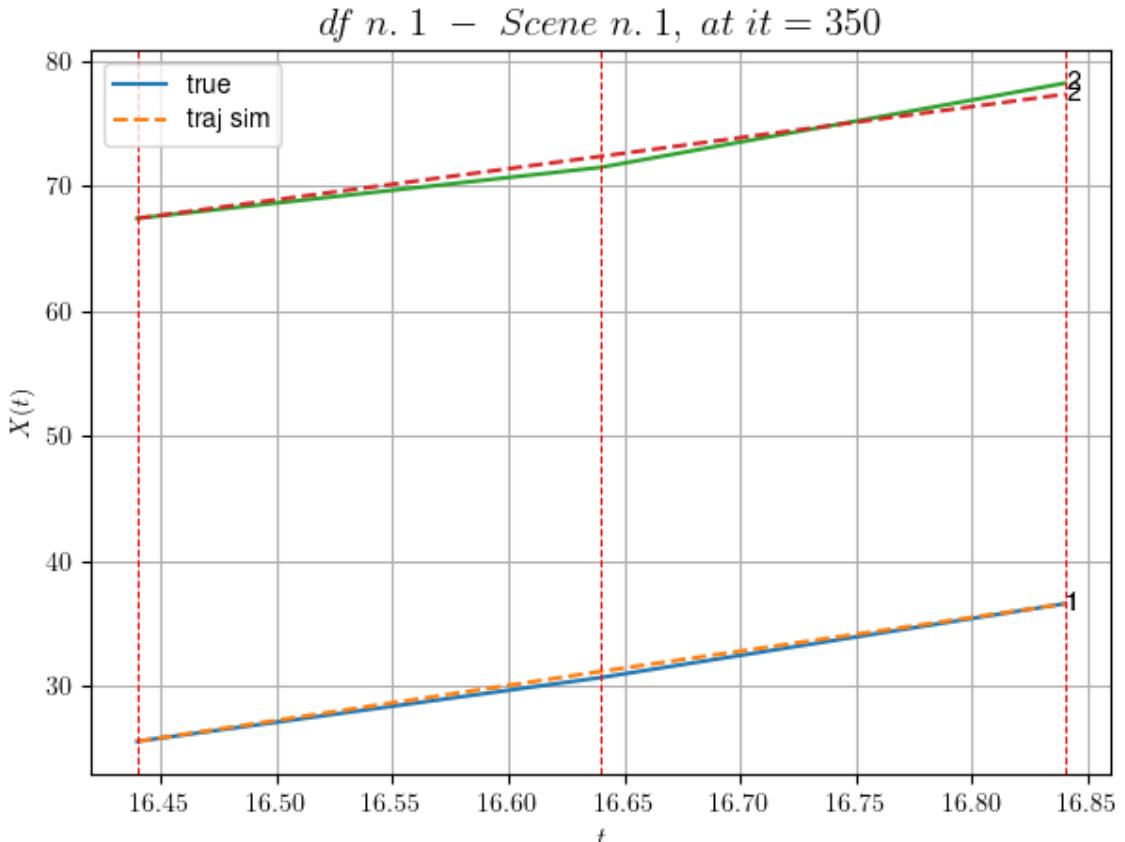


For scene 0/109

- * use LR_NN=1e-05 with err=0.5349740025788211 at it=24
- * v0_scn_mean = 31.97726088611078
- * MAE = 0.1022380962193694

df n.1, scene n.1/109

We have 2 time intervals inside [16.44,16.84]
* err= 0.30020068477160455
* Learning rate NN = 8.099998922261875e-06
* diff = 9.532096403863655e-07



For scene 1/109

- * use LR_NN=1e-05 with err=0.8888258870791874 at it=24
- * v0_scn_mean = 25.115217273041413
- * MAE = 0.2752089778597403

df n.1, scene n.2/109

We have 3 time intervals inside [33.44, 34.04]

- Time interval n.0: [33.44, 33.64]
 - * y_true: [32.35068864]
 - * v_ann: [32.34784698486328, 20.73562398523797]

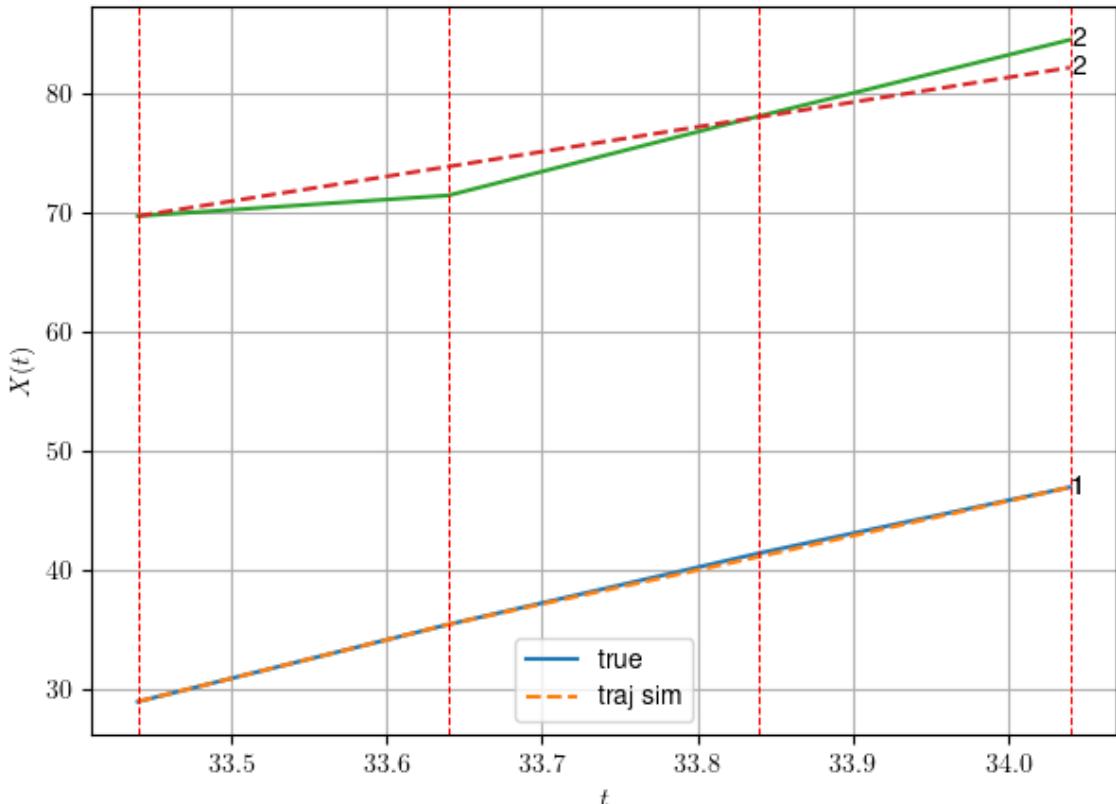
- Time interval n.1: [33.64, 33.84]
 - * y_true: [29.86084509]
 - * v_ann: [28.410675048828125, 20.73562398523797]

- Time interval n.2: [33.84, 34.04]
 - * y_true: [27.63106672]
 - * v_ann: [29.05702781677246, 20.73562398523797]

- * err= 1.4205103782139534
- * Learning rate NN = 5.9048988987342454e-06

* diff = 2.0041007875448713e-07

df n. 1 – Scene n. 2, at it = 500



For scene 2/109

* use LR_NN=1e-05 with err=5.230920919439614 at it=24
 * v0_scn_mean = 21.10619902575753
 * MAE = 1.2198835804227448

df n.1, scene n.3/109

We have 4 time intervals inside [37.44, 38.24]

- Time interval n.0: [37.44, 37.64]
 - * y_true: [20.4107518]
 - * v_ann: [26.0789852142334, 27.295254165821113]

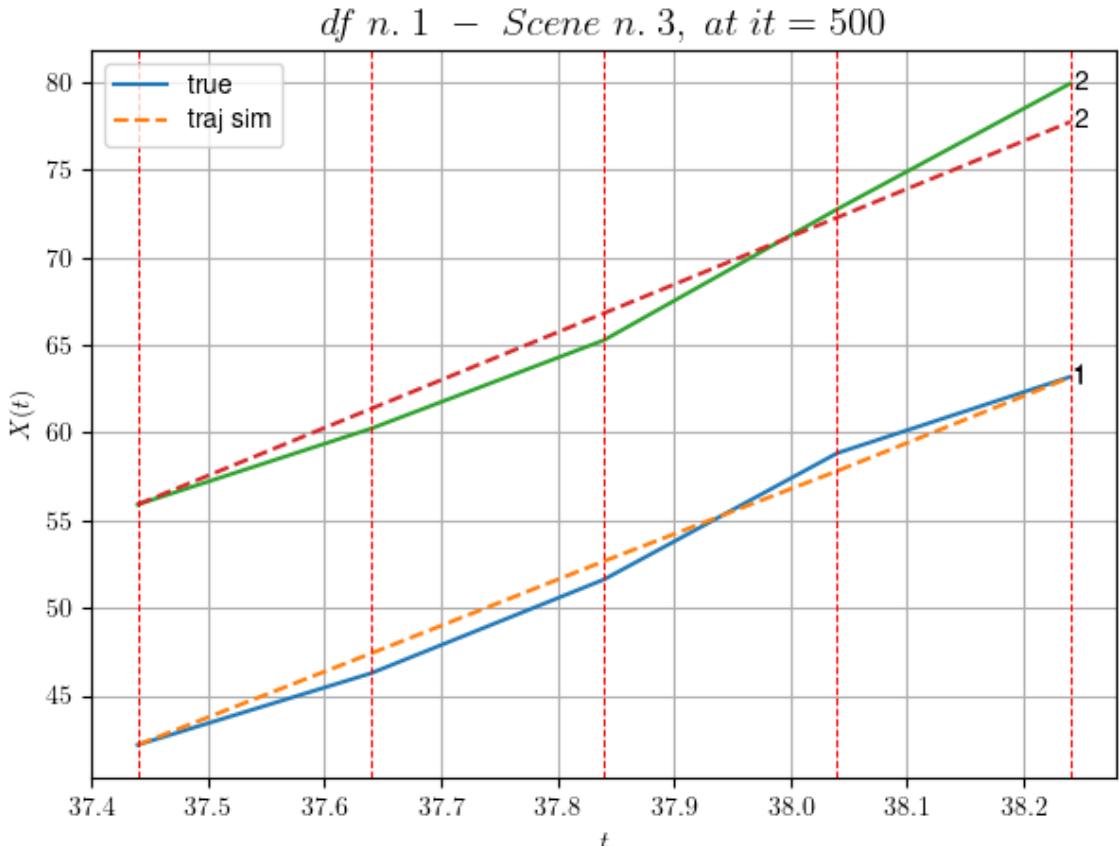
- Time interval n.1: [37.64, 37.84]
 - * y_true: [26.78126893]
 - * v_ann: [26.330944061279297, 27.295254165821113]

- Time interval n.2: [37.84, 38.04]
 - * y_true: [36.04216131]
 - * v_ann: [25.740863800048828, 27.295254165821113]

- Time interval n.3: [38.04, 38.24]

```
* y_true: [21.78153493]
* v_ann: [26.71487808227539, 27.295254165821113]
```

```
* err= 1.2082569287196072
* Learning rate NN = 2.3914839403005317e-05
* diff = 9.614617975106654e-07
```



For scene 3/109

```
* use LR_NN=5e-05 with err=1.4551639173624993 at it=24
* v0_scn_mean = 27.403443999167504
* MAE = 1.0995274464064377
```

df n.1, scene n.4/109

We have 3 time intervals inside [44.24, 44.84]

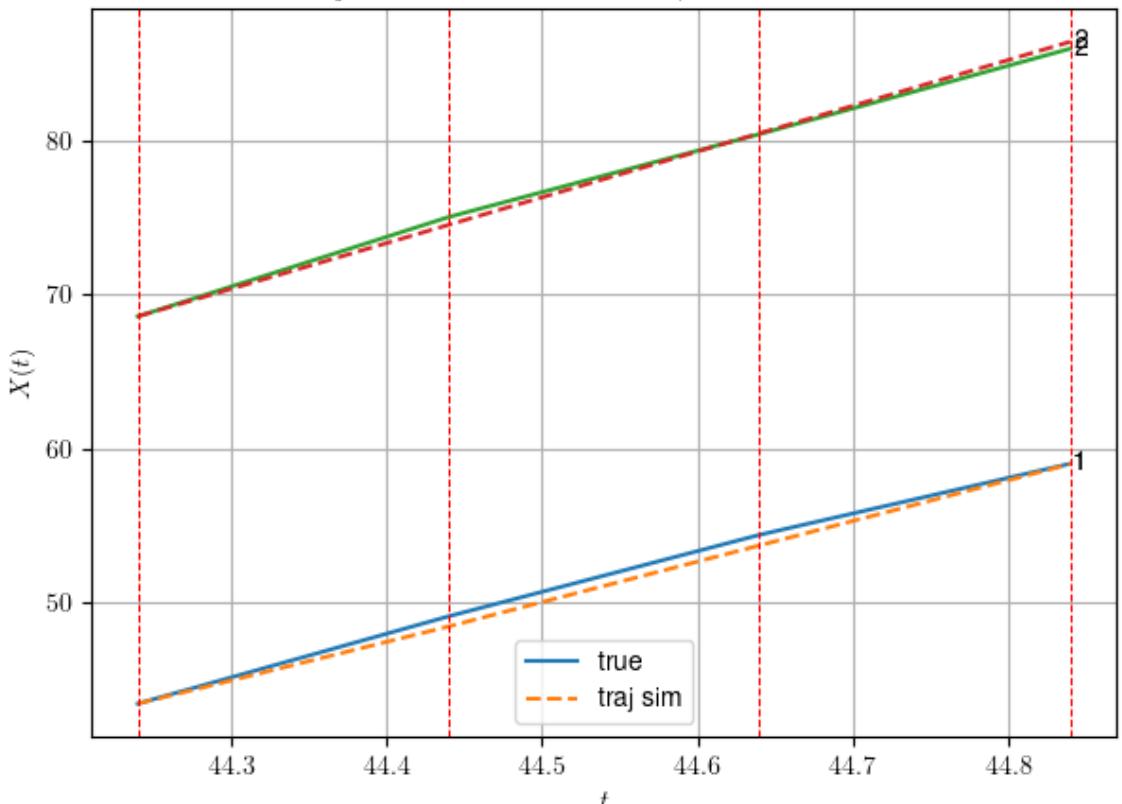
- Time interval n.0: [44.24, 44.44]
 - * y_true: [28.36118373]
 - * v_ann: [25.062143325805664, 29.733272374894167]

- Time interval n.1: [44.44, 44.64]
 - * y_true: [26.45136946]
 - * v_ann: [26.315685272216797, 29.733272374894167]

- Time interval n.2: [44.64, 44.84]
 - * y_true: [23.12145598]
 - * v_ann: [26.434900283813477, 29.733272374894167]

- * err= 0.17118117957025544
- * Learning rate NN = 2.952449540316593e-05
- * diff = 3.203710734814291e-05

df n. 1 – Scene n. 4, at it = 500



For scene 4/109

- * use LR_NN=5e-05 with err=0.20814160258352155 at it=24
- * v0_scn_mean = 29.743941479896318
- * MAE = 0.15080007498049755

df n.1, scene n.5/109

We have 5 time intervals inside [52.84,53.84]

- Time interval n.0: [52.84, 53.04]
 - * y_true: [24.68117551]
 - * v_ann: [29.713157653808594, 35.9128223540259]

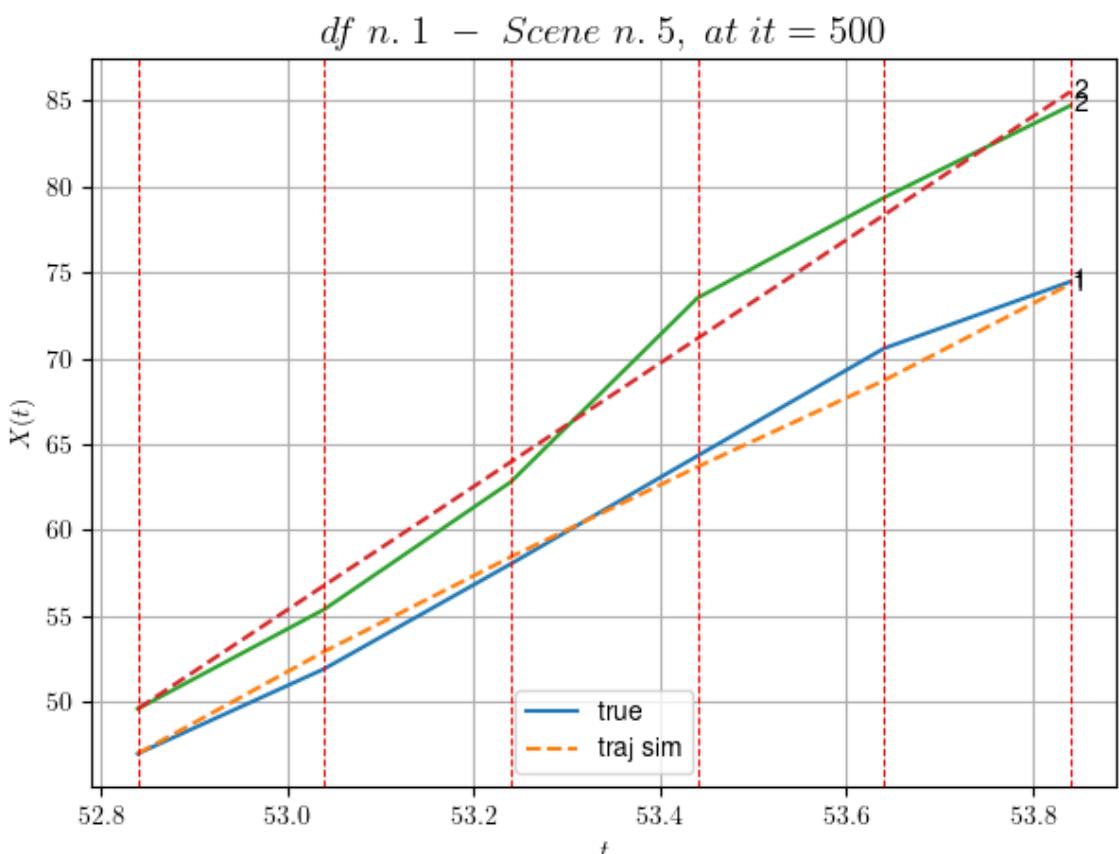
- Time interval n.1: [53.04, 53.24]
 - * y_true: [30.52180624]
 - * v_ann: [27.516016006469727, 35.9128223540259]

```
- Time interval n.2: [53.24, 53.44]
* y_true: [31.41247605]
* v_ann: [26.192564010620117, 35.9128223540259]
```

```
- Time interval n.3: [53.44, 53.64]
* y_true: [31.2776072]
* v_ann: [25.1485595703125, 35.9128223540259]
```

```
- Time interval n.4: [53.64, 53.84]
* y_true: [19.45696001]
* v_ann: [28.039260864257812, 35.9128223540259]
```

```
* err= 1.2999458227717469
* Learning rate NN = 0.0003874204121530056
* diff = 0.03074081263171502
```



For scene 5/109

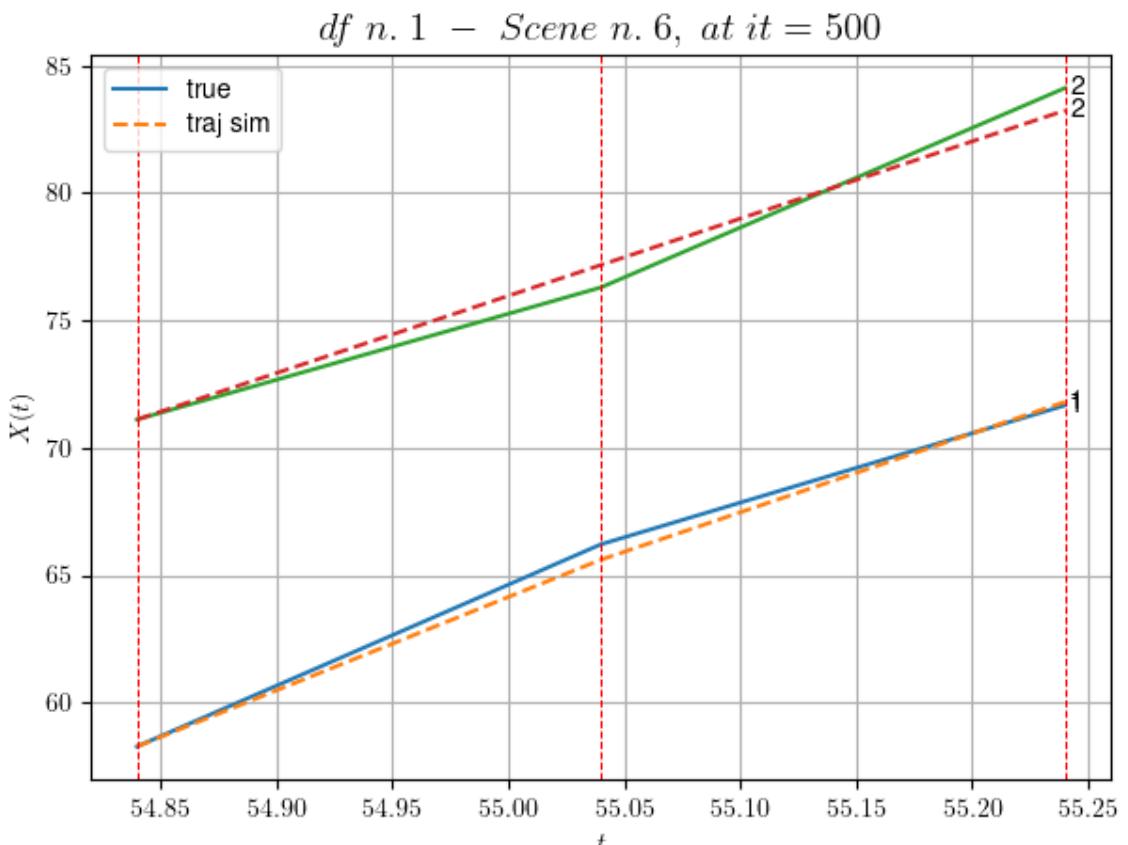
```
* use LR_NN=0.001 with err=16.074733070831716 at it=24
* v0_scn_mean = 35.676309459910044
* MAE = 1.2718419680942494
```

df n.1, scene n.6/109

```
=====
We have 2 time intervals inside [54.84,55.24]
- Time interval n.0: [54.84, 55.04]
  * y_true: [39.69303006]
  * v_ann: [36.67112731933594, 30.333444658289288]
```

```
-----
- Time interval n.1: [55.04, 55.24]
  * y_true: [27.26241914]
  * v_ann: [30.97646713256836, 30.333444658289288]
```

```
-----
* err= 0.3222869424566485
* Learning rate NN = 7.289998757187277e-05
* diff = 0.0008575206313761186
```



For scene 6/109

```
* use LR_NN=0.0001 with err=0.3109936037137625 at it=24
* v0_scn_mean = 30.320106871960196
* MAE = 0.3222869424566485
```

df n.1, scene n.7/109

```
=====
We have 4 time intervals inside [56.84,57.64]
- Time interval n.0: [56.84, 57.04]
  * y_true: [23.35104229]
  * v_ann: [23.48634910583496, 35.49695649017792]
```

```

-----  

- Time interval n.1: [57.04, 57.24]  

* y_true: [29.99173244]  

* v_ann: [24.910669326782227, 35.49695649017792]
-----
```

```

-----  

- Time interval n.2: [57.24, 57.44]  

* y_true: [26.49185212]  

* v_ann: [27.777517318725586, 35.49695649017792]
-----
```

```

-----  

- Time interval n.3: [57.44, 57.64]  

* y_true: [27.20243748]  

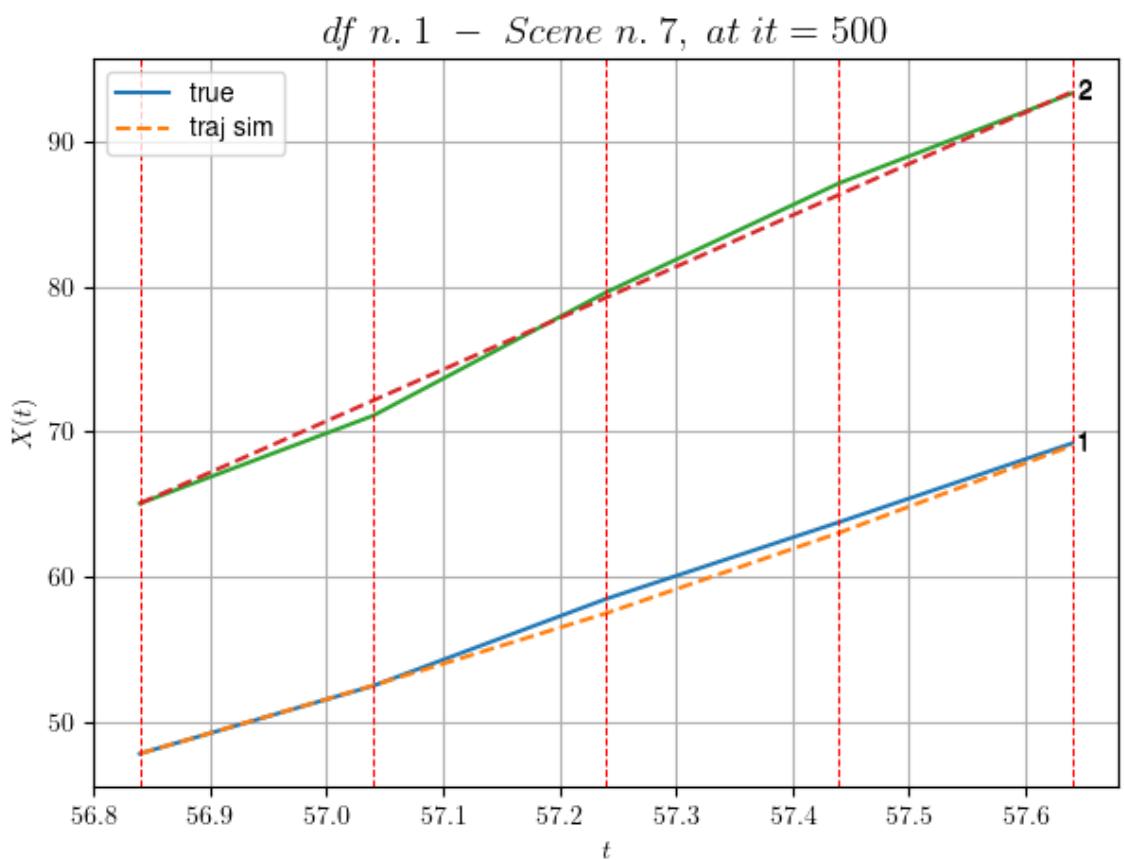
* v_ann: [30.03955841064453, 35.49695649017792]
-----
```

```

* err= 0.3412724955209507  

* Learning rate NN = 2.3914839403005317e-05  

* diff = 0.0006085407274065147
-----
```



For scene 7/109

```

* use LR_NN=5e-05 with err=4.455131192971994 at it=24  

* v0_scn_mean = 35.27707823061246  

* MAE = 0.3412724955209507
=====
```

```
df n.1, scene n.8/109
=====
```

```
=====
We have 4 time intervals inside [60.04, 60.84]
- Time interval n.0: [60.04, 60.24]
  * y_true: [32.6313833]
  * v_ann: [33.992897033691406, 26.52161959108589]
```

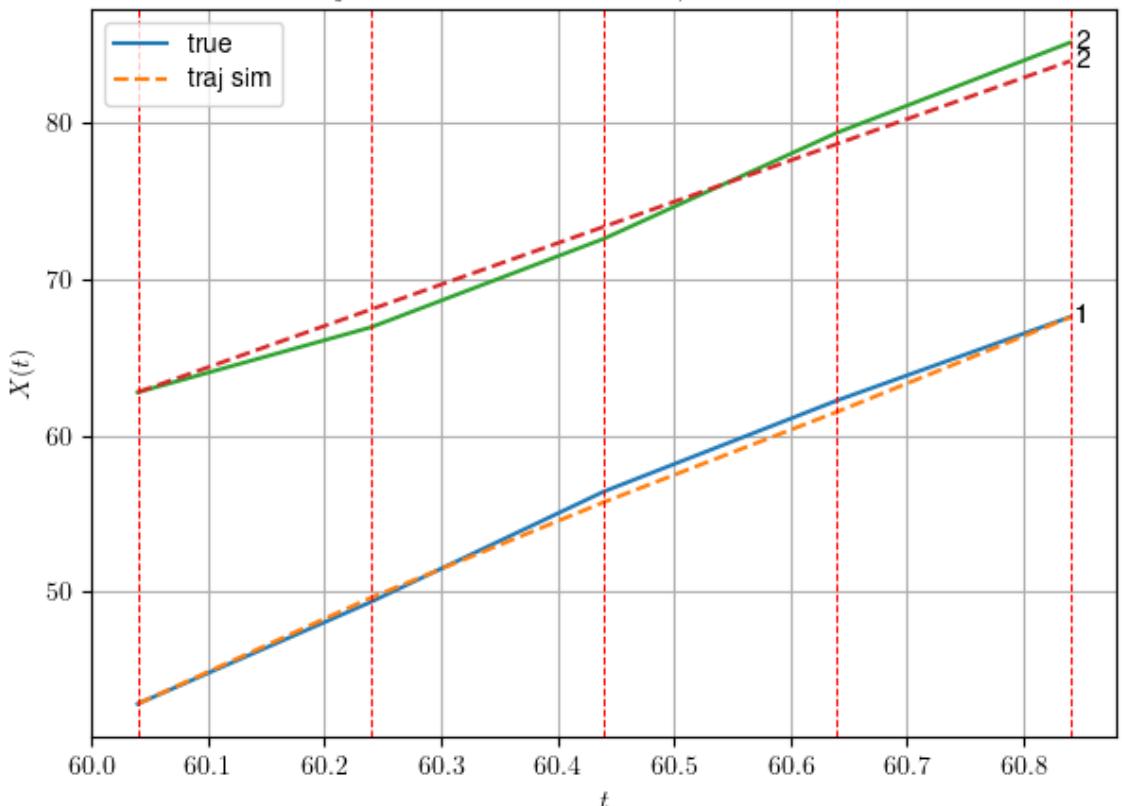
```
=====
- Time interval n.1: [60.24, 60.44]
  * y_true: [35.39191239]
  * v_ann: [30.62832260131836, 26.52161959108589]
```

```
=====
- Time interval n.2: [60.44, 60.64]
  * y_true: [29.16197739]
  * v_ann: [28.9251651763916, 26.52161959108589]
```

```
=====
- Time interval n.3: [60.64, 60.84]
  * y_true: [26.75220161]
  * v_ann: [30.27228546142578, 26.52161959108589]
```

```
* err= 0.4896127433511518
* Learning rate NN = 2.3914839403005317e-05
* diff = 0.00019302854967861993
```

df n. 1 – Scene n. 8, at it = 500



For scene 8/109

```
* use LR_NN=5e-05 with err=1.3566080981643656 at it=24
* v0_scn_mean = 26.660754807415856
* MAE = 0.4391846186692252
```

```
=====
```

```
=====
```

```
df n.1, scene n.9/109
```

```
=====
```

```
=====
```

```
We have 5 time intervals inside [80.64,81.64]
- Time interval n.0: [80.64, 80.84]
  * y_true: [33.34215633]
  * v_ann: [32.286460876464844, 29.042810010339032]
```

```
-----
```

```
- Time interval n.1: [80.84, 81.04]
  * y_true: [31.76283343]
  * v_ann: [34.21686935424805, 29.042810010339032]
```

```
-----
```

```
- Time interval n.2: [81.04, 81.24]
  * y_true: [32.4827505]
  * v_ann: [28.61882781982422, 29.042810010339032]
```

```
-----
```

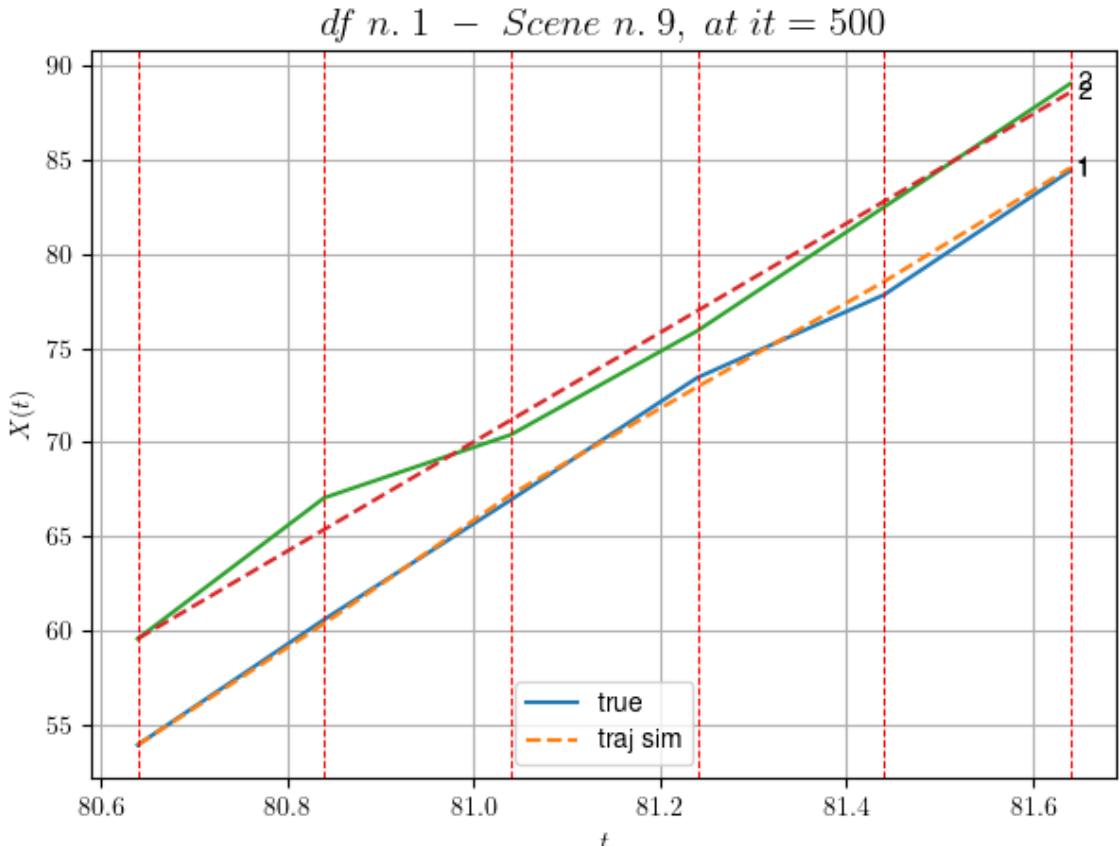
```
- Time interval n.3: [81.24, 81.44]
  * y_true: [21.98271265]
  * v_ann: [27.93287467956543, 29.042810010339032]
```

```
-----
```

```
- Time interval n.4: [81.44, 81.64]
  * y_true: [33.00400249]
  * v_ann: [30.29289436340332, 29.042810010339032]
```

```
-----
```

```
* err= 0.4785833482340131
* Learning rate NN = 3.874203684972599e-05
* diff = 0.0018277486005532501
```



For scene 9/109

- * use LR_NN=0.0001 with err=1.303668485899672 at it=24
- * v0_scn_mean = 29.081097609918217
- * MAE = 0.4785833482340131

df n.1, scene n.10/109

We have 3 time intervals inside [87.84, 88.44]

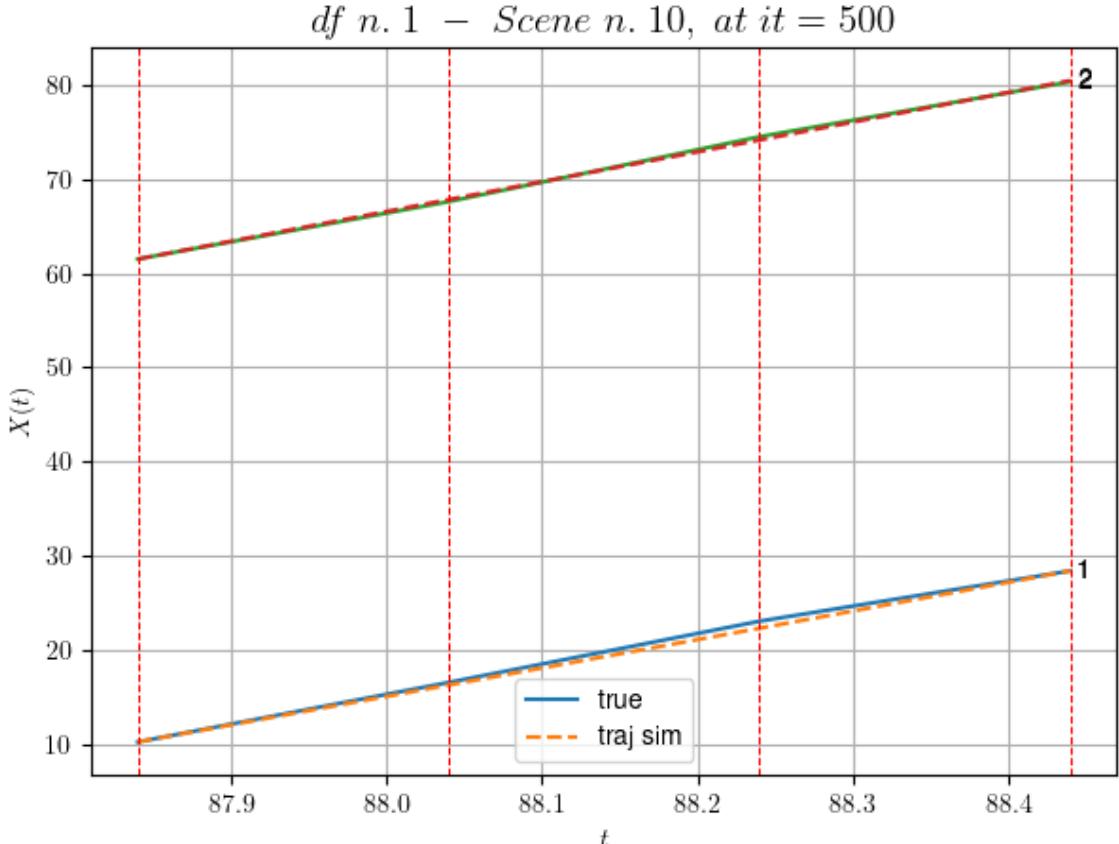
- Time interval n.0: [87.84, 88.04]
 - * y_true: [31.60011691]
 - * v_ann: [30.22161102294922, 31.600487611858963]

- Time interval n.1: [88.04, 88.24]
 - * y_true: [32.50025586]
 - * v_ann: [30.155033111572266, 31.600487611858963]

- Time interval n.2: [88.24, 88.44]
 - * y_true: [26.76036252]
 - * v_ann: [30.456632614135742, 31.600487611858963]

- * err= 0.10273122138897807
- * Learning rate NN = 5.9048988987342454e-06

* diff = 3.4220289046316132e-06



For scene 10/109

* use LR_NN=1e-05 with err=0.31115570376864 at it=24
 * v0_scn_mean = 31.536468107396626
 * MAE = 0.10240015056245876

df n.1, scene n.11/109

We have 5 time intervals inside [89.04, 90.04]

- Time interval n.0: [89.04, 89.24]
 - * y_true: [23.80112307]
 - * v_ann: [24.63871955871582, 33.126452558658514]

- Time interval n.1: [89.24, 89.44]
 - * y_true: [30.25175591]
 - * v_ann: [26.540058135986328, 33.126452558658514]

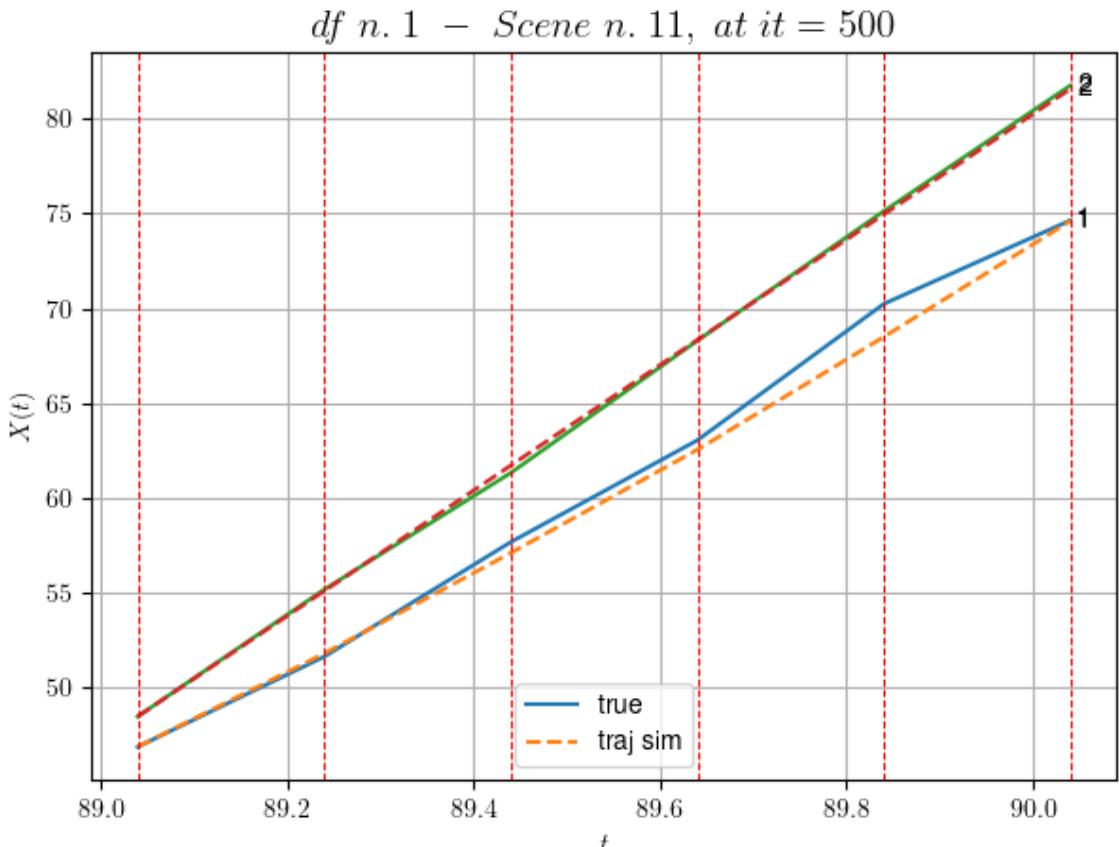
- Time interval n.2: [89.44, 89.64]
 - * y_true: [26.85189703]
 - * v_ann: [27.24202537536621, 33.126452558658514]

- Time interval n.3: [89.64, 89.84]

```
* y_true: [36.00310026]
* v_ann: [29.77486801147461, 33.126452558658514]
```

```
- Time interval n.4: [89.84, 90.04]
* y_true: [22.05223989]
* v_ann: [30.590225219726562, 33.126452558658514]
```

```
* err= 0.3222735598399308
* Learning rate NN = 0.0003874204121530056
* diff = 0.011439710281004267
```



For scene 11/109

```
* use LR_NN=0.001 with err=5.673526812174994 at it=24
* v0_scn_mean = 33.00139445633616
* MAE = 0.2950223436818033
```

df n.1, scene n.12/109

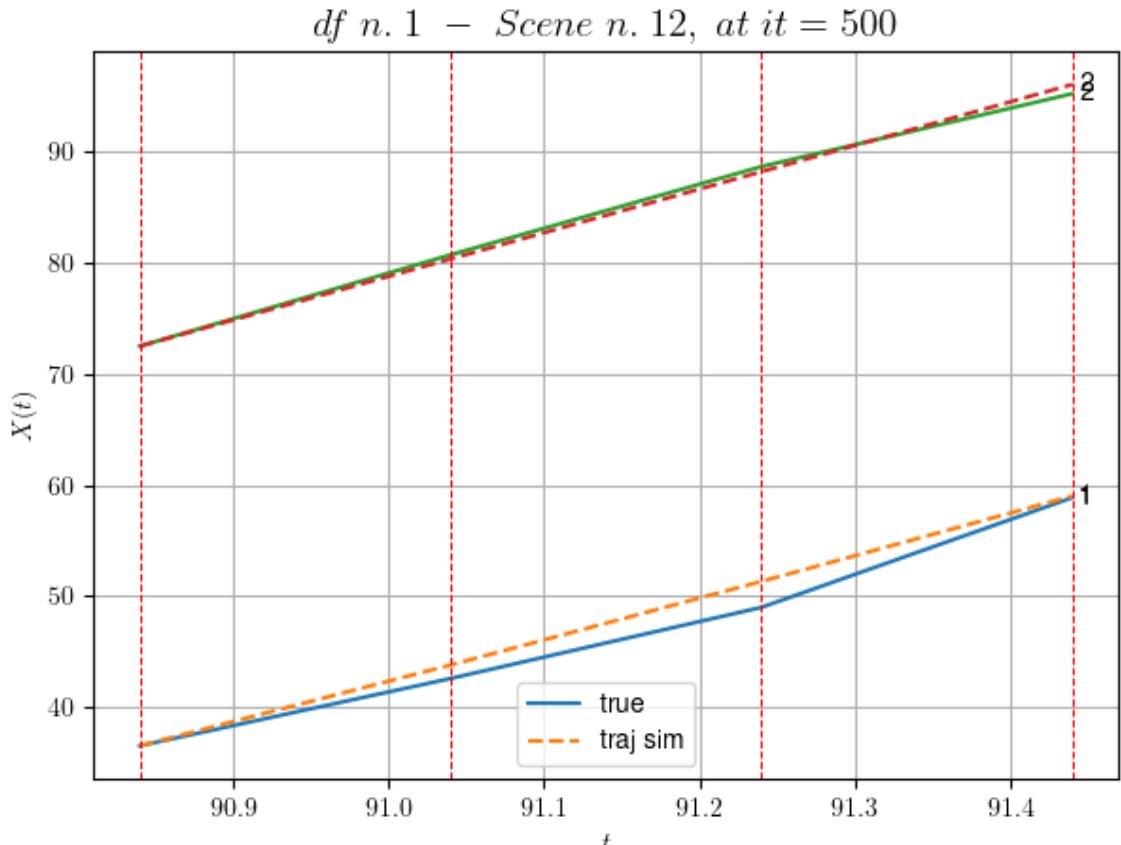
We have 3 time intervals inside [90.84, 91.44]

```
- Time interval n.0: [90.84, 91.04]
* y_true: [30.30091015]
* v_ann: [36.364620208740234, 39.26169927714716]
```

- Time interval n.1: [91.04, 91.24]
 * y_true: [32.01131791]
 * v_ann: [37.63448715209961, 39.26169927714716]

- Time interval n.2: [91.24, 91.44]
 * y_true: [49.37285732]
 * v_ann: [38.425296783447266, 39.26169927714716]

* err= 1.0003803333521135
 * Learning rate NN = 5.9048988987342454e-06
 * diff = 0.00044227267212515464



For scene 12/109
 * use LR_NN=1e-05 with err=6.251403763683389 at it=24
 * v0_scn_mean = 38.89123130613216
 * MAE = 0.9975800450589332

df n.1, scene n.13/109

We have 3 time intervals inside [109.24,109.84]
 - Time interval n.0: [109.24, 109.44]
 * y_true: [27.49662615]
 * v_ann: [24.74913215637207, 36.8703602679524]

```

-----  

- Time interval n.1: [109.44, 109.64]  

* y_true: [30.32701959]  

* v_ann: [29.318939208984375, 36.8703602679524]
-----
```

```

-----  

- Time interval n.2: [109.64, 109.84]  

* y_true: [27.65727146]  

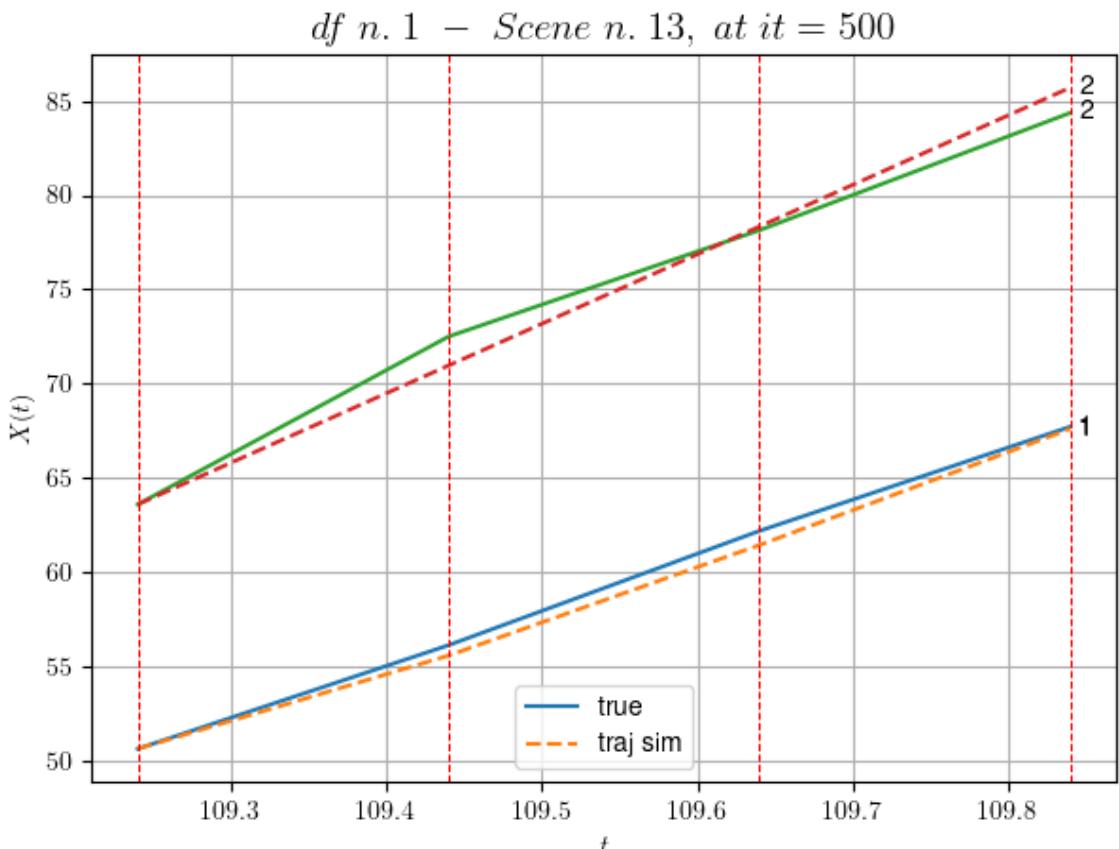
* v_ann: [30.8472957611084, 36.8703602679524]
-----
```

```

* err= 0.6343444334693952  

* Learning rate NN = 0.0005904899444431067  

* diff = 0.0026150576019732252
```



For scene 13/109

```

* use LR_NN=0.001 with err=2.9237112393885543 at it=24
* v0_scn_mean = 36.59554585728717
* MAE = 0.47237171472648537
=====
```

df n.1, scene n.14/109

```

=====  

We have 5 time intervals inside [116.04,117.04]  

- Time interval n.0: [116.04, 116.24]  

* y_true: [26.72014114]  

* v_ann: [32.37965774536133, 35.75445949476147]
```

```

- Time interval n.1: [116.24, 116.44]
  * y_true: [27.07912387]
  * v_ann: [33.91474914550781, 35.75445949476147]
```

```

- Time interval n.2: [116.44, 116.64]
  * y_true: [35.55057522]
  * v_ann: [31.298192977905273, 35.75445949476147]
```

```

- Time interval n.3: [116.64, 116.84]
  * y_true: [40.15103224]
  * v_ann: [33.187435150146484, 35.75445949476147]
```

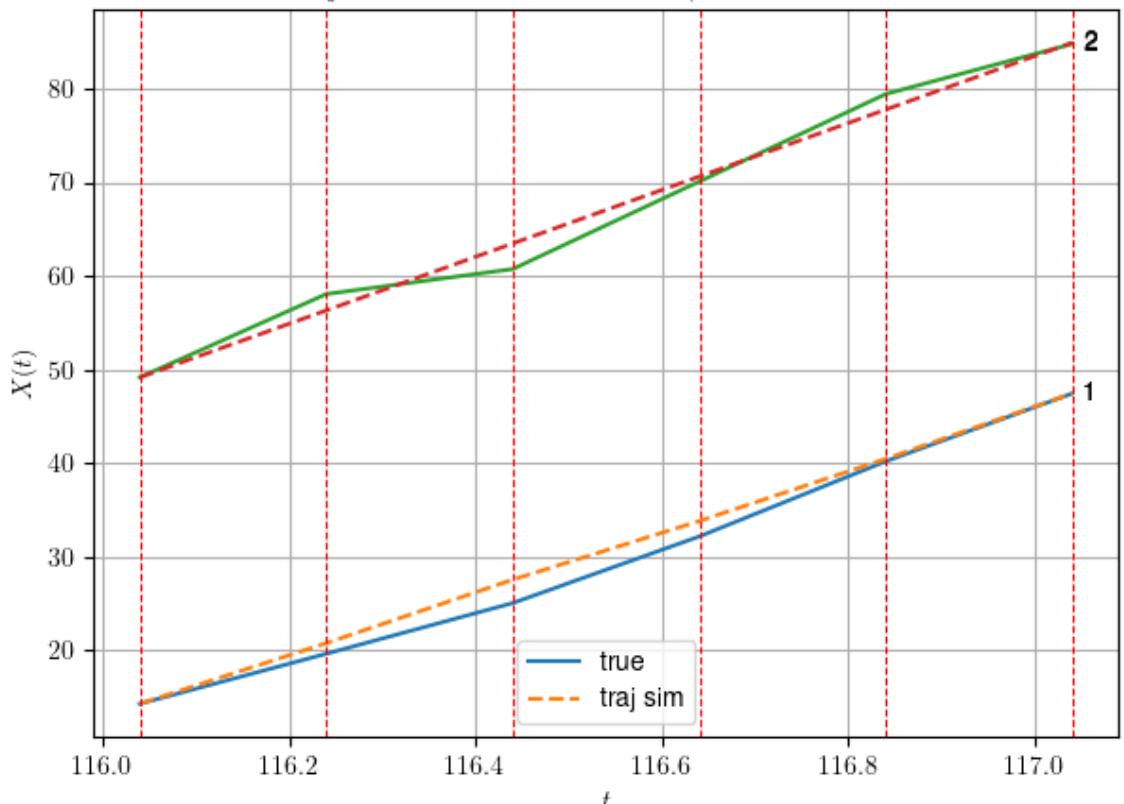
```

- Time interval n.4: [116.84, 117.04]
  * y_true: [36.20135733]
  * v_ann: [34.99608612060547, 35.75445949476147]
```

```

* err= 1.9907584832358538
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.000004152775620106
```

df n. 1 – Scene n. 14, at it = 500



For scene 14/109

```

* use LR_NN=5e-05 with err=7.927039561452908 at it=24
* v0_scn_mean = 35.5242811501499
```

* MAE = 1.9759597054260807

df n.1, scene n.15/109

We have 3 time intervals inside [120.84, 121.44]

- Time interval n.0: [120.84, 121.04]

* y_true: [31.55149536]

* v_ann: [29.614456176757812, 32.626423372882826]

- Time interval n.1: [121.04, 121.24]

* y_true: [29.5468664]

* v_ann: [29.670969009399414, 32.626423372882826]

- Time interval n.2: [121.24, 121.44]

* y_true: [28.27701719]

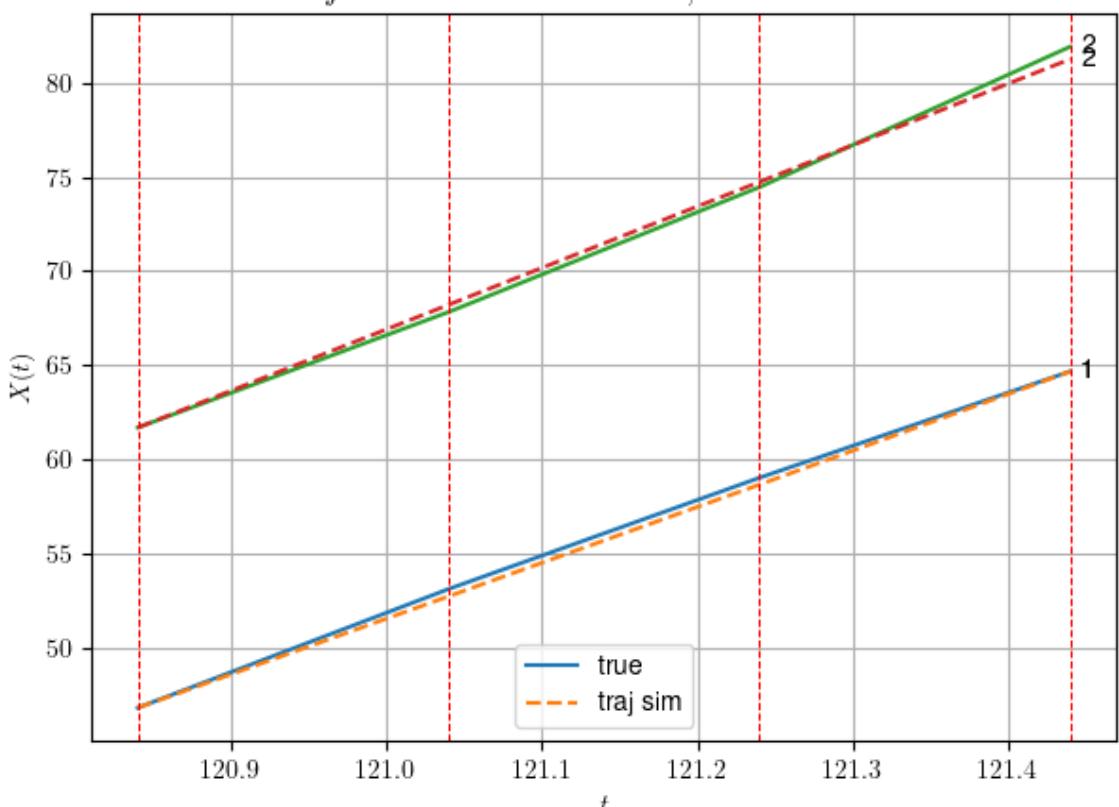
* v_ann: [30.046913146972656, 32.626423372882826]

* err= 0.11861449549561046

* Learning rate NN = 2.952449540316593e-05

* diff = 1 6036881921060350.05

df n. 1 – Scene n. 15, at it = 500



For scene 15/109

* use LR_NN=5e-05 with err=0.7645564202696647 at it=24

```
* vθ_scn_mean = 32.521366437987375
* MAE = 0.1183679876083646
```

```
=====
```

```
=====
```

```
df n.1, scene n.16/109
```

```
=====
```

```
=====
```

```
We have 4 time intervals inside [130.64,131.44]
```

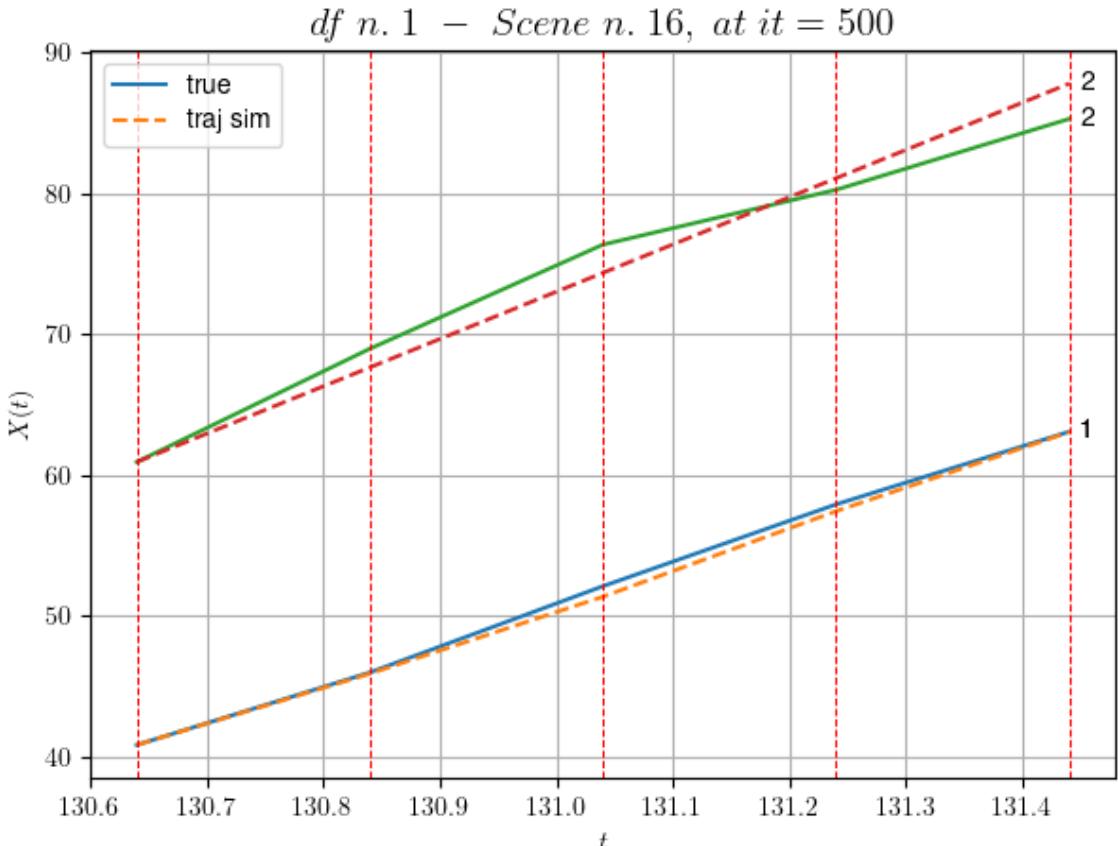
```
- Time interval n.0: [130.64, 130.84]
  * y_true: [25.75092635]
  * v_ann: [25.327163696289062, 33.61924590429362]
```

```
- Time interval n.1: [130.84, 131.04]
  * y_true: [30.67141813]
  * v_ann: [27.35093879699707, 33.61924590429362]
```

```
- Time interval n.2: [131.04, 131.24]
  * y_true: [29.07678141]
  * v_ann: [30.392559051513672, 33.61924590429362]
```

```
- Time interval n.3: [131.24, 131.44]
  * y_true: [25.82680503]
  * v_ann: [28.102521896362305, 33.61924590429362]
```

```
* err= 1.3542890964919996
* Learning rate NN = 0.000239148415857926
* diff = 0 0003659355641802075
```



For scene 16/109

- * use LR_NN=0.0005 with err=1.860013027705694 at it=24
- * v0_scn_mean = 33.47447606815006
- * MAE = 1.1696740966964274

df n.1, scene n.17/109

We have 3 time intervals inside [140.64, 141.24]

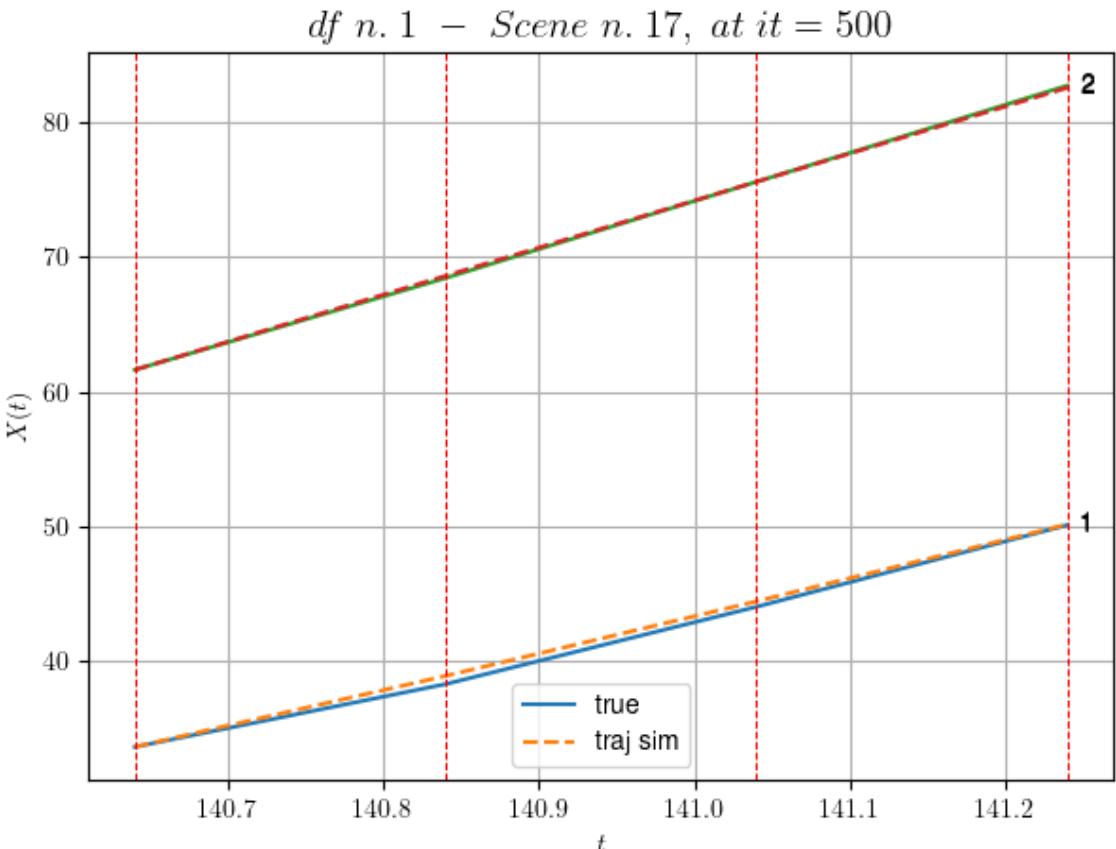
- Time interval n.0: [140.64, 140.84]
 - * y_true: [23.34058075]
 - * v_ann: [26.389270782470703, 34.92834910020561]

- Time interval n.1: [140.84, 141.04]
 - * y_true: [28.71099355]
 - * v_ann: [27.68865203857422, 34.92834910020561]

- Time interval n.2: [141.04, 141.24]
 - * y_true: [30.37630847]
 - * v_ann: [28.612226486206055, 34.92834910020561]

- * err= 0.07416274766541674
- * Learning rate NN = 5.9048988987342454e-06

* diff = 7.488984008290067e-05



For scene 17/109

* use LR_NN=1e-05 with err=1.8264705886521178 at it=24
 * v0_scn_mean = 34.73121513623549
 * MAE = 0.0741301276575217

df n.1, scene n.18/109

We have 2 time intervals inside [142.04, 142.44]

- Time interval n.0: [142.04, 142.24]
 - * y_true: [28.28132547]
 - * v_ann: [32.599082946777344, 28.963485178029217]

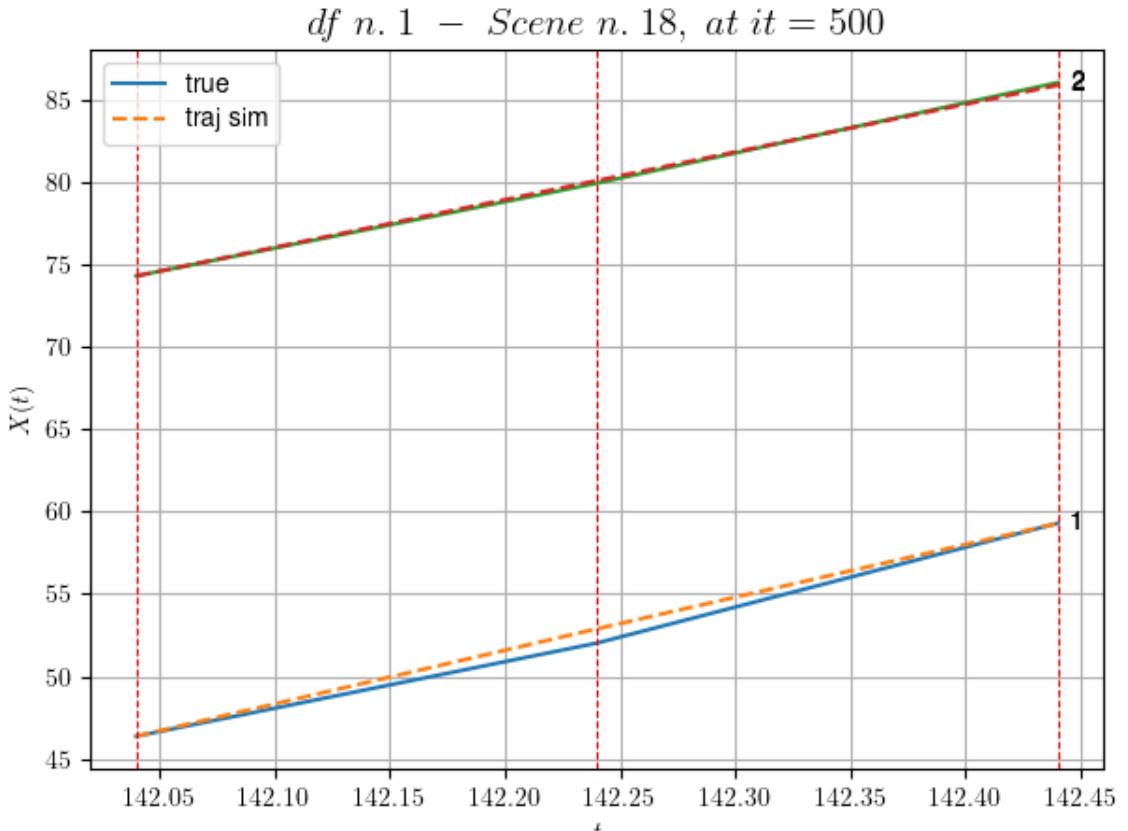
- Time interval n.1: [142.24, 142.44]

- * y_true: [36.36221879]
 - * v_ann: [32.0035285949707, 28.963485178029217]

* err= 0.1327310997284256

* Learning rate NN = 3.6449993785936385e-05

* diff = 3.729276205344245e-06

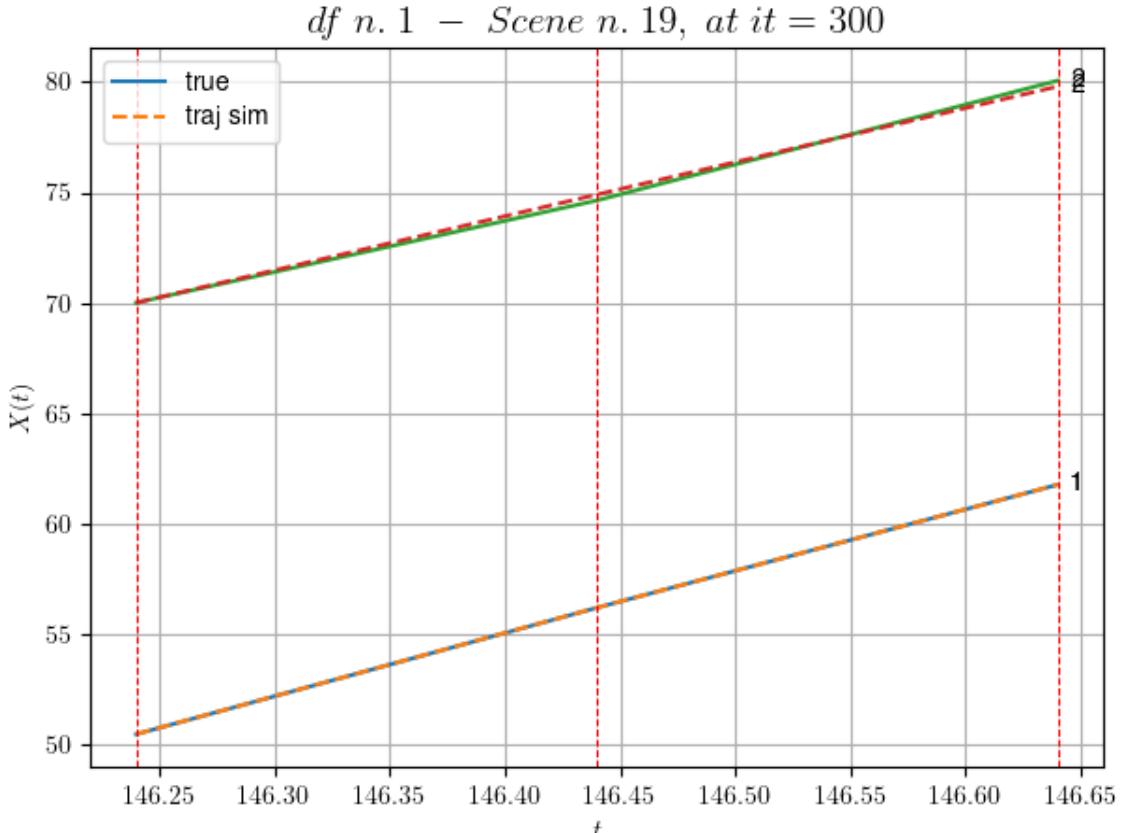


For scene 18/109

* use LR_NN=5e-05 with err=0.21453206922949142 at it=24
* v0_scn_mean = 29.00494577090021
* MAE = 0.12268233166748982

df n.1, scene n.19/109

We have 2 time intervals inside [146.24,146.64]
* err= 0.023356577584254676
* Learning rate NN = 8.099998922261875e-06
* diff = 2.447447037048911e-07



For scene 19/109

- * use LR_NN=1e-05 with err=0.9422327581850756 at it=24
- * v0_scn_mean = 24.848964336982476
- * MAE = 0.021716220379126114

df n.1, scene n.20/109

We have 4 time intervals inside [159.84, 160.64]

- Time interval n.0: [159.84, 160.04]
 - * y_true: [27.05016252]
 - * v_ann: [26.394515991210938, 29.799065415673887]

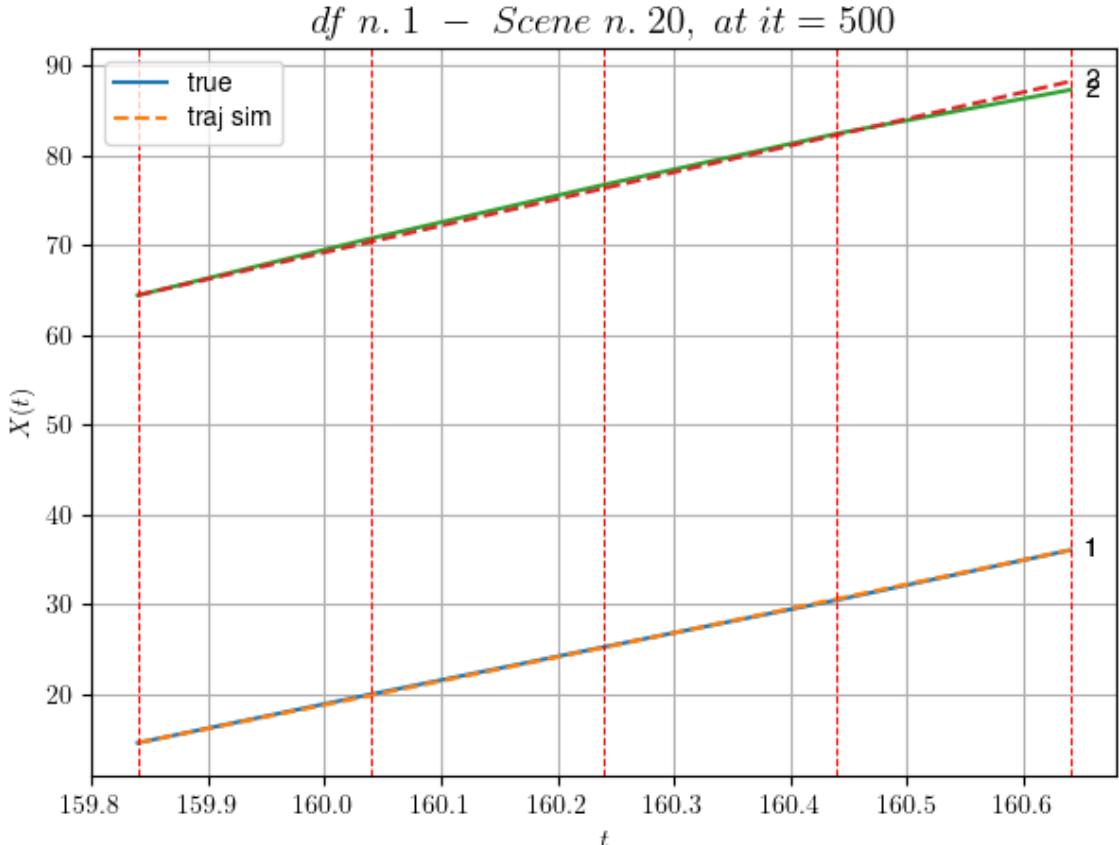
- Time interval n.1: [160.04, 160.24]
 - * y_true: [26.40027468]
 - * v_ann: [26.785371780395508, 29.799065415673887]

- Time interval n.2: [160.24, 160.44]
 - * y_true: [26.21039649]
 - * v_ann: [27.057228088378906, 29.799065415673887]

- Time interval n.3: [160.44, 160.64]
 - * y_true: [27.80070515]

```
* v_ann: [27.21436309814453, 29.799065415673887]
```

```
* err= 0.12461716499809919
* Learning rate NN = 4.782968062500004e-06
* diff = 1.945927491628363e-06
```



For scene 20/109

```
* use LR_NN=1e-05 with err=0.14743120074516997 at it=24
* v0 scn mean = 29.80710279904611
* MAE = 0.12461715605138136
```

df n.1, scene n.21/109

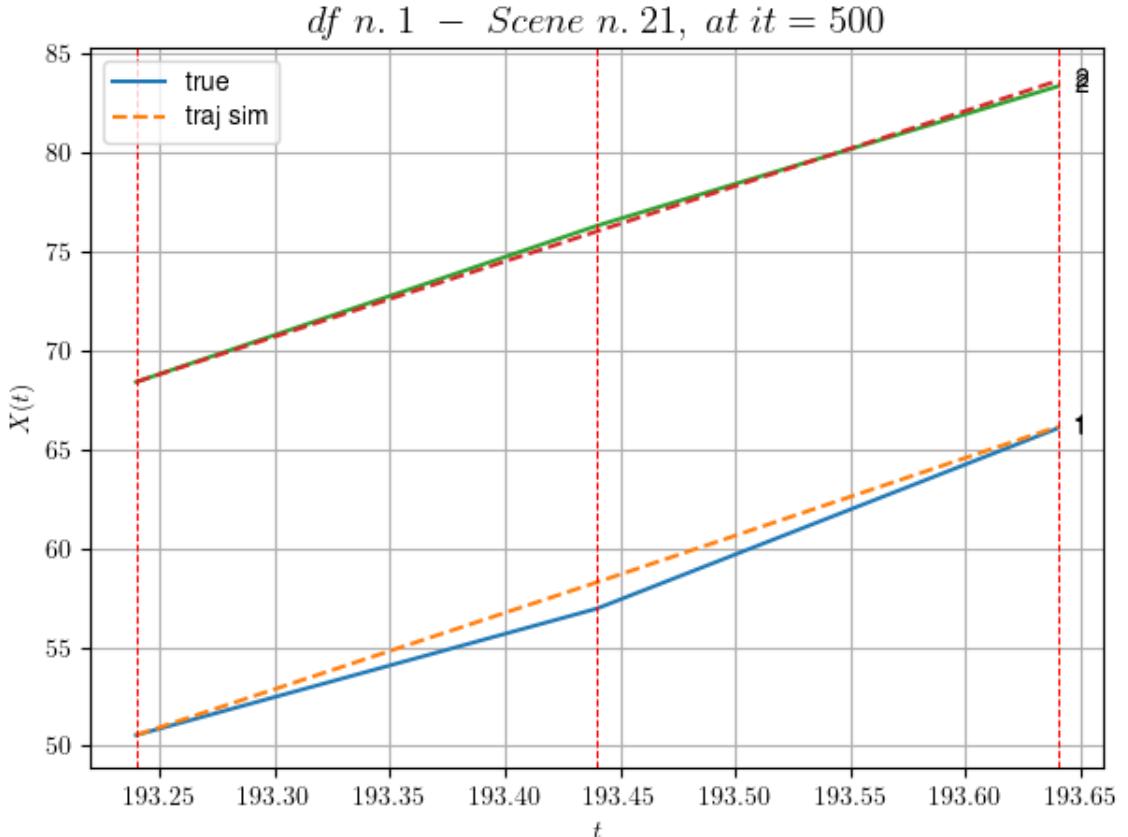
We have 2 time intervals inside [193.24, 193.64]

- Time interval n.0: [193.24, 193.44]
 - * y_true: [31.99185522]
 - * v_ann: [38.636104583740234, 38.083999376913425]

- Time interval n.1: [193.44, 193.64]
 - * y_true: [45.57332335]
 - * v_ann: [39.332183837890625, 38.083999376913425]

```
* err= 0.3222729735096852
```

* Learning rate NN = 3.6449993785936385e-05
 * diff = 0.0013818702269954297



For scene 21/109

* use LR_NN=5e-05 with err=2.308891000872064 at it=24
 * v0_scn_mean = 37.760639401899205
 * MAE = 0.3203629928075683

df n.1, scene n.22/109

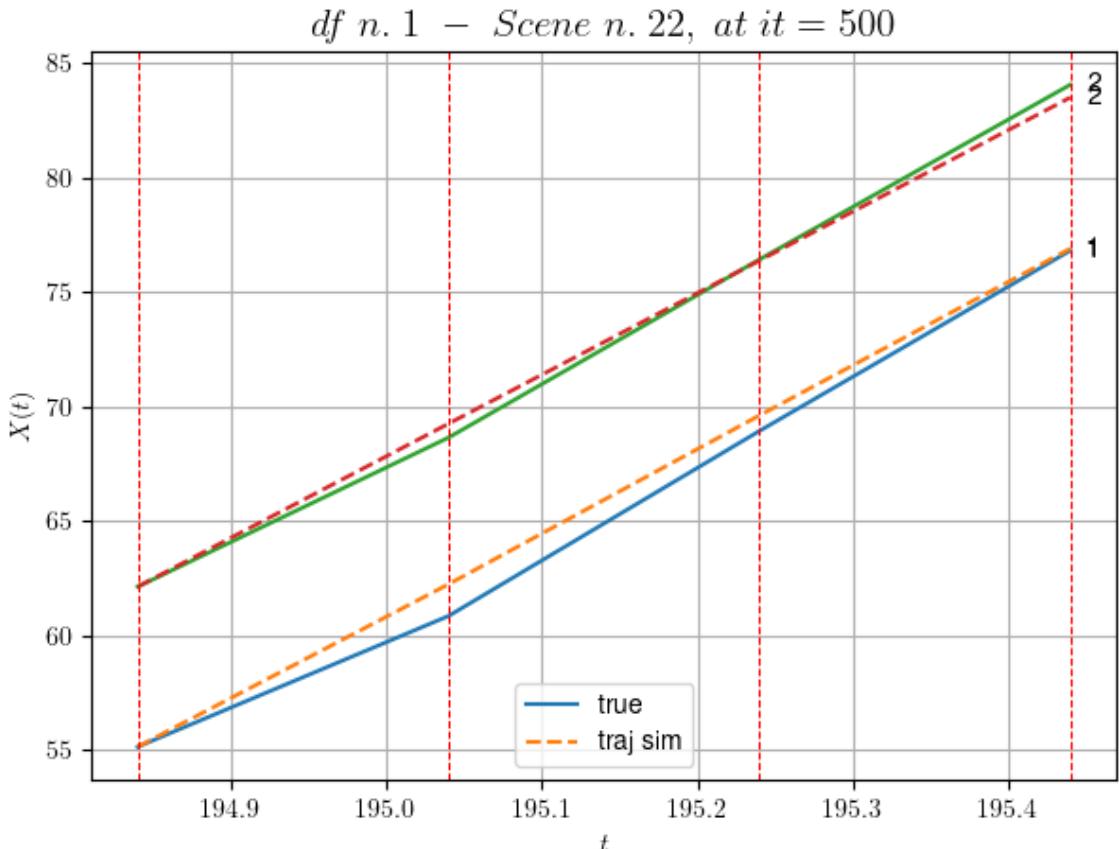
We have 3 time intervals inside [194.84, 195.44]

- Time interval n.0: [194.84, 195.04]
 - * y_true: [28.55698867]
 - * v_ann: [35.49159622192383, 35.59272326000108]

- Time interval n.1: [195.04, 195.24]
 - * y_true: [40.37855819]
 - * v_ann: [36.829097747802734, 35.59272326000108]

- Time interval n.2: [195.24, 195.44]
 - * y_true: [39.37369802]
 - * v_ann: [36.418766021728516, 35.59272326000108]

```
* err= 0.3841784010024116
* Learning rate NN = 5.904899080633186e-05
* diff = 0.0012710901308253808
```



For scene 22/109

```
* use LR_NN=0.0001 with err=2.8296610280564543 at it=24
* v0_scn_mean = 35.36901432964371
* MAE = 0.3826107231250385
```

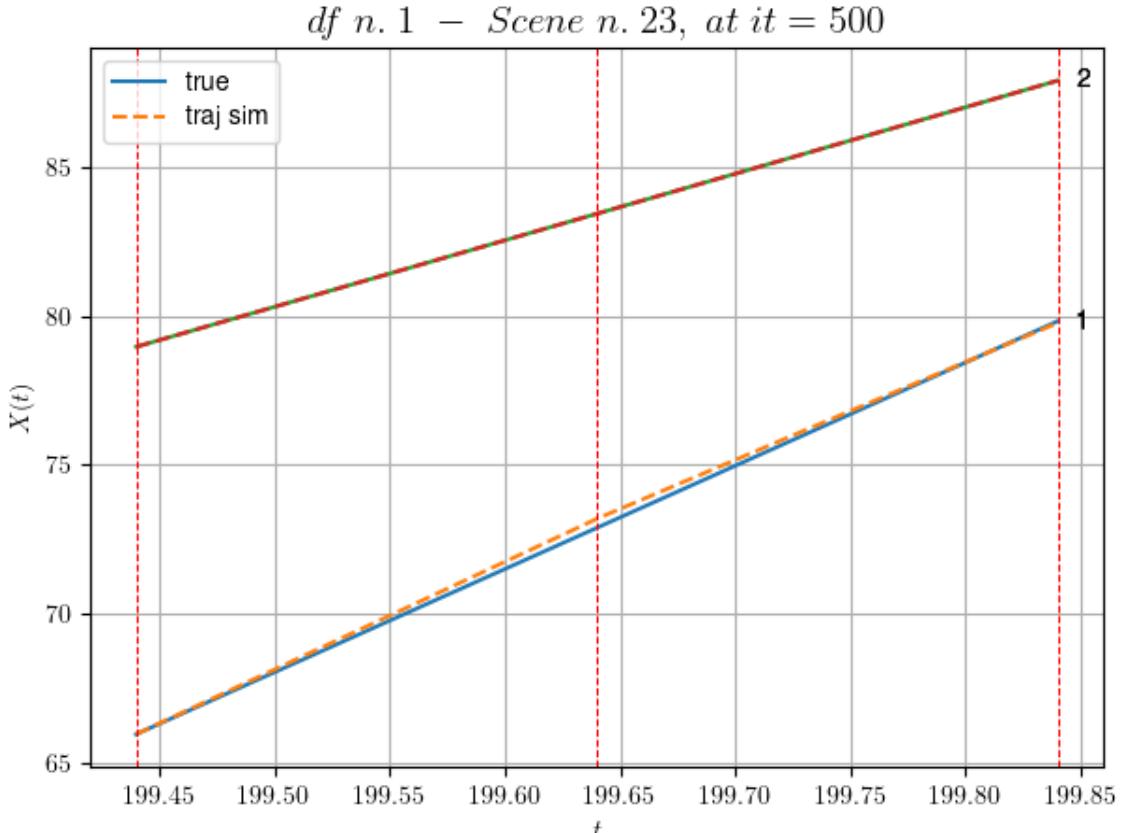
df n.1, scene n.23/109

We have 2 time intervals inside [199.44, 199.84]

- Time interval n.0: [199.44, 199.64]
 - * y_true: [34.74310553]
 - * v_ann: [36.26205062866211, 22.403012729860887]

- Time interval n.1: [199.64, 199.84]
 - * y_true: [34.7739018]
 - * v_ann: [32.96845626831055, 22.403012729860887]

```
* err= 0.015928511469794564
* Learning rate NN = 7.289998757187277e-05
* diff = 0.0007440657683689955
```



For scene 23/109

- * use LR_NN=0.0001 with err=2.009714516849058 at it=24
- * v0_scn_mean = 22.70689222060831
- * MAE = 0.015928511469794564

df n.1, scene n.24/109

We have 4 time intervals inside [200.44, 201.24]

- Time interval n.0: [200.44, 200.64]
 - * y_true: [32.7110423]
 - * v_ann: [35.31316375732422, 30.71027389121814]

- Time interval n.1: [200.64, 200.84]
 - * y_true: [31.56133984]
 - * v_ann: [30.836275100708008, 30.71027389121814]

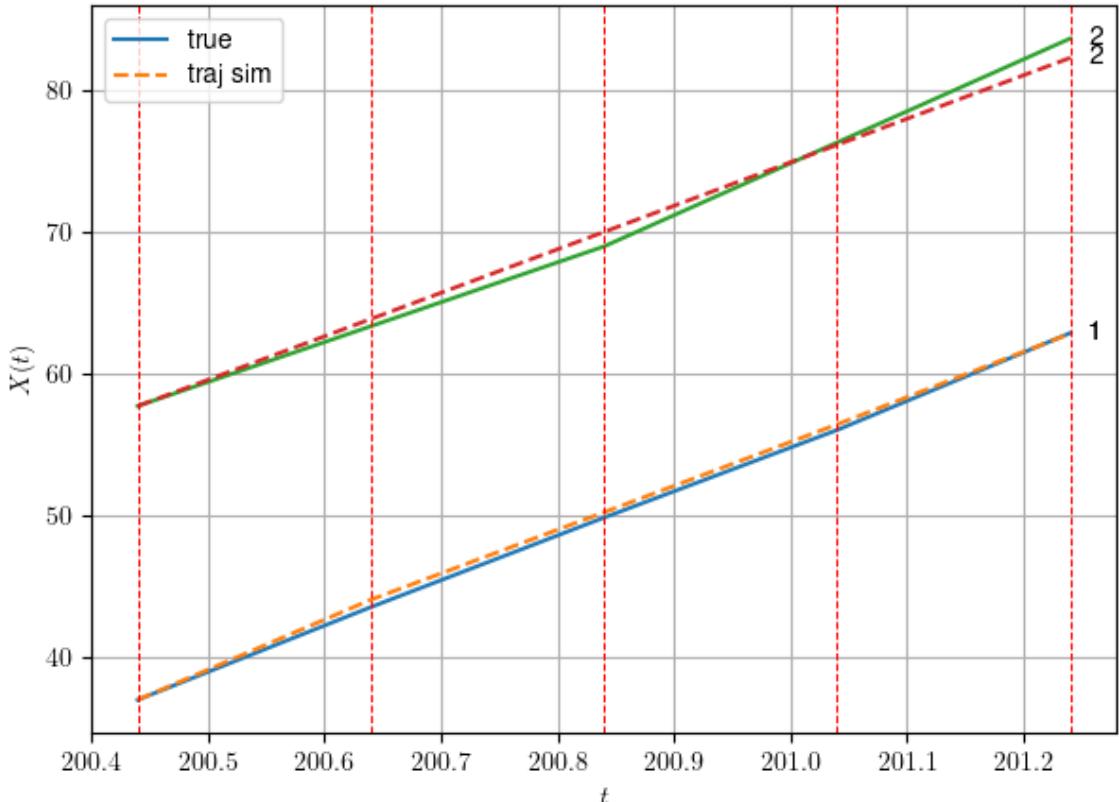
- Time interval n.2: [200.84, 201.04]
 - * y_true: [30.91169527]
 - * v_ann: [31.00909423828125, 30.71027389121814]

- Time interval n.3: [201.04, 201.24]
 - * y_true: [34.21237513]

```
* v_ann: [32.060237884521484, 30.71027389121814]
```

```
* err= 0.37681632048548247
* Learning rate NN = 0.000478296831715852
* diff = 0.0004374695416024532
```

df n. 1 – Scene n. 24, at it = 500



For scene 24/109

```
* use LR_NN=0.001 with err=0.4924357515495486 at it=24
* v0 scn mean = 30.681862935575044
* MAE = 0.34376323035529754
```

df n.1, scene n.25/109

We have 3 time intervals inside [209.64, 210.24]

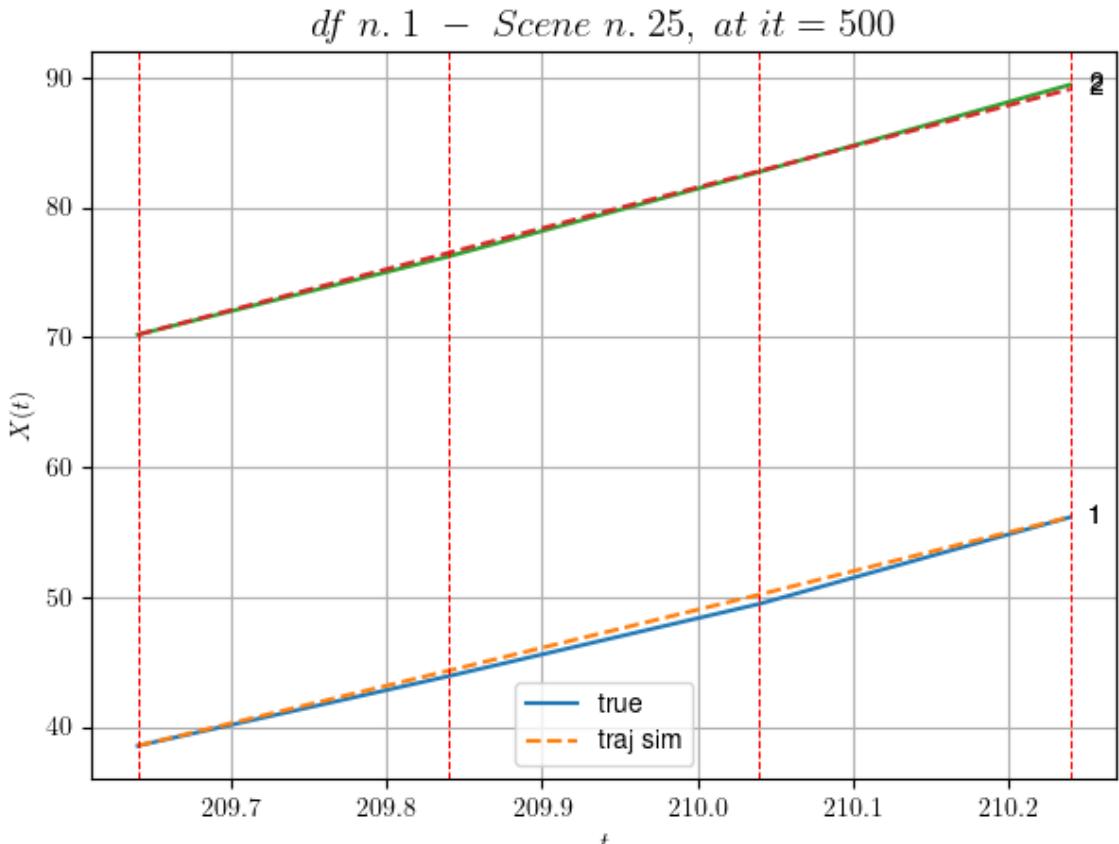
- Time interval n.0: [209.64, 209.84]
 - * y_true: [26.81089057]
 - * v_ann: [28.922861099243164, 31.507071372239466]

- Time interval n.1: [209.84, 210.04]
 - * y_true: [27.83624351]
 - * v_ann: [29.31512451171875, 31.507071372239466]

- Time interval n.2: [210.04, 210.24]

```
* y_true: [33.3769543]
* v_ann: [29.912635803222656, 31.507071372239466]
```

```
* err= 0.11263577312072674
* Learning rate NN = 5.9048988987342454e-06
* diff = 3.9114053529548665e-06
```



For scene 25/109

```
* use LR_NN=1e-05 with err=0.3029577475551948 at it=24
* v0_scn_mean = 31.446788517361316
* MAE = 0.112478988823962
```

df n.1, scene n.26/109

We have 3 time intervals inside [219.64, 220.24]

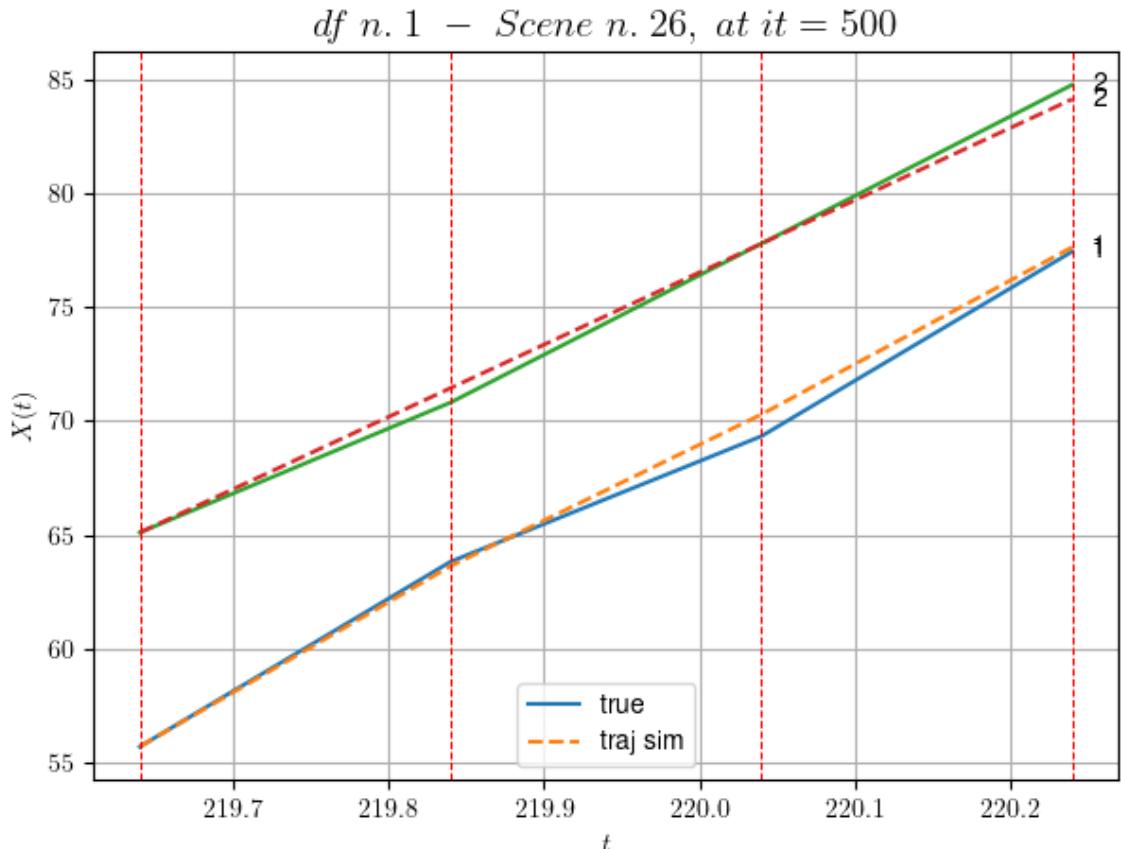
- Time interval n.0: [219.64, 219.84]
 - * y_true: [40.60281708]
 - * v_ann: [39.638919830322266, 31.715821070729696]

-
- Time interval n.1: [219.84, 220.04]

- * y_true: [27.552367]
- * v_ann: [33.30126190185547, 31.715821070729696]

- Time interval n.2: [220.04, 220.24]
 * y_true: [40.55423042]
 * v_ann: [36.71812438964844, 31.715821070729696]

* err= 0.22369113778966968
 * Learning rate NN = 5.904899080633186e-05
 * diff = 0.0014972477470210077



For scene 26/109

* use LR_NN=0.0001 with err=0.5044841994751543 at it=24
 * v0_scn_mean = 31.647188227913865
 * MAE = 0.22369113778966968

df n.1, scene n.27/109

We have 3 time intervals inside [230.04, 230.64]
 - Time interval n.0: [230.04, 230.24]
 * y_true: [32.9915228]
 * v_ann: [33.21773910522461, 32.80710231491763]

- Time interval n.1: [230.24, 230.44]
 * y_true: [28.89168758]
 * v_ann: [32.49319076538086, 32.80710231491763]

```

-----  

- Time interval n.2: [230.44, 230.64]  

* y_true: [37.53279475]  

* v_ann: [33.90899658203125, 32.80710231491763]
-----
```

```

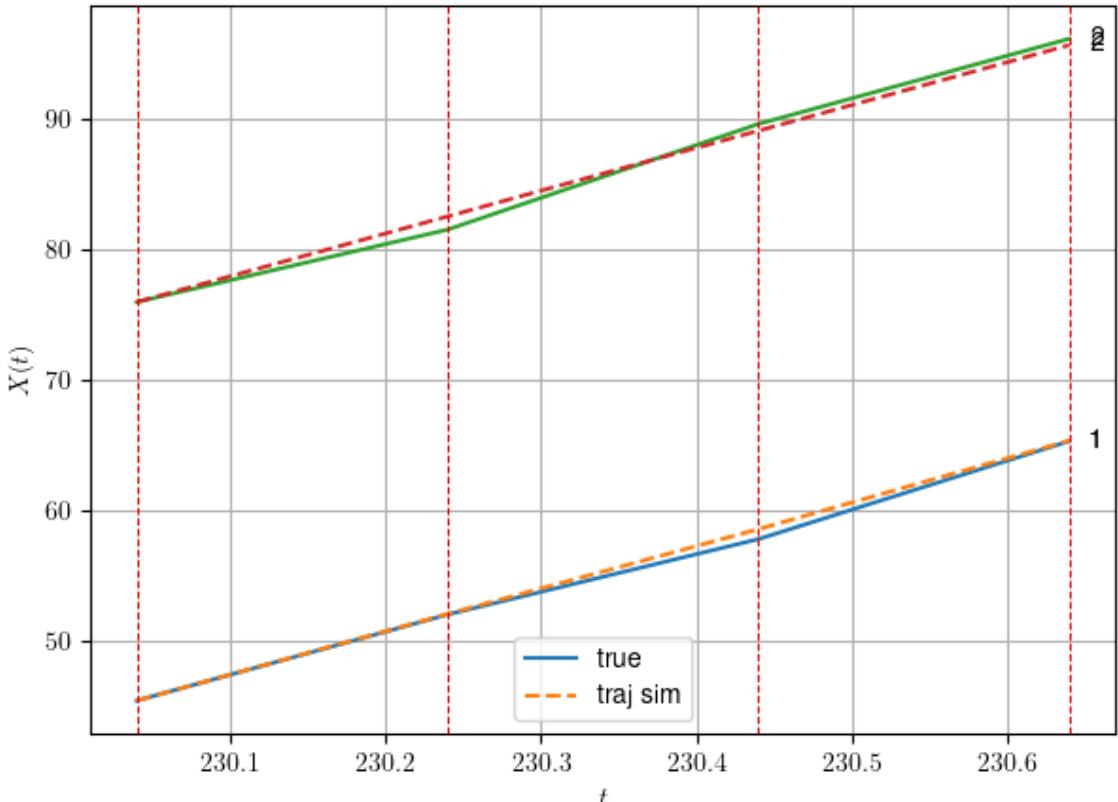
-----  

* err= 0.26607265012140796  

* Learning rate NN = 5.9048988987342454e-06  

* diff = 6.158545410389626e-05
-----
```

df n. 1 – Scene n. 27, at it = 500



For scene 27/109

```

* use LR_NN=1e-05 with err=1.0003607513849955 at it=24  

* v0_scn_mean = 32.69481822234281  

* MAE = 0.26559425841608714
=====
```

df n.1, scene n.28/109

```

=====
We have 4 time intervals inside [239.44,240.24]  

- Time interval n.0: [239.44, 239.64]  

* y_true: [28.64102922]  

* v_ann: [38.794456481933594, 25.426381424530028]
=====
```

```

-----
- Time interval n.1: [239.64, 239.84]  

* y_true: [37.49184091]  

* v_ann: [36.282806396484375, 25.426381424530028]
```

```

-----  

    - Time interval n.2: [239.84, 240.04]  

      * y_true: [42.66274465]  

      * v_ann: [33.705013275146484, 25.426381424530028]  

-----  


```

```

-----  

    - Time interval n.3: [240.04, 240.24]  

      * y_true: [35.12300522]  

      * v_ann: [32.933021545410156, 25.426381424530028]  

-----  


```

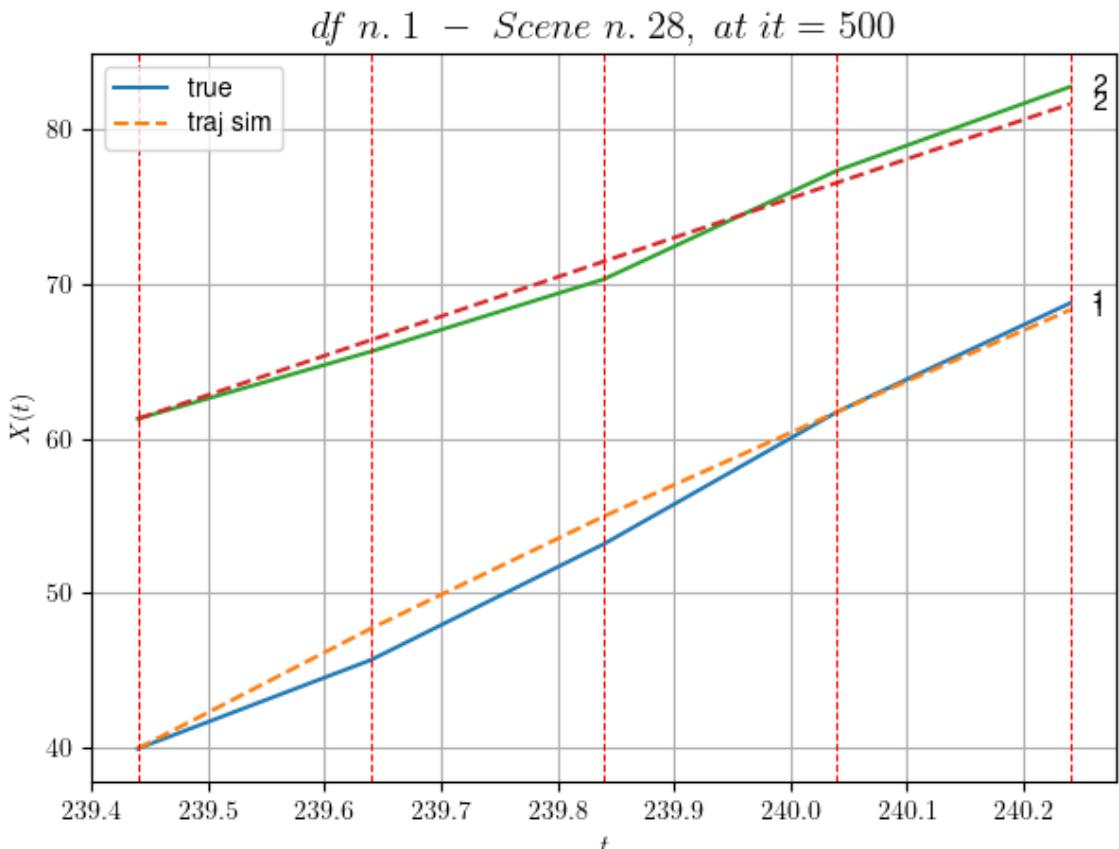
```

* err= 1.1229980953452539  

* Learning rate NN = 2.3914839403005317e-05  

* diff = 0.006305785531086627

```



For scene 28/109

```

* use LR_NN=5e-05 with err=3.5757602692124517 at it=24  

* v0_scn_mean = 25.60932616751416  

* MAE = 1.1208652538752801
=====  

=====  


```

df n.1, scene n.29/109

```

=====  

=====  


```

```

We have 3 time intervals inside [249.84,250.44]  

- Time interval n.0: [249.84, 250.04]  

  * y_true: [33.33234882]  

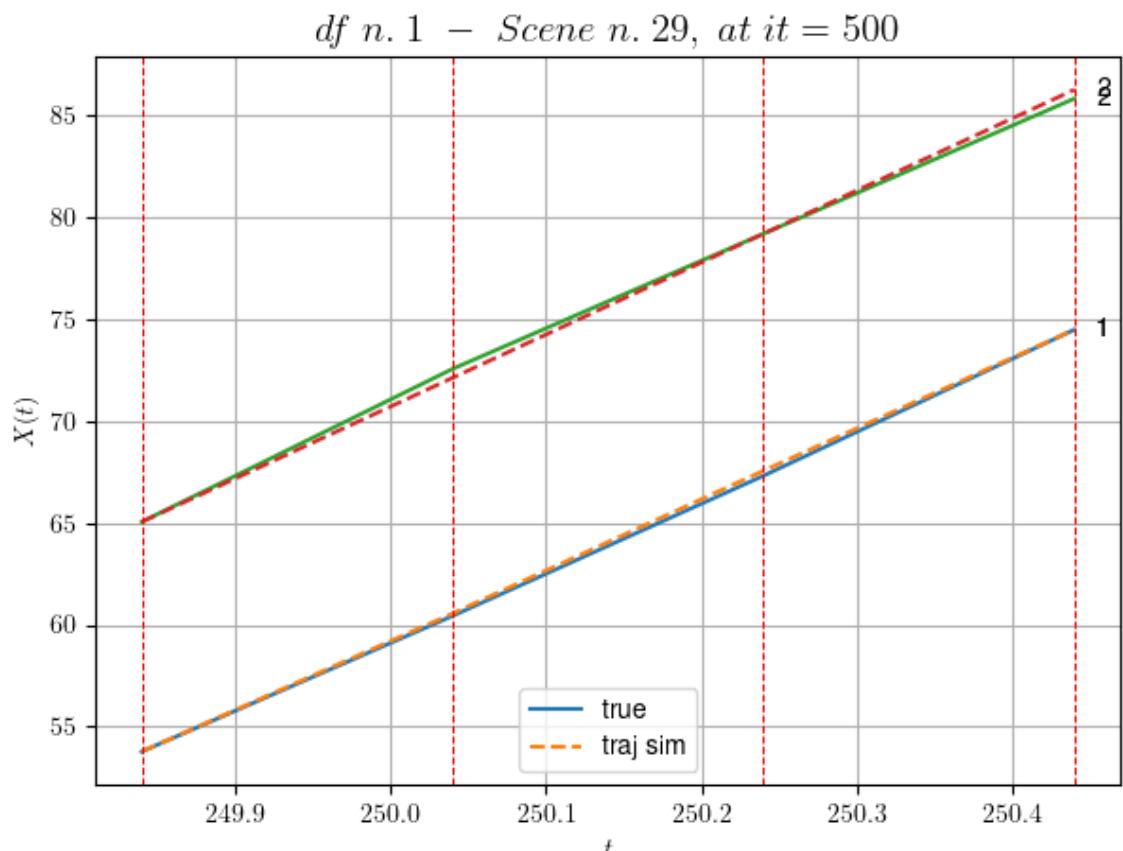
  * v_ann: [33.92094039916992, 35.366236560848385]

```

```
- Time interval n.1: [250.04, 250.24]
* y_true: [34.40255424]
* v_ann: [35.035526275634766, 35.366236560848385]
```

```
- Time interval n.2: [250.24, 250.44]
* y_true: [35.86374718]
* v_ann: [34.655792236328125, 35.366236560848385]
```

```
* err= 0.05703294682861517
* Learning rate NN = 2.952449540316593e-05
* diff = 5.823802107368659e-07
```



For scene 29/109

```
* use LR_NN=5e-05 with err=1.8340166690145678 at it=24
* v0_scn_mean = 35.15158709845555
* MAE = 0.05078372452648047
```

df n.1, scene n.30/109

We have 4 time intervals inside [251.44, 252.24]

```
- Time interval n.0: [251.44, 251.64]
* y_true: [32.20057892]
```

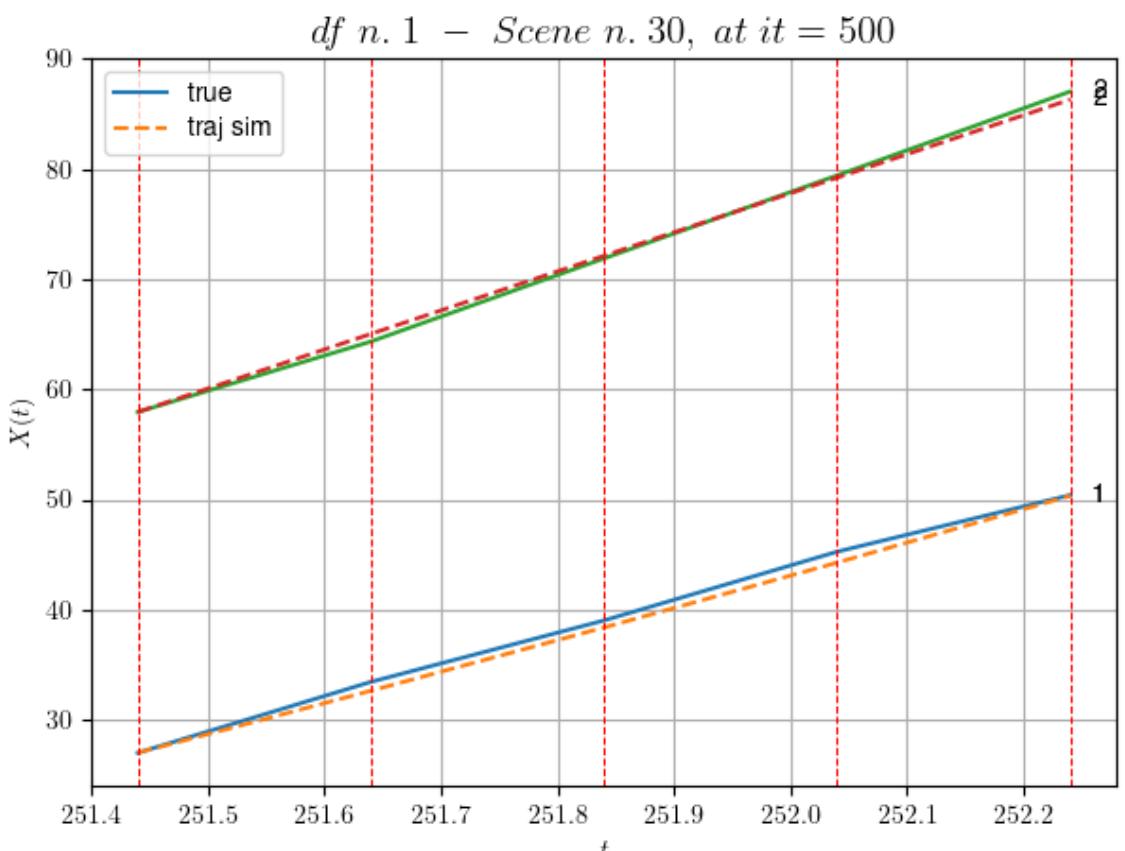
```
* v_ann: [28.1711483001709, 35.463328018322514]
```

```
- Time interval n.1: [251.64, 251.84]
* y_true: [27.90071663]
* v_ann: [28.72159194946289, 35.463328018322514]
```

```
- Time interval n.2: [251.84, 252.04]
* y_true: [31.20108088]
* v_ann: [29.455598831176758, 35.463328018322514]
```

```
- Time interval n.3: [252.04, 252.24]
* y_true: [25.7011433]
* v_ann: [30.3076171875, 35.463328018322514]
```

```
* err= 0.31644304602296713
* Learning rate NN = 2.3914839403005317e-05
* diff = 0.0002941069853202305
```



```
For scene 30/109
* use LR_NN=5e-05 with err=4.55843961572658 at it=24
* v0_scn_mean = 35.24479489763175
* MAE = 0.3146475023495872
```

```
=====
=====
```

```
df n.1, scene n.31/109
```

```
=====
=====
```

```
We have 10 time intervals inside [261.64, 263.64]
```

```
- Time interval n.0: [261.64, 261.84]
  * y_true: [20.93010778]
  * v_ann: [26.987640380859375, 31.892740284546104]
```

```
-----
-----
```

```
- Time interval n.1: [261.84, 262.04]
  * y_true: [19.94015095]
  * v_ann: [31.001489639282227, 31.892740284546104]
```

```
-----
-----
```

```
- Time interval n.2: [262.04, 262.24]
  * y_true: [30.02039251]
  * v_ann: [32.14318084716797, 31.892740284546104]
```

```
-----
-----
```

```
- Time interval n.3: [262.24, 262.44]
  * y_true: [42.44088104]
  * v_ann: [32.08513259887695, 31.892740284546104]
```

```
-----
-----
```

```
- Time interval n.4: [262.44, 262.64]
  * y_true: [29.93084335]
  * v_ann: [28.48452377319336, 31.892740284546104]
```

```
-----
-----
```

```
- Time interval n.5: [262.64, 262.84]
  * y_true: [34.57147294]
  * v_ann: [28.735946655273438, 31.892740284546104]
```

```
-----
-----
```

```
- Time interval n.6: [262.84, 263.04]
  * y_true: [34.76181544]
  * v_ann: [29.52597999572754, 31.892740284546104]
```

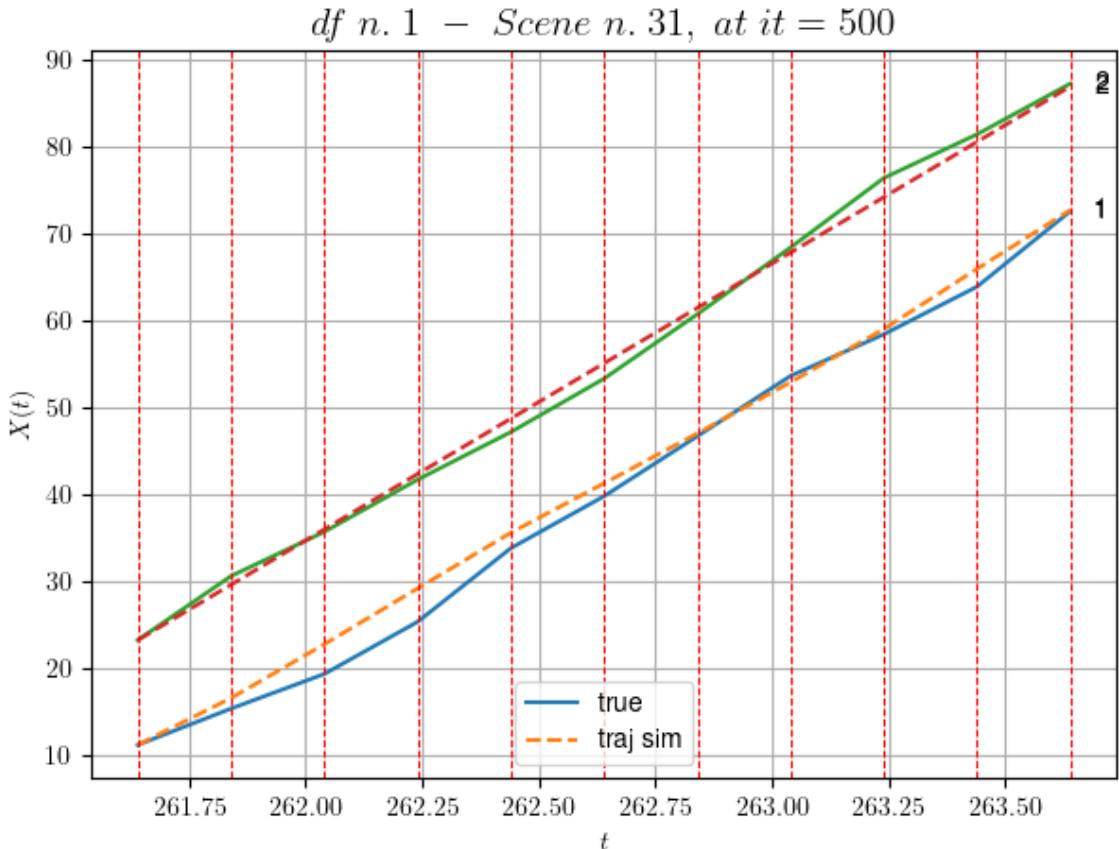
```
-----
-----
```

```
- Time interval n.7: [263.04, 263.24]
  * y_true: [23.95156631]
  * v_ann: [30.622241973876953, 31.892740284546104]
```

- Time interval n.8: [263.24, 263.44]
 - * y_true: [27.4721836]
 - * v_ann: [34.69349670410156, 31.892740284546104]

- Time interval n.9: [263.44, 263.64]
 - * y_true: [43.4543127]
 - * v_ann: [33.83877182006836, 31.892740284546104]

```
* err= 2.374782465906451
* Learning rate NN = 1.3508510164683685e-05
* diff = 0.0013822514713810463
```



For scene 31/109

```
* use LR_NN=0.0001 with err=4.858118528506955 at it=24  
* v0_scn_mean = 31.81703067317843  
* MAE = 2.3277938171257393
```

df n.1. scene n.32/109

```
We have 3 time intervals inside [271.04,271.64]
- Time interval n.0: [271.04, 271.24]
  * y_true: [29.28204901]
  * v_ann: [32.39630889892578, 36.29888466501553]
```

```

-----  

- Time interval n.1: [271.24, 271.44]  

* y_true: [38.30326342]  

* v_ann: [35.909420013427734, 36.29888466501553]
-----
```

```

-----  

- Time interval n.2: [271.44, 271.64]  

* y_true: [35.20368408]  

* v_ann: [34.87473678588867, 36.29888466501553]
-----
```

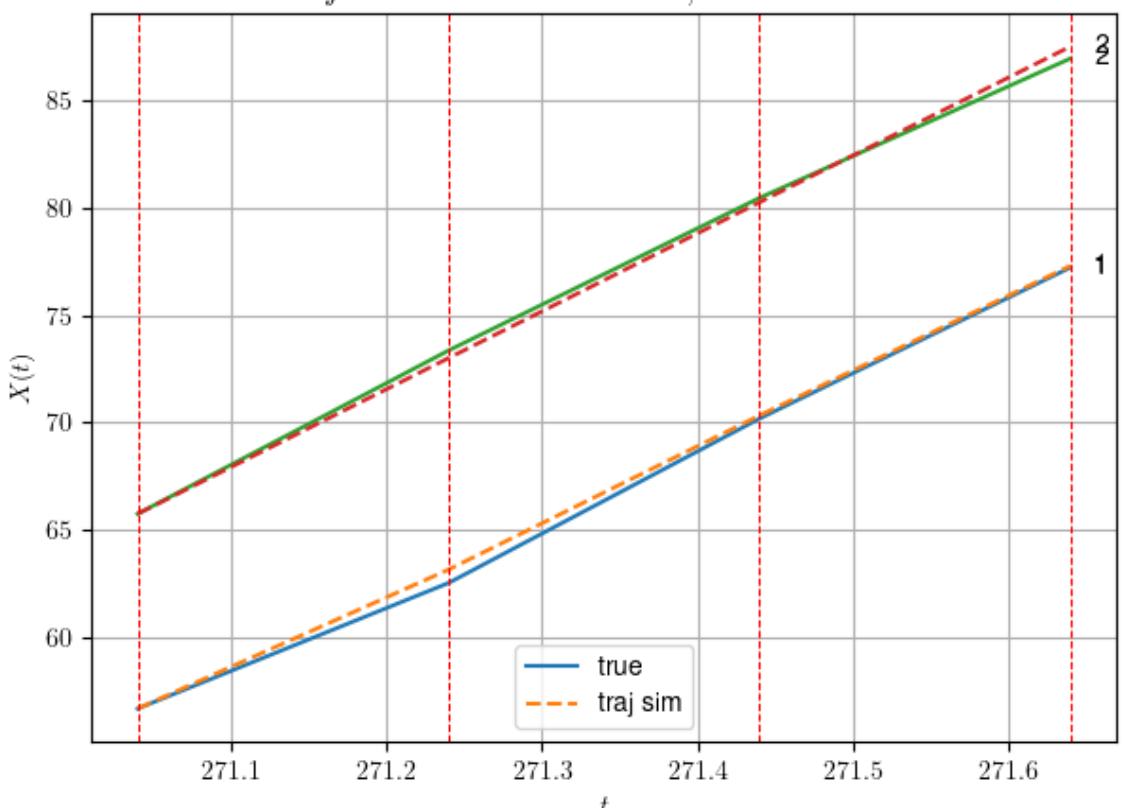
```

* err= 0.11185069255463545  

* Learning rate NN = 2.952449540316593e-05  

* diff = 0.00020605525052070226
```

df n. 1 – Scene n. 32, at it = 500



For scene 32/109

```

* use LR_NN=5e-05 with err=2.561490324581239 at it=24  

* v0_scn_mean = 36.04692927846295  

* MAE = 0.10800810264340915
=====
```

df n.1, scene n.33/109

```
=====
```

```

=====  

We have 4 time intervals inside [272.24,273.04]  

- Time interval n.0: [272.24, 272.44]  

* y_true: [28.87017174]
```

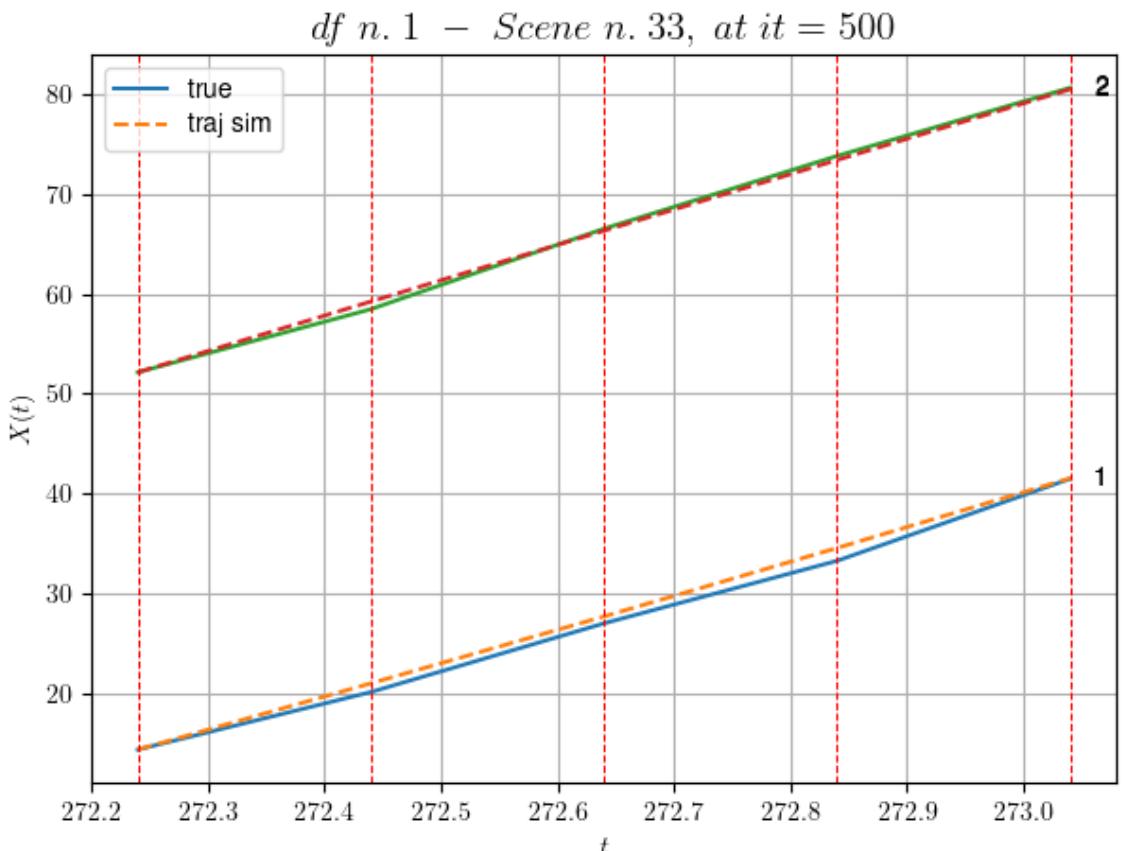
```
* v_ann: [33.233158111572266, 35.468782603099775]
```

```
- Time interval n.1: [272.44, 272.64]
* y_true: [34.43039204]
* v_ann: [33.50504684448242, 35.468782603099775]
```

```
- Time interval n.2: [272.64, 272.84]
* y_true: [31.36055806]
* v_ann: [34.34626007080078, 35.468782603099775]
```

```
- Time interval n.3: [272.84, 273.04]
* y_true: [41.11115543]
* v_ann: [34.96732711791992, 35.468782603099775]
```

```
* err= 0.3708486165322703
* Learning rate NN = 4.782968062500004e-06
* diff = 0.00012066805160781225
```



For scene 33/109

```
* use LR_NN=1e-05 with err=4.28242993640114 at it=24
* v0_scn_mean = 35.25003129901785
* MAE = 0.37036202027548354
```

```
df n.1, scene n.34/109
=====
=====
We have 5 time intervals inside [291.64,292.64]
- Time interval n.0: [291.64, 291.84]
  * y_true: [35.45036349]
  * v_ann: [37.600582122802734, 34.1190956887507]

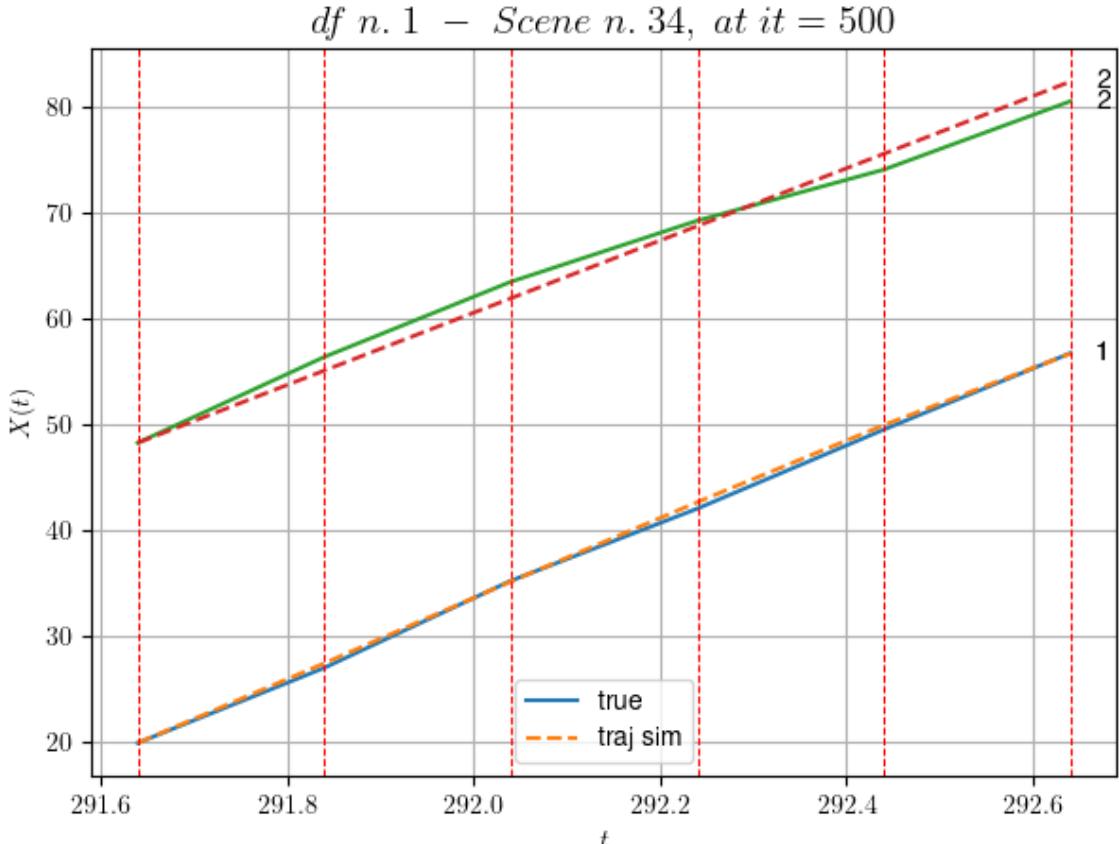
-----
- Time interval n.1: [291.84, 292.04]
  * y_true: [41.11075316]
  * v_ann: [38.58729553222656, 34.1190956887507]

-----
- Time interval n.2: [292.04, 292.24]
  * y_true: [34.09093472]
  * v_ann: [37.50237274169922, 34.1190956887507]

-----
- Time interval n.3: [292.24, 292.44]
  * y_true: [37.32147853]
  * v_ann: [36.39668655395508, 34.1190956887507]

-----
- Time interval n.4: [292.44, 292.64]
  * y_true: [36.09190656]
  * v_ann: [33.76472854614258, 34.1190956887507]

-----
* err= 0.8979038958076607
* Learning rate NN = 3.874203684972599e-06
* diff = 0 00016280245461908205
```



For scene 34/109

- * use LR_NN=1e-05 with err=2.7764305584492956 at it=24
- * v0_scn_mean = 33.95433186123164
- * MAE = 0.765373311508664

df n.1, scene n.35/109

We have 3 time intervals inside [294.64, 295.24]

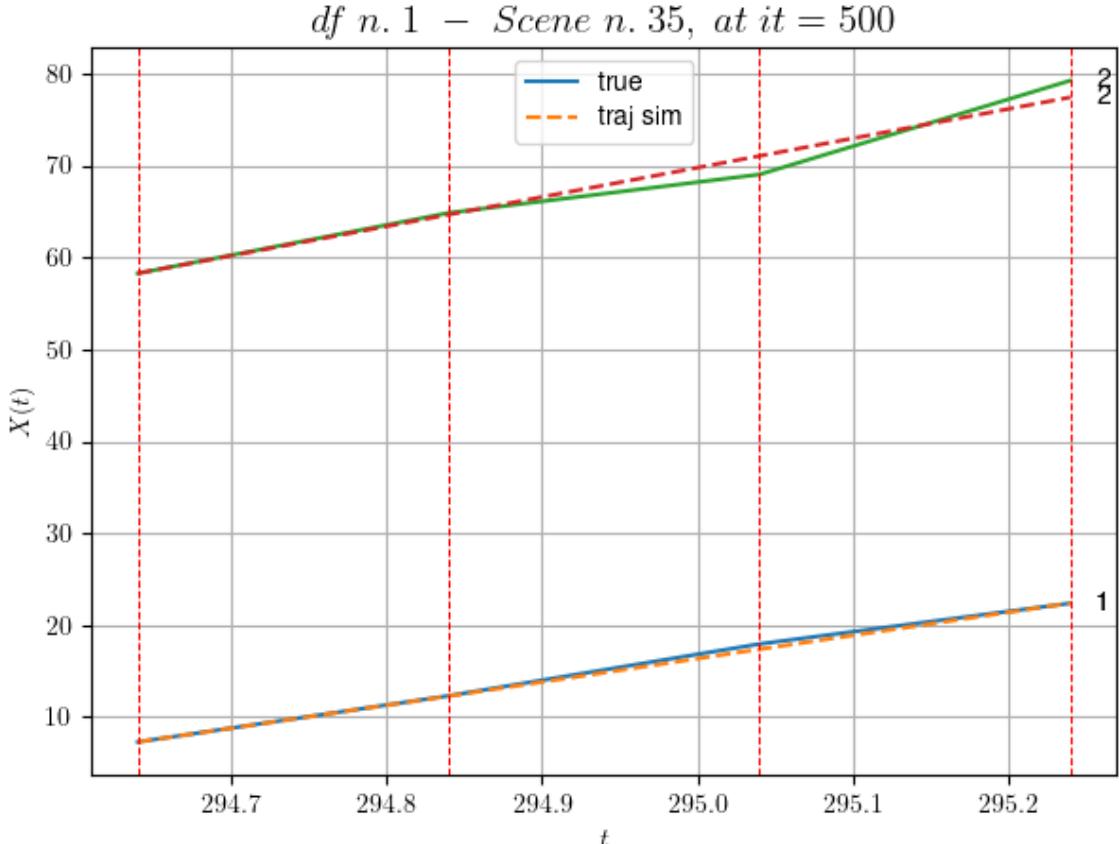
- Time interval n.0: [294.64, 294.84]
 - * y_true: [25.10005748]
 - * v_ann: [24.916582107543945, 31.912591419187383]

- Time interval n.1: [294.84, 295.04]
 - * y_true: [28.17013329]
 - * v_ann: [25.50593376159668, 31.912591419187383]

- Time interval n.2: [295.04, 295.24]
 - * y_true: [22.14017228]
 - * v_ann: [25.052974700927734, 31.912591419187383]

- * err= 0.9656646655580253
- * Learning rate NN = 5.9048988987342454e-06

* diff = 7.868206549521695e-06



For scene 35/109

- * use LR_NN=1e-05 with err=1.382064792564812 at it=24
- * v0_scn_mean = 31.83608776243291
- * MAE = 0.9654620821382796

df n.1, scene n.36/109

We have 4 time intervals inside [296.44, 297.24]

- Time interval n.0: [296.44, 296.64]
 - * y_true: [27.57673439]
 - * v_ann: [21.184276580810547, 32.254865471371716]

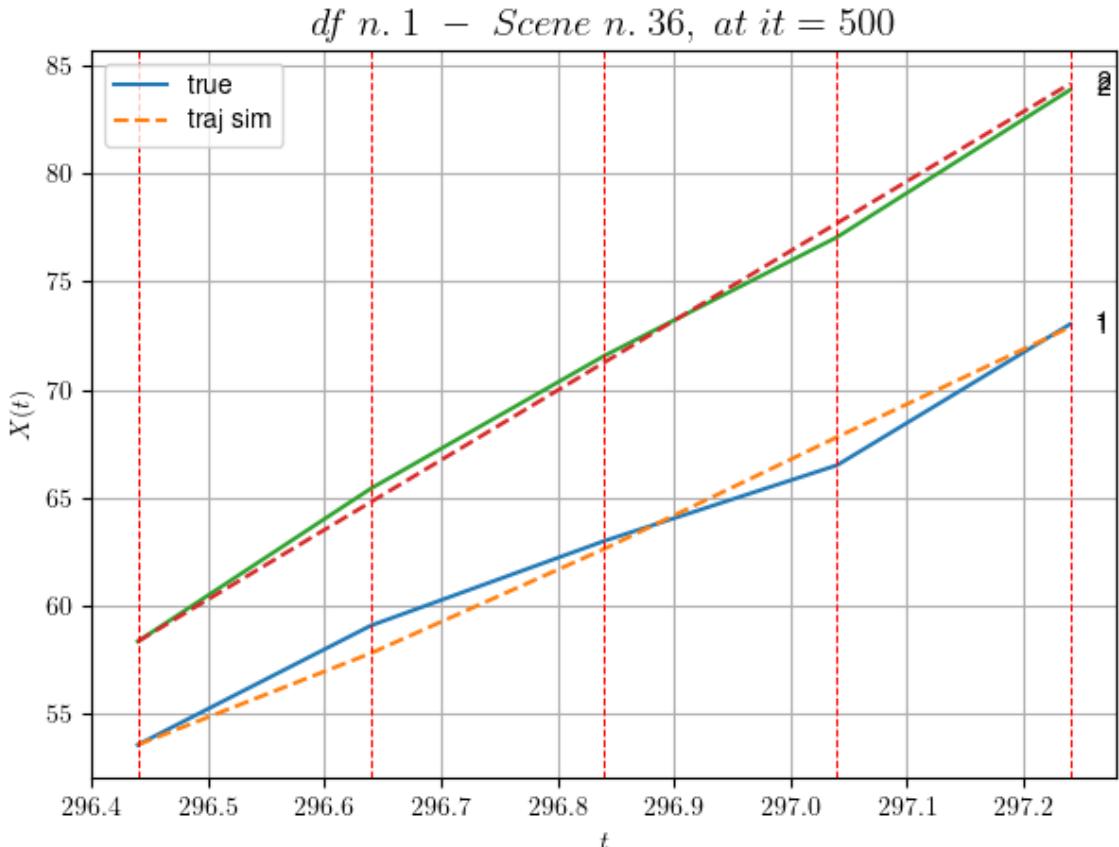
- Time interval n.1: [296.64, 296.84]
 - * y_true: [19.54627216]
 - * v_ann: [24.099637985229492, 32.254865471371716]

- Time interval n.2: [296.84, 297.04]
 - * y_true: [17.55160174]
 - * v_ann: [25.886363983154297, 32.254865471371716]

- Time interval n.3: [297.04, 297.24]

```
* y_true: [32.62813612]
* v_ann: [25.43211555480957, 32.254865471371716]
```

```
* err= 0.4457156549768729
* Learning rate NN = 0.000478296831715852
* diff = 0.005452709039960479
```



For scene 36/109

```
* use LR_NN=0.001 with err=1.5319844827470148 at it=24
* v0_scn_mean = 32.1646708525344
* MAE = 0.4457156549768729
```

df n.1, scene n.37/109

We have 4 time intervals inside [298.04, 298.84]

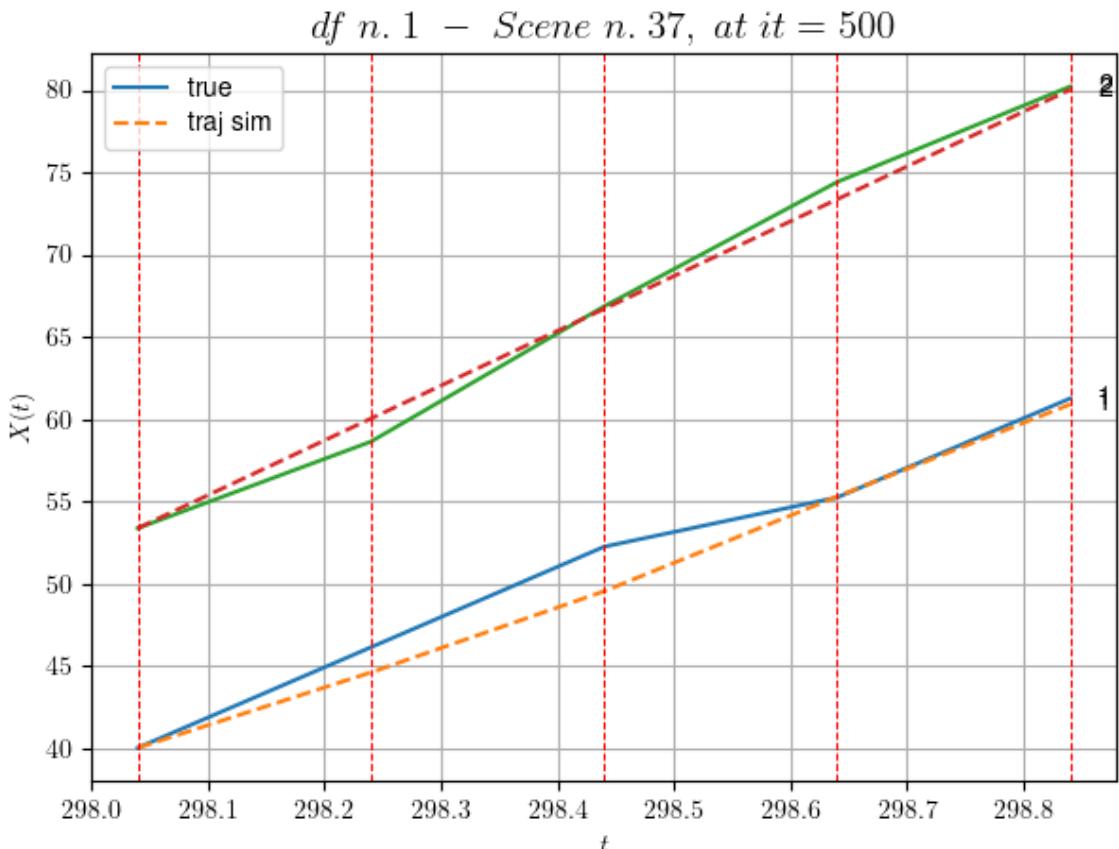
- Time interval n.0: [298.04, 298.24]
 - * y_true: [30.57625271]
 - * v_ann: [22.93335342072266, 33.34266245905389]

- Time interval n.1: [298.24, 298.44]
 - * y_true: [30.57625271]
 - * v_ann: [24.674888610839844, 33.34266245905389]

- Time interval n.2: [298.44, 298.64]
 * y_true: [15.00082942]
 * v_ann: [28.81529998779297, 33.34266245905389]

- Time interval n.3: [298.64, 298.84]
 * y_true: [30.12717078]
 * v_ann: [28.039583206176758, 33.34266245905389]

* err= 1.2949615103824499
 * Learning rate NN = 0.000239148415857926
 * diff = 0.014548449984604472



For scene 37/109
 * use LR_NN=0.0005 with err=3.3639868461910374 at it=24
 * v0_scn_mean = 33.20895596071336
 * MAE = 1.2949615103824499

df n.1, scene n.38/109

We have 5 time intervals inside [301.44,302.44]
 - Time interval n.0: [301.44, 301.64]
 * y_true: [23.98073382]
 * v_ann: [30.498085021972656, 25.446081747008222]

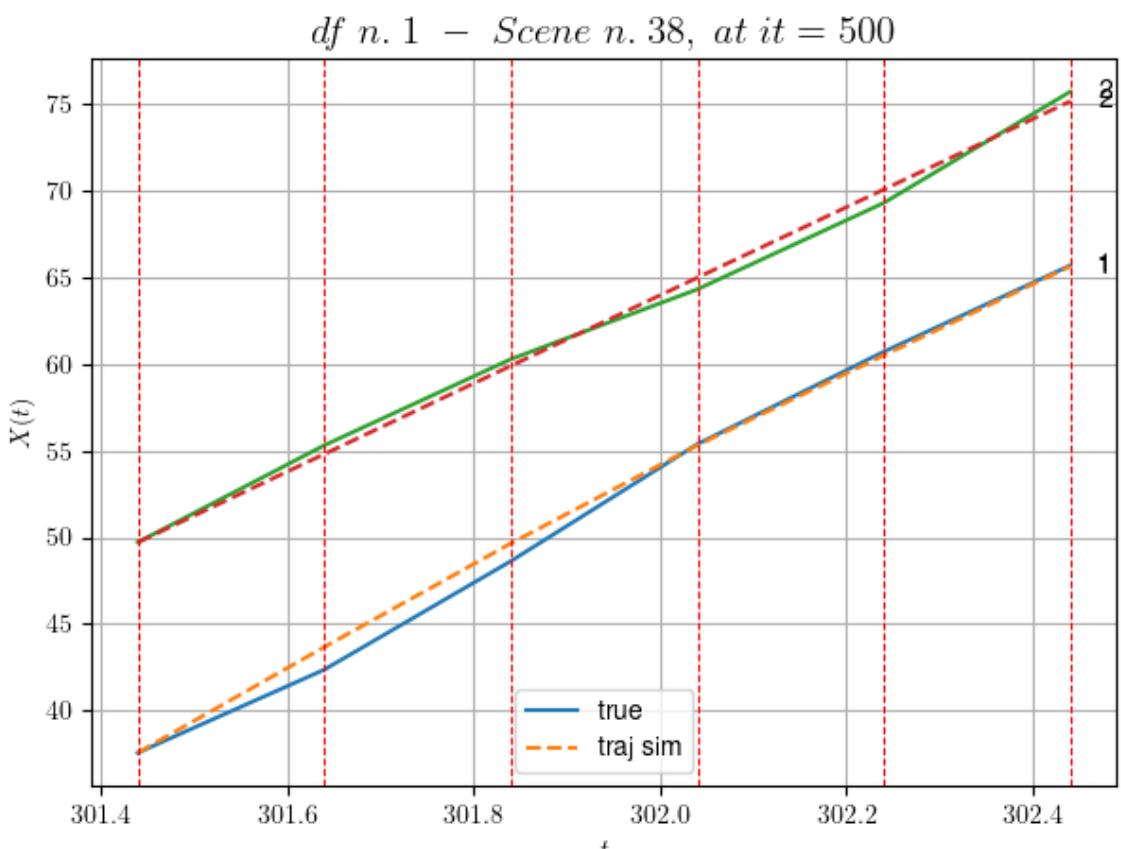
```
- Time interval n.1: [301.64, 301.84]
* y_true: [31.29145934]
* v_ann: [29.90915870666504, 25.446081747008222]
```

```
- Time interval n.2: [301.84, 302.04]
* y_true: [33.7516476]
* v_ann: [28.280567169189453, 25.446081747008222]
```

```
- Time interval n.3: [302.04, 302.24]
* y_true: [26.67180193]
* v_ann: [25.955472946166992, 25.446081747008222]
```

```
- Time interval n.4: [302.24, 302.44]
* y_true: [24.90184051]
* v_ann: [25.71065330505371, 25.446081747008222]
```

```
* err= 0.38110633889060286
* Learning rate NN = 0.0001937102060765028
* diff = 0.007603225125231705
```



For scene 38/109

```
* use LR_NN=0.0005 with err=4.636441399719619 at it=24
* v0_scn_mean = 25.628238477093138
* MAE = 0.38110633889060286
```

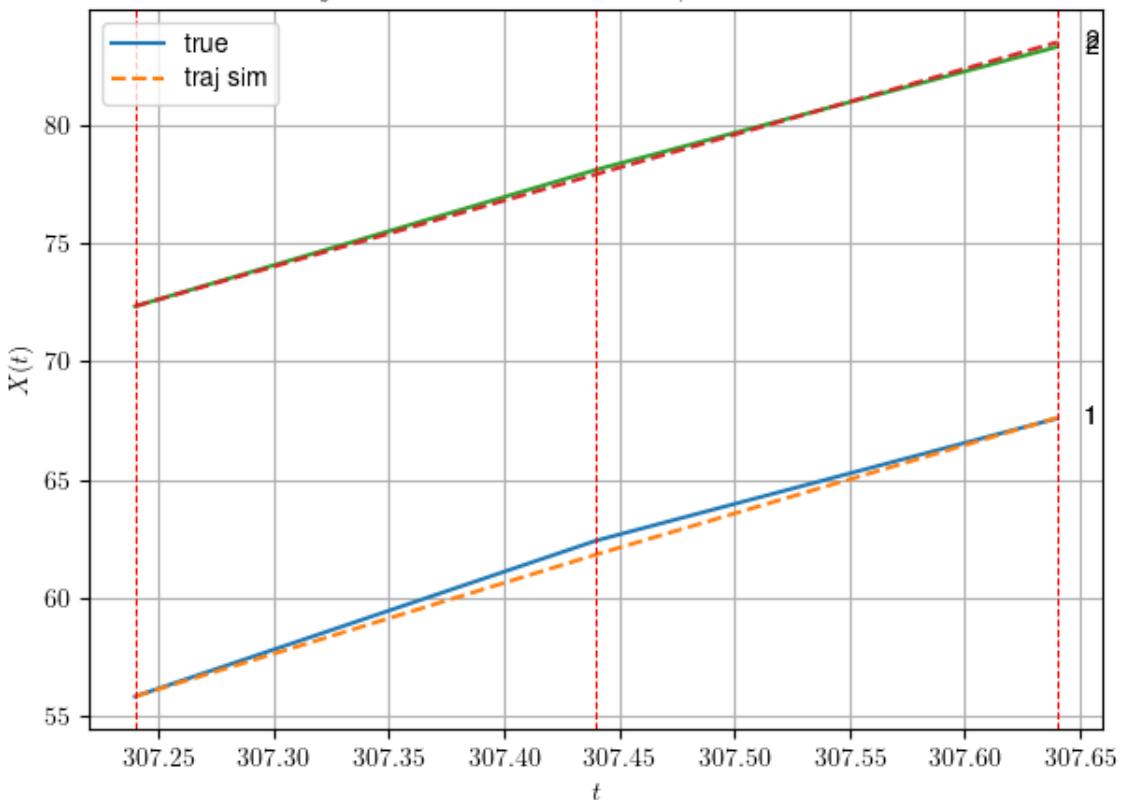
df n.1, scene n.39/109

We have 2 time intervals inside [307.24, 307.64]
 - Time interval n.0: [307.24, 307.44]
 * y_true: [32.90225561]
 * v_ann: [29.954631805419922, 27.873164065567874]

- Time interval n.1: [307.44, 307.64]
 * y_true: [25.81209386]
 * v_ann: [28.89285659790039, 27.873164065567874]

* err= 0.07032866460411819
 * Learning rate NN = 3.6449993785936385e-05
 * ~~44.44 - 5.877027840501262e-05~~

df n. 1 – Scene n. 39, at it = 500

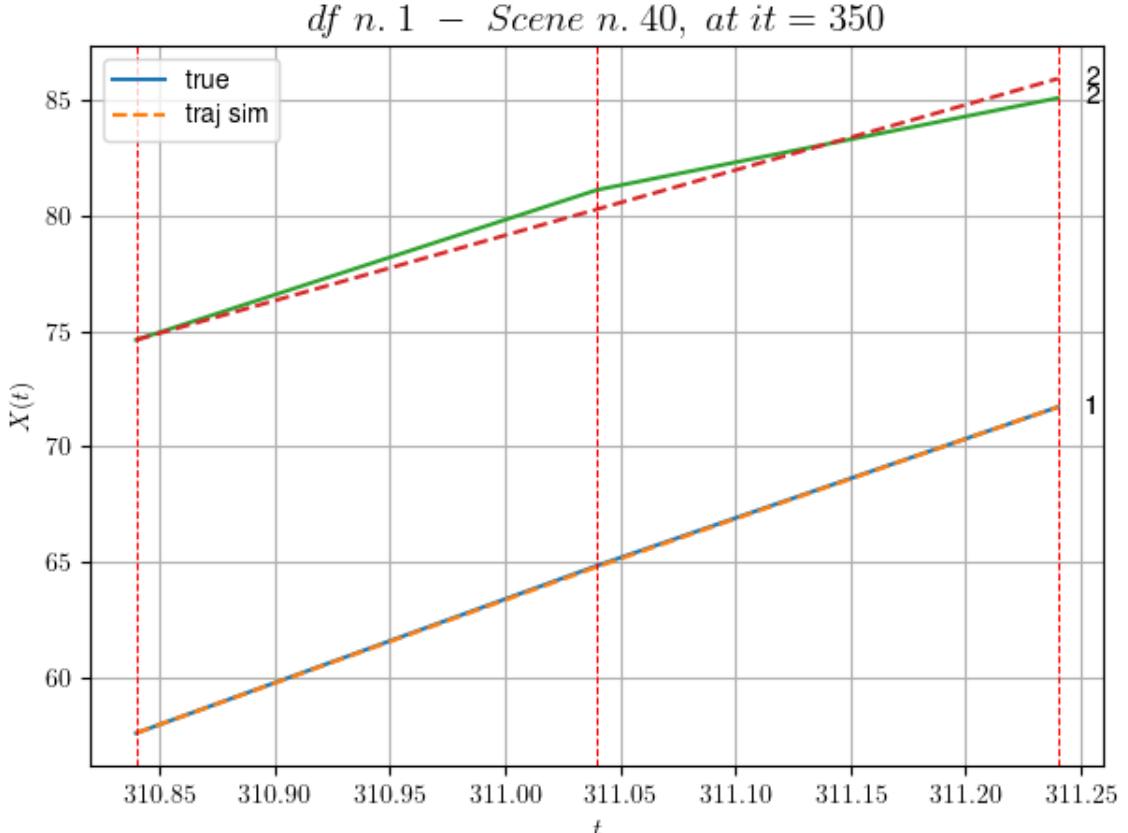


For scene 39/109

- * use LR_NN=5e-05 with err=0.2507765937072994 at it=24
- * v0_scn_mean = 27.958237502928664
- * MAE = 0.07007782856784452

df n.1, scene n.40/109

```
=====
=====
We have 2 time intervals inside [310.84,311.24]
* err= 0.23605174987406807
* Learning rate NN = 8.099999104160815e-05
* diff = 6.65622978457403e-07
```



For scene 40/109

```
* use LR_NN=0.0001 with err=0.4206566806601196 at it=24
* v0_scn_mean = 28.434738777930672
* MAE = 0.23605174987406807
```

df n.1, scene n.41/109

```
=====
=====
We have 3 time intervals inside [316.44,317.04]
```

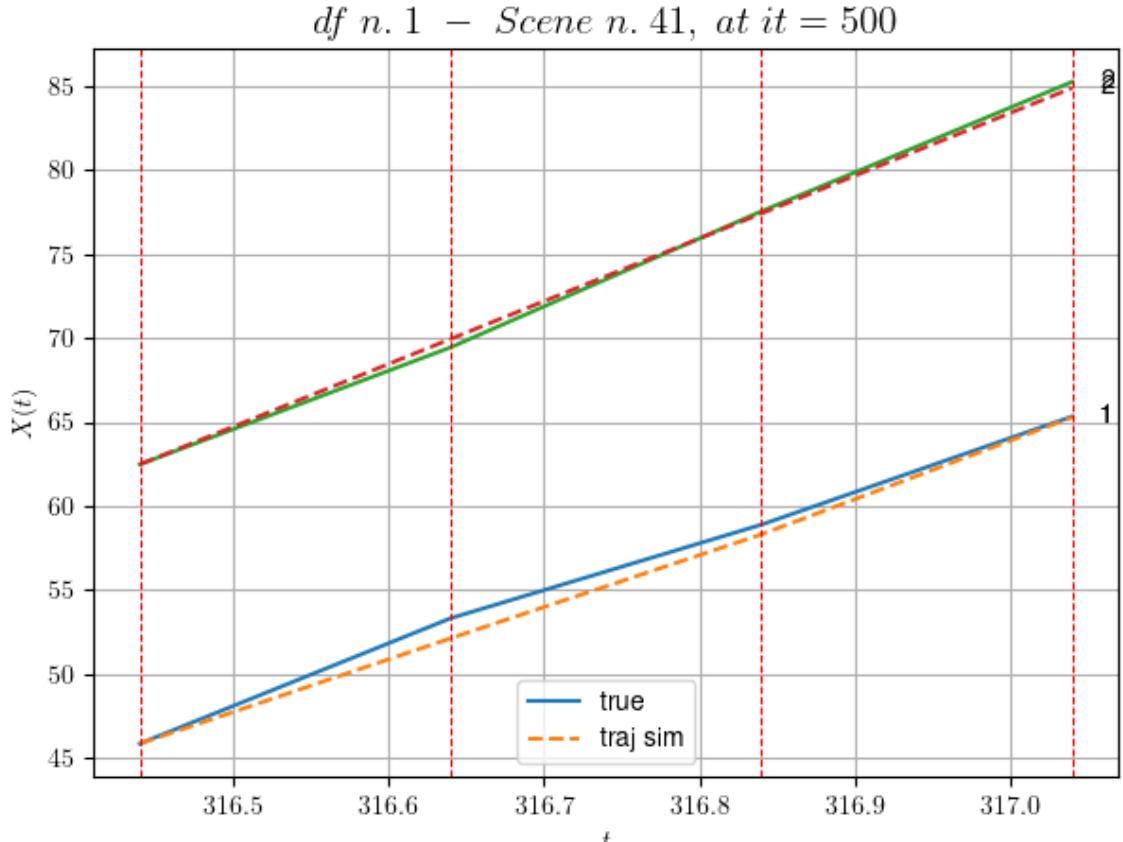
- Time interval n.0: [316.44, 316.64]
 - * y_true: [37.30178767]
 - * v_ann: [31.341022491455078, 37.33434122714779]

- Time interval n.1: [316.64, 316.84]
 - * y_true: [27.85170332]
 - * v_ann: [30.91130828857422, 37.33434122714779]

- Time interval n.2: [316.84, 317.04]
 - * y_true: [32.2024108]

```
* v_ann: [34.85652160644531, 37.33434122714779]
```

```
* err= 0.27083062701354027
* Learning rate NN = 2.952449540316593e-05
* diff = 0.00031056935675771724
```



For scene 41/109

```
* use LR_NN=5e-05 with err=4.394351746159577 at it=24
* v0_scn_mean = 37.04096757811747
* MAE = 0.26916741051392823
```

df n.1, scene n.42/109

We have 6 time intervals inside [317.64, 318.84]

- Time interval n.0: [317.64, 317.84]
 - * y_true: [33.22656212]
 - * v_ann: [-0.0021115171257406473, 33.1947183536548]

1]

- Time interval n.1: [317.84, 318.04]
 - * y_true: [28.08686413]
 - * v_ann: [-0.006499056238681078, 33.19471835365481]

```

        - Time interval n.2: [318.04, 318.24]
          * y_true: [26.80193964]
          * v_ann: [-3.522613042150624e-05, 33.1947183536548
1]

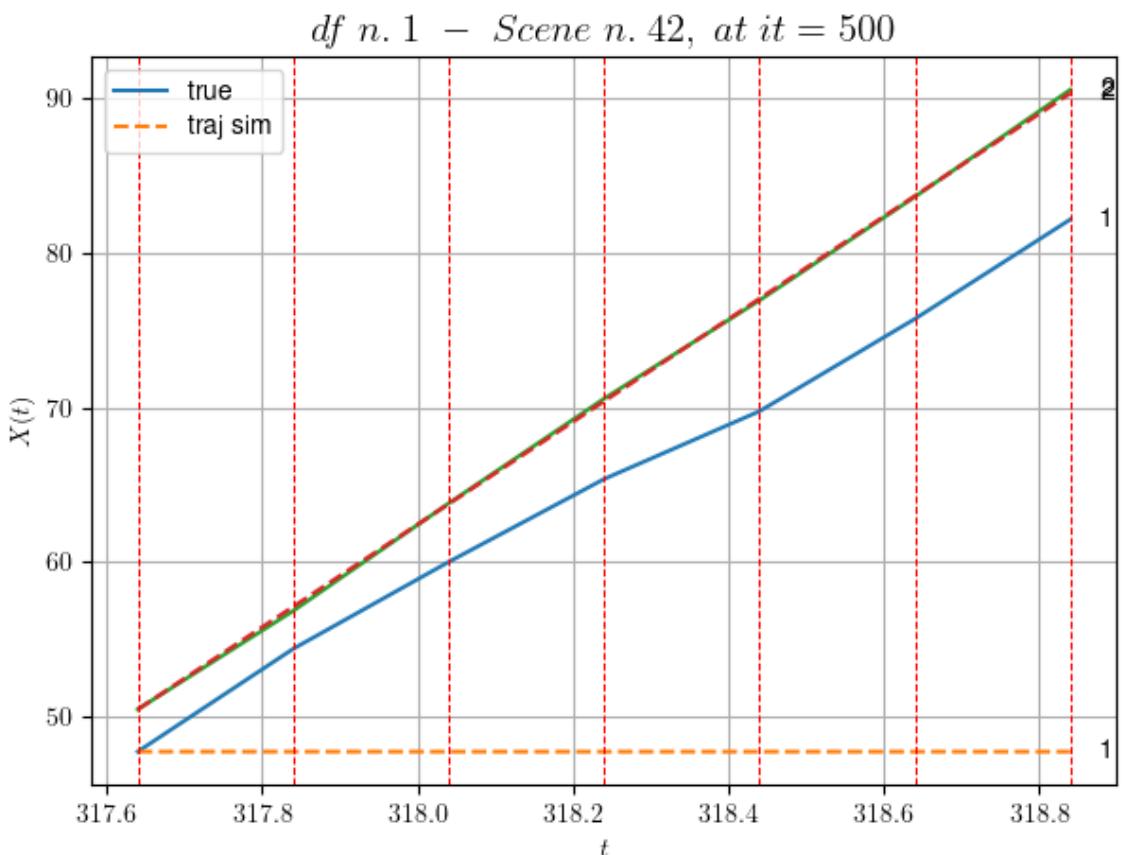
-----
        - Time interval n.3: [318.24, 318.44]
          * y_true: [21.92189]
          * v_ann: [-1.969632137388544e-07, 33.1947183536548
1]

-----
        - Time interval n.4: [318.44, 318.64]
          * y_true: [29.86332637]
          * v_ann: [-1.8066895202117905e-10, 33.1947183536548
1]

-----
        - Time interval n.5: [318.64, 318.84]
          * y_true: [32.15368857]
          * v_ann: [-1.4307662693502365e-11, 33.1947183536548
1]

-----
* err= 211.21451617706865
* Learning rate NN = 0.0015690524596720934
* diff = 0.0017596061967424248

```

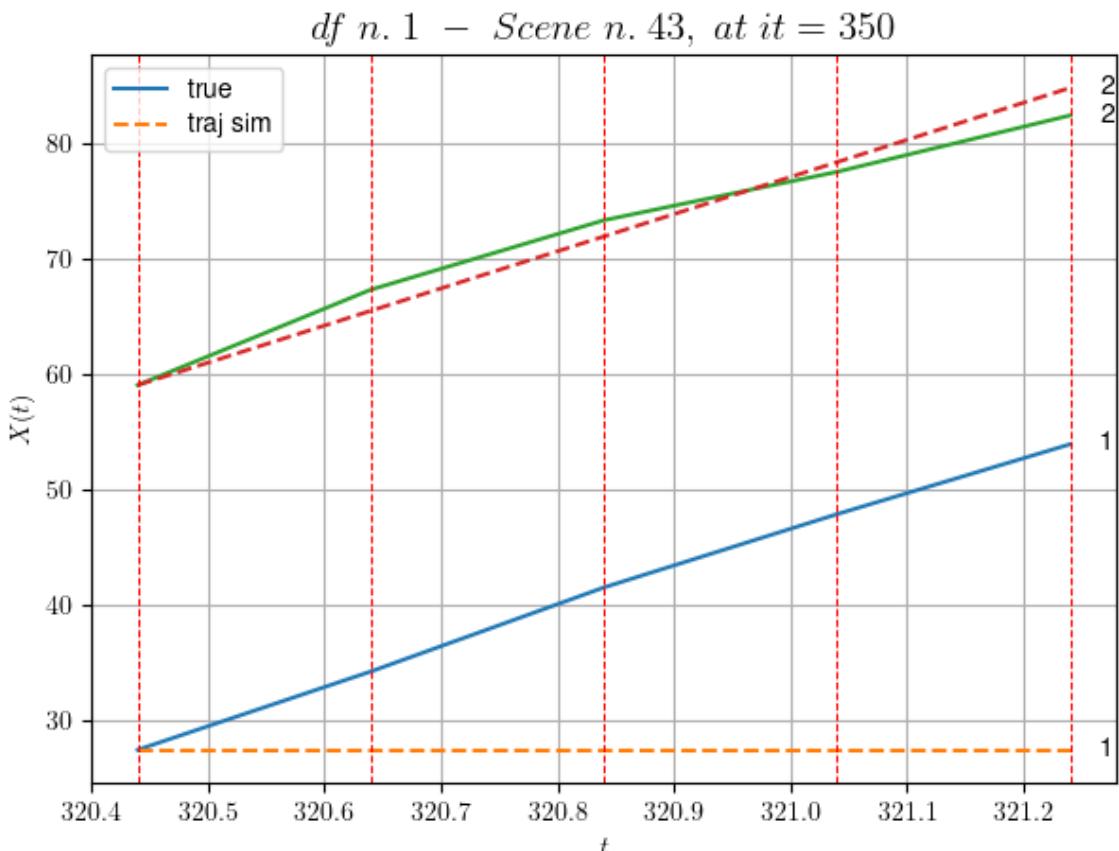


For scene 42/109
* use LR_NN=0.005 with err=4.472527896075572 at it=24

```
* v0_scn_mean = 33.06692961953183
* MAE = 1.1849281604619717
```

```
df n.1, scene n.43/109
```

```
We have 4 time intervals inside [320.44,321.24]
* err= 137.33995712528218
* Learning rate NN = 5.9048988987342454e-06
* diff = 1.2464616361285152e-07
```

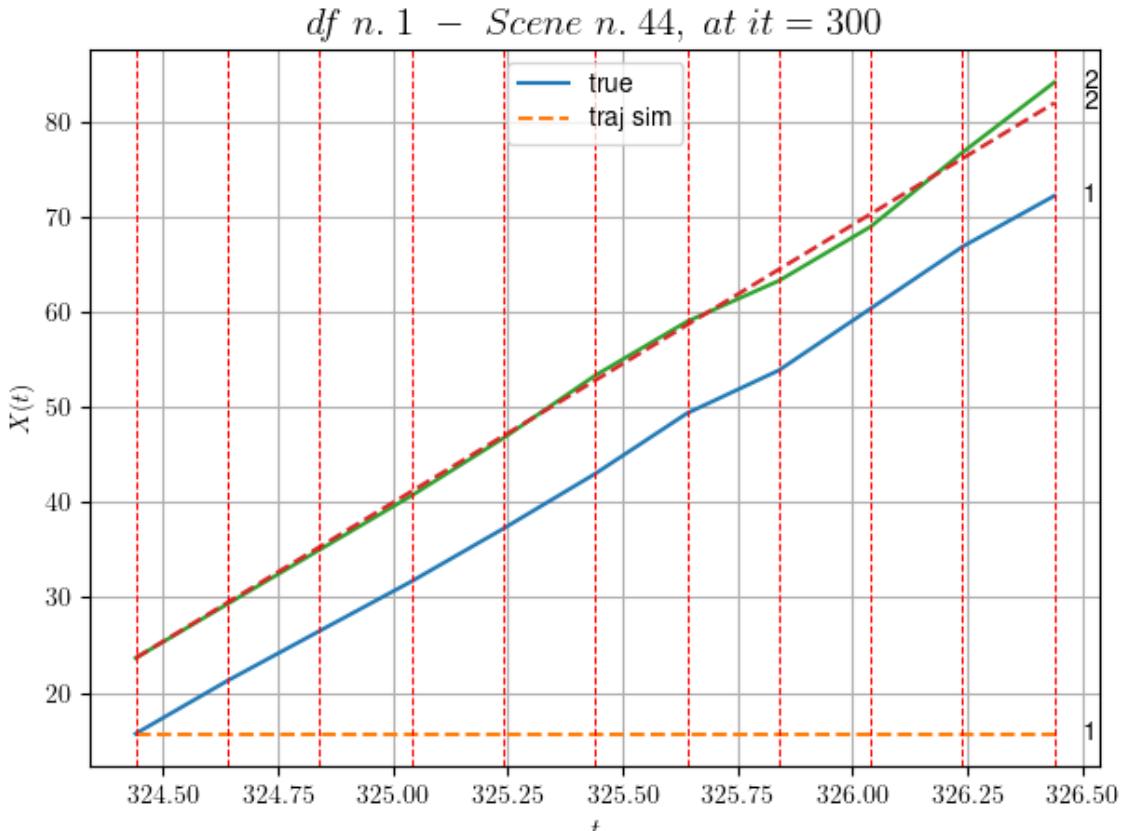


For scene 43/109

```
* use LR_NN=1e-05 with err=1.130691397457408 at it=24
* v0_scn_mean = 32.068031979875286
* MAE = 137.1549932384559
```

```
df n.1, scene n.44/109
```

```
We have 10 time intervals inside [324.44,326.44]
* err= 547.1430611704423
* Learning rate NN = 1.5690524378442205e-05
* diff = 3.696588919410715e-07
```



For scene 44/109

- * use LR_NN=5e-05 with err=0.9509240678483573 at it=24
- * v0_scn_mean = 29.238039743304974
- * MAE = 547.1311446300972

df n.1, scene n.45/109

We have 8 time intervals inside [332.24, 333.84]

- Time interval n.0: [332.24, 332.44]
 - * y_true: [25.53074236]
 - * v_ann: [34.67912292480469, 26.651206522067962]

- Time interval n.1: [332.44, 332.64]
 - * y_true: [36.42146061]
 - * v_ann: [32.973995208740234, 26.651206522067962]

- Time interval n.2: [332.64, 332.84]
 - * y_true: [36.36192075]
 - * v_ann: [30.359548568725586, 26.651206522067962]

- Time interval n.3: [332.84, 333.04]
 - * y_true: [29.40195398]

```
* v_ann: [27.876426696777344, 26.651206522067962]
```

```
- Time interval n.4: [333.04, 333.24]
* y_true: [19.16071664]
* v_ann: [23.700918197631836, 26.651206522067962]
```

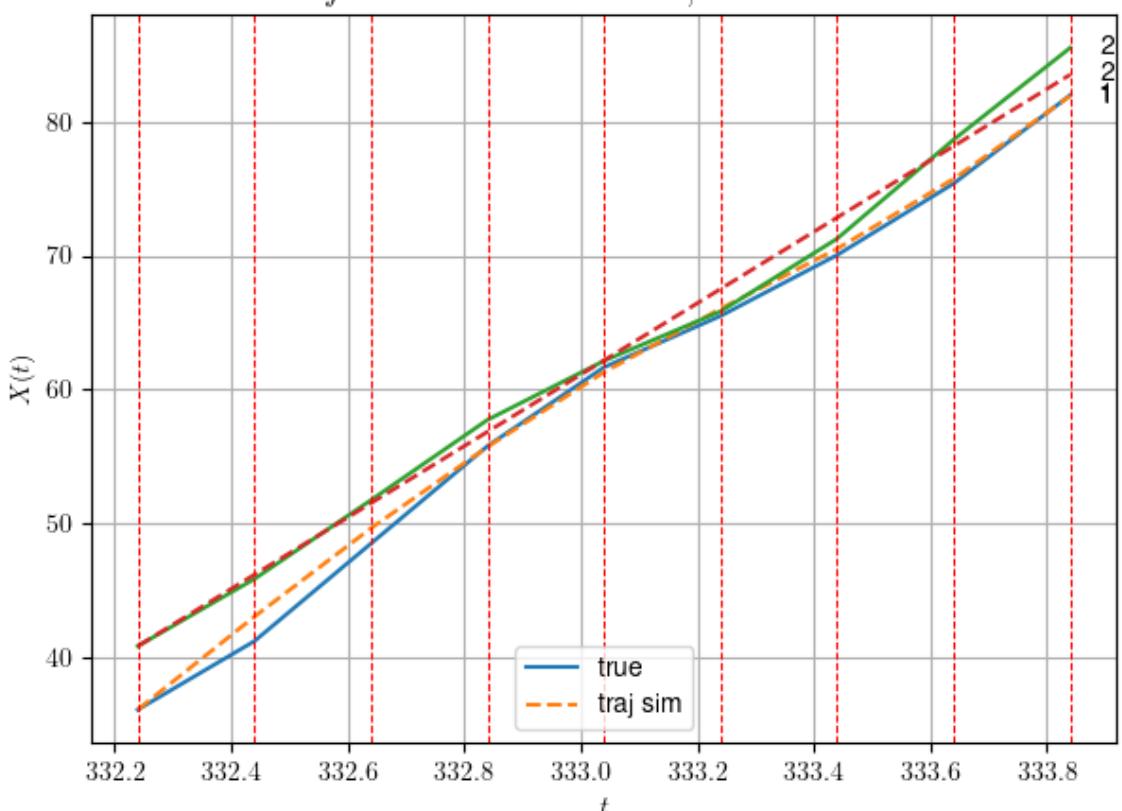
```
- Time interval n.5: [333.24, 333.44]
* y_true: [22.72210839]
* v_ann: [22.34160804748535, 26.651206522067962]
```

```
- Time interval n.6: [333.44, 333.64]
* y_true: [26.70265572]
* v_ann: [26.07161521911621, 26.651206522067962]
```

```
- Time interval n.7: [333.64, 333.84]
* y_true: [32.94386414]
* v_ann: [30.964624404907227, 26.651206522067962]
```

```
* err= 0.884373403598308
* Learning rate NN = 0.00020589104678947479
* diff = 0.0022687273158429333
```

df n. 1 – Scene n. 45, at it = 500



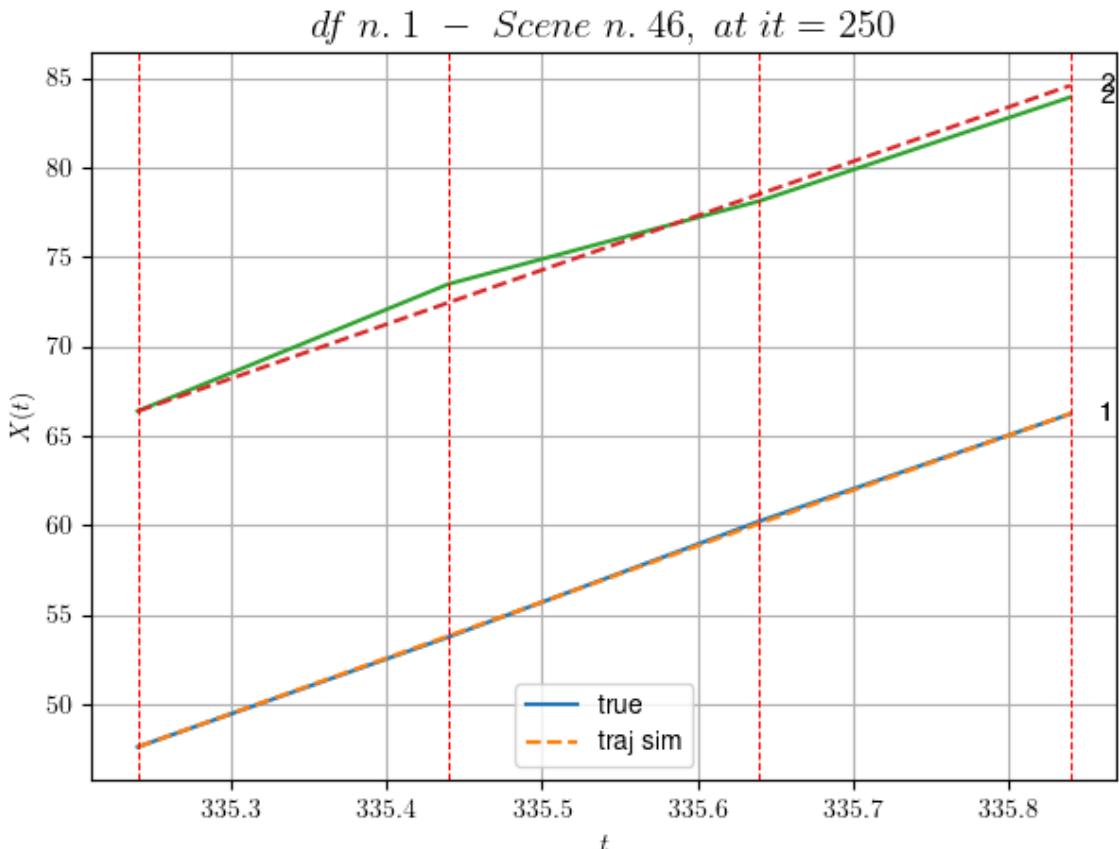
For scene 45/109

* use LR_NN=0.001 with err=6.290826144734767 at it=24

```
* v0_scn_mean = 26.785158261158614
* MAE = 0.8831176327690972
```

```
df n.1, scene n.46/109
```

```
We have 3 time intervals inside [335.24,335.84]
* err= 0.20876796113393173
* Learning rate NN = 8.099998922261875e-06
* diff = 5.0950966196117164e-08
```



For scene 46/109

```
* use LR_NN=1e-05 with err=0.1870173287366668 at it=24
* v0_scn_mean = 30.310260309222112
* MAE = 0.19969127693692834
```

```
df n.1, scene n.47/109
```

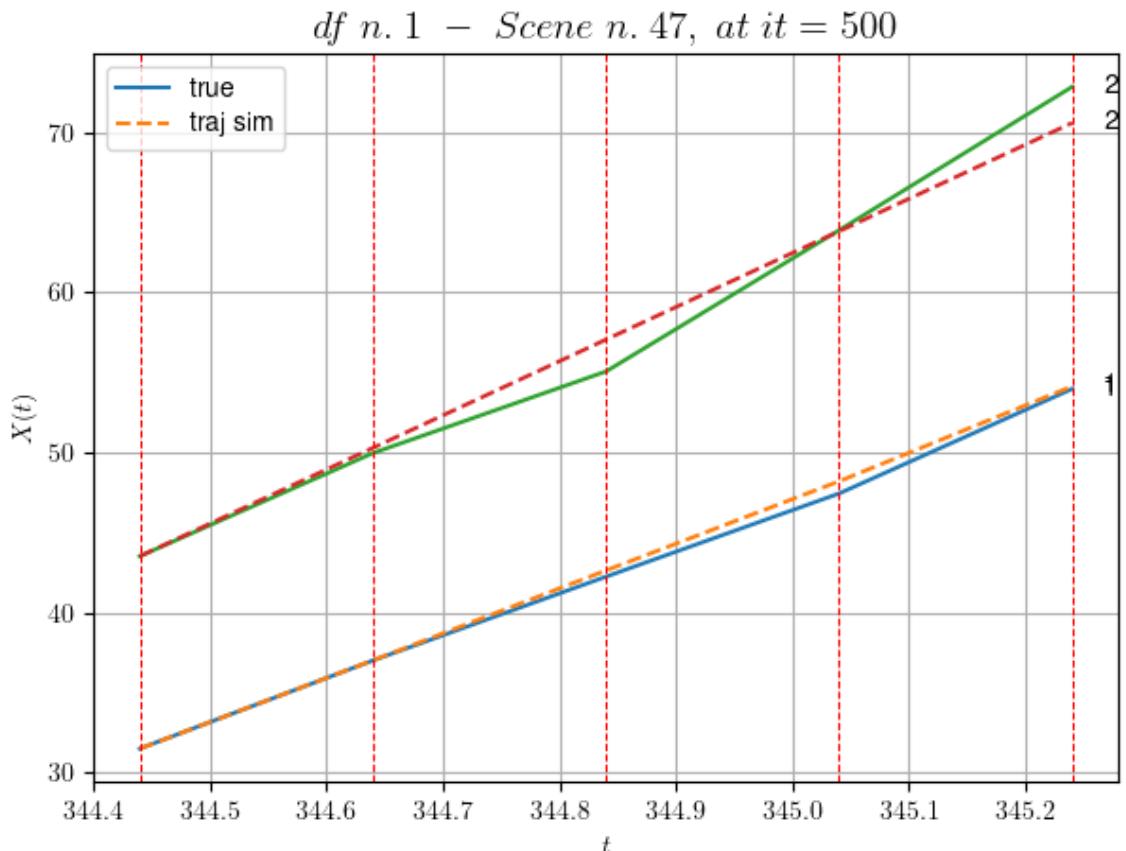
```
We have 4 time intervals inside [344.44,345.24]
- Time interval n.0: [344.44, 344.64]
  * y_true: [27.53063305]
  * v_ann: [27.55423927307129, 33.83197138856196]
```

- Time interval n.1: [344.64, 344.84]
 * y_true: [26.17089419]
 * v_ann: [28.09033203125, 33.83197138856196]

- Time interval n.2: [344.84, 345.04]
 * y_true: [25.97595237]
 * v_ann: [27.841053009033203, 33.83197138856196]

- Time interval n.3: [345.04, 345.24]
 * y_true: [32.67663097]
 * v_ann: [29.671222686767578, 33.83197138856196]

* err= 0.99274033480532
 * Learning rate NN = 2.3914839403005317e-05
 * diff = 0.0013068721802598215



For scene 47/109

* use LR_NN=5e-05 with err=3.48806318191071 at it=24
 * v0_scn_mean = 33.678692533049094
 * MAE = 0.99274033480532

df n.1, scene n.48/109

We have 4 time intervals inside [349.64, 350.44]

- Time interval n.0: [349.64, 349.84]
 - * y_true: [34.02093414]
 - * v_ann: [31.576175689697266, 30.663808885196868]
-

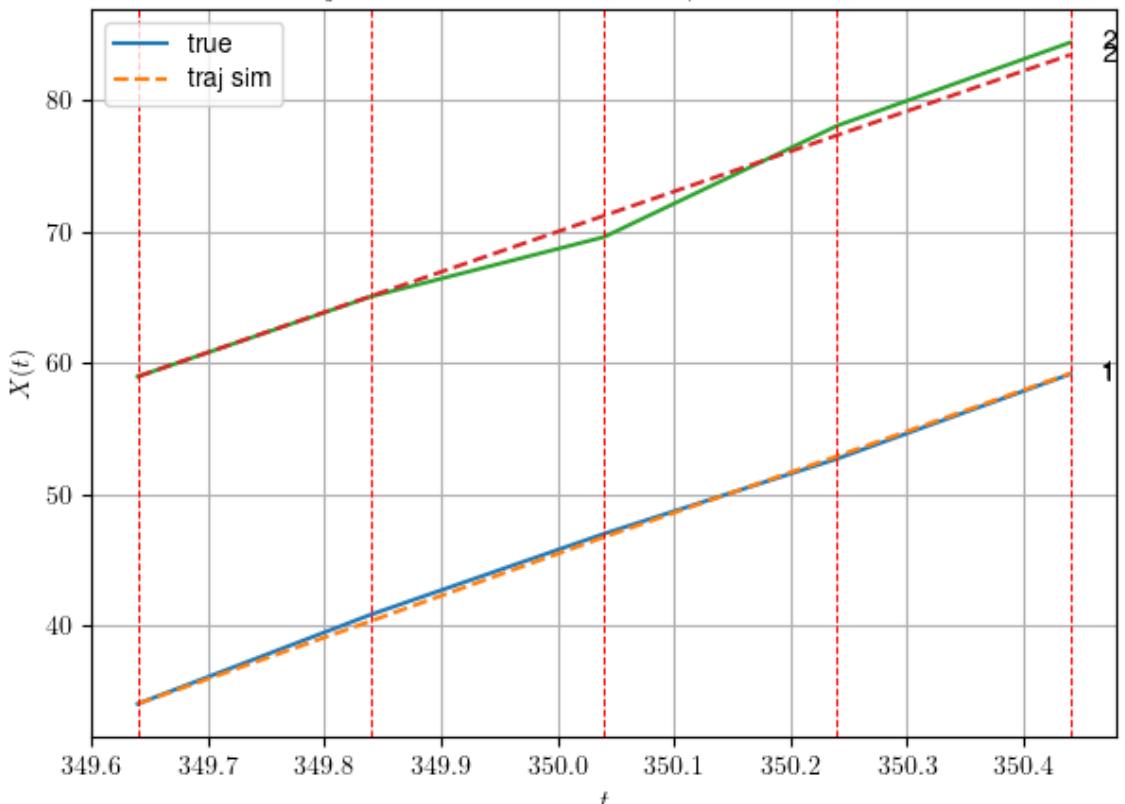
- Time interval n.1: [349.84, 350.04]
 - * y_true: [30.7912183]
 - * v_ann: [31.9724063873291, 30.663808885196868]
-

- Time interval n.2: [350.04, 350.24]
 - * y_true: [28.60141935]
 - * v_ann: [30.846094131469727, 30.663808885196868]
-

- Time interval n.3: [350.24, 350.44]
 - * y_true: [32.28190572]
 - * v_ann: [31.551647186279297, 30.663808885196868]
-

- * err= 0.4396584518496633
- * Learning rate NN = 2.3914839403005317e-05
- * diff = 4.700142301633514e-05

df n. 1 – Scene n. 48, at it = 500



For scene 48/109

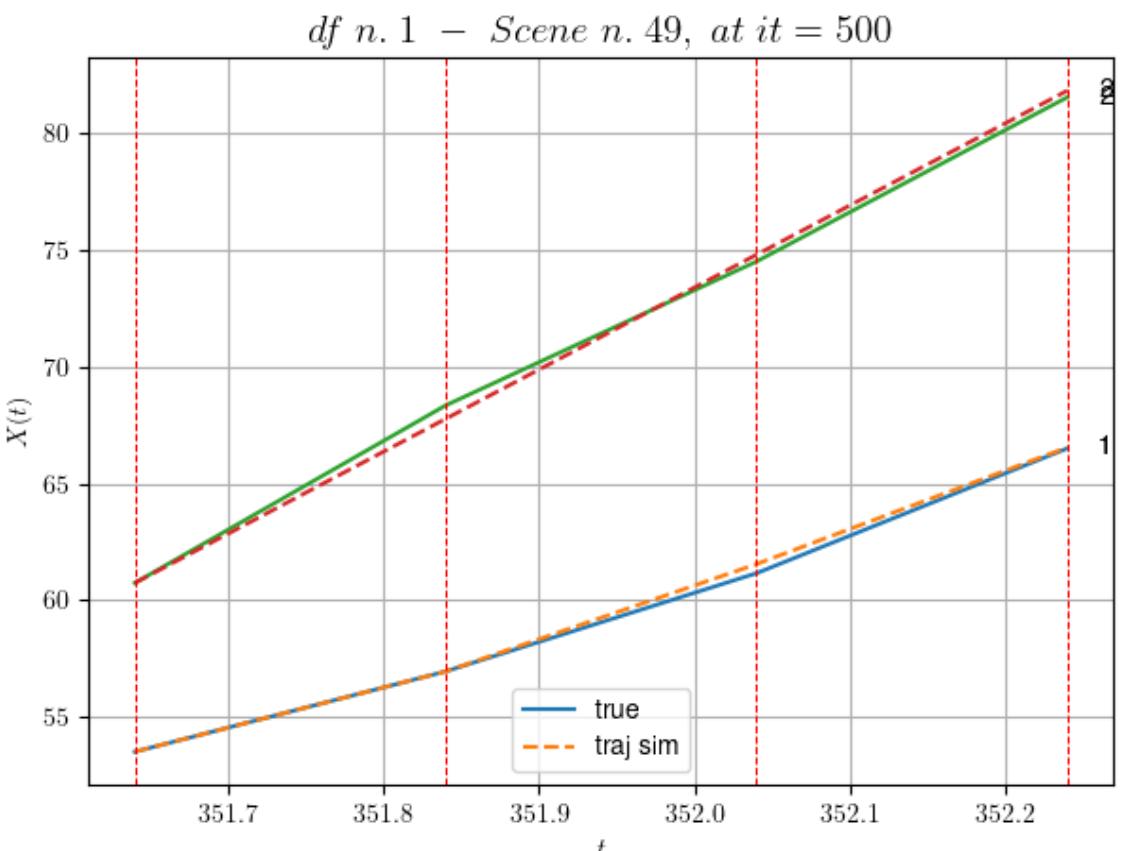
- * use LR_NN=5e-05 with err=0.5496606170314843 at it=24
- * v0_scn_mean = 30.637256529793444
- * MAE = 0.4393636803754317

```
=====
===== df n.1, scene n.49/109 =====
=====
===== We have 3 time intervals inside [351.64,352.24]
      - Time interval n.0: [351.64, 351.84]
          * y_true: [17.20102191]
          * v_ann: [17.194204330444336, 35.128237730719775]

=====
      - Time interval n.1: [351.84, 352.04]
          * y_true: [21.01146522]
          * v_ann: [22.971668243408203, 35.128237730719775]

=====
      - Time interval n.2: [352.04, 352.24]
          * y_true: [26.72713019]
          * v_ann: [24.987457275390625, 35.128237730719775]

=====
* err= 0.08129375010498577
* Learning rate NN = 0.0002952449722215533
* diff = 0.0007347340544051617
```



For scene 49/109
 * use LR_NN=0.0005 with err=1.7248738550896732 at it=24
 * v0_scn_mean = 34.92310822153167
 * MAE = 0.08129375010498577

```
=====
=====

df n.1, scene n.50/109
=====

=====
=====

We have 5 time intervals inside [352.84,353.84]
- Time interval n.0: [352.84, 353.04]
  * y_true: [30.00089881]
  * v_ann: [23.253040313720703, 29.02856357779744]

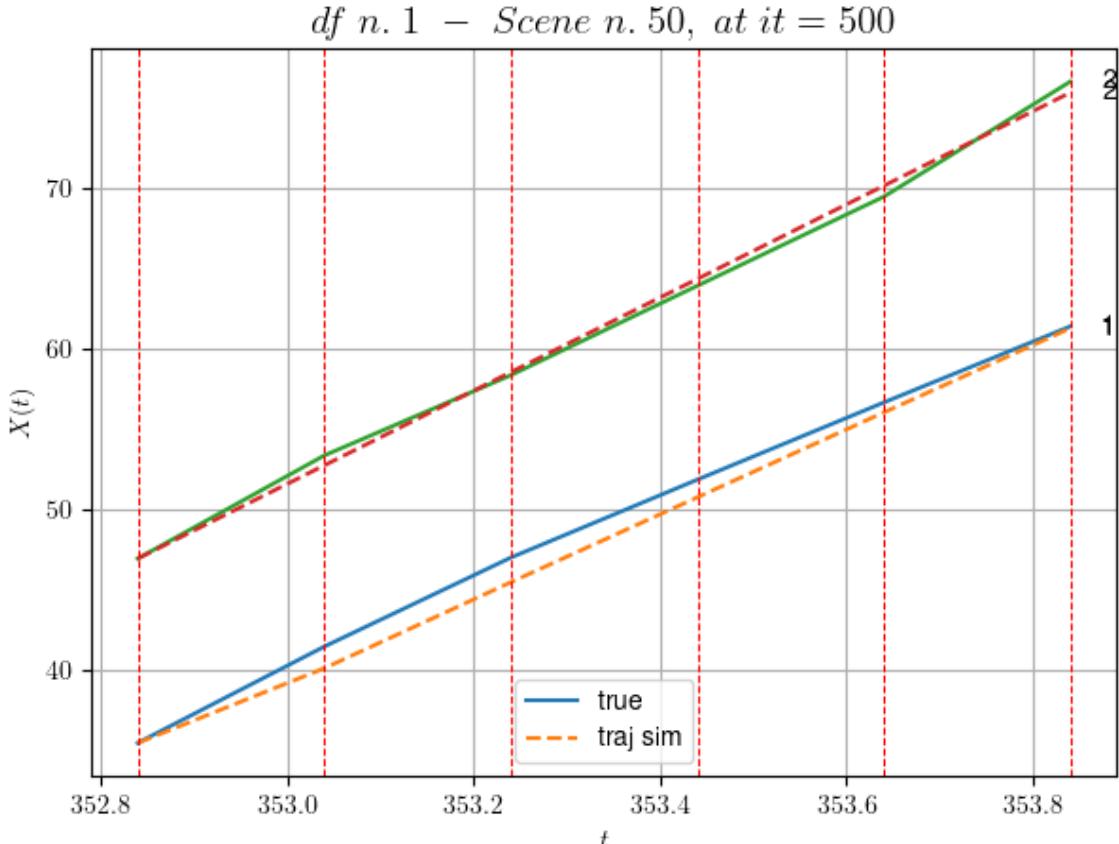
-----
-----[Time interval n.1: [353.04, 353.24]
  * y_true: [27.71101029]
  * v_ann: [26.78608512878418, 29.02856357779744]

-----
-----[Time interval n.2: [353.24, 353.44]
  * y_true: [24.27617752]
  * v_ann: [26.450807571411133, 29.02856357779744]

-----
-----[Time interval n.3: [353.44, 353.64]
  * y_true: [24.04635791]
  * v_ann: [26.438396453857422, 29.02856357779744]

-----
-----[Time interval n.4: [353.64, 353.84]
  * y_true: [23.7016285]
  * v_ann: [26.22664451599121, 29.02856357779744]

-----
-----[err= 0.6093494444621993
* Learning rate NN = 0.0003874204121530056
* diff = 0.0006461465908593755
```



For scene 50/109

- * use LR_NN=0.001 with err=0.7754373475103793 at it=24
- * v0_scn_mean = 29.067421034677626
- * MAE = 0.45249178202893214

df n.1, scene n.51/109

We have 4 time intervals inside [358.84, 359.64]

- Time interval n.0: [358.84, 359.04]
 - * y_true: [31.9907758]
 - * v_ann: [35.748966217041016, 28.62644197692053]

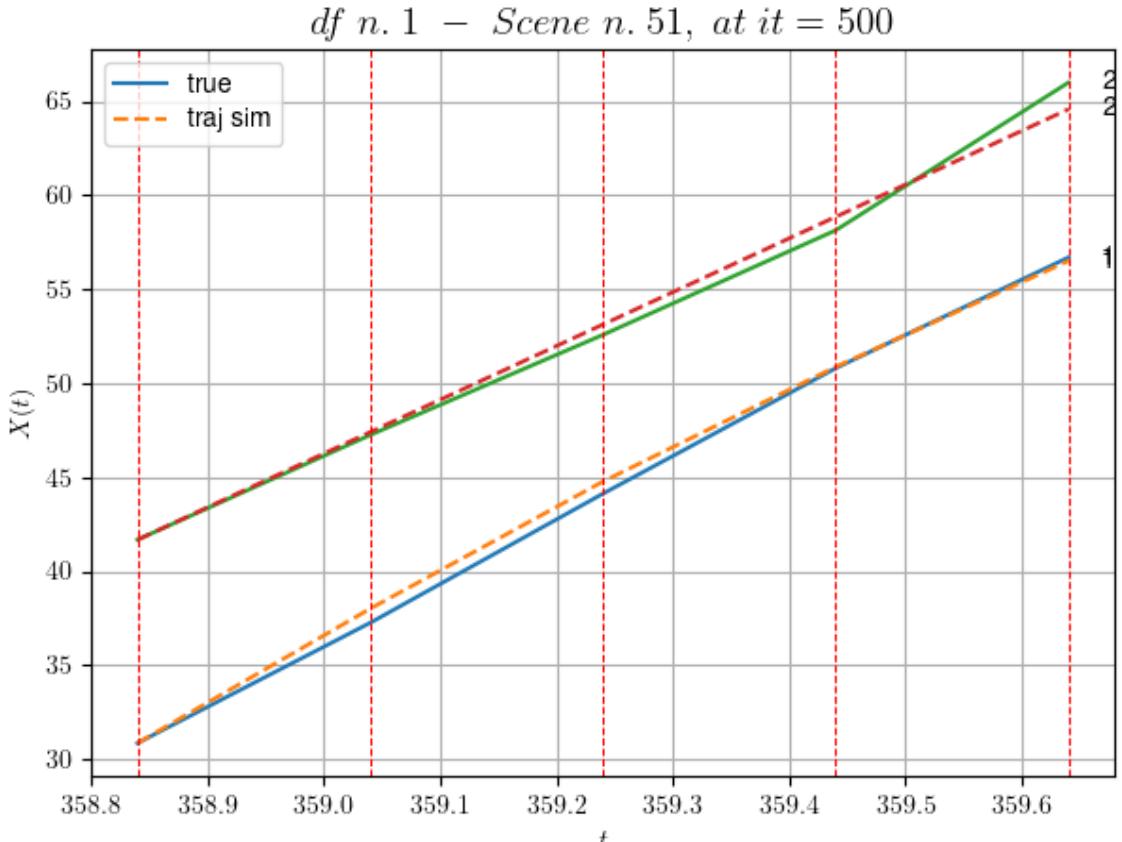
- Time interval n.1: [359.04, 359.24]
 - * y_true: [34.35123345]
 - * v_ann: [33.8165283203125, 28.62644197692053]

- Time interval n.2: [359.24, 359.44]
 - * y_true: [33.37134022]
 - * v_ann: [30.504209518432617, 28.62644197692053]

- Time interval n.3: [359.44, 359.64]
 - * y_true: [29.4517673]

```
* v_ann: [28.159622192382812, 28.62644197692053]
```

```
* err= 0.38757528042866407
* Learning rate NN = 2.3914839403005317e-05
* diff = 0.0006210092857958371
```



For scene 51/109

```
* use LR_NN=5e-05 with err=0.6256576261873226 at it=24
* v0_scn_mean = 28.68138429783281
* MAE = 0.3756360655746166
```

df n.1, scene n.52/109

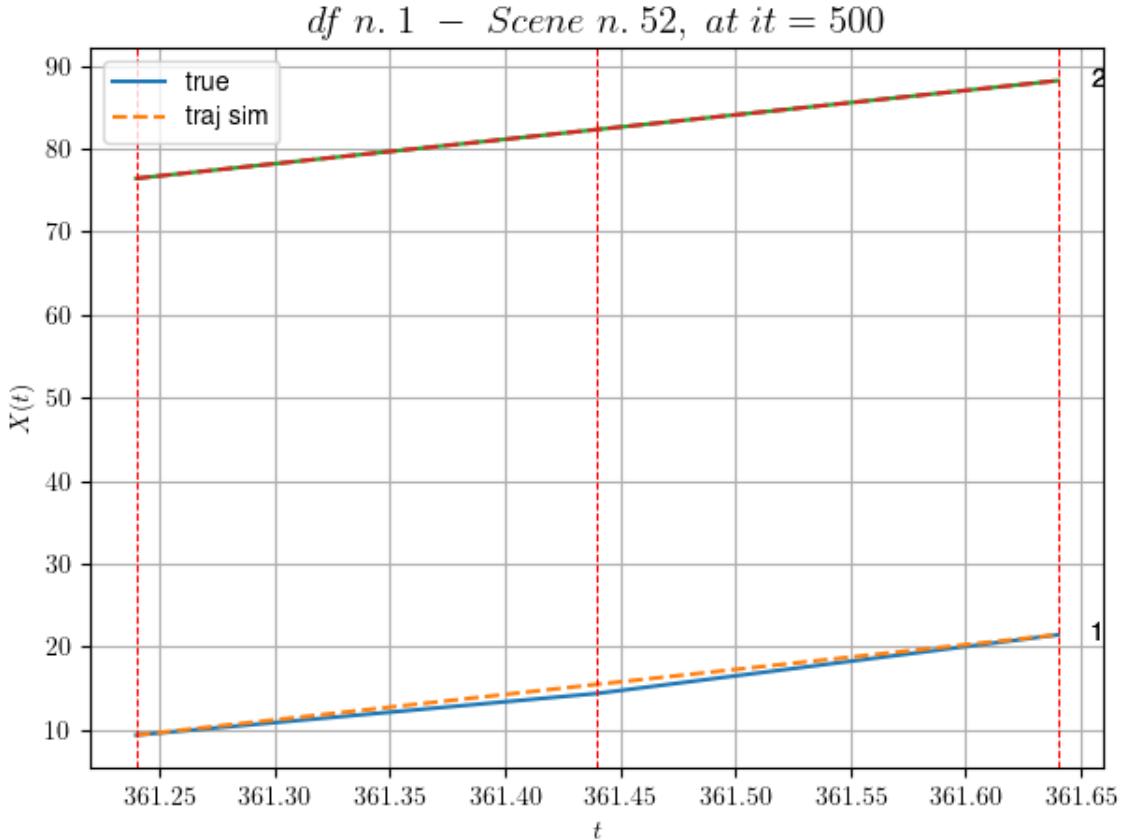
We have 2 time intervals inside [361.24, 361.64]

- Time interval n.0: [361.24, 361.44]
 - * y_true: [25.09007353]
 - * v_ann: [30.595962524414062, 29.453860908621873]

- Time interval n.1: [361.44, 361.64]
 - * y_true: [35.31024178]
 - * v_ann: [29.864830017089844, 29.453860908621873]

```
* err= 0.20212314093565897
```

* Learning rate NN = 7.289998848136747e-06
 * diff = 0.00012608252734769287



For scene 52/109

* use LR_NN=1e-05 with err=0.2332659392923122 at it=24
 * v0_scn_mean = 29.475706472271817
 * MAE = 0.19873791882568934

df n.1, scene n.53/109

We have 6 time intervals inside [362.84, 364.04]

- Time interval n.0: [362.84, 363.04]
 - * y_true: [59.17020934]
 - * v_ann: [34.41313934326172, 30.31397642834161]

- Time interval n.1: [363.04, 363.24]
 - * y_true: [26.94023047]
 - * v_ann: [35.6190299987793, 30.31397642834161]

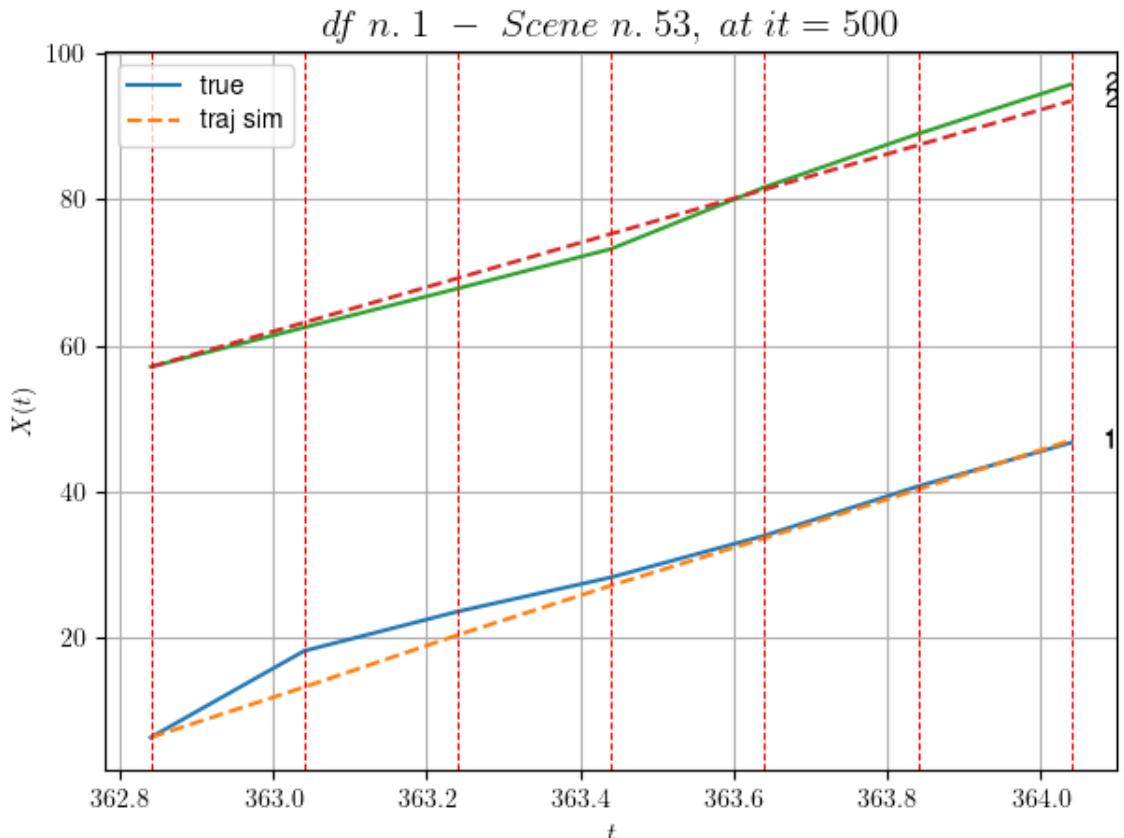
- Time interval n.2: [363.24, 363.44]
 - * y_true: [23.39031489]
 - * v_ann: [33.86764907836914, 30.31397642834161]

- Time interval n.3: [363.44, 363.64]
 * y_true: [28.55056389]
 * v_ann: [32.364017486572266, 30.31397642834161]

- Time interval n.4: [363.64, 363.84]
 * y_true: [33.66093634]
 * v_ann: [33.315582275390625, 30.31397642834161]

- Time interval n.5: [363.84, 364.04]
 * y_true: [29.94110461]
 * v_ann: [33.719905853271484, 30.31397642834161]

* err= 3.6388671196664064
 * Learning rate NN = 3.138104875688441e-05
 * diff = 0.004875459795711468



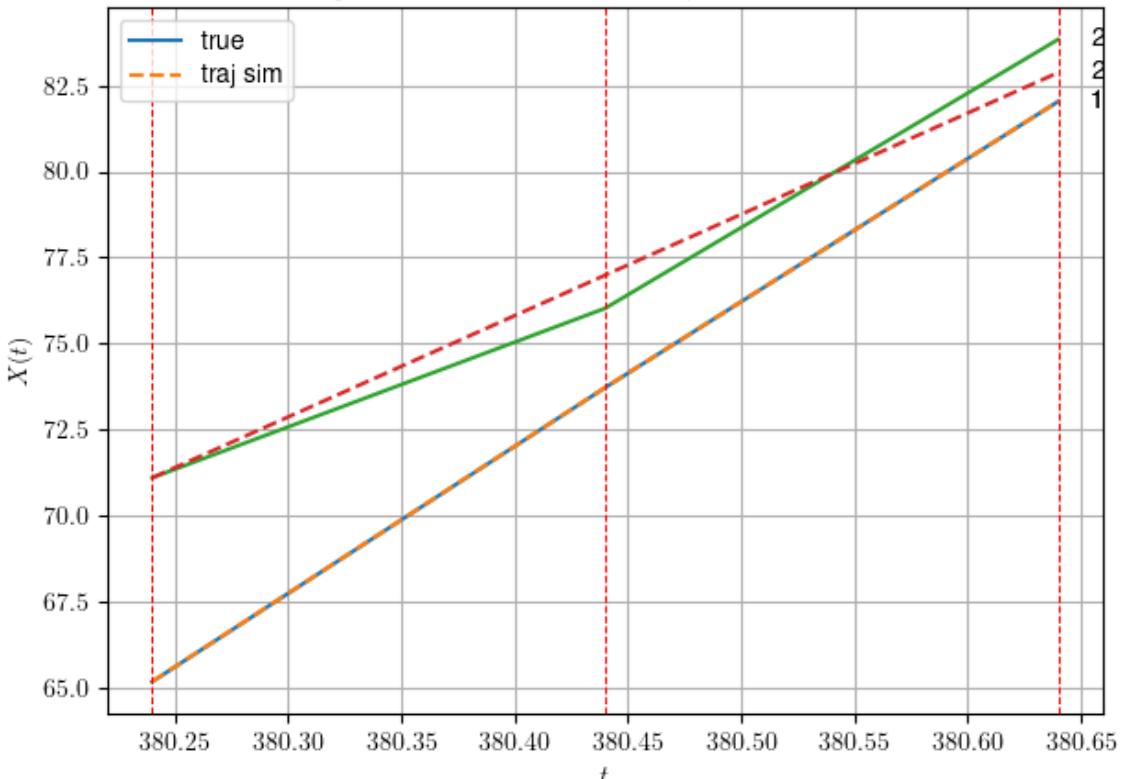
For scene 53/109
 * use LR_NN=0.0001 with err=3.44559387282351 at it=24
 * v0_scn_mean = 30.30141737121047
 * MAE = 3.363805721295573

df n.1, scene n.54/109

We have 2 time intervals inside [380.24, 380.64]

- * err= 0.30896271314845647
- * Learning rate NN = 0.00040499999886378646
- * diff = 7 425569694130552e-07

df n. 1 – Scene n. 54, at it = 350



For scene 54/109

- * use LR_NN=0.0005 with err=1.6097418354441075 at it=24
- * v0_scn_mean = 29.473156192513898
- * MAE = 0.30896271314845647

df n.1, scene n.55/109

We have 5 time intervals inside [385.04, 386.04]

- Time interval n.0: [385.04, 385.24]
 - * y_true: [29.06003834]
 - * v_ann: [32.12132263183594, 36.00289770478486]

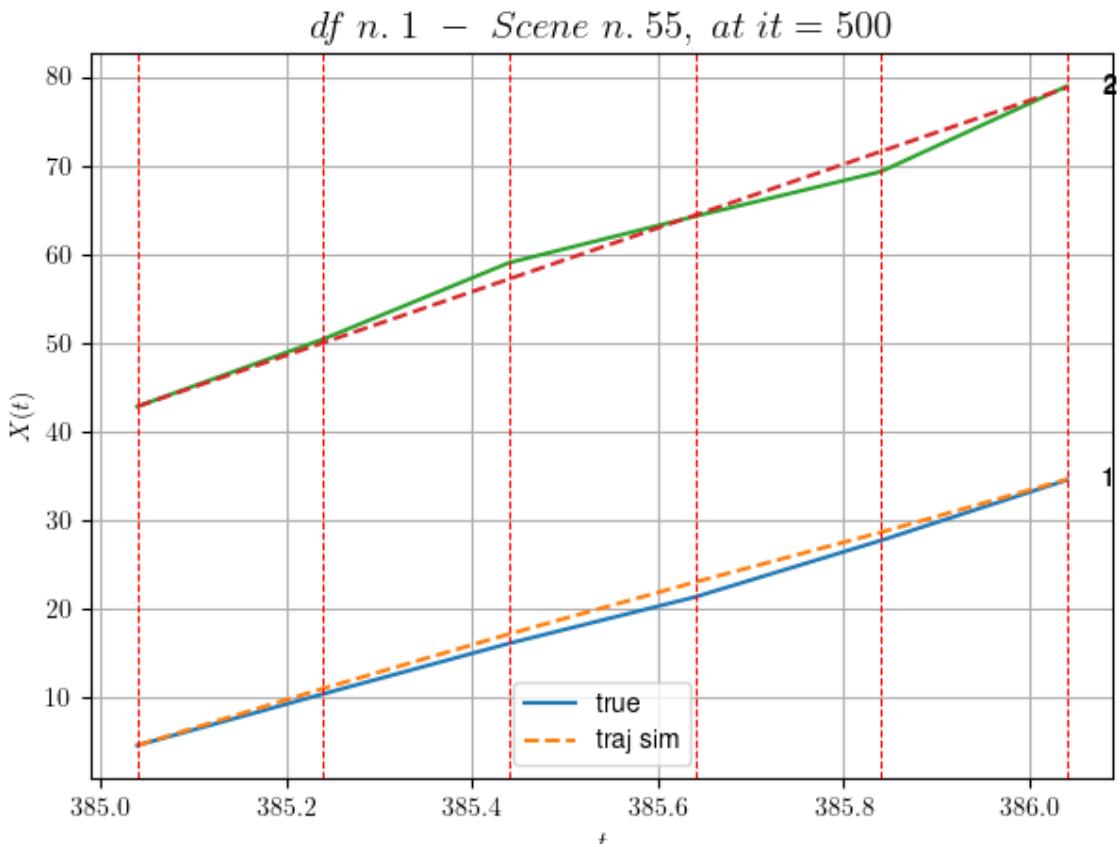
- Time interval n.1: [385.24, 385.44]
 - * y_true: [28.54010433]
 - * v_ann: [30.773256301879883, 36.00289770478486]

- Time interval n.2: [385.44, 385.64]
 - * y_true: [26.16018293]
 - * v_ann: [29.291013717651367, 36.00289770478486]

```
- Time interval n.3: [385.64, 385.84]
  * y_true: [31.92038858]
  * v_ann: [28.102394104003906, 36.00289770478486]
```

```
- Time interval n.4: [385.84, 386.04]
  * y_true: [34.1406537]
  * v_ann: [29.881465911865234, 36.00289770478486]
```

```
* err= 1.1632371746673498
* Learning rate NN = 3.874203684972599e-06
* diff = 0.01858841307670933
```



For scene 55/109

```
* use LR_NN=1e-05 with err=6.56308443953786 at it=24
* v0_scn_mean = 35.76278179663978
* MAE = 1.1632371746673498
```

df n.1, scene n.56/109

We have 2 time intervals inside [393.84, 394.24]

```
- Time interval n.0: [393.84, 394.04]
  * y_true: [36.27268123]
  * v_ann: [34.905582427978516, 27.269624216531415]
```

```

-----  

- Time interval n.1: [394.04, 394.24]  

* y_true: [30.30786624]  

* v_ann: [31.8859806060791, 27.269624216531415]
-----
```

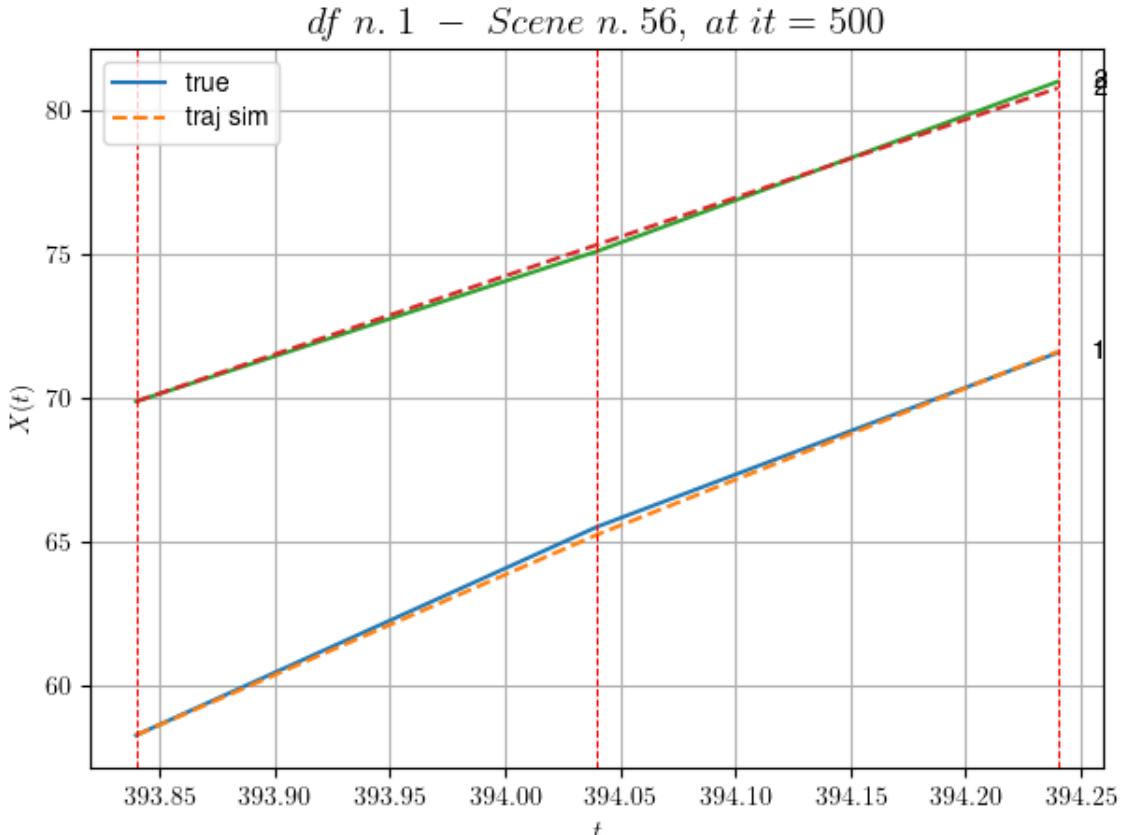
```

-----  

* err= 0.02999277467416111  

* Learning rate NN = 0.00036449998151510954  

* diff = 0.0008073477431796289
-----
```



```

For scene 56/109
* use LR_NN=0.0005 with err=0.2245794069785853 at it=24
* v0_scn_mean = 27.378839247849104
* MAE = 0.02999277467416111
=====
```

df n.1, scene n.57/109

```

We have 4 time intervals inside [402.04,402.84]
- Time interval n.0: [402.04, 402.24]
* y_true: [38.60215299]
* v_ann: [40.56450653076172, 31.006759212236116]
-----
```

```

-----  

- Time interval n.1: [402.24, 402.44]
* y_true: [38.60215299]
* v_ann: [35.810062408447266, 31.006759212236116]
```

```

-----  

- Time interval n.2: [402.44, 402.64]  

* y_true: [32.70290702]  

* v_ann: [32.113136291503906, 31.006759212236116]
-----
```

```

-----  

- Time interval n.3: [402.64, 402.84]  

* y_true: [32.70290702]  

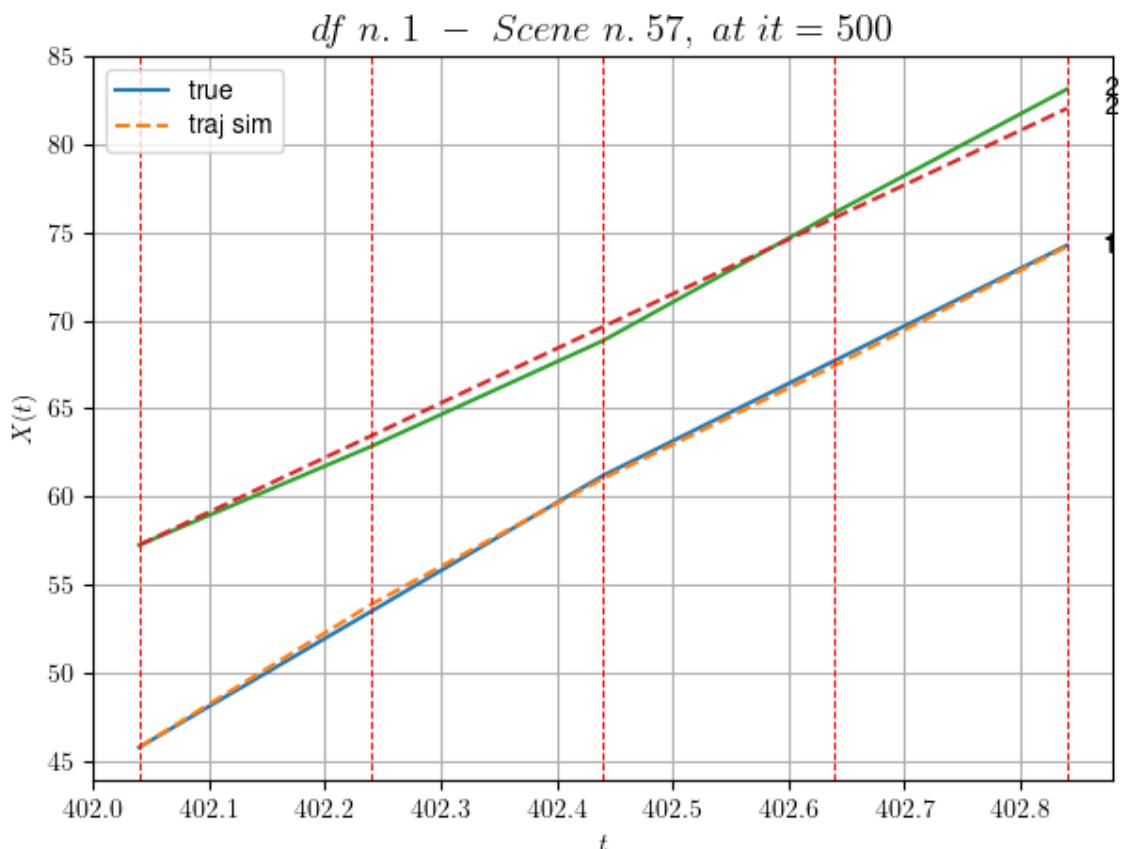
* v_ann: [33.765804290771484, 31.006759212236116]
-----
```

```

* err= 0.2534866553666471  

* Learning rate NN = 2.3914839403005317e-05  

* diff = 0.00013974548392126085
```



For scene 57/109

```

* use LR_NN=5e-05 with err=0.6140189127305896 at it=24
* v0_scn_mean = 30.966488843754444
* MAE = 0.2534866553666471
=====
```

df n.1, scene n.58/109

```
=====
```

```

We have 5 time intervals inside [403.64,404.64]  

- Time interval n.0: [403.64, 403.84]  

* y_true: [27.97561343]
```

```
* v_ann: [25.785741806030273, 32.57978285326519]
```

```
- Time interval n.1: [403.84, 404.04]
* y_true: [27.97561343]
* v_ann: [26.356348037719727, 32.57978285326519]
```

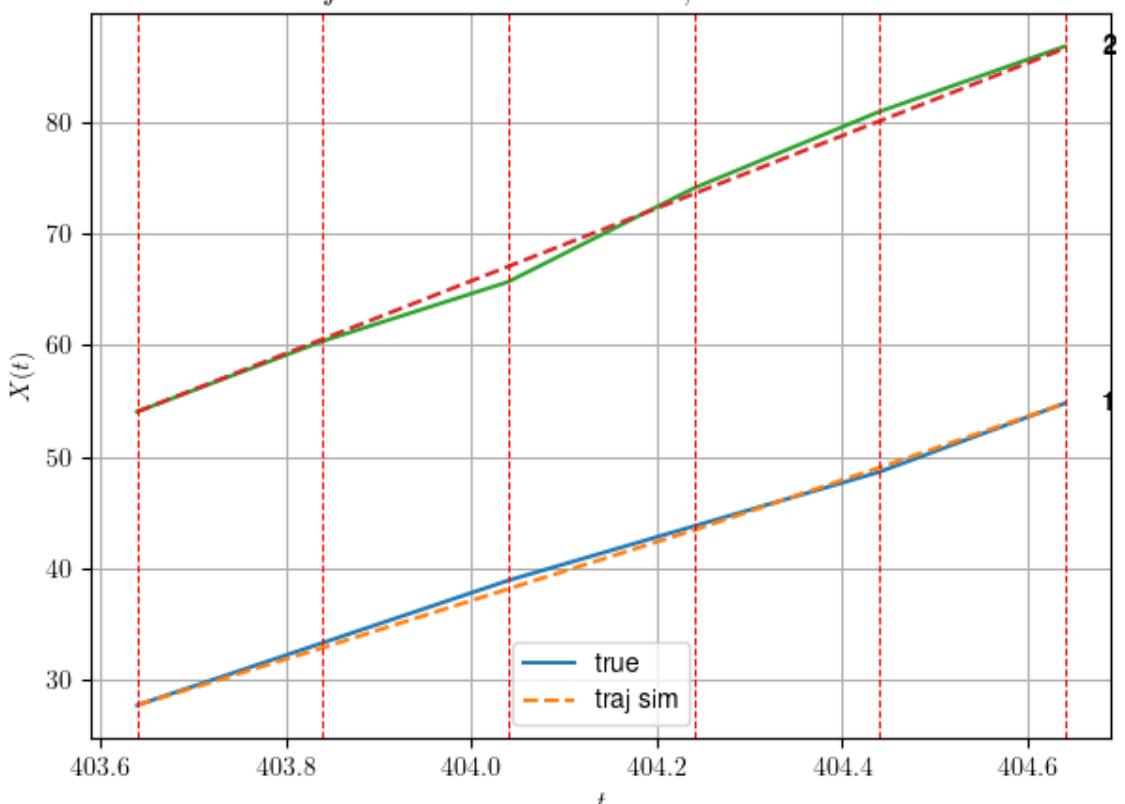
```
- Time interval n.2: [404.04, 404.24]
* y_true: [24.32591098]
* v_ann: [26.33989906311035, 32.57978285326519]
```

```
- Time interval n.3: [404.24, 404.44]
* y_true: [24.32591098]
* v_ann: [28.07944679260254, 32.57978285326519]
```

```
- Time interval n.4: [404.44, 404.64]
* y_true: [30.80180131]
* v_ann: [28.74467658996582, 32.57978285326519]
```

```
* err= 0.3343908437341866
* Learning rate NN = 1.9371018424862996e-05
* diff = 2.6561078191711385e-05
```

df n. 1 – Scene n. 58, at it = 500



For scene 58/109

* use LR_NN=5e-05 with err=1.9167266044890185 at it=24

```
* vθ_scn_mean = 32.47659153915435
* MAE = 0.333382037908757
```

```
=====
```

```
=====
```

```
df n.1, scene n.59/109
```

```
=====
```

```
=====
```

```
We have 5 time intervals inside [411.64, 412.64]
```

```
- Time interval n.0: [411.64, 411.84]
  * y_true: [28.51083931]
  * v_ann: [32.8314208984375, 35.8529411171123]
```

```
-----
```

```
- Time interval n.1: [411.84, 412.04]
  * y_true: [38.00152248]
  * v_ann: [32.58793640136719, 35.8529411171123]
```

```
-----
```

```
- Time interval n.2: [412.04, 412.24]
  * y_true: [32.76167763]
  * v_ann: [34.66380310058594, 35.8529411171123]
```

```
-----
```

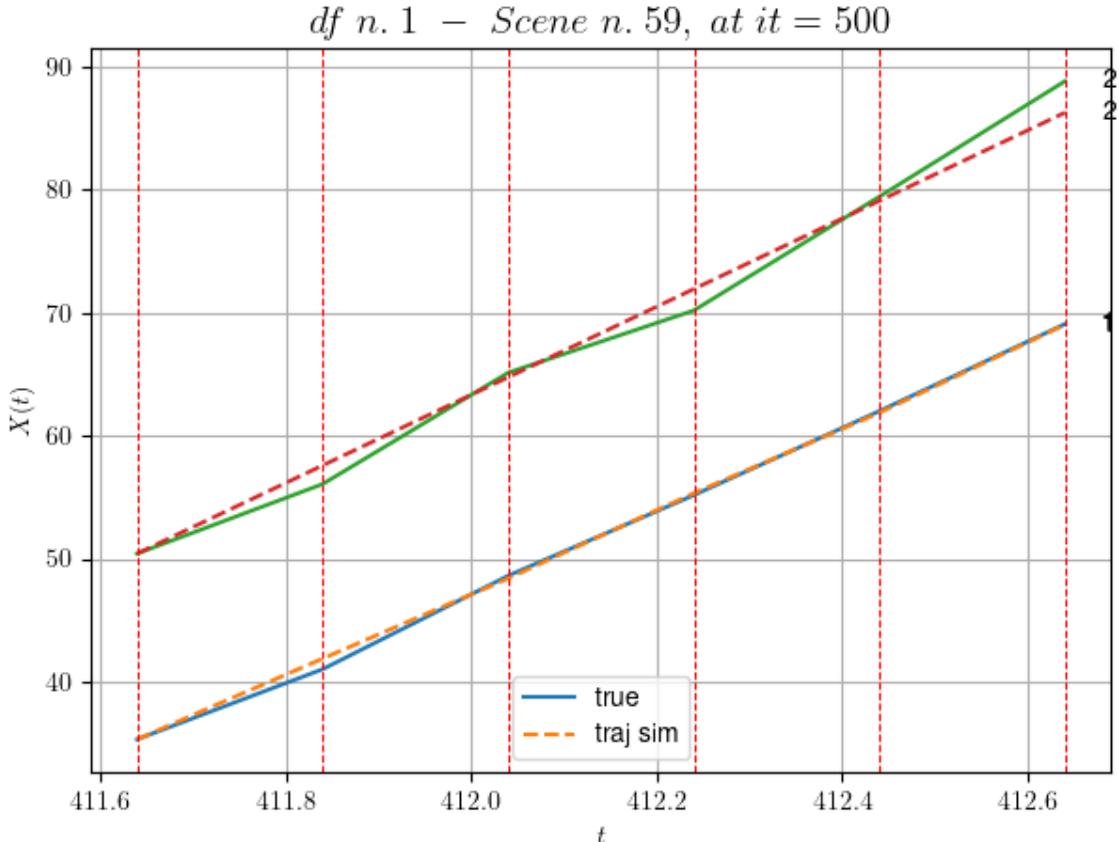
```
- Time interval n.3: [412.24, 412.44]
  * y_true: [34.16232332]
  * v_ann: [32.6762580871582, 35.8529411171123]
```

```
-----
```

```
- Time interval n.4: [412.44, 412.64]
  * y_true: [35.38292867]
  * v_ann: [35.80891036987305, 35.8529411171123]
```

```
-----
```

```
* err= 1.080675784867908
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.00018164747678439674
```



For scene 59/109

- * use LR_NN=5e-05 with err=8.967622301913648 at it=24
- * v0_scn_mean = 35.61882347247283
- * MAE = 1.080669001901908

df n.1, scene n.60/109

We have 3 time intervals inside [429.24, 429.84]

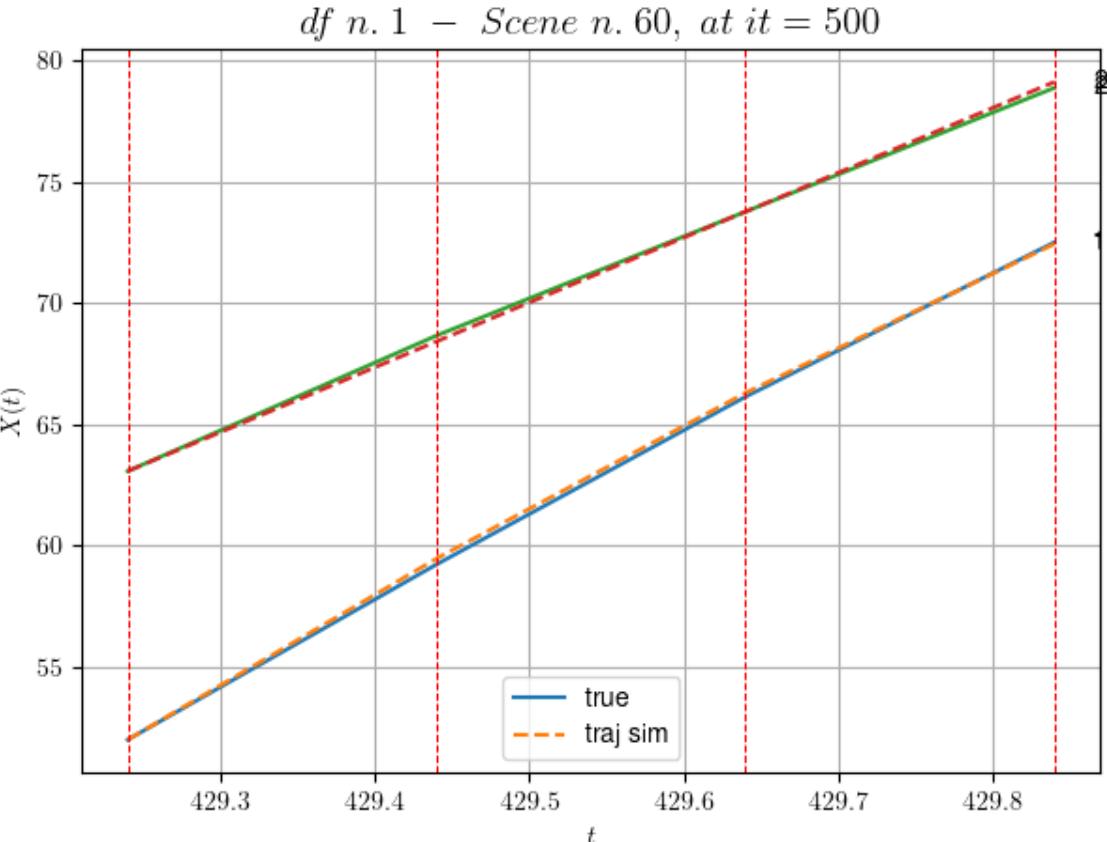
- Time interval n.0: [429.24, 429.44]
 - * y_true: [36.17723915]
 - * v_ann: [37.374786376953125, 26.764923514729325]

- Time interval n.1: [429.44, 429.64]
 - * y_true: [34.5674548]
 - * v_ann: [34.168601989746094, 26.764923514729325]

- Time interval n.2: [429.64, 429.84]
 - * y_true: [31.87296901]
 - * v_ann: [30.725093841552734, 26.764923514729325]

- * err= 0.02566491813843598
- * Learning rate NN = 2.952449540316593e-05

* diff = 0.0001561836156279174



For scene 60/109

- * use LR_NN=5e-05 with err=0.9054413098381306 at it=24
- * v0_scn_mean = 26.89432657411551
- * MAE = 0.02566491813843598

df n.1, scene n.61/109

We have 6 time intervals inside [431.04, 432.24]

- Time interval n.0: [431.04, 431.24]
 - * y_true: [29.15044808]
 - * v_ann: [30.314836502075195, 27.91482717316415]

- Time interval n.1: [431.24, 431.44]
 - * y_true: [31.45067763]
 - * v_ann: [29.994260787963867, 27.91482717316415]

- Time interval n.2: [431.44, 431.64]
 - * y_true: [27.86084986]
 - * v_ann: [29.554418563842773, 27.91482717316415]

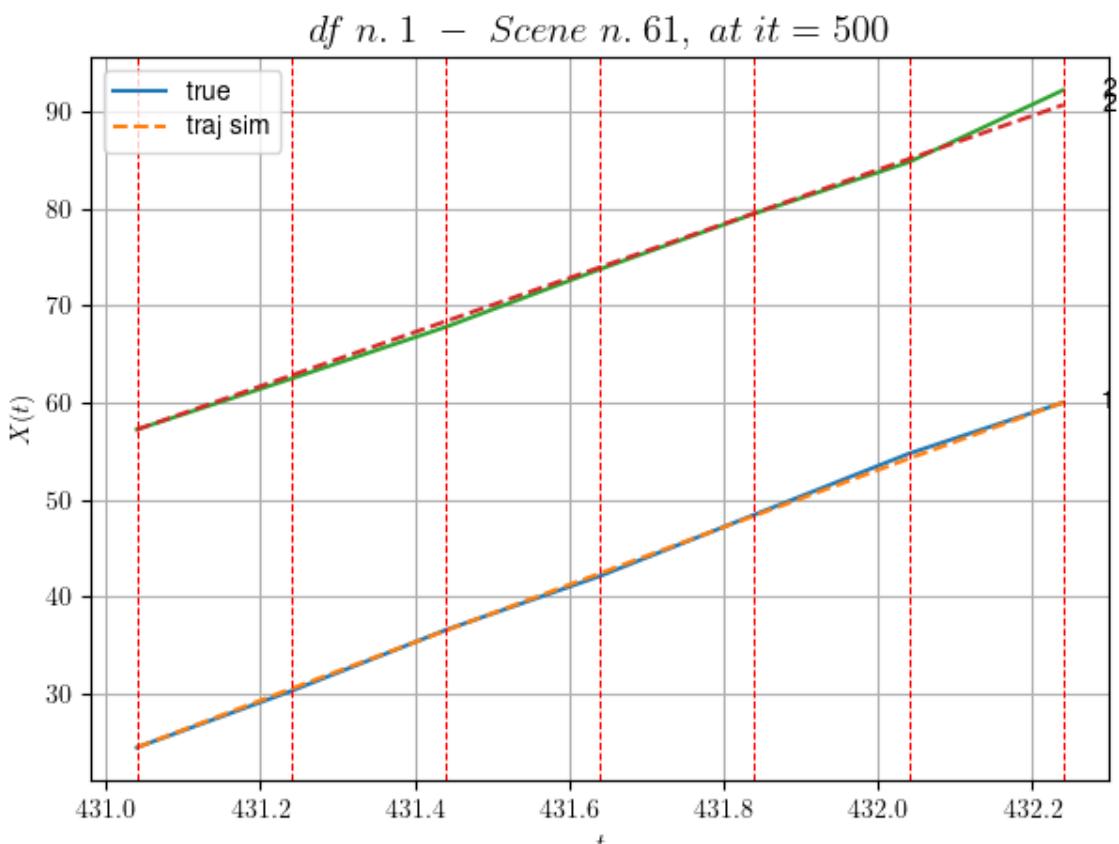
- Time interval n.3: [431.64, 431.84]

```
* y_true: [31.63128236]
* v_ann: [29.709999084472656, 27.91482717316415]
```

```
- Time interval n.4: [431.84, 432.04]
* y_true: [31.49166882]
* v_ann: [29.464942932128906, 27.91482717316415]
```

```
- Time interval n.5: [432.04, 432.24]
* y_true: [26.376716]
* v_ann: [29.017845153808594, 27.91482717316415]
```

```
* err= 0.23993578122602394
* Learning rate NN = 3.138104830213706e-06
* diff = 8.63877442141836e-05
```



For scene 61/109

```
* use LR_NN=1e-05 with err=1.069167853878519 at it=24
* v0_scn_mean = 27.998234086220826
* MAE = 0.22029547598737437
```

df n.1, scene n.62/109

We have 5 time intervals inside [444.24, 445.24]

- Time interval n.0: [444.24, 444.44]
* y_true: [24.85115092]
* v_ann: [21.094165802001953, 28.494973095575055]

- Time interval n.1: [444.44, 444.64]
* y_true: [25.38154149]
* v_ann: [23.031078338623047, 28.494973095575055]

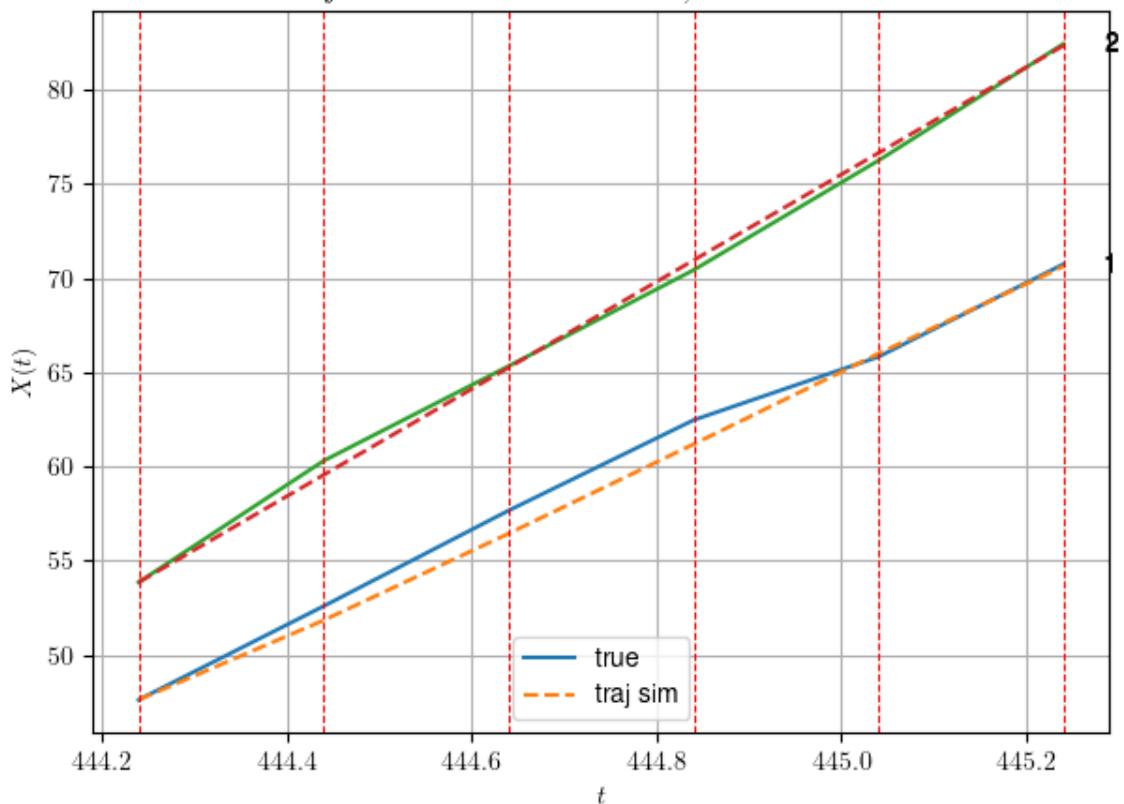
- Time interval n.2: [444.64, 444.84]
* y_true: [24.0216414]
* v_ann: [23.719985961914062, 28.494973095575055]

- Time interval n.3: [444.84, 445.04]
* y_true: [16.80133324]
* v_ann: [24.06403923034668, 28.494973095575055]

- Time interval n.4: [445.04, 445.24]
* y_true: [24.59226228]
* v_ann: [23.171239852905273, 28.494973095575055]

* err= 0.395686473303712
* Learning rate NN = 0.0003874204121530056
* diff = 0.012419046254728505

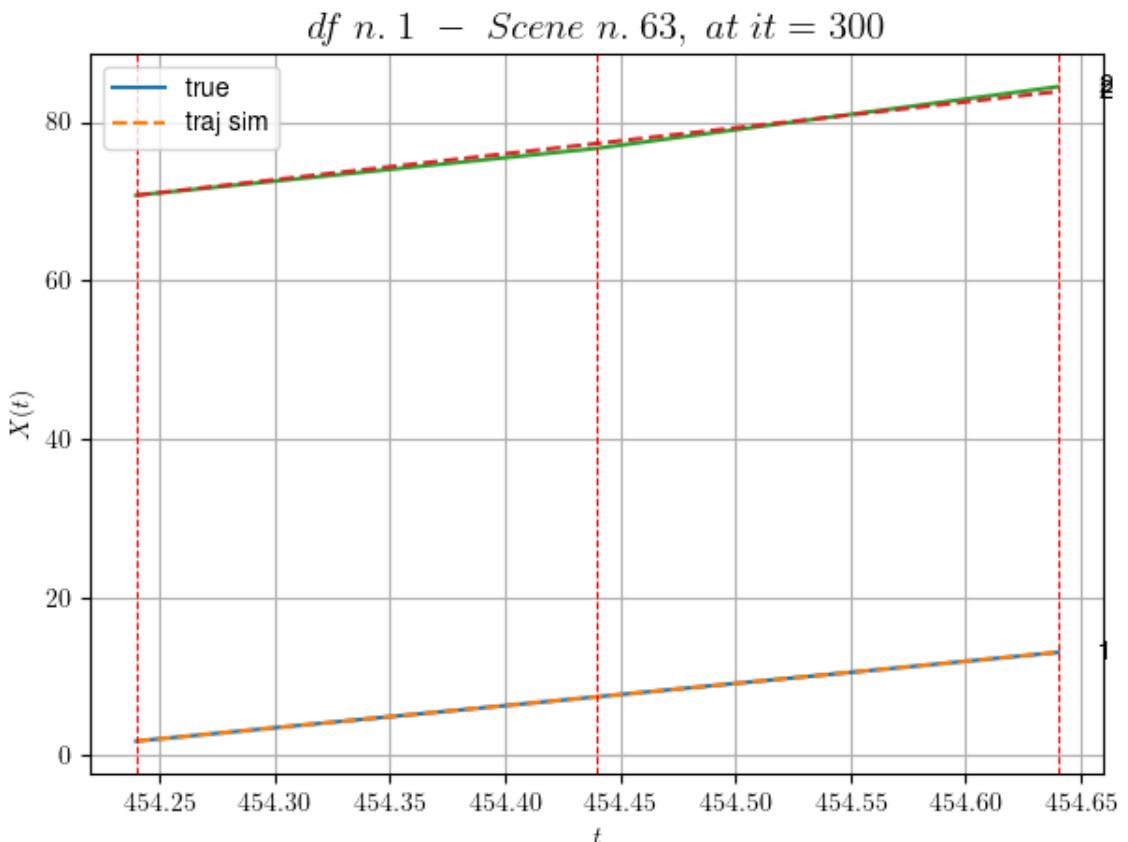
df n. 1 – Scene n. 62, at it = 500



```
For scene 62/109
* use LR_NN=0.001 with err=1.7291756107810128 at it=24
* v0_scn_mean = 28.555174171741246
* MAE = 0.395686473303712
```

```
df n.1, scene n.63/109
```

```
We have 2 time intervals inside [454.24,454.64]
* err= 0.12846200147381964
* Learning rate NN = 8.099998922261875e-06
* diff = 4.2474417283333565e-07
```



```
For scene 63/109
* use LR_NN=1e-05 with err=0.4982344316970044 at it=24
* v0_scn_mean = 32.5826229087724
* MAE = 0.12846200147381964
```

```
df n.1, scene n.64/109
```

```
We have 3 time intervals inside [456.24,456.84]
- Time interval n.0: [456.24, 456.44]
  * y_true: [27.10074139]
  * v_ann: [25.682300567626953, 29.14406361816021]
```

```

-----  

- Time interval n.1: [456.44, 456.64]  

* y_true: [22.25077732]  

* v_ann: [26.371217727661133, 29.14406361816021]
-----
```

```

-----  

- Time interval n.2: [456.64, 456.84]  

* y_true: [28.55124928]  

* v_ann: [25.819225311279297, 29.14406361816021]
-----
```

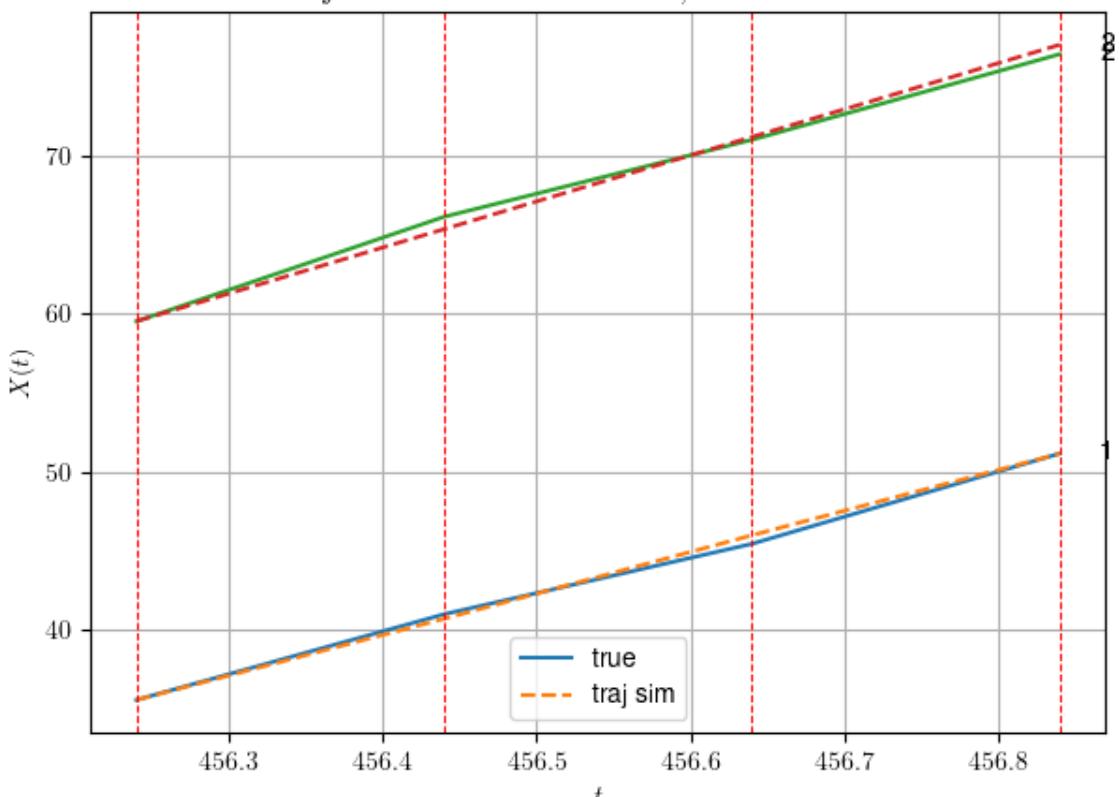
```

* err= 0.17127325293504408  

* Learning rate NN = 2.952449540316593e-05  

* diff = 2.3322001802227552e-05
```

df n. 1 – Scene n. 64, at it = 500



```

For scene 64/109
* use LR_NN=5e-05 with err=0.28479231948848627 at it=24
* v0_scn_mean = 29.178301073426468
* MAE = 0.17107055465523952
=====
```

```
df n.1, scene n.65/109
=====
```

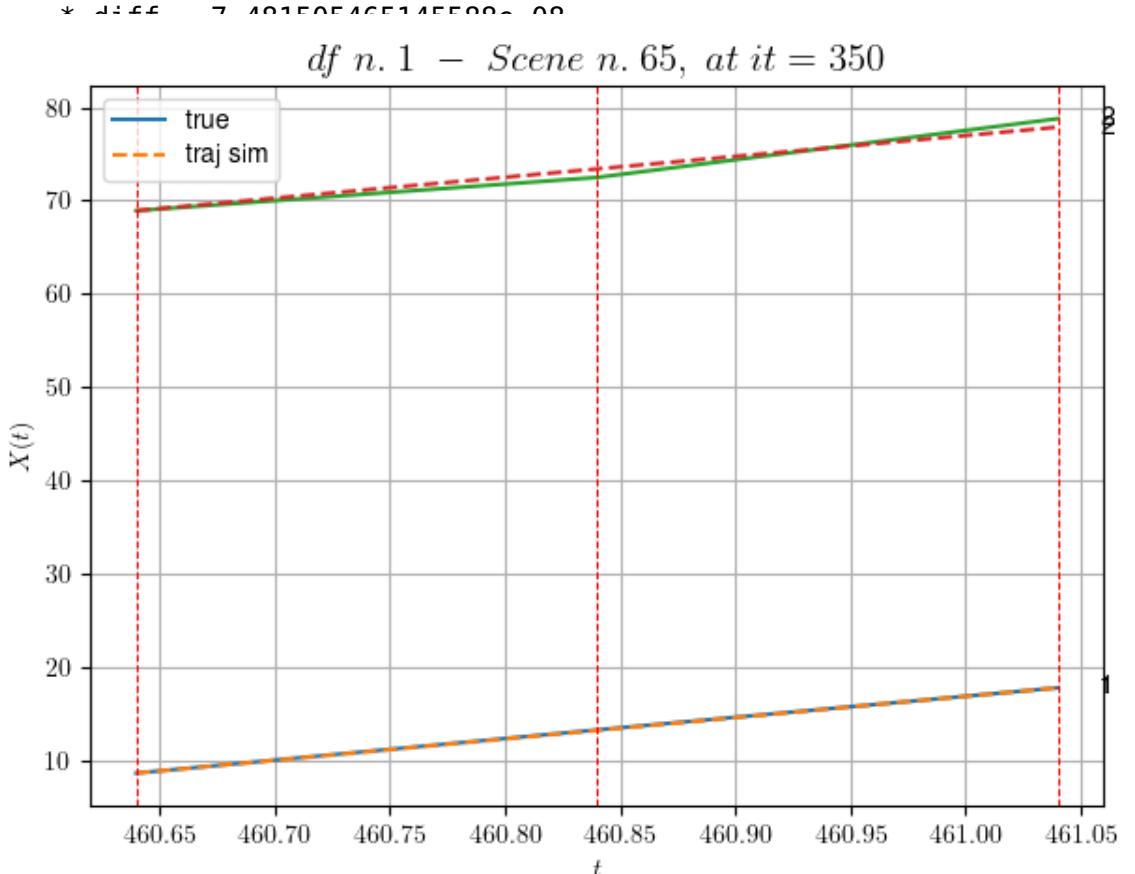
```

=====  

We have 2 time intervals inside [460.64,461.04]  

* err= 0.279011711181771  

* Learning rate NN = 8.099998922261875e-06
=====
```



For scene 65/109

```
* use LR_NN=1e-05 with err=1.7441928539444054 at it=24  
* v0_scn_mean = 22.827077423473977  
* MAE = 0.25119900001701617
```

df n.1. scene n.66/109

We have 3 time intervals inside [463.04, 463.64]

- Time interval n.0: [463.04, 463.24]

* y_true: [21.05099884]

* v_ann: [27.709556579589844, 19.662006047653833]

- Time interval n.1: [463.24, 463.44]

* v true: [28, 1918149]

* v_ann: [25.045642852783203, 19.662006047653833]

- Time interval n.2: [463.44, 463.64]

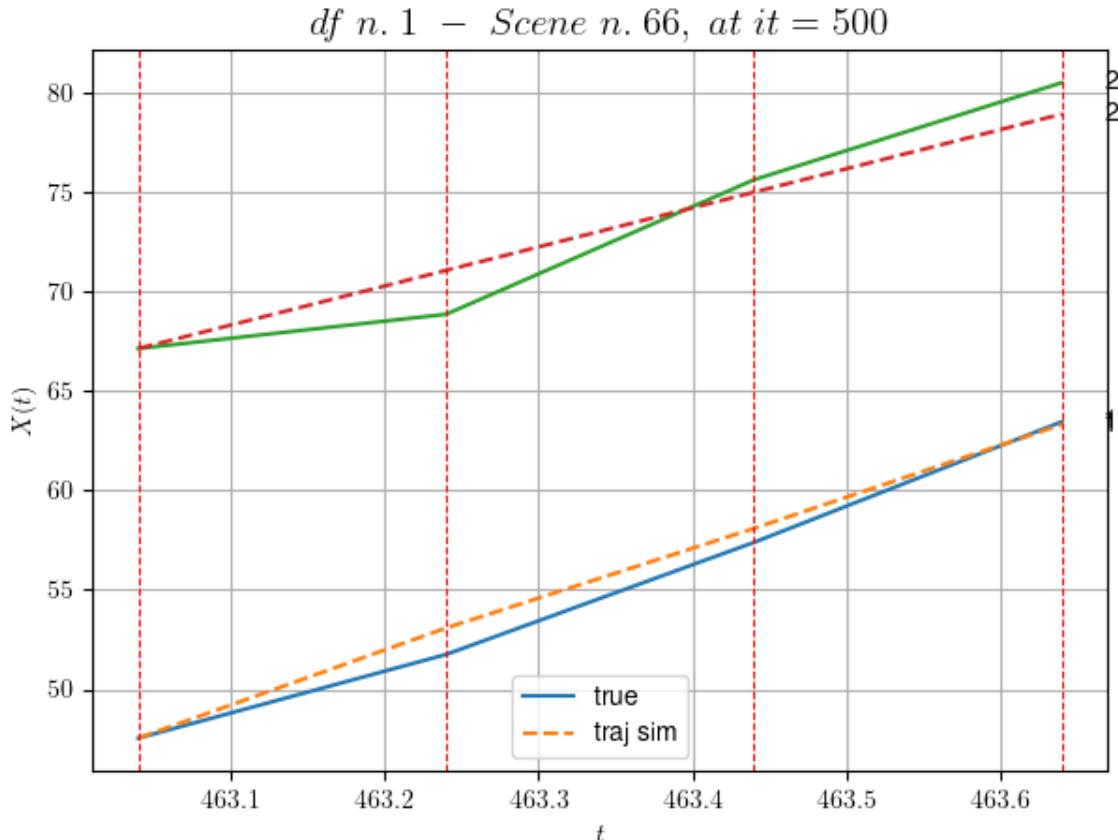
* v_true: [30.35202585]

* y_true: [30.33202585] * y_nn: [26.143890380859375, 19.662006047653833]

* err= 1.2567712657058154

* Learning rate NN = 5.904899080633186e-05

* diff = 6.164745645520497e-06



For scene 66/109

* use LR_NN=0.0001 with err=6.874463157505342 at it=24
 * v0_scn_mean = 20.075525805668875
 * MAE = 1.1672635209183204

df n.1, scene n.67/109

We have 5 time intervals inside [472.24, 473.24]

- Time interval n.0: [472.24, 472.44]
 - * y_true: [28.01055649]
 - * v_ann: [27.072879791259766, 22.7647021560569]

- Time interval n.1: [472.44, 472.64]
 - * y_true: [25.87069506]
 - * v_ann: [26.44529151916504, 22.7647021560569]

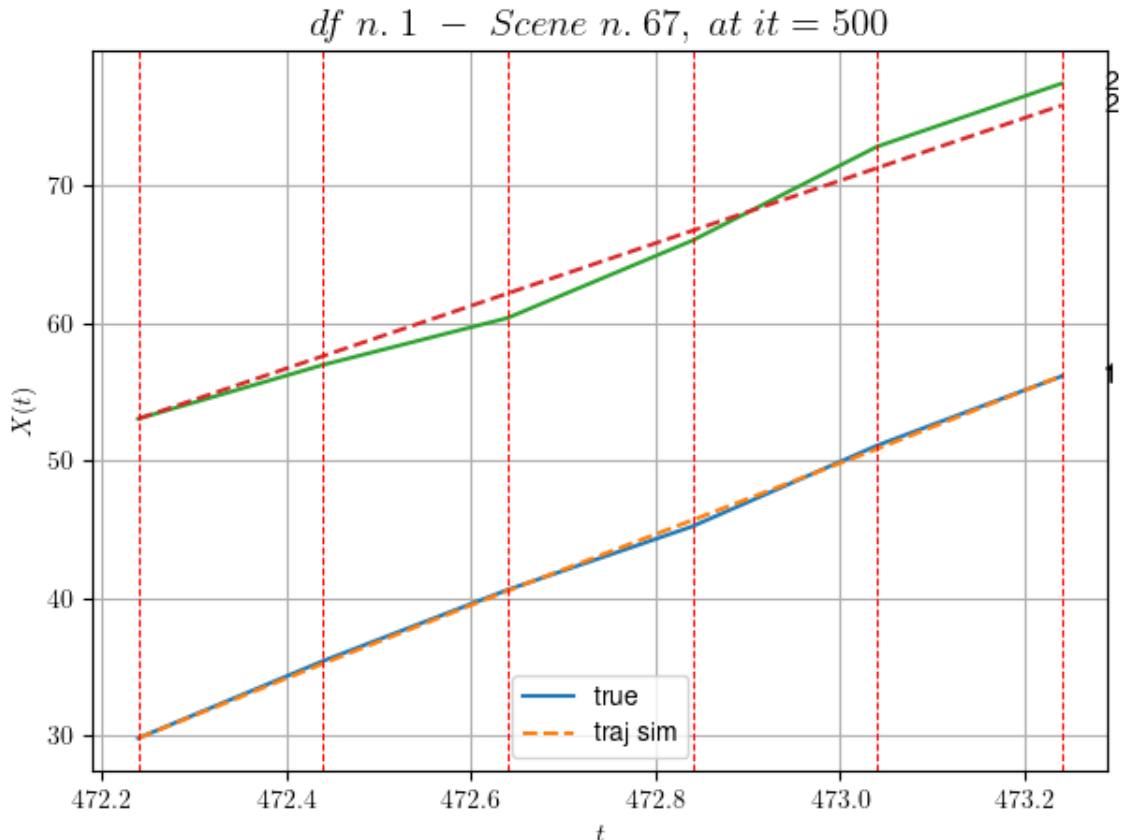
- Time interval n.2: [472.64, 472.84]
 - * y_true: [23.02078938]
 - * v_ann: [25.6435604095459, 22.7647021560569]

- Time interval n.3: [472.84, 473.04]

```
* y_true: [29.37129061]
* v_ann: [25.8701114654541, 22.7647021560569]
```

```
- Time interval n.4: [473.04, 473.24]
* y_true: [25.18134673]
* v_ann: [26.56601905822754, 22.7647021560569]
```

```
* err= 0.7790048246406904
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.0002454774381100977
```



For scene 67/109

```
* use LR_NN=5e-05 with err=8.503132231079723 at it=24
* v0_scn_mean = 23.054114069759066
* MAE = 0.6909122580909467
```

df n.1, scene n.68/109

We have 3 time intervals inside [474.84, 475.44]

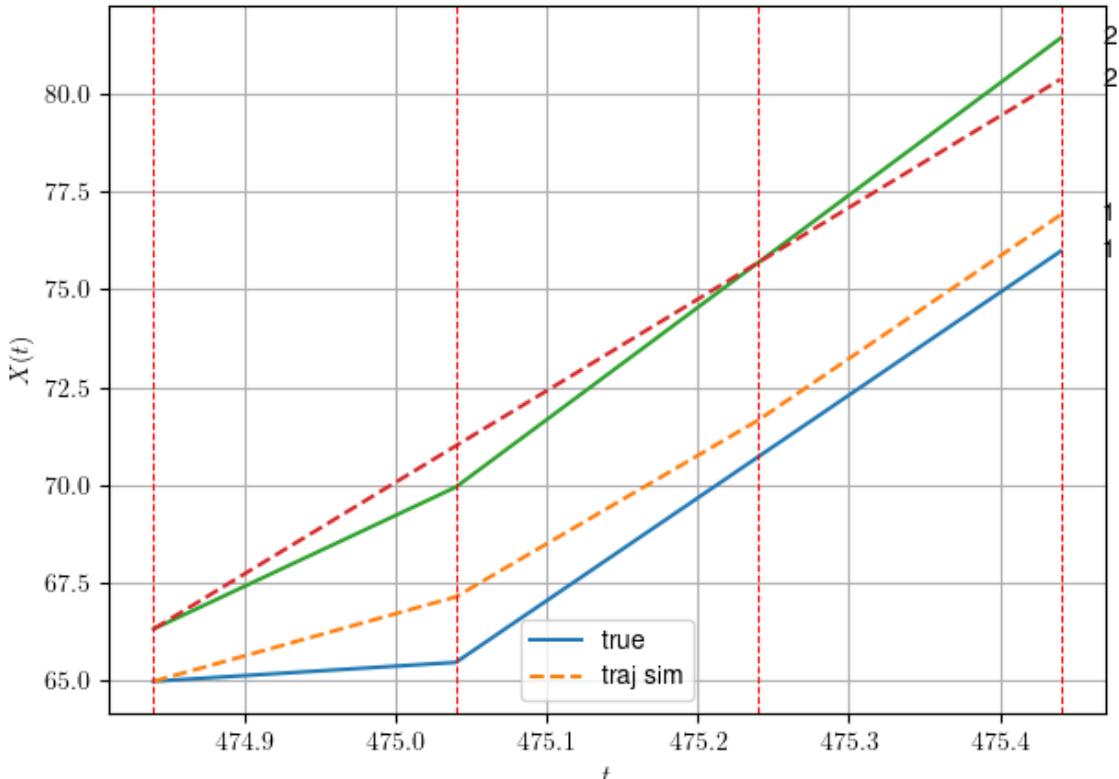
```
- Time interval n.0: [474.84, 475.04]
* y_true: [2.42235732]
* v_ann: [10.80545711517334, 23.444882134000807]
```

- Time interval n.1: [475.04, 475.24]
 * y_true: [26.3025336]
 * v_ann: [22.606788635253906, 23.444882134000807]

- Time interval n.2: [475.24, 475.44]
 * y_true: [26.3025336]
 * v_ann: [26.26974868774414, 23.444882134000807]

* err= 0.8486965060737062
 * Learning rate NN = 0.0002952449722215533
 * diff = 0.01805662486438797

df n. 1 – Scene n. 68, at it = 500



For scene 68/109

* use LR_NN=0.0005 with err=2.7207218251058687 at it=24
 * v0_scn_mean = 23.707086848590198
 * MAE = 0.8486965060737062

df n.1, scene n.69/109

We have 6 time intervals inside [479.24, 480.44]

- Time interval n.0: [479.24, 479.44]
 * y_true: [25.80039081]
 * v_ann: [33.43788528442383, 18.3568737911005]

```
- Time interval n.1: [479.44, 479.64]
  * y_true: [32.03070589]
  * v_ann: [30.916576385498047, 18.3568737911005]

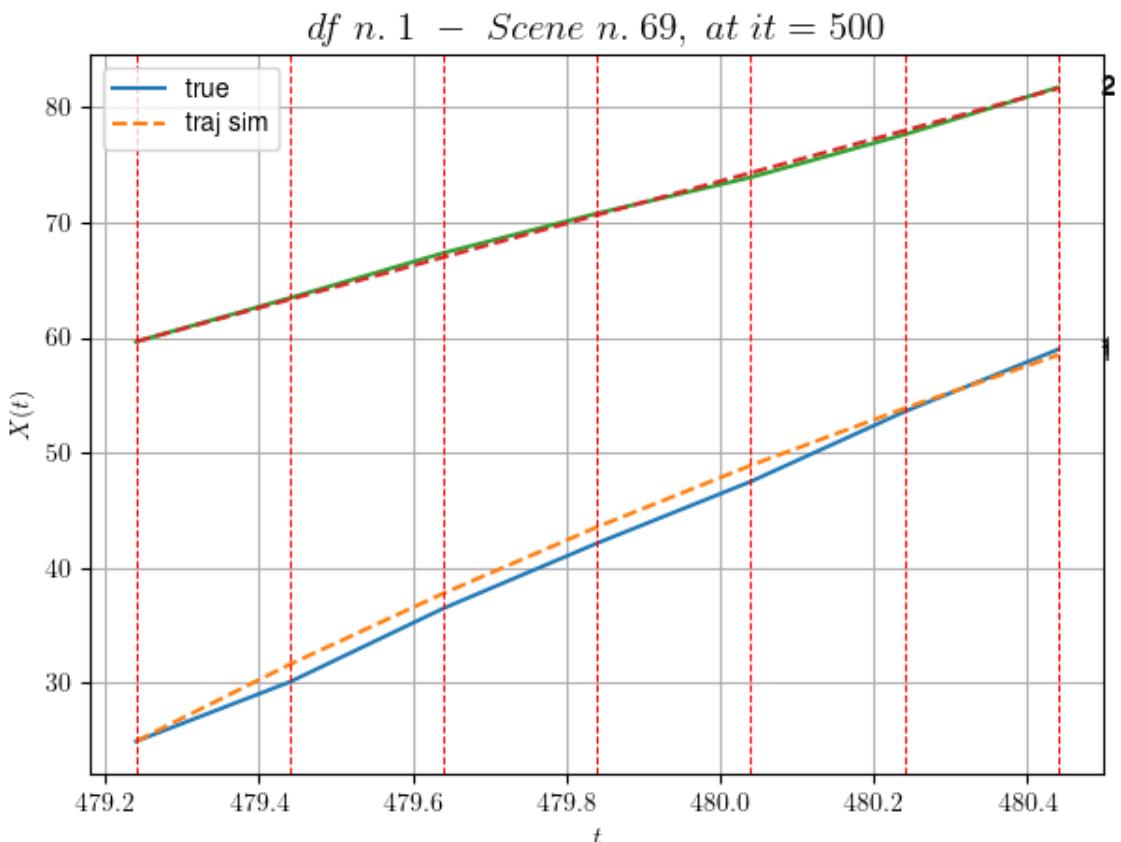
-----
- Time interval n.2: [479.64, 479.84]
  * y_true: [28.3308487]
  * v_ann: [28.85726547241211, 18.3568737911005]

-----
- Time interval n.3: [479.84, 480.04]
  * y_true: [26.8210504]
  * v_ann: [26.79607391357422, 18.3568737911005]

-----
- Time interval n.4: [480.04, 480.24]
  * y_true: [30.39151938]
  * v_ann: [24.79865264892578, 18.3568737911005]

-----
- Time interval n.5: [480.24, 480.44]
  * y_true: [27.06165505]
  * v_ann: [23.206125259399414, 18.3568737911005]

-----
* err= 0.626883234216961
* Learning rate NN = 3.138104830213706e-06
* diff = 0.005321358900073236
```



```
For scene 69/109
* use LR_NN=1e-05 with err=36.29748520564404 at it=24
* v0_scn_mean = 18.82259883936753
* MAE = 0.6169080238949635
```

```
=====
=====
```

```
df n.1, scene n.70/109
```

```
=====
=====
```

```
We have 5 time intervals inside [483.44,484.44]
```

```
- Time interval n.0: [483.44, 483.64]
  * y_true: [12.92542385]
  * v_ann: [22.412172317504883, 20.279545451256247]
```

```
-----
-----
```

```
- Time interval n.1: [483.64, 483.84]
  * y_true: [16.04562218]
  * v_ann: [20.340911865234375, 20.279545451256247]
```

```
-----
-----
```

```
- Time interval n.2: [483.84, 484.04]
  * y_true: [20.72591968]
  * v_ann: [18.983827590942383, 20.279545451256247]
```

```
-----
-----
```

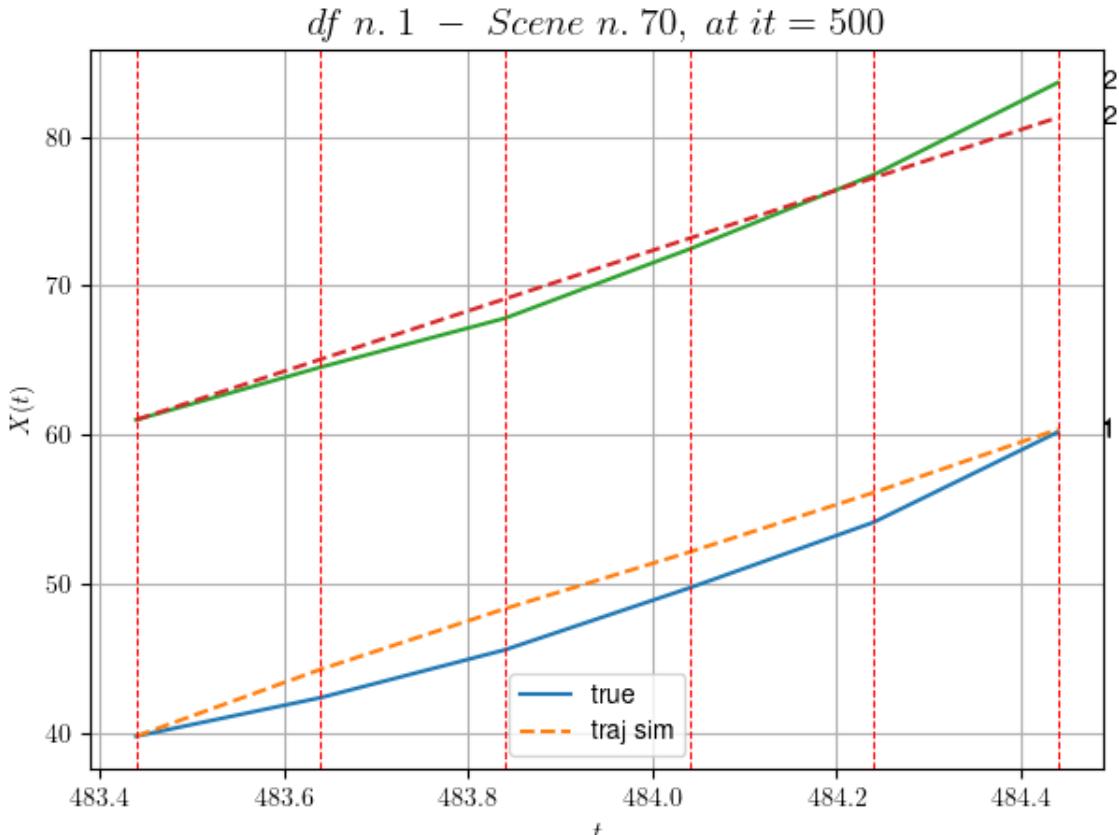
```
- Time interval n.3: [484.04, 484.24]
  * y_true: [22.0437041]
  * v_ann: [19.963930130004883, 20.279545451256247]
```

```
-----
-----
```

```
- Time interval n.4: [484.24, 484.44]
  * y_true: [30.27195457]
  * v_ann: [21.17597198486328, 20.279545451256247]
```

```
-----
-----
```

```
* err= 2.4169098296195624
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.053611901611574364
```



For scene 70/109

```
* use LR_NN=5e-05 with err=17.056417355404143 at it=24
* v0_scn_mean = 20.668363633131637
* MAE = 2.4169098296195624
```

df n.1, scene n.71/109

We have 4 time intervals inside [489.04, 489.84]

- Time interval n.0: [489.04, 489.24]
 - * y_true: [26.7517836]
 - * v_ann: [30.763324737548828, 22.729734196718912]

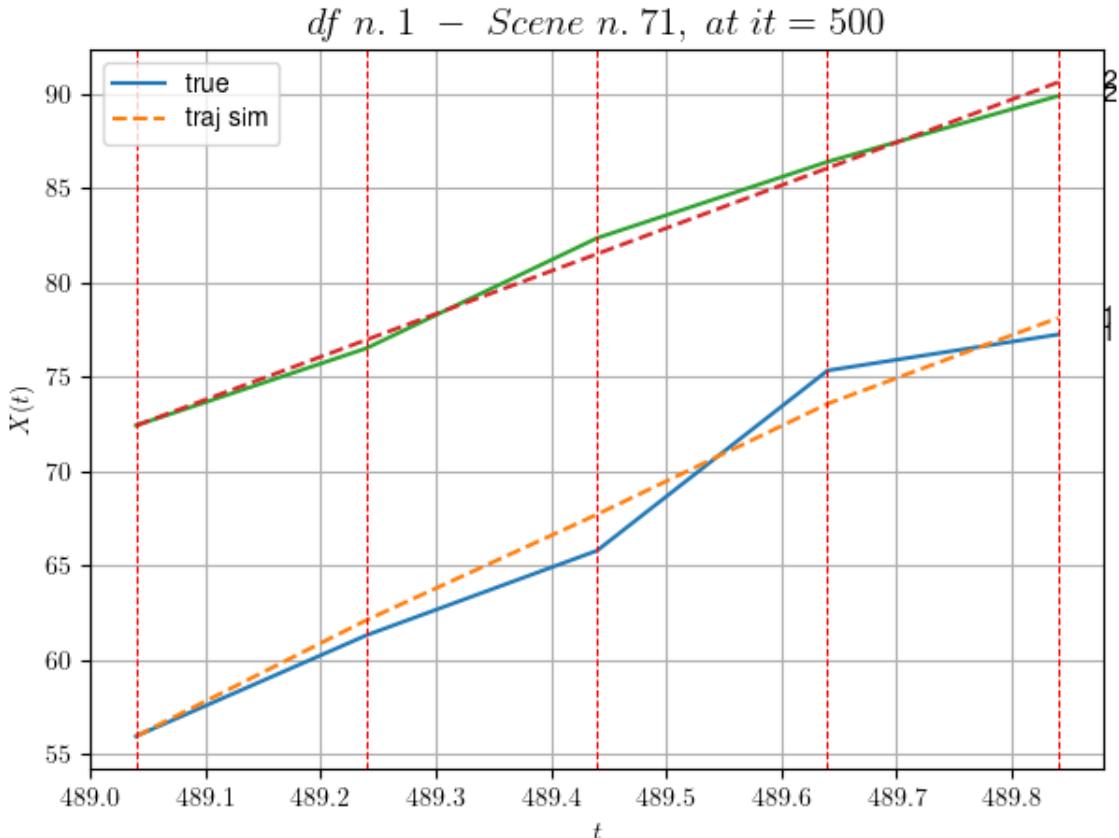
- Time interval n.1: [489.24, 489.44]
 - * y_true: [22.40175221]
 - * v_ann: [27.975679397583008, 22.729734196718912]

- Time interval n.2: [489.44, 489.64]
 - * y_true: [47.70460004]
 - * v_ann: [29.310142517089844, 22.729734196718912]

- Time interval n.3: [489.64, 489.84]
 - * y_true: [9.55107371]

```
* v_ann: [22.73809242248535, 22.729734196718912]
```

```
* err= 0.973467683433646
* Learning rate NN = 2.3914839403005317e-05
* diff = 0.0010242319838047464
```



For scene 71/109

```
* use LR_NN=5e-05 with err=7.45359858392726 at it=24
* v0_scn_mean = 23.02054482879472
* MAE = 0.9721891228780499
```

df n.1, scene n.72/109

We have 4 time intervals inside [515.64, 516.44]

- Time interval n.0: [515.64, 515.84]
 - * y_true: [6.11048435]
 - * v_ann: [5.68932580947876, 6.109715857611425]

- Time interval n.1: [515.84, 516.04]
 - * y_true: [6.11048435]
 - * v_ann: [5.680778980255127, 6.109715857611425]

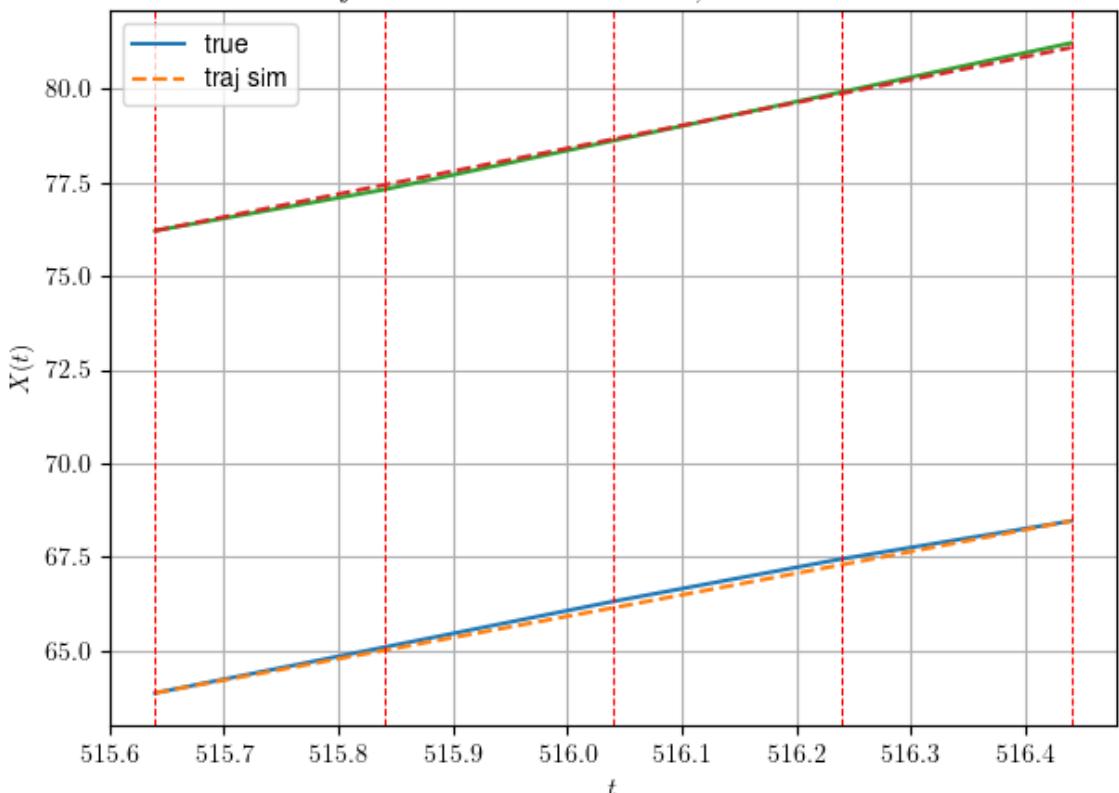
- Time interval n.2: [516.04, 516.24]

```
* y_true: [5.68648241]
* v_ann: [5.757668495178223, 6.109715857611425]
```

```
- Time interval n.3: [516.24, 516.44]
* y_true: [5.05047951]
* v_ann: [5.819600582122803, 6.109715857611425]
```

```
* err= 0.009499833156551694
* Learning rate NN = 2.3914839403005317e-05
* diff = 2.760080111704021e-07
```

df n. 1 – Scene n. 72, at it = 500



For scene 72/109

```
* use LR_NN=5e-05 with err=68.10178892643849 at it=24
* v0_scn_mean = 7.065327223125329
* MAE = 0.009434191290823627
```

df n.1, scene n.73/109

We have 5 time intervals inside [529.64, 530.64]

```
- Time interval n.0: [529.64, 529.84]
* y_true: [25.15062432]
* v_ann: [32.34325408935547, 22.628998285034122]
```

```
- Time interval n.1: [529.84, 530.04]
```

```
* y_true: [34.2011529]
* v_ann: [31.315998077392578, 22.628998285034122]
```

```
- Time interval n.2: [530.04, 530.24]
```

```
* y_true: [27.75123099]
```

```
* v_ann: [28.46384048461914, 22.628998285034122]
```

```
- Time interval n.3: [530.24, 530.44]
```

```
* y_true: [26.20143731]
```

```
* v_ann: [27.138086318969727, 22.628998285034122]
```

```
- Time interval n.4: [530.44, 530.64]
```

```
* y_true: [33.35225987]
```

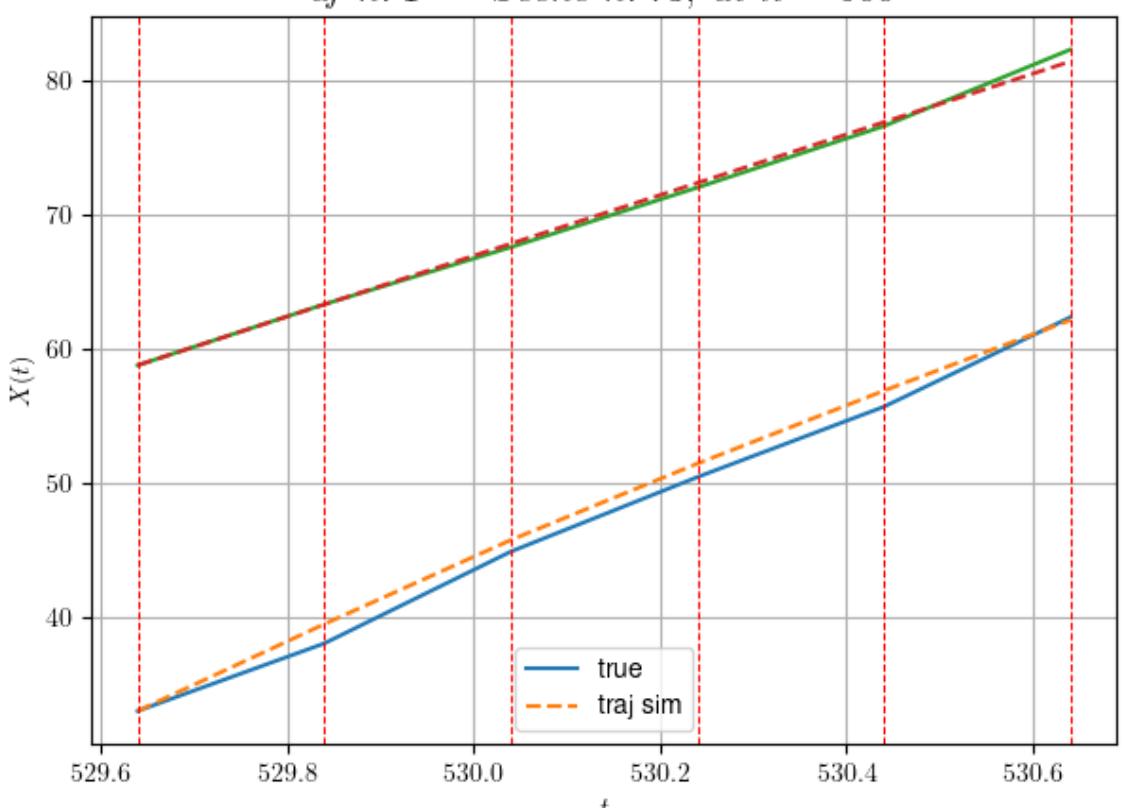
```
* v_ann: [26.320377349853516, 22.628998285034122]
```

```
* err= 0.5288117660012535
```

```
* Learning rate NN = 3.874203684972599e-06
```

```
* diff = 0.0023503880748729777
```

df n. 1 – Scene n. 73, at it = 500



For scene 73/109

```
* use LR_NN=1e-05 with err=10.127567816566172 at it=24
```

```
* v0_scn_mean = 22.923838353577295
```

```
* MAE = 0.5259461343237428
```

```
df n.1, scene n.74/109
=====
=====
We have 8 time intervals inside [531.64,533.24]
- Time interval n.0: [531.64, 531.84]
  * y_true: [53.04019205]
  * v_ann: [38.325313568115234, 22.382648405902454]

-----
- Time interval n.1: [531.84, 532.04]
  * y_true: [26.08021954]
  * v_ann: [34.005584716796875, 22.382648405902454]

-----
- Time interval n.2: [532.04, 532.24]
  * y_true: [27.42037034]
  * v_ann: [32.344444274902344, 22.382648405902454]

-----
- Time interval n.3: [532.24, 532.44]
  * y_true: [23.47043117]
  * v_ann: [29.849258422851562, 22.382648405902454]

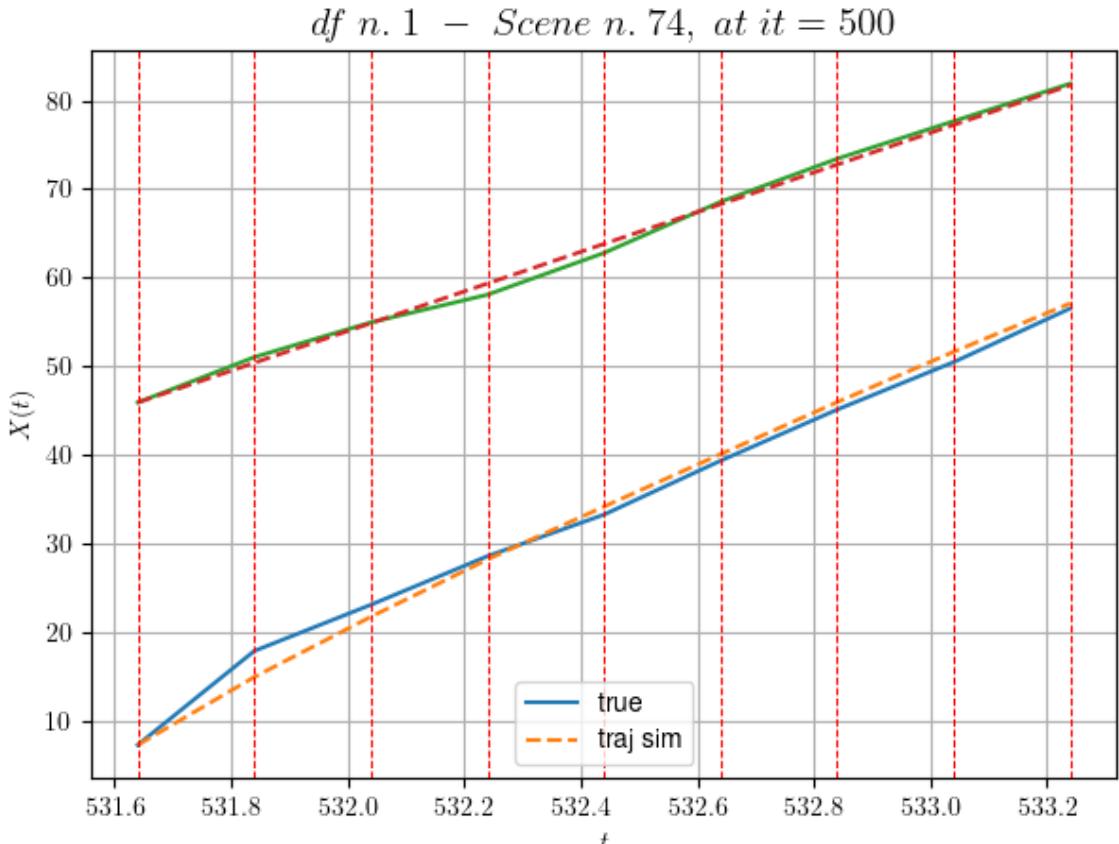
-----
- Time interval n.4: [532.44, 532.64]
  * y_true: [30.41082403]
  * v_ann: [29.601551055908203, 22.382648405902454]

-----
- Time interval n.5: [532.64, 532.84]
  * y_true: [28.87097713]
  * v_ann: [29.344575881958008, 22.382648405902454]

-----
- Time interval n.6: [532.84, 533.04]
  * y_true: [26.81121038]
  * v_ann: [28.454864501953125, 22.382648405902454]

-----
- Time interval n.7: [533.04, 533.24]
  * y_true: [30.30169714]
  * v_ann: [27.33295249938965, 22.382648405902454]

-----
* err= 1.0093733949023351
* Learning rate NN = 2.058910467894748e-06
* diff = 0.003039717135911557
```



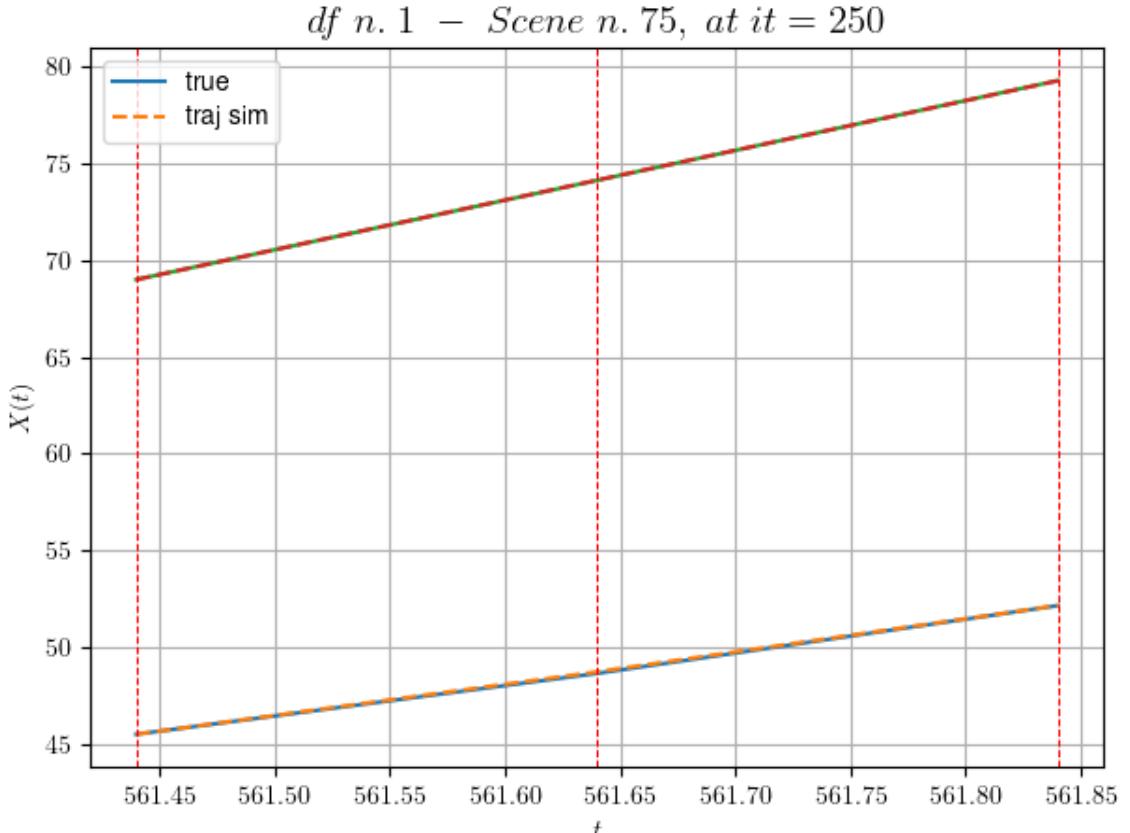
For scene 74/109

- * use LR_NN=1e-05 with err=26.806155863562772 at it=24
- * v0_scn_mean = 22.68734246960836
- * MAE = 1.0025514606052541

df n.1, scene n.75/109

We have 2 time intervals inside [561.44, 561.84]

- * err= 0.0012267650720520012
- * Learning rate NN = 4.499999704421498e-05
- * diff = 4.739316081009588e-08



For scene 75/109

- * use LR_NN=5e-05 with err=0.6060456881942036 at it=24
- * v0_scn_mean = 26.069503465765557
- * MAE = 0.001186375317505886

df n.1, scene n.76/109

We have 4 time intervals inside [564.24, 565.04]

- Time interval n.0: [564.24, 564.44]
 - * y_true: [17.83478281]
 - * v_ann: [22.094852447509766, 14.268347650199631]

- Time interval n.1: [564.44, 564.64]
 - * y_true: [17.83478281]
 - * v_ann: [20.359556198120117, 14.268347650199631]

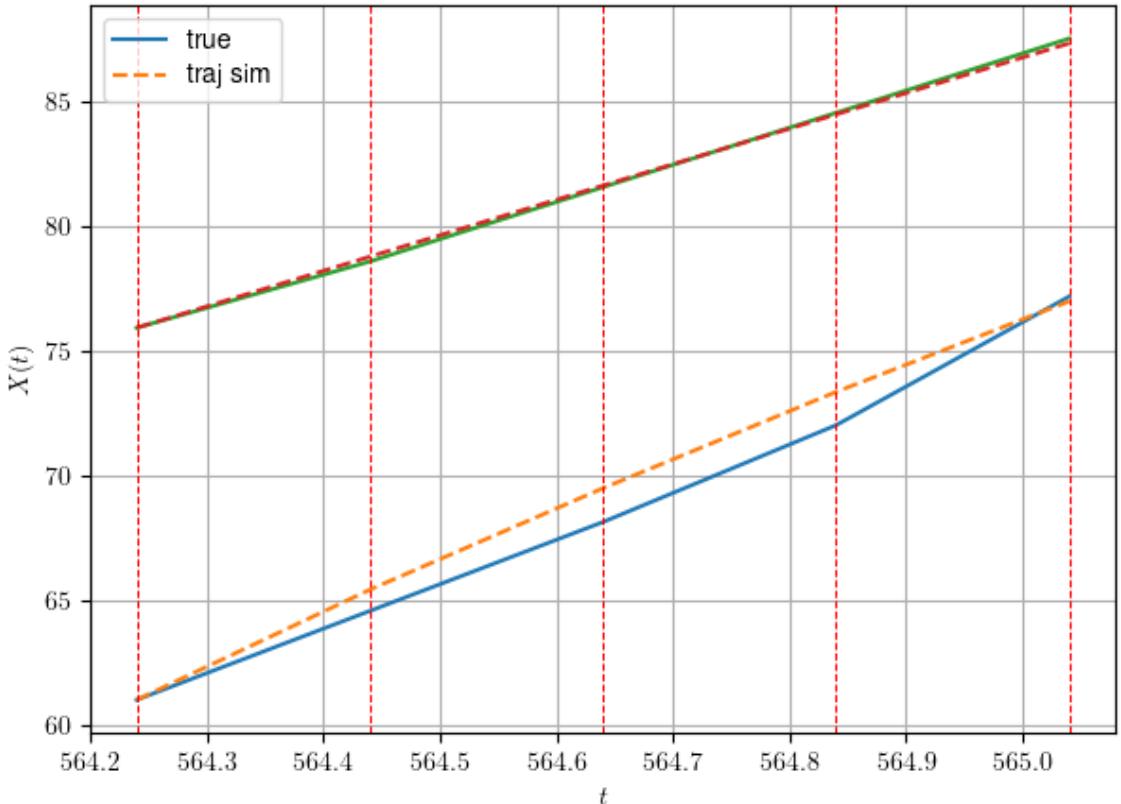
- Time interval n.2: [564.64, 564.84]
 - * y_true: [19.43339212]
 - * v_ann: [19.31801986694336, 14.268347650199631]

- Time interval n.3: [564.84, 565.04]
 - * y_true: [25.82782936]

```
* v_ann: [18.180076599121094, 14.268347650199631]
```

```
* err= 0.44683352667567044
* Learning rate NN = 2.3914839403005317e-05
* diff = 0.00016510344962838985
```

df n. 1 – Scene n. 76, at it = 500



For scene 76/109

```
* use LR_NN=5e-05 with err=29.718497073017563 at it=24
* v0 scn mean = 14.897613744071569
* MAE = 0.44517762118352733
```

df n.1, scene n.77/109

We have 8 time intervals inside [571.04, 572.64]

- Time interval n.0: [571.04, 571.24]
 - * y_true: [10.66294747]
 - * v_ann: [10.42115592956543, 20.877122500554435]

- Time interval n.1: [571.24, 571.44]
 - * y_true: [10.91066813]
 - * v_ann: [10.715272903442383, 20.877122500554435]

- Time interval n.2: [571.44, 571.64]

```
* y_true: [10.91066813]
* v_ann: [10.94902229309082, 20.877122500554435]
```

```
-----  
- Time interval n.3: [571.64, 571.84]  
* y_true: [10.91066813]  
* v_ann: [11.139512062072754, 20.877122500554435]
```

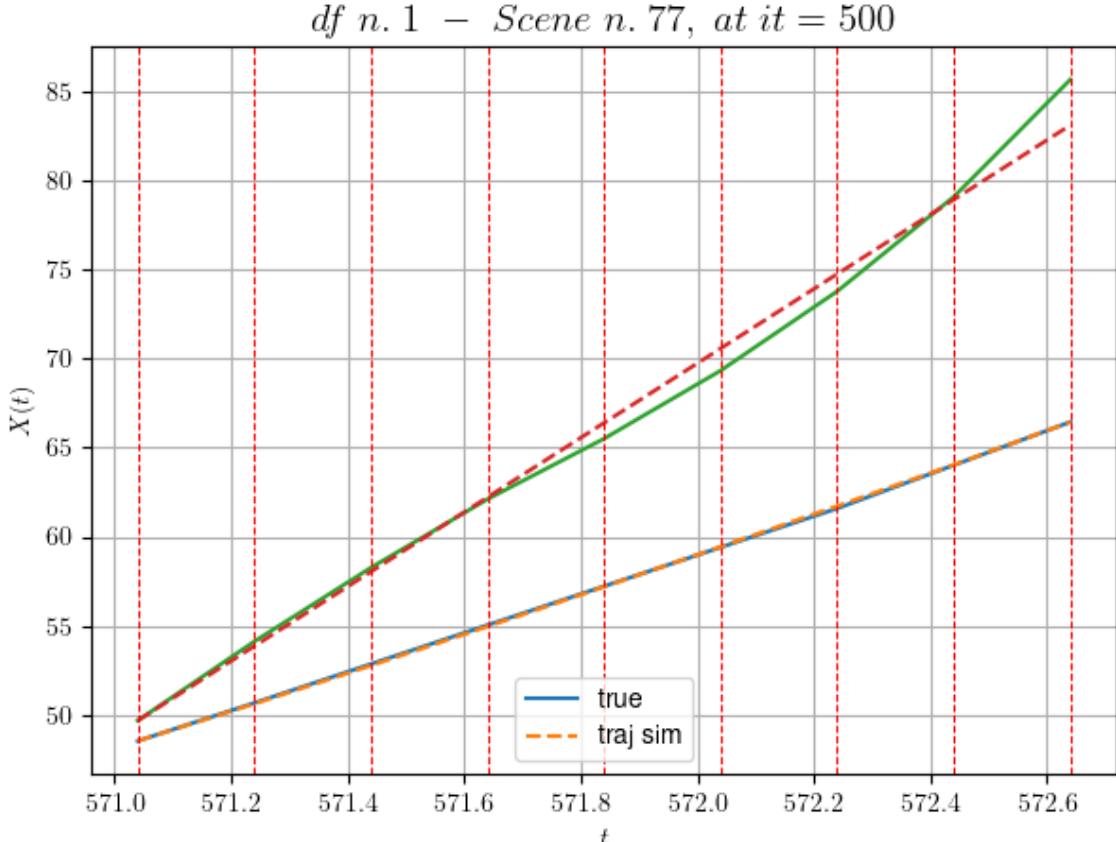
```
-----  
- Time interval n.4: [571.84, 572.04]  
* y_true: [10.91066813]  
* v_ann: [11.259535789489746, 20.877122500554435]
```

```
-----  
- Time interval n.5: [572.04, 572.24]  
* y_true: [10.91066813]  
* v_ann: [11.404106140136719, 20.877122500554435]
```

```
-----  
- Time interval n.6: [572.24, 572.44]  
* y_true: [12.13107553]  
* v_ann: [11.571657180786133, 20.877122500554435]
```

```
-----  
- Time interval n.7: [572.44, 572.64]  
* y_true: [12.13107553]  
* v_ann: [12.008874893188477, 20.877122500554435]
```

```
-----  
* err= 0.5556373807903937  
* Learning rate NN = 0.00020589104678947479  
* diff = 1.4956766095752805e-05
```



For scene 77/109

```
* use LR_NN=0.001 with err=39.24214264672785 at it=24
* v0_scn_mean = 21.242037600465583
* MAE = 0.5507874514836761
```

df n.1, scene n.78/109

We have 11 time intervals inside [592.44, 594.64]

- Time interval n.0: [592.44, 592.64]
 - * y_true: [15.26011691]
 - * v_ann: [15.712509155273438, 12.857107640554322]

- Time interval n.1: [592.64, 592.84]
 - * y_true: [15.09015603]
 - * v_ann: [15.637025833129883, 12.857107640554322]

- Time interval n.2: [592.84, 593.04]
 - * y_true: [14.43018672]
 - * v_ann: [15.56395149230957, 12.857107640554322]

- Time interval n.3: [593.04, 593.24]
 - * y_true: [18.17030736]

```
* v_ann: [15.490438461303711, 12.857107640554322]
```

```
- Time interval n.4: [593.24, 593.44]
* y_true: [14.59028713]
* v_ann: [15.438974380493164, 12.857107640554322]
```

```
- Time interval n.5: [593.44, 593.64]
* y_true: [15.22037721]
* v_ann: [15.322022438049316, 12.857107640554322]
```

```
- Time interval n.6: [593.64, 593.84]
* y_true: [13.44037198]
* v_ann: [15.177903175354004, 12.857107640554322]
```

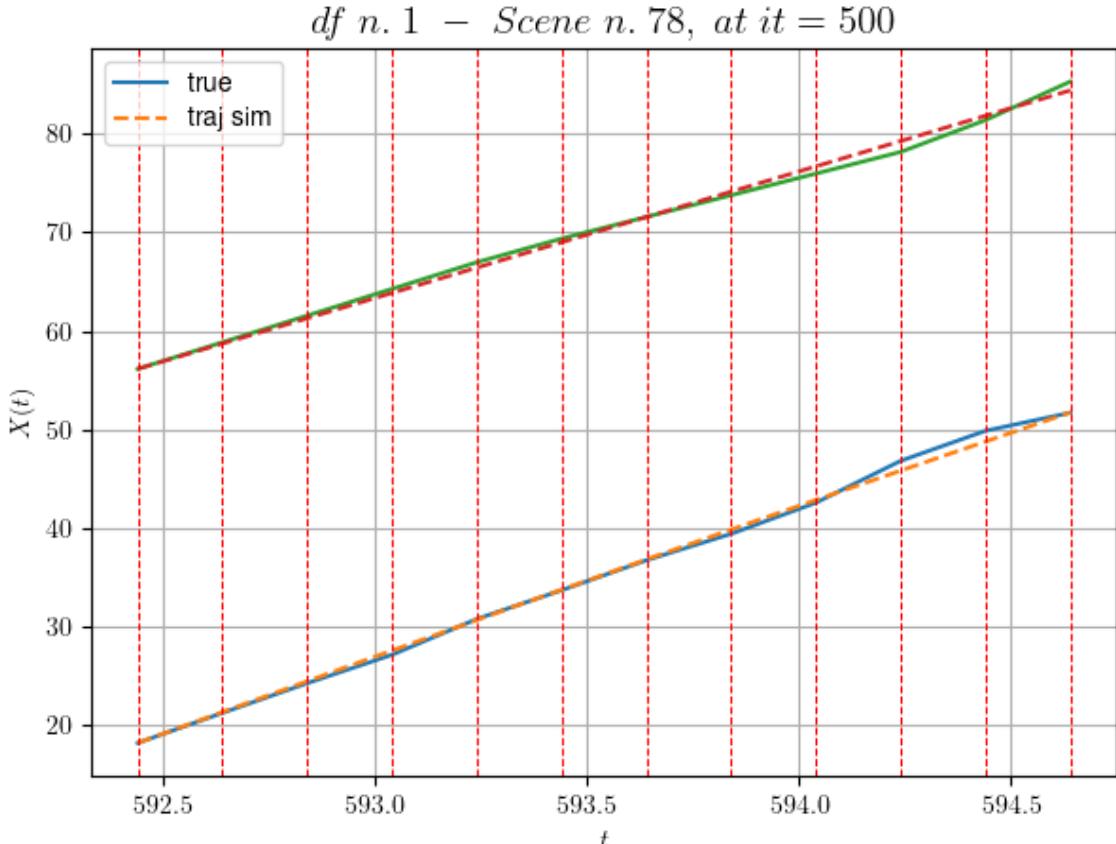
```
- Time interval n.7: [593.84, 594.04]
* y_true: [15.79052842]
* v_ann: [15.038220405578613, 12.857107640554322]
```

```
- Time interval n.8: [594.04, 594.24]
* y_true: [21.27083337]
* v_ann: [14.904629707336426, 12.857107640554322]
```

```
- Time interval n.9: [594.24, 594.44]
* y_true: [15.24067558]
* v_ann: [14.752568244934082, 12.857107640554322]
```

```
- Time interval n.10: [594.44, 594.64]
* y_true: [9.15045602]
* v_ann: [14.797268867492676, 12.857107640554322]
```

```
* err= 0.2626210409626168
* Learning rate NN = 5.4709462347091176e-06
* diff = 0.0009562443594718917
```



For scene 78/109

- * use LR_NN=5e-05 with err=250.14258709981456 at it=24
- * v0_scn_mean = 13.542823334801193
- * MAE = 0.26052899200604496

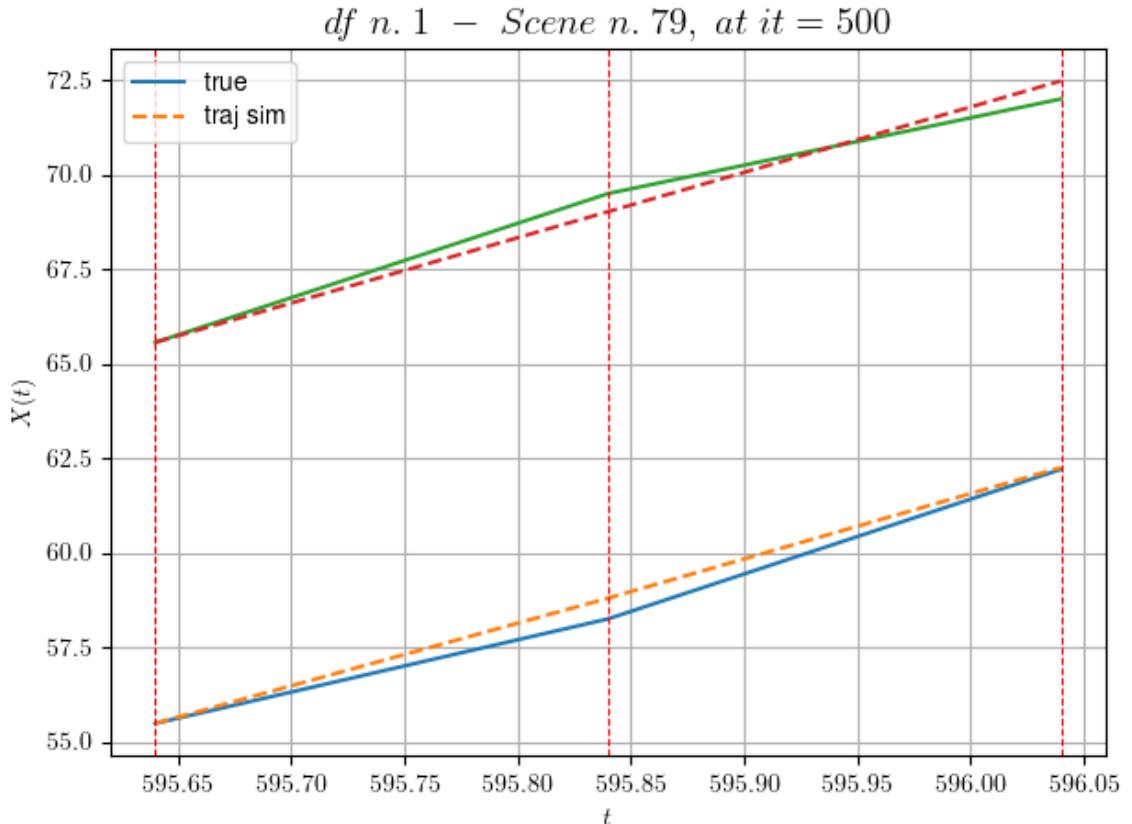
df n.1, scene n.79/109

We have 2 time intervals inside [595.64, 596.04]

- Time interval n.0: [595.64, 595.84]
 - * y_true: [13.82084467]
 - * v_ann: [16.565088272094727, 17.284900942460474]

- Time interval n.1: [595.84, 596.04]
 - * y_true: [19.77136821]
 - * v_ann: [17.26658058166504, 17.284900942460474]

- * err= 0.12654975361876317
- * Learning rate NN = 3.6449993785936385e-05
- * diff = 7.227998666770041e-05



For scene 79/109

- * use LR_NN=5e-05 with err=5.895592368778294 at it=24
- * v0_scn_mean = 17.793504904664783
- * MAE = 0.12654975361876317

df n.1, scene n.80/109

We have 4 time intervals inside [597.64, 598.44]

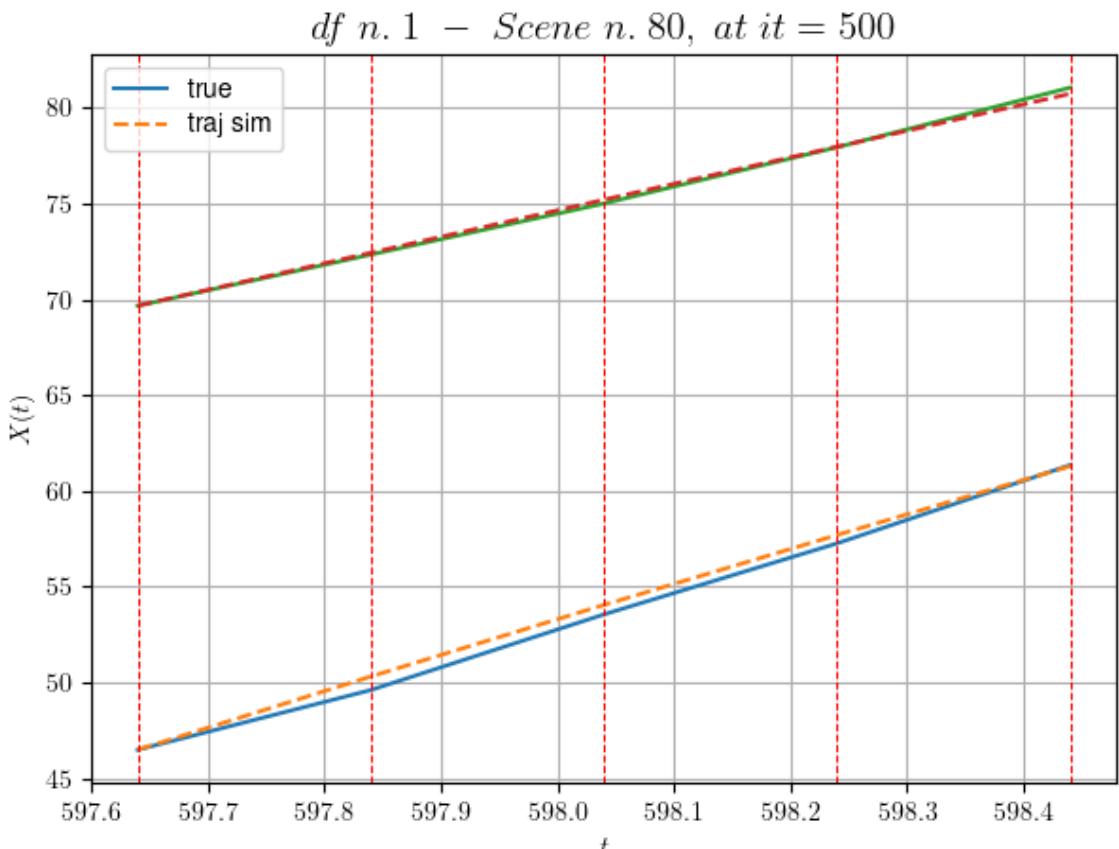
- Time interval n.0: [597.64, 597.84]
 - * y_true: [15.60070033]
 - * v_ann: [19.133516311645508, 13.840959609622454]

- Time interval n.1: [597.84, 598.04]
 - * y_true: [19.75102085]
 - * v_ann: [18.690147399902344, 13.840959609622454]

- Time interval n.2: [598.04, 598.24]
 - * y_true: [18.55110518]
 - * v_ann: [18.258731842041016, 13.840959609622454]

- Time interval n.3: [598.24, 598.44]
 - * y_true: [20.45139489]
 - * v_ann: [17.970186233520508, 13.840959609622454]

```
* err= 0.10886771080247395
* Learning rate NN = 2.3914839403005317e-05
* diff = 1.6987154985437236e-06
```



For scene 80/109

```
* use LR_NN=5e-05 with err=31.02050713191213 at it=24
* v0_scn_mean = 14.48732122511341
* MAE = 0.10778551553264026
```

df n.1, scene n.81/109

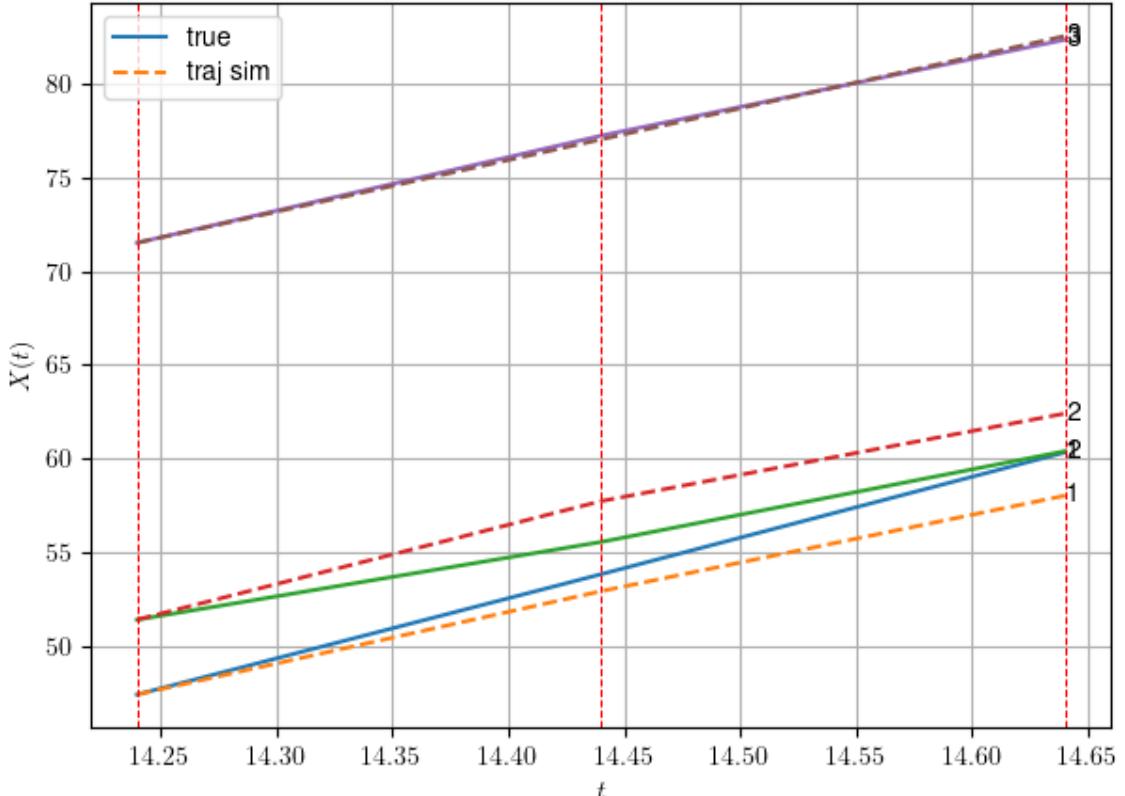
We have 2 time intervals inside [14.24, 14.64]

- Time interval n.0: [14.24, 14.44]
 - * y_true: [32.1443344 20.77111865]
 - * v_ann: [27.608430862426758, 31.683500289916992, 2
 - 7.636278285272255]

- Time interval n.1: [14.44, 14.64]
 - * y_true: [32.5721373 24.27162308]
 - * v_ann: [25.54779052734375, 23.42691421508789, 27.
 - 636278285272255]

```
=====
* err= 1.6738591117172035
* Learning rate NN = 0.0007289999630302191
* diff = 0.000572200424162101
```

df n. 1 – Scene n. 81, at it = 500



For scene 81/109

```
* use LR_NN=0.001 with err=12.908998040441583 at it=24
* v0_scn_mean = 27.77810148202991
* MAE = 1.6738591117172035
```

df n.1, scene n.82/109

We have 5 time intervals inside [23.64, 24.64]

- Time interval n.0: [23.64, 23.84]
 - * y_true: [26.6509107 26.65125804]
 - * v_ann: [26.697296142578125, 25.850215911865234, 31.184420565840067]

- Time interval n.1: [23.84, 24.04]
 - * y_true: [29.05143519 29.47691739]
 - * v_ann: [26.926258087158203, 26.35500717163086, 31.184420565840067]

- Time interval n.2: [24.04, 24.24]
 - * y_true: [29.05143519 29.47691739]
 - * v_ann: [28.198453903198242, 29.266605377197266, 31.184420565840067]

1.184420565840067]

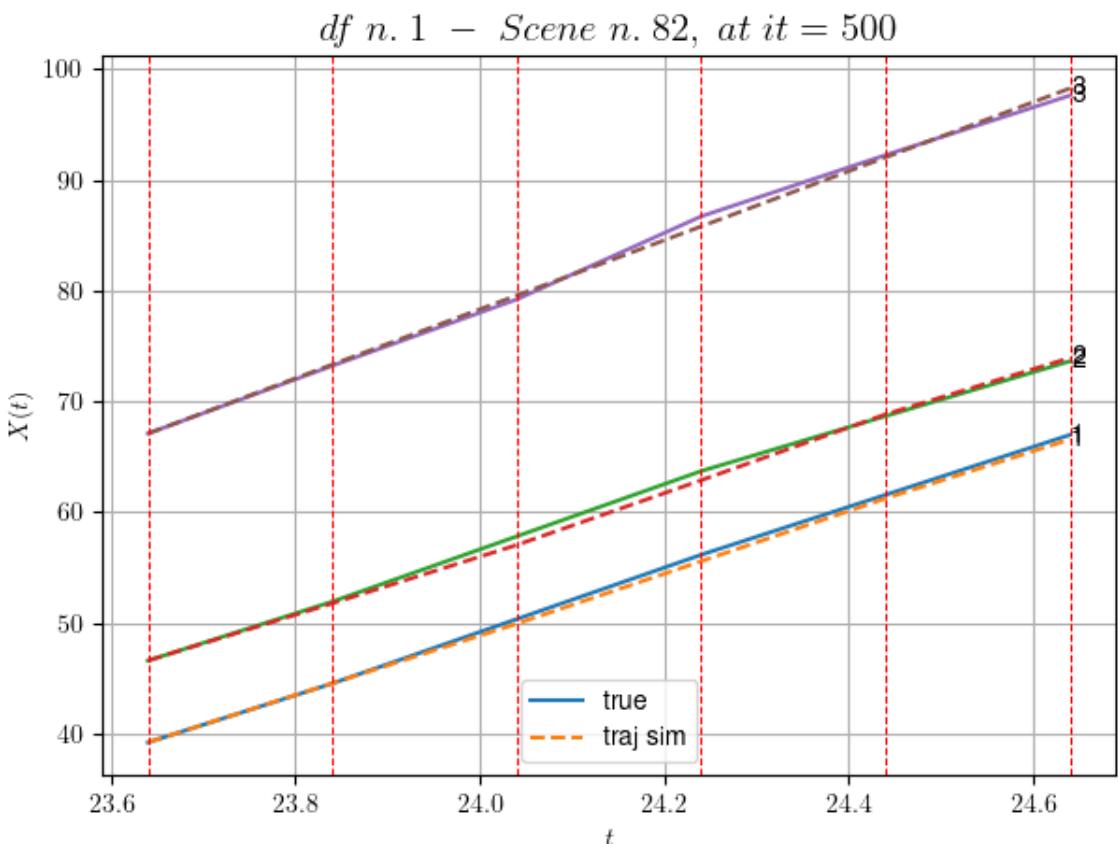
```
- Time interval n.3: [24.24, 24.44]
  * y_true: [27.07699139 24.80226709]
  * v_ann: [28.381298065185547, 29.755136489868164, 3
40067]
```

1.184420565840067]

```
- Time interval n.4: [24.44, 24.64]
  * y_true: [27.07699139 24.80226709]
  * v_ann: [26.691570281982422, 25.511629104614258, 3
400671]
```

1.1844205658400671

```
* err= 0.20295193225897457  
* Learning rate NN = 0.0003874204121530056  
* diff = 0.008135772871668862
```



For scene 82/109

* use LR_NN=0.001 with err=20.795005902651177 at it=24
* v0_scn_mean = 31.113355385067617
* MAE = 0.1674190824372088

df n 1 scene n 83/109

We have 5 time intervals inside [72.44, 73.44]

- Time interval n.0: [72.44, 72.64]
 - * y_true: [25.85001228 31.10049693]
 - * v_ann: [27.645267486572266, 28.138259887695312, 28.25092057390849]
-

- Time interval n.1: [72.64, 72.84]
 - * y_true: [30.00006309 33.82077482]
 - * v_ann: [27.742937088012695, 28.22064781188965, 28.25092057390849]
-

- Time interval n.2: [72.84, 73.04]
 - * y_true: [23.75011307 26.19081077]
 - * v_ann: [28.17823028564453, 28.60038185119629, 28.25092057390849]
-

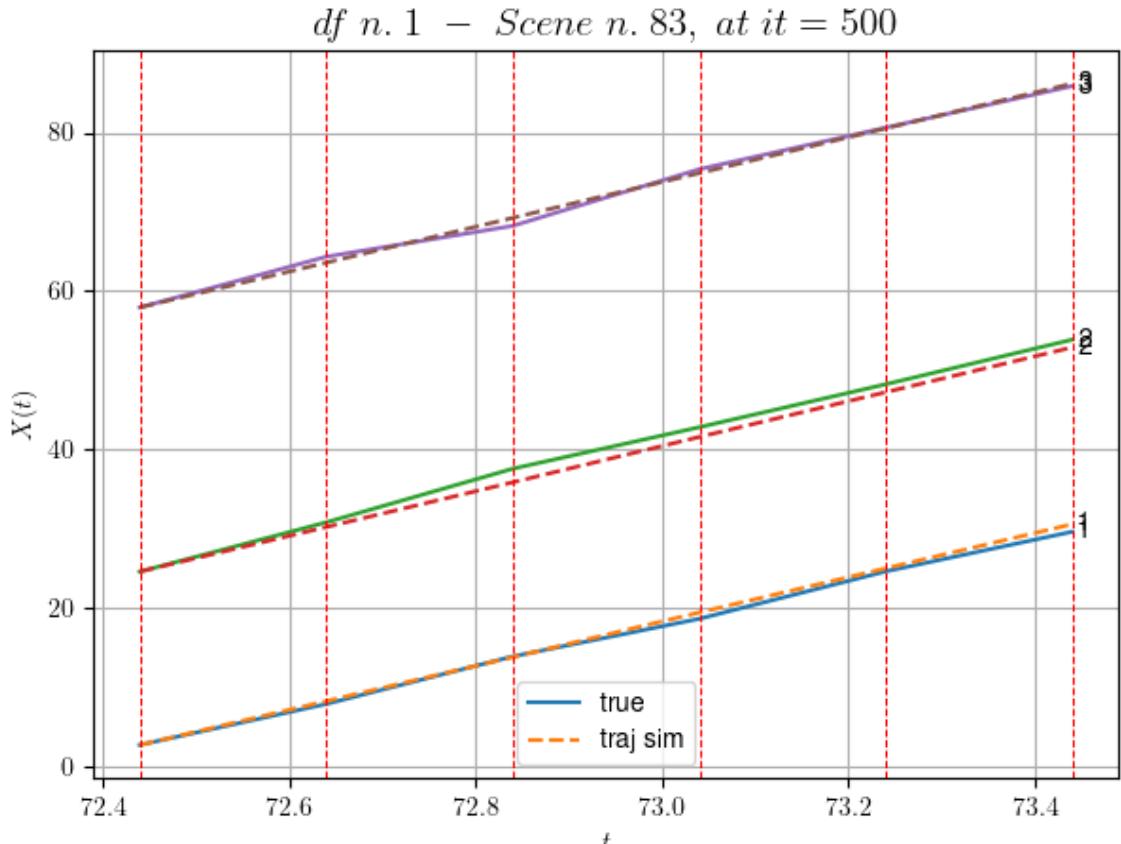
- Time interval n.3: [73.04, 73.24]
 - * y_true: [29.90025591 27.11111625]
 - * v_ann: [27.857629776000977, 28.25444793701172, 28.25092057390849]
-

- Time interval n.4: [73.24, 73.44]
 - * y_true: [25.05033948 28.161422]
 - * v_ann: [27.8748722076416, 28.30459213256836, 28.25092057390849]
-

* err= 0.5831781729070459

* Learning rate NN = 1.9371018424862996e-05

* diff = 0.001817941532536227



For scene 83/109

- * use LR_NN=5e-05 with err=3.52638235651581 at it=24
- * v0_scn_mean = 28.355865260943947
- * MAE = 0.5808138183698972

df n.1, scene n.84/109

We have 3 time intervals inside [84.24, 84.84]

- Time interval n.0: [84.24, 84.44]
 - * y_true: [29.4403562 23.48047527]
 - * v_ann: [28.069236755371094, 32.763240814208984, 29.49436559358197]

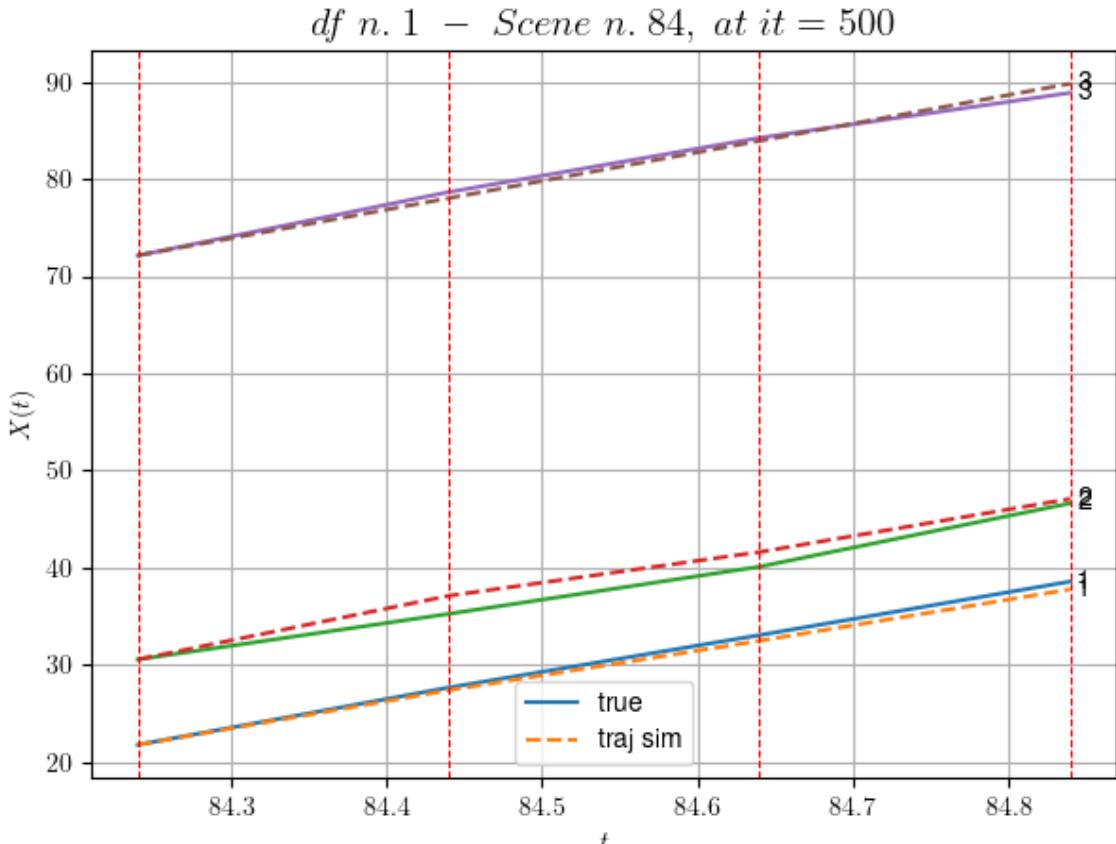
- Time interval n.1: [84.44, 84.64]
 - * y_true: [27.01049004 24.28067739]
 - * v_ann: [25.470943450927734, 22.549882888793945, 29.49436559358197]

- Time interval n.2: [84.64, 84.84]
 - * y_true: [27.60069732 32.65118399]
 - * v_ann: [26.48046112060547, 27.38083267211914, 29.49436559358197]

```

* err= 0.6994333413472941
* Learning rate NN = 0.0002952449722215533
* diff = 0.002084597647373343

```



For scene 84/109

```

* use LR_NN=0.0005 with err=16.318291889719863 at it=24
* v0_scn_mean = 29.524703635264995
* MAE = 0.45252854411583904

```

df n.1, scene n.85/109

We have 2 time intervals inside [131.64, 132.04]

- Time interval n.0: [131.64, 131.84]
 - * y_true: [30.80073929 29.11067519]
 - * v_ann: [28.652067184448242, 8.706306294504941e-2]

3, 28.442892702247633]

- Time interval n.1: [131.84, 132.04]

- * y_true: [30.16079766 28.07097758]

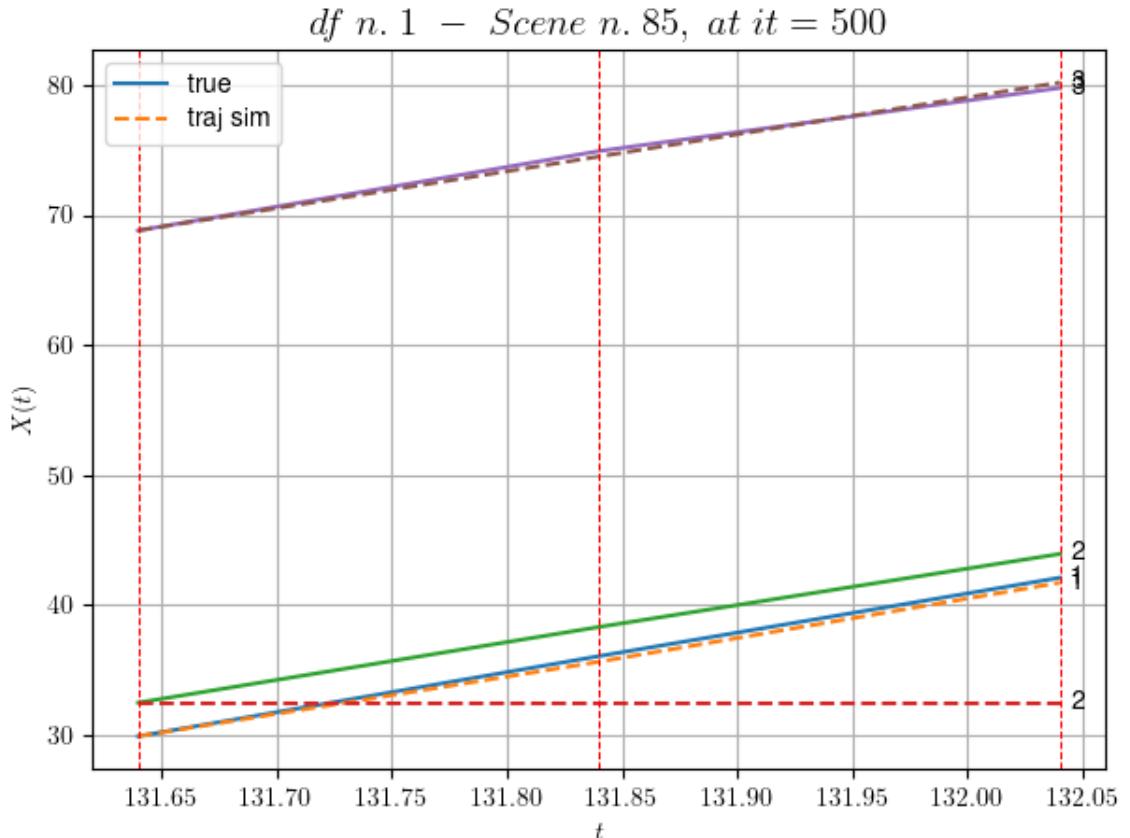
- * v_ann: [30.39908790588379, 6.435811254718894e-23,

28.442892702247633]

* err= 18.37393136684139

* Learning rate NN = 0.0007289999630302191

* diff = 0.0005185245010181916



For scene 85/109

* use LR_NN=0.001 with err=15.121924743693269 at it=24
 * v0_scn_mean = 28.53631907020157
 * MAE = 0.34343040020545207

df n.1, scene n.86/109

We have 2 time intervals inside [148.04, 148.44]

- Time interval n.0: [148.04, 148.24]
 - * y_true: [21.93113488 25.90203153]
 - * v_ann: [0.0023922696709632874, 0.0046221800148487]

09, 27.621656721215906]

- Time interval n.1: [148.24, 148.44]

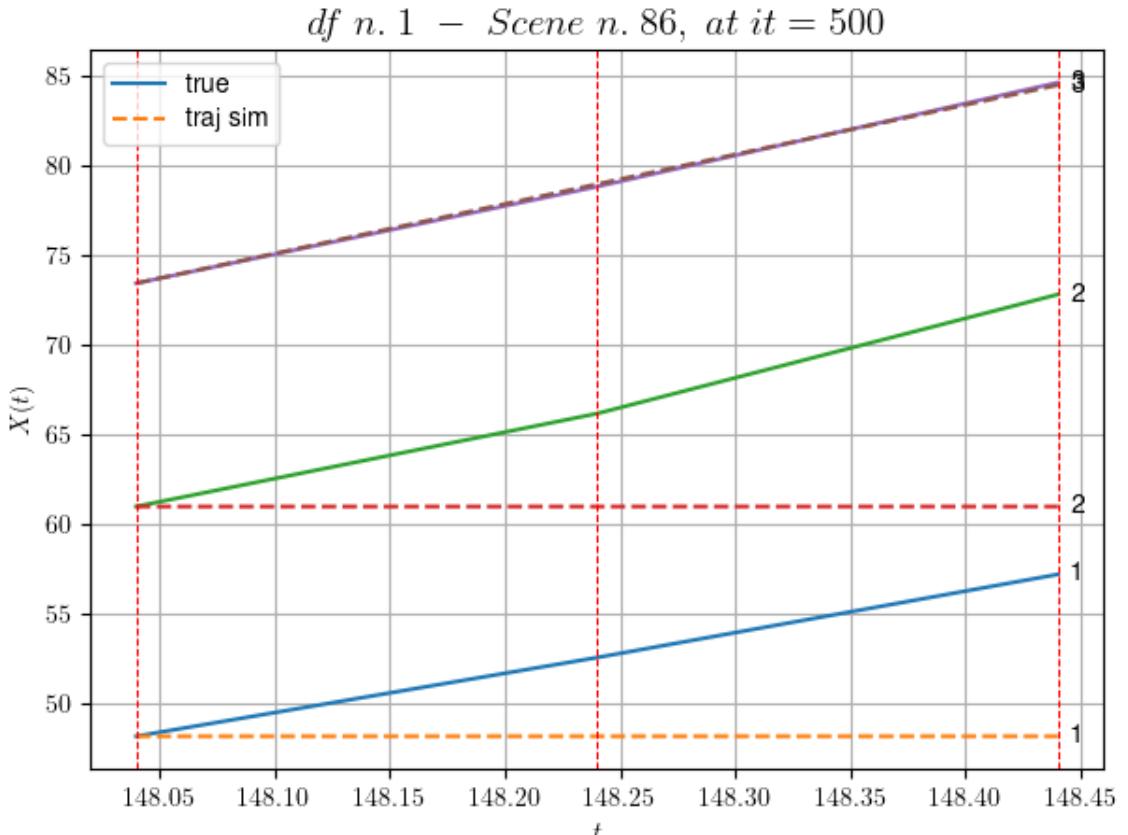
- * y_true: [23.17638158 33.20310746]
 - * v_ann: [0.0005634206463582814, 0.0031955600716173]

65, 27.621656721215906]

* err= 29.686445453962275

* Learning rate NN = 3.6449993785936385e-05

* diff = 0.0004957053481184914



For scene 86/109

- * use LR_NN=5e-05 with err=0.7932967129633178 at it=24
- * v0_scn_mean = 27.76435721116064
- * MAE = 29.686445453962275

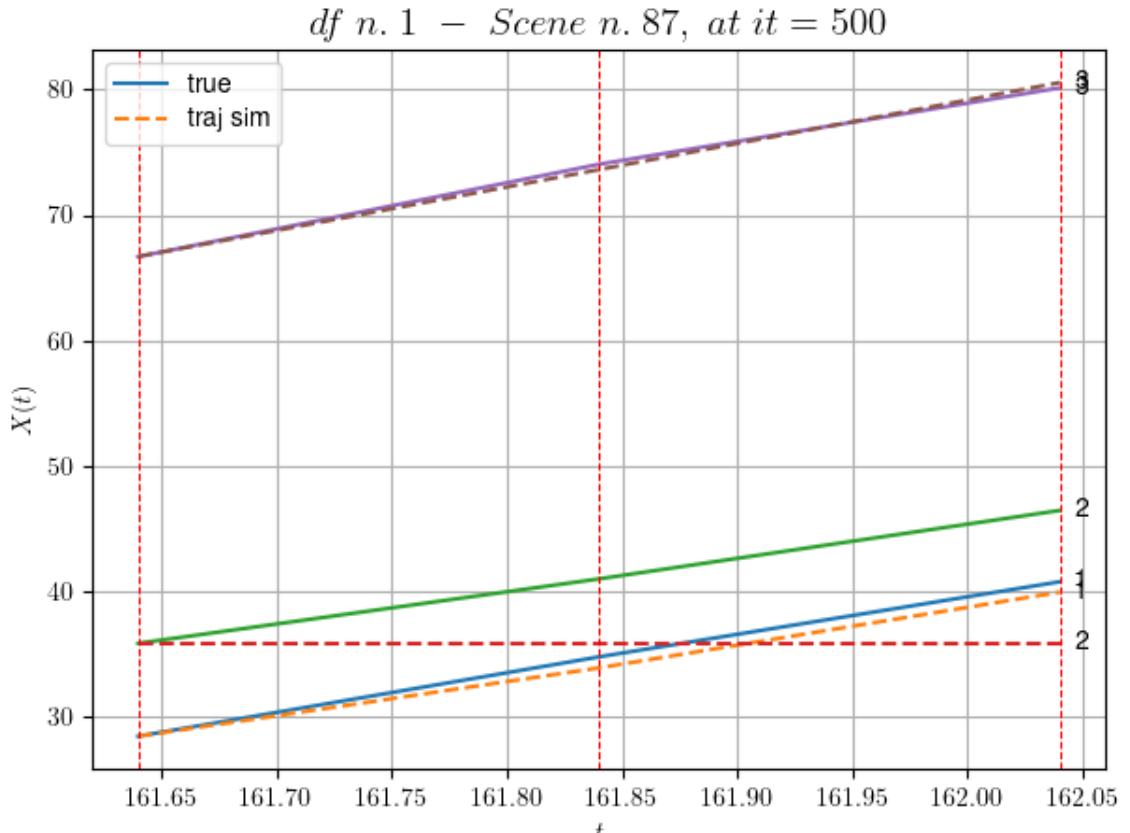
df n.1, scene n.87/109

We have 2 time intervals inside [161.64, 162.04]

- Time interval n.0: [161.64, 161.84]
 - * y_true: [31.66062591 25.70084842]
 - * v_ann: [27.263521194458008, 4.704424645751715e-05, 34.71181519803632]

- Time interval n.1: [161.84, 162.04]
 - * y_true: [29.96082912 27.30094687]
 - * v_ann: [30.211788177490234, 6.704969564452767e-06, 34.71181519803632]

- * err= 15.623122304988014
- * Learning rate NN = 3.6449993785936385e-05
- * diff = 0.0002745410929243519



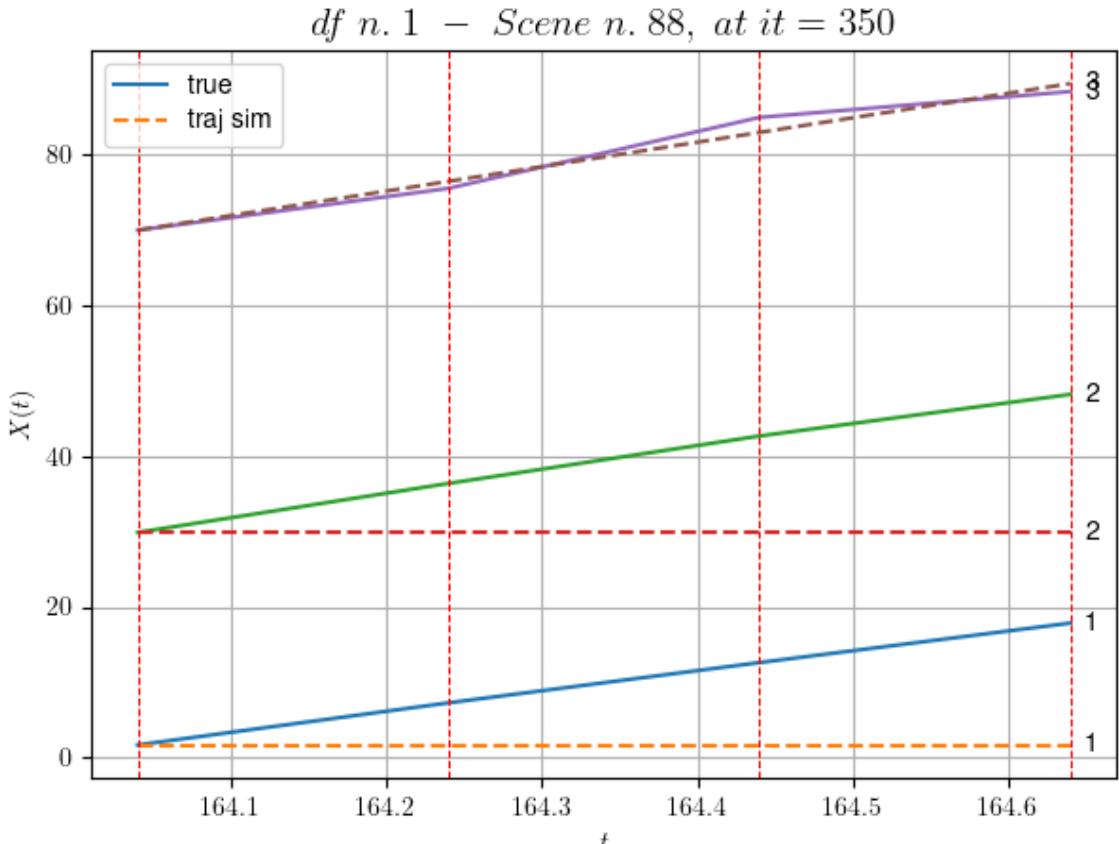
For scene 87/109

- * use LR_NN=5e-05 with err=12.48061290275566 at it=24
- * v0_scn_mean = 34.429106497704254
- * MAE = 15.623122304988014

df n.1, scene n.88/109

We have 3 time intervals inside [164.04,164.64]

- * err= 79.96250952850134
- * Learning rate NN = 0.0003280499659013003
- * diff = 3.3026911694378214e-07



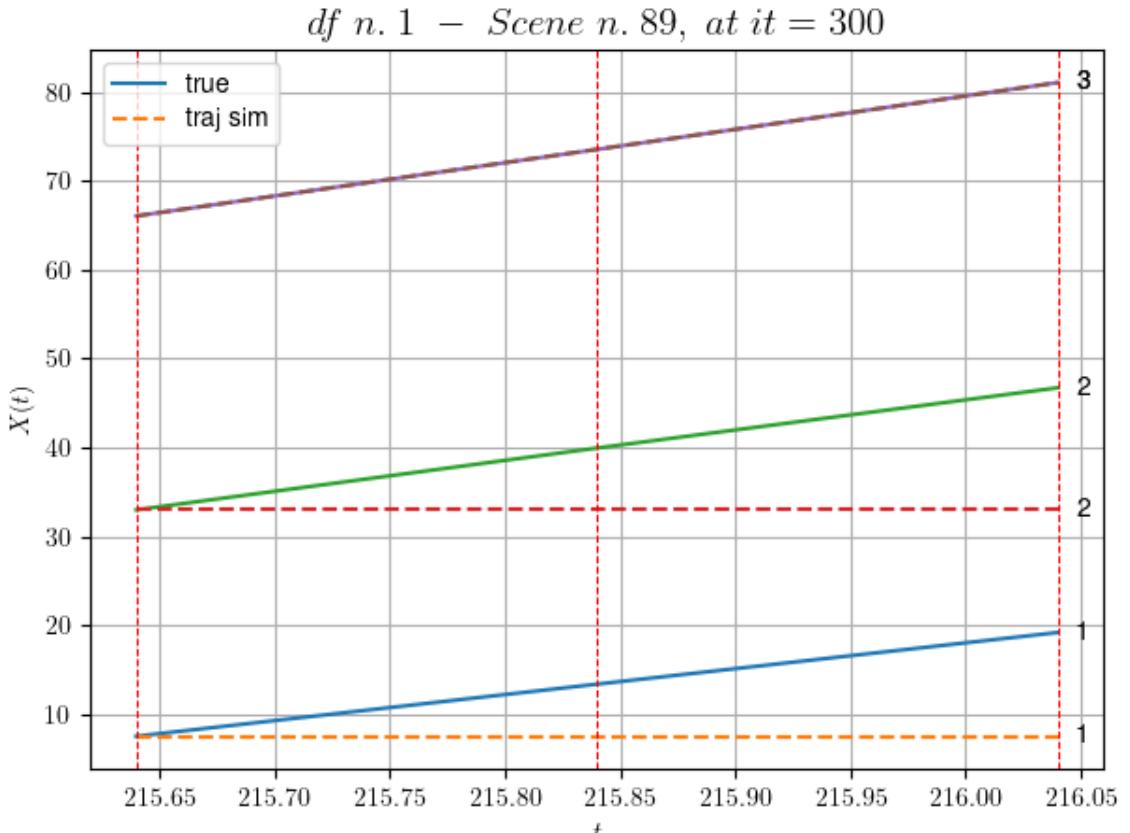
For scene 88/109

- * use LR_NN=0.0005 with err=1.5971979248434565 at it=24
- * v0_scn_mean = 32.22432243084913
- * MAE = 42.93087730468986

df n.1, scene n.89/109

We have 2 time intervals inside [215.64, 216.04]

- * err= 45.219143593108846
- * Learning rate NN = 4.049999552080408e-05
- * diff = 7.299568309804272e-07

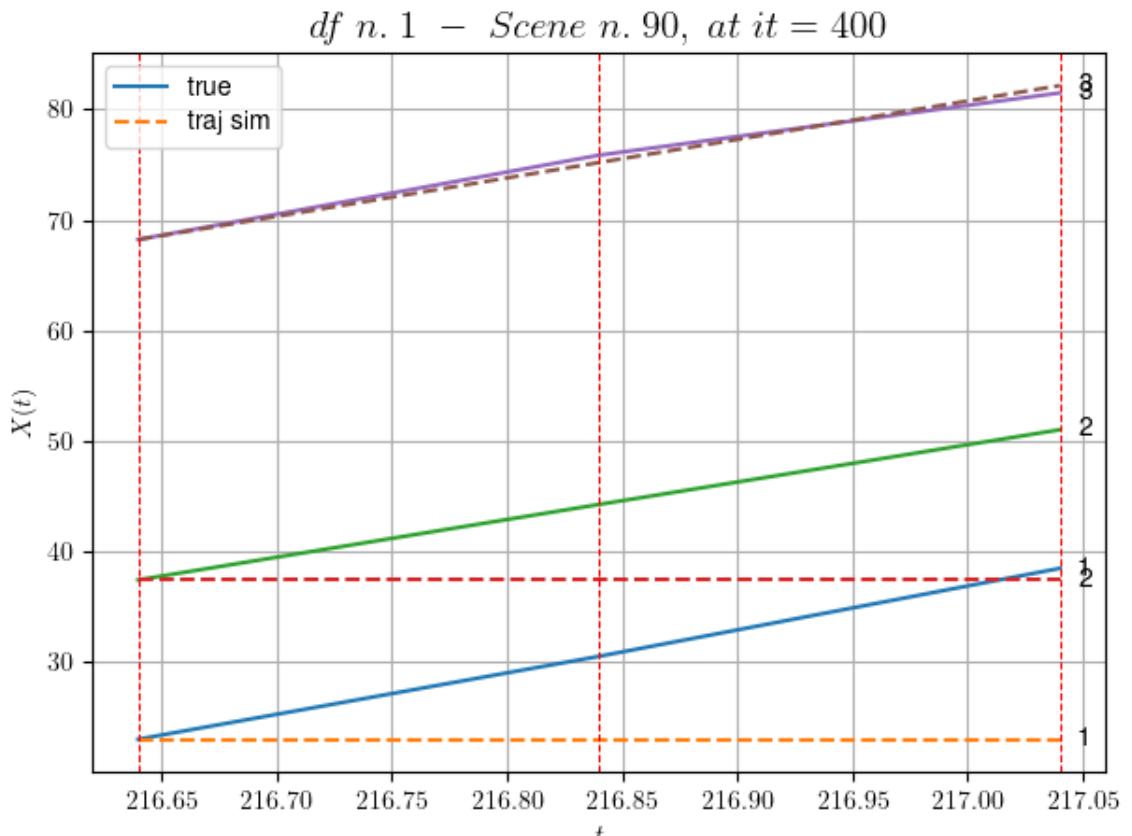


For scene 89/109

* use LR_NN=5e-05 with err=1.3408723500403843 at it=24
* v0_scn_mean = 36.73542957932045
* MAE = 45.219143593108846

df n.1, scene n.90/109

We have 2 time intervals inside [216.64, 217.04]
* err= 58.641387248135395
* Learning rate NN = 0.00036449998151510954
* diff = 8.168724363599722e-07



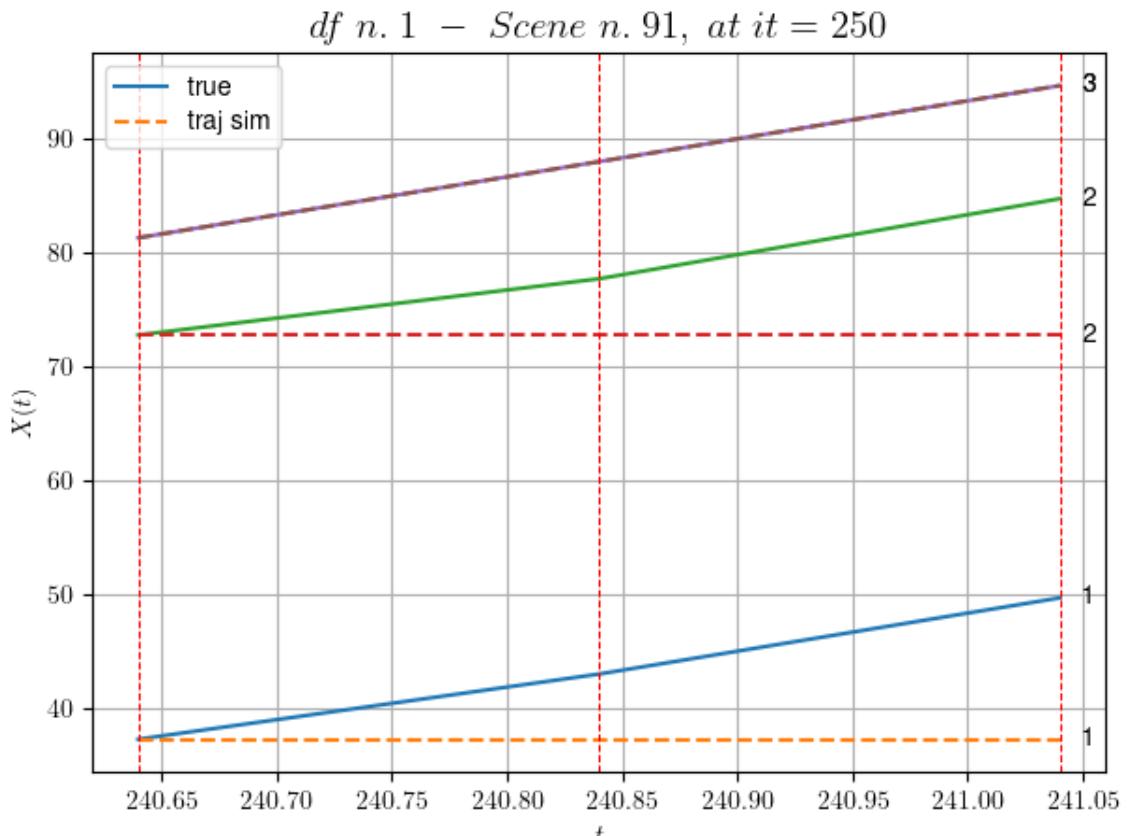
For scene 90/109

- * use LR_NN=0.0005 with err=9.69328126597391 at it=24
- * v0_scn_mean = 34.487938898881175
- * MAE = 58.63155142475014

df n.1, scene n.91/109

We have 2 time intervals inside [240.64, 241.04]

- * err= 39.18453939442752
- * Learning rate NN = 8.999999408842996e-06
- * diff = 6.422905798331158e-07

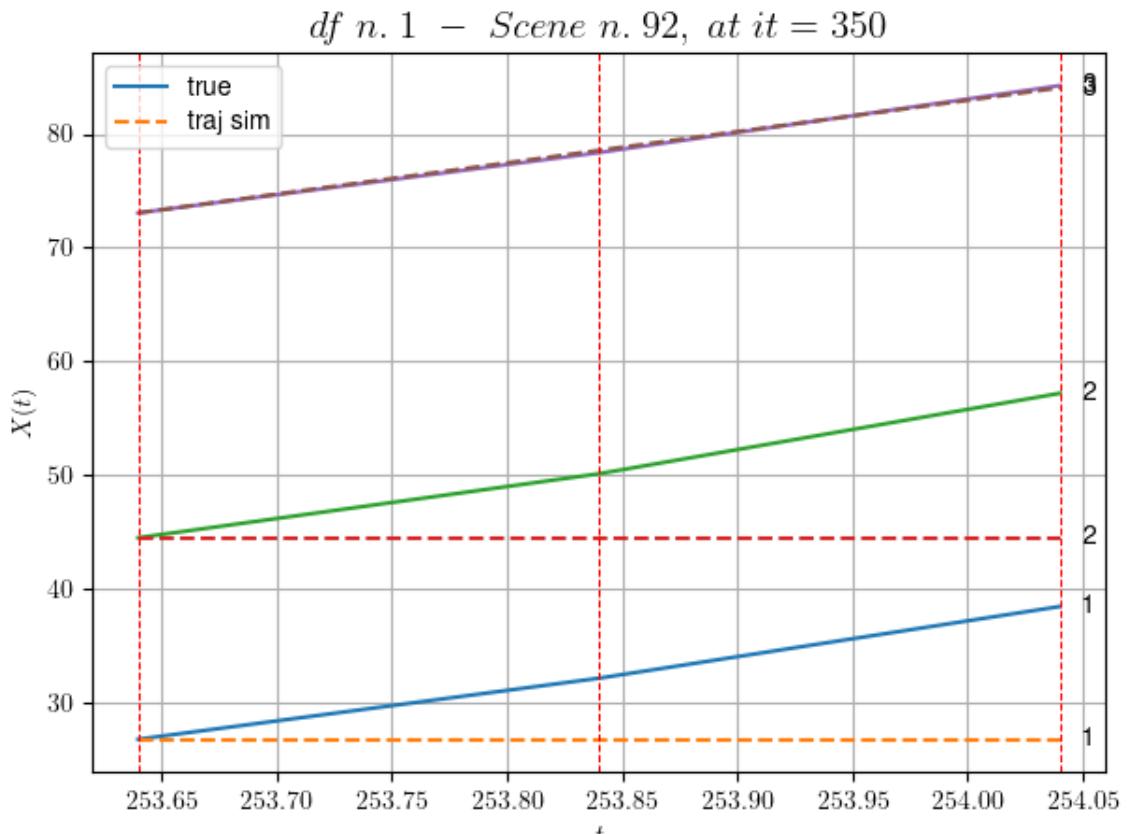


For scene 91/109

* use LR_NN=1e-05 with err=8.636029533269527 at it=24
* v0_scn_mean = 32.94348129408413
* MAE = 39.18453853076664

df n.1, scene n.92/109

We have 2 time intervals inside [253.64, 254.04]
* err= 39.72001782907544
* Learning rate NN = 4.049999552080408e-05
* diff = 6.937600858236692e-07



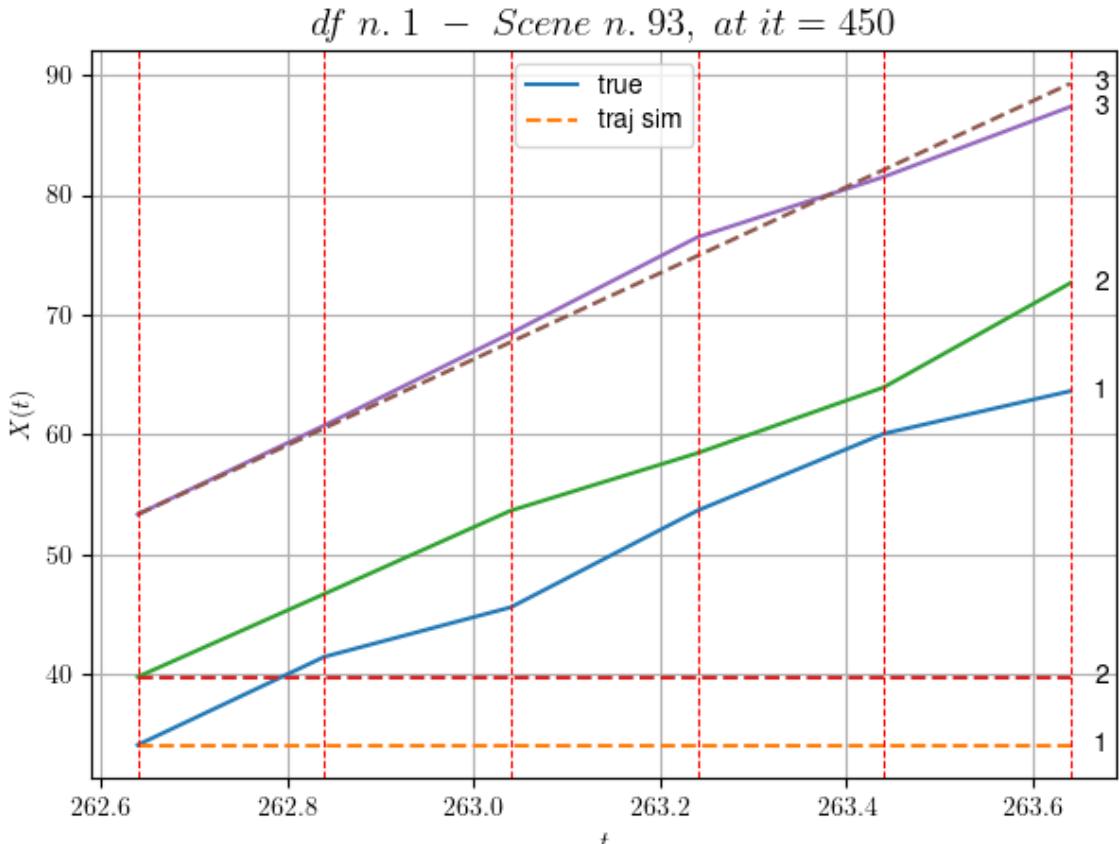
For scene 92/109

- * use LR_NN=5e-05 with err=1.6152144293655688 at it=24
- * v0_scn_mean = 27.691316850195815
- * MAE = 39.71913461759049

df n.1, scene n.93/109

We have 5 time intervals inside [262.64, 263.64]

- * err= 242.7648086118518
- * Learning rate NN = 0.000430467160185799
- * diff = 7.803934067851515e-07



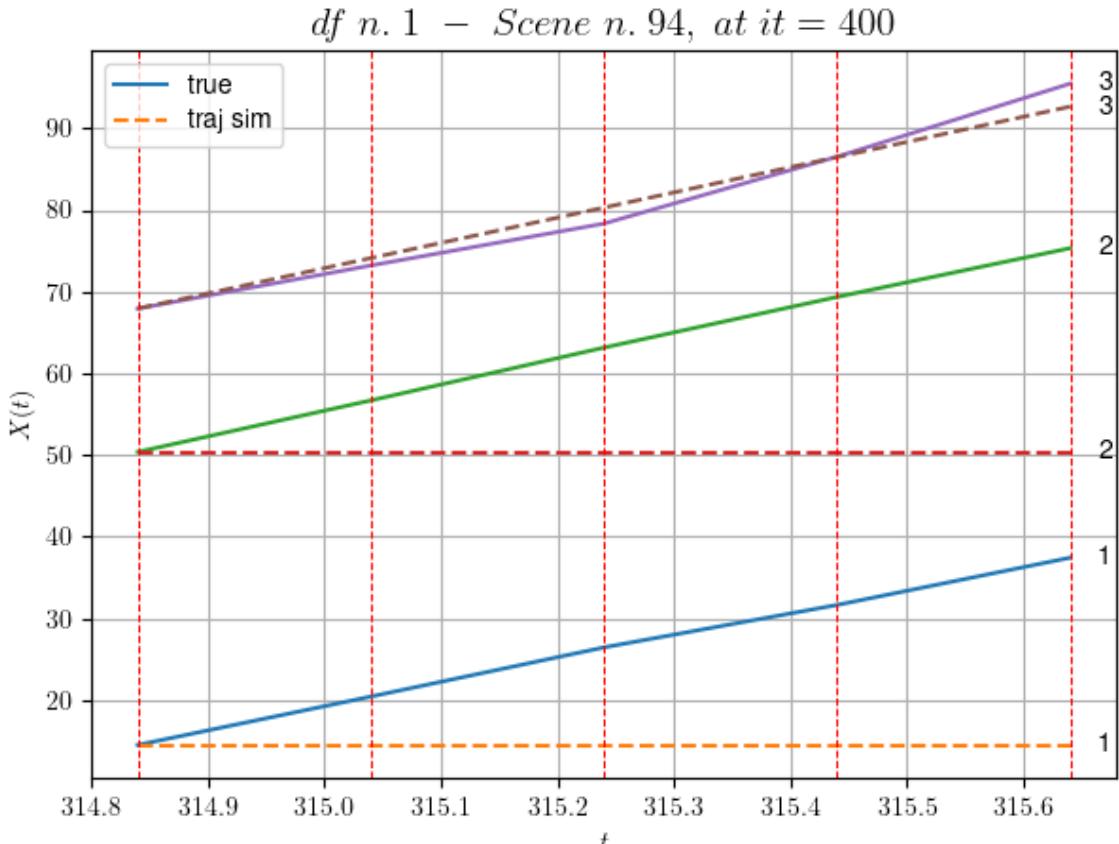
For scene 93/109

- * use LR_NN=0.001 with err=26.613828610536416 at it=24
 - * v0_scn_mean = 35.53569127500394
 - * MAE = 242.73232176134488
-
-

df n.1, scene n.94/109

We have 4 time intervals inside [314.84, 315.64]

- * err= 146.43905408890268
- * Learning rate NN = 5.314408917911351e-05
- * diff = 9.262787443731213e-07

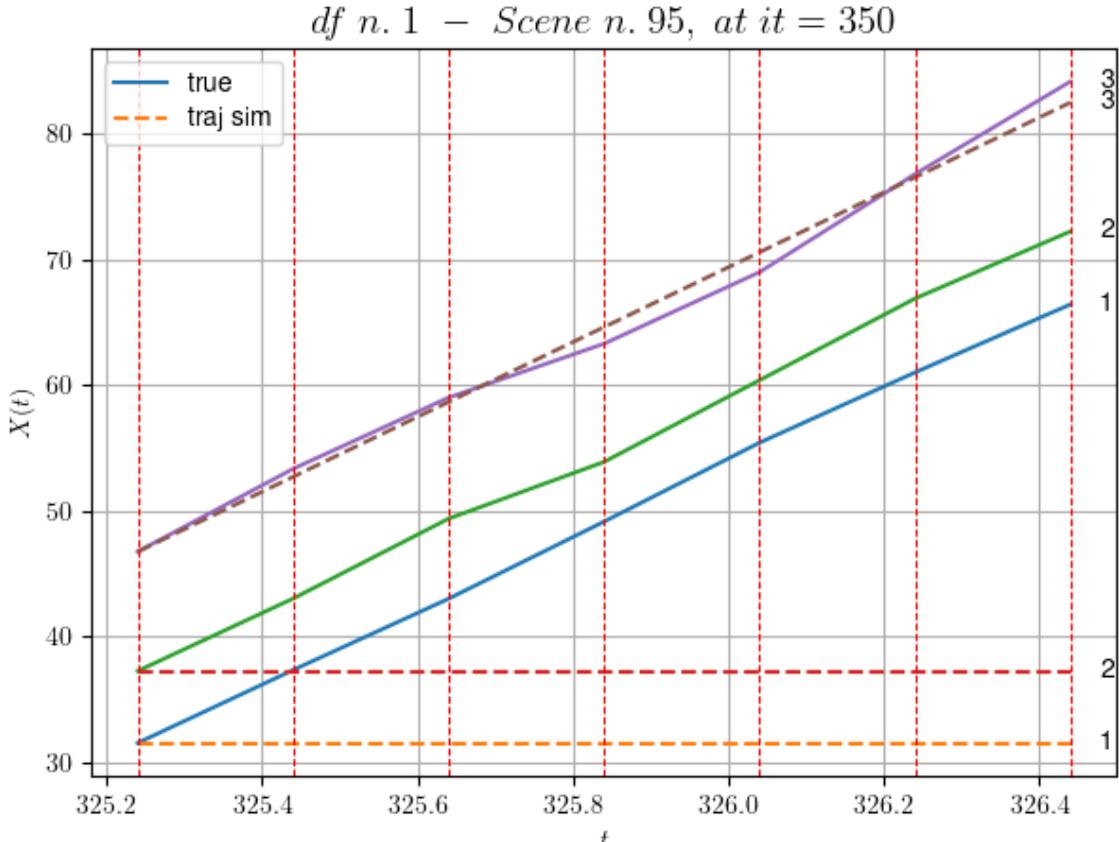


For scene 94/109

* use LR_NN=0.0001 with err=20.956238623053252 at it=24
* v0_scn_mean = 30.856779397688733
* MAE = 146.43905408890268

df n.1, scene n.95/109

We have 6 time intervals inside [325.24, 326.44]
* err= 297.400752219137
* Learning rate NN = 0.000430467160185799
* diff = 2.694608269848686e-07



For scene 95/109

- * use LR_NN=0.001 with err=16.800763639057543 at it=24
- * v0_scn_mean = 29.820830785944853
- * MAE = 297.39791745075036

df n.1, scene n.96/109

We have 3 time intervals inside [354.04, 354.64]

- Time interval n.0: [354.04, 354.24]
 - * y_true: [29.77169216 32.15176545]
 - * v_ann: [32.380760192871094, 4.404445141936719e-10, 32.69352217293495]

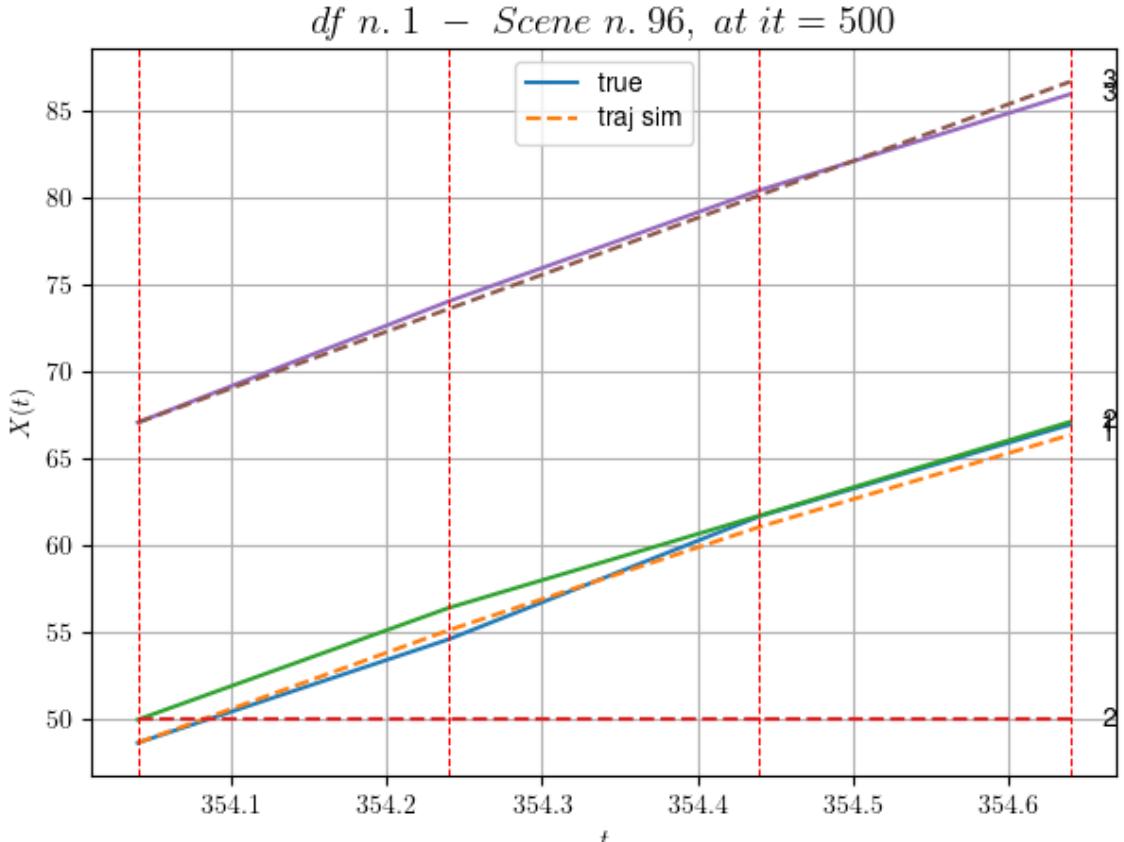
- Time interval n.1: [354.24, 354.44]
 - * y_true: [35.38251939 26.55179403]
 - * v_ann: [29.73857307434082, 1.181205133704566e-10, 32.69352217293495]

- Time interval n.2: [354.44, 354.64]
 - * y_true: [26.40441101 27.01000163]
 - * v_ann: [26.482269287109375, 9.88147758063107e-12, 32.69352217293495]

```

* err= 39.57039208443275
* Learning rate NN = 0.0005904899444431067
* diff = 0.00025561201837831504

```



For scene 96/109

```

* use LR_NN=0.001 with err=10.507617969447779 at it=24
* v0_scn_mean = 32.53191096349221
* MAE = 39.57039208443275

```

df n.1, scene n.97/109

We have 3 time intervals inside [363.44, 364.04]

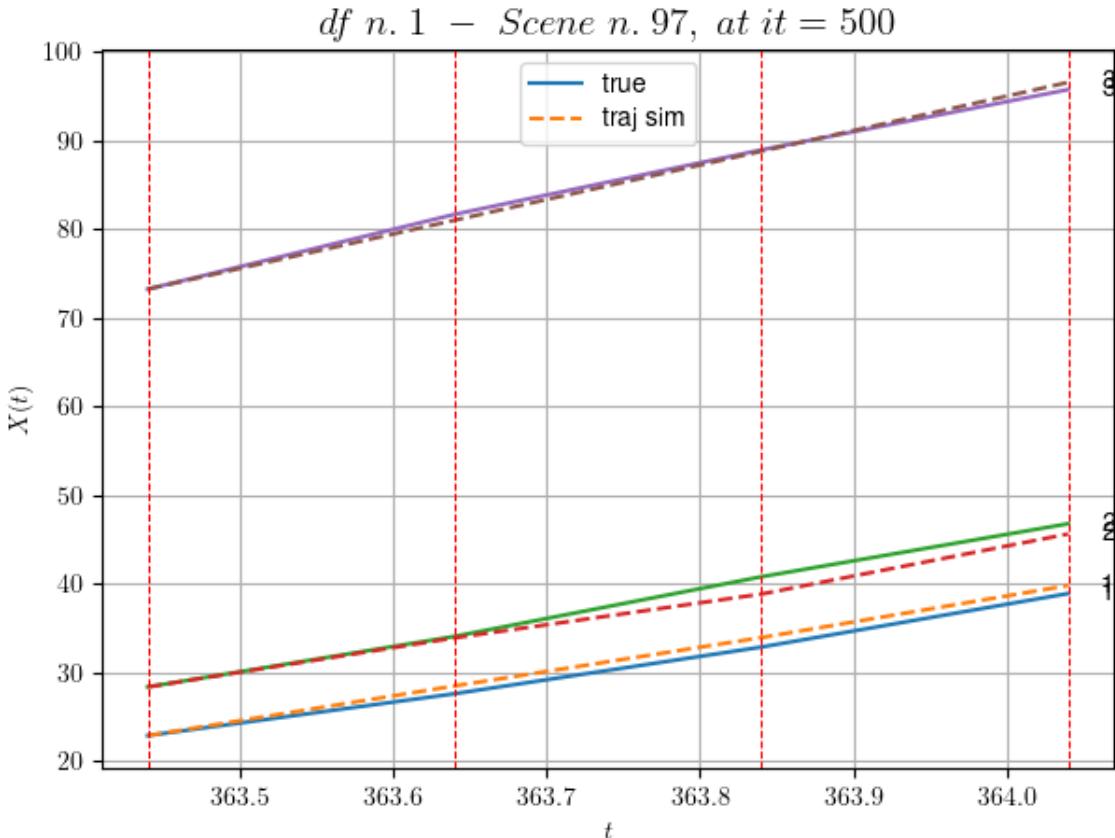
- Time interval n.0: [363.44, 363.64]
 - * y_true: [23.6502752 28.55056389]
 - * v_ann: [28.037538528442383, 27.69523048400879, 3
 - 8.923494443015485]

- Time interval n.1: [363.64, 363.84]
 - * y_true: [26.3393983 33.66093634]
 - * v_ann: [27.315195083618164, 24.754913330078125, 3
 - 8.923494443015485]

- Time interval n.2: [363.84, 364.04]
 - * y_true: [30.2407755 29.94110461]

```
* v_ann: [29.381437301635742, 33.921573638916016, 3
8.923494443015485]
```

```
-----  
-----  
* err= 0.75333144778886  
* Learning rate NN = 0.0002952449722215533  
* diff = 0.0009964108995198506
```



For scene 97/109

```
* use LR_NN=0.0005 with err=21.60729521937247 at it=24  
* v0_scn_mean = 38.38808517707975  
* MAE = 0.4061741980050569
```

df n.1, scene n.98/109

We have 4 time intervals inside [386.64, 387.44]

- Time interval n.0: [386.64, 386.84]
 - * y_true: [28.15052447 34.1607672]
 - * v_ann: [34.683597564697266, 36.37161636352539, 3

9.34610016762267]

- Time interval n.1: [386.84, 387.04]
 - * y_true: [34.00091123 38.91120777]
 - * v_ann: [32.51493835449219, 31.07561492919922, 39.

34610016762267]

```

-----  

-----  

- Time interval n.2: [387.04, 387.24]  

* y_true: [32.52639997 34.00151192]  

* v_ann: [34.925167083740234, 36.797332763671875, 3  

9.34610016762267]
-----
```

```

-----  

-----  

- Time interval n.3: [387.24, 387.44]  

* y_true: [32.52639997 39.36234046]  

* v_ann: [33.375038146972656, 33.03363800048828, 3  

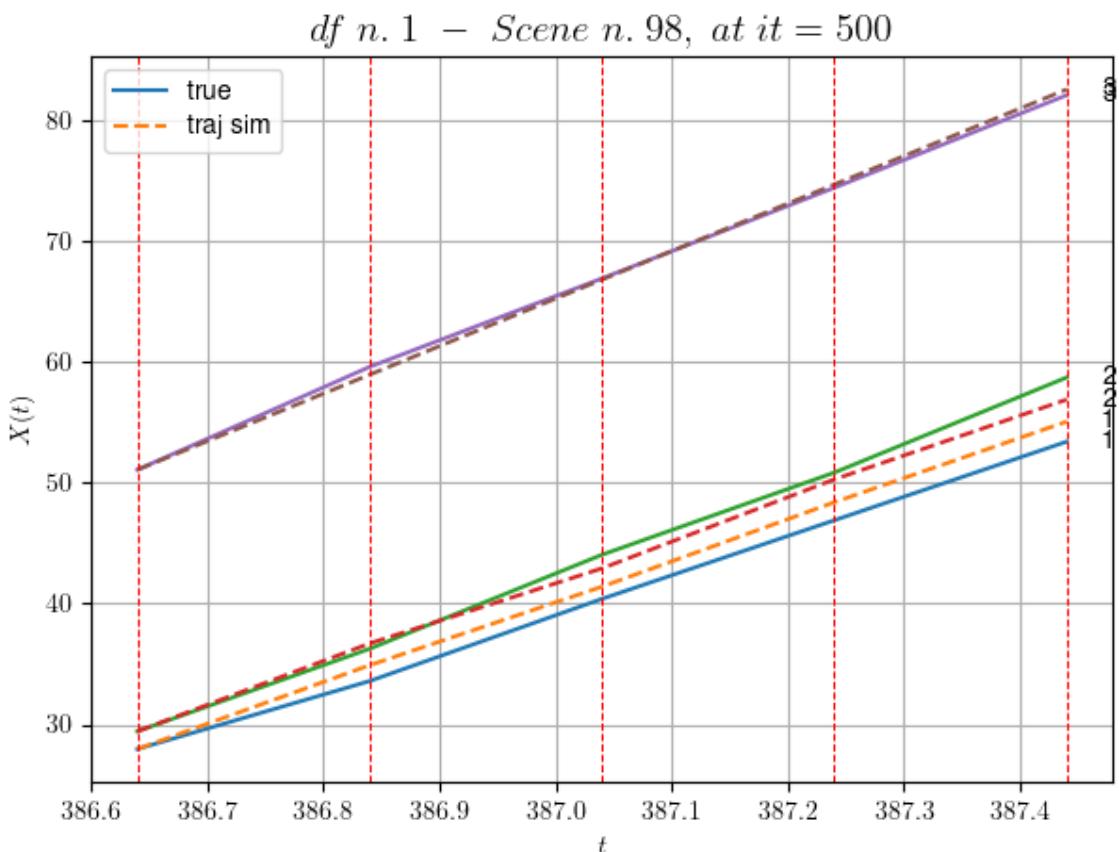
9.34610016762267]
-----
```

```

* err= 0.9038757753421741  

* Learning rate NN = 0.000478296831715852  

* diff = 0.000379583003264794
```



For scene 98/109

```

* use LR_NN=0.001 with err=18.03860484186667 at it=24
* v0_scn_mean = 38.78533457718474
* MAE = 0.7855259772316079
=====
```

```

df n.1, scene n.99/109
=====
```

```

We have 2 time intervals inside [431.84,432.24]
- Time interval n.0: [431.84, 432.04]
```

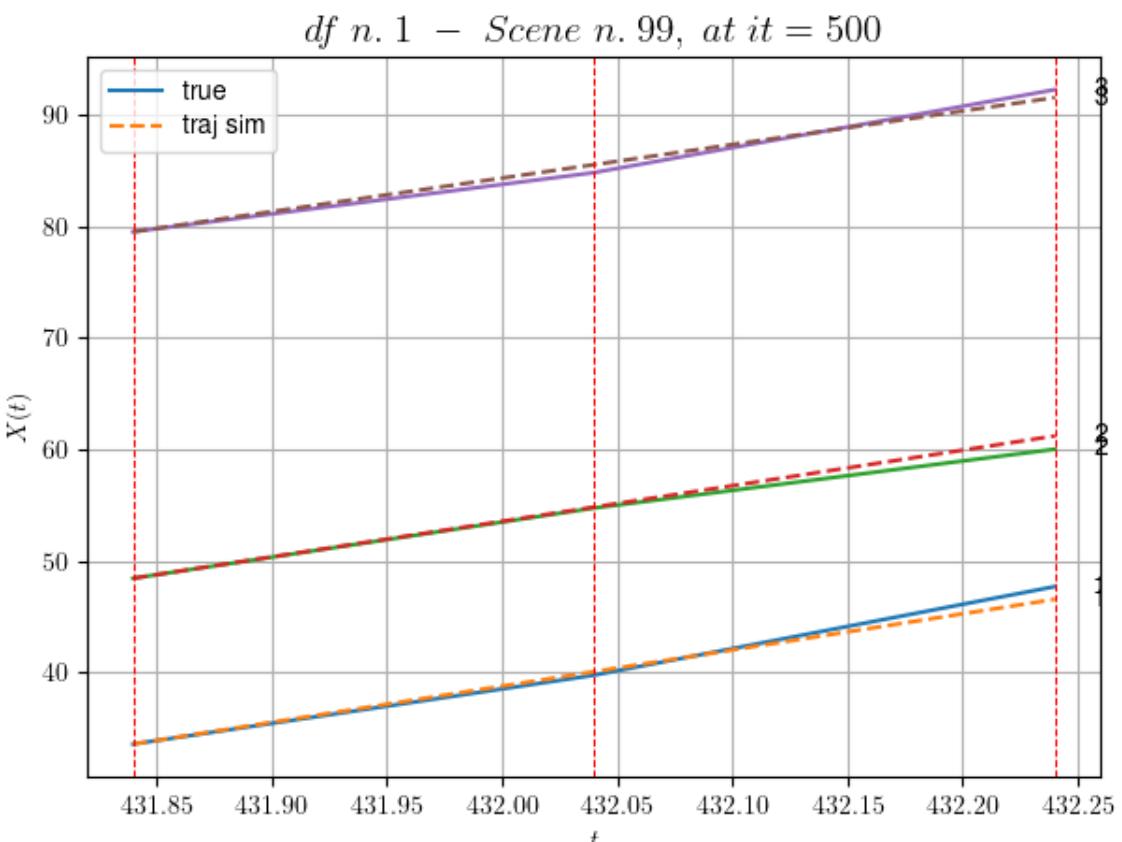
```

* y_true: [30.8908033 31.49166882]
* v_ann: [32.46357345581055, 31.917715072631836, 3
0.084161636187716]

-----
- Time interval n.1: [432.04, 432.24]
* y_true: [39.73151551 26.376716 ]
* v_ann: [32.44200134277344, 31.922199249267578, 3
0.084161636187716]

-----
* err= 0.4279203745796847
* Learning rate NN = 7.289998848136747e-06
* diff = 0.002452959836890367

```



For scene 99/109

```

* use LR_NN=1e-05 with err=7.443902909746554 at it=24
* v0_scn_mean = 30.079111941795013
* MAE = 0.39899650896400723

```

df n.1, scene n.100/109

```

We have 3 time intervals inside [446.24,446.84]
- Time interval n.0: [446.24, 446.44]
* y_true: [25.89017971 23.30046083]
* v_ann: [26.956987380981445, 27.545394897460938, 2
9.554429209125292]

```

```

-----  

- Time interval n.1: [446.44, 446.64]  

* y_true: [28.05031625 27.72075411]  

* v_ann: [25.520112991333008, 24.813852310180664, 2  

9.554429209125292]
-----
```

```

-----  

- Time interval n.2: [446.64, 446.84]  

* y_true: [26.94045507 27.8009832 ]  

* v_ann: [26.938018798828125, 27.624271392822266, 2  

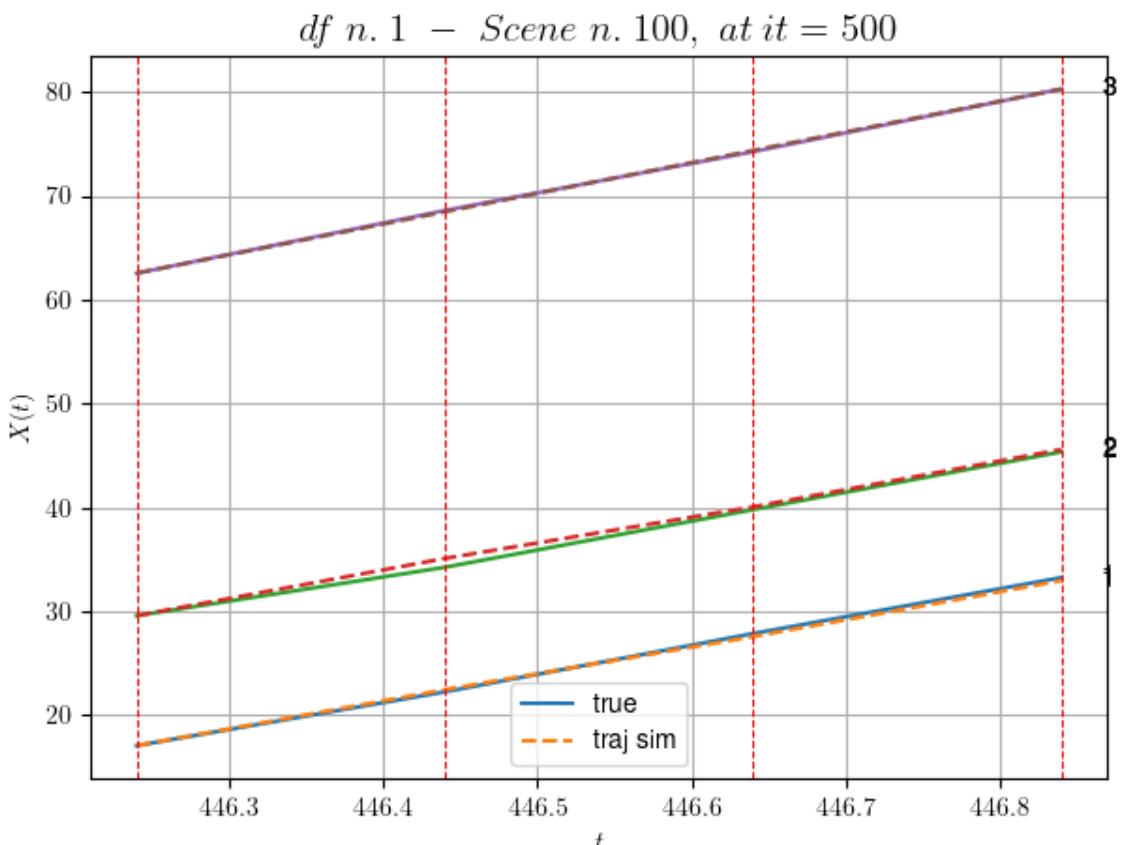
9.554429209125292]
-----
```

```

* err= 0.09144622272944324  

* Learning rate NN = 0.0002952449722215533  

* diff = 5.213324763769789e-05
```



For scene 100/109

```

* use LR_NN=0.0005 with err=11.437562350553145 at it=24  

* v0_scn_mean = 29.581163436573036  

* MAE = 0.05733998002508983
=====
```

```

=====  

=====  

df n.1, scene n.101/109
=====
```

```

=====  

=====  

We have 3 time intervals inside [447.44,448.04]
```

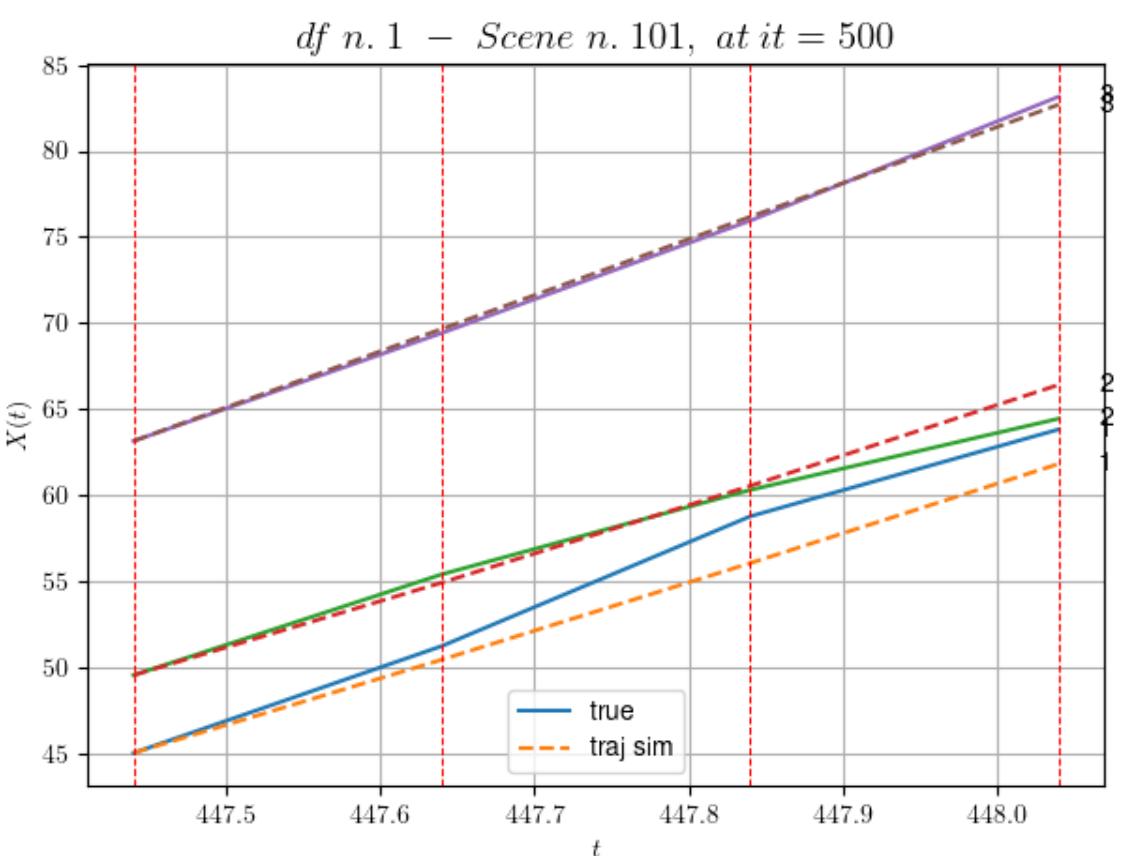
```

    - Time interval n.0: [447.44, 447.64]
      * y_true: [31.0713577 29.31148494]
      * v_ann: [27.112226486206055, 26.89231300354004, 3
      2.58486004517812]

-----
    - Time interval n.1: [447.64, 447.84]
      * y_true: [37.68225285 24.50151408]
      * v_ann: [28.047365188598633, 28.10763168334961, 3
      2.58486004517812]

-----
    - Time interval n.2: [447.84, 448.04]
      * y_true: [25.261801 20.71149408]
      * v_ann: [28.836814880371094, 29.3608455657959, 32.
      58486004517812]

* err= 1.3763752351679293
* Learning rate NN = 0.0002952449722215533
* diff = 0 AAA870016288460673?
```



For scene 101/109

```

* use LR_NN=0.0005 with err=24.507337585884034 at it=24
* v0_scn_mean = 32.42976855852147
* MAE = 1.363798892225515
```

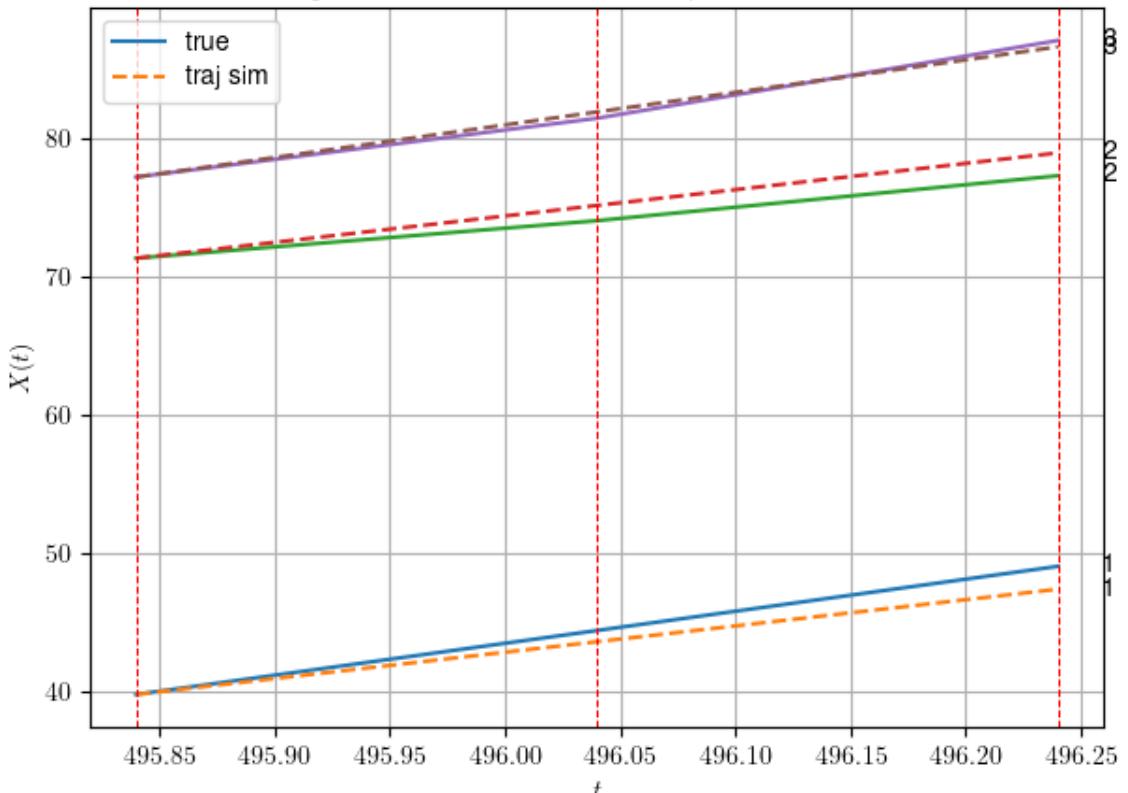
```
df n.1, scene n.102/109
=====
```

```
=====
We have 2 time intervals inside [495.84, 496.24]
- Time interval n.0: [495.84, 496.04]
  * y_true: [23.1307843 13.57637571]
  * v_ann: [19.091028213500977, 19.08527183532715, 2
  3.56309349087305]
```

```
=====
- Time interval n.1: [496.04, 496.24]
  * y_true: [23.23098731 16.2618474 ]
  * v_ann: [18.994029998779297, 19.027206420898438, 2
  3.56309349087305]
```

```
*
* err= 0.862989696715266
* Learning rate NN = 7.289998757187277e-05
* diff = 1.0000000000000002
```

df n. 1 – Scene n. 102, at it = 500



For scene 102/109

```
* use LR_NN=0.0001 with err=2.7975367064915493 at it=24
* v0_scn_mean = 23.94930759241707
* MAE = 0.862989696715266
```

```
df n.1, scene n.103/109
=====
```

```
=====
We have 4 time intervals inside [496.84, 497.64]
```

```

    - Time interval n.0: [496.84, 497.04]
      * y_true: [19.47545433 17.05100655]
      * v_ann: [18.04586410522461, 18.0562686920166, 23.6
    7102213011773]

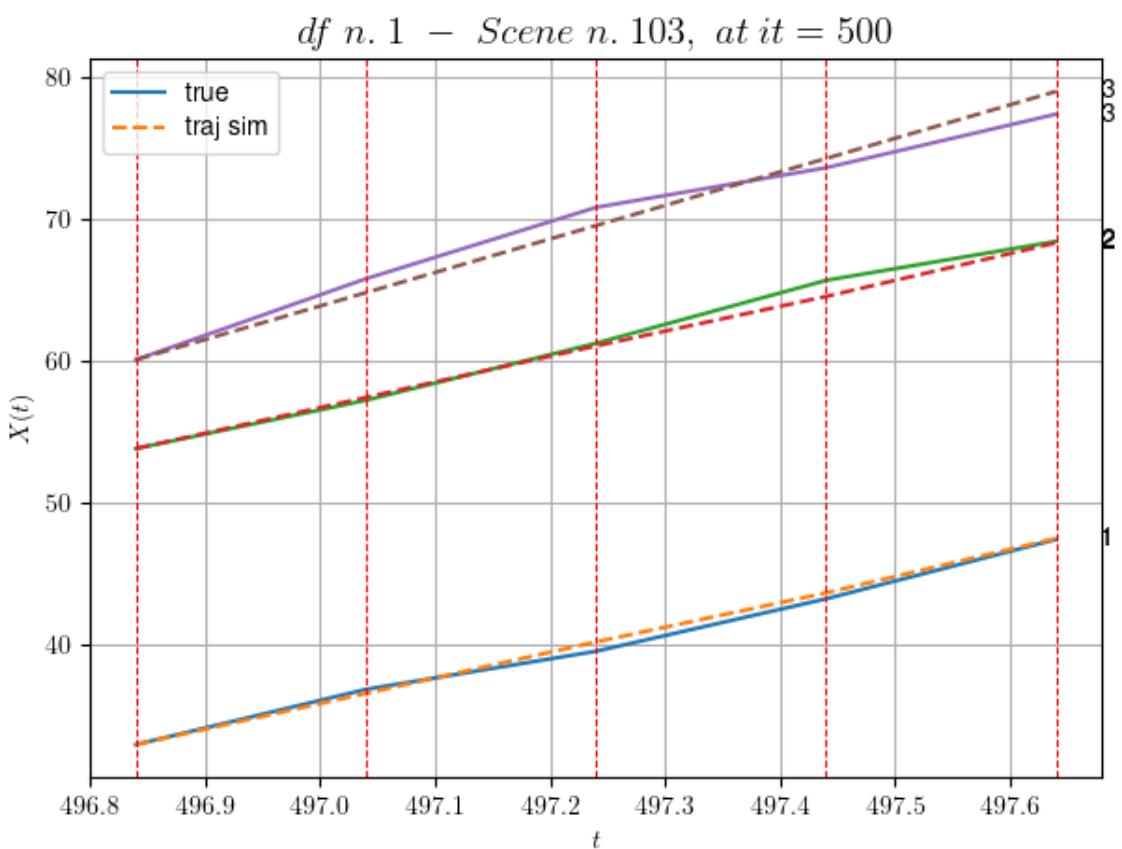
-----
    - Time interval n.1: [497.04, 497.24]
      * y_true: [13.44536038 20.12642582]
      * v_ann: [18.175947189331055, 18.158676147460938, 2
    3.67102213011773]

-----
    - Time interval n.2: [497.24, 497.44]
      * y_true: [18.49565962 22.17670532]
      * v_ann: [17.303173065185547, 17.46299934387207, 2
    3.67102213011773]

-----
    - Time interval n.3: [497.44, 497.64]
      * y_true: [20.96085077 13.7761341 ]
      * v_ann: [19.237651824951172, 18.93180274963379, 2
    3.67102213011773]

* err= 0.512356543901392
* Learning rate NN = 0.000478296831715852
* diff = 0.0007745970531852775

```



For scene 103/109

* use LR_NN=0.001 with err=11.897374269509811 at it=24

```
* vθ_scn_mean = 24.050760518153446
* MAE = 0.5072876634538809
```

```
df n.1, scene n.104/109
```

We have 2 time intervals inside [499.04, 499.44]

- Time interval n.0: [499.04, 499.24]

- * y_true: [23.84103851 15.32650765]

- * v_ann: [21.514854431152344, 21.559616088867188, 1
7.832163517131253]

- Time interval n.1: [499.24, 499.44]

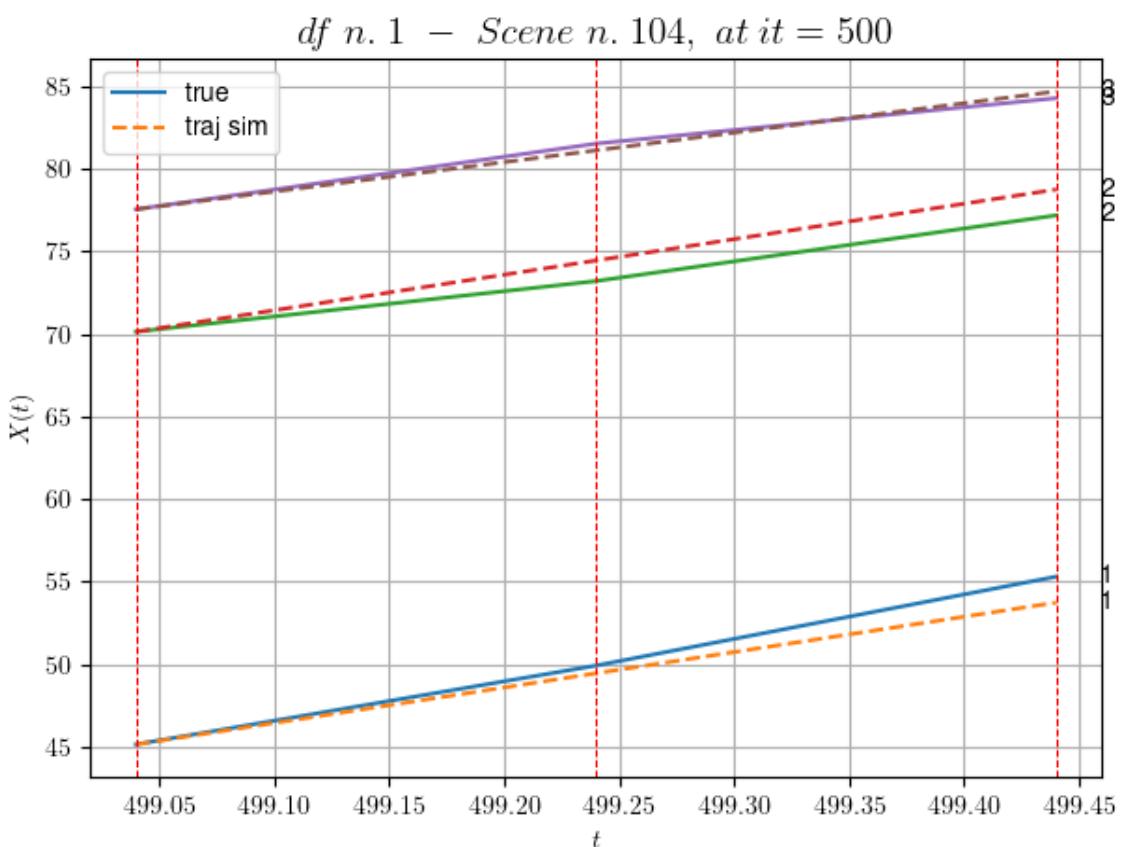
- * y_true: [26.92142921 19.88726092]

- * v_ann: [21.400571823120117, 21.47637367248535, 1
7.832163517131253]

- * err= 0.7793355912739317

- * Learning rate NN = 3.6449993785936385e-05

- * diff = 0.0025798473881541995



For scene 104/109

* use LR_NN=5e-05 with err=4.963480197817167 at it=24

* vθ_scn_mean = 18.562233159793692

* MAE = 0.6855417946171248

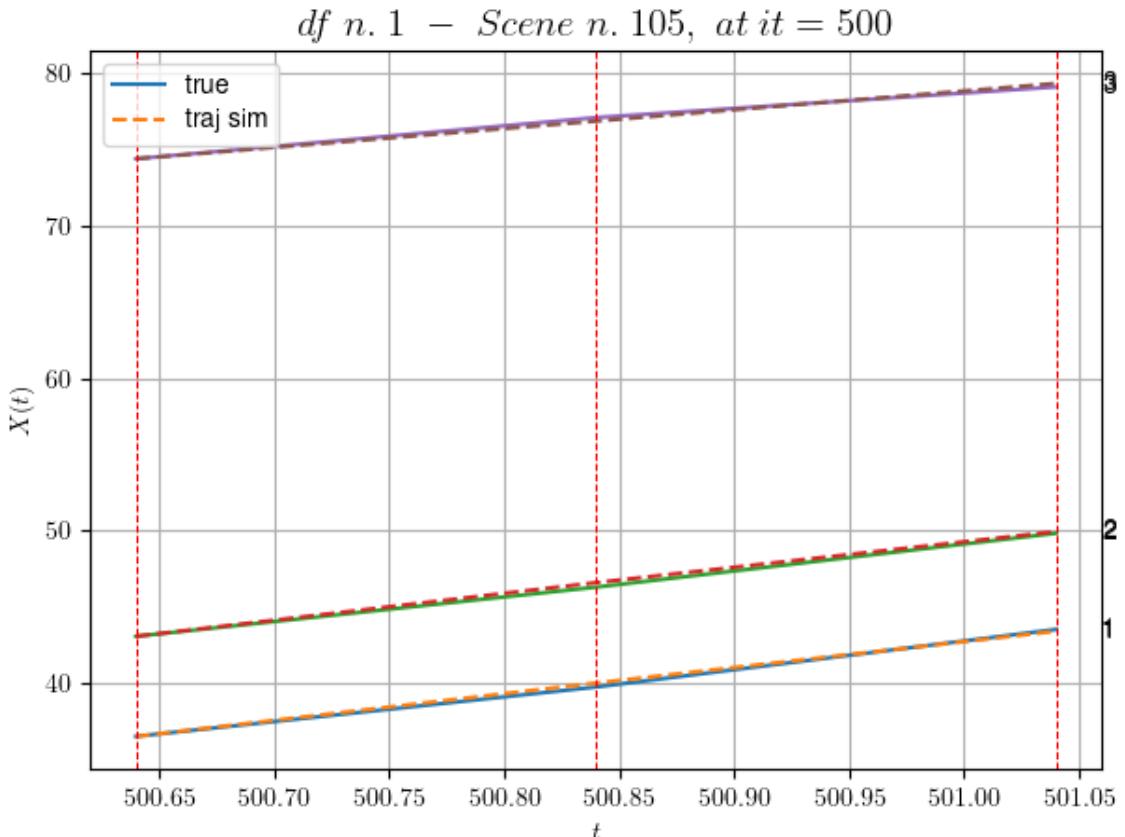
```
=====
=====
```

```
df n.1, scene n.105/109
=====
```

```
We have 2 time intervals inside [500.64,501.04]
- Time interval n.0: [500.64, 500.84]
  * y_true: [16.2004483 16.13562888]
  * v_ann: [17.50535774230957, 17.625144958496094, 1
2.361370218693533]
```

```
- Time interval n.1: [500.84, 501.04]
  * y_true: [18.900675 17.67575332]
  * v_ann: [16.981483459472656, 16.75467300415039, 1
2.361370218693533]
```

```
* err= 0.03240165674843884
* Learning rate NN = 0.00036449998151510954
* diff = 8.26045232493744e-08
```



```
For scene 105/109
```

```
* use LR_NN=0.0005 with err=10.417973248596512 at it=24
* v0_scn_mean = 13.419687213635992
* MAE = 0.031533646735817676
```

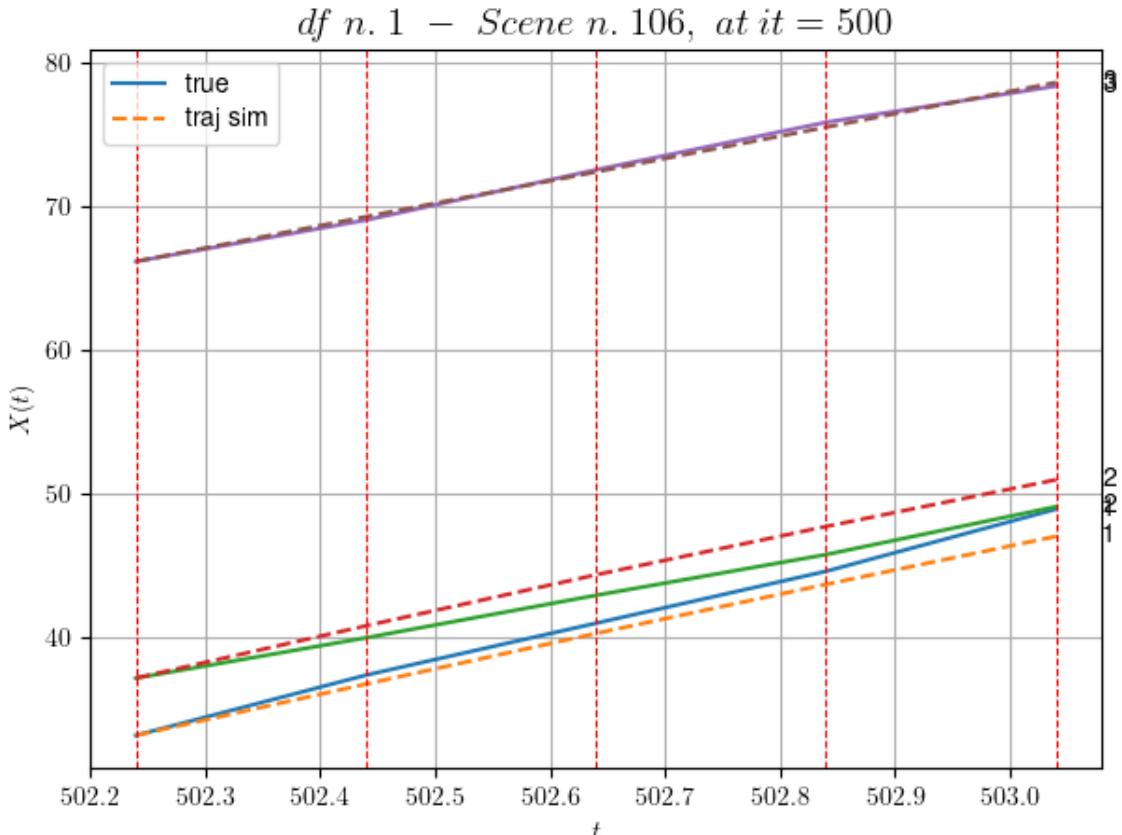
```
df n.1, scene n.106/109
=====
=====
We have 4 time intervals inside [502.24,503.04]
- Time interval n.0: [502.24, 502.44]
  * y_true: [20.97545504 14.04040867]
  * v_ann: [17.873313903808594, 18.204580307006836, 1
5.581016722934288]

-----
-----
- Time interval n.1: [502.44, 502.64]
  * y_true: [18.07559412 14.7904947 ]
  * v_ann: [17.618566513061523, 17.758811950683594, 1
5.581016722934288]

-----
-----
- Time interval n.2: [502.64, 502.84]
  * y_true: [18.07559412 14.18054394]
  * v_ann: [17.081253051757812, 16.82711410522461, 1
5.581016722934288]

-----
-----
- Time interval n.3: [502.84, 503.04]
  * y_true: [21.64181695 16.68485314]
  * v_ann: [16.719127655029297, 16.276988983154297, 1
5.581016722934288]

-----
-----
* err= 1.042705285705369
* Learning rate NN = 0.000478296831715852
* diff= 0.00010421140121202164
```



For scene 106/109

- * use LR_NN=0.001 with err=25.482267367219944 at it=24
- * v0_scn_mean = 16.446155072176975
- * MAE = 1.0399570540855556

df n.1, scene n.107/109

We have 2 time intervals inside [534.84, 535.24]

- Time interval n.0: [534.84, 535.04]
 - * y_true: [8.93323515 20.37071651]
 - * v_ann: [17.744089126586914, 18.685819625854492, 2

9.753482357835892]

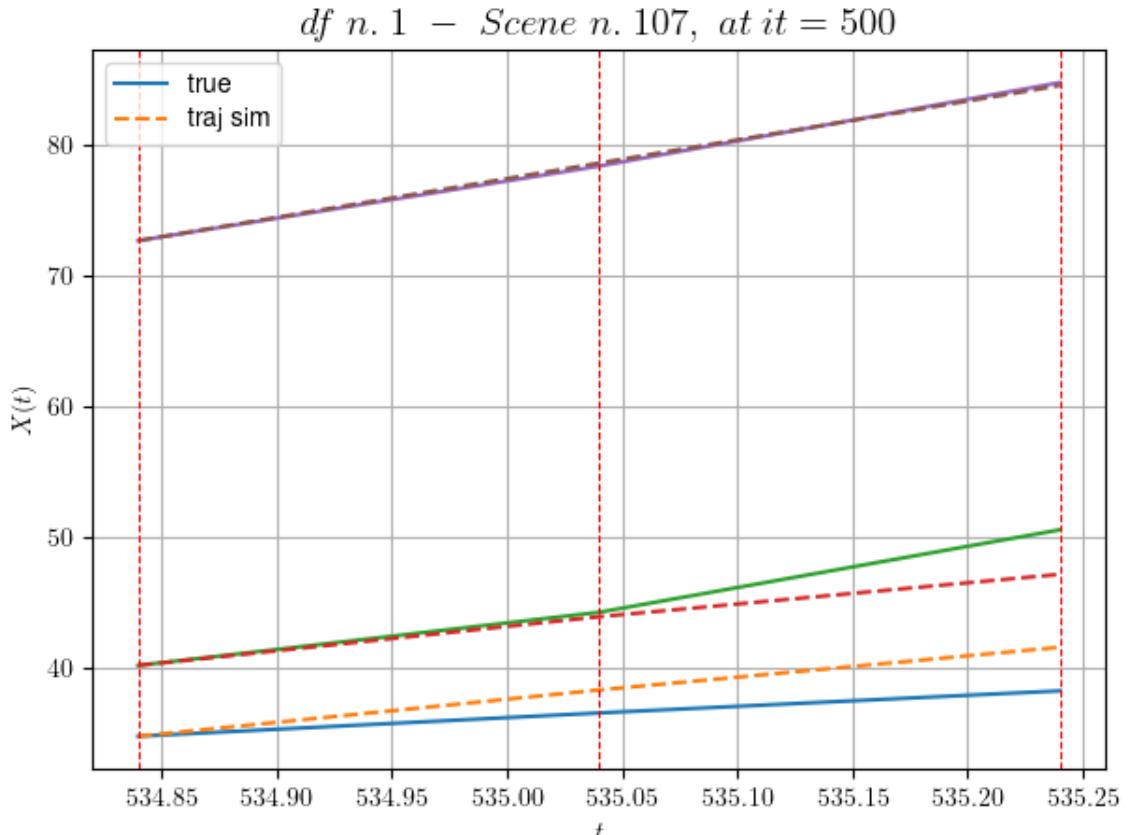
- Time interval n.1: [535.04, 535.24]
 - * y_true: [8.47527286 31.64140498]
 - * v_ann: [16.390308380126953, 16.258623123168945, 2

9.753482357835892]

- * err= 2.9074557693547667

- * Learning rate NN = 0.00036449998151510954

- * diff = 5.233734376908217e-05



For scene 107/109

```
* use LR_NN=0.0005 with err=0.9604506888089067 at it=24
* v0_scn_mean = 29.768273405295922
* MAE = 2.90182202740077
```

df n.1, scene n.108/109

We have 3 time intervals inside [573.84, 574.44]

- Time interval n.0: [573.84, 574.04]
 - * y_true: [20.07571717 13.74586409]
 - * v_ann: [12.782204627990723, 12.584420204162598,

9.338719660906905]

- Time interval n.1: [574.04, 574.24]
 - * y_true: [13.45064024 11.92582032]
 - * v_ann: [15.327057838439941, 15.539324760437012,

9.338719660906905]

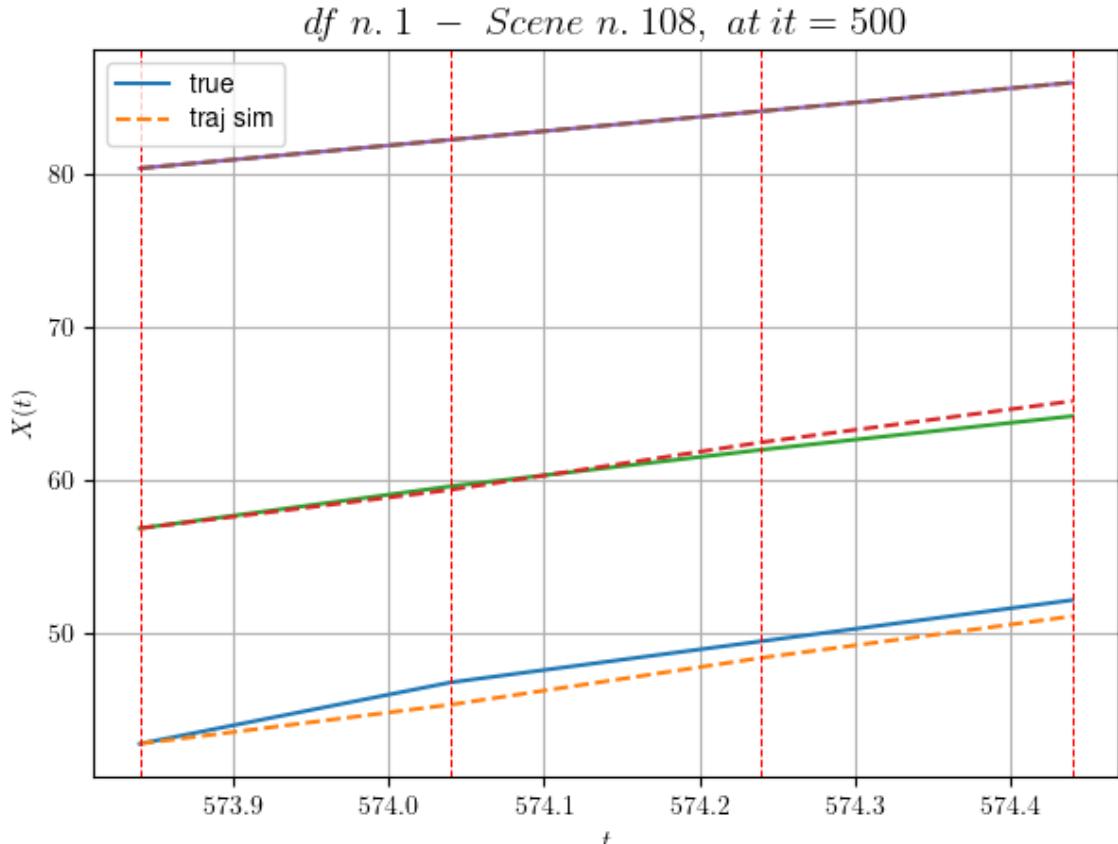
- Time interval n.2: [574.24, 574.44]
 - * y_true: [13.45064024 11.00083908]
 - * v_ann: [13.572242736816406, 13.478153228759766,

9.338719660906905]

```

* err= 0.47414256910800684
* Learning rate NN = 0.0005904899444431067
* diff = 0.003216945941337368

```



For scene 108/109

```

* use LR_NN=0.001 with err=22.6078681616911 at it=24
* v0_scn_mean = 10.578395553606091
* MAE = 0.42548474804489694

```

For df=1 with 109 scenes, time taken: 1826.40

In df n.2/10 we have 69 scenes

df n.2, scene n.0/69

We have 5 time intervals inside [13.16, 14.16]

- Time interval n.0: [13.16, 13.36]
 - * y_true: [14.81021865]
 - * v_ann: [11.780166625976562, 24.635349855264952]

- Time interval n.1: [13.36, 13.56]

- * y_true: [14.11025668]
 - * v_ann: [13.642852783203125, 24.635349855264952]

```

-----  

- Time interval n.2: [13.56, 13.76]  

* y_true: [15.96034483]  

* v_ann: [14.903742790222168, 24.635349855264952]
-----
```

```

-----  

- Time interval n.3: [13.76, 13.96]  

* y_true: [13.04033517]  

* v_ann: [15.595193862915039, 24.635349855264952]
-----
```

```

-----  

- Time interval n.4: [13.96, 14.16]  

* y_true: [14.25042294]  

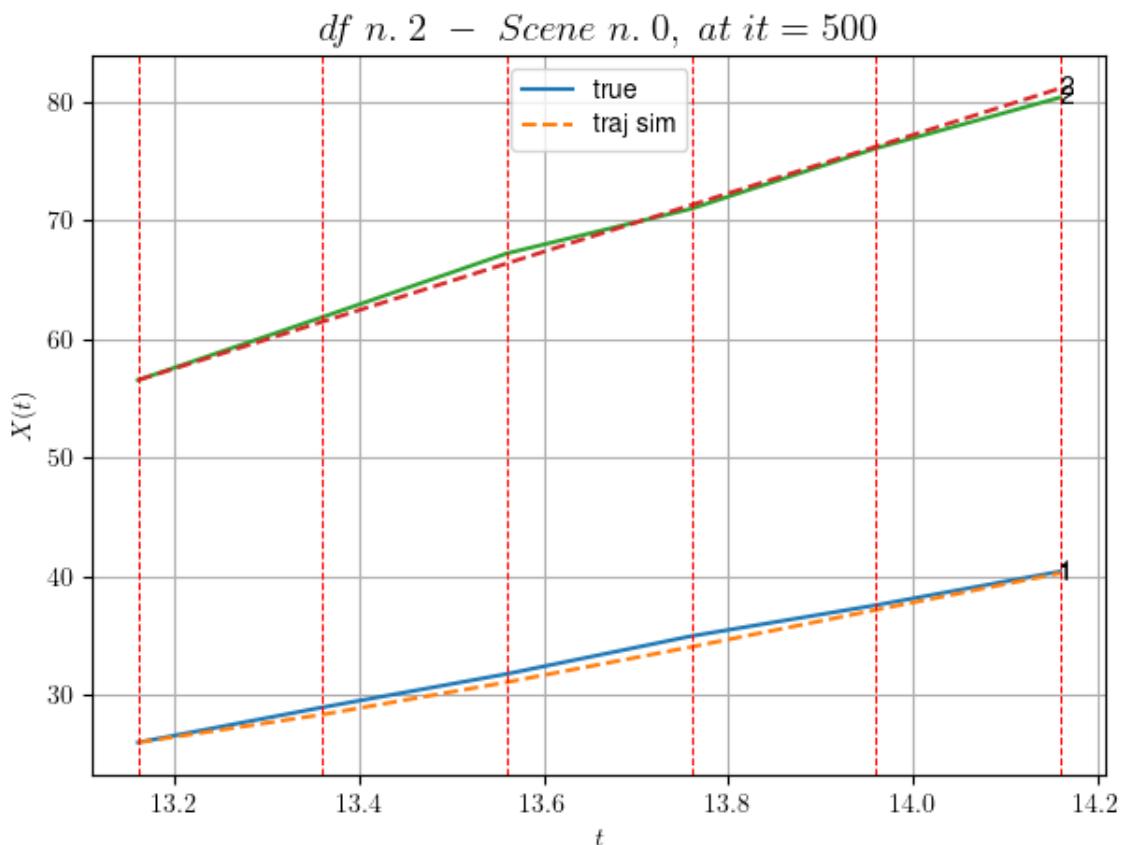
* v_ann: [15.523131370544434, 24.635349855264952]
-----
```

```

* err= 0.28741020046042687  

* Learning rate NN = 0.0001937102060765028  

* diff = 0.0021262269332594785
```



For scene 0/69

```

* use LR_NN=0.0005 with err=6.0948710846665675 at it=24
* v0_scn_mean = 24.84993586101339
* MAE = 0.2586973286328991
=====
```

df n.2, scene n.1/69

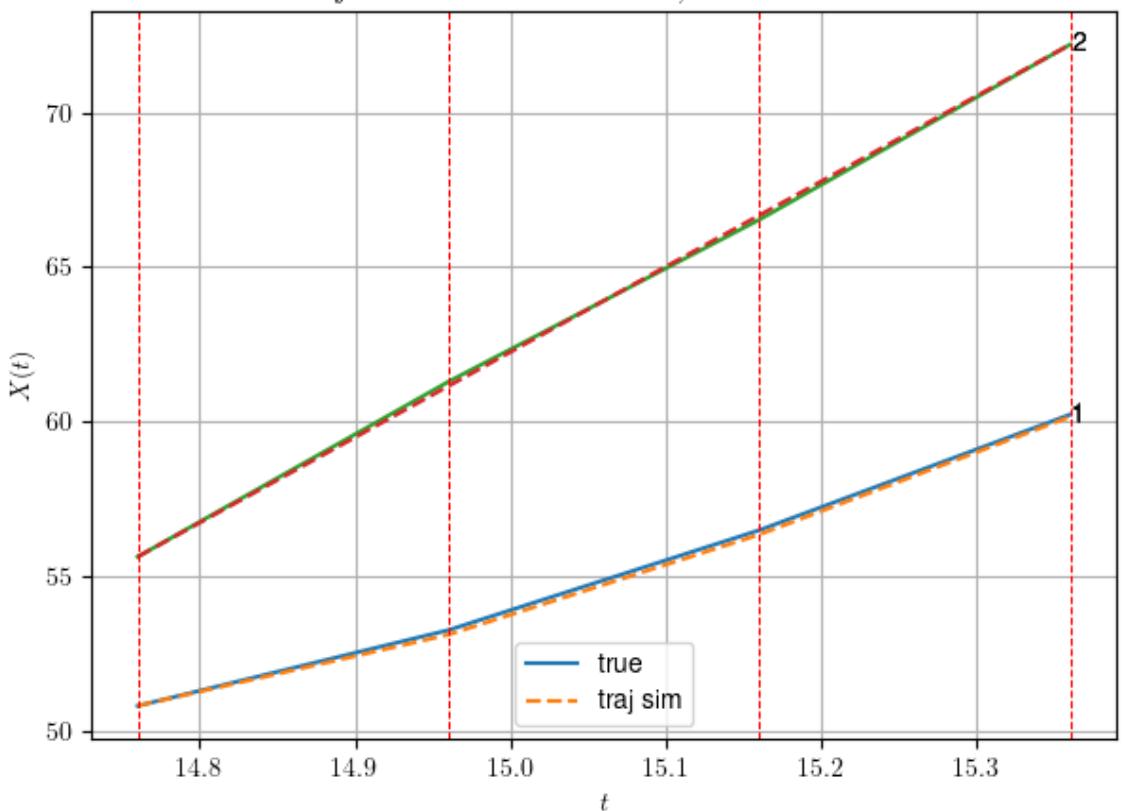
```
=====
=====
We have 3 time intervals inside [14.76,15.36]
- Time interval n.0: [14.76, 14.96]
  * y_true: [12.25064682]
  * v_ann: [11.51613712310791, 27.615406088656982]
```

```
-----
- Time interval n.1: [14.96, 15.16]
  * y_true: [16.16094924]
  * v_ann: [16.19600486755371, 27.615406088656982]
```

```
-----
- Time interval n.2: [15.16, 15.36]
  * y_true: [18.71122804]
  * v_ann: [19.051542282104492, 27.615406088656982]
```

```
*****
* err= 0.01078230237894369
* Learning rate NN = 0.0005904899444431067
* diff = 0 0015074965772955157
```

df n. 2 – Scene n. 1, at it = 500



For scene 1/69

```
* use LR_NN=0.001 with err=0.5009253052201663 at it=24
* v0_scn_mean = 27.710789845092453
* MAE = 0.01078230237894369
```

```
df n.2, scene n.2/69
```

```
=====
We have 4 time intervals inside [52.76,53.56]
```

- Time interval n.0: [52.76, 52.96]
 - * y_true: [30.25172942]
 - * v_ann: [34.69892120361328, 18.434937295304337]

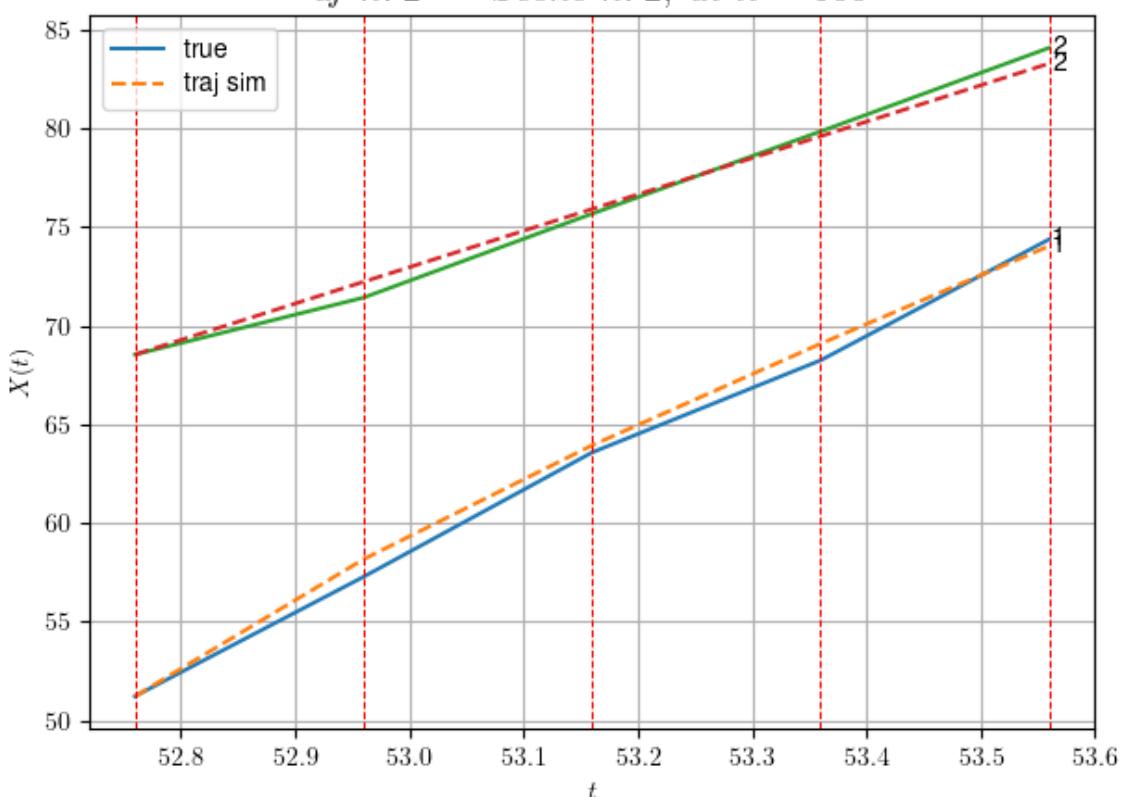
-
- Time interval n.1: [52.96, 53.16]
 - * y_true: [31.50223079]
 - * v_ann: [28.857751846313477, 18.434937295304337]

-
- Time interval n.2: [53.16, 53.36]
 - * y_true: [23.35196402]
 - * v_ann: [25.749422073364258, 18.434937295304337]

-
- Time interval n.3: [53.36, 53.56]
 - * y_true: [30.65301597]
 - * v_ann: [24.752727508544922, 18.434937295304337]

- * err= 0.31314687185093304
- * Learning rate NN = 4.7829678806010634e-05
- * diff = 0.0010830920169401237

df n. 2 – Scene n. 2, at it = 500



For scene 2/69

- * use LR_NN=0.0001 with err=15.259958465219032 at it=24
- * v0_scn_mean = 18.897539803403802

* MAE = 0.3111241241120076

=====

df n.2, scene n.3/69

=====

We have 4 time intervals inside [54.56, 55.36]

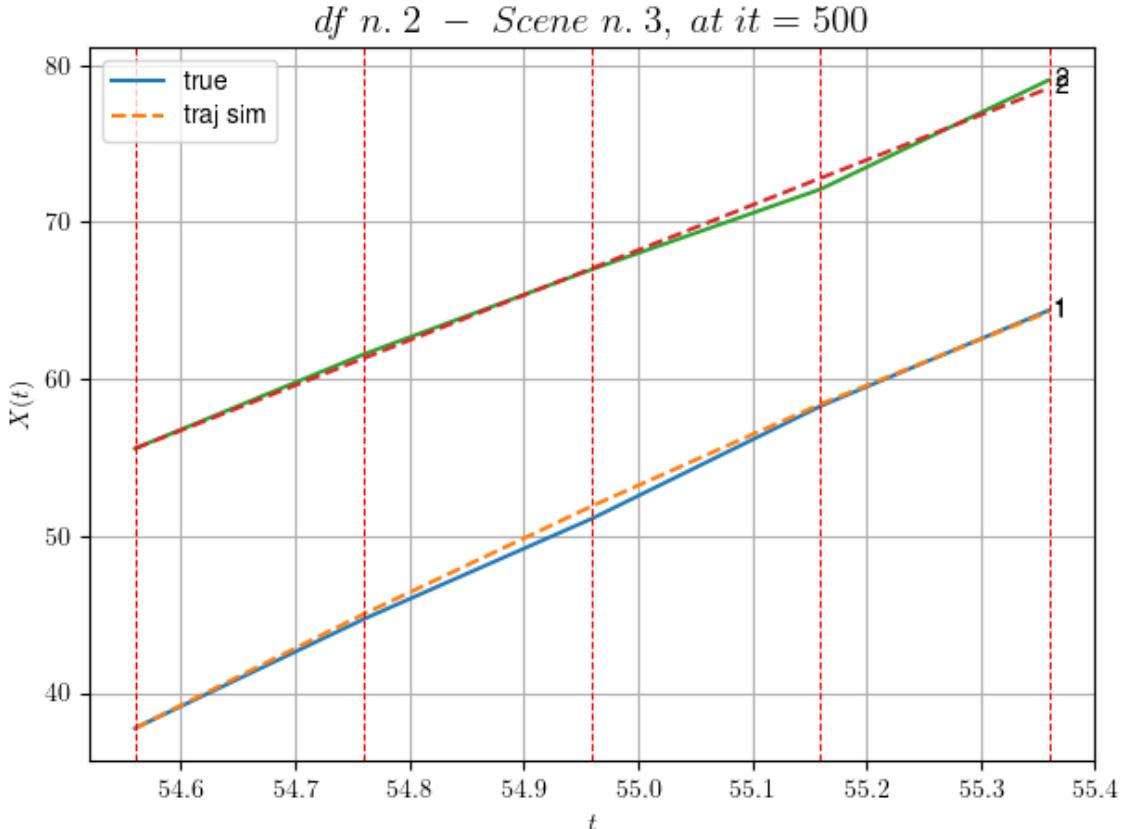
- Time interval n.0: [54.56, 54.76]
 - * y_true: [34.74114002]
 - * v_ann: [36.3356819152832, 28.71632130964986]

- Time interval n.1: [54.76, 54.96]
 - * y_true: [32.07140907]
 - * v_ann: [34.478050231933594, 28.71632130964986]

- Time interval n.2: [54.96, 55.16]
 - * y_true: [35.83207283]
 - * v_ann: [32.46285629272461, 28.71632130964986]

- Time interval n.3: [55.16, 55.36]
 - * y_true: [30.55218752]
 - * v_ann: [29.428009033203125, 28.71632130964986]

- * err= 0.16047022392311827
- * Learning rate NN = 4.7829678806010634e-05
- * diff = 0.00015609433751700985



For scene 3/69

```
* use LR_NN=0.0001 with err=0.4063111843076329 at it=24
* v0_scn_mean = 28.767668457254015
* MAE = 0.15922495225222666
```

df n.2, scene n.4/69

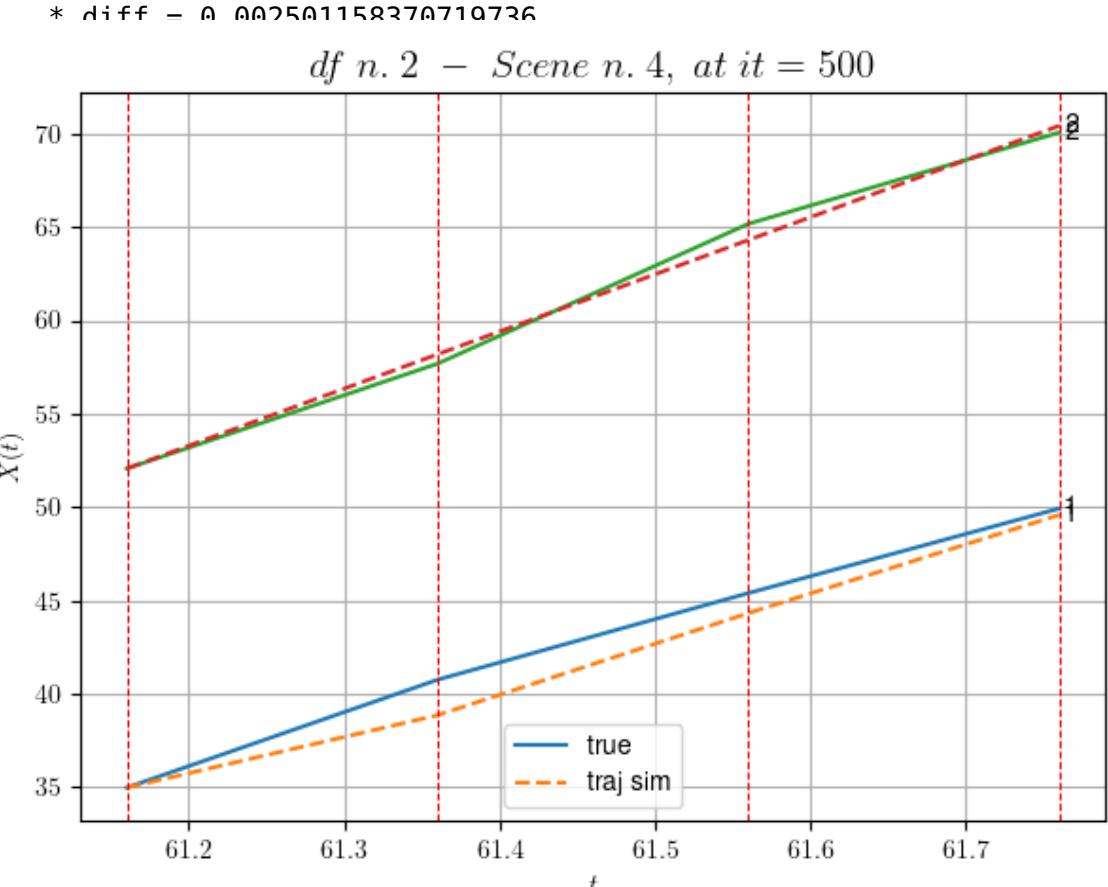
We have 3 time intervals inside [61.16,61.76]

- Time interval n.0: [61.16, 61.36]
 - * y_true: [28.89080545]
 - * v_ann: [19.388648986816406, 30.583768746275553]

- Time interval n.1: [61.36, 61.56]
 - * y_true: [23.17083447]
 - * v_ann: [27.327730178833008, 30.583768746275553]

- Time interval n.2: [61.56, 61.76]
 - * y_true: [22.65102829]
 - * v_ann: [26.29119873046875, 30.583768746275553]

* err= 0.7510960728930729
 * Learning rate NN = 0.0005904899444431067



For scene 4/69

```
* use LR_NN=0.001 with err=0.4912556604862962 at it=24
* v0_scn_mean = 30.560417996429315
* MAE = 0.45062209183535273
```

df n.2, scene n.5/69

We have 8 time intervals inside [70.16, 71.76]

- Time interval n.0: [70.16, 70.36]
 - * y_true: [13.71005372]
 - * v_ann: [14.435115814208984, 24.74132277086493]

- Time interval n.1: [70.36, 70.56]
 - * y_true: [14.49007965]
 - * v_ann: [15.39547061920166, 24.74132277086493]

- Time interval n.2: [70.56, 70.76]
 - * y_true: [12.37009292]
 - * v_ann: [16.341960906982422, 24.74132277086493]

- Time interval n.3: [70.76, 70.96]

```
* y_true: [14.04013356]
* v_ann: [17.324499130249023, 24.74132277086493]
```

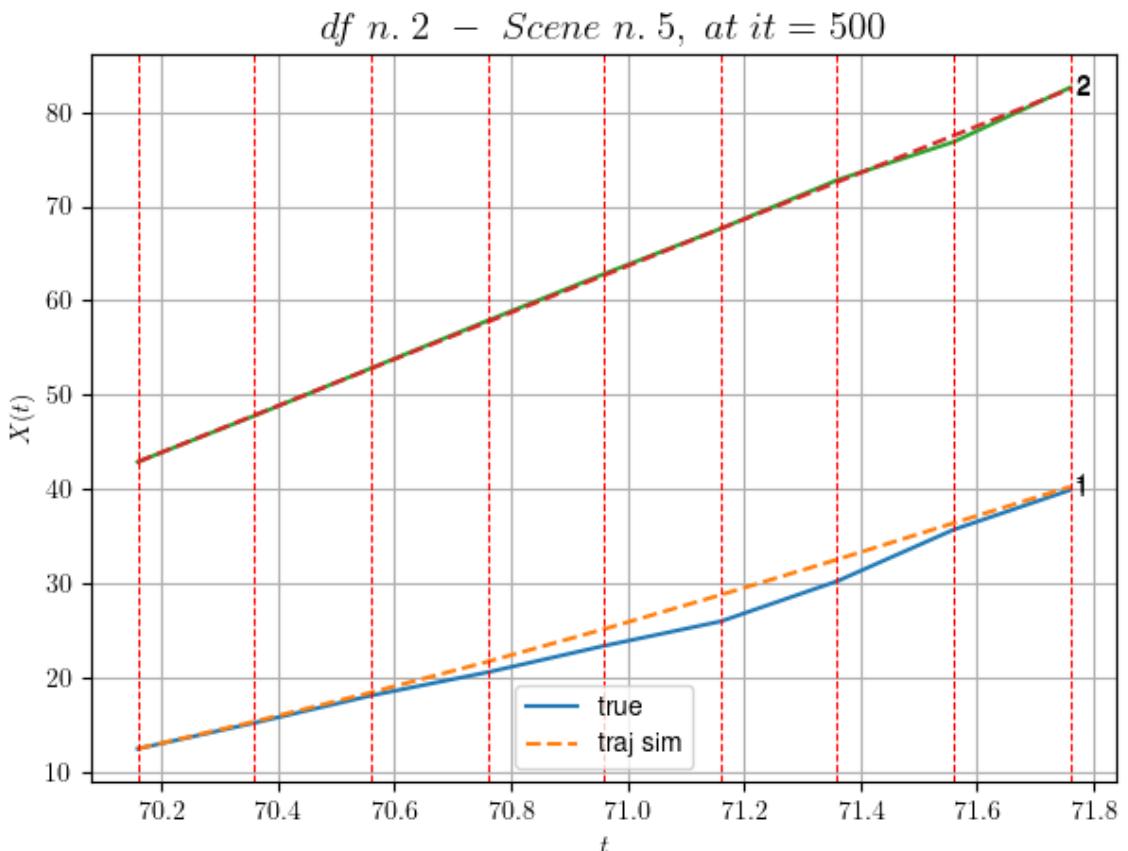
```
- Time interval n.4: [70.96, 71.16]
* y_true: [12.96015691]
* v_ann: [18.121944427490234, 24.74132277086493]
```

```
- Time interval n.5: [71.16, 71.36]
* y_true: [21.35447694]
* v_ann: [18.795578002929688, 24.74132277086493]
```

```
- Time interval n.6: [71.36, 71.56]
* y_true: [27.36057802]
* v_ann: [19.35854721069336, 24.74132277086493]
```

```
- Time interval n.7: [71.56, 71.76]
* y_true: [21.04057885]
* v_ann: [19.253459930419922, 24.74132277086493]
```

```
* err= 1.0497263382501587
* Learning rate NN = 2.058910467894748e-05
* diff = 0.010304465273725194
```



For scene 5/69

```
* use LR_NN=0.0001 with err=12.909979380053148 at it=24
* v0_scn_mean = 24.951669859990027
* MAE = 1.0144235751879174
```

```
=====
```

df n.2, scene n.6/69

```
=====
```

```
We have 6 time intervals inside [77.56, 78.76]
- Time interval n.0: [77.56, 77.76]
  * y_true: [21.77061473]
  * v_ann: [26.863609313964844, 14.529876108312802]
```

```
-----
```

```
- Time interval n.1: [77.76, 77.96]
  * y_true: [26.75095459]
  * v_ann: [26.28165626525879, 14.529876108312802]
```

```
-----
```

```
- Time interval n.2: [77.96, 78.16]
  * y_true: [19.2308048]
  * v_ann: [23.68064308166504, 14.529876108312802]
```

```
-----
```

```
- Time interval n.3: [78.16, 78.36]
  * y_true: [20.98109156]
  * v_ann: [21.746068954467773, 14.529876108312802]
```

```
-----
```

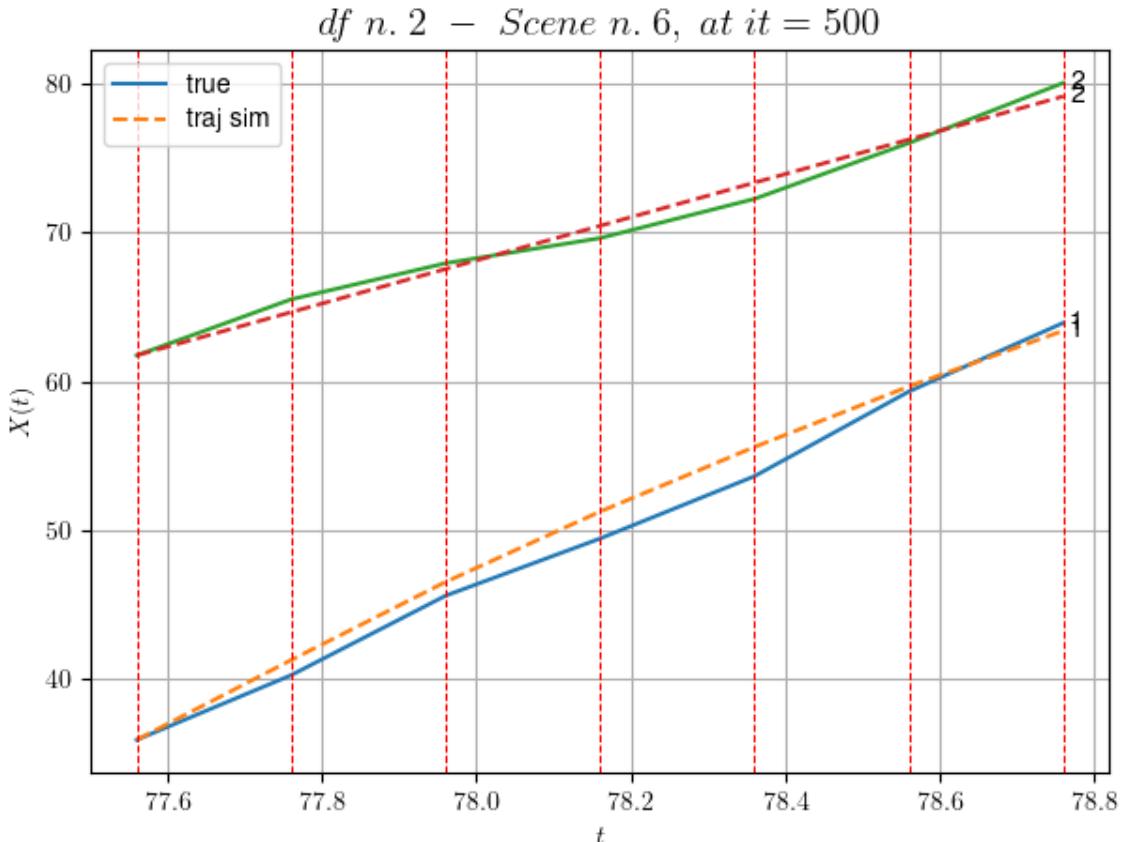
```
- Time interval n.4: [78.36, 78.56]
  * y_true: [28.51175595]
  * v_ann: [20.388700485229492, 14.529876108312802]
```

```
-----
```

```
- Time interval n.5: [78.56, 78.76]
  * y_true: [23.121652]
  * v_ann: [18.771108627319336, 14.529876108312802]
```

```
-----
```

```
* err= 0.9362719986211027
* Learning rate NN = 3.138104830213706e-06
* diff = 0.008712066690253262
```



For scene 6/69

- * use LR_NN=1e-05 with err=63.744596047958936 at it=24
- * v0_scn_mean = 15.14868106386218
- * MAE = 0.9362719986211027

df n.2, scene n.7/69

We have 5 time intervals inside [84.96, 85.96]

- Time interval n.0: [84.96, 85.16]
 - * y_true: [14.95056422]
 - * v_ann: [15.211827278137207, 24.168678500842805]

- Time interval n.1: [85.16, 85.36]
 - * y_true: [15.66066483]
 - * v_ann: [14.804030418395996, 24.168678500842805]

- Time interval n.2: [85.36, 85.56]
 - * y_true: [13.67066032]
 - * v_ann: [14.556784629821777, 24.168678500842805]

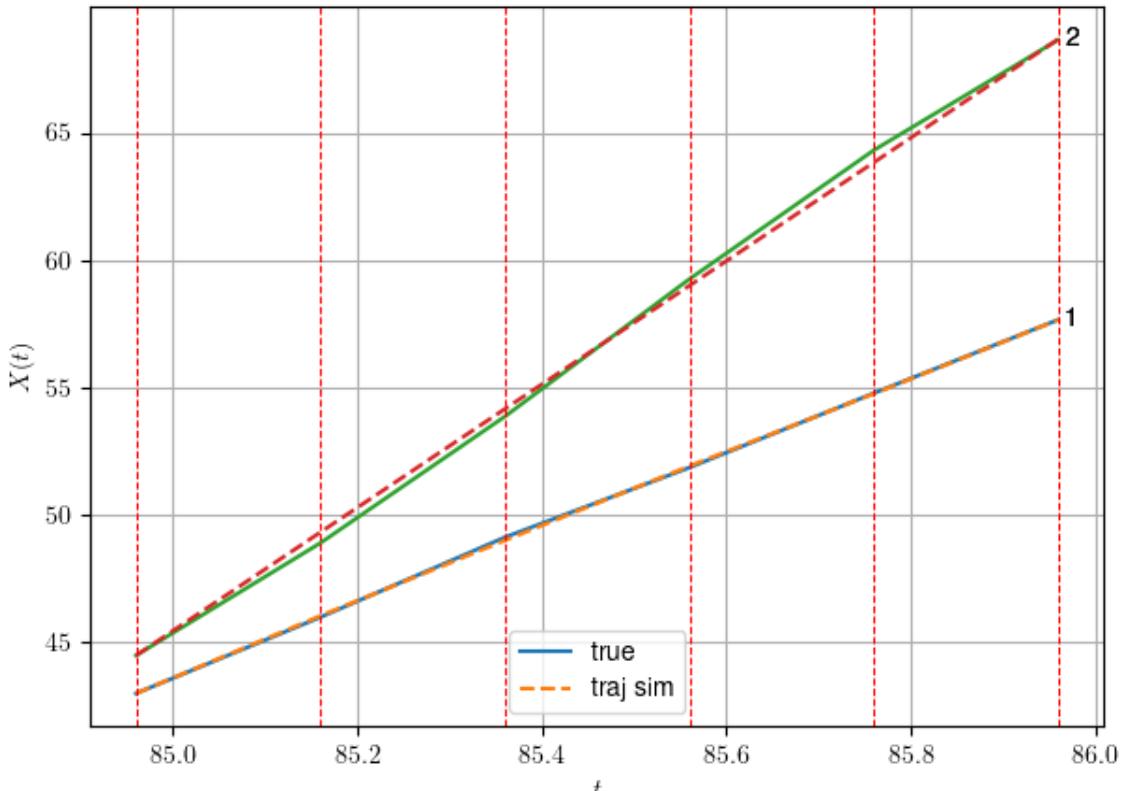
- Time interval n.3: [85.56, 85.76]
 - * y_true: [14.59078665]

```
* v_ann: [14.190959930419922, 24.168678500842805]
```

- Time interval n.4: [85.76, 85.96]
 - * y_true: [14.41085932]
 - * v_ann: [14.493119239807129, 24.168678500842805]

- * err= 0.048576478369634364
- * Learning rate NN = 0.0003874204121530056
- * diff = 4.0782365429495315e-05

df n. 2 – Scene n. 7, at it = 500



For scene 7/69

- * use LR_NN=0.001 with err=8.479848418891589 at it=24
- * v0_scn_mean = 24.401931360764564
- * MAE = 0.04798813315938736

df n.2, scene n.8/69

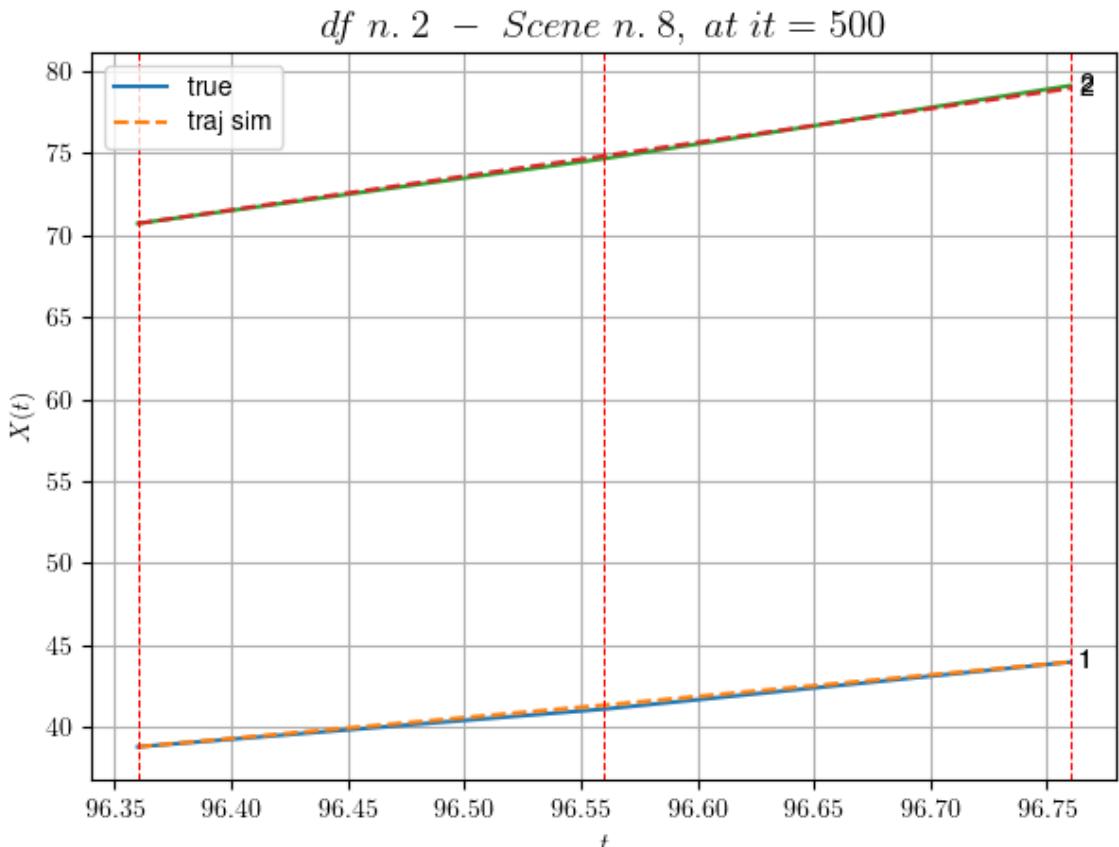
We have 2 time intervals inside [96.36, 96.76]

- Time interval n.0: [96.36, 96.56]
 - * y_true: [11.49034742]
 - * v_ann: [12.699430465698242, 20.59884821562977]

- Time interval n.1: [96.56, 96.76]

```
* y_true: [14.32646364]
* v_ann: [13.174050331115723, 20.59884821562977]
```

```
* err= 0.01910446102866764
* Learning rate NN = 7.289998848136747e-06
* diff = 3.694069059312355e-06
```



For scene 8/69

```
* use LR_NN=1e-05 with err=2.8573104104664955 at it=24
* v0_scn_mean = 20.97489428693283
* MAE = 0.018704604088218096
```

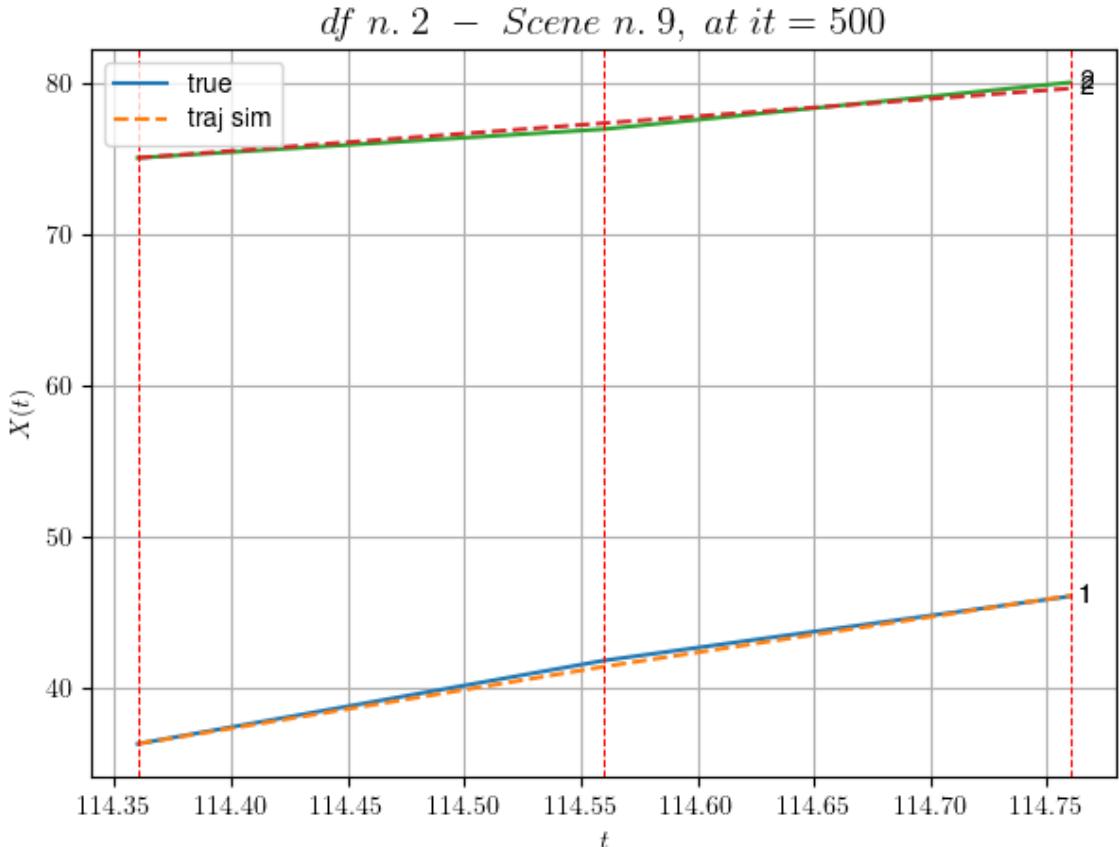
df n.2, scene n.9/69

We have 2 time intervals inside [114.36, 114.76]

- Time interval n.0: [114.36, 114.56]
 - * y_true: [27.56081405]
 - * v_ann: [25.541748046875, 11.484652947736484]

- Time interval n.1: [114.56, 114.76]
 - * y_true: [21.25080883]
 - * v_ann: [23.47110366821289, 11.484652947736484]

```
* err= 0.07990936136116915
* Learning rate NN = 7.289998848136747e-06
* diff = 2.8063594584154528e-05
```



For scene 9/69

```
* use LR_NN=1e-05 with err=11.017923569076014 at it=24
* v0_scn_mean = 12.225266829685497
* MAE = 0.07550165120460772
```

df n.2, scene n.10/69

We have 4 time intervals inside [127.56,128.36]

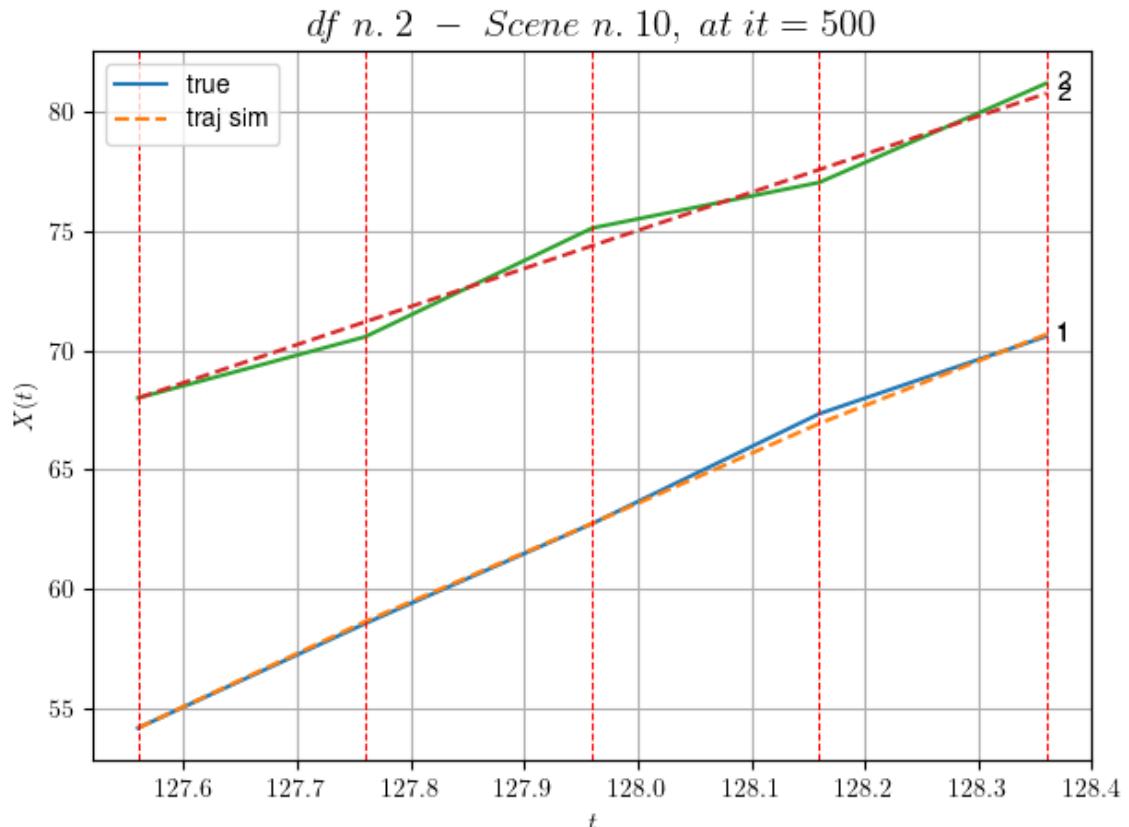
- Time interval n.0: [127.56, 127.76]
 - * y_true: [21.85131651]
 - * v_ann: [22.274921417236328, 15.931637978874187]

- Time interval n.1: [127.76, 127.96]
 - * y_true: [20.90145861]
 - * v_ann: [20.544879913330078, 15.931637978874187]

- Time interval n.2: [127.96, 128.16]
 - * y_true: [23.00184718]
 - * v_ann: [20.900388717651367, 15.931637978874187]

```
- Time interval n.3: [128.16, 128.36]
* y_true: [16.20146224]
* v_ ann: [18.65215301513672, 15.931637978874187]
```

```
* err= 0.15876318273121512
* Learning rate NN = 2.3914839403005317e-05
* diff = 0.0008791605405672198
```

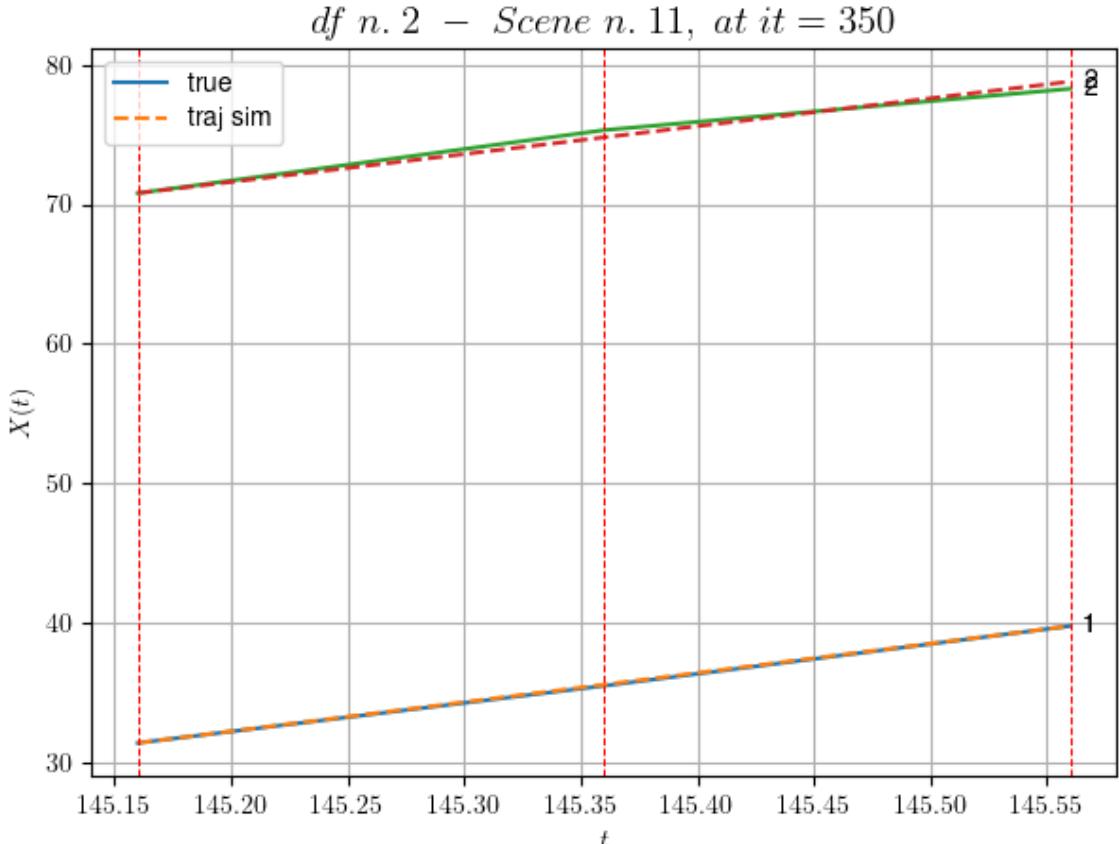


For scene 10/69

```
* use LR_NN=5e-05 with err=23.381841811784184 at it=24
* v0_scn_mean = 16.49437245961166
* MAE = 0.15876318273121512
```

df n.2, scene n.11/69

```
We have 2 time intervals inside [145.16,145.56]
* err= 0.09020838770937992
* Learning rate NN = 4.049999552080408e-05
* diff = 2.2845785997704926e-07
```



For scene 11/69

- * use LR_NN=5e-05 with err=3.7547389753725 at it=24
- * v0_scn_mean = 20.589118746424116
- * MAE = 0.09020838770937992

df n.2, scene n.12/69

We have 6 time intervals inside [163.76, 164.96]

- Time interval n.0: [163.76, 163.96]
 - * y_true: [22.33118282]
 - * v_ann: [17.887136459350586, 19.717171056115895]

- Time interval n.1: [163.96, 164.16]
 - * y_true: [19.30705544]
 - * v_ann: [19.066665649414062, 19.717171056115895]

- Time interval n.2: [164.16, 164.36]
 - * y_true: [17.5112259]
 - * v_ann: [19.015625, 19.717171056115895]

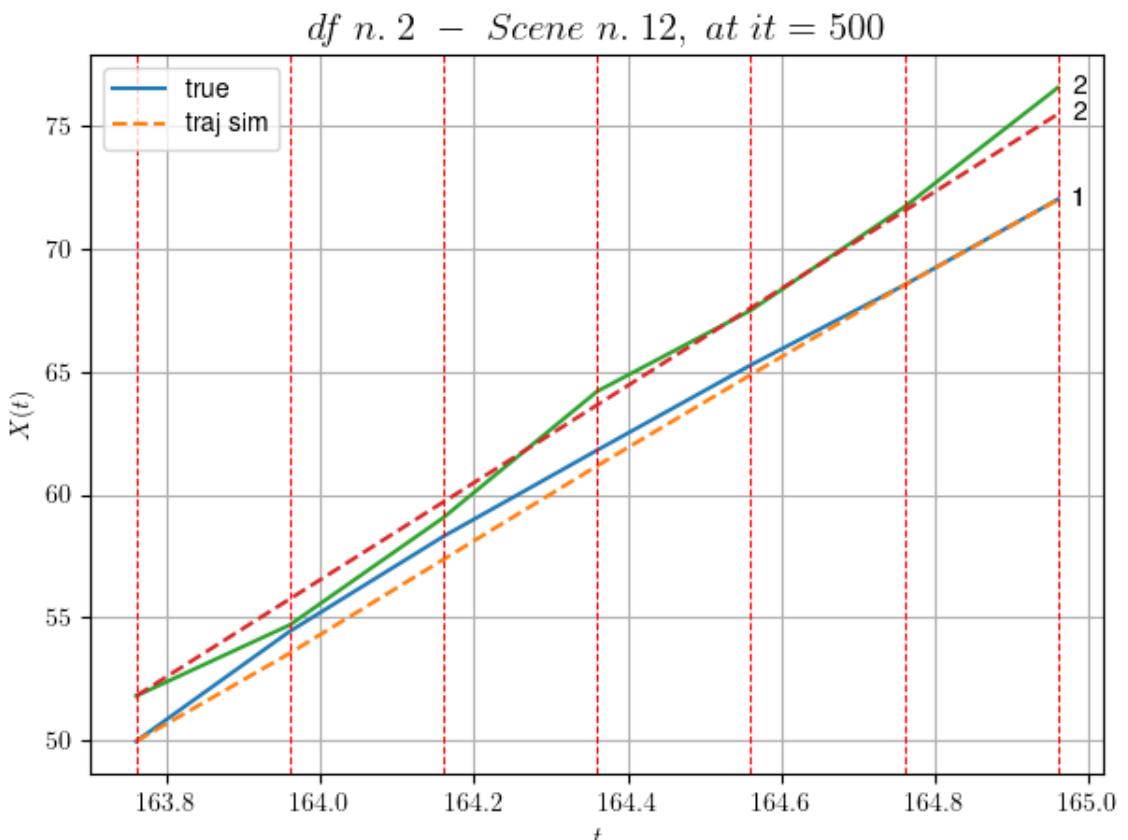
- Time interval n.3: [164.36, 164.56]
 - * y_true: [17.31134712]

* v_ann: [18.52463150024414, 19.717171056115895]

- Time interval n.4: [164.56, 164.76]
 * y_true: [16.27141068]
 * v_ann: [18.21623992919922, 19.717171056115895]

- Time interval n.5: [164.76, 164.96]
 * y_true: [17.43166556]
 * v_ann: [17.350969314575195, 19.717171056115895]

* err= 0.3744836064645407
 * Learning rate NN = 0.0015690524596720934
 * diff = 0.003797510643108848



For scene 12/69

* use LR_NN=0.005 with err=26.128846960084946 at it=24
 * v0_scn_mean = 20.128484213792238
 * MAE = 0.3744836064645407

df n.2, scene n.13/69

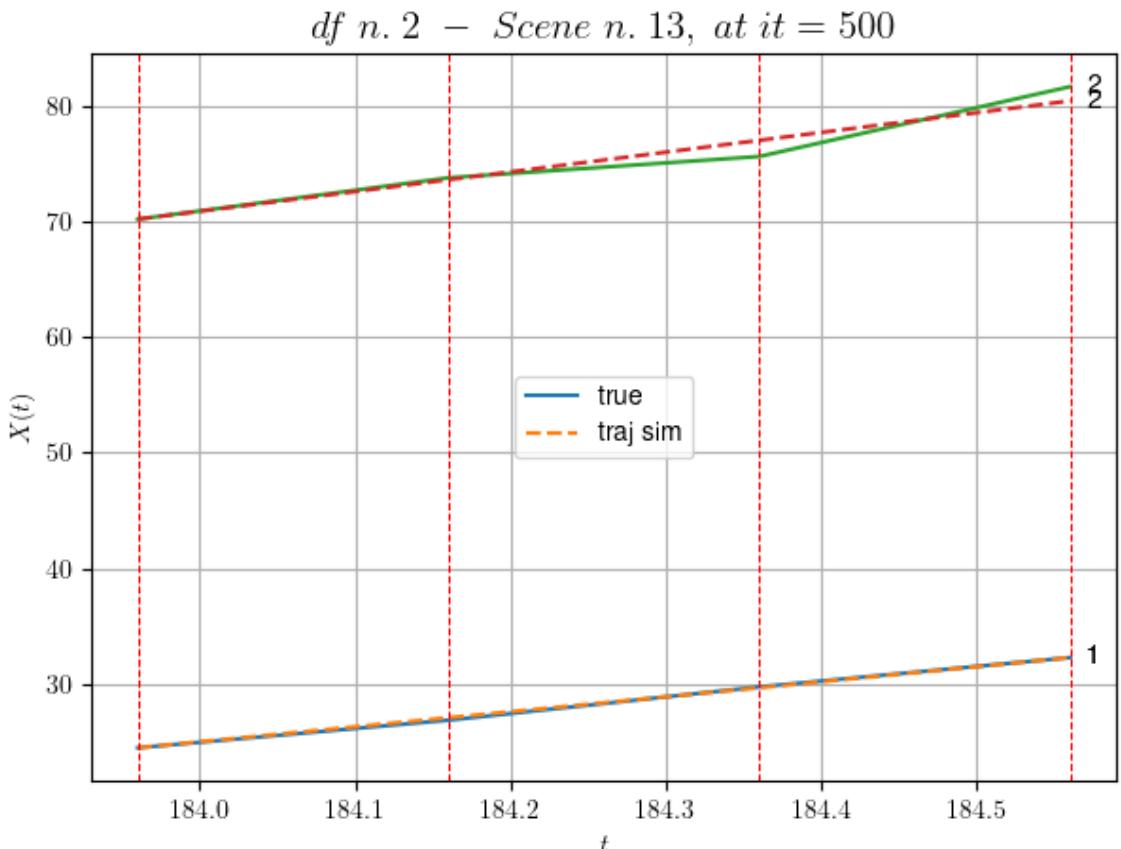
We have 3 time intervals inside [183.96,184.56]
 - Time interval n.0: [183.96, 184.16]

```
* y_true: [11.94015042]
* v_ann: [13.020687103271484, 17.051810908720892]
```

```
- Time interval n.1: [184.16, 184.36]
* y_true: [14.40021558]
* v_ann: [12.911334991455078, 17.051810908720892]
```

```
- Time interval n.2: [184.36, 184.56]
* y_true: [12.66022732]
* v_ann: [13.095035552978516, 17.051810908720892]
```

```
* err= 0.44451556992762614
* Learning rate NN = 5.9048988987342454e-06
* diff = 2.7558148106843205e-06
```



For scene 13/69

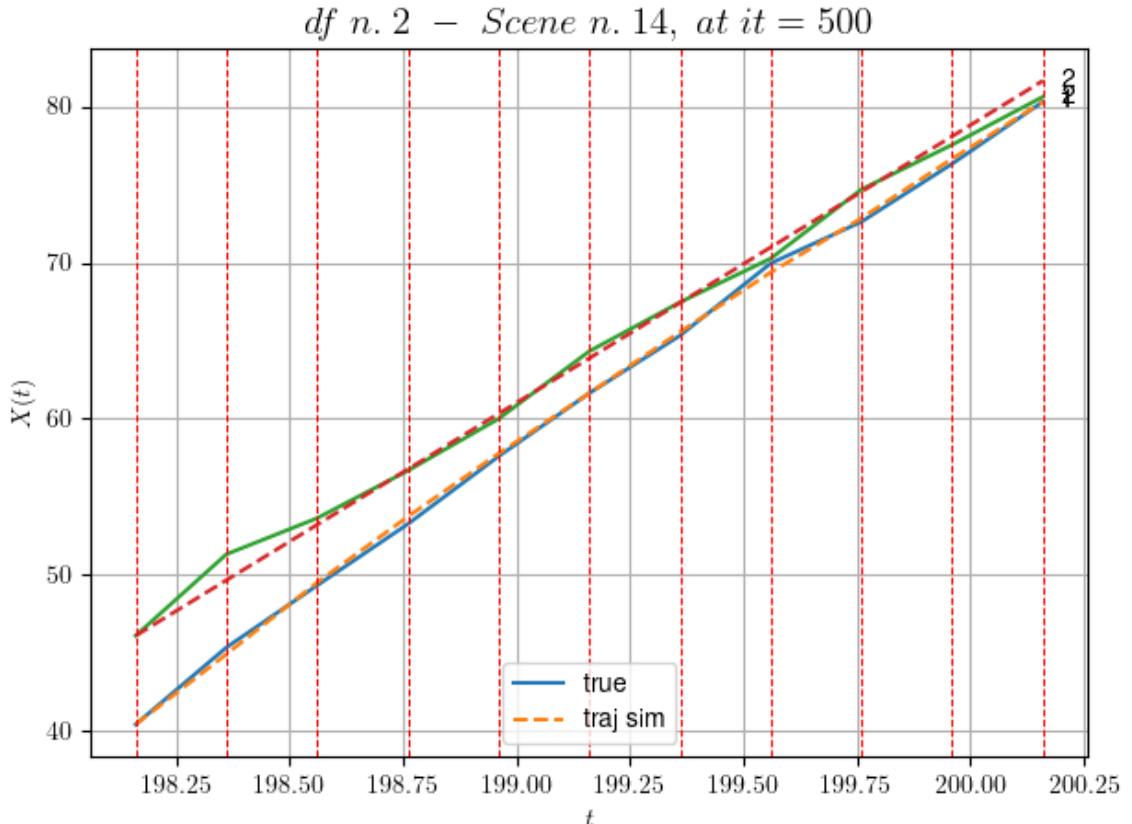
```
* use LR_NN=1e-05 with err=11.492789757363518 at it=24
* v0_scn_mean = 17.5697384722732
* MAE = 0.4351030663319313
```

df n.2, scene n.14/69

We have 10 time intervals inside [198.16,200.16]

- Time interval n.0: [198.16, 198.36]
 - * y_true: [24.60086798]
 - * v_ann: [22.443115234375, 17.756279251513206]
-
- Time interval n.1: [198.36, 198.56]
 - * y_true: [19.85085228]
 - * v_ann: [22.92759895324707, 17.756279251513206]
-
- Time interval n.2: [198.56, 198.76]
 - * y_true: [19.65099051]
 - * v_ann: [21.082691192626953, 17.756279251513206]
-
- Time interval n.3: [198.76, 198.96]
 - * y_true: [21.65127406]
 - * v_ann: [20.193899154663086, 17.756279251513206]
-
- Time interval n.4: [198.96, 199.16]
 - * y_true: [20.20137444]
 - * v_ann: [19.32065773010254, 17.756279251513206]
-
- Time interval n.5: [199.16, 199.36]
 - * y_true: [18.45142335]
 - * v_ann: [19.60404396057129, 17.756279251513206]
-
- Time interval n.6: [199.36, 199.56]
 - * y_true: [23.11925224]
 - * v_ann: [19.06081199645996, 17.756279251513206]
-
- Time interval n.7: [199.56, 199.76]
 - * y_true: [13.30128192]
 - * v_ann: [17.33220863342285, 17.756279251513206]
-
- Time interval n.8: [199.76, 199.96]
 - * y_true: [18.55195156]
 - * v_ann: [19.039915084838867, 17.756279251513206]
-
- Time interval n.9: [199.96, 200.16]
 - * y_true: [19.85230976]
 - * v_ann: [18.210554122924805, 17.756279251513206]
-

```
* err= 0.2791828625831494
* Learning rate NN = 0.00013508510892279446
* diff = 0.0003102701086730222
```



For scene 14/69

```
* use LR_NN=0.001 with err=108.95446732368605 at it=24
* v0_scn_mean = 18.246028081358965
* MAE = 0.27892809168348176
```

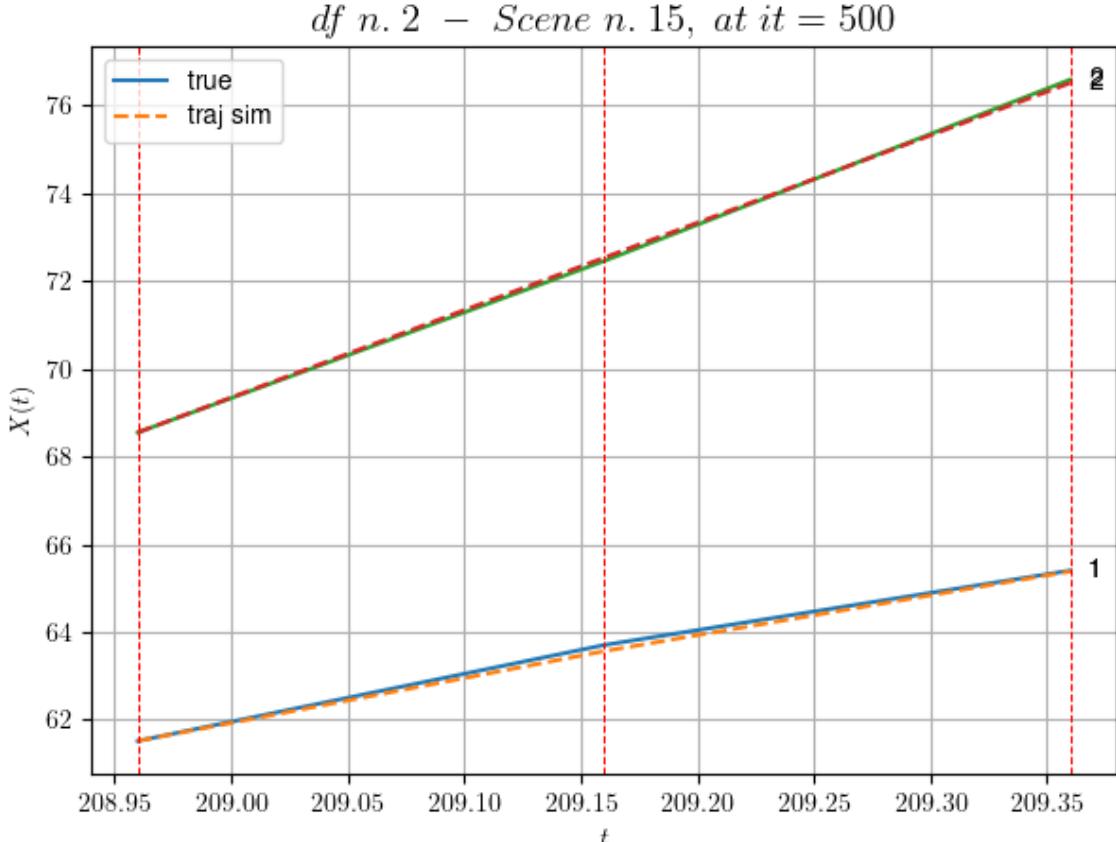
df n.2, scene n.15/69

We have 2 time intervals inside [208.96, 209.36]

- Time interval n.0: [208.96, 209.16]
 - * y_true: [10.93080354]
 - * v_ann: [10.23622989654541, 19.925309614241876]

- Time interval n.1: [209.16, 209.36]
 - * y_true: [8.50069201]
 - * v_ann: [9.099432945251465, 19.925309614241876]

```
* err= 0.005237957160881487
* Learning rate NN = 7.289998757187277e-05
* diff = 5.55783923080061e-05
```



For scene 15/69

- * use LR_NN=0.0001 with err=3.377289878046498 at it=24
- * v0_scn_mean = 20.328297229595496
- * MAE = 0.005237957160881487

df n.2, scene n.16/69

We have 9 time intervals inside [210.56, 212.36]

- Time interval n.0: [210.56, 210.76]
 - * y_true: [15.80031472]
 - * v_ann: [17.56464195251465, 22.562964085931316]

- Time interval n.1: [210.76, 210.96]
 - * y_true: [21.08915117]
 - * v_ann: [17.974252700805664, 22.562964085931316]

- Time interval n.2: [210.96, 211.16]
 - * y_true: [16.15047692]
 - * v_ann: [17.968992233276367, 22.562964085931316]

- Time interval n.3: [211.16, 211.36]
 - * y_true: [24.85089544]

```
* v_ann: [18.835317611694336, 22.562964085931316]
```

```
- Time interval n.4: [211.36, 211.56]
* y_true: [14.9506415]
* v_ann: [18.709245681762695, 22.562964085931316]
```

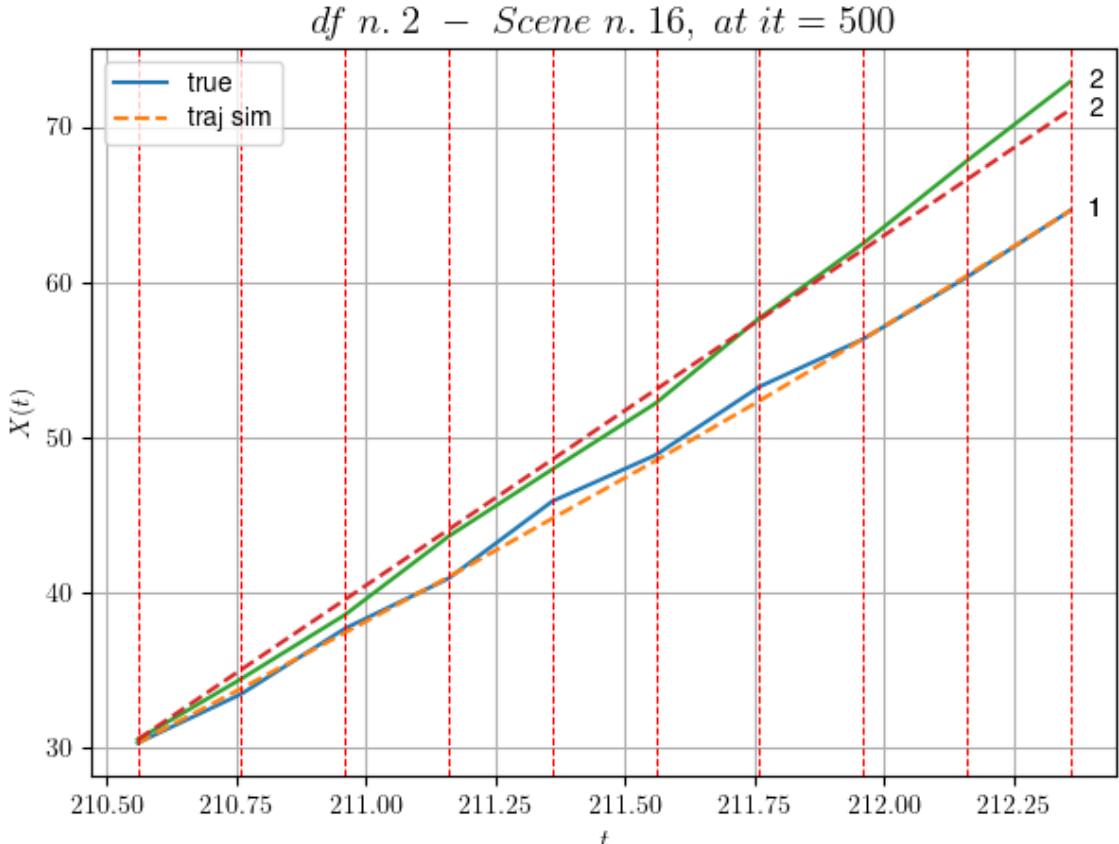
```
- Time interval n.5: [211.56, 211.76]
* y_true: [22.00109747]
* v_ann: [19.236980438232422, 22.562964085931316]
```

```
- Time interval n.6: [211.76, 211.96]
* y_true: [15.35088179]
* v_ann: [19.914199829101562, 22.562964085931316]
```

```
- Time interval n.7: [211.96, 212.16]
* y_true: [19.95129864]
* v_ann: [20.39335823059082, 22.562964085931316]
```

```
- Time interval n.8: [212.16, 212.36]
* y_true: [21.50160509]
* v_ann: [20.95870018005371, 22.562964085931316]
```

```
* err= 0.4977329762590234
* Learning rate NN = 0.00016677174426149577
* diff = 0.0019399512267706531
```



For scene 16/69

- * use LR_NN=0.001 with err=30.061323088130177 at it=24
- * v0_scn_mean = 22.860445522437786
- * MAE = 0.4948963320565375

df n.2, scene n.17/69

We have 3 time intervals inside [215.36, 215.96]

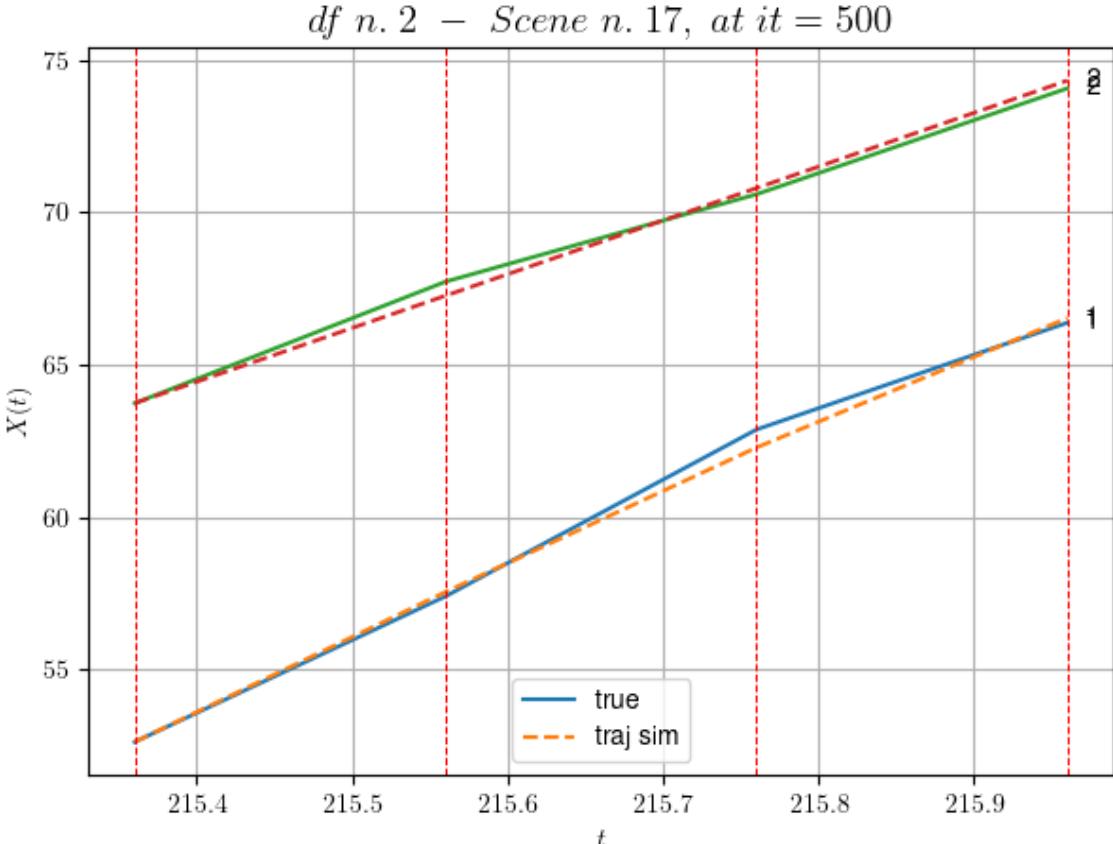
- Time interval n.0: [215.36, 215.56]
 - * y_true: [23.8914478]
 - * v_ann: [24.6066951751709, 17.643232536852032]

- Time interval n.1: [215.56, 215.76]
 - * y_true: [27.35187922]
 - * v_ann: [23.681352615356445, 17.643232536852032]

- Time interval n.2: [215.76, 215.96]
 - * y_true: [17.52141306]
 - * v_ann: [21.23722267150879, 17.643232536852032]

- * err= 0.08892360133646011
- * Learning rate NN = 5.904899080633186e-05

* diff = 0.0018238996951359804



For scene 17/69

* use LR_NN=0.0001 with err=11.20322646298746 at it=24
 * v0_scn_mean = 18.13750323528351
 * MAE = 0.08892360133646011

df n.2, scene n.18/69

We have 4 time intervals inside [218.36, 219.16]

- Time interval n.0: [218.36, 218.56]
 * y_true: [9.80048787]
 * v_ann: [9.585213661193848, 19.2918574497649]

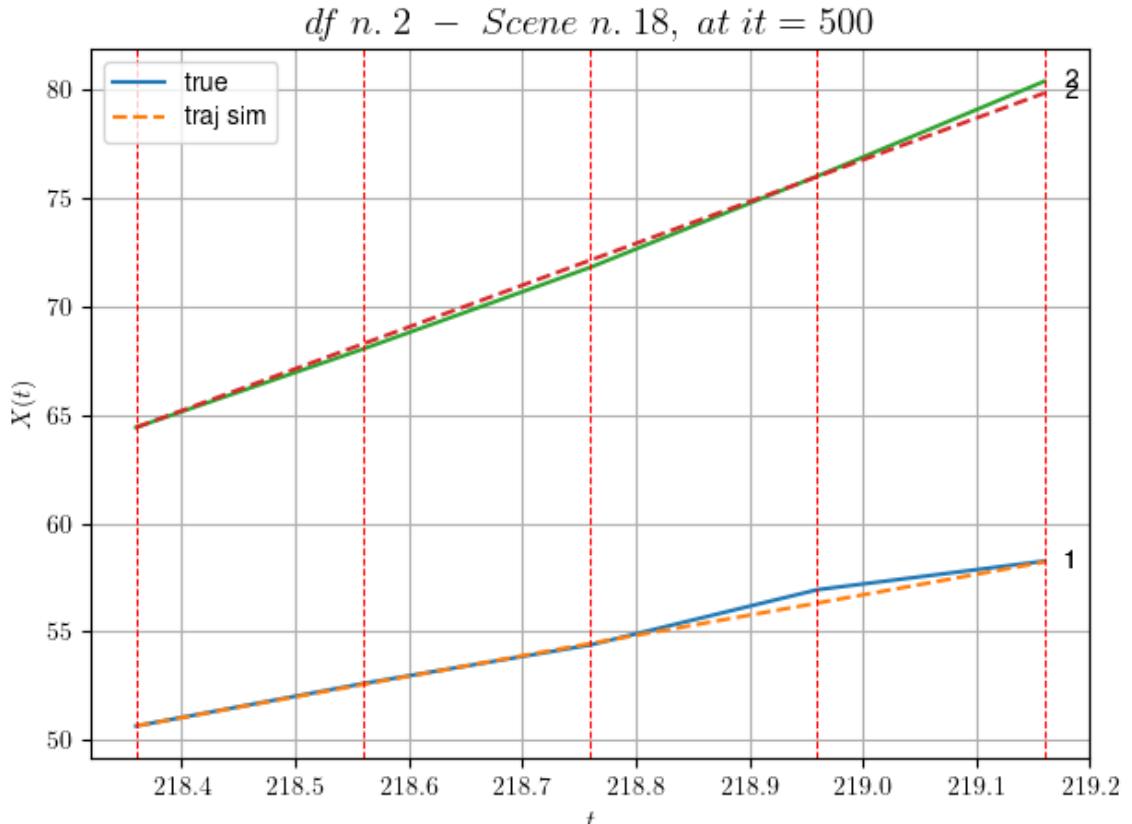
- Time interval n.1: [218.56, 218.76]
 * y_true: [8.90049368]
 * v_ann: [9.457493782043457, 19.2918574497649]

- Time interval n.2: [218.76, 218.96]
 * y_true: [12.75076549]
 * v_ann: [9.332305908203125, 19.2918574497649]

- Time interval n.3: [218.96, 219.16]

```
* y_true: [6.600424]
* v_ann: [9.458284378051758, 19.2918574497649]
```

```
* err= 0.0849389287417385
* Learning rate NN = 2.3914839403005317e-05
* diff = 0.0004438947814183747
```



For scene 18/69

```
* use LR_NN=5e-05 with err=13.399953951418592 at it=24
* v0_scn_mean = 19.72018315169216
* MAE = 0.0849389287417385
```

df n.2, scene n.19/69

We have 4 time intervals inside [220.36, 221.16]

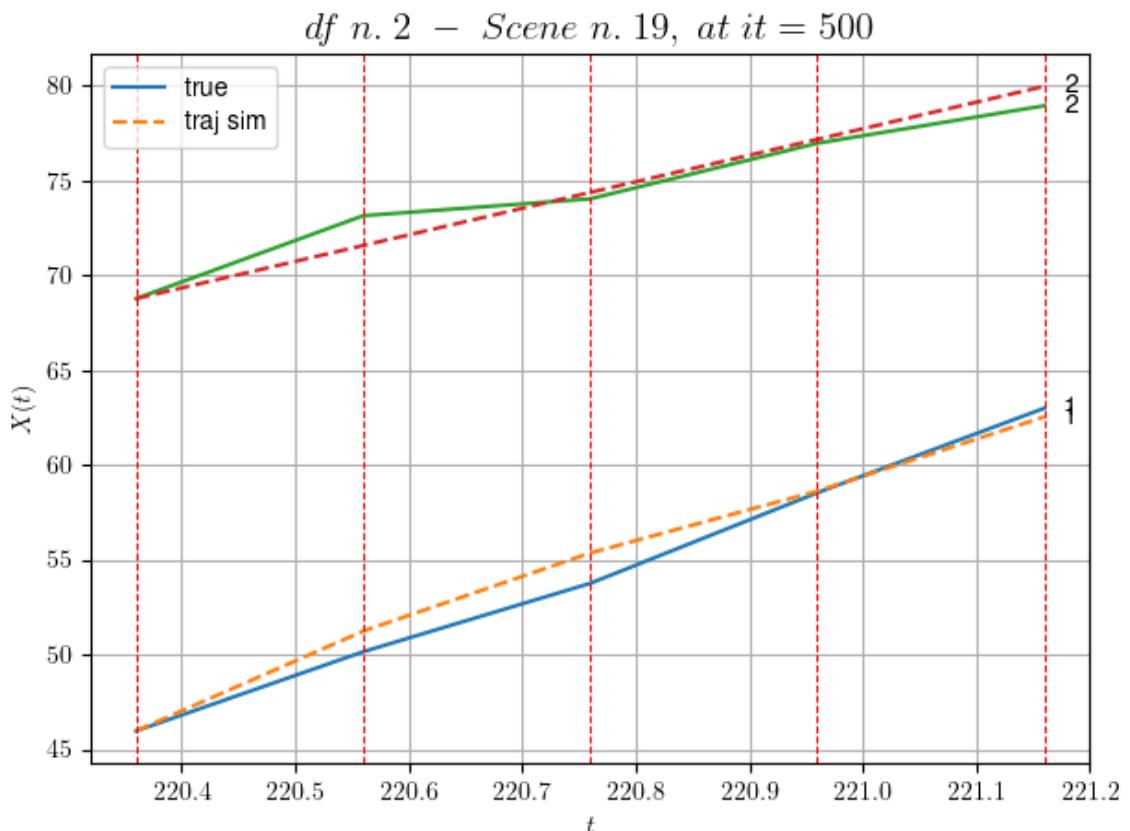
- Time interval n.0: [220.36, 220.56]
 - * y_true: [20.88092381]
 - * v_ann: [26.31862449645996, 13.996427133410164]

- Time interval n.1: [220.56, 220.76]
 - * y_true: [18.0409286]
 - * v_ann: [20.608924865722656, 13.996427133410164]

```
- Time interval n.2: [220.76, 220.96]
* y_true: [23.87145329]
* v_ann: [16.297544479370117, 13.996427133410164]
```

```
- Time interval n.3: [220.96, 221.16]
* y_true: [22.30157053]
* v_ann: [19.59181785583496, 13.996427133410164]
```

```
* err= 0.7639847233224957
* Learning rate NN = 0.000478296831715852
* diff = 0.00138599442522999983
```



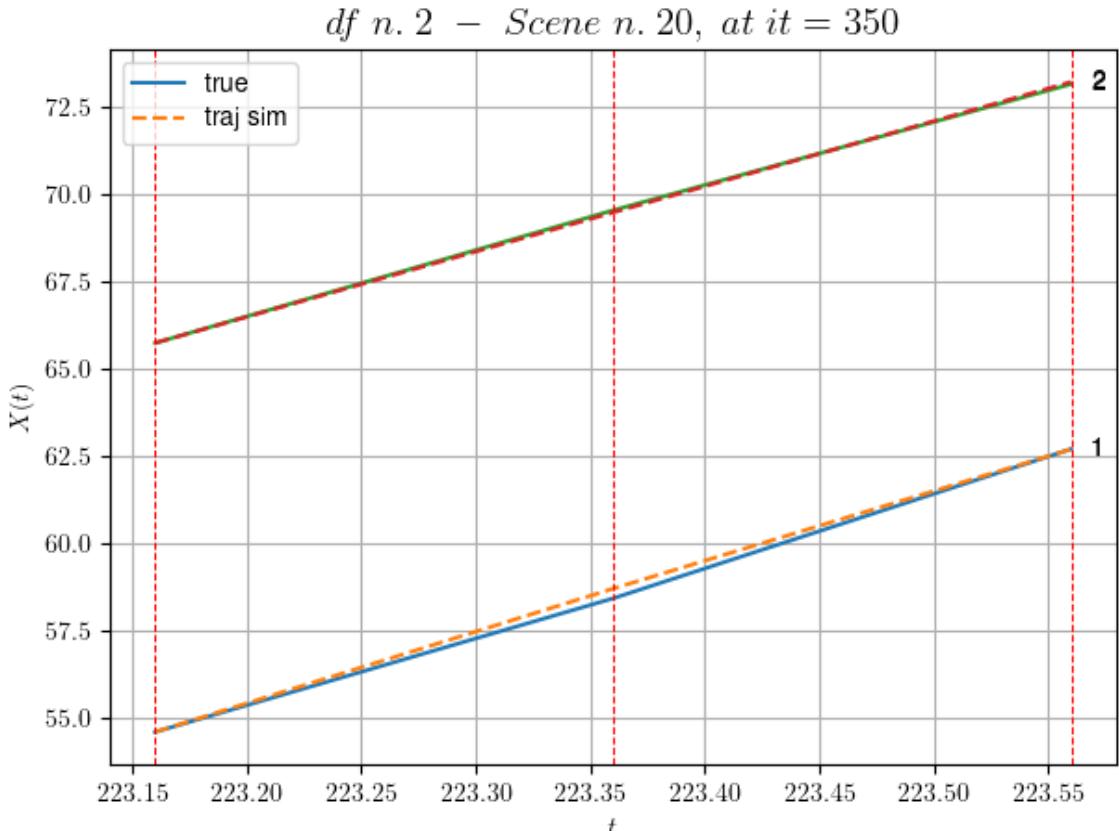
For scene 19/69

```
* use LR_NN=0.001 with err=33.74146521228804 at it=24
* v0_scn_mean = 14.636570047951421
* MAE = 0.6025580148667258
```

df n.2, scene n.20/69

We have 2 time intervals inside [223.16,223.56]

```
* err= 0.014251037360257422
* Learning rate NN = 0.0004049999886378646
* diff = 1.48590673425264e-07
```



For scene 20/69

- * use LR_NN=0.0005 with err=4.328835235007853 at it=24
- * v0_scn_mean = 19.34417761178436
- * MAE = 0.014251037360257422

df n.2, scene n.21/69

We have 10 time intervals inside [233.36, 235.36]

- Time interval n.0: [233.36, 233.56]
 - * y_true: [15.9800087]
 - * v_ann: [17.28714370727539, 20.300783427084642]

- Time interval n.1: [233.56, 233.76]
 - * y_true: [18.0400262]
 - * v_ann: [17.555471420288086, 20.300783427084642]

- Time interval n.2: [233.76, 233.96]
 - * y_true: [20.58006219]
 - * v_ann: [17.65180015563965, 20.300783427084642]

- Time interval n.3: [233.96, 234.16]
 - * y_true: [16.38007957]

```
* v_ann: [17.682416915893555, 20.300783427084642]
```

```
- Time interval n.4: [234.16, 234.36]
* y_true: [18.6401389]
* v_ann: [18.32003402709961, 20.300783427084642]
```

```
- Time interval n.5: [234.36, 234.56]
* y_true: [17.34017727]
* v_ann: [18.249683380126953, 20.300783427084642]
```

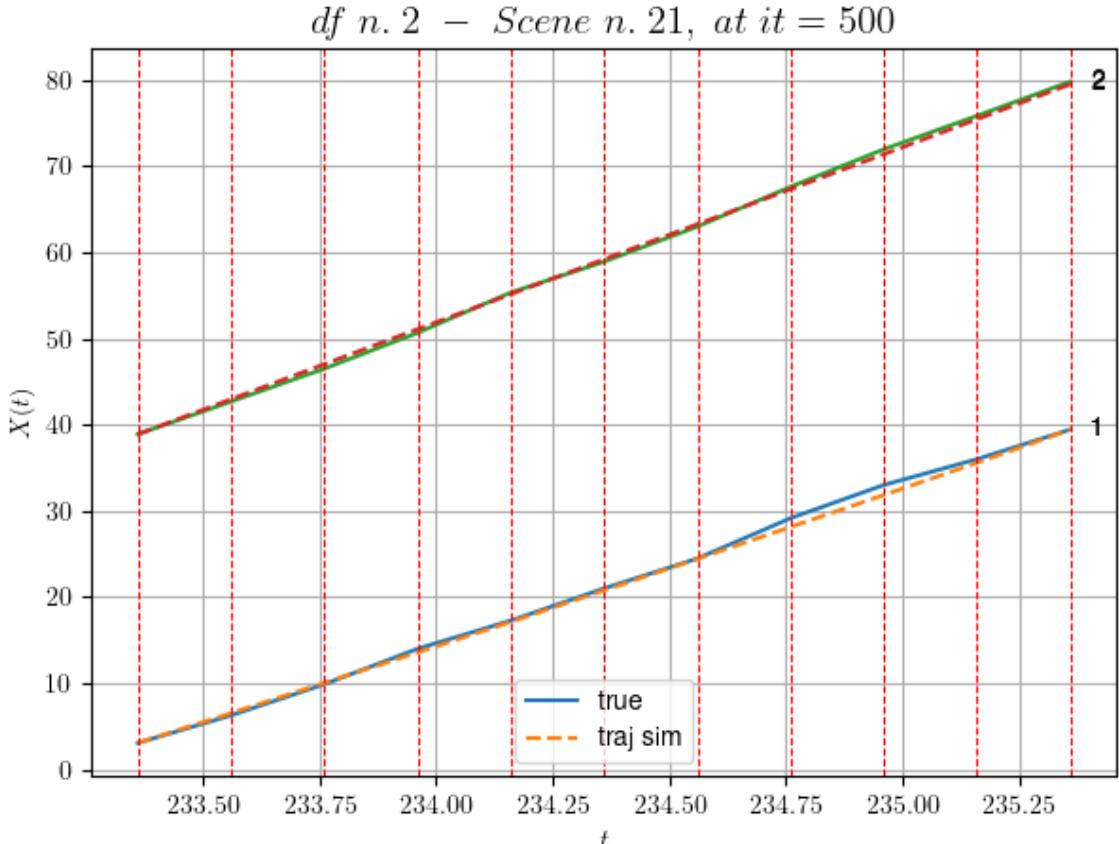
```
- Time interval n.6: [234.56, 234.76]
* y_true: [23.40033901]
* v_ann: [18.522855758666992, 20.300783427084642]
```

```
- Time interval n.7: [234.76, 234.96]
* y_true: [19.25036066]
* v_ann: [18.515310287475586, 20.300783427084642]
```

```
- Time interval n.8: [234.96, 235.16]
* y_true: [15.00034786]
* v_ann: [18.751924514770508, 20.300783427084642]
```

```
- Time interval n.9: [235.16, 235.36]
* y_true: [17.18048111]
* v_ann: [19.140575408935547, 20.300783427084642]
```

```
* err= 0.1957017107300168
* Learning rate NN = 1.350850993731001e-06
* diff = 0 AAA319303115278724
```



For scene 21/69

- * use LR_NN=1e-05 with err=64.5712951328713 at it=24
- * v0_scn_mean = 20.688752089926975
- * MAE = 0.19421854982704398

df n.2, scene n.22/69

We have 7 time intervals inside [246.36, 247.76]

- Time interval n.0: [246.36, 246.56]
 - * y_true: [19.95129864]
 - * v_ann: [21.32527732849121, 3.538091727525967]

- Time interval n.1: [246.56, 246.76]
 - * y_true: [17.951325]
 - * v_ann: [18.986989974975586, 3.538091727525967]

- Time interval n.2: [246.76, 246.96]
 - * y_true: [19.60162726]
 - * v_ann: [17.34686851501465, 3.538091727525967]

- Time interval n.3: [246.96, 247.16]
 - * y_true: [7.95071562]

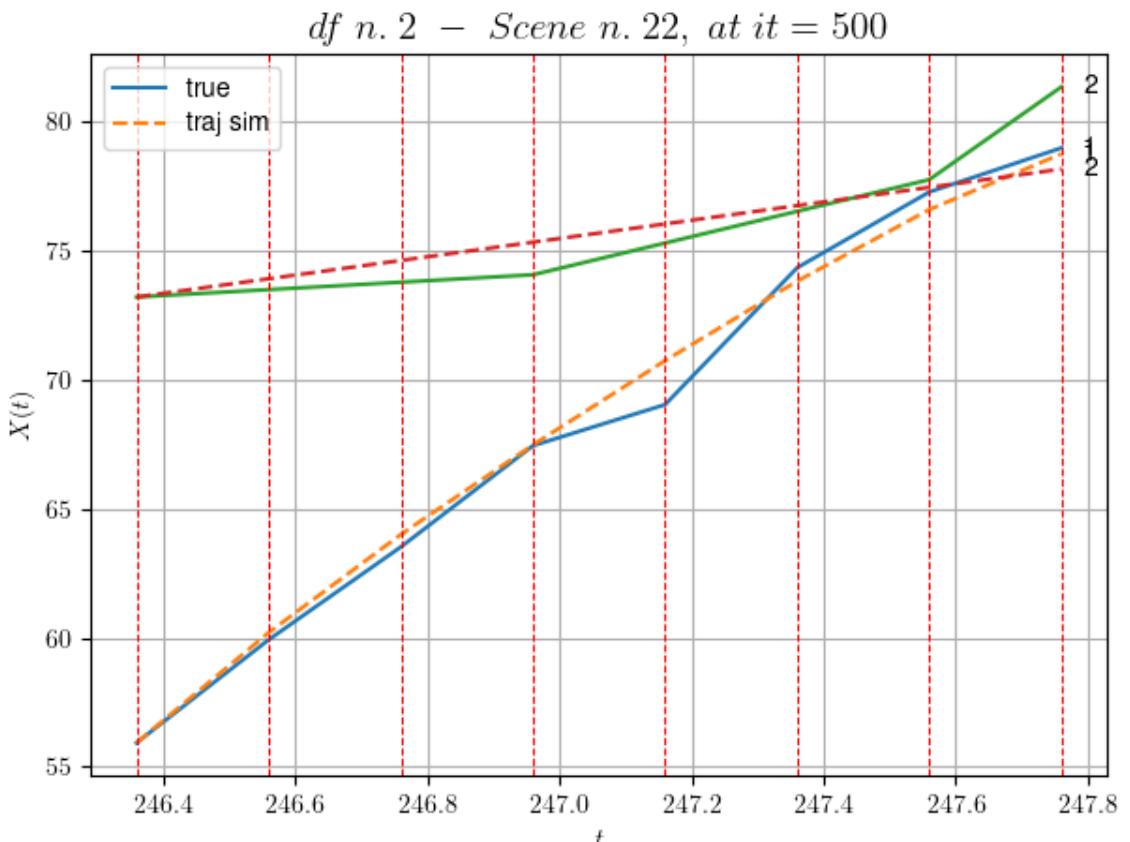
```
* v_ann: [16.30681800842285, 3.538091727525967]
```

```
- Time interval n.4: [247.16, 247.36]
* y_true: [26.50263379]
* v_ann: [15.396500587463379, 3.538091727525967]
```

```
- Time interval n.5: [247.36, 247.56]
* y_true: [14.6516272]
* v_ann: [13.8477783203125, 3.538091727525967]
```

```
- Time interval n.6: [247.56, 247.76]
* y_true: [8.53878151]
* v_ann: [10.783923149108887, 3.538091727525967]
```

```
* err= 1.0800958365747624
* Learning rate NN = 0.00012709324073512107
* diff = 0.01095464628448628
```



For scene 22/69

```
* use LR_NN=0.0005 with err=238.62471852780945 at it=24
* v0_scn_mean = 4.596568058222686
* MAE = 1.0800958365747624
```

```
df n.2, scene n.23/69
```

```
=====
=====
```

We have 4 time intervals inside [250.16, 250.96]

- Time interval n.0: [250.16, 250.36]

- * y_true: [20.04064227]

- * v_ann: [17.914043426513672, 17.364515373912916]

- Time interval n.1: [250.36, 250.56]

- * y_true: [20.33077522]

- * v_ann: [18.042644500732422, 17.364515373912916]

- Time interval n.2: [250.56, 250.76]

- * y_true: [17.28077239]

- * v_ann: [18.414173126220703, 17.364515373912916]

- Time interval n.3: [250.76, 250.96]

- * y_true: [15.0007656]

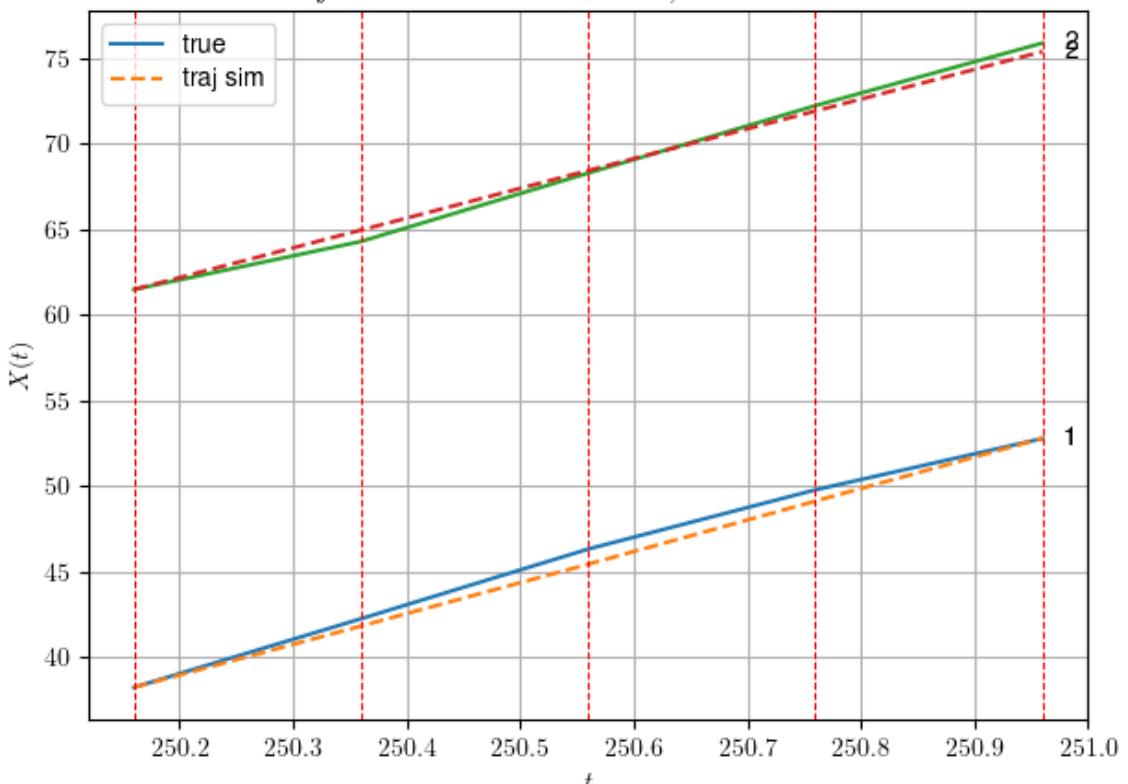
- * v_ann: [18.336143493652344, 17.364515373912916]

- * err= 0.22030844414088255

- * Learning rate NN = 2.3914839403005317e-05

- * diff = 6.91114460952269e-05

df n. 2 – Scene n. 23, at it = 500



For scene 23/69

* use LR_NN=5e-05 with err=18.358452104733793 at it=24

```
* v0_scn_mean = 17.869934758859607
* MAE = 0.21903687009529874
```

```
=====
```

```
=====
```

```
df n.2, scene n.24/69
```

```
=====
```

```
=====
```

```
We have 3 time intervals inside [253.96, 254.56]
```

```
- Time interval n.0: [253.96, 254.16]
```

```
* y_true: [3.96001286]
```

```
* v_ann: [5.581990718841553, 19.059884309201752]
```

```
- Time interval n.1: [254.16, 254.36]
```

```
* y_true: [5.65002208]
```

```
* v_ann: [4.754130840301514, 19.059884309201752]
```

```
- Time interval n.2: [254.36, 254.56]
```

```
* y_true: [5.43002353]
```

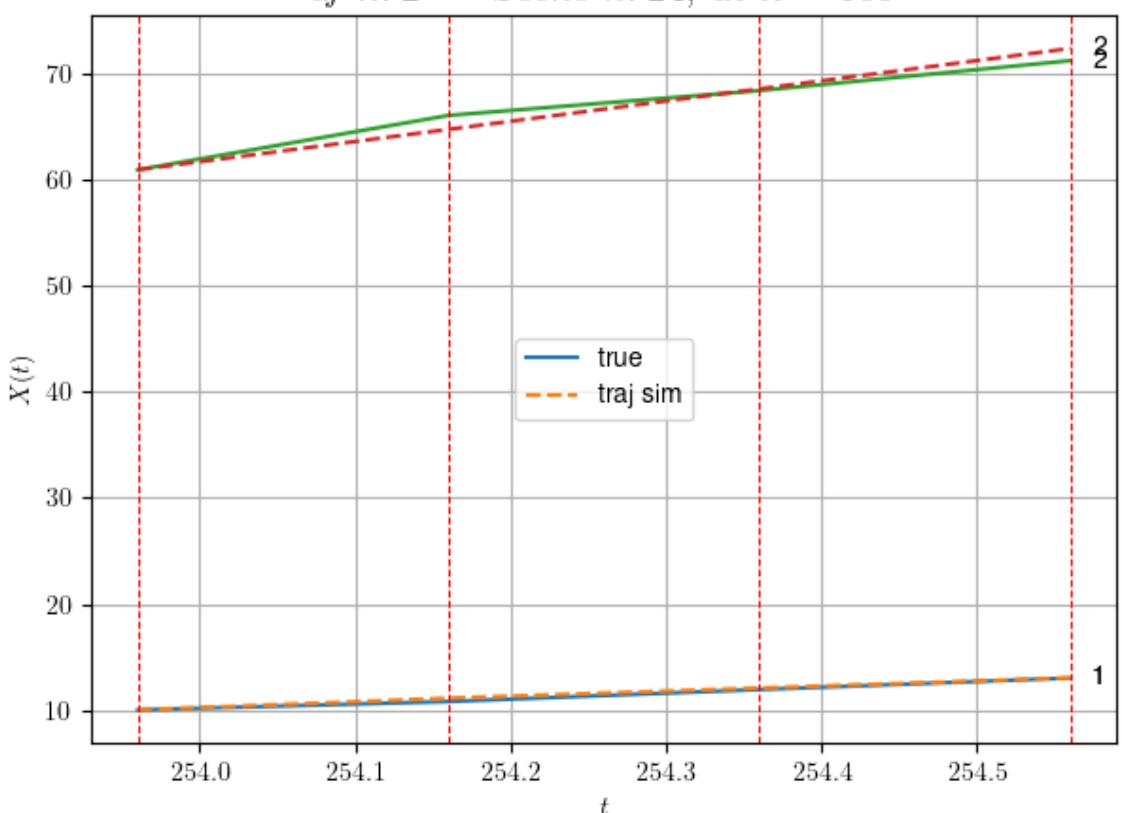
```
* v_ann: [4.7647013664245605, 19.059884309201752]
```

```
* err= 0.40072416018088897
```

```
* Learning rate NN = 5.9048988987342454e-06
```

```
* diff = 4.349281762572321e-06
```

df n. 2 – Scene n. 24, at it = 500



```
For scene 24/69
* use LR_NN=1e-05 with err=10.115034477098593 at it=24
* v0_scn_mean = 19.497488936750237
* MAE = 0.4003437466594371
```

```
=====
=====
```

```
df n.2, scene n.25/69
```

```
=====
=====
```

```
We have 8 time intervals inside [256.56,258.16]
```

```
- Time interval n.0: [256.56, 256.76]
  * y_true: [19.53061148]
  * v_ann: [21.365869522094727, 18.832978045462248]
```

```
-----
-----
```

```
- Time interval n.1: [256.76, 256.96]
  * y_true: [21.00079129]
  * v_ann: [20.876314163208008, 18.832978045462248]
```

```
-----
-----
```

```
- Time interval n.2: [256.96, 257.16]
  * y_true: [23.14105686]
  * v_ann: [20.404876708984375, 18.832978045462248]
```

```
-----
-----
```

```
- Time interval n.3: [257.16, 257.36]
  * y_true: [13.85071565]
  * v_ann: [19.88592529296875, 18.832978045462248]
```

```
-----
-----
```

```
- Time interval n.4: [257.36, 257.56]
  * y_true: [22.48137092]
  * v_ann: [20.962039947509766, 18.832978045462248]
```

```
-----
-----
```

```
- Time interval n.5: [257.56, 257.76]
  * y_true: [24.69174696]
  * v_ann: [21.053508758544922, 18.832978045462248]
```

```
-----
-----
```

```
- Time interval n.6: [257.76, 257.96]
  * y_true: [14.19111843]
  * v_ann: [20.3442325592041, 18.832978045462248]
```

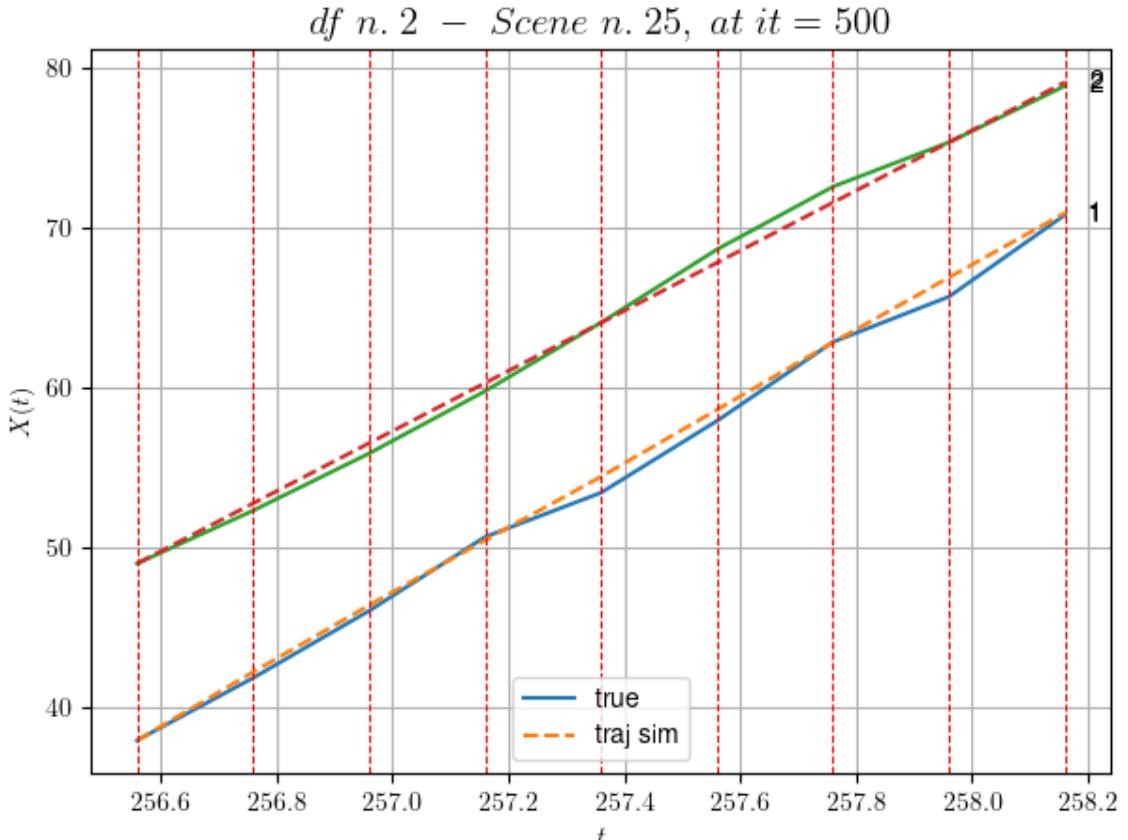
```
-----
-----
```

```
- Time interval n.7: [257.96, 258.16]
  * y_true: [25.60234094]
  * v_ann: [20.204008102416992, 18.832978045462248]
```

```

* err= 0.3250407160890067
* Learning rate NN = 1.029455233947374e-05
* diff = 0.00042180153264875786

```



For scene 25/69

```

* use LR_NN=5e-05 with err=55.639747852479616 at it=24
* v0_scn_mean = 19.279658923558486
* MAE = 0.32325184710824384

```

df n.2, scene n.26/69

We have 2 time intervals inside [275.56, 275.96]

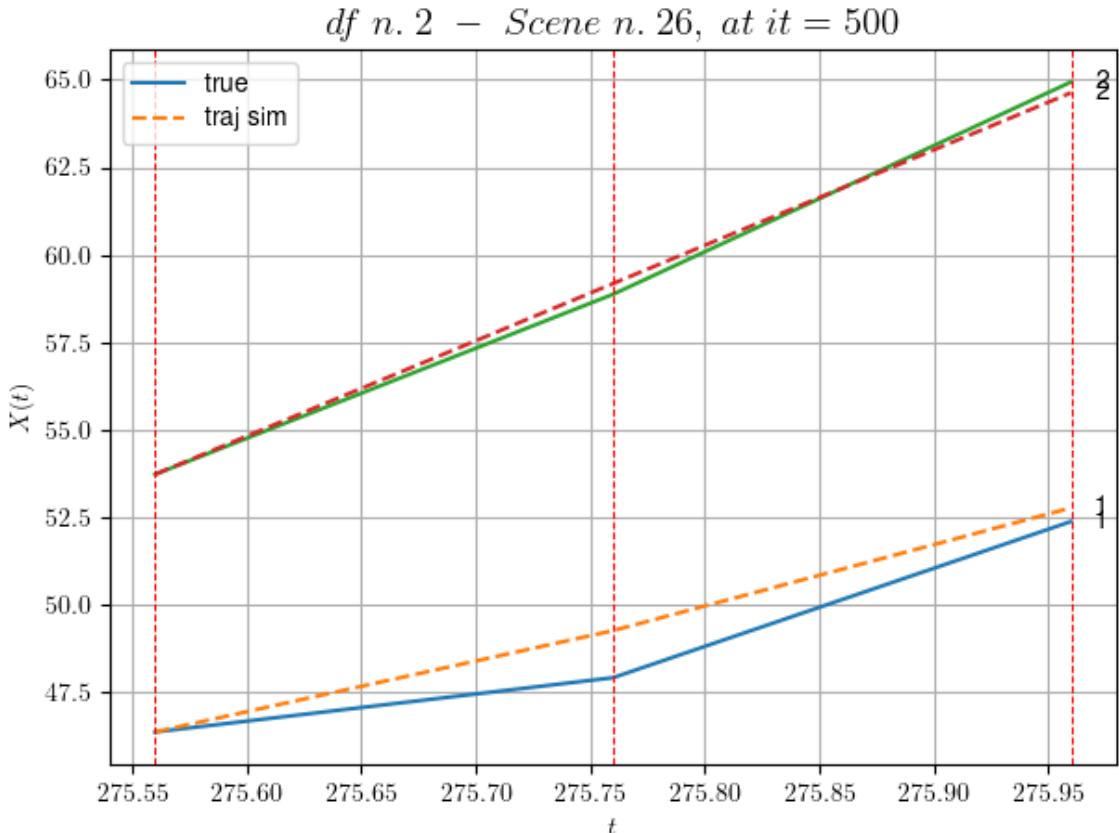
- Time interval n.0: [275.56, 275.76]
 - * y_true: [7.75034114]
 - * v_ann: [14.475088119506836, 27.245148829197323]

- Time interval n.1: [275.76, 275.96]
 - * y_true: [22.30520974]
 - * v_ann: [17.529020309448242, 27.245148829197323]

```

* err= 0.35815101074724565
* Learning rate NN = 7.289998757187277e-05
* diff = 0.007817577146715382

```



For scene 26/69

- * use LR_NN=0.0001 with err=0.36494338696274825 at it=24
- * v0_scn_mean = 27.355342876006034
- * MAE = 0.35815101074724565

df n.2, scene n.27/69

We have 3 time intervals inside [287.36, 287.96]

- Time interval n.0: [287.36, 287.56]
 - * y_true: [19.57128016]
 - * v_ann: [24.750822067260742, 19.08174409433956]

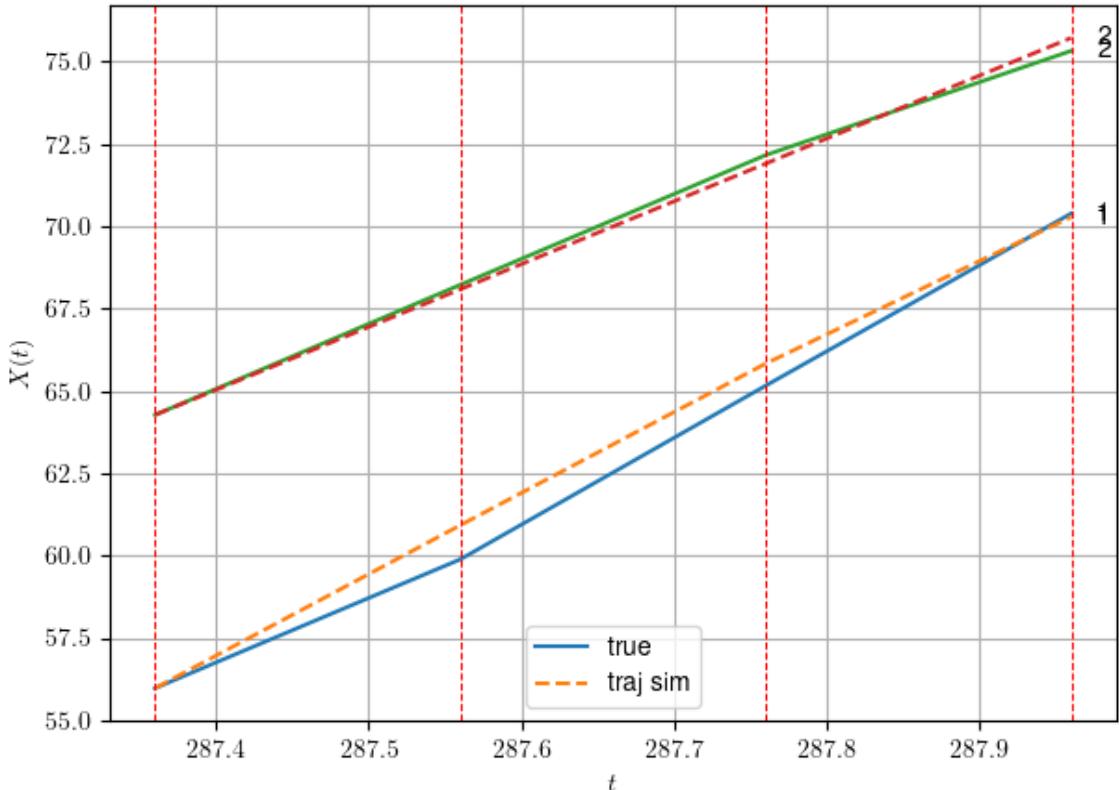
- Time interval n.1: [287.56, 287.76]
 - * y_true: [26.37205005]
 - * v_ann: [24.542644500732422, 19.08174409433956]

- Time interval n.2: [287.76, 287.96]
 - * y_true: [26.13226254]
 - * v_ann: [22.23797607421875, 19.08174409433956]

- * err= 0.22177320314766347
- * Learning rate NN = 5.904899080633186e-05

* diff = 0 00033340446862678563

df n. 2 - Scene n. 27, at it = 500



For scene 27/69

* use LR_NN=0.0001 with err=8.909826838746277 at it=24
 * v0 scn mean = 19.518474330483166
 * MAE = 0.2209025182828024

df n.2, scene n.28/69

We have 3 time intervals inside [292.96, 293.56]

- Time interval n.0: [292.96, 293.16]
 - * y_true: [8.97521593]
 - * v_ann: [10.684830665588379, 19.771247175293336]

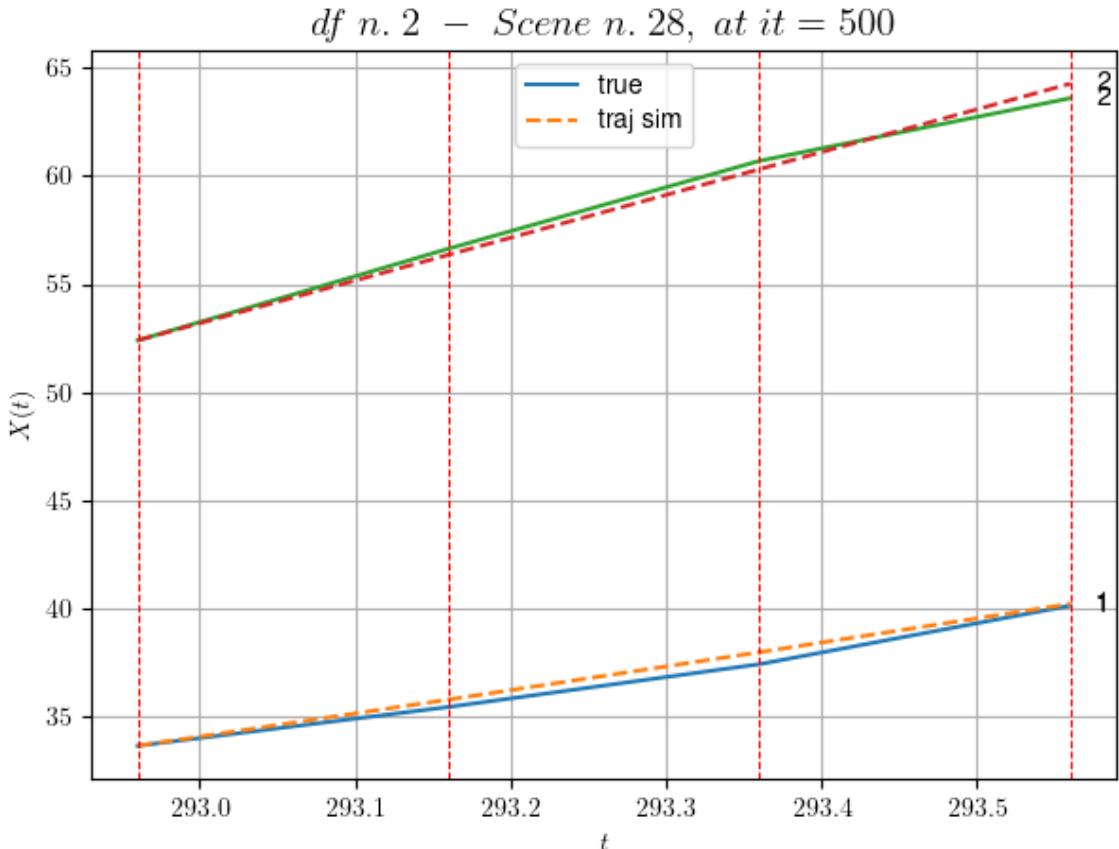
- Time interval n.1: [293.16, 293.36]
 - * y_true: [9.88525546]
 - * v_ann: [10.948099136352539, 19.771247175293336]

- Time interval n.2: [293.36, 293.56]
 - * y_true: [13.52541357]
 - * v_ann: [11.1716947555542, 19.771247175293336]

* err= 0.13874523683493165

* Learning rate NN = 2.952449540316593e-05

* diff = 0.0002016623003889273



For scene 28/69

* use LR_NN=5e-05 with err=7.916561263397348 at it=24
 * v0_scn_mean = 20.18039728820062
 * MAE = 0.13874523683493165

df n.2, scene n.29/69

We have 2 time intervals inside [314.96, 315.36]

- Time interval n.0: [314.96, 315.16]
 - * y_true: [23.83200106]
 - * v_ann: [16.023334503173828, 19.975403002157083]

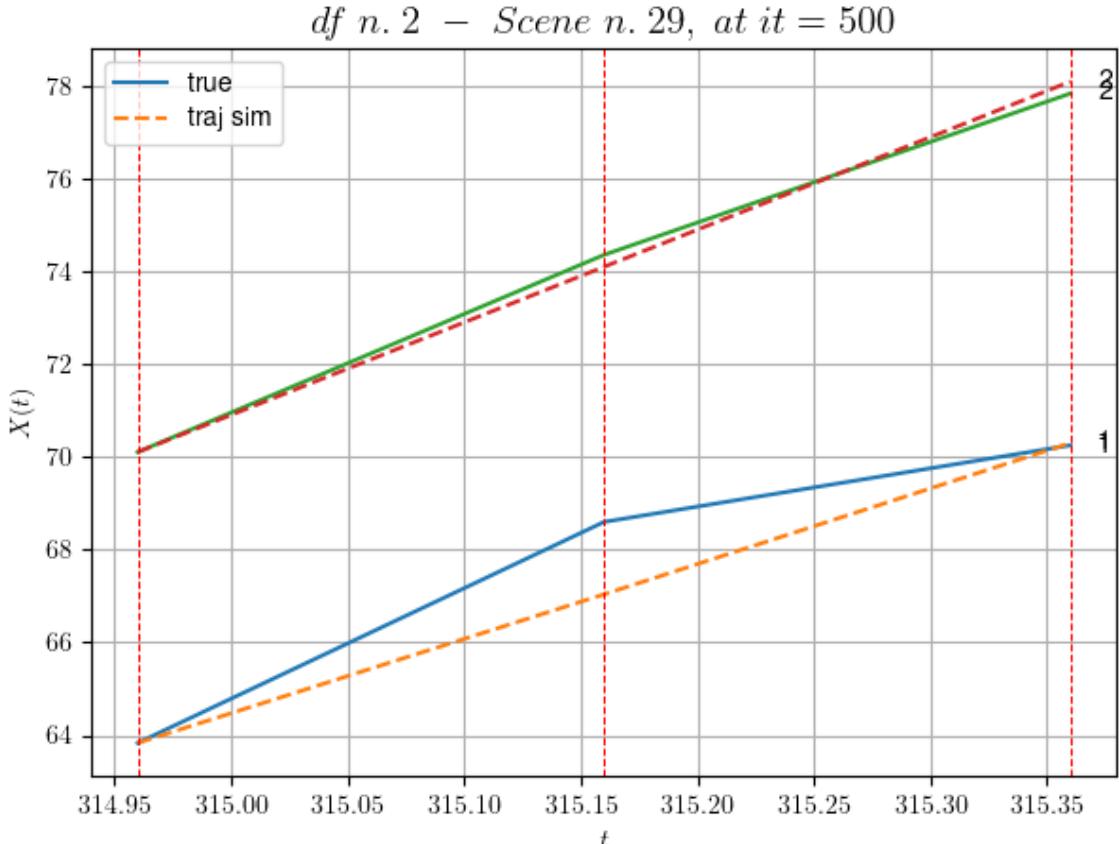
- Time interval n.1: [315.16, 315.36]

- * y_true: [8.26224636]
 - * v_ann: [16.319536209106445, 19.975403002157083]

- * err= 0.42898975274846957

- * Learning rate NN = 0.00036449998151510954

- * diff = 0.00033477418362759526



For scene 29/69

- * use LR_NN=0.0005 with err=3.9504185245850127 at it=24
- * v0_scn_mean = 20.376386881991273
- * MAE = 0.4254209828383404

df n.2, scene n.30/69

We have 3 time intervals inside [332.76, 333.36]

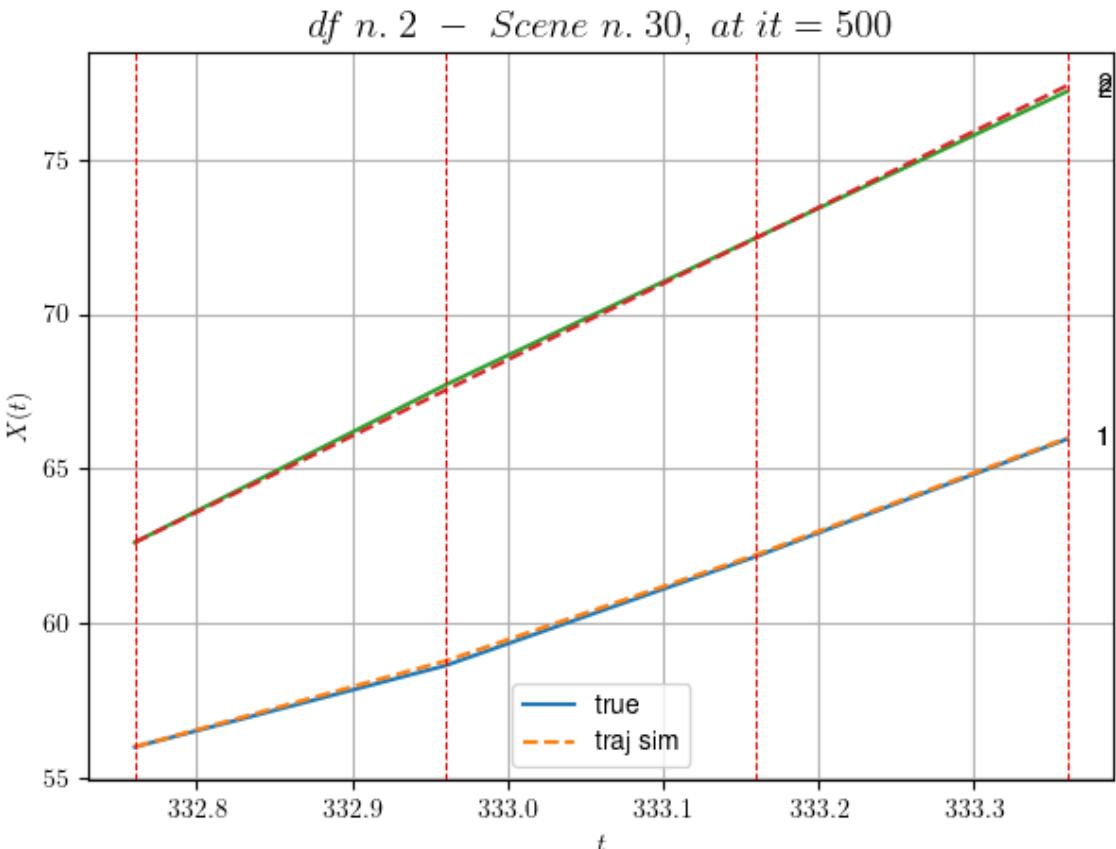
- Time interval n.0: [332.76, 332.96]
 - * y_true: [13.15083663]
 - * v_ann: [13.892515182495117, 24.607227640643536]

- Time interval n.1: [332.96, 333.16]
 - * y_true: [17.65124615]
 - * v_ann: [17.18035316467285, 24.607227640643536]

- Time interval n.2: [333.16, 333.36]
 - * y_true: [18.95150362]
 - * v_ann: [18.856689453125, 24.607227640643536]

- * err= 0.011305717820654343
- * Learning rate NN = 5.904899080633186e-05

* diff = 2.5124070550691657e-05



For scene 30/69

* use LR_NN=0.0001 with err=2.1496754220219243 at it=24
 * v0_scn_mean = 24.822938534974565
 * MAE = 0.011305717820654343

df n.2, scene n.31/69

We have 7 time intervals inside [354.76, 356.16]

- Time interval n.0: [354.76, 354.96]
 - * y_true: [15.35025294]
 - * v_ann: [13.959888458251953, 18.73800634953481]

- Time interval n.1: [354.96, 355.16]
 - * y_true: [16.45032349]
 - * v_ann: [14.424625396728516, 18.73800634953481]

- Time interval n.2: [355.16, 355.36]
 - * y_true: [17.47042754]
 - * v_ann: [15.517117500305176, 18.73800634953481]

- Time interval n.3: [355.36, 355.56]

```
* y_true: [15.05042697]
* v_ann: [16.642736434936523, 18.73800634953481]
```

- Time interval n.4: [355.56, 355.76]

```
* y_true: [13.05043358]
```

```
* v_ann: [16.3673038482666, 18.73800634953481]
```

- Time interval n.5: [355.76, 355.96]

```
* y_true: [14.08053077]
```

```
* v_ann: [15.452736854553223, 18.73800634953481]
```

- Time interval n.6: [355.96, 356.16]

```
* y_true: [16.93073503]
```

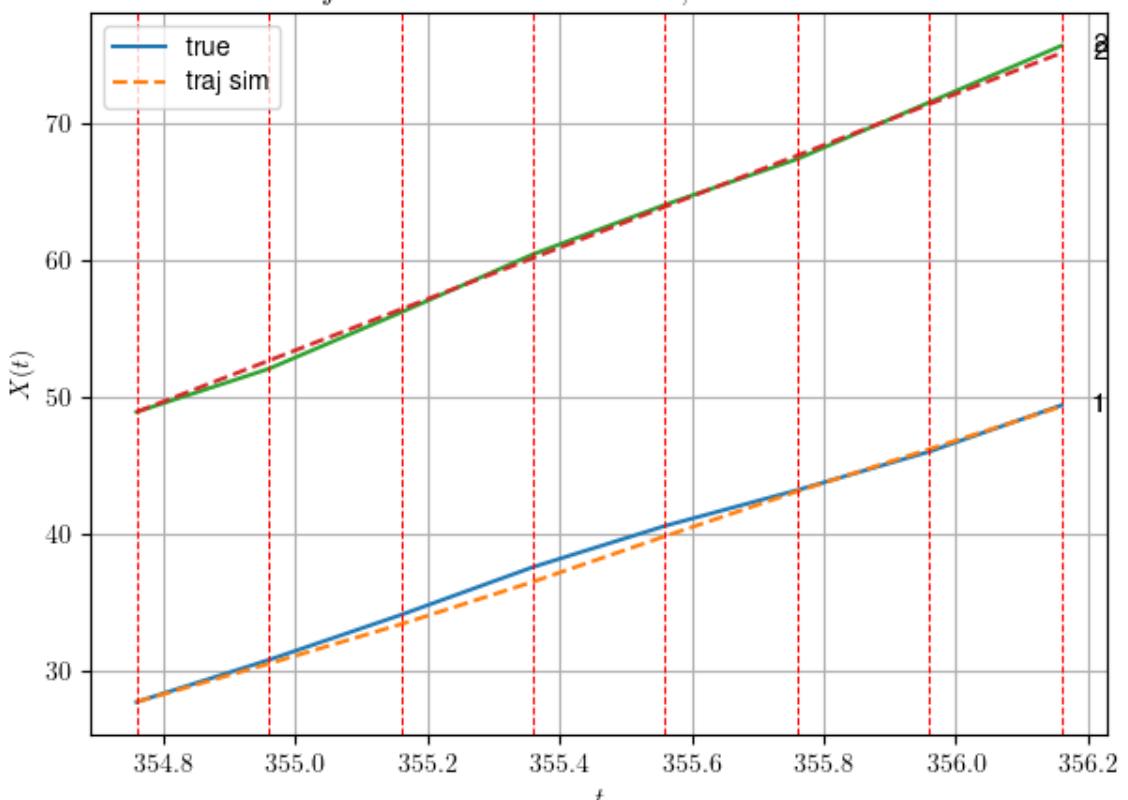
```
* v_ann: [15.573807716369629, 18.73800634953481]
```

```
* err= 0.19928884698556995
```

```
* Learning rate NN = 0.00025418648147024214
```

```
* diff = 0.00736406479592977
```

df n. 2 – Scene n. 31, at it = 500



For scene 31/69

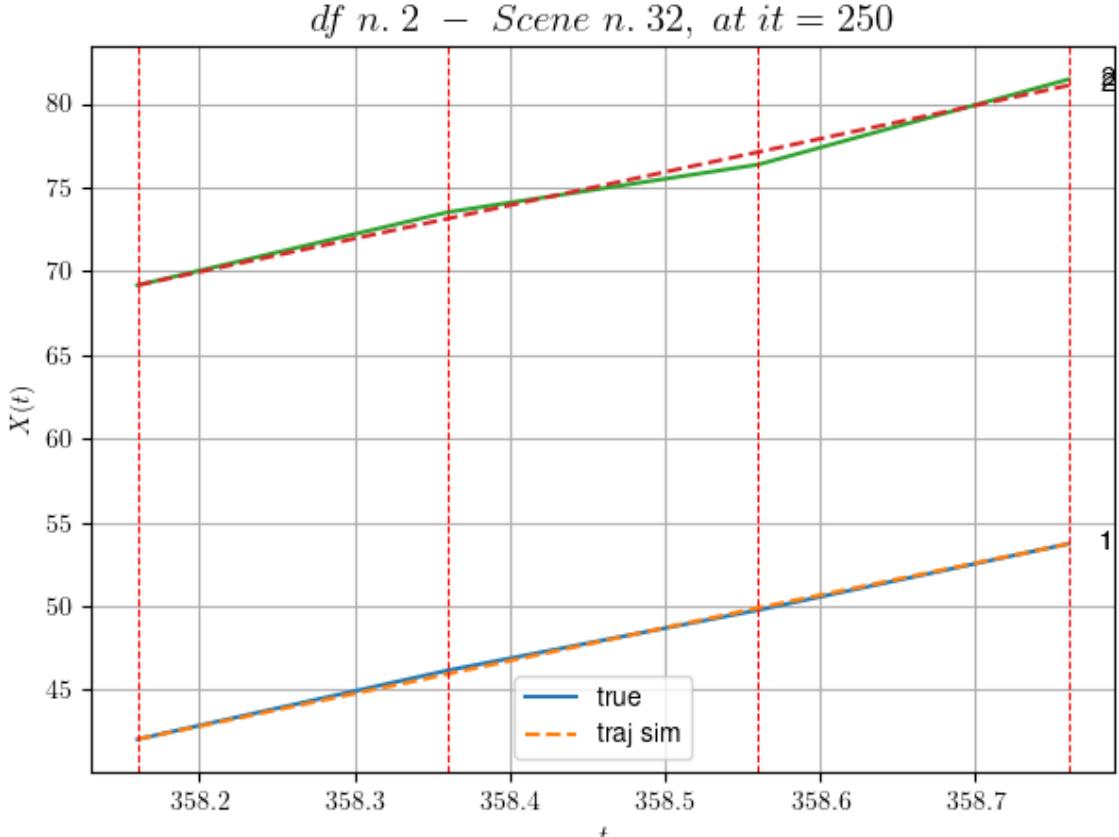
```
* use LR_NN=0.001 with err=43.478226413413424 at it=24
```

```
* v0_scn_mean = 19.188486095467265
```

```
* MAE = 0.09389200532242321
```

```
df n.2, scene n.32/69
```

We have 3 time intervals inside [358.16,358.76]
 * err= 0.1133210909905071
 * Learning rate NN = 4.049999552080408e-05
 * diff = 3.6720309613824664e-07



For scene 32/69

- * use LR_NN=5e-05 with err=7.297455328304544 at it=24
- * v0_scn_mean = 20.686927810675915
- * MAE = 0.1133210909905071

```
df n.2, scene n.33/69
```

We have 4 time intervals inside [362.36,363.16]

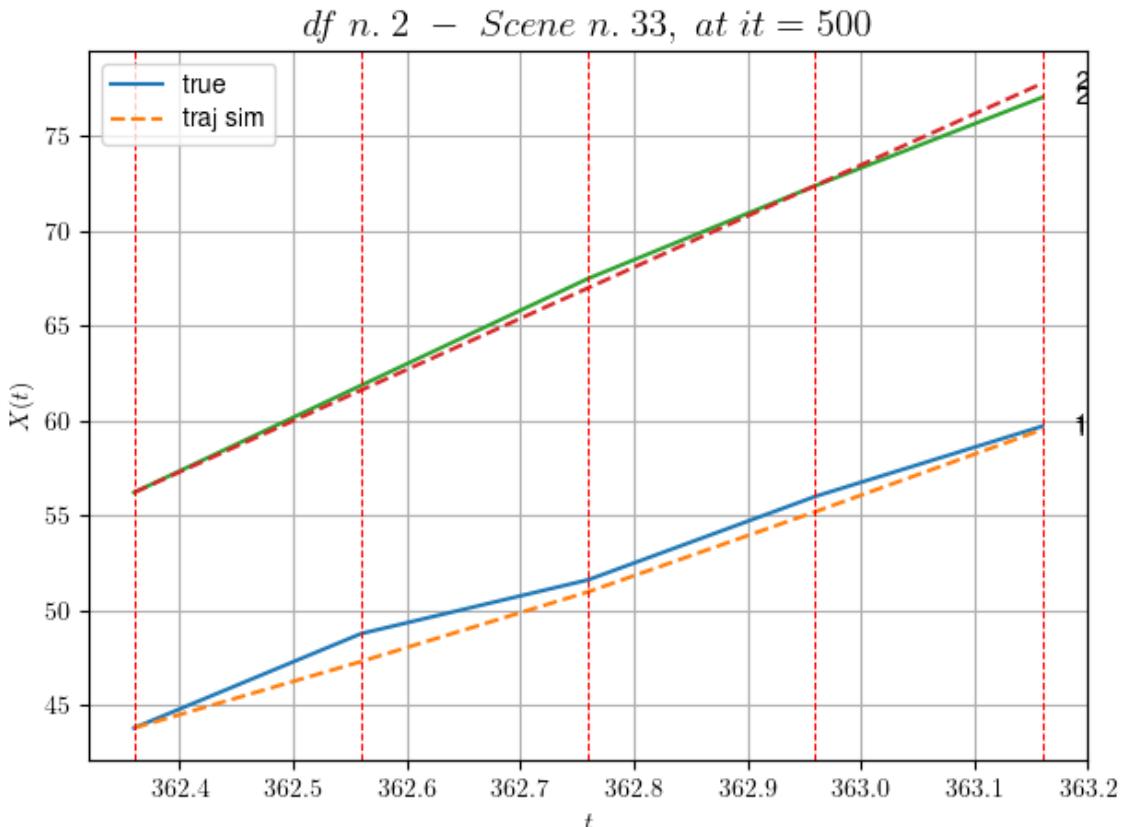
- Time interval n.0: [362.36, 362.56]
 - * y_true: [24.84104061]
 - * v_ann: [17.4971981048584, 26.93115929258924]

- Time interval n.1: [362.56, 362.76]
 - * y_true: [14.1606775]
 - * v_ann: [18.33941650390625, 26.93115929258924]

- Time interval n.2: [362.76, 362.96]
 - * y_true: [21.95124893]
 - * v_ann: [21.09056282043457, 26.93115929258924]

- Time interval n.3: [362.96, 363.16]
 - * y_true: [18.48118796]
 - * v_ann: [21.62091827392578, 26.93115929258924]

```
* err= 0.4093074837081097  
* Learning rate NN = 2.3914839403005317e-05  
* diff = 0.00013269355311312792
```



For scene 33/69
* use LR_NN=5e-05 with err=1.8703815305120617 at it=24
* v0_scn_mean = 27.053912920860917
* MAE = 0.4080500148708413

df n? scene n 34/69

```
We have 5 time intervals inside [365.16,366.16]
  - Time interval n.0: [365.16, 365.36]
    * y_true: [16.50108755]
    * v_ann: [17.70182991027832, 23.672070636508188]
```

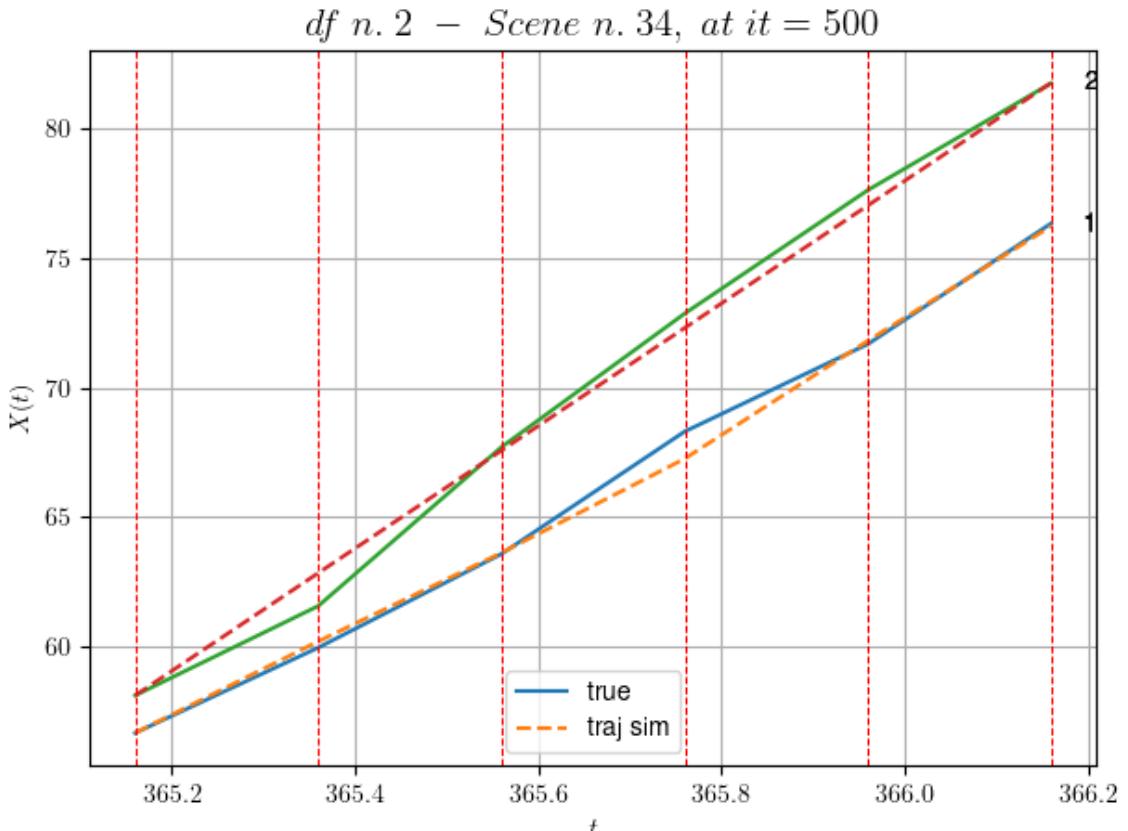
```
- Time interval n.1: [365.36, 365.56]
* y_true: [18.10133819]
* v_ann: [17.123409271240234, 23.672070636508188]
```

```
- Time interval n.2: [365.56, 365.76]
* y_true: [23.65199157]
* v_ann: [18.18190574645996, 23.672070636508188]
```

```
- Time interval n.3: [365.76, 365.96]
* y_true: [16.90160161]
* v_ann: [22.78297996520996, 23.672070636508188]
```

```
- Time interval n.4: [365.96, 366.16]
* y_true: [23.30246885]
* v_ann: [22.12586784362793, 23.672070636508188]
```

```
* err= 0.29118166677118246
* Learning rate NN = 0.0019371019443497062
* diff = 0.007610252500027000
```



For scene 34/69

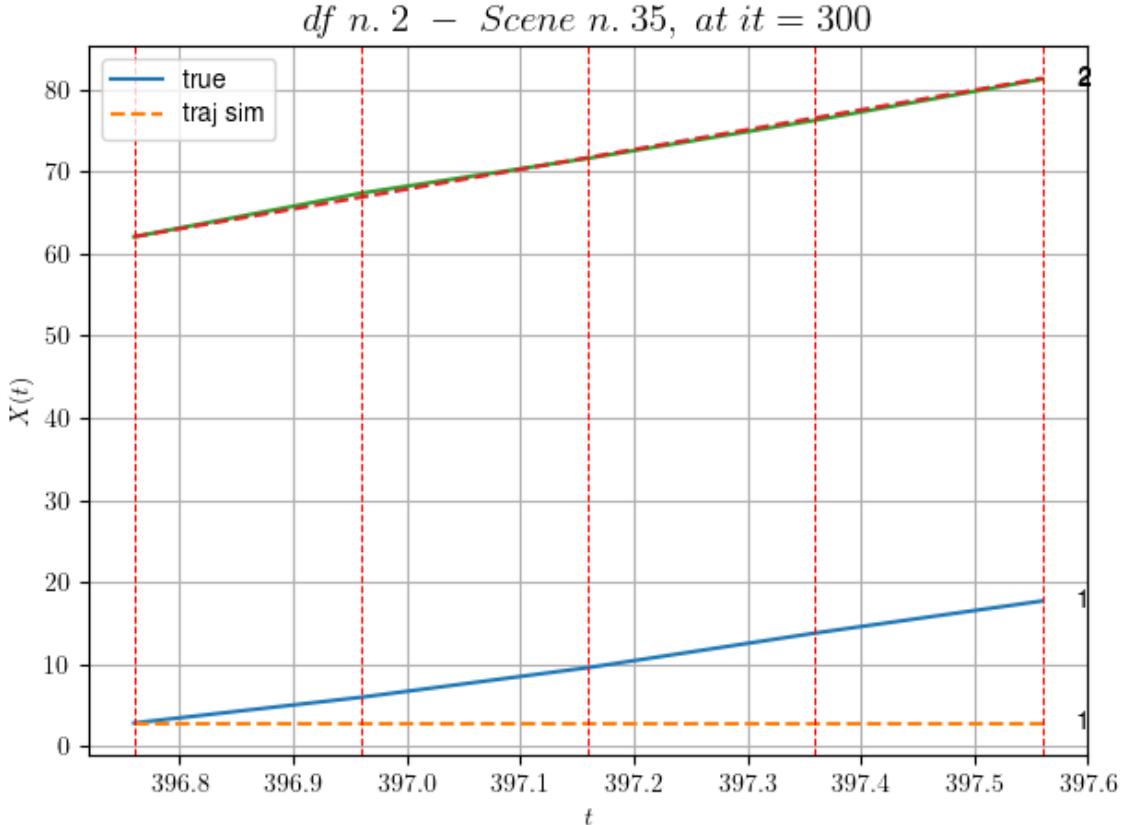
```
* use LR_NN=0.005 with err=7.022473868063036 at it=24
* v0_scn_mean = 23.925187810999216
* MAE = 0.29118166677118246
```

```
=====
=====
```

df n.2, scene n.35/69

```
=====
=====
```

We have 4 time intervals inside [396.76,397.56]
 * err= 39.62560477253356
 * Learning rate NN = 3.2804993679746985e-05
 * diff = 5.651746164403448e-07



For scene 35/69

- * use LR_NN=5e-05 with err=4.44301642994803 at it=24
- * v0_scn_mean = 24.514095079984745
- * MAE = 39.62560477253356

```
=====
=====
```

df n.2, scene n.36/69

```
=====
=====
```

We have 5 time intervals inside [399.56,400.56]

- Time interval n.0: [399.56, 399.76]
 - * y_true: [22.65080888]
 - * v_ann: [-1.5529300071648322e-05, 22.2859014840315]

87]

- Time interval n.1: [399.76, 399.96]
 - * y_true: [15.05063497]

```

* v_ann: [-8.524814802512992e-06, 22.28590148403158
7]

-----
- Time interval n.2: [399.96, 400.16]
* y_true: [19.30093791]
* v_ann: [-2.4008486434468068e-05, 22.2859014840315
87]

-----
- Time interval n.3: [400.16, 400.36]
* y_true: [21.30120859]
* v_ann: [-3.3135744160972536e-05, 22.2859014840315
87]

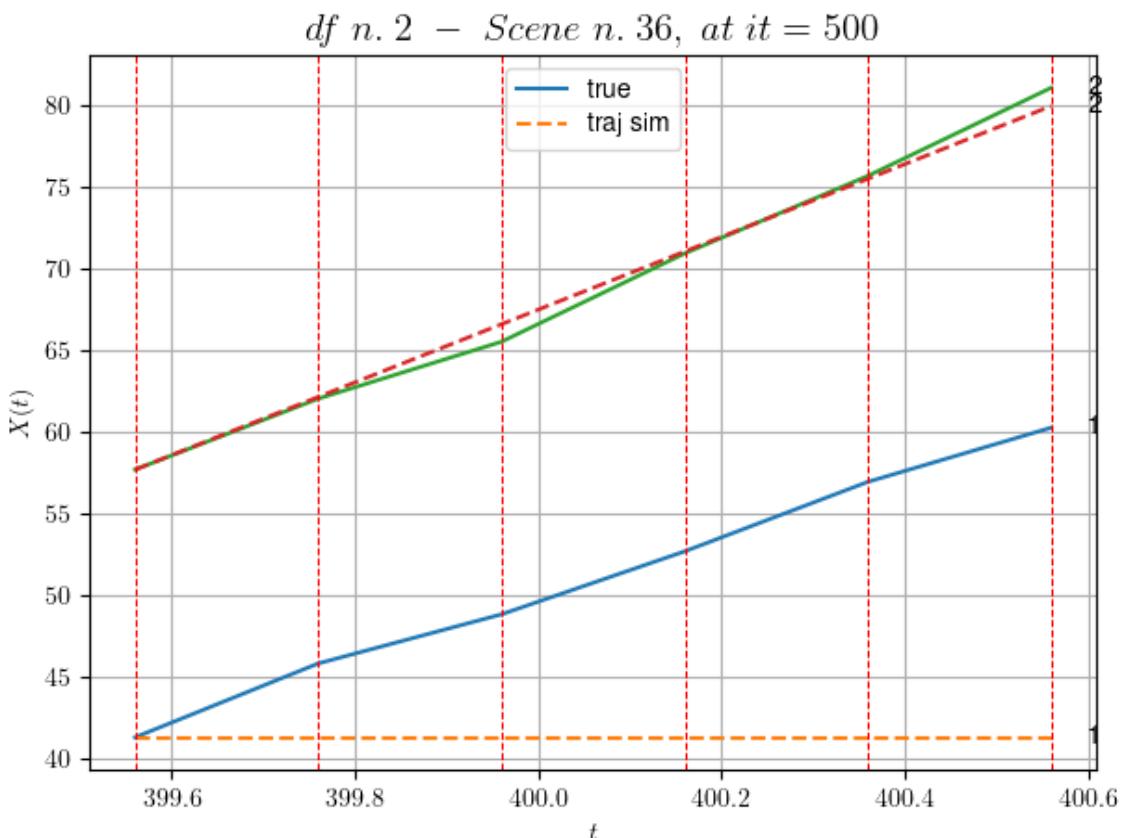
-----
- Time interval n.4: [400.36, 400.56]
* y_true: [16.60107718]
* v_ann: [-3.064065458602272e-05, 22.28590148403158
7]


```

```

* err= 67.94585841019047
* Learning rate NN = 1.9371018424862996e-05
* diff = 1 12008082077121010_05

```



For scene 36/69

```

* use LR_NN=5e-05 with err=10.358732674101601 at it=24
* v0_scn_mean = 22.594465424608504
* MAE = 67.92526122105006

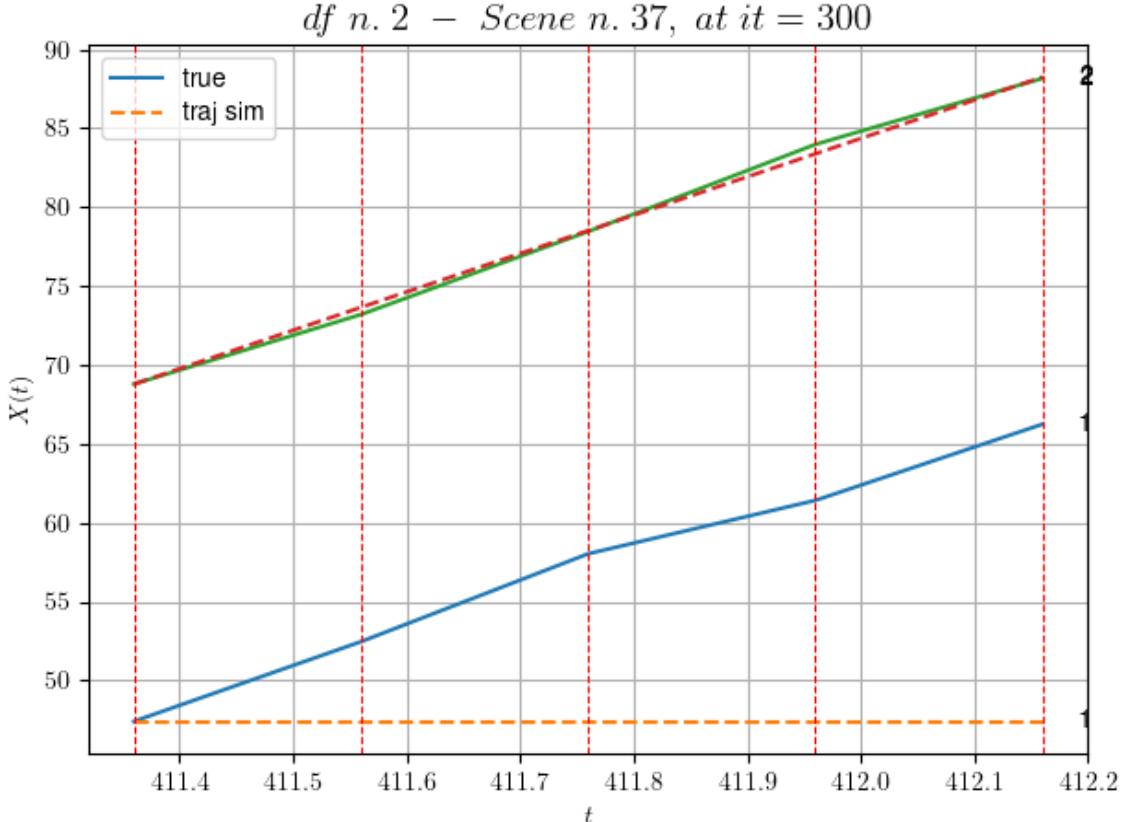
```

```
=====
=====
```

df n.2, scene n.37/69

```
=====
=====
```

We have 4 time intervals inside [411.36,412.16]
 * err= 69.06055875301226
 * Learning rate NN = 3.2804993679746985e-05
 * diff = 2.4739293280617858e-08



For scene 37/69

* use LR_NN=5e-05 with err=3.911965139806514 at it=24
 * v0_scn_mean = 24.715226891049255
 * MAE = 69.05796630602221

```
=====
=====
```

df n.2, scene n.38/69

```
=====
=====
```

We have 3 time intervals inside [413.96,414.56]

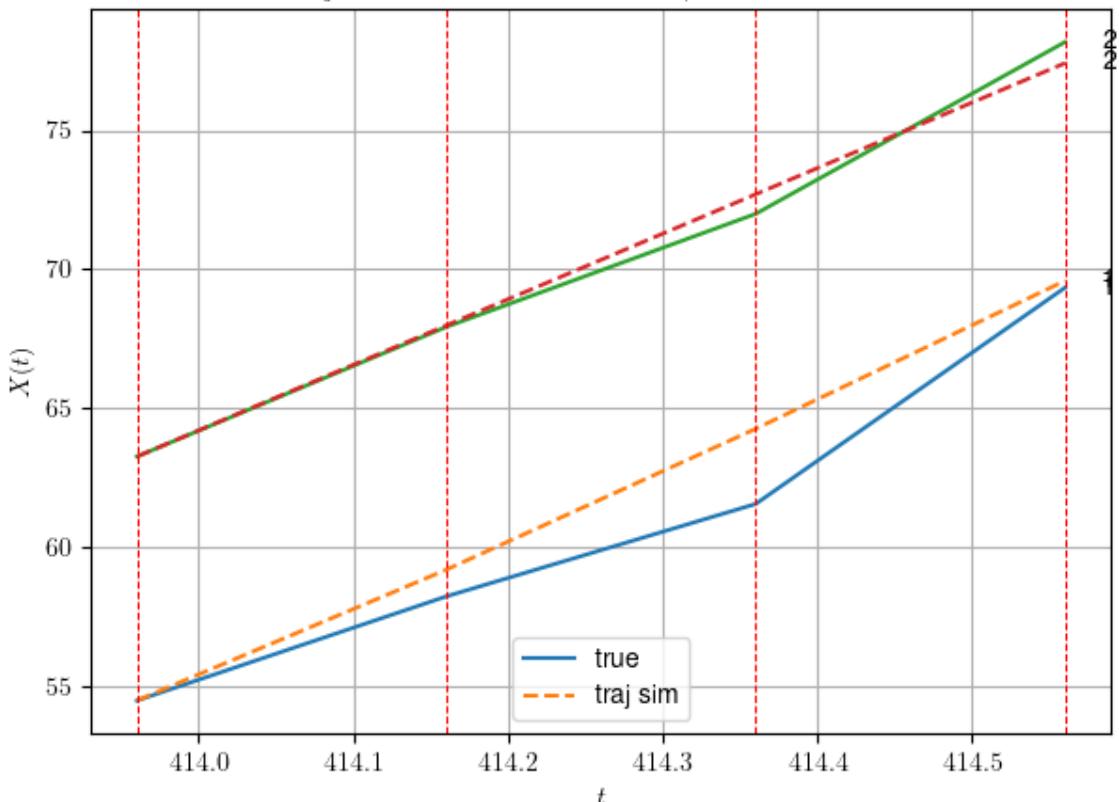
- Time interval n.0: [413.96, 414.16]
 - * y_true: [18.75115567]
 - * v_ann: [23.559574127197266, 23.615524542916376]

- Time interval n.1: [414.16, 414.36]
 - * y_true: [16.65115772]
 - * v_ann: [25.373275756835938, 23.615524542916376]

```
- Time interval n.2: [414.36, 414.56]
* y_true: [38.95323614]
* v_ann: [26.661340713500977, 23.615524542916376]
```

```
* err= 1.1734608084453848
* Learning rate NN = 2.952449540316593e-05
* diff = 0 0011000260583136216
```

df n. 2 – Scene n. 38, at it = 500

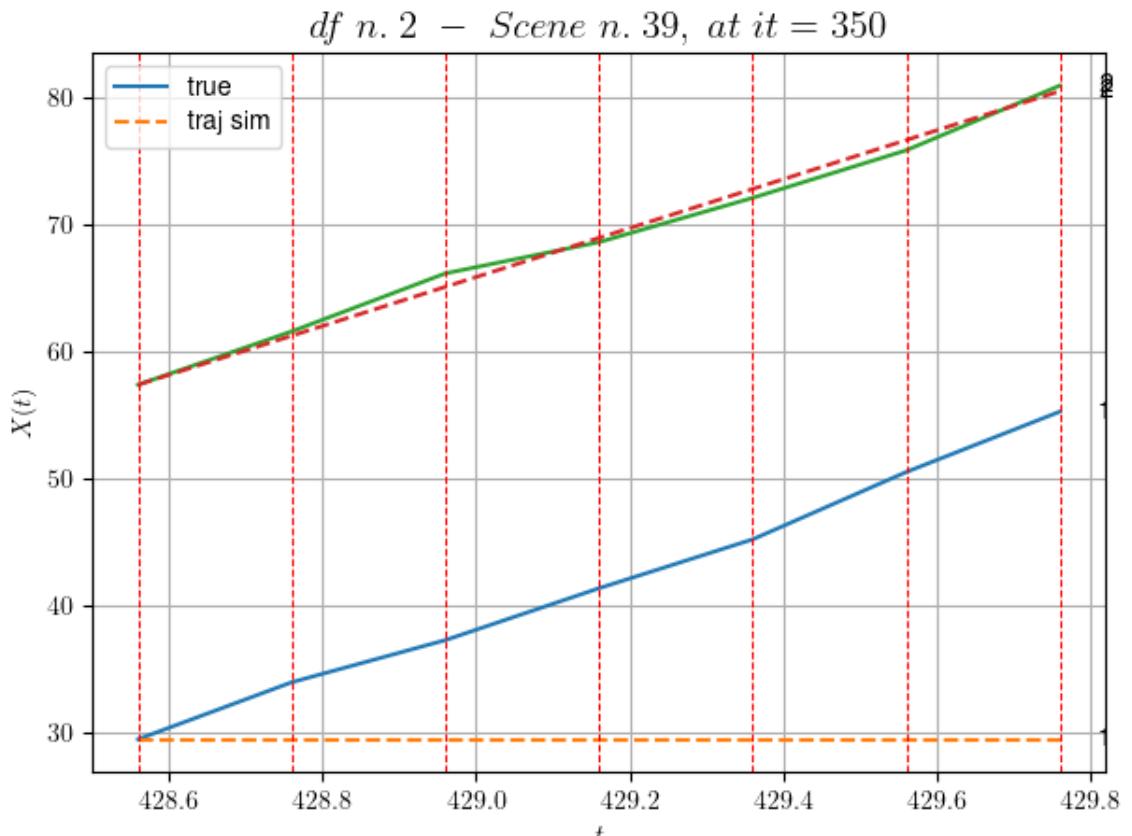


For scene 38/69

```
* use LR_NN=5e-05 with err=3.512850175227292 at it=24
* v0_scn_mean = 23.870903561150953
* MAE = 0.7400307501542995
```

df n.2, scene n.39/69

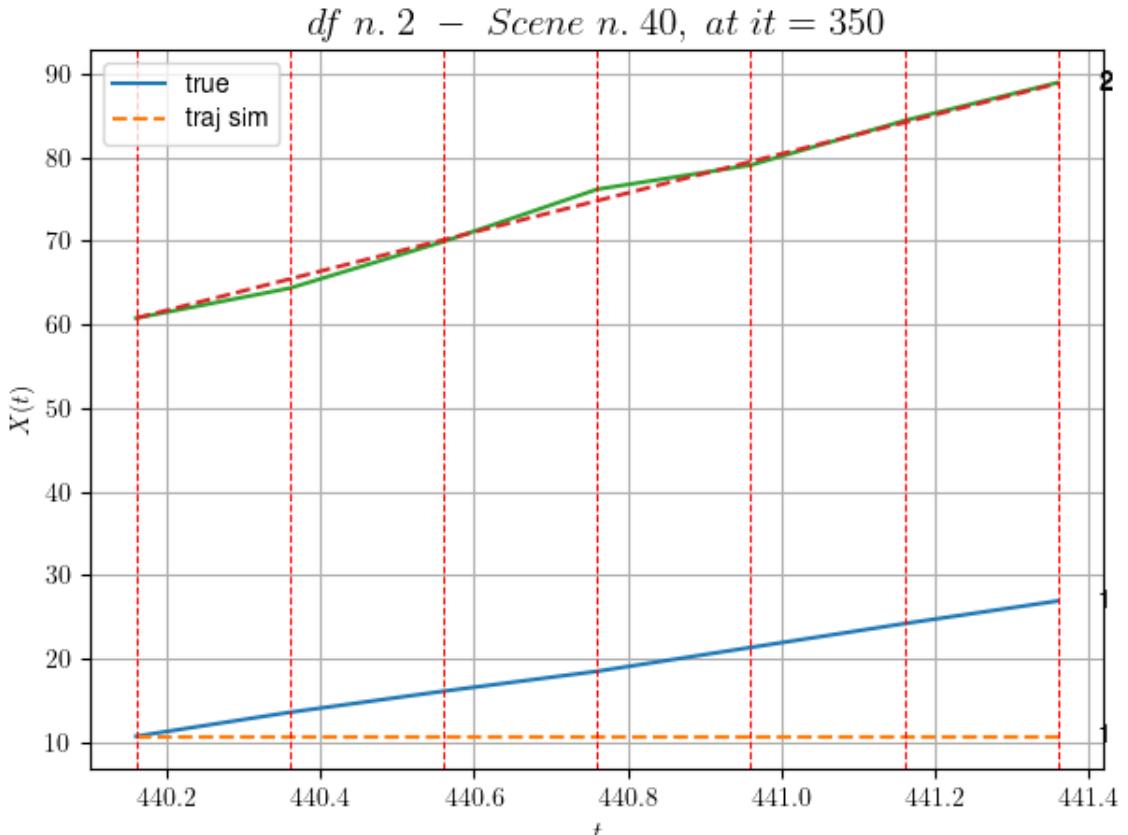
```
We have 6 time intervals inside [428.56,429.76]
* err= 113.08373934901877
* Learning rate NN = 0.0002152335800928995
* diff = 2.2256632803419052e-07
```



df n.2, scene n.40/69

We have 6 time intervals inside [440.16,441.36]

- * err= 46.91956330127866
- * Learning rate NN = 4.304671165300533e-05
- * diff = 1.0105221548428744e-07



For scene 40/69

- * use LR_NN=0.0001 with err=11.132205938468404 at it=24
- * v0_scn_mean = 23.759054431573883
- * MAE = 46.913404124667224

df n.2, scene n.41/69

We have 7 time intervals inside [442.36, 443.76]

- Time interval n.0: [442.36, 442.56]
 - * y_true: [12.43042647]
 - * v_ann: [12.785223960876465, 21.85795817065082]

- Time interval n.1: [442.56, 442.76]
 - * y_true: [15.80061825]
 - * v_ann: [12.714550018310547, 21.85795817065082]

- Time interval n.2: [442.76, 442.96]
 - * y_true: [13.31057742]
 - * v_ann: [13.454442024230957, 21.85795817065082]

- Time interval n.3: [442.96, 443.16]
 - * y_true: [11.01053508]

```
* v_ann: [13.835047721862793, 21.85795817065082]
```

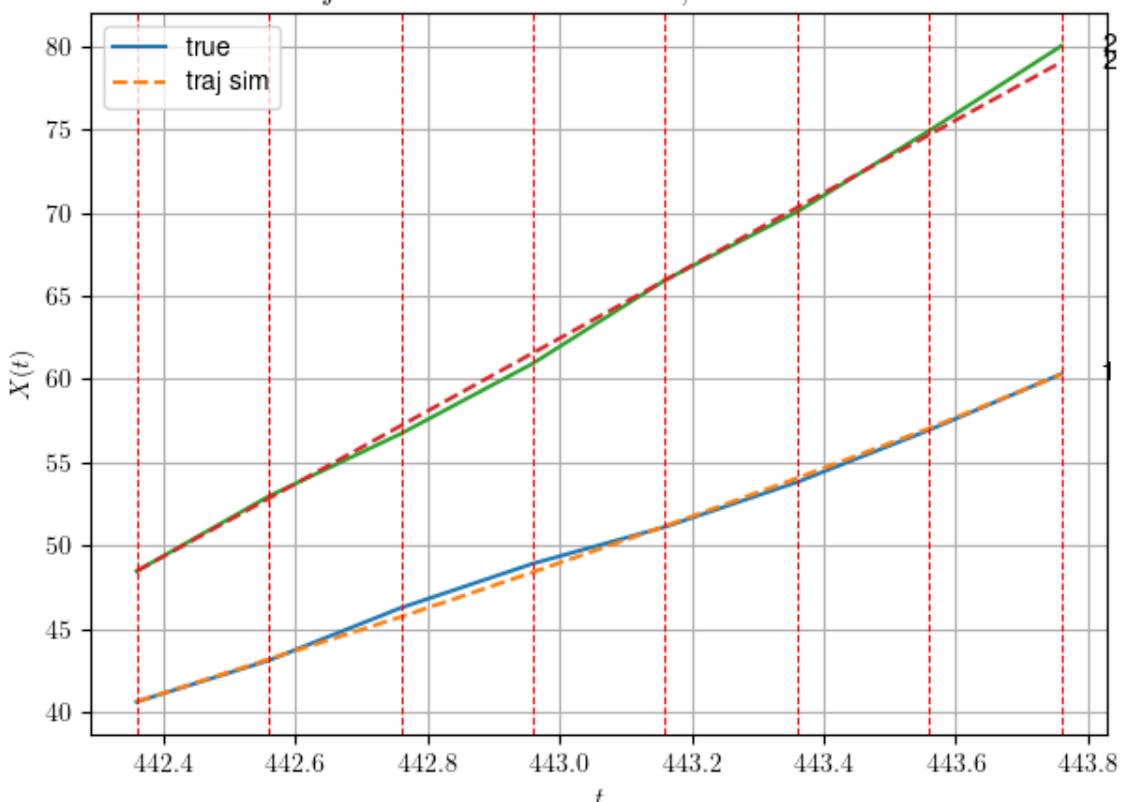
```
- Time interval n.4: [443.16, 443.36]
* y_true: [13.47072378]
* v_ann: [14.426994323730469, 21.85795817065082]
```

```
- Time interval n.5: [443.36, 443.56]
* y_true: [15.67093348]
* v_ann: [14.967967987060547, 21.85795817065082]
```

```
- Time interval n.6: [443.56, 443.76]
* y_true: [16.84112333]
* v_ann: [16.224529266357422, 21.85795817065082]
```

```
* err= 0.1471780714138483
* Learning rate NN = 0.00025418648147024214
* diff = 0.0017529772597496829
```

df n. 2 – Scene n. 41, at it = 500



For scene 41/69

```
* use LR_NN=0.001 with err=23.074033996120292 at it=24
* v0_scn_mean = 22.183639843763856
* MAE = 0.1471780714138483
```

```
df n.2, scene n.42/69
=====
=====
We have 5 time intervals inside [483.16,484.16]
- Time interval n.0: [483.16, 483.36]
  * y_true: [13.10044424]
  * v_ann: [14.792110443115234, 18.47029090270065]

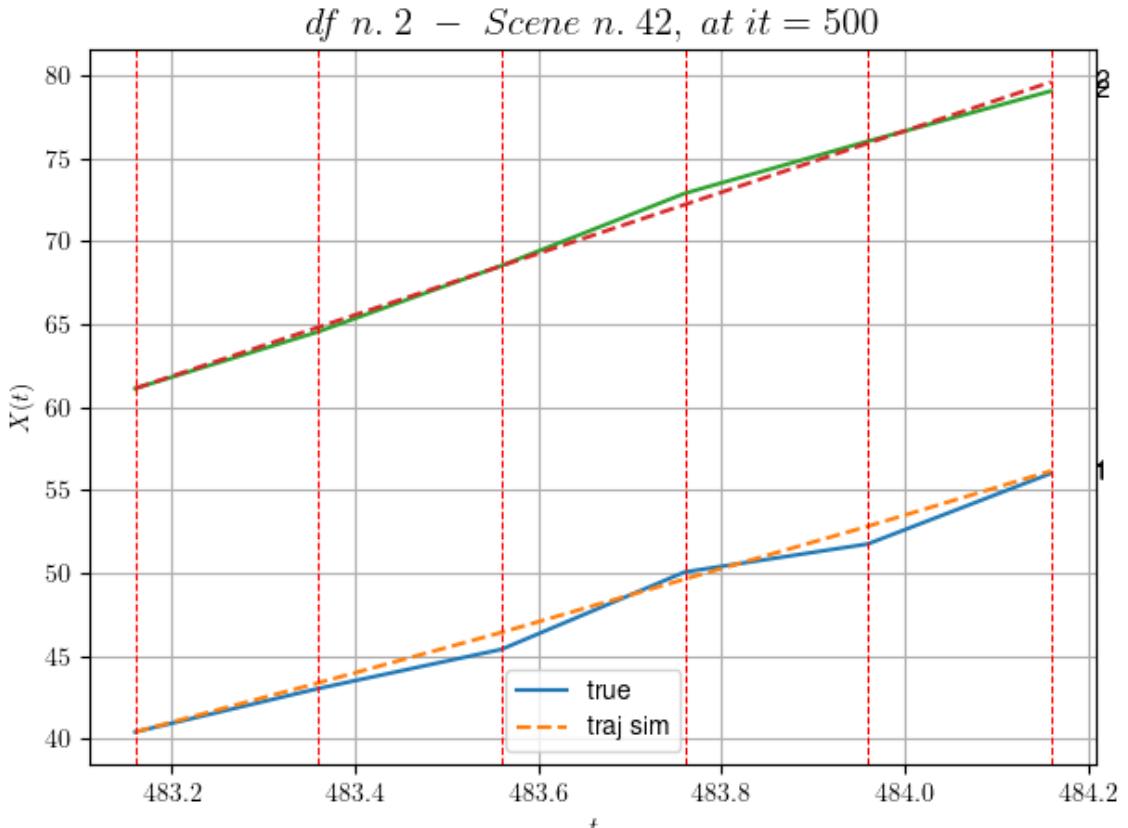
-----
- Time interval n.1: [483.36, 483.56]
  * y_true: [11.80044885]
  * v_ann: [15.206446647644043, 18.47029090270065]

-----
- Time interval n.2: [483.56, 483.76]
  * y_true: [23.3010318]
  * v_ann: [16.05048179626465, 18.47029090270065]

-----
- Time interval n.3: [483.76, 483.96]
  * y_true: [8.45042492]
  * v_ann: [15.935980796813965, 18.47029090270065]

-----
- Time interval n.4: [483.96, 484.16]
  * y_true: [21.30119954]
  * v_ann: [16.664480209350586, 18.47029090270065]

-----
* err= 0.27794224347143154
* Learning rate NN = 3.874203684972599e-06
* diff = 0 0003630786299955724
```



For scene 42/69

- * use LR_NN=1e-05 with err=24.772233379819657 at it=24
- * v0_scn_mean = 18.931479266504894
- * MAE = 0.2776795242667453

df n.2, scene n.43/69

We have 3 time intervals inside [494.76, 495.36]

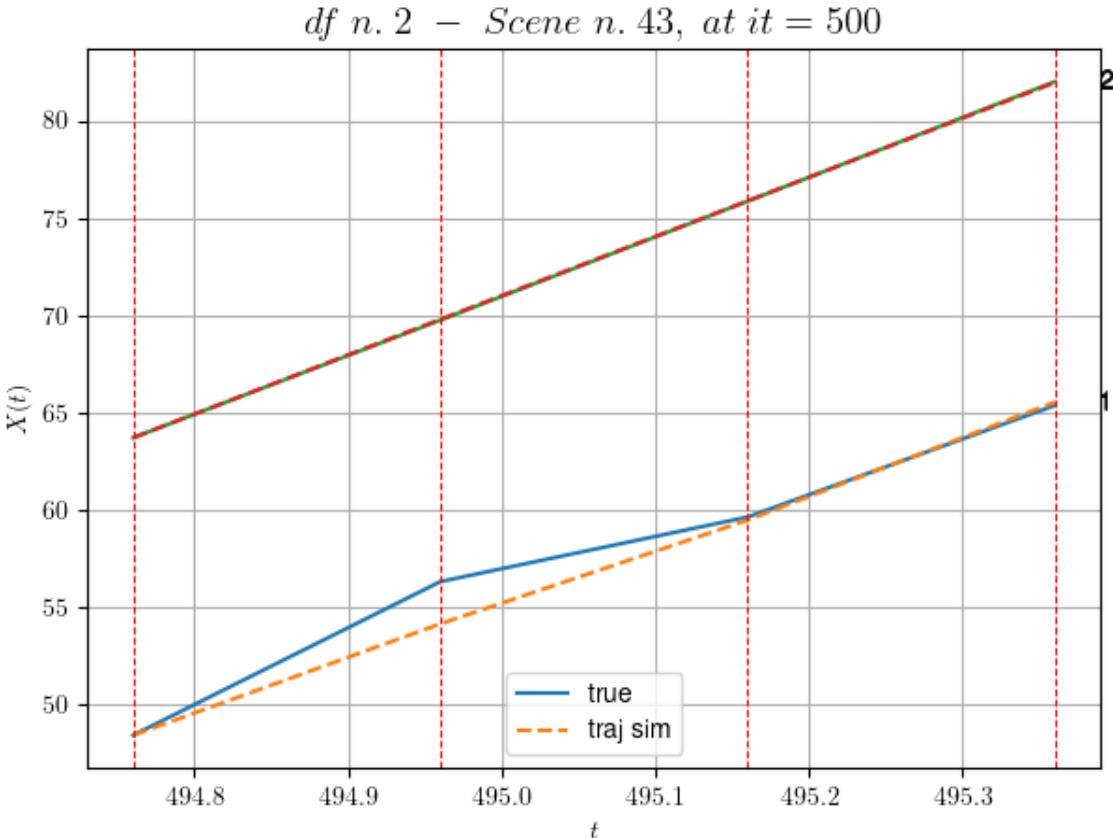
- Time interval n.0: [494.76, 494.96]
 - * y_true: [39.5021068]
 - * v_ann: [28.637691497802734, 30.442979864263386]

- Time interval n.1: [494.96, 495.16]
 - * y_true: [16.60108256]
 - * v_ann: [26.673885345458984, 30.442979864263386]

- Time interval n.2: [495.16, 495.36]
 - * y_true: [28.7021737]
 - * v_ann: [30.352399826049805, 30.442979864263386]

- * err= 0.5975551590475668
- * Learning rate NN = 5.904899080633186e-05

* diff = 3 580800200041201e-05



For scene 43/69

* use LR_NN=0.0001 with err=0.6449795013938883 at it=24
 * v0_scn_mean = 30.42526066969661
 * MAE = 0.5915013916841374

df n.2, scene n.44/69

We have 7 time intervals inside [513.16, 514.56]

- Time interval n.0: [513.16, 513.36]
 - * y_true: [21.8303416]
 - * v_ann: [21.23293113708496, 22.16942692857361]

- Time interval n.1: [513.36, 513.56]
 - * y_true: [22.29045729]
 - * v_ann: [20.898334503173828, 22.16942692857361]

- Time interval n.2: [513.56, 513.76]
 - * y_true: [18.24046898]
 - * v_ann: [20.900440216064453, 22.16942692857361]

- Time interval n.3: [513.76, 513.96]

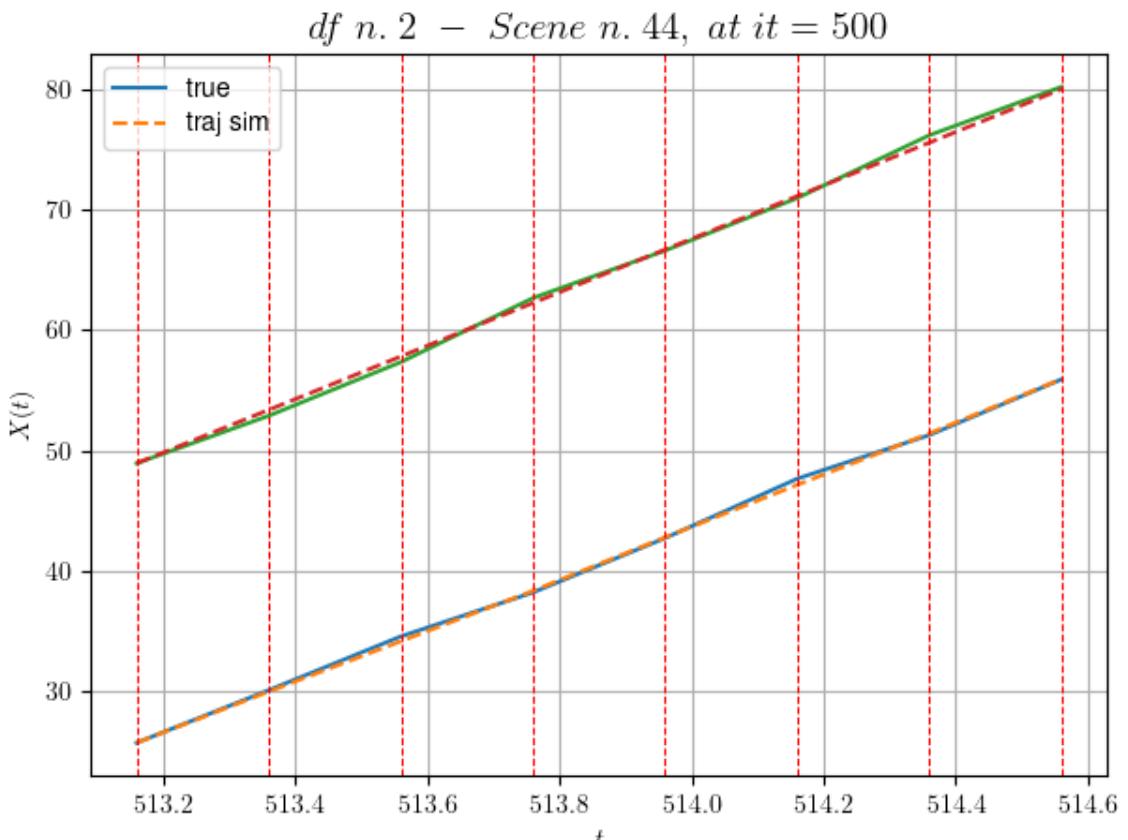
```
* y_true: [22.54072782]
* v_ann: [22.217592239379883, 22.16942692857361]
```

```
- Time interval n.4: [513.96, 514.16]
* y_true: [24.65098297]
* v_ann: [21.762348175048828, 22.16942692857361]
```

```
- Time interval n.5: [514.16, 514.36]
* y_true: [18.09085031]
* v_ann: [21.318735122680664, 22.16942692857361]
```

```
- Time interval n.6: [514.36, 514.56]
* y_true: [23.12130086]
* v_ann: [22.575340270996094, 22.16942692857361]
```

```
* err= 0.0975205998083572
* Learning rate NN = 2.541864660088322e-06
* dfff = 2.868007647551007e-06
```



For scene 44/69

```
* use LR_NN=1e-05 with err=20.842901405114308 at it=24
* v0_scn_mean = 22.482649851371523
* MAE = 0.09176818715896995
```

```
df n.2, scene n.45/69
=====
```

```
We have 2 time intervals inside [530.96,531.36]
```

- Time interval n.0: [530.96, 531.16]

- * y_true: [27.47191731]

- * v_ann: [25.95655632019043, 18.78540832306807]

- Time interval n.1: [531.16, 531.36]

- * y_true: [21.08169407]

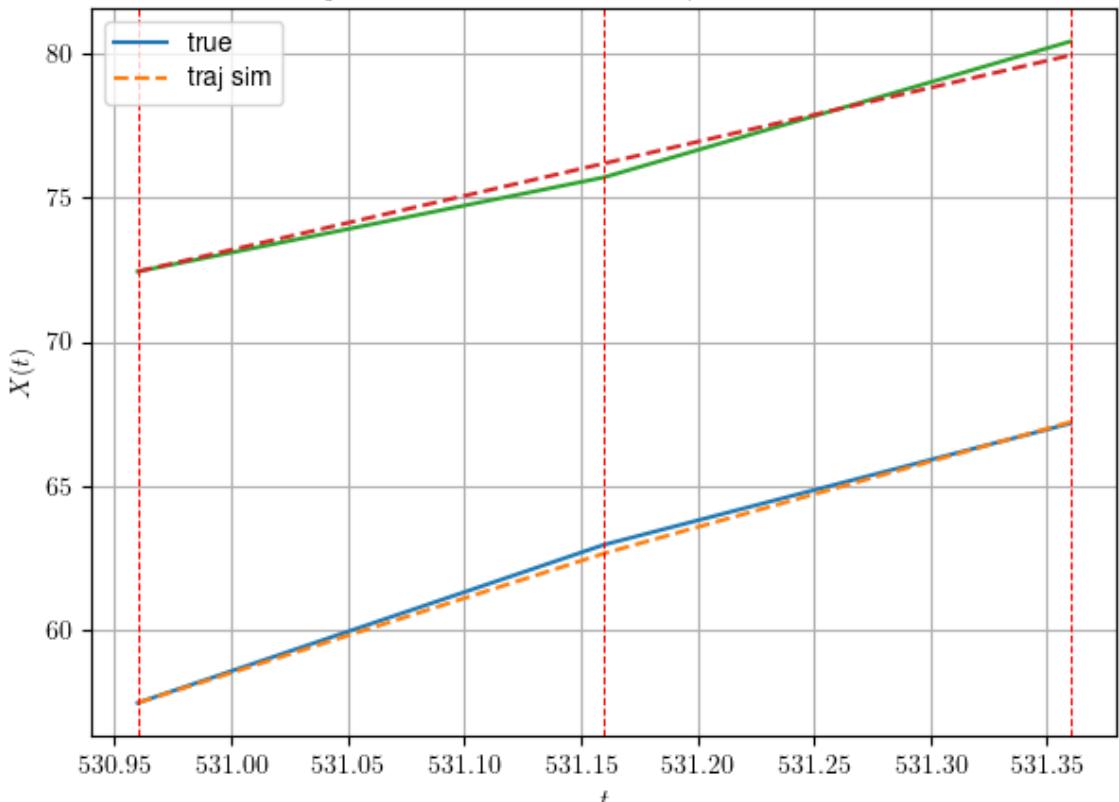
- * v_ann: [22.83150863647461, 18.78540832306807]

- * err= 0.09335434382777025

- * Learning rate NN = 7.289998757187277e-05

- * diff = 2.135693950773565e-05

df n. 2 – Scene n. 45, at it = 500



For scene 45/69

- * use LR_NN=0.0001 with err=3.919832808729077 at it=24

- * v0_scn_mean = 19.233991990060385

- * MAE = 0.08647084574734033

```
df n.2, scene n.46/69
=====
```

```
We have 4 time intervals inside [534.96,535.76]
```

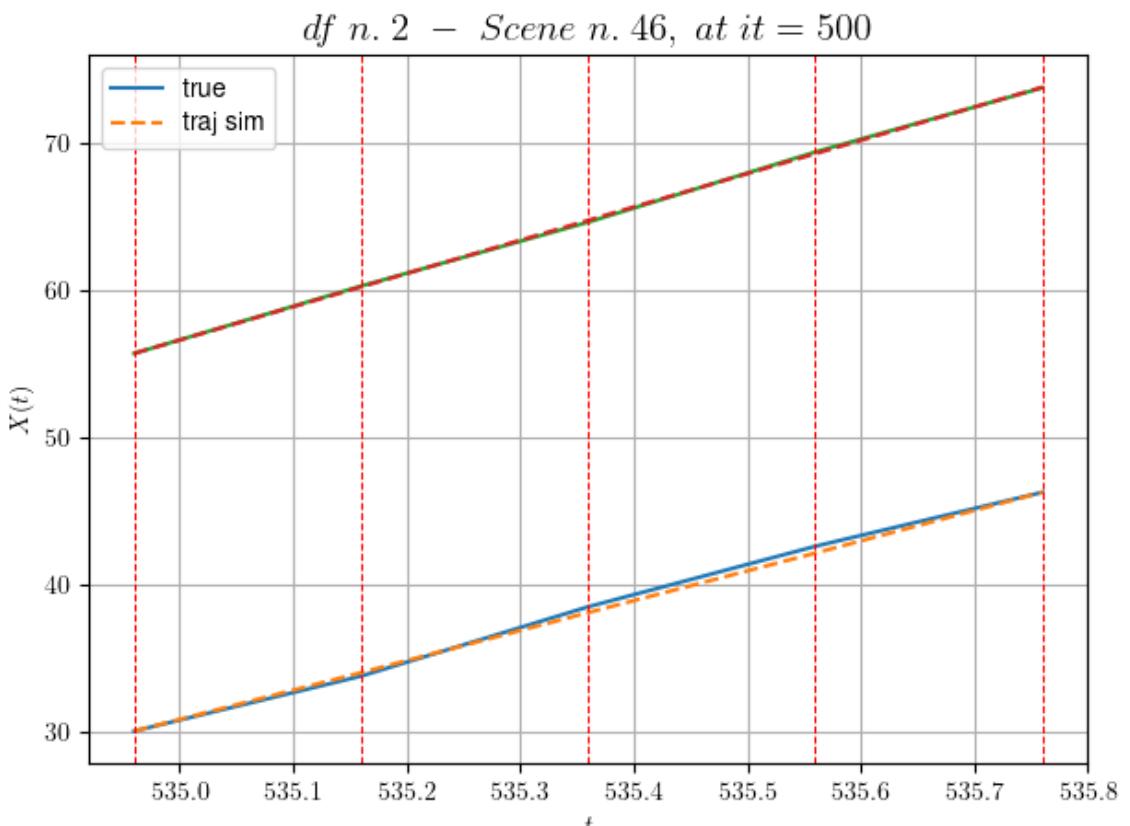
- Time interval n.0: [534.96, 535.16]
 * y_true: [18.70035331]
 * v_ann: [19.866872787475586, 22.621725364453187]

- Time interval n.1: [535.16, 535.36]
 * y_true: [23.55057295]
 * v_ann: [20.4247989654541, 22.621725364453187]

- Time interval n.2: [535.36, 535.56]
 * y_true: [20.55063096]
 * v_ann: [20.206218719482422, 22.621725364453187]

- Time interval n.3: [535.56, 535.76]
 * y_true: [18.350678]
 * v_ann: [20.65794563293457, 22.621725364453187]

* err= 0.045581747007389005
 * Learning rate NN = 4.782968062500004e-06
 * diff = 9.340666135399661e-05



For scene 46/69

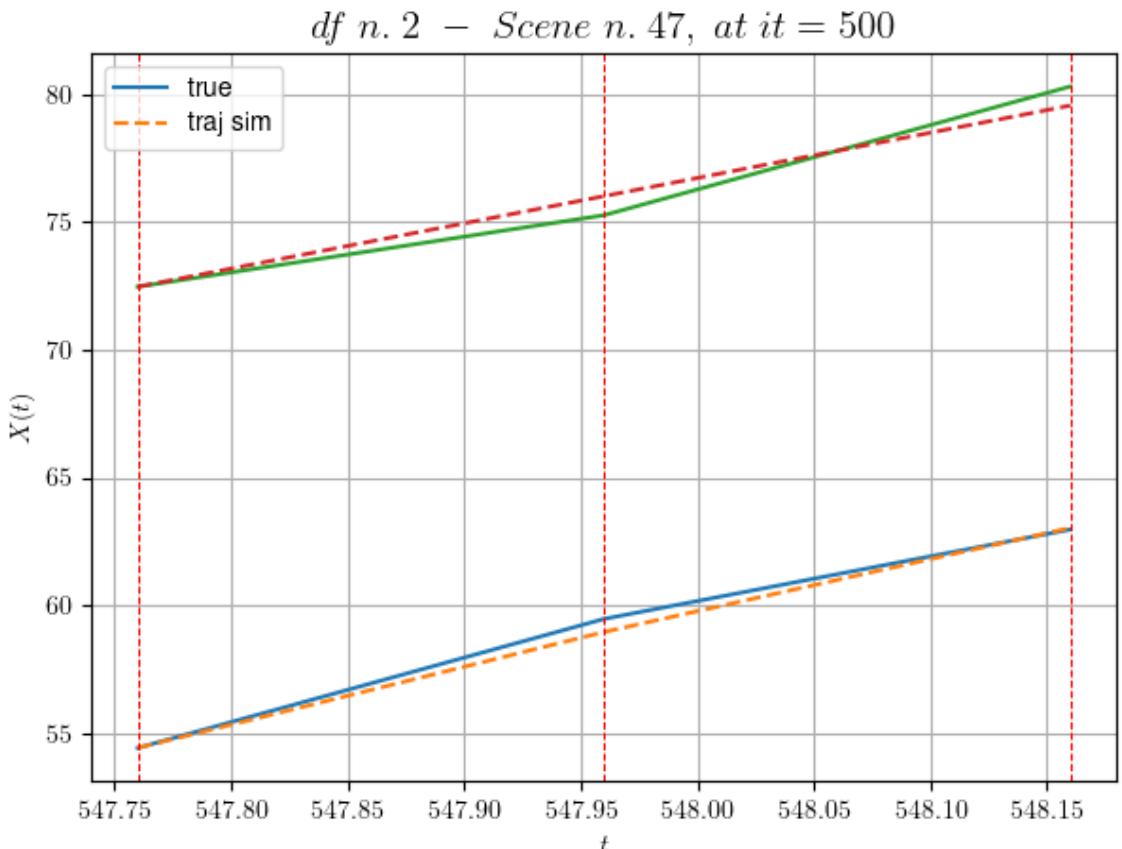
* use LR_NN=1e-05 with err=6.575620938075216 at it=24
 * v0_scn_mean = 22.916856349819238
 * MAE = 0.04553206846561866

df n.2, scene n.47/69

We have 2 time intervals inside [547.76, 548.16]
 - Time interval n.0: [547.76, 547.96]
 * y_true: [25.25158957]
 * v_ann: [22.69120216369629, 17.73529721015659]

- Time interval n.1: [547.96, 548.16]
 * y_true: [17.50127175]
 * v_ann: [20.386497497558594, 17.73529721015659]

* err= 0.23029311064446584
 * Learning rate NN = 3.6449993785936385e-05
 * diff = 1.2745267651936842e-05



For scene 47/69

* use LR_NN=5e-05 with err=4.634125055102769 at it=24
 * v0_scn_mean = 18.2258853216565
 * MAE = 0.2128952229612147

df n.2, scene n.48/69

```
=====
We have 6 time intervals inside [557.96,559.16]
- Time interval n.0: [557.96, 558.16]
  * y_true: [21.95035828]
  * v_ann: [24.089340209960938, 18.265989604983496]

-----
- Time interval n.1: [558.16, 558.36]
  * y_true: [31.40071757]
  * v_ann: [23.084388732910156, 18.265989604983496]

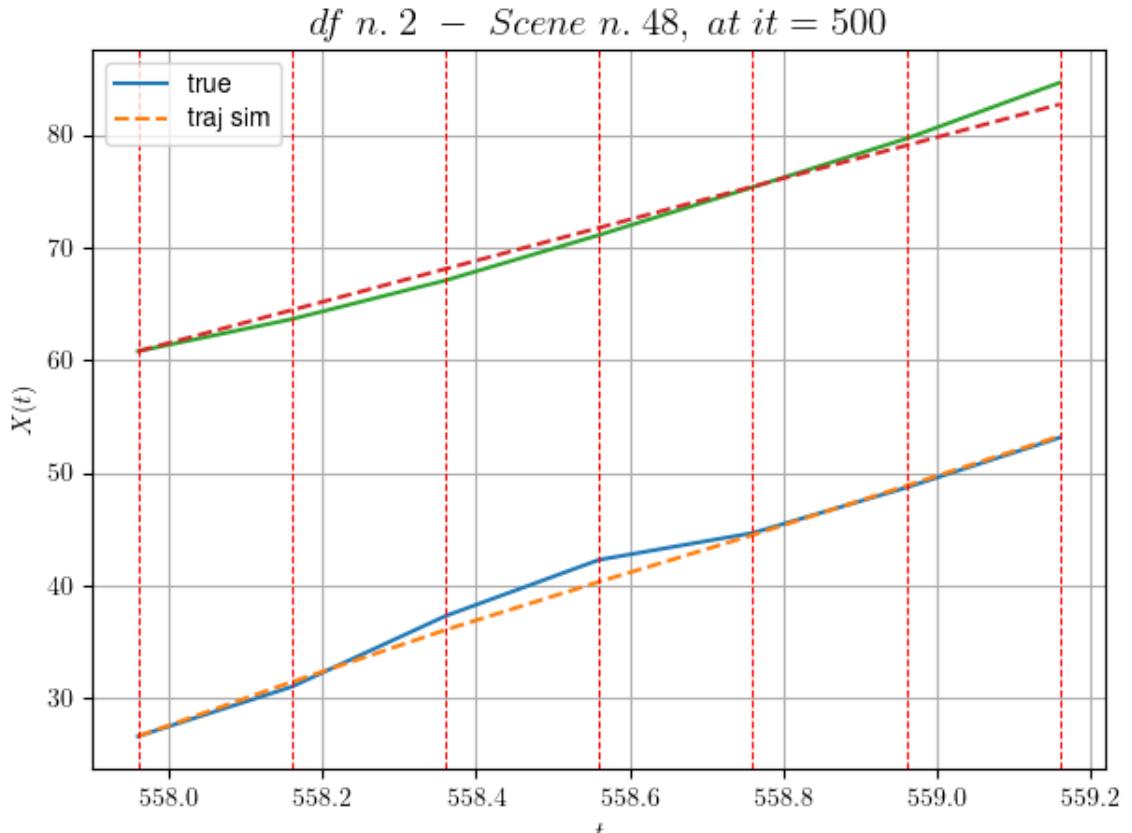
-----
- Time interval n.2: [558.36, 558.56]
  * y_true: [24.95077032]
  * v_ann: [21.34878158569336, 18.265989604983496]

-----
- Time interval n.3: [558.56, 558.76]
  * y_true: [11.90043764]
  * v_ann: [20.760961532592773, 18.265989604983496]

-----
- Time interval n.4: [558.76, 558.96]
  * y_true: [20.15085338]
  * v_ann: [21.880563735961914, 18.265989604983496]

-----
- Time interval n.5: [558.96, 559.16]
  * y_true: [22.20111676]
  * v_ann: [22.048416137695312, 18.265989604983496]

-----
* err= 0.8437240462766877
* Learning rate NN = 3.138104830213706e-06
* diff = 0.0001747149342663512
```

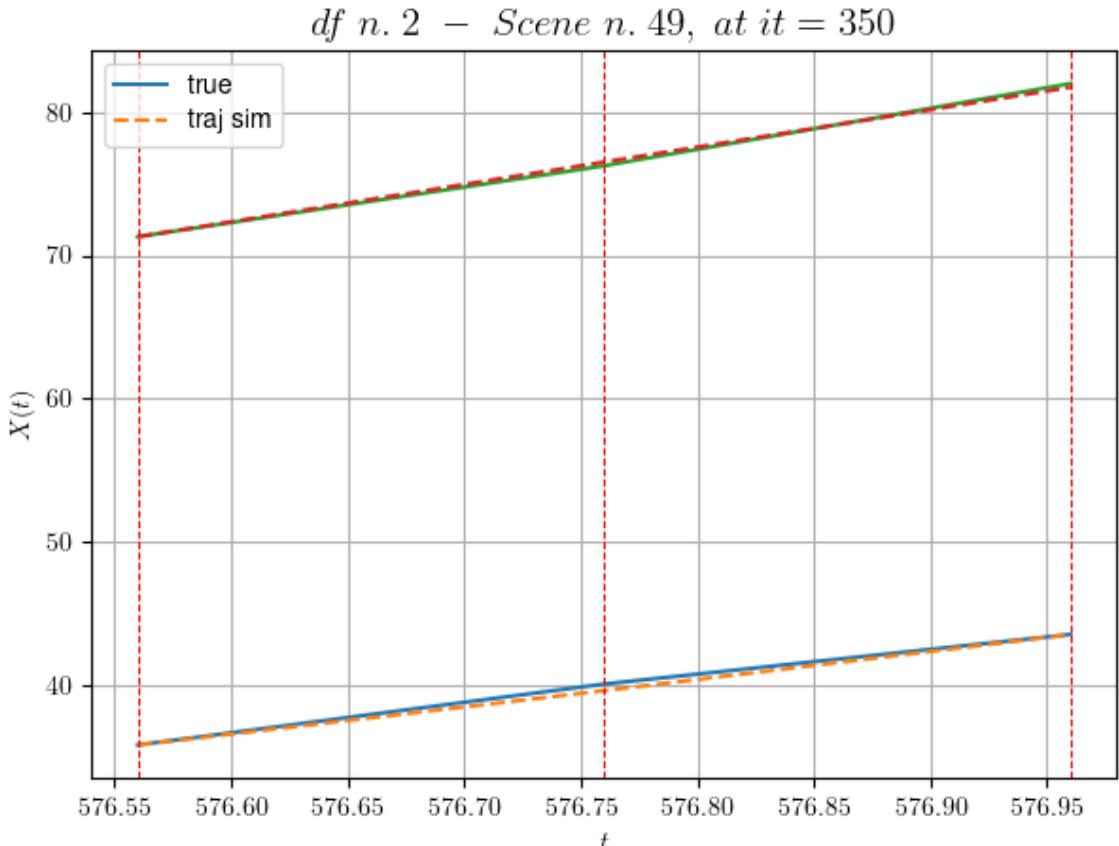


For scene 48/69

```
* use LR_NN=1e-05 with err=33.470354185186416 at it=24
* v0_scn_mean = 18.735350020695005
* MAE = 0.7792228904501514
```

df n.2, scene n.49/69

```
We have 2 time intervals inside [576.56,576.96]
* err= 0.05837310670826224
* Learning rate NN = 4.049999552080408e-05
* diff = 2.8202759817103074e-07
```



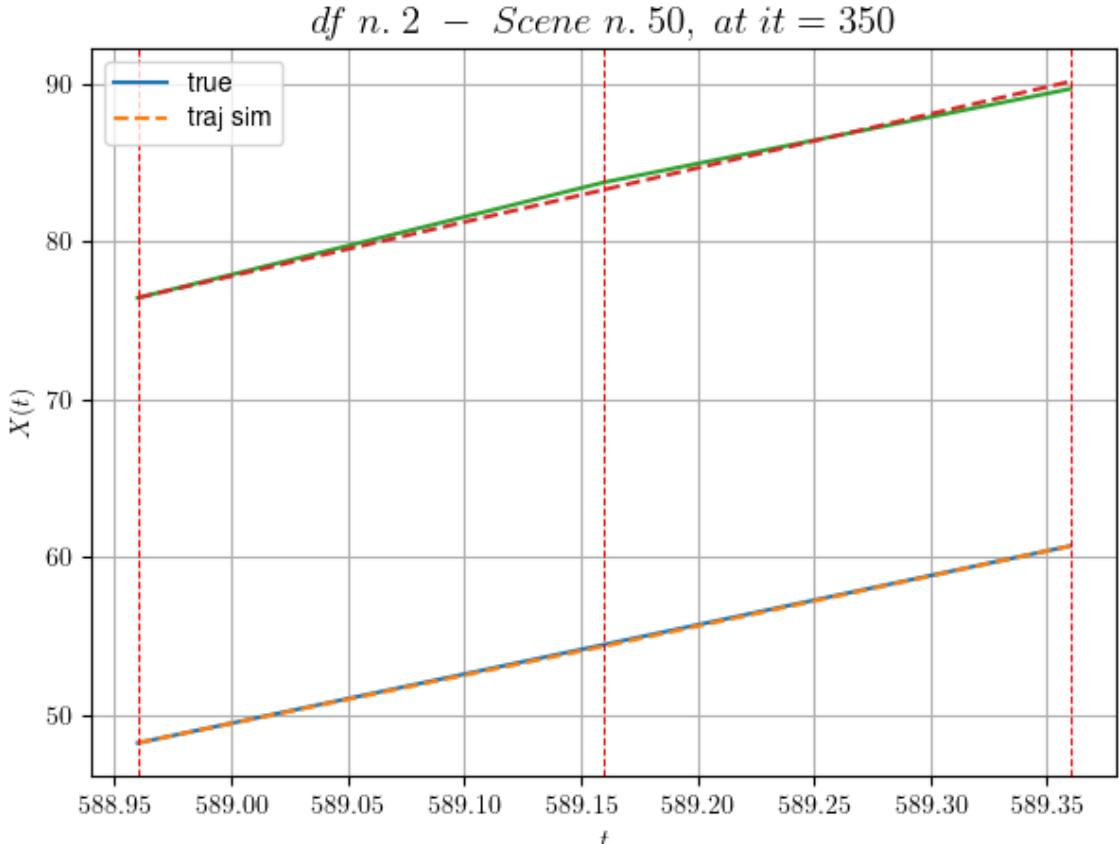
For scene 49/69

- * use LR_NN=5e-05 with err=0.5186704404184633 at it=24
 - * v0_scn_mean = 26.29416514321375
 - * MAE = 0.05712249904249625
-
-

df n.2, scene n.50/69

We have 2 time intervals inside [588.96, 589.36]

- * err= 0.07442085830354042
- * Learning rate NN = 4.049999552080408e-05
- * diff = 5.567138633422175e-08



For scene 50/69

- * use LR_NN=5e-05 with err=0.5381722604929703 at it=24
- * v0_scn_mean = 33.979903425908354
- * MAE = 0.06723089705481444

df n.2, scene n.51/69

We have 4 time intervals inside [86.16, 86.96]

- Time interval n.0: [86.16, 86.36]
 - * y_true: [16.74023073 23.1409288]
 - * v_ann: [18.610031127929688, 18.60977554321289, 1
6.235330060145852]

- Time interval n.1: [86.36, 86.56]
 - * y_true: [19.40034801 15.51071286]
 - * v_ann: [19.775344848632812, 17.89443016052246, 1
6.235330060145852]

- Time interval n.2: [86.56, 86.76]
 - * y_true: [19.59044325 21.61118084]
 - * v_ann: [19.045249938964844, 17.324682235717773, 1
6.235330060145852]

```

-----  

- Time interval n.3: [86.76, 86.96]  

* y_true: [16.37044892 15.10091945]  

* v_ann: [19.476787567138672, 16.28357696533203, 1  

6.235330060145852]
-----
```

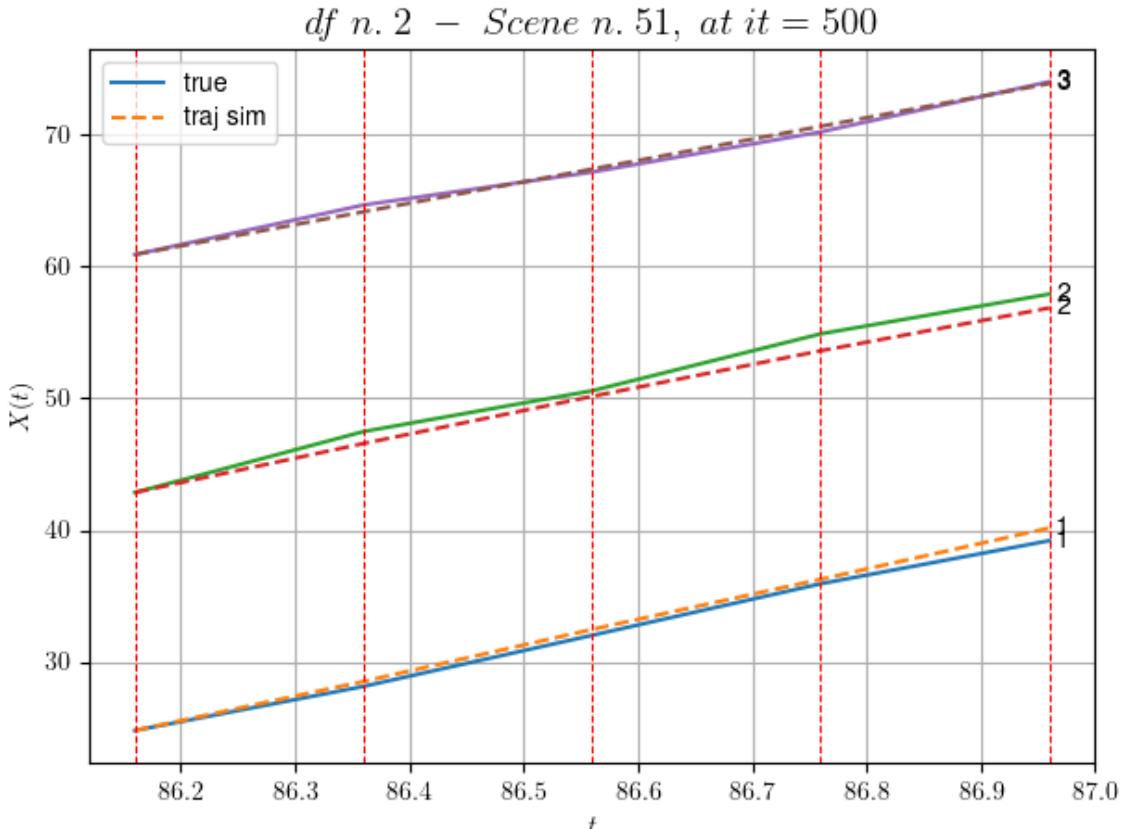
```

-----  

* err= 0.37778491687728627  

* Learning rate NN = 2.3914839403005317e-05  

* diff = 1.3852324401653071e-05
-----
```



For scene 51/69

```

* use LR_NN=5e-05 with err=15.820144015711897 at it=24
* v0_scn_mean = 17.061209638533224
* MAE = 0.3777241018732058
=====
```

df n.2, scene n.52/69

```

=====
```

We have 4 time intervals inside [109.36, 110.16]

```

- Time interval n.0: [109.36, 109.56]  

* y_true: [28.77160952 15.03115545]  

* v_ann: [22.816722869873047, 22.961380004882812, 2  

0.03385870433143]
=====
```

```

-----  

- Time interval n.1: [109.56, 109.76]  

* y_true: [23.64157457 15.83133823]
-----
```

```

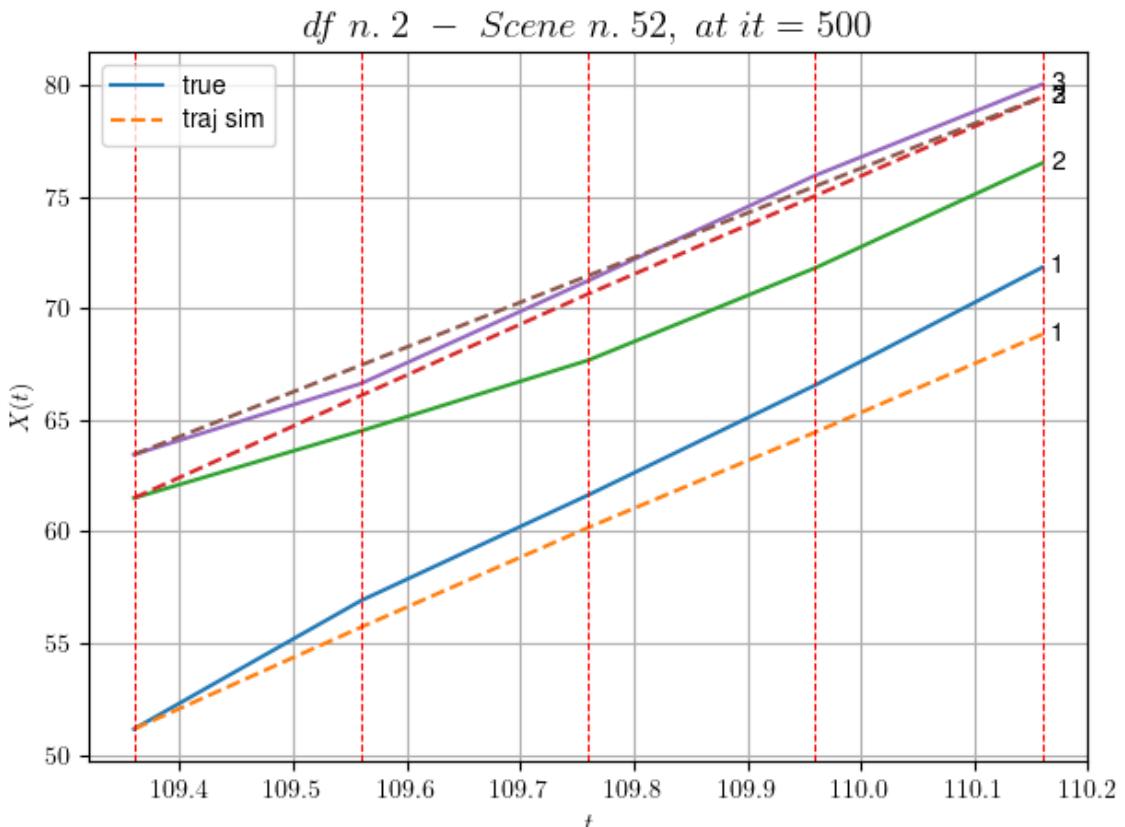
* v_ann: [22.314456939697266, 22.762271881103516, 2
0.03385870433143]

-----
- Time interval n.2: [109.76, 109.96]
* y_true: [24.63196009 20.68195399]
* v_ann: [21.354351043701172, 21.971651077270508, 2
0.03385870433143]

-----
- Time interval n.3: [109.96, 110.16]
* y_true: [26.38241903 23.49250056]
* v_ann: [21.944538116455078, 22.14987564086914, 2
0.03385870433143]

-----
* err= 3.2557105473346706
* Learning rate NN = 0.000478296831715852
* diff = 0 02823071780453068

```



For scene 52/69

```

* use LR_NN=0.001 with err=9.788836340645938 at it=24
* v0_scn_mean = 20.63182673461345
* MAE = 3.2557105473346706

```

df n.2, scene n.53/69

We have 4 time intervals inside [170.36, 171.16]

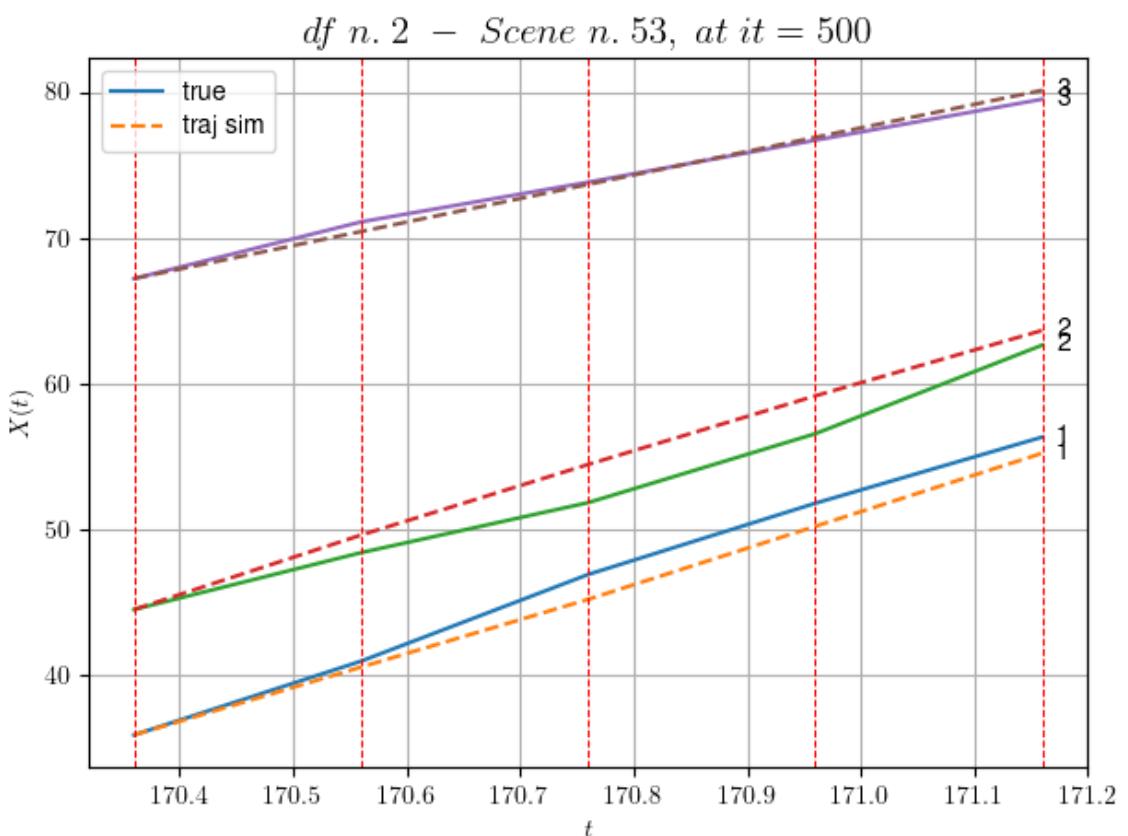
- Time interval n.0: [170.36, 170.56]
 - * y_true: [25.3307413 19.52081588]
 - * v_ann: [23.294742584228516, 25.551044464111328, 1
6.15160939147781]
-

- Time interval n.1: [170.56, 170.76]
 - * y_true: [29.74113537 17.1608437]
 - * v_ann: [23.23914337158203, 24.21954917907715, 16.
15160939147781]
-

- Time interval n.2: [170.76, 170.96]
 - * y_true: [24.43113316 23.6413756]
 - * v_ann: [25.051820755004883, 23.532459259033203, 1
6.15160939147781]
-

- Time interval n.3: [170.96, 171.16]
 - * y_true: [22.71130298 30.41206279]
 - * v_ann: [25.116802215576172, 22.477123260498047, 1
6.15160939147781]
-

- * err= 1.5828173411692747
- * Learning rate NN = 0.000239148415857926
- * diff = 0.003105755902571339



For scene 53/69

```
* use LR_NN=0.0005 with err=33.168463880042964 at it=24
* v0_scn_mean = 16.982512206226403
* MAE = 1.5796924536424959
```

```
=====
=====
```

```
df n.2, scene n.54/69
```

```
=====
=====
```

```
We have 4 time intervals inside [179.36,180.16]
```

```
- Time interval n.0: [179.36, 179.56]
  * y_true: [10.36002857 23.43048282]
  * v_ann: [16.90796661376953, 18.07924461364746, 22.
```

```
081999529878967]
```

```
-----
-----
```

```
- Time interval n.1: [179.56, 179.76]
  * y_true: [10.37004005 22.87060641]
  * v_ann: [16.60692596435547, 17.794687271118164, 2
```

```
2.081999529878967]
```

```
-----
-----
```

```
- Time interval n.2: [179.76, 179.96]
  * y_true: [15.39008451 20.81068862]
  * v_ann: [16.704071044921875, 17.862300872802734, 2
```

```
2.081999529878967]
```

```
-----
-----
```

```
- Time interval n.3: [179.96, 180.16]
  * y_true: [12.44008929 23.53096892]
  * v_ann: [16.85838508605957, 18.225841522216797, 2
```

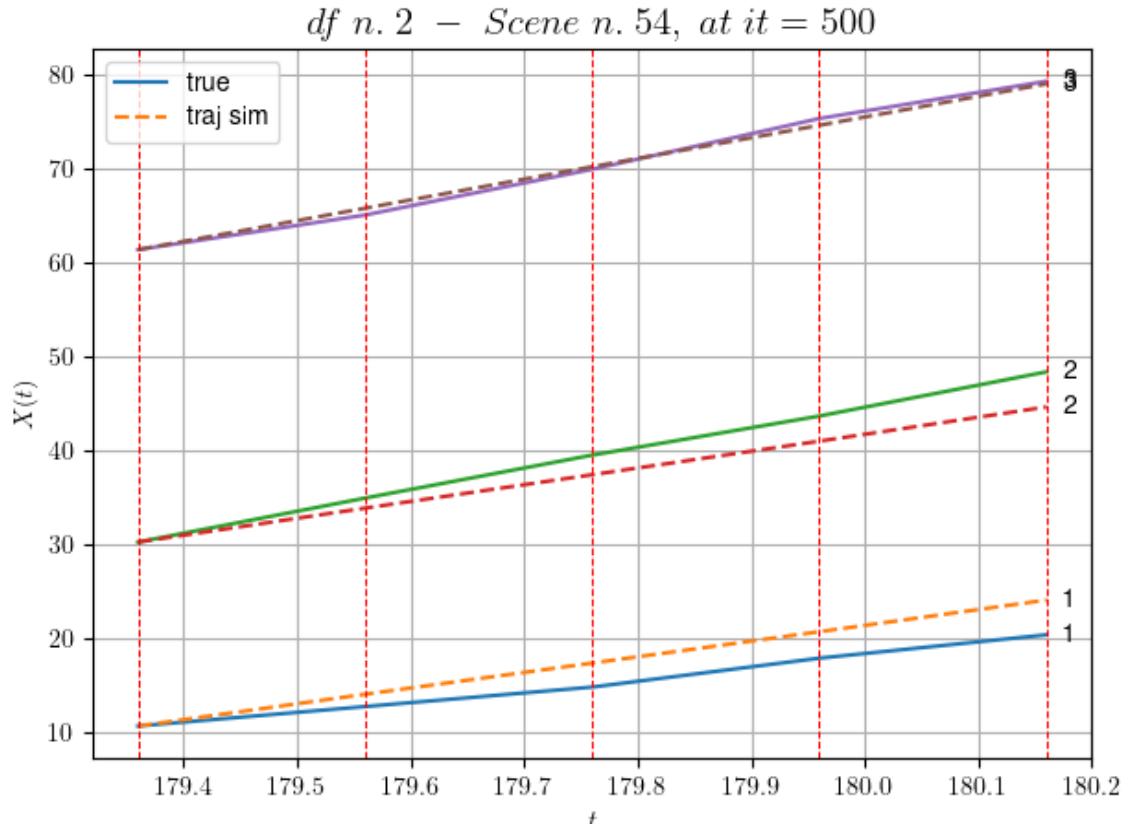
```
2.081999529878967]
```

```
-----
-----
```

```
* err= 3.8485160736279997
```

```
* Learning rate NN = 4.782968062500004e-06
```

```
* diff = 0.14652276000000001
```



For scene 54/69

```
* use LR_NN=1e-05 with err=5.946508064453347 at it=24
* v0_scn_mean = 22.55707920258516
* MAE = 2.683909552749885
```

df n.2, scene n.55/69

We have 2 time intervals inside [199.76,200.16]

- Time interval n.0: [199.76, 199.96]
 - * y_true: [18.79121443 18.55195156]
 - * v_ann: [19.520835876464844, 19.19161033630371, 1

4.651669964039732]

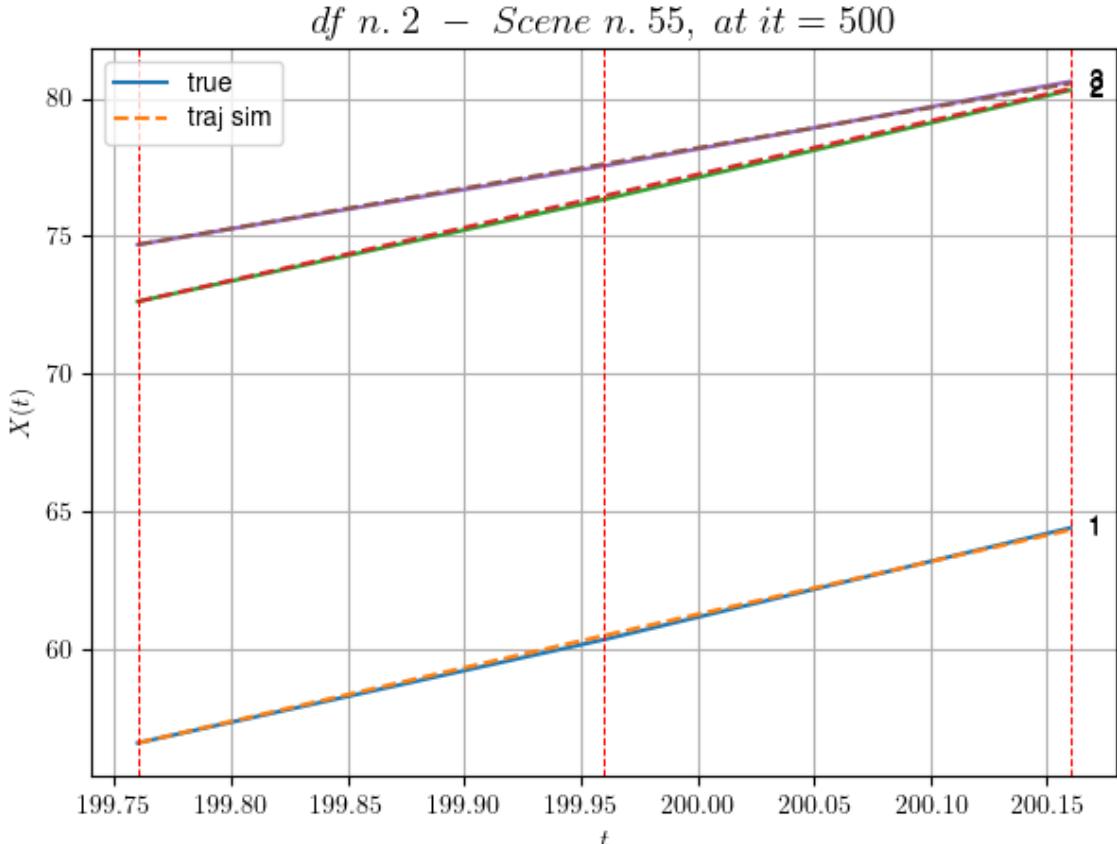
- Time interval n.1: [199.96, 200.16]
 - * y_true: [20.30155709 19.85230976]
 - * v_ann: [19.196521759033203, 19.493701934814453, 1

4.651669964039732]

* err= 0.006251347601880769

* Learning rate NN = 0.00036449998151510954

* diff = 0.00020118888844446875



For scene 55/69

- * use LR_NN=0.0005 with err=9.346186898624998 at it=24
- * v0_scn_mean = 15.572569077090654
- * MAE = 0.006251347601880769

df n.2, scene n.56/69

We have 4 time intervals inside [212.56, 213.36]

- Time interval n.0: [212.56, 212.76]
 - * y_true: [14.43013055 12.85042103]
 - * v_ann: [16.090133666992188, 17.014965057373047, 2 0.507135320916646]

- Time interval n.1: [212.76, 212.96]
 - * y_true: [10.79011916 33.80137312]
 - * v_ann: [15.84564208984375, 17.486934661865234, 2 0.507135320916646]

- Time interval n.2: [212.96, 213.16]
 - * y_true: [16.24022861 13.70067627]
 - * v_ann: [16.534408569335938, 17.115894317626953, 2 0.507135320916646]

```

-----  

- Time interval n.3: [213.16, 213.36]  

* y_true: [10.73017559 21.10118973]  

* v_ ann: [16.317251205444336, 16.796165466308594, 2  

0.507135320916646]
-----
```

```

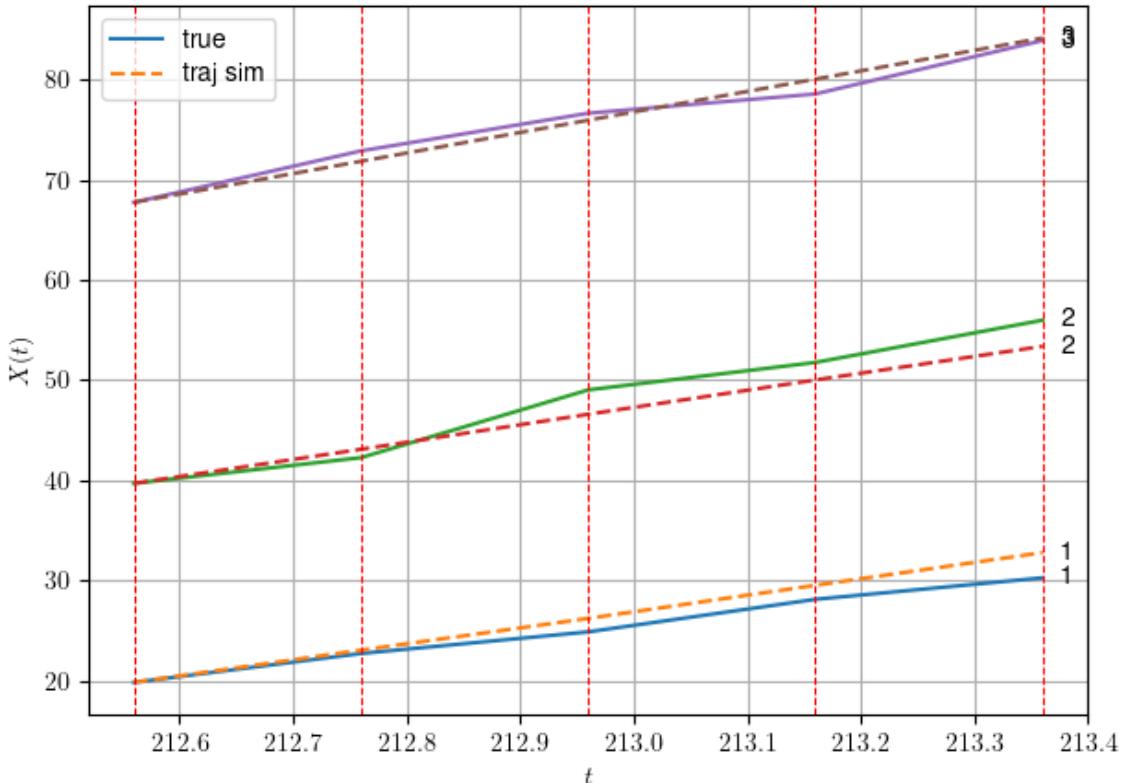
-----  

* err= 2.0339727773806993  

* Learning rate NN = 2.3914839403005317e-05  

* diff = 0.009201532829760772
-----
```

df n. 2 – Scene n. 56, at it = 500



For scene 56/69

```

* use LR_NN=5e-05 with err=8.762201801551587 at it=24  

* v0_scn_mean = 21.076706775452287  

* MAE = 1.405203855006867
=====
```

df n.2, scene n.57/69

```

=====  

=====  

We have 3 time intervals inside [318.16,318.76]
-----
```

```

- Time interval n.0: [318.16, 318.36]  

* y_true: [13.01007537 20.36054455]  

* v_ ann: [16.996164321899414, 16.993267059326172, 2  

0.3551976291637]
-----
```

```

-----  

- Time interval n.1: [318.36, 318.56]  

* y_true: [14.27010639 20.89068863]
```

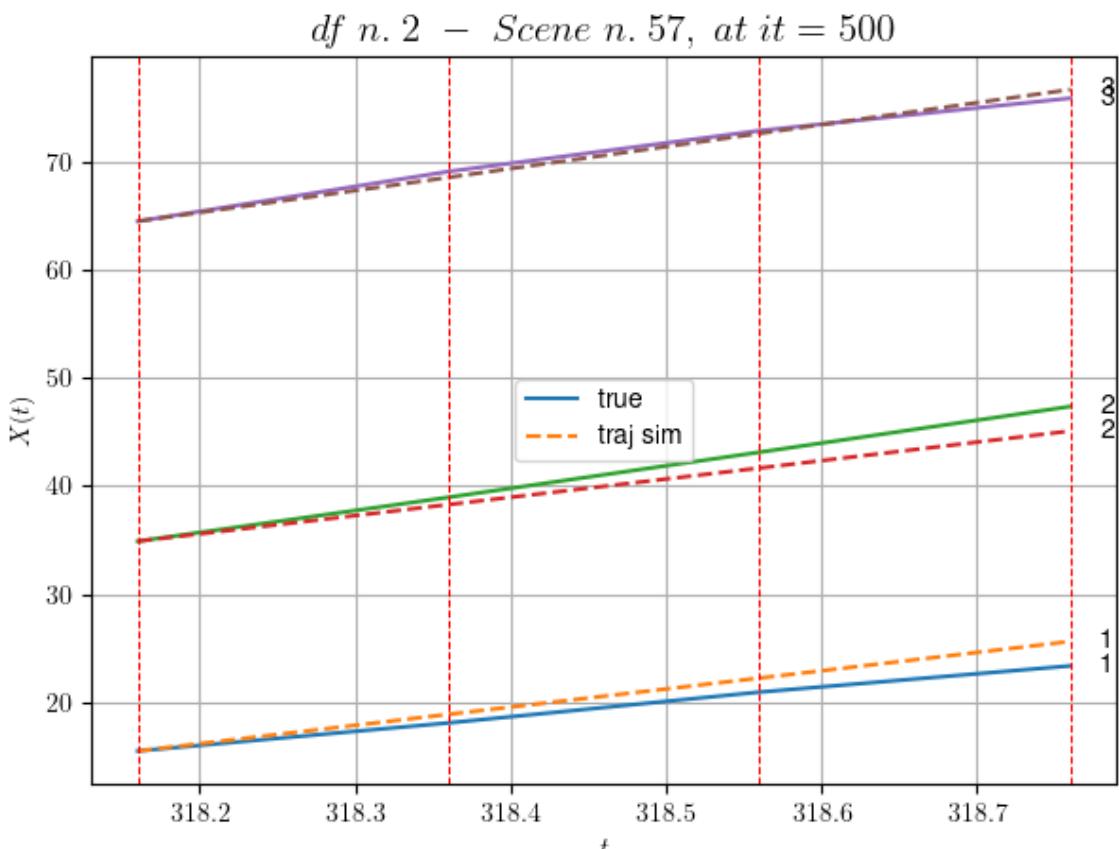
```

* v_ann: [16.787506103515625, 16.93073081970215, 2
0.3551976291637]

-----
- Time interval n.2: [318.56, 318.76]
* y_true: [12.16011799 21.20084683]
* v_ann: [16.988693237304688, 17.160478591918945, 2
0.3551976291637]

-----
* err= 1.3537318577845305
* Learning rate NN = 5.904899080633186e-05
* diff = 0.0018025064100214602

```



For scene 57/69

```

* use LR_NN=0.0001 with err=4.9611211839466565 at it=24
* v0_scn_mean = 20.933885338383313
* MAE = 1.3206212668586377
=====
```

df n.2, scene n.58/69

```
=====
```

We have 4 time intervals inside [430.16, 430.96]

```

- Time interval n.0: [430.16, 430.36]
* y_true: [15.83005748 20.27065425]
* v_ann: [18.892059326171875, 18.860200881958008, 2
1.23690274072129]
```

```

-----  

-----  

    - Time interval n.1: [430.36, 430.56]  

      * y_true: [19.99011659 24.33092793]  

      * v_ann: [18.89873504638672, 18.884553909301758, 2  

1.23690274072129]  

-----  

-----  

    - Time interval n.2: [430.56, 430.76]  

      * y_true: [14.67011767 20.05093433]  

      * v_ann: [19.094188690185547, 18.955814361572266, 2  

1.23690274072129]  

-----  

-----  

    - Time interval n.3: [430.76, 430.96]  

      * y_true: [14.38015429 21.97121967]  

      * v_ann: [19.091331481933594, 18.85452651977539, 2  

1.23690274072129]  

-----  

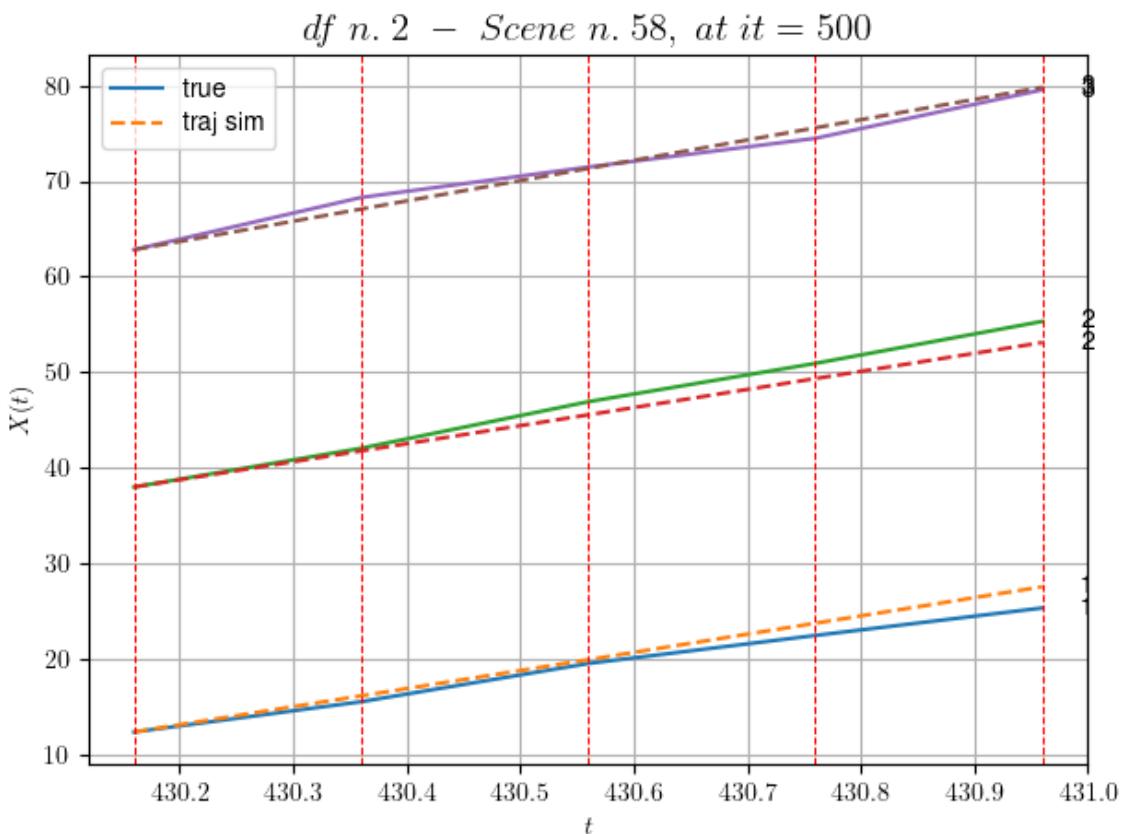
-----  

* err= 1.2836566555841862  

* Learning rate NN = 4.782968062500004e-06  

* diff = 0 00017311890229931848

```



For scene 58/69

```

* use LR_NN=1e-05 with err=8.668226879778267 at it=24
* v0_scn_mean = 21.7626881828341
* MAE = 1.2828818709616236

```

```
df n.2, scene n.59/69
=====
```

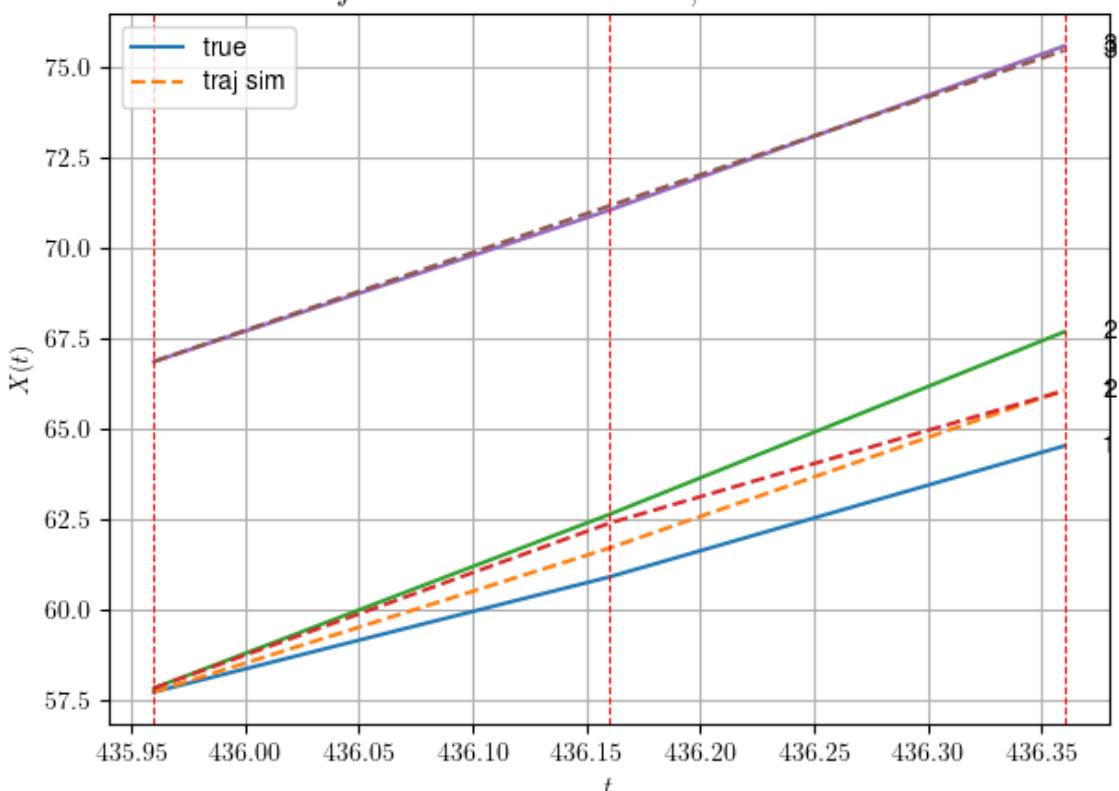
```
We have 2 time intervals inside [435.96,436.36]
```

- Time interval n.0: [435.96, 436.16]
 - * y_true: [15.85107698 23.95169404]
 - * v_ann: [19.832088470458984, 22.747760772705078, 2
 - 1.458715492508595]

-
- Time interval n.1: [436.16, 436.36]
 - * y_true: [18.0813972 25.19206379]
 - * v_ann: [21.797800064086914, 18.271503448486328, 2
 - 1.458715492508595]

-
- * err= 0.6367460376443517
 - * Learning rate NN = 0.0036449995823204517
 - * diff = 0.0008862041543346022

df n. 2 – Scene n. 59, at it = 500



For scene 59/69

- * use LR_NN=0.005 with err=2.3808821696985567 at it=24
- * v0_scn_mean = 21.971192179473
- * MAE = 0.6367460376443517

```
df n.2, scene n.60/69
=====
```

```
=====
We have 5 time intervals inside [442.76,443.76]
- Time interval n.0: [442.76, 442.96]
  * y_true: [18.06141662 13.31057742]
  * v_ann: [21.349184036254883, 15.867801666259766, 2
2.775896802505507]

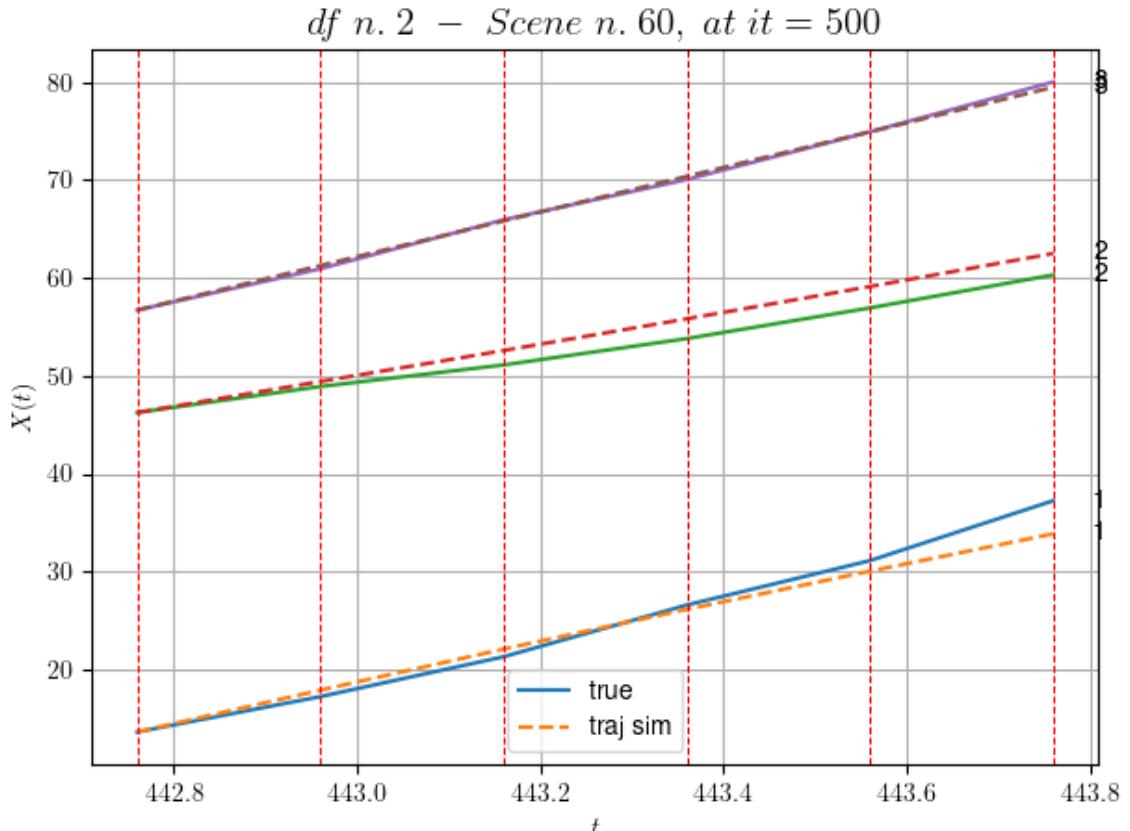
-----
- Time interval n.1: [442.96, 443.16]
  * y_true: [20.34015276 11.01053508]
  * v_ann: [20.97423553466797, 15.821557998657227, 2
2.775896802505507]

-----
- Time interval n.2: [443.16, 443.36]
  * y_true: [26.42894929 13.47072378]
  * v_ann: [20.312679290771484, 16.18939781188965, 2
2.775896802505507]

-----
- Time interval n.3: [443.36, 443.56]
  * y_true: [22.70036274 15.67093348]
  * v_ann: [19.503992080688477, 16.491968154907227, 2
2.775896802505507]

-----
- Time interval n.4: [443.56, 443.76]
  * y_true: [30.60068675 16.84112333]
  * v_ann: [19.08092498779297, 16.90387535095215, 22.
775896802505507]

-----
* err= 1.6906505750819691
* Learning rate NN = 3.874203684972599e-06
* diff = 0.12555062712603330
```



For scene 60/69

* use LR_NN=1e-05 with err=8.346241741056977 at it=24
 * v0_scn_mean = 23.20934267000819
 * MAE = 0.6523074825982449

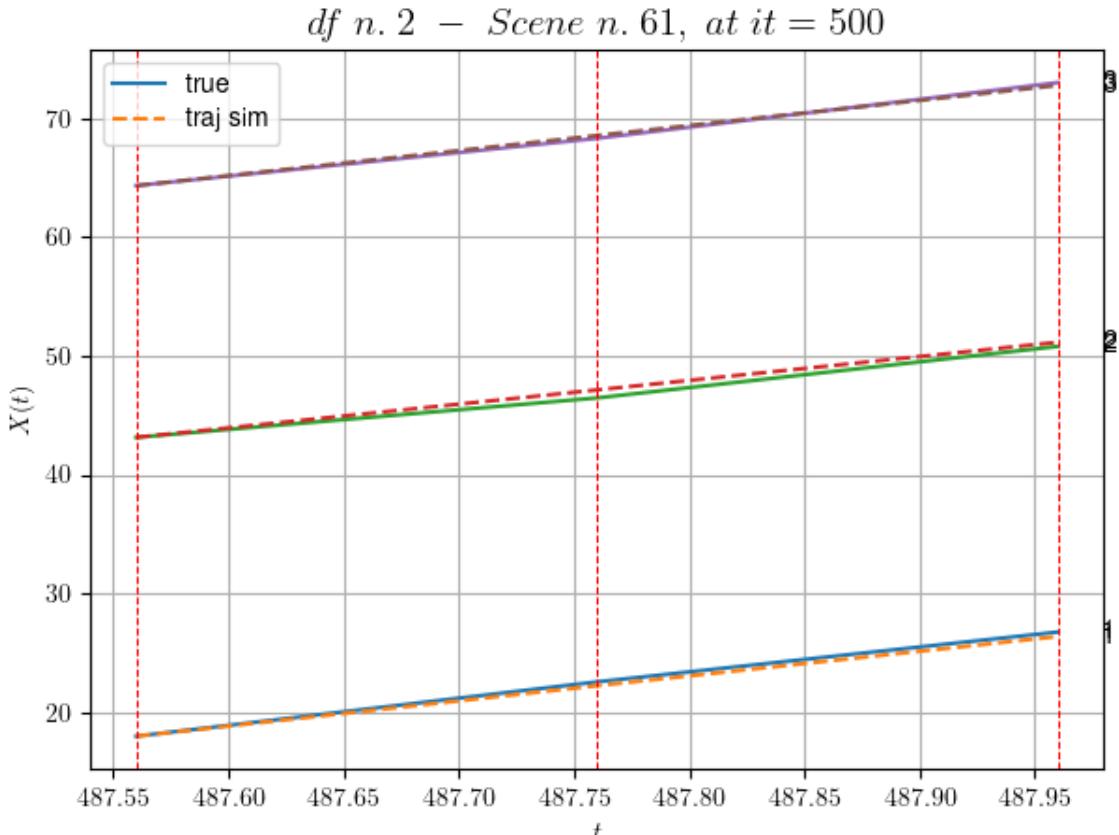
df n.2, scene n.61/69

We have 2 time intervals inside [487.56, 487.96]

- Time interval n.0: [487.56, 487.76]
 * y_true: [22.90018755 16.61065196]
 * v_ann: [21.283666610717773, 19.989479064941406, 2
 1.11190024799189]

- Time interval n.1: [487.76, 487.96]
 * y_true: [21.00025249 21.71102285]
 * v_ann: [20.737110137939453, 20.079029083251953, 2
 1.11190024799189]

* err= 0.10463704026625519
 * Learning rate NN = 3.6449993785936385e-05
 * diff = 0.0006802583854787908



For scene 61/69

* use LR_NN=5e-05 with err=1.69744487257129 at it=24
 * v0_scn_mean = 21.645185834056093
 * MAE = 0.09758884059622225

df n.2, scene n.62/69

We have 5 time intervals inside [531.76, 532.76]

- Time interval n.0: [531.76, 531.96]
 - * y_true: [23.26110286 19.80102444]
 - * v_ann: [21.64165496826172, 22.460308074951172, 1

7.911731328079796]

- Time interval n.1: [531.96, 532.16]
 - * y_true: [19.37730225 14.13461647]
 - * v_ann: [21.352882385253906, 19.94194221496582, 1

7.911731328079796]

- Time interval n.2: [532.16, 532.36]
 - * y_true: [16.15104075 20.18132342]
 - * v_ann: [18.913330078125, 20.958576202392578, 17.9

11731328079796]

```

-----  

    - Time interval n.3: [532.36, 532.56]  

      * y_true: [21.60157988 27.91216632]  

      * v_ann: [20.524980545043945, 20.695974349975586, 1  

    7.911731328079796]  

-----  

    - Time interval n.4: [532.56, 532.76]  

      * y_true: [19.65163525 25.90233391]  

      * v_ann: [21.226308822631836, 20.236360549926758, 1  

    7.911731328079796]  

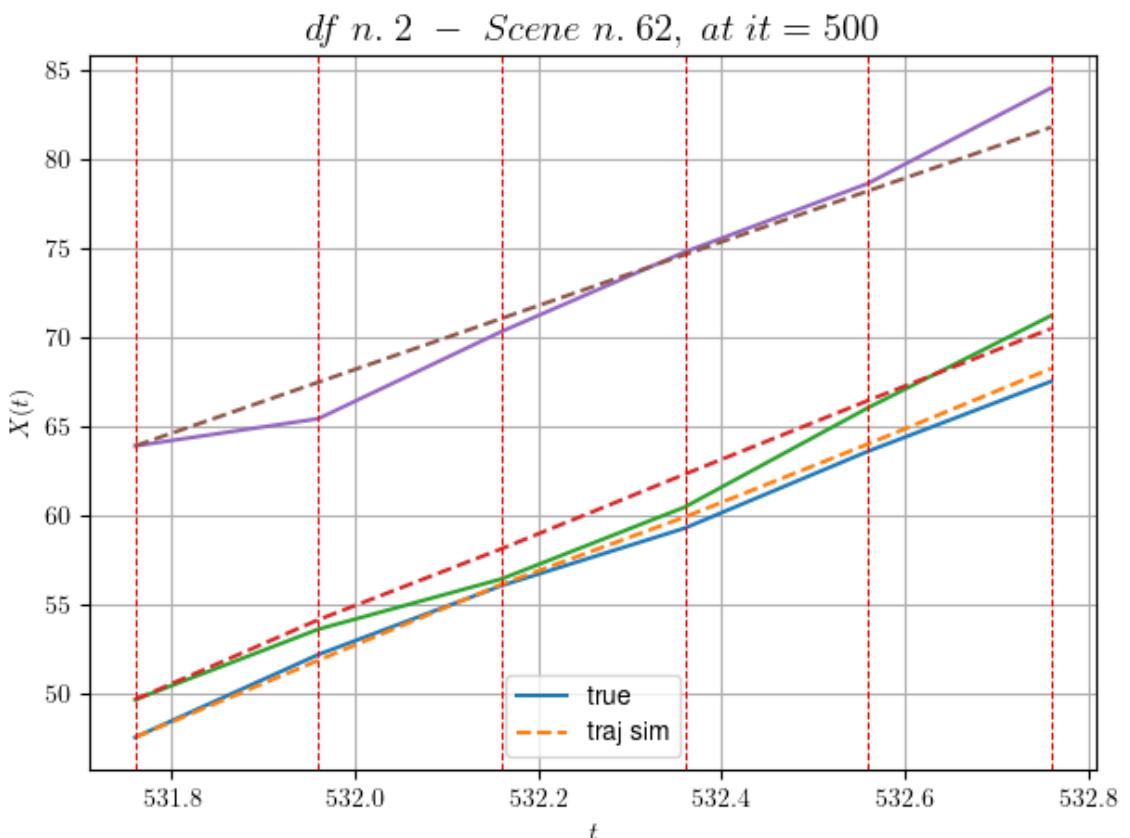
-----  

* err= 1.0160637229506457  

* Learning rate NN = 0.0003874204121530056  

* diff = 0.01035598081155431

```



For scene 62/69
* use LR_NN=0.001 with err=19.3503348337165 at it=24
* v0_scn_mean = 18.637026905658132
* MAE = 1.0129066764841834

df n.2, scene n.63/69

We have 4 time intervals inside [538.36, 539.16]
- Time interval n.0: [538.36, 538.56]
* y_true: [17.69068154 17.20117669]

```

* v_ann: [21.64926528930664, 19.84946060180664, 21.
51886934452355]

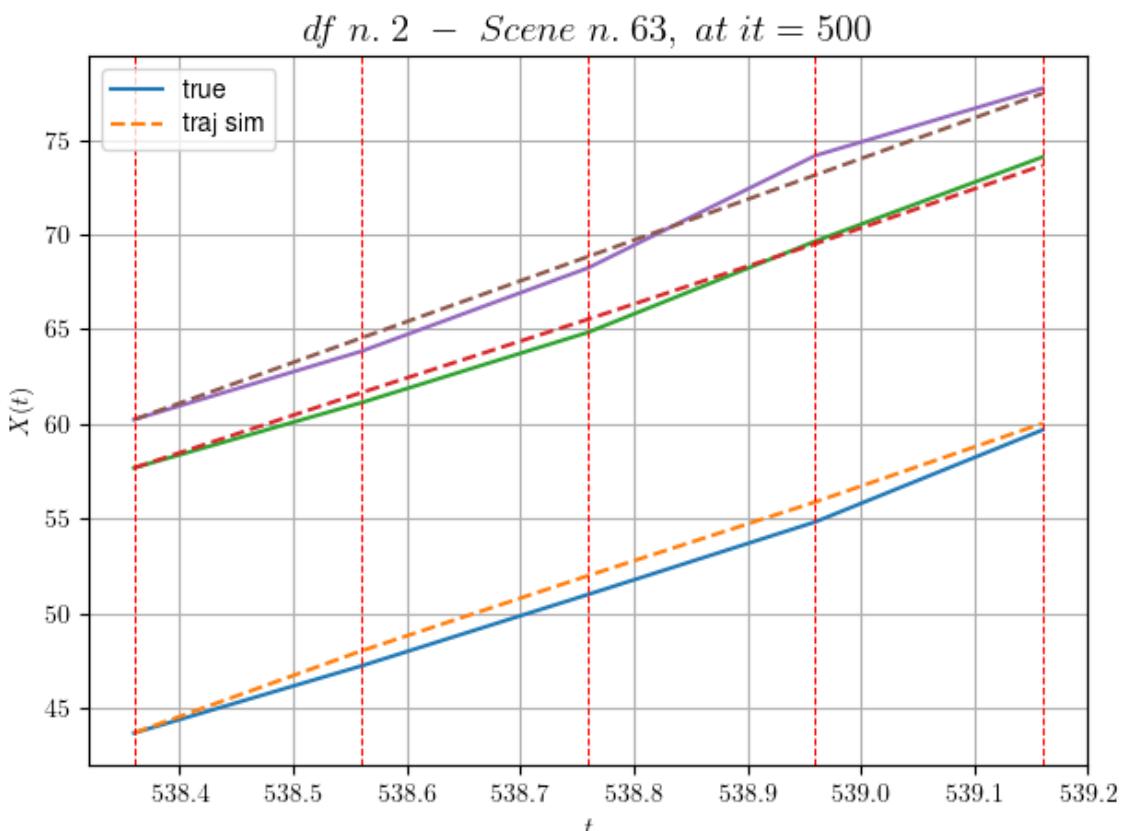
-----
- Time interval n.1: [538.56, 538.76]
* y_true: [18.89091077 18.60142936]
* v_ann: [19.89811134338379, 19.411235809326172, 2
1.51886934452355]

-----
- Time interval n.2: [538.76, 538.96]
* y_true: [19.15102468 24.05210496]
* v_ann: [19.449310302734375, 19.903026580810547, 2
1.51886934452355]

-----
- Time interval n.3: [538.96, 539.16]
* y_true: [24.26158149 22.202218 ]
* v_ann: [20.731874465942383, 20.69304656982422, 2
1.51886934452355]

-----
* err= 0.3864048084237339
* Learning rate NN = 0.000478296831715852
* diff = 0.004420621858242527

```



For scene 63/69

```

* use LR_NN=0.001 with err=14.342670798696949 at it=24
* v0_scn_mean = 22.02773680306831
* MAE = 0.3864048084237339

```

```
=====
=====

df n.2, scene n.64/69
=====

=====
We have 6 time intervals inside [541.16,542.36]
- Time interval n.0: [541.16, 541.36]
  * y_true: [22.67086863 28.23390149]
  * v_ann: [25.349658966064453, 25.774295806884766, 2
0.489990975466682]

-----
- Time interval n.1: [541.36, 541.56]
  * y_true: [19.45088023 23.11862329]
  * v_ann: [24.493385314941406, 24.60426139831543, 2
0.489990975466682]

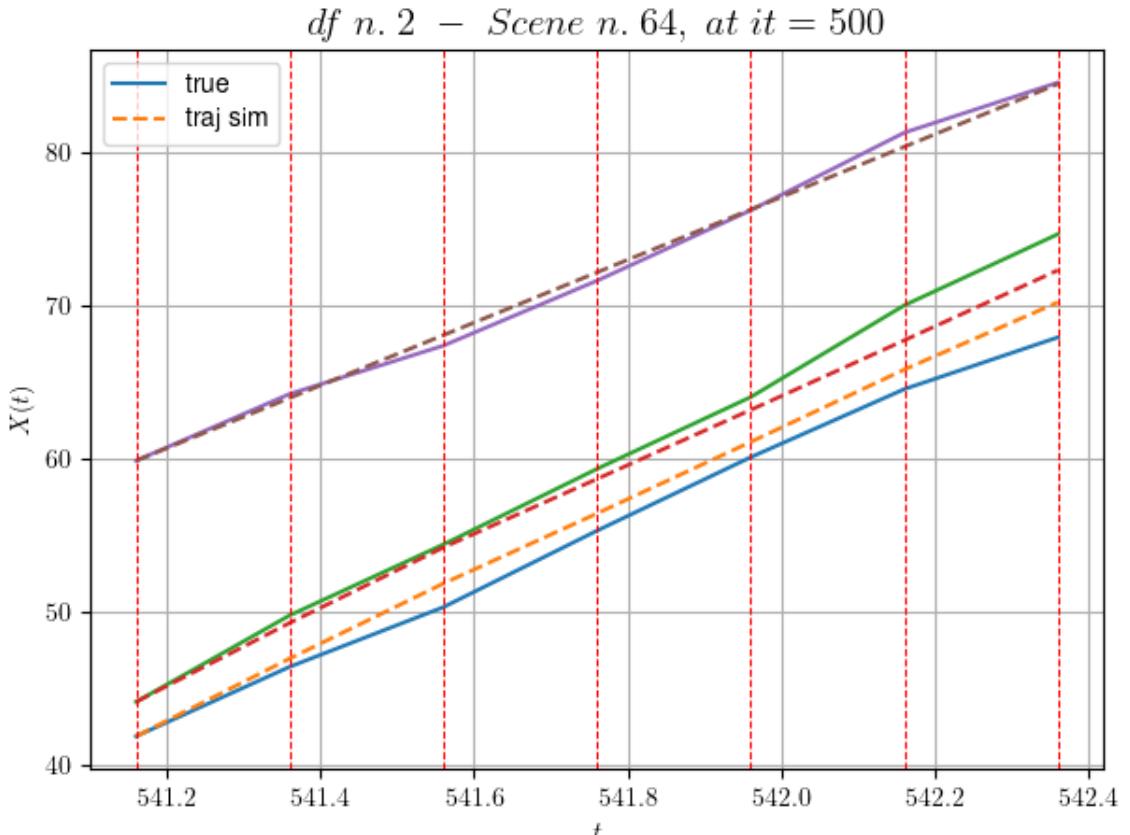
-----
- Time interval n.2: [541.56, 541.76]
  * y_true: [24.96136667 24.68114114]
  * v_ann: [22.856719970703125, 22.36724281311035, 2
0.489990975466682]

-----
- Time interval n.3: [541.76, 541.96]
  * y_true: [23.96154506 23.41644837]
  * v_ann: [23.330154418945312, 22.52422523498535, 2
0.489990975466682]

-----
- Time interval n.4: [541.96, 542.16]
  * y_true: [22.22167267 29.9460798 ]
  * v_ann: [23.633190155029297, 22.71616554260254, 2
0.489990975466682]

-----
- Time interval n.5: [542.16, 542.36]
  * y_true: [16.91142821 23.23526684]
  * v_ann: [21.952850341796875, 22.872671127319336, 2
0.489990975466682]

-----
* err= 1.2216922266549737
* Learning rate NN = 0.00031381050939671695
* diff = 0.0041427958843920365
```



For scene 64/69

- * use LR_NN=0.001 with err=25.312887513838643 at it=24
- * v0_scn_mean = 21.060591089960607
- * MAE = 1.214390641119141

df n.2, scene n.65/69

We have 2 time intervals inside [549.76, 550.16]

- Time interval n.0: [549.76, 549.96]
 - * y_true: [23.30098965 17.25125335]
 - * v_ann: [23.130455017089844, 20.37880516052246, 2

2.495719525410536]

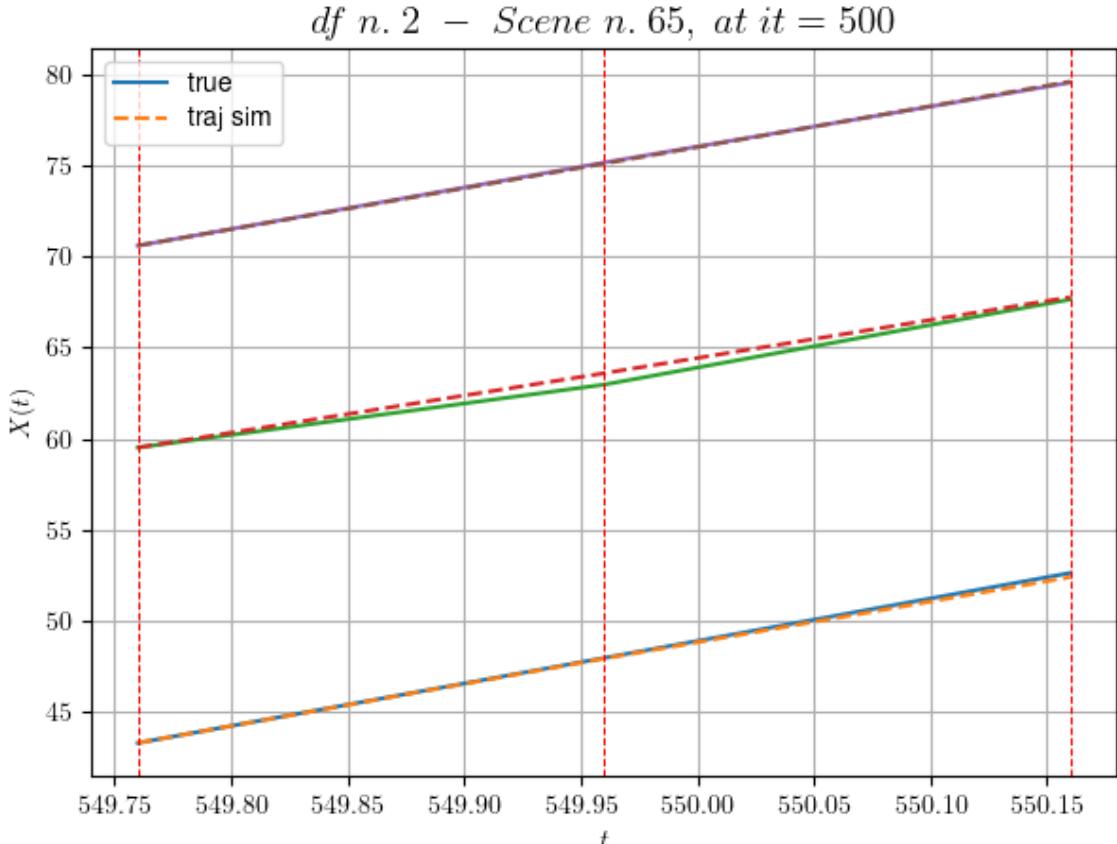
- Time interval n.1: [549.96, 550.16]
 - * y_true: [23.30098965 23.35192881]
 - * v_ann: [22.344783782958984, 20.84676742553711, 2

2.495719525410536]

- * err= 0.05169717164367397

- * Learning rate NN = 3.6449993785936385e-05

- * diff = 0.0009856611970663343



For scene 65/69

- * use LR_NN=5e-05 with err=1.389561875570026 at it=24
- * v0_scn_mean = 22.945976016958646
- * MAE = 0.04159932306740781

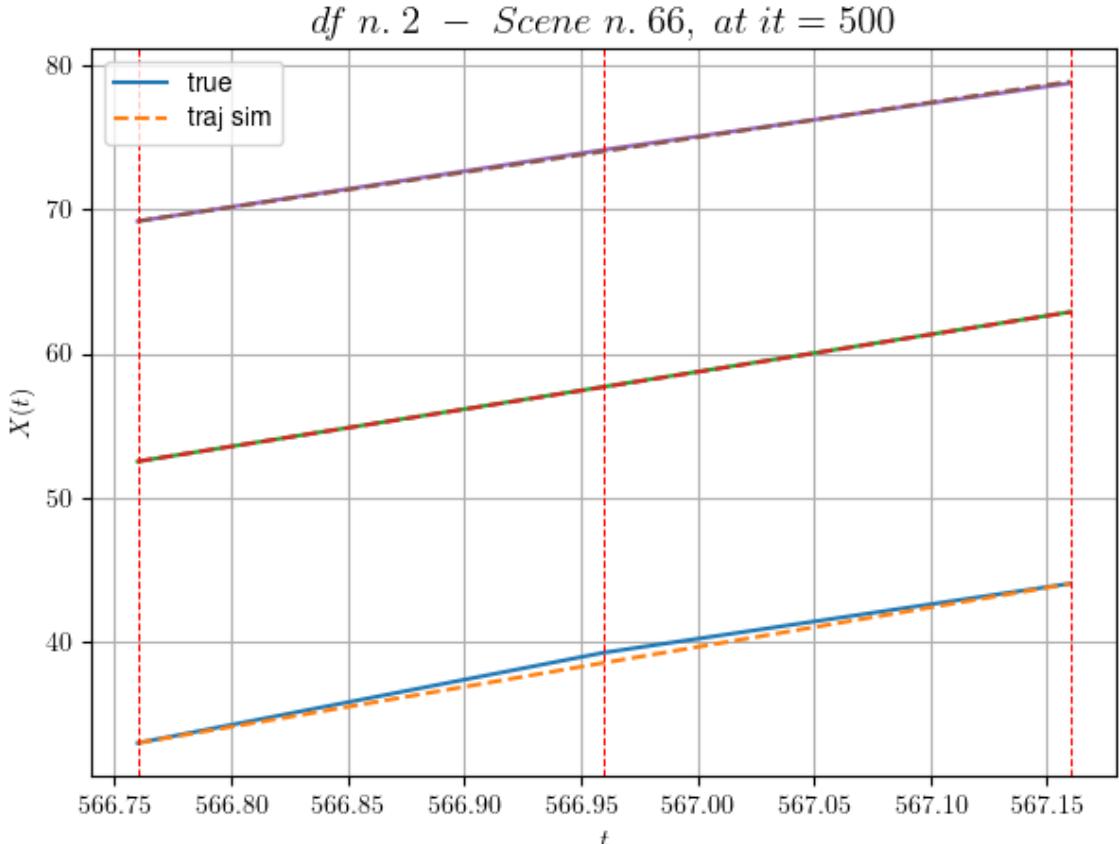
df n.2, scene n.66/69

We have 2 time intervals inside [566.76, 567.16]

- Time interval n.0: [566.76, 566.96]
 - * y_true: [31.35080123 25.9264585]
 - * v_ann: [27.815237045288086, 25.812734603881836, 24.22252039115205]

- Time interval n.1: [566.96, 567.16]
 - * y_true: [23.95081051 25.9264585]
 - * v_ann: [27.41719627380371, 25.99329948425293, 24.22252039115205]

- * err= 0.058532696995442134
- * Learning rate NN = 7.289998757187277e-05
- * diff = 2.6981757730998313e-06



For scene 66/69

- * use LR_NN=0.0001 with err=0.831513724505572 at it=24
- * v0_scn_mean = 24.56916890828633
- * MAE = 0.0579147295605821

df n.2, scene n.67/69

We have 3 time intervals inside [87.56, 88.16]

- Time interval n.0: [87.56, 87.76]
 - * y_true: [20.56019483 17.07029985 18.3510221]
 - * v_ann: [19.12401580810547, 20.565597534179688, 19.175302505493164, 23.399103331764643]

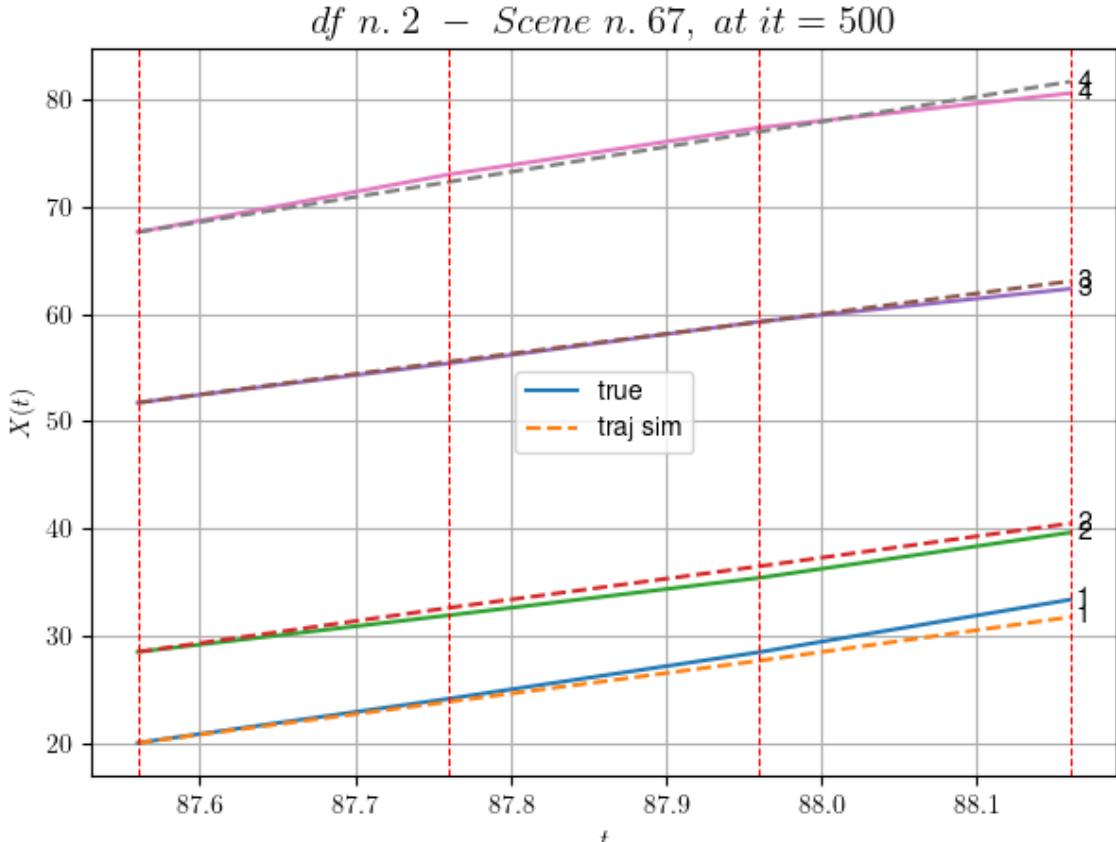
- Time interval n.1: [87.76, 87.96]
 - * y_true: [21.72029145 17.49039467 19.46124504]
 - * v_ann: [19.173463821411133, 19.391735076904297, 18.502899169921875, 23.399103331764643]

- Time interval n.2: [87.96, 88.16]
 - * y_true: [24.51045762 21.12058621 15.36109554]
 - * v_ann: [20.38166046142578, 20.013916015625, 19.023500442504883, 23.399103331764643]

```

* err= 0.5038270774005075
* Learning rate NN = 0.0002952449722215533
* diff = 0.0007927259201030434

```



For scene 67/69

```

* use LR_NN=0.0005 with err=9.267137119280012 at it=24
* v0_scn_mean = 23.92715358503308
* MAE = 0.5038270774005075

```

df n.2, scene n.68/69

We have 2 time intervals inside [305.96,306.36]

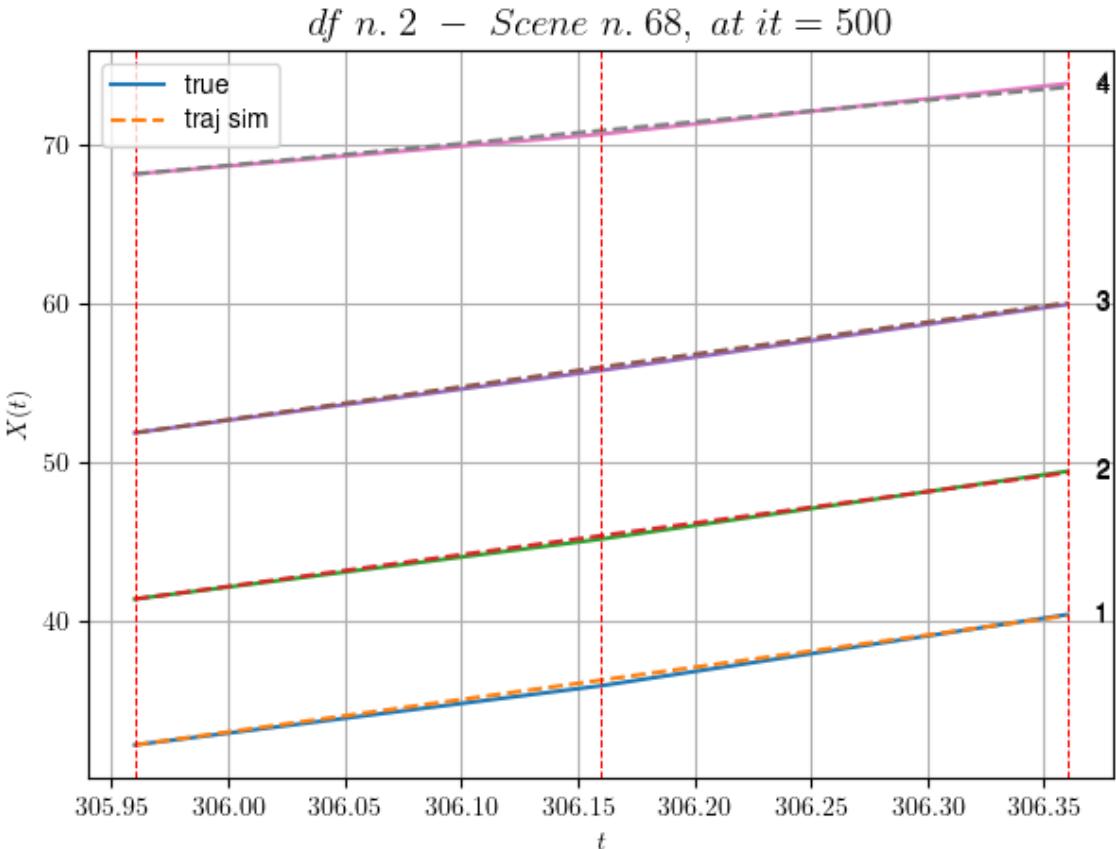
- Time interval n.0: [305.96, 306.16]
 - * y_true: [18.64270885 18.88070057 19.63111636]
 - * v_ann: [20.411148071289062, 19.946115493774414, 2 0.67805290222168, 13.681341801173966]

- Time interval n.1: [306.16, 306.36]
 - * y_true: [22.41204338 21.34093202 20.7913521]
 - * v_ann: [20.306615829467773, 19.835865020751953, 2 0.251598358154297, 13.681341801173966]

```
* err= 0.028408184781051844
```

```
* Learning rate NN = 3.6449993785936385e-05
```

* diff = 0.00012152248927835285



For scene 68/69

* use LR_NN=5e-05 with err=5.431451582717302 at it=24
 * v0_scn_mean = 14.98678135400893
 * MAE = 0.028408184781051844

For df=2 with 69 scenes, time taken: 1199.03

In df n.3/10 we have 90 scenes

df n.3, scene n.0/90

We have 7 time intervals inside [9.36, 10.76]

- Time interval n.0: [9.36, 9.56]
 - * y_true: [21.20002029]
 - * v_ann: [25.042991638183594, 32.52950262782097]

- Time interval n.1: [9.56, 9.76]

- * y_true: [27.90008682]

- * v_ann: [25.9854736328125, 32.52950262782097]

- Time interval n.2: [9.76, 9.96]

```
* y_true: [27.05016725]
* v_ann: [26.58953857421875, 32.52950262782097]
```

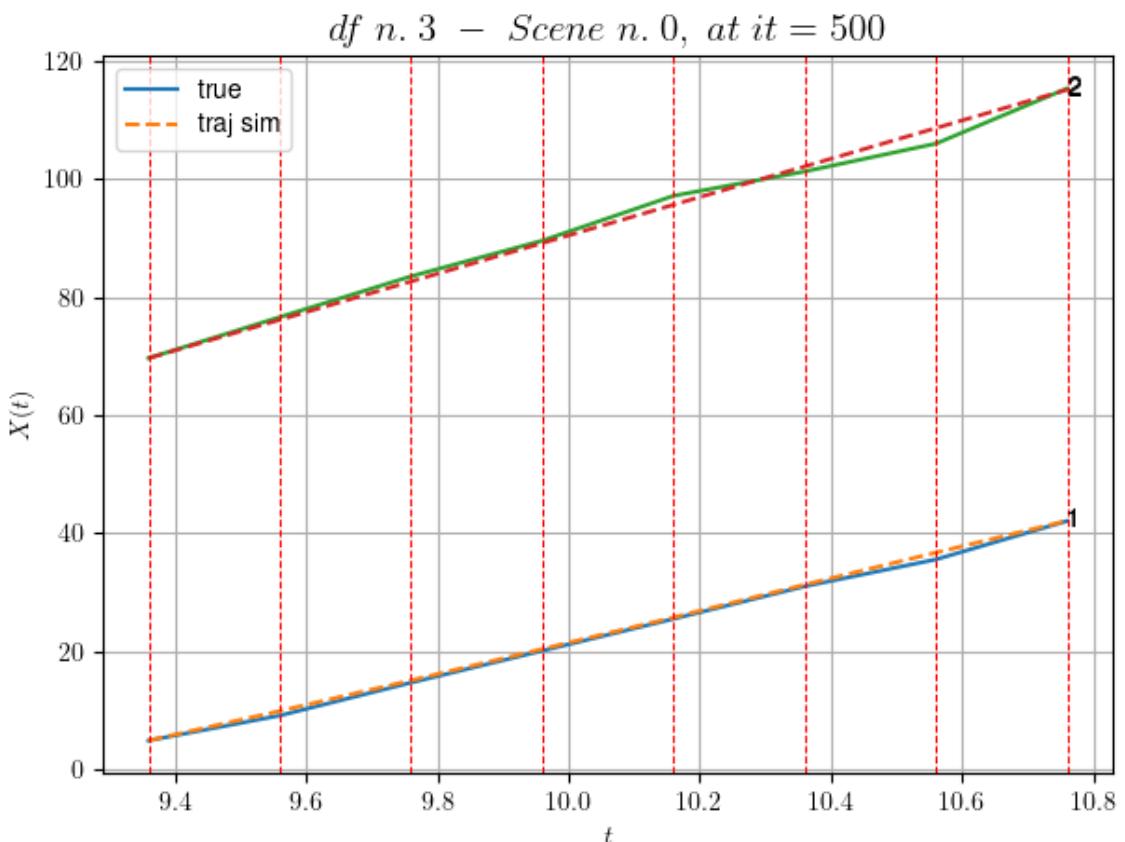
```
- Time interval n.3: [9.96, 10.16]
* y_true: [27.05027848]
* v_ann: [26.86110496520996, 32.52950262782097]
```

```
- Time interval n.4: [10.16, 10.36]
* y_true: [27.60042478]
* v_ann: [27.741344451904297, 32.52950262782097]
```

```
- Time interval n.5: [10.36, 10.56]
* y_true: [22.82551322]
* v_ann: [27.181884765625, 32.52950262782097]
```

```
- Time interval n.6: [10.56, 10.76]
* y_true: [32.62597085]
* v_ann: [27.067134857177734, 32.52950262782097]
```

```
* err= 0.8437669629101573
* Learning rate NN = 2.541864660088322e-06
* diff = 0.0008767573368905213
```



For scene 0/90

```
* use LR_NN=1e-05 with err=2.5953665204404555 at it=24
* v0_scn_mean = 32.42832252272748
* MAE = 0.8195549540255662
```

```
=====
```

df n.3, scene n.1/90

```
=====
```

```
We have 6 time intervals inside [12.76,13.96]
- Time interval n.0: [12.76, 12.96]
  * y_true: [25.56253837]
  * v_ann: [32.30028533935547, 33.329707464158204]
```

```
- Time interval n.1: [12.96, 13.16]
  * y_true: [28.79893317]
  * v_ann: [29.686521530151367, 33.329707464158204]
```

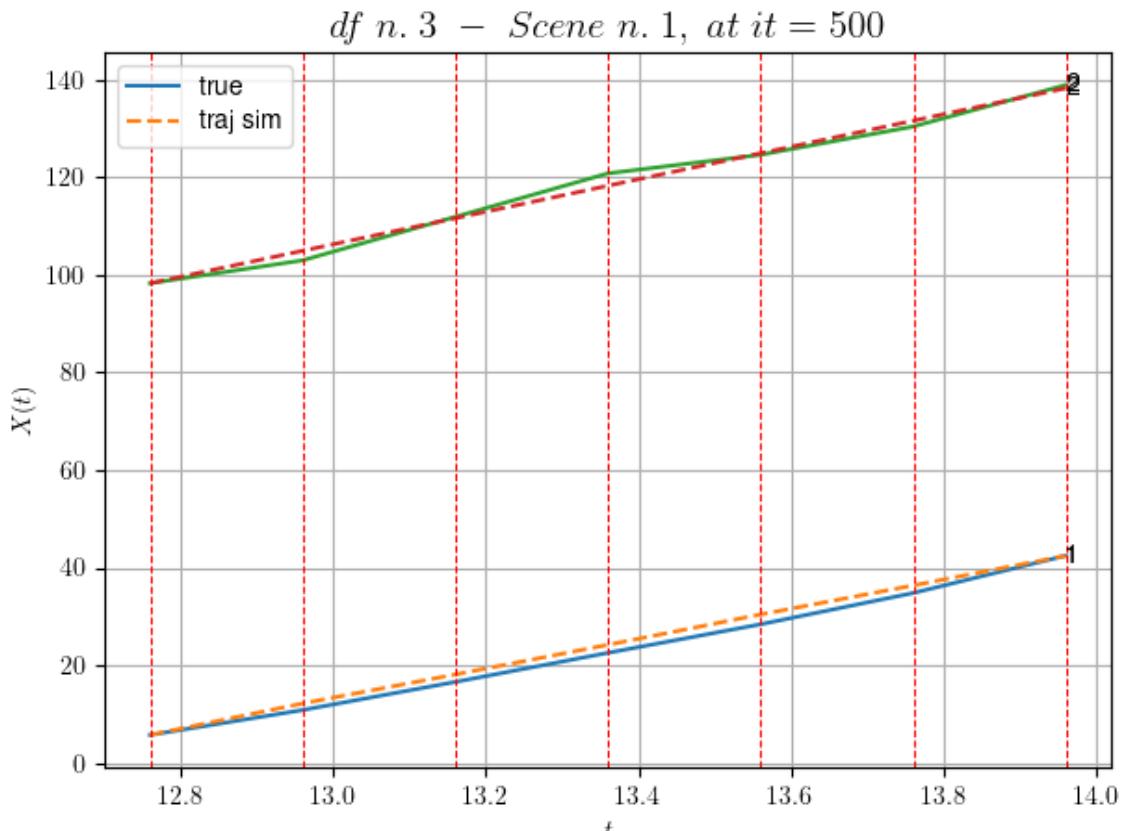
```
- Time interval n.2: [13.16, 13.36]
  * y_true: [29.813898]
  * v_ann: [30.39579963684082, 33.329707464158204]
```

```
- Time interval n.3: [13.36, 13.56]
  * y_true: [29.27421556]
  * v_ann: [31.121431350708008, 33.329707464158204]
```

```
- Time interval n.4: [13.56, 13.76]
  * y_true: [32.06311816]
  * v_ann: [29.782012939453125, 33.329707464158204]
```

```
- Time interval n.5: [13.76, 13.96]
  * y_true: [38.31363463]
  * v_ann: [30.4085750579834, 33.329707464158204]
```

```
* err= 1.8299090574164234
* Learning rate NN = 3.138104875688441e-05
* diff = 0.031824576806636085
```

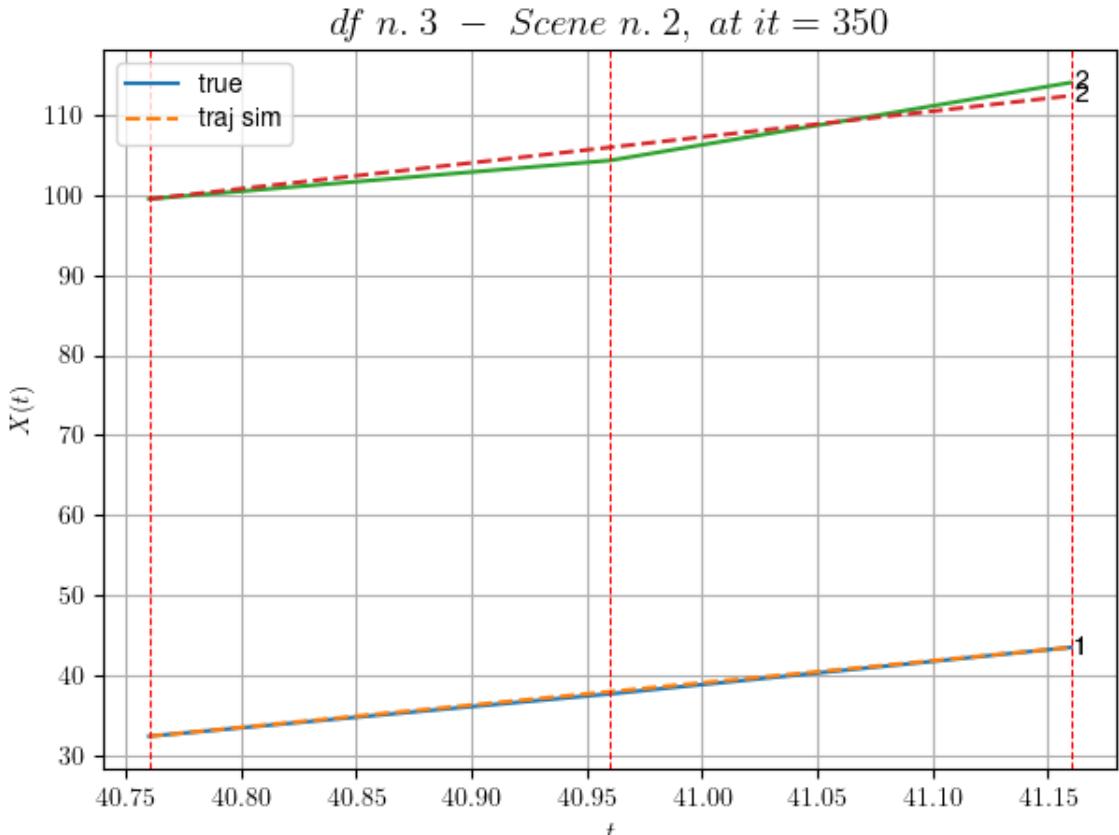


For scene 1/90

```
* use LR_NN=0.0001 with err=4.944112008145575 at it=24
* v0_scn_mean = 33.19651916561727
* MAE = 1.825153891948371
```

df n.3, scene n.2/90

```
We have 2 time intervals inside [40.76,41.16]
* err= 0.9104689523221441
* Learning rate NN = 8.099998922261875e-06
* diff = 1.883734067620324e-07
```



For scene 2/90

```
* use LR_NN=1e-05 with err=1.3157863660693594 at it=24
* v0_scn_mean = 32.08077588692802
* MAE = 0.9104689523221441
```

df n.3, scene n.3/90

We have 4 time intervals inside [79.56, 80.36]

- Time interval n.0: [79.56, 79.76]
 - * y_true: [24.92680088]
 - * v_ann: [21.59852409362793, 49.42636153730836]

- Time interval n.1: [79.76, 79.96]
 - * y_true: [25.18697287]
 - * v_ann: [22.694725036621094, 49.42636153730836]

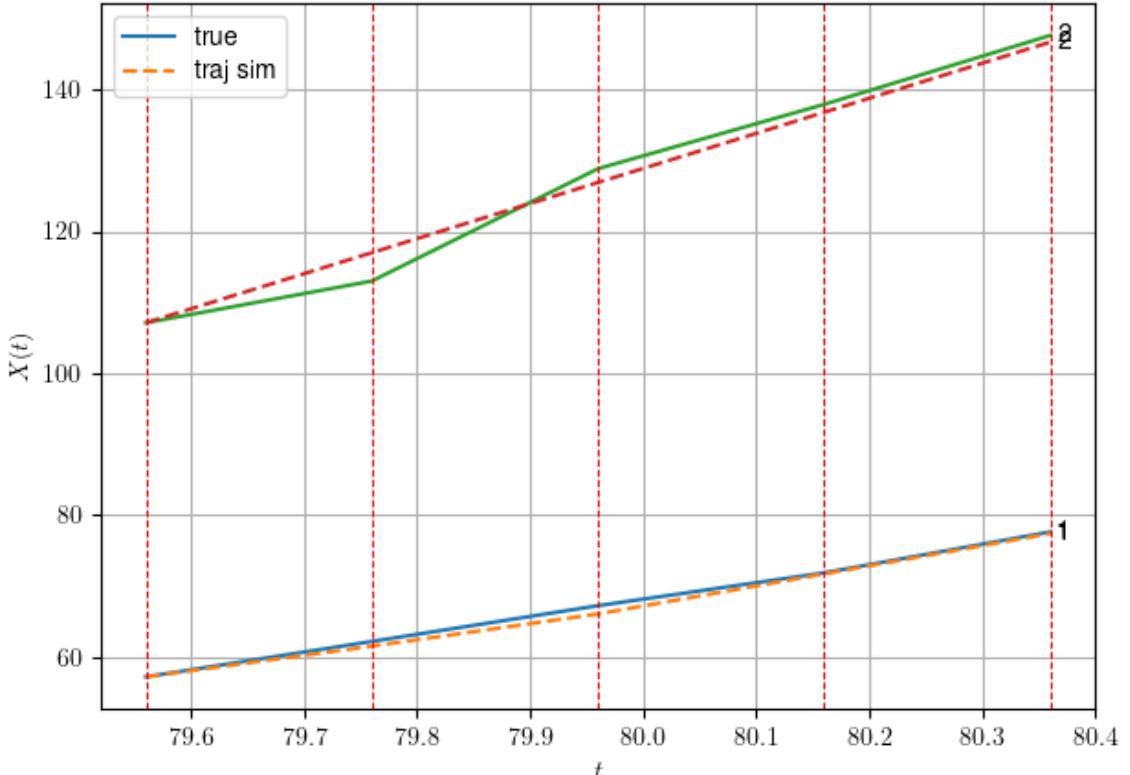
- Time interval n.2: [79.96, 80.16]
 - * y_true: [23.15223081]
 - * v_ann: [28.203319549560547, 49.42636153730836]

- Time interval n.3: [80.16, 80.36]
 - * y_true: [28.84312962]

```
* v_ann: [28.459001541137695, 49.42636153730836]
```

```
* err= 2.3779968438567796
* Learning rate NN = 4.7829678806010634e-05
* diff = 0.00014297227340653862
```

df n. 3 – Scene n. 3, at it = 500



For scene 3/90

```
* use LR_NN=0.0001 with err=53.05621183573545 at it=24
* v0_scn_mean = 48.64930707596426
* MAE = 2.3735557138299557
```

df n.3, scene n.4/90

We have 5 time intervals inside [115.36, 116.36]

- Time interval n.0: [115.36, 115.56]
 - * y_true: [36.92160322]
 - * v_ann: [28.364704132080078, 42.47633471767095]

- Time interval n.1: [115.56, 115.76]
 - * y_true: [35.25200551]
 - * v_ann: [27.093740463256836, 42.47633471767095]

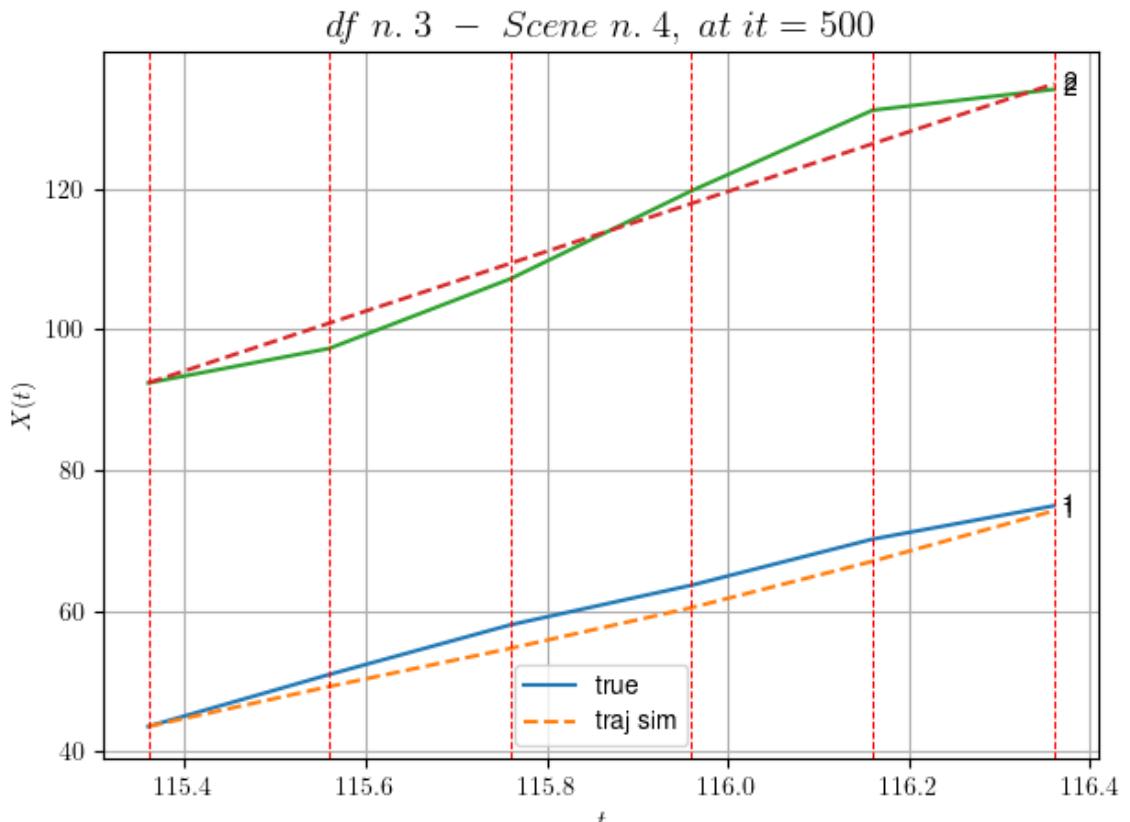
- Time interval n.2: [115.76, 115.96]
 - * y_true: [28.14198214]

```
* v_ann: [28.925600051879883, 42.47633471767095]
```

```
- Time interval n.3: [115.96, 116.16]
* y_true: [32.75283438]
* v_ann: [32.958045959472656, 42.47633471767095]
```

```
- Time interval n.4: [116.16, 116.36]
* y_true: [23.66235705]
* v_ann: [35.8372802734375, 42.47633471767095]
```

```
* err= 6.582577122227157
* Learning rate NN = 3.874203684972599e-06
* diff = 0.011702288525308191
```



For scene 4/90

```
* use LR_NN=1e-05 with err=40.62764139076957 at it=24
* v0_scn_mean = 41.977281329059345
* MAE = 6.575509881407494
```

df n.3, scene n.5/90

We have 17 time intervals inside [138.16,141.56]
- Time interval n.0: [138.16, 138.36]

```
* y_true: [20.20049512]
* v_ann: [24.752901077270508, 28.318639127967636]
```

```
- Time interval n.1: [138.36, 138.56]
* y_true: [34.05418098]
* v_ann: [27.04896354675293, 28.318639127967636]
```

```
- Time interval n.2: [138.56, 138.76]
* y_true: [19.55085484]
* v_ann: [23.734941482543945, 28.318639127967636]
```

```
- Time interval n.3: [138.76, 138.96]
* y_true: [25.71133535]
* v_ann: [30.12854766845703, 28.318639127967636]
```

```
- Time interval n.4: [138.96, 139.16]
* y_true: [28.44182357]
* v_ann: [30.191225051879883, 28.318639127967636]
```

```
- Time interval n.5: [139.16, 139.36]
* y_true: [31.62238978]
* v_ann: [29.742965698242188, 28.318639127967636]
```

```
- Time interval n.6: [139.36, 139.56]
* y_true: [17.15160439]
* v_ann: [31.31085968017578, 28.318639127967636]
```

```
- Time interval n.7: [139.56, 139.76]
* y_true: [37.57385655]
* v_ann: [30.025476455688477, 28.318639127967636]
```

```
- Time interval n.8: [139.76, 139.96]
* y_true: [21.65266443]
* v_ann: [28.9058780670166, 28.318639127967636]
```

```
- Time interval n.9: [139.96, 140.16]
* y_true: [32.03445568]
* v_ann: [31.292390823364258, 28.318639127967636]
```

```
- Time interval n.10: [140.16, 140.36]
```

```
* y_true: [31.91506312]
* v_ann: [25.2851619720459, 28.318639127967636]
```

```
- Time interval n.11: [140.36, 140.56]
* y_true: [23.65435061]
* v_ann: [24.7851505279541, 28.318639127967636]
```

```
- Time interval n.12: [140.56, 140.76]
* y_true: [42.04863469]
* v_ann: [28.662382125854492, 28.318639127967636]
```

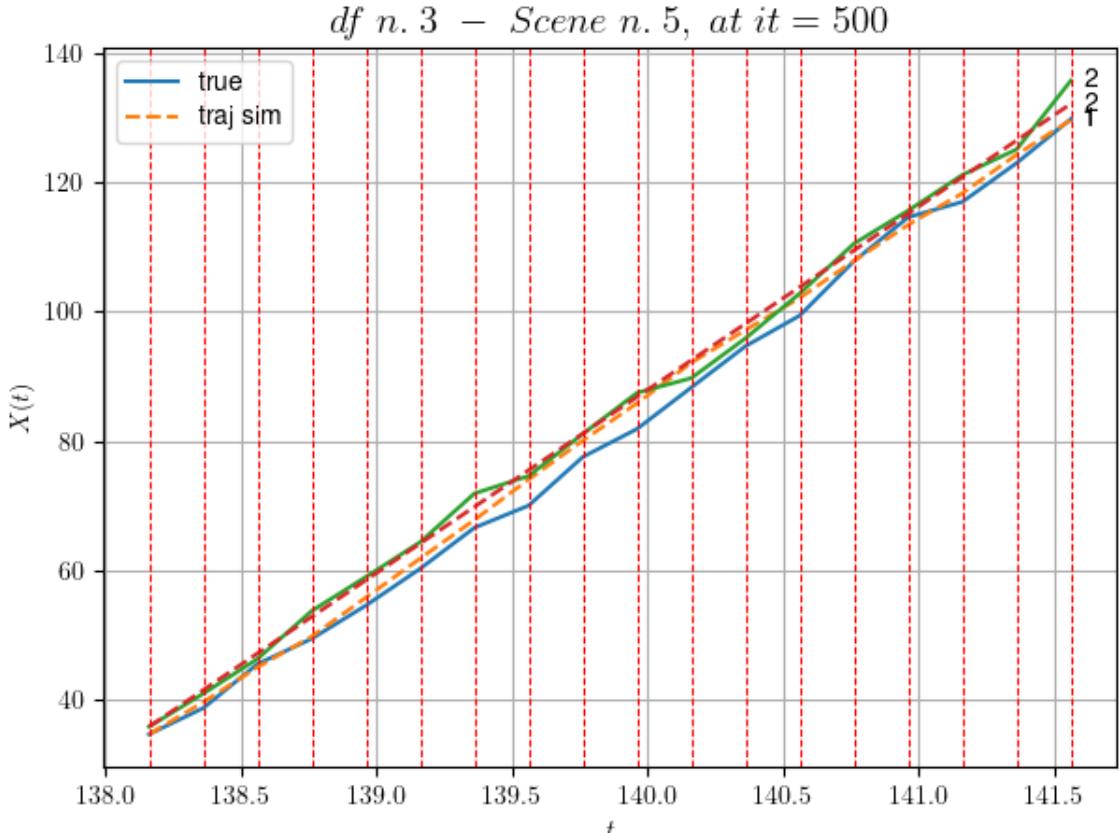
```
- Time interval n.13: [140.76, 140.96]
* y_true: [33.92792147]
* v_ann: [27.81951141357422, 28.318639127967636]
```

```
- Time interval n.14: [140.96, 141.16]
* y_true: [11.9131035]
* v_ann: [24.408510208129883, 28.318639127967636]
```

```
- Time interval n.15: [141.16, 141.36]
* y_true: [30.01833255]
* v_ann: [29.8380126953125, 28.318639127967636]
```

```
- Time interval n.16: [141.36, 141.56]
* y_true: [33.94025545]
* v_ann: [26.79313087463379, 28.318639127967636]
```

```
* err= 3.2175402861086346
* Learning rate NN = 3.090312748099677e-05
```



For scene 5/90

* use LR_NN=0.001 with err=8.81150419927862 at it=24
 * v0_scn_mean = 28.385893562836173
 * MAE = 3.1903891932543935

df n.3, scene n.6/90

We have 4 time intervals inside [154.56, 155.36]

- Time interval n.0: [154.56, 154.76]
 - * y_true: [16.792902]
 - * v_ann: [17.445690155029297, 33.88242010375711]

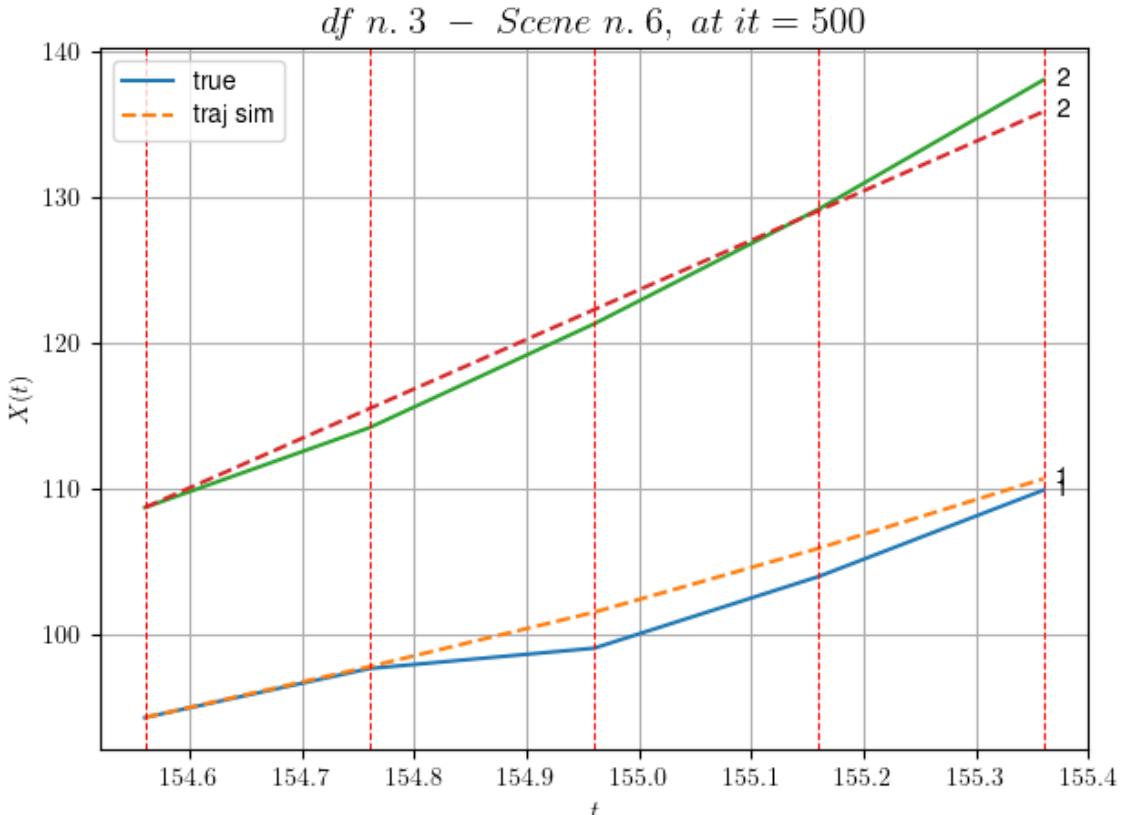
- Time interval n.1: [154.76, 154.96]
 - * y_true: [6.96129808]
 - * v_ann: [18.607702255249023, 33.88242010375711]

- Time interval n.2: [154.96, 155.16]
 - * y_true: [24.54499404]
 - * v_ann: [21.90488052368164, 33.88242010375711]

- Time interval n.3: [155.16, 155.36]
 - * y_true: [29.55644658]

```
* v_ann: [23.795289993286133, 33.88242010375711]
```

```
* err= 1.779116253903995
* Learning rate NN = 4.782968062500004e-06
* diff = 0.009075634160719437
```



For scene 6/90

```
* use LR_NN=1e-05 with err=3.7560196072727354 at it=24
* v0_scn_mean = 33.727123299638905
* MAE = 1.779116253903995
```

df n.3, scene n.7/90

We have 3 time intervals inside [183.16, 183.76]

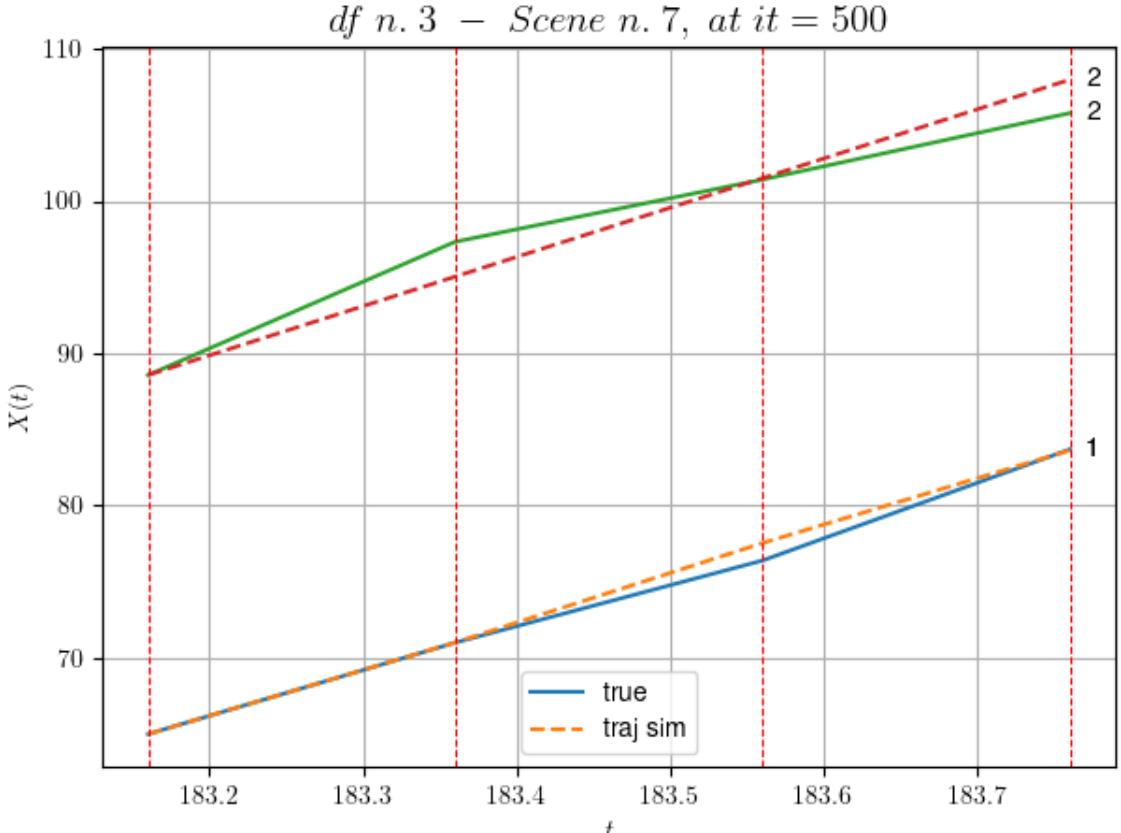
- Time interval n.0: [183.16, 183.36]
 - * y_true: [30.02270449]
 - * v_ann: [30.066133499145508, 32.3139833104688]

- Time interval n.1: [183.36, 183.56]
 - * y_true: [26.94282364]
 - * v_ann: [32.63166809082031, 32.3139833104688]

- Time interval n.2: [183.56, 183.76]
 - * y_true: [36.47456732]

```
* v_ann: [30.42438507080078, 32.3139833104688]
```

```
* err= 1.4230446021373475
* Learning rate NN = 2.952449540316593e-05
* diff = 0.00011907644095443537
```



For scene 7/90

```
* use LR_NN=5e-05 with err=1.321601341005458 at it=24
* v0_scn_mean = 32.22142397806805
* MAE = 1.236237345043412
```

df n.3, scene n.8/90

We have 8 time intervals inside [199.96, 201.56]

- Time interval n.0: [199.96, 200.16]
 - * y_true: [39.74420354]
 - * v_ann: [38.04240798950195, 35.482633927758336]

- Time interval n.1: [200.16, 200.36]
 - * y_true: [28.52349607]
 - * v_ann: [37.860477447509766, 35.482633927758336]

- Time interval n.2: [200.36, 200.56]

```
* y_true: [36.06528968]
* v_ann: [36.017940521240234, 35.482633927758336]
```

```
-----  
-----  
- Time interval n.3: [200.56, 200.76]  
* y_true: [38.41658036]  
* v_ann: [38.82884216308594, 35.482633927758336]
```

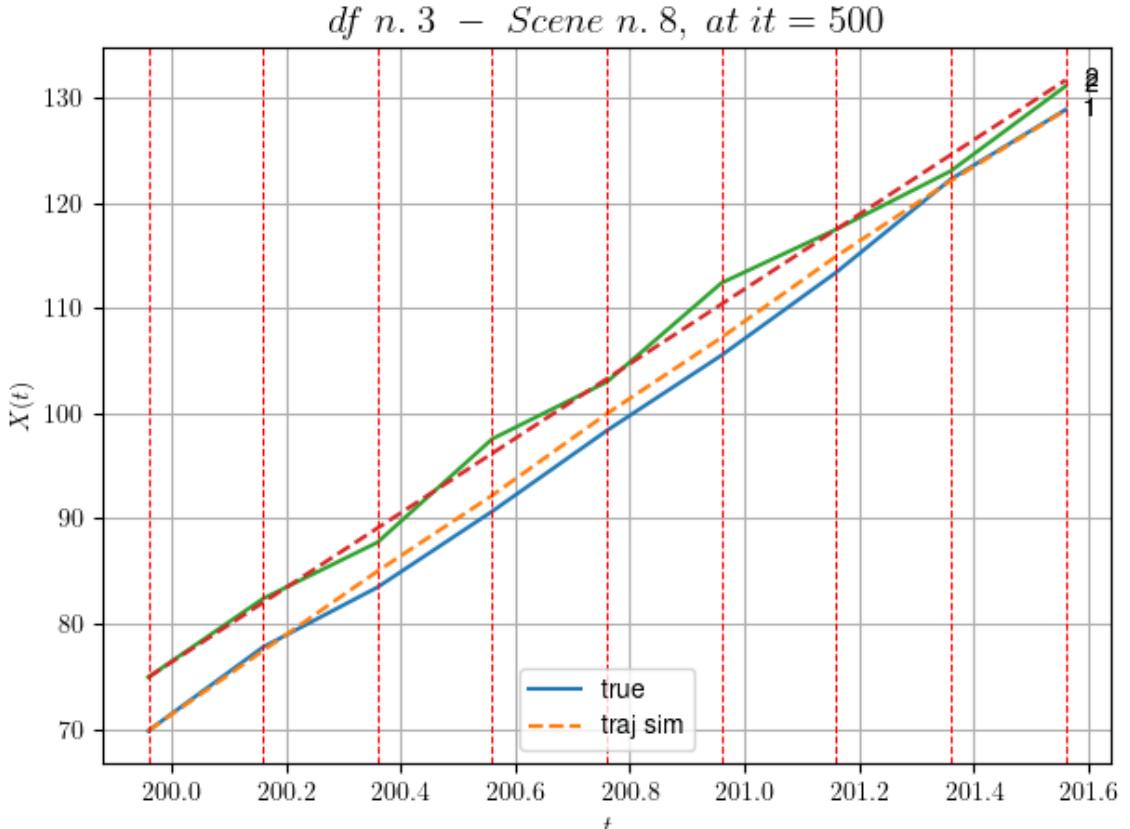
```
-----  
-----  
- Time interval n.4: [200.76, 200.96]  
* y_true: [35.78711418]  
* v_ann: [36.20725631713867, 35.482633927758336]
```

```
-----  
-----  
- Time interval n.5: [200.96, 201.16]  
* y_true: [39.39907556]  
* v_ann: [38.614173889160156, 35.482633927758336]
```

```
-----  
-----  
- Time interval n.6: [201.16, 201.36]  
* y_true: [44.30182053]  
* v_ann: [35.909324645996094, 35.482633927758336]
```

```
-----  
-----  
- Time interval n.7: [201.36, 201.56]  
* y_true: [33.01988723]  
* v_ann: [33.5042610168457, 35.482633927758336]
```

```
-----  
-----  
* err= 1.289878903098872  
* Learning rate NN = 0.00020589104678947479  
* diff = 0.01641238332439343
```



For scene 8/90

```
* use LR_NN=0.001 with err=15.79443736706288 at it=24
* v0_scn_mean = 35.263328570689865
* MAE = 1.2709322700395012
```

df n.3, scene n.9/90

We have 4 time intervals inside [215.56, 216.36]

- Time interval n.0: [215.56, 215.76]
 - * y_true: [37.72349345]
 - * v_ann: [36.31804275512695, 30.842897264970183]

- Time interval n.1: [215.76, 215.96]
 - * y_true: [31.43339605]
 - * v_ann: [33.44094467163086, 30.842897264970183]

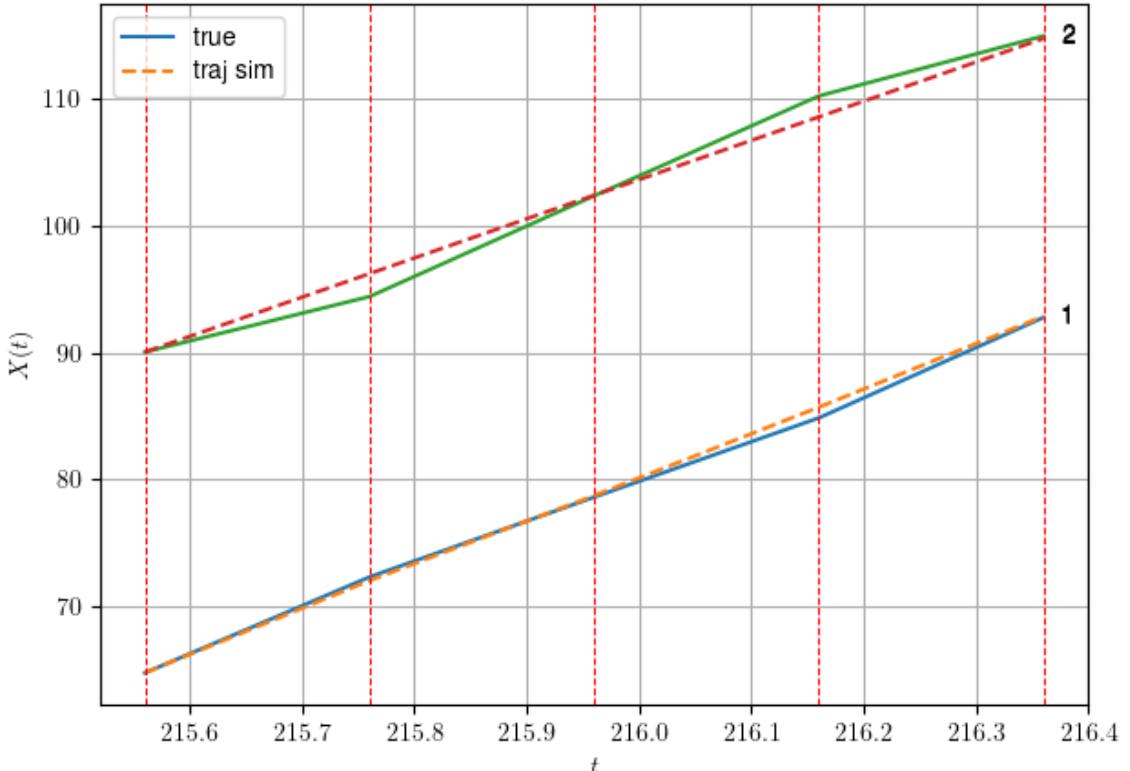
- Time interval n.2: [215.96, 216.16]
 - * y_true: [31.16401611]
 - * v_ann: [34.76671600341797, 30.842897264970183]

- Time interval n.3: [216.16, 216.36]
 - * y_true: [39.50602884]

```
* v_ann: [35.764190673828125, 30.842897264970183]
```

```
* err= 0.6808292186947413
* Learning rate NN = 2.3914839403005317e-05
* diff = 0 00029313489097981815
```

df n. 3 – Scene n. 9, at it = 500



For scene 9/90

```
* use LR_NN=5e-05 with err=0.87573776723247 at it=24
* v0_scn_mean = 30.809181374377616
* MAE = 0.6808292186947413
```

df n.3, scene n.10/90

We have 9 time intervals inside [234.76, 236.56]

- Time interval n.0: [234.76, 234.96]
 - * y_true: [32.05217047]
 - * v_ann: [27.083600997924805, 40.3721069069577]

- Time interval n.1: [234.96, 235.16]
 - * y_true: [29.65244542]
 - * v_ann: [27.033235549926758, 40.3721069069577]

- Time interval n.2: [235.16, 235.36]
 - * y_true: [16.45155324]

* v_ann: [27.035091400146484, 40.3721069069577]

- Time interval n.3: [235.36, 235.56]
* y_true: [26.65283483]
* v_ann: [23.69285011291504, 40.3721069069577]

- Time interval n.4: [235.56, 235.76]
* y_true: [25.00304068]
* v_ann: [23.78249168395996, 40.3721069069577]

- Time interval n.5: [235.76, 235.96]
* y_true: [38.65548213]
* v_ann: [23.54517936706543, 40.3721069069577]

- Time interval n.6: [235.96, 236.16]
* y_true: [24.9540797]
* v_ann: [29.362041473388672, 40.3721069069577]

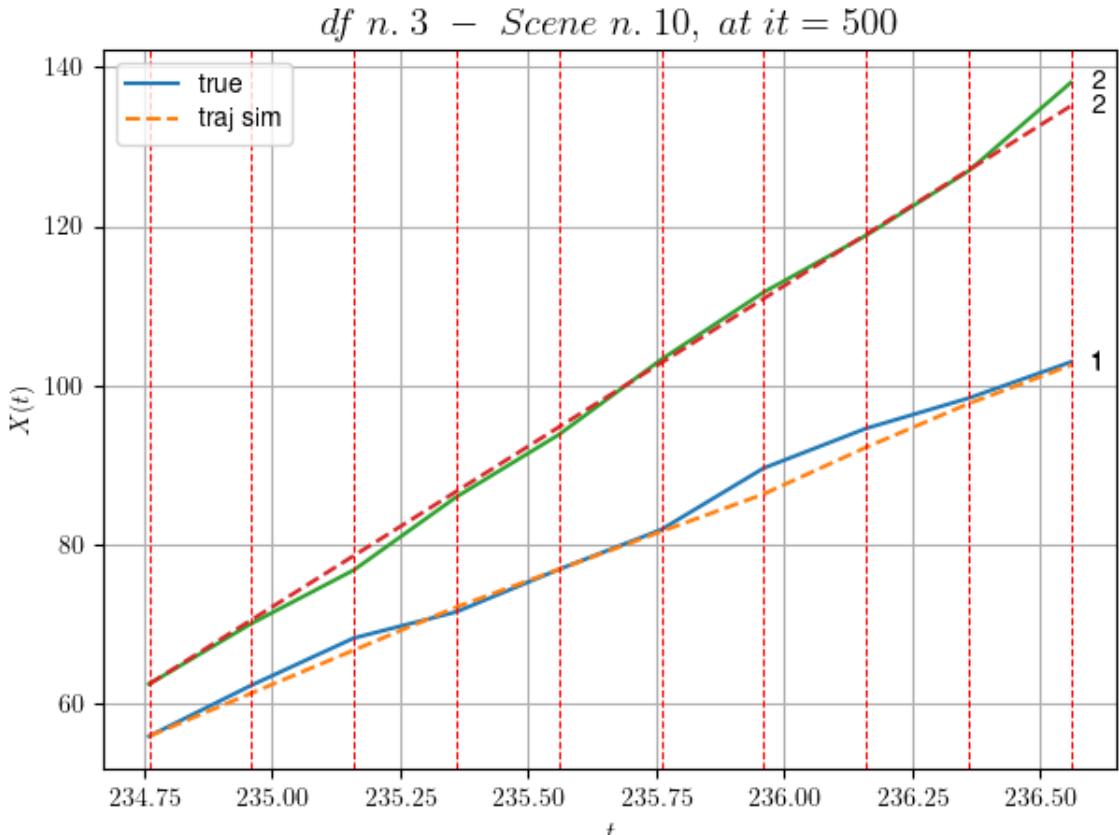
- Time interval n.7: [236.16, 236.36]
* y_true: [19.00340646]
* v_ann: [27.44009780883789, 40.3721069069577]

- Time interval n.8: [236.36, 236.56]
* y_true: [22.75284466]
* v_ann: [24.153635025024414, 40.3721069069577]

* err= 1.7486314799433855

* Learning rate NN = 8.338587213074788e-05

* diff = 0.06984380202162721



For scene 10/90

- * use LR_NN=0.0005 with err=102.70782466251632 at it=24
- * v0_scn_mean = 39.95722263076001
- * MAE = 1.7429749919404944

df n.3, scene n.11/90

We have 2 time intervals inside [237.36, 237.76]

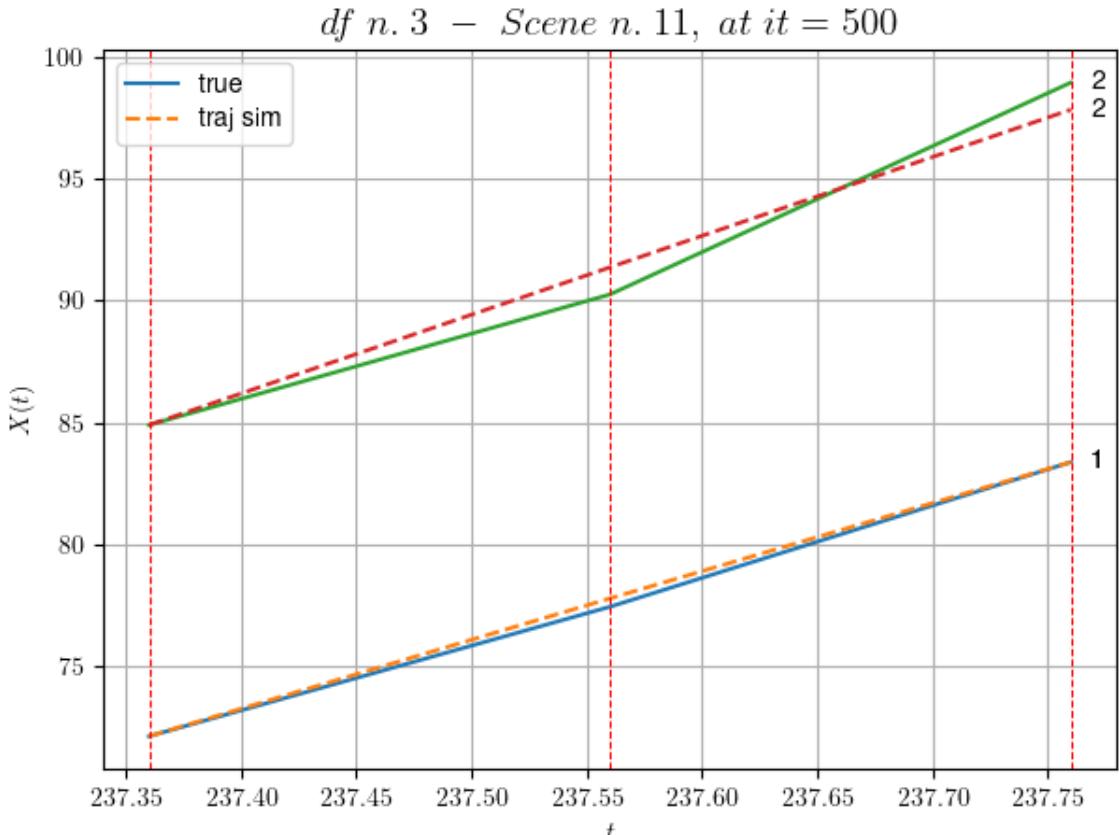
- Time interval n.0: [237.36, 237.56]
 - * y_true: [26.58288419]
 - * v_ann: [28.295724868774414, 32.371778764505414]

- Time interval n.1: [237.56, 237.76]
 - * y_true: [29.70372271]
 - * v_ann: [27.9857234954834, 32.371778764505414]

- * err= 0.43290383978571767

- * Learning rate NN = 7.289998757187277e-05

- * diff = 2.1535526803728722e-05



For scene 11/90

- * use LR_NN=0.0001 with err=0.7942181264005803 at it=24
- * v0_scn_mean = 32.27690761394292
- * MAE = 0.4325920091748448

df n.3, scene n.12/90

We have 12 time intervals inside [268.56, 270.96]

- Time interval n.0: [268.56, 268.76]
 - * y_true: [29.3500352]
 - * v_ann: [29.014406204223633, 29.568023140125465]

- Time interval n.1: [268.76, 268.96]
 - * y_true: [29.08008566]
 - * v_ann: [29.00889778137207, 29.568023140125465]

- Time interval n.2: [268.96, 269.16]
 - * y_true: [24.64016214]
 - * v_ann: [29.008241653442383, 29.568023140125465]

- Time interval n.3: [269.16, 269.36]
 - * y_true: [27.79028745]

```
* v_ann: [29.074295043945312, 29.568023140125465]
```

```
- Time interval n.4: [269.36, 269.56]
* y_true: [27.06043503]
* v_ann: [29.083772659301758, 29.568023140125465]
```

```
- Time interval n.5: [269.56, 269.76]
* y_true: [32.18076388]
* v_ann: [29.11369514465332, 29.568023140125465]
```

```
- Time interval n.6: [269.76, 269.96]
* y_true: [32.77104018]
* v_ann: [28.992612838745117, 29.568023140125465]
```

```
- Time interval n.7: [269.96, 270.16]
* y_true: [29.95131945]
* v_ann: [29.062950134277344, 29.568023140125465]
```

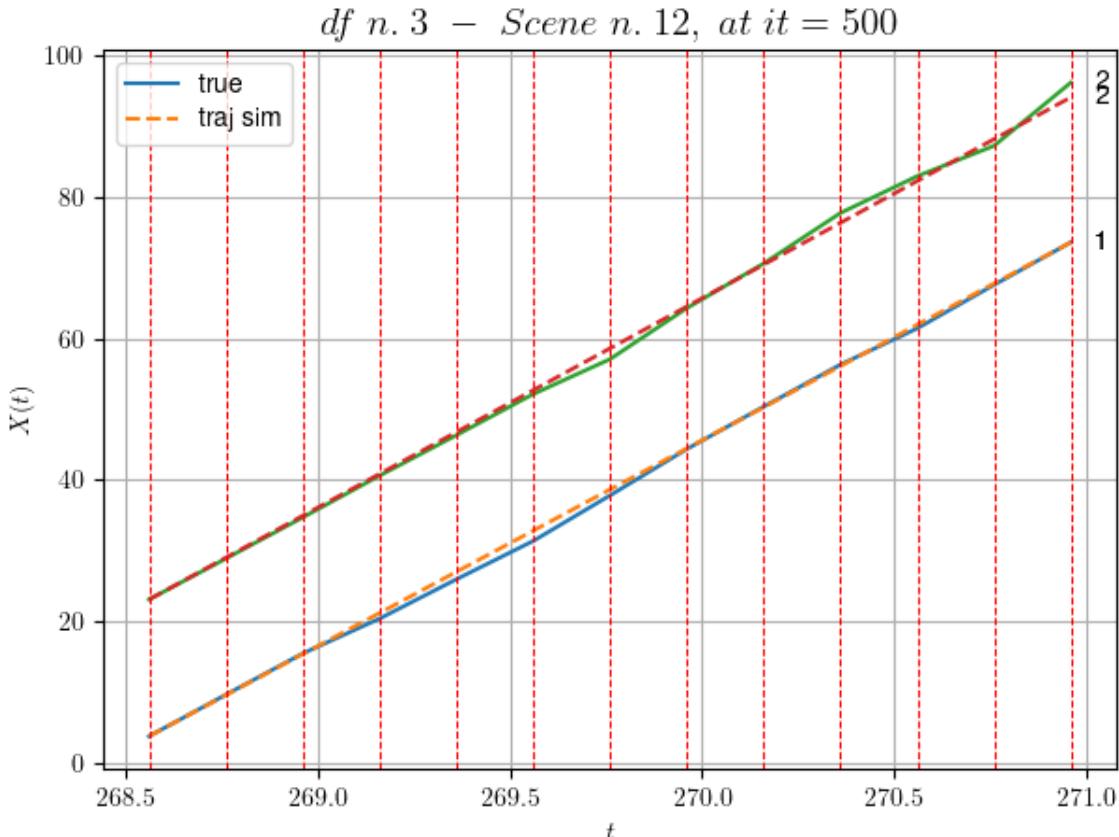
```
- Time interval n.8: [270.16, 270.36]
* y_true: [29.70158012]
* v_ann: [29.09541130065918, 29.568023140125465]
```

```
- Time interval n.9: [270.36, 270.56]
* y_true: [25.63174114]
* v_ann: [29.220273971557617, 29.568023140125465]
```

```
- Time interval n.10: [270.56, 270.76]
* y_true: [30.75243246]
* v_ann: [29.21232032775879, 29.568023140125465]
```

```
- Time interval n.11: [270.76, 270.96]
* y_true: [30.06304641]
* v_ann: [29.037158966064453, 29.568023140125465]
```

```
* err= 0.5981383315108483
* Learning rate NN = 8.862932645570254e-07
* diff = 0.00046651777988249155
```



For scene 12/90

```
* use LR_NN=1e-05 with err=0.6092067850009619 at it=24
* v0_scn_mean = 29.585302214516968
* MAE = 0.5793361927273645
```

df n.3, scene n.13/90

We have 10 time intervals inside [292.56, 294.56]

- Time interval n.0: [292.56, 292.76]
 - * y_true: [20.40029016]
 - * v_ann: [20.971193313598633, 25.740986248381407]

- Time interval n.1: [292.76, 292.96]
 - * y_true: [19.95039872]
 - * v_ann: [20.657241821289062, 25.740986248381407]

- Time interval n.2: [292.96, 293.16]
 - * y_true: [22.17055226]
 - * v_ann: [20.188539505004883, 25.740986248381407]

- Time interval n.3: [293.16, 293.36]
 - * y_true: [19.53060254]

* v_ann: [20.76709747314453, 25.740986248381407]

- Time interval n.4: [293.36, 293.56]
* y_true: [22.27085524]
* v_ann: [20.345401763916016, 25.740986248381407]

- Time interval n.5: [293.56, 293.76]
* y_true: [27.53130107]
* v_ann: [20.998205184936523, 25.740986248381407]

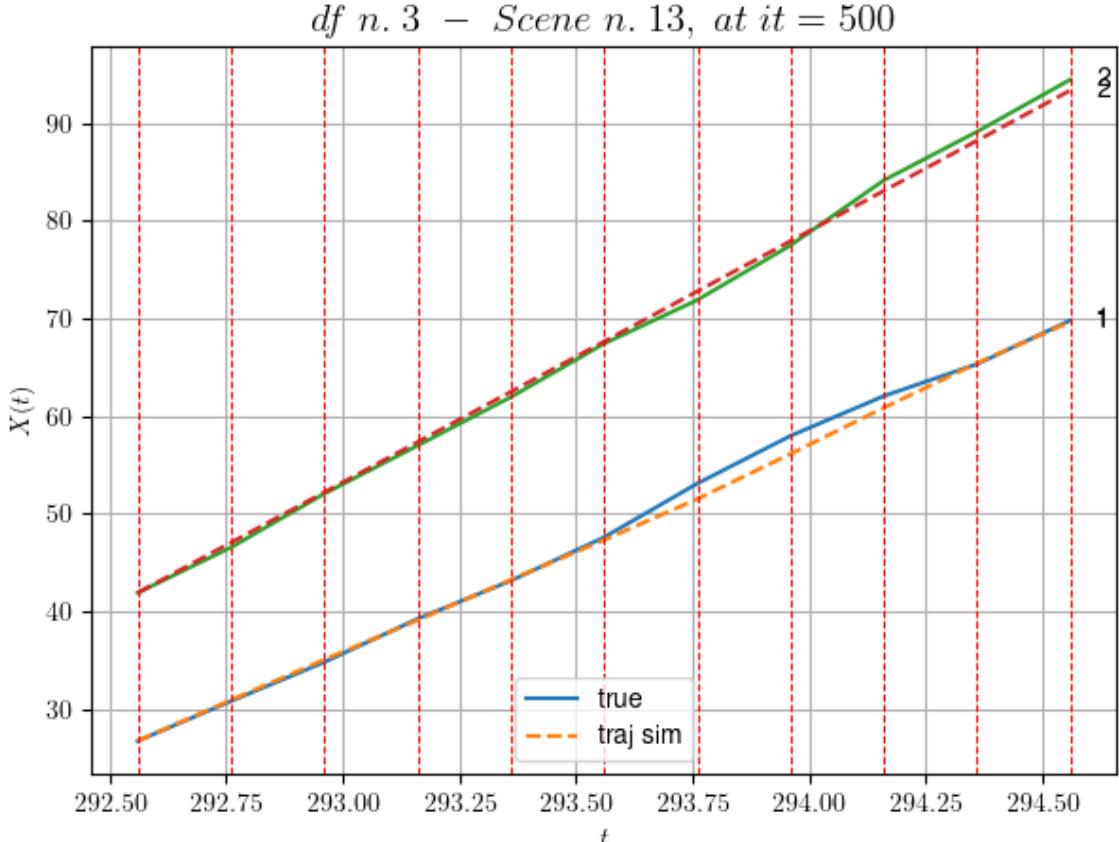
- Time interval n.6: [293.76, 293.96]
* y_true: [24.45137841]
* v_ann: [23.116121292114258, 25.740986248381407]

- Time interval n.7: [293.96, 294.16]
* y_true: [20.38135993]
* v_ann: [23.678586959838867, 25.740986248381407]

- Time interval n.8: [294.16, 294.36]
* y_true: [16.38122414]
* v_ann: [22.772136688232422, 25.740986248381407]

- Time interval n.9: [294.36, 294.56]
* y_true: [22.38193897]
* v_ann: [21.262601852416992, 25.740986248381407]

* err= 0.569736766817637
* Learning rate NN = 0.00013508510892279446
* diff = 0.034312190979095325



For scene 13/90

- * use LR_NN=0.001 with err=11.985157695642059 at it=24
- * v0_scn_mean = 25.911346798413746
- * MAE = 0.3452715298903283

df n.3, scene n.14/90

We have 4 time intervals inside [299.76, 300.56]

- Time interval n.0: [299.76, 299.96]
 - * y_true: [31.41374449]
 - * v_ann: [32.00053024291992, 35.55620181996972]

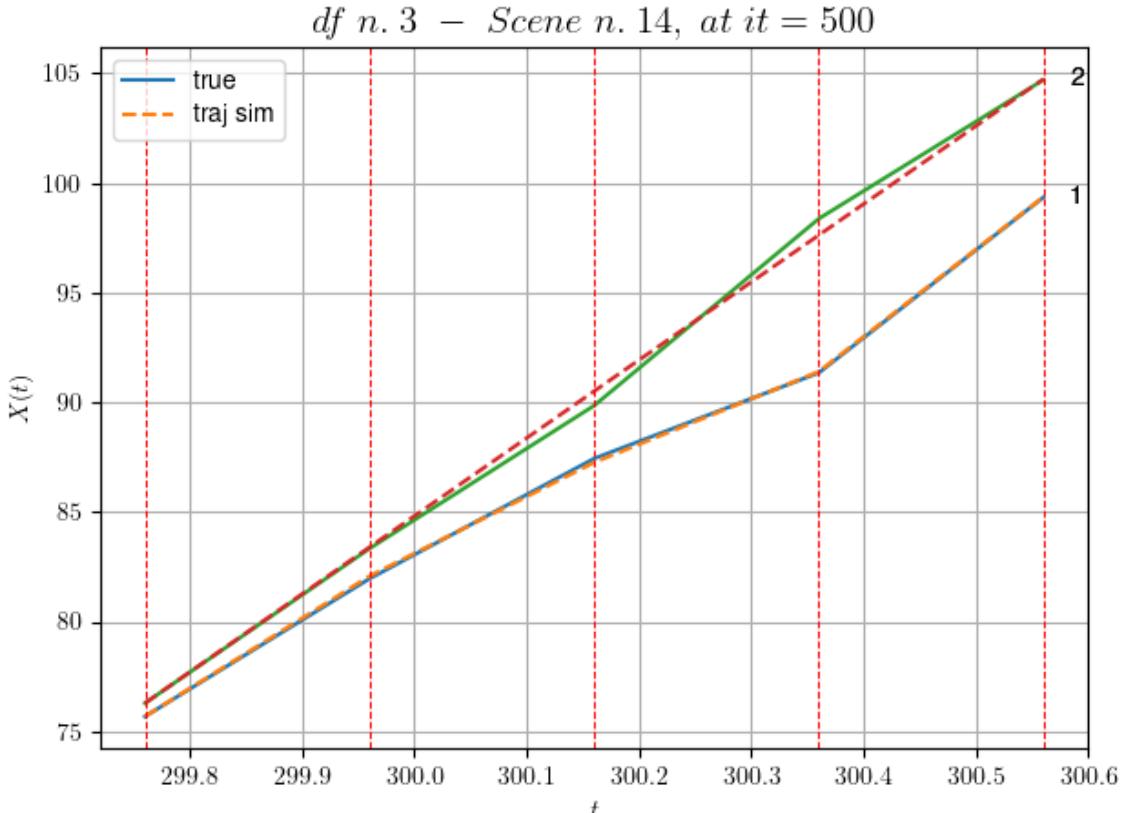
- Time interval n.1: [299.96, 300.16]
 - * y_true: [27.37378642]
 - * v_ann: [25.89659881591797, 35.55620181996972]

- Time interval n.2: [300.16, 300.36]
 - * y_true: [19.53299053]
 - * v_ann: [20.70766830444336, 35.55620181996972]

- Time interval n.3: [300.36, 300.56]
 - * y_true: [39.98711868]

```
* v_ann: [39.79204177856445, 35.55620181996972]
```

```
* err= 0.1046773402681395
* Learning rate NN = 0.000478296831715852
* diff = 0.00031285383634825636
```



For scene 14/90

```
* use LR_NN=0.001 with err=5.669519481355488 at it=24
* v0_scn_mean = 35.333953747212085
* MAE = 0.1046773402681395
```

df n.3, scene n.15/90

We have 5 time intervals inside [331.56, 332.56]

- Time interval n.0: [331.56, 331.76]
 - * y_true: [29.36025951]
 - * v_ann: [29.09095573425293, 25.002166879949275]

- Time interval n.1: [331.76, 331.96]
 - * y_true: [26.13036592]
 - * v_ann: [27.136886596679688, 25.002166879949275]

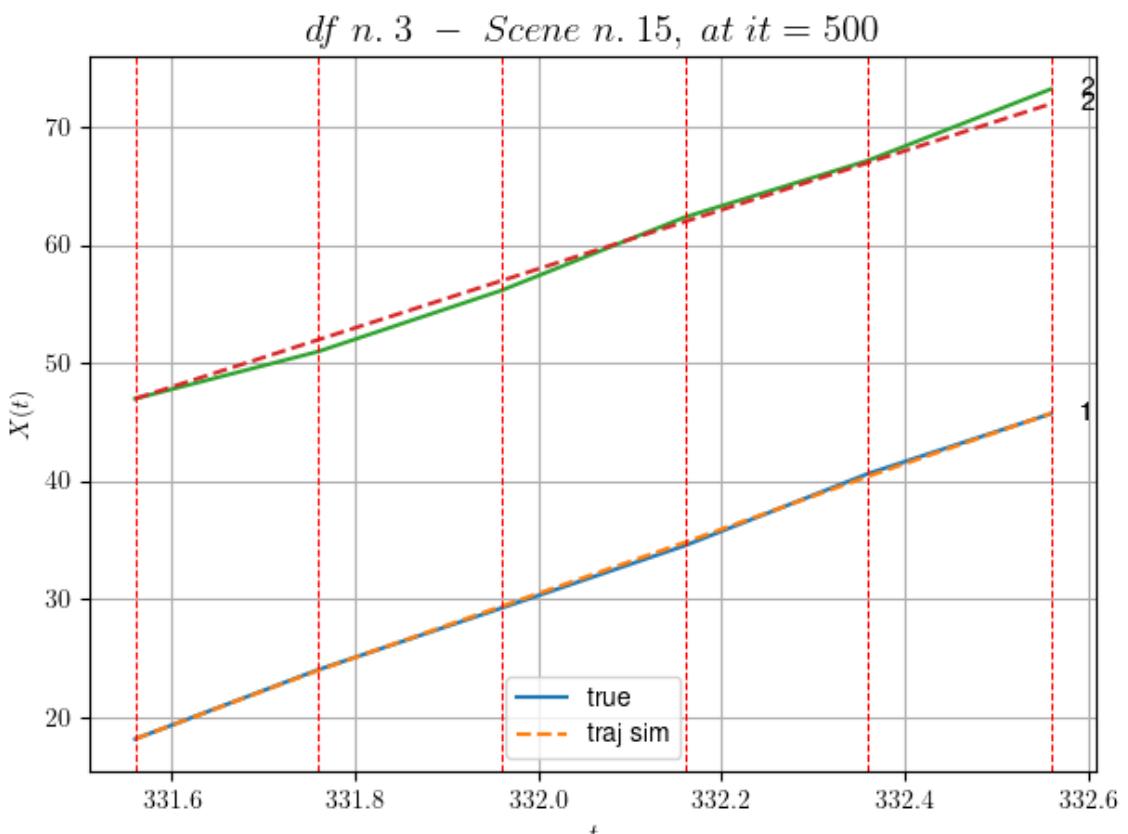
- Time interval n.2: [331.96, 332.16]
 - * y_true: [26.45053806]

* v_ann: [27.0564022064209, 25.002166879949275]

- Time interval n.3: [332.16, 332.36]
 * y_true: [30.48083307]
 * v_ann: [27.99243927001953, 25.002166879949275]

- Time interval n.4: [332.36, 332.56]
 * y_true: [25.46093572]
 * v_ann: [26.716493606567383, 25.002166879949275]

* err= 0.2974498732609388
 * Learning rate NN = 3.874203684972599e-06
 * diff = 3.939799891305995e-05



For scene 15/90

* use LR_NN=1e-05 with err=3.9594607564536934 at it=24
 * v0_scn_mean = 25.202080204712807
 * MAE = 0.25202682337902416

df n.3, scene n.16/90

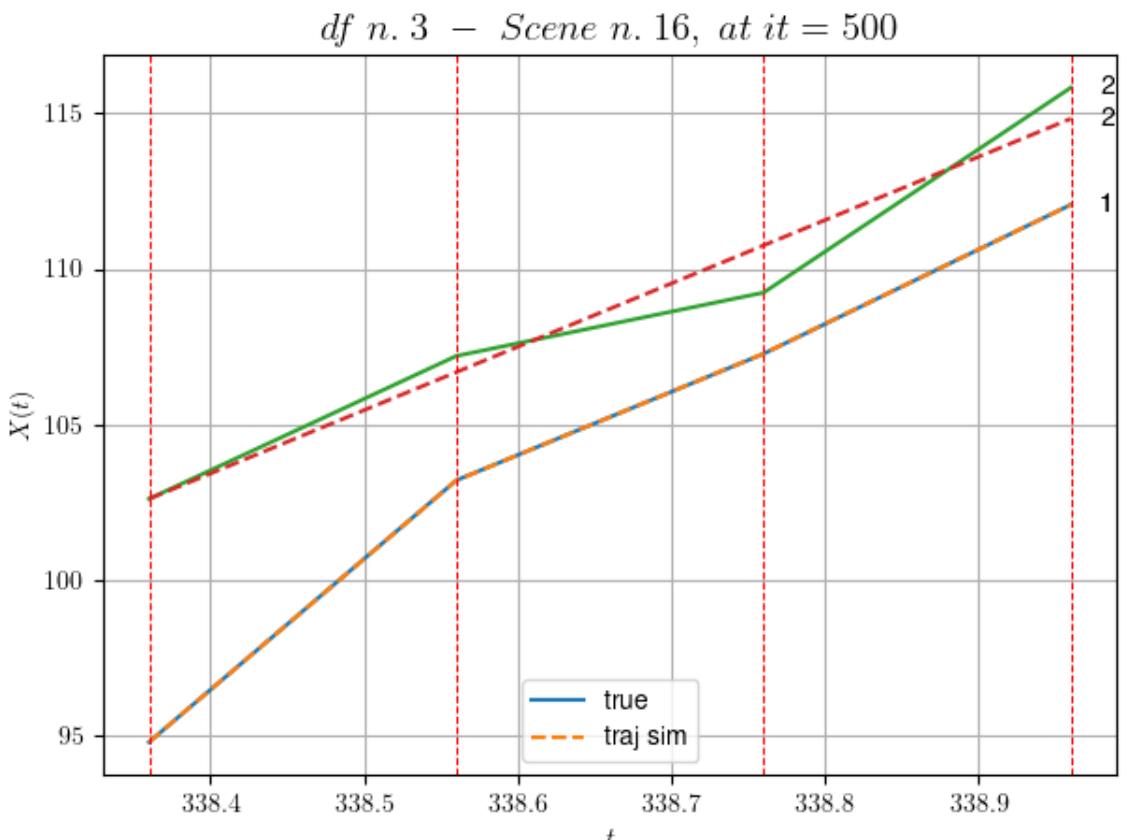
We have 3 time intervals inside [338.36,338.96]
 - Time interval n.0: [338.36, 338.56]

```
* y_true: [42.04765341]
* v_ann: [42.0278434753418, 20.35807022667302]
```

```
- Time interval n.1: [338.56, 338.76]
* y_true: [20.3284091]
* v_ann: [20.3763370513916, 20.35807022667302]
```

```
- Time interval n.2: [338.76, 338.96]
* y_true: [23.95541551]
* v_ann: [23.932504653930664, 20.35807022667302]
```

```
* err= 0.44557949669110336
* Learning rate NN = 0.0005904899444431067
* diff = 4.230504502766852e-06
```



For scene 16/90

```
* use LR_NN=0.001 with err=6.979066557408315 at it=24
* v0_scn_mean = 20.74374741753197
* MAE = 0.44557949669110336
```

df n.3, scene n.17/90

We have 4 time intervals inside [377.56, 378.36]

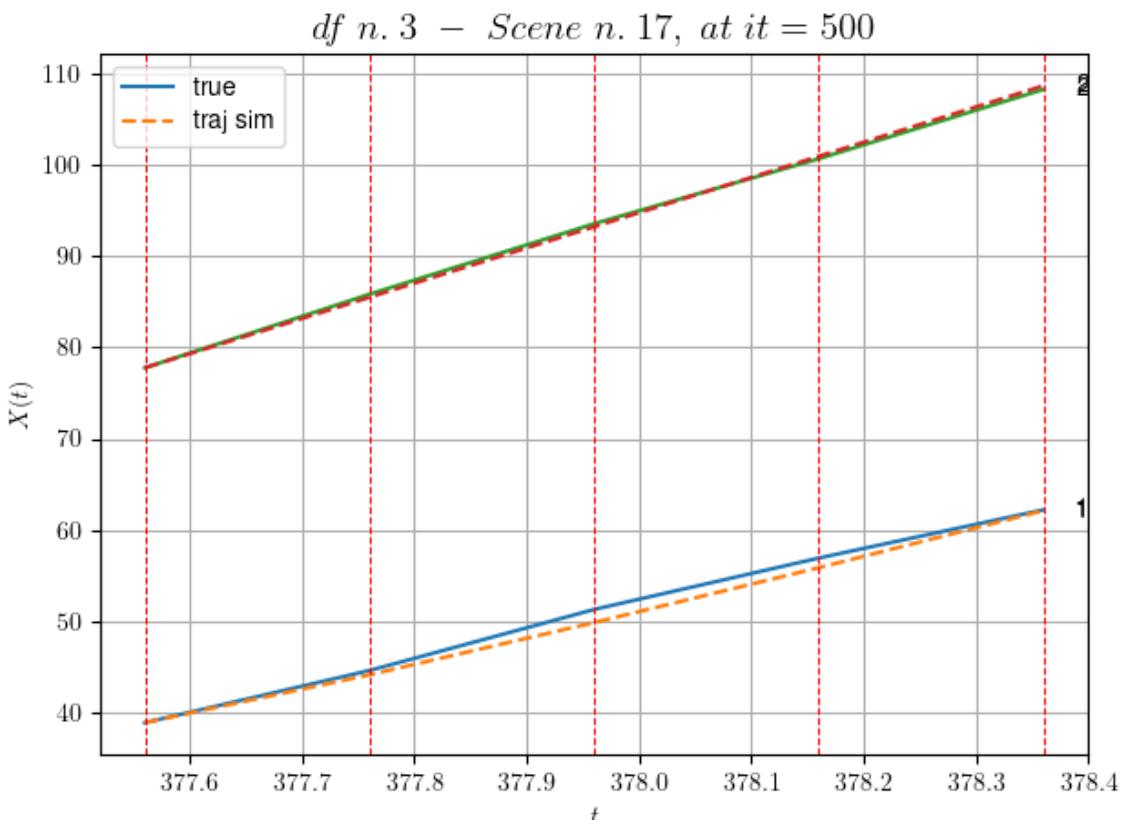
- Time interval n.0: [377.56, 377.76]
 * y_true: [28.58096669]
 * v_ann: [26.223026275634766, 38.59992828377911]

- Time interval n.1: [377.76, 377.96]
 * y_true: [33.41151221]
 * v_ann: [28.59886932373047, 38.59992828377911]

- Time interval n.2: [377.96, 378.16]
 * y_true: [28.14158578]
 * v_ann: [30.035207748413086, 38.59992828377911]

- Time interval n.3: [378.16, 378.36]
 * y_true: [26.41181793]
 * v_ann: [31.23053741455078, 38.59992828377911]

* err= 0.38629157932560165
 * Learning rate NN = 4.782968062500004e-06
 * diff = 0 AAAA2945657363903065



For scene 17/90

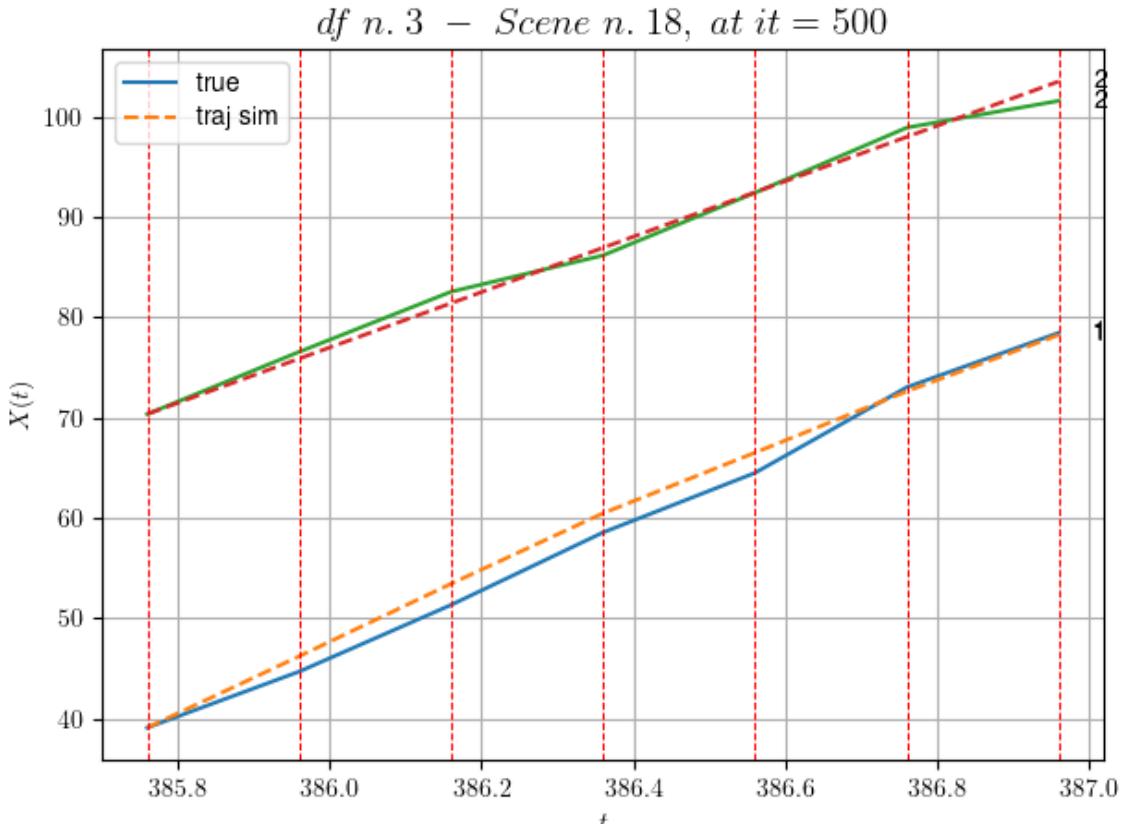
* use LR_NN=1e-05 with err=8.699243770073679 at it=24
 * v0_scn_mean = 38.25593115249428
 * MAE = 0.38349159411458794

```
df n.3, scene n.18/90
```

```
=====
=====
```

We have 6 time intervals inside [385.76,386.96]

- Time interval n.0: [385.76, 385.96]
 - * y_true: [27.95094629]
 - * v_ann: [35.56819534301758, 27.617874781177147]
-
- Time interval n.1: [385.96, 386.16]
 - * y_true: [33.20147506]
 - * v_ann: [36.12791442871094, 27.617874781177147]
-
- Time interval n.2: [386.16, 386.36]
 - * y_true: [36.102098]
 - * v_ann: [35.11341094970703, 27.617874781177147]
-
- Time interval n.3: [386.36, 386.56]
 - * y_true: [29.65215787]
 - * v_ann: [30.170625686645508, 27.617874781177147]
-
- Time interval n.4: [386.56, 386.76]
 - * y_true: [42.70388188]
 - * v_ann: [30.579072952270508, 27.617874781177147]
-
- Time interval n.5: [386.76, 386.96]
 - * y_true: [27.10298598]
 - * v_ann: [28.0904598236084, 27.617874781177147]
-
- * err= 1.5445031414584596
- * Learning rate NN = 3.138104830213706e-06
- * diff = 0.003100300822720614



For scene 18/90

- * use LR_NN=1e-05 with err=3.2063146446287982 at it=24
 - * v0_scn_mean = 27.713159789911675
 - * MAE = 1.540223903226491
-
-

df n.3, scene n.19/90

We have 4 time intervals inside [402.76, 403.56]

- Time interval n.0: [402.76, 402.96]
 - * y_true: [32.26367754]
 - * v_ann: [33.08488082885742, 34.5196707222895]
-

- Time interval n.1: [402.96, 403.16]
 - * y_true: [31.06421017]
 - * v_ann: [32.612457275390625, 34.5196707222895]
-

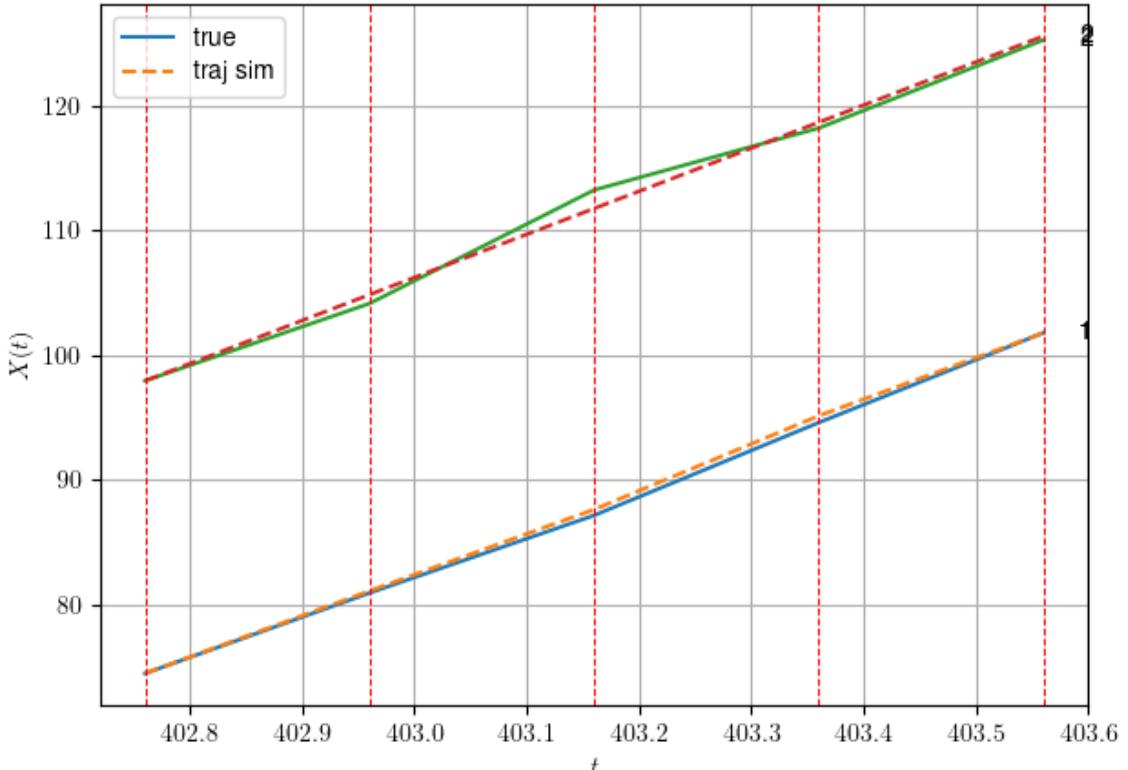
- Time interval n.2: [403.16, 403.36]
 - * y_true: [37.17770982]
 - * v_ann: [37.517616271972656, 34.5196707222895]
-

- Time interval n.3: [403.36, 403.56]
 - * y_true: [35.95654106]

```
* v_ann: [33.24302673339844, 34.5196707222895]
```

```
* err= 0.3552271224844574
* Learning rate NN = 4.782968062500004e-06
* diff = 5.6264000170620054e-05
```

df n. 3 – Scene n. 19, at it = 500



For scene 19/90

```
* use LR_NN=1e-05 with err=2.7217176410709727 at it=24
* v0_scn_mean = 34.338883893435565
* MAE = 0.3551688668363025
```

df n.3, scene n.20/90

We have 5 time intervals inside [417.16, 418.16]

- Time interval n.0: [417.16, 417.36]
 - * y_true: [27.85257929]
 - * v_ann: [31.7119197845459, 31.447990123716487]

- Time interval n.1: [417.36, 417.56]
 - * y_true: [31.20340101]
 - * v_ann: [31.701406478881836, 31.447990123716487]

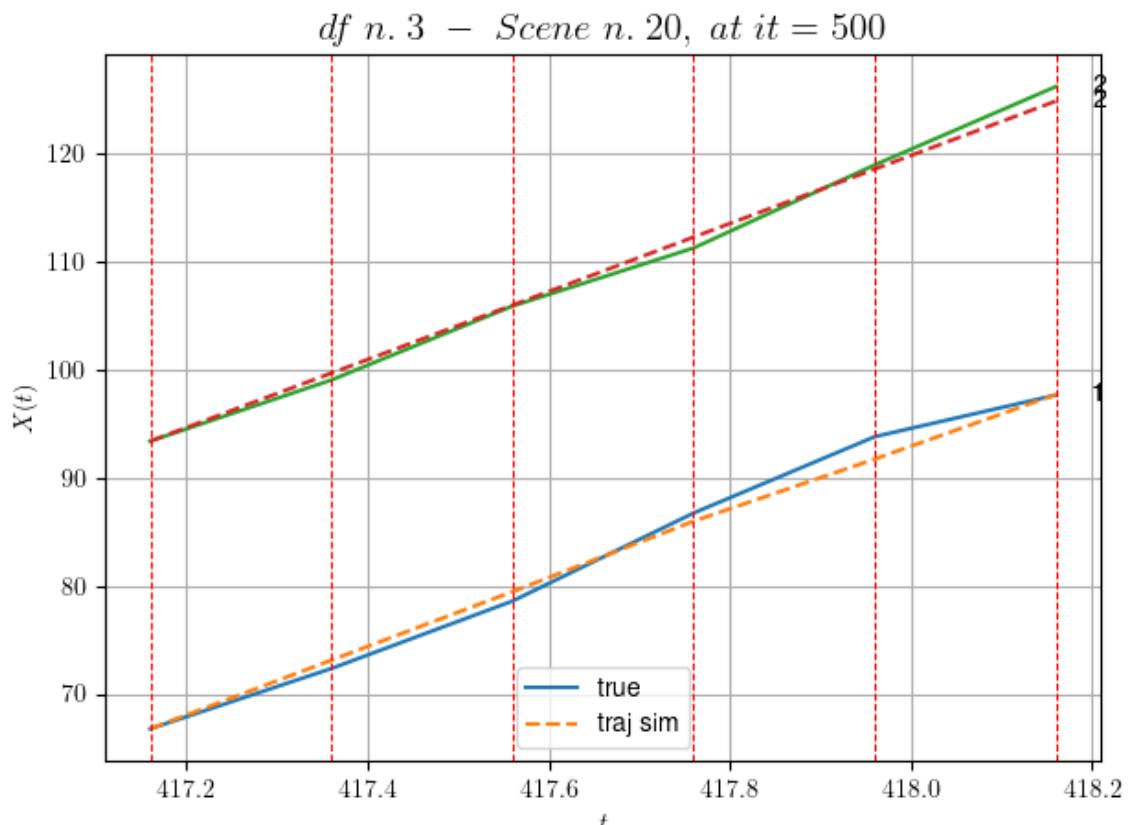
- Time interval n.2: [417.56, 417.76]
 - * y_true: [40.70532339]

```
* v_ann: [32.56913757324219, 31.447990123716487]
```

- Time interval n.3: [417.76, 417.96]
 - * y_true: [35.30550423]
 - * v_ann: [28.729618072509766, 31.447990123716487]

- Time interval n.4: [417.96, 418.16]
 - * y_true: [19.25337396]
 - * v_ann: [29.85602569580078, 31.447990123716487]

- * err= 0.7996916265317899
- * Learning rate NN = 3.874203684972599e-06
- * diff = 0 0025407044127405687



For scene 20/90

- * use LR_NN=1e-05 with err=1.4459490789260072 at it=24
- * v0_scn_mean = 31.390070518778366
- * MAE = 0.7915479700970796

df n.3, scene n.21/90

We have 2 time intervals inside [427.36, 427.76]

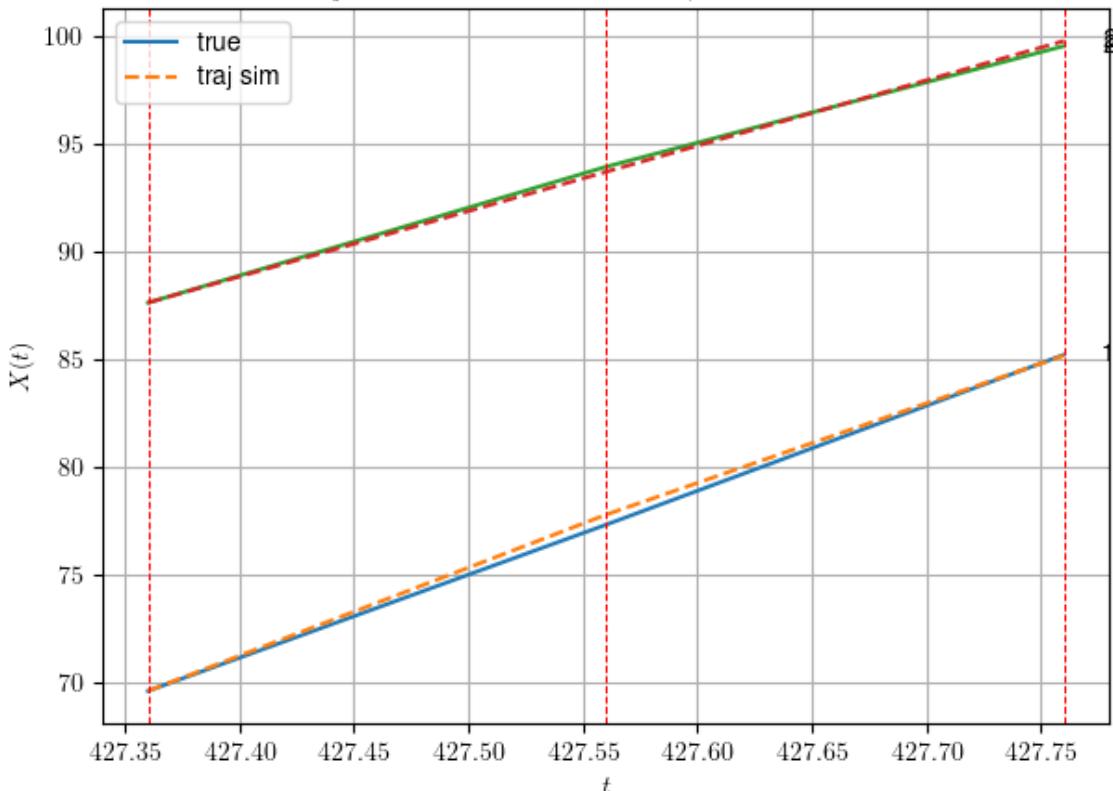
- Time interval n.0: [427.36, 427.56]
 - * y_true: [38.56400372]

```
* v_ann: [40.88932418823242, 30.361525596812406]
```

- Time interval n.1: [427.56, 427.76]
 - * y_true: [39.44508031]
 - * v_ann: [36.937522888183594, 30.361525596812406]

- * err= 0.05462217512477642
- * Learning rate NN = 3.6449993785936385e-05
- * diff = 0.00010919775787089636

df n. 3 – Scene n. 21, at it = 500



For scene 21/90

- * use LR_NN=5e-05 with err=0.04762386077235764 at it=24
- * v0_scn_mean = 30.347064572943484
- * MAE = 0.04926050552799484

df n.3, scene n.22/90

We have 3 time intervals inside [431.76,432.36]

- Time interval n.0: [431.76, 431.96]
 - * y_true: [42.05694869]
 - * v_ann: [42.20001220703125, 25.896889333921028]

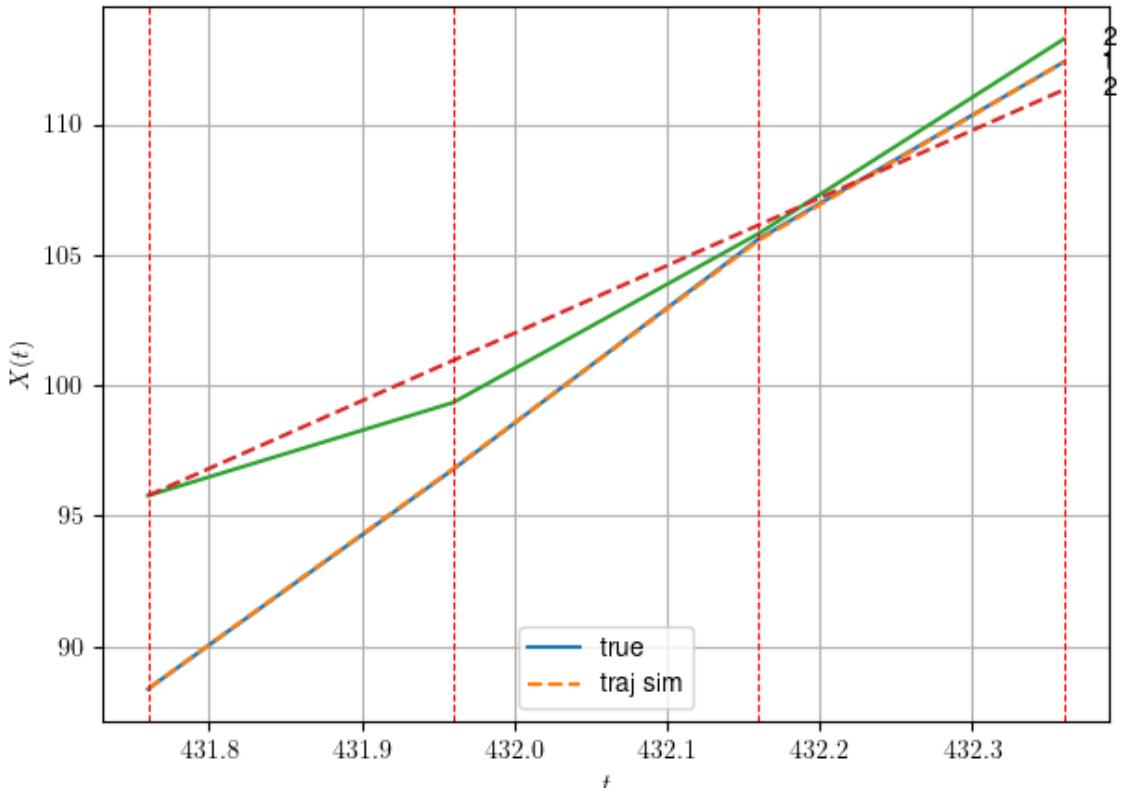
- Time interval n.1: [431.96, 432.16]

```
* y_true: [44.06855704]
* v_ann: [43.64304733276367, 25.896889333921028]
```

```
- Time interval n.2: [432.16, 432.36]
* y_true: [33.89770032]
* v_ann: [34.16176986694336, 25.896889333921028]
```

```
* err= 0.8121074750362006
* Learning rate NN = 0.0005904899444431067
* diff = 0 00046760219029954087
```

df n. 3 – Scene n. 22, at it = 500



For scene 22/90

```
* use LR_NN=0.001 with err=2.4378098366396035 at it=24
* v0_scn_mean = 26.061013760533402
* MAE = 0.8121074750362006
```

df n.3, scene n.23/90

We have 7 time intervals inside [436.16, 437.56]

```
- Time interval n.0: [436.16, 436.36]
* y_true: [28.38049676]
* v_ann: [30.88094711303711, 32.92393930276428]
```

```
- Time interval n.1: [436.36, 436.56]
```

```
* y_true: [31.10077619]
* v_ann: [32.10791015625, 32.92393930276428]
```

```
-----  
-----  
- Time interval n.2: [436.56, 436.76]  
* y_true: [33.35116865]  
* v_ann: [31.13982582092285, 32.92393930276428]
```

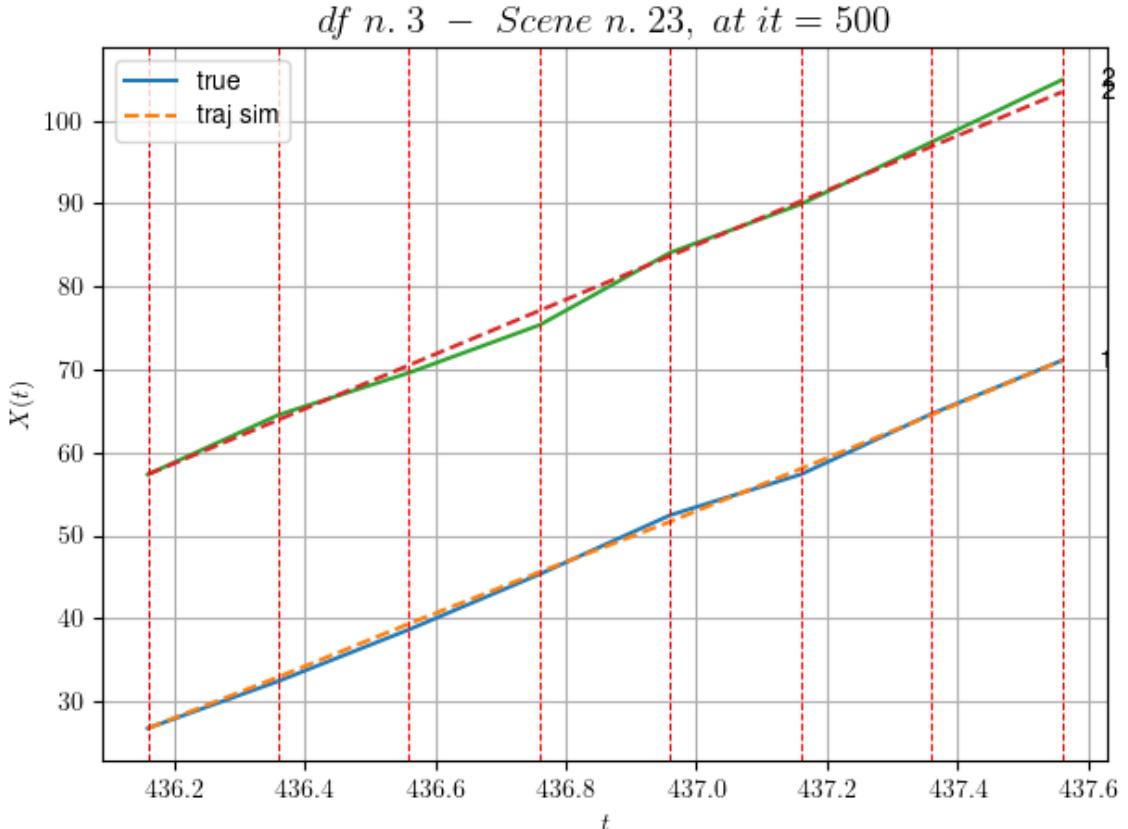
```
-----  
-----  
- Time interval n.3: [436.76, 436.96]  
* y_true: [35.59162813]  
* v_ann: [30.406982421875, 32.92393930276428]
```

```
-----  
-----  
- Time interval n.4: [436.96, 437.16]  
* y_true: [24.54147266]  
* v_ann: [31.801929473876953, 32.92393930276428]
```

```
-----  
-----  
- Time interval n.5: [437.16, 437.36]  
* y_true: [36.46262809]  
* v_ann: [32.49122619628906, 32.92393930276428]
```

```
-----  
-----  
- Time interval n.6: [437.36, 437.56]  
* y_true: [32.2428709]  
* v_ann: [32.69887924194336, 32.92393930276428]
```

```
-----  
-----  
* err= 0.5534839718817199  
* Learning rate NN = 2.541864660088322e-06  
* diff = 6.014349659411167e-05
```



For scene 23/90

```
* use LR_NN=1e-05 with err=4.054206467977627 at it=24
* v0_scn_mean = 32.80698173067553
* MAE = 0.5533881200645111
```

df n.3, scene n.24/90

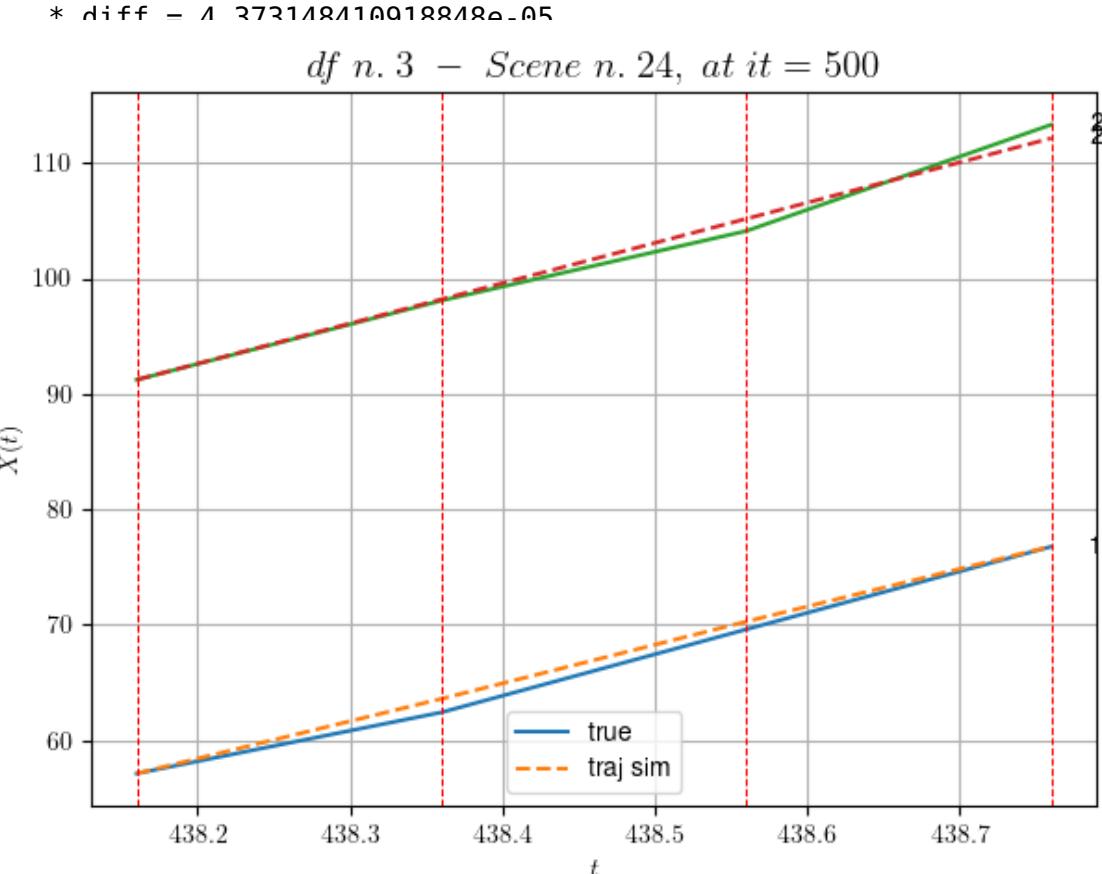
We have 3 time intervals inside [438.16, 438.76]

- Time interval n.0: [438.16, 438.36]
 - * y_true: [26.48183539]
 - * v_ann: [32.3544921875, 34.86837809331495]

- Time interval n.1: [438.36, 438.56]
 - * y_true: [35.94307189]
 - * v_ann: [33.44055938720703, 34.86837809331495]

- Time interval n.2: [438.56, 438.76]
 - * y_true: [35.82358849]
 - * v_ann: [32.58457946777344, 34.86837809331495]

- * err= 0.5427840268077312
- * Learning rate NN = 5.9048988987342454e-06



For scene 24/90

* use LR_NN=1e-05 with err=2.53450402037161 at it=24
 * v0_scn_mean = 34.67364296962024
 * MAE = 0.5416279810818329

df n.3, scene n.25/90

We have 10 time intervals inside [464.56, 466.56]

- Time interval n.0: [464.56, 464.76]
 * y_true: [27.69098082]
 * v_ann: [27.548139572143555, 24.498602704880792]

- Time interval n.1: [464.76, 464.96]
 * y_true: [18.42077628]
 * v_ann: [27.840852737426758, 24.498602704880792]

- Time interval n.2: [464.96, 465.16]
 * y_true: [33.36180608]
 * v_ann: [27.714462280273438, 24.498602704880792]

- Time interval n.3: [465.16, 465.36]
 * y_true: [30.0319773]

```
* v_ann: [26.22242546081543, 24.498602704880792]
```

```
- Time interval n.4: [465.36, 465.56]
* y_true: [28.782318]
* v_ann: [26.94881248474121, 24.498602704880792]
```

```
- Time interval n.5: [465.56, 465.76]
* y_true: [28.59272475]
* v_ann: [27.421356201171875, 24.498602704880792]
```

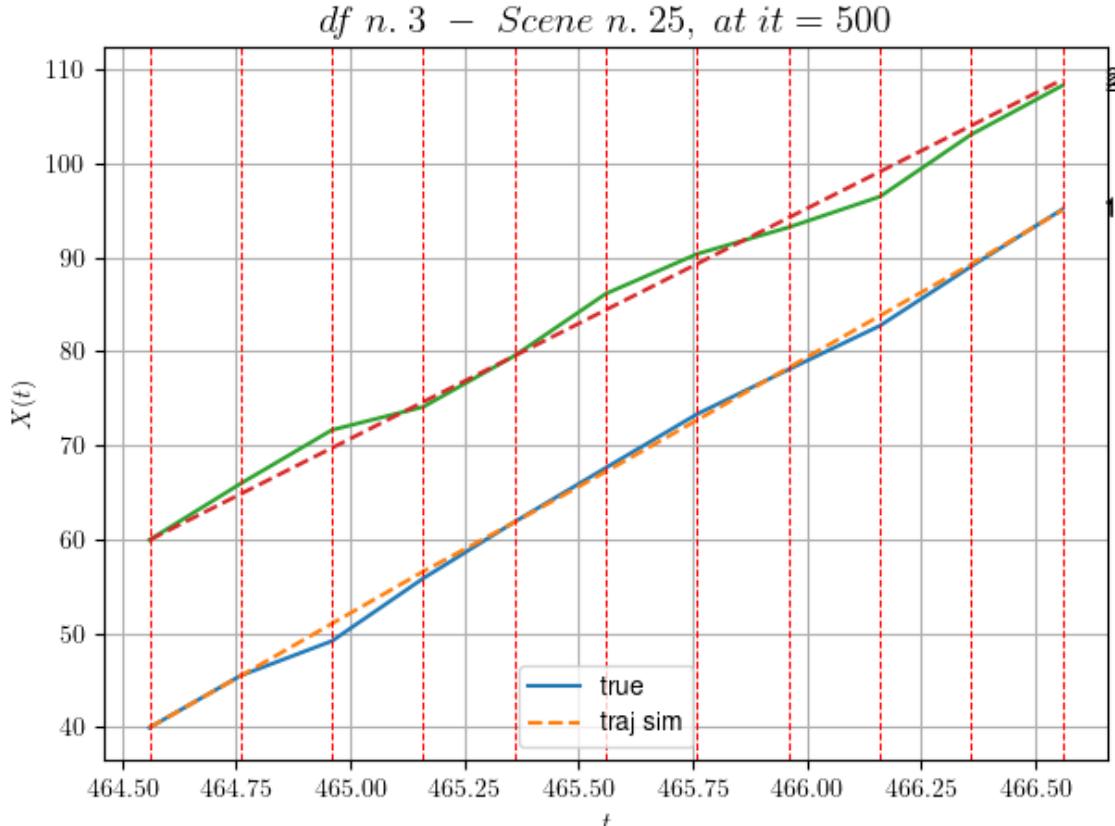
```
- Time interval n.6: [465.76, 465.96]
* y_true: [23.70259195]
* v_ann: [27.831539154052734, 24.498602704880792]
```

```
- Time interval n.7: [465.96, 466.16]
* y_true: [23.26288454]
* v_ann: [27.63652992248535, 24.498602704880792]
```

```
- Time interval n.8: [466.16, 466.36]
* y_true: [31.61450449]
* v_ann: [27.45348358154297, 24.498602704880792]
```

```
- Time interval n.9: [466.36, 466.56]
* y_true: [30.37492519]
* v_ann: [28.734399795532227, 24.498602704880792]
```

```
* err= 1.109522986333273
* Learning rate NN = 6.754255446139723e-05
* diff = 0.01280100803086448
```



For scene 25/90

```
* use LR_NN=0.0005 with err=25.98121401855691 at it=24
* v0_scn_mean = 24.718658596643706
* MAE = 1.109522986333273
```

df n.3, scene n.26/90

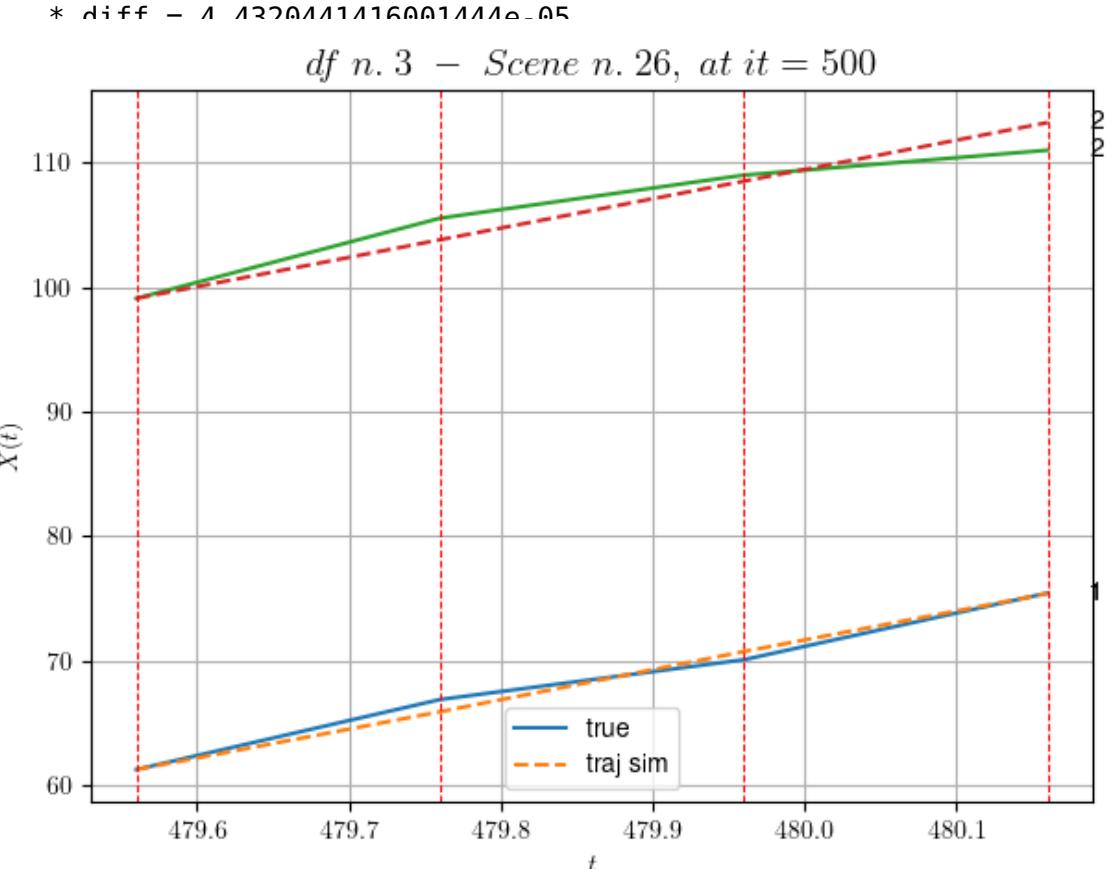
We have 3 time intervals inside [479.56, 480.16]

- Time interval n.0: [479.56, 479.76]
 - * y_true: [28.13211047]
 - * v_ann: [23.217287063598633, 23.543200777567314]

- Time interval n.1: [479.76, 479.96]
 - * y_true: [15.98145013]
 - * v_ann: [24.174150466918945, 23.543200777567314]

- Time interval n.2: [479.96, 480.16]
 - * y_true: [26.79272857]
 - * v_ann: [23.330224990844727, 23.543200777567314]

```
* err= 1.1972432189449187
* Learning rate NN = 2.952449540316593e-05
```



For scene 26/90

* use LR_NN=5e-05 with err=5.545087432486163 at it=24
 * v0_scn_mean = 23.801472746415445
 * MAE = 1.1972432189449187

df n.3, scene n.27/90

We have 5 time intervals inside [486.56, 487.56]

- Time interval n.0: [486.56, 486.76]
 - * y_true: [22.56167732]
 - * v_ann: [20.150461196899414, 25.85811943170923]

- Time interval n.1: [486.76, 486.96]
 - * y_true: [23.21197857]
 - * v_ann: [20.924997329711914, 25.85811943170923]

- Time interval n.2: [486.96, 487.16]
 - * y_true: [17.98171719]
 - * v_ann: [22.146032333374023, 25.85811943170923]

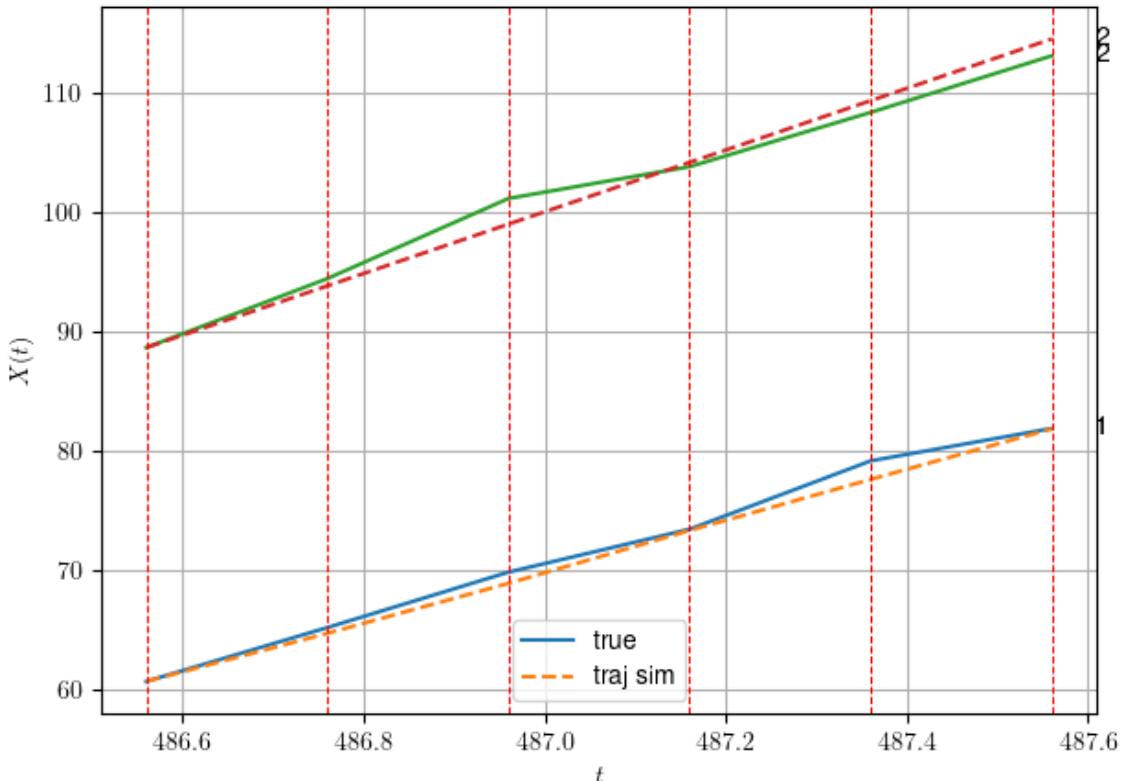
- Time interval n.3: [487.16, 487.36]
 - * y_true: [28.62315801]

```
* v_ann: [21.417917251586914, 25.85811943170923]
```

```
- Time interval n.4: [487.36, 487.56]
* y_true: [13.60161023]
* v_ann: [21.162017822265625, 25.85811943170923]
```

```
* err= 0.9672926866250025
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.0028775303167238864
```

df n. 3 – Scene n. 27, at it = 500



For scene 27/90

```
* use LR_NN=5e-05 with err=5.242327819567228 at it=24
* v0_scn_mean = 26.02379465440897
* MAE = 0.960971401721365
```

df n.3, scene n.28/90

```
We have 6 time intervals inside [538.76,539.96]
```

```
- Time interval n.0: [538.76, 538.96]
* y_true: [20.99100466]
* v_ann: [19.693023681640625, 28.565734069846993]
```

```
- Time interval n.1: [538.96, 539.16]
* y_true: [24.97142443]
```

```
* v_ann: [22.0495662689209, 28.565734069846993]
```

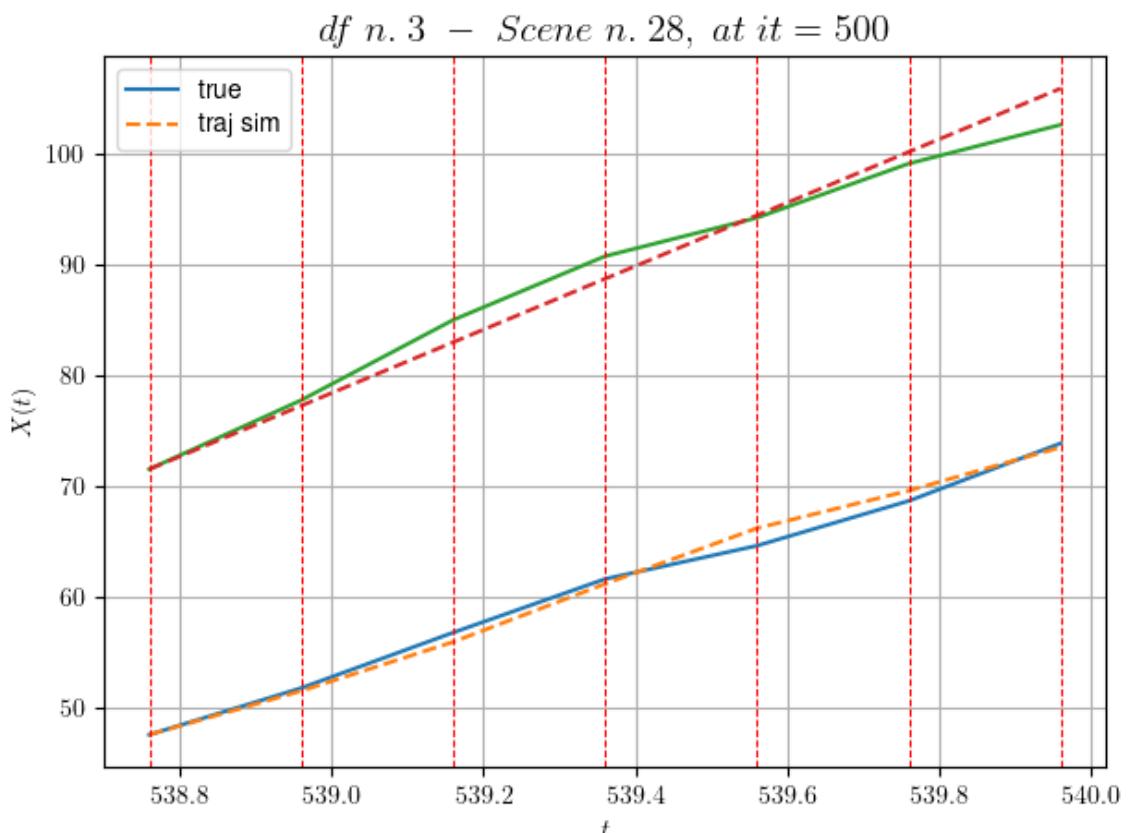
```
- Time interval n.2: [539.16, 539.36]
* y_true: [24.1116136]
* v_ann: [26.129703521728516, 28.565734069846993]
```

```
- Time interval n.3: [539.36, 539.56]
* y_true: [14.99112189]
* v_ann: [25.041460037231445, 28.565734069846993]
```

```
- Time interval n.4: [539.56, 539.76]
* y_true: [20.18175812]
* v_ann: [16.94310760498047, 28.565734069846993]
```

```
- Time interval n.5: [539.76, 539.96]
* y_true: [25.92252017]
* v_ann: [19.54256248474121, 28.565734069846993]
```

```
* err= 1.7613380742058247
* Learning rate NN = 0.00031381050939671695
* diff = 0.011792001741389502
```



For scene 28/90

* use LR_NN=0.001 with err=2.7107342310820495 at it=24

```
* vθ_scn_mean = 28.623104707041502
* MAE = 1.6238154603417334
```

```
=====
```

df n.3, scene n.29/90

```
=====
```

We have 5 time intervals inside [544.16, 545.16]

- Time interval n.0: [544.16, 544.36]
 - * y_true: [11.03044025]
 - * v_ann: [20.468433380126953, 26.245021293269826]

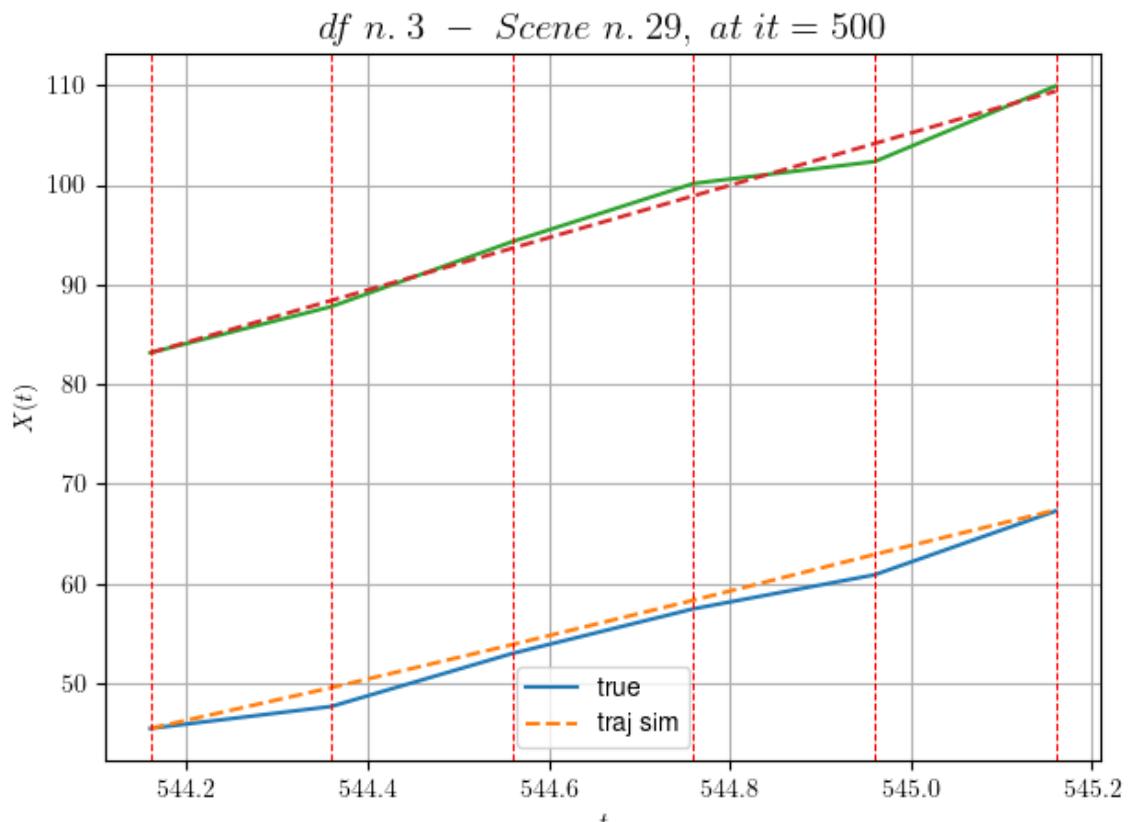
- Time interval n.1: [544.36, 544.56]
 - * y_true: [26.59442737]
 - * v_ann: [21.587907791137695, 26.245021293269826]

- Time interval n.2: [544.56, 544.76]
 - * y_true: [22.38126049]
 - * v_ann: [22.267597198486328, 26.245021293269826]

- Time interval n.3: [544.76, 544.96]
 - * y_true: [17.05115247]
 - * v_ann: [22.955265045166016, 26.245021293269826]

- Time interval n.4: [544.96, 545.16]
 - * y_true: [32.00259919]
 - * v_ann: [22.251808166503906, 26.245021293269826]

```
* err= 1.2658633704424218
* Learning rate NN = 3.874203684972599e-06
* diff = 0.0009799256146321156
```



```
For scene 29/90
* use LR_NN=1e-05 with err=3.6596934204123244 at it=24
* v0_scn_mean = 26.3952204415103
* MAE = 1.2623205576924683
```

```
=====
=====
```

```
df n.3, scene n.30/90
```

```
=====
=====
```

```
We have 3 time intervals inside [563.76,564.36]
```

```
- Time interval n.0: [563.76, 563.96]
  * y_true: [25.25123233]
  * v_ann: [19.237709045410156, 27.431374274162362]
```

```
-----
-----
```

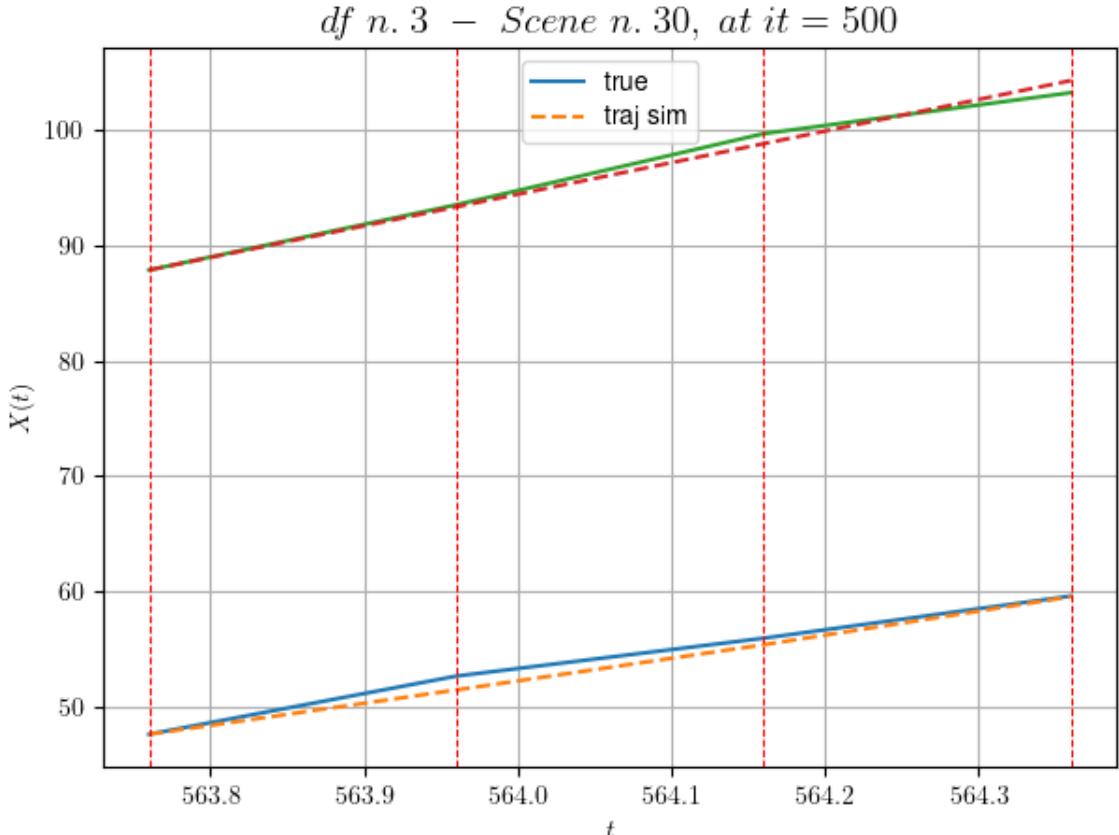
```
- Time interval n.1: [563.96, 564.16]
  * y_true: [16.45094022]
  * v_ann: [19.627674102783203, 27.431374274162362]
```

```
-----
-----
```

```
- Time interval n.2: [564.16, 564.36]
  * y_true: [18.30118347]
  * v_ann: [20.861894607543945, 27.431374274162362]
```

```
-----
-----
```

```
* err= 0.46004355387148477
* Learning rate NN = 5.9048988987342454e-06
* diff = 0.00010391313973434624
```



For scene 30/90

```
* use LR_NN=1e-05 with err=1.1183305884615775 at it=24
* v0_scn_mean = 27.534119303177434
* MAE = 0.45935116358579997
```

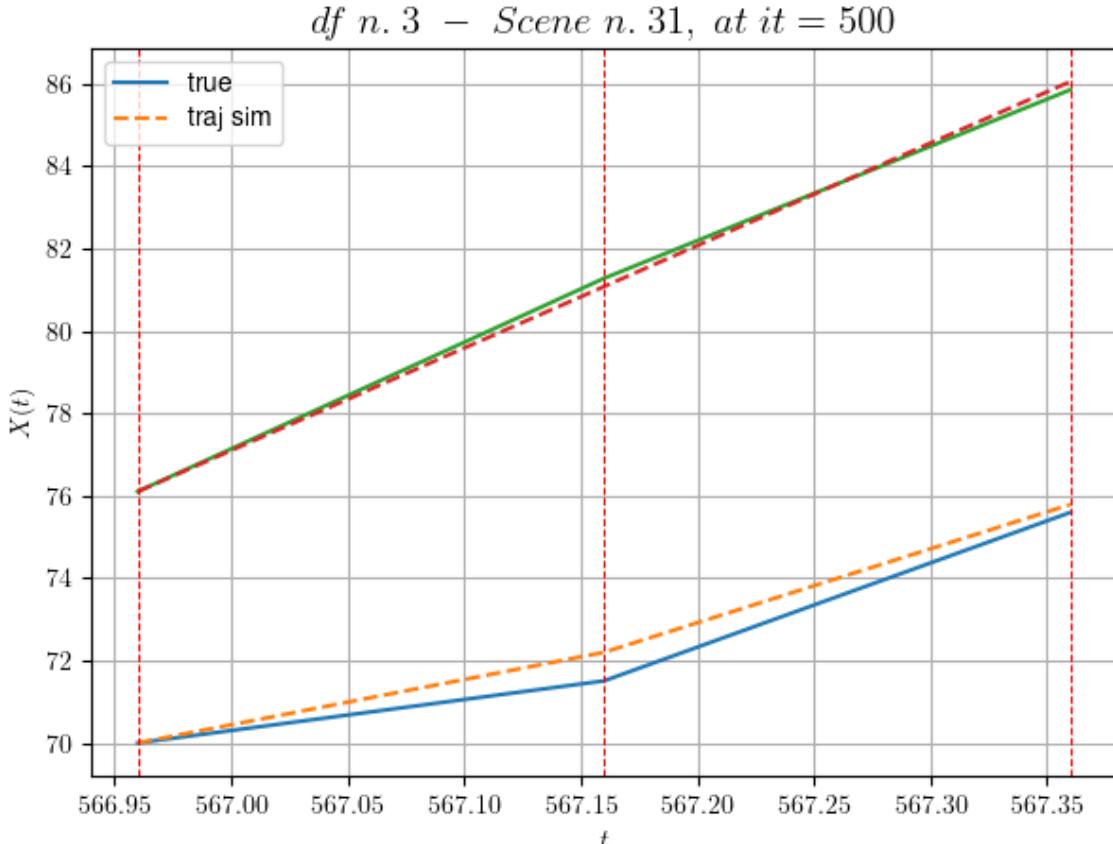
df n.3, scene n.31/90

We have 2 time intervals inside [566.96, 567.36]

- Time interval n.0: [566.96, 567.16]
 - * y_true: [7.53069511]
 - * v_ann: [10.992383003234863, 24.86641811764766]

- Time interval n.1: [567.16, 567.36]
 - * y_true: [20.43212573]
 - * v_ann: [17.939802169799805, 24.86641811764766]

```
* err= 0.09939773750969705
* Learning rate NN = 7.289998757187277e-05
* diff = 0.009987731588449247
```



For scene 31/90

- * use LR_NN=0.0001 with err=1.0260364473704406 at it=24
- * v0_scn_mean = 25.071761392908034
- * MAE = 0.09939773750969705

df n.3, scene n.32/90

We have 4 time intervals inside [573.76, 574.56]

- Time interval n.0: [573.76, 573.96]
 - * y_true: [17.20183898]
 - * v_ann: [24.24672508239746, 29.32939981960117]

- Time interval n.1: [573.96, 574.16]
 - * y_true: [34.7042468]
 - * v_ann: [27.797161102294922, 29.32939981960117]

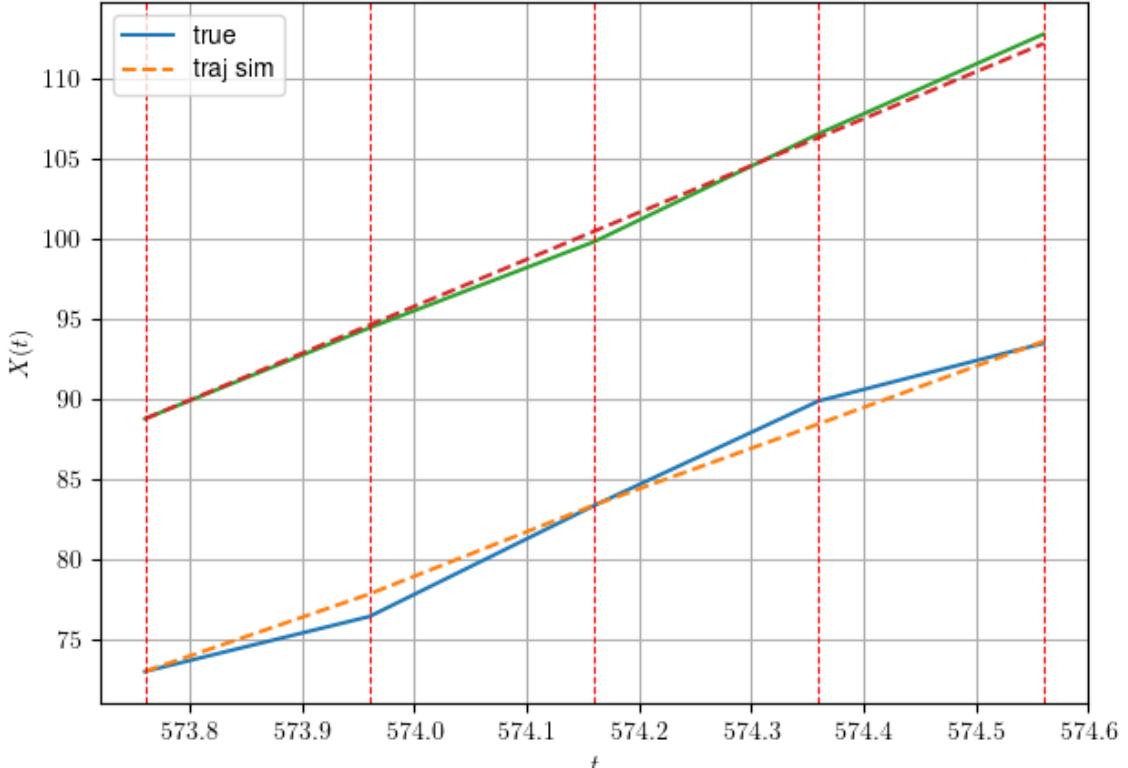
- Time interval n.2: [574.16, 574.36]
 - * y_true: [32.70470322]
 - * v_ann: [25.380189895629883, 29.32939981960117]

- Time interval n.3: [574.36, 574.56]
 - * y_true: [18.00289984]

```
* v_ann: [25.8083553314209, 29.32939981960117]
```

```
* err= 0.49394453490657975
* Learning rate NN = 4.782968062500004e-06
* diff = 0.0008061091700372613
```

df n. 3 – Scene n. 32, at it = 500

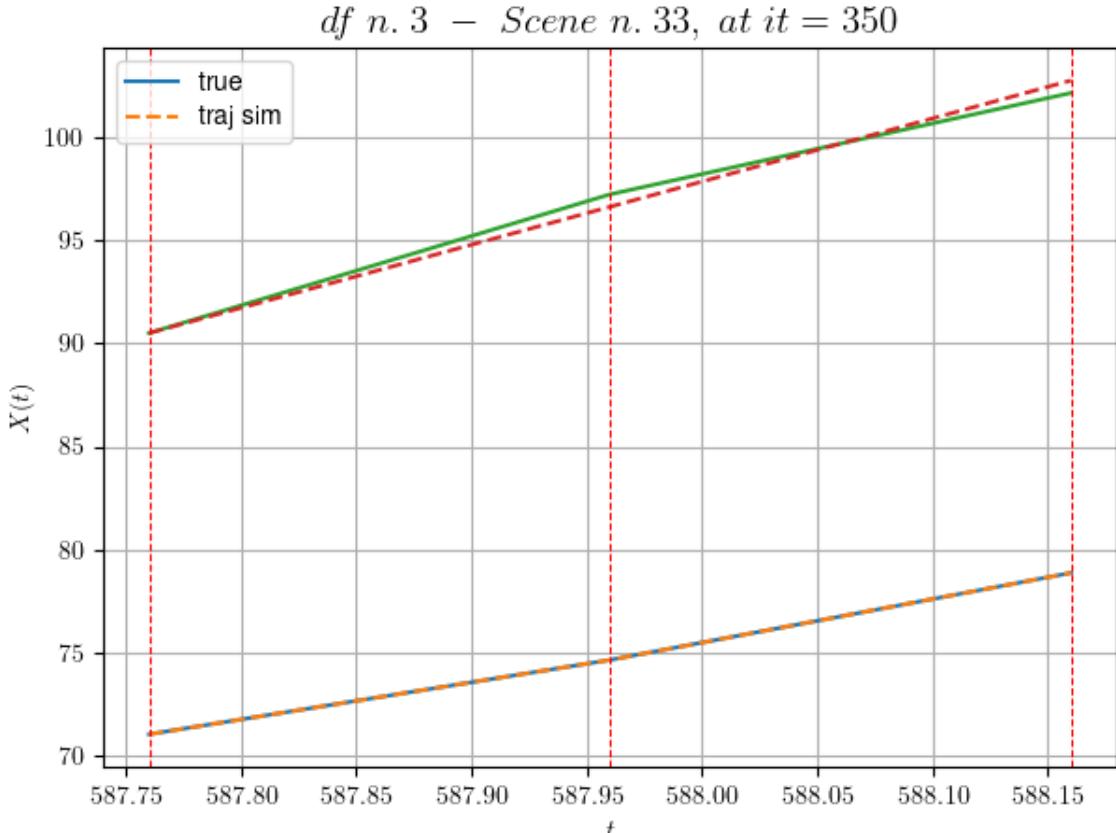


For scene 32/90

```
* use LR_NN=1e-05 with err=0.5041104323338648 at it=24
* v0_scn_mean = 29.356223826812087
* MAE = 0.4777836238509402
```

df n.3, scene n.33/90

```
We have 2 time intervals inside [587.76,588.16]
* err= 0.12162440478883231
* Learning rate NN = 0.00040499999886378646
* diff = 8.564250645048954e-07
```



For scene 33/90

```
* use LR_NN=0.0005 with err=0.1095493626361014 at it=24
* v0_scn_mean = 30.617882226468485
* MAE = 0.10980135783811491
```

df n.3, scene n.34/90

We have 7 time intervals inside [590.36, 591.76]

- Time interval n.0: [590.36, 590.56]
 - * y_true: [11.65068678]
 - * v_ann: [11.609495162963867, 19.035476639427053]

- Time interval n.1: [590.56, 590.76]
 - * y_true: [9.35059372]
 - * v_ann: [9.240045547485352, 19.035476639427053]

- Time interval n.2: [590.76, 590.96]
 - * y_true: [6.3504254]
 - * v_ann: [7.859158515930176, 19.035476639427053]

- Time interval n.3: [590.96, 591.16]
 - * y_true: [16.8512193]

```
* v_ann: [12.095592498779297, 19.035476639427053]
```

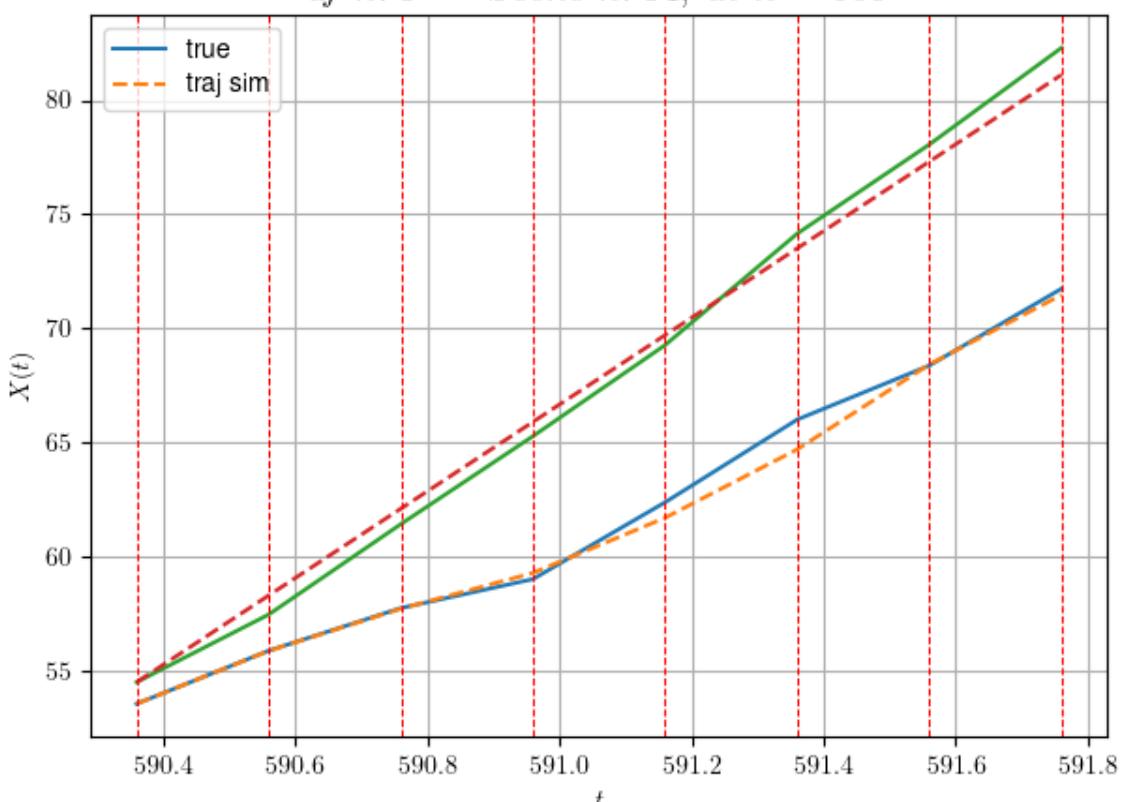
```
- Time interval n.4: [591.16, 591.36]
* y_true: [18.15146703]
* v_ann: [15.016033172607422, 19.035476639427053]
```

```
- Time interval n.5: [591.36, 591.56]
* y_true: [11.85104821]
* v_ann: [18.63275718688965, 19.035476639427053]
```

```
- Time interval n.6: [591.56, 591.76]
* y_true: [16.85161923]
* v_ann: [15.242851257324219, 19.035476639427053]
```

```
* err= 0.40267933920249527
* Learning rate NN = 0.0012709323782473803
* diff = 0.016696504385702082
```

df n. 3 – Scene n. 34, at it = 500



For scene 34/90

```
* use LR_NN=0.005 with err=39.73602954312331 at it=24
* v0_scn_mean = 19.47405757376578
* MAE = 0.3340833708805784
```

```
df n.3, scene n.35/90
```

We have 3 time intervals inside [16.16, 16.76]

- Time interval n.0: [16.16, 16.36]
 - * y_true: [27.36596872 40.6089382]
 - * v_ann: [25.128808975219727, 18.85238265991211, 3

9.2272817868331]

- Time interval n.1: [16.36, 16.56]
 - * y_true: [22.16572117 32.62072047]
 - * v_ann: [36.46330642700195, 28.333784103393555, 3

9.2272817868331]

- Time interval n.2: [16.56, 16.76]
 - * y_true: [24.04131334 24.91936545]
 - * v_ann: [33.009681701660156, 20.22325325012207, 3

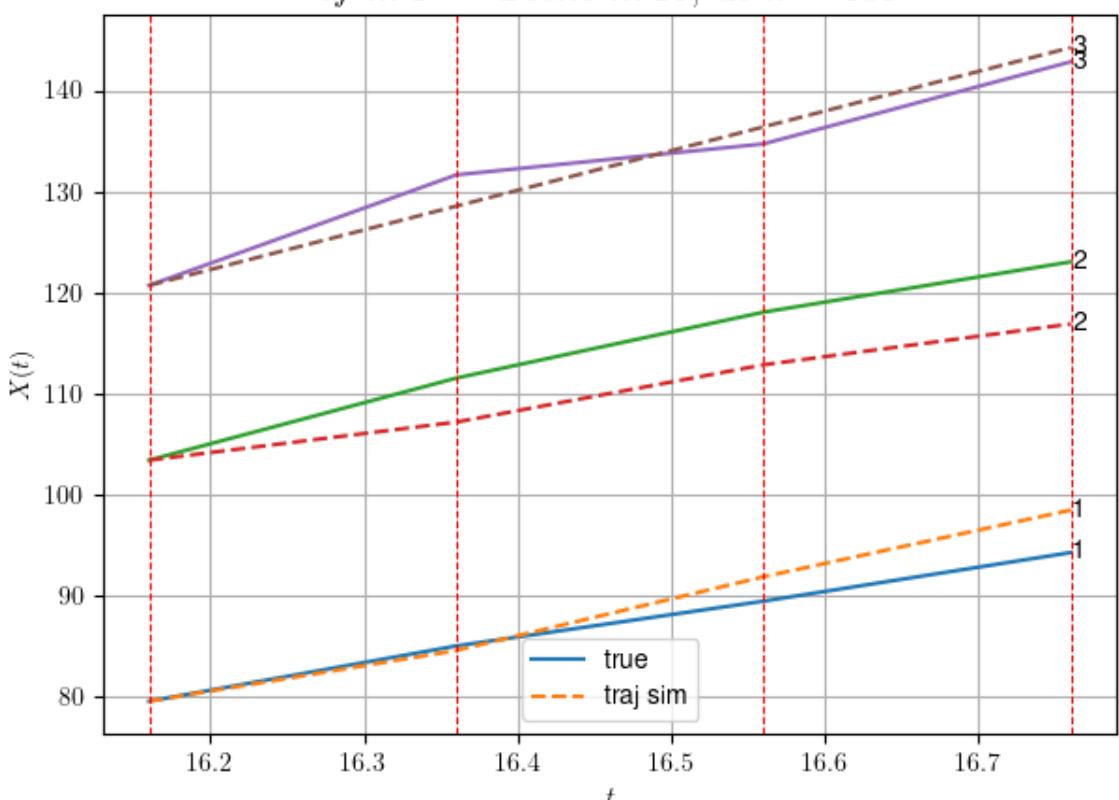
9.2272817868331]

* err= 10.161207509790472

* Learning rate NN = 0.0002952449722215533

* diff = 0.06802504867756909

df n. 3 – Scene n. 35, at it = 500



For scene 35/90

* use LR_NN=0.0005 with err=12.878162097507053 at it=24

* v0_scn_mean = 38.67364529390812

* MAE = 10.161207509790472

```
=====
=====
```

df n.3, scene n.36/90

```
=====
=====
```

We have 2 time intervals inside [17.56,17.96]

- Time interval n.0: [17.56, 17.76]
- * y_true: [26.87631442 28.75240293]

- * v_ann: [10.613749504089355, 33.81947708129883, 3
7.341608941889035]

- Time interval n.1: [17.76, 17.96]
- * y_true: [26.32655772 34.05345458]

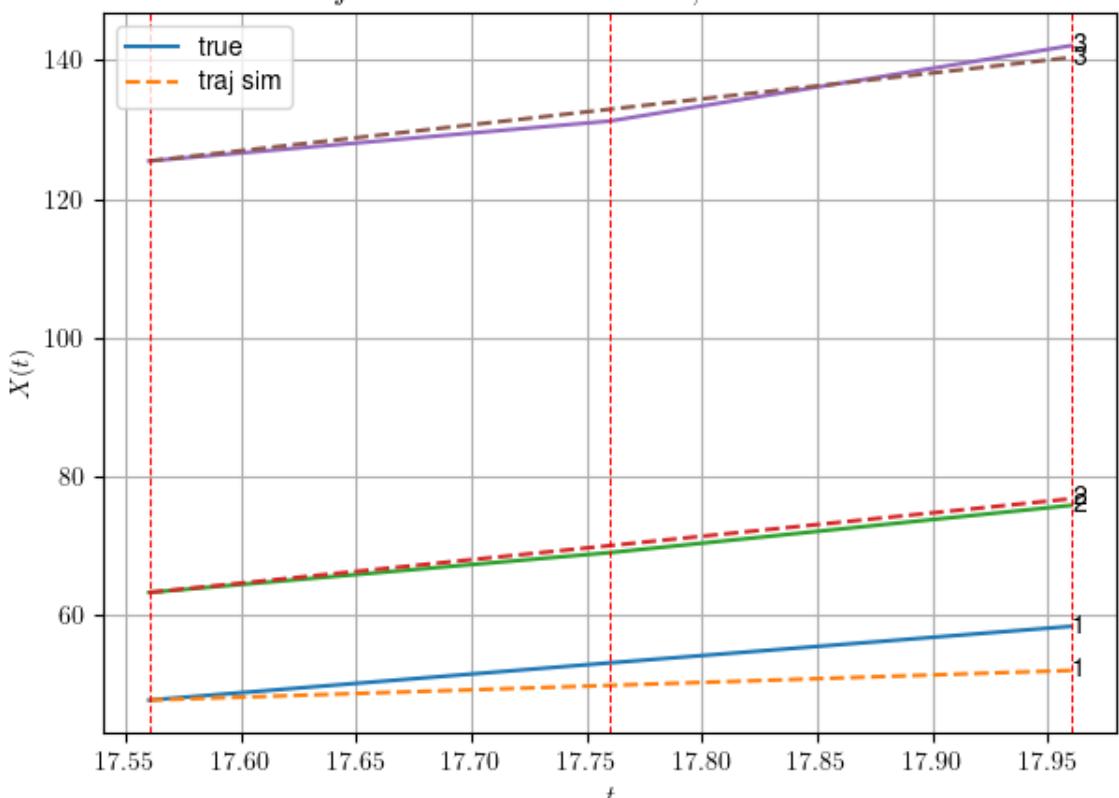
- * v_ann: [10.777409553527832, 33.74097442626953, 3
7.341608941889035]

- * err= 6.532975728359361

- * Learning rate NN = 7.289998848136747e-06

- * diff = 0.024420470030067076

df n. 3 – Scene n. 36, at it = 500



For scene 36/90

- * use LR_NN=1e-05 with err=9.856829860317461 at it=24

- * v0_scn_mean = 36.90111273499797

- * MAE = 6.532975728359361

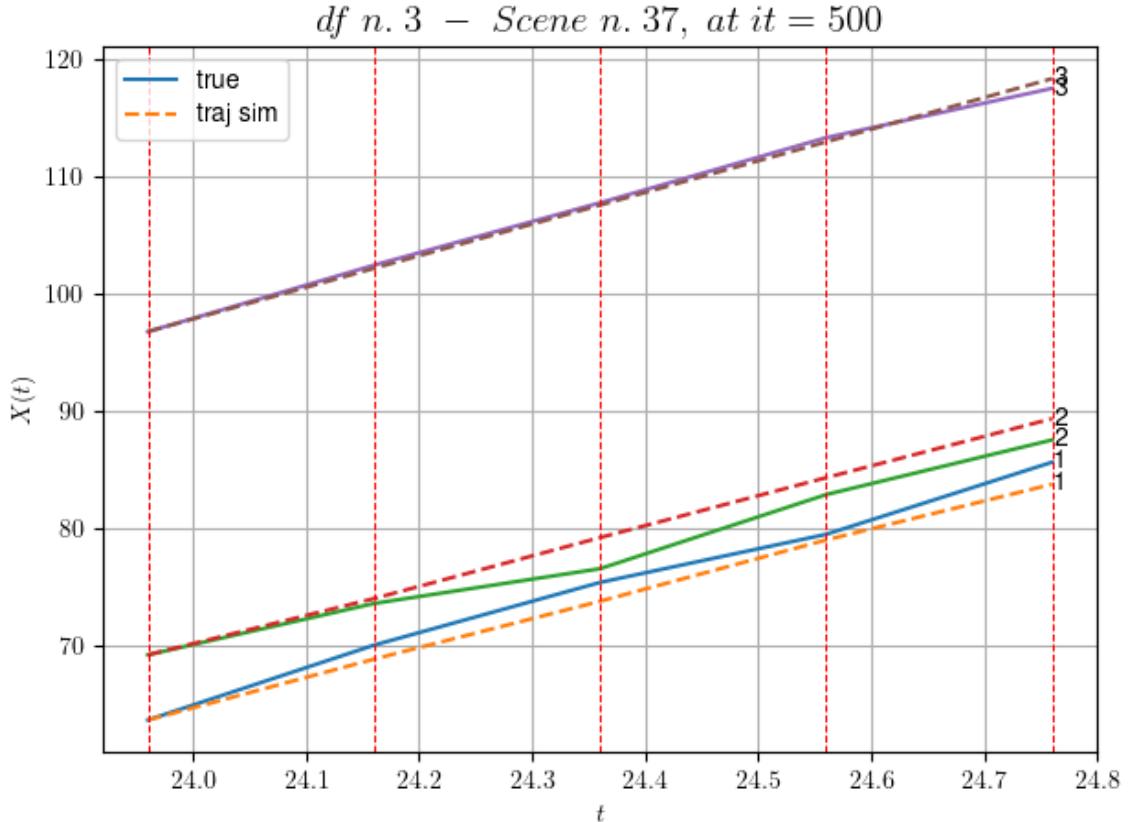
```
df n.3, scene n.37/90
=====
=====
    We have 4 time intervals inside [23.96,24.76]
        - Time interval n.0: [23.96, 24.16]
            * y_true: [31.9527567 21.95230333]
            * v_ann: [25.98040008544922, 24.048479080200195, 2
7.01666435369722]

-----
        - Time interval n.1: [24.16, 24.36]
            * y_true: [26.79271708 14.85171745]
            * v_ann: [24.727928161621094, 26.04416275024414, 2
7.01666435369722]

-----
        - Time interval n.2: [24.36, 24.56]
            * y_true: [20.5424093 31.65411216]
            * v_ann: [26.17026138305664, 25.590635299682617, 2
7.01666435369722]

-----
        - Time interval n.3: [24.56, 24.76]
            * y_true: [30.8240747 23.35345154]
            * v_ann: [23.81861114501953, 25.217233657836914, 2
7.01666435369722]

-----
    * err= 1.4235137971732392
    * Learning rate NN = 0.000239148415857926
    * diff = 0.001480856381533835
```



For scene 37/90

- * use LR_NN=0.0005 with err=31.59620354967076 at it=24
- * v0_scn_mean = 27.19566435853006
- * MAE = 1.4235137971732392

df n.3, scene n.38/90

We have 4 time intervals inside [42.96, 43.76]

- Time interval n.0: [42.96, 43.16]
 - * y_true: [34.44093898 36.40531345]
 - * v_ann: [24.89557647705078, 24.552797317504883, 27.350673440922428]

- Time interval n.1: [43.16, 43.36]
 - * y_true: [27.09071898 44.10770887]
 - * v_ann: [35.53934860229492, 32.48577880859375, 27.350673440922428]

- Time interval n.2: [43.36, 43.56]
 - * y_true: [24.51583897 25.2301032]
 - * v_ann: [39.66780471801758, 28.34101676940918, 27.350673440922428]

```

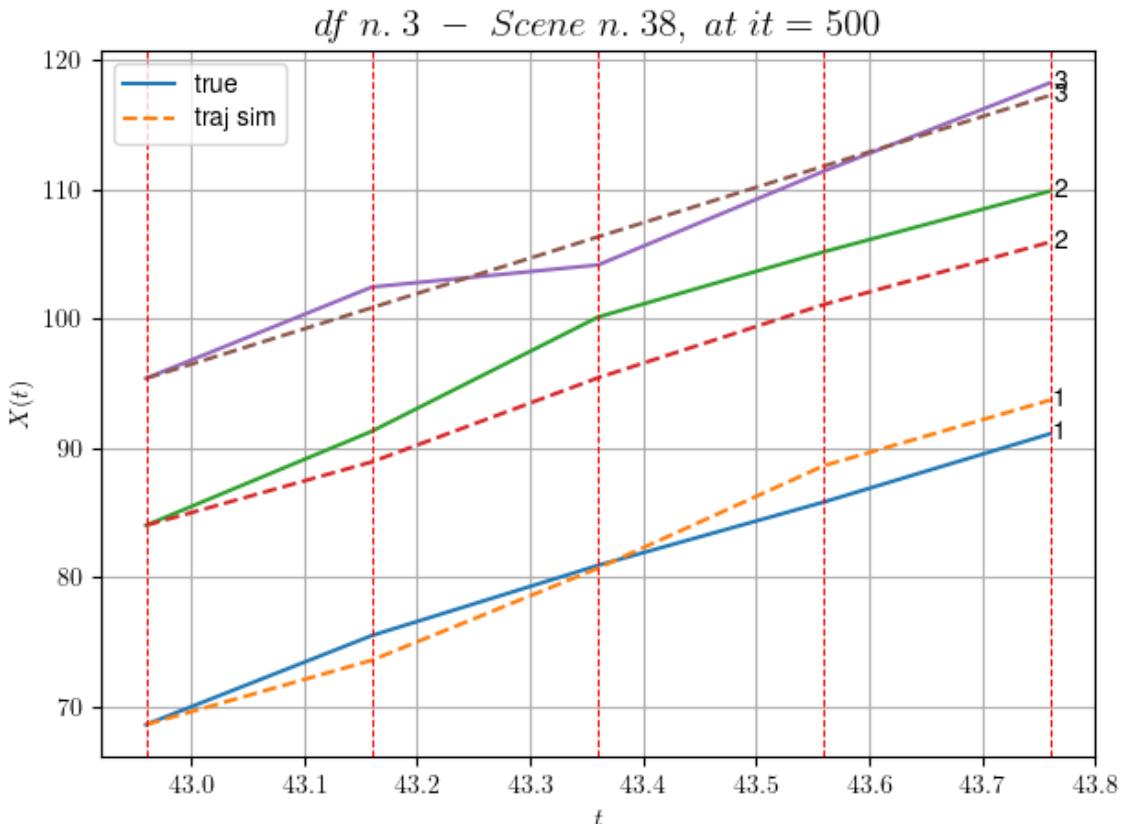
    - Time interval n.3: [43.56, 43.76]
      * y_true: [26.35394512 23.45522926]
      * v_ann: [25.302770614624023, 24.12193489074707, 2
    7.350673440922428]

```

```

    * err= 5.764397305304634
    * Learning rate NN = 0.000478296831715852
    * diff = 0.2396731500877891

```



For scene 38/90

```

    * use LR_NN=0.001 with err=20.311806977076305 at it=24
    * v0_scn_mean = 27.509632915518058
    * MAE = 4.837878648574969

```

df n.3, scene n.39/90

We have 2 time intervals inside [61.76, 62.16]

```

    - Time interval n.0: [61.76, 61.96]
      * y_true: [28.79377133 7.10177762]
      * v_ann: [31.535472869873047, 29.594980239868164, 2
    7.830090416767078]

```

```

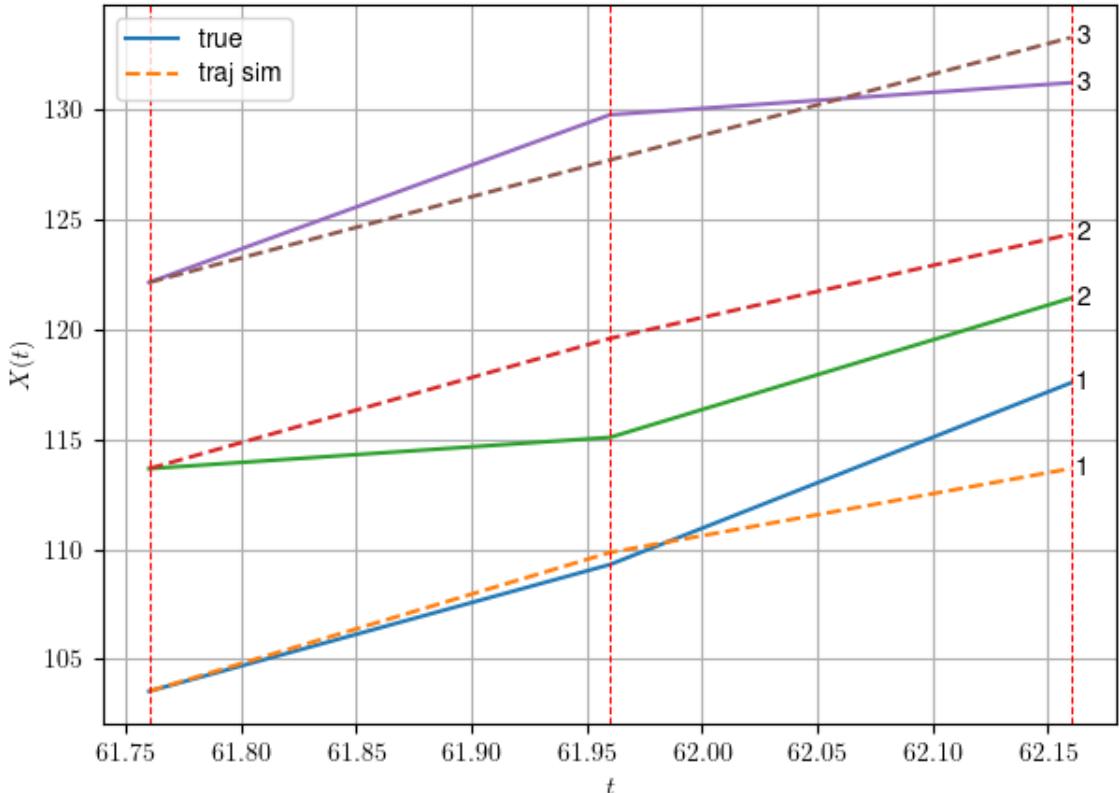
    - Time interval n.1: [61.96, 62.16]
      * y_true: [41.29768472 31.64601894]
      * v_ann: [19.08370590209961, 23.70473861694336, 27.

```

830090416767078]

```
* err= 5.847102828853733
* Learning rate NN = 0.0007289999630302191
* diff = 0 0010292012565701455
```

df n. 3 – Scene n. 39, at it = 500



For scene 39/90

```
* use LR_NN=0.001 with err=7.32345417606438 at it=24
* v0_scn_mean = 27.960284894336894
* MAE = 5.671219906695579
```

df n.3, scene n.40/90

We have 2 time intervals inside [63.76, 64.16]

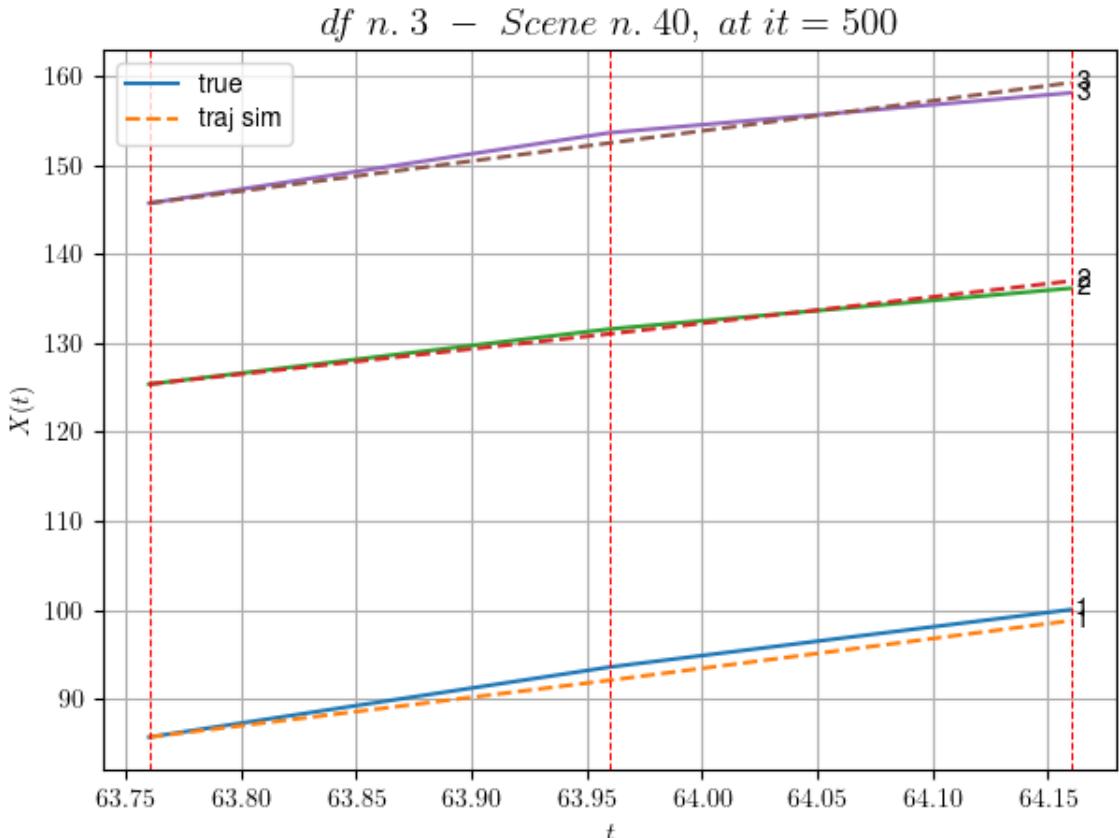
- Time interval n.0: [63.76, 63.96]
 - * y_true: [39.33120973 30.97229006]
 - * v_ann: [31.919536590576172, 28.231952667236328, 3

3.83988267438129]

- Time interval n.1: [63.96, 64.16]
 - * y_true: [32.2308074 22.86038312]
 - * v_ann: [33.43451690673828, 29.649150848388672, 3

3.83988267438129]

```
* err= 0.813199692081834
* Learning rate NN = 3.6449993785936385e-05
* diff = 0.02301746622584222
```



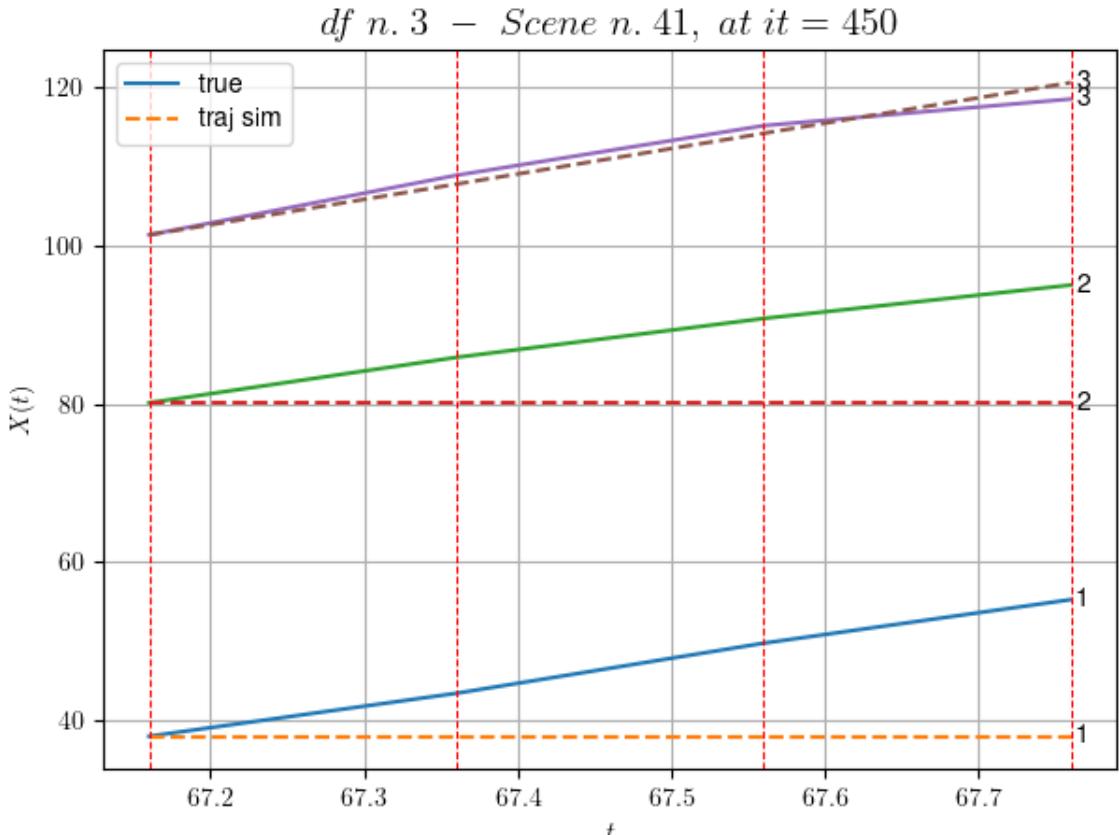
For scene 40/90

```
* use LR_NN=5e-05 with err=1.7615173554104508 at it=24
* v0_scn_mean = 33.609489886320695
* MAE = 0.5019873317220387
```

df n.3, scene n.41/90

We have 3 time intervals inside [67.16,67.76]

```
* err= 70.21882066996724
* Learning rate NN = 0.0002952449722215533
* diff = 2.387376270007735e-07
```



For scene 41/90

```
* use LR_NN=0.0005 with err=3.988772364664236 at it=24
* v0_scn_mean = 31.99670022990447
* MAE = 19.129156457934663
```

df n.3, scene n.42/90

We have 7 time intervals inside [72.76, 74.16]

- Time interval n.0: [72.76, 72.96]
 - * y_true: [28.501496 30.93407752]
 - * v_ann: [-6.392643711475646e-14, -1.73161112115849

4e-08, 28.12124026314026]

- Time interval n.1: [72.96, 73.16]
 - * y_true: [36.65243351 31.9148258]
 - * v_ann: [-3.968328690282484e-14, -1.27032592445175

4e-07, 28.12124026314026]

- Time interval n.2: [73.16, 73.36]
 - * y_true: [27.70226144 28.33497935]
 - * v_ann: [-1.0045123641309189e-13, -1.1362064924469

45e-06, 28.12124026314026]

```

-----  

    - Time interval n.3: [73.36, 73.56]  

      * y_true: [34.7534691 39.55781959]  

      * v_ann: [-8.873025876326643e-14, -3.03590218209137  

      67e-06, 28.12124026314026]  

-----  

    - Time interval n.4: [73.56, 73.76]  

      * y_true: [35.21414381 29.47666535]  

      * v_ann: [-3.4599933866358984e-14, -1.1329269909765  

      571e-05, 28.12124026314026]  

-----  

    - Time interval n.5: [73.76, 73.96]  

      * y_true: [30.89430642 26.20657024]  

      * v_ann: [-1.0654492018464731e-13, -6.3216717194336  

      52e-08, 28.12124026314026]  

-----  

    - Time interval n.6: [73.96, 74.16]  

      * y_true: [32.05509091 31.88895952]  

      * v_ann: [-2.6724754137105733e-13, -2.1643431580287  

      142e-07, 28.12124026314026]  

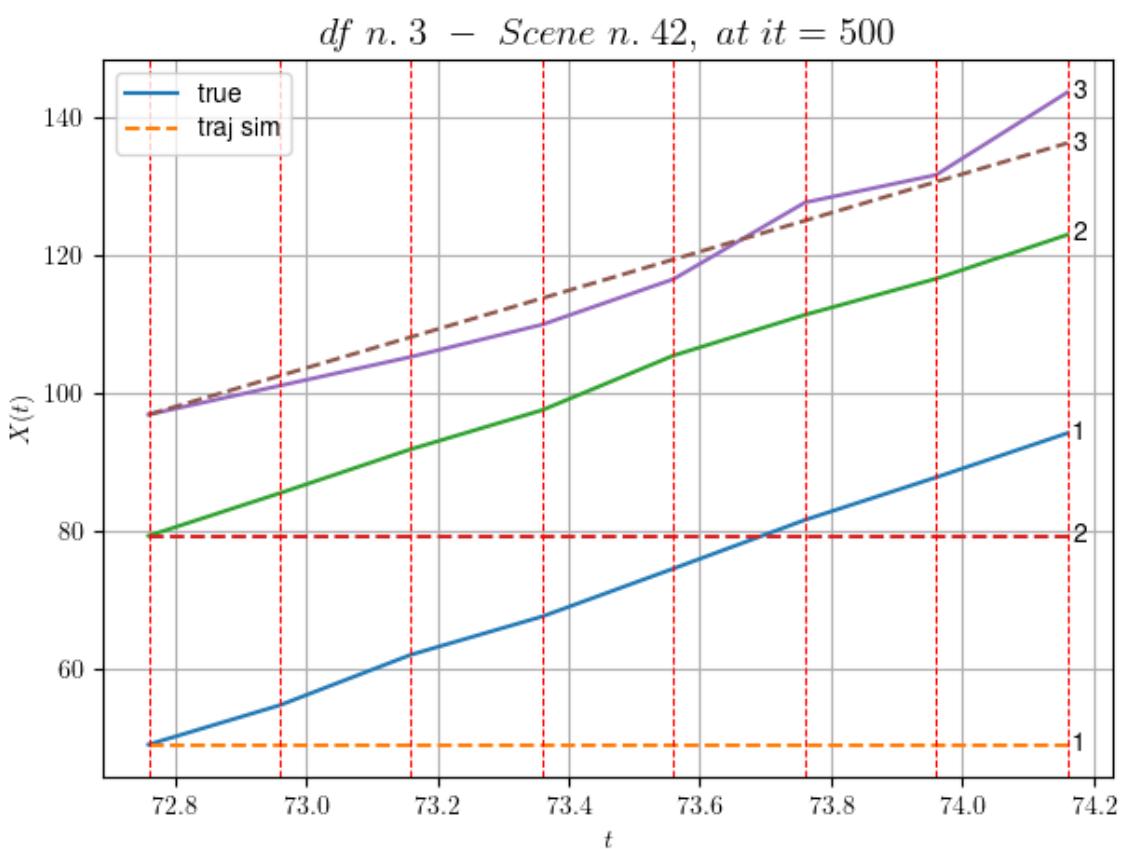
-----  

* err= 476.2543369629679  

* Learning rate NN = 0.00012709324073512107  

* diff = 2.3469073084925185e-07

```

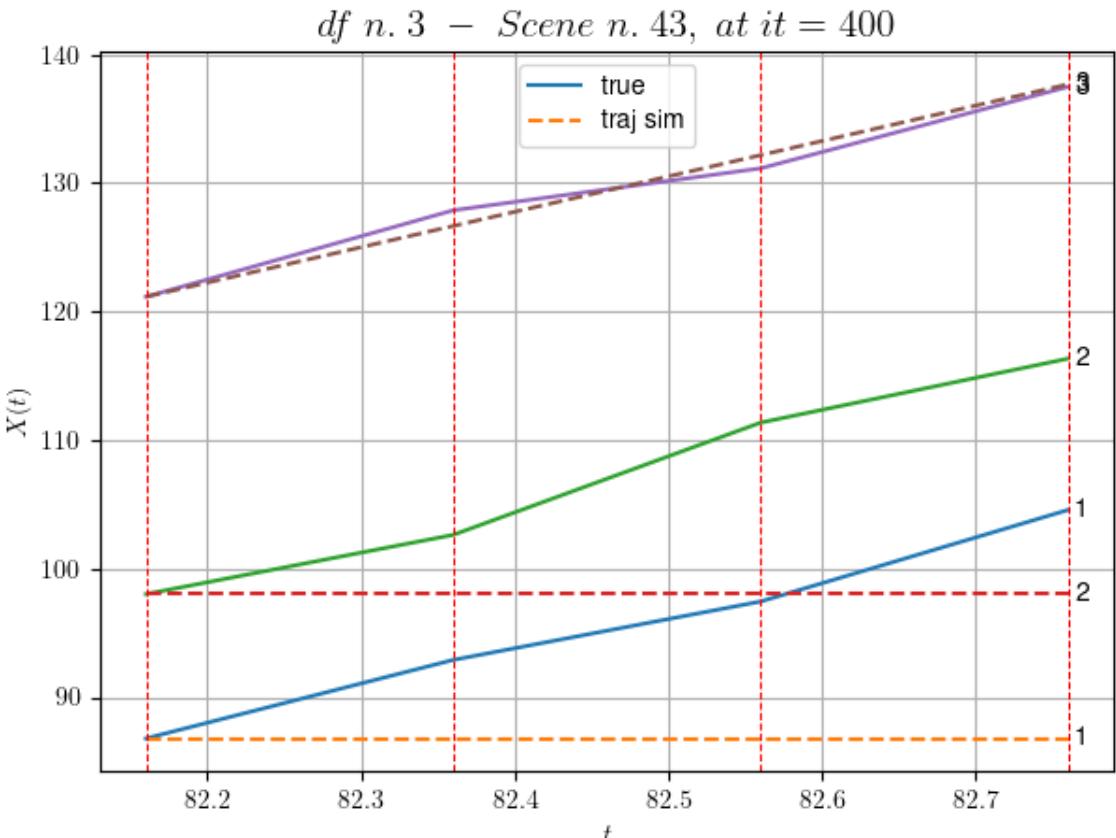


For scene 42/90

```
* use LR_NN=0.0005 with err=42.62893035904205 at it=24
* v0_scn_mean = 28.233965762999638
* MAE = 475.7641696802854
```

df n.3, scene n.43/90

```
We have 3 time intervals inside [82.16,82.76]
* err= 83.67344587836702
* Learning rate NN = 0.0006560999318026006
* diff = 0.0575106360672160.07
```

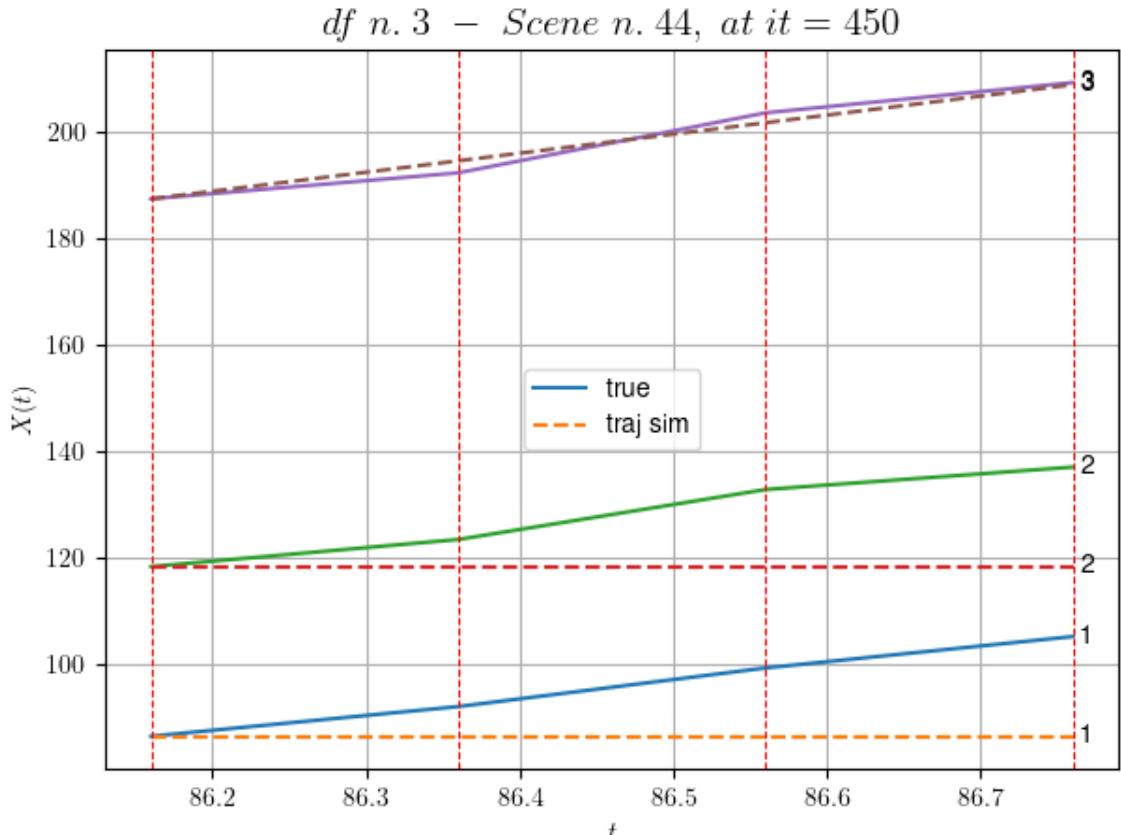


For scene 43/90

```
* use LR_NN=0.001 with err=7.5891189254074805 at it=24
* v0_scn_mean = 27.733969268662268
* MAE = 83.67344587836702
```

df n.3, scene n.44/90

```
We have 3 time intervals inside [86.16,86.76]
* err= 95.01334851939237
* Learning rate NN = 5.9048988987342454e-06
* diff = 5.340909297046892e-07
```



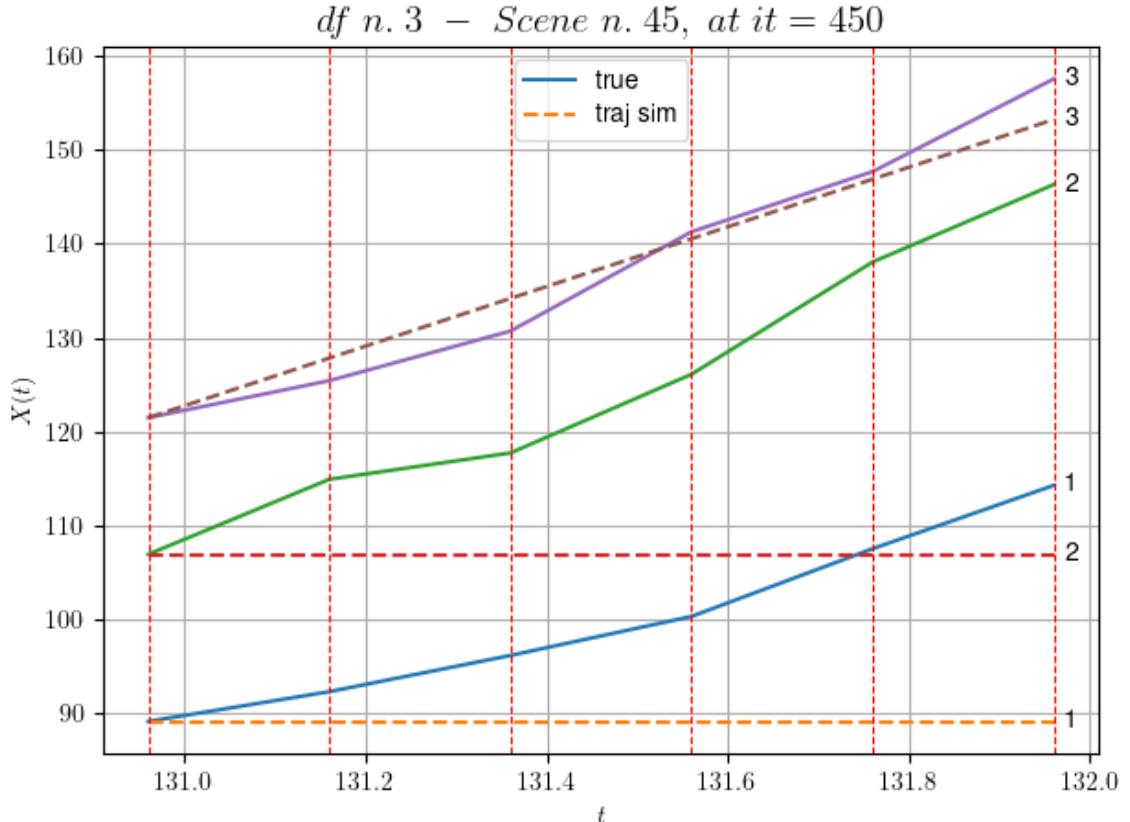
For scene 44/90

```
* use LR_NN=1e-05 with err=13.340416123640685 at it=24
* v0_scn_mean = 35.380421172315195
* MAE = 95.01334851939237
```

df n.3, scene n.45/90

We have 5 time intervals inside [130.96,131.96]

```
* err= 236.66692153356703
* Learning rate NN = 4.304671165300533e-05
* diff = 7.52204840637205e-07
```



For scene 45/90

- * use LR_NN=0.0001 with err=58.56562659613388 at it=24
- * v0_scn_mean = 31.635515460700706
- * MAE = 236.66692153356703

df n.3, scene n.46/90

We have 12 time intervals inside [139.16, 141.56]

- Time interval n.0: [139.16, 139.36]
 - * y_true: [22.50033849 31.62238978]
 - * v_ann: [25.72821807861328, 28.4019832611084, 28.1

4463056725922]

- Time interval n.1: [139.36, 139.56]
 - * y_true: [29.90063418 17.15160439]
 - * v_ann: [27.068771362304688, 25.86754035949707, 2

8.14463056725922]

- Time interval n.2: [139.56, 139.76]
 - * y_true: [27.10078793 37.57385655]
 - * v_ann: [24.99757194519043, 27.19790267944336, 28.

14463056725922]

```
- Time interval n.3: [139.76, 139.96]
  * y_true: [25.40095052 21.65266443]
  * v_ann: [27.075172424316406, 30.039011001586914, 2
8.14463056725922]

-----
- Time interval n.4: [139.96, 140.16]
  * y_true: [21.40097883 32.03445568]
  * v_ann: [26.1816349029541, 25.329633712768555, 28.
14463056725922]

-----
- Time interval n.5: [140.16, 140.36]
  * y_true: [21.7011754 31.91506312]
  * v_ann: [27.70503807067871, 26.664167404174805, 2
8.14463056725922]

-----
- Time interval n.6: [140.36, 140.56]
  * y_true: [30.50199276 23.65435061]
  * v_ann: [29.018978118896484, 24.176416397094727, 2
8.14463056725922]

-----
- Time interval n.7: [140.56, 140.76]
  * y_true: [27.90220498 42.04863469]
  * v_ann: [27.909509658813477, 30.40593910217285, 2
8.14463056725922]

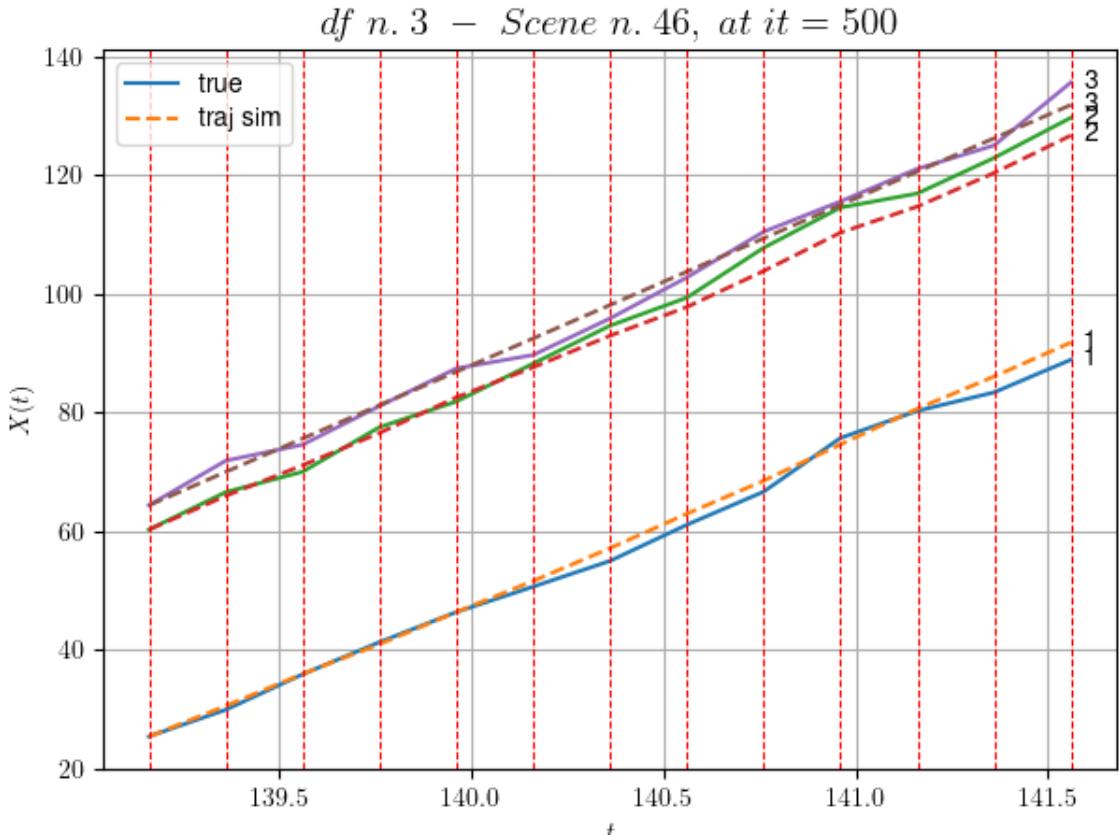
-----
- Time interval n.8: [140.76, 140.96]
  * y_true: [45.30444602 33.92792147]
  * v_ann: [30.60875129699707, 32.357200622558594, 2
8.14463056725922]

-----
- Time interval n.9: [140.96, 141.16]
  * y_true: [22.85268623 11.9131035 ]
  * v_ann: [30.055850982666016, 22.025754928588867, 2
8.14463056725922]

-----
- Time interval n.10: [141.16, 141.36]
  * y_true: [15.65202595 30.01833255]
  * v_ann: [27.22036361694336, 28.345924377441406, 2
8.14463056725922]

-----
- Time interval n.11: [141.36, 141.56]
  * y_true: [27.55395105 33.94025545]
  * v_ann: [28.711782455444336, 31.67403221130371, 2
8.14463056725922]
```

```
* err= 3.2978902327574082
* Learning rate NN = 4.431466732057743e-05
* diff = 0.02196801607047405
```



For scene 46/90

```
* use LR_NN=0.0005 with err=180.8876983455647 at it=24
* v0_scn_mean = 28.255952649921554
* MAE = 2.8063422445222392
```

df n.3, scene n.47/90

We have 3 time intervals inside [143.76, 144.36]

- Time interval n.0: [143.76, 143.96]
 - * y_true: [30.62207823 41.7261053]
 - * v_ann: [29.2624454498291, 22.243741989135742, 29.

414744463246983]

- Time interval n.1: [143.96, 144.16]

- * y_true: [21.21173425 33.31570327]

- * v_ann: [43.04105758666992, 26.167909622192383, 2

9.414744463246983]

```

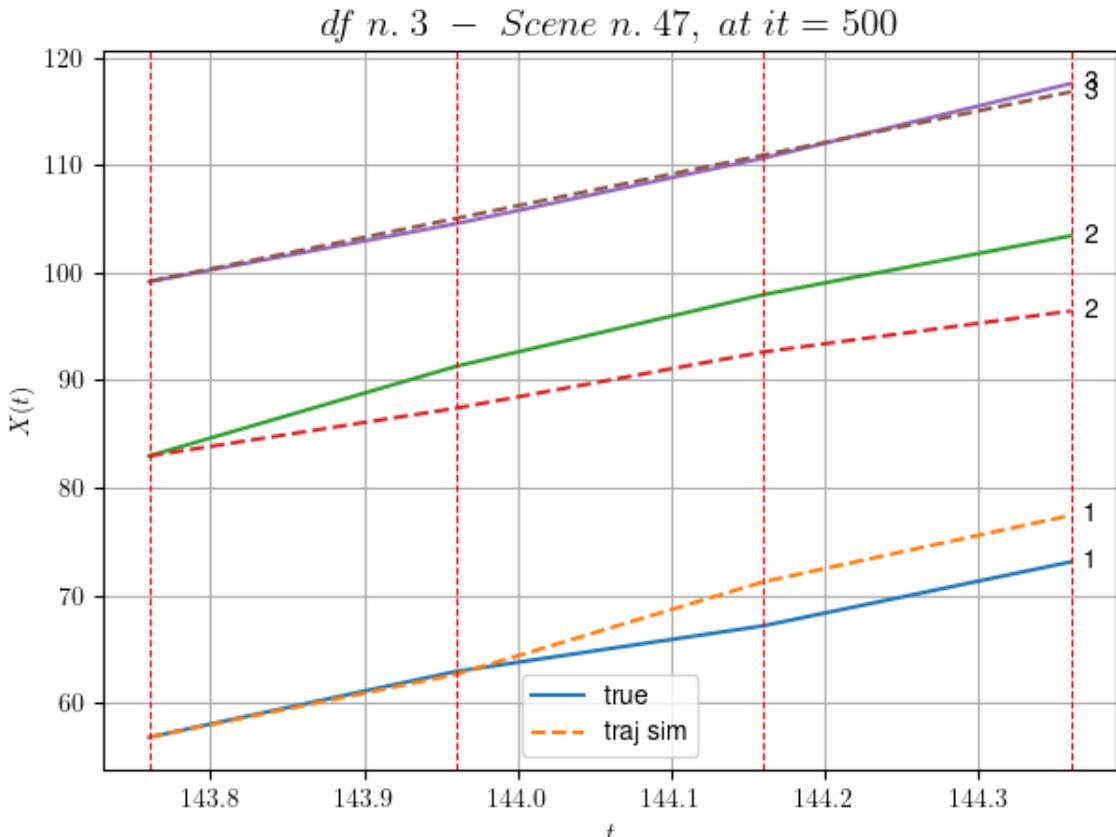
- Time interval n.2: [144.16, 144.36]
  * y_true: [29.72284222 27.36558717]
  * v_ann: [30.902494430541992, 19.01490592956543, 2
  9.414744463246983]

```

```

* err= 10.750077762788143
* Learning rate NN = 0.0002952449722215533
* diff = 0.47143857440498493

```



For scene 47/90

```

* use LR_NN=0.0005 with err=16.946870428903882 at it=24
* v0_scn_mean = 29.449859769175426
* MAE = 7.787198208590847

```

df n.3, scene n.48/90

We have 3 time intervals inside [149.36, 149.96]

```

- Time interval n.0: [149.36, 149.56]
  * y_true: [25.90049539 27.45094024]
  * v_ann: [17.339771270751953, 29.114517211914062, 2
  3.443555328521036]

```

```

- Time interval n.1: [149.56, 149.76]
  * y_true: [21.18057417 22.42095425]
  * v_ann: [17.359344482421875, 28.283302307128906, 2

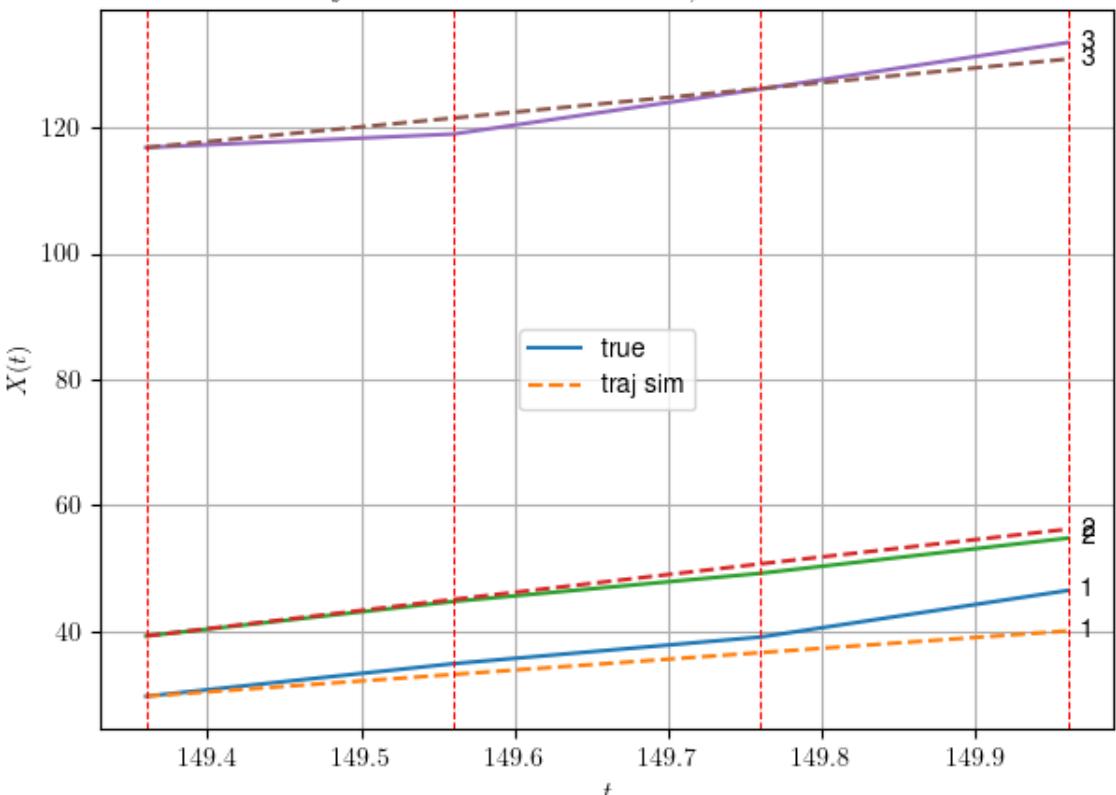
```

3.443555328521036]

```
- Time interval n.2: [149.76, 149.96]
  * y_true: [37.02126181 27.98148311]
  * v_ann: [17.246654510498047, 27.580760955810547, 2
3.443555328521036]
```

```
* err= 5.685144535316318
* Learning rate NN = 5.9048988987342454e-06
* diff = 0.26000072721806007
```

df n. 3 – Scene n. 48, at it = 500



For scene 48/90

```
* use LR_NN=1e-05 with err=24.7414064865814 at it=24
* v0_scn_mean = 23.83694171443956
* MAE = 5.685144535316318
```

df n.3, scene n.49/90

```
We have 3 time intervals inside [156.16,156.76]
- Time interval n.0: [156.16, 156.36]
  * y_true: [12.56997445 35.72646923]
  * v_ann: [21.35391616821289, 29.149797439575195, 3
6.77961690674234]
```

```

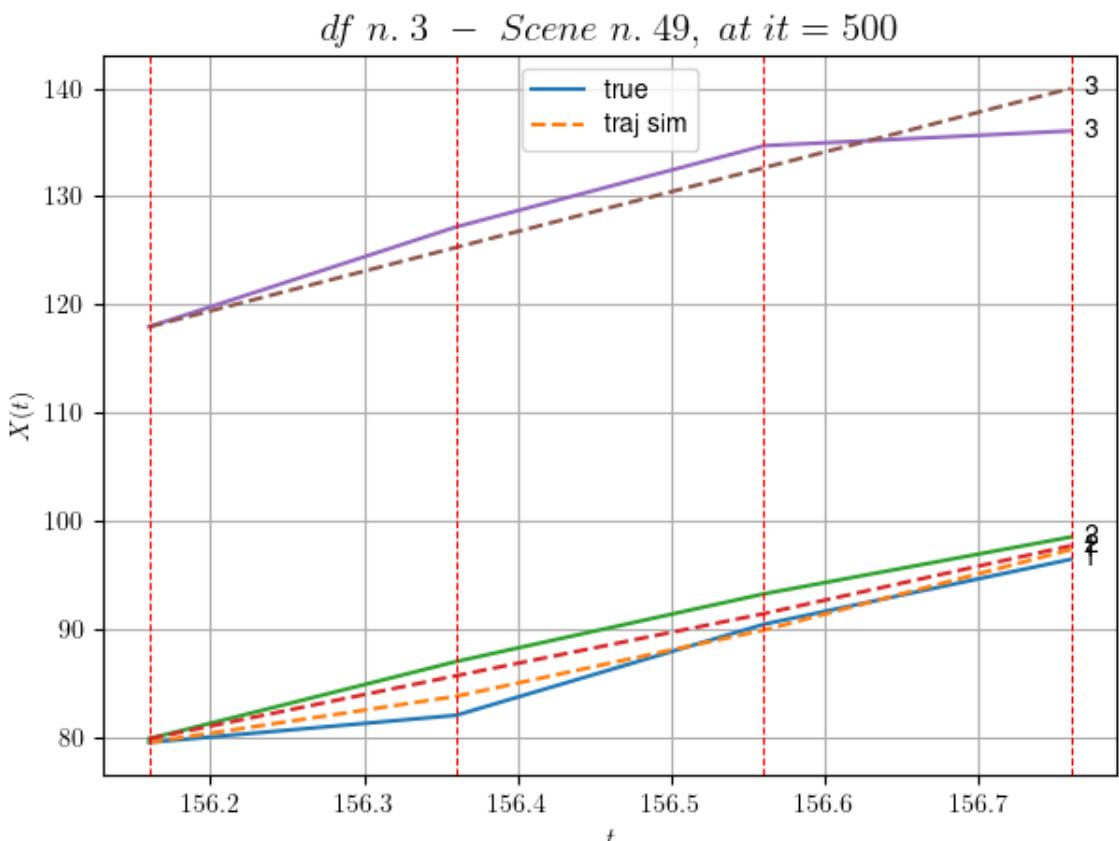
    - Time interval n.1: [156.36, 156.56]
      * y_true: [42.07610638 31.26485338]
      * v_ann: [30.600950241088867, 28.68938446044922, 3
      6.77961690674234]
```

```

    - Time interval n.2: [156.56, 156.76]
      * y_true: [30.09491831 26.35466702]
      * v_ann: [37.29240417480469, 31.480932235717773, 3
      6.77961690674234]
```

```

* err= 2.7640127538509915
* Learning rate NN = 2.952449540316593e-05
* diff = 0.0018727741739219539
```



For scene 49/90

```

* use LR_NN=5e-05 with err=28.126610825446786 at it=24
* v0_scn_mean = 36.37284019672793
* MAE = 2.760953420091333
```

df n.3, scene n.50/90

We have 4 time intervals inside [207.96,208.76]

```

    - Time interval n.0: [207.96, 208.16]
      * y_true: [30.12104774 28.85226703]
      * v_ann: [30.63798713684082, 31.400625228881836, 3
```

1.12490964519084]

- Time interval n.1: [208.16, 208.36]
 * y_true: [31.19139939 27.73265496]
 * v_ann: [30.185903549194336, 30.363698959350586, 3

1.12490964519084]

- Time interval n.2: [208.36, 208.56]
 * y_true: [31.59181924 26.81292648]
 * v_ann: [29.58487892150879, 28.23185920715332, 31.

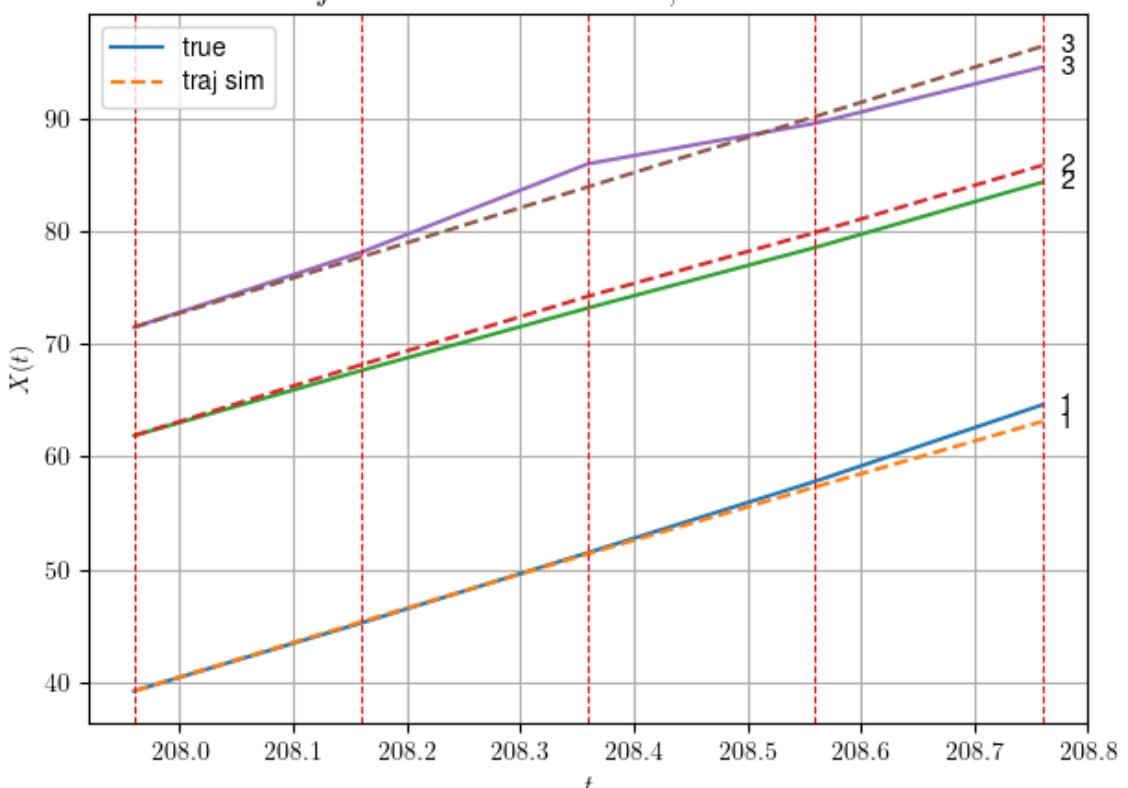
12490964519084]

- Time interval n.3: [208.56, 208.76]
 * y_true: [33.88244728 28.87369213]
 * v_ann: [29.020082473754883, 29.8050479888916, 31.

12490964519084]

* err= 1.0600198773856133
 * Learning rate NN = 4.7829678806010634e-05
 * diff = 0.00020763545334334665

df n. 3 – Scene n. 50, at it = 500



For scene 50/90

* use LR_NN=0.0001 with err=9.576072866761828 at it=24
 * v0_scn_mean = 31.057415116985204
 * MAE = 0.5509607253914994

```
=====
=====

df n.3, scene n.51/90
=====

=====
We have 5 time intervals inside [218.16,219.16]
- Time interval n.0: [218.16, 218.36]
  * y_true: [26.47083003 31.40159485]
  * v_ann: [31.81882095336914, 31.281269073486328, 3
1.94692558326355]

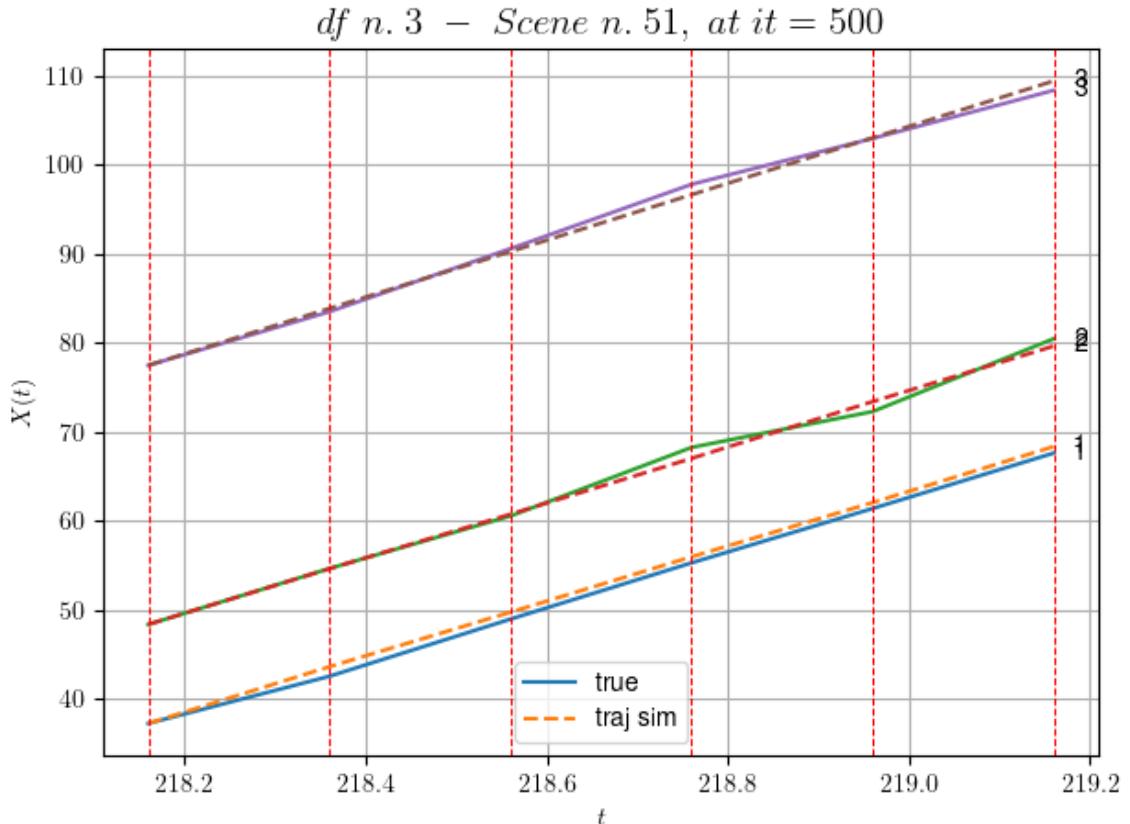
-----
- Time interval n.1: [218.36, 218.56]
  * y_true: [32.09751616 29.50187244]
  * v_ann: [30.639436721801758, 30.62278175354004, 3
1.94692558326355]

-----
- Time interval n.2: [218.56, 218.76]
  * y_true: [31.61167285 38.50305628]
  * v_ann: [31.11612319946289, 31.359975814819336, 3
1.94692558326355]

-----
- Time interval n.3: [218.76, 218.96]
  * y_true: [30.522016 20.15190279]
  * v_ann: [30.457321166992188, 31.87729835510254, 3
1.94692558326355]

-----
- Time interval n.4: [218.96, 219.16]
  * y_true: [31.13252968 40.9045659 ]
  * v_ann: [31.46725082397461, 31.20189666748047, 31.
94692558326355]

-----
* err= 0.5214185247839837
* Learning rate NN = 3.874203684972599e-05
* diff = 0.00050002625770119
```



For scene 51/90

```
* use LR_NN=0.0001 with err=29.59136612346469 at it=24
* v0_scn_mean = 31.83011013568054
* MAE = 0.5163286964847431
```

df n.3, scene n.52/90

We have 4 time intervals inside [222.96, 223.76]

- Time interval n.0: [222.96, 223.16]
 - * y_true: [37.21103813 39.71315438]
 - * v_ann: [40.471134185791016, 34.37552261352539, 31.279750687417188]

- Time interval n.1: [223.16, 223.36]
 - * y_true: [31.35126998 28.99272163]
 - * v_ann: [41.7431755065918, 32.20121383666992, 31.279750687417188]

- Time interval n.2: [223.36, 223.56]
 - * y_true: [33.72173898 31.78369531]
 - * v_ann: [32.51442337036133, 27.06678581237793, 31.279750687417188]

```

    - Time interval n.3: [223.56, 223.76]
      * y_true: [36.23248355 38.79526469]
      * v_ann: [34.8233757019043, 29.975940704345703, 31.
279750687417188]
```

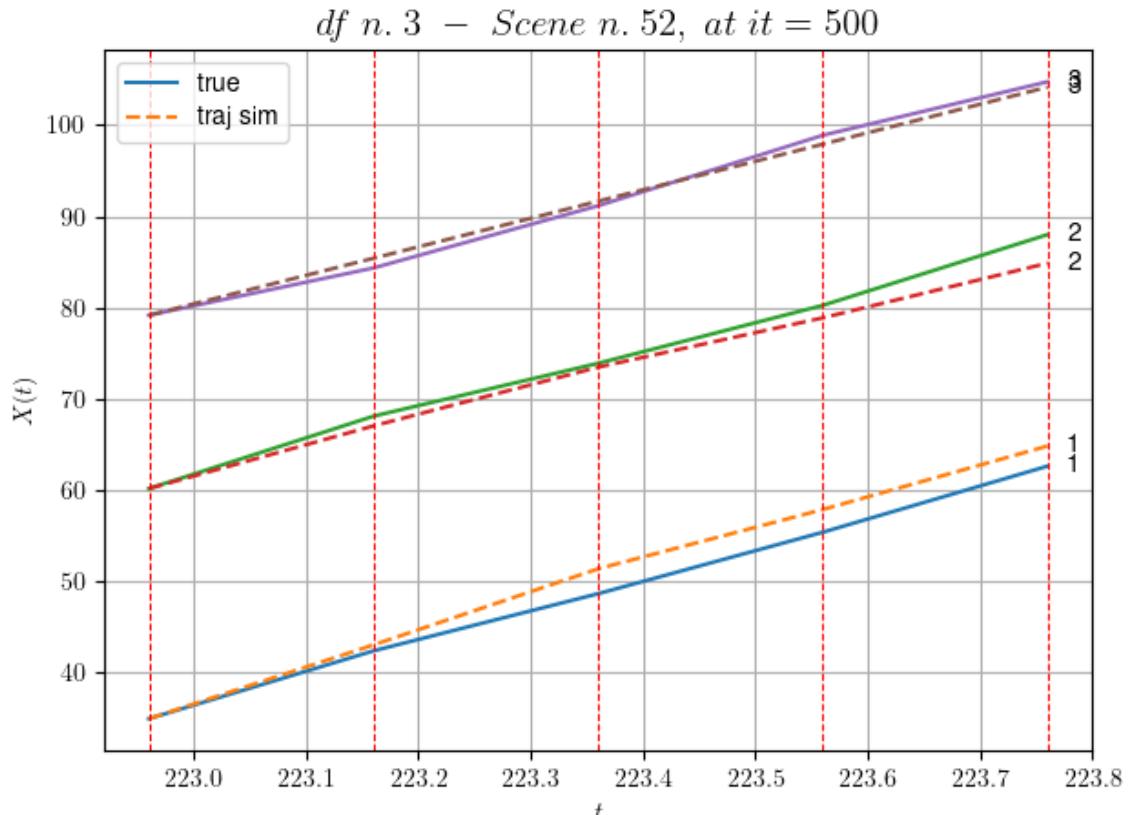
```

-----  

* err= 2.309516020731113  

* Learning rate NN = 0.000239148415857926  

* diff = 0.09464346797144652
```



For scene 52/90

```

* use LR_NN=0.0005 with err=5.7186037701100405 at it=24
* v0_scn_mean = 31.20296570363061
* MAE = 2.309516020731113
```

df n.3, scene n.53/90

We have 6 time intervals inside [247.36, 248.56]

```

    - Time interval n.0: [247.36, 247.56]
      * y_true: [24.34113117 25.37248976]
      * v_ann: [28.701053619384766, 26.051467895507812, 2
9.199545092787744]
```

```

-----  

    - Time interval n.1: [247.56, 247.76]
      * y_true: [20.86113385 27.00305492]
      * v_ann: [27.22916603088379, 24.98337173461914, 29.
```

199545092787744]

- Time interval n.2: [247.76, 247.96]
* y_true: [25.44173909 29.15378269]
* v_ann: [26.883464813232422, 27.0191650390625, 29.

199545092787744]

- Time interval n.3: [247.96, 248.16]
* y_true: [34.05263307 29.24437105]
* v_ann: [27.699533462524414, 29.23505210876465, 2

9.199545092787744]

- Time interval n.4: [248.16, 248.36]
* y_true: [24.6823336 32.34552948]
* v_ann: [28.784847259521484, 29.276418685913086, 2

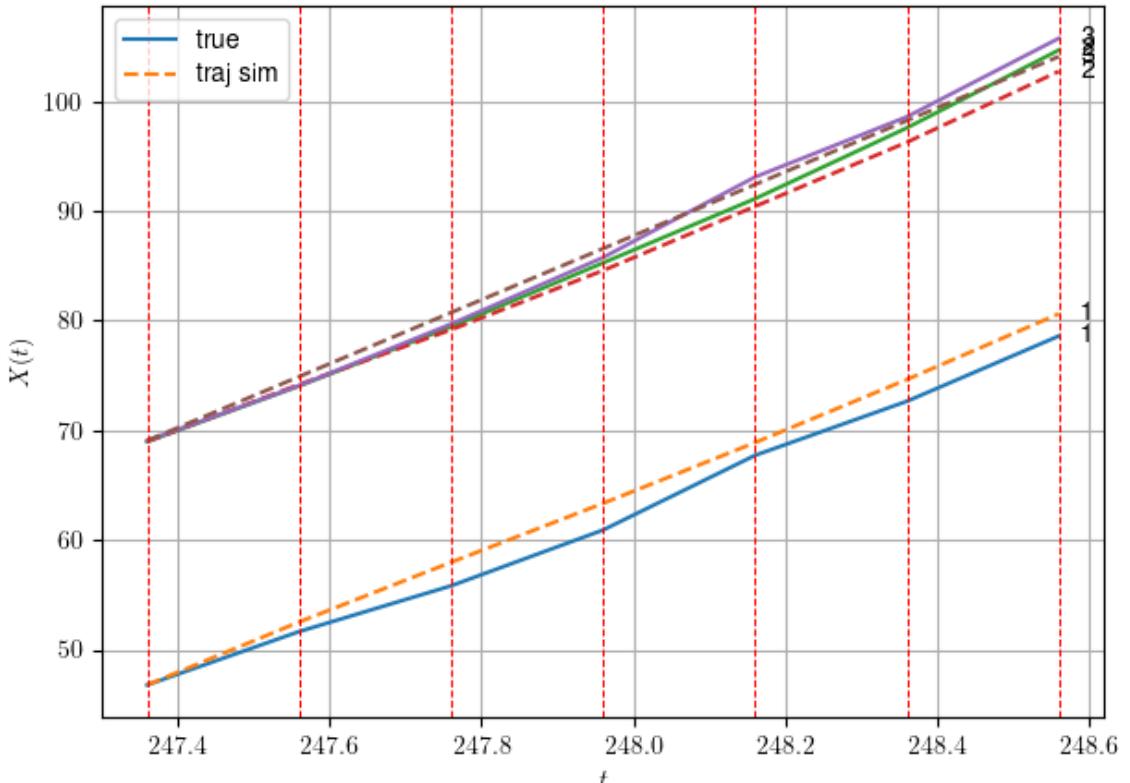
9.199545092787744]

- Time interval n.5: [248.36, 248.56]
* y_true: [29.77329807 35.48696999]
* v_ann: [29.966569900512695, 32.315643310546875, 2

9.199545092787744]

* err= 1.5717197796817624
* Learning rate NN = 0.00031381050939671695
* diff = 0.012042401115046040

df n. 3 – Scene n. 53, at it = 500



```
For scene 53/90
* use LR_NN=0.001 with err=2.2059522106372254 at it=24
* v0_scn_mean = 29.247572351281953
* MAE = 1.3334049918408952
```

```
=====
=====
```

```
df n.3, scene n.54/90
```

```
=====
=====
```

```
We have 7 time intervals inside [269.56,270.96]
```

```
- Time interval n.0: [269.56, 269.76]
  * y_true: [27.75027124 32.18076388]
  * v_ann: [25.531841278076172, 32.03817367553711, 3
0.53917566971199]
```

```
=====
=====
```

```
- Time interval n.1: [269.76, 269.96]
```

```
  * y_true: [33.80053503 32.77104018]
  * v_ann: [26.44145393371582, 30.5423583984375, 30.5
3917566971199]
```

```
=====
=====
```

```
- Time interval n.2: [269.96, 270.16]
```

```
  * y_true: [22.10049768 29.95131945]
  * v_ann: [26.337814331054688, 31.33716583251953, 3
0.53917566971199]
```

```
=====
=====
```

```
- Time interval n.3: [270.16, 270.36]
```

```
  * y_true: [32.40098084 29.70158012]
  * v_ann: [27.854249954223633, 31.564165115356445, 3
0.53917566971199]
```

```
=====
=====
```

```
- Time interval n.4: [270.36, 270.56]
```

```
  * y_true: [29.55119411 25.63174114]
  * v_ann: [27.338329315185547, 32.81253433227539, 3
0.53917566971199]
```

```
=====
=====
```

```
- Time interval n.5: [270.56, 270.76]
```

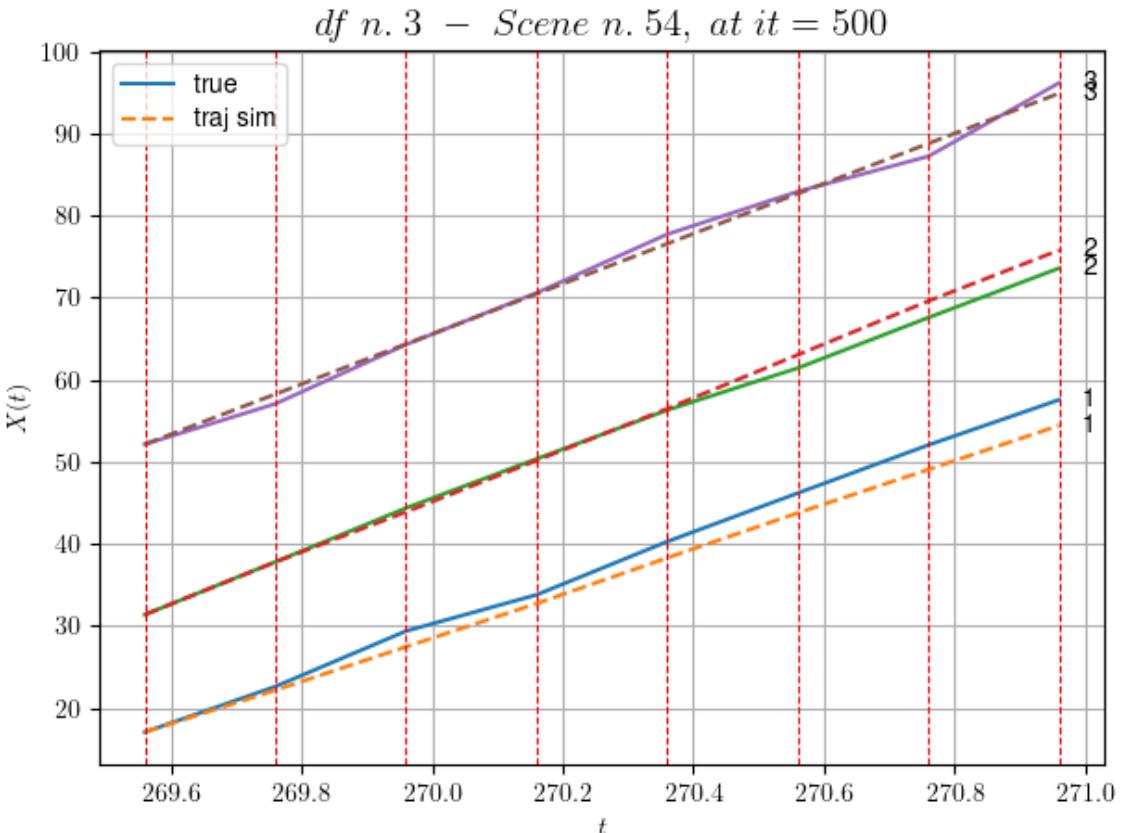
```
  * y_true: [29.3015063 30.75243246]
  * v_ann: [26.474794387817383, 32.80044174194336, 3
0.53917566971199]
```

```
=====
=====
```

```
- Time interval n.6: [270.76, 270.96]
```

```
  * y_true: [27.50174001 30.06304641]
  * v_ann: [26.76595687866211, 30.925662994384766, 3
0.53917566971199]
```

```
* err= 2.1720222907787416
* Learning rate NN = 1.2709323527815286e-05
* diff = 0.033770092410100663
```



For scene 54/90

```
* use LR_NN=5e-05 with err=5.741591589907575 at it=24
* v0_scn_mean = 30.506825153737473
* MAE = 2.1720222907787416
```

df n.3, scene n.55/90

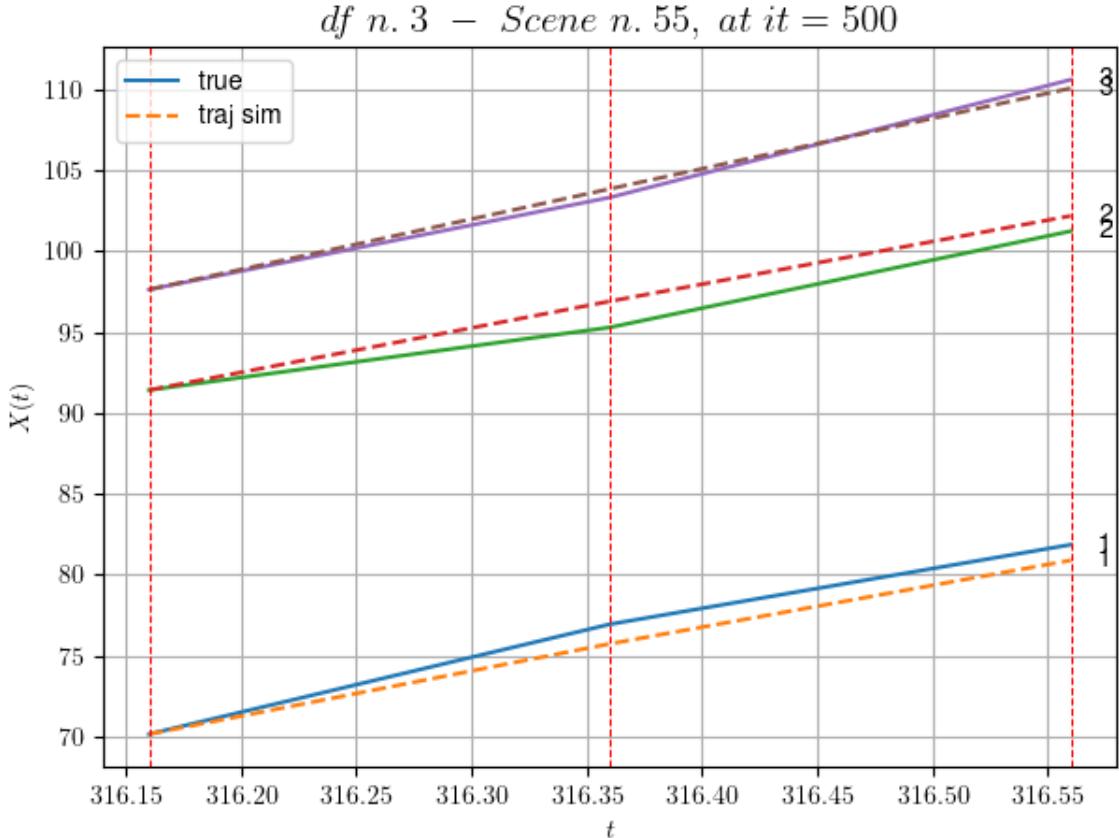
We have 2 time intervals inside [316.16, 316.56]

- Time interval n.0: [316.16, 316.36]
 - * y_true: [33.9635286 19.3731464]
 - * v_ann: [27.922340393066406, 27.44841194152832, 3
 - 1.119731307251072]

- Time interval n.1: [316.36, 316.56]
 - * y_true: [24.60296417 29.75560281]
 - * v_ann: [25.802133560180664, 26.394142150878906, 3
 - 1.119731307251072]

```
* err= 0.717130649120696
```

```
* Learning rate NN = 0.00036449998151510954
* diff = 0.0012103402162116916
```



For scene 55/90

```
* use LR_NN=0.0005 with err=3.092856814507817 at it=24
* v0_scn_mean = 31.052547479089757
* MAE = 0.24851185434248757
```

df n.3, scene n.56/90

We have 4 time intervals inside [317.76, 318.56]

- Time interval n.0: [317.76, 317.96]
 - * y_true: [22.24301013 28.10582296]
 - * v_ann: [27.06501579284668, 29.455249786376953, 28.729606502534633]

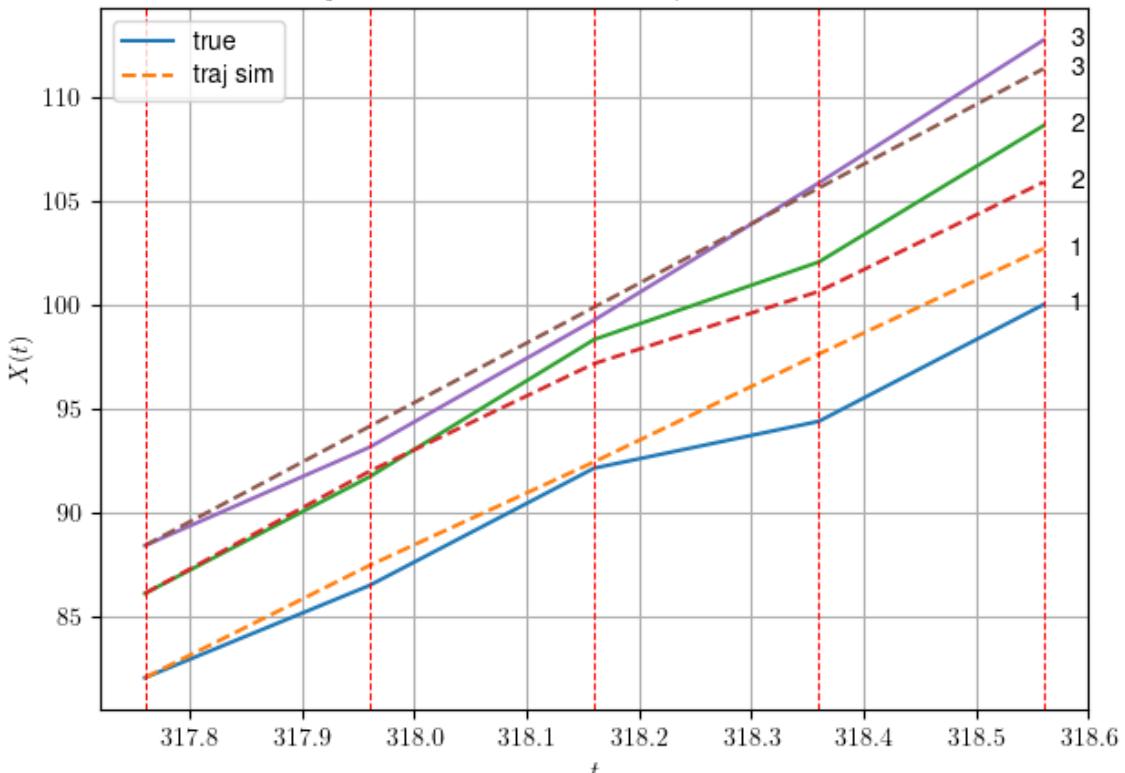
- Time interval n.1: [317.96, 318.16]
 - * y_true: [28.26433817 33.10585656]
 - * v_ann: [24.95906639099121, 25.951435089111328, 28.729606502534633]

- Time interval n.2: [318.16, 318.36]
 - * y_true: [11.28182915 18.67354228]
 - * v_ann: [25.983366012573242, 17.39270782470703, 28.729606502534633]

- Time interval n.3: [318.36, 318.56]
 - * y_true: [28.12514655 32.86712293]
 - * v_ann: [25.412700653076172, 26.322309494018555, 234633]

```
* err= 2.20439418466928  
* Learning rate NN = 0.000478296831715852  
* diff = 0.007547570324125452
```

df n. 3 – Scene n. 56, at it = 500



For scene 56/90

* use LR_NN=0.001 with err=15.93657378693895 at it=24
* v0_scn_mean = 28.805830055344643
* MAE = 1.1648426079291112

df n.3. scene n.57/90

```
We have 6 time intervals inside [325.76,326.96]
- Time interval n.0: [325.76, 325.96]
  * y_true: [25.31057708 30.22149101]
  * v_ann: [25.66935920715332, 28.14006805419922, 33.
55230710646]
```

- Time interval n.1: [325.96, 326.16]

```
* y_true: [25.23074384 33.46208613]
* v_ann: [26.08911895751953, 28.607152938842773, 3
3.13555230710646]

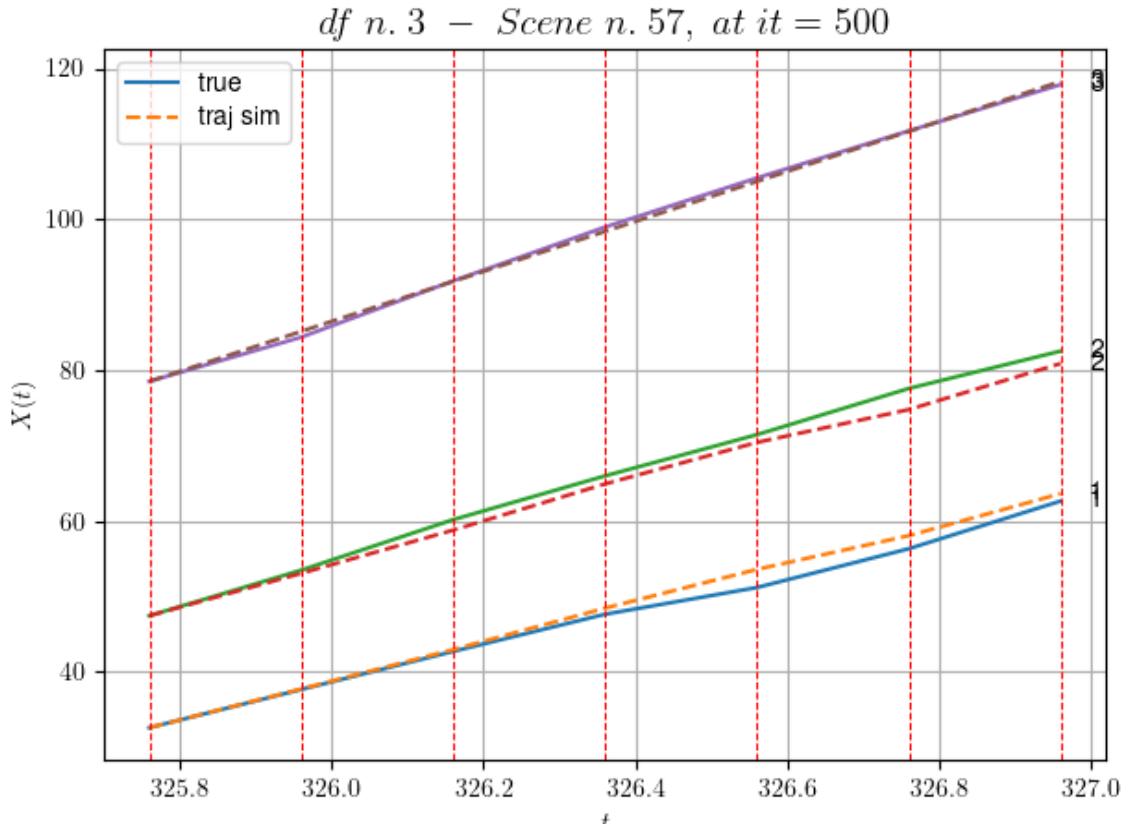
-----
- Time interval n.2: [326.16, 326.36]
* y_true: [24.63092838 29.01218385]
* v_ann: [27.442245483398438, 30.620351791381836, 3
3.13555230710646]

-----
- Time interval n.3: [326.36, 326.56]
* y_true: [17.72077879 27.33248549]
* v_ann: [25.696552276611328, 27.51043128967285, 3
3.13555230710646]

-----
- Time interval n.4: [326.56, 326.76]
* y_true: [25.71142574 30.60327071]
* v_ann: [22.37000846862793, 21.77161407470703, 33.
13555230710646]

-----
- Time interval n.5: [326.76, 326.96]
* y_true: [31.6120671 24.79299826]
* v_ann: [27.861175537109375, 30.53090476989746, 3
3.13555230710646]

-----
* err= 1.265971750944627
* Learning rate NN = 0.00015690525469835848
* diff = 0.11416812736350823
```



For scene 57/90

- * use LR_NN=0.0005 with err=11.616572271194753 at it=24
- * v0_scn_mean = 32.947419309460074
- * MAE = 0.7136711794967902

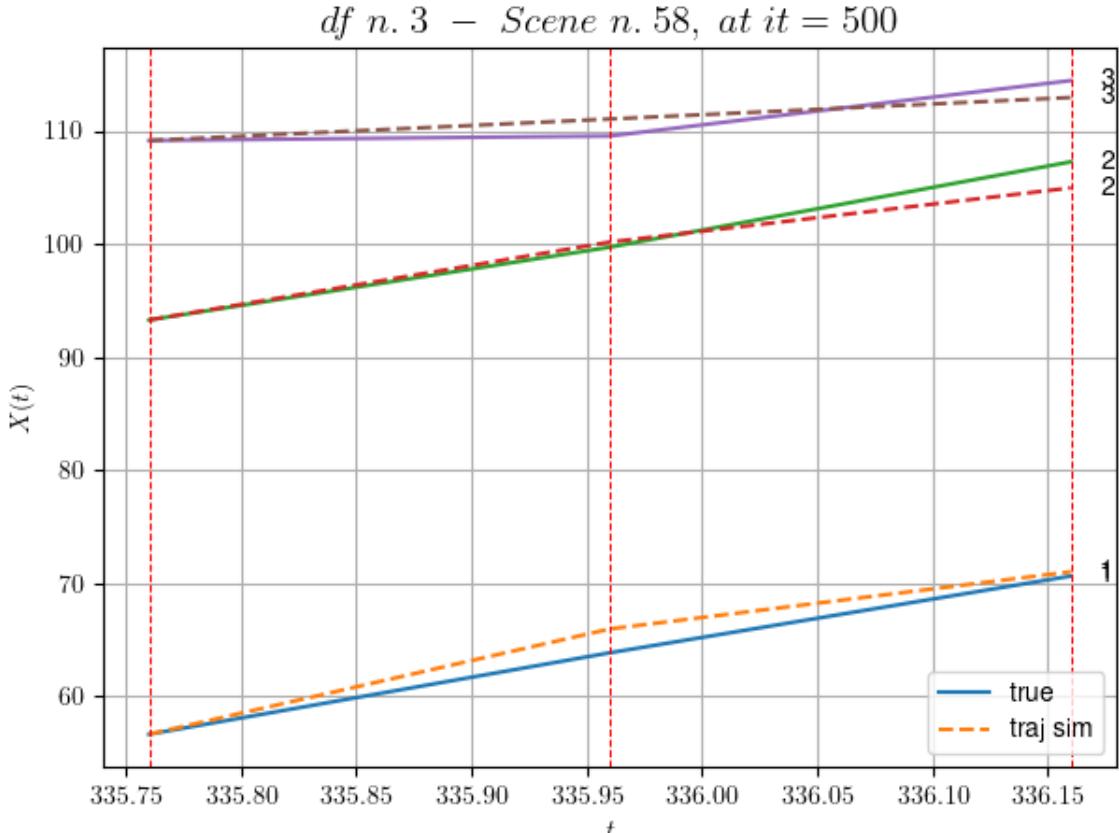
df n.3, scene n.58/90

We have 2 time intervals inside [335.76, 336.16]

- Time interval n.0: [335.76, 335.96]
 - * y_true: [36.00253797 32.17585284]
 - * v_ann: [46.540733337402344, 34.426387786865234, 9.495680524399242]

- Time interval n.1: [335.96, 336.16]
 - * y_true: [33.90297107 37.71766361]
 - * v_ann: [25.258939743041992, 23.943735122680664, 9.495680524399242]

- * err= 1.62289234167214
- * Learning rate NN = 0.00036449998151510954
- * diff = 0.06798307159929573



For scene 58/90

- * use LR_NN=0.0005 with err=16.69428048727125 at it=24
- * v0_scn_mean = 10.725938772335907
- * MAE = 1.62289234167214

df n.3, scene n.59/90

We have 3 time intervals inside [371.16, 371.76]

- Time interval n.0: [371.16, 371.36]
 - * y_true: [24.42036896 26.80112378]
 - * v_ann: [27.106307983398438, 27.40491485595703, 32.539507599226575]

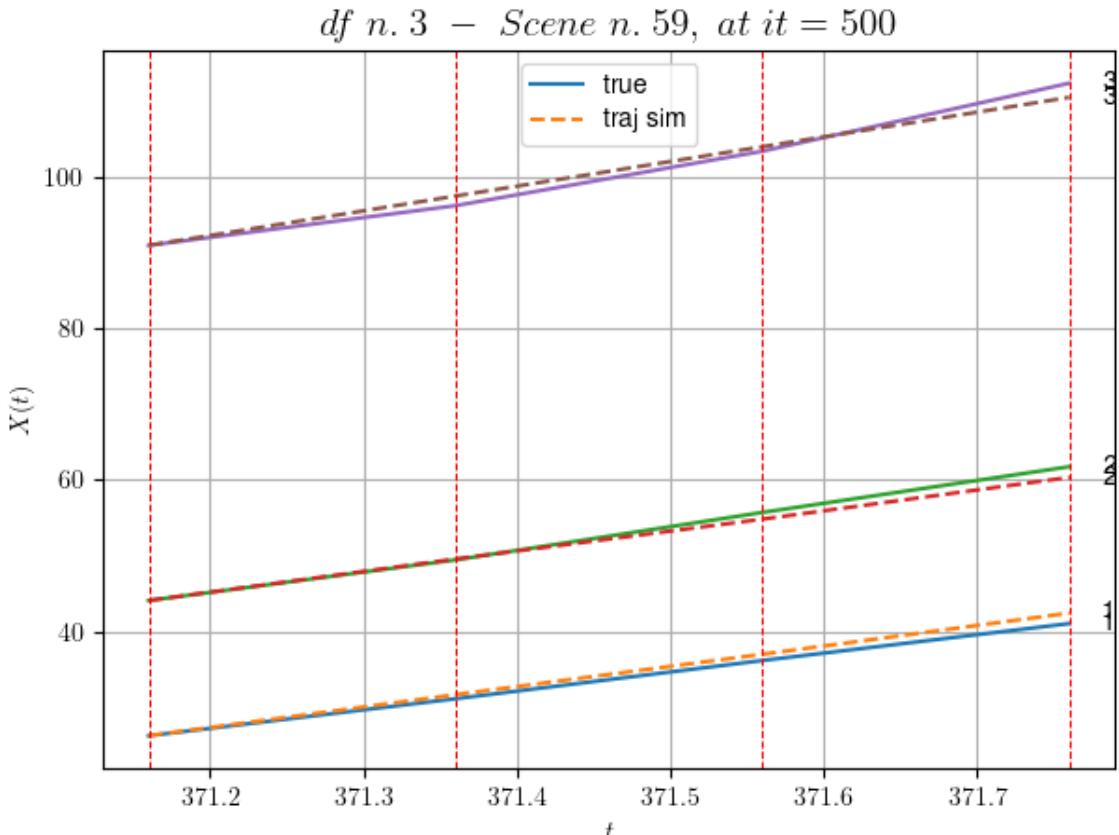
- Time interval n.1: [371.36, 371.56]
 - * y_true: [25.21053633 31.30165898]
 - * v_ann: [26.64204978942871, 26.26948356628418, 32.539507599226575]

- Time interval n.2: [371.56, 371.76]
 - * y_true: [24.36067127 30.15199262]
 - * v_ann: [27.17374610900879, 27.531408309936523, 32.539507599226575]

```

* err= 0.9271675160428691
* Learning rate NN = 5.904899080633186e-05
* diff = 0.0015497703231375226

```



For scene 59/90

```

* use LR_NN=0.0001 with err=7.299498459117873 at it=24
* v0 scn mean = 32.387137257290945
* MAE = 0.822345745673711

```

df n.3, scene n.60/90

We have 4 time intervals inside [387.36, 388.16]

- Time interval n.0: [387.36, 387.56]
 - * y_true: [32.47194771 39.46360823]
 - * v_ann: [27.861988067626953, 29.62442398071289, 3.031898088256106]

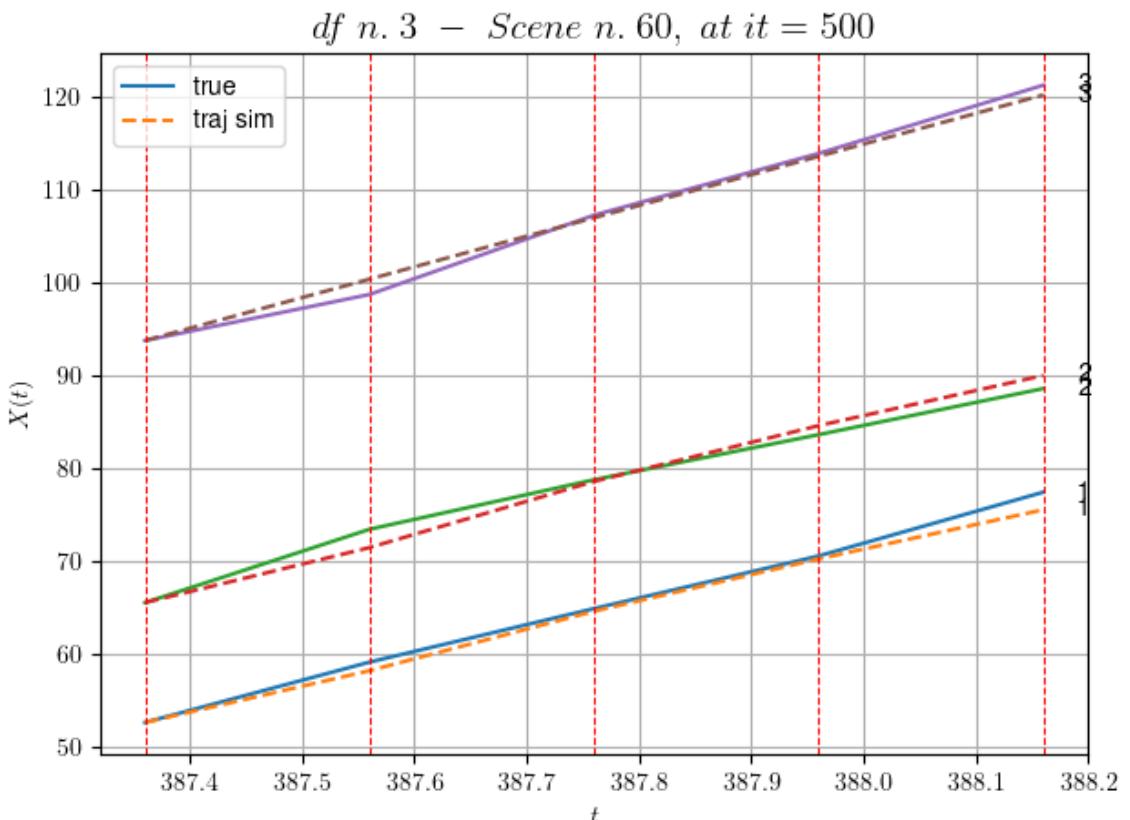
- Time interval n.1: [387.56, 387.76]
 - * y_true: [28.80212467 26.65295039]
 - * v_ann: [31.969118118286133, 35.58988571166992, 3.031898088256106]

- Time interval n.2: [387.76, 387.96]
 - * y_true: [28.30253286 24.25305315]

```
* v_ann: [28.15658187866211, 30.00461196899414, 33.
031898088256106]
```

```
- Time interval n.3: [387.96, 388.16]
* y_true: [34.31356051 24.78356316]
* v_ann: [26.45486068725586, 26.982820510864258, 3
3.031898088256106]
```

```
* err= 1.028434005186691
* Learning rate NN = 0.000239148415857926
* diff = 0.021882615221278545
```



For scene 60/90

```
* use LR_NN=0.0005 with err=16.33610675213045 at it=24
* v0_scn_mean = 32.84998433908656
* MAE = 1.028434005186691
```

df n.3, scene n.61/90

We have 2 time intervals inside [390.36, 390.76]

```
- Time interval n.0: [390.36, 390.56]
* y_true: [34.37306474 33.21473815]
* v_ann: [32.2855224609375, 31.787866592407227, 36.
354260436290275]
```

```

-----  

- Time interval n.1: [390.56, 390.76]  

* y_true: [31.79338609 29.7348149 ]  

* v_ann: [32.40151596069336, 32.46441650390625, 36.  

354260436290275]
-----
```

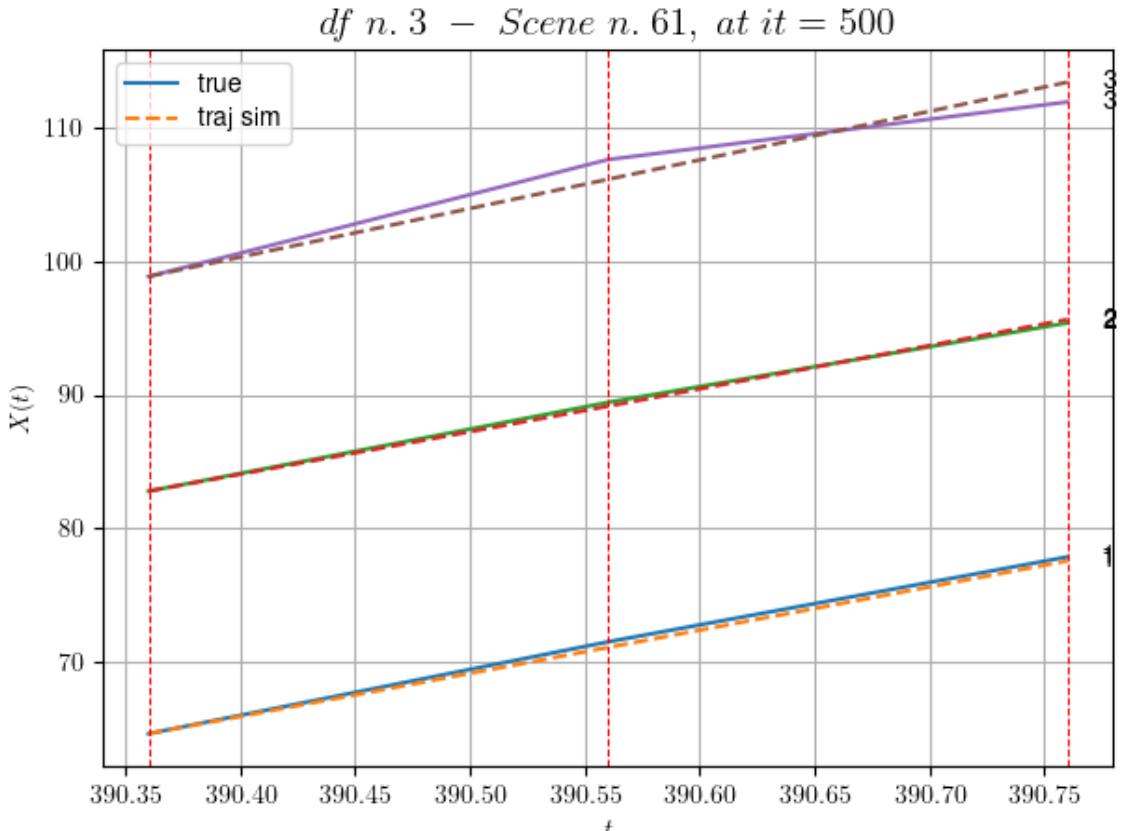
```

-----  

* err= 0.5317457372278303  

* Learning rate NN = 3.6449993785936385e-05  

* diff = 5.386741400670303e-05
-----
```



For scene 61/90

```

* use LR_NN=5e-05 with err=1.0485253119985394 at it=24
* v0_scn_mean = 35.97300509540574
* MAE = 0.48373826214110843
-----
```

df n.3, scene n.62/90

```

-----  

We have 4 time intervals inside [427.96,428.76]
-----
```

```

- Time interval n.0: [427.96, 428.16]  

* y_true: [33.16108667 24.70091575]  

* v_ann: [30.602554321289062, 31.69501304626465, 3  

7.34985617547902]
-----
```

```

-----  

- Time interval n.1: [428.16, 428.36]  

* y_true: [36.08159054 35.68166414]  

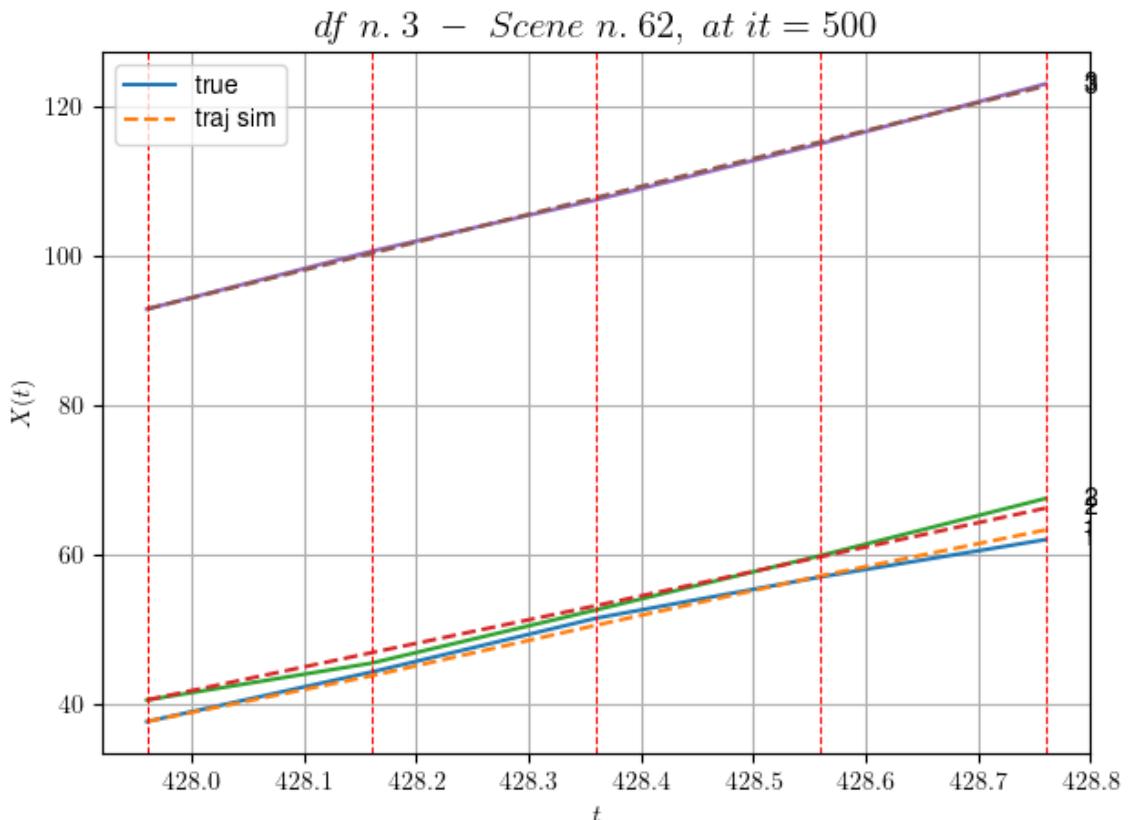
* v_ann: [33.949256896972656, 31.50628662109375, 3
-----
```

7.34985617547902]

- Time interval n.2: [428.36, 428.56]
 * y_true: [27.64533545 36.4184567]
 * v_ann: [33.075740814208984, 32.738895416259766, 3
 7.34985617547902]

- Time interval n.3: [428.56, 428.76]
 * y_true: [24.96174823 38.17283814]
 * v_ann: [30.698699951171875, 32.56657409667969, 3
 7.34985617547902]

* err= 0.4762193270068238
 * Learning rate NN = 4.7829678806010634e-05
 * diff = 0.0009315603532666361



For scene 62/90

* use LR_NN=0.0001 with err=72.37710756830337 at it=24
 * v0_scn_mean = 36.9088651349432
 * MAE = 0.44960935158925147

df n.3, scene n.63/90

We have 3 time intervals inside [439.36, 439.96]

- Time interval n.0: [439.36, 439.56]
 - * y_true: [29.12388438 22.06331107]
 - * v_ann: [28.0533390045166, 28.1590518951416, 33.53

637857273001]

- Time interval n.1: [439.56, 439.76]
 - * y_true: [38.07606081 22.99369197]
 - * v_ann: [28.367996215820312, 24.06896209716797, 3

3.53637857273001]

- Time interval n.2: [439.76, 439.96]
 - * y_true: [23.98424021 18.65338098]
 - * v_ann: [21.302444458007812, 24.683320999145508, 3

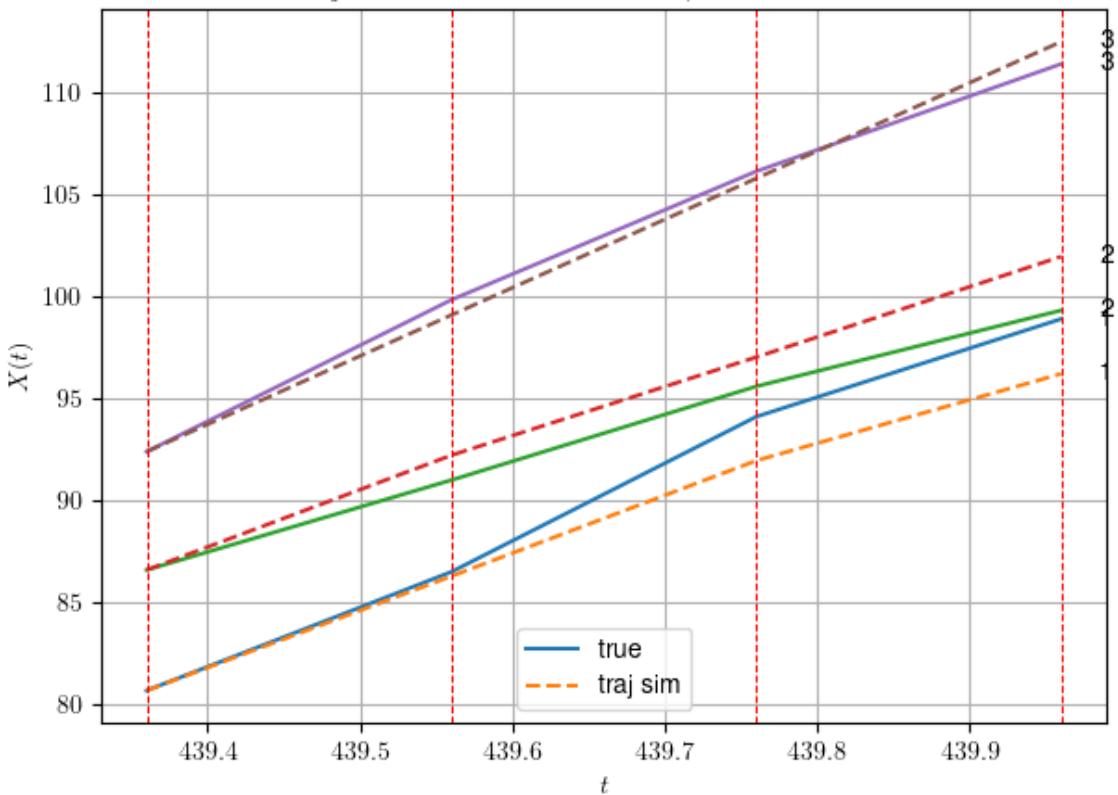
3.53637857273001]

* err= 2.0269206860073186

* Learning rate NN = 0.0005904899444431067

* diff = 0.0053288506200177212

df n. 3 – Scene n. 63, at it = 500



For scene 63/90

- * use LR_NN=0.001 with err=12.808806625692753 at it=24
 - * v0_scn_mean = 33.32419601714205
 - * MAE = 1.9975686390996323
-
-

```
df n.3, scene n.64/90
=====
```

```
=====
We have 2 time intervals inside [448.36,448.76]
```

- Time interval n.0: [448.36, 448.56]

- * y_true: [32.70350359 27.85524745]

- * v_ann: [33.01637649536133, 32.222618103027344, 3
1.585048186377207]

```
=====
- Time interval n.1: [448.56, 448.76]
```

- * y_true: [39.76511656 28.75604876]

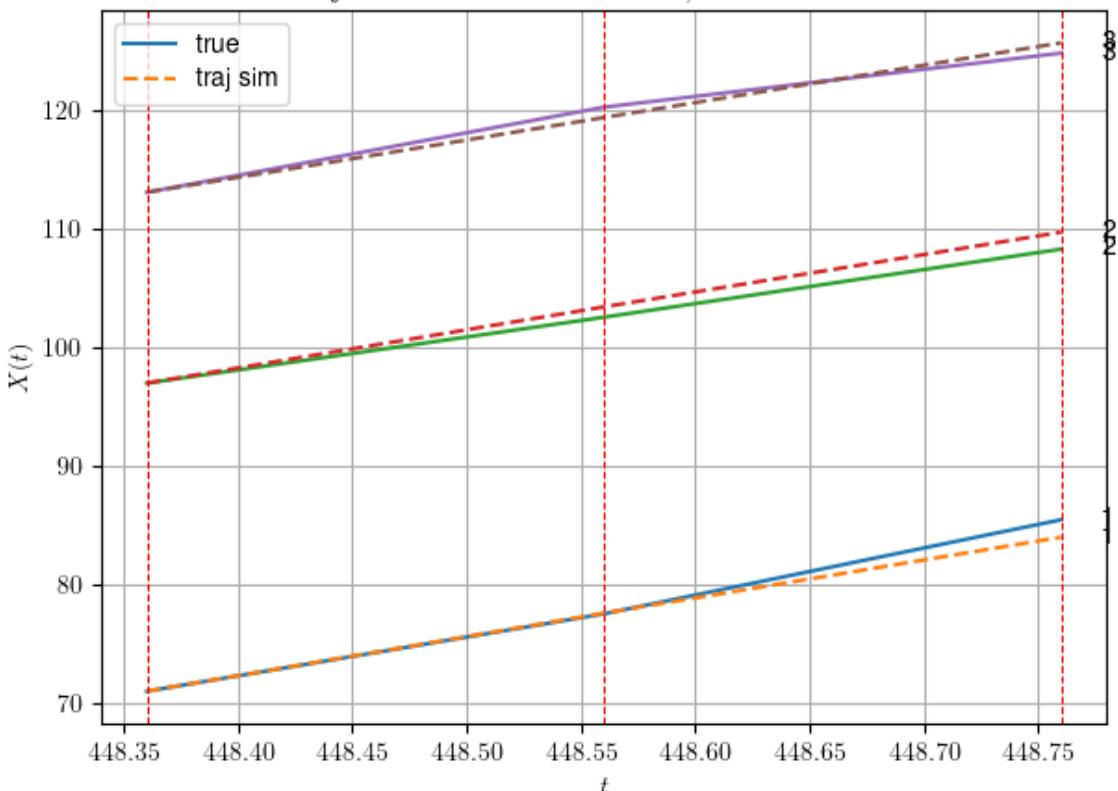
- * v_ann: [32.08310317993164, 31.553869247436523, 3
1.585048186377207]

```
=====
* err= 0.7248174527175636
```

- * Learning rate NN = 7.289998757187277e-05

- * diff = 0.00035043152714708814

df n. 3 – Scene n. 64, at it = 500



For scene 64/90

- * use LR_NN=0.0001 with err=0.6419887191685206 at it=24

- * v0_scn_mean = 31.489945366359535

- * MAE = 0.6746592802829486

```
=====
df n.3, scene n.65/90
=====
```

We have 7 time intervals inside [465.16, 466.56]

- Time interval n.0: [465.16, 465.36]
 - * y_true: [25.95020905 30.0319773]
 - * v_ann: [26.331315994262695, 26.074522018432617, 24.722079065128913]

- Time interval n.1: [465.36, 465.56]
 - * y_true: [21.30025919 28.782318]
 - * v_ann: [26.497596740722656, 26.19898223876953, 24.722079065128913]

- Time interval n.2: [465.56, 465.76]
 - * y_true: [22.00036741 28.59272475]
 - * v_ann: [26.41600227355957, 26.07126235961914, 24.722079065128913]

- Time interval n.3: [465.76, 465.96]
 - * y_true: [26.90061063 23.70259195]
 - * v_ann: [26.351123809814453, 26.179162979125977, 24.722079065128913]

- Time interval n.4: [465.96, 466.16]
 - * y_true: [23.75070885 23.26288454]
 - * v_ann: [26.24532699584961, 26.544614791870117, 24.722079065128913]

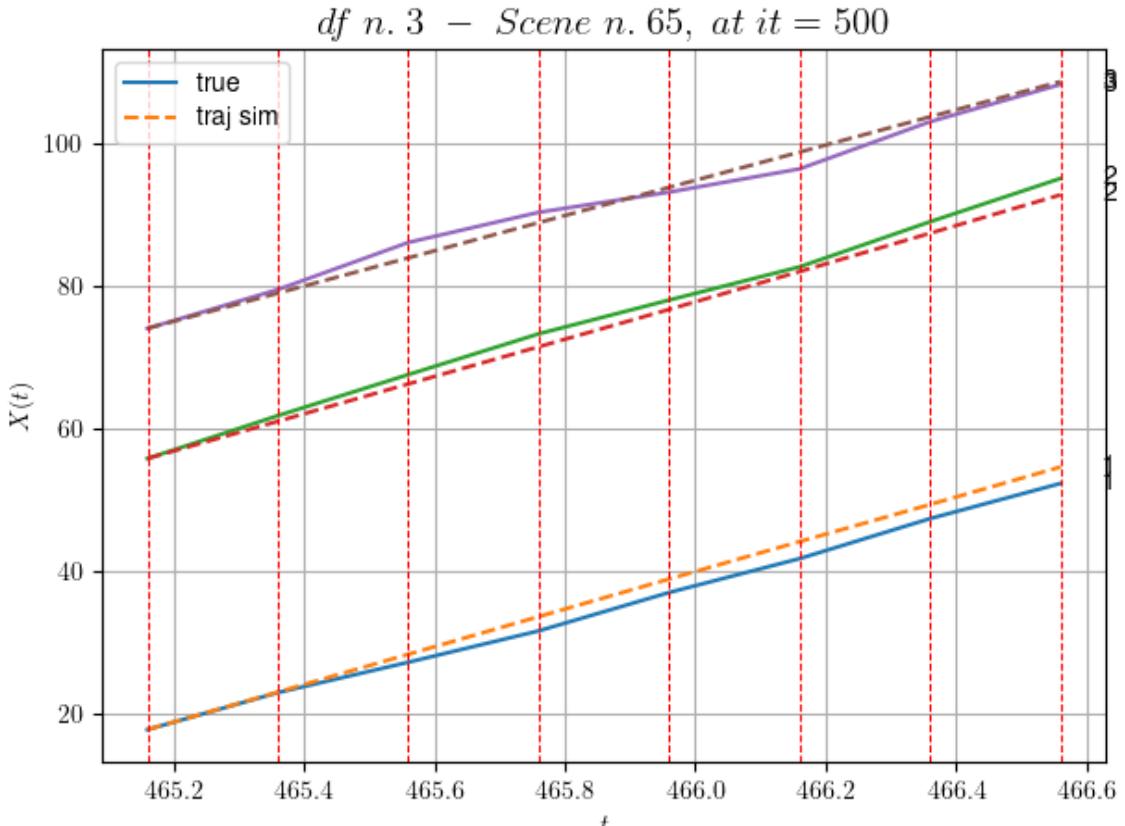
- Time interval n.5: [466.16, 466.36]
 - * y_true: [28.05107156 31.61450449]
 - * v_ann: [25.993045806884766, 26.885576248168945, 24.722079065128913]

- Time interval n.6: [466.36, 466.56]
 - * y_true: [24.65117633 30.37492519]
 - * v_ann: [26.31846809387207, 26.90672492980957, 24.722079065128913]

* err= 2.2102570438359113

* Learning rate NN = 1.2709323527815286e-05

* diff = 0.0017087264135020597



For scene 65/90

* use LR_NN=5e-05 with err=63.44828912769236 at it=24

* v0_scn_mean = 25.038754084253732

* MAE = 2.132567039089128

df n.3, scene n.66/90

We have 6 time intervals inside [467.16, 468.36]

- Time interval n.0: [467.16, 467.36]

* y_true: [14.52040439 29.14139959]

* v_ann: [20.259925842285156, 20.275117874145508, 2

0.776262852605416]

- Time interval n.1: [467.36, 467.56]

* y_true: [8.96028804 21.01119683]

* v_ann: [19.7724609375, 20.03799819946289, 20.7762

62852605416]

- Time interval n.2: [467.56, 467.76]

* y_true: [15.62056342 22.22157858]

* v_ann: [19.75428581237793, 20.013402938842773, 2

0.776262852605416]

```

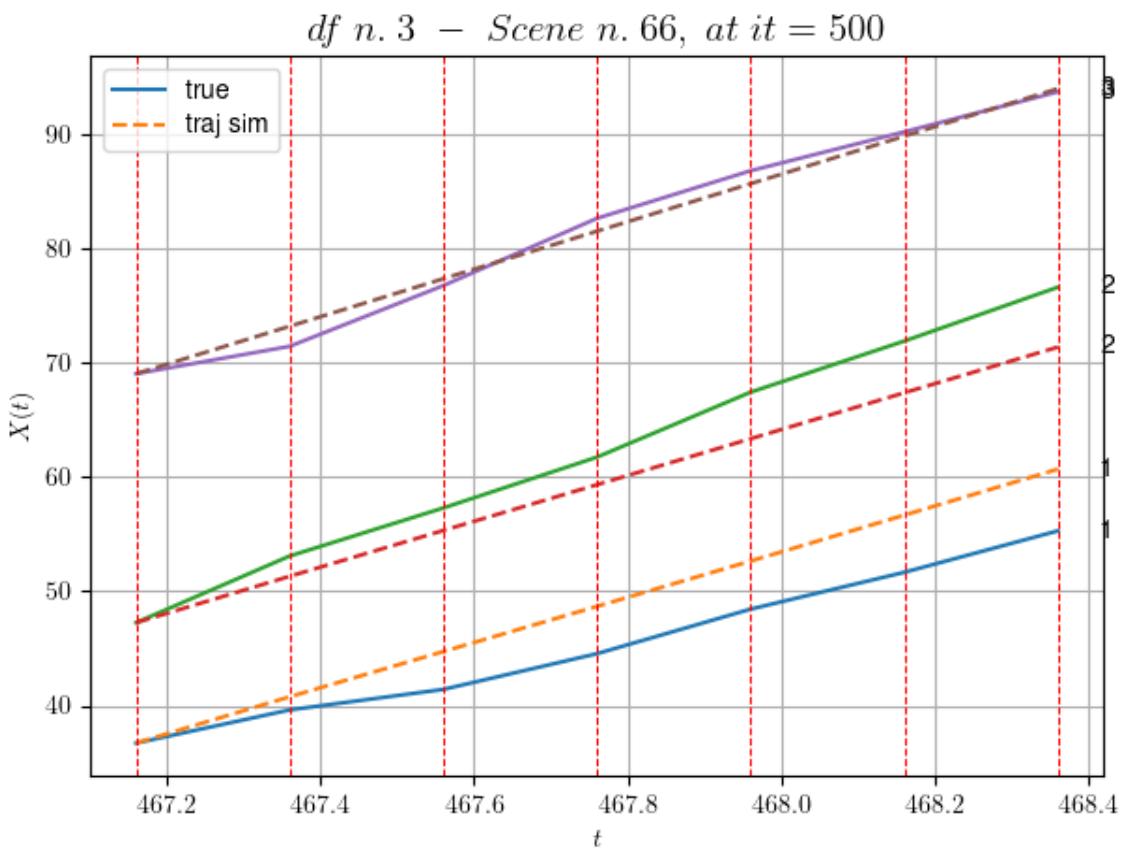
-----
- Time interval n.3: [467.76, 467.96]
  * y_true: [19.48080782 28.40220095]
  * v_ann: [19.822038650512695, 20.09881591796875, 2
  0.776262852605416]

-----
- Time interval n.4: [467.96, 468.16]
  * y_true: [16.10078185 22.34213456]
  * v_ann: [20.05470085144043, 20.085575103759766, 2
  0.776262852605416]

-----
- Time interval n.5: [468.16, 468.36]
  * y_true: [18.12099432 23.56241547]
  * v_ann: [20.131195068359375, 19.980165481567383, 2
  0.776262852605416]

* err= 8.792996616758215
* Learning rate NN = 1.5690524378442205e-05
* diff = 0.0707610006211050

```



For scene 66/90

```

* use LR_NN=5e-05 with err=16.05083541651899 at it=24
* v0_scn_mean = 21.329686667323138
* MAE = 8.792996616758215

```

df n.3, scene n.67/90

We have 3 time intervals inside [480.76, 481.36]

- Time interval n.0: [480.76, 480.96]

- * y_true: [26.72145209 13.04113053]

- * v_ann: [18.010650634765625, 18.21027946472168, 1
8.304841737445233]

- Time interval n.1: [480.96, 481.16]

- * y_true: [27.70182882 12.50117676]

- * v_ann: [17.96208953857422, 18.252424240112305, 1
8.304841737445233]

- Time interval n.2: [481.16, 481.36]

- * y_true: [16.26121495 12.26123448]

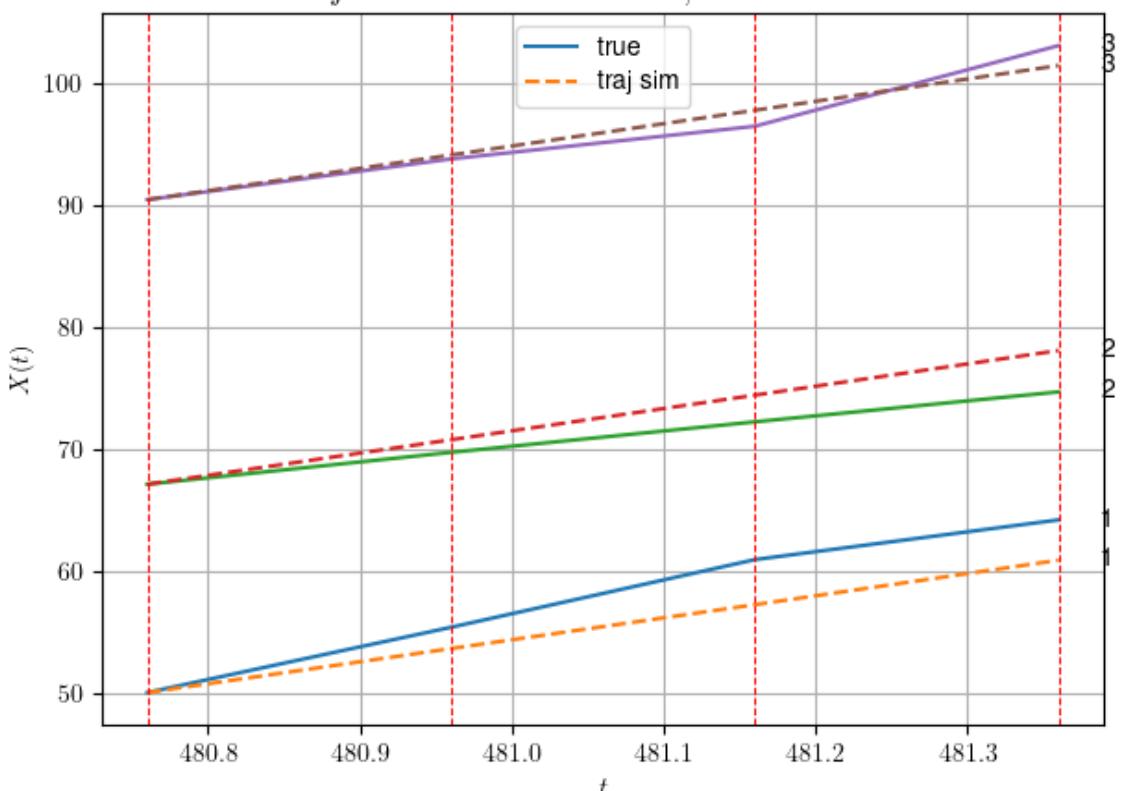
- * v_ann: [18.209253311157227, 18.278488159179688, 1
8.304841737445233]

- * err= 4.112834473502722

- * Learning rate NN = 5.9048988987342454e-06

- * diff = 0.00929747703066397

df n. 3 – Scene n. 67, at it = 500



For scene 67/90

- * use LR_NN=1e-05 with err=15.446218703056985 at it=24

- * v0_scn_mean = 19.00655070811085

- * MAE = 3.9749070316366537

```
=====
=====
```

df n.3, scene n.68/90

```
=====
=====
```

We have 2 time intervals inside [487.16, 487.56]

- Time interval n.0: [487.16, 487.36]

- * y_true: [6.3002445 28.62315801]

- * v_ann: [14.702838897705078, 14.620628356933594, 2
3.071831621686396]

```
-----
```

- Time interval n.1: [487.36, 487.56]

- * y_true: [10.63044184 13.60161023]

- * v_ann: [14.572613716125488, 15.015055656433105, 2
3.071831621686396]

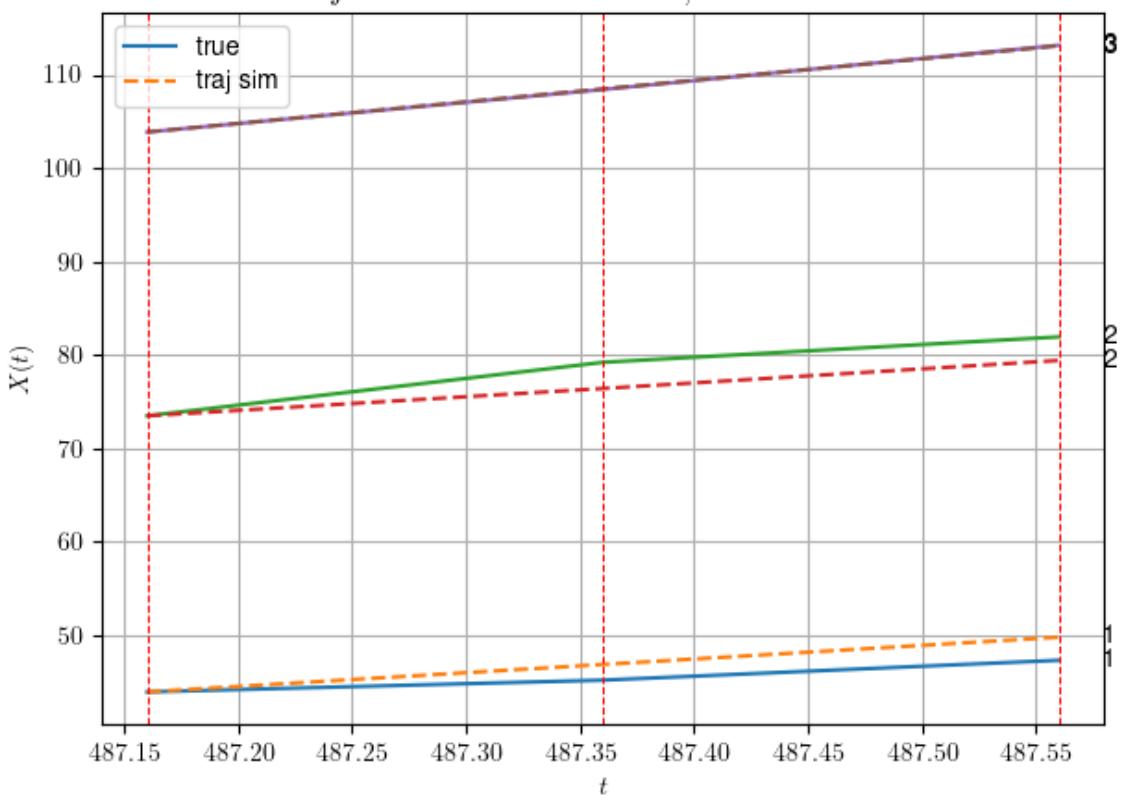
```
-----
```

- * err= 2.5677936049125933

- * Learning rate NN = 3.6449993785936385e-05

- * diff = 0.0008433275011712205

df n. 3 – Scene n. 68, at it = 500



For scene 68/90

- * use LR_NN=5e-05 with err=3.8821525261340226 at it=24

- * v0_scn_mean = 23.487521413325613

- * MAE = 2.5677936049125933

```
=====
=====
```

df n.3, scene n.69/90

We have 2 time intervals inside [498.56, 498.96]

- Time interval n.0: [498.56, 498.76]

- * y_true: [19.66086018 15.38134444]

- * v_ann: [17.209205627441406, 17.111711502075195, 2
6.404262964943108]

- Time interval n.1: [498.76, 498.96]

- * y_true: [16.17082592 17.38167269]

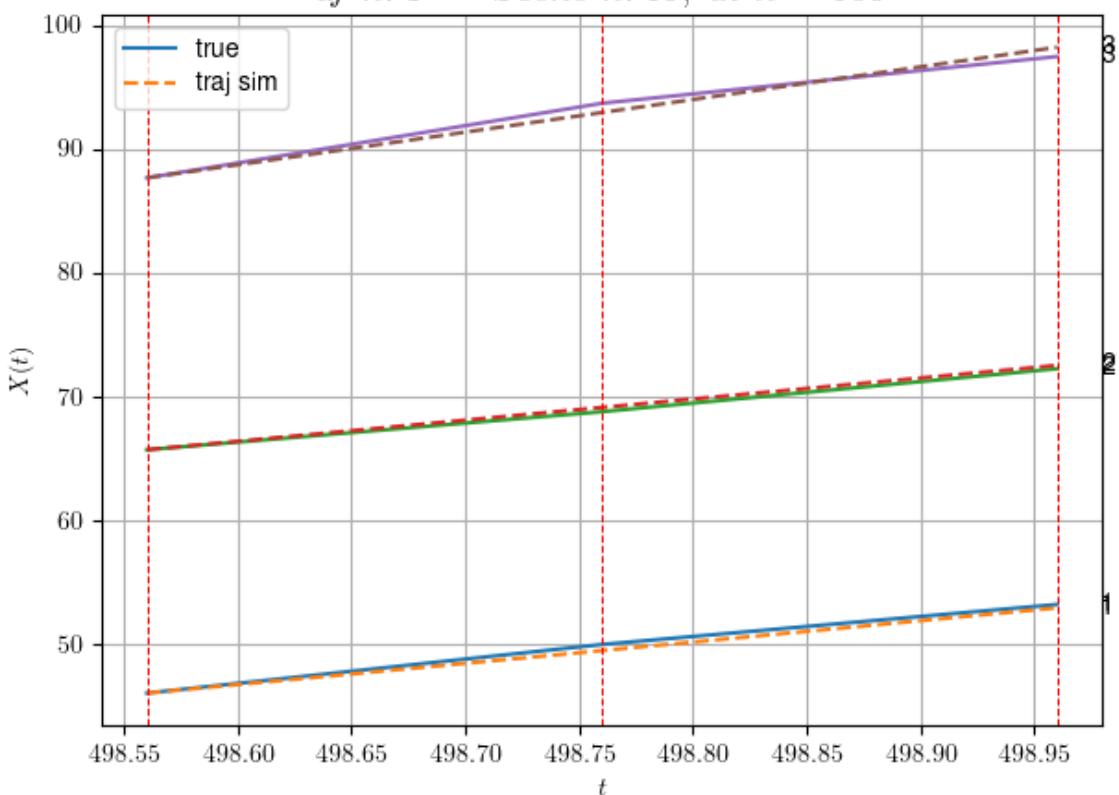
- * v_ann: [17.265880584716797, 17.01210594177246, 2
6.404262964943108]

- * err= 0.18146280182127597

- * Learning rate NN = 3.6449993785936385e-05

- * diff = 1.4144001557914176e-05

df n. 3 – Scene n. 69, at it = 500



For scene 69/90

- * use LR_NN=5e-05 with err=0.8295948874314177 at it=24
- * v0_scn_mean = 26.620007025605556
- * MAE = 0.1814127275711113

df n.3, scene n.70/90

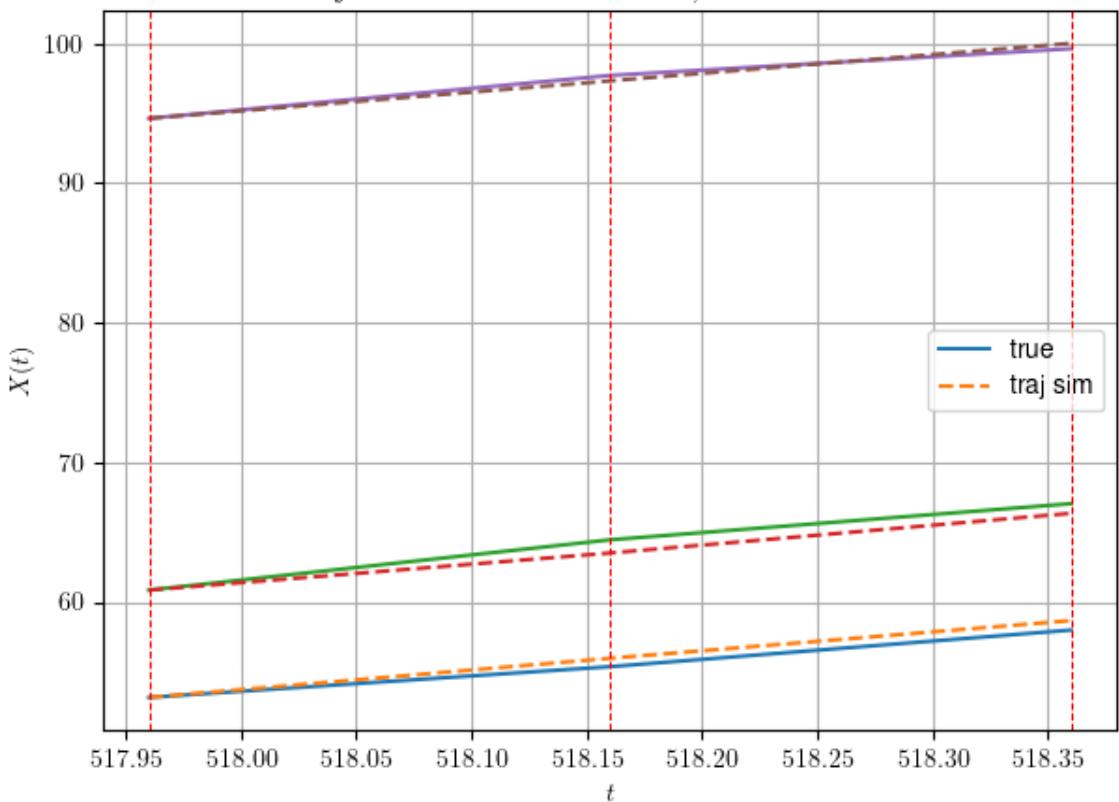
We have 2 time intervals inside [517.96, 518.36]

- Time interval n.0: [517.96, 518.16]
 - * y_true: [11.01062169 17.99135838]
 - * v_ann: [14.014666557312012, 13.26564884185791, 1
3.435738688971238]
-

- Time interval n.1: [518.16, 518.36]
 - * y_true: [13.11081201 12.94110202]
 - * v_ann: [13.50727653503418, 14.215827941894531, 1
3.435738688971238]
-

- * err= 0.27703580768086405
- * Learning rate NN = 0.0007289999630302191
- * diff = 0.00010459690803837907

df n. 3 – Scene n. 70, at it = 500



For scene 70/90

- * use LR_NN=0.001 with err=7.47173475195882 at it=24
 - * v0_scn_mean = 14.429593623935423
 - * MAE = 0.27653015652052176
-
-

df n.3, scene n.71/90

We have 4 time intervals inside [527.36, 528.16]

- Time interval n.0: [527.36, 527.56]
 - * y_true: [14.45064103 23.0016556]

```

* v_ann: [16.690994262695312, 16.7565975189209, 16.
92090602277573]

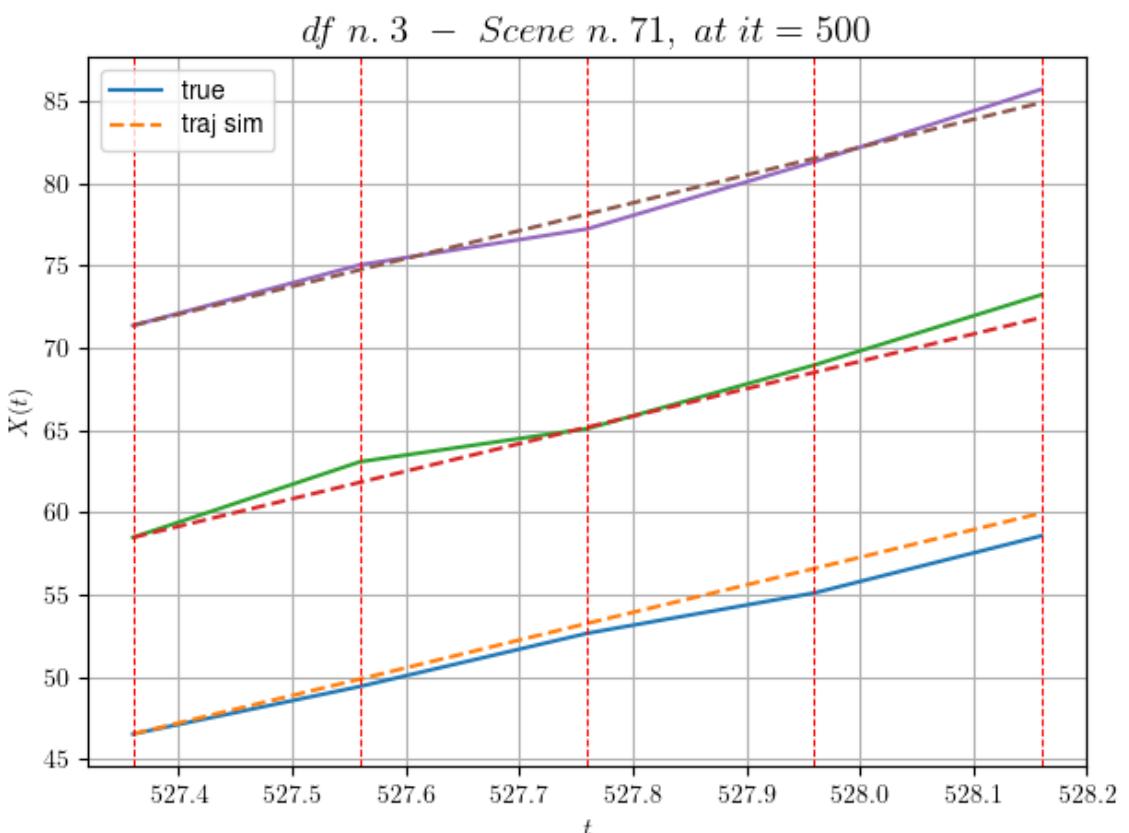
-----
- Time interval n.1: [527.56, 527.76]
* y_true: [16.14079976 10.04077962]
* v_ann: [16.914491653442383, 16.734783172607422, 1
6.92090602277573]

-----
- Time interval n.2: [527.76, 527.96]
* y_true: [12.25068777 19.3317022 ]
* v_ann: [16.673625946044922, 16.656938552856445, 1
6.92090602277573]

-----
- Time interval n.3: [527.96, 528.16]
* y_true: [17.36107311 21.34208771]
* v_ann: [16.841787338256836, 16.648542404174805, 1
6.92090602277573]

* err= 0.665852874506364
* Learning rate NN = 2.3914839403005317e-05
* diff = 0 00012107315827347608

```



For scene 71/90
* use LR_NN=5e-05 with err=14.098880845320053 at it=24
* v0_scn_mean = 17.705651074185845
* MAE = 0.6628622677721329

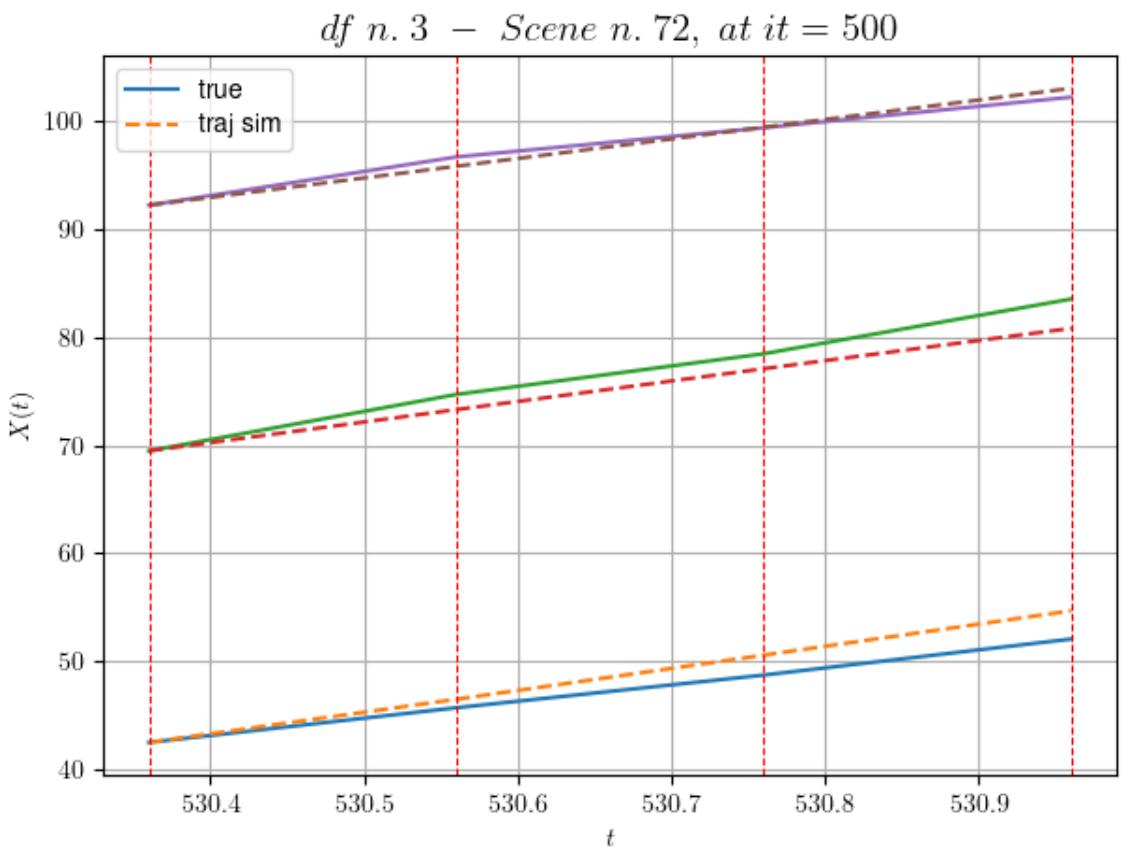
df n.3, scene n.72/90

We have 3 time intervals inside [530.36, 530.96]
- Time interval n.0: [530.36, 530.56]
* y_true: [16.07060164 26.13260896]
* v_ann: [19.998815536499023, 19.1007137298584, 18.
054855152783166]

- Time interval n.1: [530.56, 530.76]
* y_true: [15.14064363 18.85215172]
* v_ann: [20.44304847717285, 18.95803451538086, 18.
054855152783166]

- Time interval n.2: [530.76, 530.96]
* y_true: [16.69081323 25.36324467]
* v_ann: [20.562793731689453, 18.703927993774414, 1
8.054855152783166]

* err= 1.9655915241073887
* Learning rate NN = 5.9048988987342454e-06
* diff = 0.0026778754052347864



For scene 72/90

```
* use LR_NN=1e-05 with err=11.033795286083654 at it=24
* v0_scn_mean = 18.77156330730564
* MAE = 1.9655915241073887
```

```
=====
```

df n.3, scene n.73/90

```
=====
```

```
=====
```

We have 6 time intervals inside [576.56,577.76]

- Time interval n.0: [576.56, 576.76]
 - * y_true: [22.12000755 22.50086521]
 - * v_ann: [21.458410263061523, 21.12942123413086, 21.516688146761666]

```
-----
```

```
-----
```

- Time interval n.1: [576.76, 576.96]
 - * y_true: [22.90003133 17.69083]
 - * v_ann: [22.281227111816406, 21.6920223236084, 21.516688146761666]

```
-----
```

```
-----
```

- Time interval n.2: [576.96, 577.16]
 - * y_true: [24.57008129 24.8113942]
 - * v_ann: [20.772415161132812, 20.703855514526367, 21.516688146761666]

```
-----
```

```
-----
```

- Time interval n.3: [577.16, 577.36]
 - * y_true: [26.44016601 28.10183764]
 - * v_ann: [23.975685119628906, 22.703062057495117, 21.516688146761666]

```
-----
```

```
-----
```

- Time interval n.4: [577.36, 577.56]
 - * y_true: [27.01028631 17.73134123]
 - * v_ann: [27.223539352416992, 24.47579002380371, 21.516688146761666]

```
-----
```

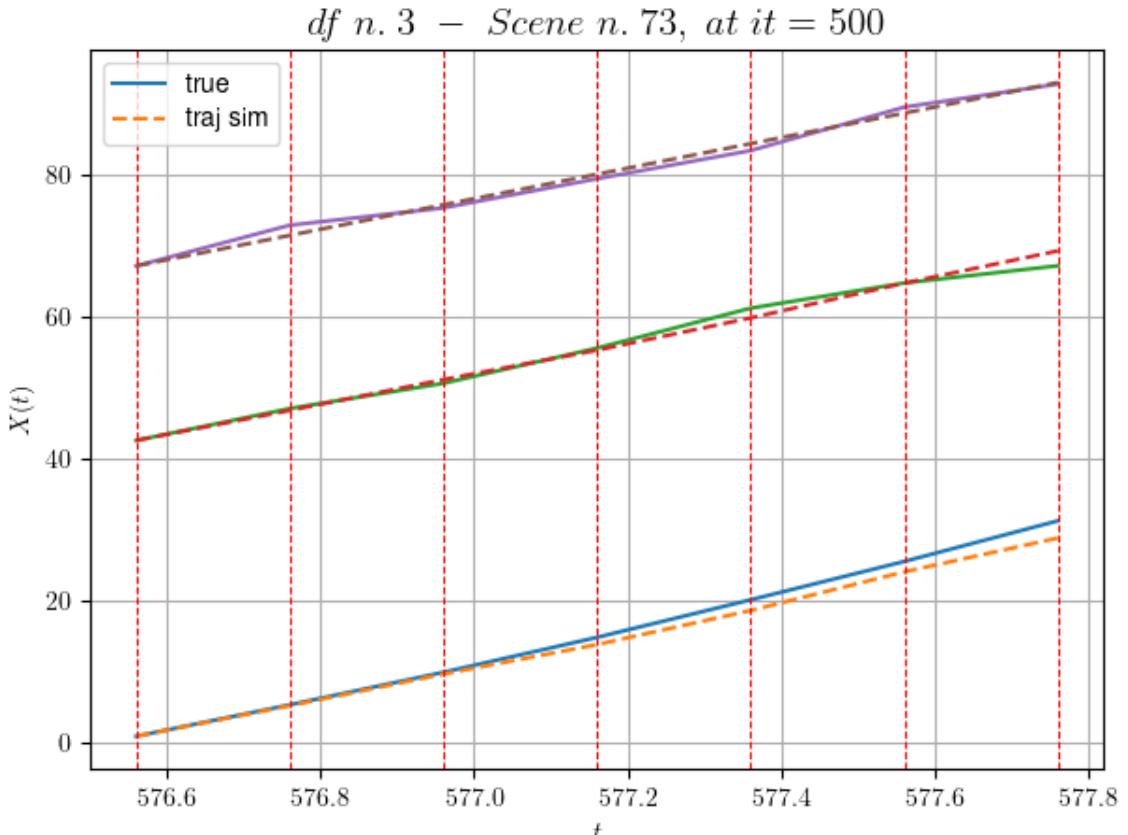
```
-----
```

- Time interval n.5: [577.56, 577.76]
 - * y_true: [28.59045436 12.12102827]
 - * v_ann: [23.790721893310547, 22.729467391967773, 21.516688146761666]

```
-----
```

```
-----
```

- * err= 1.0705323844809589
- * Learning rate NN = 0.00015690525469835848
- * diff = 0.024131274687529736



For scene 73/90

* use LR_NN=0.0005 with err=19.02045075434943 at it=24
 * v0_scn_mean = 22.025686477073613
 * MAE = 0.6936471261917386

df n.3, scene n.74/90

We have 5 time intervals inside [579.56, 580.56]

- Time interval n.0: [579.56, 579.76]
 - * y_true: [21.03058275 42.18516565]
 - * v_ann: [26.555294036865234, 25.66789436340332, 2

5.358404463470574]

- Time interval n.1: [579.76, 579.96]
 - * y_true: [19.36065083 36.06520173]
 - * v_ann: [27.089191436767578, 25.521270751953125, 2

5.358404463470574]

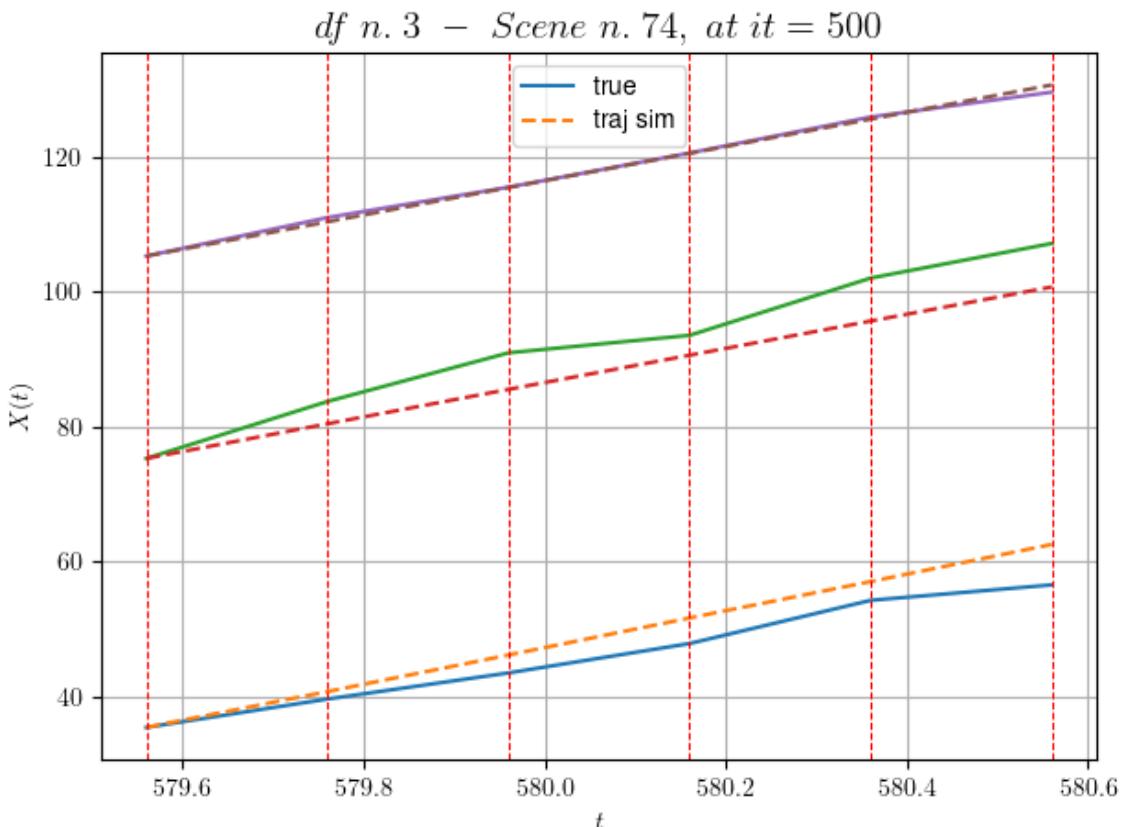
- Time interval n.2: [579.96, 580.16]
 - * y_true: [21.76088956 12.96224398]
 - * v_ann: [27.438539505004883, 25.289772033691406, 2

5.358404463470574]

```
- Time interval n.3: [580.16, 580.36]
  * y_true: [32.02164742 42.42773504]
  * v_ann: [26.994123458862305, 25.348894119262695, 2
5.358404463470574]
```

```
- Time interval n.4: [580.36, 580.56]
  * y_true: [11.44064385 25.66536311]
  * v_ann: [27.519447326660156, 25.253643035888672, 2
5.358404463470574]
```

```
* err= 11.045840748605846
* Learning rate NN = 3.874203684972599e-06
* diff = 0.06902904111406372
```



For scene 74/90

```
* use LR_NN=1e-05 with err=37.662249142827 at it=24  
* v0_scn_mean = 25.636899987264936  
* MAE = 11.045840748605846
```

df n.3. scene n.75/90

We have 4 time intervals inside [592, 16, 592, 961]

```
+ time intervals inside [592.16,592.36]
- Time interval n.0: [592.16, 592.36]
  * y_true: [ 4.45046478 21.56401461]
  * v_ann: [15.829577445983887, 15.51191520690918, 2
```

4.70998074865545]

- Time interval n.1: [592.36, 592.56]
 - * y_true: [14.40168088 21.61284101]
 - * v_ann: [14.608688354492188, 15.153943061828613, 2

4.70998074865545]

- Time interval n.2: [592.56, 592.76]
 - * y_true: [14.40168088 22.933287]
 - * v_ann: [14.604554176330566, 15.462899208068848, 2

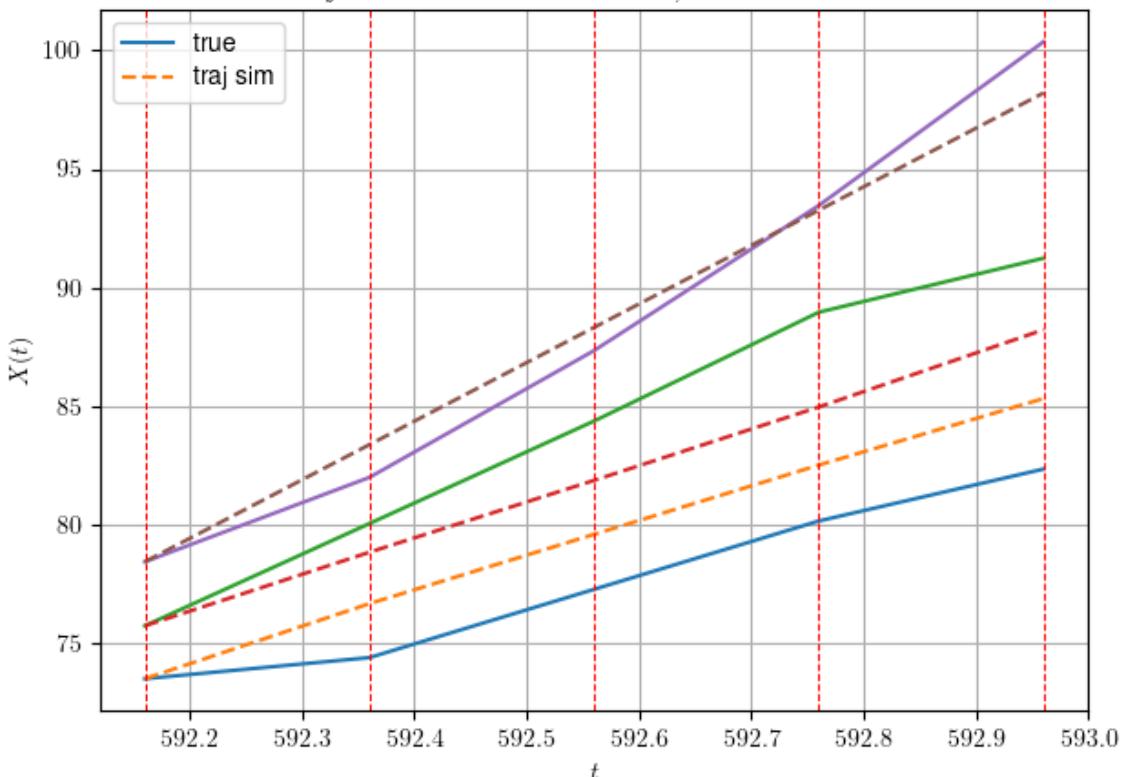
4.70998074865545]

- Time interval n.3: [592.76, 592.96]
 - * y_true: [10.94538603 11.39186219]
 - * v_ann: [14.029603958129883, 16.28601837158203, 2

4.70998074865545]

- * err= 4.354610515024329
- * Learning rate NN = 0.000478296831715852
- * diff = 0.02772428127440918

df n. 3 – Scene n. 75, at it = 500



For scene 75/90

- * use LR_NN=0.001 with err=13.471761647267668 at it=24
- * v0_scn_mean = 25.027381666226187
- * MAE = 3.681913877037306

df n.3, scene n.76/90

We have 2 time intervals inside [21.56, 21.96]

- Time interval n.0: [21.56, 21.76]

* y_true: [26.48927836 26.93283237 27.60013316]

* v_ann: [25.17987632751465, 25.434112548828125, 2
5.255983352661133, 29.08365839993886]

- Time interval n.1: [21.76, 21.96]

* y_true: [24.19440937 24.35304119 22.73494812]

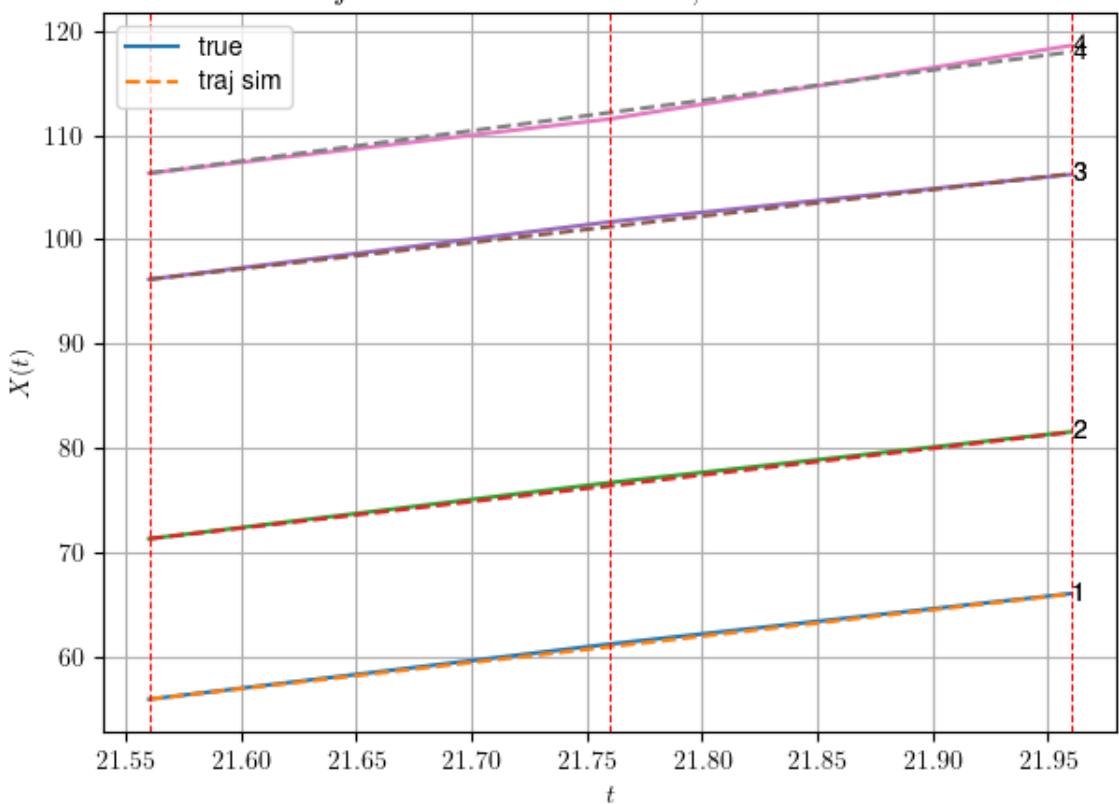
* v_ann: [25.29609489440918, 25.603199005126953, 2
5.371490478515625, 29.08365839993886]

* err= 0.09489037354162526

* Learning rate NN = 3.6449993785936385e-05

* diff = 0.0001249741203384891

df n. 3 – Scene n. 76, at it = 500



For scene 76/90

* use LR_NN=5e-05 with err=3.514508253594998 at it=24

* v0_scn_mean = 29.156962746047046

* MAE = 0.09489037354162526

df n.3, scene n.77/90

We have 3 time intervals inside [31.36,31.96]

- Time interval n.0: [31.36, 31.56]

* y_true: [24.92105739 19.11766565 26.56610692]

* v_ann: [8.480571523250546e-06, 21.43373489379882

8, 4.836677772225855e-16, 30.91717405915606]

- Time interval n.1: [31.56, 31.76]

* y_true: [24.72130541 29.91666352 24.00857353]

* v_ann: [3.219363861717284e-05, 25.58640861511230

5, 6.332709481248768e-16, 30.91717405915606]

- Time interval n.2: [31.76, 31.96]

* y_true: [24.58151426 8.80091982 33.80389928]

* v_ann: [1.0028909855464008e-05, 25.09799385070800

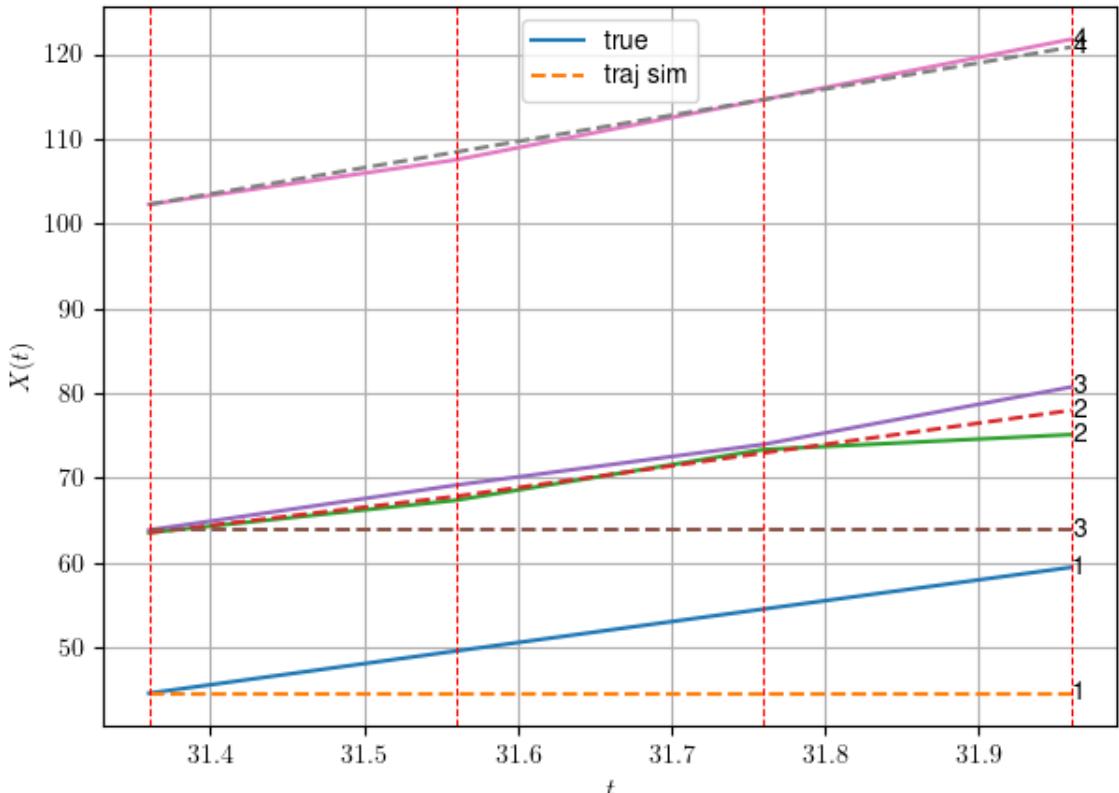
8, 2.3340739392095075e-18, 30.91717405915606]

* err= 48.08492591569146

* Learning rate NN = 0.0005904899444431067

* diff = 2.8697769323571265e-05

df n. 3 – Scene n. 77, at it = 500



For scene 77/90

* use LR_NN=0.001 with err=7.72829286328567 at it=24

* v0_scn_mean = 30.843803119029175

* MAE = 4.626669747246993

```
=====
=====
```

df n.3, scene n.78/90

```
=====
=====
```

We have 3 time intervals inside [33.76,34.36]

- Time interval n.0: [33.76, 33.96]

- * y_true: [24.27120267 28.75319668 39.53553599]

- * v_ann: [27.223196029663086, 28.904550552368164, 27.13473129272461, 24.31564748296738]

```
=====
=====
```

- Time interval n.1: [33.96, 34.16]

- * y_true: [18.63110748 26.36338094 39.47623422]

- * v_ann: [32.248233795166016, 30.671695709228516, 29.663908004760742, 24.31564748296738]

```
=====
=====
```

- Time interval n.2: [34.16, 34.36]

- * y_true: [25.20172426 27.37399424 29.73574355]

- * v_ann: [29.201608657836914, 27.504650115966797, 26.030376434326172, 24.31564748296738]

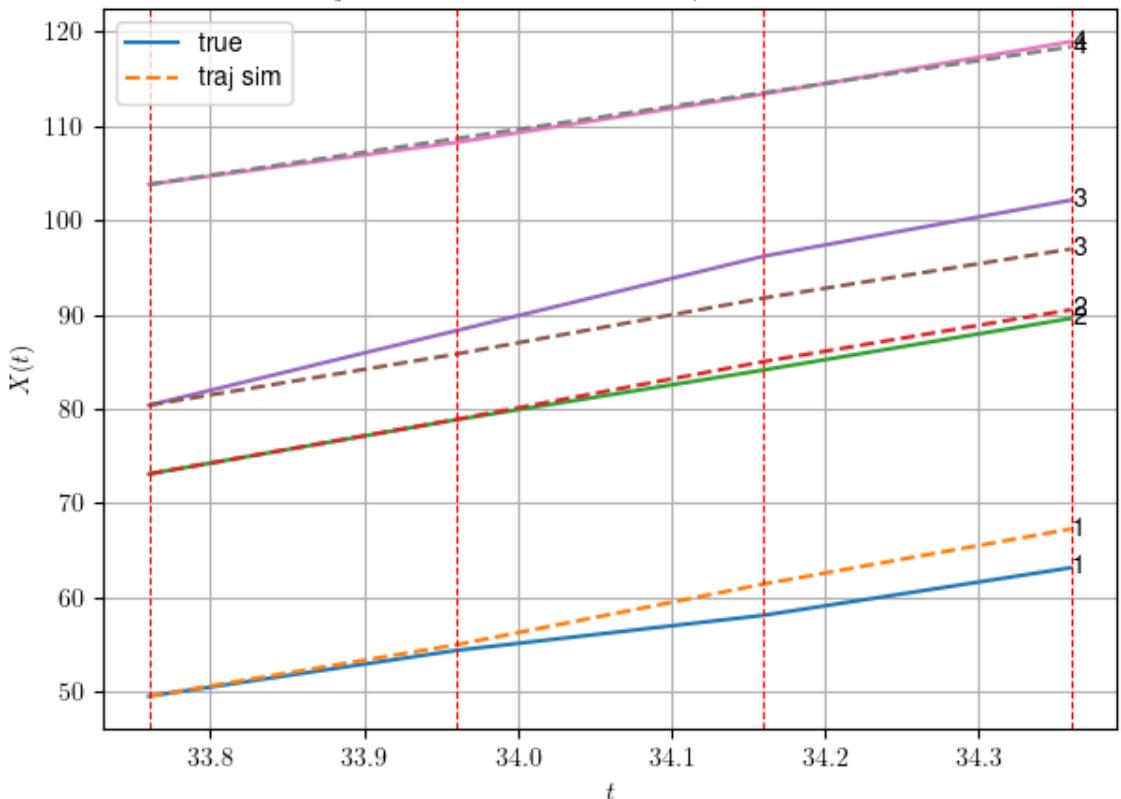
```
=====
=====
```

- * err= 5.1973918692646786

- * Learning rate NN = 0.0005904899444431067

- * diff = 0.010633252773565083

df n. 3 – Scene n. 78, at it = 500



For scene 78/90

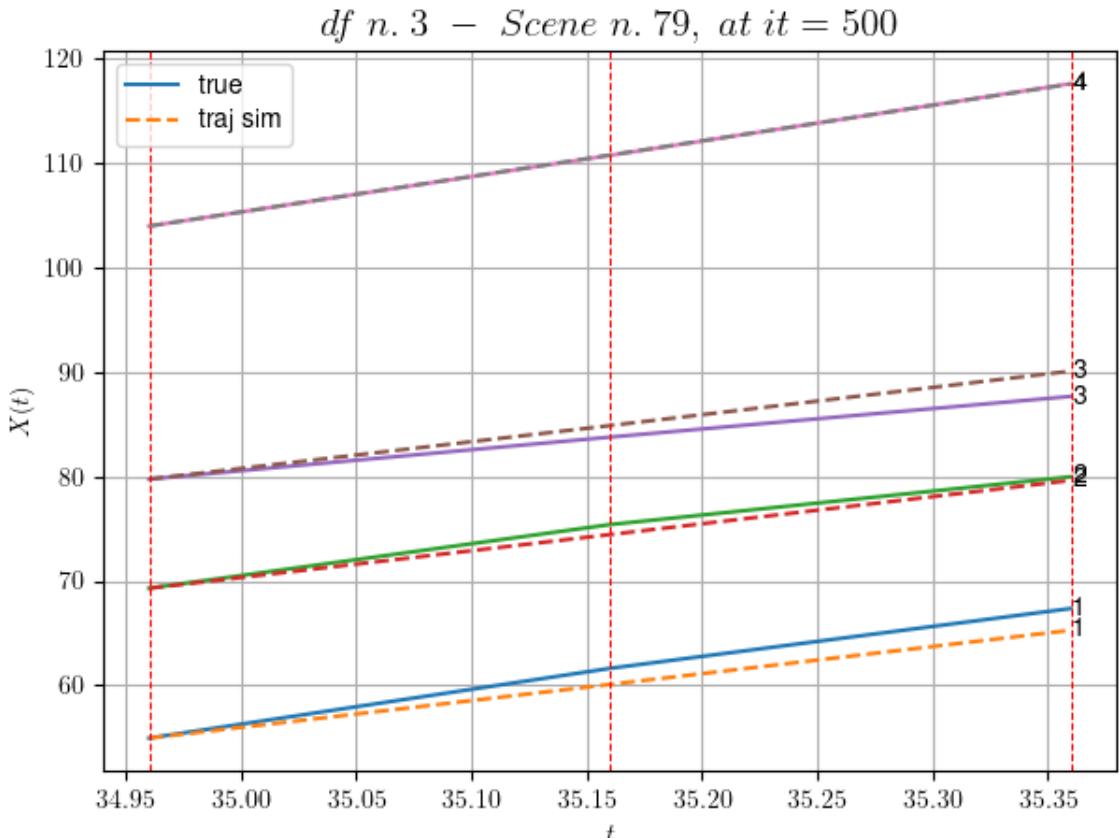
```
* use LR_NN=0.001 with err=15.526023352075008 at it=24
* v0_scn_mean = 24.77037718669547
* MAE = 4.69944495302742
```

df n.3, scene n.79/90

```
We have 2 time intervals inside [34.96,35.36]
- Time interval n.0: [34.96, 35.16]
  * y_true: [33.40218228 30.49313647 20.11252108]
  * v_ann: [25.686443328857422, 25.715782165527344, 2
5.632123947143555, 34.04452453089858]
```

```
- Time interval n.1: [35.16, 35.36]
  * y_true: [28.66899207 22.90260208 19.5026699 ]
  * v_ann: [25.970321655273438, 25.93511199951172, 2
6.107433319091797, 34.04452453089858]
```

```
* err= 1.2379191892591703
* Learning rate NN = 7.289998757187277e-05
* diff = 0 00009685063641167169
```



For scene 79/90

```
* use LR_NN=0.0001 with err=9.12157070486641 at it=24
* v0_scn_mean = 33.720975729844156
* MAE = 1.1305000695581922
```

```
df n.3, scene n.80/90
=====
=====
We have 6 time intervals inside [83.36,84.56]
- Time interval n.0: [83.36, 83.56]
    * y_true: [27.1108197 22.97496526 13.79424223]
    * v_ann: [29.894088745117188, 28.652156829833984, 2
9.496395111083984, 26.107724197314568]

-----
- Time interval n.1: [83.56, 83.76]
    * y_true: [28.73111951 35.1785896 26.83859352]
    * v_ann: [24.231189727783203, 25.74154281616211, 2
7.29642677307129, 26.107724197314568]

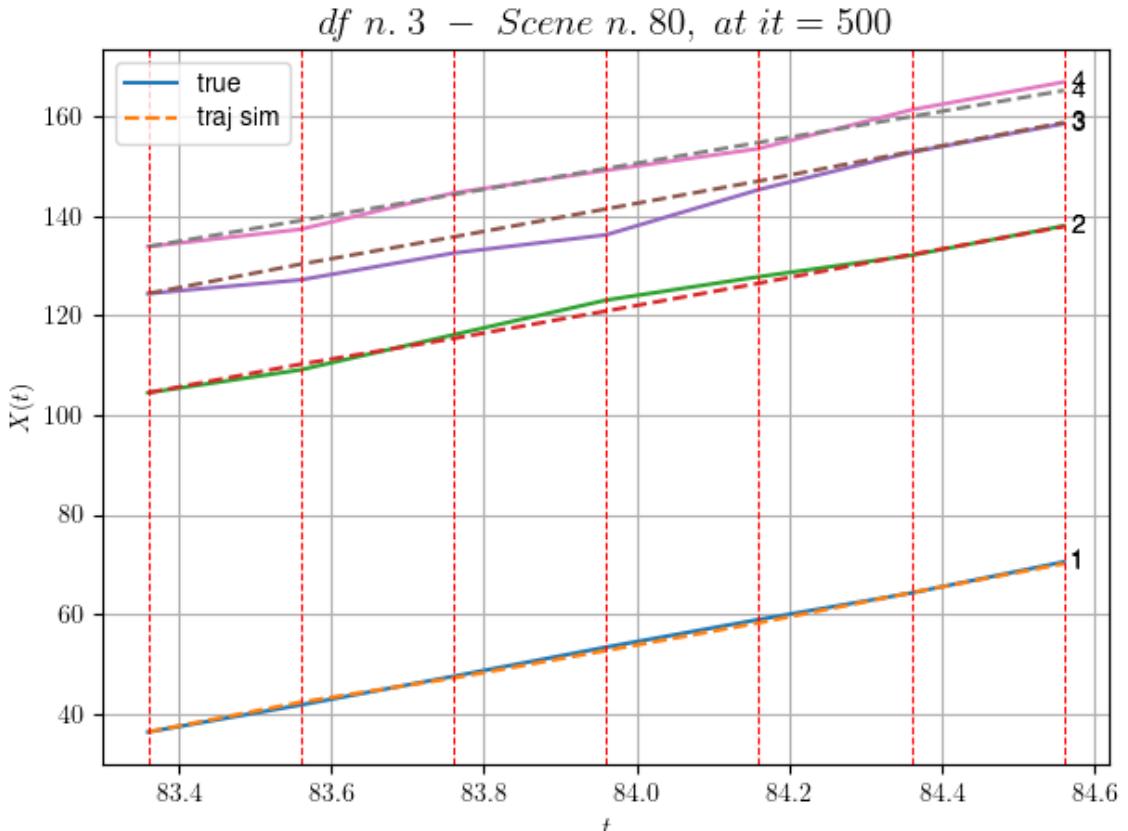
-----
- Time interval n.2: [83.76, 83.96]
    * y_true: [29.25142438 34.77932949 18.27648805]
    * v_ann: [27.598491668701172, 27.558189392089844, 2
8.150165557861328, 26.107724197314568]

-----
- Time interval n.3: [83.96, 84.16]
    * y_true: [27.70171969 23.46694627 45.36715188]
    * v_ann: [27.765871047973633, 27.919034957885742, 2
7.94274139404297, 26.107724197314568]

-----
- Time interval n.4: [84.16, 84.36]
    * y_true: [26.72197507 21.43687952 37.53588876]
    * v_ann: [30.33966636657715, 28.799396514892578, 2
9.561237335205078, 26.107724197314568]

-----
- Time interval n.5: [84.36, 84.56]
    * y_true: [31.24277517 29.71036516 28.7233215 ]
    * v_ann: [29.09851837158203, 28.10606575012207, 29.
292537689208984, 26.107724197314568]

=====
* err= 2.496639042172205
* Learning rate NN = 0.00015690525469835848
* Diff = 0.01116200600005652
```



For scene 80/90

- * use LR_NN=0.0005 with err=104.13223731914013 at it=24
- * v0_scn_mean = 26.419093595549363
- * MAE = 2.496639042172205

df n.3, scene n.81/90

We have 3 time intervals inside [94.36, 94.96]

- Time interval n.0: [94.36, 94.56]
 - * y_true: [33.70387327 38.57908217 21.70251029]
 - * v_ann: [29.68640899658203, 30.339452743530273, 29.70452880859375, 29.526156065335076]

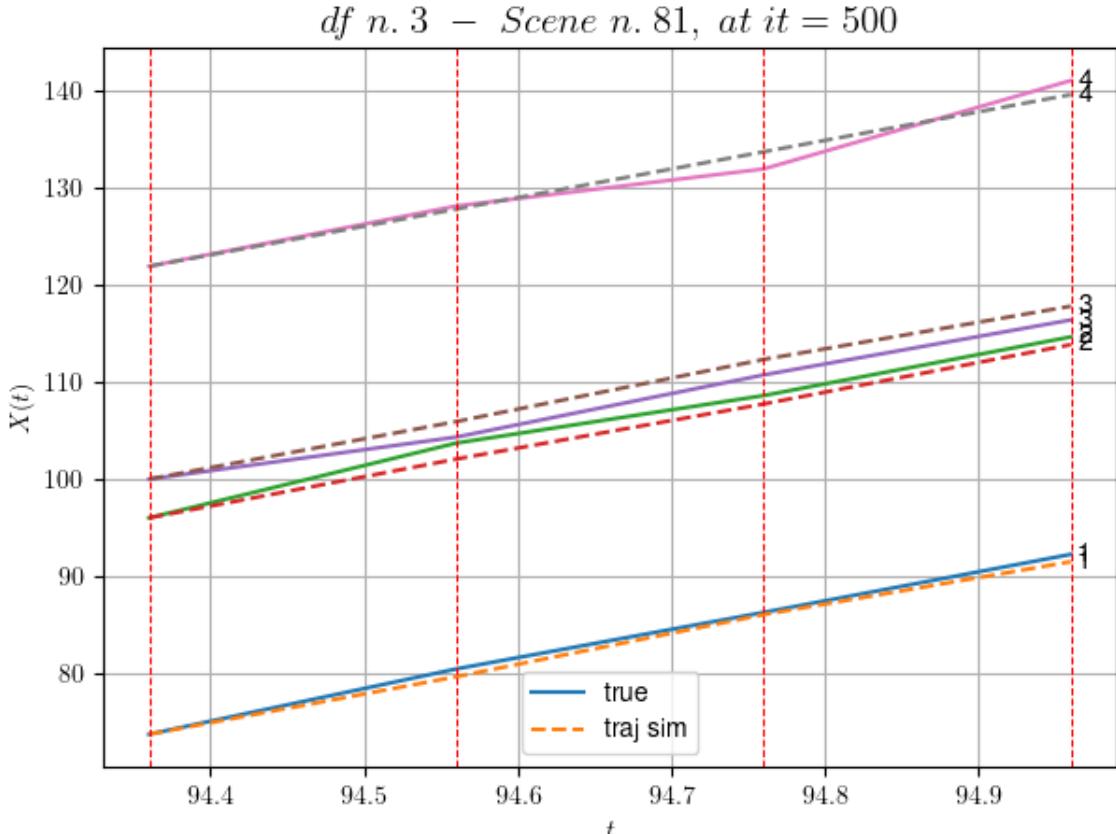
- Time interval n.1: [94.56, 94.76]
 - * y_true: [29.14386677 24.50535727 32.05702124]
 - * v_ann: [32.025177001953125, 28.394332885742188, 32.03942108154297, 29.526156065335076]

- Time interval n.2: [94.76, 94.96]
 - * y_true: [29.96461386 30.28702151 28.36707369]
 - * v_ann: [27.319272994995117, 30.63943862915039, 29.47274398803711, 29.526156065335076]

```

* err= 1.1144903864821523
* Learning rate NN = 0.0005904899444431067
* diff = 0 005171214929073242

```



For scene 81/90

```

* use LR_NN=0.001 with err=23.226437665110875 at it=24
* v0_scn_mean = 29.56406203815747
* MAE = 1.1144903864821523

```

df n.3, scene n.82/90

We have 3 time intervals inside [142.16, 142.76]

- Time interval n.0: [142.16, 142.36]
 - * y_true: [31.90177154 33.47450881 19.84324761]
 - * v_ann: [23.69104766845703, 25.735393524169922, 24.298721313476562, 28.12123774853807]

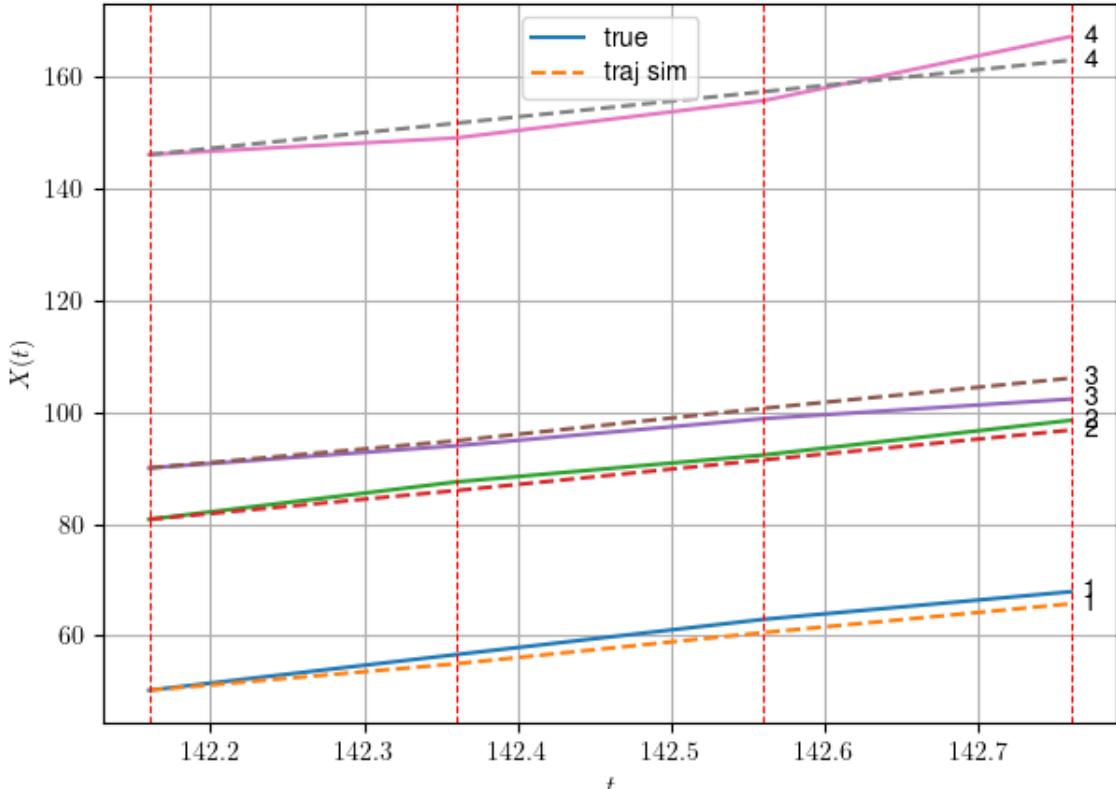
- Time interval n.1: [142.36, 142.56]
 - * y_true: [31.50218522 24.08376432 24.27420294]
 - * v_ann: [27.87538719177246, 27.38174819946289, 29.053407669067383, 28.12123774853807]

- Time interval n.2: [142.56, 142.76]
 - * y_true: [24.70204715 30.9853993 17.45337402]

```
* v_ann: [25.76066780090332, 26.661970138549805, 2
6.933879852294922, 28.12123774853807]
```

```
* err= 4.05858191646096
* Learning rate NN = 0.0002952449722215533
* diff = 0.0014264027425762501
```

df n. 3 – Scene n. 82, at it = 500



For scene 82/90

```
* use LR_NN=0.0005 with err=30.483537203295942 at it=24
* v0_scn_mean = 28.271532614914126
* MAE = 2.759930081931537
```

df n.3, scene n.83/90

We have 2 time intervals inside [170.36, 170.76]

- Time interval n.0: [170.36, 170.56]
 - * y_true: [24.1106547 30.95205085 31.86307572]
 - * v_ann: [25.504905700683594, 25.731586456298828, 2
 5.267688751220703, 32.996539935657715]

- Time interval n.1: [170.56, 170.76]

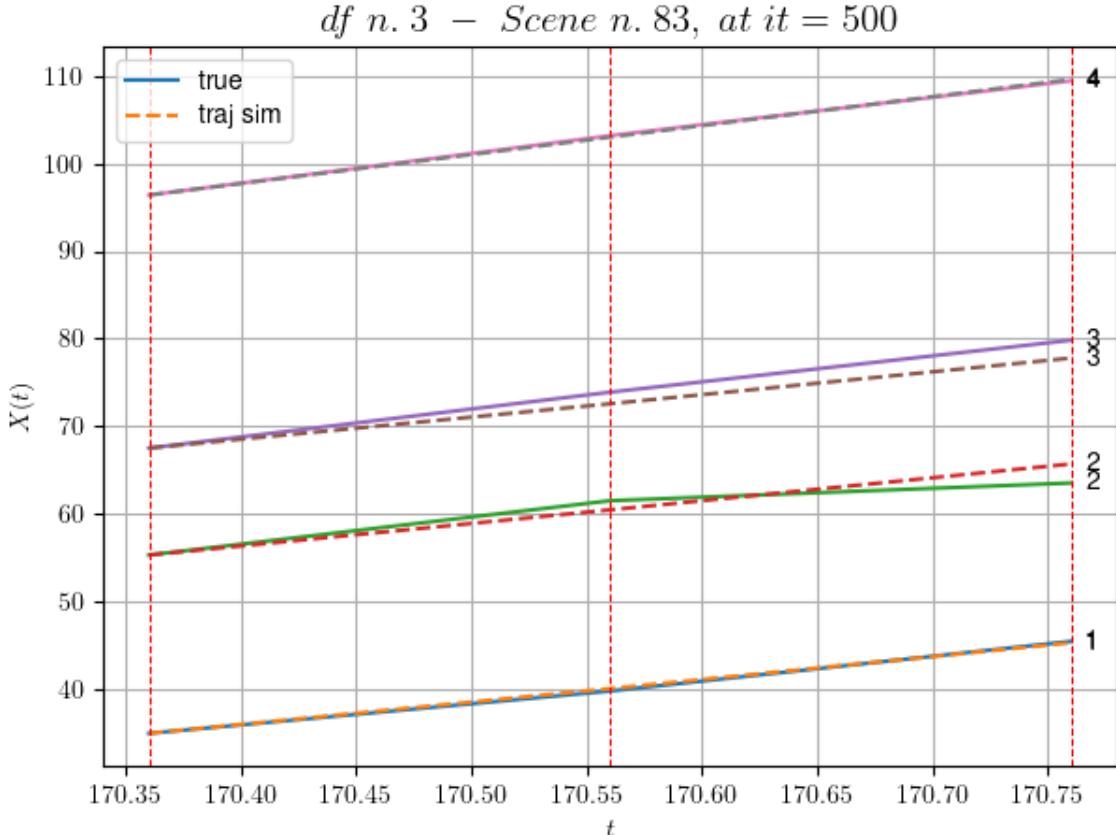
- * y_true: [28.33103197 10.10076519 29.63331411]

- * v_ann: [26.105220794677734, 26.170940399169922, 2
 6.051956176757812, 32.996539935657715]

```

* err= 0.9876330464705954
* Learning rate NN = 7.289998757187277e-05
* diff = 0.00011066839296702824

```



For scene 83/90

```

* use LR_NN=0.0001 with err=1.9287596732938013 at it=24
* v0_scn_mean = 32.75682649194194
* MAE = 0.983130460315073

```

df n.3, scene n.84/90

We have 2 time intervals inside [248.16, 248.56]

- Time interval n.0: [248.16, 248.36]
 - * y_true: [31.21204442 24.6823336 32.34552948]
 - * v_ann: [31.949512481689453, 33.5179557800293, 29.564430236816406, 30.248970609827406]

- Time interval n.1: [248.36, 248.56]

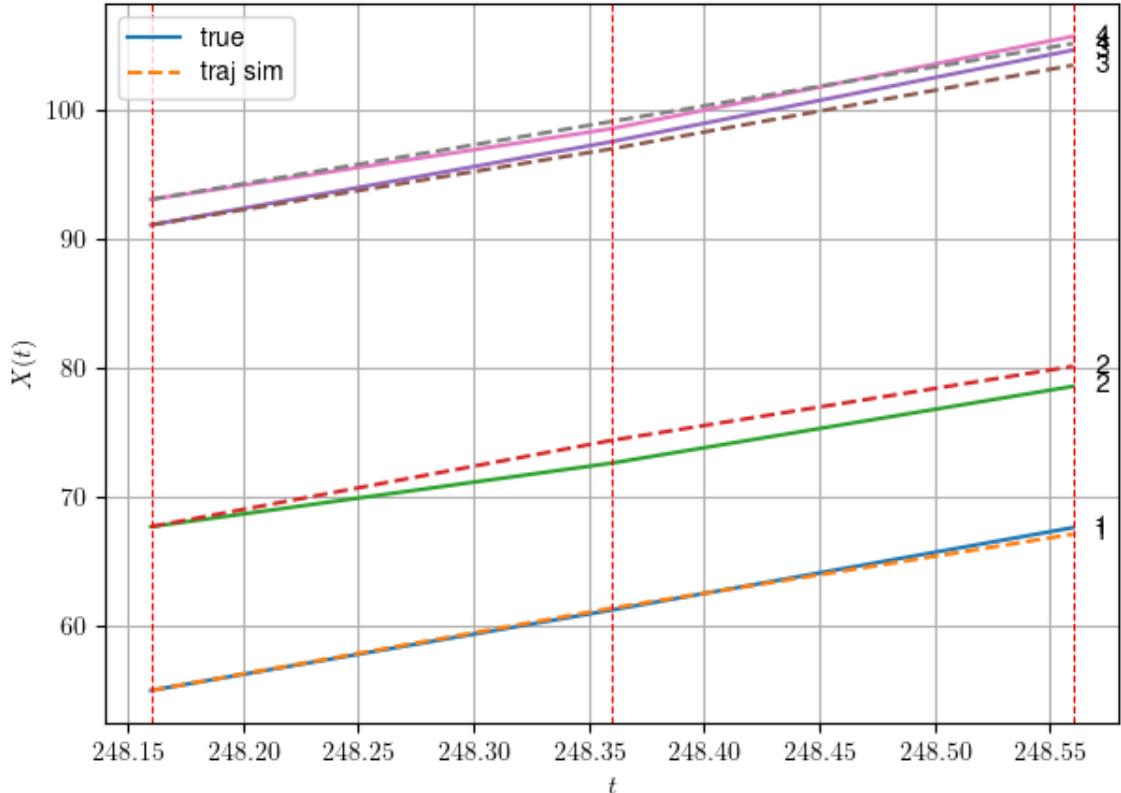
- * y_true: [31.9625999 29.77329807 35.48696999]
 - * v_ann: [28.688858032226562, 28.701705932617188, 32.408363342285156, 30.248970609827406]

```
* err= 0.6759563266505577
```

```
* Learning rate NN = 0.0007289999630302191
```

* diff = 0.0018800170051643805

df n. 3 – Scene n. 84, at it = 500



For scene 84/90

* use LR_NN=0.001 with err=17.19945782185932 at it=24
 * v0_scn_mean = 30.22905377122442
 * MAE = 0.6759563266505577

df n.3, scene n.85/90

We have 3 time intervals inside [320.56, 321.16]

- Time interval n.0: [320.56, 320.76]

* y_true: [27.61038846 20.60122903 24.07186814]

* v_ann: [29.213523864746094, 28.976816177368164, 29.199291229248047, 28.130140949141946]

- Time interval n.1: [320.76, 320.96]

* y_true: [30.26064275 26.25184013 33.56317876]

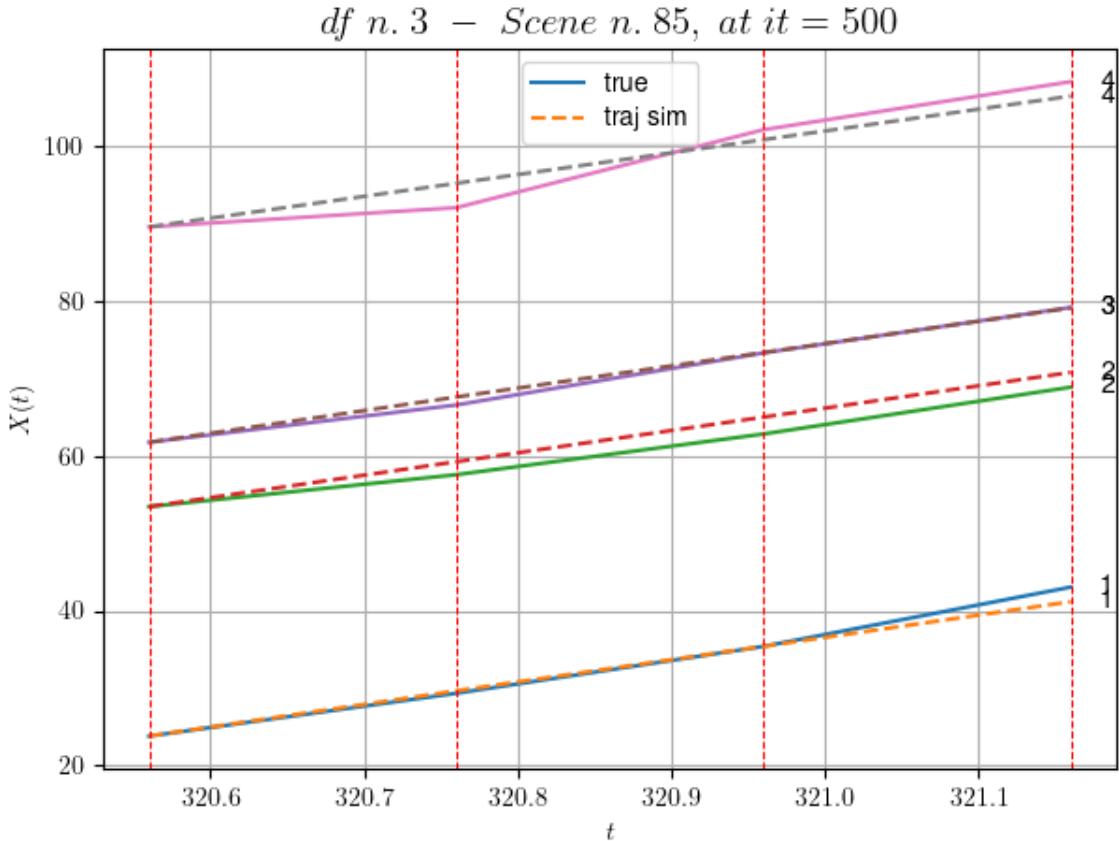
* v_ann: [28.685867309570312, 28.77192497253418, 28.703353881835938, 28.130140949141946]

- Time interval n.2: [320.96, 321.16]

* y_true: [38.25114958 30.20253063 29.36323845]

* v_ann: [28.81643295288086, 28.856544494628906, 28.81242561340332, 28.130140949141946]

```
* err= 1.9330751031840578
* Learning rate NN = 2.952449540316593e-05
* diff = 0.0004076121377687425
```



For scene 85/90

```
* use LR_NN=5e-05 with err=8.469478899141276 at it=24
* v0_scn_mean = 28.27972358844236
* MAE = 1.8508571876905542
```

df n.3, scene n.86/90

We have 3 time intervals inside [333.96, 334.56]

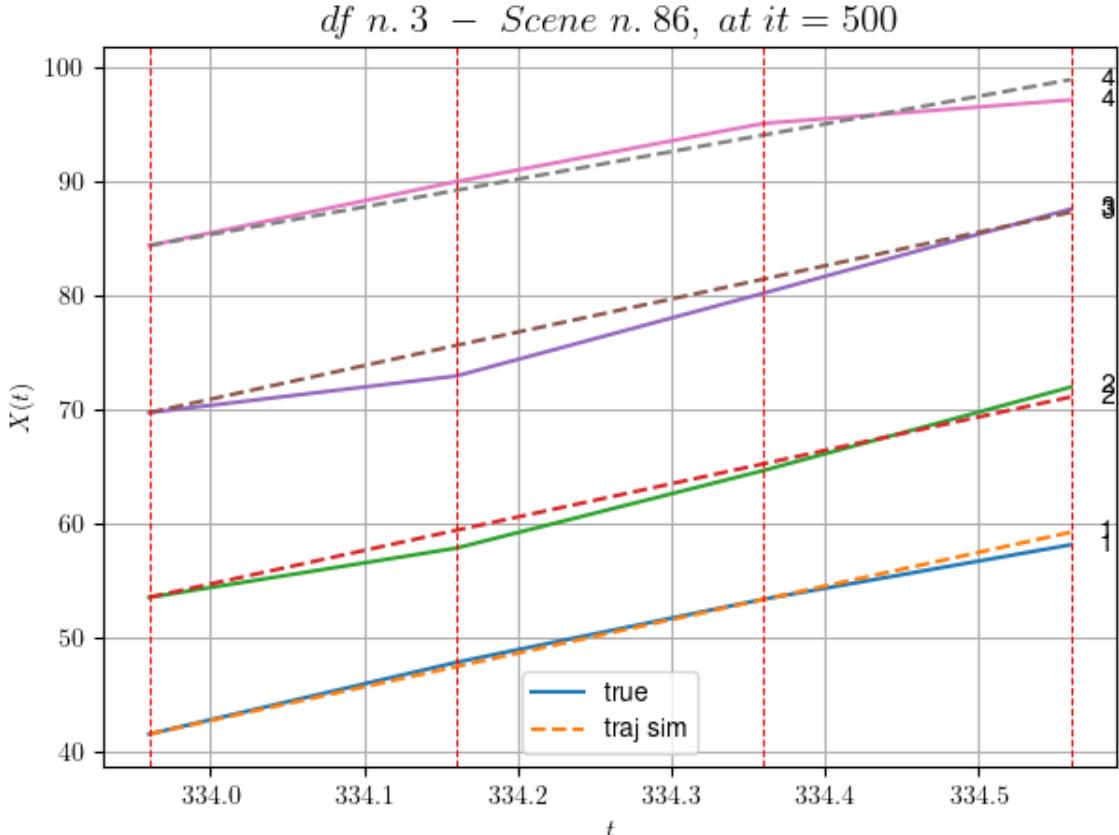
- Time interval n.0: [333.96, 334.16]
 - * y_true: [31.40121985 21.58136302 16.05156144]
 - * v_ann: [29.565067291259766, 29.39424705505371, 29.457717895507812, 24.218775367789018]

- Time interval n.1: [334.16, 334.36]
 - * y_true: [27.67132891 33.9725354 36.25406589]
 - * v_ann: [29.364809036254883, 29.10710906982422, 29.002986907958984, 24.218775367789018]

- Time interval n.2: [334.36, 334.56]

```
* y_true: [23.81145278 36.52334008 36.85496039]
* v_ann: [29.458744049072266, 29.262828826904297, 2
9.293655395507812, 24.218775367789018]
```

```
* err= 1.152111416074308
* Learning rate NN = 2.952449540316593e-05
* diff = 0 000116876028462262
```



For scene 86/90

```
* use LR_NN=5e-05 with err=4.435863904549066 at it=24
* v0_scn_mean = 24.68125452549606
* MAE = 1.1482643216624853
```

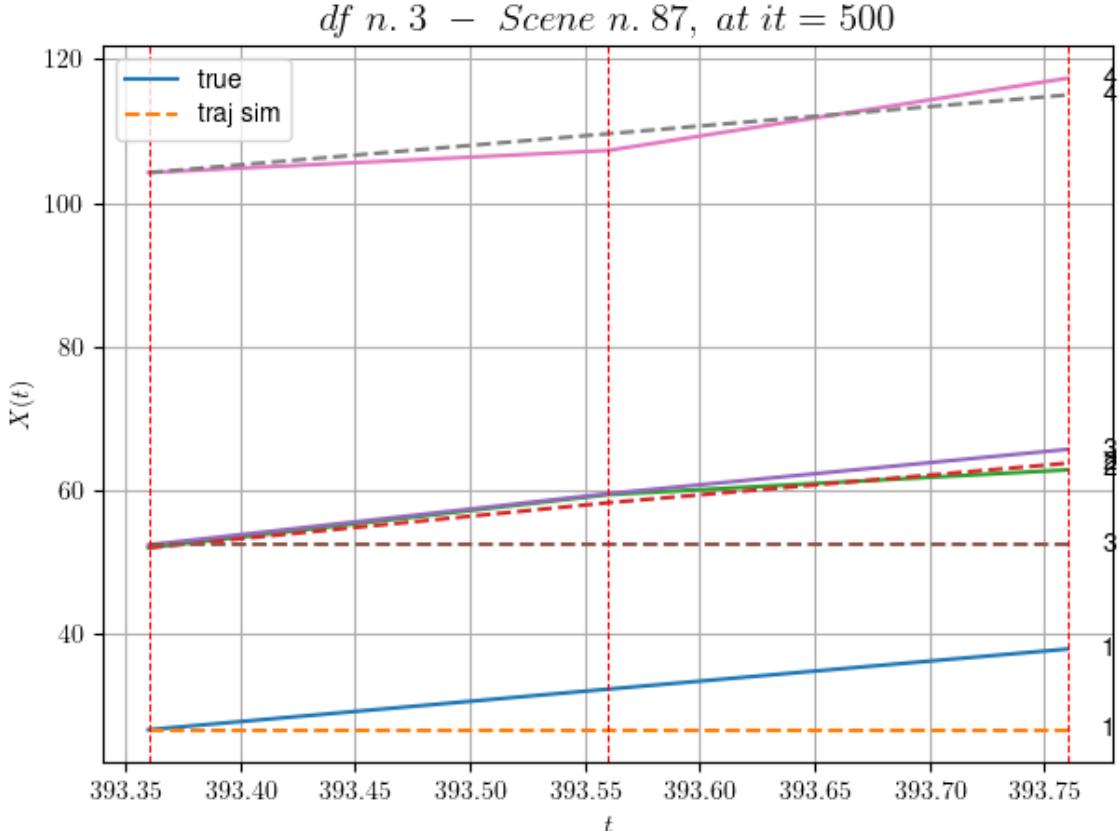
df n.3, scene n.87/90

We have 2 time intervals inside [393.36, 393.76]

- Time interval n.0: [393.36, 393.56]
 - * y_true: [28.21049617 36.91227562 35.66212709]
 - * v_ann: [8.629899572731858e-11, 31.26916122436523
 4, -8.571231219425757e-23, 27.006293536405785]

- Time interval n.1: [393.56, 393.76]
 - * y_true: [27.89067116 17.24119841 30.82238865]
 - * v_ann: [6.890681601701143e-12, 27.51950073242187
 5, -4.815819272992801e-21, 27.006293536405785]

```
* err= 33.20021443671174
* Learning rate NN = 0.0007289999630302191
* diff = 0.004777133317965365
```



For scene 87/90

```
* use LR_NN=0.001 with err=8.195761948295855 at it=24
* v0_scn_mean = 27.245780311576308
* MAE = 5.653310054535993
```

df n.3, scene n.88/90

We have 5 time intervals inside [521.76, 522.76]

- Time interval n.0: [521.76, 521.96]
 - * y_true: [10.54036018 15.07054541 11.30098461]
 - * v_ann: [16.558130264282227, 15.31958293914795, 1

5.557579040527344, 17.247787667046502]

- Time interval n.1: [521.96, 522.16]
 - * y_true: [20.11080333 12.92054275 19.50185752]
 - * v_ann: [16.06903648376465, 14.018985748291016, 1

4.524627685546875, 17.247787667046502]

- Time interval n.2: [522.16, 522.36]

```

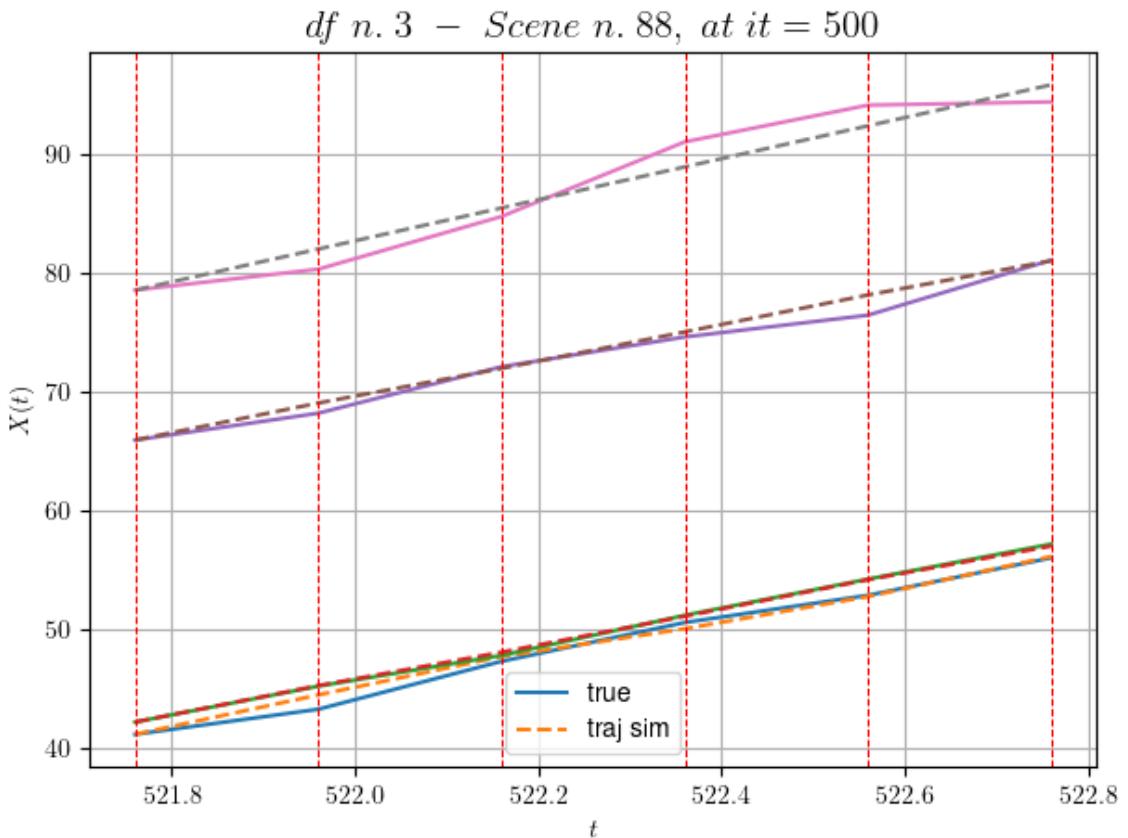
* y_true: [16.31074126 16.85079656 12.50130097]
* v_ann: [11.737215042114258, 15.094300270080566, 1
5.349608421325684, 17.247787667046502]

-----
- Time interval n.3: [522.36, 522.56]
* y_true: [11.43058292 15.20080004 9.15100954]
* v_ann: [13.49295425415039, 15.370901107788086, 1
5.521145820617676, 17.247787667046502]

-----
- Time interval n.4: [522.56, 522.76]
* y_true: [15.72089895 14.72089277 23.10276913]
* v_ann: [16.840957641601562, 14.10723876953125, 1
4.34511947631836, 17.247787667046502]

-----
* err= 0.7794068000739516
* Learning rate NN = 0.0003874204121530056
* diff = 0.0054648551619365104

```



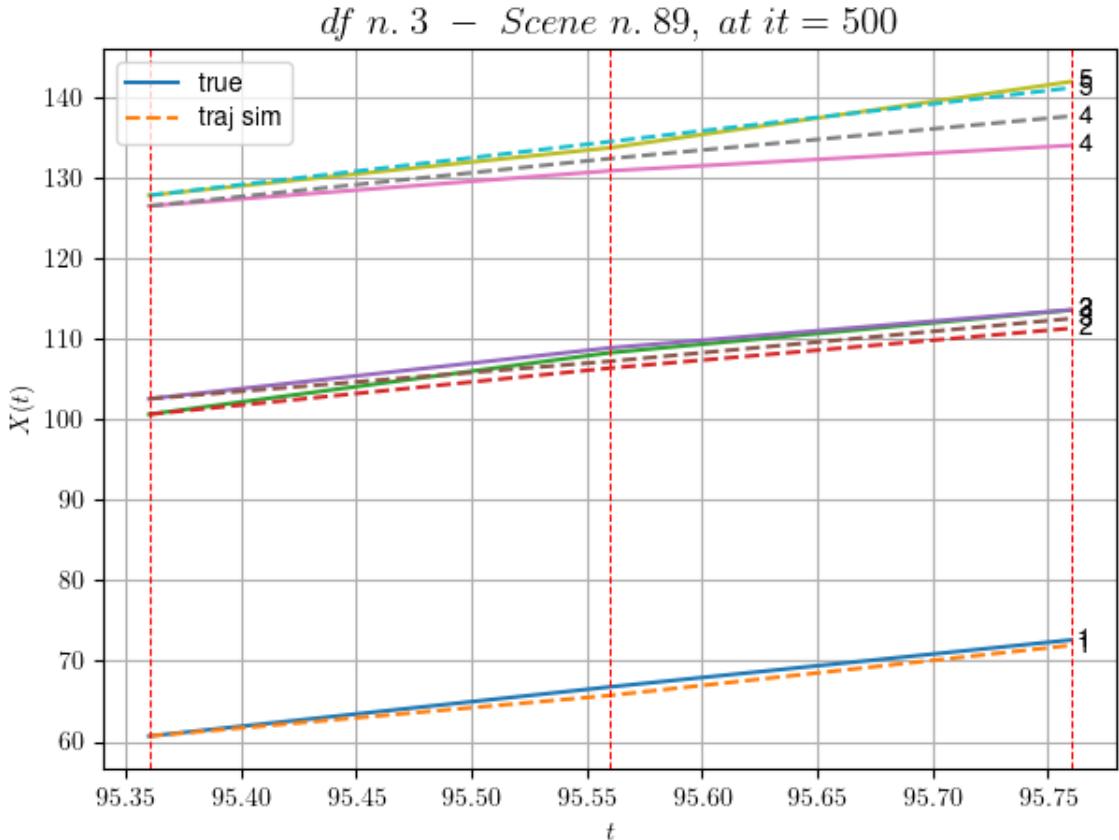
For scene 88/90
* use LR_NN=0.001 with err=23.285366246930476 at it=24
* v0_scn_mean = 18.26792315629884
* MAE = 0.776783145317756

df n.3, scene n.89/90

```
=====
=====
We have 2 time intervals inside [95.36,95.76]
- Time interval n.0: [95.36, 95.56]
  * y_true: [30.52238998 38.21809619 31.62683865 21.8
1676128]
  * v_ann: [25.21722984313965, 28.684532165527344, 2
3.291444778442383, 29.43444061279297, 33.3513742869813]

-----
- Time interval n.1: [95.56, 95.76]
  * y_true: [29.11270185 26.43618159 23.59563306 15.7
3527867]
  * v_ann: [31.08892822265625, 24.683517456054688, 2
6.505050659179688, 26.302324295043945, 33.3513742869813]

-----
* err= 2.066131885029775
* Learning rate NN = 0.00036449998151510954
* diff = 0.0012799525031224057
```

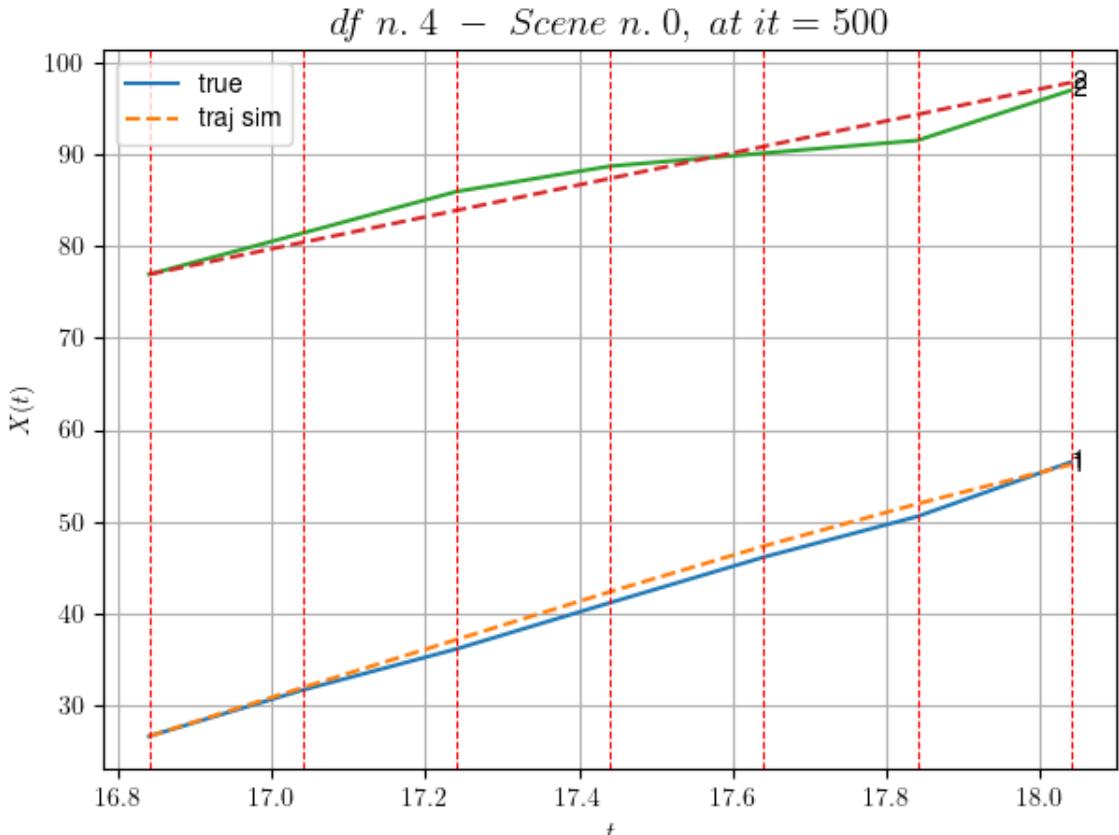


For scene 89/90

- * use LR_NN=0.0005 with err=13.707896214064295 at it=24
- * v0_scn_mean = 33.016376876139645
- * MAE = 2.0545169628704594

For df=3 with 90 scenes, time taken: 1606.05

```
*****
*****  
*****  
*****  
In df n.4/10 we have 69 scenes  
df n.4, scene n.0/69  
=====  
=====  
=====  
We have 6 time intervals inside [16.84,18.04]  
- Time interval n.0: [16.84, 17.04]  
  * y_true: [25.23041912]  
  * v_ann: [26.523595809936523, 17.45381353810987]  
-----  
-----  
- Time interval n.1: [17.04, 17.24]  
  * y_true: [22.39048591]  
  * v_ann: [26.205421447753906, 17.45381353810987]  
-----  
-----  
- Time interval n.2: [17.24, 17.44]  
  * y_true: [25.25074327]  
  * v_ann: [26.131771087646484, 17.45381353810987]  
-----  
-----  
- Time interval n.3: [17.44, 17.64]  
  * y_true: [24.88089915]  
  * v_ann: [24.919157028198242, 17.45381353810987]  
-----  
-----  
- Time interval n.4: [17.64, 17.84]  
  * y_true: [22.1909979]  
  * v_ann: [23.059354782104492, 17.45381353810987]  
-----  
-----  
- Time interval n.5: [17.84, 18.04]  
  * y_true: [29.72167451]  
  * v_ann: [21.439889907836914, 17.45381353810987]  
-----  
-----  
* err= 1.5941283754326707  
* Learning rate NN = 3.138104830213706e-06  
* dfff - 0.002027221212502272
```



For scene 0/69

- * use LR_NN=1e-05 with err=47.28593724096135 at it=24
- * v0_scn_mean = 17.9556609964896
- * MAE = 1.5941283754326707

df n.4, scene n.1/69

We have 3 time intervals inside [59.84, 60.44]

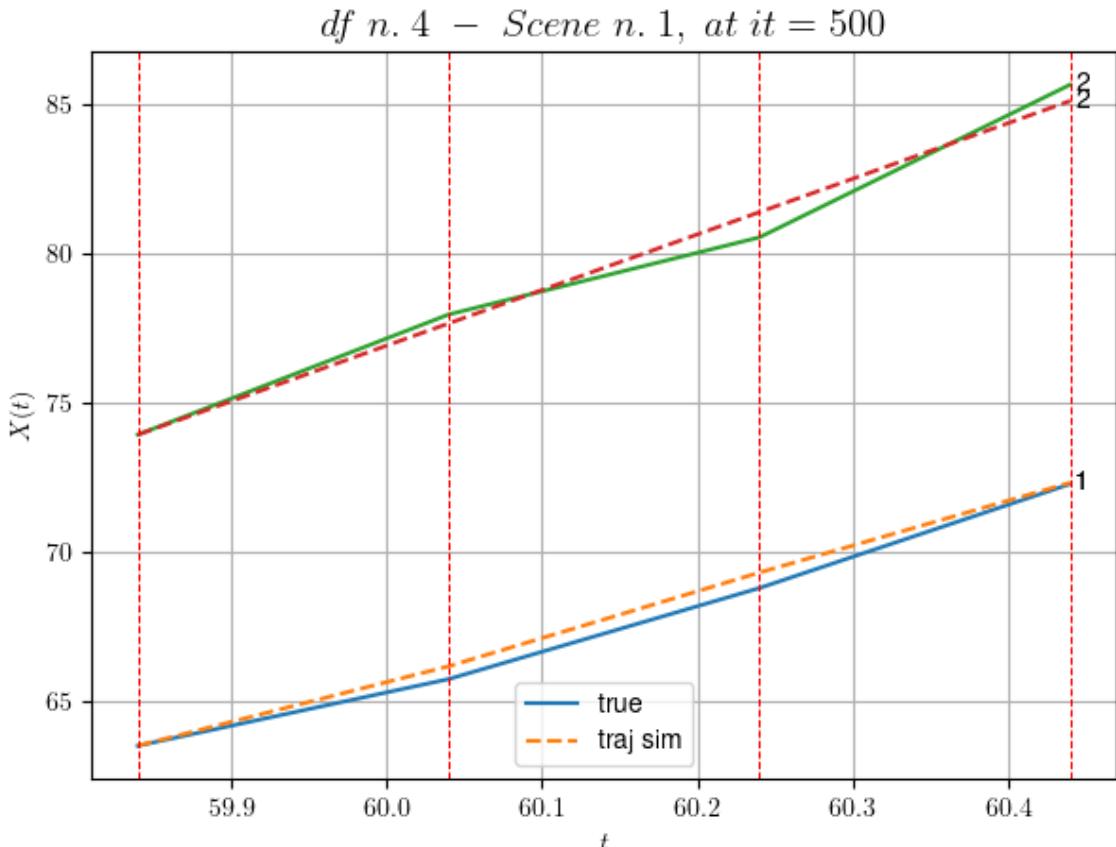
- Time interval n.0: [59.84, 60.04]
 - * y_true: [11.16089253]
 - * v_ann: [13.310869216918945, 18.625518273300347]

- Time interval n.1: [60.04, 60.24]
 - * y_true: [15.2413343]
 - * v_ann: [15.683959007263184, 18.625518273300347]

- Time interval n.2: [60.24, 60.44]
 - * y_true: [17.42164177]
 - * v_ann: [15.046360969543457, 18.625518273300347]

- * err= 0.1940906813952214
- * Learning rate NN = 2.952449540316593e-05

* diff = 1.6668497808236538e-05



For scene 1/69

* use LR_NN=5e-05 with err=9.096081082921005 at it=24
 * v0_scn_mean = 19.08049754228143
 * MAE = 0.19405114161225112

df n.4, scene n.2/69

We have 3 time intervals inside [65.04, 65.64]

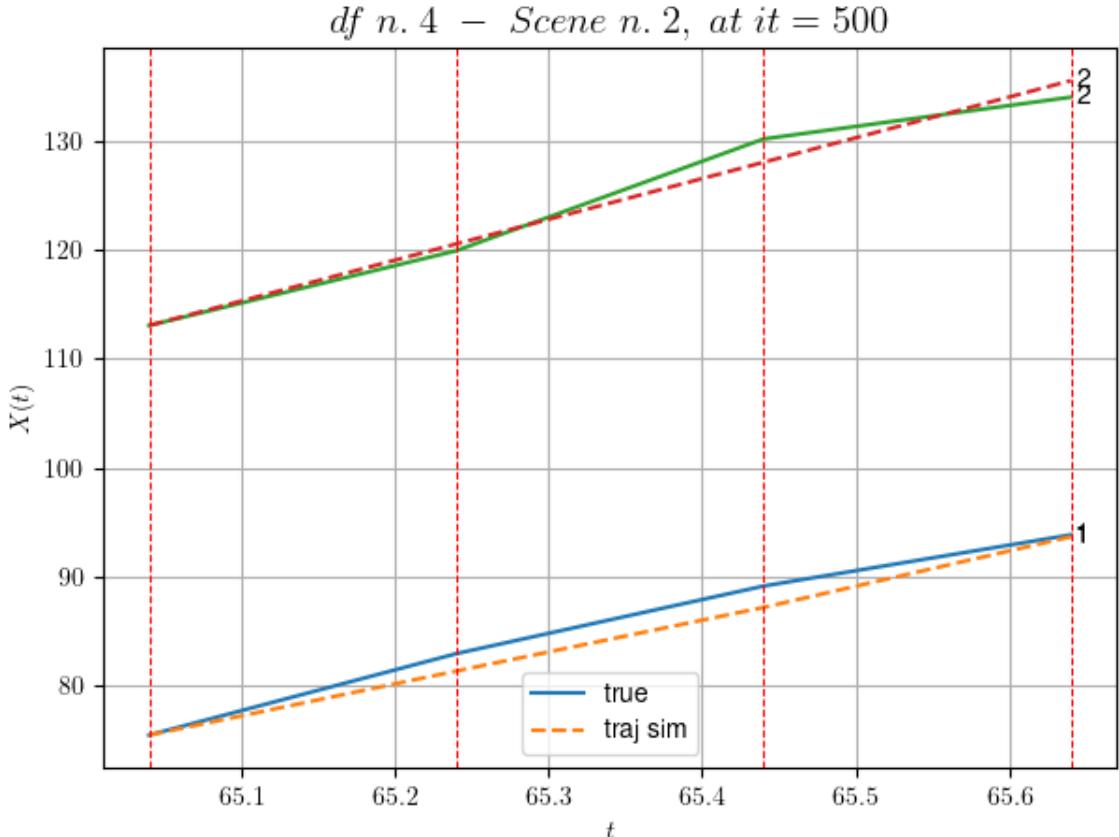
- Time interval n.0: [65.04, 65.24]
 - * y_true: [37.33460222]
 - * v_ann: [29.36418914794922, 37.419037421482926]

- Time interval n.1: [65.24, 65.44]
 - * y_true: [30.99428227]
 - * v_ann: [29.15886116027832, 37.419037421482926]

- Time interval n.2: [65.44, 65.64]
 - * y_true: [23.47378049]
 - * v_ann: [32.40263748168945, 37.419037421482926]

* err= 1.7086060544413155

```
* Learning rate NN = 5.9048988987342454e-06
* diff = 3.0436175286974176e-05
```



For scene 2/69

```
* use LR_NN=1e-05 with err=5.299412995341025 at it=24
* v0_scn_mean = 37.12227592468073
* MAE = 1.7069367904221548
```

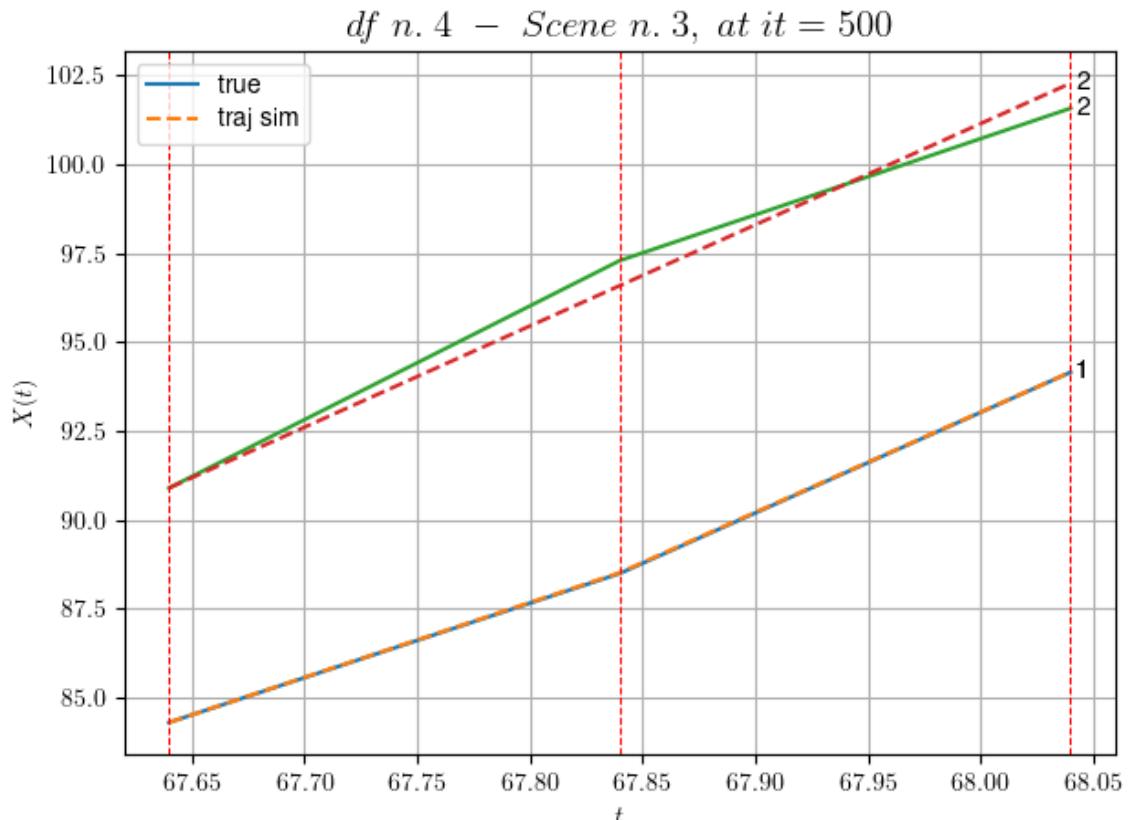
df n.4, scene n.3/69

We have 2 time intervals inside [67.64, 68.04]

- Time interval n.0: [67.64, 67.84]
 - * y_true: [20.95295595]
 - * v_ann: [21.069034576416016, 28.464980007712466]

- Time interval n.1: [67.84, 68.04]
 - * y_true: [28.30446421]
 - * v_ann: [28.216976165771484, 28.464980007712466]

- * err= 0.1653468477518047
 - * Learning rate NN = 0.00036449998151510954
 - * diff = 3.06593519922016e-06



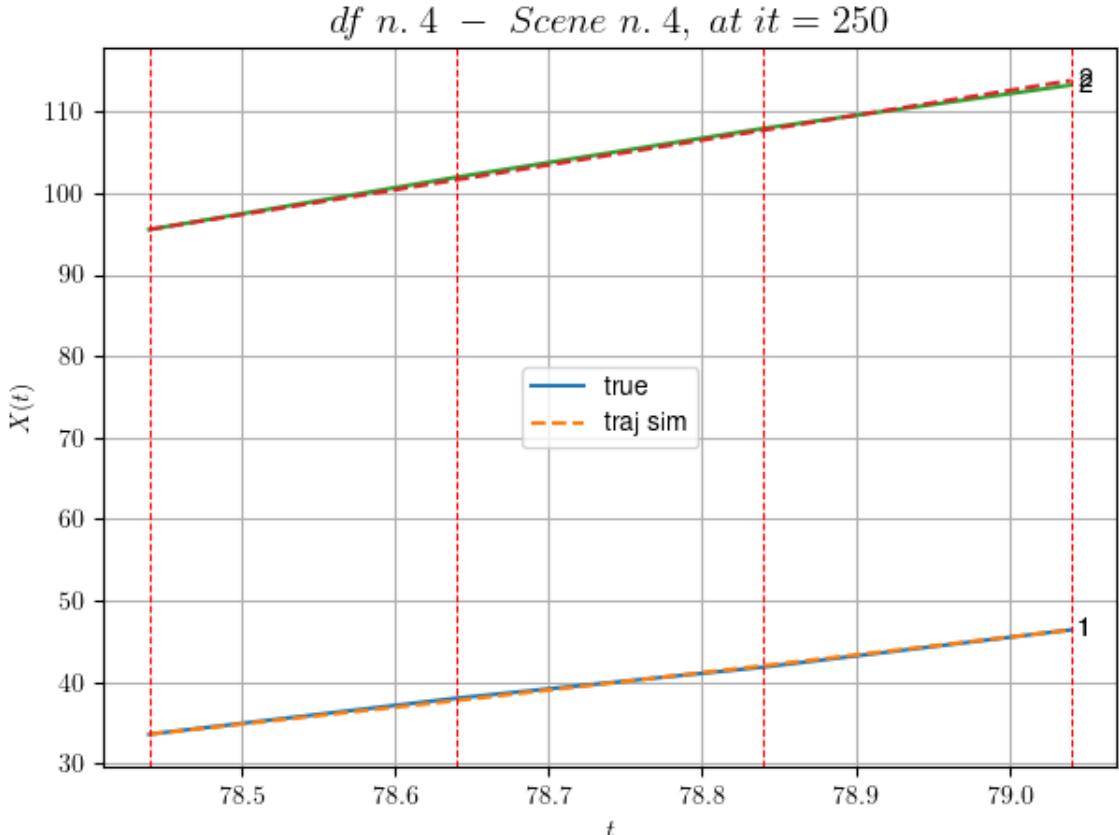
For scene 3/69

- * use LR_NN=0.0005 with err=0.31645693823320975 at it=24
 - * v0_scn_mean = 28.5263808073923
 - * MAE = 0.1653468477518047
-
-

df n.4, scene n.4/69

We have 3 time intervals inside [78.44, 79.04]

- * err= 0.07408607790478397
- * Learning rate NN = 8.099998922261875e-06
- * diff = 3.743050914772894e-07



For scene 4/69

```
* use LR_NN=1e-05 with err=0.07270016553604827 at it=24
* v0_scn_mean = 30.448769923223654
* MAE = 0.06869045200446644
```

df n.4, scene n.5/69

We have 13 time intervals inside [110.64,113.24]

- Time interval n.0: [110.64, 110.84]
 - * y_true: [10.80033908]
 - * v_ann: [14.427109718322754, 20.71594392412393]

- Time interval n.1: [110.84, 111.04]
 - * y_true: [12.76045781]
 - * v_ann: [16.632844924926758, 20.71594392412393]

- Time interval n.2: [111.04, 111.24]
 - * y_true: [13.29051772]
 - * v_ann: [18.889476776123047, 20.71594392412393]

- Time interval n.3: [111.24, 111.44]
 - * y_true: [13.73063254]

```
* v_ann: [21.938243865966797, 20.71594392412393]

-----
- Time interval n.4: [111.44, 111.64]
* y_true: [20.39103039]
* v_ann: [22.16802406311035, 20.71594392412393]

-----
- Time interval n.5: [111.64, 111.84]
* y_true: [12.40070342]
* v_ann: [21.307085037231445, 20.71594392412393]

-----
- Time interval n.6: [111.84, 112.04]
* y_true: [22.01468599]
* v_ann: [23.23273468017578, 20.71594392412393]

-----
- Time interval n.7: [112.04, 112.24]
* y_true: [25.63201558]
* v_ann: [22.155704498291016, 20.71594392412393]

-----
- Time interval n.8: [112.24, 112.44]
* y_true: [29.96281161]
* v_ann: [22.78887939453125, 20.71594392412393]

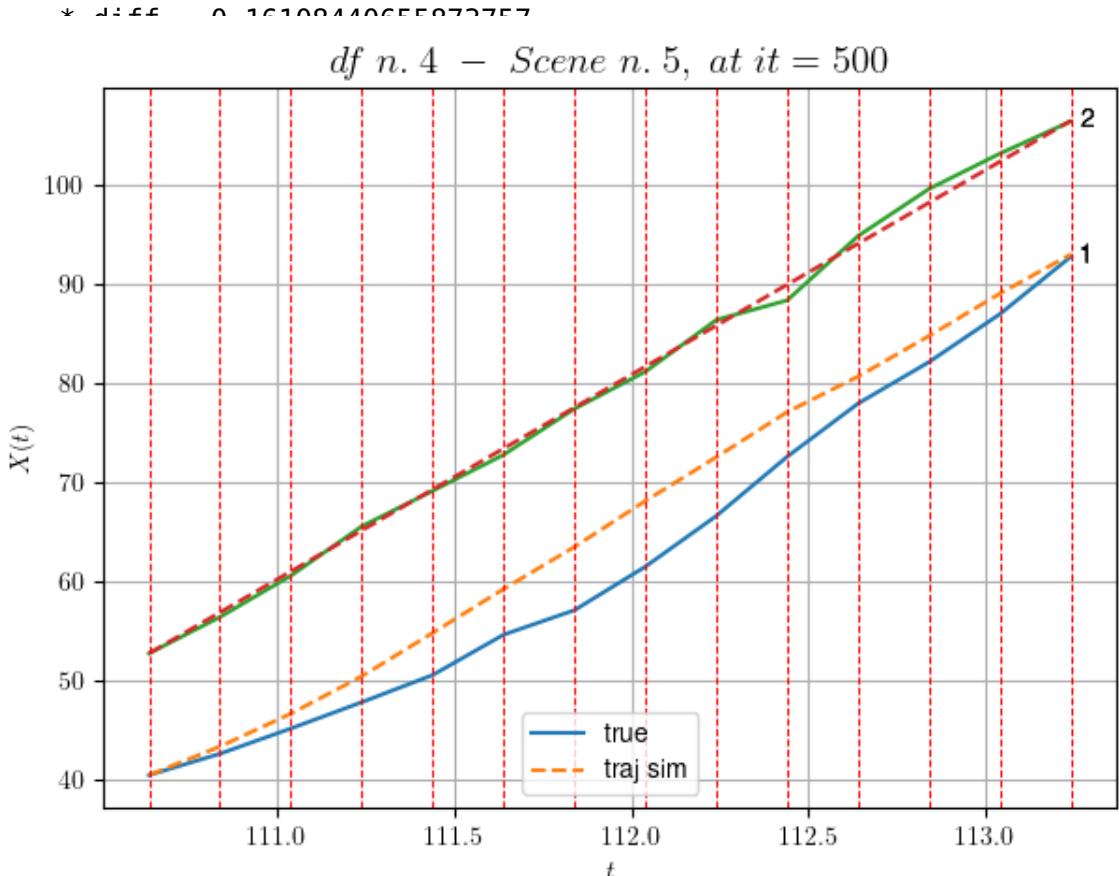
-----
- Time interval n.9: [112.44, 112.64]
* y_true: [26.87288138]
* v_ann: [17.954835891723633, 20.71594392412393]

-----
- Time interval n.10: [112.64, 112.84]
* y_true: [20.9625639]
* v_ann: [20.520626068115234, 20.71594392412393]

-----
- Time interval n.11: [112.84, 113.04]
* y_true: [24.26335312]
* v_ann: [21.43021011352539, 20.71594392412393]

-----
- Time interval n.12: [113.04, 113.24]
* y_true: [28.98450298]
* v_ann: [19.78929901123047, 20.71594392412393]

-----
* err= 7.712891098403576
* Learning rate NN = 7.178974919952452e-05
```



For scene 5/69

```
* use LR_NN=0.001 with err=101.22821535265686 at it=24
* v0_scn_mean = 21.087306167088084
* MAE = 3.2149238021566533
```

df n.4, scene n.6/69

We have 5 time intervals inside [122.84, 123.84]

- Time interval n.0: [122.84, 123.04]
 - * y_true: [15.65157815]
 - * v_ann: [9.45917797088623, 25.259320008419273]

- Time interval n.1: [123.04, 123.24]
 - * y_true: [3.90041857]
 - * v_ann: [13.868070602416992, 25.259320008419273]

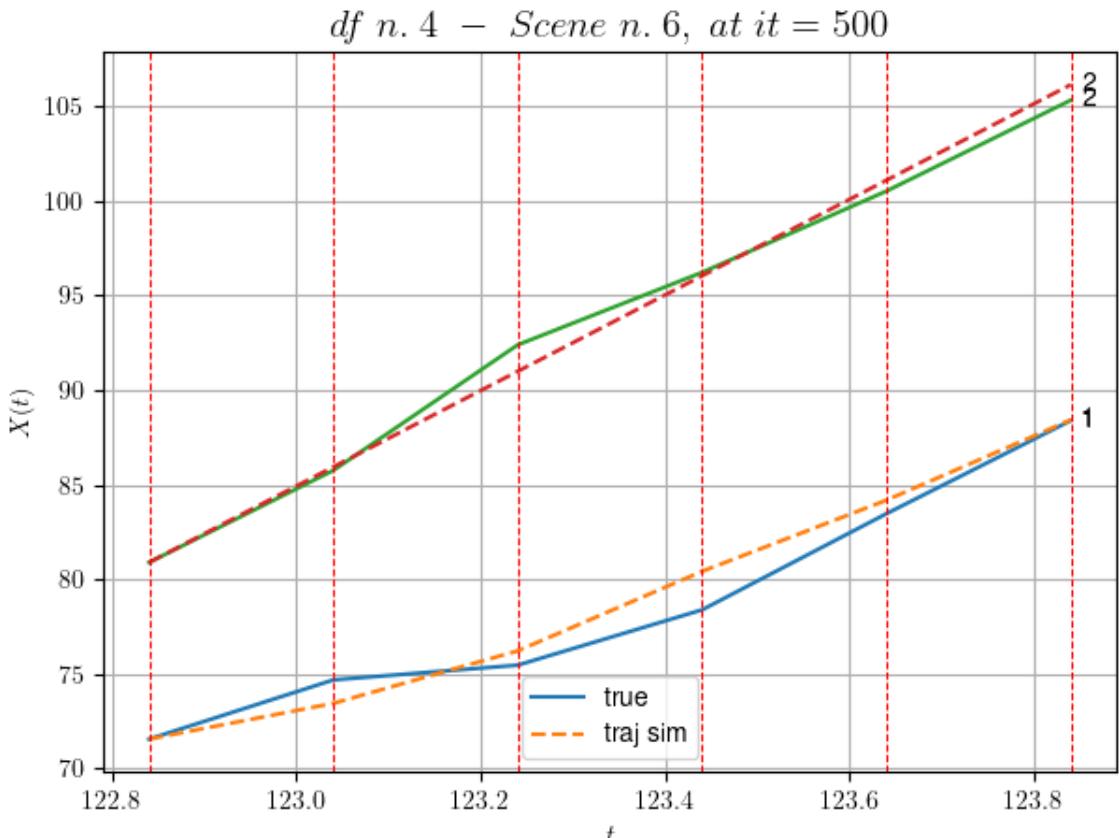
- Time interval n.2: [123.24, 123.44]
 - * y_true: [14.6217105]
 - * v_ann: [21.019140243530273, 25.259320008419273]

- Time interval n.3: [123.44, 123.64]
 - * y_true: [25.423221]

```
* v_ann: [18.810970306396484, 25.259320008419273]
```

- Time interval n.4: [123.64, 123.84]
 - * y_true: [24.62349506]
 - * v_ann: [21.231828689575195, 25.259320008419273]

- * err= 0.8148767021664423
- * Learning rate NN = 0.0003874204121530056
- * diff = 0.02776936038515121



For scene 6/69

- * use LR_NN=0.001 with err=5.423375781961067 at it=24
- * v0_scn_mean = 25.448947208046327
- * MAE = 0.752792858021918

df n.4, scene n.7/69

We have 5 time intervals inside [128.24,129.24]

- Time interval n.0: [128.24, 128.44]
 - * y_true: [14.81009626]
 - * v_ann: [15.840078353881836, 23.00518102872618]

- Time interval n.1: [128.44, 128.64]

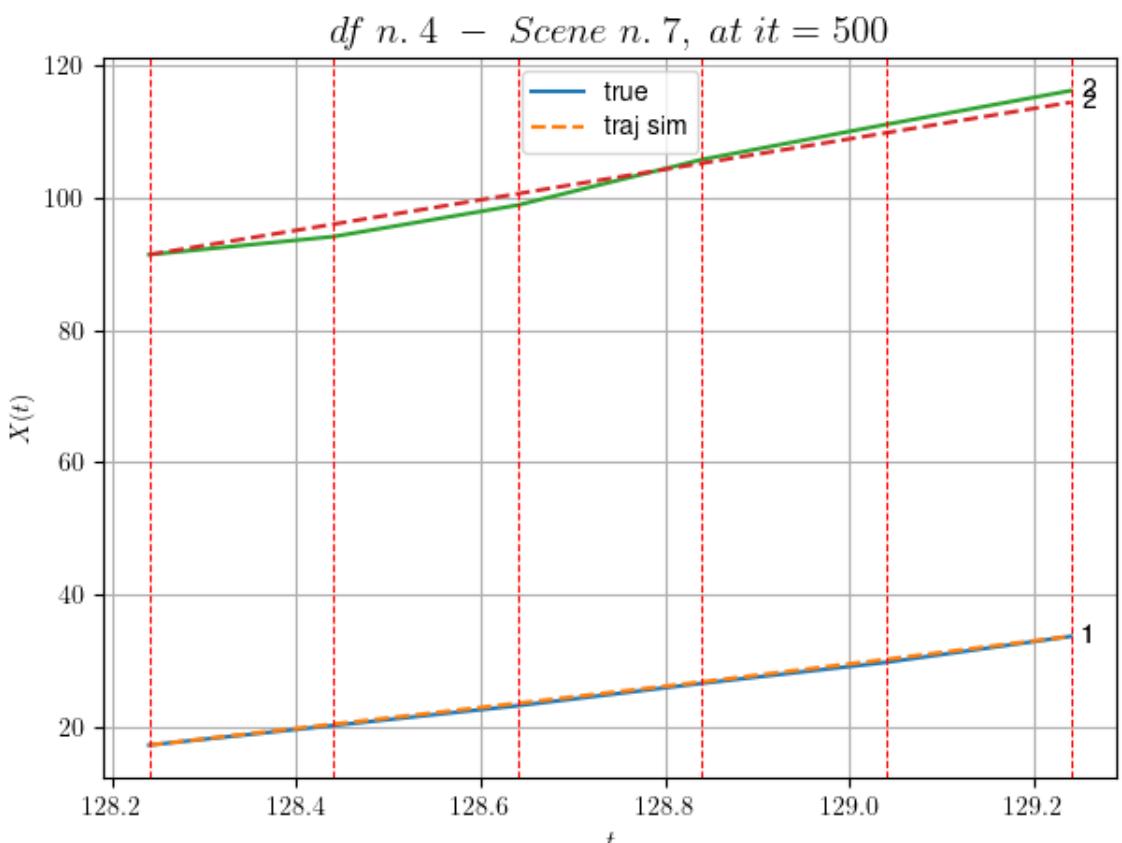
```
* y_true: [14.95013258]
* v_ann: [15.762970924377441, 23.00518102872618]
```

```
- Time interval n.2: [128.64, 128.84]
* y_true: [16.91019825]
* v_ann: [16.164566040039062, 23.00518102872618]
```

```
- Time interval n.3: [128.84, 129.04]
* y_true: [15.87023632]
* v_ann: [17.013757705688477, 23.00518102872618]
```

```
- Time interval n.4: [129.04, 129.24]
* y_true: [19.58037532]
* v_ann: [17.490671157836914, 23.00518102872618]
```

```
* err= 0.9973215071449583
* Learning rate NN = 3.874203684972599e-06
* diff = 0.00011963537849413175
```



For scene 7/69

```
* use LR_NN=1e-05 with err=7.595975462369643 at it=24
* v0_scn_mean = 23.28497378752336
* MAE = 0.8391613443779434
```

```
df n.4, scene n.8/69
```

```
=====
=====
```

We have 15 time intervals inside [129.84,132.84]
- Time interval n.0: [129.84, 130.04]
 * y_true: [24.3308993]
 * v_ann: [18.3923397064209, 21.06853424485247]

```
-----
-----
```

- Time interval n.1: [130.04, 130.24]
 * y_true: [25.1311264]
 * v_ann: [21.32171058654785, 21.06853424485247]

```
-----
-----
```

- Time interval n.2: [130.24, 130.44]
 * y_true: [18.02095029]
 * v_ann: [21.982866287231445, 21.06853424485247]

```
-----
-----
```

- Time interval n.3: [130.44, 130.64]
 * y_true: [24.90548921]
 * v_ann: [21.492225646972656, 21.06853424485247]

```
-----
-----
```

- Time interval n.4: [130.64, 130.84]
 * y_true: [11.38077328]
 * v_ann: [21.14242935180664, 21.06853424485247]

```
-----
-----
```

- Time interval n.5: [130.84, 131.04]
 * y_true: [21.95170349]
 * v_ann: [18.8298282623291, 21.06853424485247]

```
-----
-----
```

- Time interval n.6: [131.04, 131.24]
 * y_true: [17.45149397]
 * v_ann: [18.242374420166016, 21.06853424485247]

```
-----
-----
```

- Time interval n.7: [131.24, 131.44]
 * y_true: [16.55158146]
 * v_ann: [17.77376937866211, 21.06853424485247]

```
-----
-----
```

- Time interval n.8: [131.44, 131.64]
 * y_true: [21.5222925]
 * v_ann: [16.64602279663086, 21.06853424485247]

```
- Time interval n.9: [131.64, 131.84]
  * y_true: [15.78182924]
  * v_ann: [17.011564254760742, 21.06853424485247]

-----
- Time interval n.10: [131.84, 132.04]
  * y_true: [19.13245068]
  * v_ann: [15.850393295288086, 21.06853424485247]

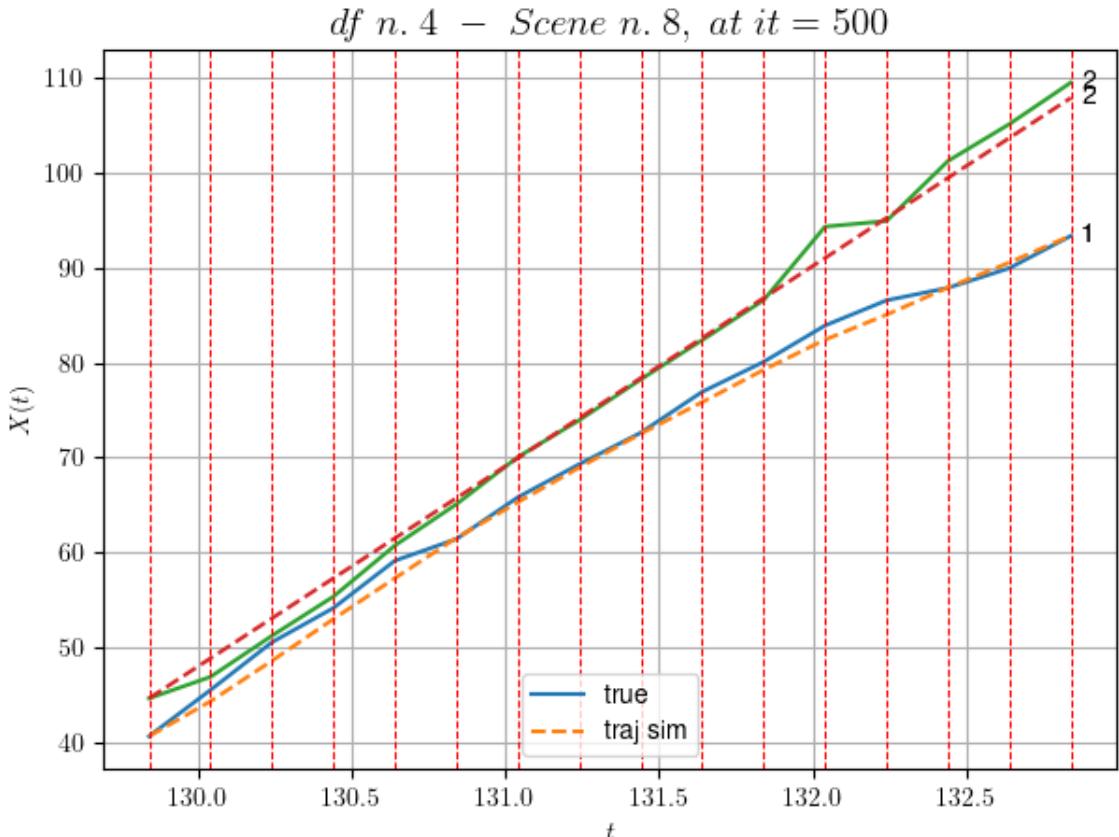
-----
- Time interval n.11: [132.04, 132.24]
  * y_true: [13.24181102]
  * v_ann: [13.157134056091309, 21.06853424485247]

-----
- Time interval n.12: [132.24, 132.44]
  * y_true: [6.57094265]
  * v_ann: [14.319537162780762, 21.06853424485247]

-----
- Time interval n.13: [132.44, 132.64]
  * y_true: [10.39156435]
  * v_ann: [13.162688255310059, 21.06853424485247]

-----
- Time interval n.14: [132.64, 132.84]
  * y_true: [16.97271695]
  * v_ann: [14.193684577941895, 21.06853424485247]

-----
* err= 1.5038275528574283
* Learning rate NN = 4.7101253585424274e-05
~ 1.5038275528574283
```



For scene 8/69

```
* use LR_NN=0.001 with err=119.17120984573194 at it=24
* v0_scn_mean = 21.4257928749903
* MAE = 1.5034816625698748
```

df n.4, scene n.9/69

We have 4 time intervals inside [136.64, 137.44]

- Time interval n.0: [136.64, 136.84]
 - * y_true: [17.67050411]
 - * v_ann: [17.524425506591797, 25.540461045118512]

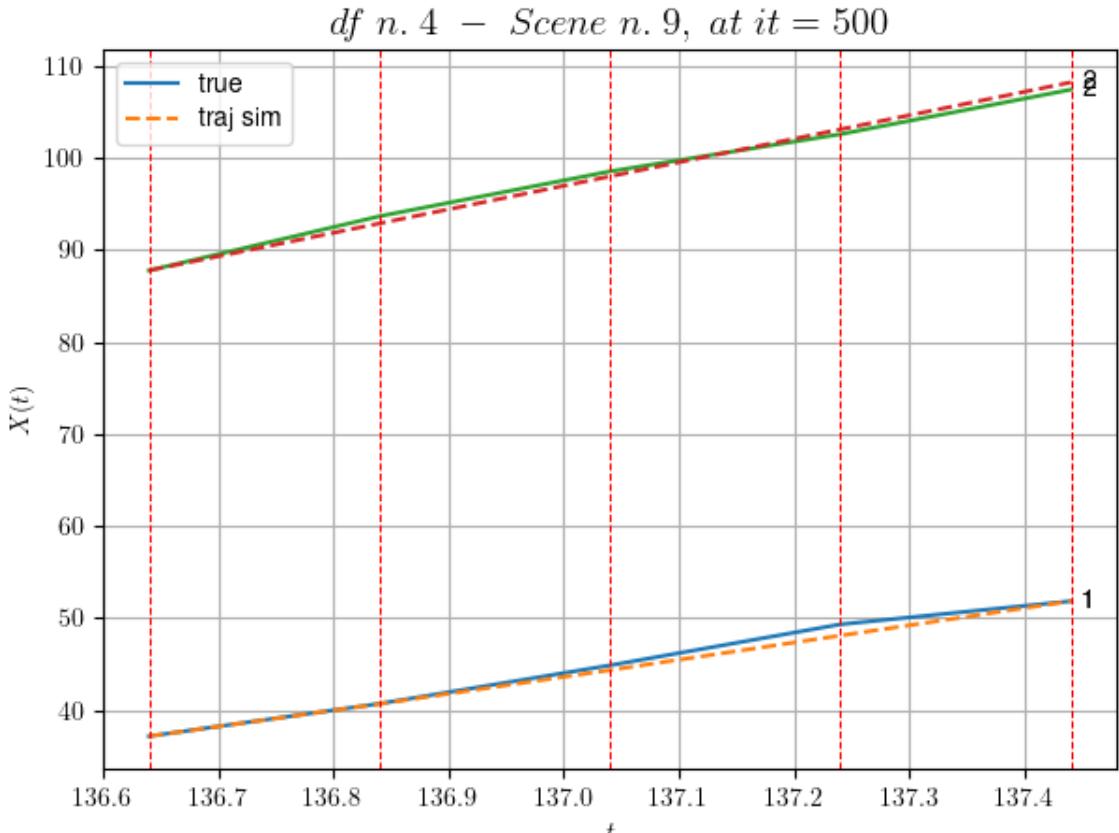
- Time interval n.1: [136.84, 137.04]
 - * y_true: [20.80072476]
 - * v_ann: [18.388988494873047, 25.540461045118512]

- Time interval n.2: [137.04, 137.24]
 - * y_true: [22.26092051]
 - * v_ann: [18.727293014526367, 25.540461045118512]

- Time interval n.3: [137.24, 137.44]
 - * y_true: [22.26092051]
 - * v_ann: [18.727293014526367, 25.540461045118512]

* v_ann: [18.689586639404297, 25.540461045118512]

* err= 0.3548423266289564
 * Learning rate NN = 4.782968062500004e-06
 * diff = 0.0003649904624088429

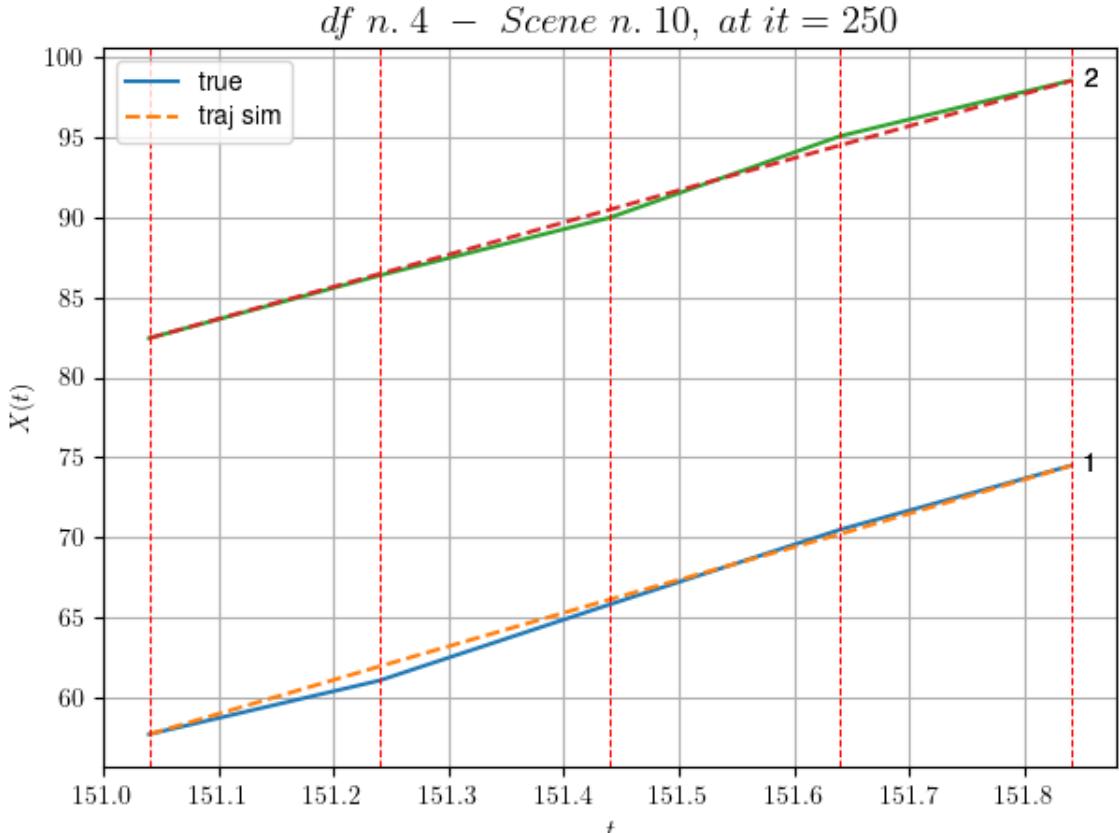


For scene 9/69

* use LR_NN=1e-05 with err=3.3183210923049296 at it=24
 * v0_scn_mean = 25.718842603279864
 * MAE = 0.35426484854927487

df n.4, scene n.10/69

We have 4 time intervals inside [151.04,151.84]
 * err= 0.15422609996447384
 * Learning rate NN = 7.289998757187277e-05
 * diff = 1.8595244899444197e-07



For scene 10/69

```
* use LR_NN=0.0001 with err=11.641346283104179 at it=24
* v0_scn_mean = 20.888331244249486
* MAE = 0.15315972909170747
```

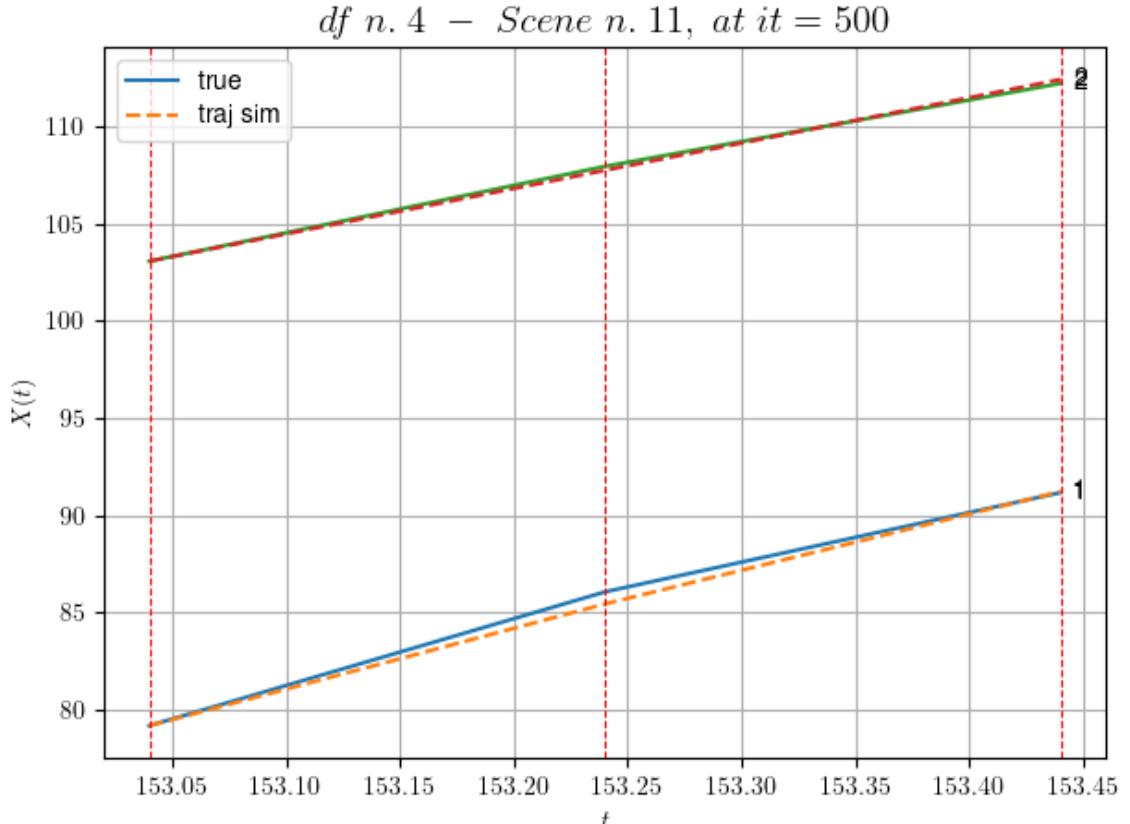
df n.4, scene n.11/69

We have 2 time intervals inside [153.04, 153.44]

- Time interval n.0: [153.04, 153.24]
 - * y_true: [34.43447026]
 - * v_ann: [31.328672409057617, 23.385109048523574]

- Time interval n.1: [153.24, 153.44]
 - * y_true: [25.55379665]
 - * v_ann: [28.93345069885254, 23.385109048523574]

```
* err= 0.07868099949605292
* Learning rate NN = 3.6449993785936385e-05
* diff = 8.554083579981331e-05
```



For scene 11/69

- * use LR_NN=5e-05 with err=1.6328154468025926 at it=24
- * v0_scn_mean = 23.649704686532115
- * MAE = 0.07824088405938193

df n.4, scene n.12/69

We have 6 time intervals inside [173.24, 174.44]

- Time interval n.0: [173.24, 173.44]
 - * y_true: [11.93089915]
 - * v_ann: [20.074867248535156, 26.312487041783747]

- Time interval n.1: [173.44, 173.64]
 - * y_true: [18.52159277]
 - * v_ann: [22.713703155517578, 26.312487041783747]

- Time interval n.2: [173.64, 173.84]
 - * y_true: [30.92298077]
 - * v_ann: [23.224815368652344, 26.312487041783747]

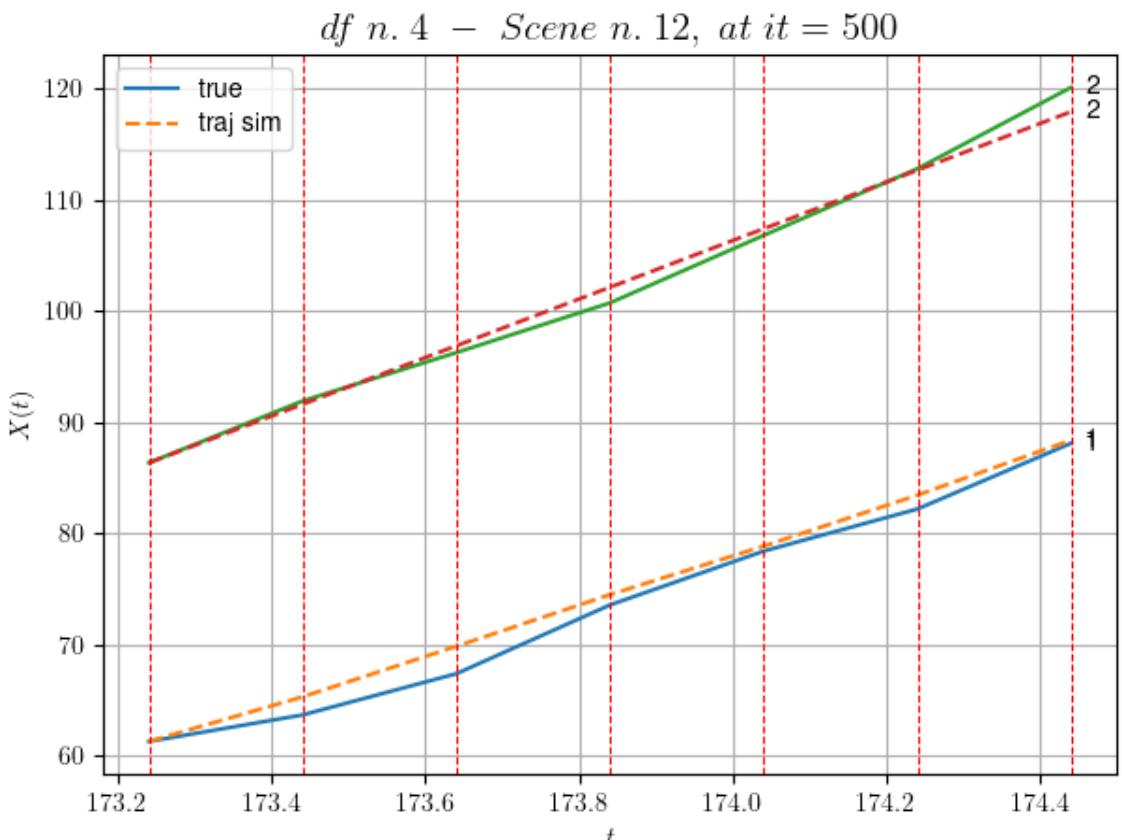
- Time interval n.3: [173.84, 174.04]
 - * y_true: [24.21265011]

```
* v_ann: [21.835046768188477, 26.312487041783747]
```

```
- Time interval n.4: [174.04, 174.24]
* y_true: [18.93240035]
* v_ann: [22.90313720703125, 26.312487041783747]
```

```
- Time interval n.5: [174.24, 174.44]
* y_true: [29.57417985]
* v_ann: [24.756122589111328, 26.312487041783747]
```

```
* err= 1.3600438651491076
* Learning rate NN = 3.138104830213706e-06
* diff = 6.80281316616166e-06
```



For scene 12/69

```
* use LR_NN=1e-05 with err=4.259565986505275 at it=24
* v0_scn_mean = 26.45998756008448
* MAE = 1.3370350169285854
```

df n.4, scene n.13/69

We have 5 time intervals inside [176.24,177.24]

- Time interval n.0: [176.24, 176.44]
 - * y_true: [19.93138519]

```
* v_ann: [14.171055793762207, 27.94819777081733]
```

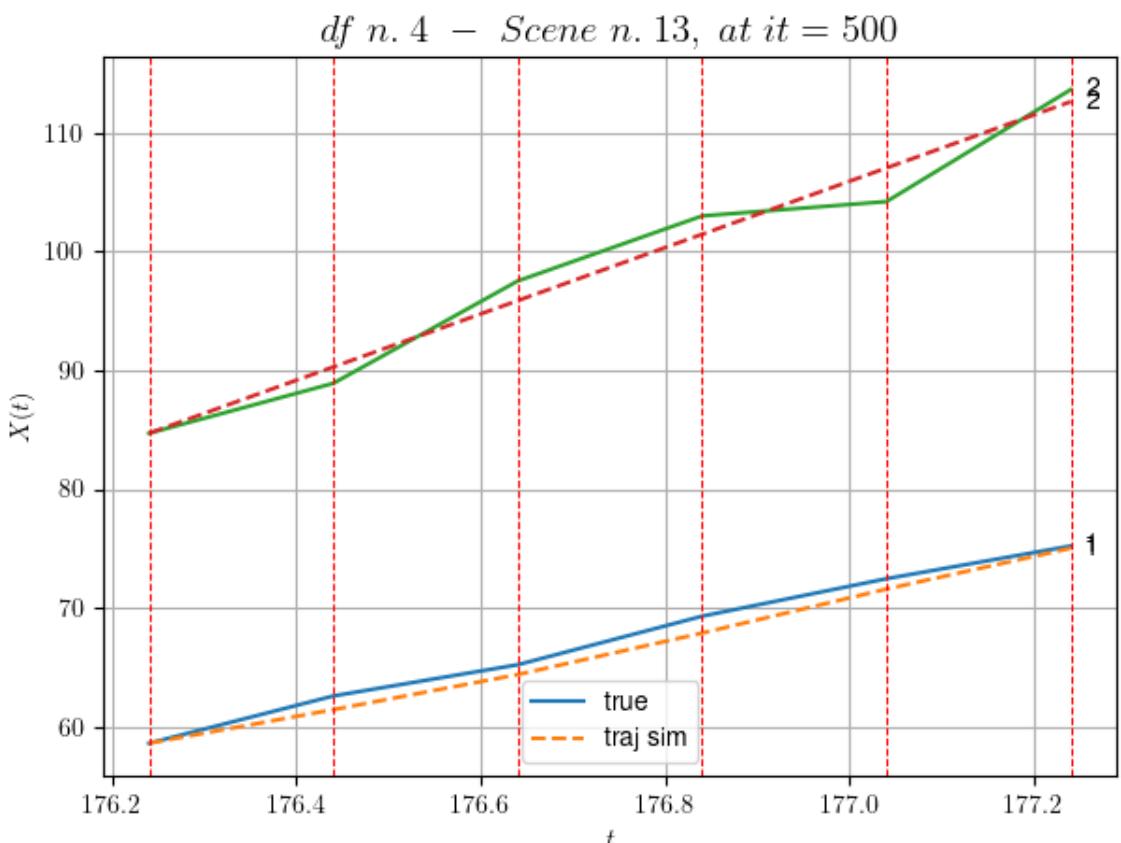
```
- Time interval n.1: [176.44, 176.64]
* y_true: [13.15101712]
* v_ann: [14.764204025268555, 27.94819777081733]
```

```
- Time interval n.2: [176.64, 176.84]
* y_true: [20.45180955]
* v_ann: [17.493728637695312, 27.94819777081733]
```

```
- Time interval n.3: [176.84, 177.04]
* y_true: [15.80147689]
* v_ann: [18.54373550415039, 27.94819777081733]
```

```
- Time interval n.4: [177.04, 177.24]
* y_true: [13.79145469]
* v_ann: [17.229148864746094, 27.94819777081733]
```

```
* err= 1.7434504833000257
* Learning rate NN = 3.874203684972599e-05
* diff = 0.0053557333855049905
```



For scene 13/69

* use LR_NN=0.0001 with err=2.5287034375607753 at it=24

```
* v0_scn_mean = 28.030269859968794
* MAE = 1.7410326632893147
```

```
=====
```

```
=====
```

```
df n.4, scene n.14/69
```

```
=====
```

```
=====
```

```
We have 8 time intervals inside [182.04, 183.64]
```

```
- Time interval n.0: [182.04, 182.24]
  * y_true: [12.8202906]
  * v_ann: [21.481042861938477, 24.384953428579415]
```

```
- Time interval n.1: [182.24, 182.44]
  * y_true: [13.125309]
  * v_ann: [22.880447387695312, 24.384953428579415]
```

```
- Time interval n.2: [182.44, 182.64]
  * y_true: [21.64870909]
  * v_ann: [22.807767868041992, 24.384953428579415]
```

```
- Time interval n.3: [182.64, 182.84]
  * y_true: [24.29091592]
  * v_ann: [22.683393478393555, 24.384953428579415]
```

```
- Time interval n.4: [182.84, 183.04]
  * y_true: [31.71160501]
  * v_ann: [22.463272094726562, 24.384953428579415]
```

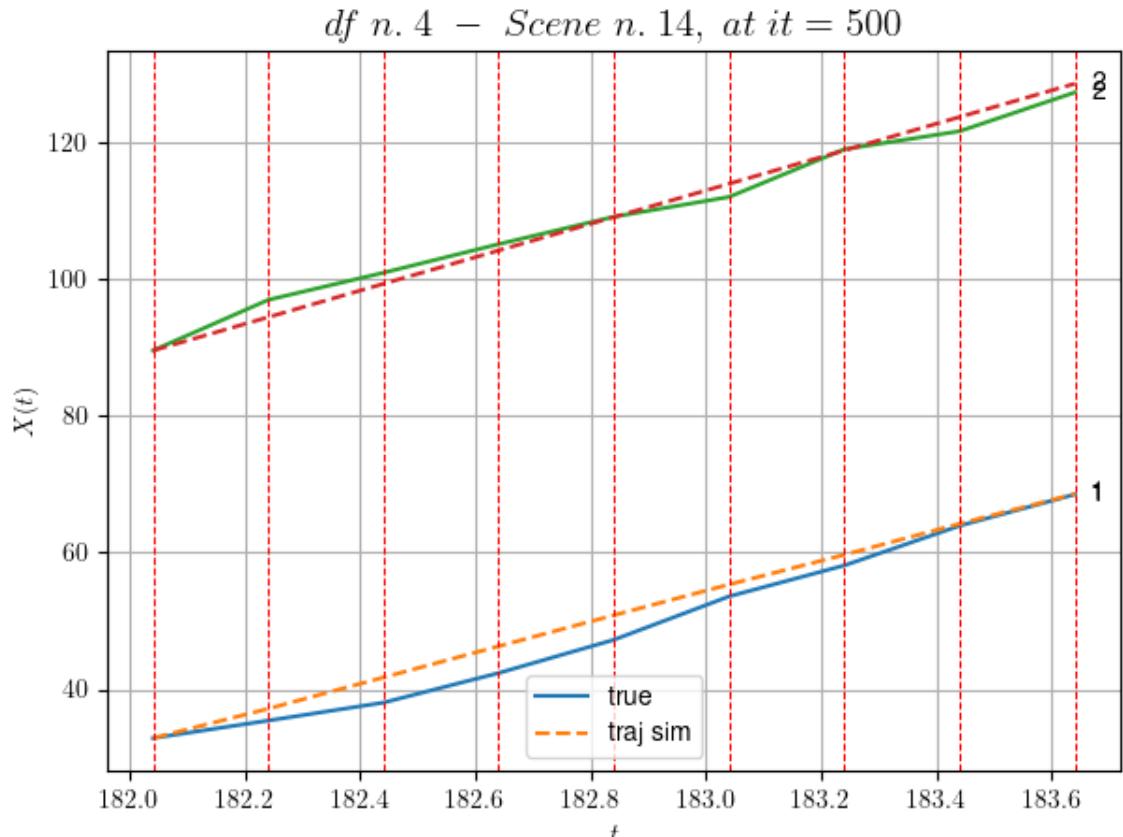
```
- Time interval n.5: [183.04, 183.24]
  * y_true: [22.63128316]
  * v_ann: [21.694963455200195, 24.384953428579415]
```

```
- Time interval n.6: [183.24, 183.44]
  * y_true: [28.99215837]
  * v_ann: [22.675079345703125, 24.384953428579415]
```

```
- Time interval n.7: [183.44, 183.64]
  * y_true: [22.90183379]
  * v_ann: [21.819093704223633, 24.384953428579415]
```

```
* err= 3.8845848715230193
```

* Learning rate NN = 1.029455233947374e-05
 * diff = 0.003732174760243012



For scene 14/69

* use LR_NN=5e-05 with err=19.053458559057432 at it=24
 * v0_scn_mean = 24.60955529139356
 * MAE = 3.6401040039913592

df n.4, scene n.15/69

We have 9 time intervals inside [195.44, 197.24]

- Time interval n.0: [195.44, 195.64]
 - * y_true: [9.85670669]
 - * v_ann: [10.537825584411621, 16.73844314065949]
-

- Time interval n.1: [195.64, 195.84]
 - * y_true: [10.16548364]
 - * v_ann: [10.092642784118652, 16.73844314065949]
-

- Time interval n.2: [195.84, 196.04]
 - * y_true: [10.16548364]
 - * v_ann: [9.763603210449219, 16.73844314065949]
-

```
- Time interval n.3: [196.04, 196.24]
* y_true: [10.16548364]
* v_ann: [9.86217212677002, 16.73844314065949]

-----
- Time interval n.4: [196.24, 196.44]
* y_true: [10.16548364]
* v_ann: [10.112011909484863, 16.73844314065949]

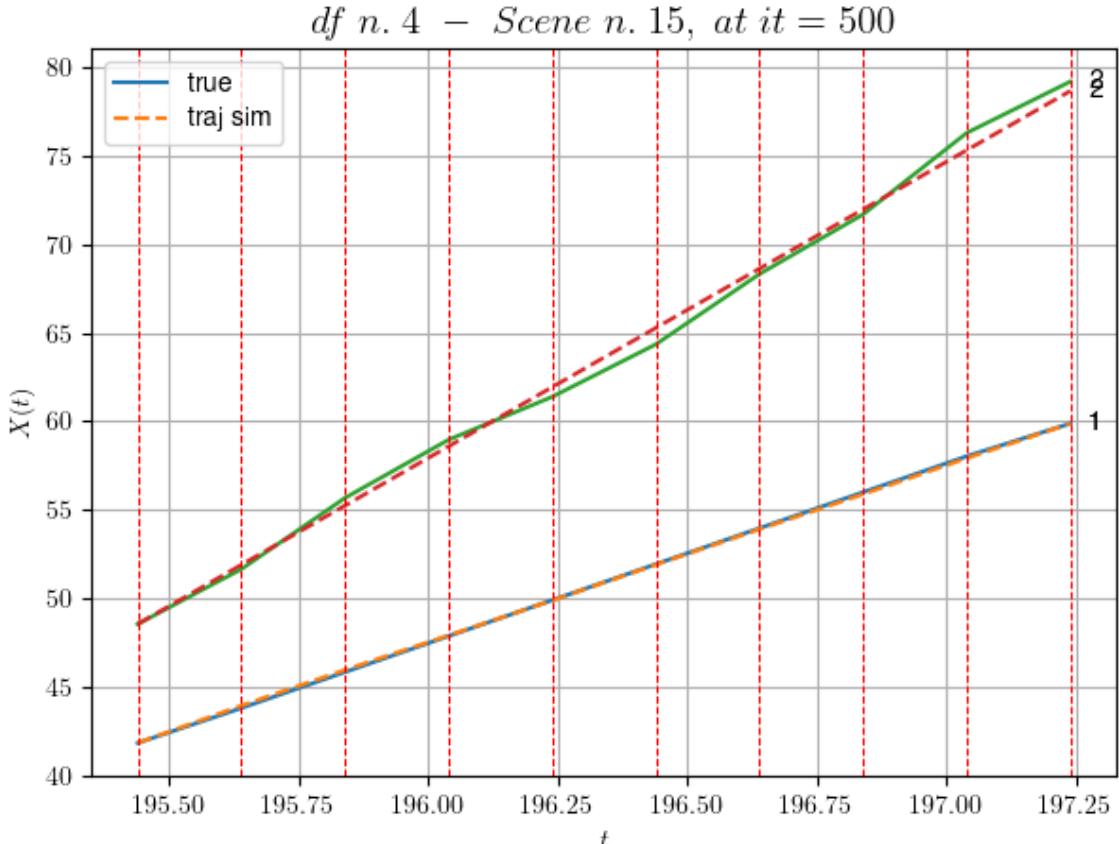
-----
- Time interval n.5: [196.44, 196.64]
* y_true: [10.16548364]
* v_ann: [10.016024589538574, 16.73844314065949]

-----
- Time interval n.6: [196.64, 196.84]
* y_true: [10.16548364]
* v_ann: [9.89616870880127, 16.73844314065949]

-----
- Time interval n.7: [196.84, 197.04]
* y_true: [10.16548364]
* v_ann: [10.182563781738281, 16.73844314065949]

-----
- Time interval n.8: [197.04, 197.24]
* y_true: [9.26246532]
* v_ann: [9.774497032165527, 16.73844314065949]

-----
* err= 0.15106254522530824
* Learning rate NN = 0.0008338586776517332
* diff = 0.00010557661050110010
```



For scene 15/69

- * use LR_NN=0.005 with err=100.27086352785754 at it=24
- * v0_scn_mean = 17.268905414931616
- * MAE = 0.14855109464111527

df n.4, scene n.16/69

We have 3 time intervals inside [199.64, 200.24]

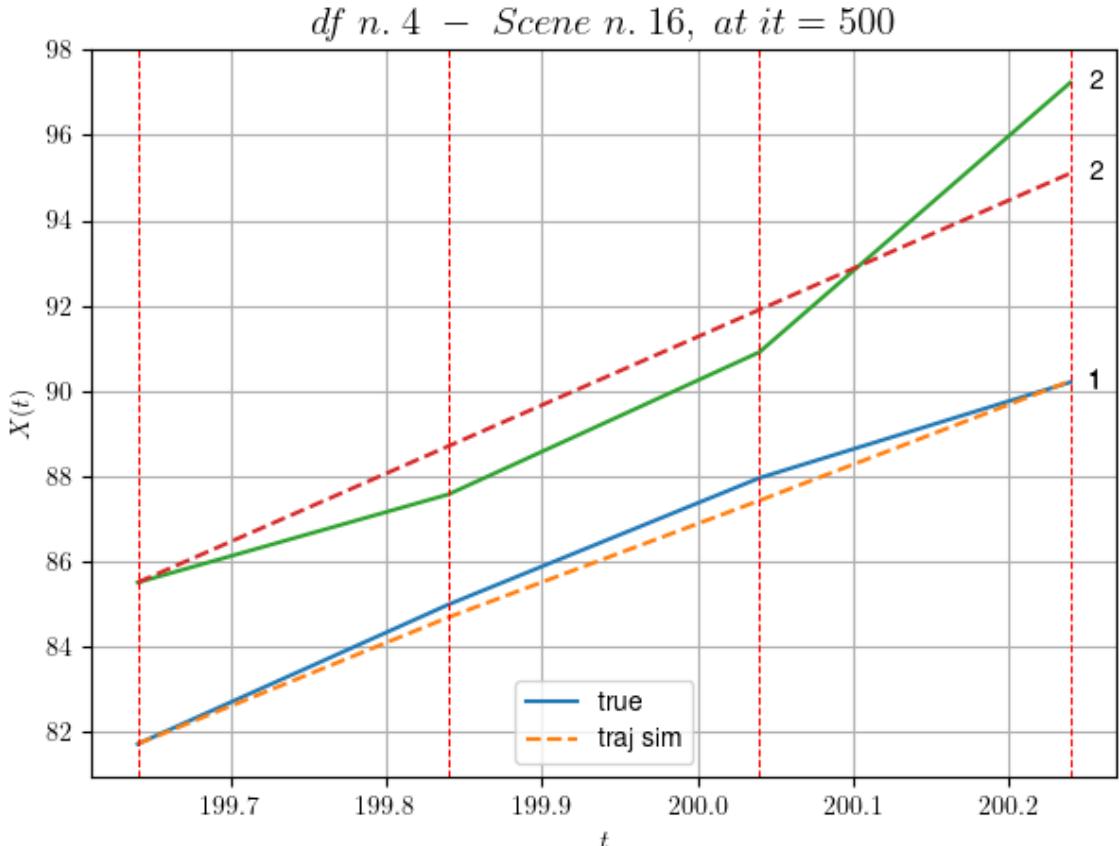
- Time interval n.0: [199.64, 199.84]
 - * y_true: [16.38215778]
 - * v_ann: [14.882568359375, 16.019151603836185]

- Time interval n.1: [199.84, 200.04]
 - * y_true: [14.86205621]
 - * v_ann: [13.710007667541504, 16.019151603836185]

- Time interval n.2: [200.04, 200.24]
 - * y_true: [11.24167368]
 - * v_ann: [14.040641784667969, 16.019151603836185]

- * err= 0.8986548537558835
- * Learning rate NN = 0.0002952449722215533

* diff = 0.0004037132865436499



For scene 16/69

* use LR_NN=0.0005 with err=12.292619512231763 at it=24
 * v0_scn_mean = 16.578385539576228
 * MAE = 0.814590527271587

df n.4, scene n.17/69

We have 5 time intervals inside [205.84, 206.84]

- Time interval n.0: [205.84, 206.04]
 - * y_true: [11.12077713]
 - * v_ann: [9.496478080749512, 14.204943221368154]

- Time interval n.1: [206.04, 206.24]
 - * y_true: [13.1509984]
 - * v_ann: [9.74891471862793, 14.204943221368154]

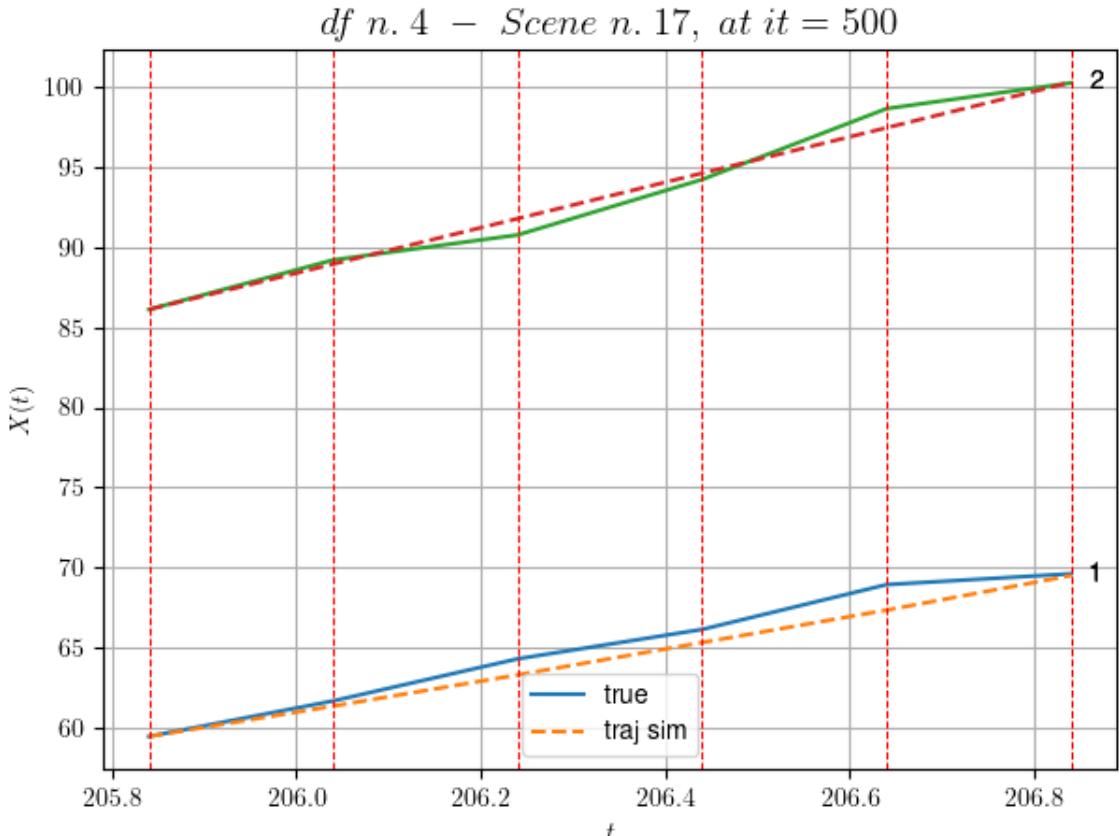
- Time interval n.2: [206.24, 206.44]
 - * y_true: [9.19074148]
 - * v_ann: [10.129683494567871, 14.204943221368154]

- Time interval n.3: [206.44, 206.64]

```
* y_true: [14.011227]
* v_ann: [10.121808052062988, 14.204943221368154]
```

```
- Time interval n.4: [206.64, 206.84]
* y_true: [3.38029975]
* v_ann: [10.807473182678223, 14.204943221368154]
```

```
* err= 0.5866322698227859
* Learning rate NN = 3.874203684972599e-05
* diff = 0.011117705785385734
```



For scene 17/69

```
* use LR_NN=0.0001 with err=45.57130203097043 at it=24
* v0_scn_mean = 14.836745492392984
* MAE = 0.5699440503191214
```

df n.4, scene n.18/69

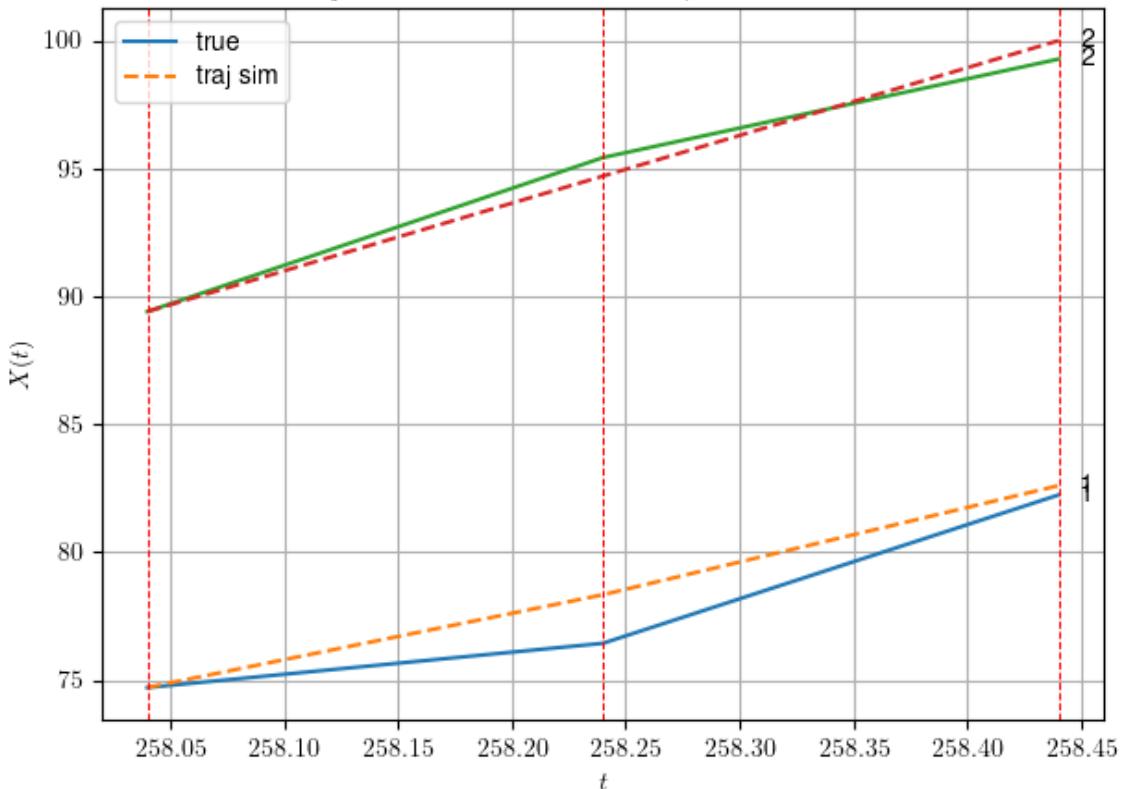
We have 2 time intervals inside [258.04, 258.44]

```
- Time interval n.0: [258.04, 258.24]
* y_true: [8.65094482]
* v_ann: [18.141437530517578, 26.487815883435907]
```

```
- Time interval n.1: [258.24, 258.44]
  * y_true: [29.00349395]
  * v_ann: [21.3355655670166, 26.487815883435907]
```

```
* err= 0.7970580865557291
* Learning rate NN = 3.6449993785936385e-05
* diff = 0.0029313788162722565
```

df n. 4 – Scene n. 18, at it = 500



For scene 18/69

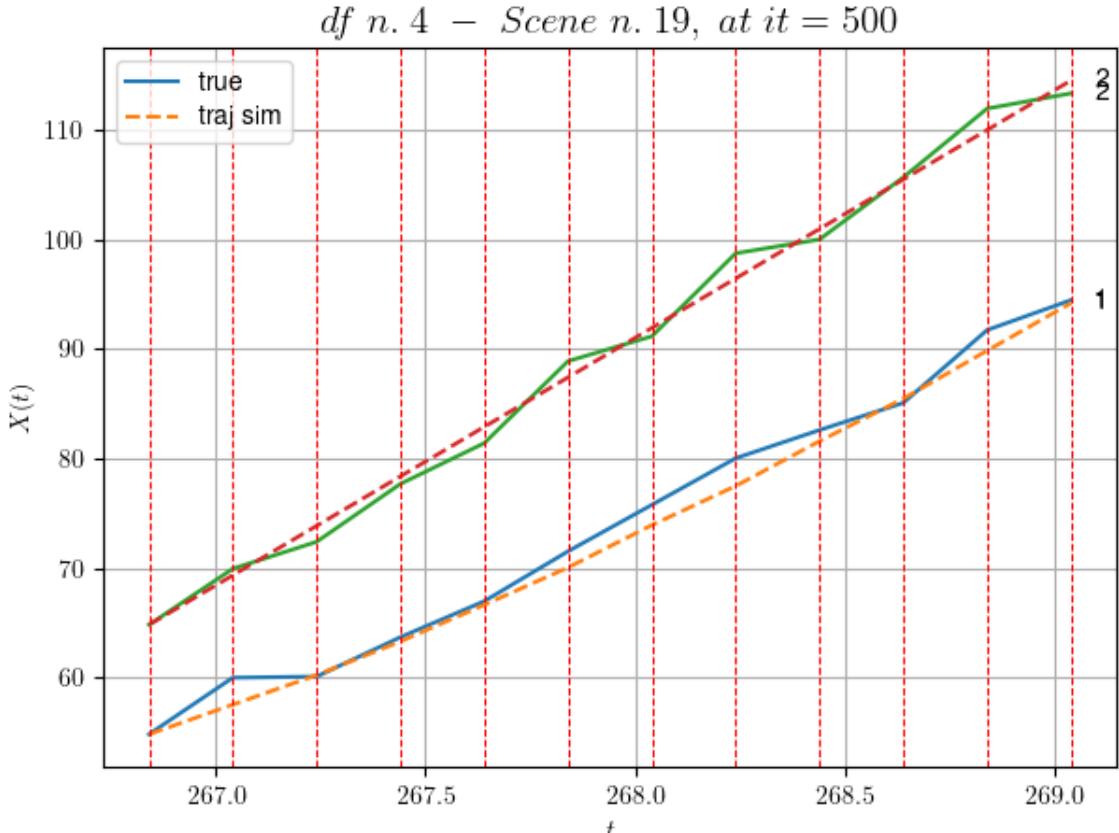
```
* use LR_NN=5e-05 with err=1.1104527705324776 at it=24
* v0_scn_mean = 26.628303248070335
* MAE = 0.7970580865557291
```

df n.4, scene n.19/69

```
We have 11 time intervals inside [266.84,269.04]
- Time interval n.0: [266.84, 267.04]
  * y_true: [25.85178656]
  * v_ann: [13.53014087677002, 22.59999558463882]
```

```
- Time interval n.1: [267.04, 267.24]
  * y_true: [0.50003797]
  * v_ann: [13.497803688049316, 22.59999558463882]
```

```
-----  
    - Time interval n.2: [267.24, 267.44]  
      * y_true: [18.0014362]  
      * v_ann: [15.365955352783203, 22.59999558463882]  
  
-----  
    - Time interval n.3: [267.44, 267.64]  
      * y_true: [16.41218071]  
      * v_ann: [16.71160125732422, 22.59999558463882]  
  
-----  
    - Time interval n.4: [267.64, 267.84]  
      * y_true: [22.80209]  
      * v_ann: [17.059406280517578, 22.59999558463882]  
  
-----  
    - Time interval n.5: [267.84, 268.04]  
      * y_true: [21.23221002]  
      * v_ann: [19.39564323425293, 22.59999558463882]  
  
-----  
    - Time interval n.6: [268.04, 268.24]  
      * y_true: [21.28245785]  
      * v_ann: [17.827085494995117, 22.59999558463882]  
  
-----  
    - Time interval n.7: [268.24, 268.44]  
      * y_true: [12.86161872]  
      * v_ann: [20.475772857666016, 22.59999558463882]  
  
-----  
    - Time interval n.8: [268.44, 268.64]  
      * y_true: [12.42174873]  
      * v_ann: [19.427947998046875, 22.59999558463882]  
  
-----  
    - Time interval n.9: [268.64, 268.84]  
      * y_true: [33.2749091]  
      * v_ann: [21.94821548461914, 22.59999558463882]  
  
-----  
    - Time interval n.10: [268.84, 269.04]  
      * y_true: [13.66227873]  
      * v_ann: [21.674198150634766, 22.59999558463882]  
  
-----  
* err= 1.7744836005842264  
* Learning rate NN = 1.0941893151539261e-06  
* diff = 0.0002042006101820072
```



For scene 19/69

- * use LR_NN=1e-05 with err=48.123096205617735 at it=24
- * v0_scn_mean = 22.89599576119687
- * MAE = 1.7742566538337974

df n.4, scene n.20/69

We have 8 time intervals inside [285.84, 287.44]

- Time interval n.0: [285.84, 286.04]
 - * y_true: [9.53034992]
 - * v_ann: [19.84841537475586, 24.201830847422496]

- Time interval n.1: [286.04, 286.24]
 - * y_true: [14.93061978]
 - * v_ann: [19.337417602539062, 24.201830847422496]

- Time interval n.2: [286.24, 286.44]
 - * y_true: [12.82475396]
 - * v_ann: [19.05165672302246, 24.201830847422496]

- Time interval n.3: [286.44, 286.64]
 - * y_true: [25.90137166]

```
* v_ann: [18.05171775817871, 24.201830847422496]
```

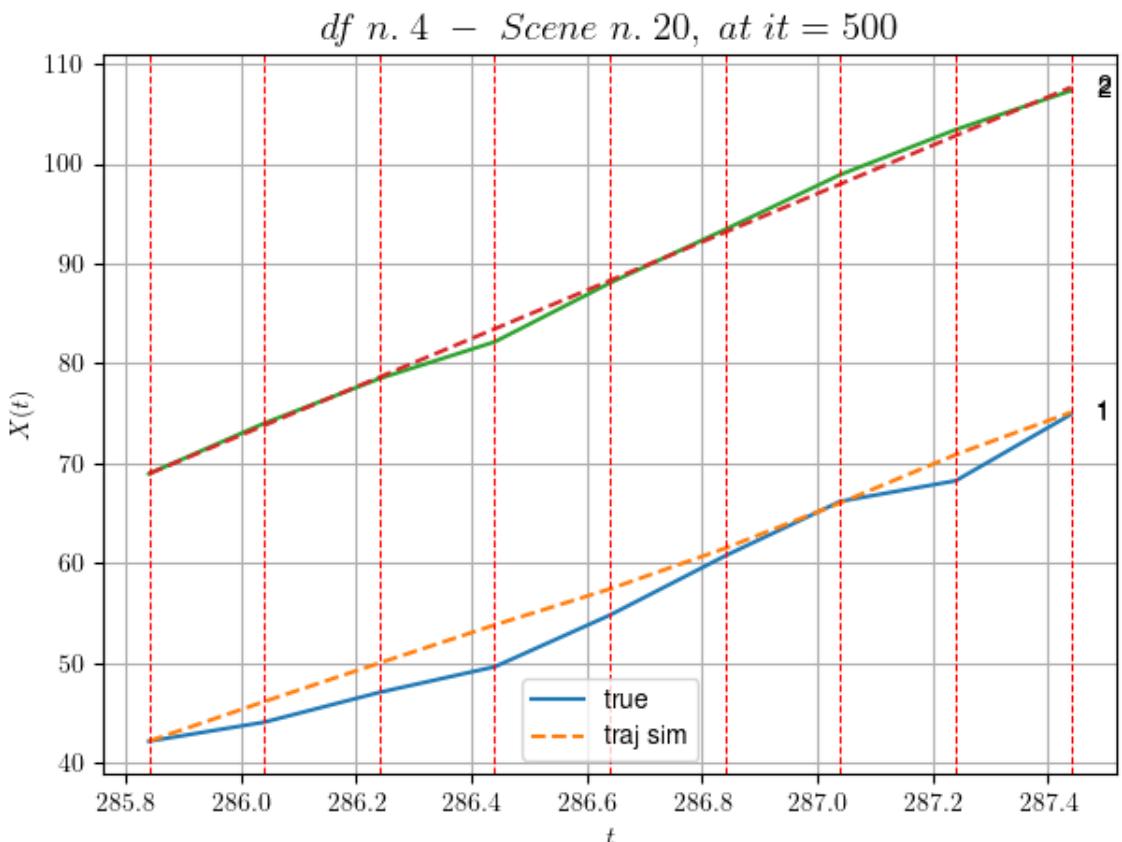
```
- Time interval n.4: [286.64, 286.84]
* y_true: [29.70192331]
* v_ann: [20.39511489868164, 24.201830847422496]
```

```
- Time interval n.5: [286.84, 287.04]
* y_true: [27.3021312]
* v_ann: [22.75303840637207, 24.201830847422496]
```

```
- Time interval n.6: [287.04, 287.24]
* y_true: [10.30090033]
* v_ann: [24.20089340209961, 24.201830847422496]
```

```
- Time interval n.7: [287.24, 287.44]
* y_true: [33.25329865]
* v_ann: [21.109376907348633, 24.201830847422496]
```

```
* err= 2.6760796555752058
* Learning rate NN = 0.00010294552339473739
* diff = 0.05259780429651206
```



For scene 20/69

* use LR_NN=0.0005 with err=16.462602348487817 at it=24

```
* vθ_scn_mean = 24.433757613481248
* MAE = 1.647147501822293
```

```
=====
```

df n.4, scene n.21/69

```
=====
```

We have 5 time intervals inside [288.04, 289.04]

- Time interval n.0: [288.04, 288.24]
 - * y_true: [15.93157223]
 - * v_ann: [10.173246383666992, 22.24789971530882]

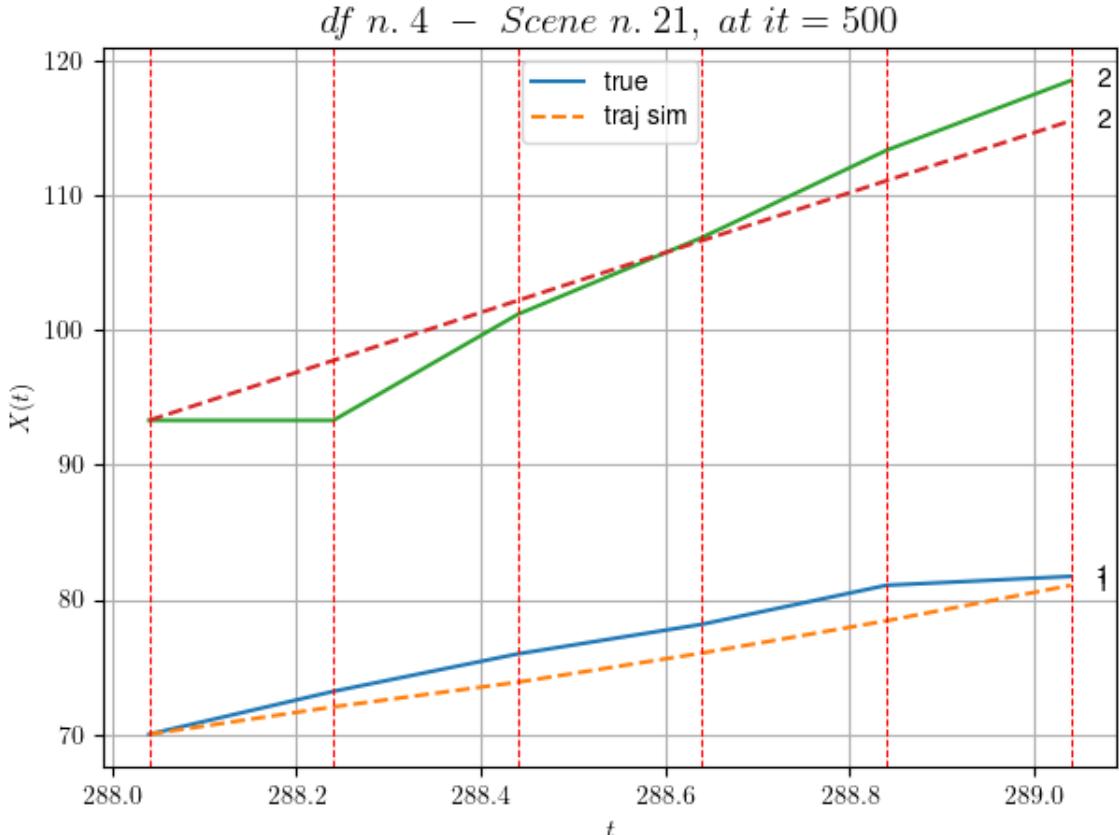
- Time interval n.1: [288.24, 288.44]
 - * y_true: [13.91151456]
 - * v_ann: [9.156149864196777, 22.24789971530882]

- Time interval n.2: [288.44, 288.64]
 - * y_true: [10.99127146]
 - * v_ann: [10.831283569335938, 22.24789971530882]

- Time interval n.3: [288.64, 288.84]
 - * y_true: [14.48179938]
 - * v_ann: [11.978522300720215, 22.24789971530882]

- Time interval n.4: [288.84, 289.04]
 - * y_true: [3.31041621]
 - * v_ann: [13.160037994384766, 22.24789971530882]

```
* err= 4.384764287707282
* Learning rate NN = 3.874203684972599e-06
* diff = 0.0026791374052690287
```



For scene 21/69

- * use LR_NN=1e-05 with err=10.407852295006057 at it=24
- * v0_scn_mean = 22.557983726637982
- * MAE = 3.2547676511342676

df n.4, scene n.22/69

We have 6 time intervals inside [301.64, 302.84]

- Time interval n.0: [301.64, 301.84]
 - * y_true: [26.55139863]
 - * v_ann: [23.831987380981445, 22.529252631155007]

- Time interval n.1: [301.84, 302.04]
 - * y_true: [20.20126147]
 - * v_ann: [23.785282135009766, 22.529252631155007]

- Time interval n.2: [302.04, 302.24]
 - * y_true: [22.80164674]
 - * v_ann: [23.889606475830078, 22.529252631155007]

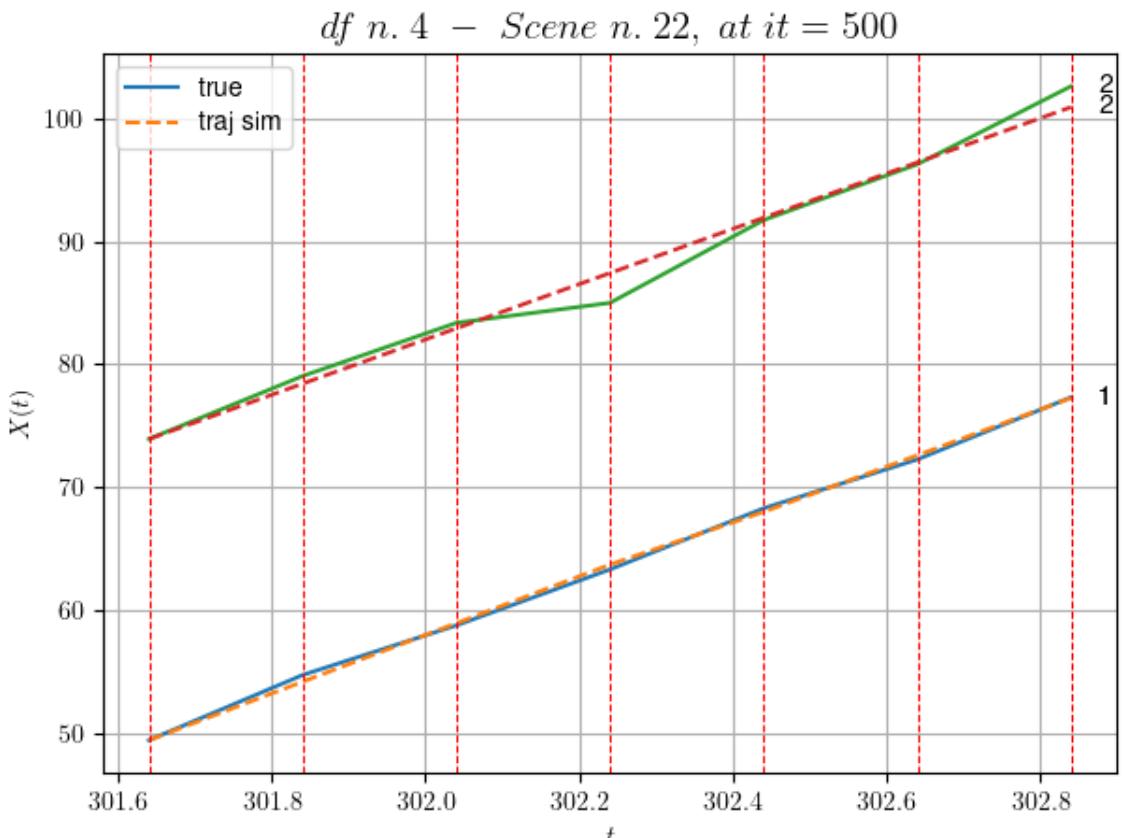
- Time interval n.3: [302.24, 302.44]
 - * y_true: [24.90208832]

```
* v_ann: [21.500408172607422, 22.529252631155007]
```

```
- Time interval n.4: [302.44, 302.64]
* y_true: [19.90190261]
* v_ann: [23.019760131835938, 22.529252631155007]
```

```
- Time interval n.5: [302.64, 302.84]
* y_true: [25.30273749]
* v_ann: [23.367755889892578, 22.529252631155007]
```

```
* err= 0.7215746146387975
* Learning rate NN = 1.5690524378442205e-05
* diff = 0.00019046931859600935
```



For scene 22/69

```
* use LR_NN=5e-05 with err=14.626514552495406 at it=24
* v0_scn_mean = 22.828082525851766
* MAE = 0.7183494018001138
```

df n.4, scene n.23/69

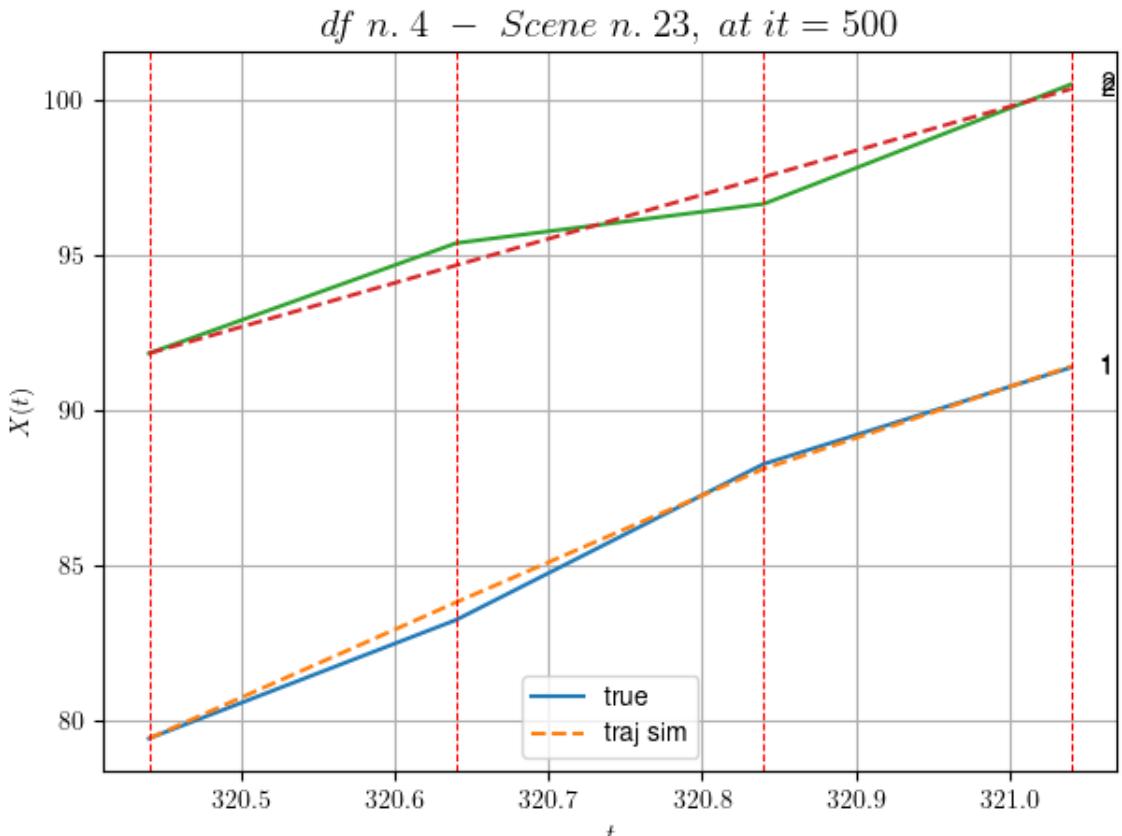
```
We have 3 time intervals inside [320.44,321.04]
- Time interval n.0: [320.44, 320.64]
```

```
* y_true: [19.06248224]
* v_ann: [21.88680076599121, 14.162426648993204]
```

```
- Time interval n.1: [320.64, 320.84]
* y_true: [25.04354334]
* v_ann: [21.43661880493164, 14.162426648993204]
```

```
- Time interval n.2: [320.84, 321.04]
* y_true: [15.51237997]
* v_ann: [16.494625091552734, 14.162426648993204]
```

```
* err= 0.20226234254811157
* Learning rate NN = 2.952449540316593e-05
* diff = 1 85236115322265120_05
```



For scene 23/69

```
* use LR_NN=5e-05 with err=18.218368094108396 at it=24
* v0_scn_mean = 14.7959295829119
* MAE = 0.20212601641111774
```

df n.4, scene n.24/69

We have 10 time intervals inside [321.84,323.84]
- Time interval n.0: [321.84, 322.04]

```
* y_true: [15.91100184]
* v_ann: [13.524856567382812, 22.81009773351766]

-----
- Time interval n.1: [322.04, 322.24]
* y_true: [21.52151253]
* v_ann: [14.86728286743164, 22.81009773351766]

-----
- Time interval n.2: [322.24, 322.44]
* y_true: [17.33136036]
* v_ann: [15.340386390686035, 22.81009773351766]

-----
- Time interval n.3: [322.44, 322.64]
* y_true: [13.37117584]
* v_ann: [16.445039749145508, 22.81009773351766]

-----
- Time interval n.4: [322.64, 322.84]
* y_true: [20.11196206]
* v_ann: [16.315126419067383, 22.81009773351766]

-----
- Time interval n.5: [322.84, 323.04]
* y_true: [19.00199356]
* v_ann: [17.08997344970703, 22.81009773351766]

-----
- Time interval n.6: [323.04, 323.24]
* y_true: [9.05104347]
* v_ann: [18.507246017456055, 22.81009773351766]

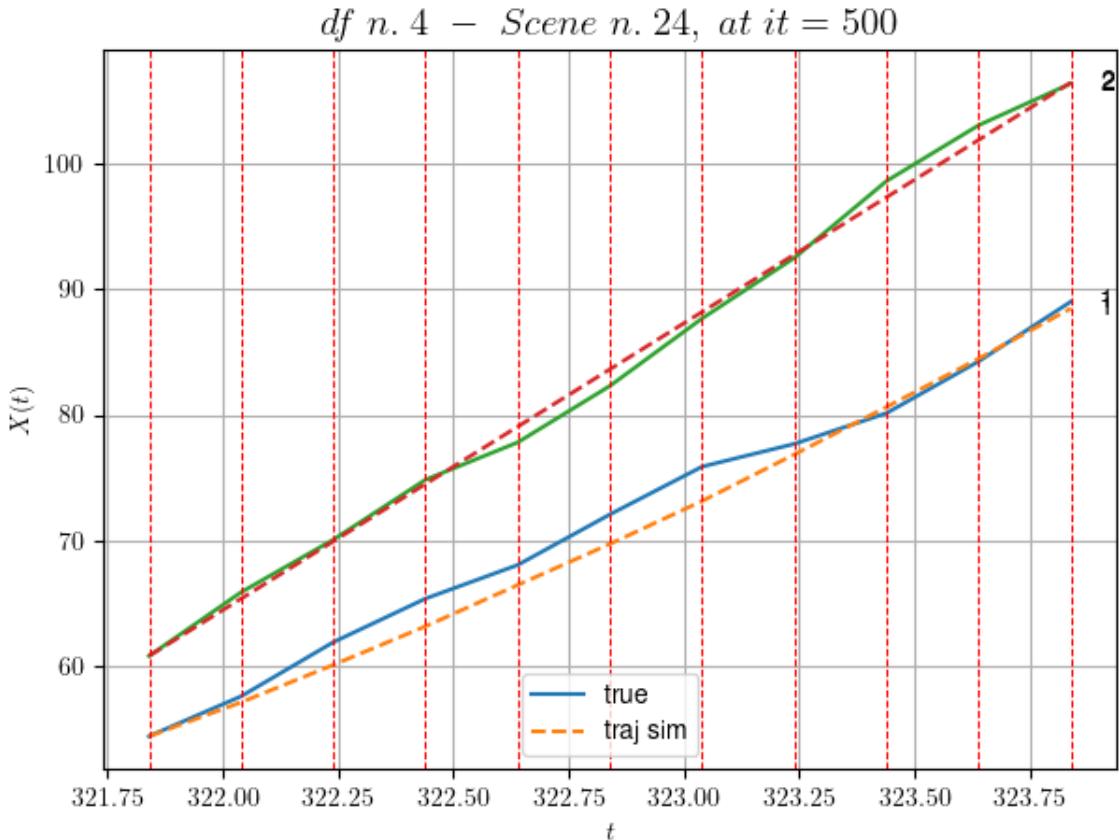
-----
- Time interval n.7: [323.24, 323.44]
* y_true: [12.23150016]
* v_ann: [18.880569458007812, 22.81009773351766]

-----
- Time interval n.8: [323.44, 323.64]
* y_true: [20.60275578]
* v_ann: [19.268003463745117, 22.81009773351766]

-----
- Time interval n.9: [323.64, 323.84]
* y_true: [23.75344402]
* v_ann: [19.91506004333496, 22.81009773351766]

* err= 1.4667560597318512
```

```
* Learning rate NN = 0.00013508510892279446
* diff = 0.09642194050500352
```



For scene 24/69

```
* use LR_NN=0.001 with err=37.89203145319821 at it=24
* v0_scn_mean = 23.09769382412263
* MAE = 1.1778652521992343
```

df n.4, scene n.25/69

We have 4 time intervals inside [374.24, 375.04]

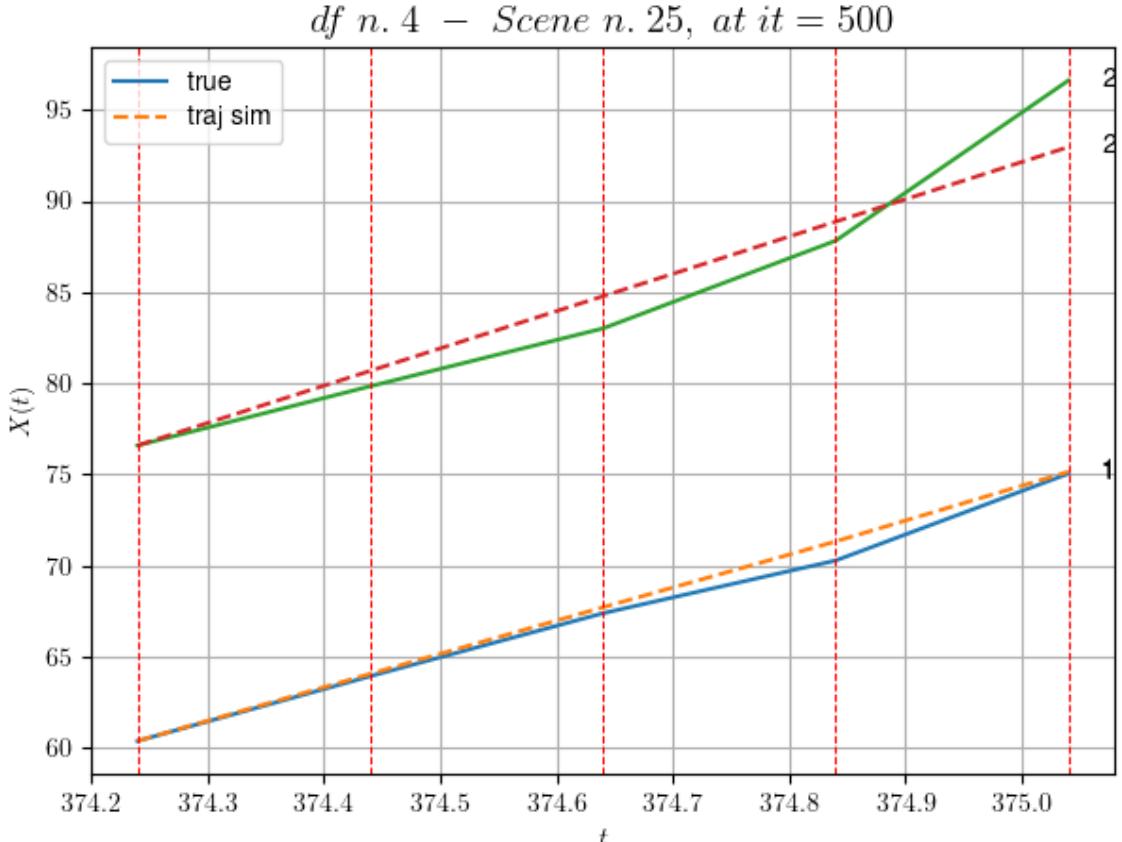
- Time interval n.0: [374.24, 374.44]
 - * y_true: [17.78133038]
 - * v_ann: [18.430561065673828, 20.475722036934293]

- Time interval n.1: [374.44, 374.64]
 - * y_true: [17.27142996]
 - * v_ann: [18.251680374145508, 20.475722036934293]

- Time interval n.2: [374.64, 374.84]
 - * y_true: [14.48134888]
 - * v_ann: [18.08580780029297, 20.475722036934293]

- Time interval n.3: [374.84, 375.04]
 * y_true: [23.8524105]
 * v_ann: [19.126771926879883, 20.475722036934293]

* err= 1.954319517598387
 * Learning rate NN = 4.782968062500004e-06
 * diff = 0.0001568745658533377



For scene 25/69
 * use LR_NN=1e-05 with err=10.06644900148092 at it=24
 * v0_scn_mean = 20.856693155384146
 * MAE = 1.794955774561549

df n.4, scene n.26/69

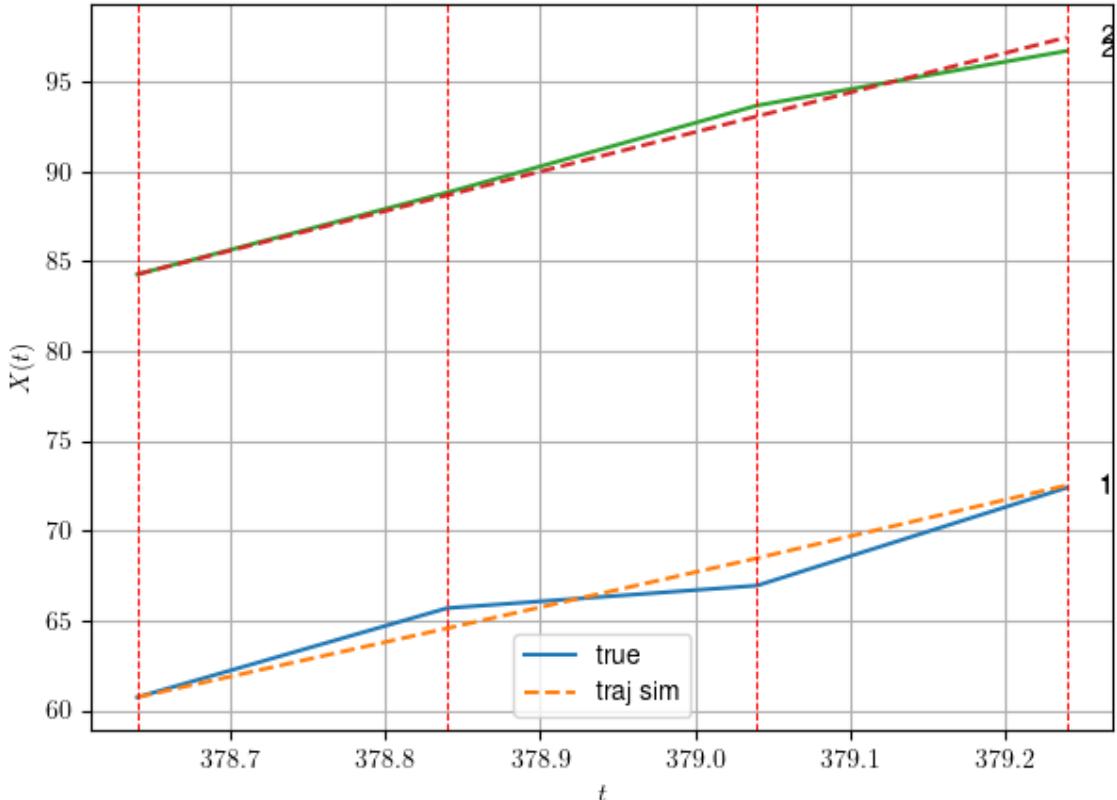
We have 3 time intervals inside [378.64, 379.24]
 - Time interval n.0: [378.64, 378.84]
 * y_true: [24.80186931]
 * v_ann: [19.18134880065918, 21.986682448765226]

- Time interval n.1: [378.84, 379.04]
 * y_true: [6.27054296]
 * v_ann: [19.52051544189453, 21.986682448765226]

```
- Time interval n.2: [379.04, 379.24]
* y_true: [27.25270249]
* v_ann: [20.283557891845703, 21.986682448765226]
```

```
* err= 0.5707560437446816
* Learning rate NN = 5.904899080633186e-05
* diff = 0.00041480145043970573
```

df n. 4 - Scene n. 26, at it = 500



For scene 26/69

```
* use LR_NN=0.0001 with err=5.484249544130256 at it=24
* v0_scn_mean = 22.307215150753006
* MAE = 0.5682389863125211
```

df n.4, scene n.27/69

We have 4 time intervals inside [387.64,388.44]

```
- Time interval n.0: [387.64, 387.84]
* y_true: [13.24162412]
* v_ann: [18.014606475830078, 23.572406443207264]
```

```
- Time interval n.1: [387.84, 388.04]
* y_true: [25.47337037]
* v_ann: [15.507607460021973, 23.572406443207264]
```

```

-----  

    - Time interval n.2: [388.04, 388.24]  

      * y_true: [19.81289117]  

      * v_ann: [17.561233520507812, 23.572406443207264]
-----
```

```

-----  

    - Time interval n.3: [388.24, 388.44]  

      * y_true: [8.34132664]  

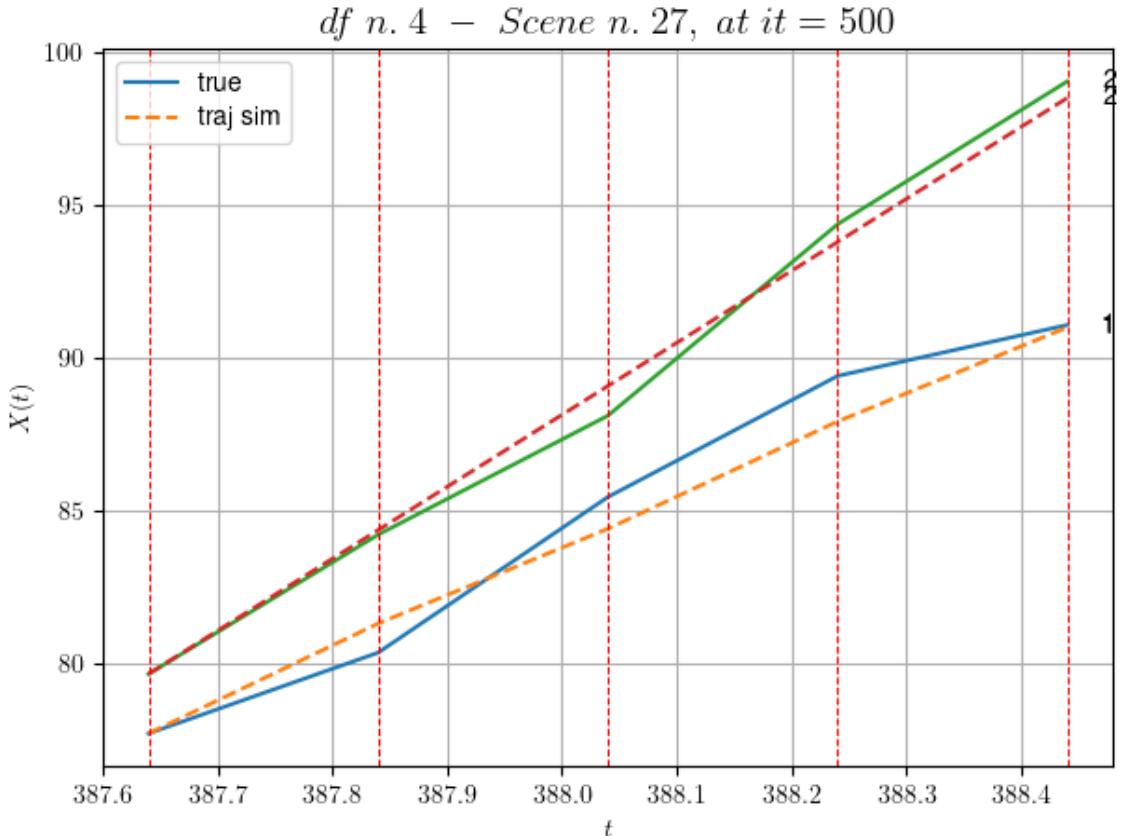
      * v_ann: [15.394283294677734, 23.572406443207264]
-----
```

```

* err= 0.5812407487139069  

* Learning rate NN = 0.000239148415857926  

* diff = 0.003757041764266833
```



For scene 27/69

```

* use LR_NN=0.0005 with err=7.5943841458250985 at it=24
* v0_scn_mean = 23.829510185426344
* MAE = 0.5812407487139069
```

df n.4, scene n.28/69

We have 3 time intervals inside [399.24, 399.84]

```

- Time interval n.0: [399.24, 399.44]  

  * y_true: [21.7511121]  

  * v_ann: [17.217973709106445, 24.512386475296193]
```

```

-----  

- Time interval n.1: [399.44, 399.64]  

* y_true: [18.26102056]  

* v_ann: [18.981338500976562, 24.512386475296193]
-----
```

```

-----  

- Time interval n.2: [399.64, 399.84]  

* y_true: [15.72103462]  

* v_ann: [19.244661331176758, 24.512386475296193]
-----
```

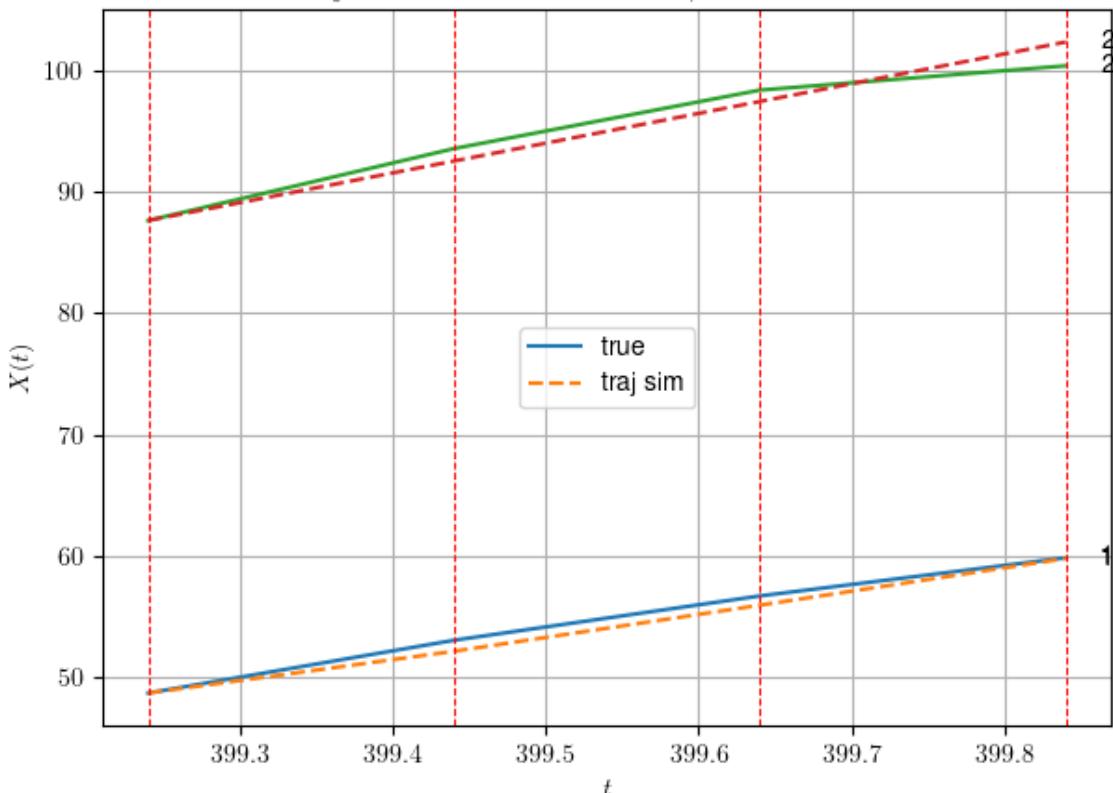
```

* err= 0.8975315687424051  

* Learning rate NN = 2.952449540316593e-05  

* diff = 0.0002802186902066007
```

df n. 4 – Scene n. 28, at it = 500



For scene 28/69

```

* use LR_NN=5e-05 with err=3.8660863123928744 at it=24
* v0_scn_mean = 24.731891016242542
* MAE = 0.8943041054344775
=====
```

df n.4, scene n.29/69

```

=====
We have 2 time intervals inside [406.24,406.64]
- Time interval n.0: [406.24, 406.44]
* y_true: [28.52295146]
* v_ann: [23.70299530029297, 18.926519541433994]
```

```

-----  

- Time interval n.1: [406.44, 406.64]  

* y_true: [18.07207404]  

* v_ann: [23.4759578704834, 18.926519541433994]
-----
```

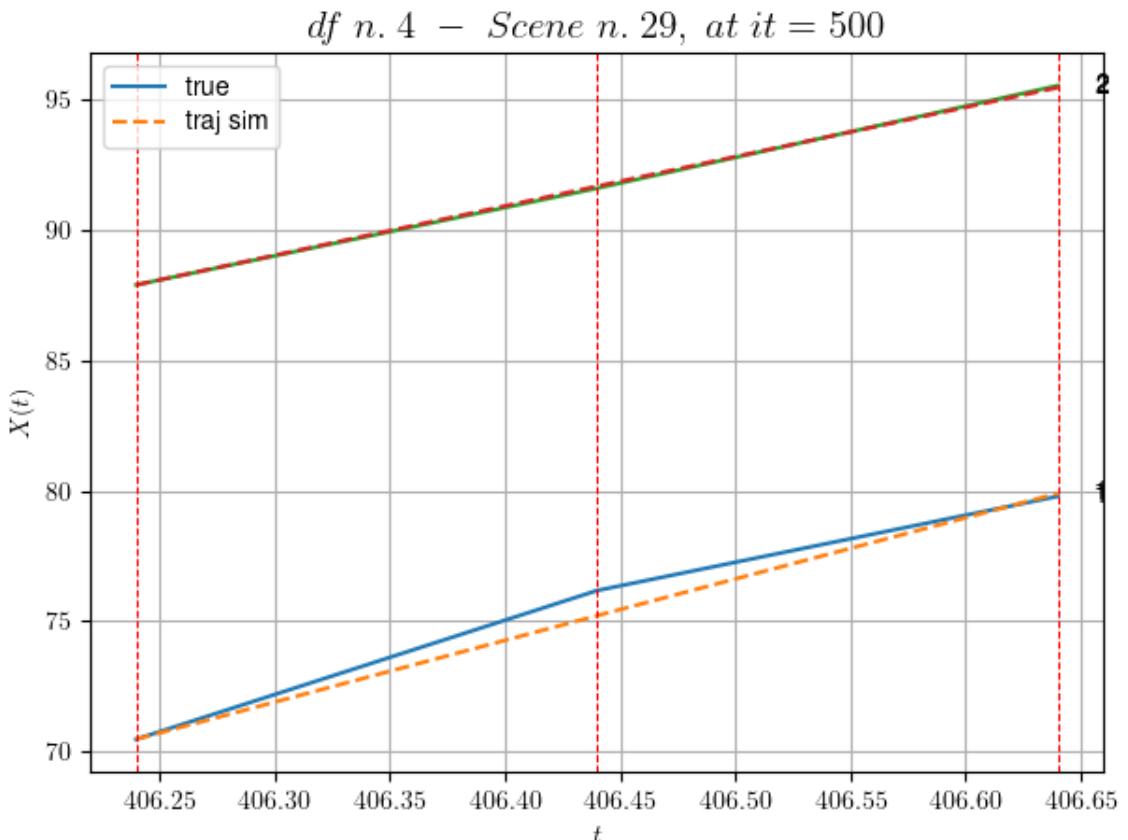
```

-----  

* err= 0.1592174357212016  

* Learning rate NN = 7.289998848136747e-06  

* diff = 9.472513135955207e-05
-----
```



For scene 29/69

```

* use LR_NN=1e-05 with err=4.130443850555196 at it=24
* v0_scn_mean = 19.369458759691895
* MAE = 0.15876935932050115
=====
```

df n.4, scene n.30/69

```

=====
```

```

=====  

We have 10 time intervals inside [408.84,410.84]  

- Time interval n.0: [408.84, 409.04]  

* y_true: [15.25021324]  

* v_ann: [18.71118698120117, 20.951718350918537]
=====
```

```

-----  

- Time interval n.1: [409.04, 409.24]  

* y_true: [19.57034716]
```

```
* v_ann: [18.94590187072754, 20.951718350918537]
```

```
- Time interval n.2: [409.24, 409.44]
* y_true: [20.90046989]
* v_ann: [19.222923278808594, 20.951718350918537]
```

```
- Time interval n.3: [409.44, 409.64]
* y_true: [17.04047168]
* v_ann: [19.501657485961914, 20.951718350918537]
```

```
- Time interval n.4: [409.64, 409.84]
* y_true: [19.11067999]
* v_ann: [20.241792678833008, 20.951718350918537]
```

```
- Time interval n.5: [409.84, 410.04]
* y_true: [35.07645673]
* v_ann: [20.1628475189209, 20.951718350918537]
```

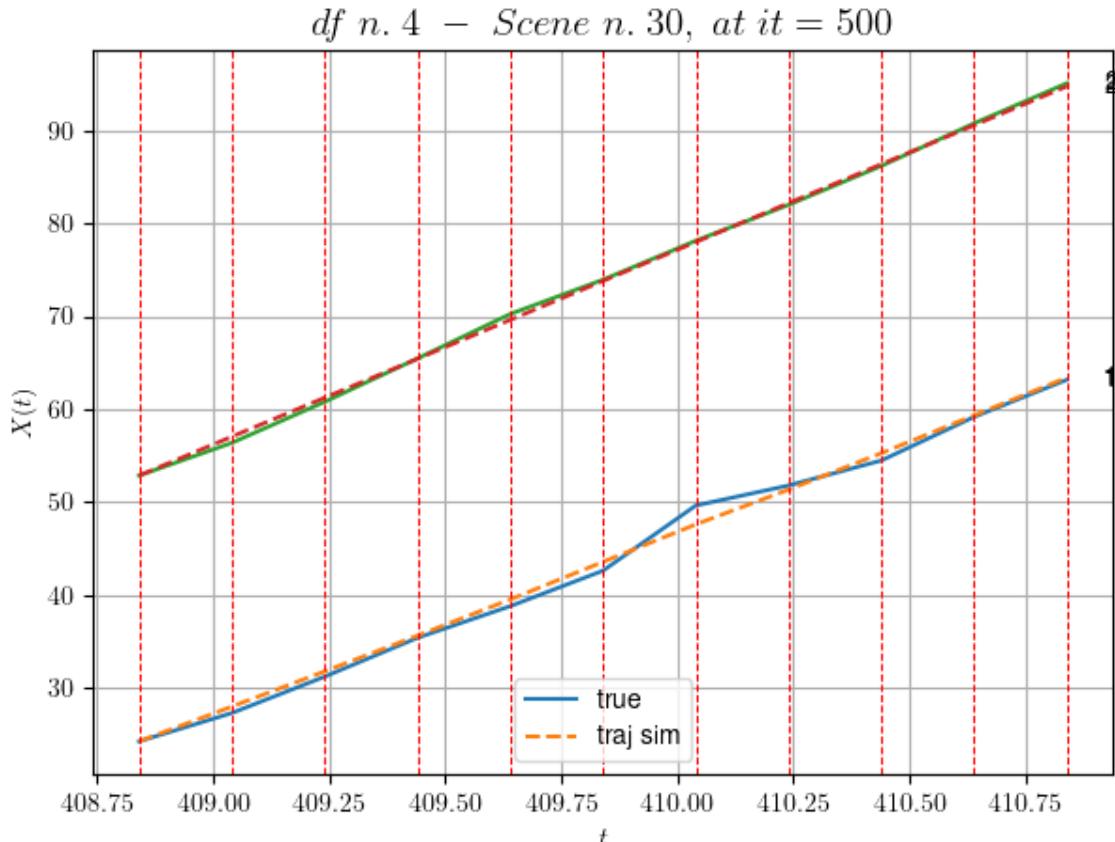
```
- Time interval n.6: [410.04, 410.24]
* y_true: [10.77556615]
* v_ann: [18.725521087646484, 20.951718350918537]
```

```
- Time interval n.7: [410.24, 410.44]
* y_true: [13.46075357]
* v_ann: [19.608367919921875, 20.951718350918537]
```

```
- Time interval n.8: [410.44, 410.64]
* y_true: [23.47149956]
* v_ann: [20.388107299804688, 20.951718350918537]
```

```
- Time interval n.9: [410.64, 410.84]
* y_true: [20.00147803]
* v_ann: [20.35479736328125, 20.951718350918537]
```

```
* err= 0.3920704792002204
* Learning rate NN = 1.350850993731001e-06
* diff = 0.0005091271481324489
```



For scene 30/69

- * use LR_NN=1e-05 with err=56.864432948779516 at it=24
- * v0_scn_mean = 21.31364961681277
- * MAE = 0.3920704792002204

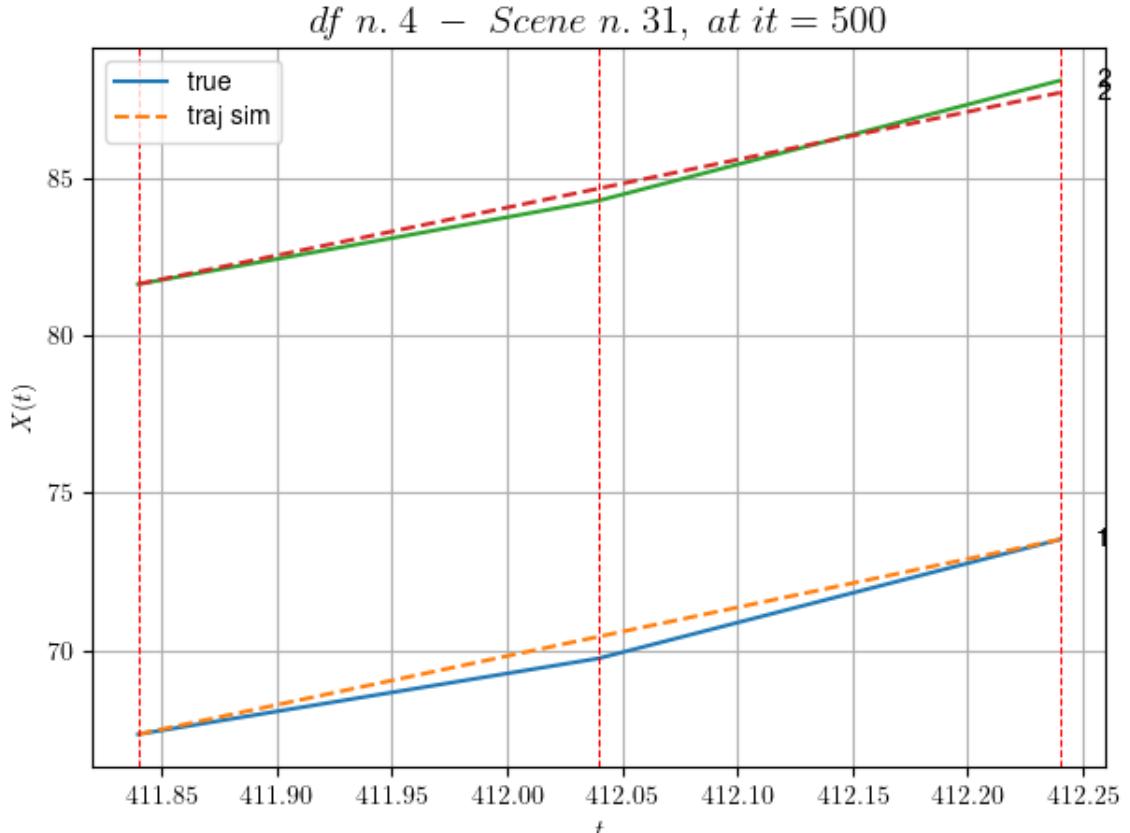
df n.4, scene n.31/69

We have 2 time intervals inside [411.84, 412.24]

- Time interval n.0: [411.84, 412.04]
 - * y_true: [12.04108576]
 - * v_ann: [15.488424301147461, 15.182121050296947]

- Time interval n.1: [412.04, 412.24]
 - * y_true: [18.83181821]
 - * v_ann: [15.383769989013672, 15.182121050296947]

- * err= 0.12839555648395976
- * Learning rate NN = 7.289998848136747e-06
- * diff = 2.1698953658805253e-05



For scene 31/69

* use LR_NN=1e-05 with err=7.054229676333208 at it=24
 * v0_scn_mean = 15.774836208171946
 * MAE = 0.12357631676964131

df n.4, scene n.32/69

We have 10 time intervals inside [419.84, 421.84]

- Time interval n.0: [419.84, 420.04]
 - * y_true: [17.73058344]
 - * v_ann: [14.512749671936035, 25.806420226564228]

- Time interval n.1: [420.04, 420.24]
 - * y_true: [26.13095885]
 - * v_ann: [16.249435424804688, 25.806420226564228]

- Time interval n.2: [420.24, 420.44]
 - * y_true: [16.22073507]
 - * v_ann: [14.777756690979004, 25.806420226564228]

- Time interval n.3: [420.44, 420.64]
 - * y_true: [31.54187385]

```
* v_ann: [18.638275146484375, 25.806420226564228]
```

```
- Time interval n.4: [420.64, 420.84]
* y_true: [34.75224249]
* v_ann: [18.86212158203125, 25.806420226564228]
```

```
- Time interval n.5: [420.84, 421.04]
* y_true: [6.73053681]
* v_ann: [18.18845558166504, 25.806420226564228]
```

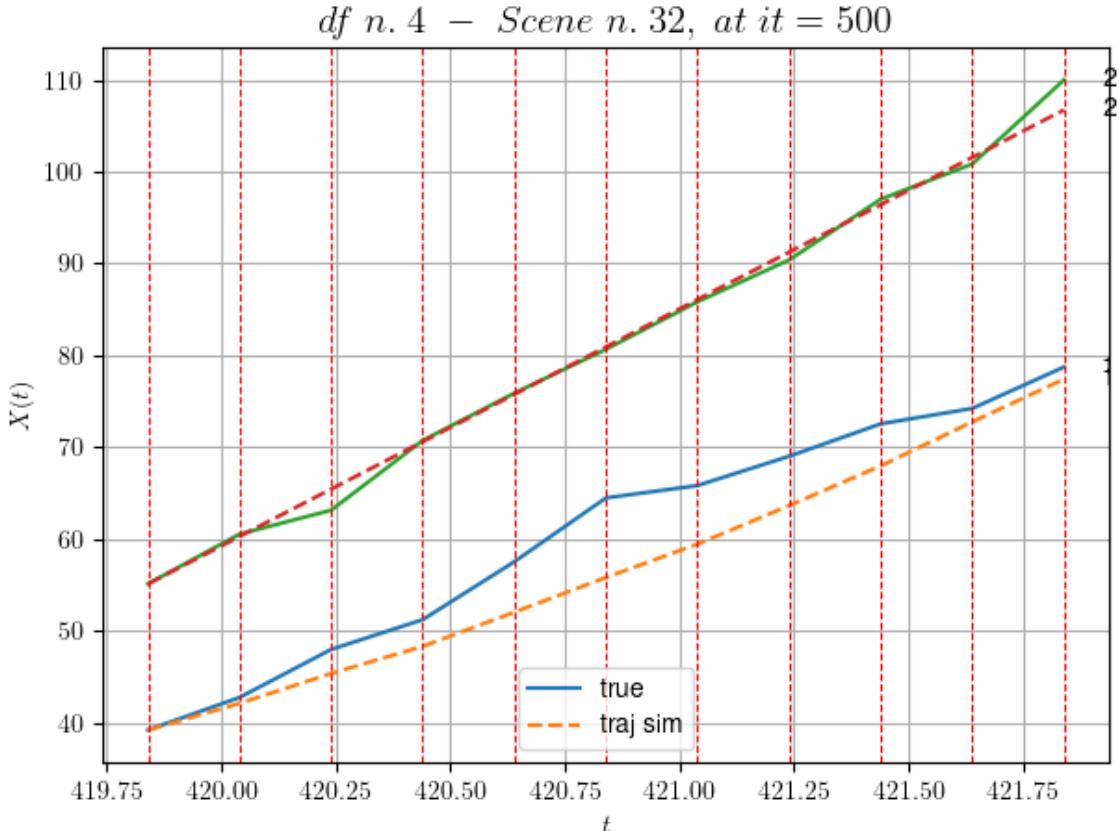
```
- Time interval n.6: [421.04, 421.24]
* y_true: [15.94137727]
* v_ann: [20.950971603393555, 25.806420226564228]
```

```
- Time interval n.7: [421.24, 421.44]
* y_true: [17.65161573]
* v_ann: [21.649059295654297, 25.806420226564228]
```

```
- Time interval n.8: [421.44, 421.64]
* y_true: [8.40084391]
* v_ann: [23.95032501220703, 25.806420226564228]
```

```
- Time interval n.9: [421.64, 421.84]
* y_true: [22.52258798]
* v_ann: [23.272165298461914, 25.806420226564228]
```

```
* err= 10.59647993352862
* Learning rate NN = 6.754255446139723e-05
* diff = 0.14725260542276963
```



df n.4, scene n.33/69

We have 5 time intervals inside [439.24, 440.24]

- Time interval n.0: [439.24, 439.44]
 - * y_true: [15.24141643]
 - * v_ann: [20.7142276763916, 21.563926495541395]
-

- Time interval n.1: [439.44, 439.64]
 - * y_true: [28.0128448]
 - * v_ann: [21.14618682861328, 21.563926495541395]
-

- Time interval n.2: [439.64, 439.84]
 - * y_true: [20.81245375]
 - * v_ann: [21.291929244995117, 21.563926495541395]
-

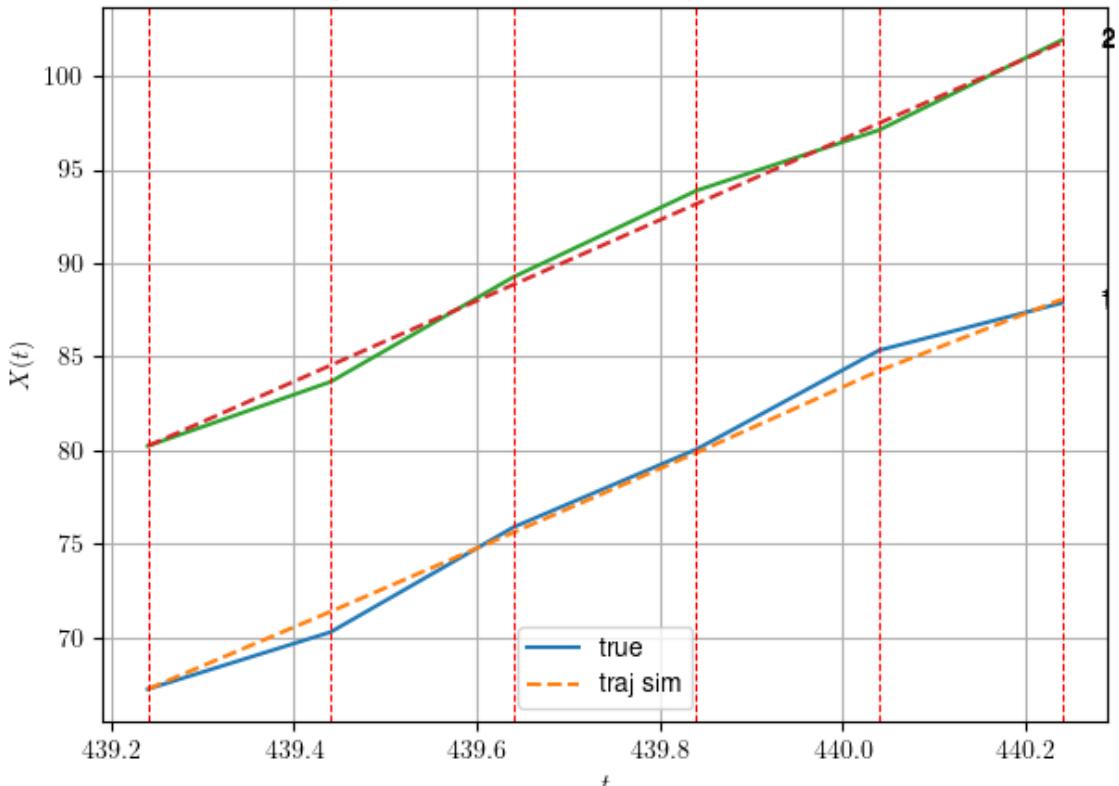
- Time interval n.3: [439.84, 440.04]
 - * y_true: [26.46342841]

```
* v_ann: [21.92658233642578, 21.563926495541395]
```

```
- Time interval n.4: [440.04, 440.24]
* y_true: [12.64182746]
* v_ann: [19.08616828918457, 21.563926495541395]
```

```
* err= 0.3439630658852758
* Learning rate NN = 1.9371018424862996e-05
* diff = 0 00007030176124448451
```

df n. 4 – Scene n. 33, at it = 500



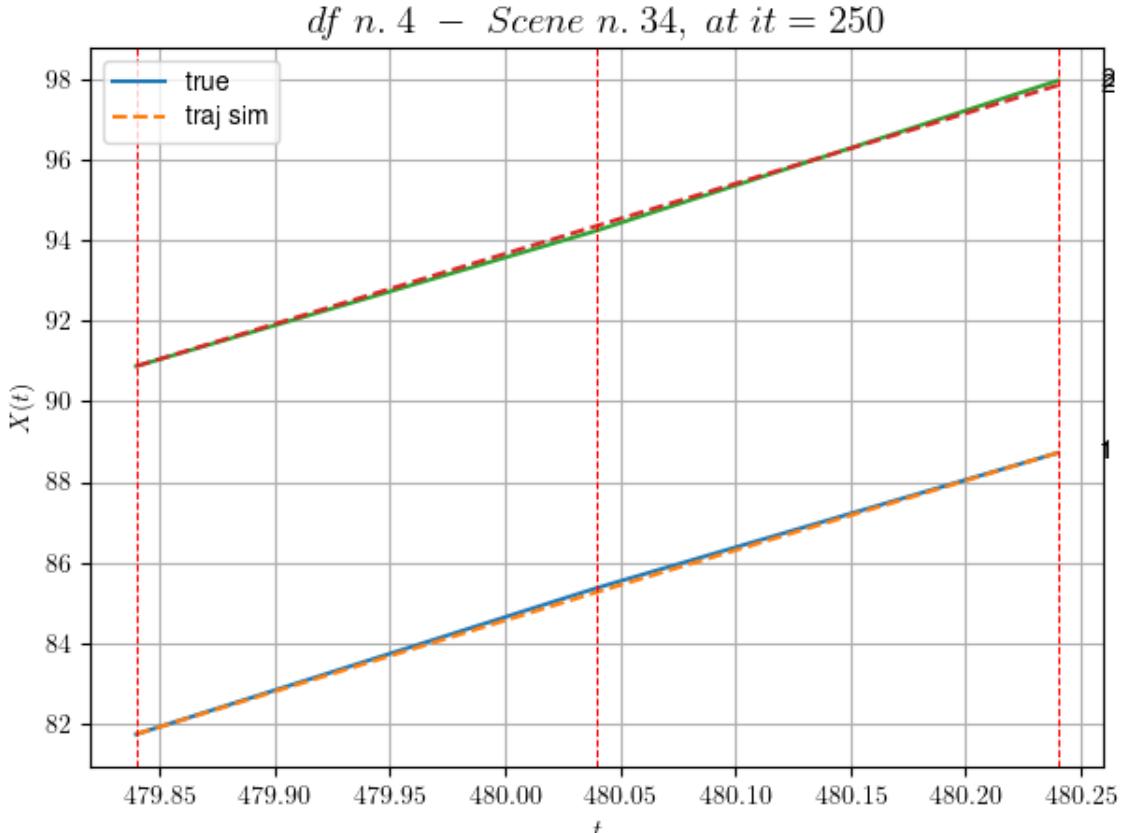
For scene 33/69

```
* use LR_NN=5e-05 with err=13.035953611123329 at it=24
* v0_scn_mean = 21.901369435655788
* MAE = 0.3426934246531219
```

df n.4, scene n.34/69

We have 2 time intervals inside [479.84, 480.24]

```
* err= 0.00642159455259143
* Learning rate NN = 8.999999408842996e-05
* diff = 3.247637470130127e-07
```



For scene 34/69

- * use LR_NN=0.0001 with err=5.163717543723969 at it=24
- * v0_scn_mean = 18.447542569451826
- * MAE = 0.005981494110130973

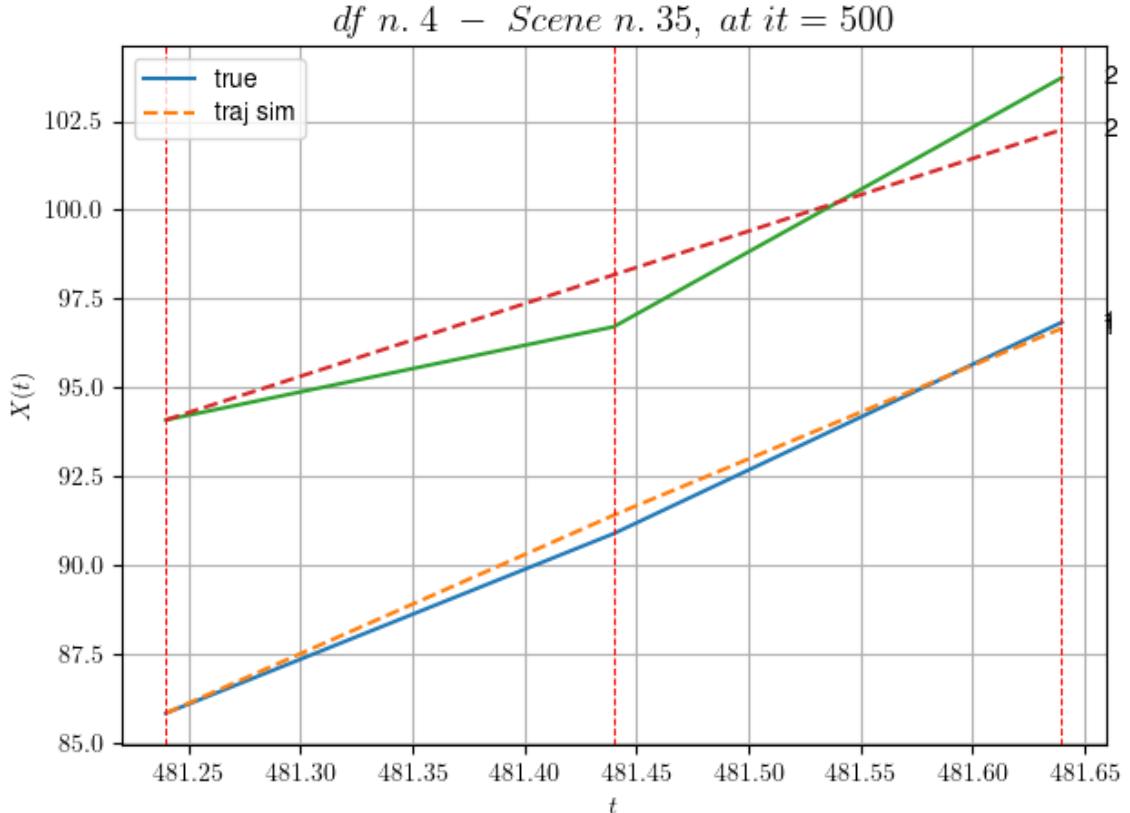
df n.4, scene n.35/69

We have 2 time intervals inside [481.24, 481.64]

- Time interval n.0: [481.24, 481.44]
 - * y_true: [25.25379303]
 - * v_ann: [27.844478607177734, 20.40371725522892]

- Time interval n.1: [481.44, 481.64]
 - * y_true: [29.69507773]
 - * v_ann: [26.250429153442383, 20.40371725522892]

- * err= 0.7604244879730715
- * Learning rate NN = 7.289998757187277e-05
- * diff = 0.0020060933981087548



For scene 35/69

- * use LR_NN=0.0001 with err=3.113595109719647 at it=24
 - * v0_scn_mean = 20.787568564946138
 - * MAE = 0.7199597800814188
-
-

df n.4, scene n.36/69

We have 5 time intervals inside [500.04, 501.04]

- Time interval n.0: [500.04, 500.24]
 - * y_true: [29.61179117]
 - * v_ann: [19.328174591064453, 21.189572495102297]
-

- Time interval n.1: [500.24, 500.44]
 - * y_true: [8.70055091]
 - * v_ann: [18.20134735107422, 21.189572495102297]
-

- Time interval n.2: [500.44, 500.64]
 - * y_true: [13.8710234]
 - * v_ann: [19.92616081237793, 21.189572495102297]
-

- Time interval n.3: [500.64, 500.84]
 - * y_true: [20.78170164]
 - * v_ann: [20.230905532836914, 21.189572495102297]

```

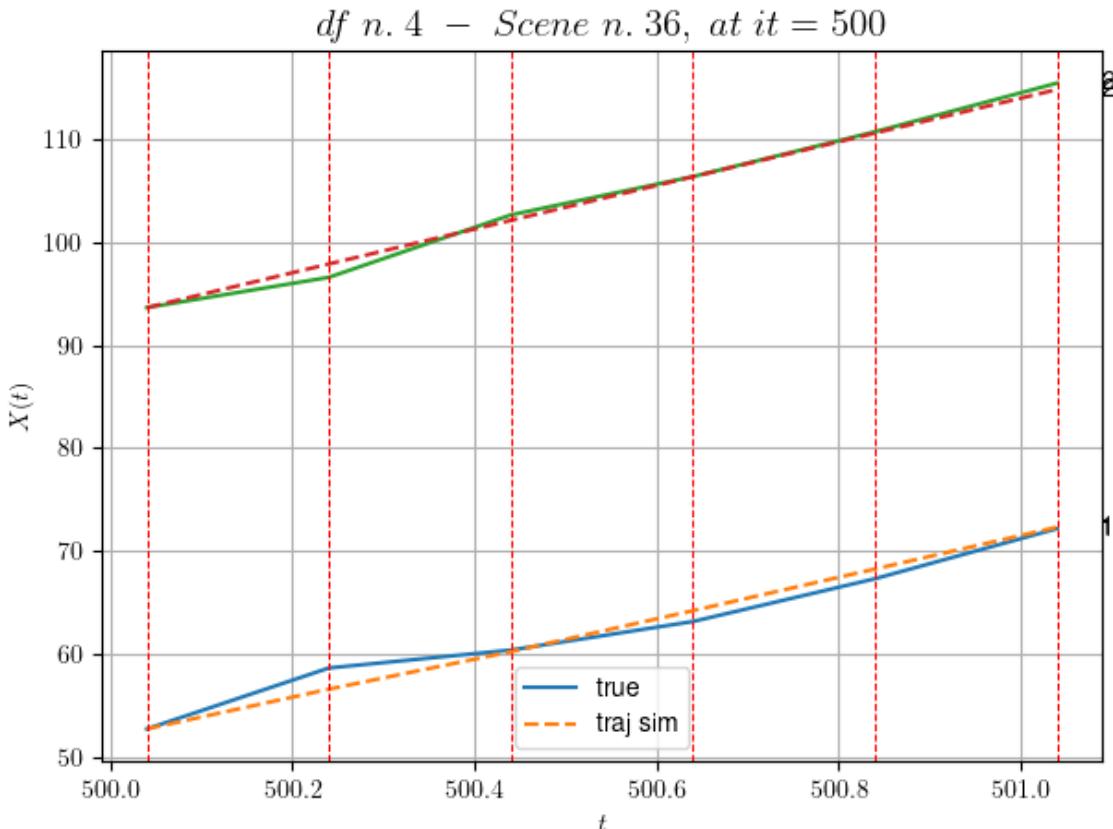
- Time interval n.4: [500.84, 501.04]
  * y_true: [24.32227348]
  * v_ann: [20.32447052001953, 21.189572495102297]

```

```

* err= 0.7203677608204012
* Learning rate NN = 3.874203684972599e-06
* diff = 0.0008218259759781299

```



For scene 36/69

```

* use LR_NN=1e-05 with err=14.017139746050649 at it=24
* v0_scn_mean = 21.54198959523119
* MAE = 0.7130374571837387

```

df n.4, scene n.37/69

We have 12 time intervals inside [566.84, 569.24]

```

- Time interval n.0: [566.84, 567.04]
  * y_true: [18.52025877]
  * v_ann: [21.00251007080078, 20.028487582197105]

```

```

- Time interval n.1: [567.04, 567.24]
  * y_true: [19.89036758]

```

```
* v_ann: [20.789249420166016, 20.028487582197105]
```

```
- Time interval n.2: [567.24, 567.44]
* y_true: [15.89035891]
* v_ann: [20.291818618774414, 20.028487582197105]
```

```
- Time interval n.3: [567.44, 567.64]
* y_true: [20.75058637]
* v_ann: [21.452478408813477, 20.028487582197105]
```

```
- Time interval n.4: [567.64, 567.84]
* y_true: [26.61094751]
* v_ann: [20.479475021362305, 20.028487582197105]
```

```
- Time interval n.5: [567.84, 568.04]
* y_true: [21.26091658]
* v_ann: [20.8909854888916, 20.028487582197105]
```

```
- Time interval n.6: [568.04, 568.24]
* y_true: [24.01126271]
* v_ann: [21.005300521850586, 20.028487582197105]
```

```
- Time interval n.7: [568.24, 568.44]
* y_true: [16.94101506]
* v_ann: [19.891521453857422, 20.028487582197105]
```

```
- Time interval n.8: [568.44, 568.64]
* y_true: [24.62174309]
* v_ann: [20.663969039916992, 20.028487582197105]
```

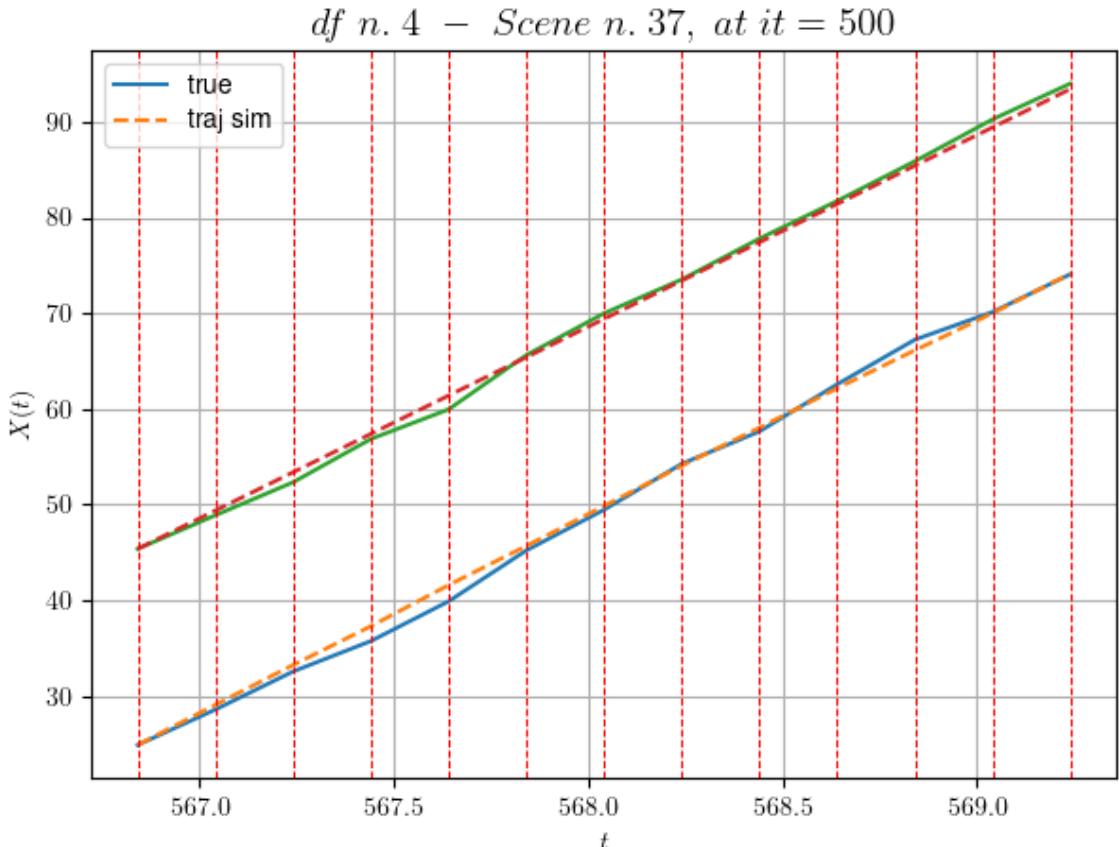
```
- Time interval n.9: [568.64, 568.84]
* y_true: [23.33189445]
* v_ann: [19.813020706176758, 20.028487582197105]
```

```
- Time interval n.10: [568.84, 569.04]
* y_true: [14.44130319]
* v_ann: [19.392362594604492, 20.028487582197105]
```

```
- Time interval n.11: [569.04, 569.24]
* y_true: [19.77200048]
```

```
* v_ann: [20.69289207458496, 20.028487582197105]
```

```
* err= 0.523218525269761
* Learning rate NN = 8.862932190822903e-06
```



For scene 37/69

```
* use LR_NN=0.0001 with err=96.50736051102426 at it=24
* v0_scn_mean = 20.427348078833457
* MAE = 0.47365803921975436
```

df n.4, scene n.38/69

We have 3 time intervals inside [584.84, 585.44]

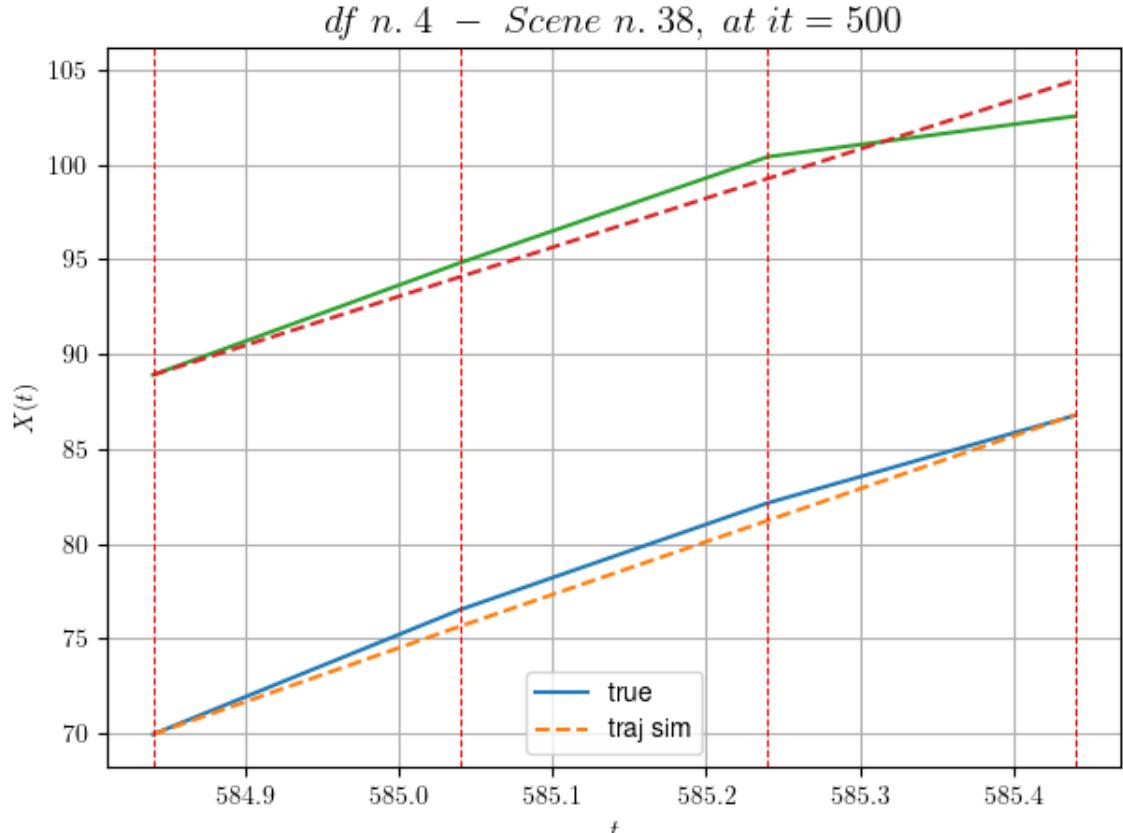
- Time interval n.0: [584.84, 585.04]
 - * y_true: [32.88340113]
 - * v_ann: [28.506980895996094, 25.889440529704235]

- Time interval n.1: [585.04, 585.24]
 - * y_true: [28.11341581]
 - * v_ann: [27.877634048461914, 25.889440529704235]

- Time interval n.2: [585.24, 585.44]
 - * y_true: [23.09315201]

```
* v_ann: [27.842714309692383, 25.889440529704235]
```

```
* err= 0.8805205346542938
* Learning rate NN = 2.952449540316593e-05
* diff = 1.1174660413559856e-05
```



For scene 38/69

```
* use LR_NN=5e-05 with err=2.615848452770595 at it=24
* v0_scn_mean = 26.053862908484813
* MAE = 0.8794010516296695
```

df n.4, scene n.39/69

We have 2 time intervals inside [7.04, 7.44]

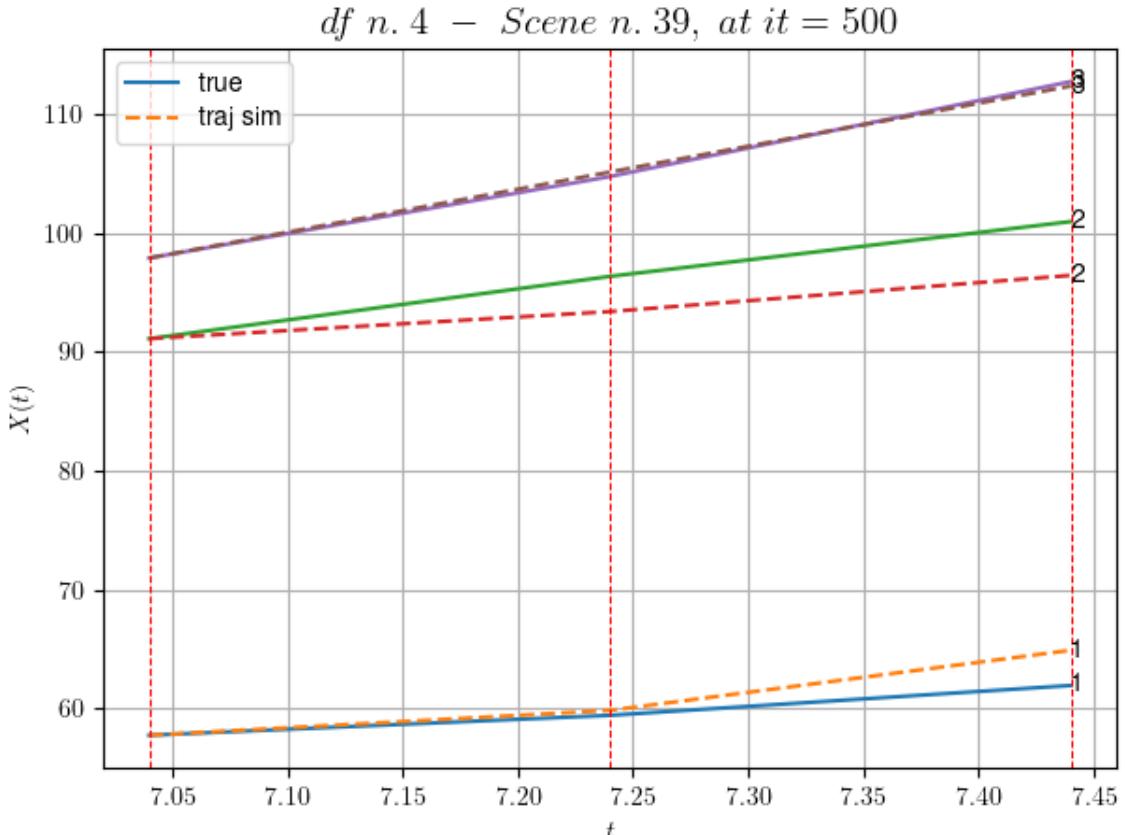
- Time interval n.0: [7.04, 7.24]
 - * y_true: [8.37556318 26.1843701]
 - * v_ann: [10.447982788085938, 11.386673927307129, 3 6.15423035610224]

- Time interval n.1: [7.24, 7.44]
 - * y_true: [12.54090657 23.03433042]
 - * v_ann: [25.285106658935547, 15.225678443908691, 3 6.15423035610224]

```

* err= 4.270978580721983
* Learning rate NN = 0.0007289999630302191
* diff = 0.24327491109508514

```



For scene 39/69

```

* use LR_NN=0.001 with err=11.301466314252487 at it=24
* v0_scn_mean = 35.784976811047734
* MAE = 4.270978580721983

```

df n.4, scene n.40/69

We have 2 time intervals inside [19.84, 20.24]

- Time interval n.0: [19.84, 20.04]
 - * y_true: [38.50393497 35.76621737]
 - * v_ann: [30.598867416381836, 27.409040451049805, 26.058966670570122]

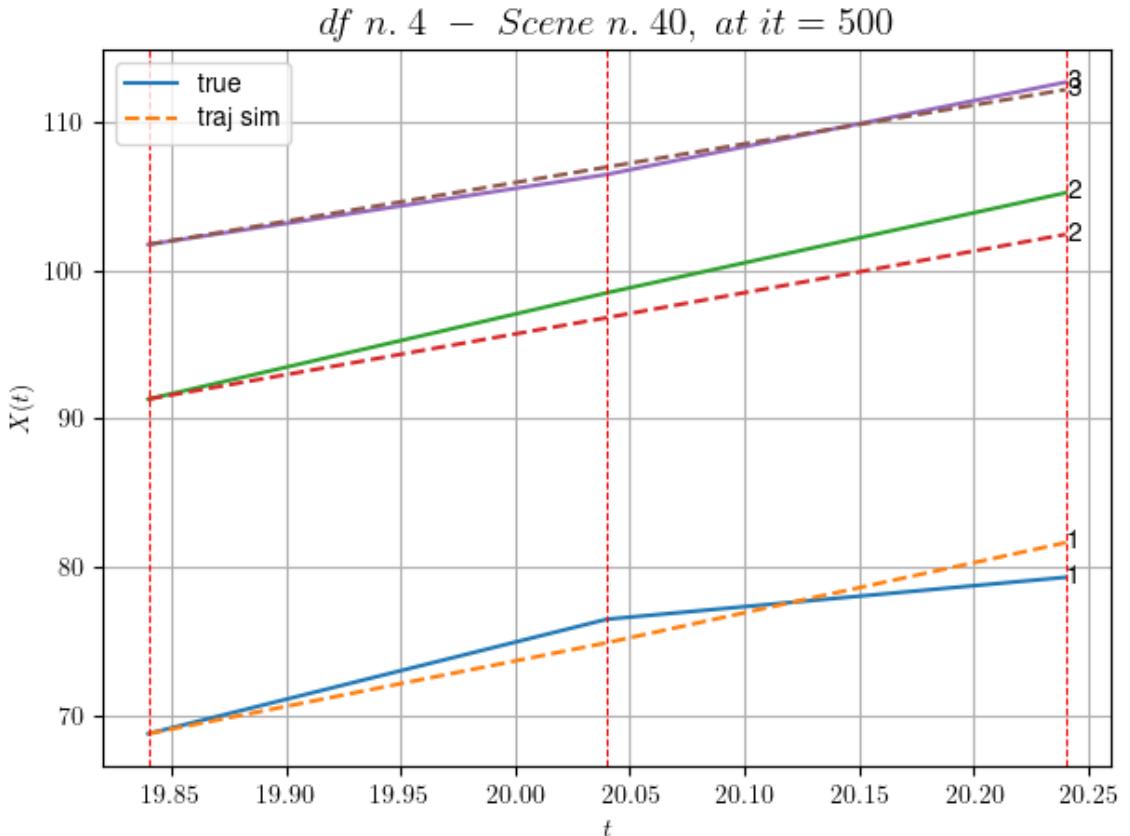
- Time interval n.1: [20.04, 20.24]
 - * y_true: [14.10165462 33.63672046]
 - * v_ann: [33.6623420715332, 28.0045166015625, 26.058966670570122]

```

* err= 2.116581500279991
* Learning rate NN = 7.289998757187277e-05

```

* diff = 0.062237603194231994



For scene 40/69

* use LR_NN=0.0001 with err=10.104719079816295 at it=24
 * v0_scn_mean = 26.29542849339211
 * MAE = 2.116581500279991

df n.4, scene n.41/69

We have 5 time intervals inside [23.64, 24.64]

- Time interval n.0: [23.64, 23.84]
 - * y_true: [16.50112189 27.57447859]
 - * v_ann: [16.16801643371582, 21.01720428466797, 25.974575559418618]

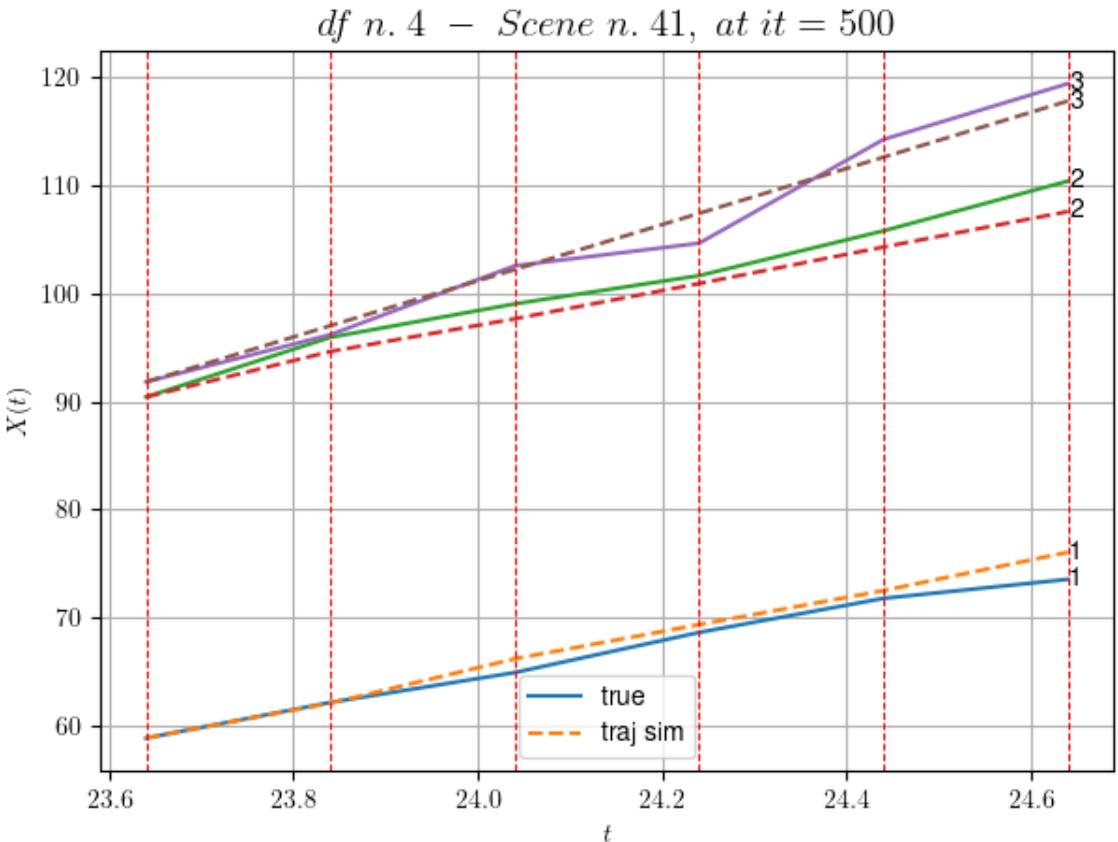
- Time interval n.1: [23.84, 24.04]
 - * y_true: [13.80103575 15.46275359]
 - * v_ann: [20.491737365722656, 15.141985893249512, 25.974575559418618]

- Time interval n.2: [24.04, 24.24]
 - * y_true: [18.55153987 13.07248815]
 - * v_ann: [15.805717468261719, 16.2853946685791, 25.974575559418618]

```
- Time interval n.3: [24.24, 24.44]
  * y_true: [15.75144675 20.6942352 ]
  * v_ann: [15.743688583374023, 16.886363983154297, 2
5.974575559418618]
```

```
- Time interval n.4: [24.44, 24.64]
  * y_true: [ 8.80086699 23.00509018]
  * v_ann: [17.724536895751953, 16.399702072143555, 2
5.974575559418618]
```

```
* err= 2.052415792878609  
* Learning rate NN = 0.0003874204121530056  
* diff = 0.000007001463022226
```



For scene 41/69

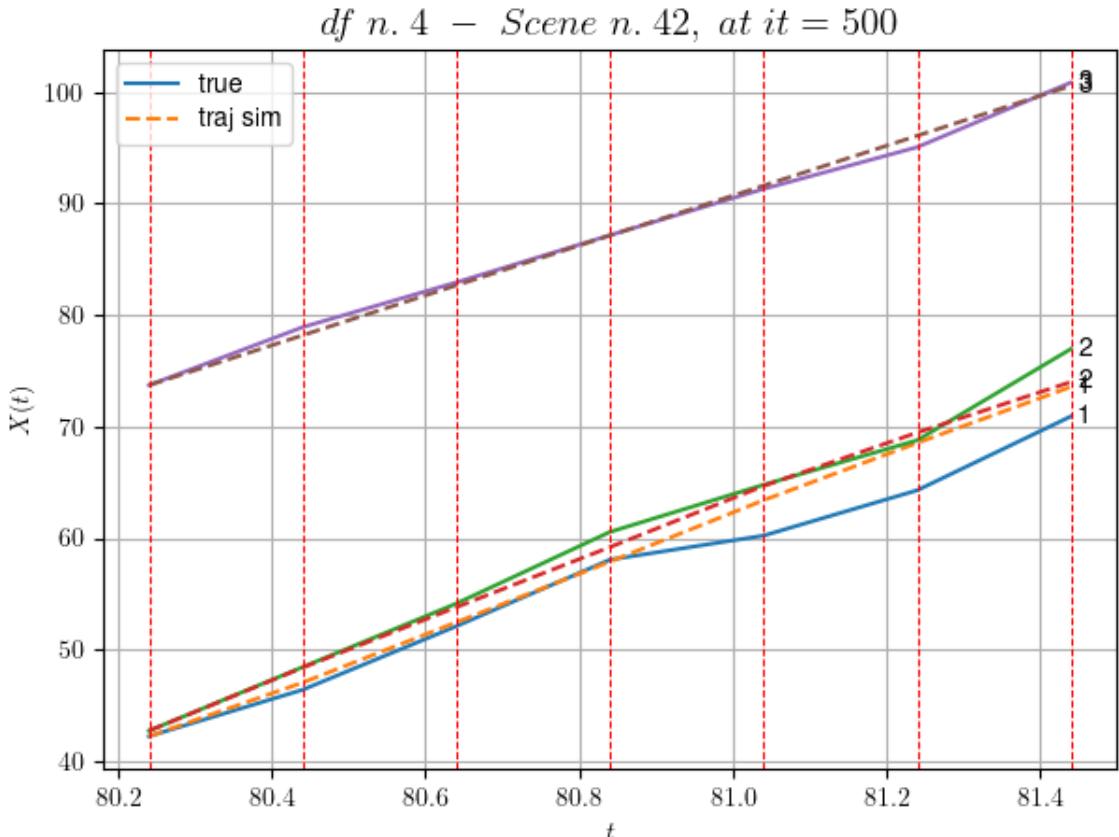
```
* use LR_NN=0.001 with err=25.088178456297147 at it=24  
* v0_scn_mean = 26.216100845120653  
* MAE = 2.052415792878609
```

df n.4. scene n.42/69

We have 6 time intervals inside [80.24, 81.44]

- Time interval n.0: [80.24, 80.44]
 - * y_true: [20.8407888 28.56113721]

```
* v_ann: [24.054229736328125, 28.300094604492188, 2  
2.367774273874375]  
-----  
-----  
- Time interval n.1: [80.44, 80.64]  
* y_true: [28.49133895 28.481454 ]  
* v_ann: [27.0314884185791, 27.091938018798828, 22.  
367774273874375]  
-----  
-----  
- Time interval n.2: [80.64, 80.84]  
* y_true: [29.84173661 32.11200361]  
* v_ann: [27.182851791381836, 26.959117889404297, 2  
2.367774273874375]  
-----  
-----  
- Time interval n.3: [80.84, 81.04]  
* y_true: [10.79069268 21.14157827]  
* v_ann: [27.572498321533203, 27.42781639099121, 2  
2.367774273874375]  
-----  
-----  
- Time interval n.4: [81.04, 81.24]  
* y_true: [20.33152897 19.96178137]  
* v_ann: [25.69281005859375, 23.950637817382812, 2  
2.367774273874375]  
-----  
-----  
- Time interval n.5: [81.24, 81.44]  
* y_true: [33.14293198 40.94411969]  
* v_ann: [25.13115119934082, 22.675739288330078, 2  
2.367774273874375]  
-----  
-----  
* err= 2.3204375738093774  
* Learning rate NN = 0.00015690525469835848  
* diff = 0.019419630809998978
```



For scene 42/69

```
* use LR_NN=0.0005 with err=41.733818057511776 at it=24
* v0_scn_mean = 22.82570747477151
* MAE = 2.3204375738093774
```

df n.4, scene n.43/69

We have 4 time intervals inside [89.04, 89.84]

- Time interval n.0: [89.04, 89.24]
 - * y_true: [19.34082001 24.8230577]
 - * v_ann: [19.771989822387695, 19.105361938476562, 3 2.77543163260234]

- Time interval n.1: [89.24, 89.44]
 - * y_true: [14.120693 17.32233598]
 - * v_ann: [19.971006393432617, 19.19397735595703, 3 2.77543163260234]

- Time interval n.2: [89.44, 89.64]
 - * y_true: [18.19104002 31.50485669]
 - * v_ann: [20.009613037109375, 19.483247756958008, 3 2.77543163260234]

```

-----  

- Time interval n.3: [89.64, 89.84]  

* y_true: [22.07139916 11.31182118]  

* v_ann: [20.501434326171875, 19.97776222229004, 3  

2.77543163260234]
-----
```

```

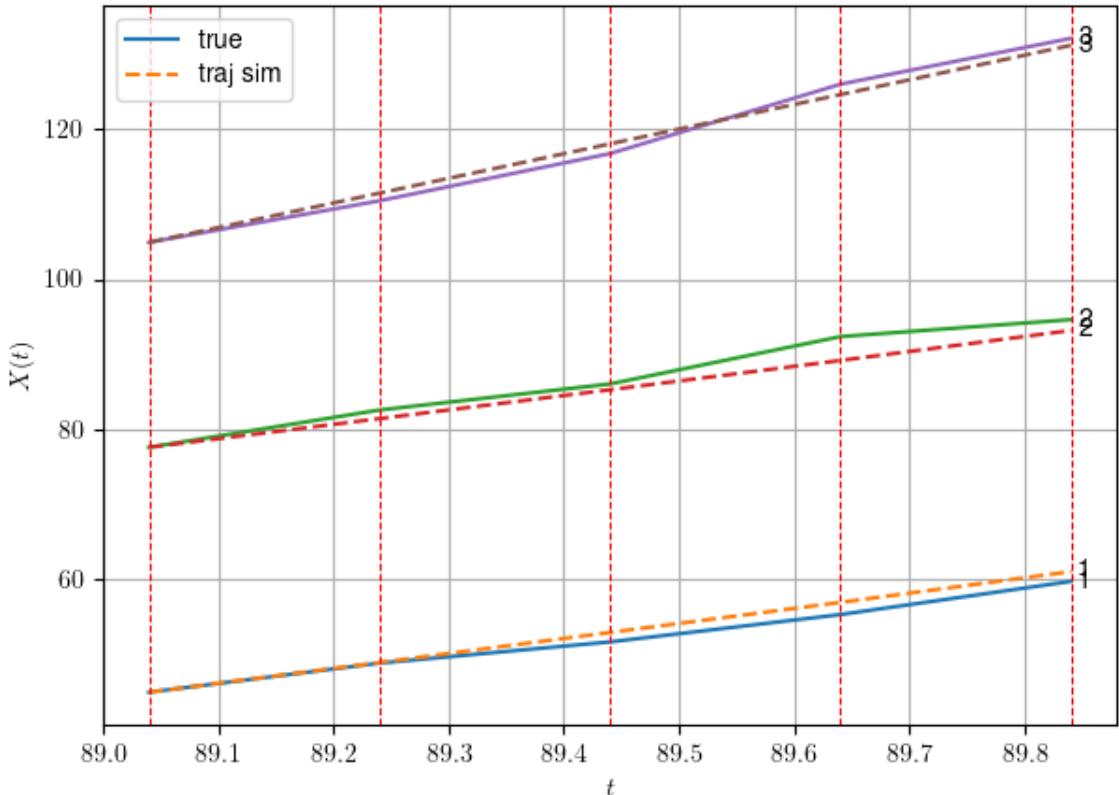
-----  

* err= 1.6973419699443166  

* Learning rate NN = 4.782968062500004e-06  

* diff = 0.004887607488274659
-----
```

df n. 4 – Scene n. 43, at it = 500



For scene 43/69

```

* use LR_NN=1e-05 with err=3.924629901813173 at it=24
* v0_scn_mean = 32.608905859257156
* MAE = 1.6973419699443166
=====
```

df n.4, scene n.44/69

```

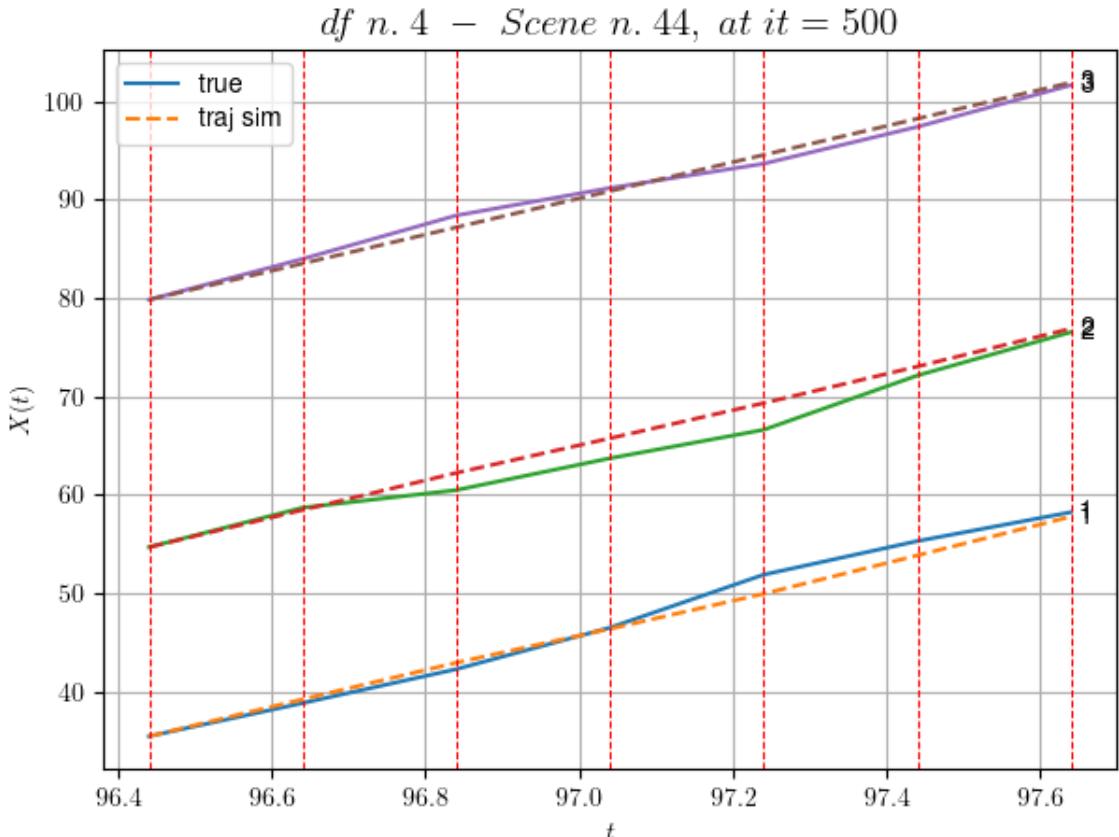
=====
We have 6 time intervals inside [96.44,97.64]
- Time interval n.0: [96.44, 96.64]
* y_true: [16.86045215 20.08121647]
* v_ann: [18.79493522644043, 18.924976348876953, 1  

8.401280606024468]
=====
```

```

-----
- Time interval n.1: [96.64, 96.84]
* y_true: [17.24055532 8.93061591]
```

```
* v_ann: [18.595182418823242, 18.827999114990234, 1  
8.401280606024468]  
-----  
-----  
- Time interval n.2: [96.84, 97.04]  
* y_true: [21.11081641 16.18118624]  
* v_ann: [17.219446182250977, 17.597097396850586, 1  
8.401280606024468]  
-----  
-----  
- Time interval n.3: [97.04, 97.24]  
* y_true: [26.9212791 14.46120094]  
* v_ann: [17.80478286743164, 17.86945915222168, 18.  
401280606024468]  
-----  
-----  
- Time interval n.4: [97.24, 97.44]  
* y_true: [17.07093447 27.60253797]  
* v_ann: [19.511274337768555, 18.609148025512695, 1  
8.401280606024468]  
-----  
-----  
- Time interval n.5: [97.44, 97.64]  
* y_true: [14.70092006 22.05229805]  
* v_ann: [19.718366622924805, 19.271940231323242, 1  
8.401280606024468]  
-----  
-----  
* err= 1.2183243307485516  
* Learning rate NN = 0.00015690525469835848  
* diff = 0 012271220702777730
```



For scene 44/69

```
* use LR_NN=0.0005 with err=31.767376162353003 at it=24
* v0_scn_mean = 19.097203248905647
* MAE = 1.2183243307485516
```

df n.4, scene n.45/69

We have 7 time intervals inside [182.24,183.64]

- Time interval n.0: [182.24, 182.44]
 - * y_true: [18.61043577 13.125309]
 - * v_ann: [20.036779403686523, 20.348323822021484, 2

0.77319956727245]

- Time interval n.1: [182.44, 182.64]
 - * y_true: [12.51734154 21.64870909]
 - * v_ann: [16.241104125976562, 18.853422164916992, 2

0.77319956727245]

- Time interval n.2: [182.64, 182.84]
 - * y_true: [15.03048681 24.29091592]
 - * v_ann: [19.627803802490234, 18.341920852661133, 2

0.77319956727245]

```

-----  

- Time interval n.3: [182.84, 183.04]  

* y_true: [10.23036632 31.71160501]  

* v_ann: [19.60672950744629, 18.60053062438965, 20.  

77319956727245]  

-----  

- Time interval n.4: [183.04, 183.24]  

* y_true: [15.12061978 22.63128316]  

* v_ann: [19.440412521362305, 18.866724014282227, 2  

0.77319956727245]  

-----  

- Time interval n.5: [183.24, 183.44]  

* y_true: [17.50081627 28.99215837]  

* v_ann: [19.263269424438477, 19.198932647705078, 2  

0.77319956727245]  

-----  

- Time interval n.6: [183.44, 183.64]  

* y_true: [14.74077551 22.90183379]  

* v_ann: [19.933427810668945, 20.461265563964844, 2  

0.77319956727245]  

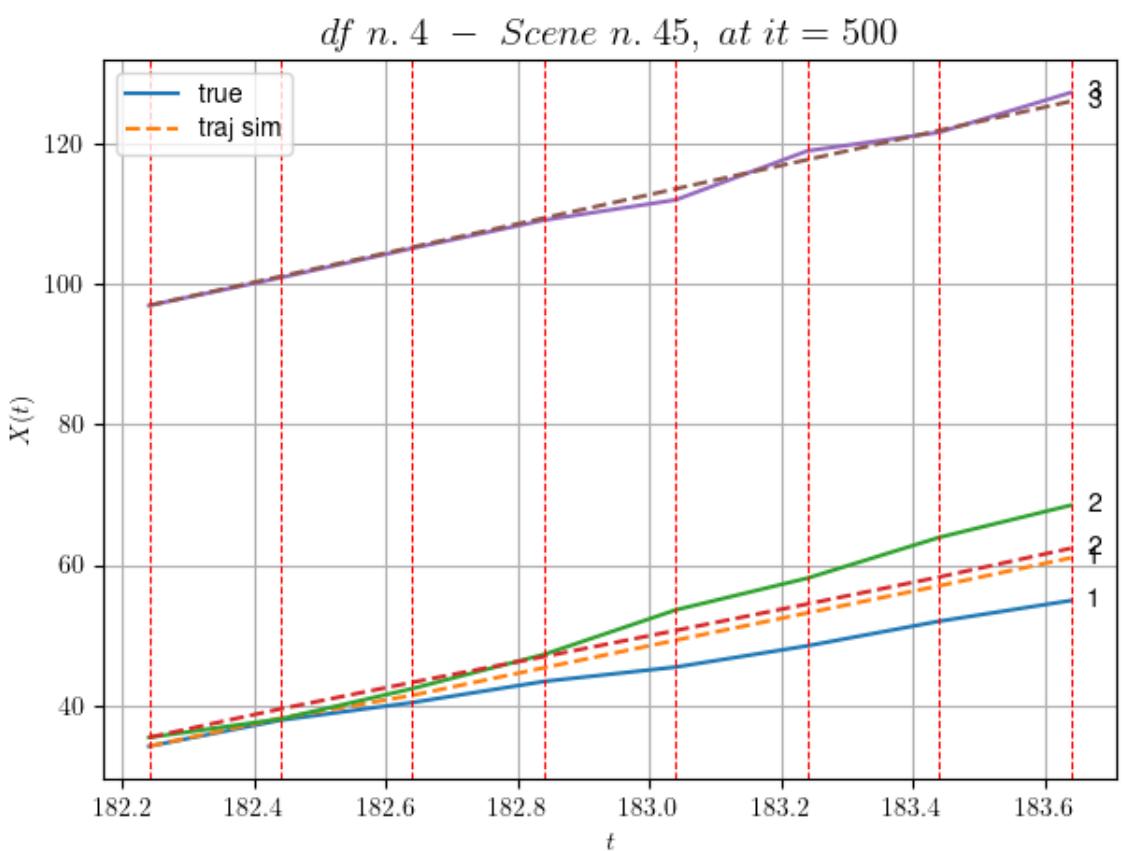
-----  

* err= 8.505158355947822  

* Learning rate NN = 0.00012709324073512107  

* diff = 0.04668029101663862

```



For scene 45/69

```
* use LR_NN=0.0005 with err=38.518928981364446 at it=24
* v0_scn_mean = 21.326807178972565
* MAE = 8.504608992147991
```

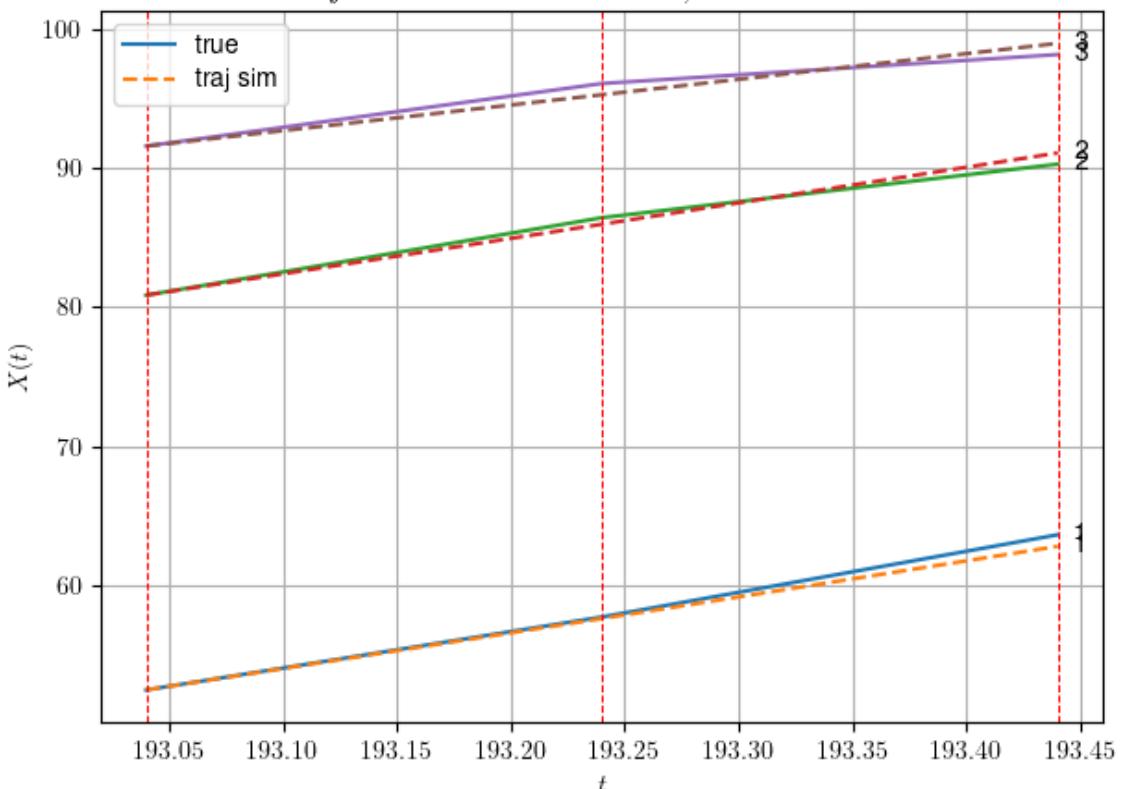
df n.4, scene n.46/69

```
We have 2 time intervals inside [193.04,193.44]
- Time interval n.0: [193.04, 193.24]
  * y_true: [26.28155868 27.90372348]
  * v_ann: [25.7166748046875, 25.554616928100586, 18.
506528748462838]
```

```
- Time interval n.1: [193.24, 193.44]
  * y_true: [29.63205884 19.30286837]
  * v_ann: [26.01482391357422, 25.674175262451172, 1
8.506528748462838]
```

```
* err= 0.320469816219783
* Learning rate NN = 3.6449993785936385e-05
* diff = 0.0020870665112326081
```

df n. 4 – Scene n. 46, at it = 500



For scene 46/69

```
* use LR_NN=5e-05 with err=7.666813640920881 at it=24
* v0_scn_mean = 19.196136507522937
* MAE = 0.2708552026901984
```

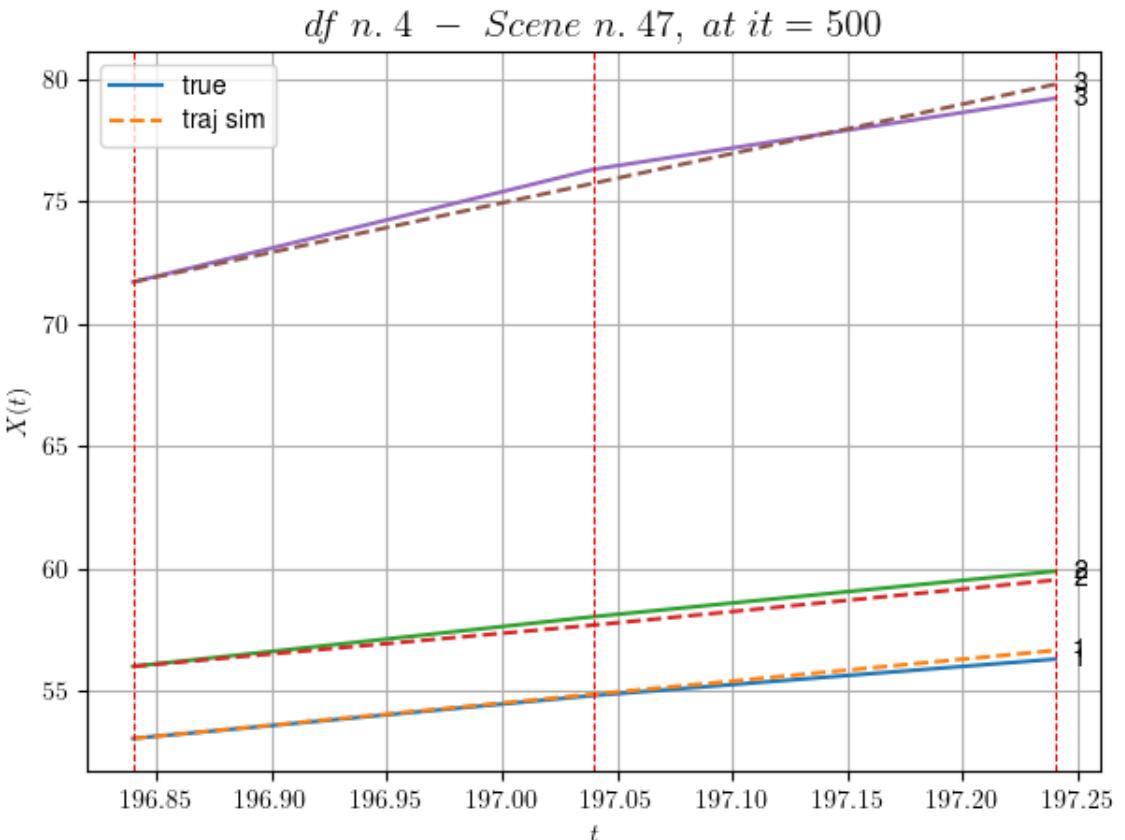
```
=====
=====

df n.4, scene n.47/69
=====
=====

We have 2 time intervals inside [196.84,197.24]
- Time interval n.0: [196.84, 197.04]
  * y_true: [ 8.77046468 10.16548364]
  * v_ann: [9.048263549804688, 8.44008731842041, 20.1
88773230043527]

-----
- Time interval n.1: [197.04, 197.24]
  * y_true: [7.43042623 9.26246532]
  * v_ann: [8.926247596740723, 9.194316864013672, 20.
188773230043527]

-----
* err= 0.1137261950003761
* Learning rate NN = 0.0007289999630302191
* diff = 0.000330502084742168
```



For scene 47/69
* use LR_NN=0.001 with err=2.9159384896040295 at it=24
* v0_scn_mean = 20.777446395737986
* MAE = 0.1137261950003761

```
df n.4, scene n.48/69
```

```
=====
=====
```

We have 3 time intervals inside [222.84, 223.44]

- Time interval n.0: [222.84, 223.04]
 - * y_true: [19.28108097 23.47419597]
 - * v_ann: [14.110092163085938, 14.677080154418945, 3

0.10792866273013]

-
- Time interval n.1: [223.04, 223.24]
 - * y_true: [17.49110618 15.20291758]
 - * v_ann: [21.029190063476562, 17.929014205932617, 3

0.10792866273013]

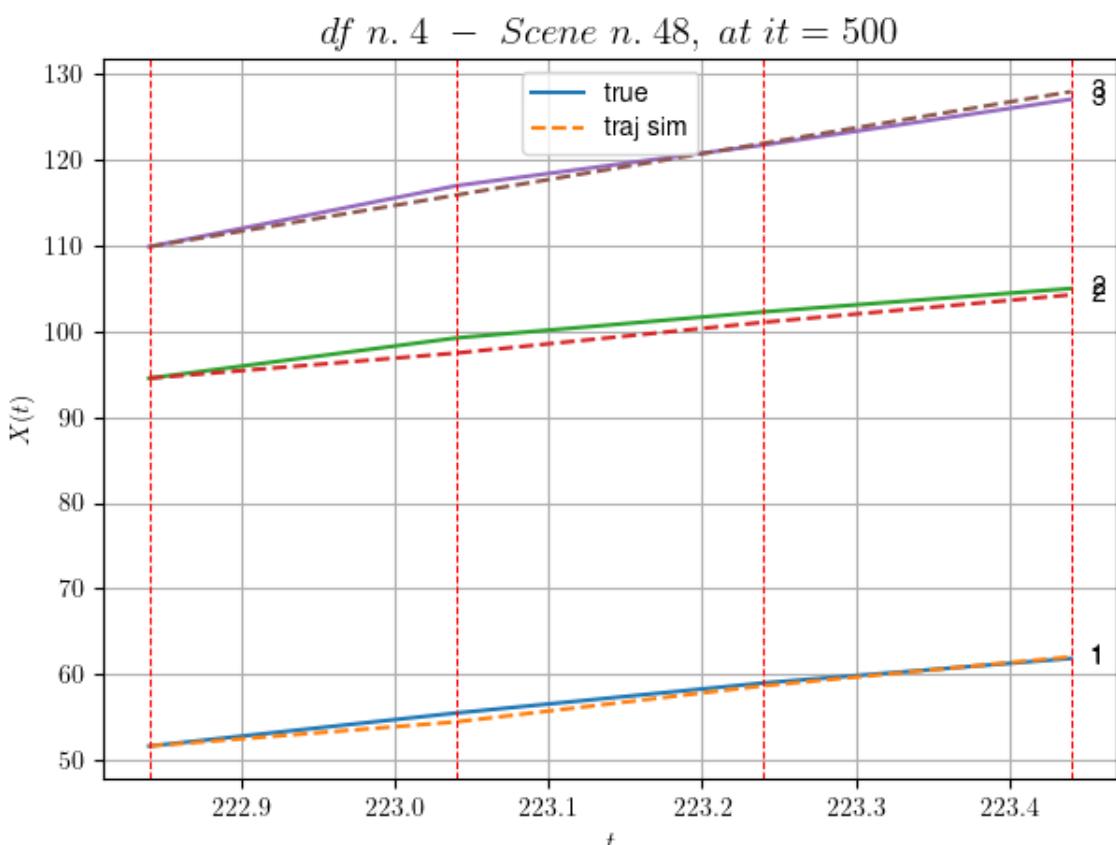
- Time interval n.2: [223.24, 223.44]
 - * y_true: [14.25100604 13.59283886]
 - * v_ann: [16.821990966796875, 15.982322692871094, 3

0.10792866273013]

* err= 0.6949647730990581

* Learning rate NN = 0.0002952449722215533

* diff = 0.005512775630399536



For scene 48/69

- * use LR_NN=0.0005 with err=5.514292328510163 at it=24
- * v0_scn_mean = 30.101452947812177
- * MAE = 0.6949647730990581

```
=====
=====
```

df n.4, scene n.49/69

```
=====
=====
```

We have 12 time intervals inside [224.84,227.24]

- Time interval n.0: [224.84, 225.04]
 - * y_true: [17.10046829 25.29311811]
 - * v_ann: [18.807416915893555, 19.644094467163086, 1
5.713677130054807]

```
-----
```

- Time interval n.1: [225.04, 225.24]
 - * y_true: [17.70062553 10.9614656]
 - * v_ann: [19.188364028930664, 19.918689727783203, 1
5.713677130054807]

```
-----
```

- Time interval n.2: [225.24, 225.44]
 - * y_true: [22.57087879 26.33405568]
 - * v_ann: [18.440731048583984, 19.688814163208008, 1
5.713677130054807]

```
-----
```

- Time interval n.3: [225.44, 225.64]
 - * y_true: [16.35079439 22.81365517]
 - * v_ann: [19.233869552612305, 19.964847564697266, 1
5.713677130054807]

```
-----
```

- Time interval n.4: [225.64, 225.84]
 - * y_true: [20.8811317 16.55300892]
 - * v_ann: [19.318464279174805, 19.96881866455078, 1
5.713677130054807]

```
-----
```

- Time interval n.5: [225.84, 226.04]
 - * y_true: [16.52103304 29.98602504]
 - * v_ann: [19.17885398864746, 19.90196990966797, 15.
713677130054807]

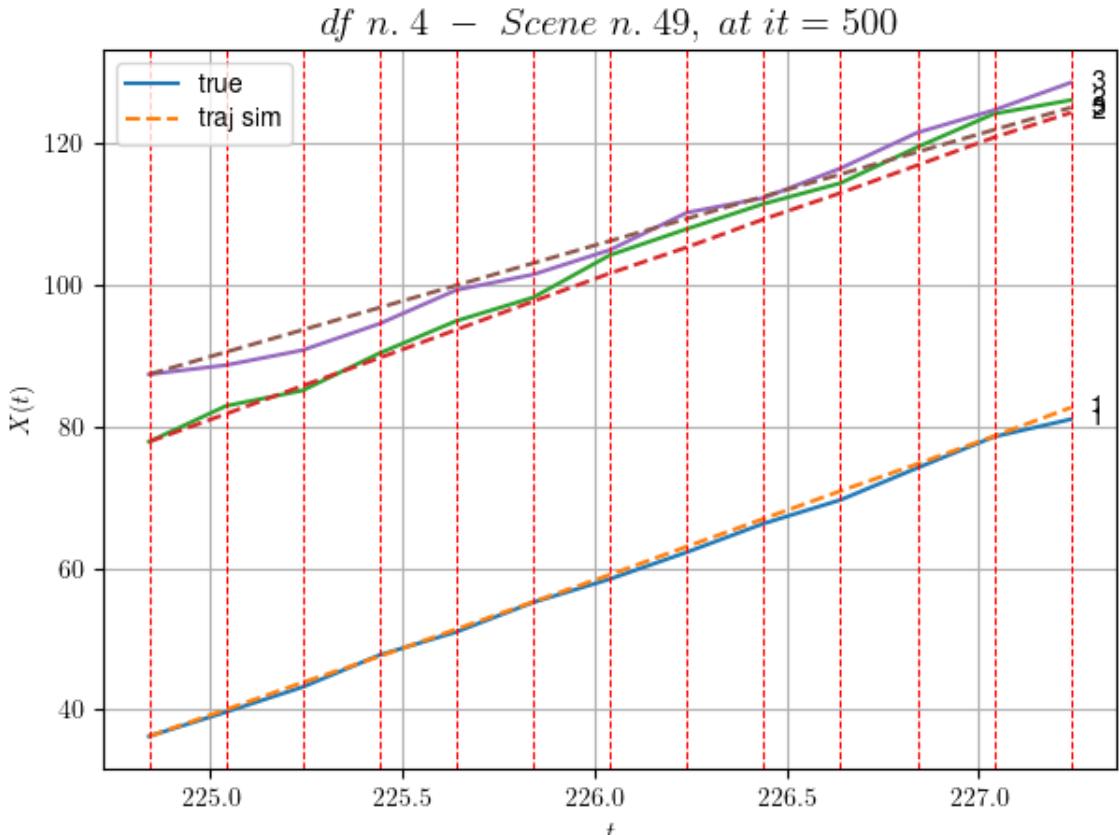
```
-----
```

- Time interval n.6: [226.04, 226.24]
 - * y_true: [18.95135857 18.46388585]
 - * v_ann: [19.85647201538086, 18.36227798461914, 15.
713677130054807]

```
-----
```

- Time interval n.7: [226.24, 226.44]
 - * y_true: [20.26160248 17.75418412]

```
* v_ann: [19.718793869018555, 19.82612419128418, 1  
5.713677130054807]  
-----  
-----  
- Time interval n.8: [226.44, 226.64]  
* y_true: [16.68150299 14.60353303]  
* v_ann: [19.589359283447266, 18.53785514831543, 1  
5.713677130054807]  
-----  
-----  
- Time interval n.9: [226.64, 226.84]  
* y_true: [22.62228992 25.47686963]  
* v_ann: [19.065874099731445, 19.60137176513672, 1  
5.713677130054807]  
-----  
-----  
- Time interval n.10: [226.84, 227.04]  
* y_true: [22.04244959 23.58655245]  
* v_ann: [19.743549346923828, 19.73219108581543, 1  
5.713677130054807]  
-----  
-----  
- Time interval n.11: [227.04, 227.24]  
* y_true: [12.37151499 9.65291202]  
* v_ann: [20.19468879699707, 17.41334342956543, 15.  
713677130054807]  
-----  
-----  
* err= 2.622377573554247  
* Learning rate NN = 4.431466732057743e-05  
.....
```



For scene 49/69

```
* use LR_NN=0.0005 with err=220.0885852356565 at it=24
* v0_scn_mean = 16.570855860826516
* MAE = 2.622377573554247
```

df n.4, scene n.50/69

We have 7 time intervals inside [230.84, 232.24]

- Time interval n.0: [230.84, 231.04]
 - * y_true: [5.64695095 17.97864337]
 - * v_ann: [11.537408828735352, 14.134182929992676, 2

3.32272300258646]

- Time interval n.1: [231.04, 231.24]
 - * y_true: [5.72513489 21.19066695]
 - * v_ann: [14.941861152648926, 13.729416847229004, 2

3.32272300258646]

- Time interval n.2: [231.24, 231.44]
 - * y_true: [6.01015392 28.29114422]
 - * v_ann: [14.57457447052002, 13.684015274047852, 2

3.32272300258646]

```

-----  

    - Time interval n.3: [231.44, 231.64]  

      * y_true: [ 6.20016661 18.85086271]  

      * v_ann: [14.733675003051758, 14.518714904785156, 2  

3.32272300258646]  

-----  

    - Time interval n.4: [231.64, 231.84]  

      * y_true: [ 7.13021091 21.11121983]  

      * v_ann: [13.92774486541748, 14.023862838745117, 2  

3.32272300258646]  

-----  

    - Time interval n.5: [231.84, 232.04]  

      * y_true: [ 7.75024044 18.61116554]  

      * v_ann: [13.693757057189941, 14.015625953674316, 2  

3.32272300258646]  

-----  

    - Time interval n.6: [232.04, 232.24]  

      * y_true: [ 8.87530762 21.24160102]  

      * v_ann: [13.269044876098633, 13.716596603393555, 2  

3.32272300258646]  

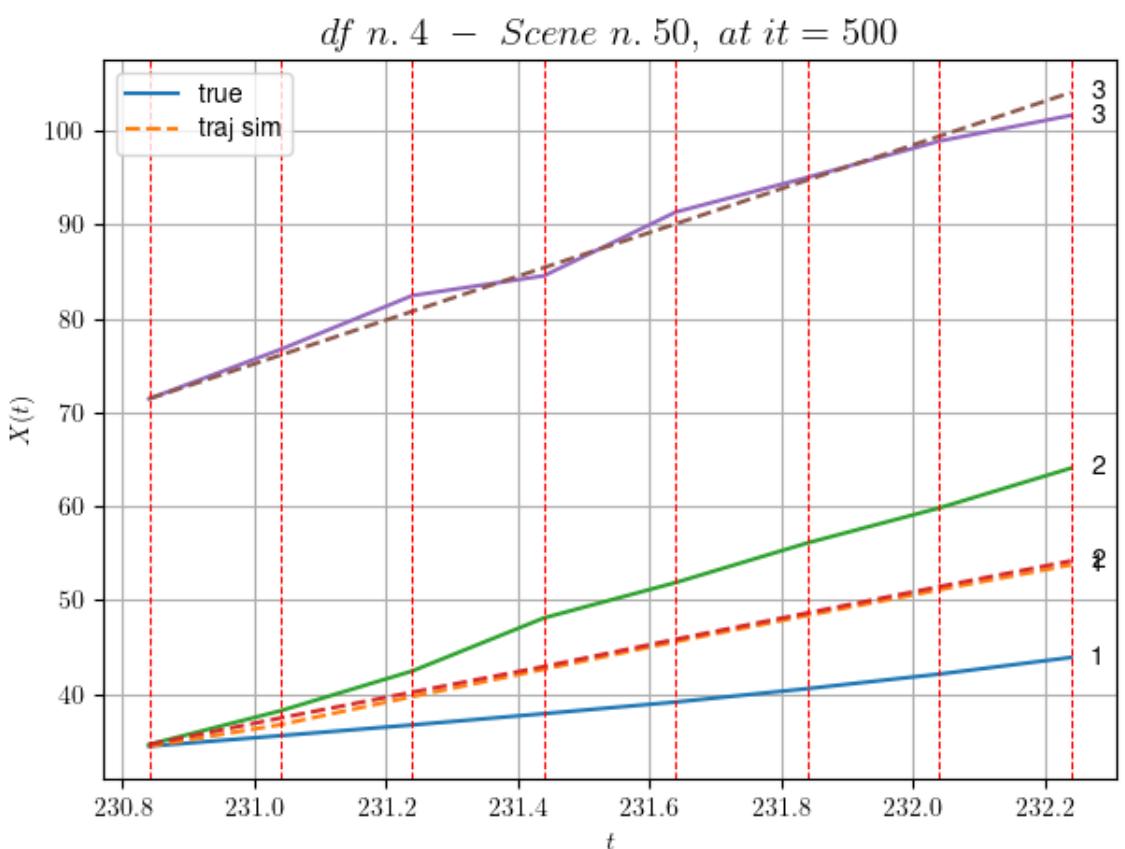
-----  

* err= 25.762762309941564  

* Learning rate NN = 0.00025418648147024214  

* diff = 0.01118208906550322

```



For scene 50/69

```
* use LR_NN=0.001 with err=20.574637386702292 at it=24
* v0_scn_mean = 23.723359322636178
* MAE = 25.572915464461563
```

```
=====
```

```
df n.4, scene n.51/69
```

```
=====
```

```
=====
```

```
We have 7 time intervals inside [233.84,235.24]
- Time interval n.0: [233.84, 234.04]
  * y_true: [14.14101026 12.7012637 ]
  * v_ann: [21.4322566986084, 21.934194564819336, 21.
462806471988575]
```

```
-----
```

```
-----
```

```
- Time interval n.1: [234.04, 234.24]
  * y_true: [26.43219185 20.11227439]
  * v_ann: [21.17896270751953, 21.85548210144043, 21.
462806471988575]
```

```
-----
```

```
-----
```

```
- Time interval n.2: [234.24, 234.44]
  * y_true: [22.40209801 33.22429882]
  * v_ann: [21.391860961914062, 21.938209533691406, 2
1.462806471988575]
```

```
-----
```

```
-----
```

```
- Time interval n.3: [234.44, 234.64]
  * y_true: [ 7.15071478 24.83361026]
  * v_ann: [21.34708023071289, 22.108980178833008, 2
1.462806471988575]
```

```
-----
```

```
-----
```

```
- Time interval n.4: [234.64, 234.84]
  * y_true: [26.44301464 23.06377261]
  * v_ann: [20.817733764648438, 21.554853439331055, 2
1.462806471988575]
```

```
-----
```

```
-----
```

```
- Time interval n.5: [234.84, 235.04]
  * y_true: [27.303494 31.34578132]
  * v_ann: [21.014995574951172, 21.441606521606445, 2
1.462806471988575]
```

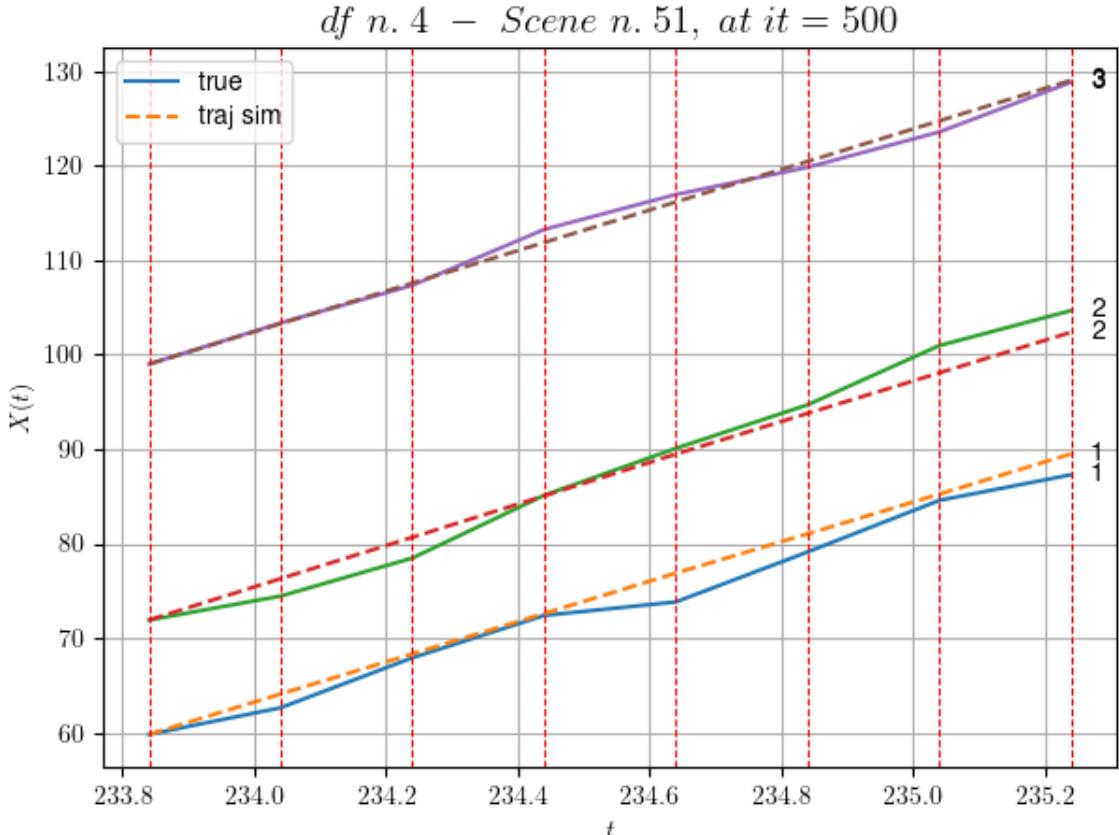
```
-----
```

```
-----
```

```
- Time interval n.6: [235.04, 235.24]
  * y_true: [13.58189317 18.51369375]
  * v_ann: [21.312519073486328, 21.49668312072754, 2
1.462806471988575]
```

```
-----
```

```
* err= 2.0010370365439725
* Learning rate NN = 2.5418647055630572e-05
```



For scene 51/69

```
* use LR_NN=0.0001 with err=31.491984881976805 at it=24
* v0_scn_mean = 21.975037700367544
* MAE = 1.6858312592793467
```

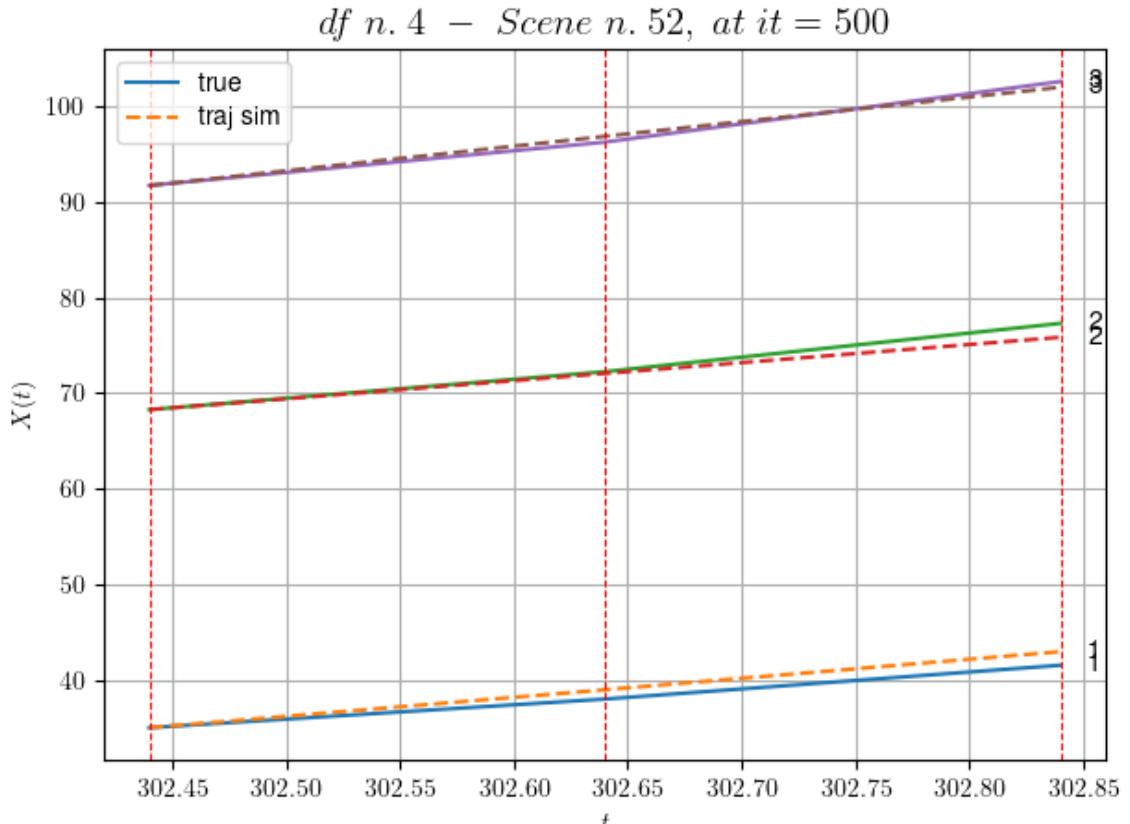
df n.4, scene n.52/69

We have 2 time intervals inside [302.44, 302.84]

- Time interval n.0: [302.44, 302.64]
 - * y_true: [15.00036276 19.90190261]
 - * v_ann: [19.881990432739258, 18.966154098510742, 2
 - 5.744538233029026]

- Time interval n.1: [302.64, 302.84]
 - * y_true: [17.72492583 25.30273749]
 - * v_ann: [19.971328735351562, 18.946395874023438, 2
 - 5.744538233029026]

```
* err= 0.652527755286244
* Learning rate NN = 7.289998848136747e-06
* diff = 0.003699158354275589
```



For scene 52/69

- * use LR_NN=1e-05 with err=2.0870833601027727 at it=24
- * v0_scn_mean = 25.999865747986057
- * MAE = 0.652527755286244

df n.4, scene n.53/69

We have 4 time intervals inside [364.64, 365.44]

- Time interval n.0: [364.64, 364.84]
 - * y_true: [23.68175628 20.26218764]
 - * v_ann: [18.427997589111328, 19.336191177368164, 2

8.20572489389836]

- Time interval n.1: [364.84, 365.04]
 - * y_true: [20.38169455 13.81168669]
 - * v_ann: [18.801395416259766, 19.388504028320312, 2

8.20572489389836]

- Time interval n.2: [365.04, 365.24]
 - * y_true: [10.17092159 27.1635357]
 - * v_ann: [19.089275360107422, 18.1304988861084, 28.

20572489389836]

```

-----  

- Time interval n.3: [365.24, 365.44]  

* y_true: [18.57186597 15.36227914]  

* v_ann: [18.10753059387207, 18.02374267578125, 28.  

20572489389836]
-----
```

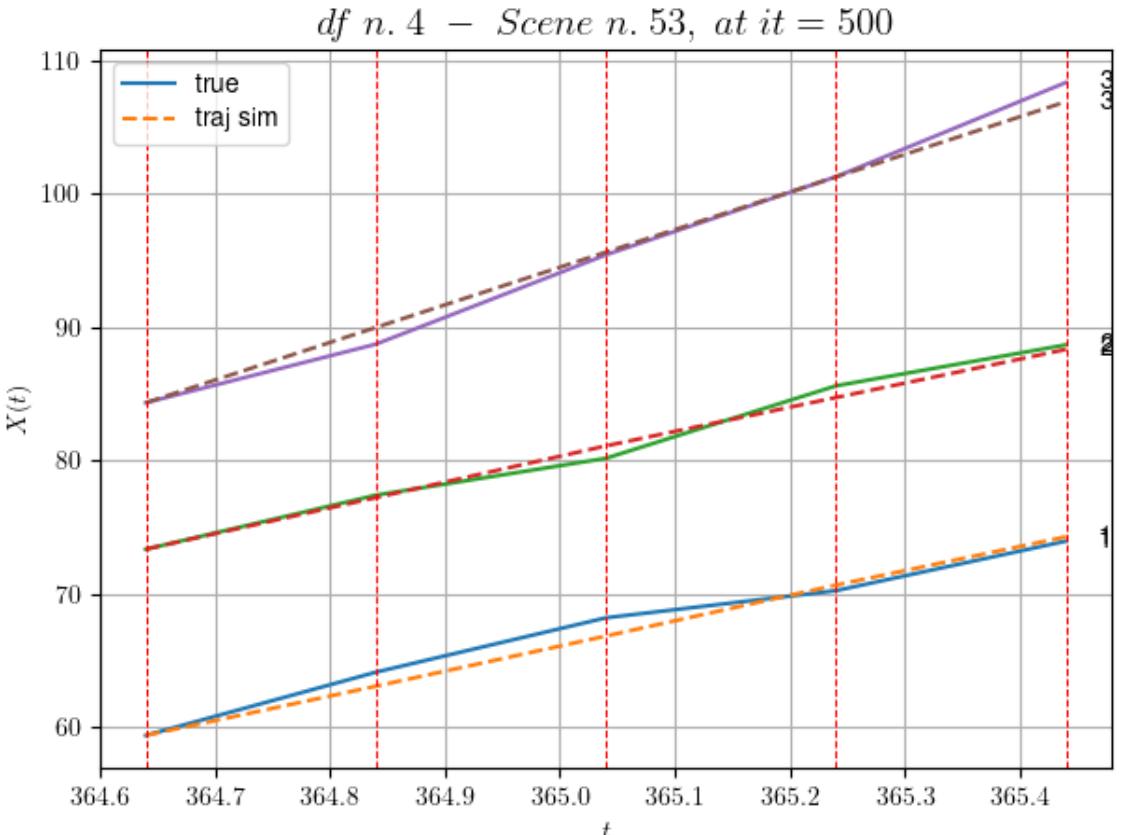
```

-----  

* err= 0.5812722252136905  

* Learning rate NN = 4.7829678806010634e-05  

* diff = 0.0002682477620171016
-----
```



For scene 53/69

```

* use LR_NN=0.0001 with err=0.994512743892062 at it=24
* v0_scn_mean = 28.313381319705673
* MAE = 0.5432821530130878
=====
```

df n.4, scene n.54/69

```

=====
```

```

=====  

We have 5 time intervals inside [422.64,423.64]  

- Time interval n.0: [422.64, 422.84]  

* y_true: [18.36052369 19.91162557]  

* v_ann: [28.174863815307617, 25.328645706176758, 2  

7.5450896077765]
=====
```

```

-----  

- Time interval n.1: [422.84, 423.04]  

* y_true: [28.40107569 15.51150308]  

* v_ann: [23.7950382232666, 22.52600860595703, 27.5
=====
```

450896077765]

```

-----  

-----  

    - Time interval n.2: [423.04, 423.24]  

      * y_true: [26.09121176 24.58263804]  

      * v_ann: [22.86004638671875, 22.256961822509766, 2  

7.5450896077765]  

-----  

-----  

    - Time interval n.3: [423.24, 423.44]  

      * y_true: [32.41191994 23.07275882]  

      * v_ann: [24.132068634033203, 23.40319061279297, 2  

7.5450896077765]  

-----  

-----  

    - Time interval n.4: [423.44, 423.64]  

      * y_true: [25.31178577 31.31439465]  

      * v_ann: [25.74726676940918, 25.33140754699707, 27.  

5450896077765]  

-----  

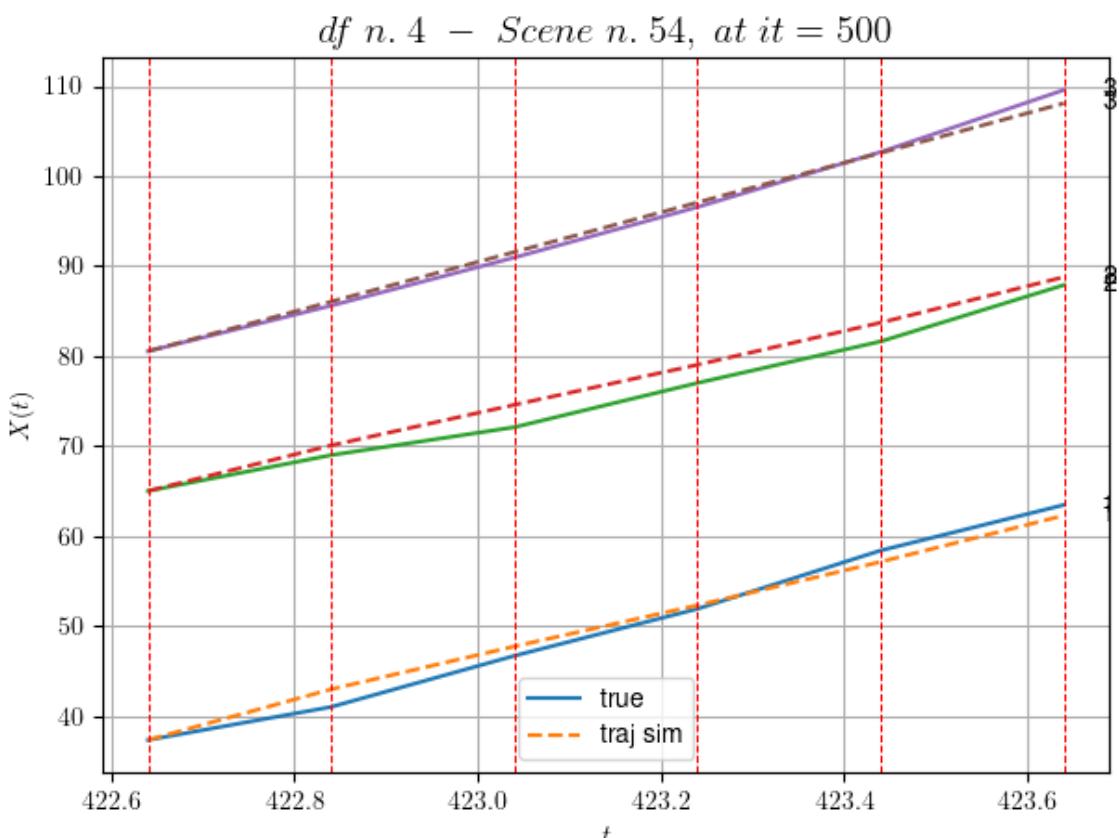
-----  

* err= 1.5381021708866067  

* Learning rate NN = 0.0001937102060765028  

* diff = 0.03697492033300187

```



For scene 54/69

```

* use LR_NN=0.0005 with err=2.7406274215320323 at it=24
* v0_scn_mean = 27.692384121090008
* MAE = 1.1650650295230678

```

```
=====
=====
```

df n.4, scene n.55/69

```
=====
=====
```

We have 2 time intervals inside [440.44, 440.84]

- Time interval n.0: [440.44, 440.64]

- * y_true: [23.50209477 27.05306951]

- * v_ann: [19.72073745727539, 19.711017608642578, 2
1.12699449757212]

```
=====
=====
```

- Time interval n.1: [440.64, 440.84]

- * y_true: [8.15079495 24.70319187]

- * v_ann: [21.413618087768555, 22.053592681884766, 2
1.12699449757212]

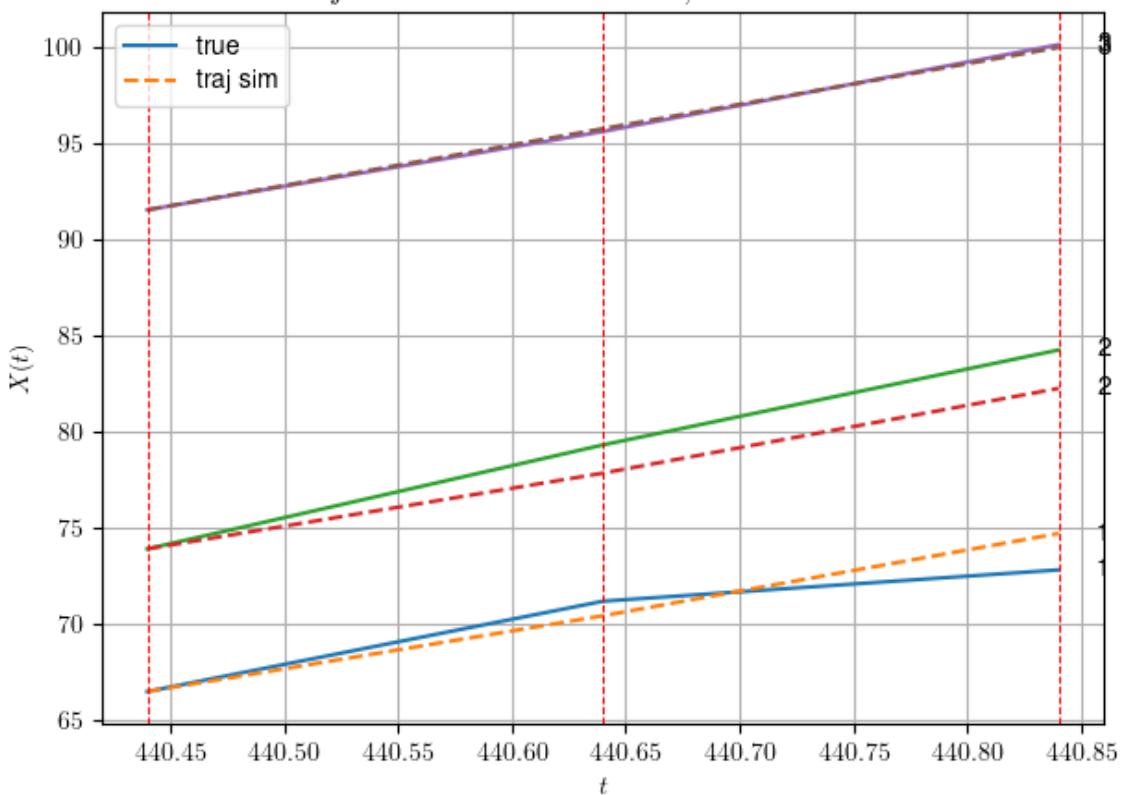
```
=====
=====
```

- * err= 1.15142833286432

- * Learning rate NN = 0.00036449998151510954

- * diff = 3.7151102631582944e-05

df n. 4 – Scene n. 55, at it = 500



For scene 55/69

- * use LR_NN=0.0005 with err=2.740100899252559 at it=24

- * v0_scn_mean = 21.65937442933949

- * MAE = 1.1394679667002647

```
df n.4, scene n.56/69
=====
=====
    We have 5 time intervals inside [459.64,460.64]
        - Time interval n.0: [459.64, 459.84]
            * y_true: [ 8.02057991 18.30147717]
            * v_ann: [19.085315704345703, 20.20726776123047, 2
1.749477605227415]

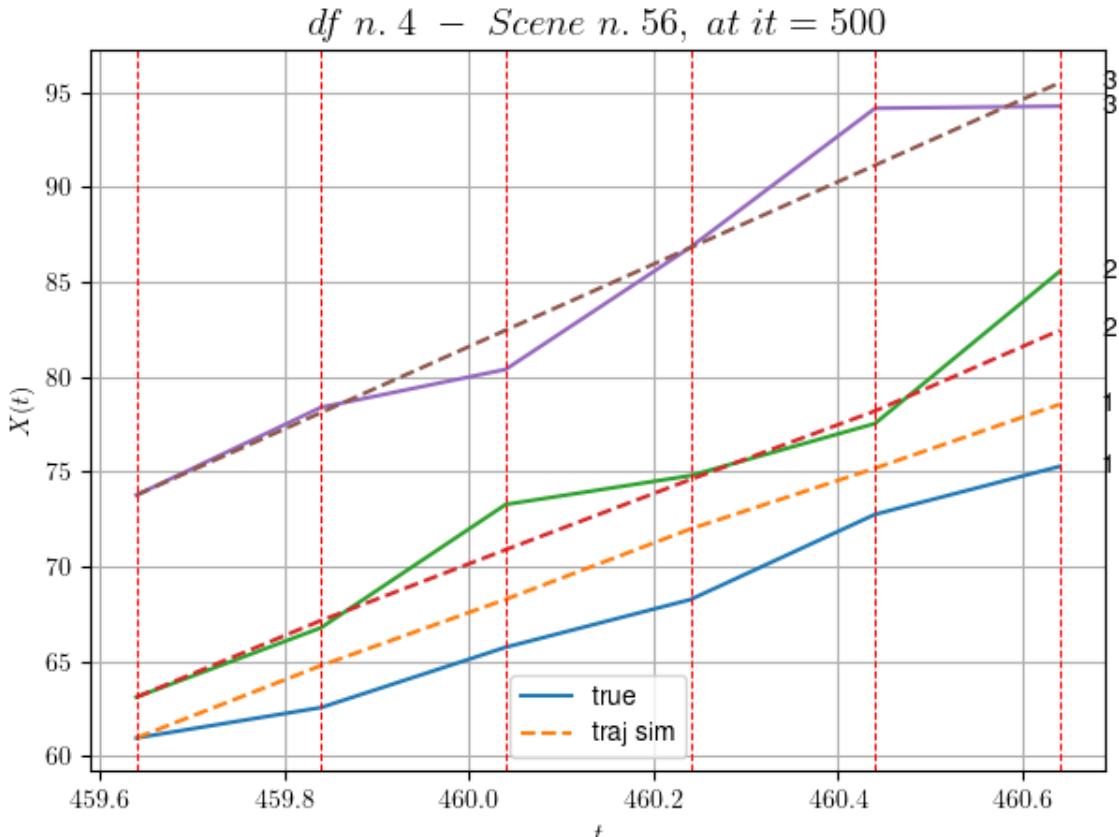
-----
        - Time interval n.1: [459.84, 460.04]
            * y_true: [15.90126261 32.50305135]
            * v_ann: [17.47076416015625, 18.670812606811523, 2
1.749477605227415]

-----
        - Time interval n.2: [460.04, 460.24]
            * y_true: [12.56106954 7.60079575]
            * v_ann: [18.550874710083008, 18.49837303161621, 2
1.749477605227415]

-----
        - Time interval n.3: [460.24, 460.44]
            * y_true: [22.47215871 13.7515264 ]
            * v_ann: [16.018077850341797, 18.090023040771484, 2
1.749477605227415]

-----
        - Time interval n.4: [460.44, 460.64]
            * y_true: [12.66130245 40.10510628]
            * v_ann: [16.866201400756836, 21.274030685424805, 2
1.749477605227415]

-----
* err= 4.037039119142109
* Learning rate NN = 0.0003874204121530056
* diff = 0.004043692474012595
```



For scene 56/69

```
* use LR_NN=0.001 with err=9.87837062728394 at it=24
* v0_scn_mean = 22.244508578483092
* MAE = 3.9708749548092013
```

df n.4, scene n.57/69

We have 10 time intervals inside [493.84, 495.84]

- Time interval n.0: [493.84, 494.04]
 - * y_true: [22.94003108 21.75102788]
 - * v_ann: [24.11665916442871, 24.343040466308594, 2

0.43694163915576]

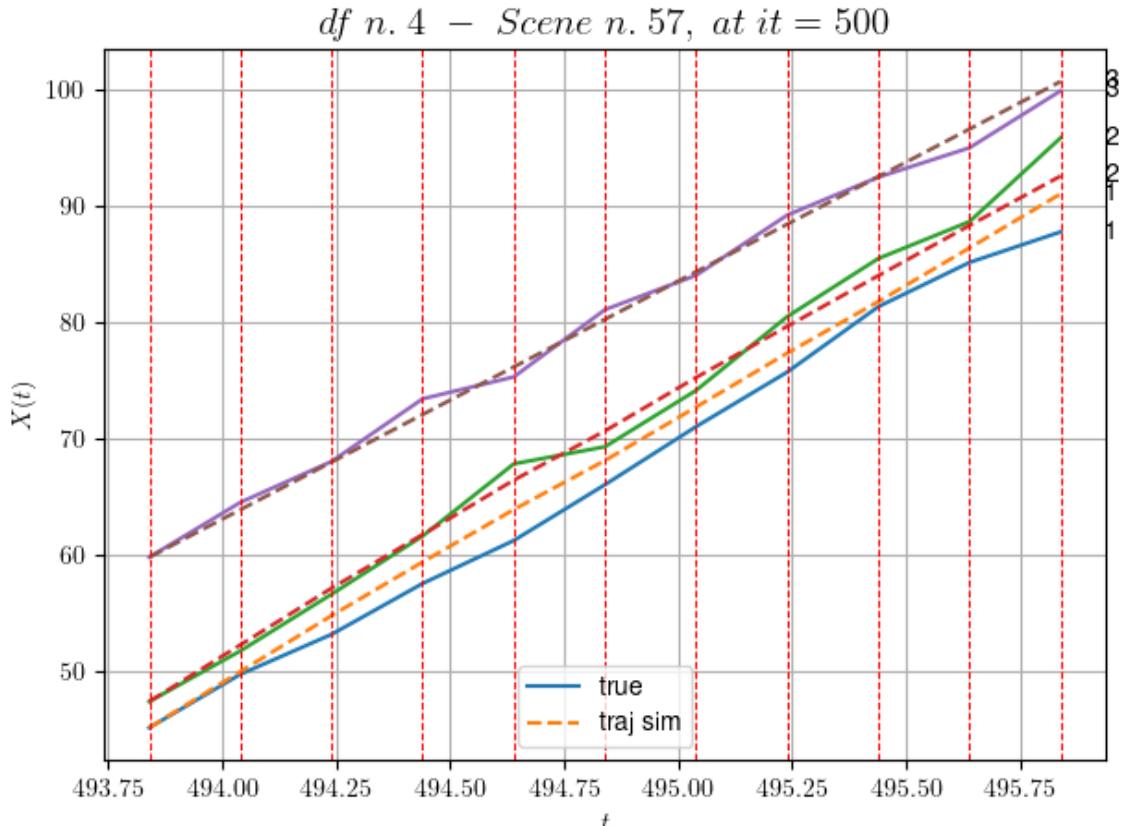
- Time interval n.1: [494.04, 494.24]
 - * y_true: [17.14085991 24.35137427]
 - * v_ann: [24.036466598510742, 24.343780517578125, 2

0.43694163915576]

- Time interval n.2: [494.24, 494.44]
 - * y_true: [21.88131212 25.00167951]
 - * v_ann: [23.034103393554688, 23.071359634399414, 2

0.43694163915576]

```
-----  
      - Time interval n.3: [494.44, 494.64]  
        * y_true: [18.45125037 31.00249487]  
        * v_ann: [22.521663665771484, 23.354494094848633, 2  
0.43694163915576]  
  
-----  
      - Time interval n.4: [494.64, 494.84]  
        * y_true: [23.98189292 7.35066295]  
        * v_ann: [21.06675148010254, 21.15067481994629, 20.  
43694163915576]  
  
-----  
      - Time interval n.5: [494.84, 495.04]  
        * y_true: [24.94226236 24.20238954]  
        * v_ann: [22.955270767211914, 22.93706703186035, 2  
0.43694163915576]  
  
-----  
      - Time interval n.6: [495.04, 495.24]  
        * y_true: [23.43243252 31.70363737]  
        * v_ann: [23.185871124267578, 21.978776931762695, 2  
0.43694163915576]  
  
-----  
      - Time interval n.7: [495.24, 495.44]  
        * y_true: [28.10335872 24.95329593]  
        * v_ann: [22.1378231048584, 21.79688262939453, 20.4  
3694163915576]  
  
-----  
      - Time interval n.8: [495.44, 495.64]  
        * y_true: [18.99250639 15.85230368]  
        * v_ann: [23.05038070678711, 21.57041358947754, 20.  
43694163915576]  
  
-----  
      - Time interval n.9: [495.64, 495.84]  
        * y_true: [13.12188353 36.00587838]  
        * v_ann: [23.220508575439453, 21.198116302490234, 2  
0.43694163915576]  
  
-----  
* err= 1.886586192845006  
* Learning rate NN = 0.00013508510892279446  
* diff = 0.0016428193753446063
```



For scene 57/69

```
* use LR_NN=0.001 with err=52.92064113764443 at it=24
* v0_scn_mean = 21.010724711445576
* MAE = 1.8230444257859322
```

df n.4, scene n.58/69

We have 8 time intervals inside [520.04, 521.64]

- Time interval n.0: [520.04, 520.24]
 - * y_true: [17.72000935 17.53021327]
 - * v_ann: [21.625762939453125, 23.40220832824707, 2

5.96280732717903]

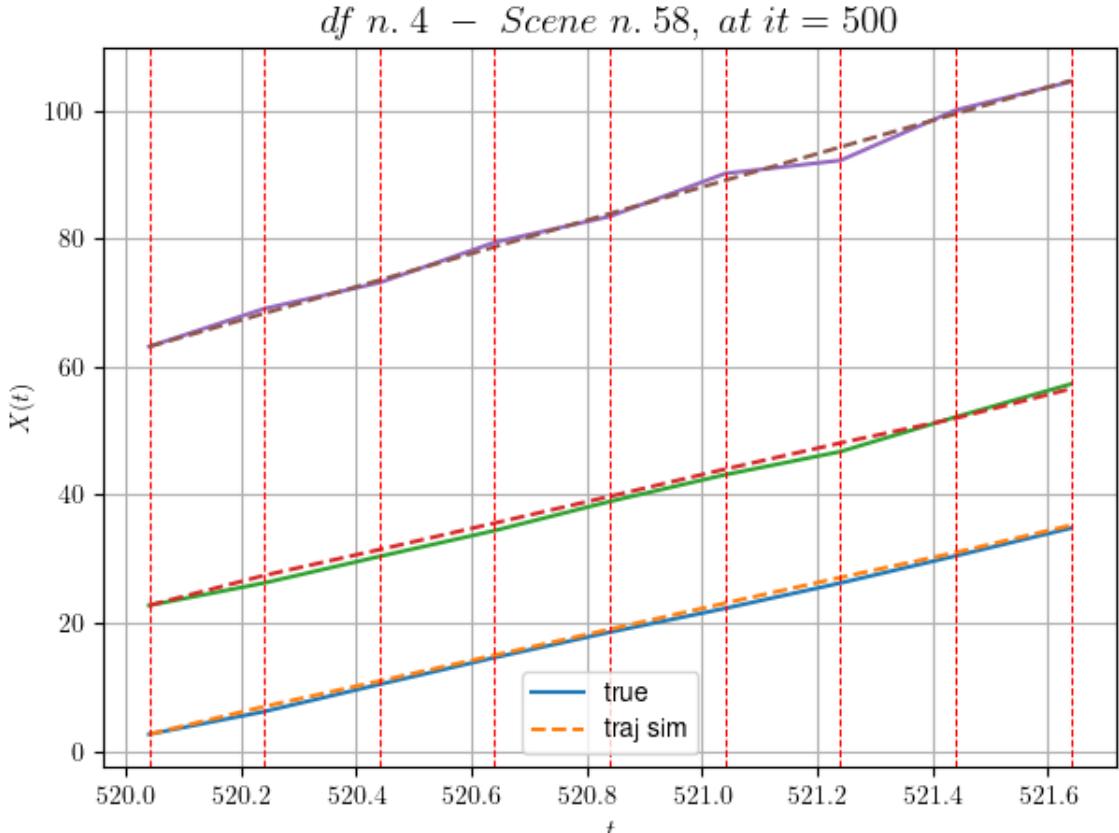
- Time interval n.1: [520.24, 520.44]
 - * y_true: [21.19003079 20.68032877]
 - * v_ann: [19.89601707458496, 20.152557373046875, 2

5.96280732717903]

- Time interval n.2: [520.44, 520.64]
 - * y_true: [20.95006602 20.21041565]
 - * v_ann: [20.186599731445312, 20.73915672302246, 2

5.96280732717903]

```
-----  
    - Time interval n.3: [520.64, 520.84]  
      * y_true: [19.83010584 22.72061589]  
      * v_ann: [20.192312240600586, 20.809856414794922, 2  
5.96280732717903]  
  
-----  
    - Time interval n.4: [520.84, 521.04]  
      * y_true: [18.57015207 20.87066157]  
      * v_ann: [20.442209243774414, 21.27874755859375, 2  
5.96280732717903]  
  
-----  
    - Time interval n.5: [521.04, 521.24]  
      * y_true: [19.76022757 18.03074501]  
      * v_ann: [19.99476432800293, 20.375154495239258, 2  
5.96280732717903]  
  
-----  
    - Time interval n.6: [521.24, 521.44]  
      * y_true: [21.18033214 27.03127071]  
      * v_ann: [19.490917205810547, 19.30320167541504, 2  
5.96280732717903]  
  
-----  
    - Time interval n.7: [521.44, 521.64]  
      * y_true: [21.65044512 25.69152055]  
      * v_ann: [21.268760681152344, 23.03538703918457, 2  
5.96280732717903]  
  
-----  
* err= 0.667787228144426  
* Learning rate NN = 0.00010294552339473739  
* diff = 0.02565165562120566
```



For scene 58/69

```
* use LR_NN=0.0005 with err=28.100633656363225 at it=24
* v0_scn_mean = 26.205038706285816
* MAE = 0.4144799574797166
```

df n.4, scene n.59/69

We have 4 time intervals inside [550.44, 551.24]

- Time interval n.0: [550.44, 550.64]
 - * y_true: [23.95217582 22.66294351]
 - * v_ann: [23.678516387939453, 23.46187400817871, 2 0.148397636536806]

- Time interval n.1: [550.64, 550.84]
 - * y_true: [22.2022957 28.49416646]
 - * v_ann: [23.585891723632812, 23.407346725463867, 2 0.148397636536806]

- Time interval n.2: [550.84, 551.04]
 - * y_true: [19.80228834 20.61332089]
 - * v_ann: [24.20003890991211, 23.565258026123047, 2 0.148397636536806]

```

-----  

- Time interval n.3: [551.04, 551.24]  

* y_true: [31.50413614 18.88333685]  

* v_ann: [23.09197998046875, 22.96806526184082, 20.  

148397636536806]
-----
```

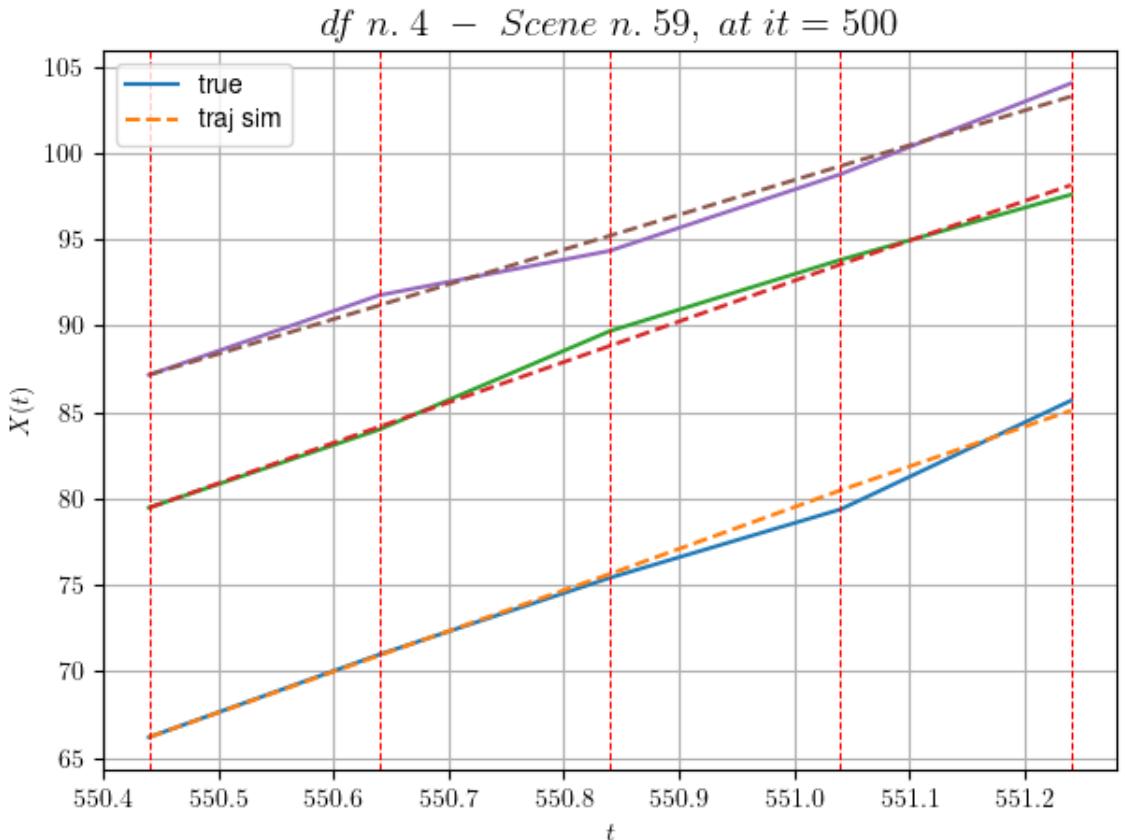
```

-----  

* err= 0.309550394394122  

* Learning rate NN = 0.000239148415857926  

* diff = 0.0004190100126583718
-----
```



For scene 59/69

```

* use LR_NN=0.0005 with err=14.092848078695644 at it=24
* v0_scn_mean = 20.739493336030385
* MAE = 0.309550394394122
=====
```

df n.4, scene n.60/69

```

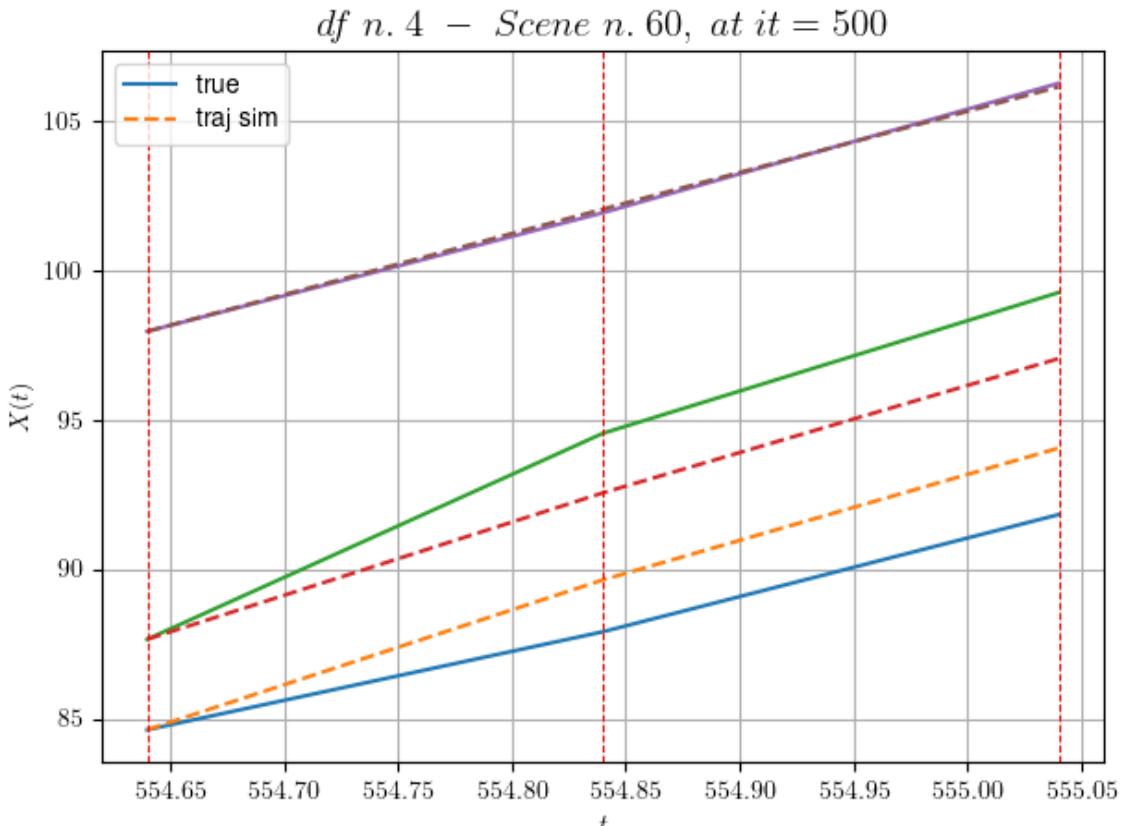
=====
We have 2 time intervals inside [554.64,555.04]
- Time interval n.0: [554.64, 554.84]
* y_true: [16.3871362 34.43556815]
* v_ann: [25.056163787841797, 24.480642318725586, 2
0.44072781876661]
=====
```

```

-----
- Time interval n.1: [554.84, 555.04]
* y_true: [19.58824641 23.53414882]
=====
```

```
* v_ann: [22.039003372192383, 22.451648712158203, 2
0.44072781876661]
```

```
* err= 1.8687272348800554
* Learning rate NN = 0.0007289999630302191
* diff = 0 0071131283864440675
```



For scene 60/69

```
* use LR_NN=0.001 with err=2.474021841570521 at it=24
* v0_scn_mean = 21.01428372044863
* MAE = 1.8687272348800554
```

df n.4, scene n.61/69

We have 2 time intervals inside [556.24, 556.64]

- Time interval n.0: [556.24, 556.44]
 - * y_true: [24.75252122 21.70224237]
 - * v_ann: [23.383625030517578, 24.578311920166016, 1

5.086092436633818]

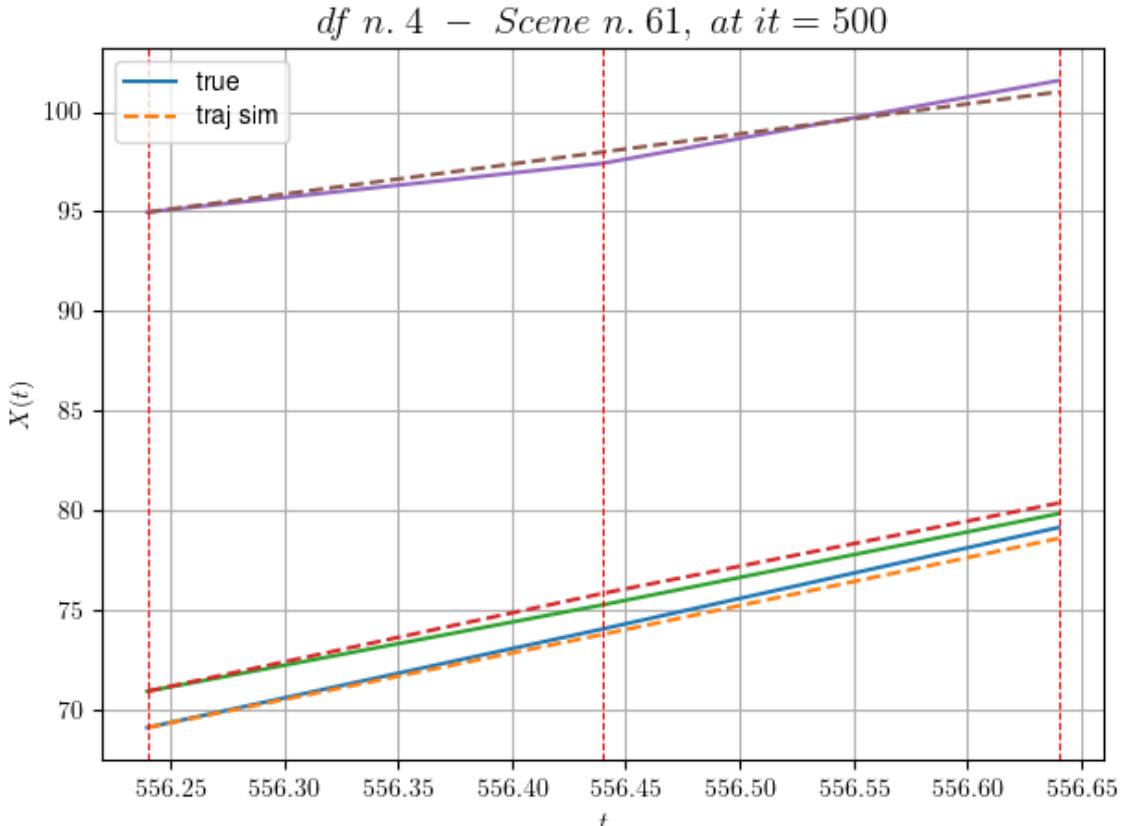
- Time interval n.1: [556.44, 556.64]
 - * y_true: [25.4427559 22.85265518]
 - * v_ann: [24.063215255737305, 22.65074348449707, 1

5.086092436633818]

```

* err= 0.18183511515056416
* Learning rate NN = 0.0007289999630302191
* diff = 1.8730777781805763e-05

```



For scene 61/69

```

* use LR_NN=0.001 with err=12.220165350650616 at it=24
* v0 scn mean = 15.980926220832702
* MAE = 0.17967069631841534

```

df n.4, scene n.62/69

We have 4 time intervals inside [575.04, 575.84]

- Time interval n.0: [575.04, 575.24]
 - * y_true: [25.50060057 18.90068968]
 - * v_ann: [22.05118751525879, 21.896045684814453, 24.545621507402075]

- Time interval n.1: [575.24, 575.44]
 - * y_true: [27.95087423 28.65128625]
 - * v_ann: [22.08836555480957, 22.059913635253906, 24.545621507402075]

- Time interval n.2: [575.44, 575.64]
 - * y_true: [21.25083564 15.85084753]

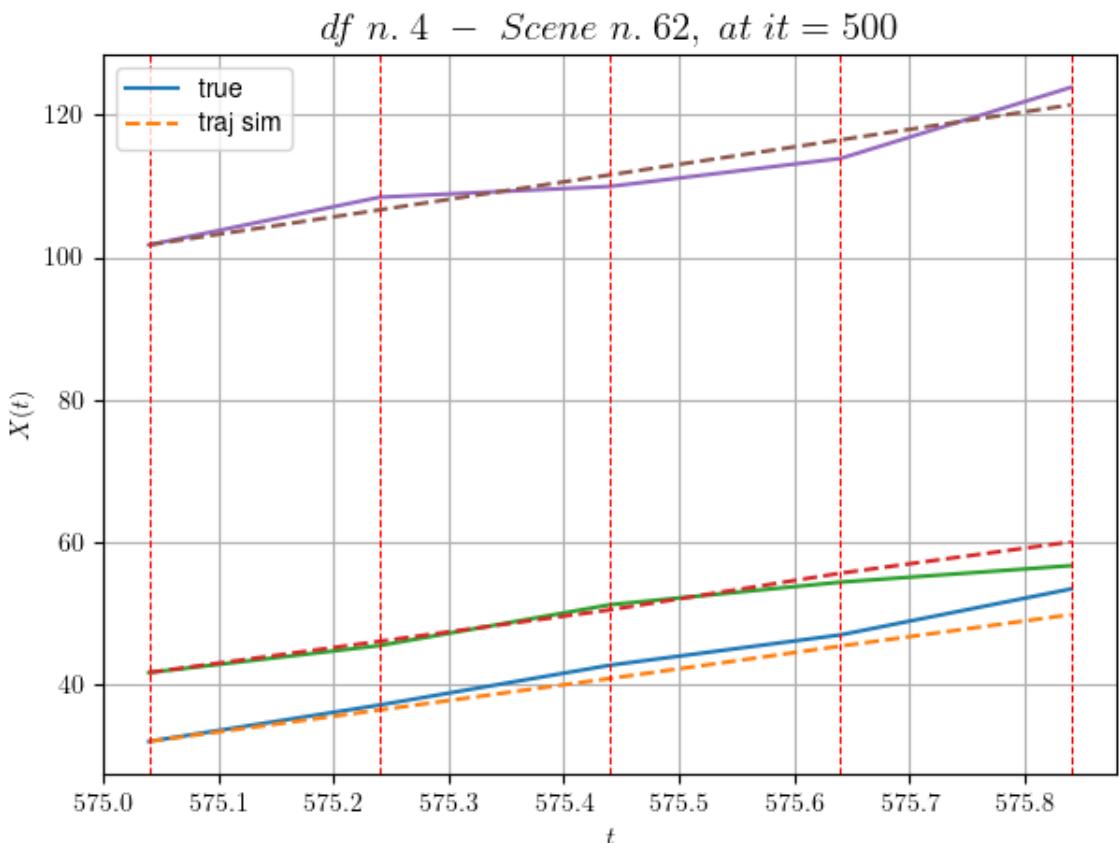
```

* v_ann: [22.705638885498047, 25.72624397277832, 2
4.545621507402075]

-----
- Time interval n.3: [575.64, 575.84]
* y_true: [32.20158375 11.5506833 ]
* v_ann: [22.089128494262695, 21.946413040161133, 2
4.545621507402075]

-----
* err= 3.435648810097629
* Learning rate NN = 4.7829678806010634e-05
* diff = 0.028802124268051682

```



For scene 62/69

```

* use LR_NN=0.0001 with err=42.30643996686214 at it=24
* v0_scn_mean = 24.872883972068408
* MAE = 3.435648810097629
=====
```

df n.4, scene n.63/69

```

=====
=====
```

```

We have 3 time intervals inside [313.84,314.44]
- Time interval n.0: [313.84, 314.04]
* y_true: [15.70108851 23.28855659 11.30165534]
* v_ann: [28.04473304748535, 30.118392944335938, 3
2.76976013183594, 26.415529524804217]
```

```

-----  

    - Time interval n.1: [314.04, 314.24]  

      * y_true: [25.15198981 24.43240479 30.10483754]  

      * v_ann: [19.01531982421875, 13.647810935974121, 1  

        4.972309112548828, 26.415529524804217]  

-----  

    - Time interval n.2: [314.24, 314.44]  

      * y_true: [27.30252596 23.75264682 40.35752125]  

      * v_ann: [24.052175521850586, 21.826765060424805, 2  

        4.676565170288086, 26.415529524804217]  

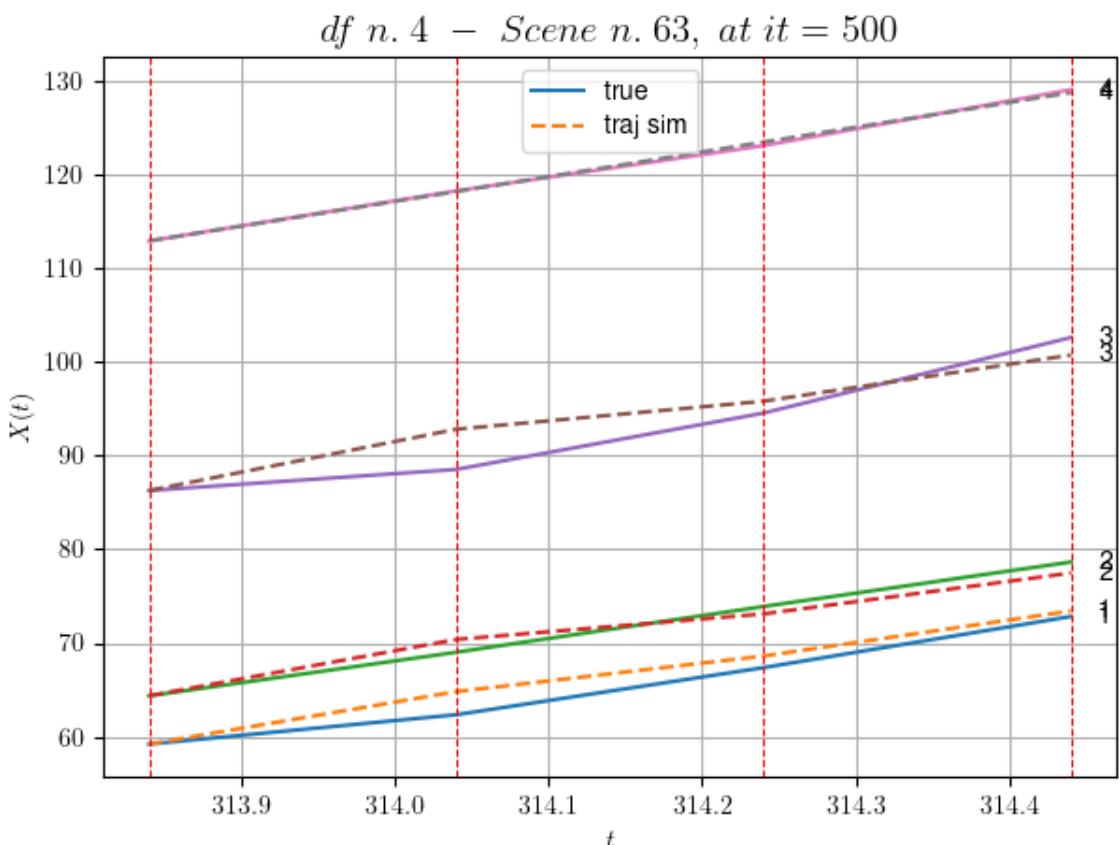
-----  

* err= 2.228241795513975  

* Learning rate NN = 0.0005904899444431067  

* diff = 0.011562332320747881

```



For scene 63/69

```

* use LR_NN=0.001 with err=9.347792612209654 at it=24
* v0_scn_mean = 26.70227549847882
* MAE = 1.6333340878850293
=====
```

df n.4, scene n.64/69

```

=====
=====  

We have 2 time intervals inside [460.84,461.24]  

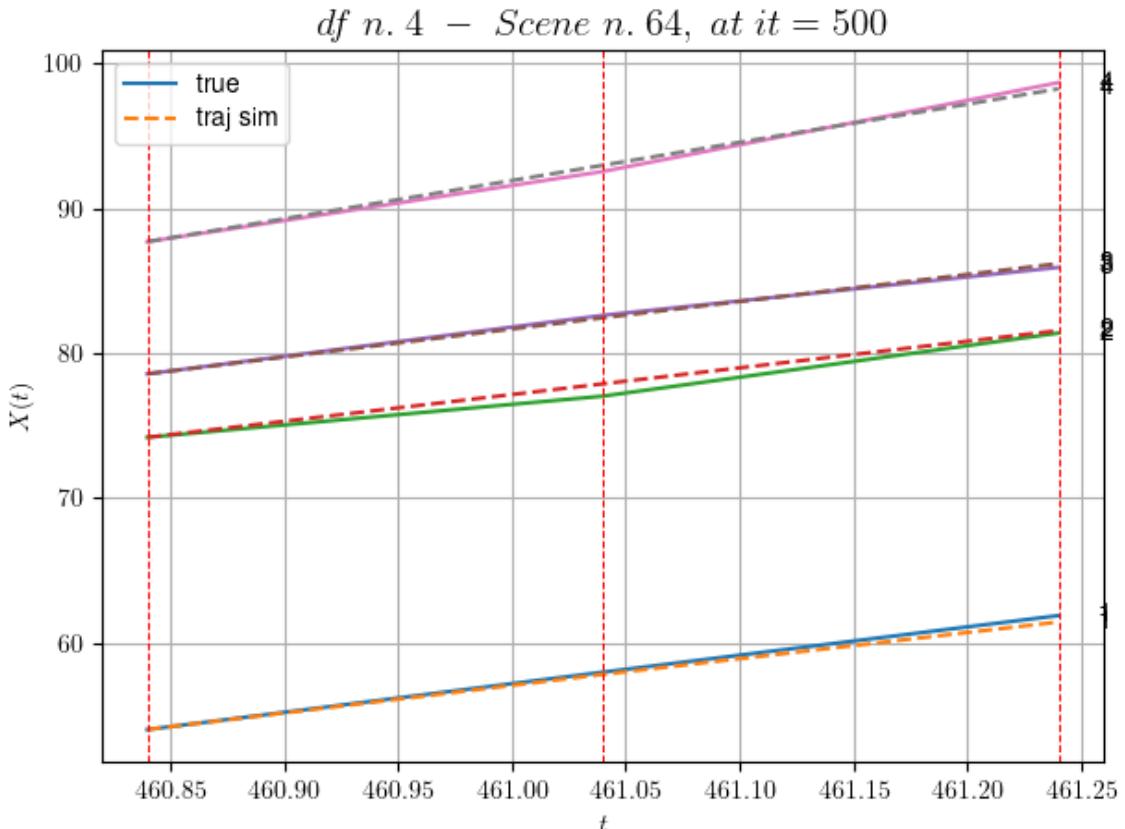
- Time interval n.0: [460.84, 461.04]  

  * y_true: [19.8211655 14.23151831 20.23251805]
=====
```

```
* v_ann: [19.044095993041992, 18.485715866088867, 1
9.38214874267578, 26.404314529226873]
```

```
- Time interval n.1: [461.04, 461.24]
* y_true: [19.5413591 21.77263281 16.55223683]
* v_ann: [18.10613441467285, 18.384836196899414, 1
8.720298767089844, 26.404314529226873]
```

```
* err= 0.12018634791442445
* Learning rate NN = 0.0007289999630302191
* diff = 8.038312644159662e-05
```



For scene 64/69

```
* use LR_NN=0.001 with err=2.0272861654878227 at it=24
* v0_scn_mean = 26.691957666053625
* MAE = 0.12018634791442445
```

df n.4, scene n.65/69

We have 2 time intervals inside [462.64, 463.04]

```
- Time interval n.0: [462.64, 462.84]
* y_true: [21.60177307 15.7113741 22.90372044]
* v_ann: [19.30520248413086, 18.381282806396484, 1
9.361967086791992, 31.352447205664888]
```

```

-----  

- Time interval n.1: [462.84, 463.04]  

  * y_true: [18.06167929 17.53172974 18.9633766 ]  

  * v_ann: [19.098581314086914, 19.720684051513672, 1  

  8.843017578125, 31.352447205664888]
-----
```

```

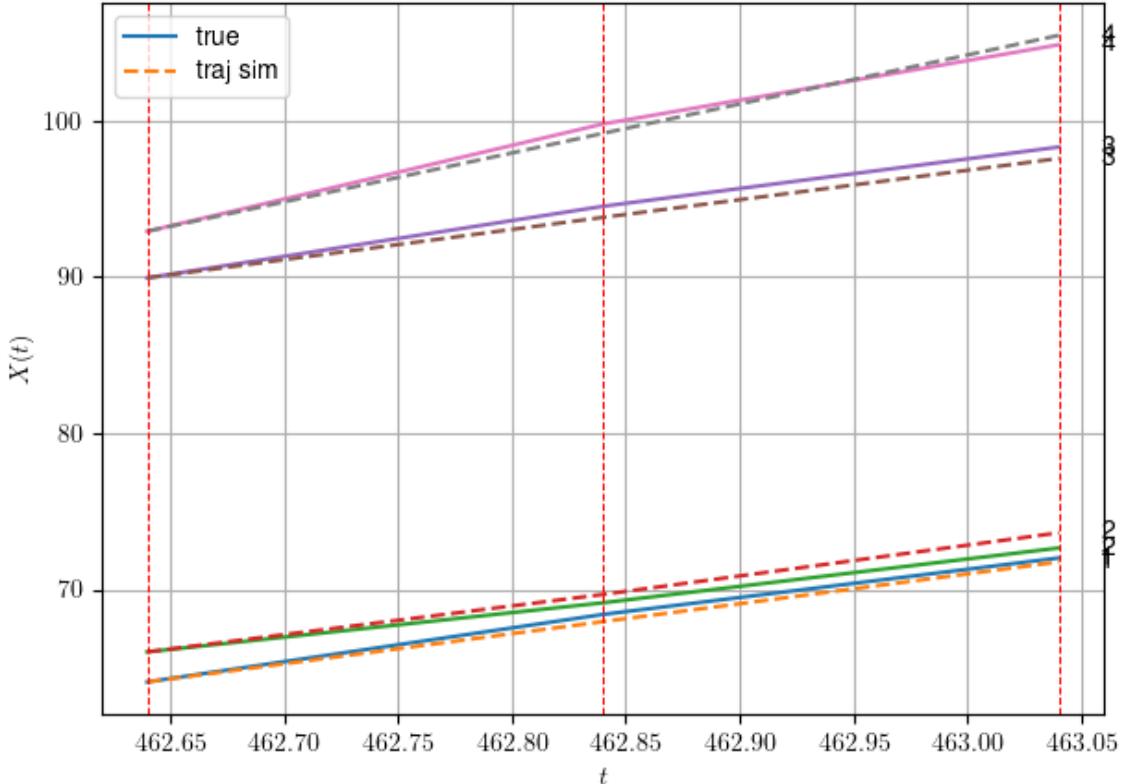
-----  

* err= 0.2719936020773903  

* Learning rate NN = 0.0007289999630302191  

* diff = 0 0010450707646994517
-----
```

df n. 4 – Scene n. 65, at it = 500



For scene 65/69

```

* use LR_NN=0.001 with err=6.775611933532806 at it=24  

* v0_scn_mean = 31.24425583025306  

* MAE = 0.25889276465665934
=====
```

df n.4, scene n.66/69

```

=====
```

We have 3 time intervals inside [495.24, 495.84]

```

- Time interval n.0: [495.24, 495.44]  

  * y_true: [12.91123632 28.10335872 24.95329593]  

  * v_ann: [21.582239151000977, 22.121381759643555, 2  

  2.58481788635254, 16.437805482235426]
-----
```

```

-----  

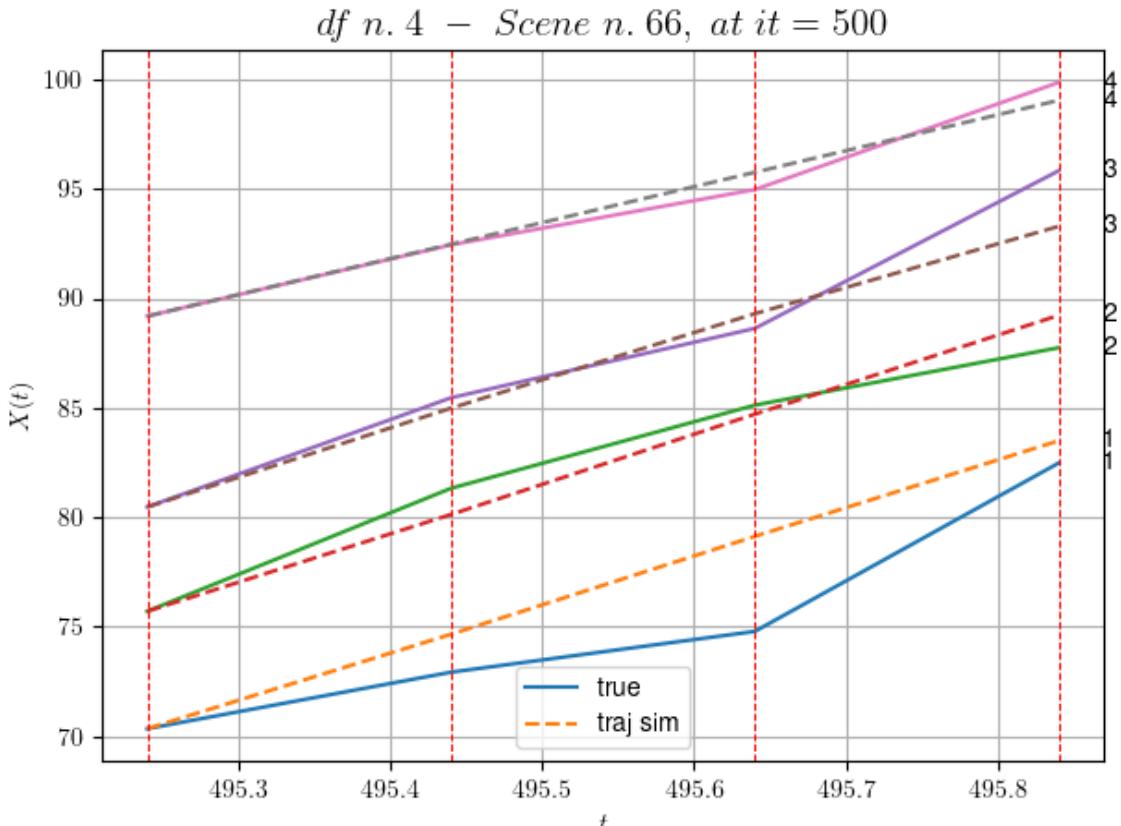
- Time interval n.1: [495.44, 495.64]  

  * y_true: [ 9.32105302 18.99250639 15.85230368]
-----
```

```
* v_ann: [22.36224365234375, 22.9167423248291, 21.5
7765007019043, 16.437805482235426]
```

```
- Time interval n.2: [495.64, 495.84]
* y_true: [38.46439916 13.12188353 36.00587838]
* v_ann: [21.84236717224121, 22.580659866333008, 1
9.95456886291504, 16.437805482235426]
```

```
* err= 2.1941452856391144
* Learning rate NN = 0.0002952449722215533
* diff = 0.00402520547764329
```



For scene 66/69

```
* use LR_NN=0.0005 with err=10.338503197839678 at it=24
* v0_scn_mean = 17.52273691048294
* MAE = 2.1941452856391144
```

df n.4, scene n.67/69

We have 5 time intervals inside [541.84, 542.84]

```
- Time interval n.0: [541.84, 542.04]
* y_true: [15.49040827 18.57067001 15.06113134]
* v_ann: [18.81696128845215, 18.75685691833496, 18.
744672775268555, 25.31159160096193]
```

```

-----  

    - Time interval n.1: [542.04, 542.24]  

      * y_true: [18.02057424 22.22093452 14.29121645]  

      * v_ann: [18.265512466430664, 17.367725372314453, 1  

      7.48579978942871, 25.31159160096193]  

-----  

    - Time interval n.2: [542.24, 542.44]  

      * y_true: [23.32090187 15.10072652 30.16295254]  

      * v_ann: [18.581626892089844, 17.71466827392578, 1  

      8.097009658813477, 25.31159160096193]  

-----  

    - Time interval n.3: [542.44, 542.64]  

      * y_true: [17.96079787 19.72113387 17.42186984]  

      * v_ann: [19.573062896728516, 20.6339168548584, 21.  

      19417381286621, 25.31159160096193]  

-----  

    - Time interval n.4: [542.64, 542.84]  

      * y_true: [20.261096 21.55138585 14.58174174]  

      * v_ann: [19.007177352905273, 19.061521530151367, 1  

      9.578983306884766, 25.31159160096193]  

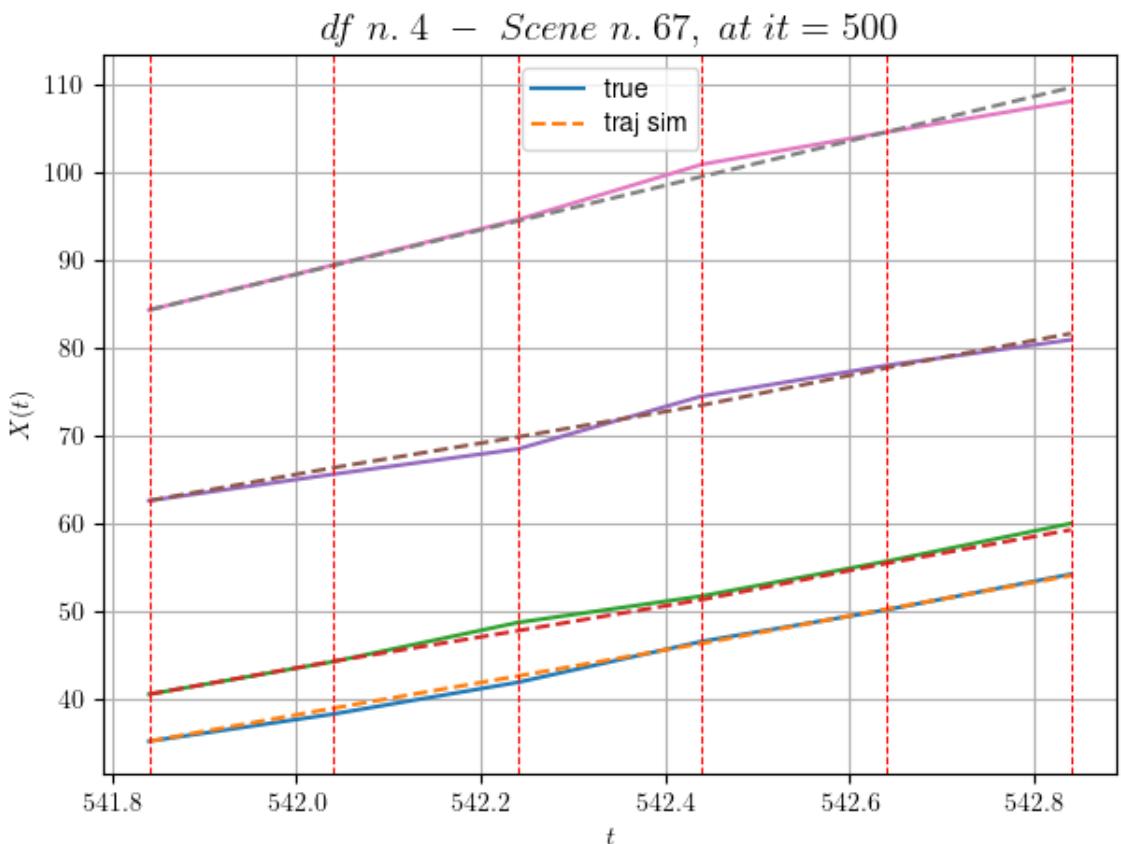
-----  

* err= 0.4660487483126379  

* Learning rate NN = 0.0003874204121530056  

* diff = 0 004561899279615089

```



For scene 67/69
 * use LR_NN=0.001 with err=13.389236169499426 at it=24
 * v0_scn_mean = 25.68664901618459
 * MAE = 0.4660487483126379

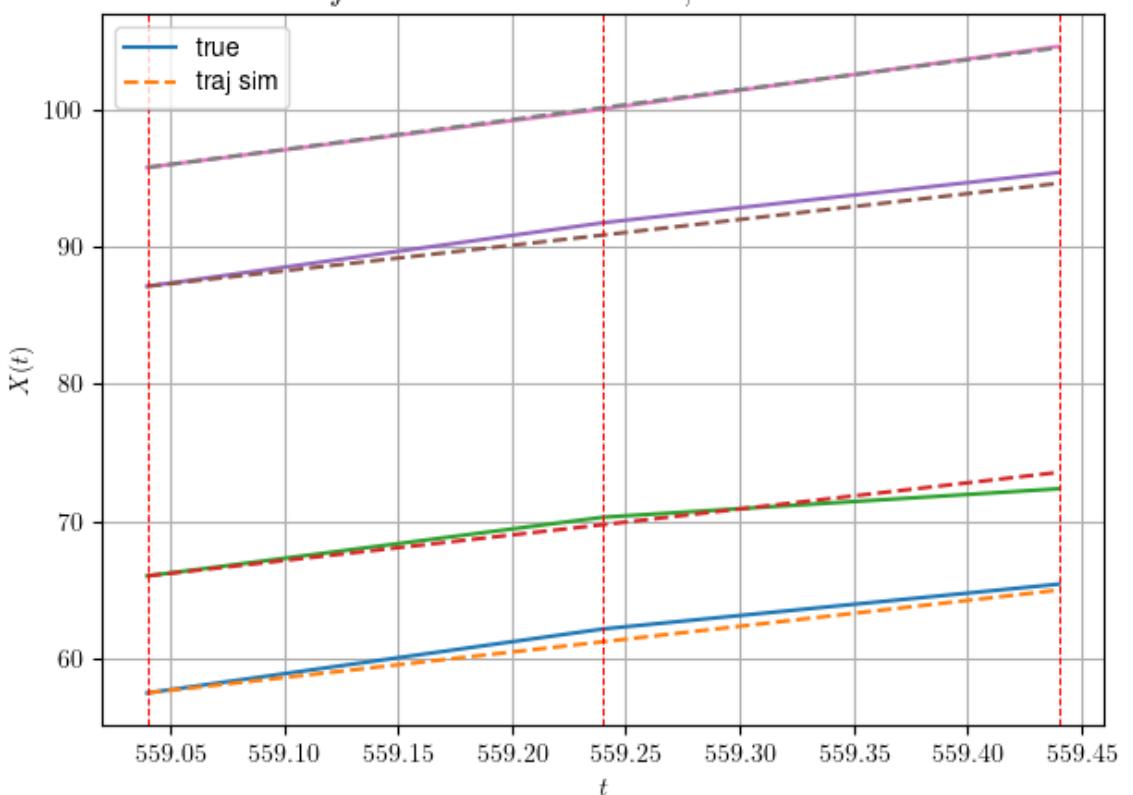
df n.4, scene n.68/69

We have 2 time intervals inside [559.04, 559.44]
 - Time interval n.0: [559.04, 559.24]
 * y_true: [23.32160164 21.40183754 23.15354324]
 * v_ann: [18.65746307373047, 18.6840877532959, 18.6
 76353454589844, 21.820834052469753]

- Time interval n.1: [559.24, 559.44]
 * y_true: [16.34126249 10.38103794 18.30306556]
 * v_ann: [18.845151901245117, 19.081266403198242, 1
 8.87128257751465, 21.820834052469753]

* err= 0.35152263915298704
 * Learning rate NN = 7.289998757187277e-05
 * diff = 0.0004598563850134463

df n. 4 – Scene n. 68, at it = 500



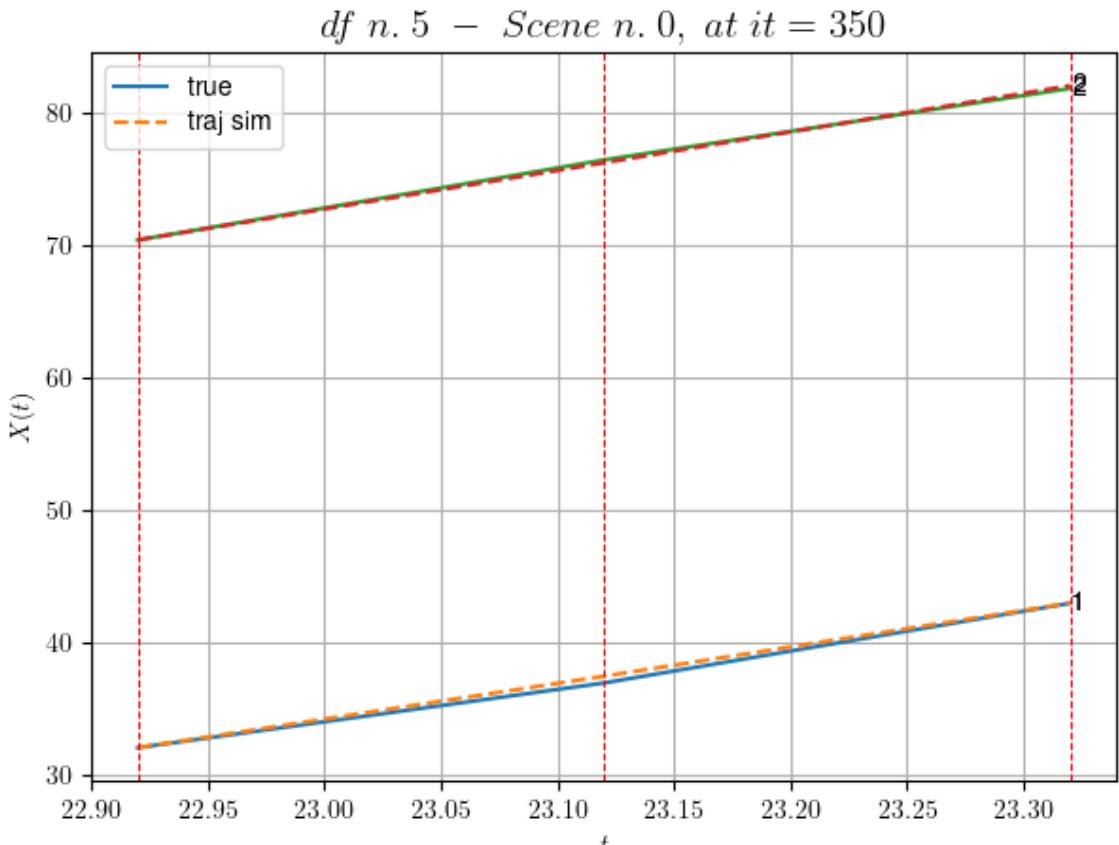
For scene 68/69
 * use LR_NN=0.0001 with err=5.523772508046367 at it=24
 * v0_scn_mean = 22.475140712184906

* MAE = 0.3327580862855025

For df=4 with 69 scenes, time taken: 1342.06

In df n.5/10 we have 66 scenes
df n.5, scene n.0/66

We have 2 time intervals inside [22.92,23.32]
* err= 0.058750187943305984
* Learning rate NN = 8.099998922261875e-06
* diff = 7.954597397857865e-07



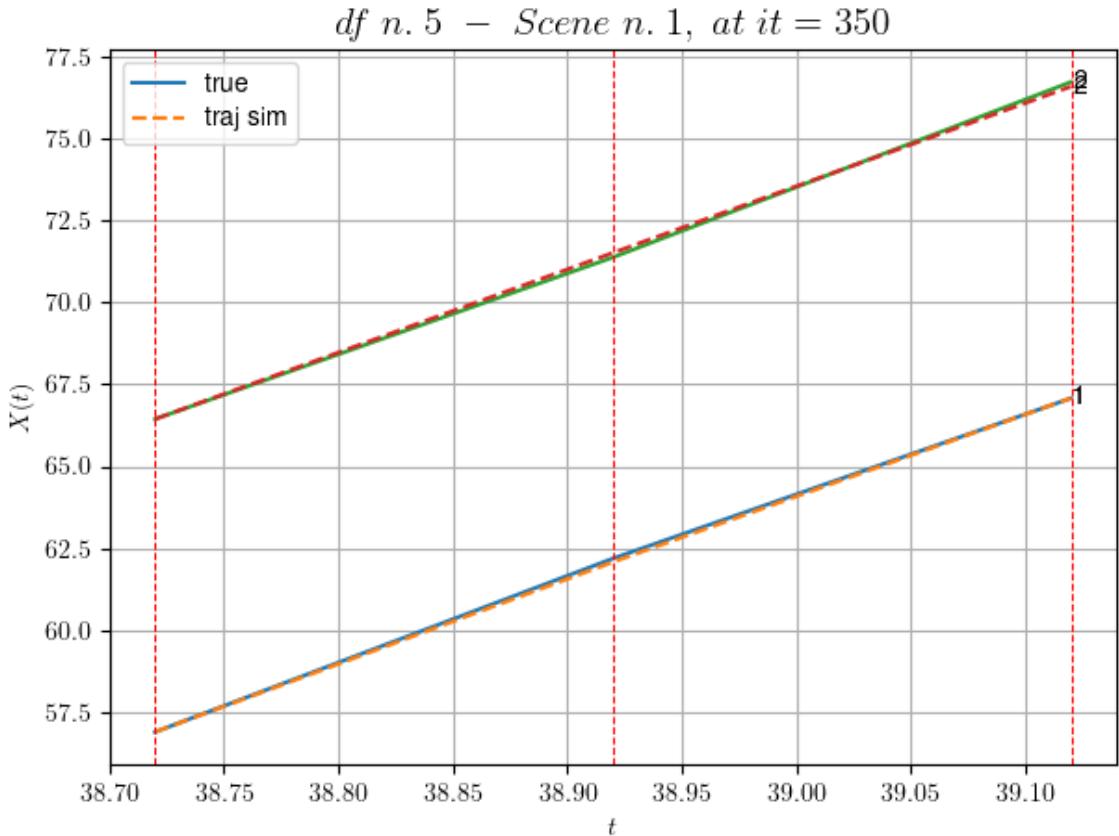
For scene 0/66

* use LR_NN=1e-05 with err=0.09382205712565414 at it=24
* v0_scn_mean = 29.211102385396234
* MAE = 0.05350690371763559

df n.5, scene n.1/66

We have 2 time intervals inside [38.72,39.12]
* err= 0.008276834008382476

* Learning rate NN = 8.099999104160815e-05
 * diff = 1.8462226994246655e-07



For scene 1/66

* use LR_NN=0.0001 with err=0.679728318721184 at it=24
 * v0_scn_mean = 25.636864422101517
 * MAE = 0.007684083861659377

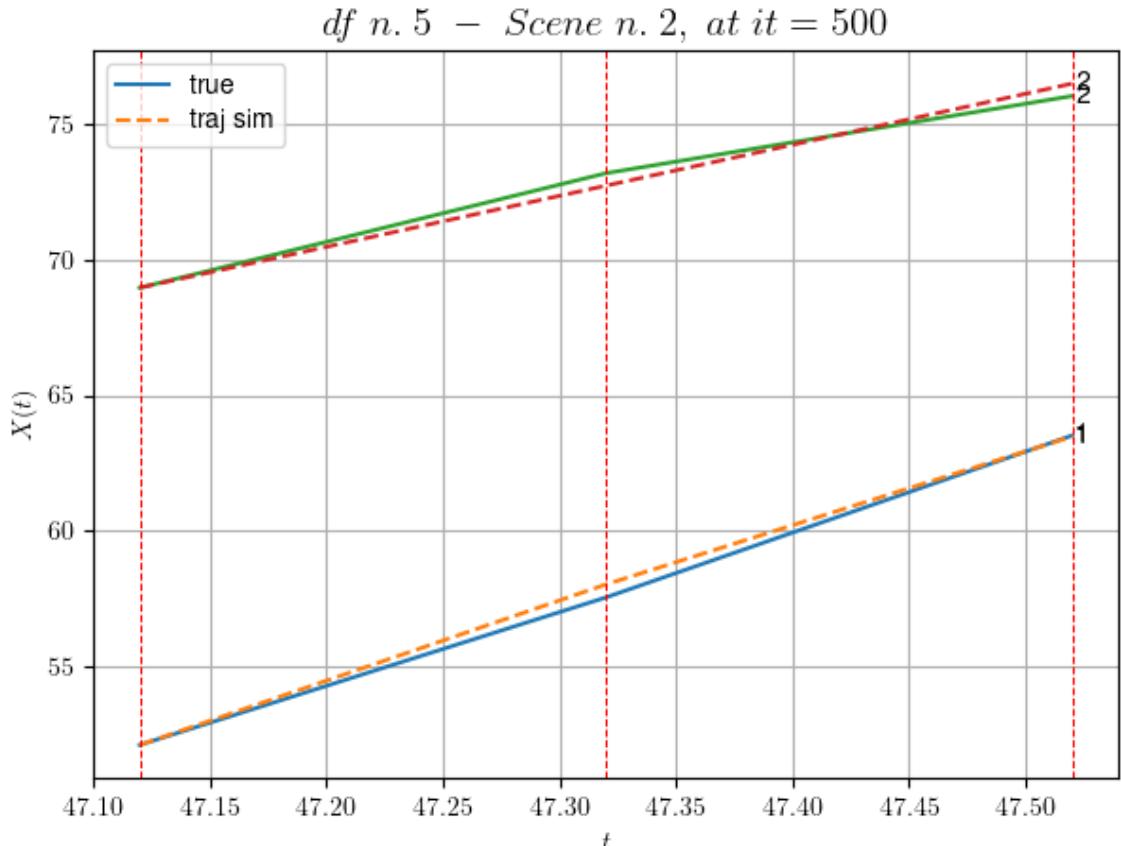
df n.5, scene n.2/66

We have 2 time intervals inside [47.12,47.52]

- Time interval n.0: [47.12, 47.32]
 - * y_true: [27.13157074]
 - * v_ann: [29.517574310302734, 18.771821269963407]

- Time interval n.1: [47.32, 47.52]
 - * y_true: [29.78215199]
 - * v_ann: [27.20501708984375, 18.771821269963407]

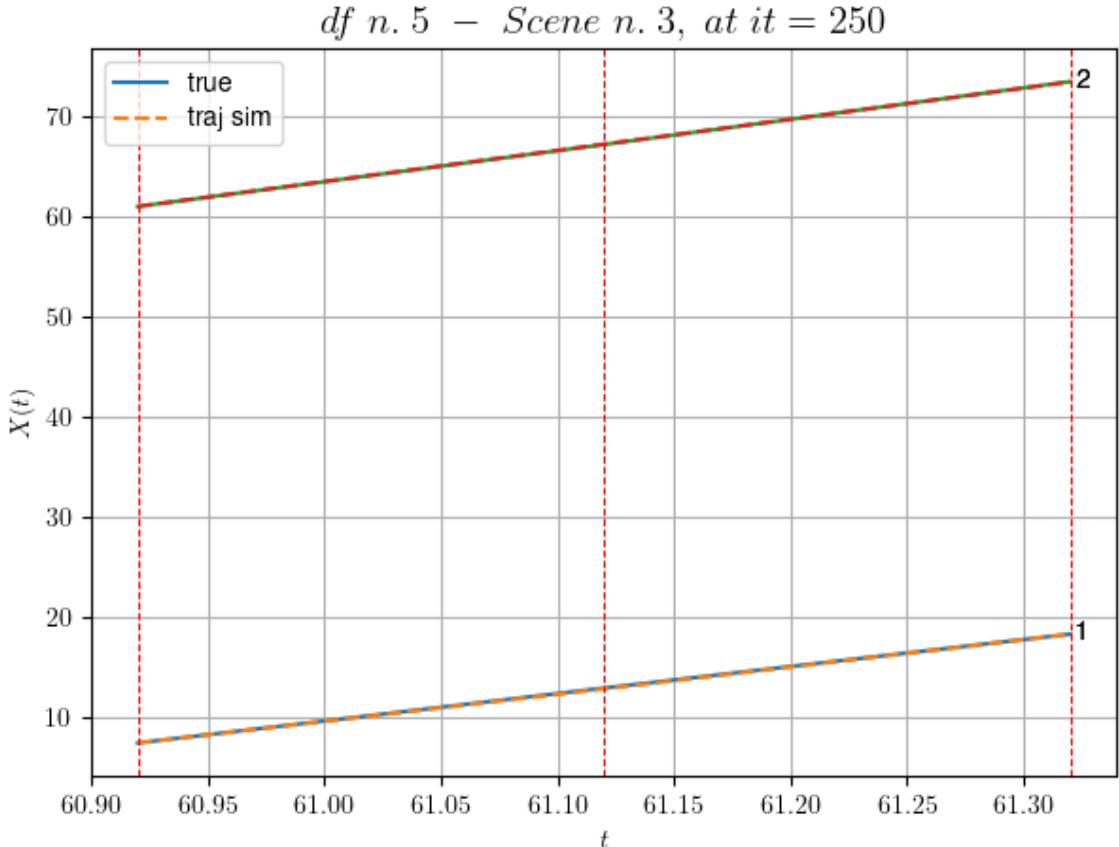
- * err= 0.10782168399309697
- * Learning rate NN = 3.6449993785936385e-05
- * diff = 8.522409156330735e-06



df n.5, scene n.3/66

We have 2 time intervals inside [60.92,61.32]

- * err= 0.0017768853776050455
- * Learning rate NN = 8.999999408842996e-06
- * diff = 7.053957432078851e-08



For scene 3/66

- * use LR_NN=1e-05 with err=0.04497126877128125 at it=24
- * v0_scn_mean = 31.014497606033938
- * MAE = 0.001764128868366461

df n.5, scene n.4/66

We have 5 time intervals inside [64.32, 65.32]

- Time interval n.0: [64.32, 64.52]
 - * y_true: [37.14124909]
 - * v_ann: [36.45674133300781, 32.233878573413314]

- Time interval n.1: [64.52, 64.72]
 - * y_true: [31.68144271]
 - * v_ann: [36.70417404174805, 32.233878573413314]

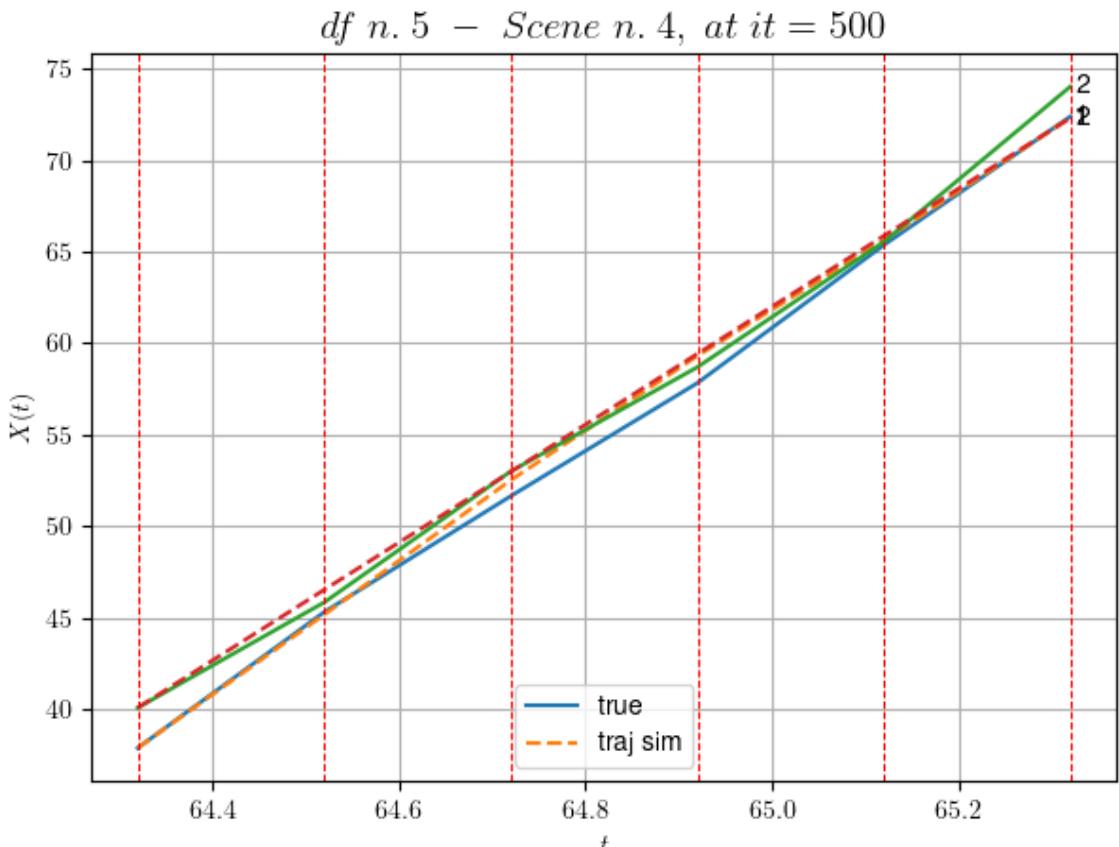
- Time interval n.2: [64.72, 64.92]
 - * y_true: [30.88182123]
 - * v_ann: [33.964359283447266, 32.233878573413314]

- Time interval n.3: [64.92, 65.12]
 - * y_true: [37.7230345]

```
* v_ann: [31.5841064453125, 32.233878573413314]
```

```
- Time interval n.4: [65.12, 65.32]
* y_true: [35.12139112]
* v_ann: [33.48664093017578, 32.233878573413314]
```

```
* err= 0.5912823318615761
* Learning rate NN = 0.0038742038886994123
* diff = 0.0315612628532802
```



For scene 4/66

```
* use LR_NN=0.01 with err=1.7498112979013634 at it=24
* v0_scn_mean = 32.14452343049404
* MAE = 0.5107125012589881
```

df n.5, scene n.5/66

```
We have 4 time intervals inside [73.32, 74.12]
- Time interval n.0: [73.32, 73.52]
* y_true: [22.4509602]
* v_ann: [26.110584259033203, 30.983854498861103]
```

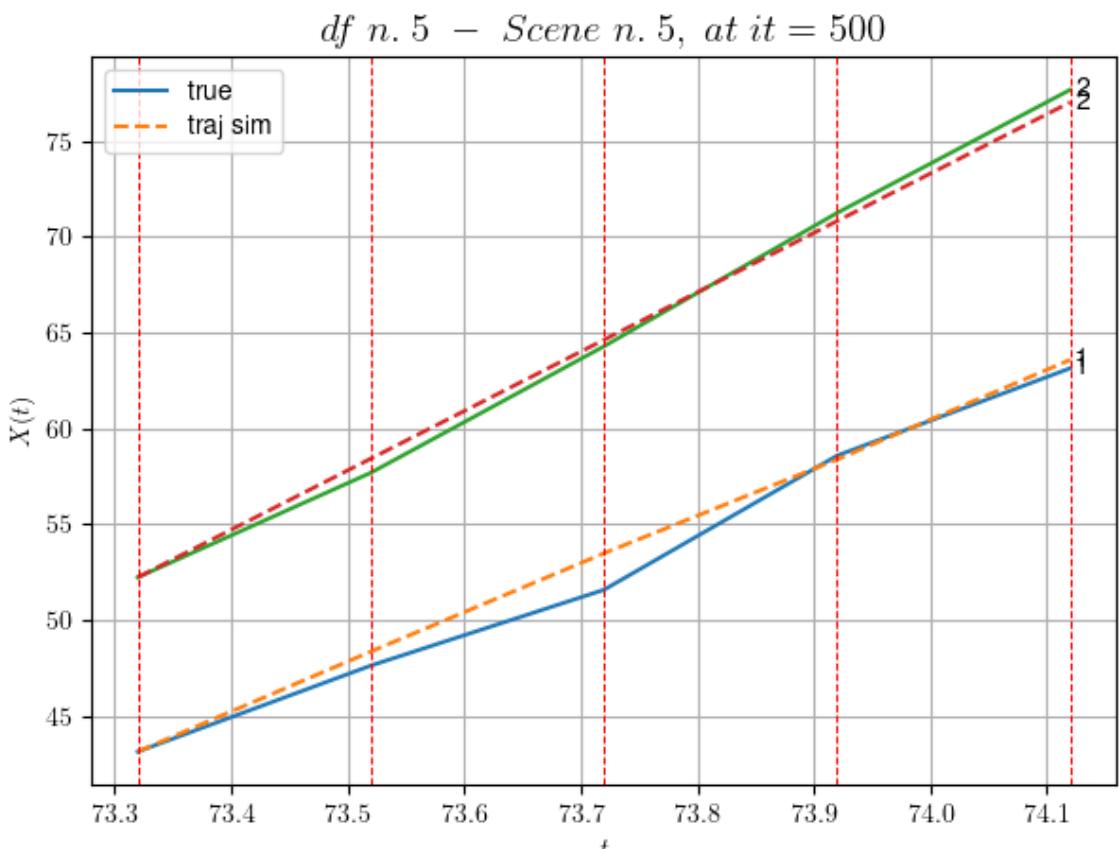
```
- Time interval n.1: [73.52, 73.72]
```

```
* y_true: [19.77098046]
* v_ann: [25.638580322265625, 30.983854498861103]
```

```
- Time interval n.2: [73.72, 73.92]
* y_true: [35.00219048]
* v_ann: [24.464580535888672, 30.983854498861103]
```

```
- Time interval n.3: [73.92, 74.12]
* y_true: [22.79172486]
* v_ann: [26.00693130493164, 30.983854498861103]
```

```
* err= 0.5668146040047128
* Learning rate NN = 2.3914839403005317e-05
* diff = 0.011312019779702642
```



For scene 5/66

```
* use LR_NN=5e-05 with err=0.4874458005532538 at it=24
* v0_scn_mean = 30.944500318914027
* MAE = 0.5668146040047128
```

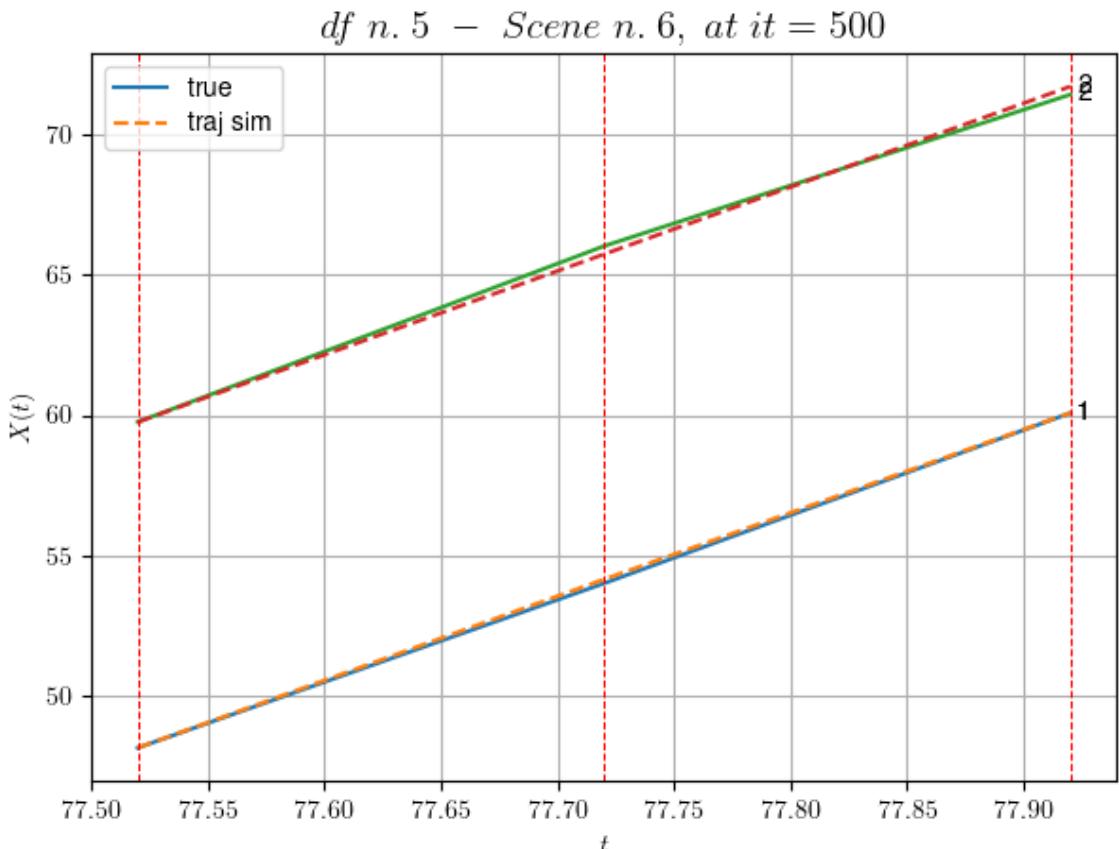
df n.5, scene n.6/66

We have 2 time intervals inside [77.52, 77.92]

- Time interval n.0: [77.52, 77.72]
 * y_true: [29.39148069]
 * v_ann: [30.096038818359375, 29.979095396352783]

- Time interval n.1: [77.72, 77.92]
 * y_true: [30.4419639]
 * v_ann: [29.758047103881836, 29.979095396352783]

* err= 0.031474057371774916
 * Learning rate NN = 0.00036449998151510954
 * diff = 6.148883800562166e-05



For scene 6/66
 * use LR_NN=0.0005 with err=0.028581520780145718 at it=24
 * v0_scn_mean = 29.97993158049835
 * MAE = 0.031474057371774916

df n.5, scene n.7/66

We have 3 time intervals inside [78.72, 79.32]
 - Time interval n.0: [78.72, 78.92]
 * y_true: [30.67106023]
 * v_ann: [27.445955276489258, 28.965407295611314]

```

-----  

    - Time interval n.1: [78.92, 79.12]  

      * y_true: [32.90145429]  

      * v_ann: [28.428848266601562, 28.965407295611314]
-----
```

```

-----  

    - Time interval n.2: [79.12, 79.32]  

      * y_true: [21.18125424]  

      * v_ann: [29.178491592407227, 28.965407295611314]
-----
```

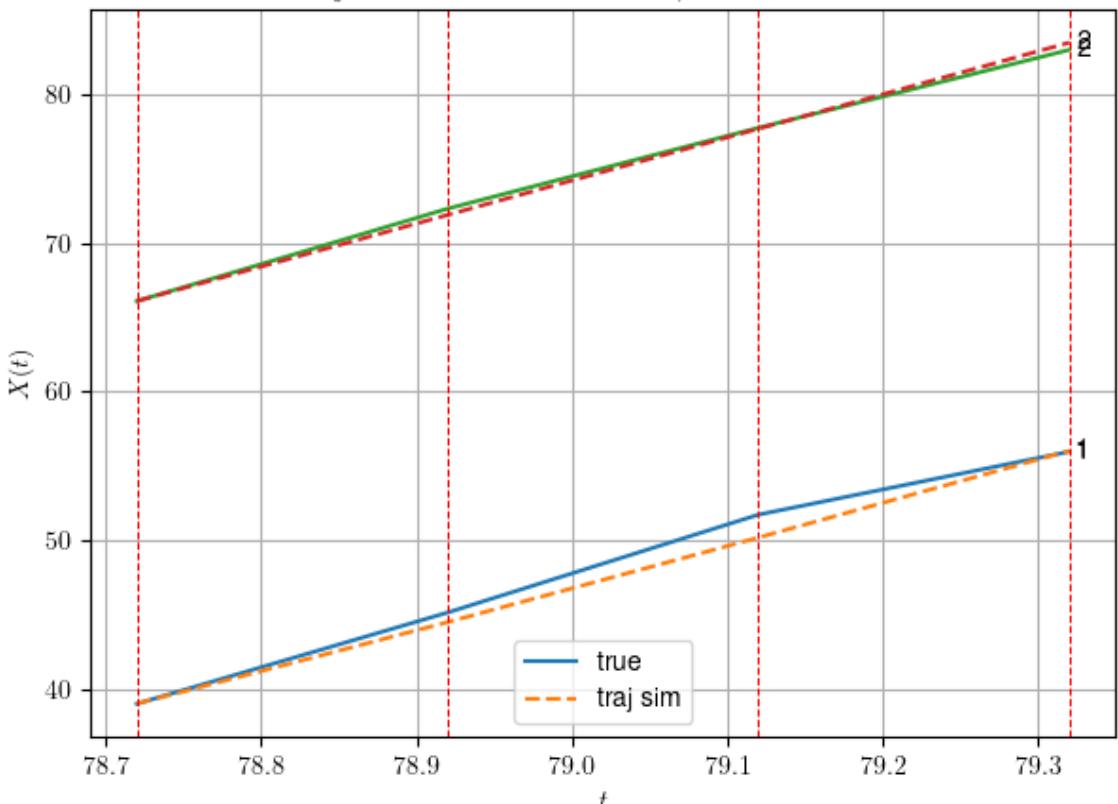
```

* err= 0.401268408204504  

* Learning rate NN = 2.952449540316593e-05  

* diff = 0.002363894629035912
```

df n. 5 – Scene n. 7, at it = 500



For scene 7/66

```

* use LR_NN=5e-05 with err=0.4299645818960144 at it=24  

* v0_scn_mean = 29.006791003778968  

* MAE = 0.401268408204504
=====
```

df n.5, scene n.8/66

```

=====
=====
```

We have 7 time intervals inside [96.12, 97.52]

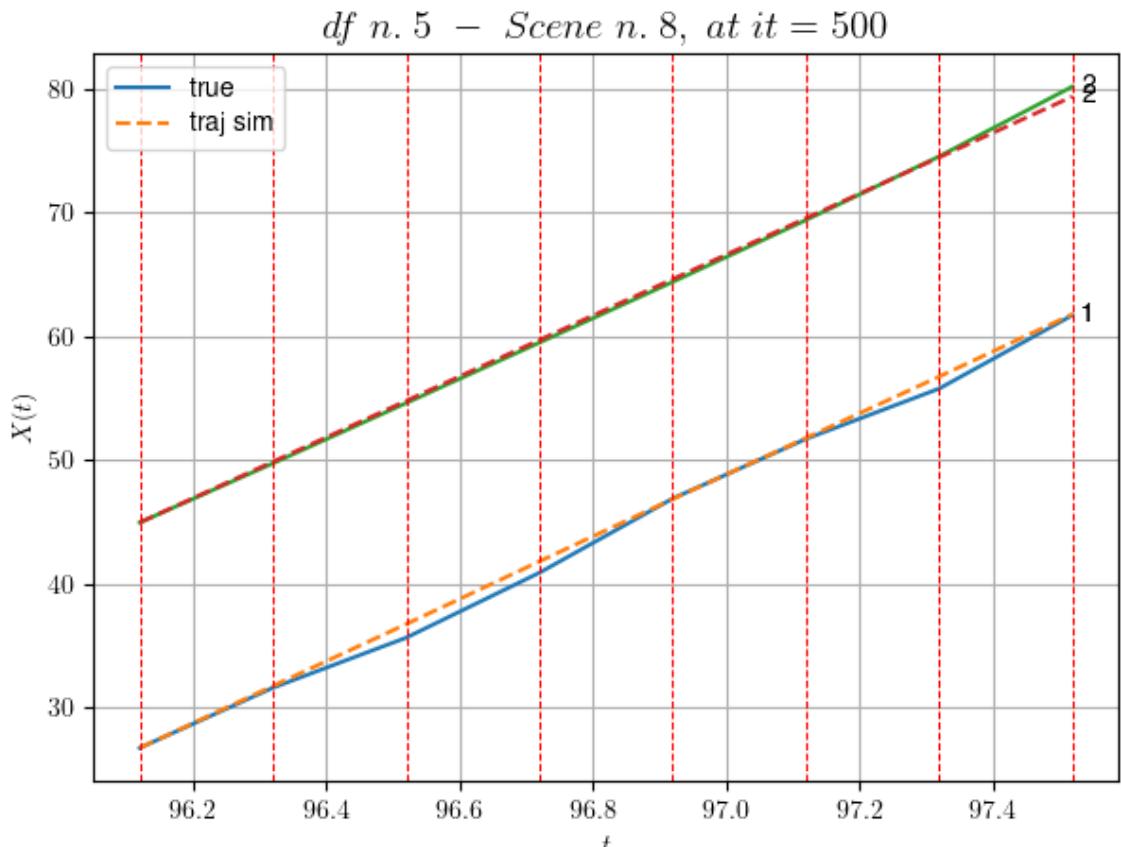
```

    - Time interval n.0: [96.12, 96.32]  

      * y_true: [24.32039328]  

      * v_ann: [25.03325653076172, 24.58358740127218]
=====
```

```
-----  
-----  
    - Time interval n.1: [96.32, 96.52]  
      * y_true: [20.210445]  
      * v_ann: [24.9864444732666, 24.58358740127218]  
  
-----  
-----  
    - Time interval n.2: [96.52, 96.72]  
      * y_true: [26.25074807]  
      * v_ann: [25.339689254760742, 24.58358740127218]  
  
-----  
-----  
    - Time interval n.3: [96.72, 96.92]  
      * y_true: [29.96110103]  
      * v_ann: [25.169649124145508, 24.58358740127218]  
  
-----  
-----  
    - Time interval n.4: [96.92, 97.12]  
      * y_true: [24.08111227]  
      * v_ann: [24.68556022644043, 24.58358740127218]  
  
-----  
-----  
    - Time interval n.5: [97.12, 97.32]  
      * y_true: [20.33118515]  
      * v_ann: [24.76942253112793, 24.58358740127218]  
  
-----  
-----  
    - Time interval n.6: [97.32, 97.52]  
      * y_true: [29.65208479]  
      * v_ann: [25.25324058532715, 24.58358740127218]  
  
-----  
-----  
* err= 0.24003133693426387  
* Learning rate NN = 2.541864660088322e-06  
* diff = 2.506220062027267e-05
```

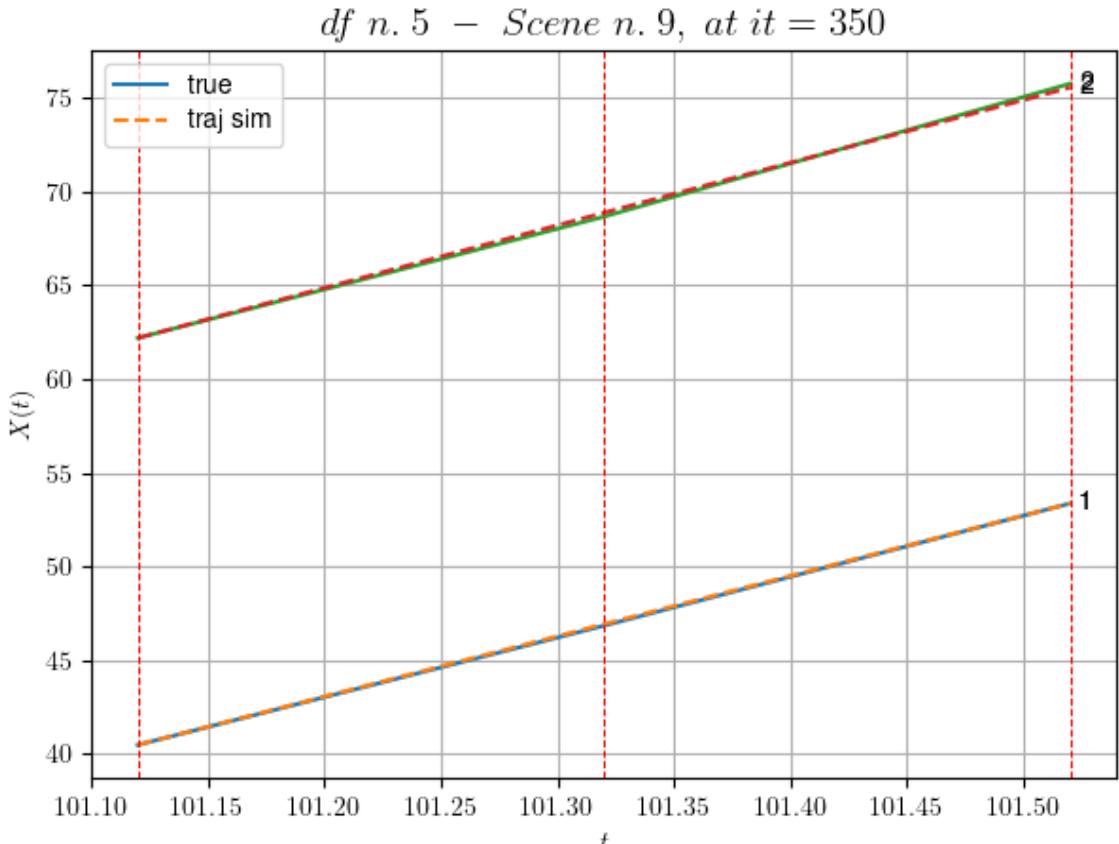


For scene 8/66

* use LR_NN=1e-05 with err=10.05253140572945 at it=24
* v0_scn_mean = 24.800243905179833
* MAE = 0.23897432120946305

df n.5, scene n.9/66

We have 2 time intervals inside [101.12,101.52]
* err= 0.015766139004178018
* Learning rate NN = 4.049999552080408e-05
* diff = 5.1384763690570656e-08



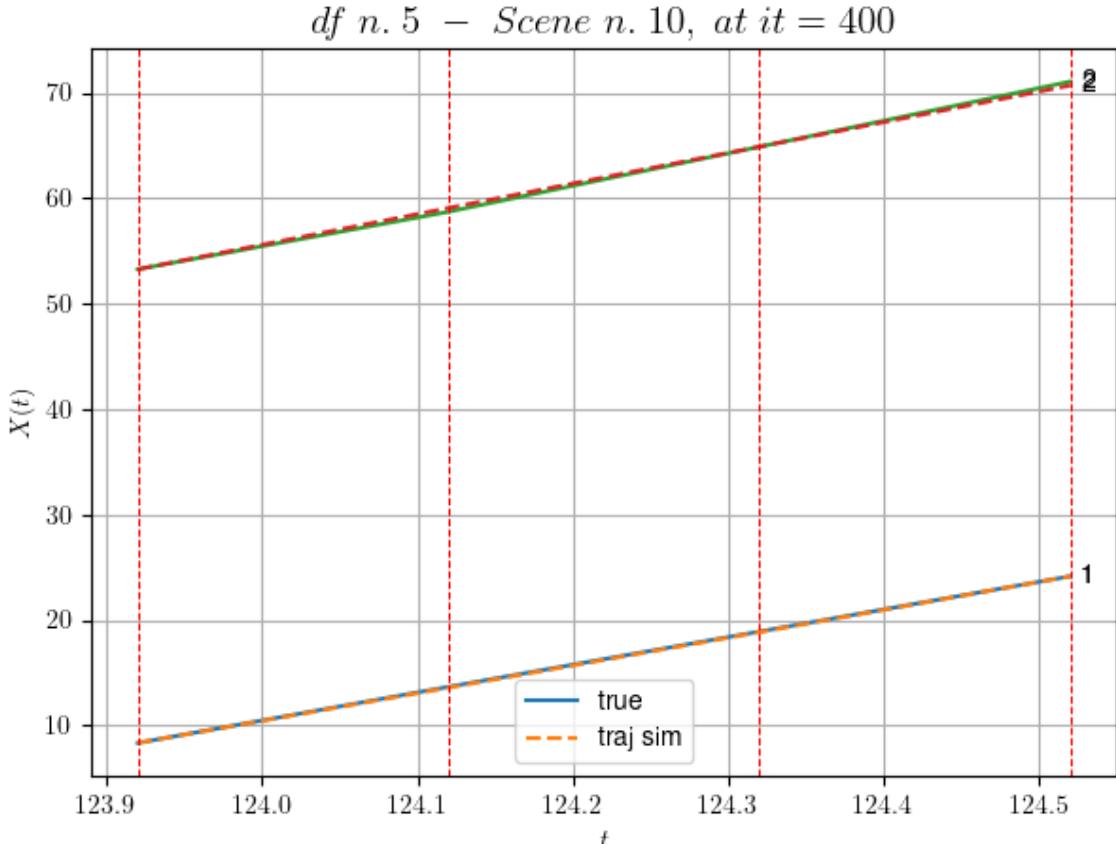
For scene 9/66

- * use LR_NN=5e-05 with err=0.45060077289158235 at it=24
 - * v0_scn_mean = 33.214905678420486
 - * MAE = 0.015766138992612318
-
-

df n.5, scene n.10/66

We have 3 time intervals inside [123.92,124.52]

- * err= 0.034161913538920445
- * Learning rate NN = 6.560998826898867e-06
- * diff = 2.528812898666688e-08



For scene 10/66

- * use LR_NN=1e-05 with err=0.06426343629661754 at it=24
- * v0_scn_mean = 29.11374977133477
- * MAE = 0.02960320759849917

df n.5, scene n.11/66

We have 5 time intervals inside [125.12, 126.12]

- Time interval n.0: [125.12, 125.32]
 - * y_true: [30.50092783]
 - * v_ann: [25.6279354095459, 29.26921039472393]

- Time interval n.1: [125.32, 125.52]
 - * y_true: [27.94108841]
 - * v_ann: [28.9475154876709, 29.26921039472393]

- Time interval n.2: [125.52, 125.72]
 - * y_true: [21.64103704]
 - * v_ann: [27.947586059570312, 29.26921039472393]

- Time interval n.3: [125.72, 125.92]
 - * y_true: [30.40181251]

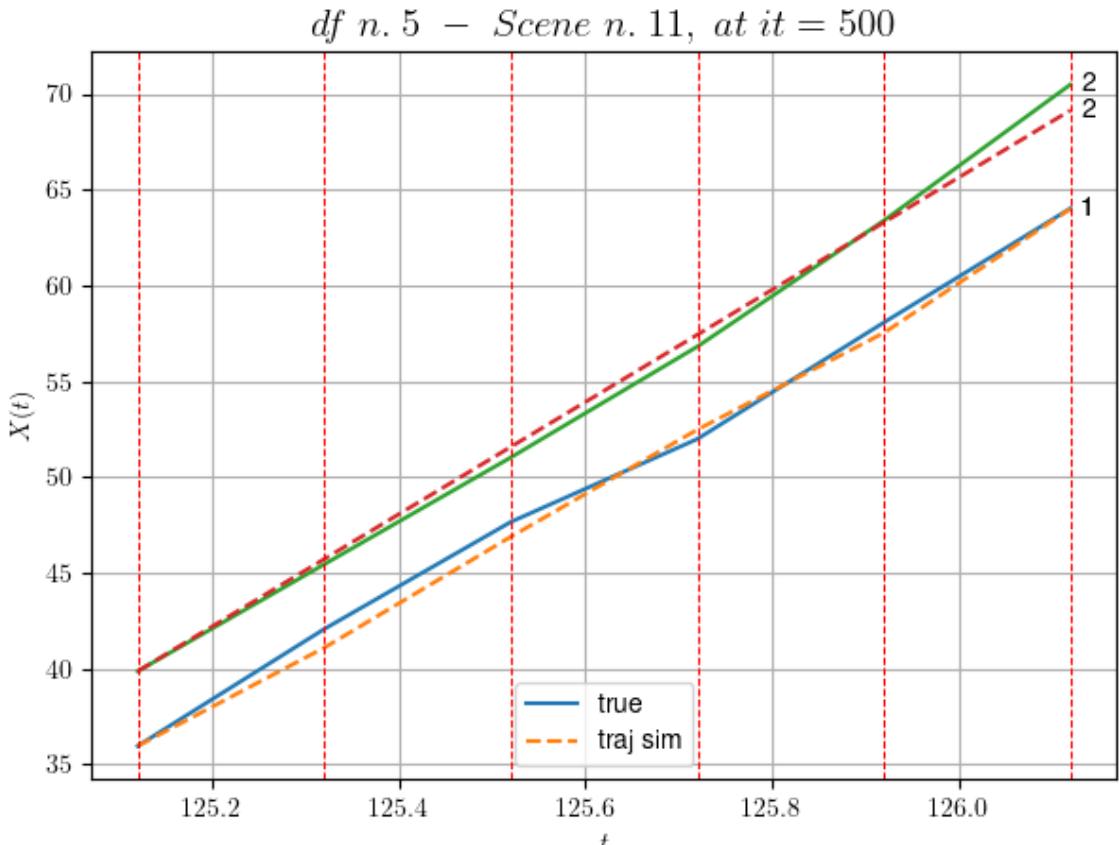
```
* v_ann: [25.258821487426758, 29.26921039472393]
```

```
- Time interval n.4: [125.92, 126.12]
```

```
* y_true: [29.76231357]
```

```
* v_ann: [32.3394889831543, 29.26921039472393]
```

```
* err= 0.38896097703035915
* Learning rate NN = 0.0019371019443497062
* diff = 0.0053898895327934015
```



For scene 11/66

```
* use LR_NN=0.005 with err=0.6122402418845321 at it=24
```

```
* v0_scn_mean = 29.298441978928896
```

```
* MAE = 0.35863484957615166
```

df n.5, scene n.12/66

We have 3 time intervals inside [134.32, 134.92]

```
- Time interval n.0: [134.32, 134.52]
```

```
* y_true: [30.69004964]
```

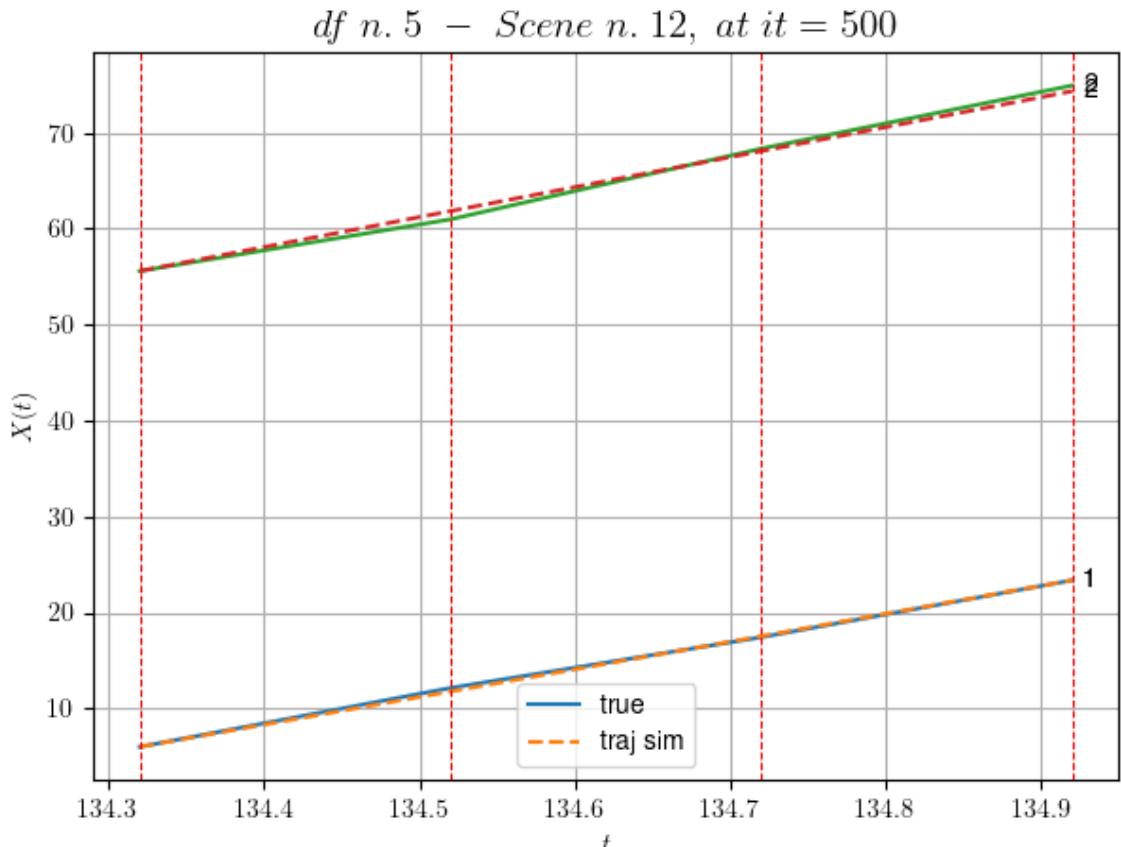
```
* v_ann: [28.866315841674805, 31.249037494539166]
```

```
- Time interval n.1: [134.52, 134.72]
```

```
* y_true: [26.43011975]
* v_ann: [28.805347442626953, 31.249037494539166]
```

```
- Time interval n.2: [134.72, 134.92]
* y_true: [29.69024251]
* v_ann: [29.185728073120117, 31.249037494539166]
```

```
* err= 0.16342128286876573
* Learning rate NN = 5.9048988987342454e-06
* diff = 5.361433280393069e-07
```



For scene 12/66

```
* use LR_NN=1e-05 with err=0.36431492029009094 at it=24
* v0_scn_mean = 31.199075994767146
* MAE = 0.16336045295981555
```

df n.5, scene n.13/66

We have 6 time intervals inside [145.92, 147.12]

```
- Time interval n.0: [145.92, 146.12]
* y_true: [20.61022162]
* v_ann: [17.376001358032227, 25.995964105863298]
```

- Time interval n.1: [146.12, 146.32]
* y_true: [23.57038291]
* v_ann: [18.50872039794922, 25.995964105863298]

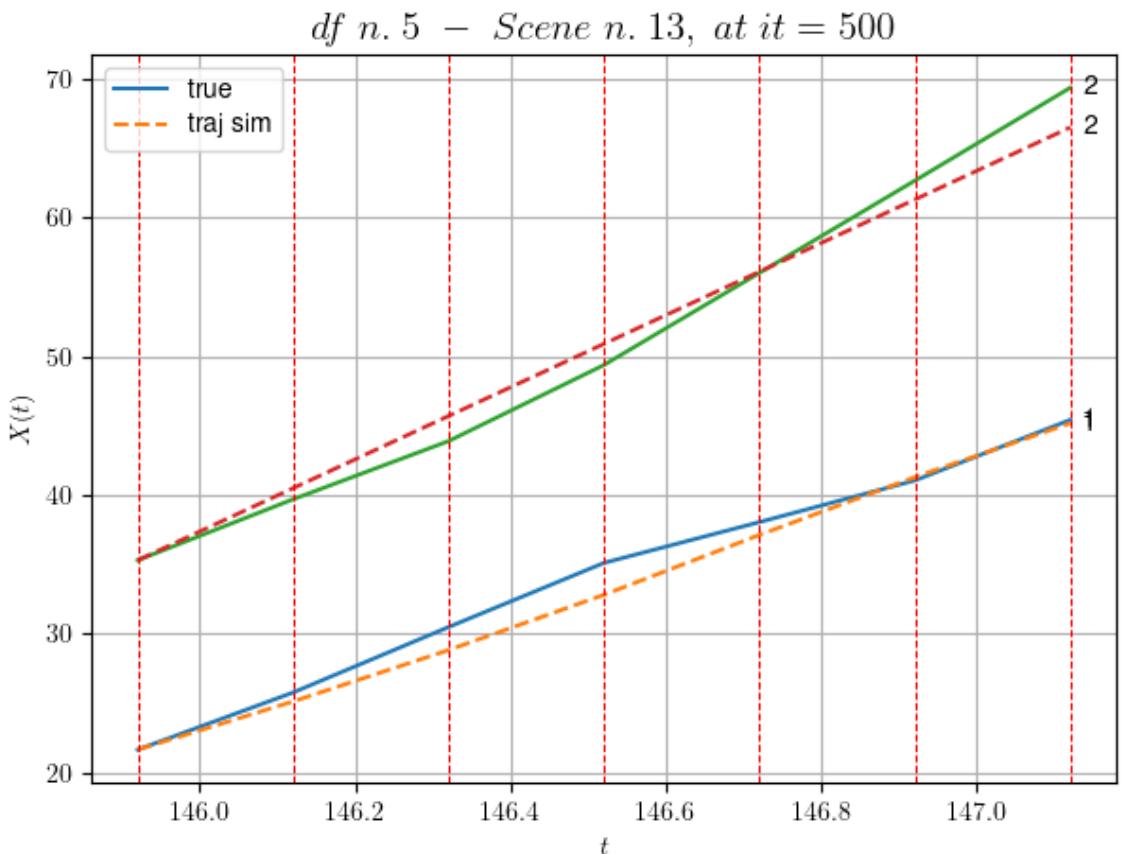
- Time interval n.2: [146.32, 146.52]
* y_true: [23.12047758]
* v_ann: [19.913244247436523, 25.995964105863298]

- Time interval n.3: [146.52, 146.72]
* y_true: [14.69037585]
* v_ann: [21.577138900756836, 25.995964105863298]

- Time interval n.4: [146.72, 146.92]
* y_true: [15.01046474]
* v_ann: [20.822237014770508, 25.995964105863298]

- Time interval n.5: [146.92, 147.12]
* y_true: [21.83491468]
* v_ann: [19.405746459960938, 25.995964105863298]

* err= 1.8363394396034205
* Learning rate NN = 0.00031381050939671695
* diff = 0.012410817213387215



```
For scene 13/66
* use LR_NN=0.001 with err=4.209570826752066 at it=24
* v0_scn_mean = 26.156125541598065
* MAE = 1.2356119680128694
```

```
=====
=====
```

```
df n.5, scene n.14/66
```

```
=====
=====
```

```
We have 4 time intervals inside [149.92,150.72]
```

```
- Time interval n.0: [149.92, 150.12]
  * y_true: [26.68049148]
  * v_ann: [31.039142608642578, 23.10299358436146]
```

```
-----
-----
```

```
- Time interval n.1: [150.12, 150.32]
  * y_true: [38.1410546]
  * v_ann: [29.98423957824707, 23.10299358436146]
```

```
-----
-----
```

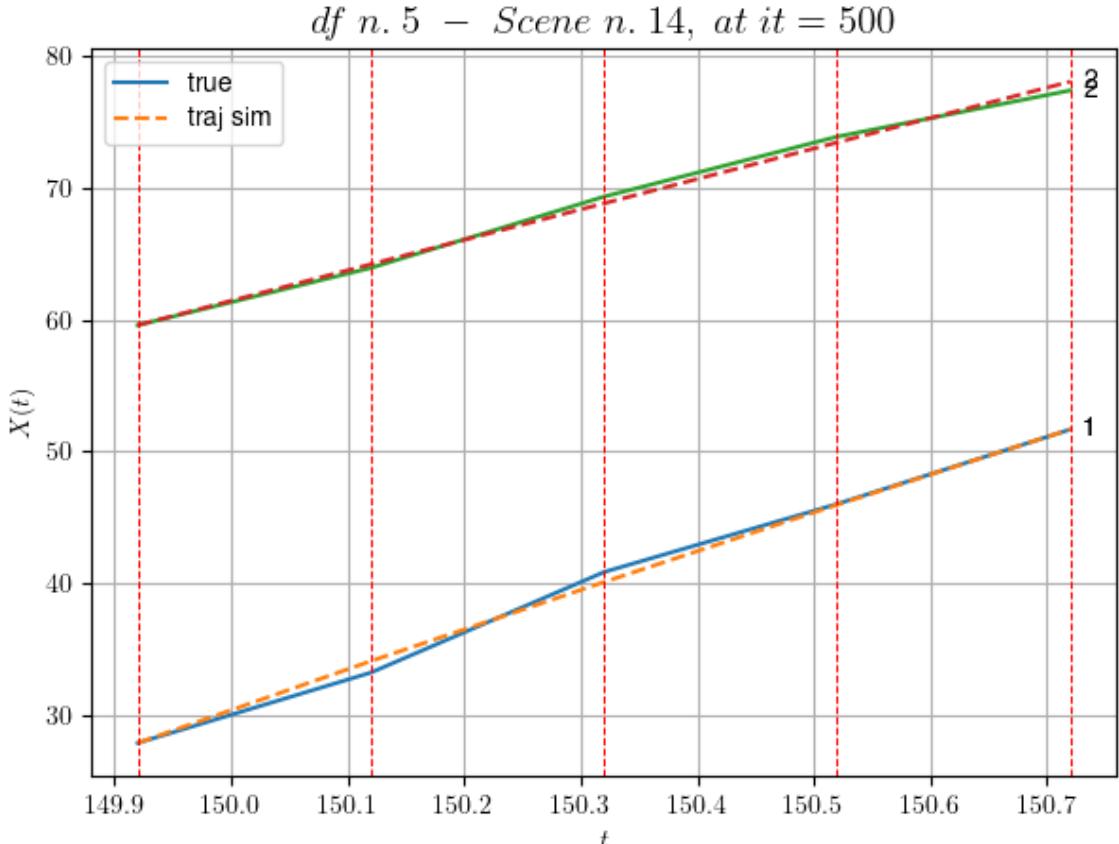
```
- Time interval n.2: [150.32, 150.52]
  * y_true: [25.82092379]
  * v_ann: [29.32381248474121, 23.10299358436146]
```

```
-----
-----
```

```
- Time interval n.3: [150.52, 150.72]
  * y_true: [28.28147438]
  * v_ann: [28.638778686523438, 23.10299358436146]
```

```
-----
-----
```

```
* err= 0.23185393625397682
* Learning rate NN = 2.3914839403005317e-05
* diff = 8.181119339112364e-05
```



For scene 14/66

- * use LR_NN=5e-05 with err=6.152380155088727 at it=24
- * v0_scn_mean = 23.378873840934435
- * MAE = 0.23185393625397682

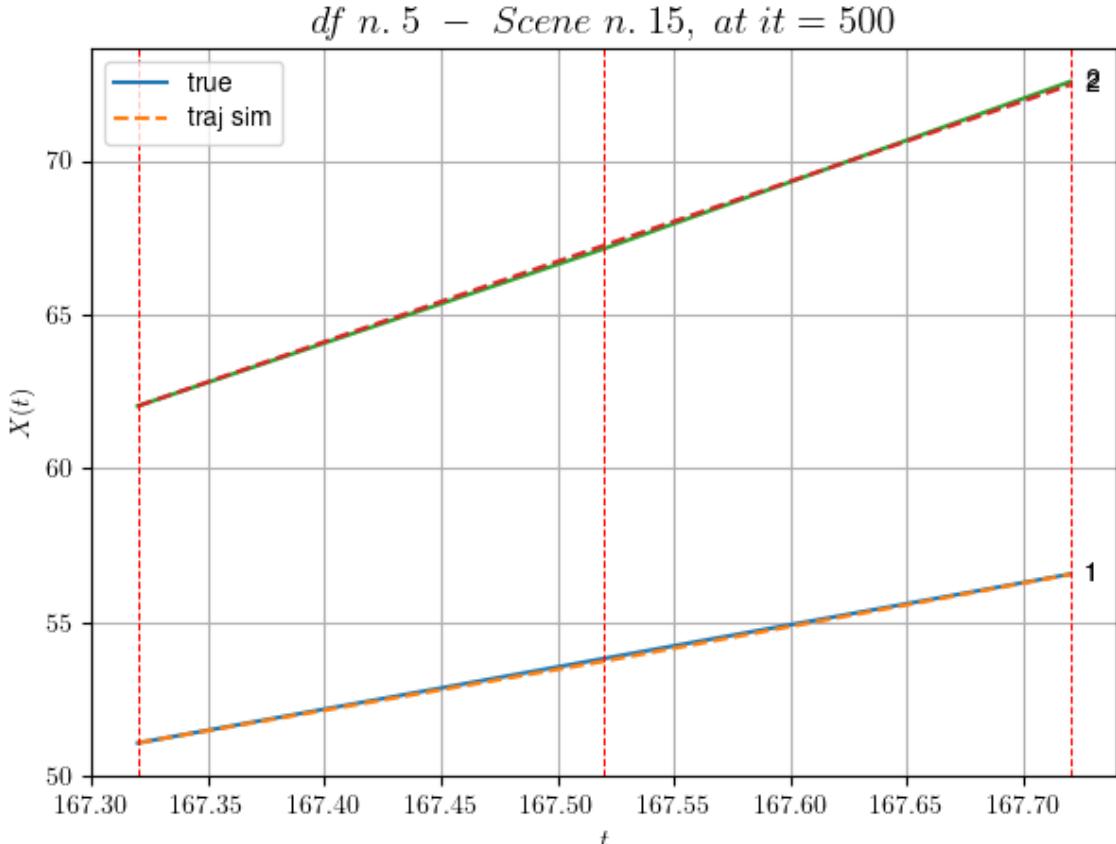
df n.5, scene n.15/66

We have 2 time intervals inside [167.32, 167.72]

- Time interval n.0: [167.32, 167.52]
 - * y_true: [13.72577148]
 - * v_ann: [13.281344413757324, 26.10725367471429]

- Time interval n.1: [167.52, 167.72]
 - * y_true: [13.72577148]
 - * v_ann: [14.117817878723145, 26.10725367471429]

- * err= 0.005153947147263117
- * Learning rate NN = 7.289998757187277e-05
- * diff = 1.4918331010826437e-05



For scene 15/66

- * use LR_NN=0.0001 with err=0.49884909052793897 at it=24
- * v0_scn_mean = 26.262963527696716
- * MAE = 0.004953760587165029

df n.5, scene n.16/66

We have 3 time intervals inside [175.72, 176.32]

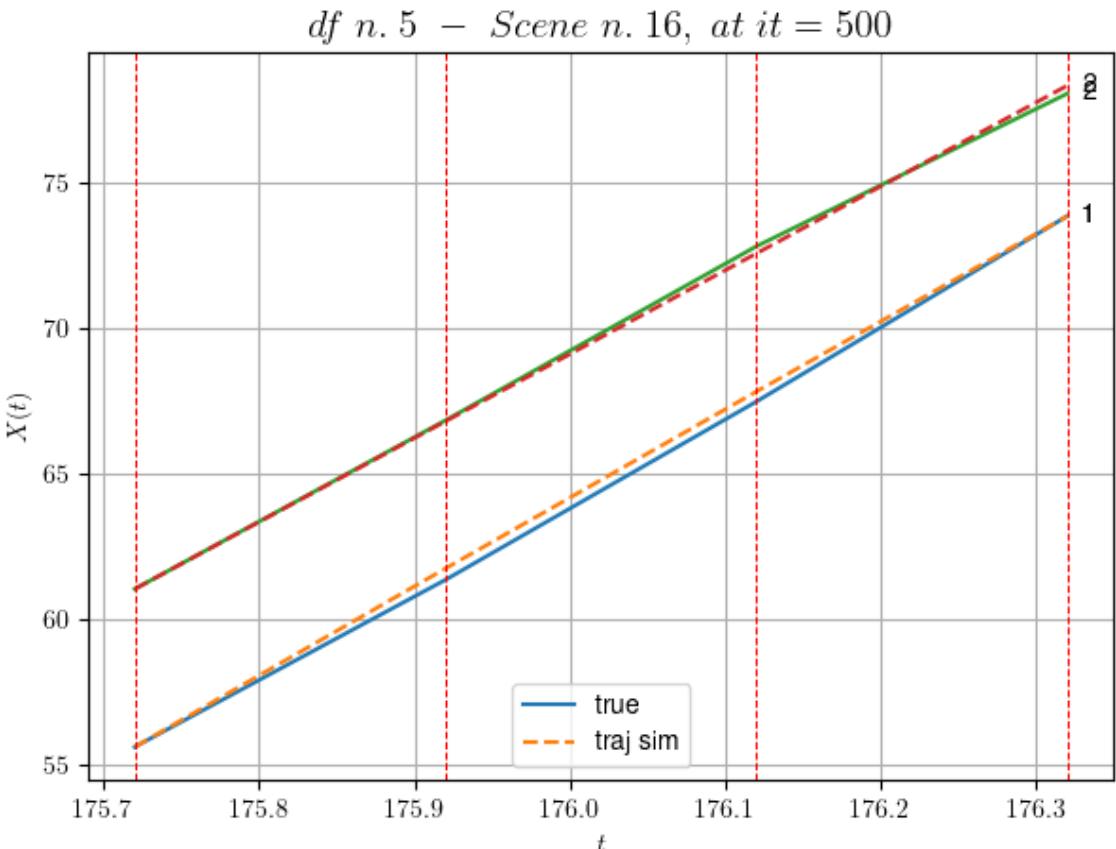
- Time interval n.0: [175.72, 175.92]
 - * y_true: [28.75187595]
 - * v_ann: [30.700450897216797, 28.8584180654014]

- Time interval n.1: [175.92, 176.12]
 - * y_true: [30.6425727]
 - * v_ann: [30.410451889038086, 28.8584180654014]

- Time interval n.2: [176.12, 176.32]
 - * y_true: [31.90303719]
 - * v_ann: [30.159679412841797, 28.8584180654014]

- * err= 0.0508067081444393
- * Learning rate NN = 0.0002952449722215533

* diff = 2.046796654327221e-05



For scene 16/66

- * use LR_NN=0.0005 with err=0.17279319329131138 at it=24
- * v0_scn_mean = 28.90408134277635
- * MAE = 0.05017700179759069

df n.5, scene n.17/66

We have 4 time intervals inside [193.72, 194.52]

- Time interval n.0: [193.72, 193.92]
 - * y_true: [24.05562773]
 - * v_ann: [23.66966438293457, 30.811434876560575]

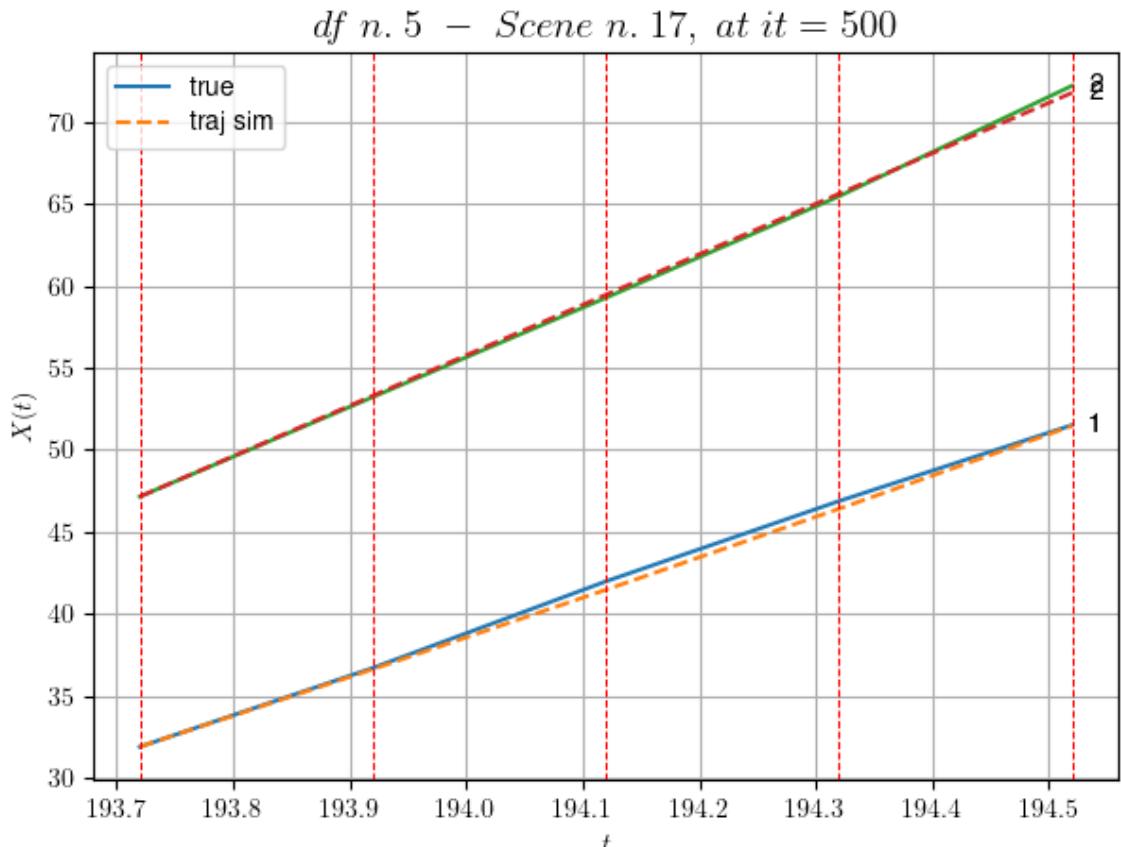
- Time interval n.1: [193.92, 194.12]
 - * y_true: [26.42578066]
 - * v_ann: [24.24898338317871, 30.811434876560575]

- Time interval n.2: [194.12, 194.32]
 - * y_true: [24.49095616]
 - * v_ann: [24.7087459564209, 30.811434876560575]

- Time interval n.3: [194.32, 194.52]

```
* y_true: [23.20107316]
* v_ann: [25.277679443359375, 30.811434876560575]
```

```
* err= 0.07447835765196704
* Learning rate NN = 2.3914839403005317e-05
* diff = 0.0003002308839802764
```



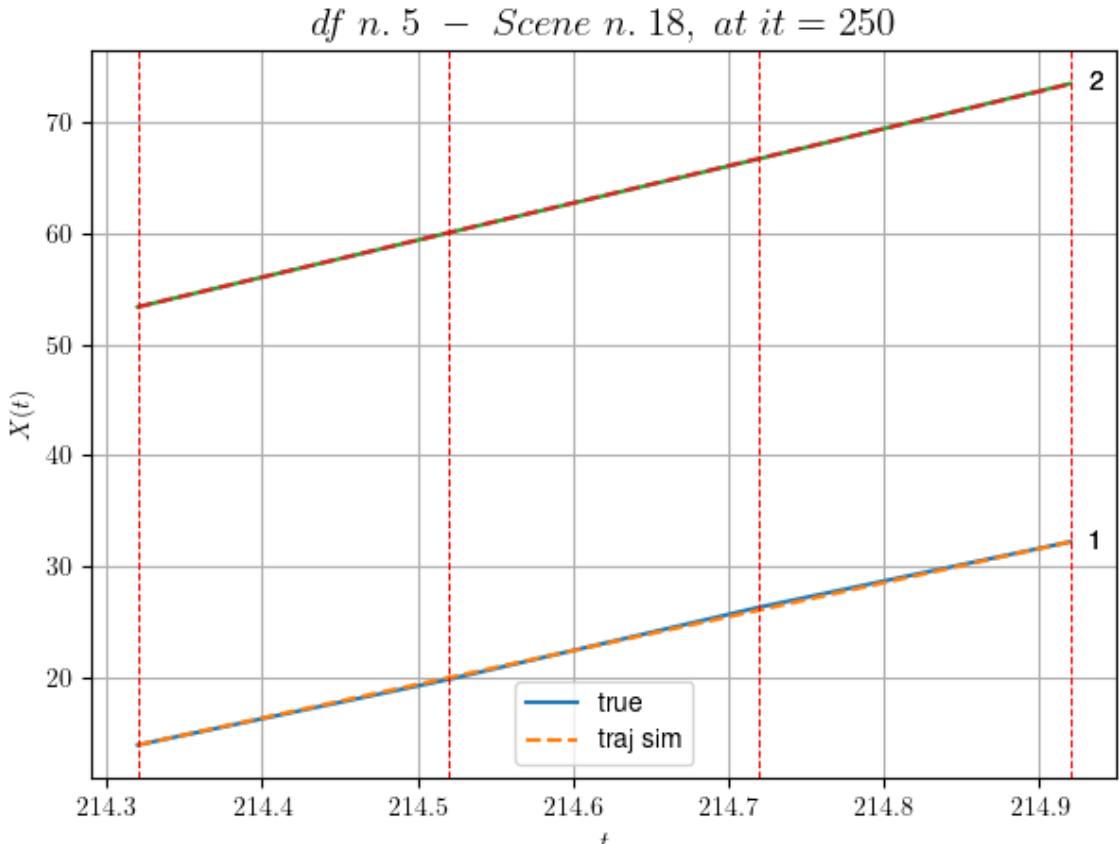
For scene 17/66

```
* use LR_NN=5e-05 with err=0.34722748418555355 at it=24
* v0_scn_mean = 30.778977481504498
* MAE = 0.07447835765196704
```

df n.5, scene n.18/66

We have 3 time intervals inside [214.32, 214.92]

```
* err= 0.011318278633990424
* Learning rate NN = 8.099998922261875e-06
* diff = 6.154954018452313e-07
```



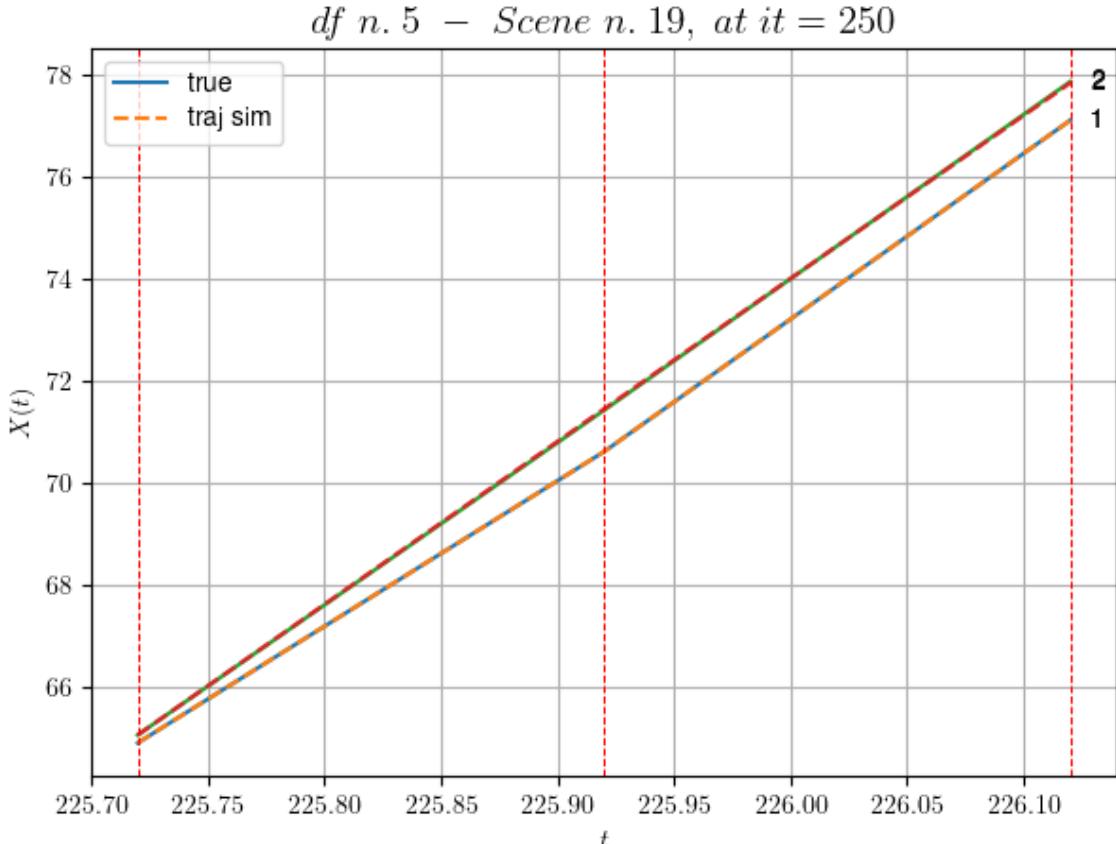
For scene 18/66

- * use LR_NN=1e-05 with err=0.8448480746871342 at it=24
 - * v0_scn_mean = 33.143320035668935
 - * MAE = 0.011318278633990424
-
-

df n.5, scene n.19/66

We have 2 time intervals inside [225.72, 226.12]

- * err= 0.0002198692093902678
- * Learning rate NN = 0.008999999612569809
- * diff = 1.1166007670389342e-07



For scene 19/66

- * use LR_NN=0.01 with err=0.1398965382937421 at it=24
- * v0_scn_mean = 31.859763662748204
- * MAE = 0.0002198692093902678

df n.5, scene n.20/66

We have 6 time intervals inside [226.72, 227.92]

- Time interval n.0: [226.72, 226.92]
 - * y_true: [35.91081855]
 - * v_ann: [36.231048583984375, 32.69366457961338]

- Time interval n.1: [226.92, 227.12]
 - * y_true: [29.63097708]
 - * v_ann: [36.88725280761719, 32.69366457961338]

- Time interval n.2: [227.12, 227.32]
 - * y_true: [32.76145219]
 - * v_ann: [32.80846405029297, 32.69366457961338]

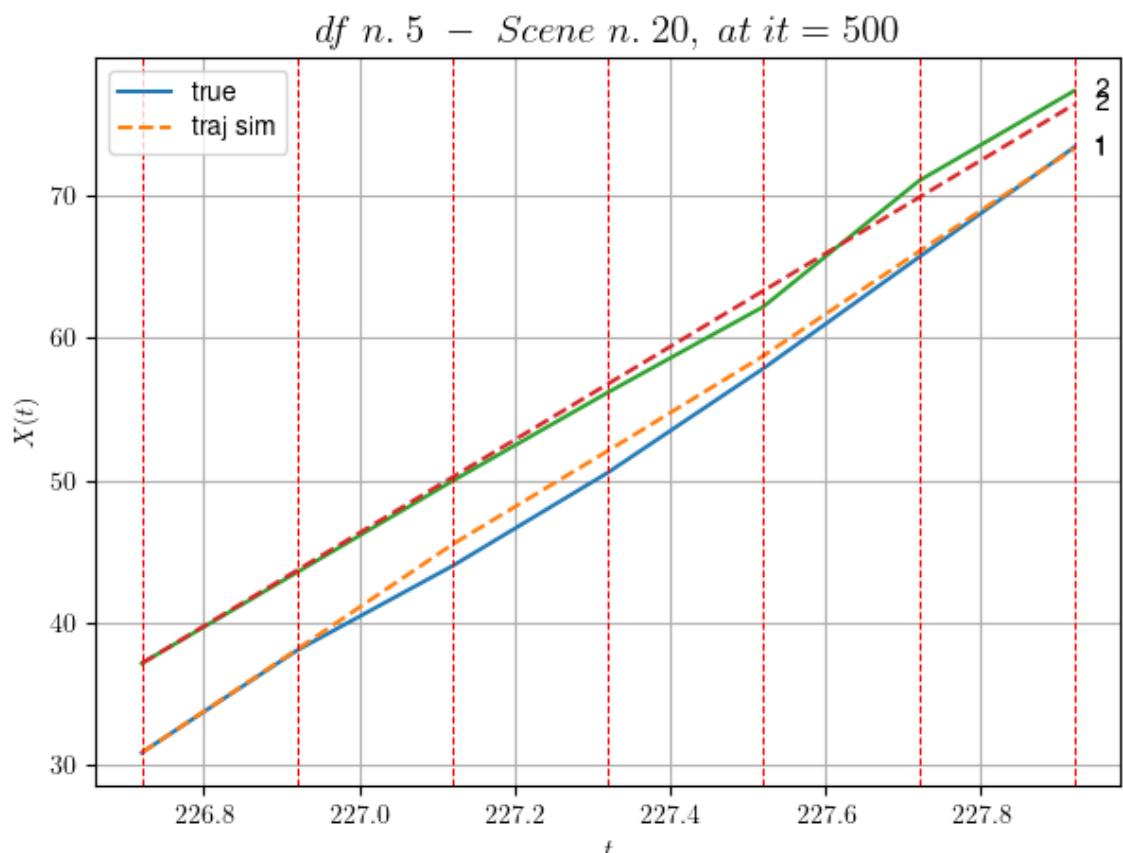
- Time interval n.3: [227.32, 227.52]
 - * y_true: [36.53210553]

* v_ann: [33.32265090942383, 32.69366457961338]

- Time interval n.4: [227.52, 227.72]
 * y_true: [39.00291249]
 * v_ann: [36.594566345214844, 32.69366457961338]

- Time interval n.5: [227.72, 227.92]
 * y_true: [38.60361644]
 * v_ann: [36.06682205200195, 32.69366457961338]

* err= 0.6824956286986843
 * Learning rate NN = 0.00031381050939671695
 * diff = 0.016866194598122775



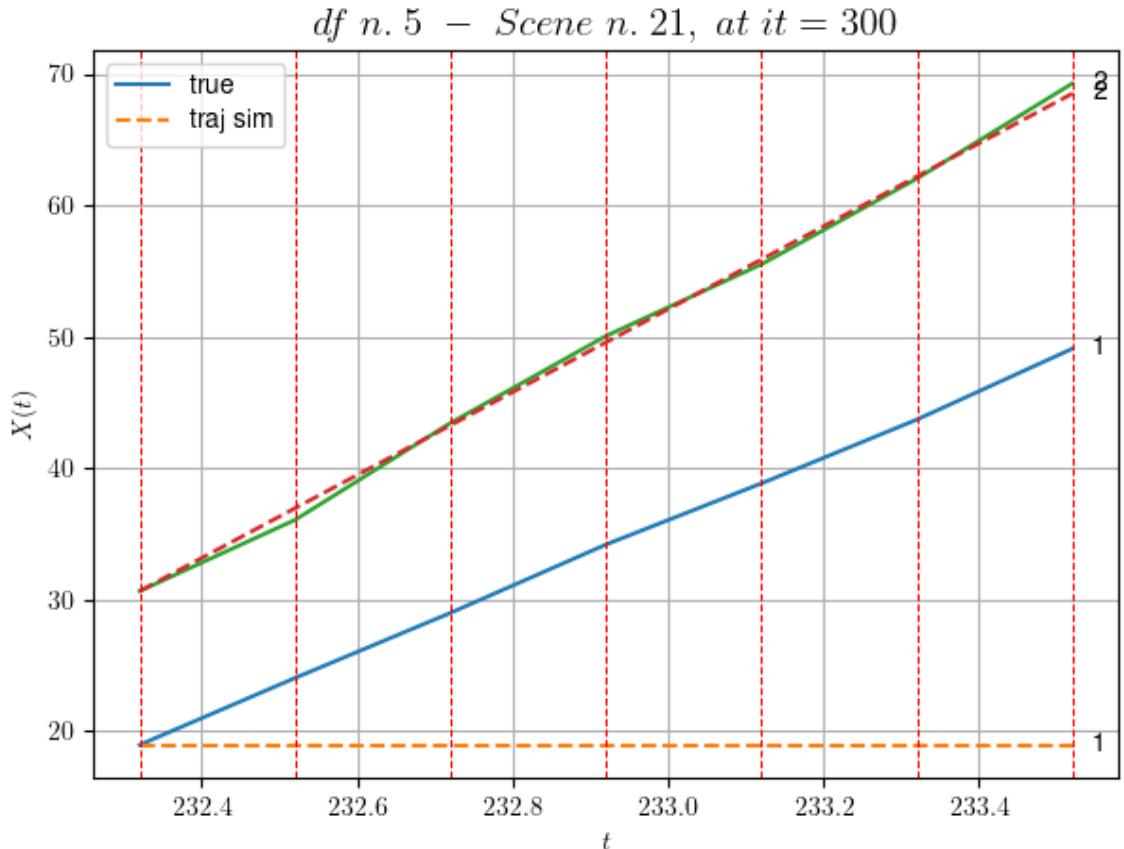
For scene 20/66

* use LR_NN=0.001 with err=3.555787137511323 at it=24
 * v0_scn_mean = 32.58591799644941
 * MAE = 0.6313284221352847

df n.5, scene n.21/66

We have 6 time intervals inside [232.32,233.52]
 * err= 162.6031540340948

* Learning rate NN = 0.000478296831715852
 * diff = 3.497474665437039e-07

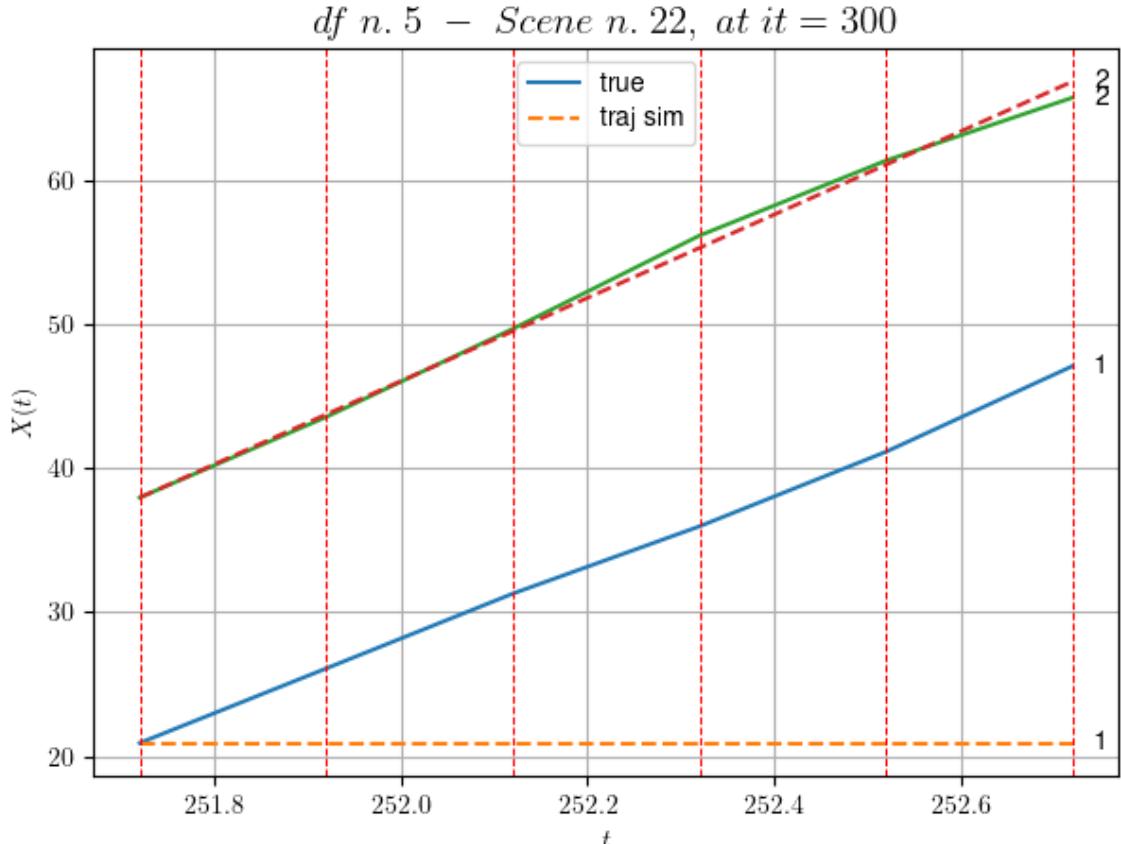


For scene 21/66

* use LR_NN=0.001 with err=1.4566704322296014 at it=24
 * v0_scn_mean = 31.43477395584121
 * MAE = 12.964179799917355

df n.5, scene n.22/66

We have 5 time intervals inside [251.72,252.72]
 * err= 121.4956264200916
 * Learning rate NN = 0.0005904899444431067
 * diff = 1.5735872693767305e-07



For scene 22/66

- * use LR_NN=0.001 with err=0.4948575717043332 at it=24
- * v0_scn_mean = 28.983909809018254
- * MAE = 121.4956264200916

df n.5, scene n.23/66

We have 6 time intervals inside [264.92, 266.12]

- Time interval n.0: [264.92, 265.12]
 - * y_true: [20.67034886]
 - * v_ann: [-0.00040560931665822864, 29.3667883741998]

14]

- Time interval n.1: [265.12, 265.32]
 - * y_true: [29.59071595]
 - * v_ann: [-6.511538231279701e-05, 29.36678837419981]

4]

- Time interval n.2: [265.32, 265.52]
 - * y_true: [25.33086431]
 - * v_ann: [-8.822029485600069e-05, 29.36678837419981]

4]

```

-----  

    - Time interval n.3: [265.52, 265.72]  

      * y_true: [23.55087759]  

      * v_ann: [-4.178319068159908e-05, 29.36678837419981  

4]
-----
```

```

-----  

    - Time interval n.4: [265.72, 265.92]  

      * y_true: [30.1916634]  

      * v_ann: [-1.2651213182834908e-05, 29.3667883741998  

14]
-----
```

```

-----  

    - Time interval n.5: [265.92, 266.12]  

      * y_true: [31.85185985]  

      * v_ann: [-6.330199084914057e-06, 29.36678837419981  

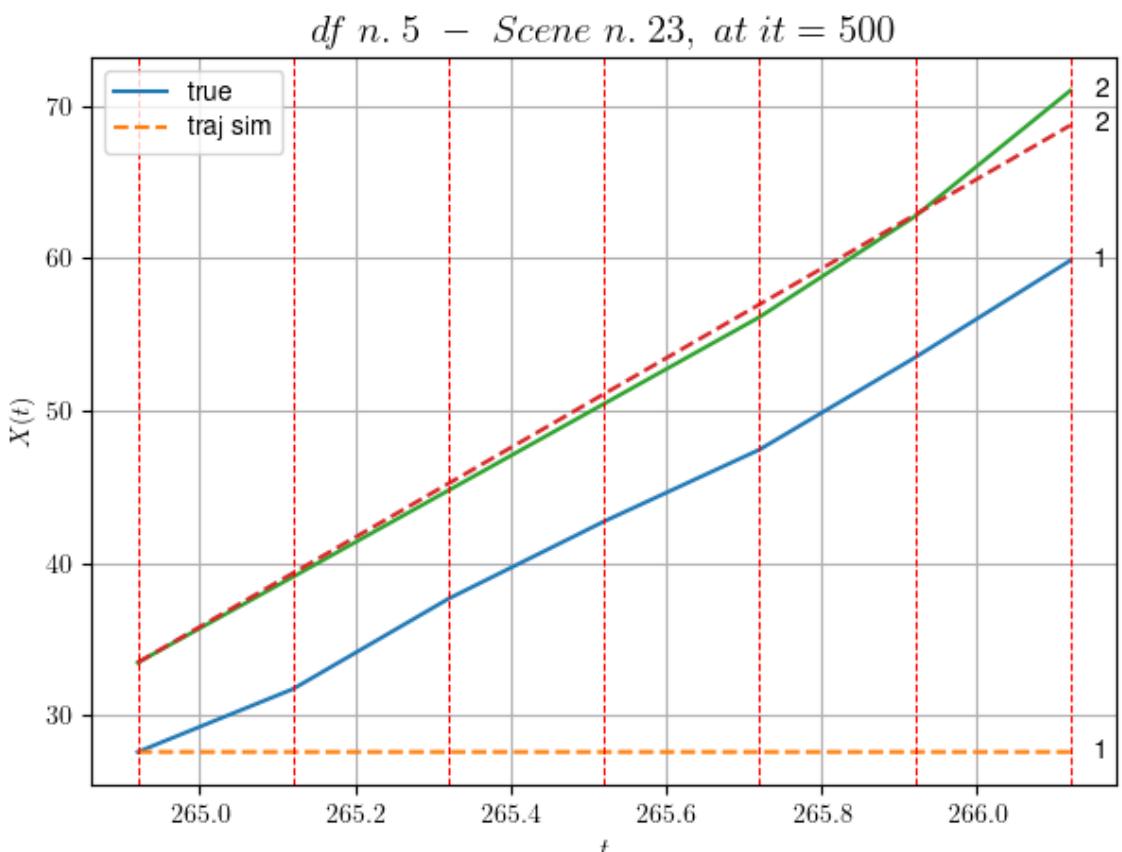
4]
-----
```

```

* err= 175.3429036466081  

* Learning rate NN = 3.138104875688441e-05  

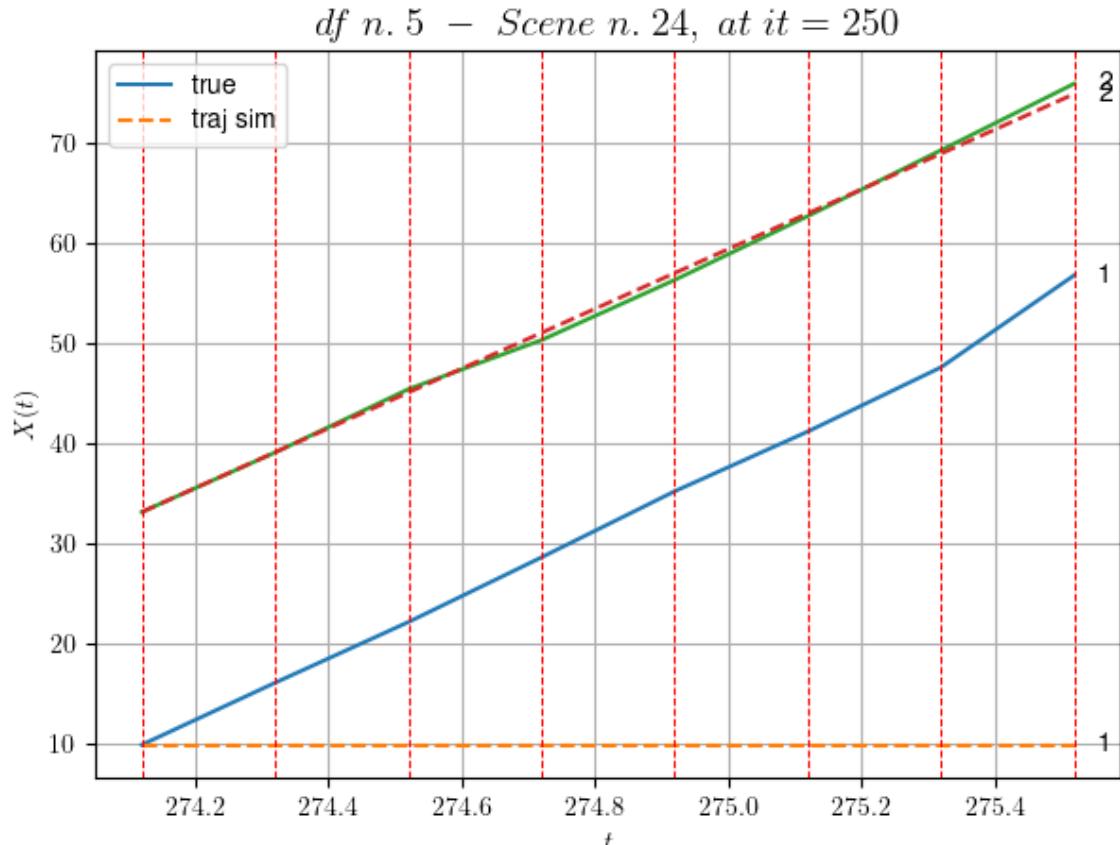
* diff = 1.3917380670136481e-05
```



For scene 23/66
* use LR_NN=0.0001 with err=0.5280378529741687 at it=24
* v0_scn_mean = 29.392116839226297
* MAE = 175.30768593059548

df n.5, scene n.24/66

We have 7 time intervals inside [274.12,275.52]
* err= 361.421539232374
* Learning rate NN = 5.314409008860821e-06
* diff = 4.915858085041691e-07

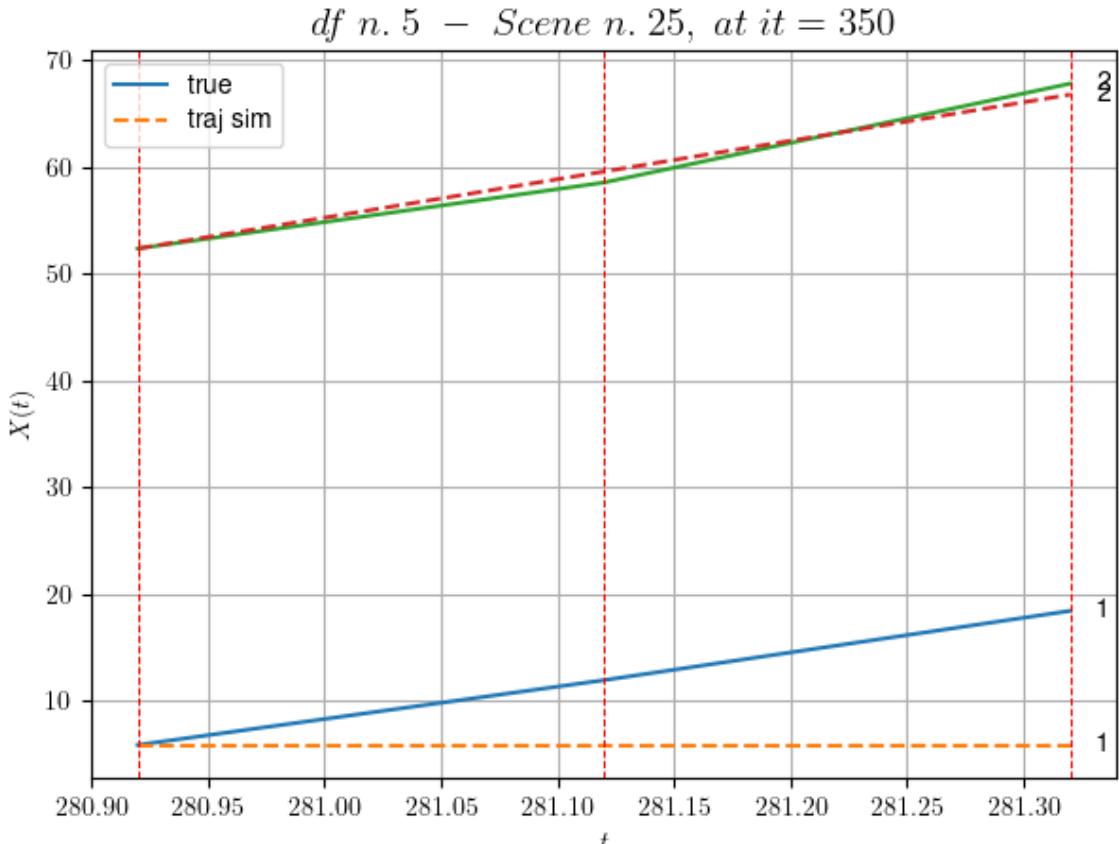


For scene 24/66

* use LR_NN=1e-05 with err=1.7896711396767642 at it=24
* v0_scn_mean = 29.84492131679799
* MAE = 361.41568524725153

df n.5, scene n.25/66

We have 2 time intervals inside [280.92,281.32]
* err= 32.76080220629665
* Learning rate NN = 8.099998922261875e-06
* diff = 7.905707377631188e-08



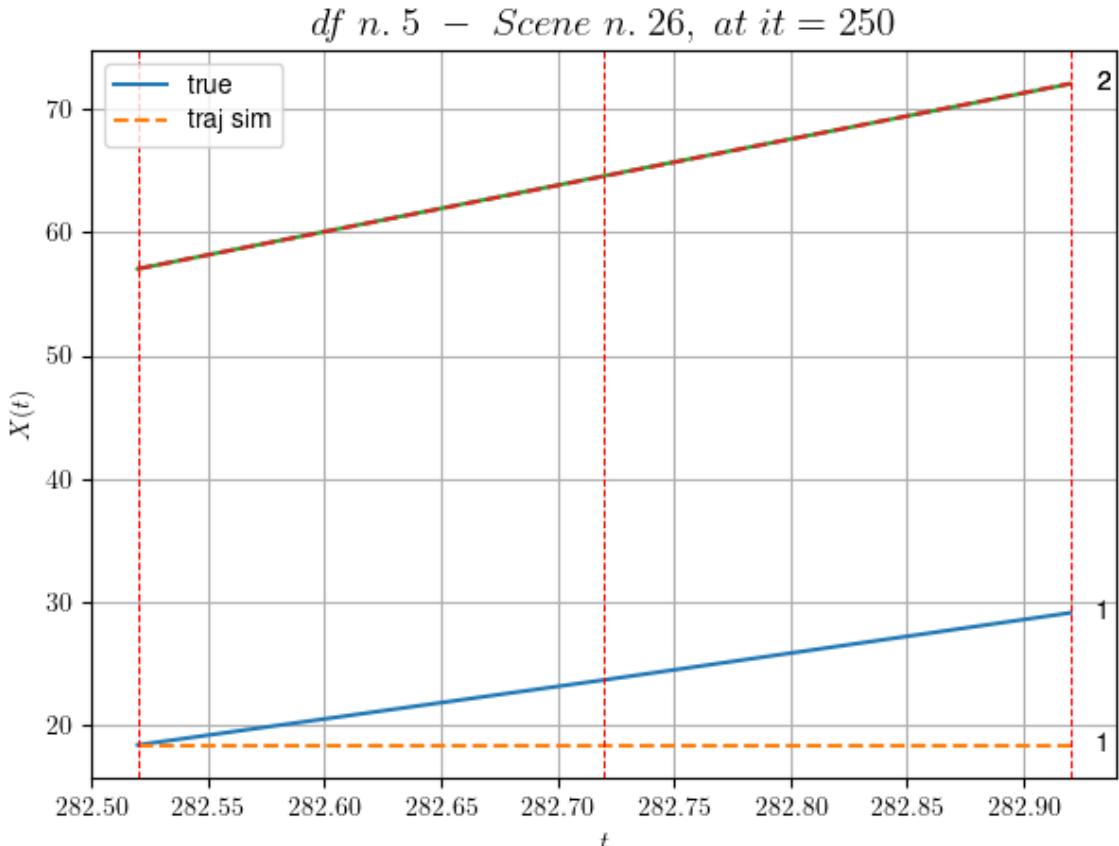
For scene 25/66

- * use LR_NN=1e-05 with err=1.9929732392202282 at it=24
 - * v0_scn_mean = 35.701995822613
 - * MAE = 32.76080220629665
-
-

df n.5, scene n.26/66

We have 2 time intervals inside [282.52, 282.92]

- * err= 23.72561866664296
- * Learning rate NN = 4.499999704421498e-05
- * diff = 4.399388906506374e-07



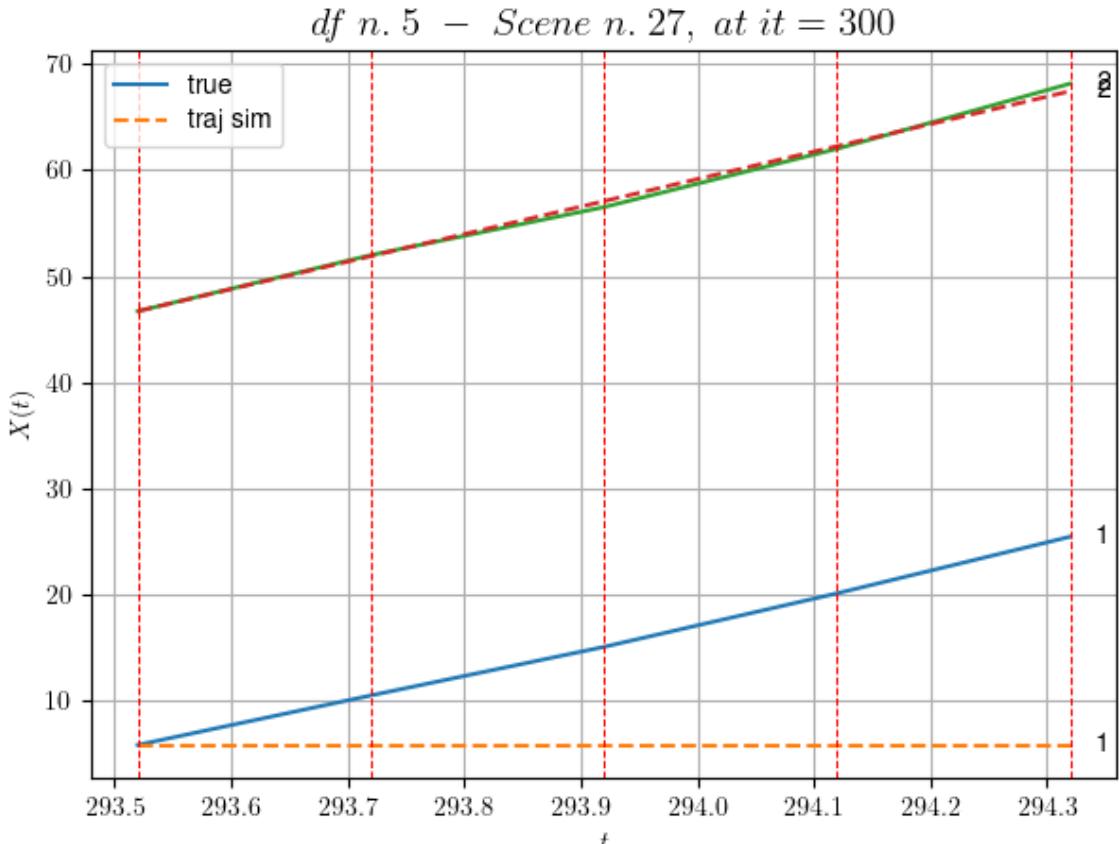
For scene 26/66

- * use LR_NN=5e-05 with err=1.88337439906143 at it=24
 - * v0_scn_mean = 36.93791175039183
 - * MAE = 23.725593859978378
-
-

df n.5, scene n.27/66

We have 4 time intervals inside [293.52, 294.32]

- * err= 69.79000458611645
- * Learning rate NN = 6.560998735949397e-05
- * diff = 4.326631284357063e-07

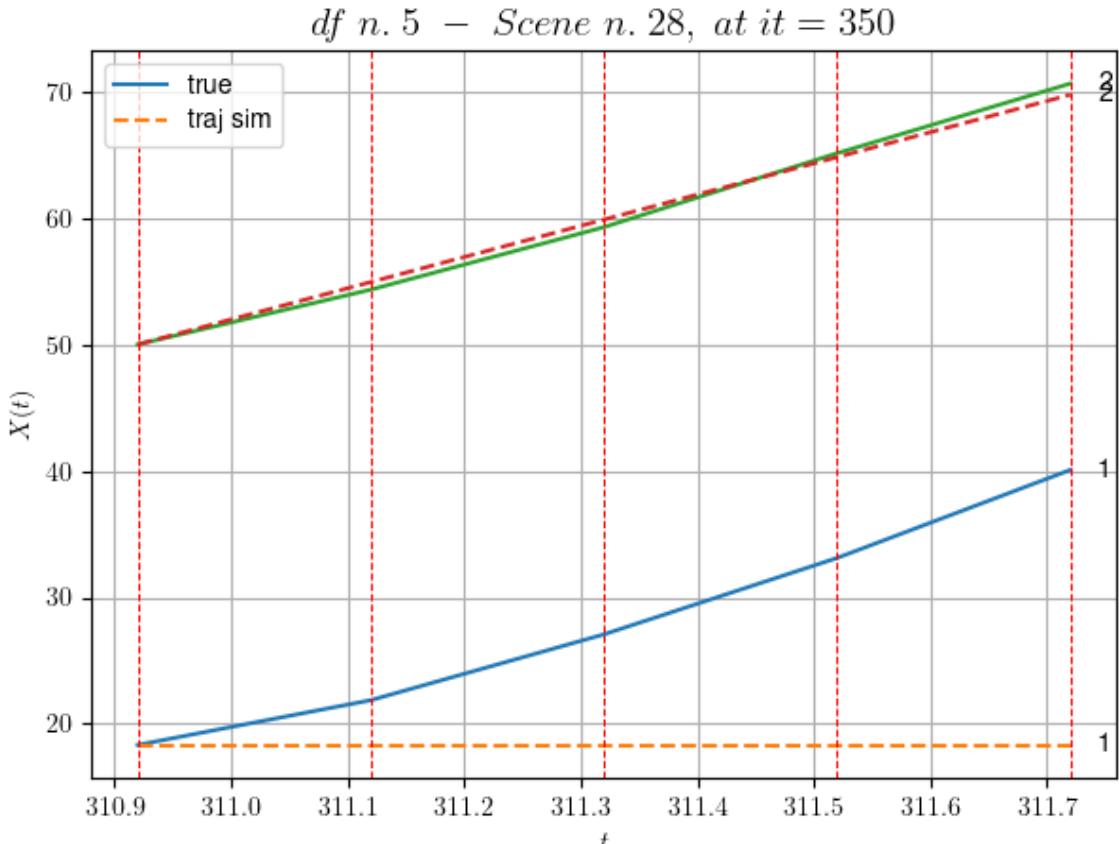


For scene 27/66

* use LR_NN=0.0001 with err=1.973369275728574 at it=24
* v0_scn_mean = 26.201825593884696
* MAE = 69.78617137880131

df n.5, scene n.28/66

We have 4 time intervals inside [310.92,311.72]
* err= 78.20532770790004
* Learning rate NN = 5.9048988987342454e-06
* diff = 1.0889715440498549e-07



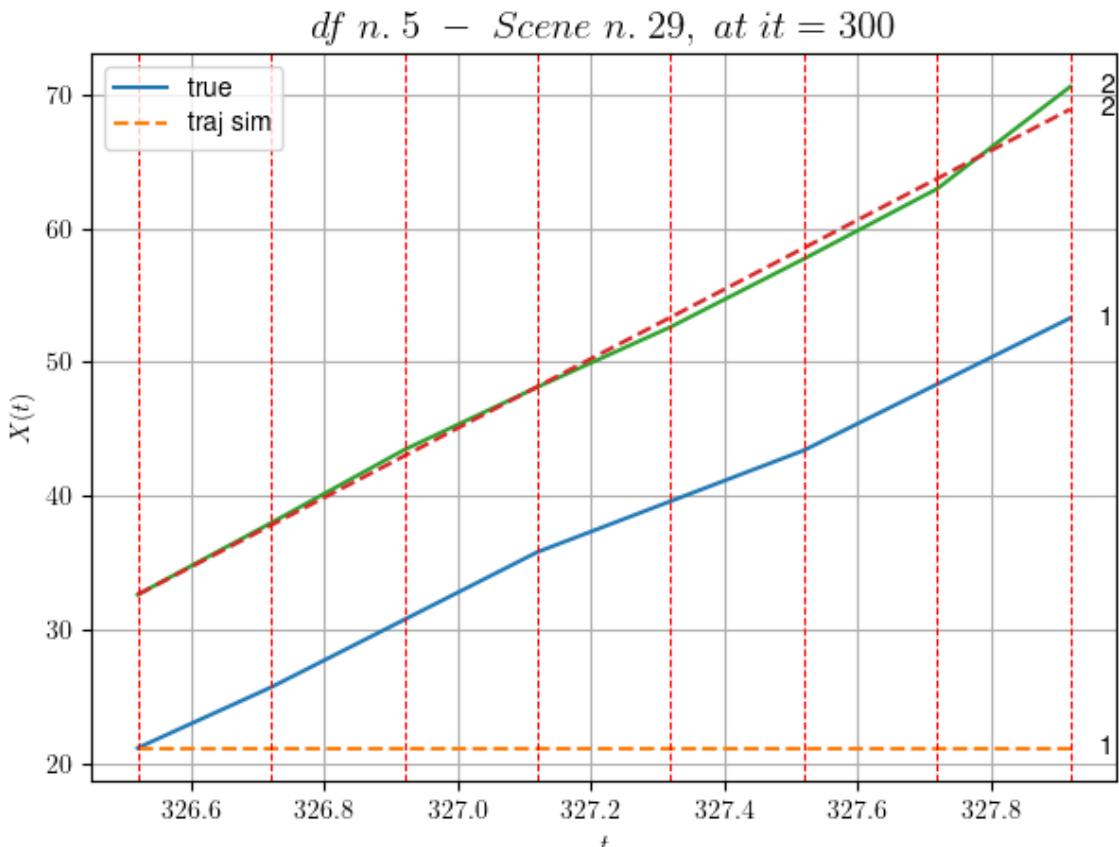
For scene 28/66

- * use LR_NN=1e-05 with err=4.0718659521123435 at it=24
 - * v0_scn_mean = 24.9827033390655
 - * MAE = 78.18134792899387
-
-

df n.5, scene n.29/66

We have 7 time intervals inside [326.52, 327.92]

- * err= 183.60993882626246
- * Learning rate NN = 0.000430467160185799
- * diff = 3.378339386017615e-07



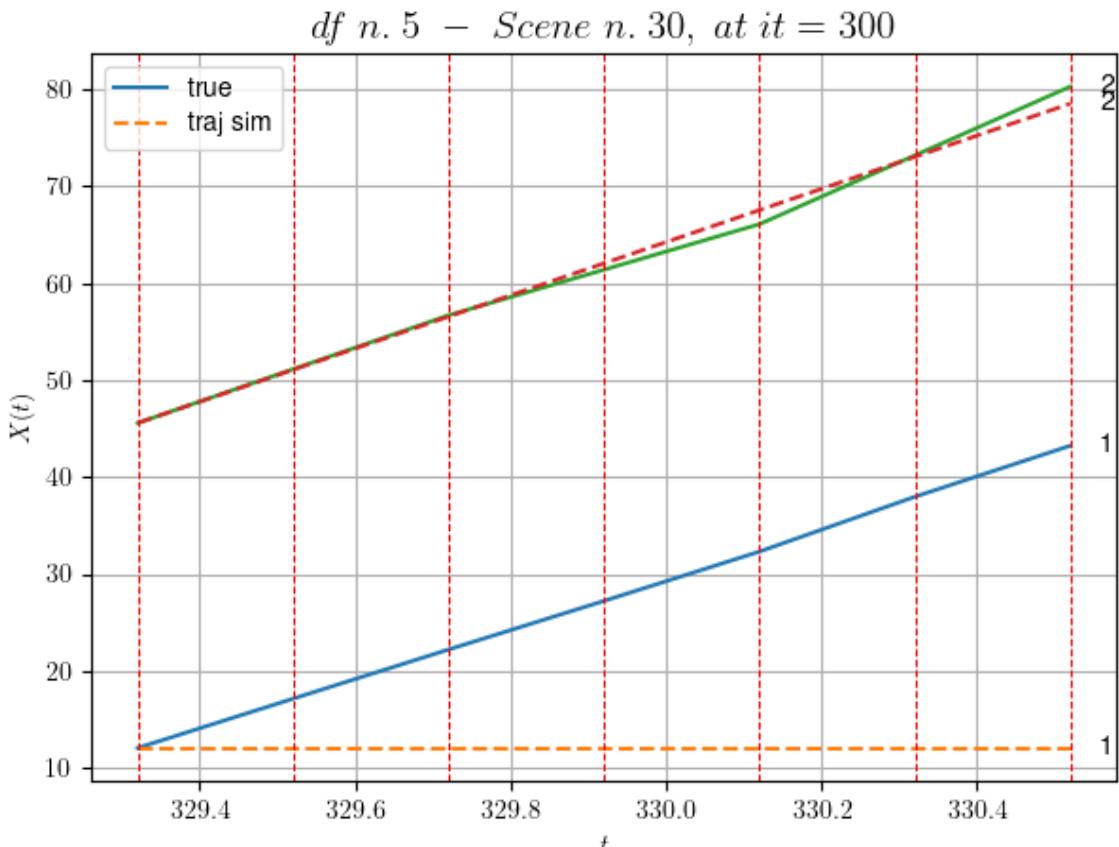
For scene 29/66

- * use LR_NN=0.001 with err=6.190631556255436 at it=24
 - * v0_scn_mean = 26.18286901528348
 - * MAE = 183.6091430432761
-
-

df n.5, scene n.30/66

We have 6 time intervals inside [329.32,330.52]

- * err= 172.72141539624843
- * Learning rate NN = 4.7829678806010634e-05
- * diff = 7.005247084634902e-07



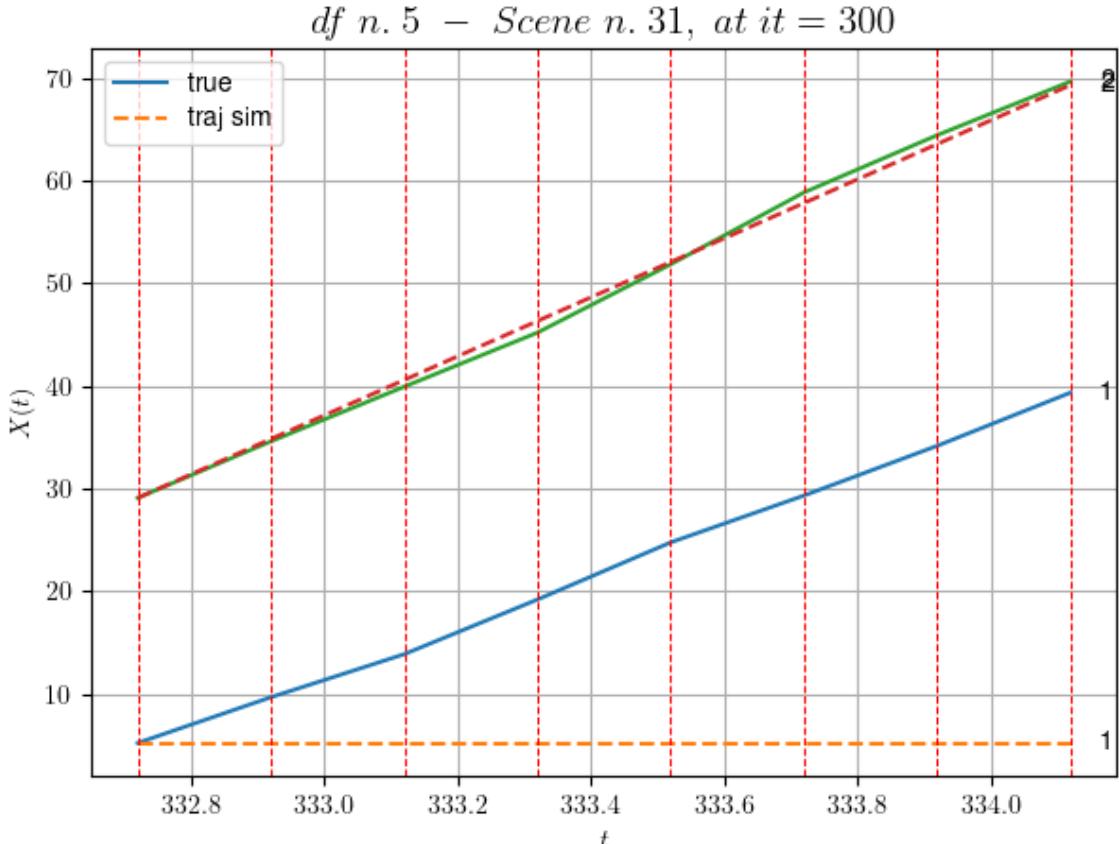
For scene 30/66

- * use LR_NN=0.0001 with err=1.8358929836996138 at it=24
 - * v0_scn_mean = 27.62171734599051
 - * MAE = 172.7095908421322
-
-

df n.5, scene n.31/66

We have 7 time intervals inside [332.72, 334.12]

- * err= 203.50010946329712
- * Learning rate NN = 0.0002152335800928995
- * diff = 5.536041101095179e-07



For scene 31/66

- * use LR_NN=0.0005 with err=0.7137348240647453 at it=24
- * v0_scn_mean = 28.800373411179656
- * MAE = 203.47854115552016

df n.5, scene n.32/66

We have 9 time intervals inside [337.72, 339.52]

- Time interval n.0: [337.72, 337.92]
 - * y_true: [19.16015277]
 - * v_ann: [0.0017843330278992653, 27.02003821908801]

- Time interval n.1: [337.92, 338.12]
 - * y_true: [22.83026231]
 - * v_ann: [0.000292171083856374, 27.02003821908801]

- Time interval n.2: [338.12, 338.32]
 - * y_true: [24.09038948]
 - * v_ann: [0.00012815742229577154, 27.0200382190880]

1]

- Time interval n.3: [338.32, 338.52]

```
* y_true: [21.72046205]
* v_ann: [8.004522533155978e-05, 27.02003821908801]

-----
- Time interval n.4: [338.52, 338.72]
* y_true: [20.44060351]
* v_ann: [1.8471924704499543e-05, 27.02003821908801]

1]

-----
- Time interval n.5: [338.72, 338.92]
* y_true: [23.65082523]
* v_ann: [2.8105007459089393e-06, 27.02003821908801]

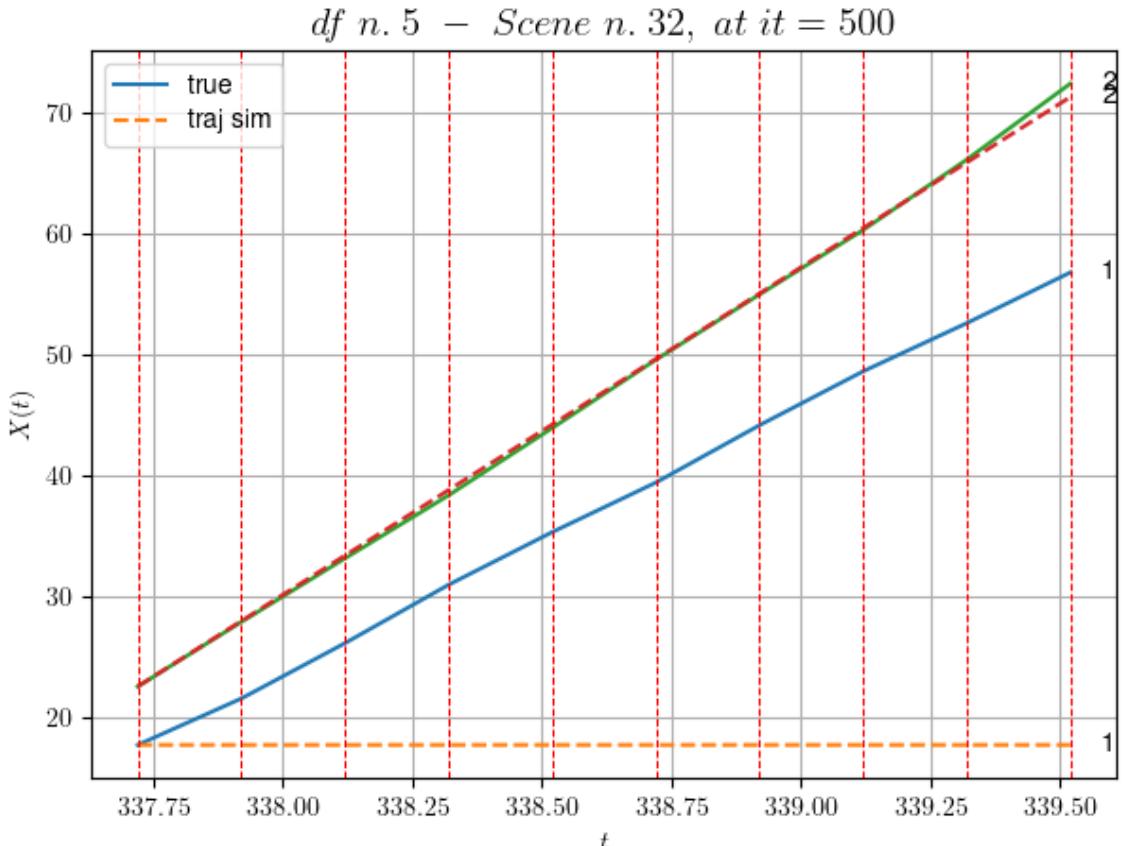
1]

-----
- Time interval n.6: [338.92, 339.12]
* y_true: [22.23087004]
* v_ann: [1.269260451408627e-06, 27.02003821908801]

-----
- Time interval n.7: [339.12, 339.32]
* y_true: [19.88098798]
* v_ann: [4.380181053420529e-07, 27.02003821908801]

-----
- Time interval n.8: [339.32, 339.52]
* y_true: [20.92126982]
* v_ann: [4.70976111444088e-08, 27.02003821908801]

-----
* err= 270.7659088440827
* Learning rate NN = 0.00016677174426149577
* diff = 0.0008353019845230847
```



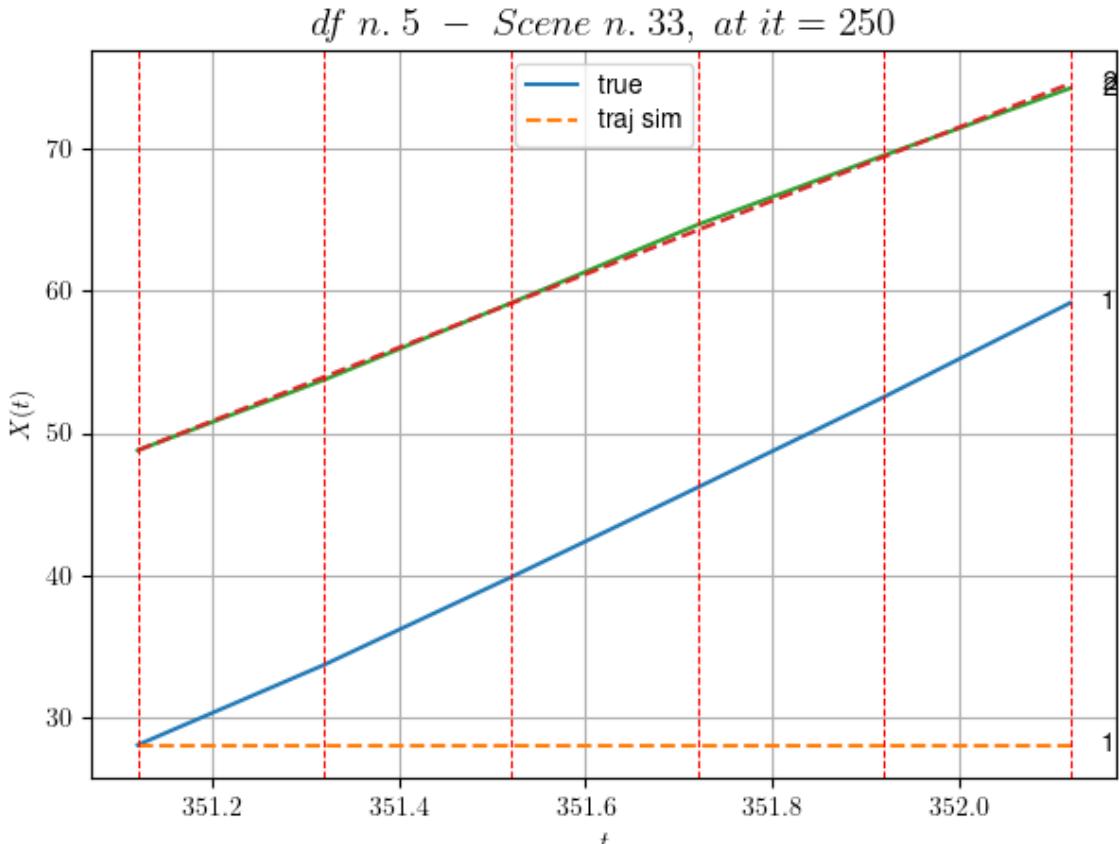
For scene 32/66

- * use LR_NN=0.001 with err=12.090663229901653 at it=24
- * v0_scn_mean = 27.139236690301317
- * MAE = 270.7659088440827

df n.5, scene n.33/66

We have 5 time intervals inside [351.12,352.12]

- * err= 172.47451499365323
- * Learning rate NN = 6.560998826898867e-06
- * diff = 7.955176783980278e-07



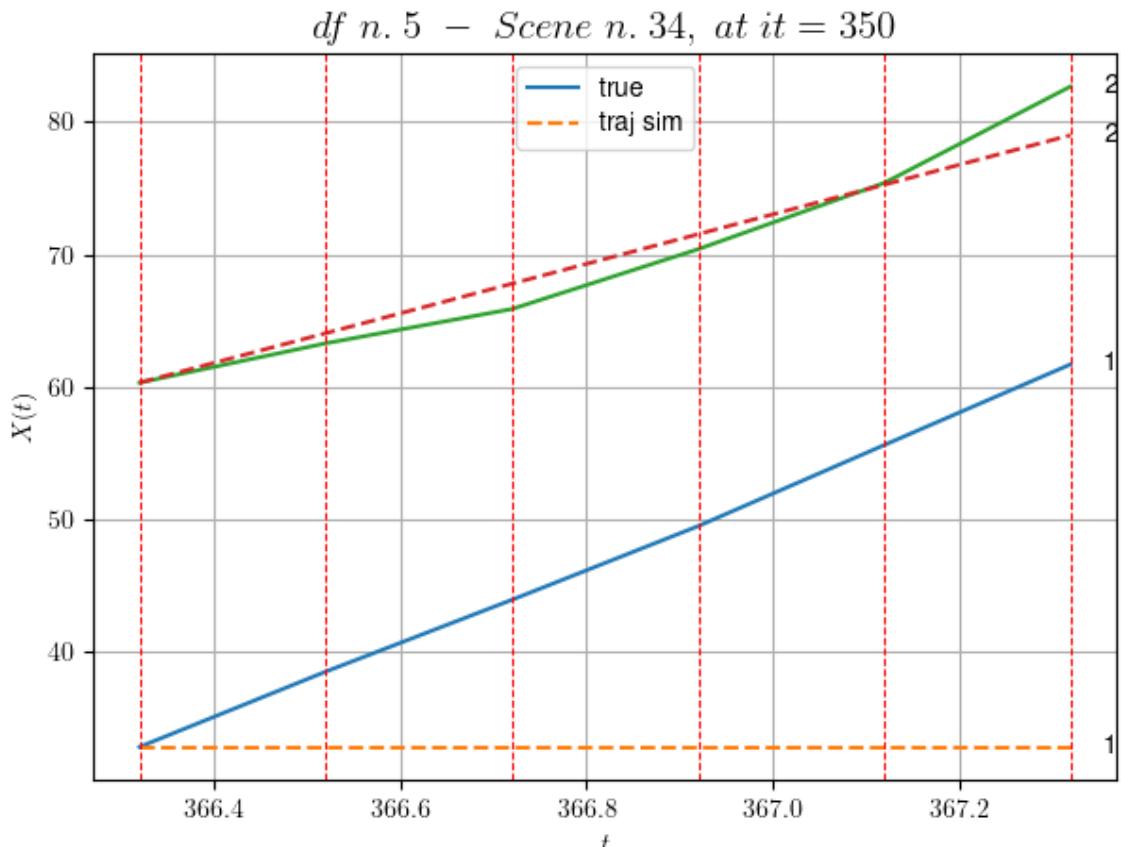
For scene 33/66

- * use LR_NN=1e-05 with err=3.544978862857992 at it=24
 - * v0_scn_mean = 26.16026820235221
 - * MAE = 172.47451499365323
-
-

df n.5, scene n.34/66

We have 5 time intervals inside [366.32, 367.32]

- * err= 151.01601623269806
- * Learning rate NN = 5.314409008860821e-06
- * diff = 7.852143539821554e-07



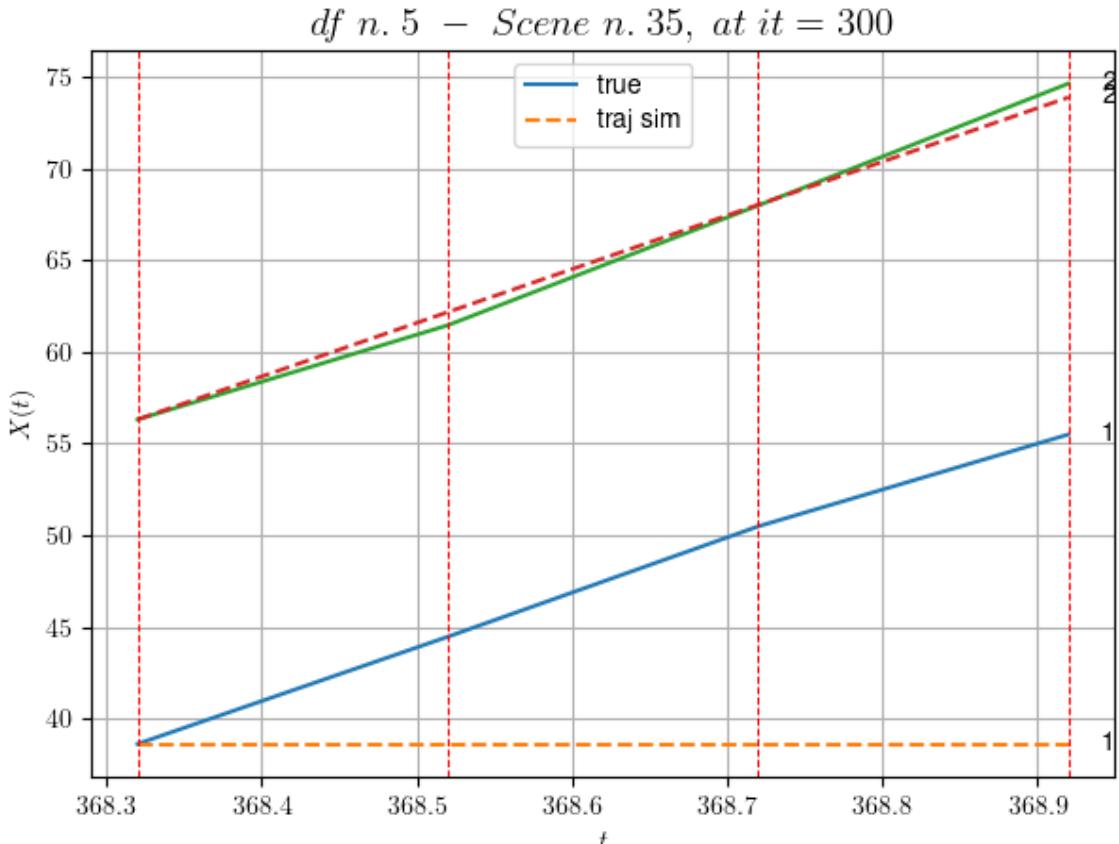
For scene 34/66

- * use LR_NN=1e-05 with err=21.318496315193652 at it=24
- * v0_scn_mean = 19.359264306635005
- * MAE = 150.8345963367457

df n.5, scene n.35/66

We have 3 time intervals inside [368.32, 368.92]

- * err= 57.689714972419864
- * Learning rate NN = 3.6449993785936385e-05
- * diff = 1.2812109417836837e-07

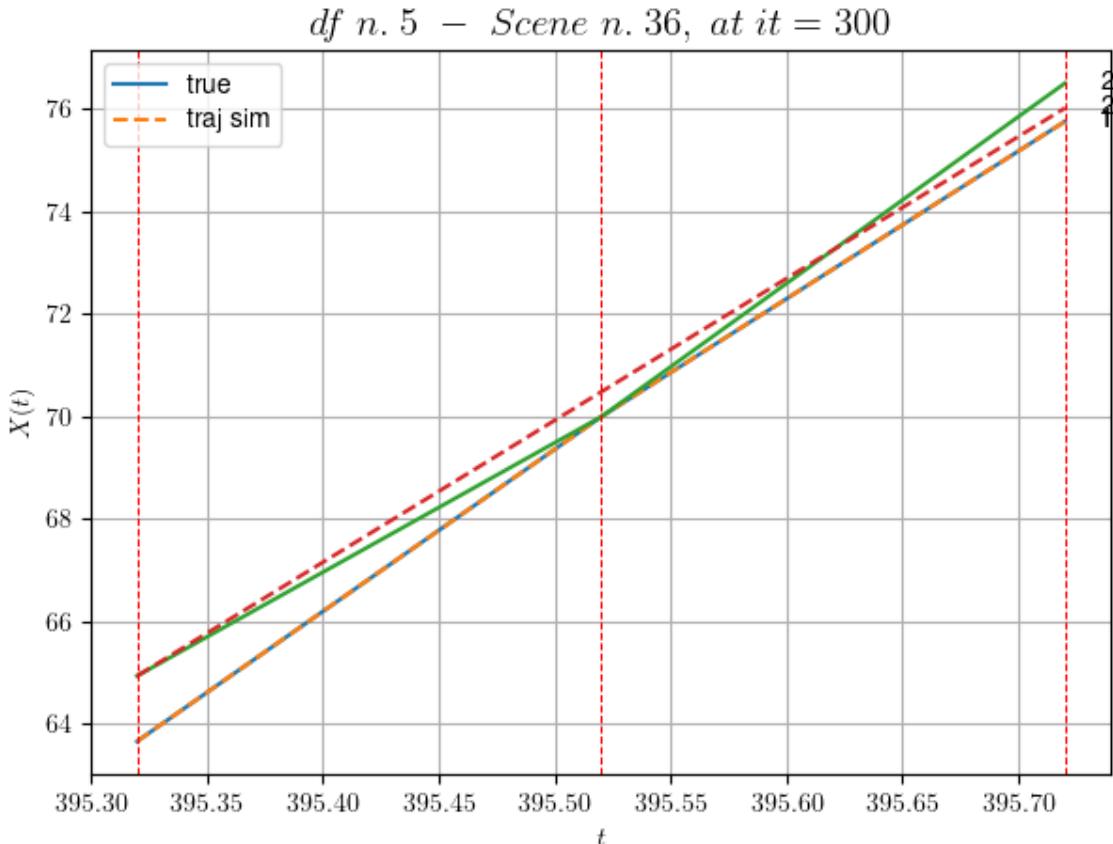


For scene 35/66

- * use LR_NN=5e-05 with err=0.18568175427213976 at it=24
 - * v0_scn_mean = 29.34493000186878
 - * MAE = 57.670351590845826
-
-

df n.5, scene n.36/66

We have 2 time intervals inside [395.32, 395.72]
* err= 0.07854192509029534
* Learning rate NN = 0.008099999278783798
* diff = 1.8454950254098712e-07



For scene 36/66

- * use LR_NN=0.01 with err=0.1805404669286665 at it=24
- * v0_scn_mean = 27.85259902676003
- * MAE = 0.07801083149336258

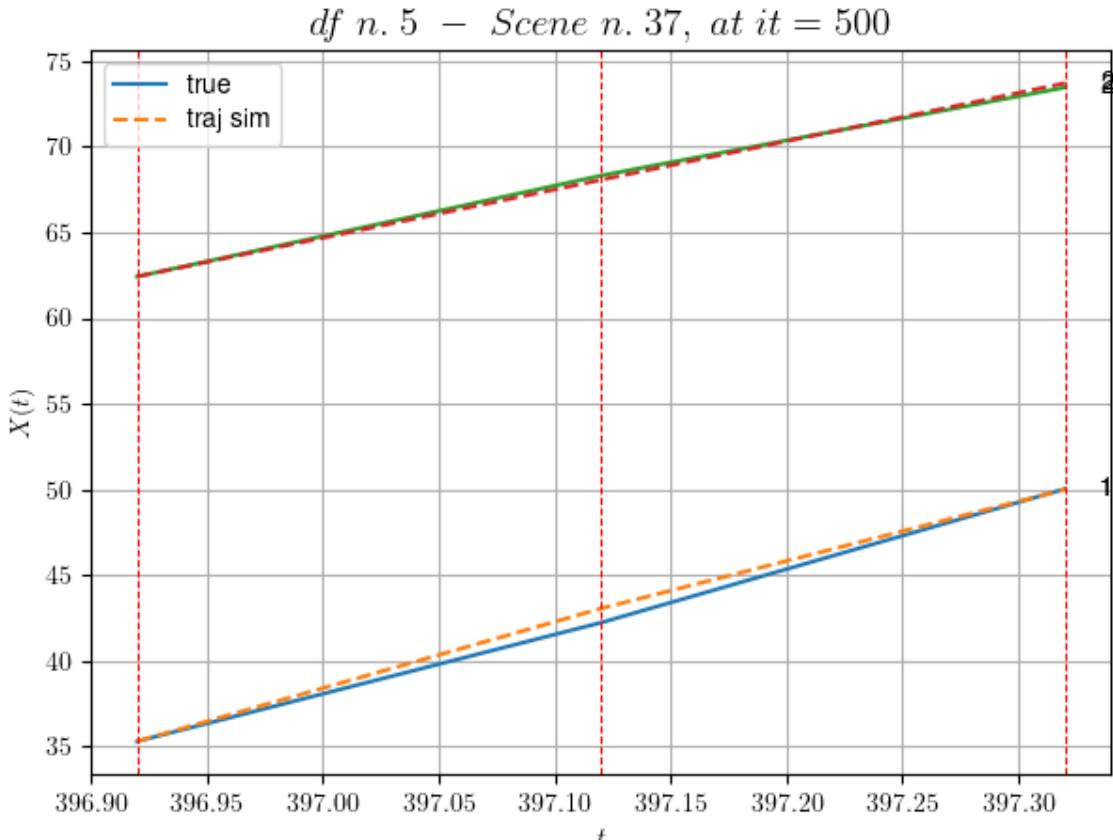
df n.5, scene n.37/66

We have 2 time intervals inside [396.92, 397.32]

- Time interval n.0: [396.92, 397.12]
 - * y_true: [34.6610239]
 - * v_ann: [38.79370880126953, 28.23910539262403]

- Time interval n.1: [397.12, 397.32]
 - * y_true: [39.0616778]
 - * v_ann: [34.76049041748047, 28.23910539262403]

- * err= 0.13499339316344272
- * Learning rate NN = 3.6449993785936385e-05
- * diff = 0.0007206024267909505



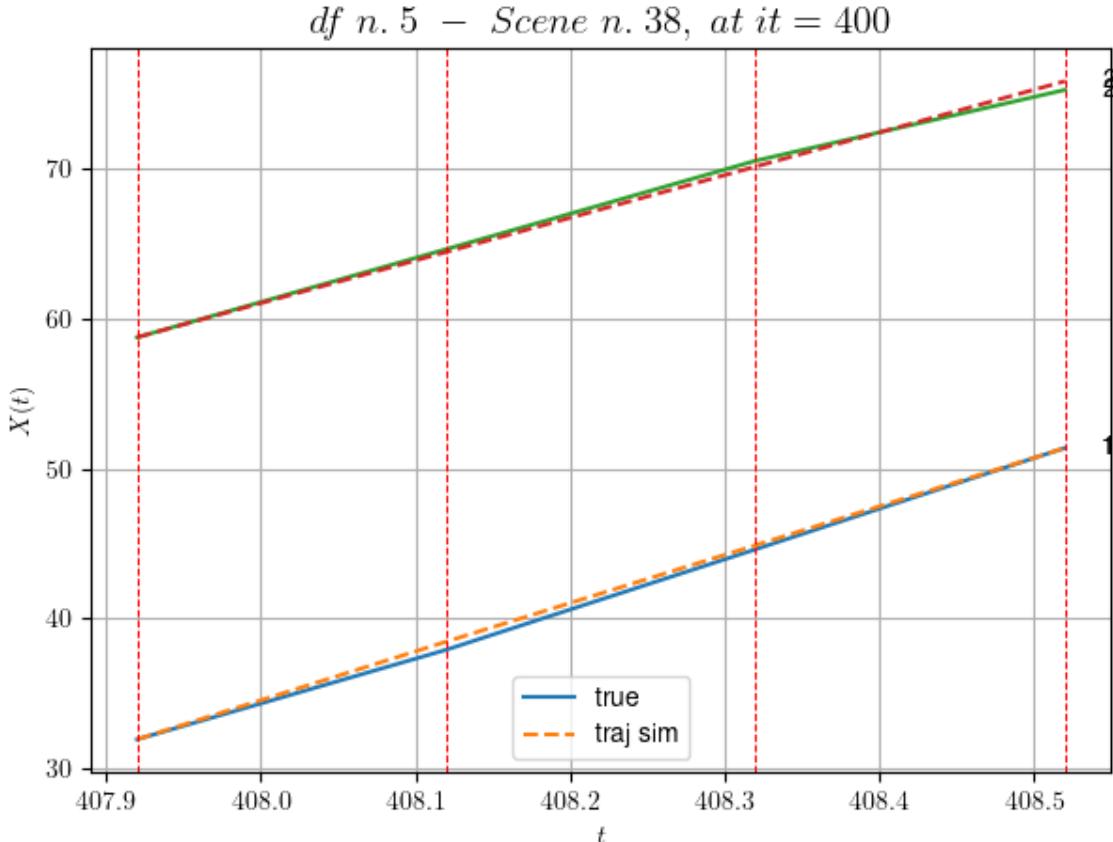
For scene 37/66

- * use LR_NN=5e-05 with err=0.235040961371618 at it=24
 - * v0_scn_mean = 28.309541176905434
 - * MAE = 0.13416461928590548
-
-

df n.5, scene n.38/66

We have 3 time intervals inside [407.92, 408.52]

- * err= 0.11114685878587957
- * Learning rate NN = 6.560998826898867e-06
- * diff = 6.689386570918332e-07



For scene 38/66

- * use LR_NN=1e-05 with err=0.35716530952731035 at it=24
- * v0_scn_mean = 28.528152993911164
- * MAE = 0.11114685878587957

df n.5, scene n.39/66

We have 5 time intervals inside [415.32, 416.32]

- Time interval n.0: [415.32, 415.52]
 - * y_true: [24.30099057]
 - * v_ann: [23.247440338134766, 27.188395316740486]

- Time interval n.1: [415.52, 415.72]
 - * y_true: [3.42217247]
 - * v_ann: [3.5673277378082275, 27.188395316740486]

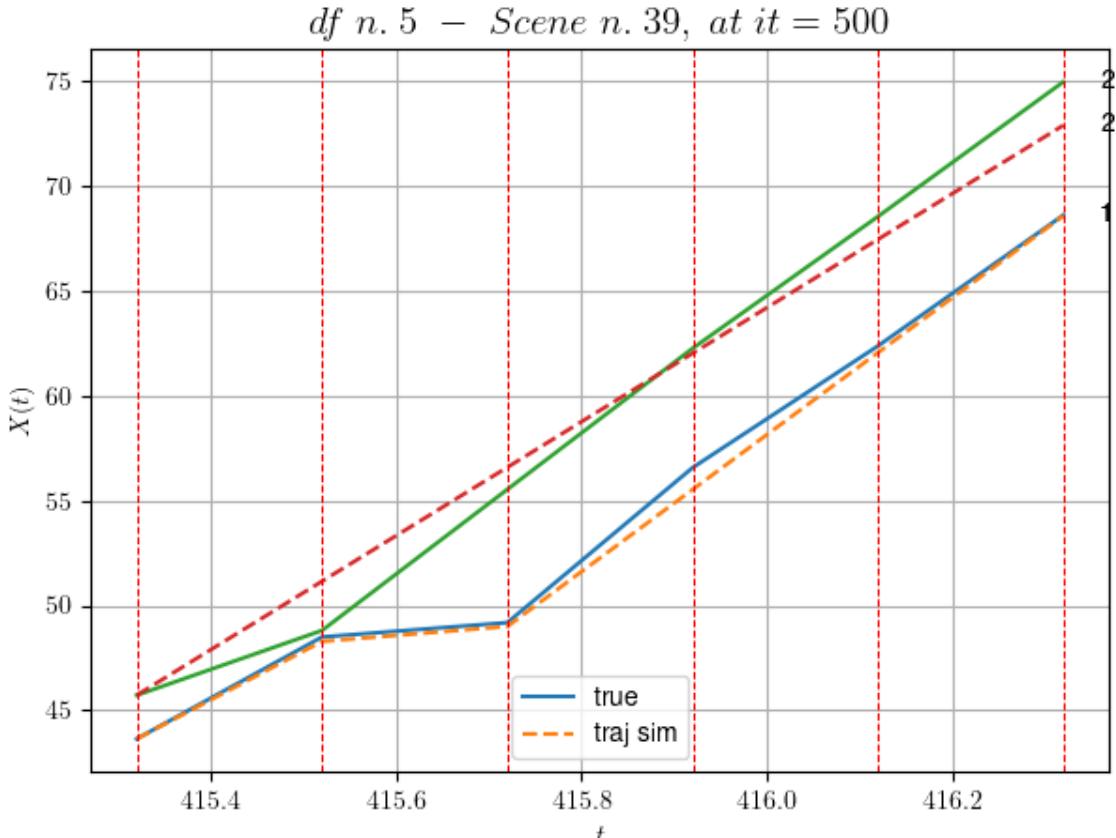
- Time interval n.2: [415.72, 415.92]
 - * y_true: [36.97197175]
 - * v_ann: [32.67155075073242, 27.188395316740486]

- Time interval n.3: [415.92, 416.12]
 - * y_true: [29.03190442]

```
* v_ann: [32.64834976196289, 27.188395316740486]
```

```
- Time interval n.4: [416.12, 416.32]
* y_true: [31.20253879]
* v_ann: [32.602333068847656, 27.188395316740486]
```

```
* err= 1.1196498810758926
* Learning rate NN = 0.0003874204121530056
* diff = 0.005234790880963791
```



For scene 39/66

```
* use LR_NN=0.001 with err=2.8419636282837963 at it=24
* v0_scn_mean = 27.300859504050035
* MAE = 0.9832949969427625
```

df n.5, scene n.40/66

We have 3 time intervals inside [431.32, 431.92]

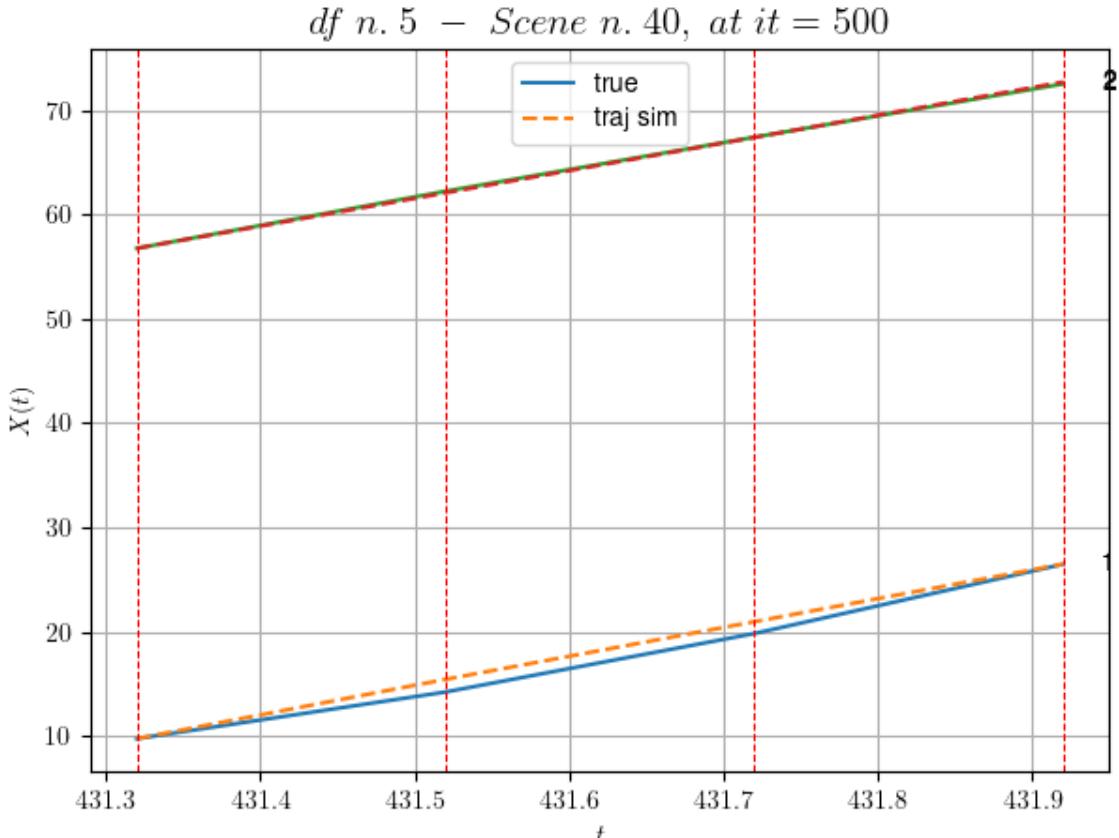
```
- Time interval n.0: [431.32, 431.52]
* y_true: [22.38028712]
* v_ann: [28.437734603881836, 26.58951479678896]
```

```
- Time interval n.1: [431.52, 431.72]
```

```
* y_true: [28.04016416]
* v_ann: [27.65477180480957, 26.58951479678896]
```

```
- Time interval n.2: [431.72, 431.92]
* y_true: [33.23035789]
* v_ann: [27.631122589111328, 26.58951479678896]
```

```
* err= 0.3521199182756115
* Learning rate NN = 5.9048988987342454e-06
* diff = 8.270578187108413e-05
```



For scene 40/66

```
* use LR_NN=1e-05 with err=1.195873197589521 at it=24
* v0_scn_mean = 26.725934204891384
* MAE = 0.34696567024969716
```

df n.5, scene n.41/66

We have 8 time intervals inside [445.52, 447.12]

```
- Time interval n.0: [445.52, 445.72]
* y_true: [14.80016221]
* v_ann: [16.811813354492188, 25.63869827600331]
```

```
- Time interval n.1: [445.72, 445.92]
  * y_true: [17.50024709]
  * v_ann: [16.8901424407959, 25.63869827600331]

-----
- Time interval n.2: [445.92, 446.12]
  * y_true: [23.10043116]
  * v_ann: [17.445621490478516, 25.63869827600331]

-----
- Time interval n.3: [446.12, 446.32]
  * y_true: [13.50031408]
  * v_ann: [17.933115005493164, 25.63869827600331]

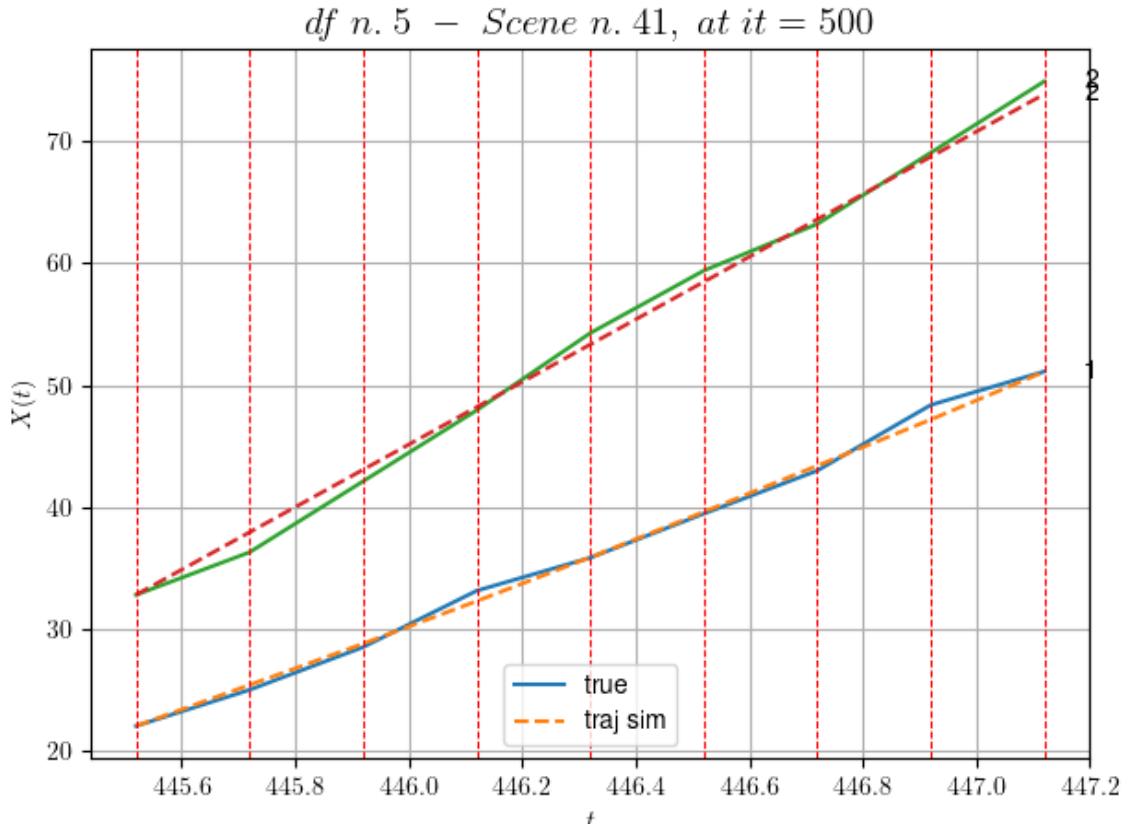
-----
- Time interval n.4: [446.32, 446.52]
  * y_true: [18.05049958]
  * v_ann: [18.608610153198242, 25.63869827600331]

-----
- Time interval n.5: [446.52, 446.72]
  * y_true: [17.6505843]
  * v_ann: [18.928014755249023, 25.63869827600331]

-----
- Time interval n.6: [446.72, 446.92]
  * y_true: [26.90109206]
  * v_ann: [18.905216217041016, 25.63869827600331]

-----
- Time interval n.7: [446.92, 447.12]
  * y_true: [13.70065797]
  * v_ann: [19.600322723388672, 25.63869827600331]

-----
* err= 0.5173661211350864
* Learning rate NN = 2.058910467894748e-05
* diff = 0.0011312599263306744
```



For scene 41/66

```
* use LR_NN=0.0001 with err=10.340328396506893 at it=24
* v0_scn_mean = 25.813150344929323
* MAE = 0.5151015308750551
```

df n.5, scene n.42/66

We have 5 time intervals inside [449.12, 450.12]

- Time interval n.0: [449.12, 449.32]
 - * y_true: [26.30041929]
 - * v_ann: [28.84429168701172, 23.52760427573214]

- Time interval n.1: [449.32, 449.52]
 - * y_true: [26.14058749]
 - * v_ann: [28.438840866088867, 23.52760427573214]

- Time interval n.2: [449.52, 449.72]
 - * y_true: [29.23088983]
 - * v_ann: [27.961259841918945, 23.52760427573214]

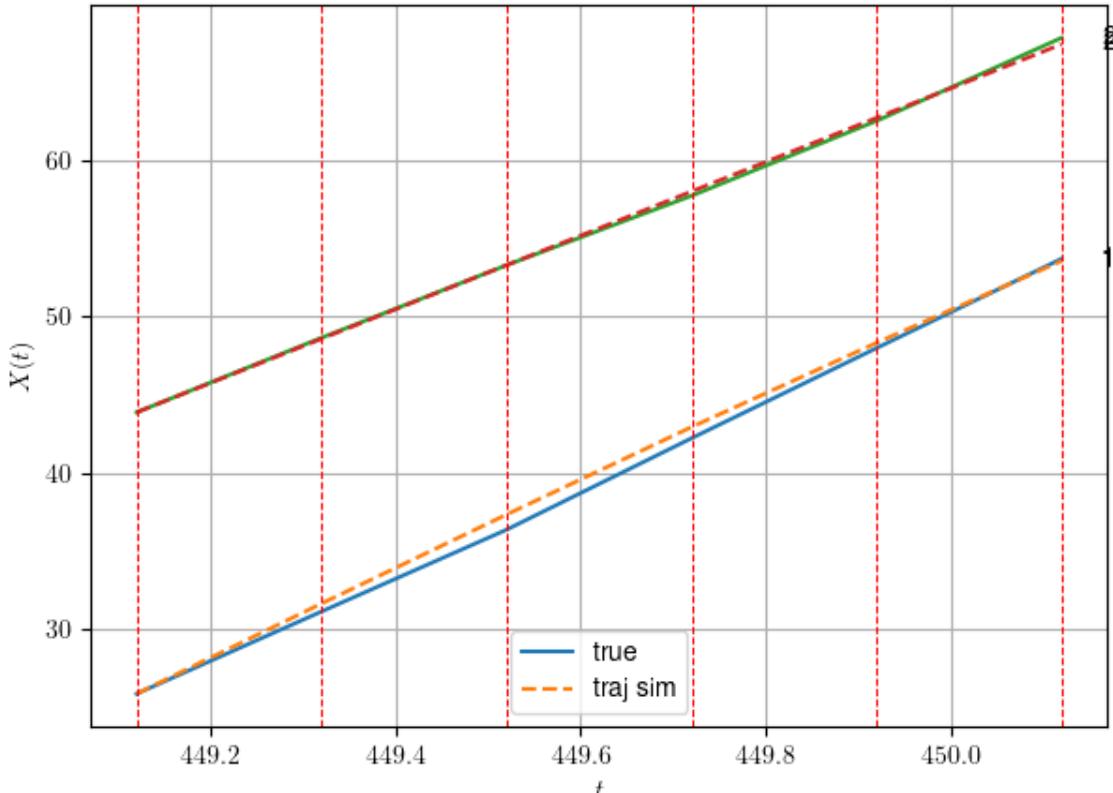
- Time interval n.3: [449.72, 449.92]
 - * y_true: [28.81126637]

```
* v_ann: [26.90264320373535, 23.52760427573214]
```

```
- Time interval n.4: [449.92, 450.12]
* y_true: [28.52634396]
* v_ann: [26.177053451538086, 23.52760427573214]
```

```
* err= 0.1768775802424132
* Learning rate NN = 3.874203684972599e-06
* diff = 0.0002022020226164826
```

df n. 5 – Scene n. 42, at it = 500



For scene 42/66

```
* use LR_NN=1e-05 with err=7.839809927478094 at it=24
* v0_scn_mean = 23.786500104653694
* MAE = 0.1768775802424132
```

df n.5, scene n.43/66

We have 3 time intervals inside [450.92, 451.52]

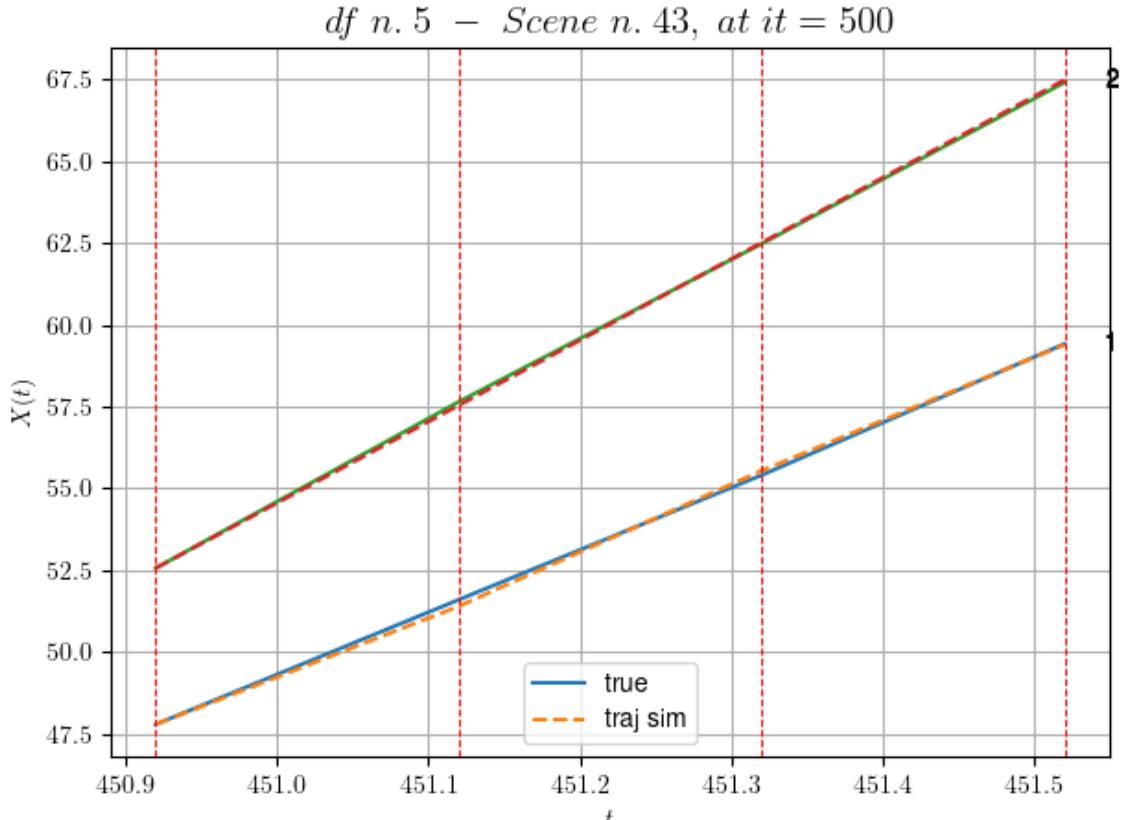
```
- Time interval n.0: [450.92, 451.12]
* y_true: [19.05097543]
* v_ann: [18.05081558227539, 24.877482654595042]
```

```
- Time interval n.1: [451.12, 451.32]
* y_true: [19.05097543]
```

```
* v_ann: [20.72957420349121, 24.877482654595042]
```

- Time interval n.2: [451.32, 451.52]
 - * y_true: [20.07636245]
 - * v_ann: [19.263423919677734, 24.877482654595042]

- * err= 0.009770675356823688
- * Learning rate NN = 0.0029524494893848896
- * diff = 0.001988708647275305



For scene 43/66

- * use LR_NN=0.005 with err=2.0070598590054805 at it=24
- * v0_scn_mean = 25.08238334837393
- * MAE = 0.009770675356823688

df n.5, scene n.44/66

We have 5 time intervals inside [457.32, 458.32]

- Time interval n.0: [457.32, 457.52]
 - * y_true: [11.94945293]
 - * v_ann: [11.299029350280762, 16.493097805853914]

- Time interval n.1: [457.52, 457.72]

```
* y_true: [7.74600753]
* v_ann: [7.940156936645508, 16.493097805853914]
```

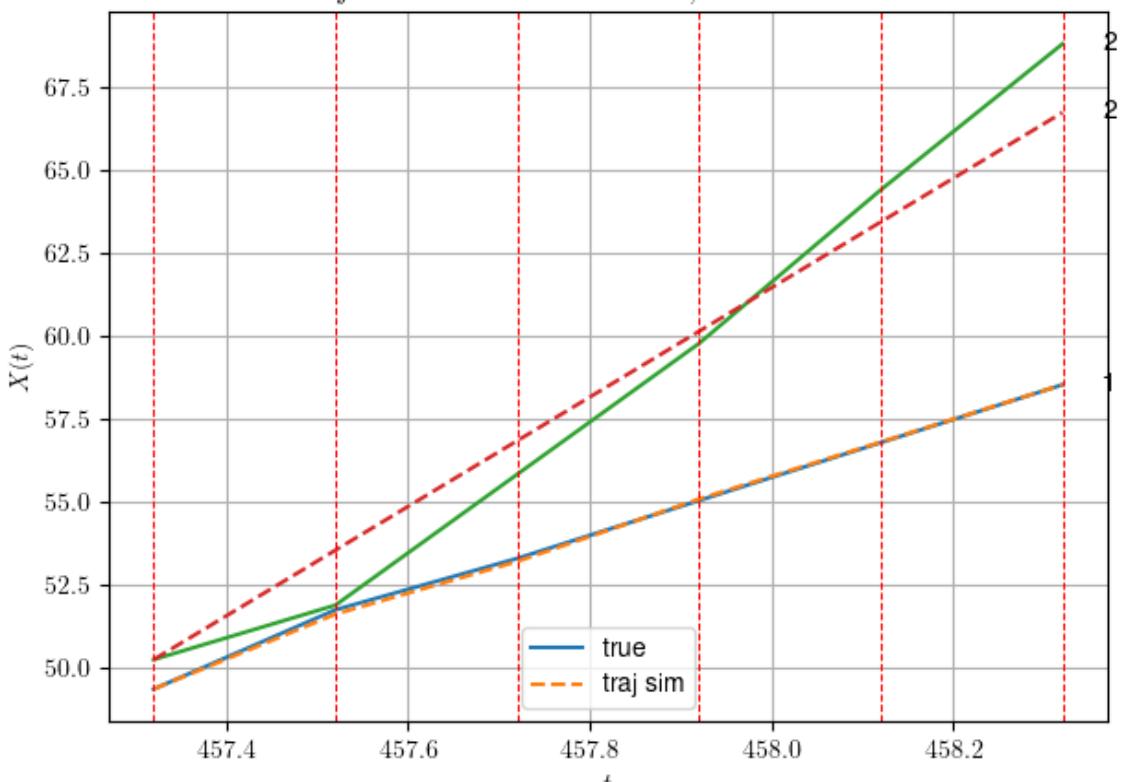
```
- Time interval n.2: [457.72, 457.92]
* y_true: [8.72842902]
* v_ann: [9.401836395263672, 16.493097805853914]
```

```
- Time interval n.3: [457.92, 458.12]
* y_true: [8.72842902]
* v_ann: [8.601583480834961, 16.493097805853914]
```

```
- Time interval n.4: [458.12, 458.32]
* y_true: [8.72842902]
* v_ann: [8.64798355102539, 16.493097805853914]
```

```
* err= 0.7622511172059755
* Learning rate NN = 0.0019371019443497062
* diff = 0.0005070909652441502
```

df n. 5 – Scene n. 44, at it = 500



For scene 44/66

```
* use LR_NN=0.005 with err=29.98941952681728 at it=24
* v0_scn_mean = 17.03337389351612
* MAE = 0.6477441397206869
```

```
df n.5, scene n.45/66
=====
=====
We have 5 time intervals inside [472.72,473.72]
- Time interval n.0: [472.72, 472.92]
  * y_true: [19.93584545]
  * v_ann: [22.341646194458008, 19.3947390274162]

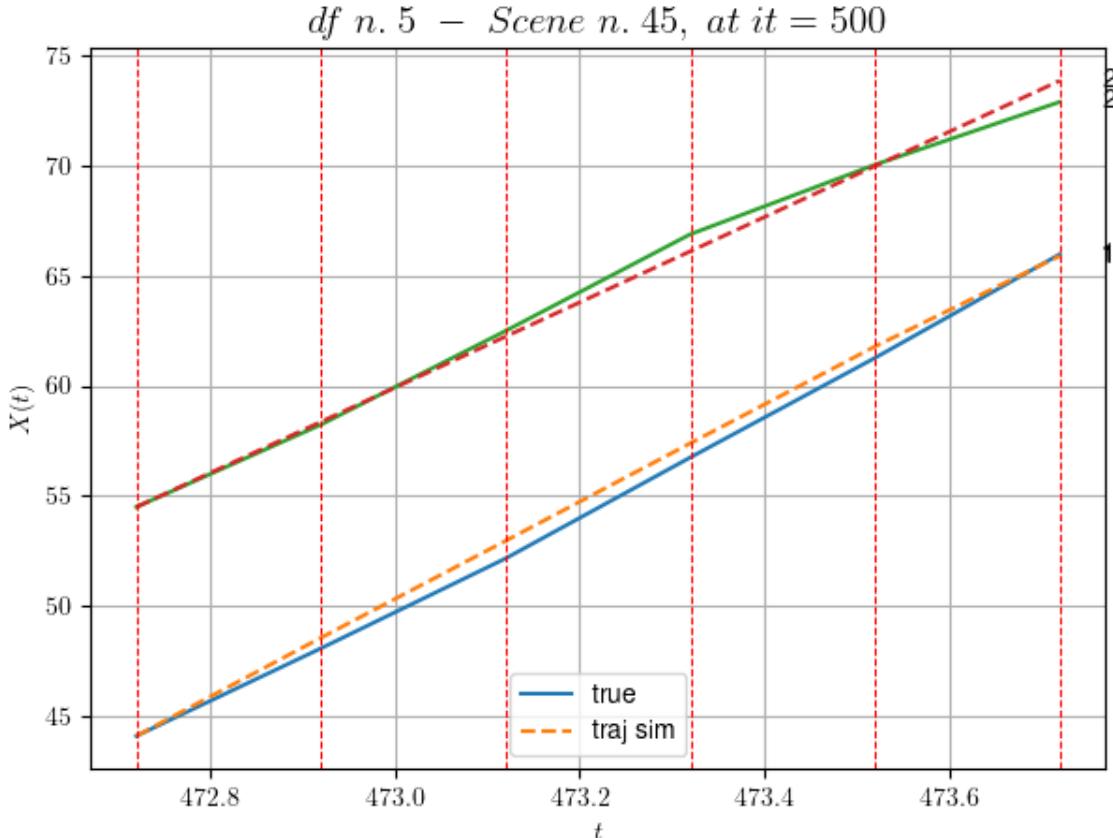
-----
- Time interval n.1: [472.92, 473.12]
  * y_true: [20.45091523]
  * v_ann: [22.046079635620117, 19.3947390274162]

-----
- Time interval n.2: [473.12, 473.32]
  * y_true: [22.97126692]
  * v_ann: [22.200000762939453, 19.3947390274162]

-----
- Time interval n.3: [473.32, 473.52]
  * y_true: [22.64147966]
  * v_ann: [22.006864547729492, 19.3947390274162]

-----
- Time interval n.4: [473.52, 473.72]
  * y_true: [23.56191271]
  * v_ann: [20.589366912841797, 19.3947390274162]

-----
* err= 0.26514069875954205
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.0004162622062086063
```



For scene 45/66

* use LR_NN=5e-05 with err=21.60659328597937 at it=24
 * v0_scn_mean = 19.818949466238397
 * MAE = 0.26514069875954205

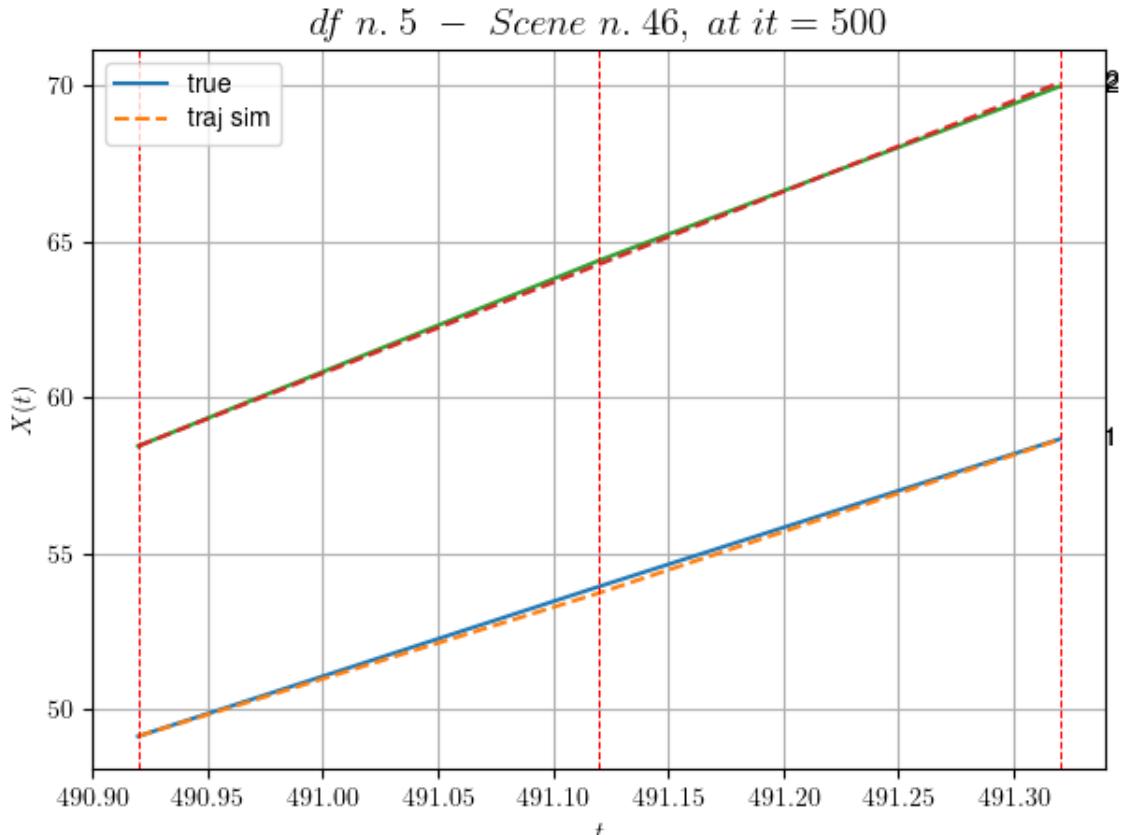
df n.5, scene n.46/66

We have 2 time intervals inside [490.92, 491.32]

- Time interval n.0: [490.92, 491.12]
 - * y_true: [23.97608635]
 - * v_ann: [22.939395904541016, 29.115594759202047]

- Time interval n.1: [491.12, 491.32]
 - * y_true: [23.6265296]
 - * v_ann: [24.558725357055664, 29.115594759202047]

- * err= 0.012306566714543946
- * Learning rate NN = 0.00036449998151510954
- * diff = 0.00010190008071630369

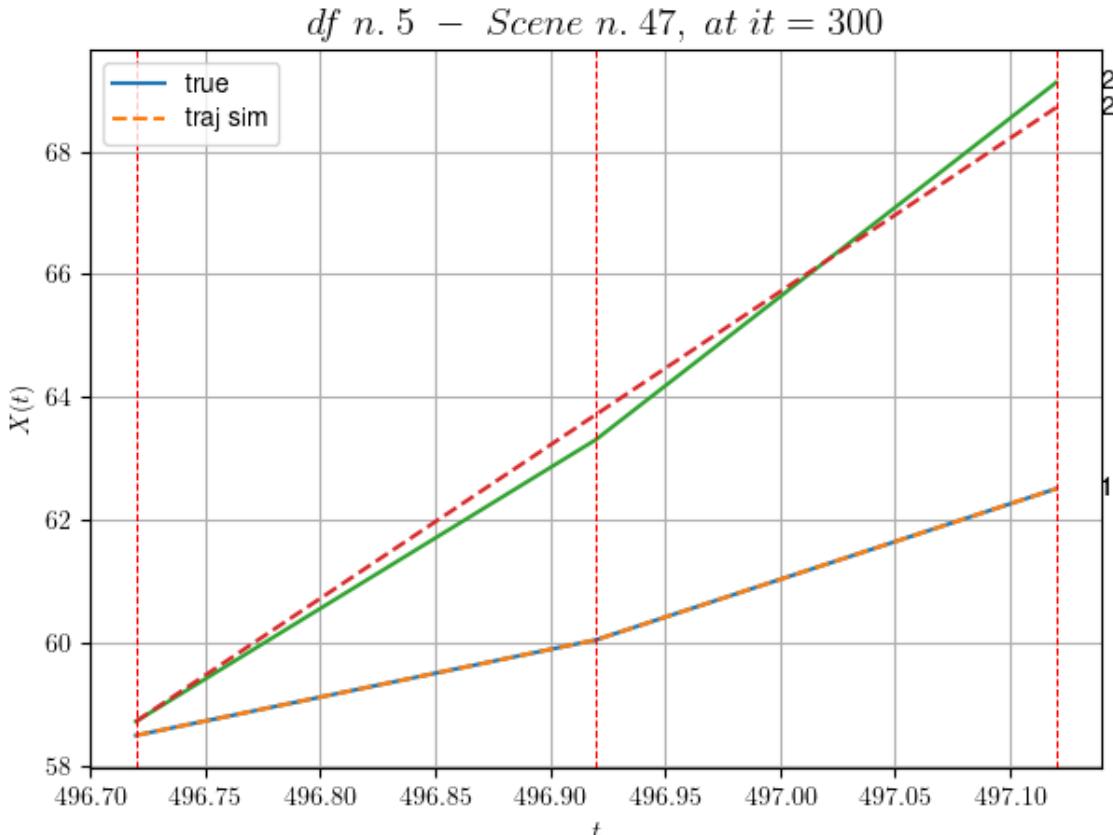


For scene 46/66

```
* use LR_NN=0.0005 with err=0.07516521642431705 at it=24
* v0_scn_mean = 29.15097096883077
* MAE = 0.012306566714543946
```

df n.5, scene n.47/66

```
We have 2 time intervals inside [496.72,497.12]
* err= 0.05552772655218064
* Learning rate NN = 0.008099999278783798
* diff = 3.364744715211865e-07
```



For scene 47/66

```
* use LR_NN=0.01 with err=0.749543353747601 at it=24
* v0_scn_mean = 25.343568444427394
* MAE = 0.04997553025422722
```

df n.5, scene n.48/66

We have 5 time intervals inside [502.72, 503.72]

- Time interval n.0: [502.72, 502.92]
 - * y_true: [19.30098453]
 - * v_ann: [25.8376407623291, 13.651414022050044]

- Time interval n.1: [502.92, 503.12]
 - * y_true: [23.85148399]
 - * v_ann: [23.745067596435547, 13.651414022050044]

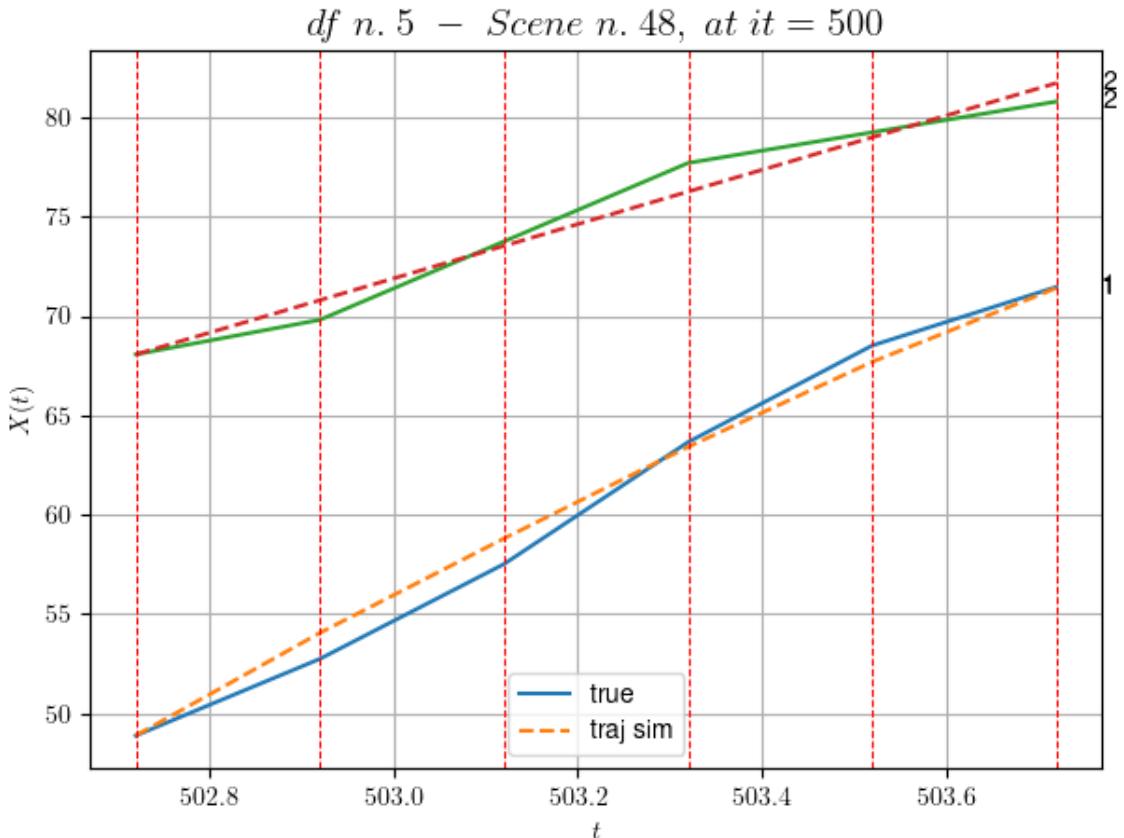
- Time interval n.2: [503.12, 503.32]
 - * y_true: [30.67723317]
 - * v_ann: [23.043603897094727, 13.651414022050044]

- Time interval n.3: [503.32, 503.52]
 - * y_true: [24.29690284]

```
* v_ann: [21.385316848754883, 13.651414022050044]
```

```
- Time interval n.4: [503.52, 503.72]
* y_true: [14.72640734]
* v_ann: [18.566509246826172, 13.651414022050044]
```

```
* err= 0.6780268861353118
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.0009070121717251745
```



For scene 48/66

```
* use LR_NN=5e-05 with err=49.85125093689326 at it=24
* v0_scn_mean = 14.305357461043135
* MAE = 0.6780268861353118
```

df n.5, scene n.49/66

We have 3 time intervals inside [525.52, 526.12]

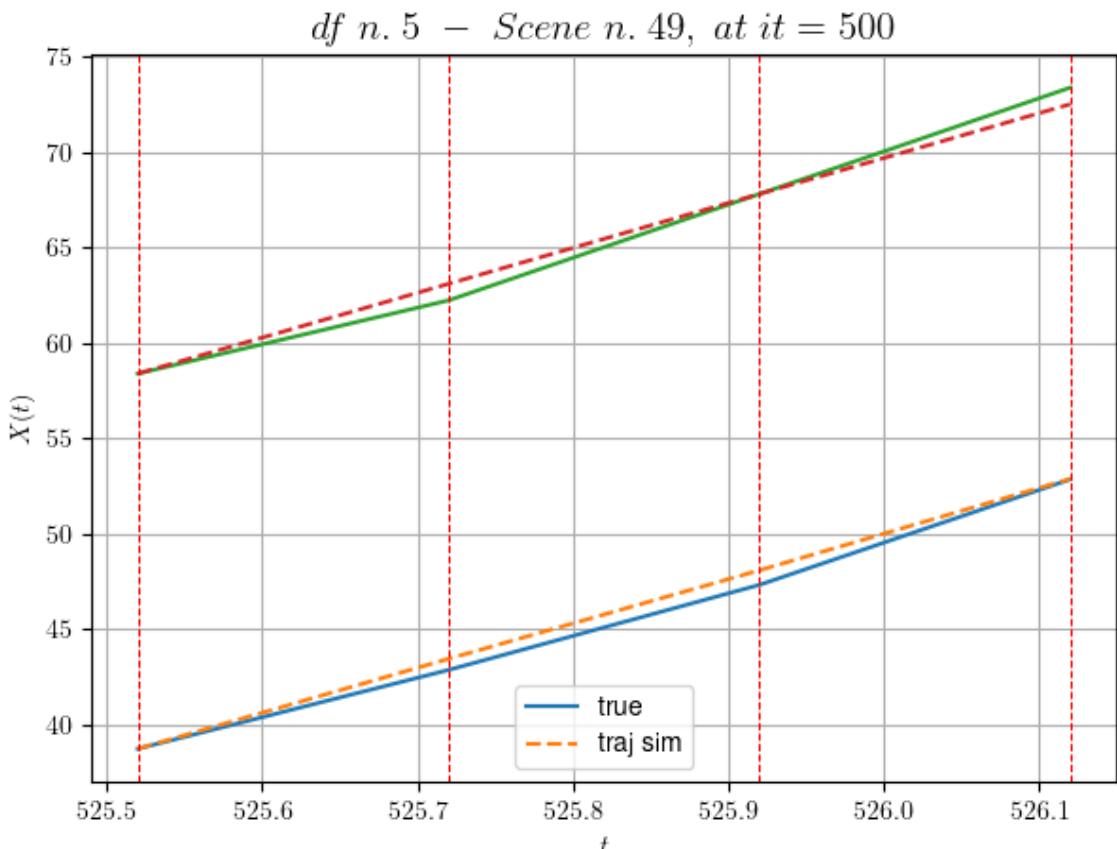
```
- Time interval n.0: [525.52, 525.72]
* y_true: [20.6706729]
* v_ann: [23.589454650878906, 23.539355454248636]
```

```
- Time interval n.1: [525.72, 525.92]
```

```
* y_true: [22.29092446]
* v_ann: [23.18976402282715, 23.539355454248636]
```

```
- Time interval n.2: [525.92, 526.12]
* y_true: [27.65144368]
* v_ann: [23.971839904785156, 23.539355454248636]
```

```
* err= 0.3037540951293769
* Learning rate NN = 2.952449540316593e-05
* diff = 4.180611679570152e-05
```



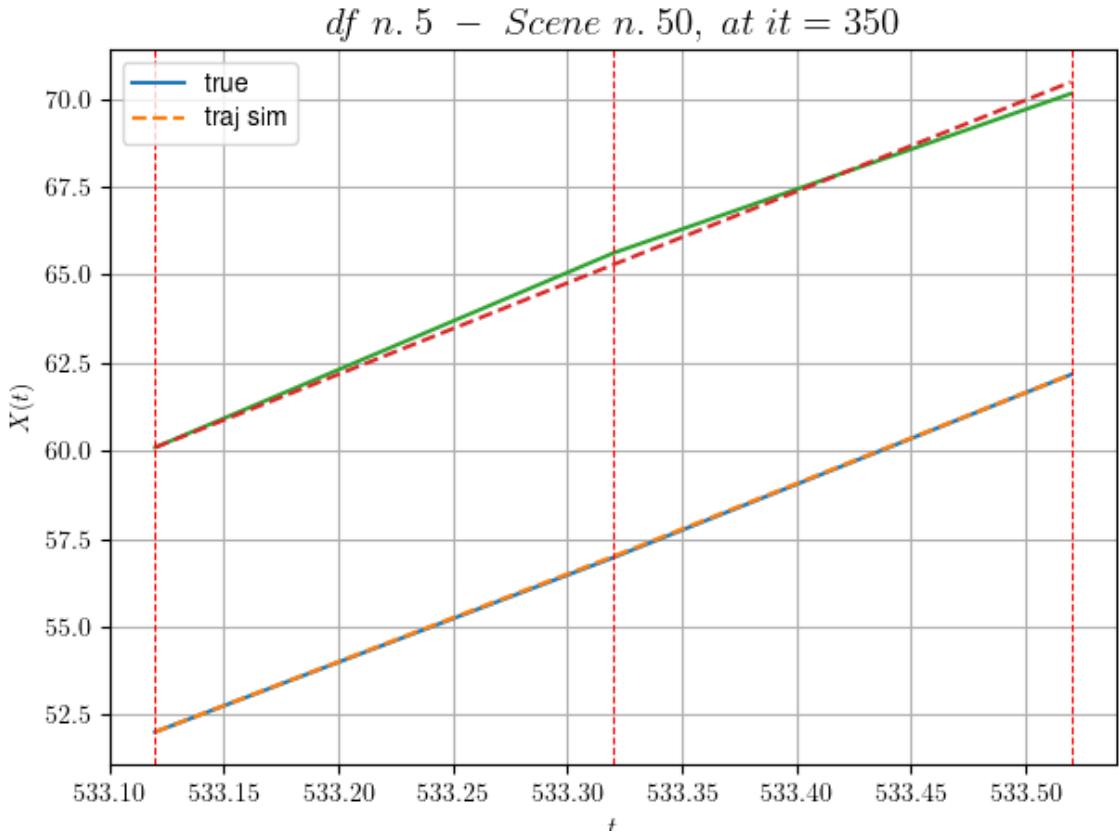
For scene 49/66

```
* use LR_NN=5e-05 with err=2.660123792688748 at it=24
* v0_scn_mean = 23.79778123602914
* MAE = 0.28311207693426776
```

df n.5, scene n.50/66

We have 2 time intervals inside [533.12,533.52]

```
* err= 0.03619433618259851
* Learning rate NN = 0.00040499999886378646
* diff = 9.425408942290159e-07
```



For scene 50/66

```
* use LR_NN=0.0005 with err=0.672593025403663 at it=24
* v0_scn_mean = 26.18022198634277
* MAE = 0.03619433618259851
```

df n.5, scene n.51/66

We have 3 time intervals inside [535.32, 535.92]

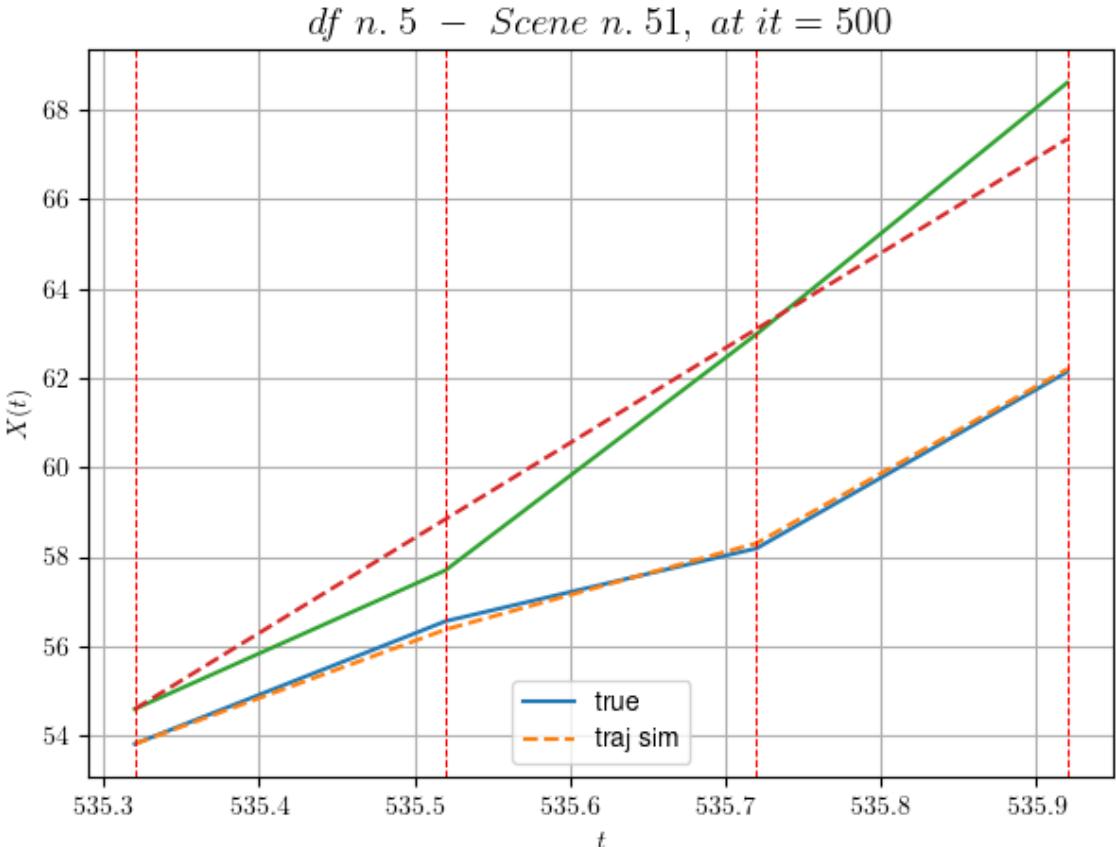
- Time interval n.0: [535.32, 535.52]
 - * y_true: [13.74931105]
 - * v_ann: [12.816435813903809, 21.278077520483933]

- Time interval n.1: [535.52, 535.72]
 - * y_true: [8.15050406]
 - * v_ann: [9.664864540100098, 21.278077520483933]

- Time interval n.2: [535.72, 535.92]
 - * y_true: [19.77148161]
 - * v_ann: [19.50918197631836, 21.278077520483933]

- * err= 0.3722835305657622
- * Learning rate NN = 0.0029524494893848896

* diff = 0 002050353636750194



For scene 51/66

* use LR_NN=0.005 with err=4.705890814924879 at it=24
 * v0_scn_mean = 21.62695441960097
 * MAE = 0.3722835305657622

df n.5, scene n.52/66

We have 4 time intervals inside [23.72, 24.52]

- Time interval n.0: [23.72, 23.92]
 - * y_true: [21.79018354 24.07032953]
 - * v_ann: [-0.0021683848462998867, -3.36452583955872e-23, 24.534803734519368]

- Time interval n.1: [23.92, 24.12]
 - * y_true: [25.91031727 27.52052784]
 - * v_ann: [-0.0009293630137108266, -6.963247442482007e-23, 24.534803734519368]

- Time interval n.2: [24.12, 24.32]
 - * y_true: [19.61033273 24.42062846]
 - * v_ann: [-0.0005109165795147419, -3.7490179069408904e-22, 24.534803734519368]

```

-----  

- Time interval n.3: [24.32, 24.52]  

* y_true: [17.8304062 20.21066815]  

* v_ann: [-8.560797868994996e-05, -8.31904564088980  

8e-23, 24.534803734519368]
-----
```

```

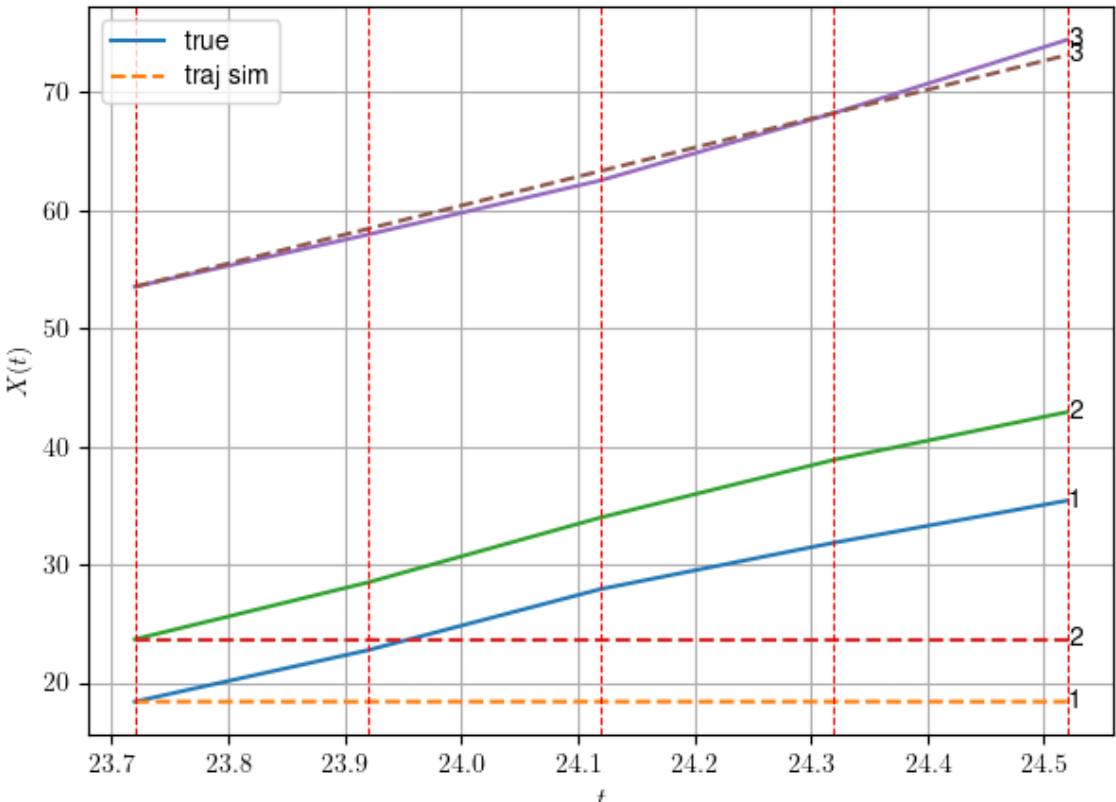
-----  

* err= 87.66012745799641  

* Learning rate NN = 0.000478296831715852  

* diff = 0.00027678768083205796
-----
```

df n. 5 – Scene n. 52, at it = 500



For scene 52/66

```

* use LR_NN=0.001 with err=14.79277663106175 at it=24
* v0_scn_mean = 24.86271526507275
* MAE = 50.9706520088619
=====
```

df n.5, scene n.53/66

```

=====
```

```

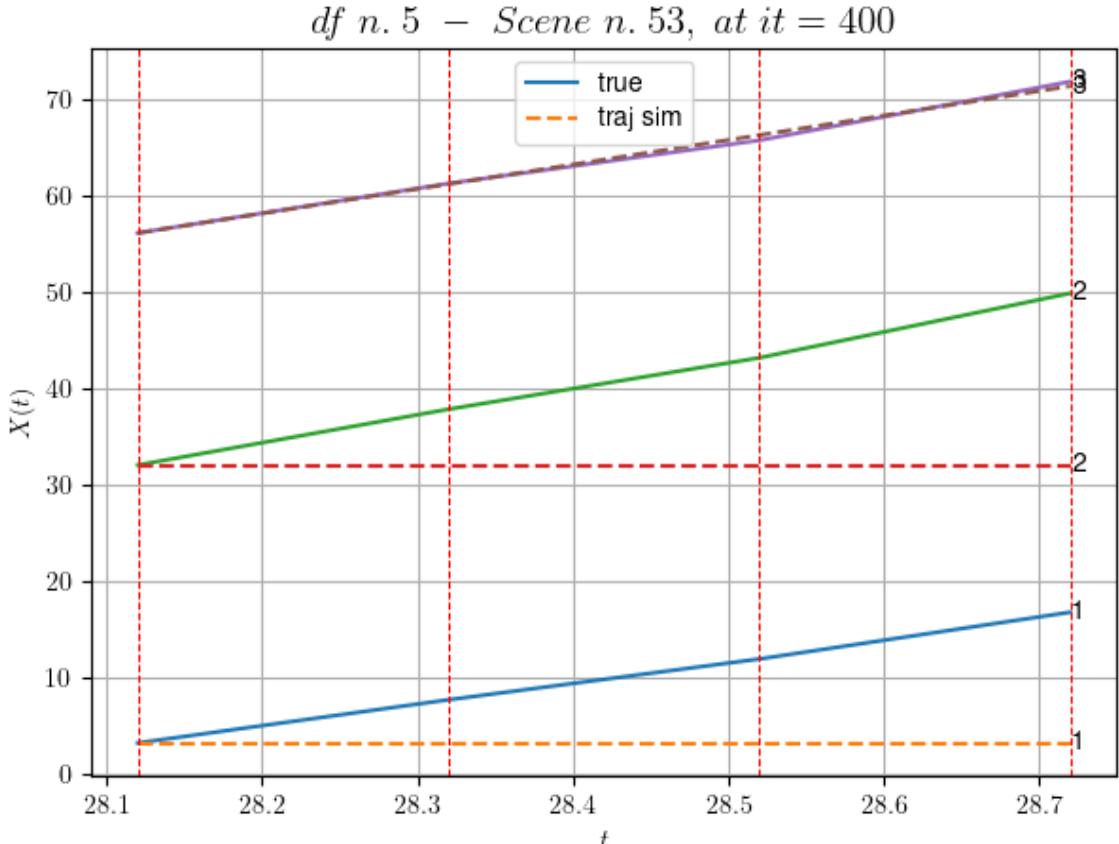
=====  

We have 3 time intervals inside [28.12,28.72]  

* err= 62.86954747336312  

* Learning rate NN = 6.560998826898867e-06  

* diff = 3.5787392960173747e-07
=====
```



For scene 53/66

- * use LR_NN=1e-05 with err=4.52265081817227 at it=24
- * v0_scn_mean = 25.725929368611094
- * MAE = 62.86855598006026

df n.5, scene n.54/66

We have 3 time intervals inside [146.52, 147.12]

- Time interval n.0: [146.52, 146.72]
 - * y_true: [32.70054419 14.69037585]
 - * v_ann: [24.056310653686523, 23.387916564941406, 3.24718527812282]

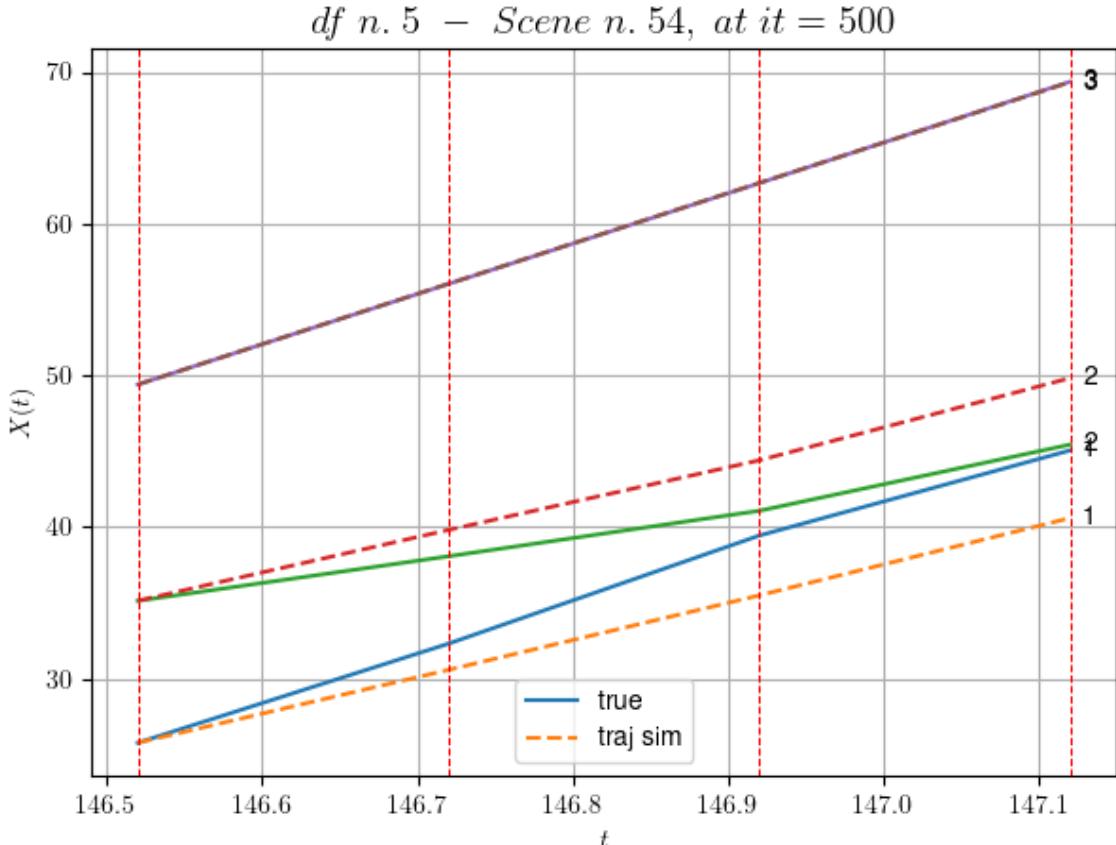
- Time interval n.1: [146.72, 146.92]
 - * y_true: [35.65090038 15.01046474]
 - * v_ann: [24.570093154907227, 22.96070671081543, 3.24718527812282]

- Time interval n.2: [146.92, 147.12]
 - * y_true: [28.09191726 21.83491468]
 - * v_ann: [25.516624450683594, 27.12762451171875, 3.24718527812282]

```

* err= 5.984400067828429
* Learning rate NN = 0.0005904899444431067
* diff = 0.010897079062893944

```



For scene 54/66

```

* use LR_NN=0.001 with err=24.95524716640259 at it=24
* v0_scn_mean = 33.05235430722714
* MAE = 2.929601054465522

```

df n.5, scene n.55/66

We have 2 time intervals inside [151.12, 151.52]

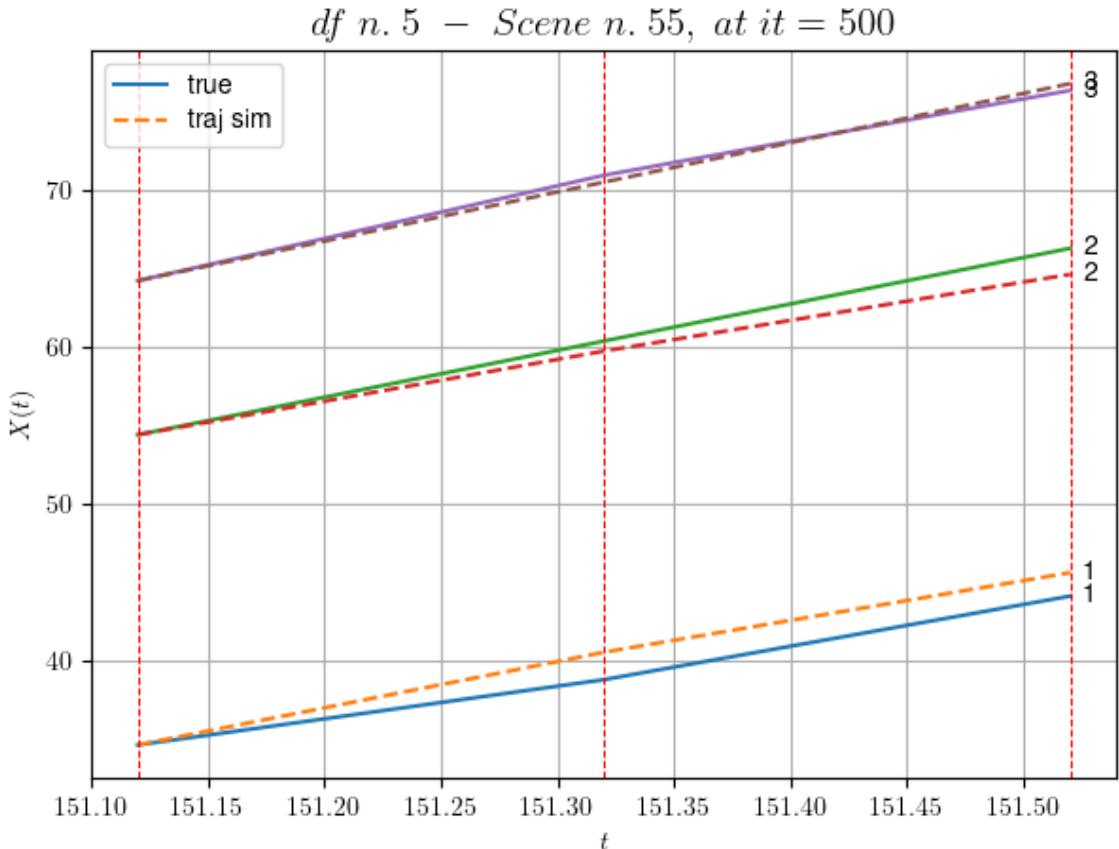
- Time interval n.0: [151.12, 151.32]
 - * y_true: [20.88055844 29.97204611]
 - * v_ann: [29.64701271057129, 26.76089859008789, 31.516138737957654]

- Time interval n.1: [151.32, 151.52]
 - * y_true: [26.72089495 29.6522691]
 - * v_ann: [25.45453643798828, 24.538646697998047, 31.516138737957654]

```
* err= 0.9879047246325167
```

```
* Learning rate NN = 0.00036449998151510954
```

* diff = 0.010379270776631921



For scene 55/66

- * use LR_NN=0.0005 with err=5.240752807527586 at it=24
- * v0_scn_mean = 31.42517048175173
- * MAE = 0.6274932257083515

df n.5, scene n.56/66

We have 6 time intervals inside [177.32, 178.52]

- Time interval n.0: [177.32, 177.52]
 - * y_true: [23.78017477 21.57540501]
 - * v_ann: [27.804298400878906, 29.21976089477539, 26.180378384786604]

- Time interval n.1: [177.52, 177.72]
 - * y_true: [28.99044664 21.37044807]
 - * v_ann: [25.08322525024414, 25.487548828125, 26.180378384786604]

- Time interval n.2: [177.72, 177.92]
 - * y_true: [30.9005134 20.55062028]
 - * v_ann: [24.9378719329834, 25.429126739501953, 26.180378384786604]

```

-----  

- Time interval n.3: [177.92, 178.12]  

* y_true: [25.28069635 21.93575232]  

* v_ann: [24.963985443115234, 25.812278747558594, 2  

6.180378384786604]  

-----  

- Time interval n.4: [178.12, 178.32]  

* y_true: [23.87574209 27.4762805 ]  

* v_ann: [24.403207778930664, 24.59516143798828, 2  

6.180378384786604]  

-----  

- Time interval n.5: [178.32, 178.52]  

* y_true: [37.1766426 26.34131635]  

* v_ann: [24.748777389526367, 25.404035568237305, 2  

6.180378384786604]  

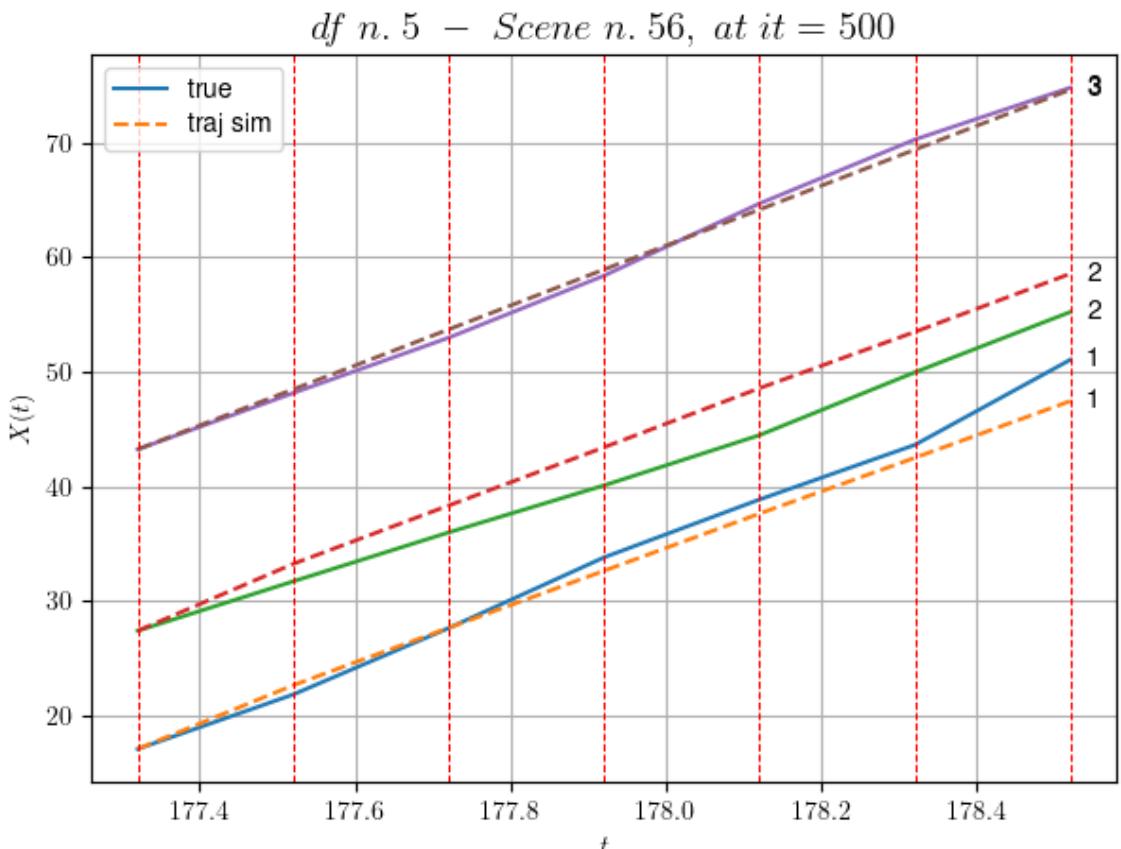
-----  

* err= 3.7731402377048315  

* Learning rate NN = 0.00031381050939671695  

* diff = 0.08272041917862571

```



For scene 56/66
* use LR_NN=0.001 with err=31.86936152044444 at it=24
* v0_scn_mean = 26.40955510206506
* MAE = 3.7731402377048315

```
df n.5, scene n.57/66
```

We have 2 time intervals inside [266.92, 267.32]

- Time interval n.0: [266.92, 267.12]

- * y_true: [18.75024149 31.34179995]

- * v_ann: [31.158077239990234, 29.362911224365234, 2
9.085701625926752]

- Time interval n.1: [267.12, 267.32]

- * y_true: [26.80047756 43.40316595]

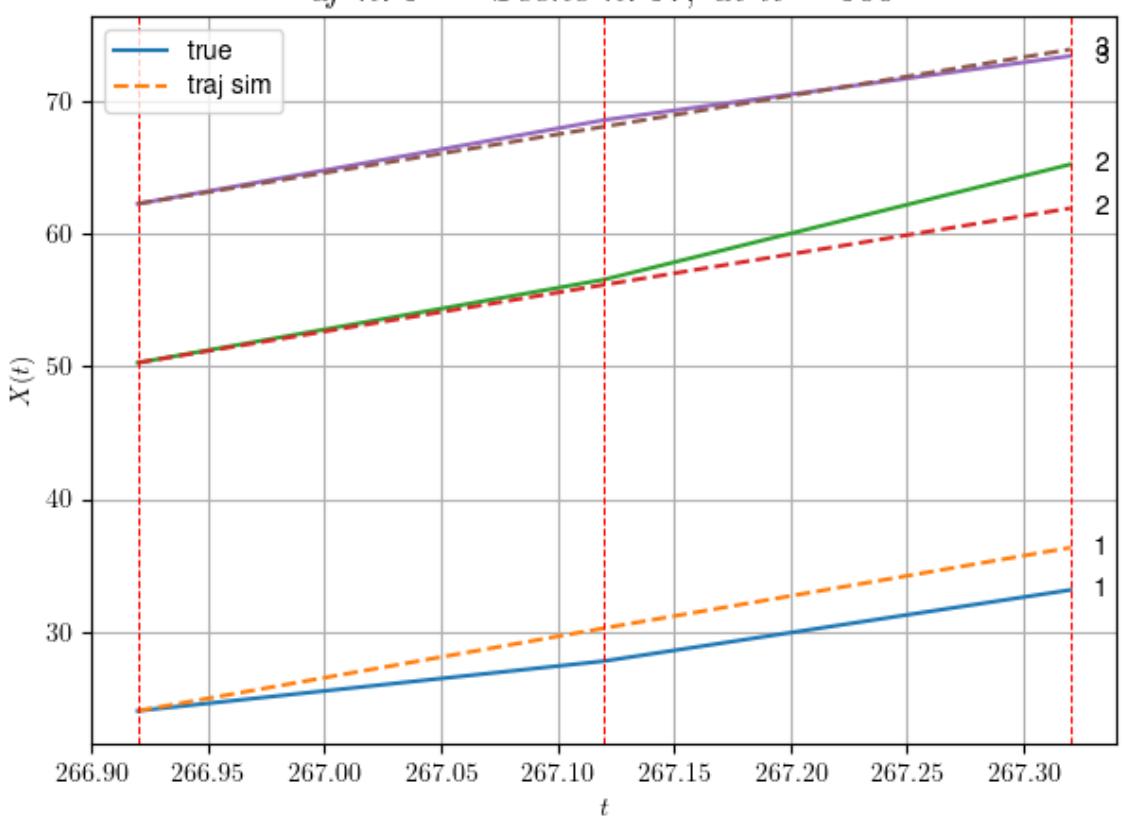
- * v_ann: [30.338951110839844, 28.85292625427246, 2
9.085701625926752]

- * err= 3.1001609706286093

- * Learning rate NN = 3.6449993785936385e-05

- * diff = 0.022169063005390566

df n. 5 – Scene n. 57, at it = 500



For scene 57/66

- * use LR_NN=5e-05 with err=13.20422412959582 at it=24

- * v0_scn_mean = 29.1405594873209

- * MAE = 3.1001609706286093

df n.5, scene n.58/66

We have 2 time intervals inside [316.92, 317.32]

- Time interval n.0: [316.92, 317.12]

* y_true: [22.23560763 28.12633872]

* v_ann: [25.215463638305664, 25.256126403808594, 25]

- Time interval n.1: [317.12, 317.32]

* y_true: [22.67586827 27.74684297]

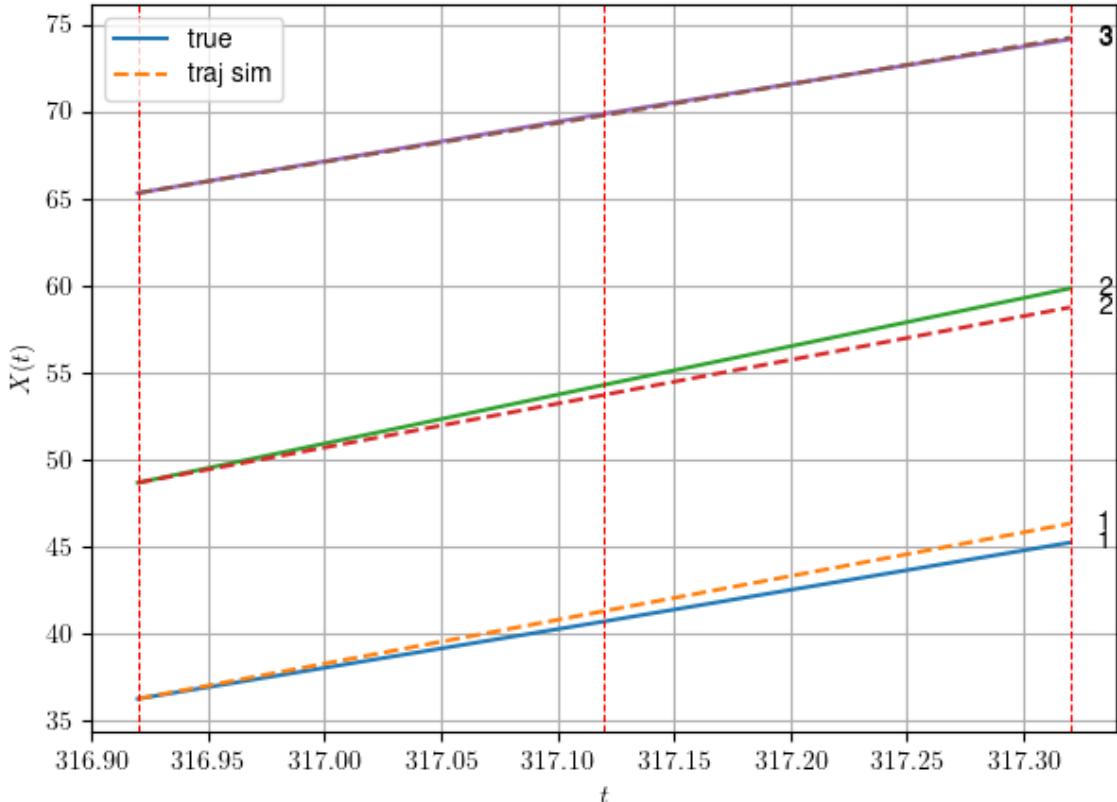
* v_ann: [25.149078369140625, 25.158796310424805, 25]

* err= 0.3426132337479091

* Learning rate NN = 0.0007289999630302191

* 44ff = 0 0000304678200500624

df n. 5 – Scene n. 58, at it = 500



For scene 58/66

* use LR NN=0.001 with err=1.3474483174364107 at it=24

* v0 scn mean = 22.801522765712672

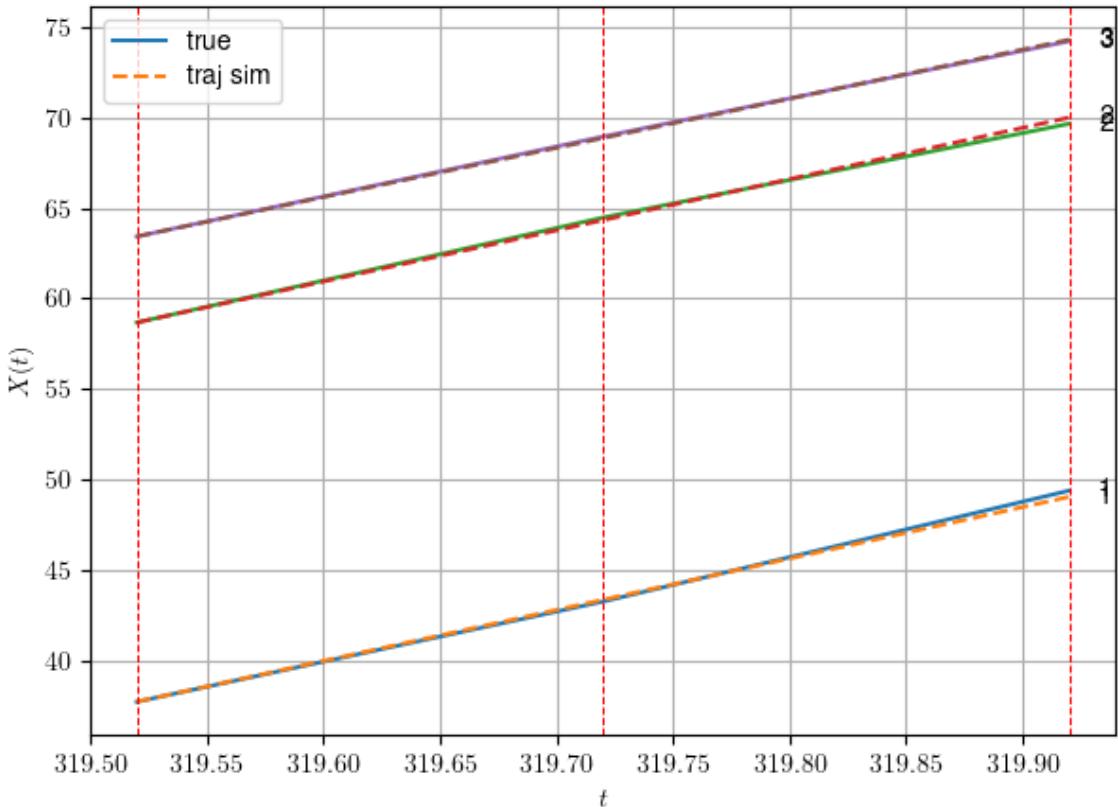
* MAE = 0.3146075244905031

df n 5 scene n 59/66

We have 2 time intervals inside [319.52, 319.92]

- * err= 0.03134210211984698
- * Learning rate NN = 0.0007289999630302191
- * diff = 2.0048446084610725e-07

df n. 5 – Scene n. 59, at it = 450



For scene 59/66

- * use LR_NN=0.001 with err=7.3170781466511805 at it=24
- * v0_scn_mean = 27.40762911722512
- * MAE = 0.027501841567631274

df n.5, scene n.60/66

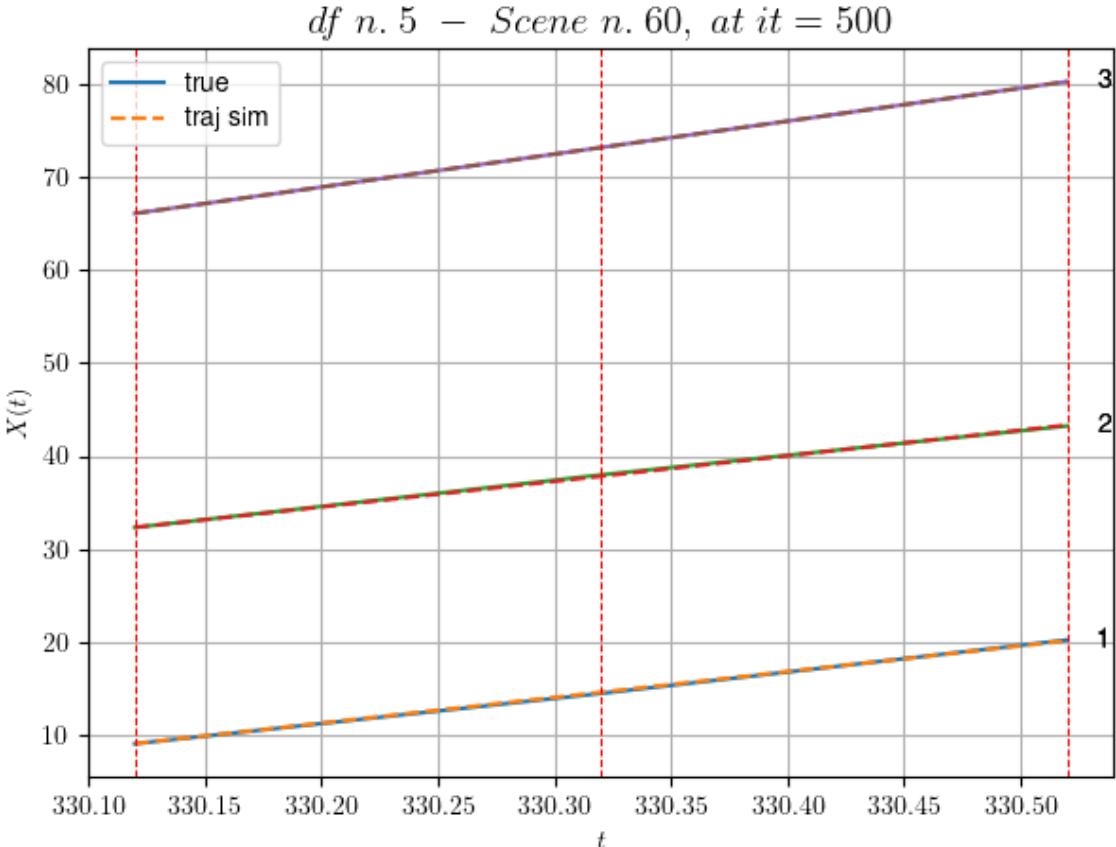
We have 2 time intervals inside [330.12, 330.52]

- Time interval n.0: [330.12, 330.32]
 - * y_true: [27.05007287 28.28069592]
 - * v_ann: [27.685611724853516, 27.538158416748047, 35.478683267491284]

- Time interval n.1: [330.32, 330.52]
 - * y_true: [28.75016695 26.32589786]
 - * v_ann: [27.69627571105957, 27.538732528686523, 35.478683267491284]

- * err= 0.006006532082039217
- * Learning rate NN = 3.6449993785936385e-05

* diff = 1 43942271689408150.05



For scene 60/66

* use LR_NN=5e-05 with err=1.9275440465439333 at it=24
 * v0_scn_mean = 35.149962517422836
 * MAE = 0.005930709812352984

df n.5, scene n.61/66

We have 5 time intervals inside [338.52, 339.52]

- Time interval n.0: [338.52, 338.72]
 - * y_true: [22.83038671 20.44060351]
 - * v_ann: [23.97696304321289, 24.01738166809082, 27.853928426096157]

- Time interval n.1: [338.72, 338.92]
 - * y_true: [25.85061095 23.65082523]
 - * v_ann: [23.268945693969727, 23.294422149658203, 27.853928426096157]

- Time interval n.2: [338.92, 339.12]
 - * y_true: [28.6708889 22.23087004]
 - * v_ann: [23.68196678161621, 23.827232360839844, 27.853928426096157]

```

-----  

- Time interval n.3: [339.12, 339.32]  

* y_true: [26.0610325 19.88098798]  

* v_ann: [24.082313537597656, 24.512540817260742, 2  

7.853928426096157]
-----
```

```

-----  

- Time interval n.4: [339.32, 339.52]  

* y_true: [27.9415295 20.92126982]  

* v_ann: [23.667217254638672, 24.062082290649414, 2  

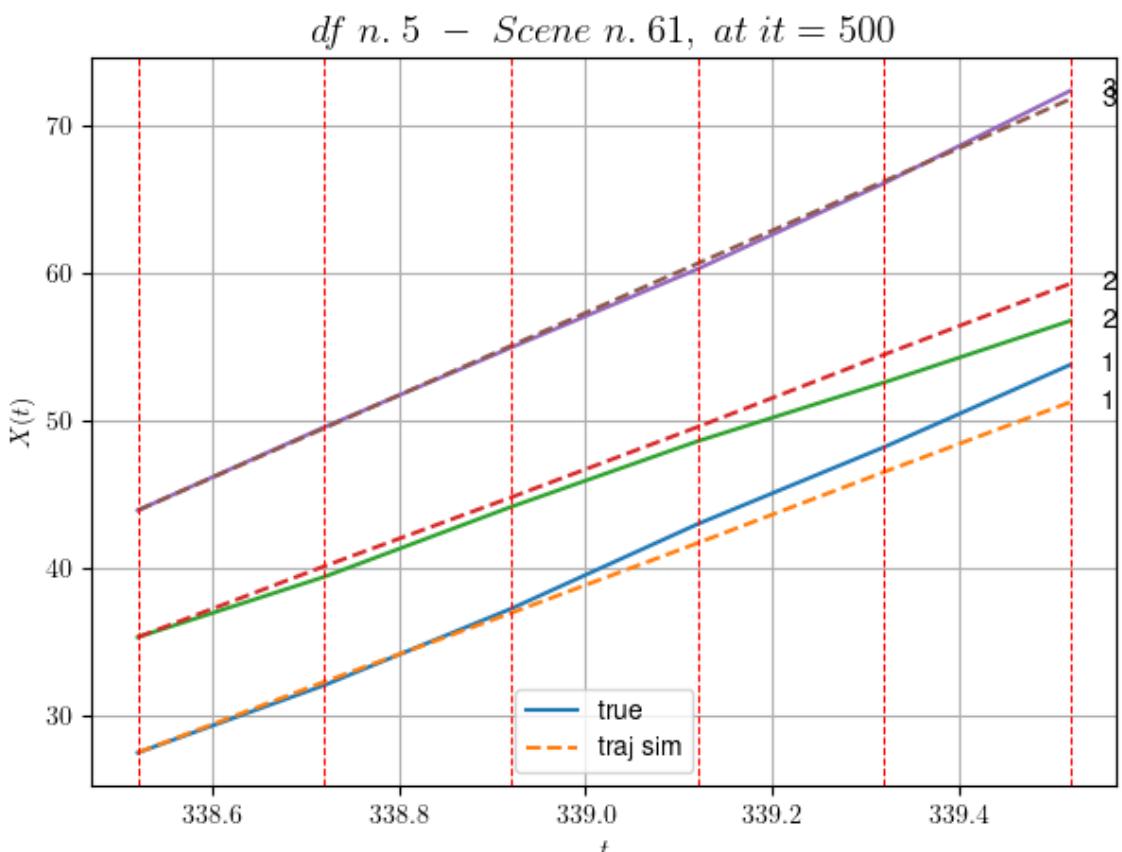
7.853928426096157]
-----
```

```

* err= 1.2946037077000605  

* Learning rate NN = 0.0003874204121530056  

* diff = 0.001031654754642286
```



For scene 61/66

```

* use LR_NN=0.001 with err=10.812005713307599 at it=24  

* v0_scn_mean = 27.98269262417592  

* MAE = 1.2942766182222192
=====
```

```

df n.5, scene n.62/66
=====
```

```

We have 5 time intervals inside [435.72,436.72]  

- Time interval n.0: [435.72, 435.92]
```

```
* y_true: [16.6003121 32.10080247]
* v_ann: [20.55099868774414, 19.002180099487305, 2
3.002269478052625]

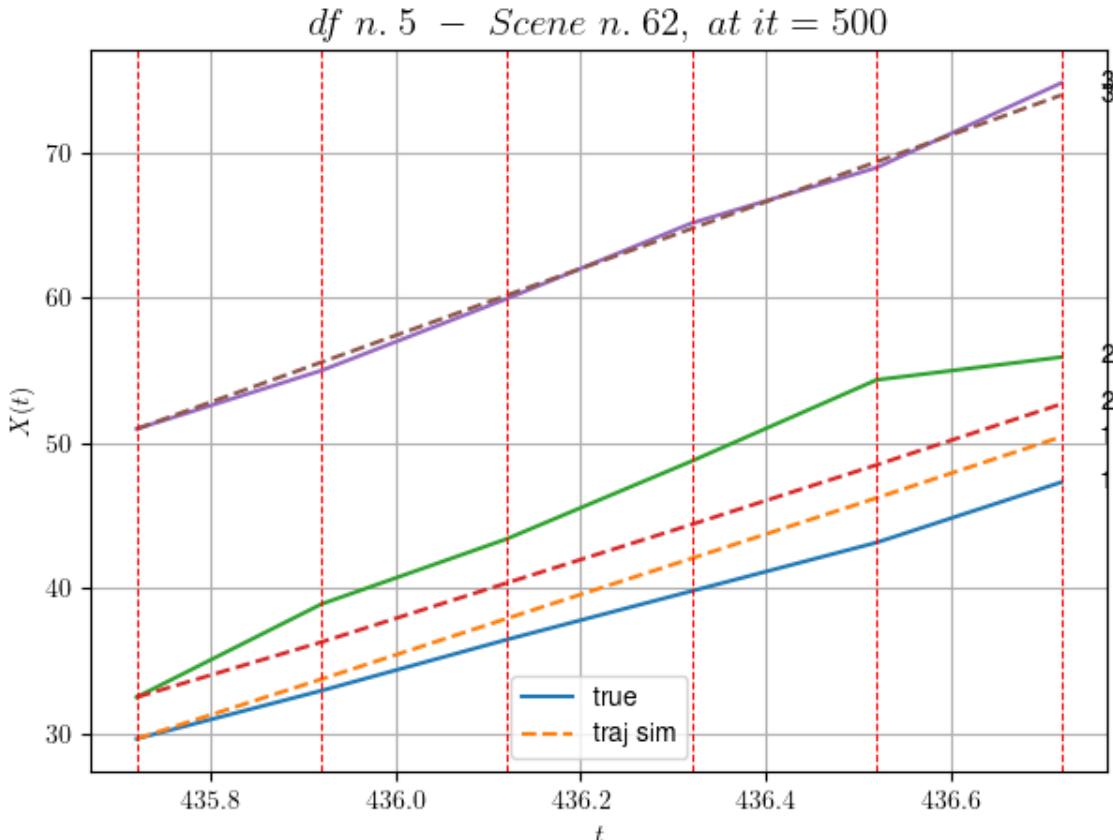
-----
- Time interval n.1: [435.92, 436.12]
* y_true: [17.55040576 22.4007406 ]
* v_ann: [20.85218620300293, 20.31902313232422, 23.
002269478052625]

-----
- Time interval n.2: [436.12, 436.32]
* y_true: [16.72550921 26.8011085 ]
* v_ann: [20.723148345947266, 20.17236328125, 23.00
2269478052625]

-----
- Time interval n.3: [436.32, 436.52]
* y_true: [16.72550921 28.00144696]
* v_ann: [20.83606719970703, 20.51852035522461, 23.
002269478052625]

-----
- Time interval n.4: [436.52, 436.72]
* y_true: [20.80081615 7.85046318]
* v_ann: [21.084280014038086, 21.005495071411133, 2
3.002269478052625]

-----
* err= 6.014426794168148
* Learning rate NN = 0.0001937102060765028
* diff = 0.020943089680714344
```



For scene 62/66

- * use LR_NN=0.0005 with err=11.445765866221189 at it=24
- * v0_scn_mean = 23.422132995186235
- * MAE = 5.949829045206566

df n.5, scene n.63/66

We have 2 time intervals inside [565.12, 565.52]

- Time interval n.0: [565.12, 565.32]
 - * y_true: [12.82514463 16.9507403]
 - * v_ann: [15.695290565490723, 16.247024536132812, 2

0.750313634269958]

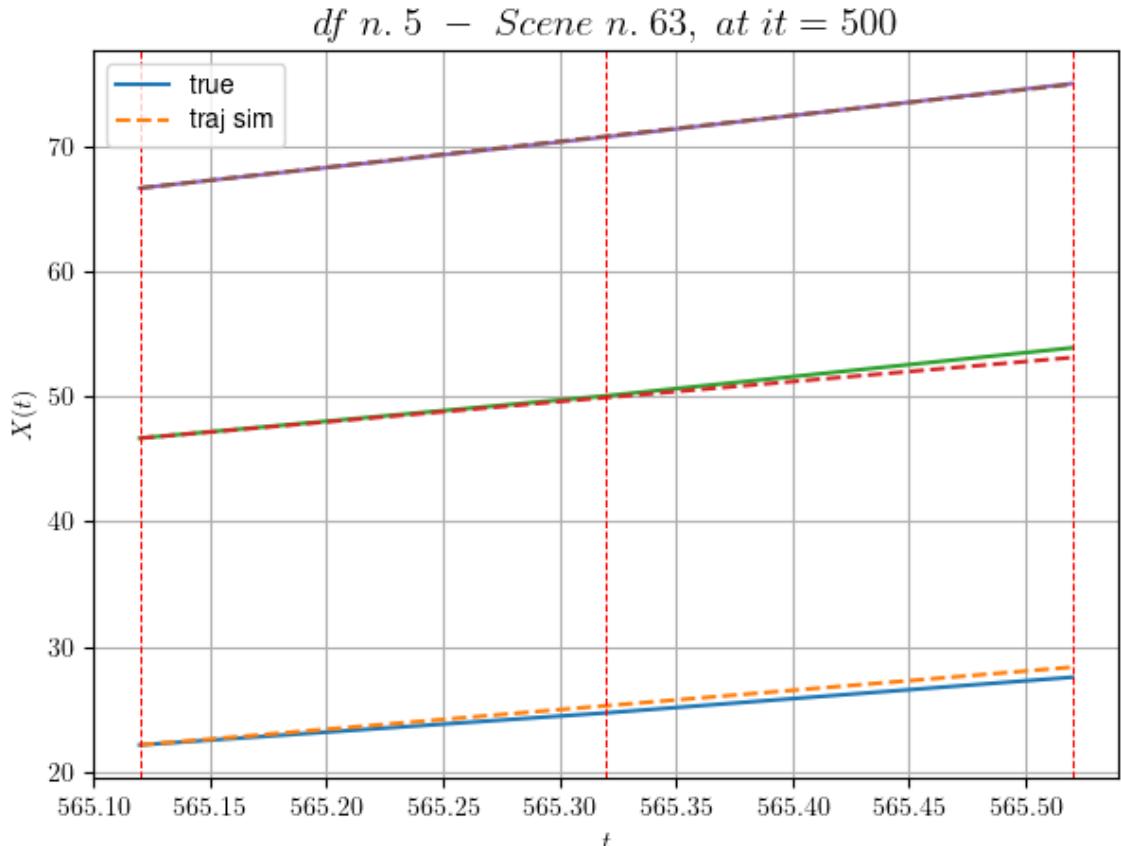
- Time interval n.1: [565.32, 565.52]
 - * y_true: [14.2510345 19.19106683]
 - * v_ann: [15.416733741760254, 16.011886596679688, 2

0.750313634269958]

- * err= 0.17908597094013548

- * Learning rate NN = 7.289998757187277e-05

- * diff = 0.002036969706076752

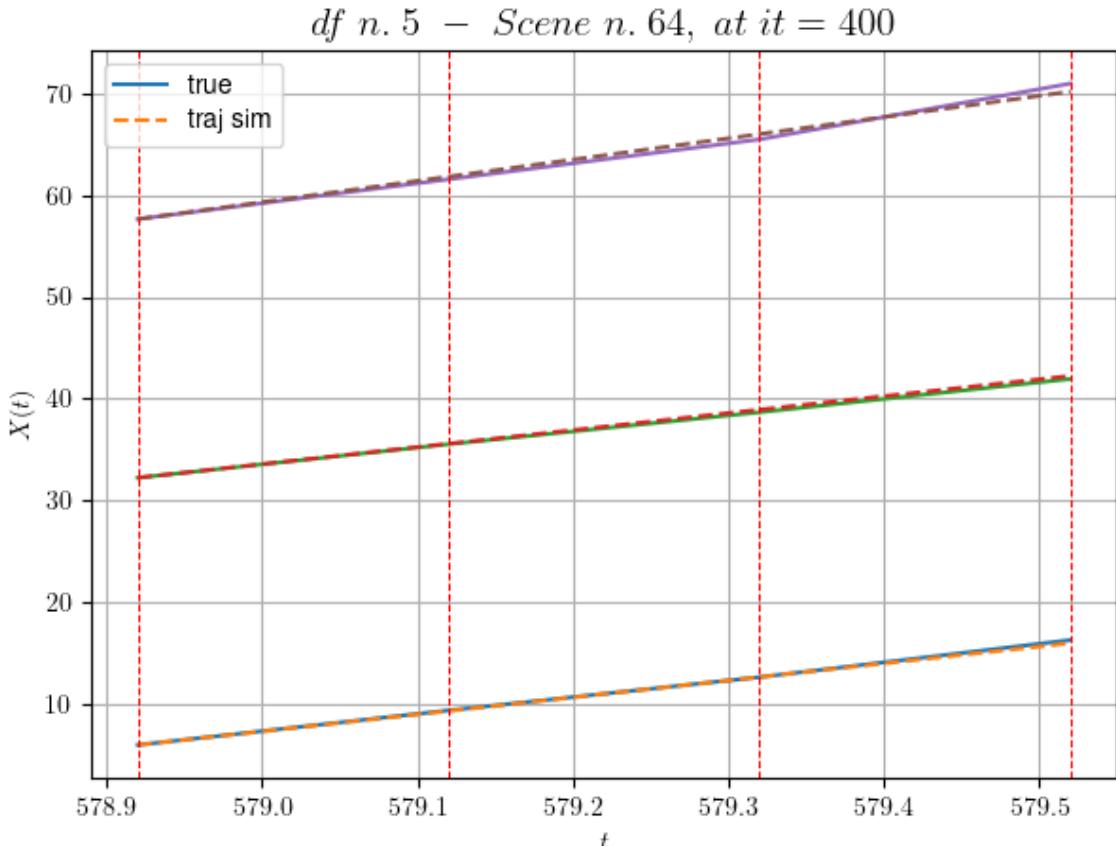


For scene 63/66

* use LR_NN=0.0001 with err=2.4978896855218076 at it=24
* v0_scn_mean = 21.30529440092335
* MAE = 0.160082024814773

df n.5, scene n.64/66

We have 3 time intervals inside [578.92, 579.52]
* err= 0.10199478960754745
* Learning rate NN = 3.2804993679746985e-05
* diff = 2.4271282768328906e-07



For scene 64/66

- * use LR_NN=5e-05 with err=3.627990794836352 at it=24
- * v0_scn_mean = 21.597864239641957
- * MAE = 0.09552059614181485

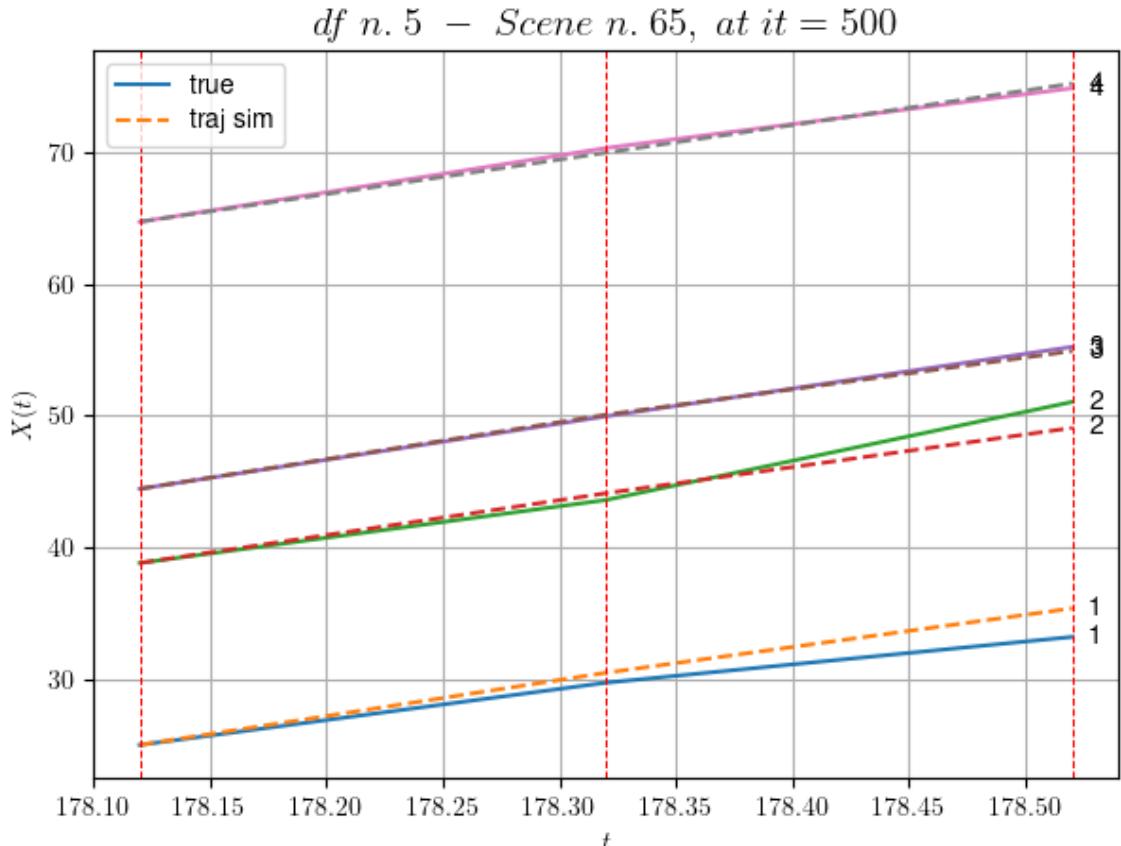
df n.5, scene n.65/66

We have 2 time intervals inside [178.12, 178.52]

- Time interval n.0: [178.12, 178.32]
 - * y_true: [23.59034379 23.87574209 27.4762805]
 - * v_ann: [27.356903076171875, 26.44282341003418, 28.078577041625977, 26.19236210839537]

- Time interval n.1: [178.32, 178.52]
 - * y_true: [17.35034213 37.1766426 26.34131635]
 - * v_ann: [24.415040969848633, 24.7564697265625, 24.119827270507812, 26.19236210839537]

- * err= 0.8147562409215336
- * Learning rate NN = 0.0007289999630302191
- * diff = 0.0003434663022476858



For scene 65/66

- * use LR_NN=0.001 with err=6.668576161681484 at it=24
- * v0_scn_mean = 26.49696074916654
- * MAE = 0.8147562409215336

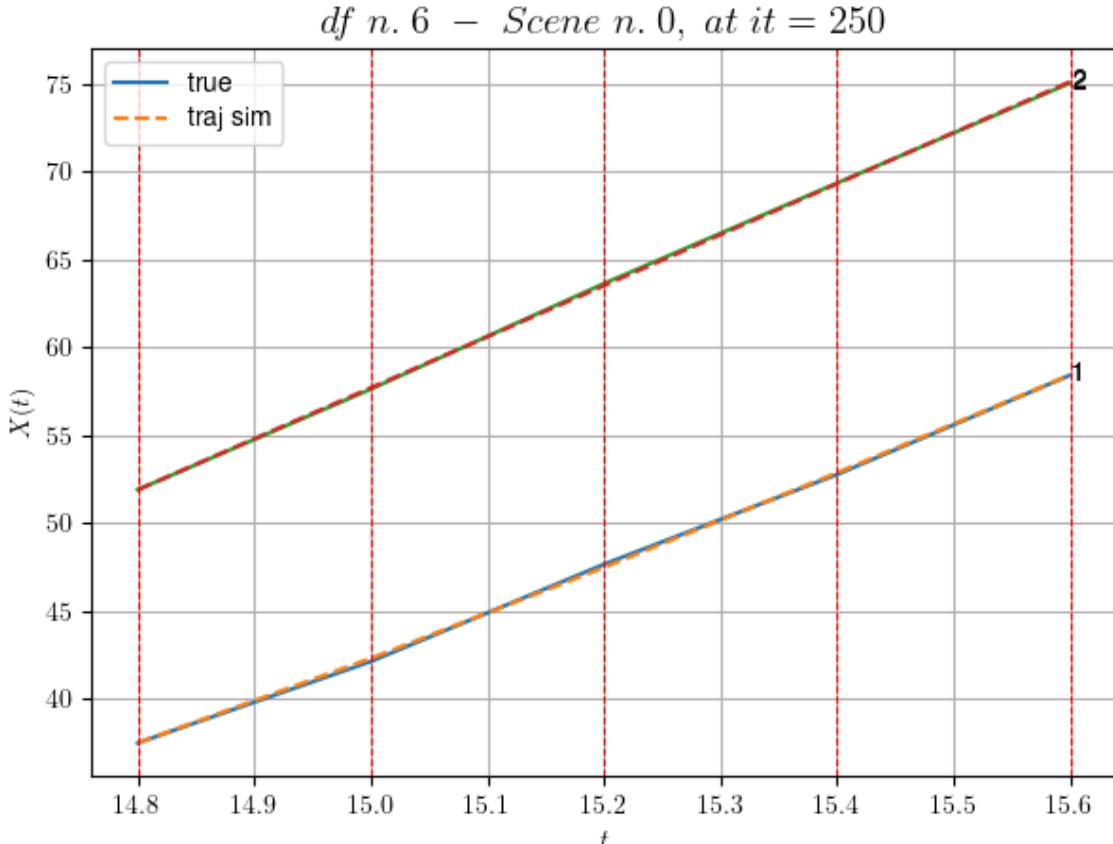
For df=5 with 66 scenes, time taken: 1023.48

In df n.6/10 we have 52 scenes

df n.6, scene n.0/52

We have 4 time intervals inside [14.80,15.60]

- * err= 0.009796000008502915
- * Learning rate NN = 3.6449993785936385e-05
- * diff = 3.8216785175695933e-07



For scene 0/52

- * use LR_NN=5e-05 with err=0.11843033255401605 at it=24
- * v0_scn_mean = 29.13253007814259
- * MAE = 0.009772647181684647

df n.6, scene n.1/52

We have 9 time intervals inside [24.60, 26.40]

- Time interval n.0: [24.60, 24.80]
 - * y_true: [17.23002109]
 - * v_ann: [21.28420066833496, 20.072543725791686]

- Time interval n.1: [24.80, 25.00]
 - * y_true: [20.13005018]
 - * v_ann: [21.290014266967773, 20.072543725791686]

- Time interval n.2: [25.00, 25.20]
 - * y_true: [20.48009455]
 - * v_ann: [20.702651977539062, 20.072543725791686]

- Time interval n.3: [25.20, 25.40]
 - * y_true: [20.58014827]

```
* v_ann: [20.56100845336914, 20.072543725791686]
```

```
- Time interval n.4: [25.40, 25.60]
* y_true: [21.06023013]
* v_ann: [20.6491756439209, 20.072543725791686]
```

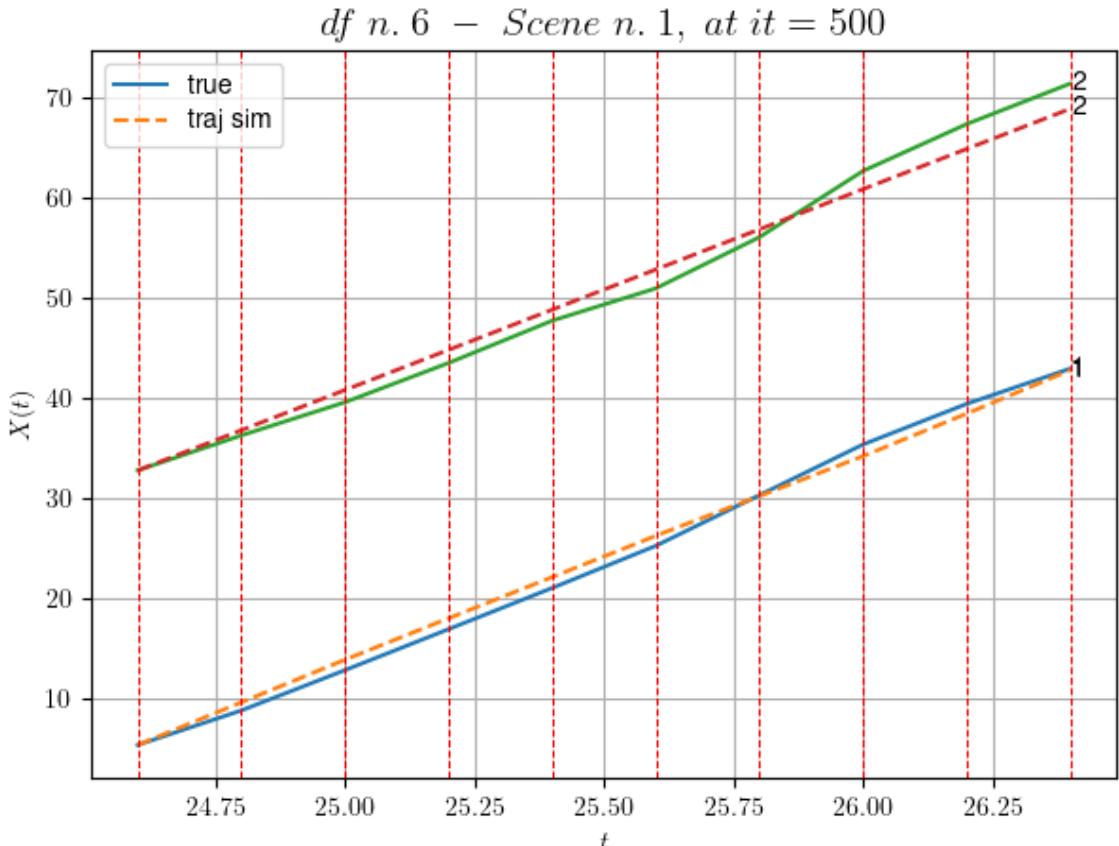
```
- Time interval n.5: [25.60, 25.80]
* y_true: [25.31039356]
* v_ann: [19.852949142456055, 20.072543725791686]
```

```
- Time interval n.6: [25.80, 26.00]
* y_true: [25.32053085]
* v_ann: [19.93334197998047, 20.072543725791686]
```

```
- Time interval n.7: [26.00, 26.20]
* y_true: [20.28057024]
* v_ann: [21.240921020507812, 20.072543725791686]
```

```
- Time interval n.8: [26.20, 26.40]
* y_true: [17.62559467]
* v_ann: [21.746145248413086, 20.072543725791686]
```

```
* err= 1.6052781775298242
* Learning rate NN = 1.667717356212961e-06
* diff = 6.431430443121222e-05
```



For scene 1/52

- * use LR_NN=1e-05 with err=51.84767589425641 at it=24
- * v0_scn_mean = 20.469641976684134
- * MAE = 1.4470059267469781

df n.6, scene n.2/52

We have 5 time intervals inside [29.80, 30.80]

- Time interval n.0: [29.80, 30.00]
 - * y_true: [20.15002211]
 - * v_ann: [18.592817306518555, 24.207929046504987]

- Time interval n.1: [30.00, 30.20]
 - * y_true: [22.29006024]
 - * v_ann: [19.7586669921875, 24.207929046504987]

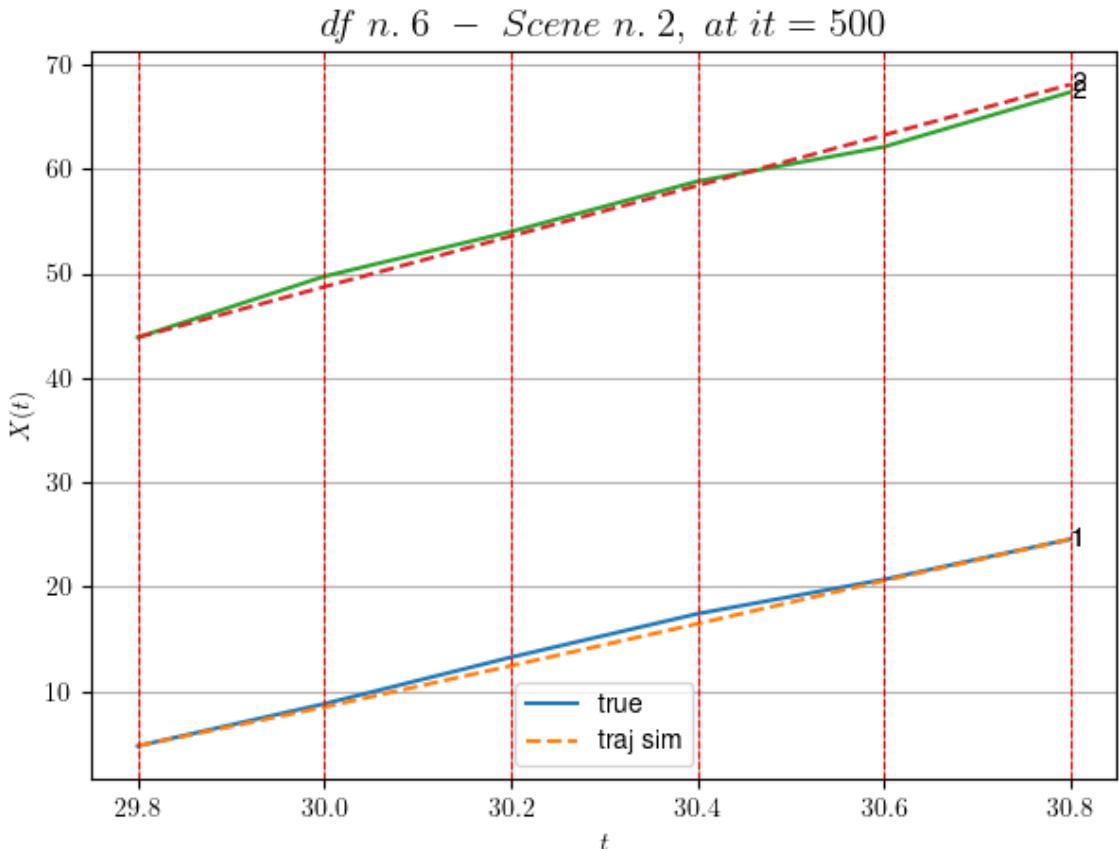
- Time interval n.2: [30.20, 30.40]
 - * y_true: [20.82009504]
 - * v_ann: [20.112491607666016, 24.207929046504987]

- Time interval n.3: [30.40, 30.60]
 - * y_true: [16.41012173]

```
* v_ann: [20.57750129699707, 24.207929046504987]
```

```
- Time interval n.4: [30.60, 30.80]
* y_true: [19.34020007]
* v_ann: [19.834228515625, 24.207929046504987]
```

```
* err= 0.4048543915018913
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.001980062979612396
```



For scene 2/52

```
* use LR_NN=5e-05 with err=7.458841983553149 at it=24
* v0_scn_mean = 24.439611884600506
* MAE = 0.40184546121041154
```

df n.6, scene n.3/52

```
We have 5 time intervals inside [31.80,32.80]
```

```
- Time interval n.0: [31.80, 32.00]
* y_true: [28.45012265]
* v_ann: [33.73530578613281, 21.080205380799715]
```

```
- Time interval n.1: [32.00, 32.20]
```

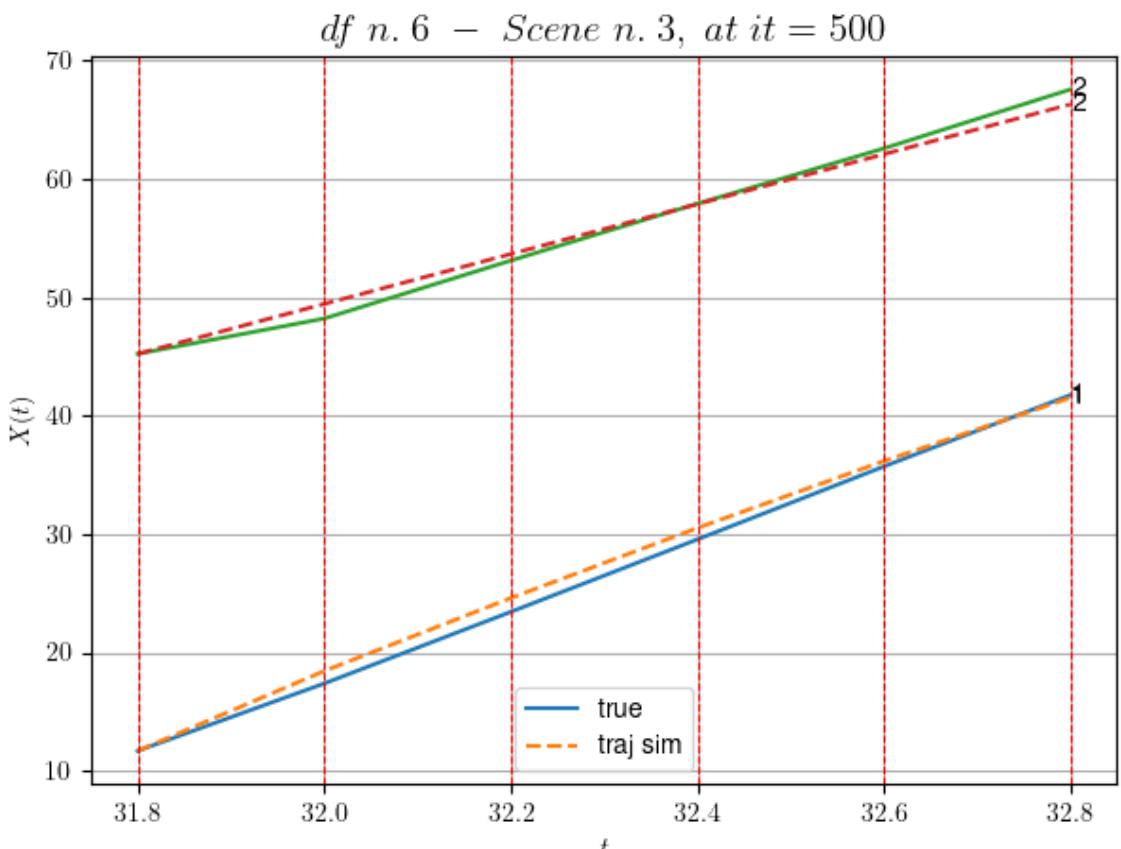
```
* y_true: [30.25025199]
* v_ann: [30.79598617553711, 21.080205380799715]
```

```
- Time interval n.2: [32.20, 32.40]
* y_true: [30.60042484]
* v_ann: [29.592105865478516, 21.080205380799715]
```

```
- Time interval n.3: [32.40, 32.60]
* y_true: [30.80064449]
* v_ann: [28.2569580078125, 21.080205380799715]
```

```
- Time interval n.4: [32.60, 32.80]
* y_true: [30.20103326]
* v_ann: [26.766918182373047, 21.080205380799715]
```

```
* err= 0.6095486027075345
* Learning rate NN = 3.874203684972599e-06
* diff = 0.0005856075834071994
```



For scene 3/52

```
* use LR_NN=1e-05 with err=13.41690667969083 at it=24
* v0_scn_mean = 21.436997165499577
* MAE = 0.5605131186388215
```

```
df n.6, scene n.4/52
=====
=====
We have 5 time intervals inside [66.40,67.40]
- Time interval n.0: [66.40, 66.60]
  * y_true: [31.42032719]
  * v_ann: [31.020193099975586, 29.946012102239543]

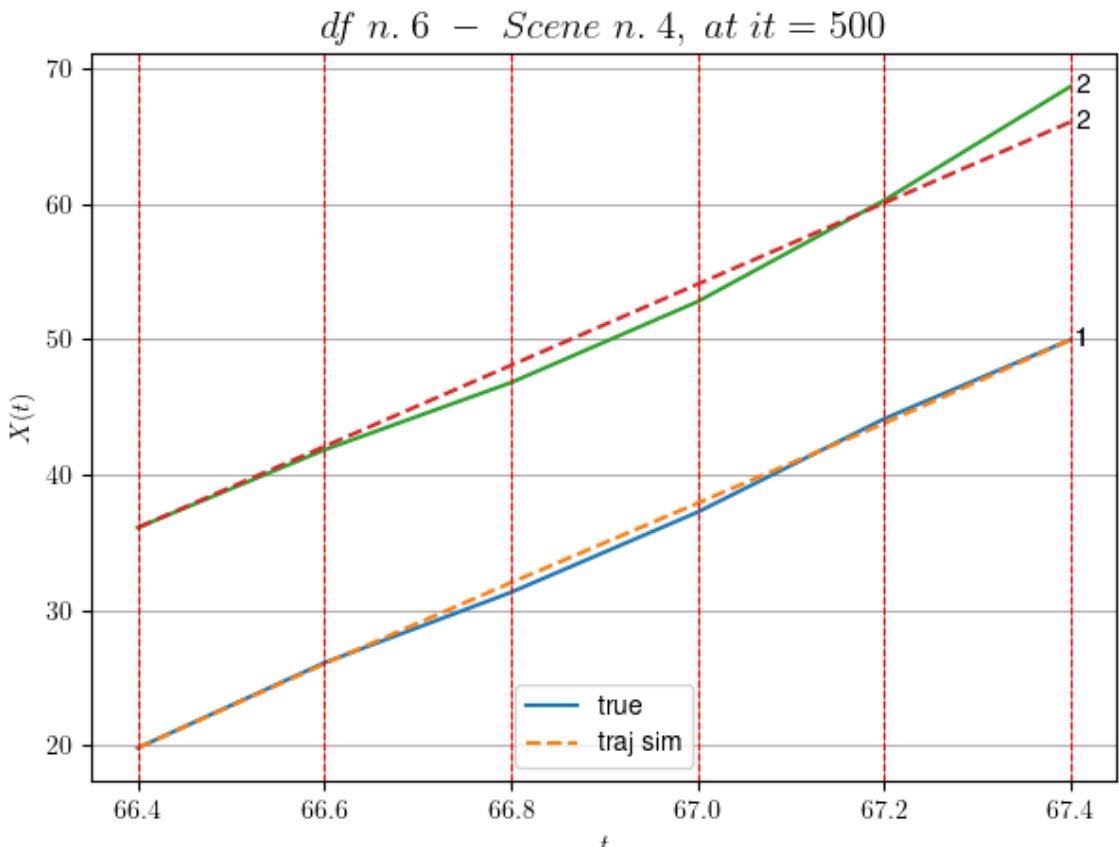
-----
- Time interval n.1: [66.60, 66.80]
  * y_true: [25.99042753]
  * v_ann: [29.959285736083984, 29.946012102239543]

-----
- Time interval n.2: [66.80, 67.00]
  * y_true: [29.58069783]
  * v_ann: [29.32529640197754, 29.946012102239543]

-----
- Time interval n.3: [67.00, 67.20]
  * y_true: [34.44110525]
  * v_ann: [29.45085906982422, 29.946012102239543]

-----
- Time interval n.4: [67.20, 67.40]
  * y_true: [29.24127853]
  * v_ann: [30.819927215576172, 29.946012102239543]

-----
* err= 0.9428818936906241
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.00032531990751438755
```



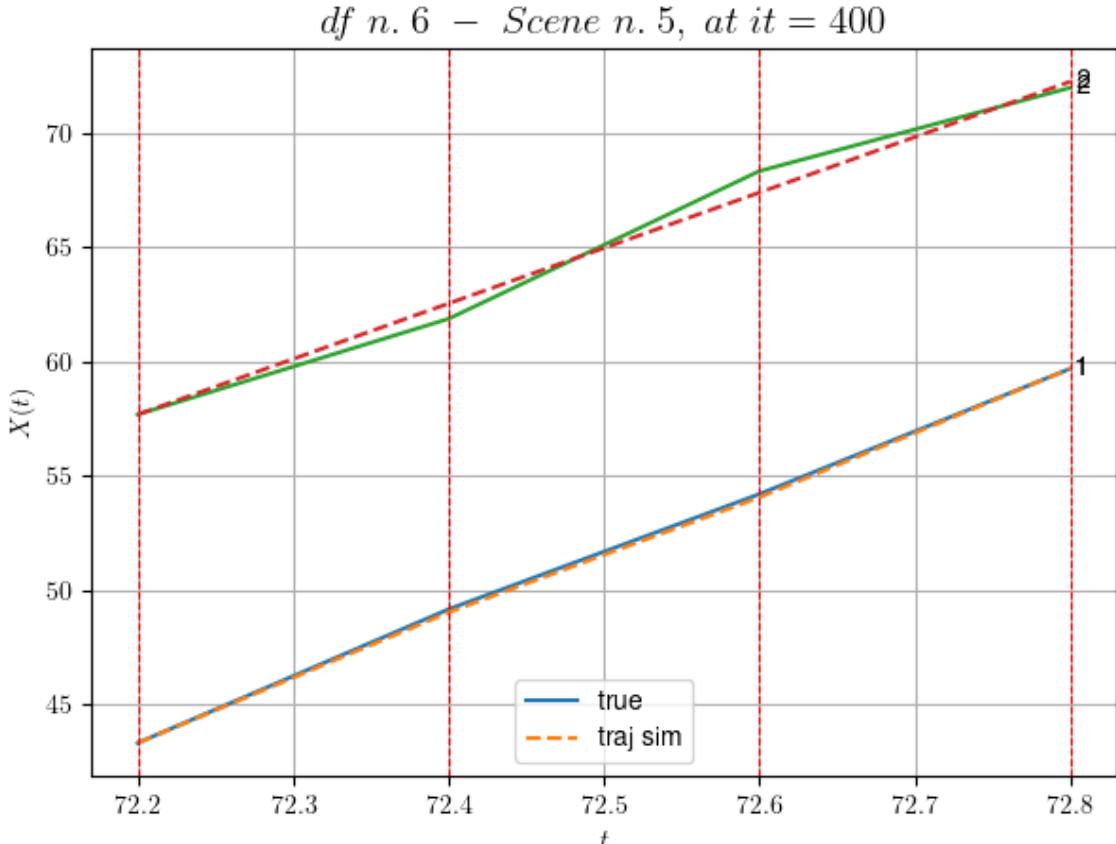
For scene 4/52

- * use LR_NN=5e-05 with err=0.9341536794623815 at it=24
 - * v0_scn_mean = 29.948171618149665
 - * MAE = 0.9331374226900235
-
-

df n.6, scene n.5/52

We have 3 time intervals inside [72.20, 72.80]

- * err= 0.18050005246822554
- * Learning rate NN = 6.560998735949397e-05
- * diff = 1.4889518182292782e-07



For scene 5/52

```
* use LR_NN=0.0001 with err=2.3574297453150543 at it=24
* v0_scn_mean = 24.565450977844776
* MAE = 0.17941770028295667
```

df n.6, scene n.6/52

We have 7 time intervals inside [73.80, 75.20]

- Time interval n.0: [73.80, 74.00]
 - * y_true: [20.58483588]
 - * v_ann: [20.25115966796875, 22.20554837243085]

- Time interval n.1: [74.00, 74.20]
 - * y_true: [12.25168131]
 - * v_ann: [20.098899841308594, 22.20554837243085]

- Time interval n.2: [74.20, 74.40]
 - * y_true: [25.70645636]
 - * v_ann: [18.742944717407227, 22.20554837243085]

- Time interval n.3: [74.40, 74.60]
 - * y_true: [26.87686349]

```
* v_ann: [20.576967239379883, 22.20554837243085]
```

```
- Time interval n.4: [74.60, 74.80]
```

```
* y_true: [24.24024871]
```

```
* v_ann: [22.48966407775879, 22.20554837243085]
```

```
- Time interval n.5: [74.80, 75.00]
```

```
* y_true: [20.28532654]
```

```
* v_ann: [23.769834518432617, 22.20554837243085]
```

```
- Time interval n.6: [75.00, 75.20]
```

```
* y_true: [20.28532654]
```

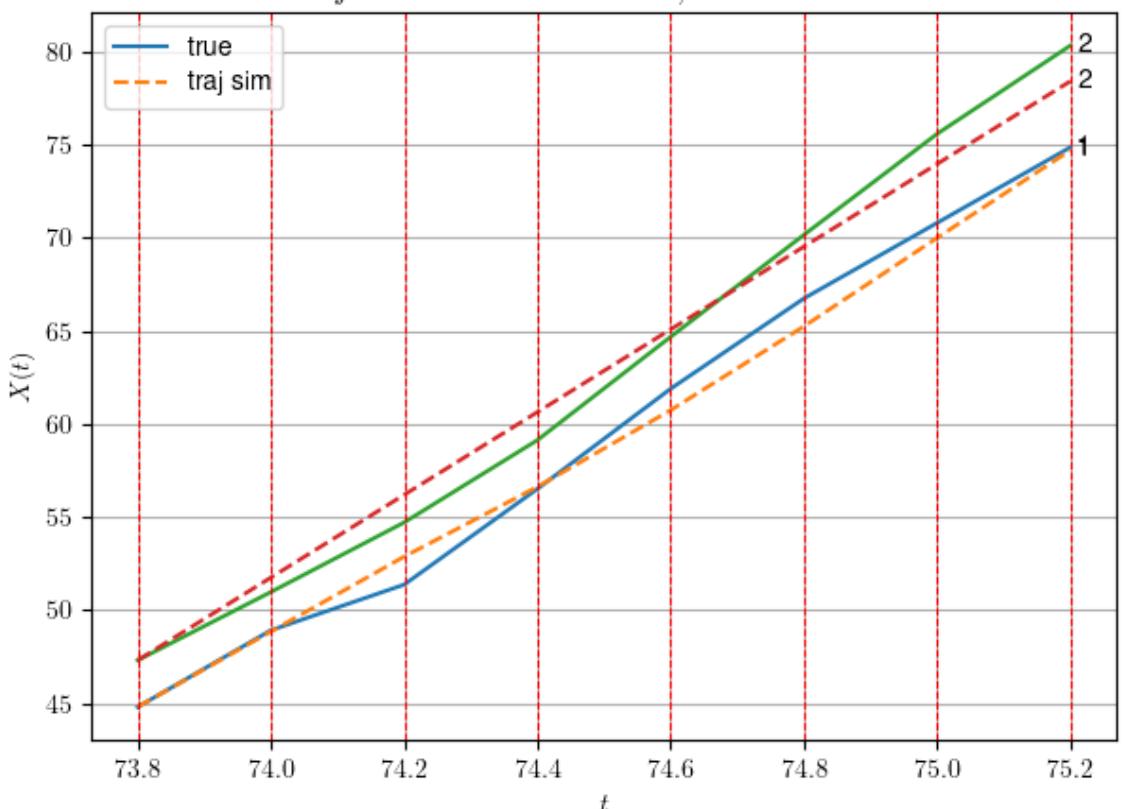
```
* v_ann: [23.508705139160156, 22.20554837243085]
```

```
* err= 1.1511395514906844
```

```
* Learning rate NN = 0.0012709323782473803
```

```
* diff = 0.024664406877837664
```

df n. 6 – Scene n. 6, at it = 500



For scene 6/52

```
* use LR_NN=0.005 with err=20.409174094084676 at it=24
```

```
* v0_scn_mean = 22.51732643747375
```

```
* MAE = 1.1511395514906844
```

```
df n.6, scene n.7/52
```

We have 4 time intervals inside [86.60, 87.40]

- Time interval n.0: [86.60, 86.80]
 - * y_true: [8.95018469]
 - * v_ann: [10.052814483642578, 28.176915163685493]

-
- Time interval n.1: [86.80, 87.00]

- * y_true: [11.65030459]
 - * v_ann: [9.929855346679688, 28.176915163685493]

-
- Time interval n.2: [87.00, 87.20]

- * y_true: [11.65030459]
 - * v_ann: [10.23572063446045, 28.176915163685493]

-
- Time interval n.3: [87.20, 87.40]

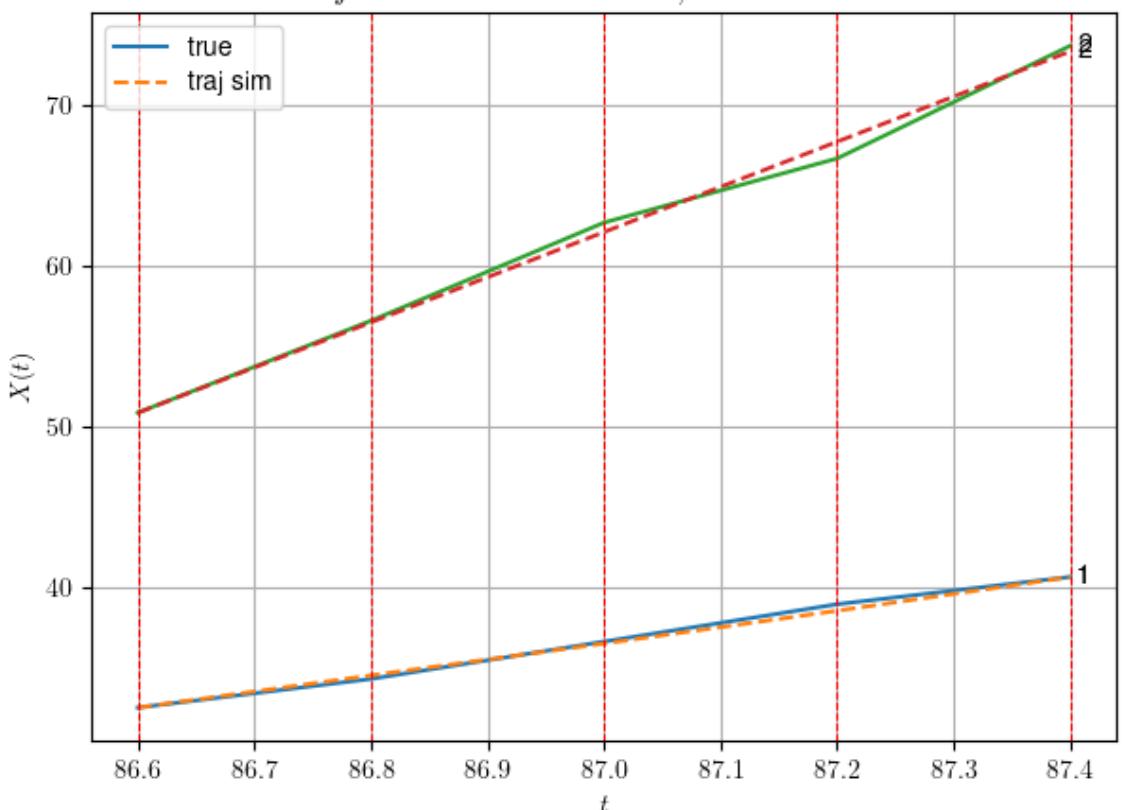
- * y_true: [8.51695204]
 - * v_ann: [10.507648468017578, 28.176915163685493]

* err= 0.18031221448246088

* Learning rate NN = 2.3914839403005317e-05

* diff = 6.781745990333543e-05

df n. 6 – Scene n. 7, at it = 500



For scene 7/52

```
* use LR_NN=5e-05 with err=0.7549753589753136 at it=24
* v0_scn_mean = 28.249838557124924
* MAE = 0.18031221448246088
```

```
=====
```

df n.6, scene n.8/52

```
=====
```

```
We have 7 time intervals inside [99.40,100.80]
- Time interval n.0: [99.40, 99.60]
  * y_true: [26.75071408]
  * v_ann: [27.275083541870117, 20.172301927390844]
```

```
-----
```

```
- Time interval n.1: [99.60, 99.80]
  * y_true: [25.15087073]
  * v_ann: [25.167638778686523, 20.172301927390844]
```

```
-----
```

```
- Time interval n.2: [99.80, 100.00]
  * y_true: [14.1505841]
  * v_ann: [23.576065063476562, 20.172301927390844]
```

```
-----
```

```
- Time interval n.3: [100.00, 100.20]
  * y_true: [30.25150056]
  * v_ann: [23.356611251831055, 20.172301927390844]
```

```
-----
```

```
- Time interval n.4: [100.20, 100.40]
  * y_true: [23.55142746]
  * v_ann: [22.377758026123047, 20.172301927390844]
```

```
-----
```

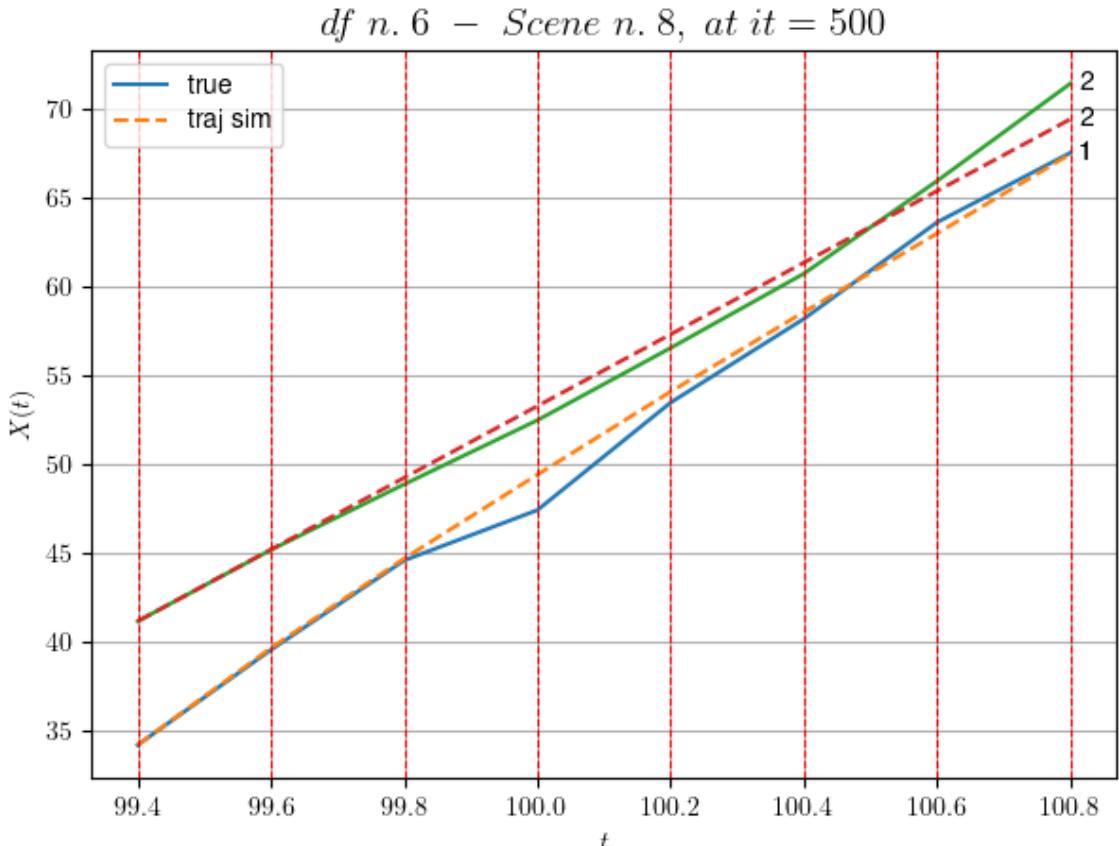
```
- Time interval n.5: [100.40, 100.60]
  * y_true: [27.15195588]
  * v_ann: [22.135414123535156, 20.172301927390844]
```

```
-----
```

```
- Time interval n.6: [100.60, 100.80]
  * y_true: [19.55162977]
  * v_ann: [22.29905891418457, 20.172301927390844]
```

```
-----
```

```
* err= 0.6862840026227174
* Learning rate NN = 0.00025418648147024214
* diff = 0.0043884585252941255
```



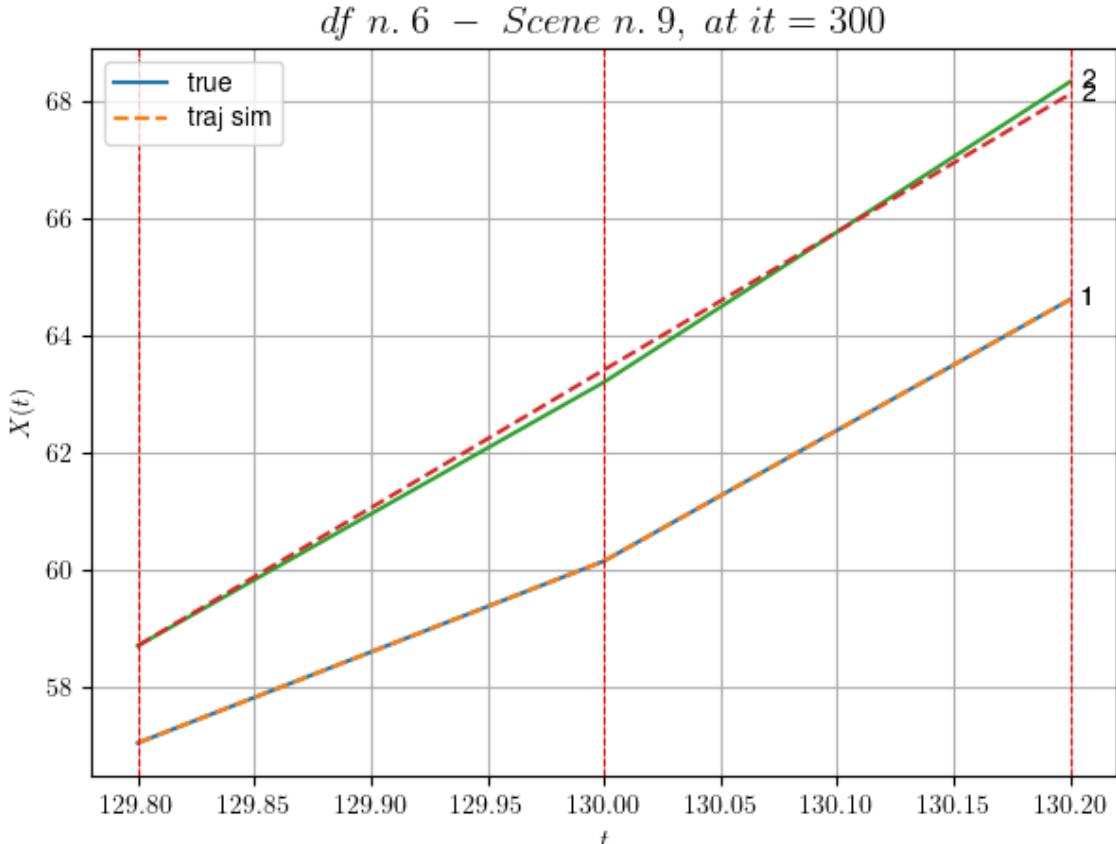
For scene 8/52

- * use LR_NN=0.001 with err=33.940468665544955 at it=24
- * v0_scn_mean = 20.56540985022011
- * MAE = 0.6822392934451851

df n.6, scene n.9/52

We have 2 time intervals inside [129.80,130.20]

- * err= 0.014705006576337882
- * Learning rate NN = 0.008099999278783798
- * diff = 2.220536608615875e-07



For scene 9/52

- * use LR_NN=0.01 with err=1.2916804581734784 at it=24
- * v0_scn_mean = 24.02837731377122
- * MAE = 0.013235109409541798

df n.6, scene n.10/52

We have 8 time intervals inside [131.80, 133.40]

- Time interval n.0: [131.80, 132.00]
 - * y_true: [0.35723721]
 - * v_ann: [0.005408274009823799, 20.22300032377142]

- Time interval n.1: [132.00, 132.20]
 - * y_true: [0.35723721]
 - * v_ann: [0.0006872117519378662, 20.22300032377142]

- Time interval n.2: [132.20, 132.40]
 - * y_true: [0.35723721]
 - * v_ann: [7.307720079552382e-05, 20.22300032377142]

- Time interval n.3: [132.40, 132.60]
 - * y_true: [0.35723721]

```
* v_ann: [8.188232641259674e-06, 20.22300032377142]
```

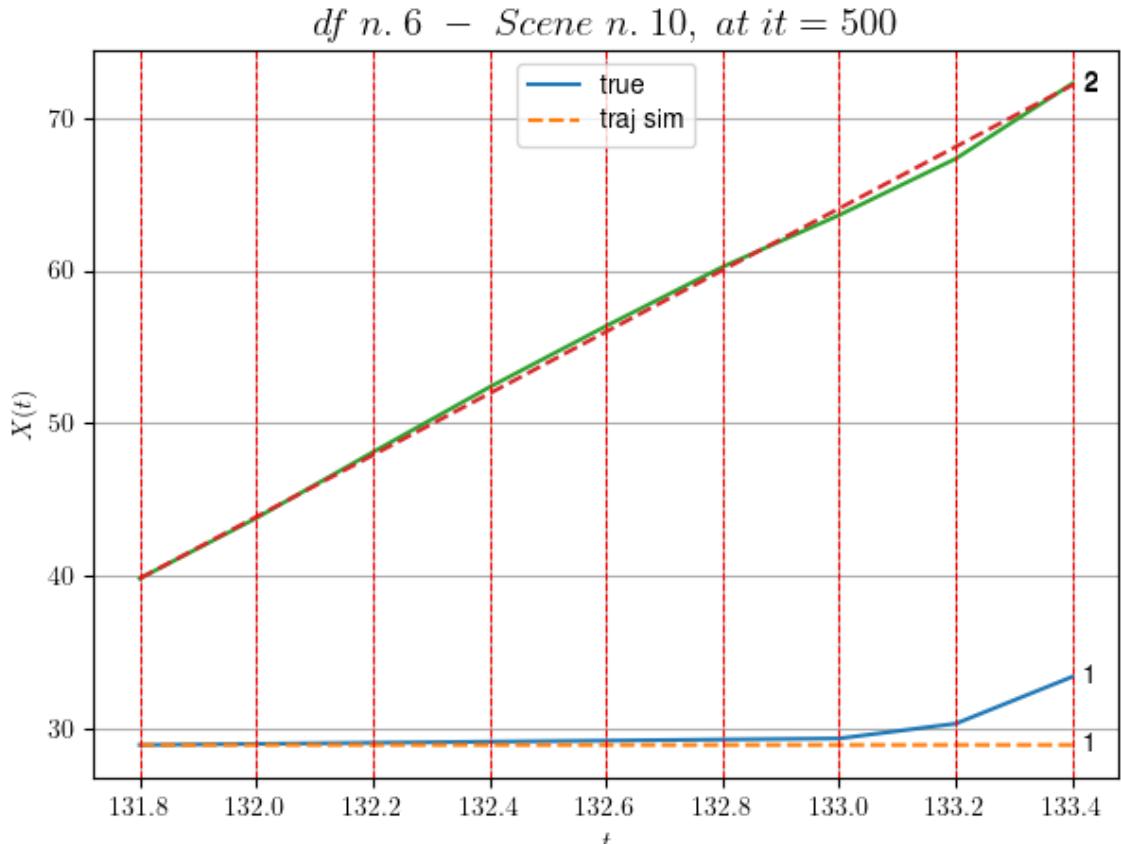
```
-----  
-----  
- Time interval n.4: [132.60, 132.80]  
* y_true: [0.35723721]  
* v_ann: [1.0649079058566713e-06, 20.2230003237714  
2]
```

```
-----  
-----  
- Time interval n.5: [132.80, 133.00]  
* y_true: [0.35723721]  
* v_ann: [1.4933600311906048e-07, 20.2230003237714  
2]
```

```
-----  
-----  
- Time interval n.6: [133.00, 133.20]  
* y_true: [4.8519049]  
* v_ann: [2.7151559223170807e-08, 20.2230003237714  
2]
```

```
-----  
-----  
- Time interval n.7: [133.20, 133.40]  
* y_true: [15.39029942]  
* v_ann: [6.723347212300723e-09, 20.22300032377142]
```

```
-----  
-----  
* err= 1.3144081245461166  
* Learning rate NN = 0.0020589104387909174  
* diff = 2.9613398427885684e-05
```



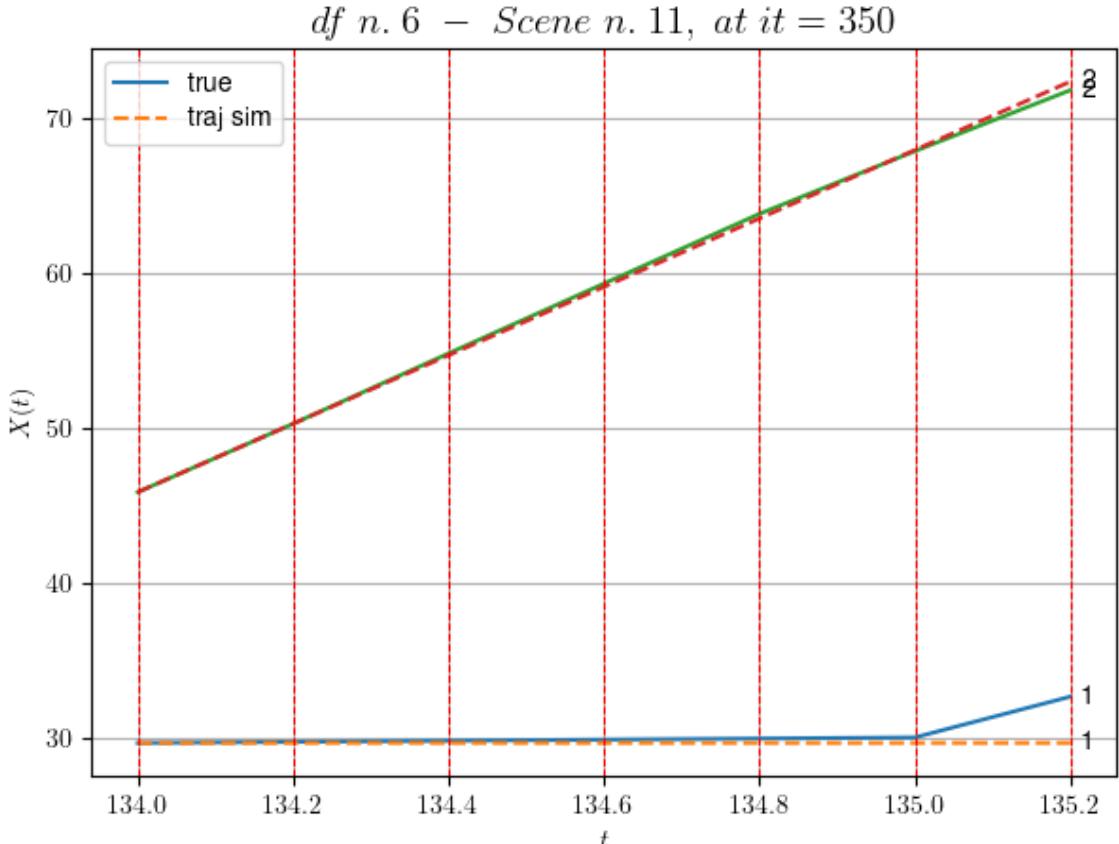
For scene 10/52

- * use LR_NN=0.01 with err=45.34027160097334 at it=24
 - * v0_scn_mean = 20.61408031074684
 - * MAE = 1.3144081245461166
-
-

df n.6, scene n.11/52

We have 6 time intervals inside [134.00,135.20]

- * err= 0.6913747881329309
- * Learning rate NN = 0.004304671194404364
- * diff = 5.488467949010811e-07



For scene 11/52

- * use LR_NN=0.01 with err=17.440551308576325 at it=24
- * v0_scn_mean = 22.516761909041765
- * MAE = 0.6913747881329309

df n.6, scene n.12/52

We have 10 time intervals inside [139.40, 141.40]

- Time interval n.0: [139.40, 139.60]
 - * y_true: [0.35723721]
 - * v_ann: [0.4582212269306183, 17.7770898385059]

- Time interval n.1: [139.60, 139.80]
 - * y_true: [0.35723721]
 - * v_ann: [0.16429579257965088, 17.7770898385059]

- Time interval n.2: [139.80, 140.00]
 - * y_true: [0.35723721]
 - * v_ann: [0.04152524471282959, 17.7770898385059]

- Time interval n.3: [140.00, 140.20]
 - * y_true: [0.35723721]

* v_ann: [0.004750323947519064, 17.7770898385059]

- Time interval n.4: [140.20, 140.40]
* y_true: [0.35723721]
* v_ann: [0.0007036264869384468, 17.7770898385059]

- Time interval n.5: [140.40, 140.60]
* y_true: [0.35723721]
* v_ann: [0.00020610961655620486, 17.7770898385059]

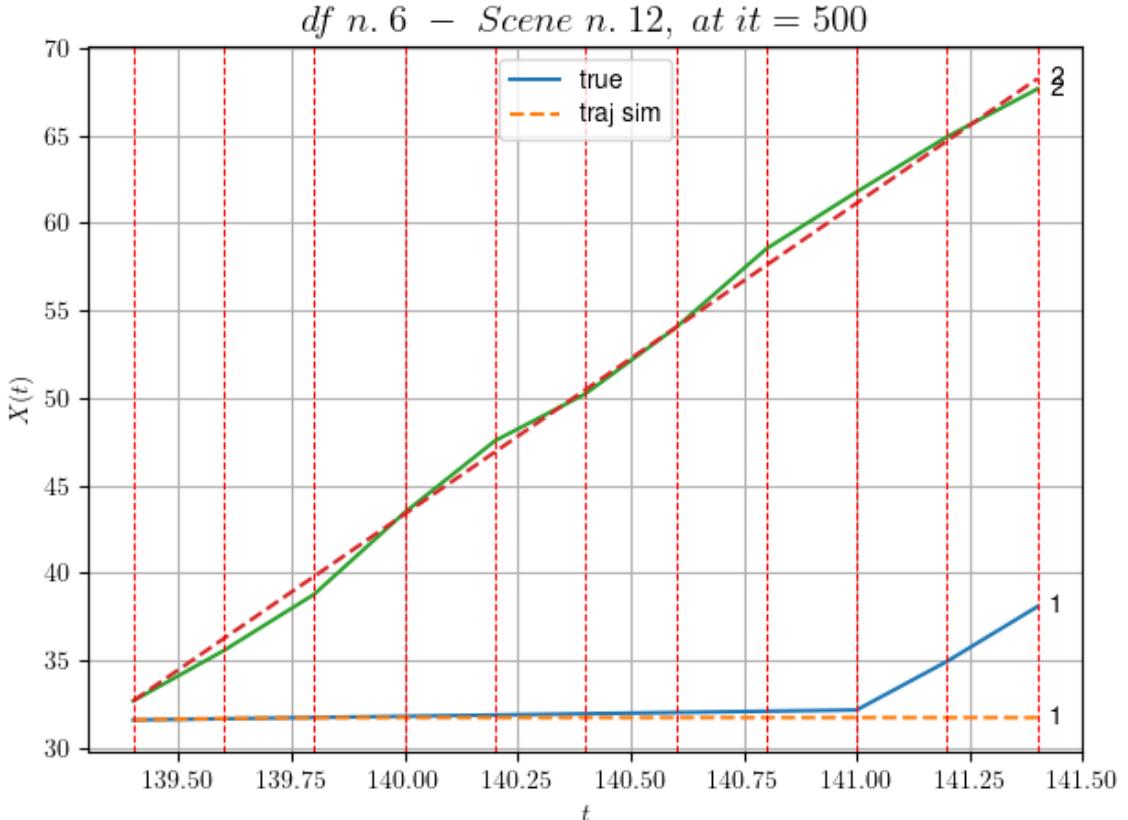
- Time interval n.6: [140.60, 140.80]
* y_true: [0.35723721]
* v_ann: [3.638857742771506e-05, 17.7770898385059]

- Time interval n.7: [140.80, 141.00]
* y_true: [0.35723721]
* v_ann: [4.682518010667991e-06, 17.7770898385059]

- Time interval n.8: [141.00, 141.20]
* y_true: [13.90289768]
* v_ann: [1.0812550499395002e-06, 17.7770898385059]

- Time interval n.9: [141.20, 141.40]
* y_true: [15.67039873]
* v_ann: [9.11986319351854e-07, 17.7770898385059]

* err= 2.49424854509017
* Learning rate NN = 0.00013508510892279446
* diff = 1.2389713113680756e-05



For scene 12/52

- * use LR_NN=0.001 with err=105.61149307310768 at it=24
- * v0_scn_mean = 18.266006244872337
- * MAE = 2.479579127416499

df n.6, scene n.13/52

We have 12 time intervals inside [147.60,150.00]

- Time interval n.0: [147.60, 147.80]
 - * y_true: [15.36027953]
 - * v_ann: [4.73081636428833, 11.914046199341456]

- Time interval n.1: [147.80, 148.00]
 - * y_true: [13.26997227]
 - * v_ann: [6.005699157714844, 11.914046199341456]

- Time interval n.2: [148.00, 148.20]
 - * y_true: [0.35723721]
 - * v_ann: [2.6551103591918945, 11.914046199341456]

- Time interval n.3: [148.20, 148.40]
 - * y_true: [0.35723721]
 - * v_ann: [5.702262878417969, 11.914046199341456]

```
- Time interval n.4: [148.40, 148.60]
* y_true: [0.35723721]
* v_ann: [4.54998254776001, 11.914046199341456]

- Time interval n.5: [148.60, 148.80]
* y_true: [0.35723721]
* v_ann: [4.1143107414245605, 11.914046199341456]

- Time interval n.6: [148.80, 149.00]
* y_true: [0.35723721]
* v_ann: [4.33933162689209, 11.914046199341456]

- Time interval n.7: [149.00, 149.20]
* y_true: [0.35723721]
* v_ann: [4.900347709655762, 11.914046199341456]

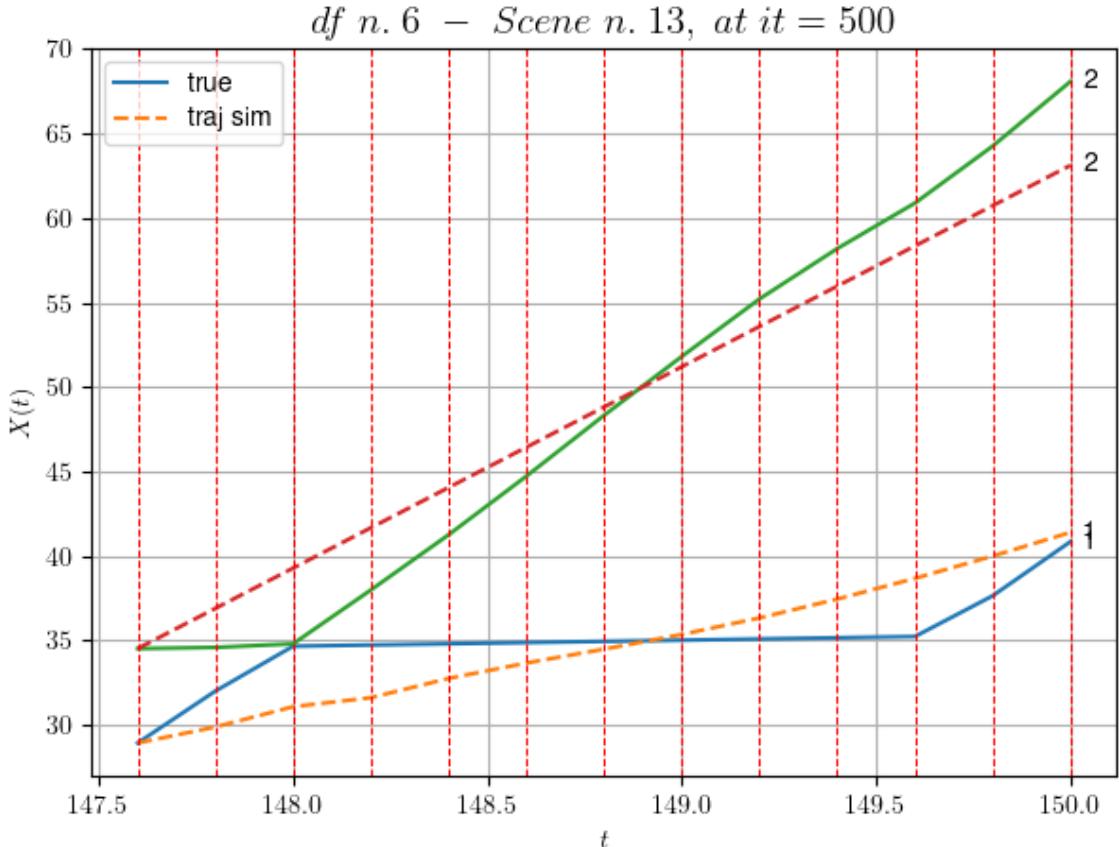
- Time interval n.8: [149.20, 149.40]
* y_true: [0.35723721]
* v_ann: [5.5637922286987305, 11.914046199341456]

- Time interval n.9: [149.40, 149.60]
* y_true: [0.35723721]
* v_ann: [6.134269714355469, 11.914046199341456]

- Time interval n.10: [149.60, 149.80]
* y_true: [12.05341143]
* v_ann: [6.599367141723633, 11.914046199341456]

- Time interval n.11: [149.80, 150.00]
* y_true: [16.0154952]
* v_ann: [6.997686862945557, 11.914046199341456]

* err= 6.110775989865292
* Learning rate NN = 4.431466732057743e-05
* diff = 0.010722502583877969
```



For scene 13/52

- * use LR_NN=0.0005 with err=302.836374556421 at it=24
- * v0_scn_mean = 12.637484351229718
- * MAE = 5.612879503156386

df n.6, scene n.14/52

We have 7 time intervals inside [162.20, 163.60]

- Time interval n.0: [162.20, 162.40]
 - * y_true: [0.35723721]
 - * v_ann: [0.35656240582466125, 21.059787487615633]

- Time interval n.1: [162.40, 162.60]
 - * y_true: [0.35723721]
 - * v_ann: [0.40401691198349, 21.059787487615633]

- Time interval n.2: [162.60, 162.80]
 - * y_true: [0.35723721]
 - * v_ann: [0.015549561008810997, 21.059787487615633]

- Time interval n.3: [162.80, 163.00]
 - * y_true: [0.35723721]

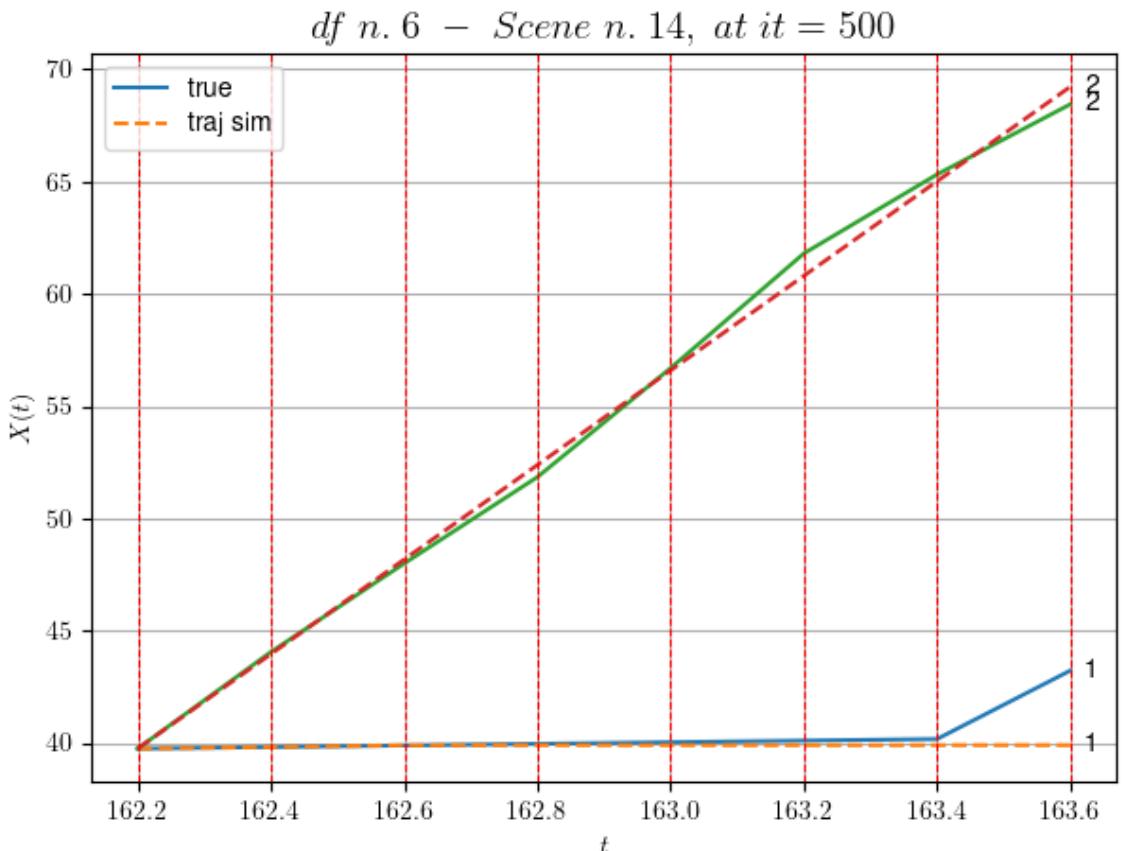
```
* v_ann: [0.0008379429928027093, 21.05978748761563
3]
```

```
- Time interval n.4: [163.00, 163.20]
* y_true: [0.35723721]
* v_ann: [2.73892619588878e-05, 21.05978748761563]
```

```
- Time interval n.5: [163.20, 163.40]
* y_true: [0.35723721]
* v_ann: [8.606897949903214e-07, 21.05978748761563
3]
```

```
- Time interval n.6: [163.40, 163.60]
* y_true: [15.24493239]
* v_ann: [8.252843741729521e-08, 21.05978748761563
3]
```

```
* err= 0.8257117004507492
* Learning rate NN = 0.0012709323782473803
* diff = 0.00017846617150640842
```



For scene 14/52

```
* use LR_NN=0.005 with err=28.87874332912771 at it=24
* v0_scn_mean = 21.4173959880427
* MAE = 0.820417132001118
```

```
=====
=====

df n.6, scene n.15/52
=====

We have 5 time intervals inside [195.80,196.80]
- Time interval n.0: [195.80, 196.00]
  * y_true: [8.32699474]
  * v_ann: [7.643576145172119, 21.237347440799663]

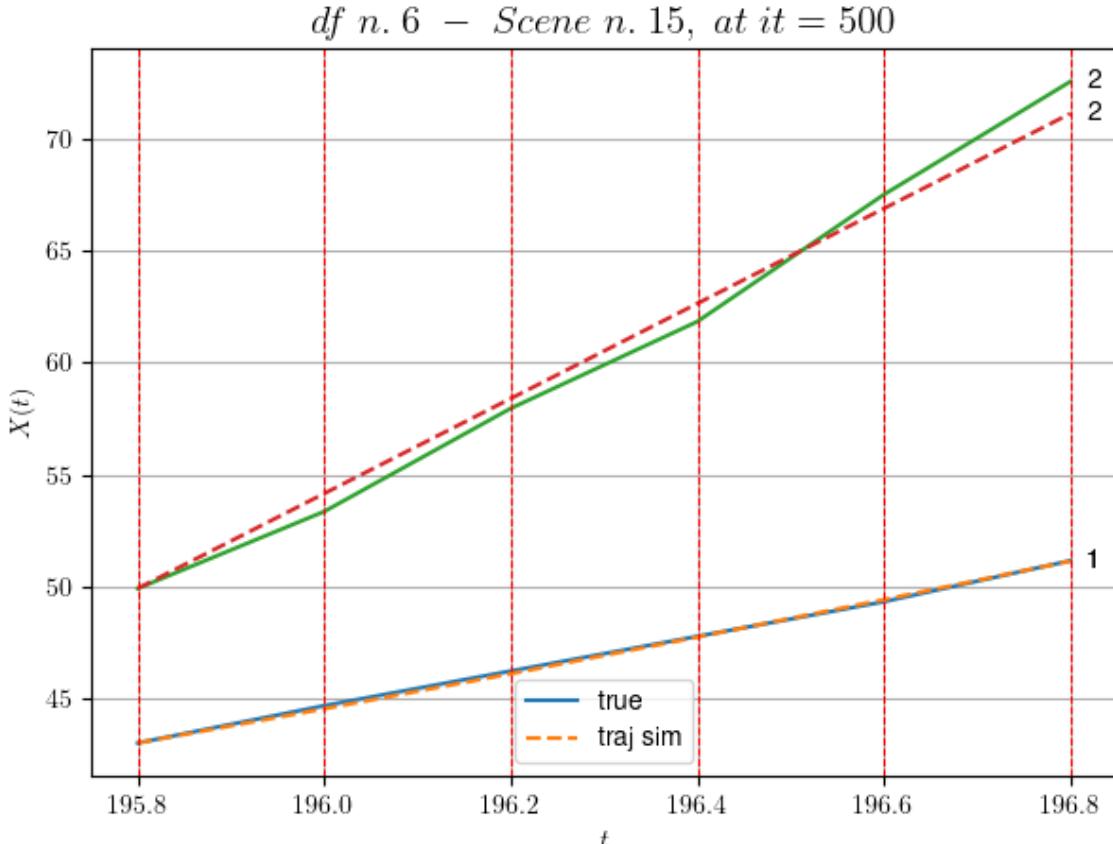
-----
- Time interval n.1: [196.00, 196.20]
  * y_true: [7.75032617]
  * v_ann: [7.823048114776611, 21.237347440799663]

-----
- Time interval n.2: [196.20, 196.40]
  * y_true: [7.75032617]
  * v_ann: [8.193531036376953, 21.237347440799663]

-----
- Time interval n.3: [196.40, 196.60]
  * y_true: [7.75032617]
  * v_ann: [8.364157676696777, 21.237347440799663]

-----
- Time interval n.4: [196.60, 196.80]
  * y_true: [9.17718592]
  * v_ann: [8.63809871673584, 21.237347440799663]

-----
* err= 0.3310057685837587
* Learning rate NN = 0.0003874204121530056
* diff = 0.0013818576229564505
```



For scene 15/52

- * use LR_NN=0.001 with err=13.125806406281104 at it=24
- * v0_scn_mean = 21.587853543101055
- * MAE = 0.3310057685837587

df n.6, scene n.16/52

We have 9 time intervals inside [204.40, 206.20]

- Time interval n.0: [204.40, 204.60]
 - * y_true: [8.31429106]
 - * v_ann: [9.200082778930664, 16.186070594949047]

- Time interval n.1: [204.60, 204.80]
 - * y_true: [3.70012482]
 - * v_ann: [8.849055290222168, 16.186070594949047]

- Time interval n.2: [204.80, 205.00]
 - * y_true: [10.45040224]
 - * v_ann: [10.566122055053711, 16.186070594949047]

- Time interval n.3: [205.00, 205.20]
 - * y_true: [10.45040224]

```
* v_ann: [11.45632266998291, 16.186070594949047]
```

```
- Time interval n.4: [205.20, 205.40]
* y_true: [9.60043819]
* v_ann: [13.640135765075684, 16.186070594949047]
```

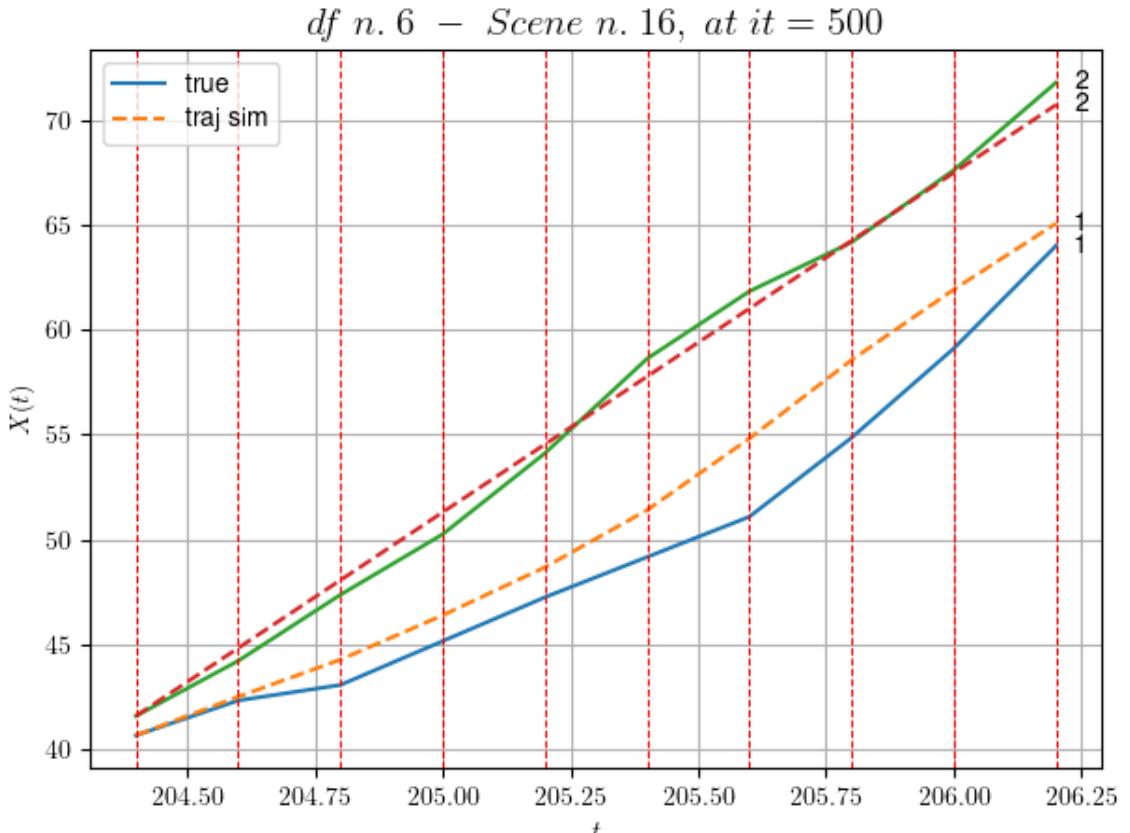
```
- Time interval n.5: [205.40, 205.60]
* y_true: [9.60043819]
* v_ann: [17.042497634887695, 16.186070594949047]
```

```
- Time interval n.6: [205.60, 205.80]
* y_true: [18.85713018]
* v_ann: [18.732803344726562, 16.186070594949047]
```

```
- Time interval n.7: [205.80, 206.00]
* y_true: [21.27628484]
* v_ann: [16.801362991333008, 16.186070594949047]
```

```
- Time interval n.8: [206.00, 206.20]
* y_true: [24.47691723]
* v_ann: [15.743624687194824, 16.186070594949047]
```

```
* err= 2.567945286809377
* Learning rate NN = 8.338586667377967e-06
* diff = 0.06063854876301411
```



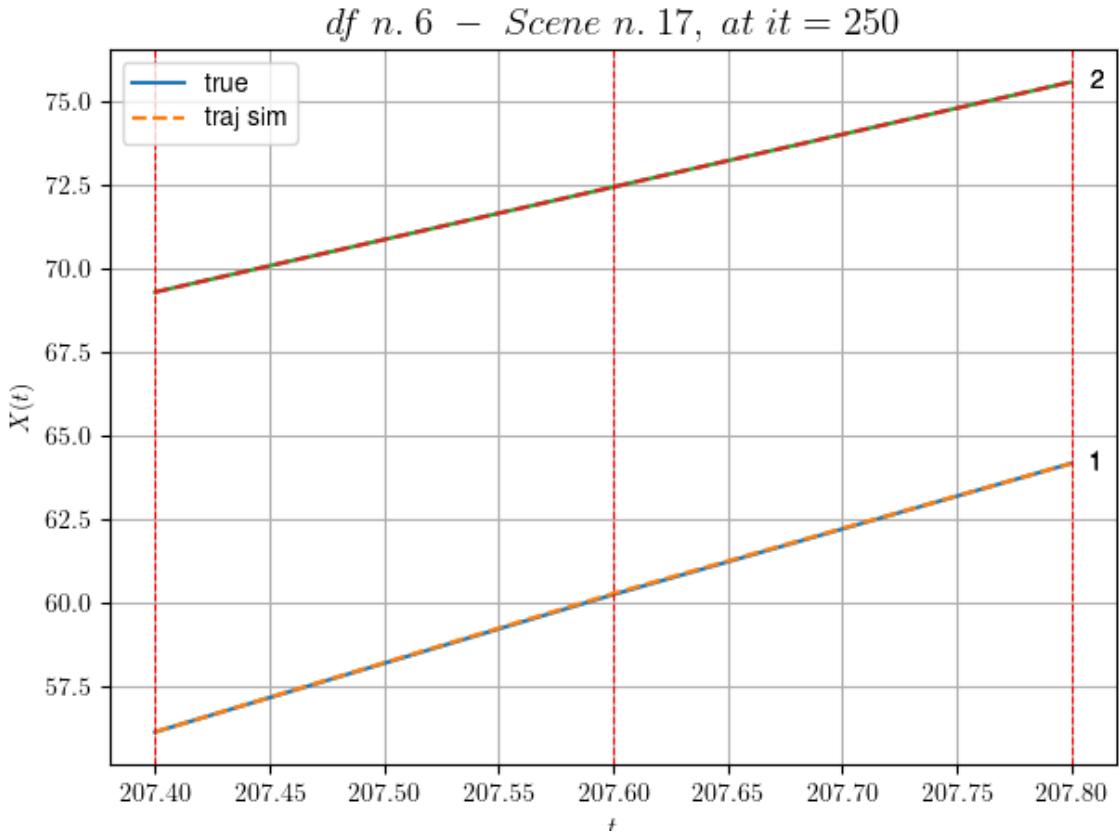
For scene 16/52

- * use LR_NN=5e-05 with err=106.10630691754542 at it=24
- * v0_scn_mean = 16.73862777104503
- * MAE = 2.567945286809377

df n.6, scene n.17/52

We have 2 time intervals inside [207.40,207.80]

- * err= 0.00017262976071473596
- * Learning rate NN = 8.999999408842996e-05
- * diff = 1.6375269239877034e-07



For scene 17/52

- * use LR_NN=0.0001 with err=6.839236274713604 at it=24
- * v0_scn_mean = 16.822430660965267
- * MAE = 0.00017262945555161365

df n.6, scene n.18/52

We have 3 time intervals inside [228.80, 229.40]

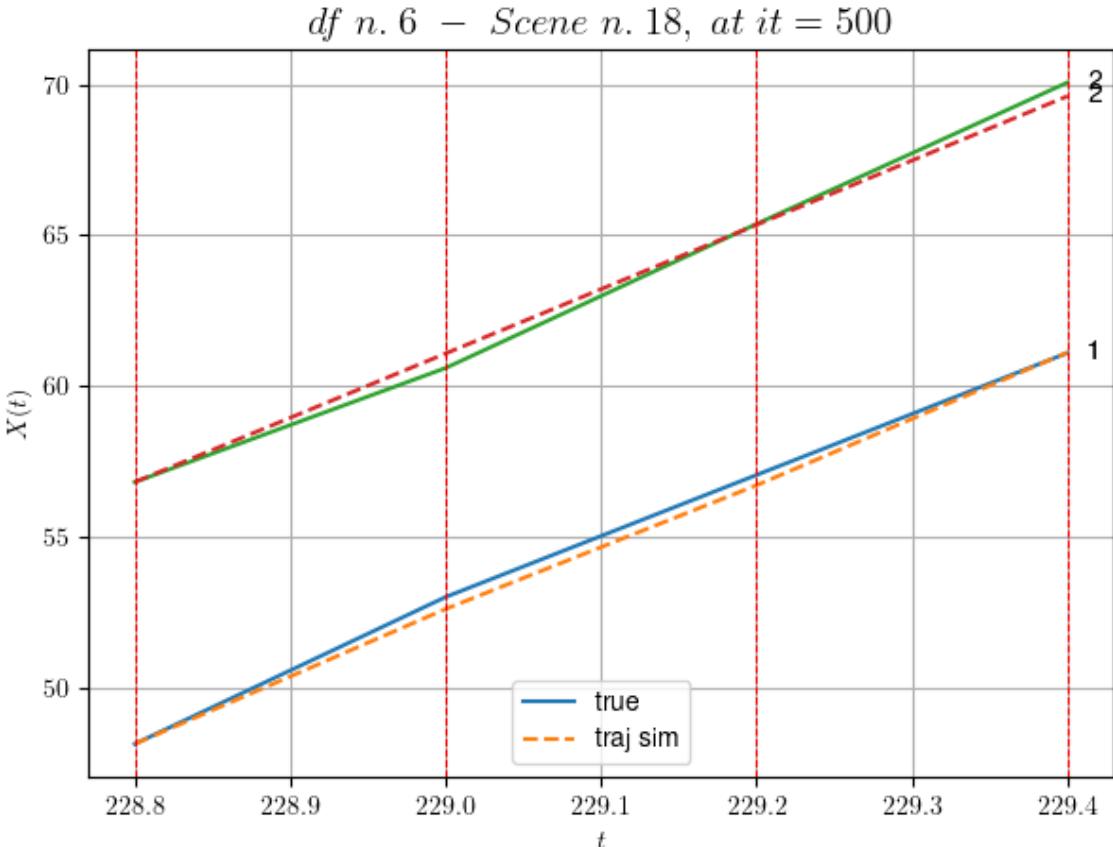
- Time interval n.0: [228.80, 229.00]
 - * y_true: [24.35108467]
 - * v_ann: [22.365135192871094, 21.31990483401044]

- Time interval n.1: [229.00, 229.20]
 - * y_true: [20.22626331]
 - * v_ann: [20.50601577758789, 21.31990483401044]

- Time interval n.2: [229.20, 229.40]
 - * y_true: [20.22626331]
 - * v_ann: [22.017406463623047, 21.31990483401044]

- * err= 0.089082888791585
- * Learning rate NN = 0.0002952449722215533

* diff = 4 80898478052022e-05



For scene 18/52

* use LR_NN=0.0005 with err=4.966293430398694 at it=24
 * v0_scn_mean = 21.667108640583685
 * MAE = 0.08840299915486567

df n.6, scene n.19/52

We have 4 time intervals inside [231.20, 232.00]

- Time interval n.0: [231.20, 231.40]
 - * y_true: [12.00056725]
 - * v_ann: [13.37717342376709, 21.155377510208684]

- Time interval n.1: [231.40, 231.60]
 - * y_true: [15.22086391]
 - * v_ann: [13.262866973876953, 21.155377510208684]

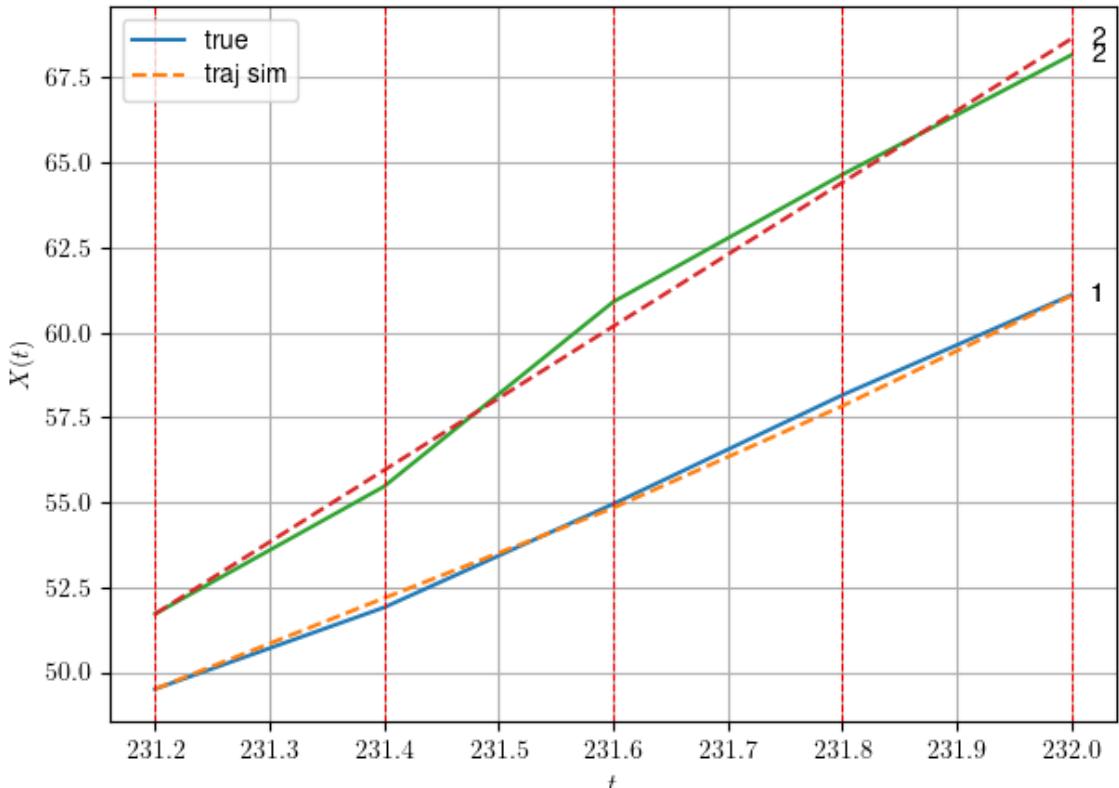
- Time interval n.2: [231.60, 231.80]
 - * y_true: [16.02593808]
 - * v_ann: [14.998771667480469, 21.155377510208684]

- Time interval n.3: [231.80, 232.00]

```
* y_true: [14.7260182]
* v_ann: [16.21106719970703, 21.155377510208684]
```

```
* err= 0.12249400906561694
* Learning rate NN = 0.002391484100371599
* diff = 0.0001514337838966484
```

df n. 6 – Scene n. 19, at it = 500



For scene 19/52

```
* use LR_NN=0.005 with err=9.747198213812377 at it=24
* v0_scn_mean = 21.509162409732674
* MAE = 0.12223734090367158
```

df n.6, scene n.20/52

We have 3 time intervals inside [234.00, 234.60]

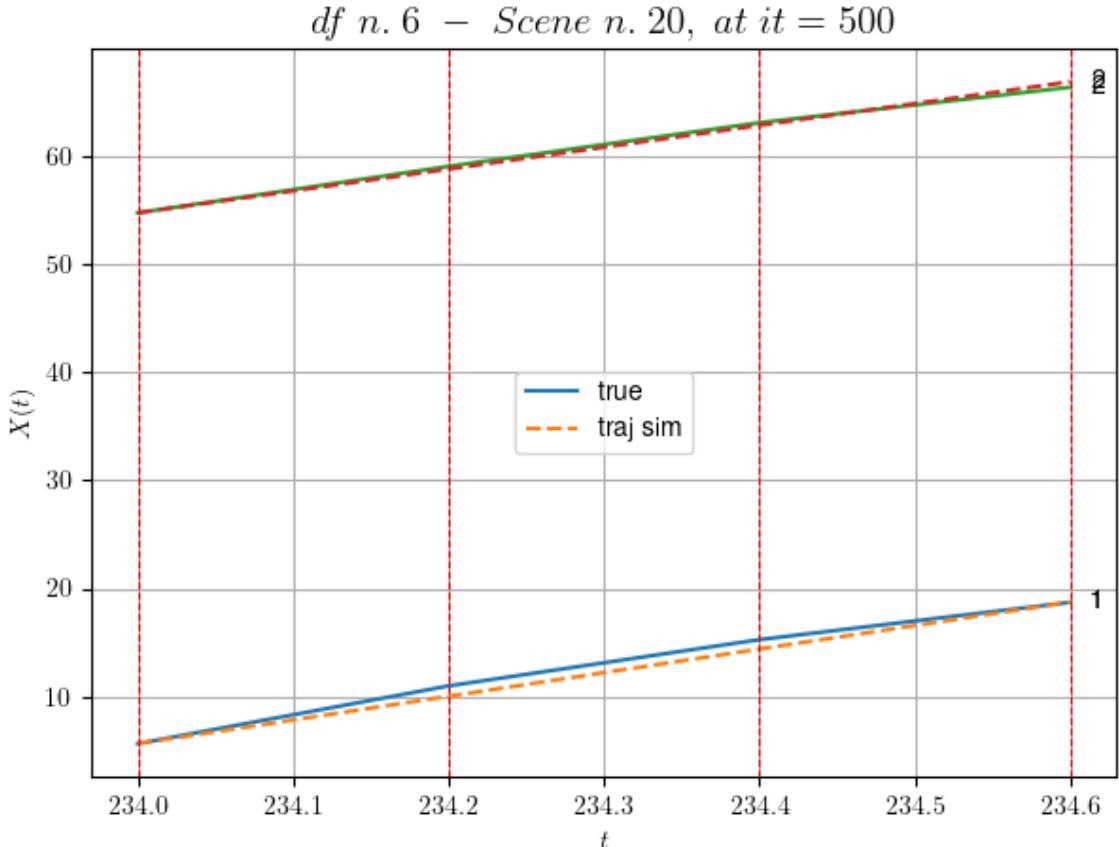
- Time interval n.0: [234.00, 234.20]
 - * y_true: [26.69004353]
 - * v_ann: [21.902551651000977, 20.2013668572743]

- Time interval n.1: [234.20, 234.40]
 - * y_true: [21.39007586]
 - * v_ann: [21.82402801513672, 20.2013668572743]

- Time interval n.2: [234.40, 234.60]

```
* y_true: [17.25009918]
* v_ann: [21.7215576171875, 20.2013668572743]
```

```
* err= 0.2589768474640421
* Learning rate NN = 5.9048988987342454e-06
* diff = 1.4948971177153325e-05
```



For scene 20/52

```
* use LR_NN=1e-05 with err=7.379979032648584 at it=24
* v0_scn_mean = 20.59331218290827
* MAE = 0.25772825959469525
```

df n.6, scene n.21/52

We have 4 time intervals inside [236.20, 237.00]

- Time interval n.0: [236.20, 236.40]
 - * y_true: [16.87565247]
 - * v_ann: [20.70734214782715, 17.634130974588274]

- Time interval n.1: [236.40, 236.60]

- * y_true: [19.47601633]
 - * v_ann: [20.47900390625, 17.634130974588274]

```

-----  

- Time interval n.2: [236.60, 236.80]  

* y_true: [19.47601633]  

* v_ann: [19.98577880859375, 17.634130974588274]
-----
```

```

-----  

- Time interval n.3: [236.80, 237.00]  

* y_true: [25.80185537]  

* v_ann: [20.179397583007812, 17.634130974588274]
-----
```

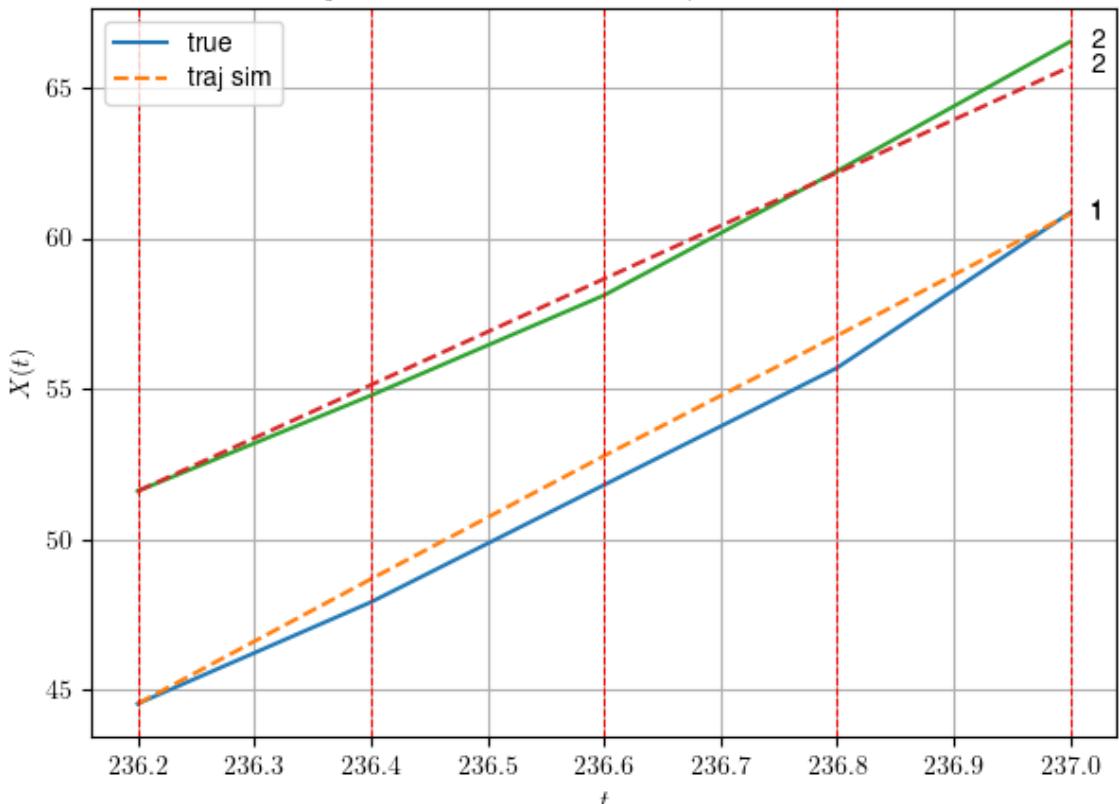
```

* err= 0.3785441561641756  

* Learning rate NN = 2.3914839403005317e-05  

* diff = 0.07302000266048222e-05
```

df n. 6 – Scene n. 21, at it = 500



For scene 21/52

```

* use LR_NN=5e-05 with err=17.63944948590783 at it=24
* v0_scn_mean = 18.128765735510278
* MAE = 0.36821738436751794
=====
```

df n.6, scene n.22/52

```

=====
We have 3 time intervals inside [252.60,253.20]
- Time interval n.0: [252.60, 252.80]
* y_true: [15.85040733]
* v_ann: [14.26993179321289, 24.514205448075334]
```

```

-----  

    - Time interval n.1: [252.80, 253.00]  

      * y_true: [14.75042477]  

      * v_ann: [14.557801246643066, 24.514205448075334]
-----
```

```

-----  

    - Time interval n.2: [253.00, 253.20]  

      * y_true: [13.10045093]  

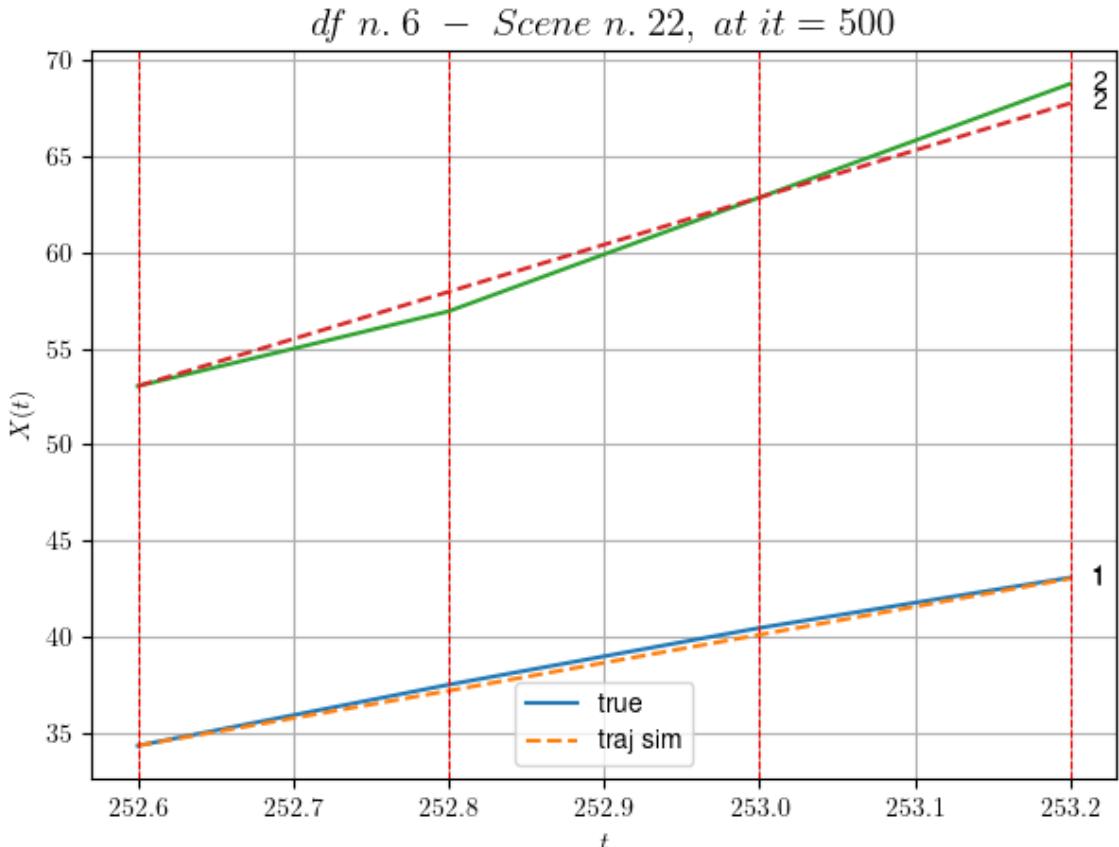
      * v_ann: [14.610590934753418, 24.514205448075334]
-----
```

```

* err= 0.28490081975922016  

* Learning rate NN = 5.904899080633186e-05  

* diff = 0.00020202021027172225
```



For scene 22/52

```

* use LR_NN=0.0001 with err=1.908839732100094 at it=24
* v0_scn_mean = 24.733637230110197
* MAE = 0.2570912540647428
=====
```

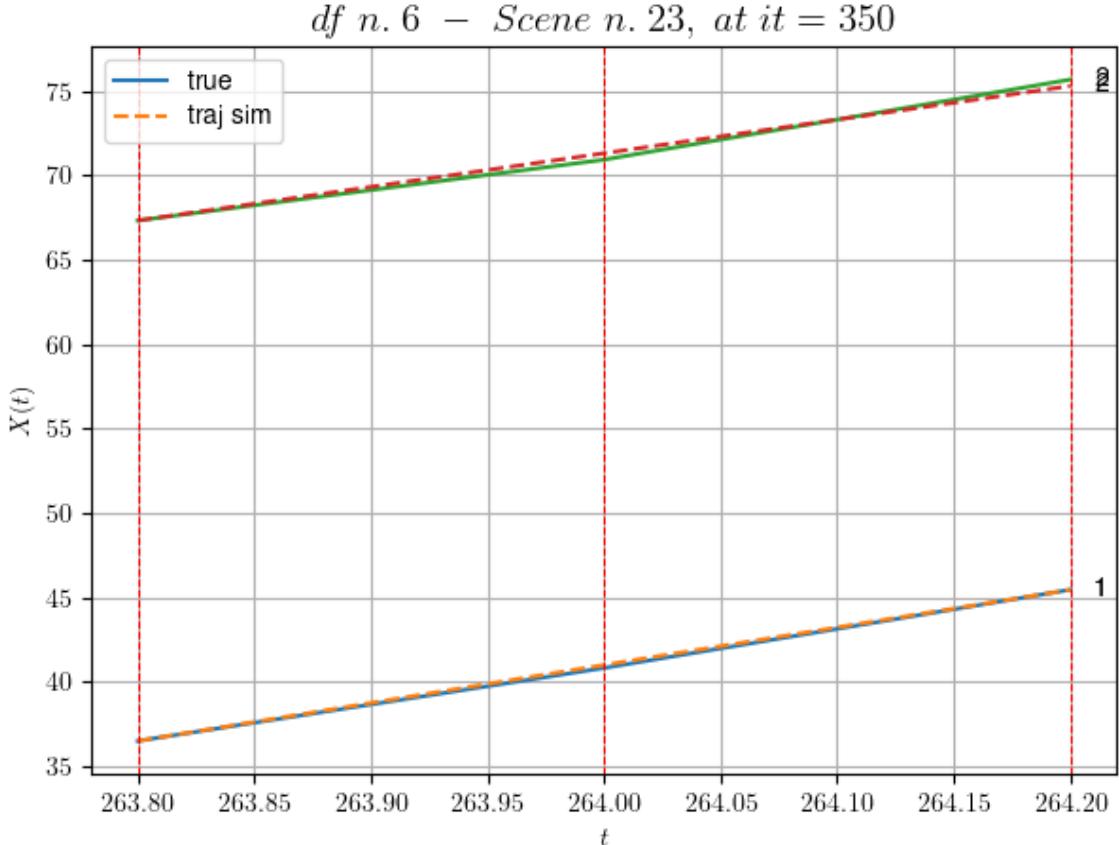
df n.6, scene n.23/52

```

=====
=====
```

```

We have 2 time intervals inside [263.80,264.20]
* err= 0.053855106722762155
* Learning rate NN = 8.099998922261875e-06
* diff = 1.9650838942175675e-08
=====
```



For scene 23/52

- * use LR_NN=1e-05 with err=3.176809434089325 at it=24
- * v0_scn_mean = 20.513559819023907
- * MAE = 0.049102968038827785

df n.6, scene n.24/52

We have 6 time intervals inside [286.80, 288.00]

- Time interval n.0: [286.80, 287.00]
 - * y_true: [22.82063727]
 - * v_ann: [22.168216705322266, 26.634646976102104]

- Time interval n.1: [287.00, 287.20]
 - * y_true: [25.60093433]
 - * v_ann: [25.713611602783203, 26.634646976102104]

- Time interval n.2: [287.20, 287.40]
 - * y_true: [24.85112481]
 - * v_ann: [24.814228057861328, 26.634646976102104]

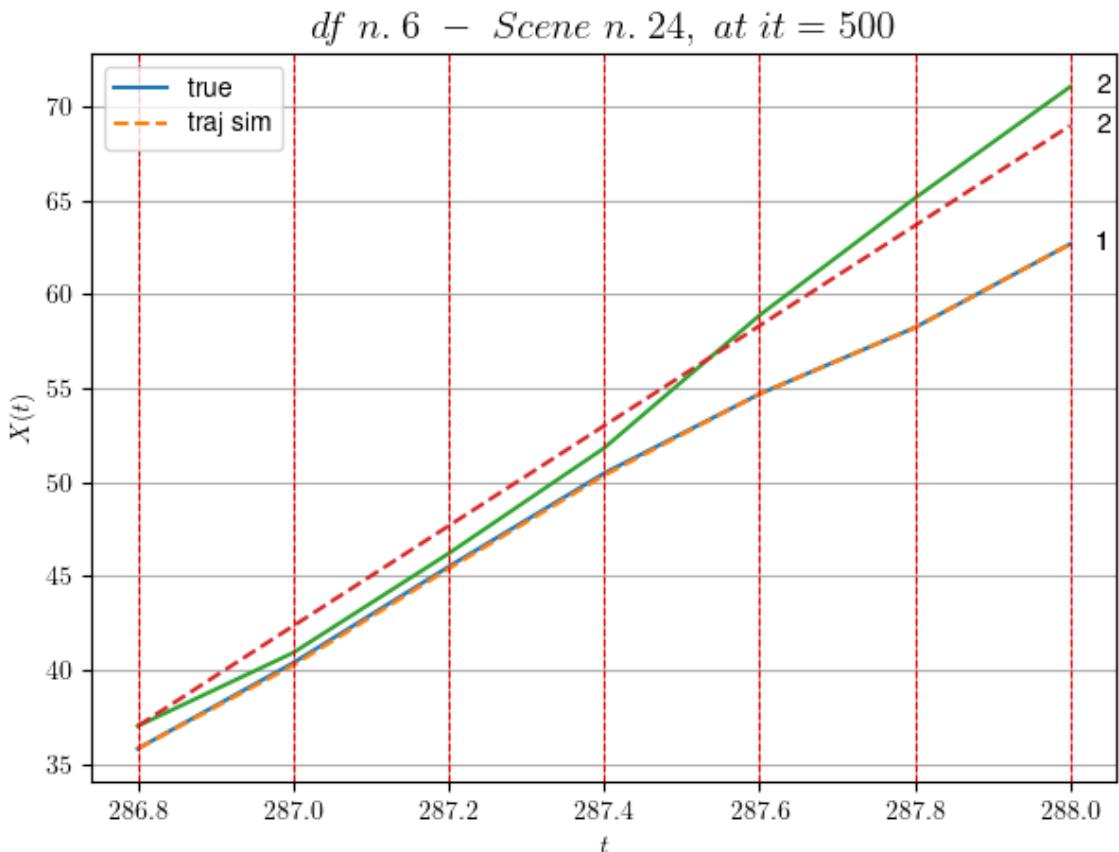
- Time interval n.3: [287.40, 287.60]
 - * y_true: [21.10615876]

```
* v_ann: [21.69281005859375, 26.634646976102104]
```

```
- Time interval n.4: [287.60, 287.80]
* y_true: [17.67608151]
* v_ann: [17.656963348388672, 26.634646976102104]
```

```
- Time interval n.5: [287.80, 288.00]
* y_true: [22.23666518]
* v_ann: [22.24270248413086, 26.634646976102104]
```

```
* err= 0.8822691435907837
* Learning rate NN = 0.0015690524596720934
* diff = 0.00010436646884759426
```



For scene 24/52

```
* use LR_NN=0.005 with err=2.4866731410543763 at it=24
* v0_scn_mean = 26.76926109703302
* MAE = 0.7940924944770835
```

df n.6, scene n.25/52

We have 2 time intervals inside [296.40, 296.80]
- Time interval n.0: [296.40, 296.60]

```
* y_true: [22.17130127]
* v_ann: [27.154253005981445, 12.399412488572287]
```

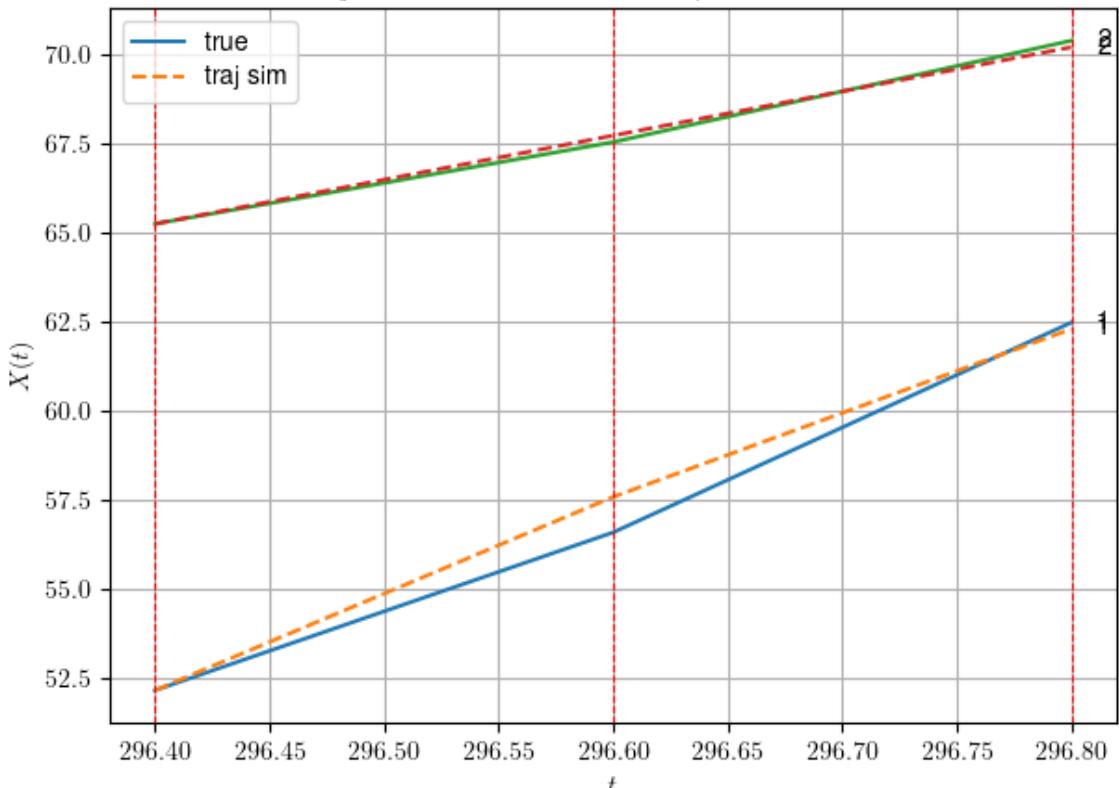
```
- Time interval n.1: [296.60, 296.80]
```

```
* y_true: [29.46198743]
```

```
* v_ann: [23.56917381286621, 12.399412488572287]
```

```
* err= 0.18242088708349935
* Learning rate NN = 3.6449993785936385e-05
* diff = 0.00020725442673763528
```

df n. 6 – Scene n. 25, at it = 500



For scene 25/52

```
* use LR_NN=5e-05 with err=10.326210229905206 at it=24
```

```
* v0_scn_mean = 13.10343598889492
```

```
* MAE = 0.18207385293496192
```

df n.6, scene n.26/52

We have 5 time intervals inside [320.20,321.20]

```
- Time interval n.0: [320.20, 320.40]
```

```
* y_true: [22.07575568]
```

```
* v_ann: [22.578702926635742, 27.667143511899713]
```

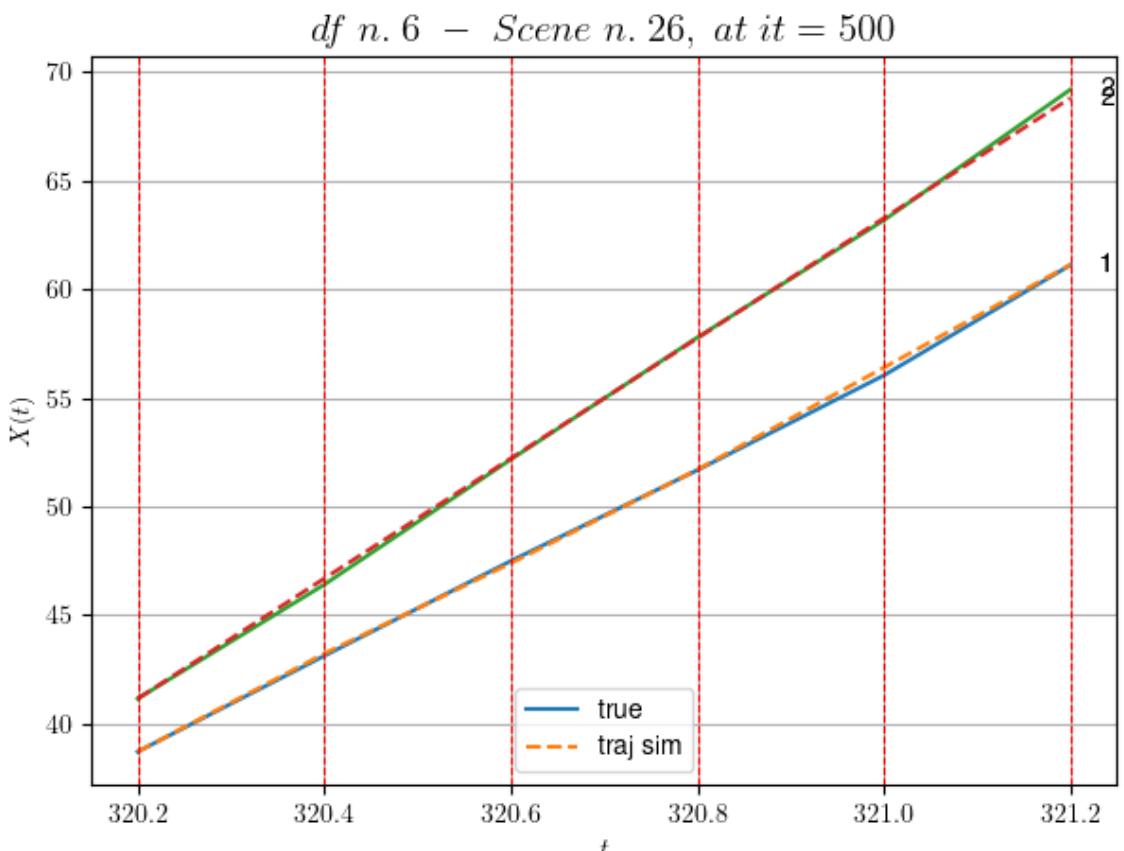
```
- Time interval n.1: [320.40, 320.60]
* y_true: [21.84581177]
* v_ann: [20.825960159301758, 27.667143511899713]
```

```
- Time interval n.2: [320.60, 320.80]
* y_true: [20.9260361]
* v_ann: [21.549474716186523, 27.667143511899713]
```

```
- Time interval n.3: [320.80, 321.00]
* y_true: [21.82118046]
* v_ann: [23.507213592529297, 27.667143511899713]
```

```
- Time interval n.4: [321.00, 321.20]
* y_true: [25.40175794]
* v_ann: [23.726484298706055, 27.667143511899713]
```

```
* err= 0.03292068153526076
* Learning rate NN = 0.0019371019443497062
* diff = 0.0040133893922447705
```

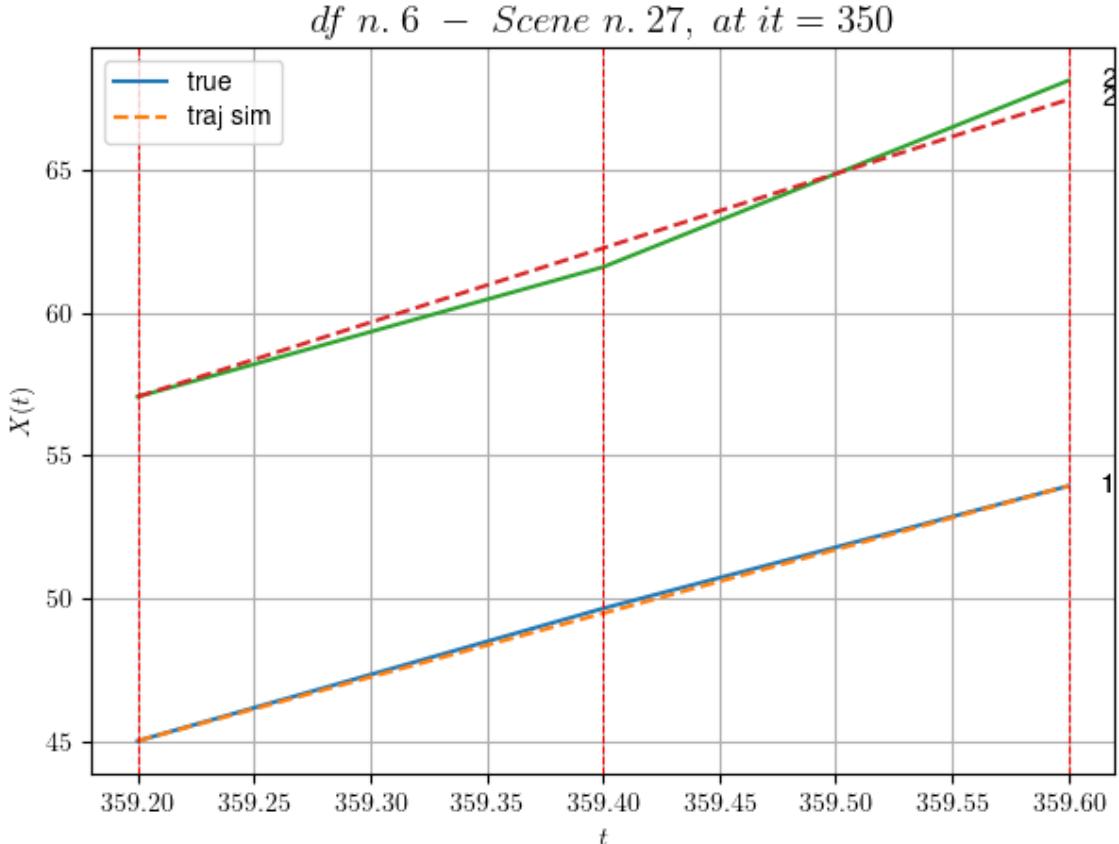


For scene 26/52

```
* use LR_NN=0.005 with err=1.0348774002868357 at it=24
* v0_scn_mean = 27.760457771403736
* MAE = 0.028404914878350528
```

df n.6, scene n.27/52

We have 2 time intervals inside [359.20,359.60]
 * err= 0.15179636198260396
 * Learning rate NN = 8.099999104160815e-05
 * diff = 3.334740389382418e-08



For scene 27/52

- * use LR_NN=0.0001 with err=0.5001796022994853 at it=24
- * v0_scn_mean = 26.263421135284016
- * MAE = 0.13718975044376358

df n.6, scene n.28/52

We have 5 time intervals inside [368.20,369.20]

- Time interval n.0: [368.20, 368.40]
 - * y_true: [20.48034946]
 - * v_ann: [22.865032196044922, 26.26965461417241]

- Time interval n.1: [368.40, 368.60]
 - * y_true: [26.0305779]
 - * v_ann: [23.50028419494629, 26.26965461417241]

```

-----  

- Time interval n.2: [368.60, 368.80]  

* y_true: [23.10068181]  

* v_ann: [23.911853790283203, 26.26965461417241]
-----
```

```

-----  

- Time interval n.3: [368.80, 369.00]  

* y_true: [26.67099024]  

* v_ann: [25.009645462036133, 26.26965461417241]
-----
```

```

-----  

- Time interval n.4: [369.00, 369.20]  

* y_true: [24.60614791]  

* v_ann: [25.672199249267578, 26.26965461417241]
-----
```

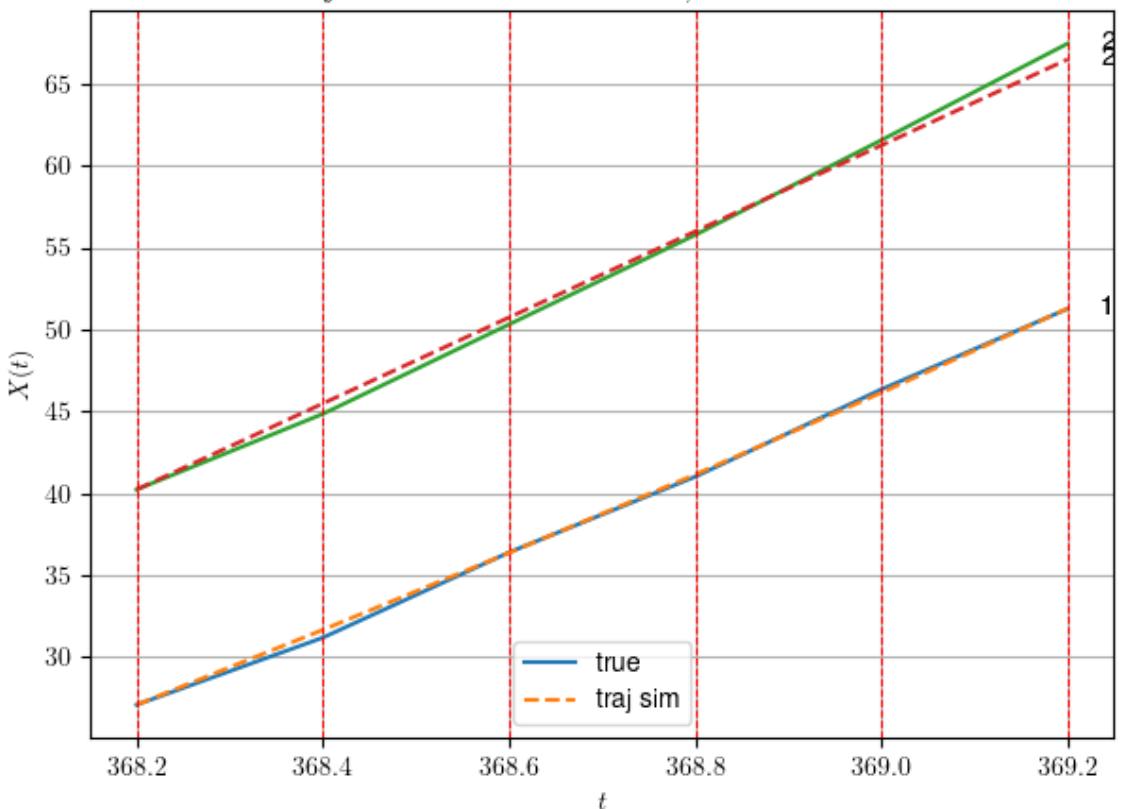
```

* err= 0.16204154886057115  

* Learning rate NN = 1.9371018424862996e-05  

* diff = 3.275054897933227e-05
```

df n. 6 – Scene n. 28, at it = 500



For scene 28/52

```

* use LR_NN=5e-05 with err=2.2233358767801246 at it=24  

* v0_scn_mean = 26.418868429577408  

* MAE = 0.13904088372880713
=====
```

df n.6, scene n.29/52

```
=====
=====

We have 8 time intervals inside [374.40,376.00]
- Time interval n.0: [374.40, 374.60]
  * y_true: [20.90029714]
  * v_ann: [25.633264541625977, 20.073696885977927]

-----
- Time interval n.1: [374.60, 374.80]
  * y_true: [24.30046975]
  * v_ann: [24.434377670288086, 20.073696885977927]

-----
- Time interval n.2: [374.80, 375.00]
  * y_true: [30.15080009]
  * v_ann: [23.290084838867188, 20.073696885977927]

-----
- Time interval n.3: [375.00, 375.20]
  * y_true: [14.05046583]
  * v_ann: [24.121986389160156, 20.073696885977927]

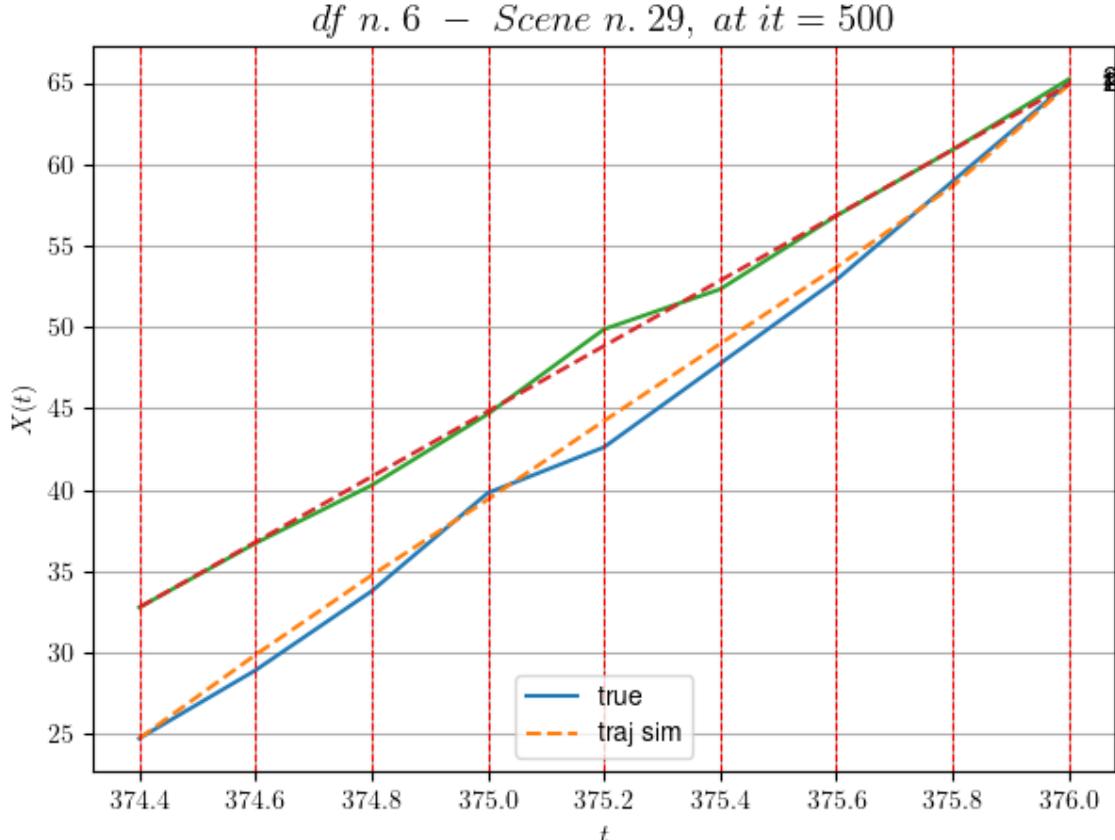
-----
- Time interval n.4: [375.20, 375.40]
  * y_true: [25.70114537]
  * v_ann: [23.666519165039062, 20.073696885977927]

-----
- Time interval n.5: [375.40, 375.60]
  * y_true: [25.70114537]
  * v_ann: [23.512727737426758, 20.073696885977927]

-----
- Time interval n.6: [375.60, 375.80]
  * y_true: [30.25204725]
  * v_ann: [24.884862899780273, 20.073696885977927]

-----
- Time interval n.7: [375.80, 376.00]
  * y_true: [30.25204725]
  * v_ann: [31.192821502685547, 20.073696885977927]

* err= 0.4732676869732352
* Learning rate NN = 0.00020589104678947479
* diff = 0.00929495773855954
```



For scene 29/52

- * use LR_NN=0.001 with err=47.679699524611195 at it=24
- * v0_scn_mean = 20.470749010463017
- * MAE = 0.47312414420017657

df n.6, scene n.30/52

We have 6 time intervals inside [396.40, 397.60]

- Time interval n.0: [396.40, 396.60]
 - * y_true: [18.23021429]
 - * v_ann: [14.743432998657227, 25.42985006909659]

- Time interval n.1: [396.60, 396.80]
 - * y_true: [14.33022215]
 - * v_ann: [17.150127410888672, 25.42985006909659]

- Time interval n.2: [396.80, 397.00]
 - * y_true: [16.80032208]
 - * v_ann: [15.689412117004395, 25.42985006909659]

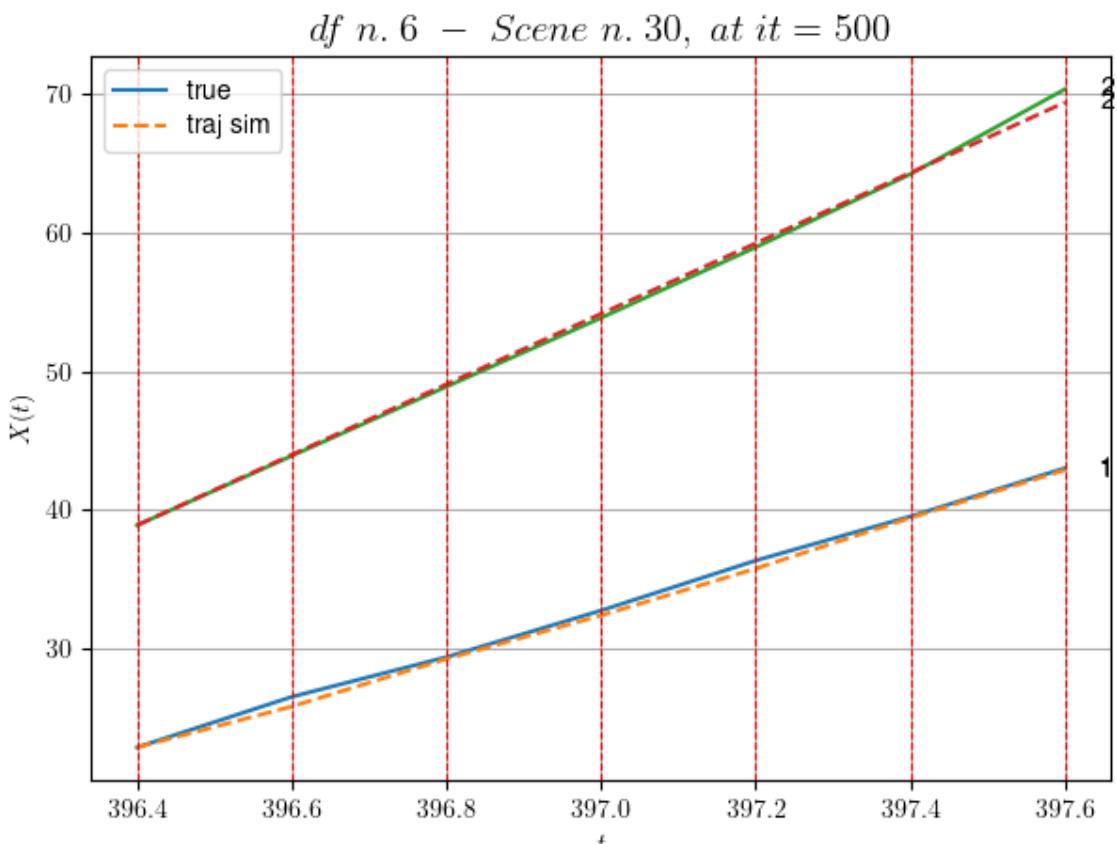
- Time interval n.3: [397.00, 397.20]
 - * y_true: [18.03041992]

```
* v_ann: [16.918235778808594, 25.42985006909659]
```

```
- Time interval n.4: [397.20, 397.40]
* y_true: [15.91044475]
* v_ann: [18.282197952270508, 25.42985006909659]
```

```
- Time interval n.5: [397.40, 397.60]
* y_true: [17.45059122]
* v_ann: [17.279041290283203, 25.42985006909659]
```

```
* err= 0.15112191187858426
* Learning rate NN = 0.00031381050939671695
* diff = 0.010921605370057763
```



For scene 30/52

```
* use LR_NN=0.001 with err=5.365864373608138 at it=24
* v0_scn_mean = 25.61265606629629
* MAE = 0.15112191187858426
```

df n.6, scene n.31/52

We have 7 time intervals inside [407.80,409.20]
- Time interval n.0: [407.80, 408.00]

```
* y_true: [21.37567004]
* v_ann: [22.685791015625, 22.363716298521275]

-----
- Time interval n.1: [408.00, 408.20]
* y_true: [22.01576805]
* v_ann: [22.183740615844727, 22.363716298521275]

-----
- Time interval n.2: [408.20, 408.40]
* y_true: [24.57616006]
* v_ann: [22.85221290588379, 22.363716298521275]

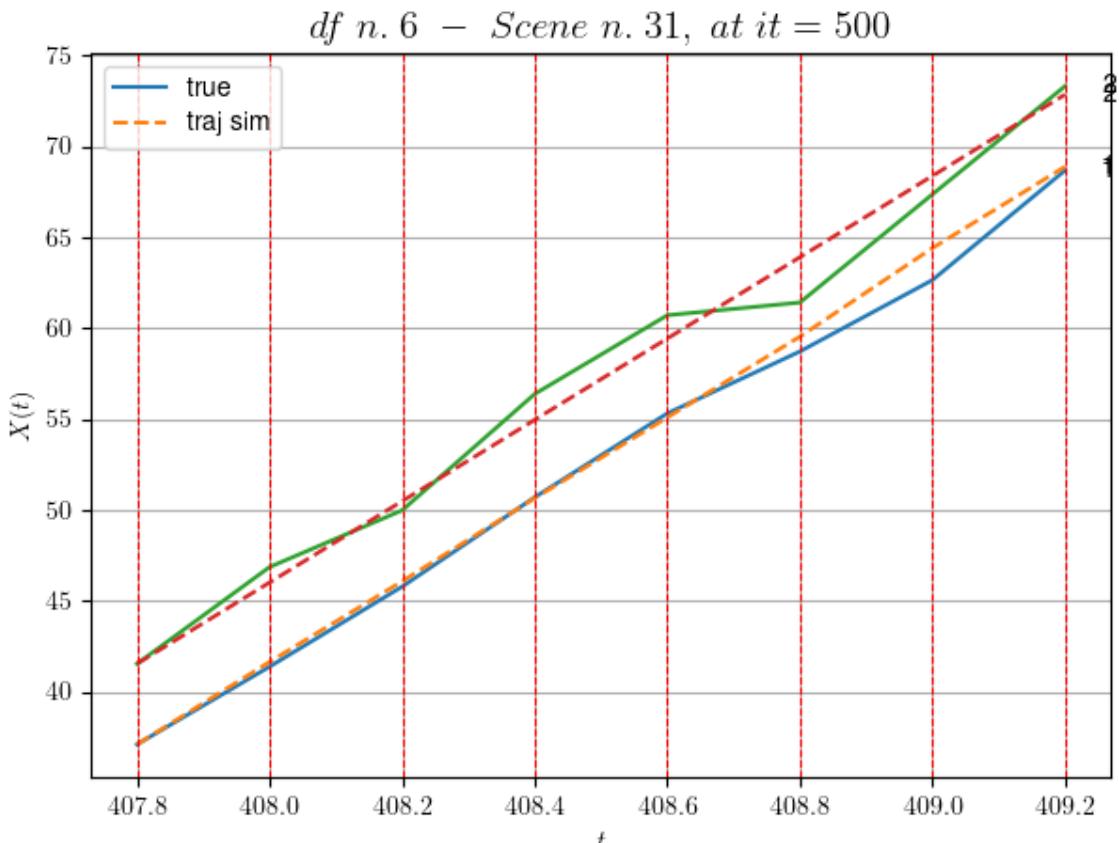
-----
- Time interval n.3: [408.40, 408.60]
* y_true: [23.06614677]
* v_ann: [22.19002914428711, 22.363716298521275]

-----
- Time interval n.4: [408.60, 408.80]
* y_true: [17.02609359]
* v_ann: [22.23301887512207, 22.363716298521275]

-----
- Time interval n.5: [408.80, 409.00]
* y_true: [19.65139949]
* v_ann: [24.35611343383789, 22.363716298521275]

-----
- Time interval n.6: [409.00, 409.20]
* y_true: [30.15262306]
* v_ann: [22.38688087463379, 22.363716298521275]

-----
* err= 1.006345099636042
* Learning rate NN = 2.5418647055630572e-05
* diff = 0.0011855892423877634
```



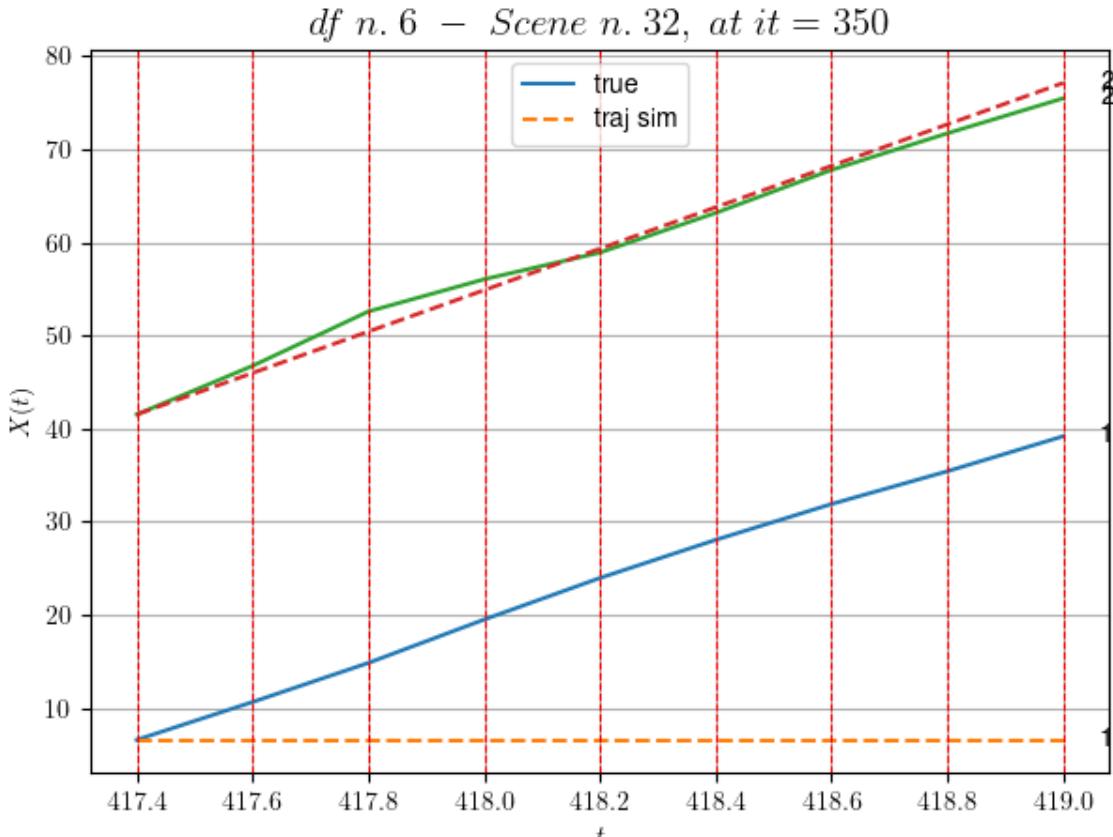
For scene 31/52

* use LR_NN=0.0001 with err=22.65206545214141 at it=24
* v0_scn_mean = 22.66916764652204
* MAE = 1.006345099636042

df n.6, scene n.32/52

We have 8 time intervals inside [417.40, 419.00]

* err= 197.96441414207823
* Learning rate NN = 0.00015690525469835848
* diff = 6.157384291327617e-07



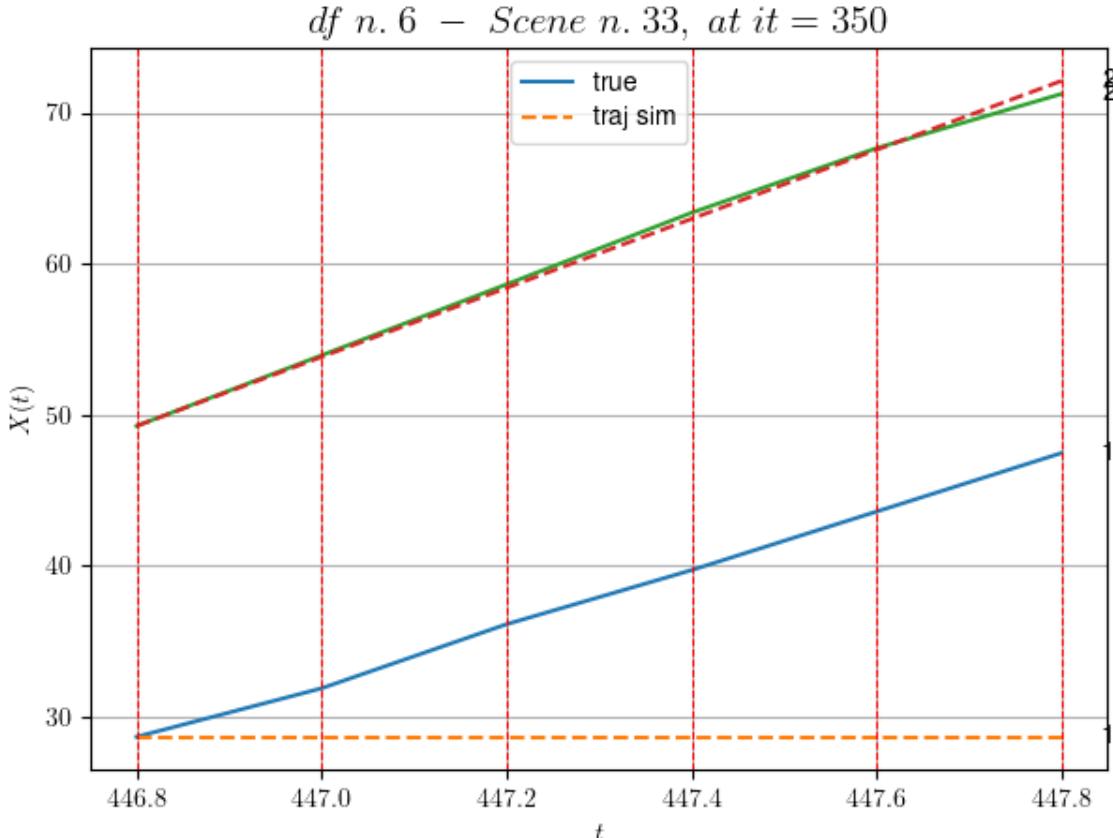
For scene 32/52

* use LR_NN=0.0005 with err=31.079631887294045 at it=24
* v0_scn_mean = 22.69667346192251
* MAE = 85.50556763606578

df n.6, scene n.33/52

We have 5 time intervals inside [446.80, 447.80]

* err= 63.61224682908509
* Learning rate NN = 2.6572044589556754e-05
* diff = 9.571442660671892e-08



For scene 33/52

- * use LR_NN=5e-05 with err=9.992716610919196 at it=24
- * v0_scn_mean = 23.250541037239092
- * MAE = 63.61224682908509

df n.6, scene n.34/52

We have 3 time intervals inside [448.40, 449.00]

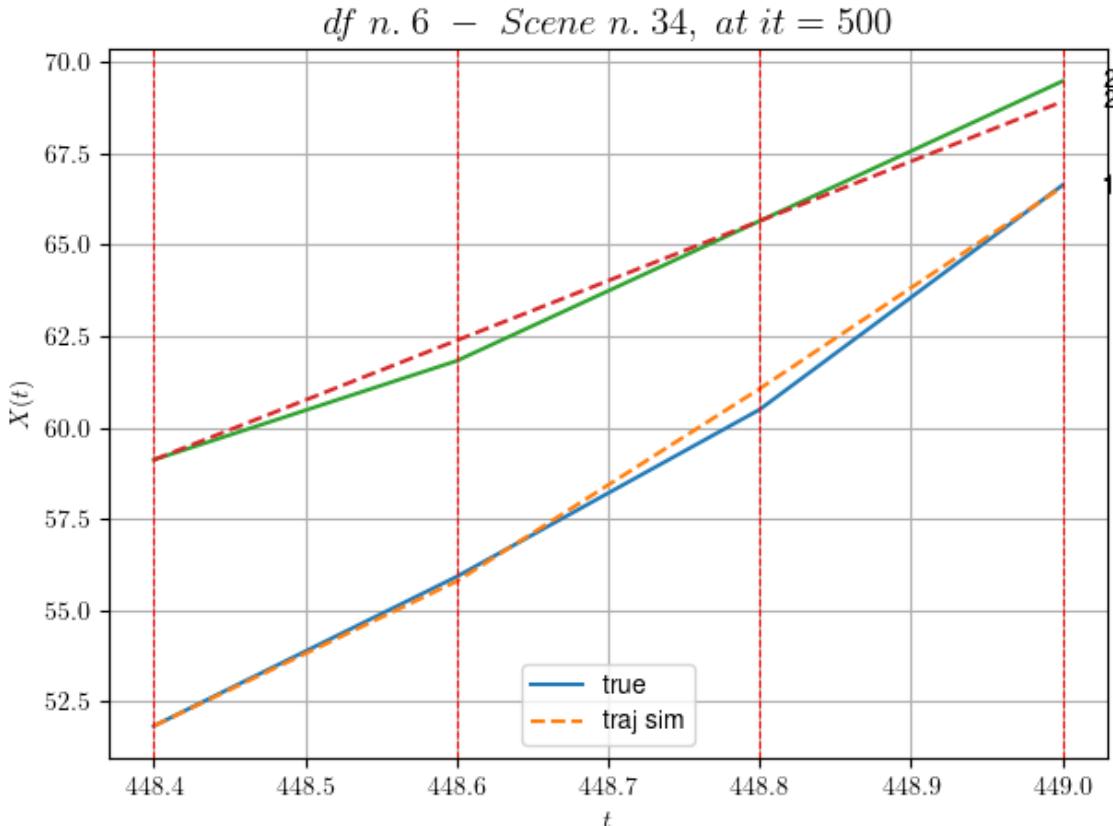
- Time interval n.0: [448.40, 448.60]
 - * y_true: [20.45120743]
 - * v_ann: [19.816556930541992, 16.351257627075242]

- Time interval n.1: [448.60, 448.80]
 - * y_true: [22.88145923]
 - * v_ann: [26.366113662719727, 16.351257627075242]

- Time interval n.2: [448.80, 449.00]
 - * y_true: [30.73239033]
 - * v_ann: [27.6379337310791, 16.351257627075242]

- * err= 0.12134436315543662
- * Learning rate NN = 0.0002952449722215533

* diff = 0.0012821013954107396



For scene 34/52

* use LR_NN=0.0005 with err=13.168269279915005 at it=24
 * v0 scn mean = 16.897207321888146
 * MAE = 0.12134436315543662

df n.6, scene n.35/52

We have 3 time intervals inside [450.60, 451.20]

- Time interval n.0: [450.60, 450.80]
 - * y_true: [21.37625172]
 - * v_ann: [25.114675521850586, 24.707838126992733]

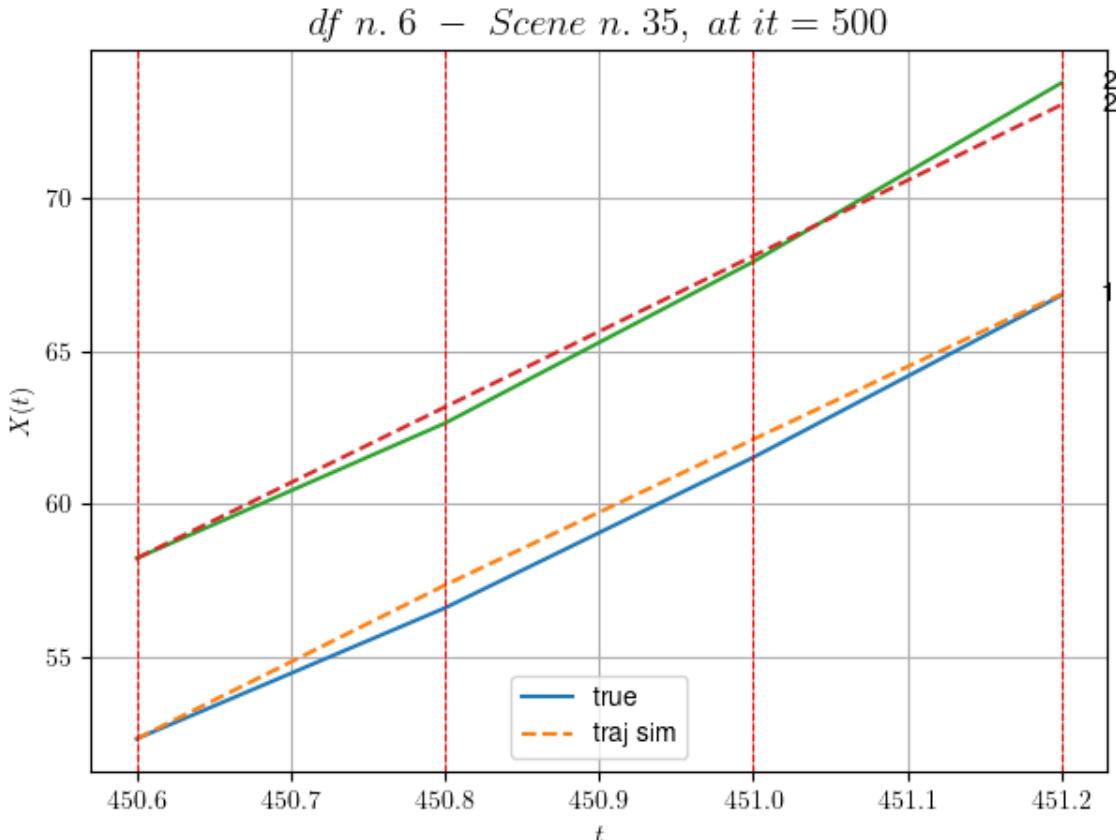
- Time interval n.1: [450.80, 451.00]
 - * y_true: [24.60663191]
 - * v_ann: [23.821441650390625, 24.707838126992733]

- Time interval n.2: [451.00, 451.20]
 - * y_true: [26.4920936]
 - * v_ann: [23.73444366455078, 24.707838126992733]

* err= 0.2172478370310696

* Learning rate NN = 0.0002952449722215533

* diff = 0.003802284035234804



For scene 35/52

* use LR_NN=0.0005 with err=1.7723713146773485 at it=24
 * v0_scn_mean = 24.919524601871824
 * MAE = 0.2172478370310696

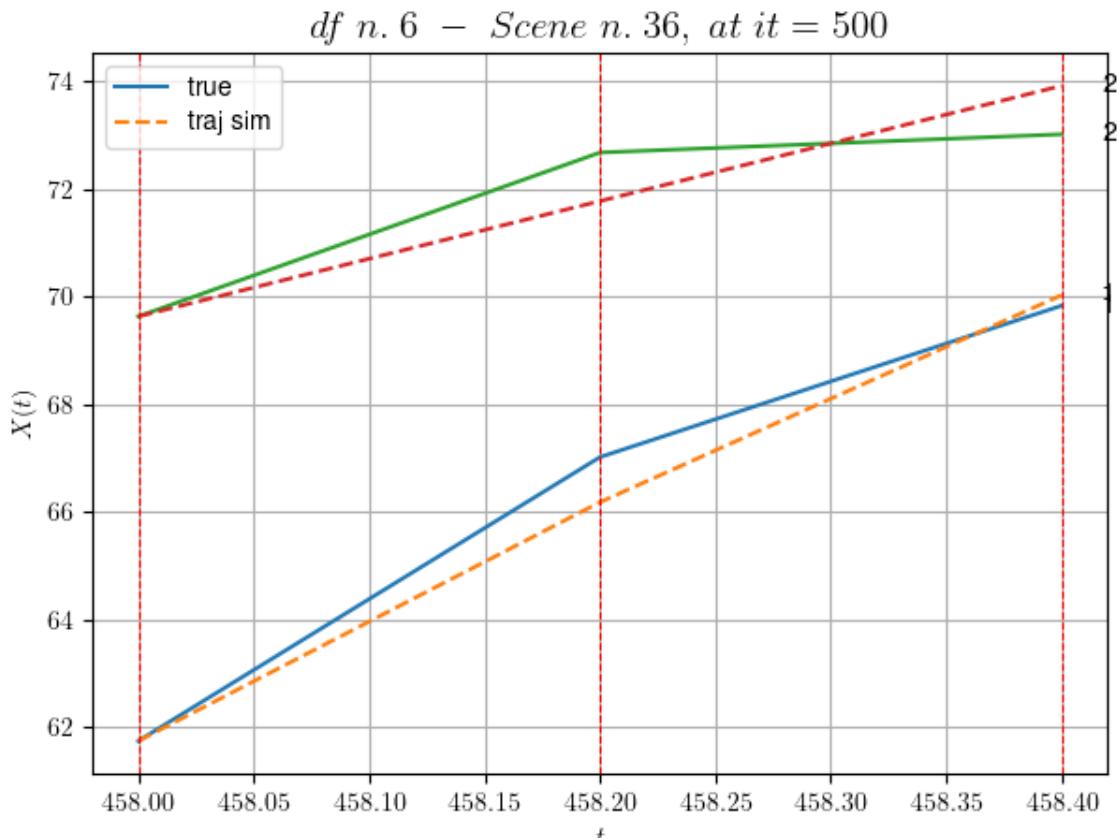
df n.6, scene n.36/52

We have 2 time intervals inside [458.00, 458.40]

- Time interval n.0: [458.00, 458.20]
 - * y_true: [26.37695887]
 - * v_ann: [22.187997817993164, 10.716650123126847]

- Time interval n.1: [458.20, 458.40]
 - * y_true: [14.07546308]
 - * v_ann: [19.243825912475586, 10.716650123126847]

- * err= 0.39455455370718684
- * Learning rate NN = 0.00036449998151510954
- * diff = 0.0013283325509304



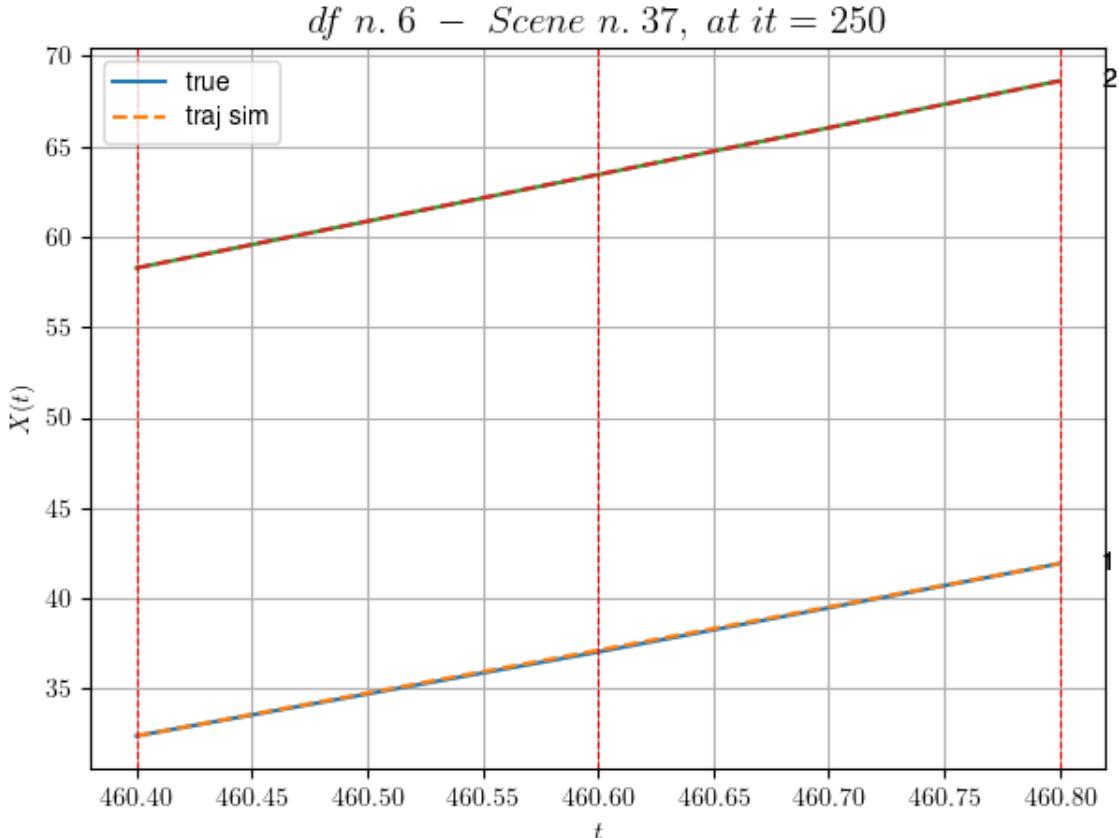
For scene 36/52

- * use LR_NN=0.0005 with err=13.887085793705857 at it=24
- * v0_scn_mean = 11.487984118054099
- * MAE = 0.39455455370718684

df n.6, scene n.37/52

We have 2 time intervals inside [460.40, 460.80]

- * err= 0.0015790049597071754
- * Learning rate NN = 4.499999704421498e-05
- * diff = 1.0574103235919986e-07



For scene 37/52

* use LR_NN=5e-05 with err=0.5665646894450543 at it=24
 * v0_scn_mean = 26.19918038179582
 * MAE = 0.001540937368639258

df n.6, scene n.38/52

We have 6 time intervals inside [465.20, 466.40]

- Time interval n.0: [465.20, 465.40]
 - * y_true: [18.28001138]
 - * v_ann: [18.66843605041504, 23.956962458802742]

- Time interval n.1: [465.40, 465.60]
 - * y_true: [20.650036]
 - * v_ann: [19.026418685913086, 23.956962458802742]

- Time interval n.2: [465.60, 465.80]
 - * y_true: [19.5500669]
 - * v_ann: [19.618886947631836, 23.956962458802742]

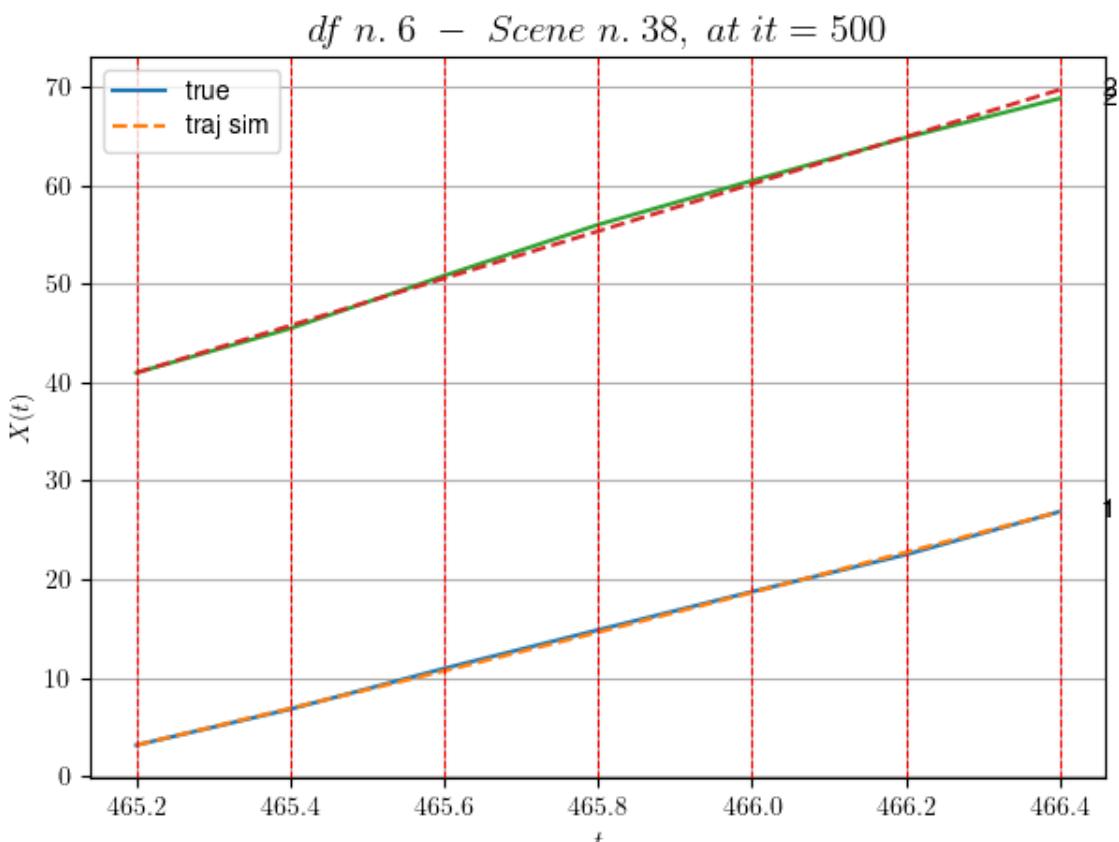
- Time interval n.3: [465.80, 466.00]
 - * y_true: [19.43011129]

```
* v_ann: [20.179616928100586, 23.956962458802742]
```

```
- Time interval n.4: [466.00, 466.20]
* y_true: [18.82015982]
* v_ann: [20.412931442260742, 23.956962458802742]
```

```
- Time interval n.5: [466.20, 466.40]
* y_true: [21.85026714]
* v_ann: [20.626798629760742, 23.956962458802742]
```

```
* err= 0.12123003615173256
* Learning rate NN = 3.138104830213706e-06
* diff = 3.060961107151372e-05
```



For scene 38/52

```
* use LR_NN=1e-05 with err=9.9917473288535 at it=24
* v0_scn_mean = 24.198683960403507
* MAE = 0.12123003615173256
```

df n.6, scene n.39/52

```
We have 6 time intervals inside [467.00,468.20]
- Time interval n.0: [467.00, 467.20]
```

```
* y_true: [18.72012329]
* v_ann: [24.668468475341797, 20.547439201769897]
```

```
-----  
-----  
- Time interval n.1: [467.20, 467.40]  
* y_true: [22.09021781]  
* v_ann: [25.262502670288086, 20.547439201769897]
```

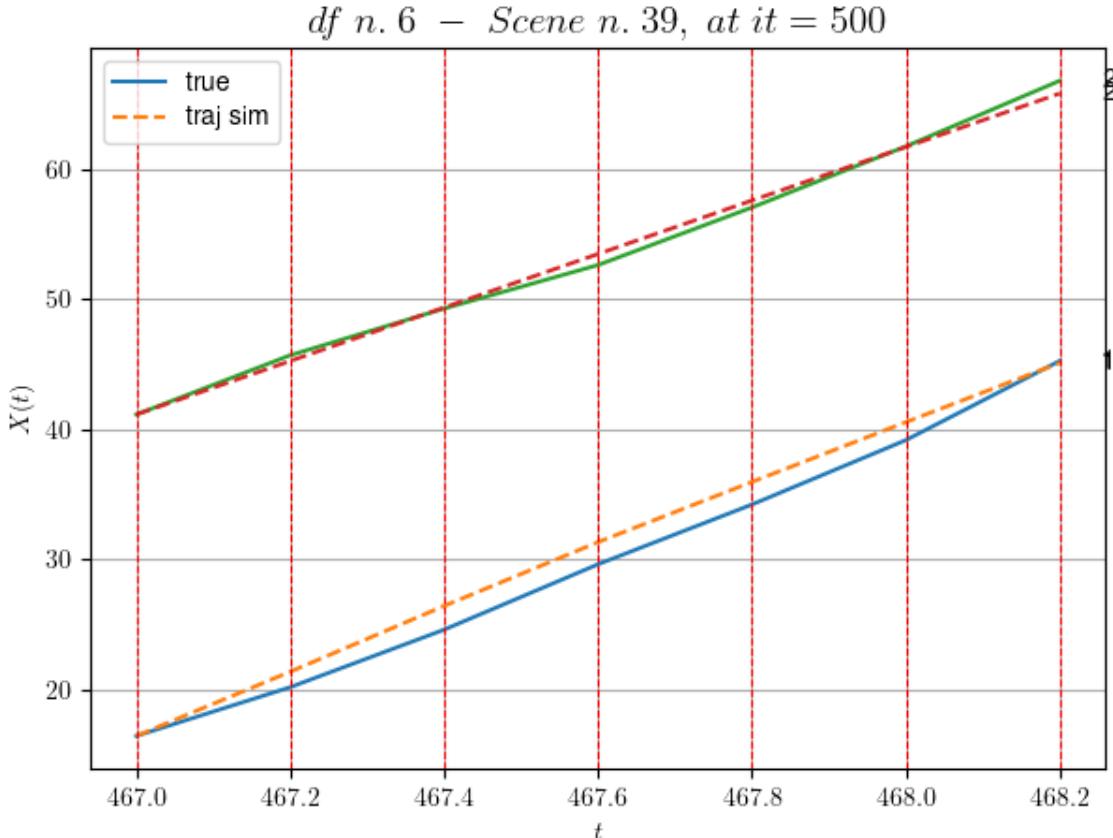
```
-----  
-----  
- Time interval n.2: [467.40, 467.60]  
* y_true: [25.12035484]  
* v_ann: [24.51034927368164, 20.547439201769897]
```

```
-----  
-----  
- Time interval n.3: [467.60, 467.80]  
* y_true: [22.94045018]  
* v_ann: [23.100982666015625, 20.547439201769897]
```

```
-----  
-----  
- Time interval n.4: [467.80, 468.00]  
* y_true: [24.73065482]  
* v_ann: [22.957965850830078, 20.547439201769897]
```

```
-----  
-----  
- Time interval n.5: [468.00, 468.20]  
* y_true: [30.43102618]  
* v_ann: [22.76456069946289, 20.547439201769897]
```

```
-----  
-----  
* err= 1.05279515330212  
* Learning rate NN = 3.138104830213706e-06  
* diff = 0 0013039250900810373
```



For scene 39/52

* use LR_NN=1e-05 with err=23.833842170688808 at it=24
 * v0_scn_mean = 20.925541633626736
 * MAE = 1.0511513400049681

df n.6, scene n.40/52

We have 10 time intervals inside [477.80, 479.80]

- Time interval n.0: [477.80, 478.00]
 - * y_true: [11.6501536]
 - * v_ann: [12.712401390075684, 21.601430911083135]

- Time interval n.1: [478.00, 478.20]
 - * y_true: [14.75023559]
 - * v_ann: [12.203564643859863, 21.601430911083135]

- Time interval n.2: [478.20, 478.40]
 - * y_true: [11.45023382]
 - * v_ann: [12.22496223449707, 21.601430911083135]

- Time interval n.3: [478.40, 478.60]
 - * y_true: [11.45023382]

* v_ann: [11.924602508544922, 21.601430911083135]

- Time interval n.4: [478.60, 478.80]
* y_true: [13.22535791]
* v_ann: [12.231668472290039, 21.601430911083135]

- Time interval n.5: [478.80, 479.00]
* y_true: [13.22535791]
* v_ann: [12.818876266479492, 21.601430911083135]

- Time interval n.6: [479.00, 479.20]
* y_true: [10.32535343]
* v_ann: [13.442656517028809, 21.601430911083135]

- Time interval n.7: [479.20, 479.40]
* y_true: [10.32535343]
* v_ann: [14.029816627502441, 21.601430911083135]

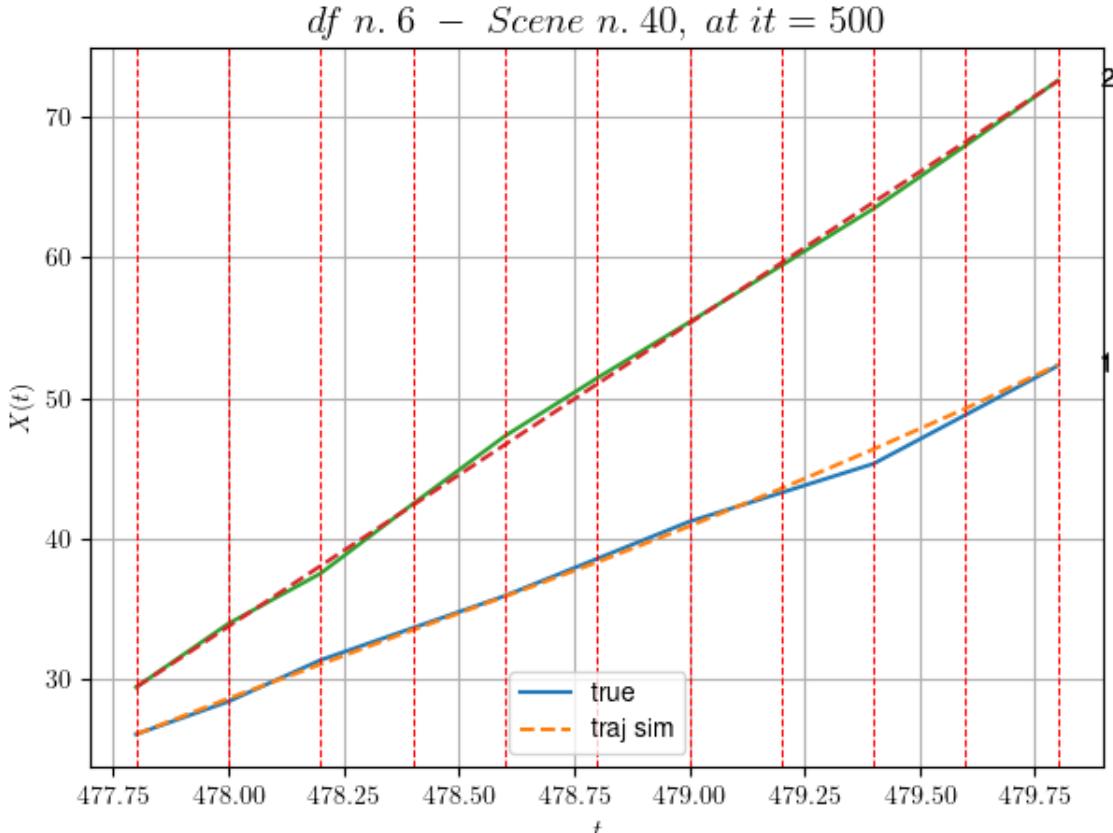
- Time interval n.8: [479.40, 479.60]
* y_true: [17.45076528]
* v_ann: [14.517512321472168, 21.601430911083135]

- Time interval n.9: [479.60, 479.80]
* y_true: [17.45076528]
* v_ann: [15.5515775680542, 21.601430911083135]

* err= 0.13240793063603307

* Learning rate NN = 0.00013508510892279446

* diff = 0.003553817078776056



For scene 40/52

- * use LR_NN=0.001 with err=53.65740963472987 at it=24
- * v0_scn_mean = 21.937373674574392
- * MAE = 0.128054177459147

df n.6, scene n.41/52

We have 6 time intervals inside [487.00, 488.20]

- Time interval n.0: [487.00, 487.20]
 - * y_true: [14.83016814]
 - * v_ann: [15.038612365722656, 24.548038627552586]

- Time interval n.1: [487.20, 487.40]
 - * y_true: [16.8602423]
 - * v_ann: [15.787423133850098, 24.548038627552586]

- Time interval n.2: [487.40, 487.60]
 - * y_true: [16.46530479]
 - * v_ann: [16.355422973632812, 24.548038627552586]

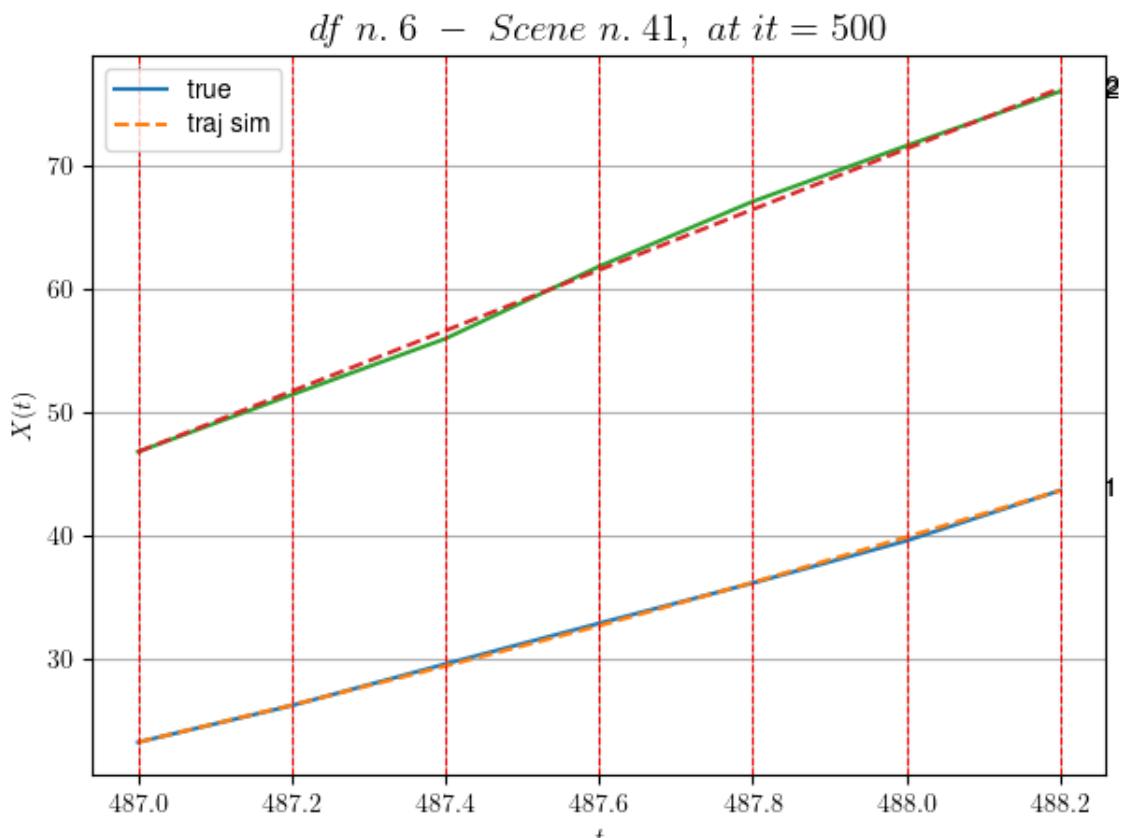
- Time interval n.3: [487.60, 487.80]
 - * y_true: [16.32538291]

```
* v_ann: [17.5311222076416, 24.548038627552586]
```

```
- Time interval n.4: [487.80, 488.00]
* y_true: [17.13544627]
* v_ann: [18.399921417236328, 24.548038627552586]
```

```
- Time interval n.5: [488.00, 488.20]
* y_true: [20.37569971]
* v_ann: [18.84912872314453, 24.548038627552586]
```

```
* err= 0.0930707801721049
* Learning rate NN = 1.5690524378442205e-05
* diff = 4.873740068503385e-05
```



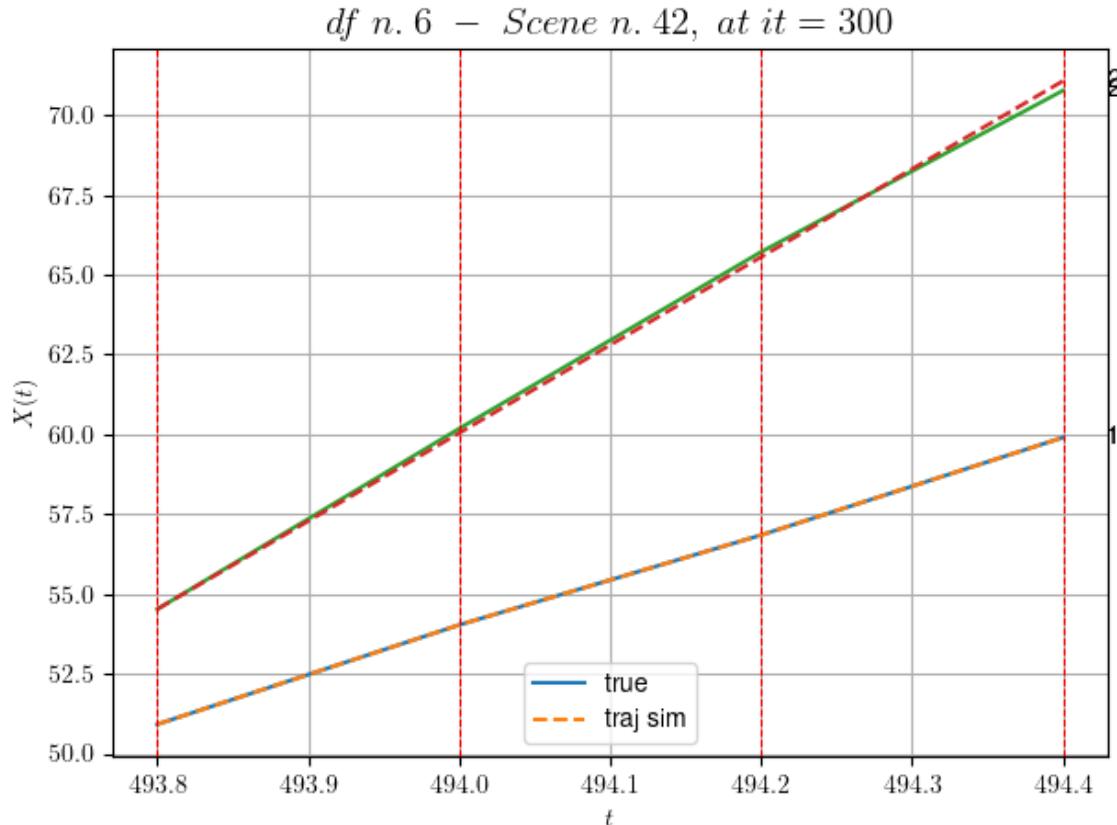
For scene 41/52

```
* use LR_NN=5e-05 with err=7.58242261708823 at it=24
* v0_scn_mean = 24.766117082409
* MAE = 0.09175682397789511
```

df n.6, scene n.42/52

We have 3 time intervals inside [493.80, 494.40]
* err= 0.01689486585888049

* Learning rate NN = 0.0036449995823204517
 * diff = 0 7385571137146e-07



For scene 42/52

* use LR_NN=0.005 with err=0.7486453123538807 at it=24
 * v0_scn_mean = 27.73855900801084
 * MAE = 0.01689486585888049

df n.6, scene n.43/52

We have 4 time intervals inside [507.40, 508.20]

- Time interval n.0: [507.40, 507.60]
 - * y_true: [7.25036781]
 - * v_ann: [14.124792098999023, 12.083014257344258]

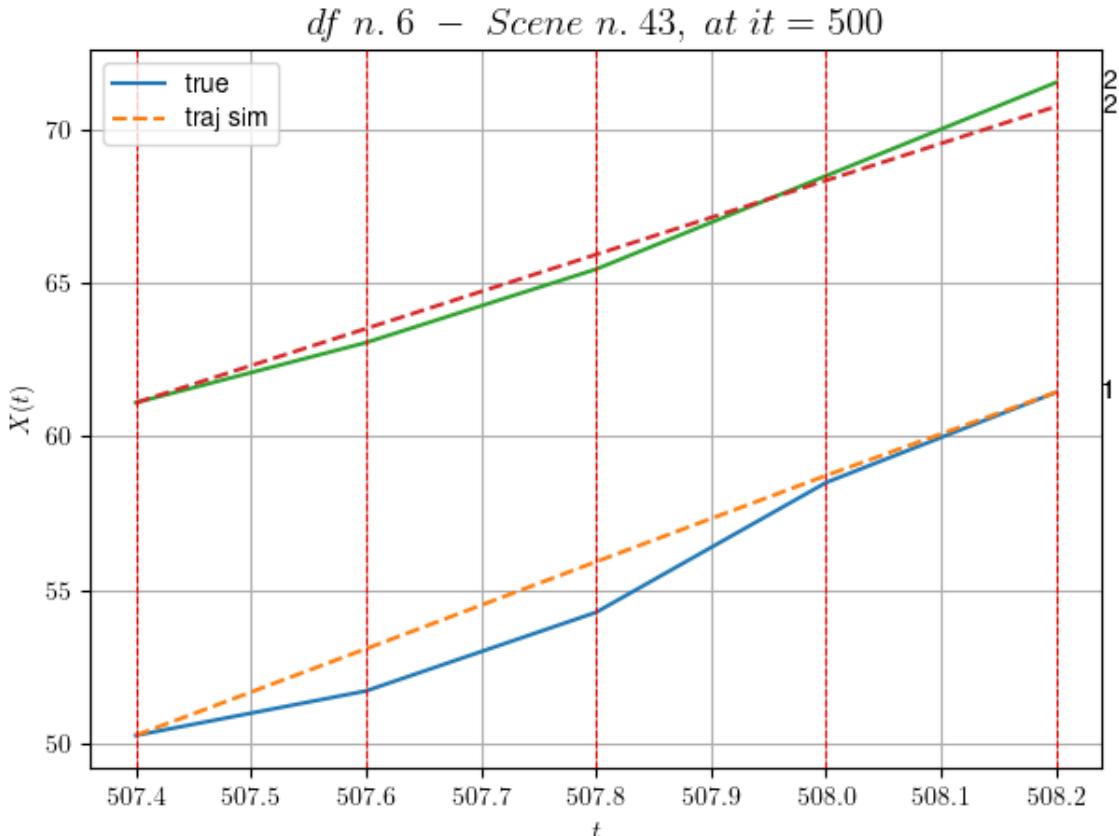
- Time interval n.1: [507.60, 507.80]
 - * y_true: [12.82075121]
 - * v_ann: [14.206151962280273, 12.083014257344258]

- Time interval n.2: [507.80, 508.00]
 - * y_true: [21.1763263]
 - * v_ann: [14.059932708740234, 12.083014257344258]

- Time interval n.3: [508.00, 508.20]

```
* y_true: [14.72594635]
* v_ann: [13.590519905090332, 12.083014257344258]
```

```
* err= 0.5744064343619977
* Learning rate NN = 4.7829678806010634e-05
* diff = 0.000633705402065643
```



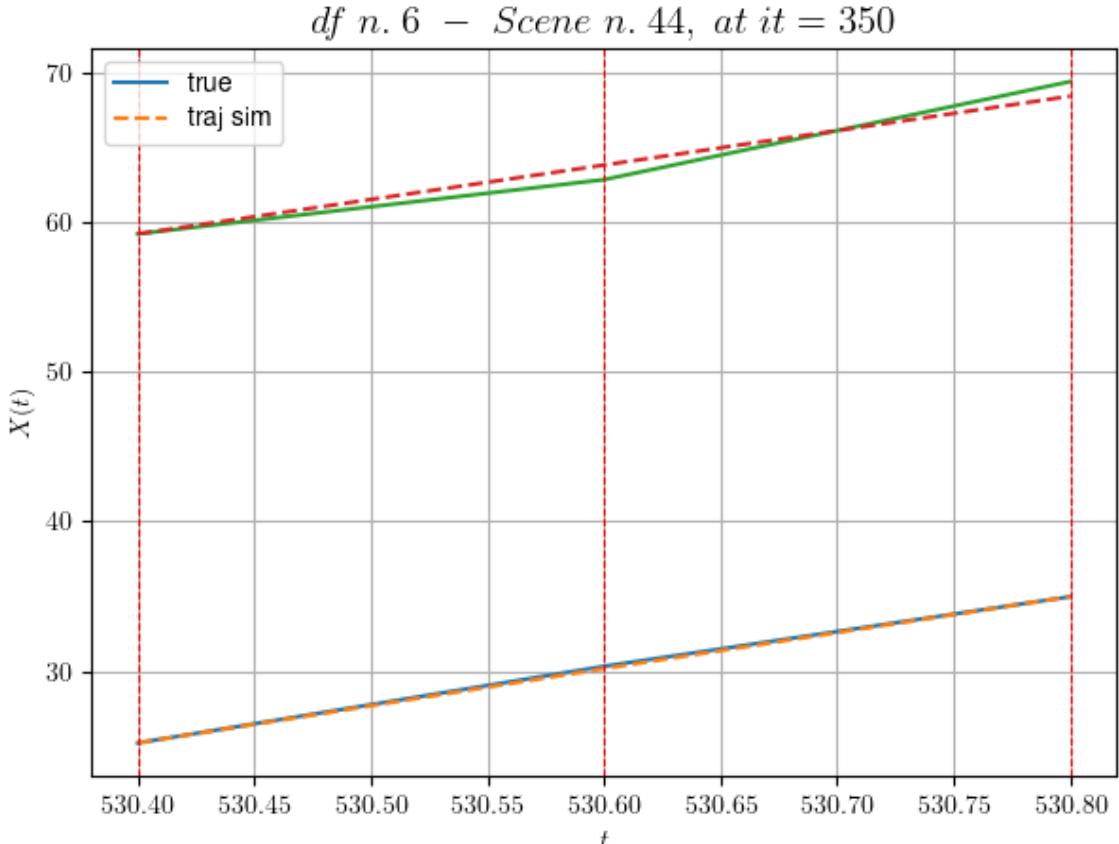
For scene 43/52

```
* use LR_NN=0.0001 with err=37.57181241169339 at it=24
* v0_scn_mean = 12.799693686913896
* MAE = 0.5646492376684631
```

df n. 6, scene n. 44/52

We have 2 time intervals inside [530.40, 530.80]

```
* err= 0.3215675992801523
* Learning rate NN = 8.099998922261875e-06
* diff = 5.063217038414614e-07
```



For scene 44/52

- * use LR_NN=1e-05 with err=1.5017223217522973 at it=24
- * v0_scn_mean = 23.392389280370704
- * MAE = 0.28929680351087095

df n.6, scene n.45/52

We have 3 time intervals inside [551.40, 552.00]

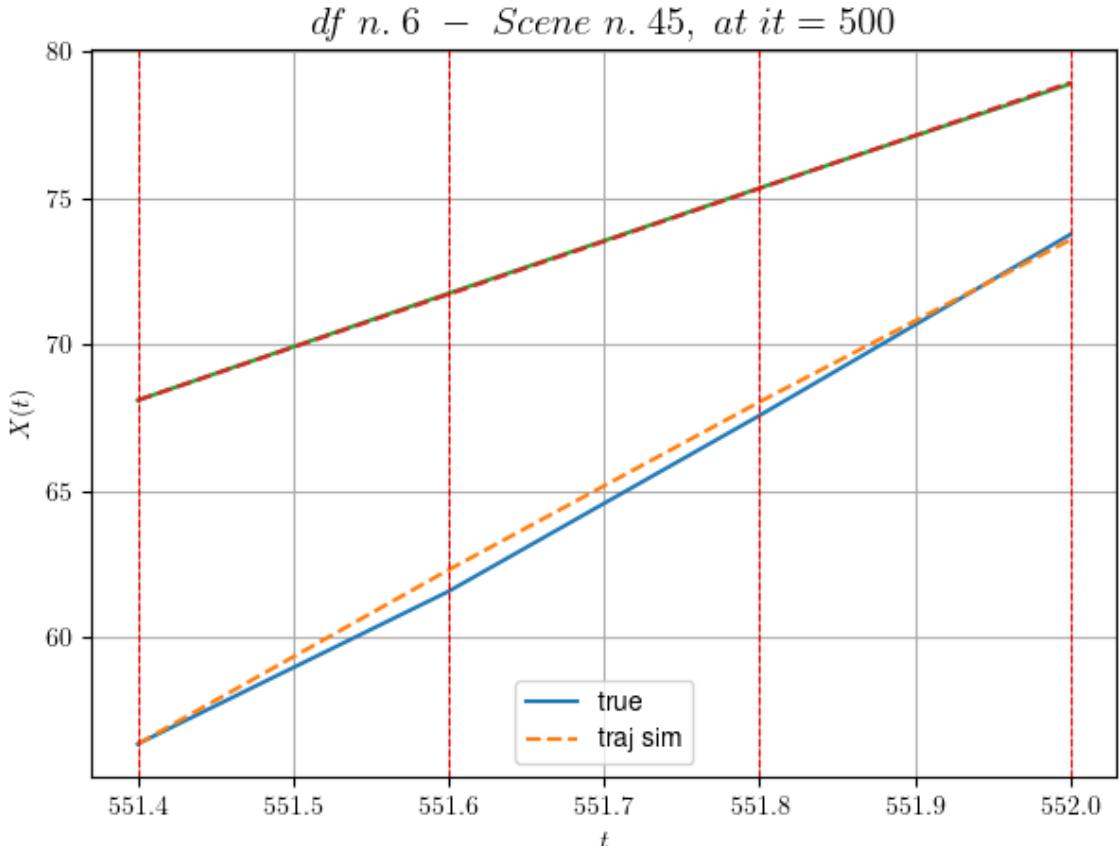
- Time interval n.0: [551.40, 551.60]
 - * y_true: [26.08674174]
 - * v_ann: [29.765727996826172, 18.102658549475112]

- Time interval n.1: [551.60, 551.80]
 - * y_true: [30.06264682]
 - * v_ann: [28.70319938659668, 18.102658549475112]

- Time interval n.2: [551.80, 552.00]
 - * y_true: [30.95284603]
 - * v_ann: [27.691425323486328, 18.102658549475112]

- * err= 0.09946486190774269
- * Learning rate NN = 2.952449540316593e-05

* diff = 0.005278215962640415



For scene 45/52

* use LR_NN=5e-05 with err=10.454019118144307 at it=24
 * v0_scn_mean = 18.57855220740531
 * MAE = 0.09946486190774269

df n.6, scene n.46/52

We have 8 time intervals inside [576.00, 577.60]

- Time interval n.0: [576.00, 576.20]
 - * y_true: [15.84021031]
 - * v_ann: [17.636804580688477, 21.301030620242113]

- Time interval n.1: [576.20, 576.40]
 - * y_true: [20.27538477]
 - * v_ann: [18.367008209228516, 21.301030620242113]

- Time interval n.2: [576.40, 576.60]
 - * y_true: [21.925472]
 - * v_ann: [19.39541244506836, 21.301030620242113]

- Time interval n.3: [576.60, 576.80]

```
* y_true: [20.1105654]
* v_ann: [19.950180053710938, 21.301030620242113]
```

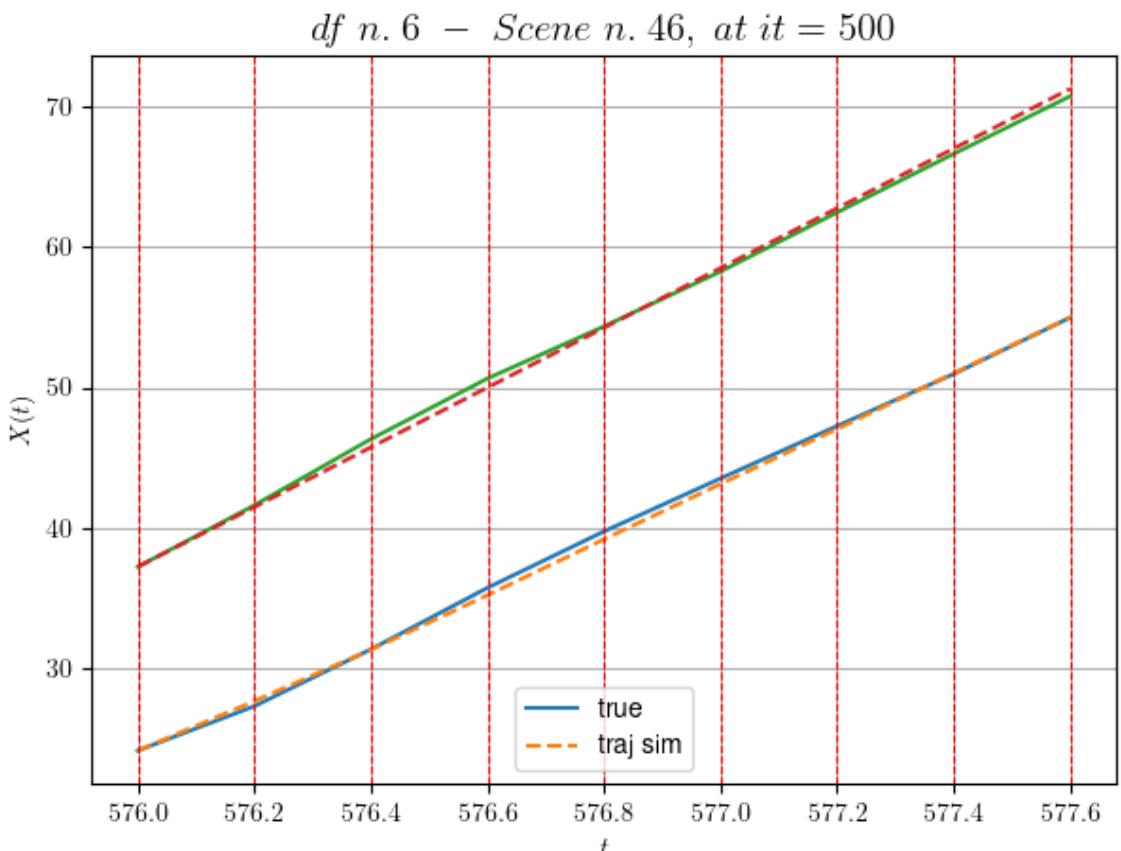
```
- Time interval n.4: [576.80, 577.00]
* y_true: [18.90062767]
* v_ann: [19.698928833007812, 21.301030620242113]
```

```
- Time interval n.5: [577.00, 577.20]
* y_true: [18.67576455]
* v_ann: [19.632423400878906, 21.301030620242113]
```

```
- Time interval n.6: [577.20, 577.40]
* y_true: [18.5258558]
* v_ann: [19.841583251953125, 21.301030620242113]
```

```
- Time interval n.7: [577.40, 577.60]
* y_true: [20.11613418]
* v_ann: [19.935897827148438, 21.301030620242113]
```

```
* err= 0.12749605354931492
* Learning rate NN = 0.00020589104678947479
* diff = 0.0004952191368606529
```



For scene 46/52

```
* use LR_NN=0.001 with err=35.623709684378895 at it=24
* v0_scn_mean = 21.64898939536574
* MAE = 0.10985202256281415
```

df n.6, scene n.47/52

We have 3 time intervals inside [585.60, 586.20]

- Time interval n.0: [585.60, 585.80]

* y_true: [18.50110458]

* v_ann: [22.54815101623535, 24.542073255088674]

- Time interval n.1: [585.80, 586.00]

* y_true: [26.55213972]

* v_ann: [25.552303314208984, 24.542073255088674]

- Time interval n.2: [586.00, 586.20]

* y_true: [26.55213972]

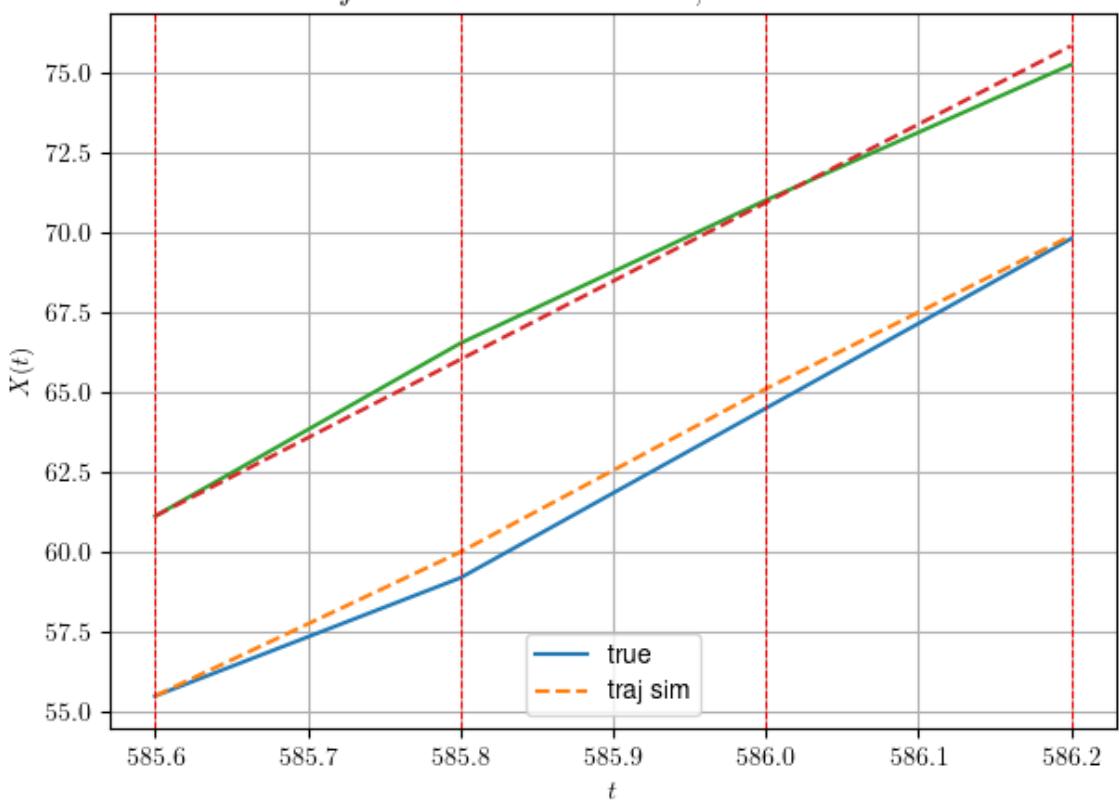
* v_ann: [23.95033073425293, 24.542073255088674]

* err= 0.2049797679389052

* Learning rate NN = 5.904899080633186e-05

* diff = 0.003125651251236816

df n. 6 – Scene n. 47, at it = 500



```
For scene 47/52
* use LR_NN=0.0001 with err=2.5054888800756125 at it=24
* v0_scn_mean = 24.76039032484494
* MAE = 0.2049797679389052
```

```
=====
=====
```

```
df n.6, scene n.48/52
```

```
=====
=====
```

```
We have 6 time intervals inside [593.40,594.60]
```

```
- Time interval n.0: [593.40, 593.60]
  * y_true: [20.11067815]
  * v_ann: [21.969715118408203, 21.280809908315653]
```

```
-----
-----
```

```
- Time interval n.1: [593.60, 593.80]
  * y_true: [18.13073933]
  * v_ann: [21.93505096435547, 21.280809908315653]
```

```
-----
-----
```

```
- Time interval n.2: [593.80, 594.00]
  * y_true: [23.23120854]
  * v_ann: [21.876317977905273, 21.280809908315653]
```

```
-----
-----
```

```
- Time interval n.3: [594.00, 594.20]
  * y_true: [28.4517039]
  * v_ann: [22.036598205566406, 21.280809908315653]
```

```
-----
-----
```

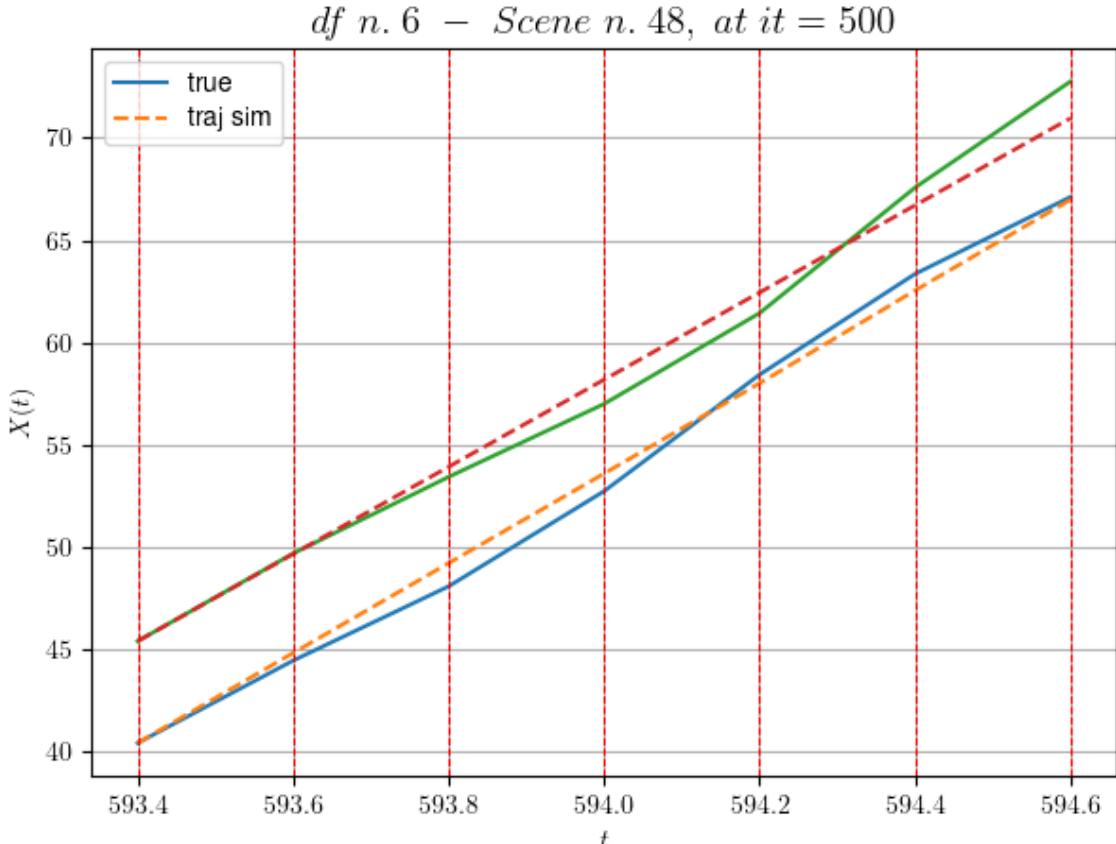
```
- Time interval n.4: [594.20, 594.40]
  * y_true: [24.59163655]
  * v_ann: [22.657560348510742, 21.280809908315653]
```

```
-----
-----
```

```
- Time interval n.5: [594.40, 594.60]
  * y_true: [18.80153552]
  * v_ann: [22.16545867919922, 21.280809908315653]
```

```
-----
-----
```

```
* err= 0.6884204716281629
* Learning rate NN = 3.138104875688441e-05
* diff = 0.0033726288020760053
```



For scene 48/52

- * use LR_NN=0.0001 with err=19.455627500766624 at it=24
- * v0_scn_mean = 21.629577511917525
- * MAE = 0.6884204716281629

df n.6, scene n.49/52

We have 3 time intervals inside [552.20, 552.80]

- Time interval n.0: [552.20, 552.40]
 - * y_true: [14.01030513 13.18063102]
 - * v_ann: [19.337013244628906, 15.77206802368164, 2 0.233205039551997]

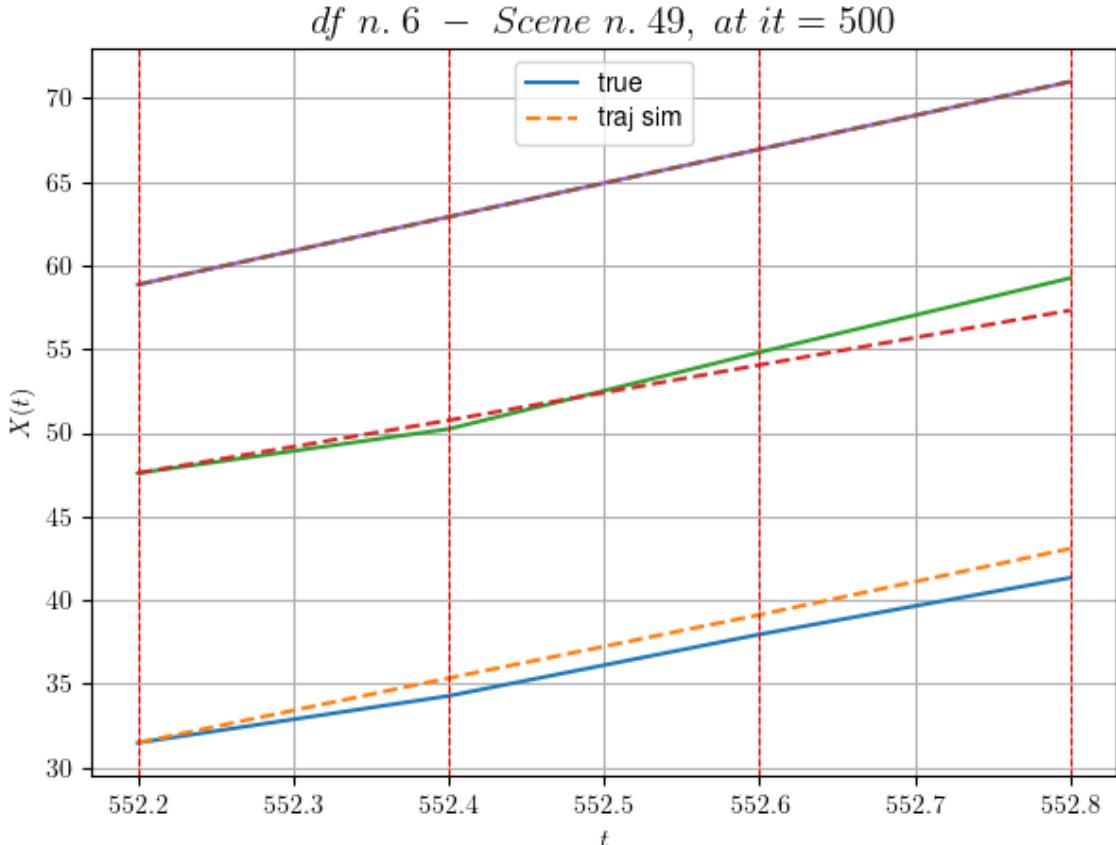
- Time interval n.1: [552.40, 552.60]
 - * y_true: [18.39048446 22.9012939]
 - * v_ann: [18.924579620361328, 16.55176544189453, 2 0.233205039551997]

- Time interval n.2: [552.60, 552.80]
 - * y_true: [16.95052919 22.22132939]
 - * v_ann: [19.78911018371582, 16.323055267333984, 2 0.233205039551997]

```

* err= 0.8416356739824695
* Learning rate NN = 5.904899080633186e-05
* diff = 0.004531103097623945

```



For scene 49/52

```

* use LR_NN=0.0001 with err=5.8948957974930325 at it=24
* v0_scn_mean = 20.819212298670895
* MAE = 0.8416356739824695

```

df n.6, scene n.50/52

We have 2 time intervals inside [553.00, 553.40]

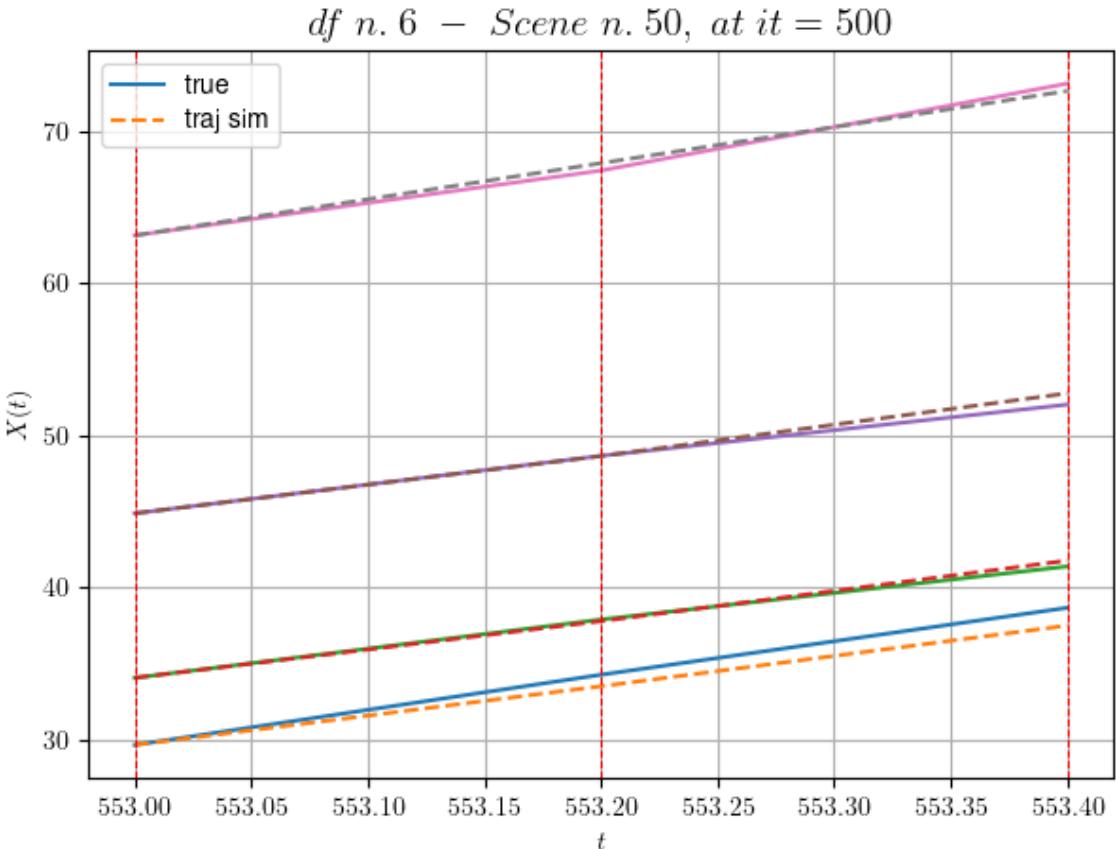
- Time interval n.0: [553.00, 553.20]
 - * y_true: [23.0804555 19.17546127 18.9008181]
 - * v_ann: [19.299362182617188, 18.6229190826416, 18.82583999633789, 23.748812608935992]

- Time interval n.1: [553.20, 553.40]
 - * y_true: [22.02058024 17.45053567 16.85079909]
 - * v_ann: [19.94597816467285, 19.924144744873047, 20.62992286682129, 23.748812608935992]

* err= 0.2602963509738598

* Learning rate NN = 0.0007289999630302191

* diff = 0.0006736563667935624



For scene 50/52

* use LR_NN=0.001 with err=5.358956139413255 at it=24
 * v0_scn_mean = 24.248887258031143
 * MAE = 0.20764145346056764

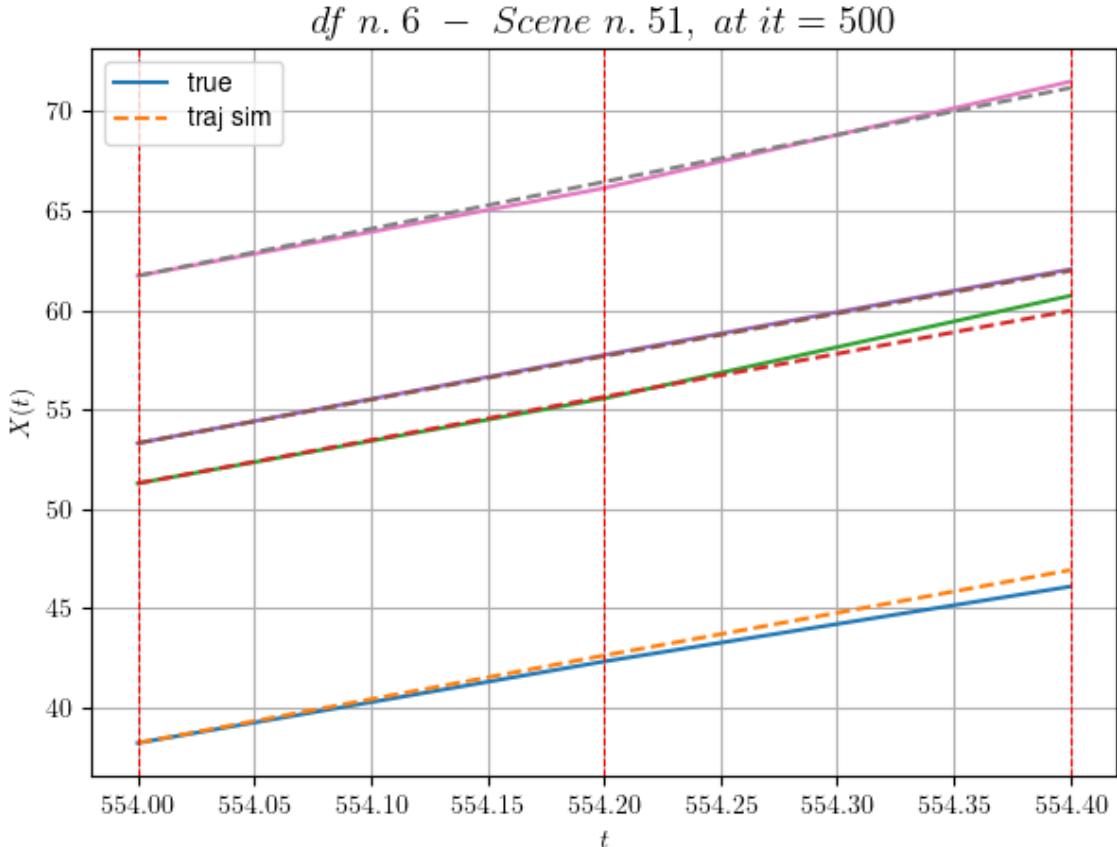
df n.6, scene n.51/52

We have 2 time intervals inside [554.00, 554.40]

- Time interval n.0: [554.00, 554.20]
 - * y_true: [20.50061186 21.35116733 22.20133365]
 - * v_ann: [22.005964279174805, 21.780517578125, 21.877450942993164, 23.64705062033054]

- Time interval n.1: [554.20, 554.40]
 - * y_true: [18.86075328 25.85180384 21.5614577]
 - * v_ann: [21.488340377807617, 21.664798736572266, 21.487686157226562, 23.64705062033054]

- * err= 0.12990746800313246
- * Learning rate NN = 0.0007289999630302191
- * diff = 6.13663339946724e-05



For scene 51/52

- * use LR_NN=0.001 with err=4.757957243547184 at it=24
- * v0_scn_mean = 24.155265897367563
- * MAE = 0.1290031667604014

For df=6 with 52 scenes, time taken: 997.70

In df n.7/10 we have 30 scenes

df n.7, scene n.0/30

We have 8 time intervals inside [37.36,38.96]

- Time interval n.0: [37.36, 37.56]
 - * y_true: [25.35701236]
 - * v_ann: [31.525651931762695, 25.361418058283437]

- Time interval n.1: [37.56, 37.76]
 - * y_true: [25.73989368]
 - * v_ann: [30.29967498779297, 25.361418058283437]

- Time interval n.2: [37.76, 37.96]
 - * y_true: [23.71210977]

```
* v_ann: [28.666128158569336, 25.361418058283437]
```

```
- Time interval n.3: [37.96, 38.16]
* y_true: [25.66543151]
* v_ann: [26.028255462646484, 25.361418058283437]
```

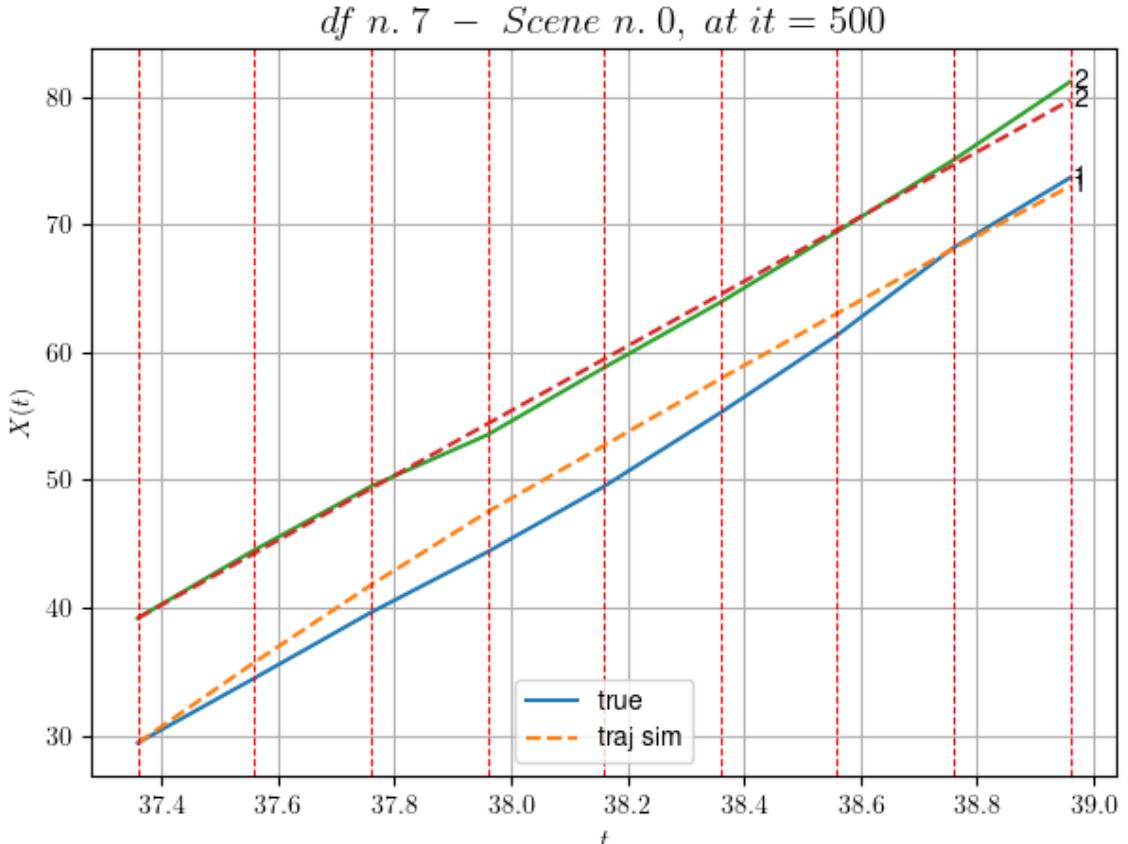
```
- Time interval n.4: [38.16, 38.36]
* y_true: [28.90912072]
* v_ann: [26.193876266479492, 25.361418058283437]
```

```
- Time interval n.5: [38.36, 38.56]
* y_true: [30.37297243]
* v_ann: [25.55559539794922, 25.361418058283437]
```

```
- Time interval n.6: [38.56, 38.76]
* y_true: [34.29923068]
* v_ann: [25.432113647460938, 25.361418058283437]
```

```
- Time interval n.7: [38.76, 38.96]
* y_true: [27.40980382]
* v_ann: [24.428220748901367, 25.361418058283437]
```

```
* err= 2.2594877103609052
* Learning rate NN = 0.00020589104678947479
* diff = 0.07175421481093647
```



For scene 0/30

- * use LR_NN=0.001 with err=10.533383528877238 at it=24
- * v0_scn_mean = 25.546961335916638
- * MAE = 1.5294286363414566

df n.7, scene n.1/30

We have 3 time intervals inside [43.16, 43.76]

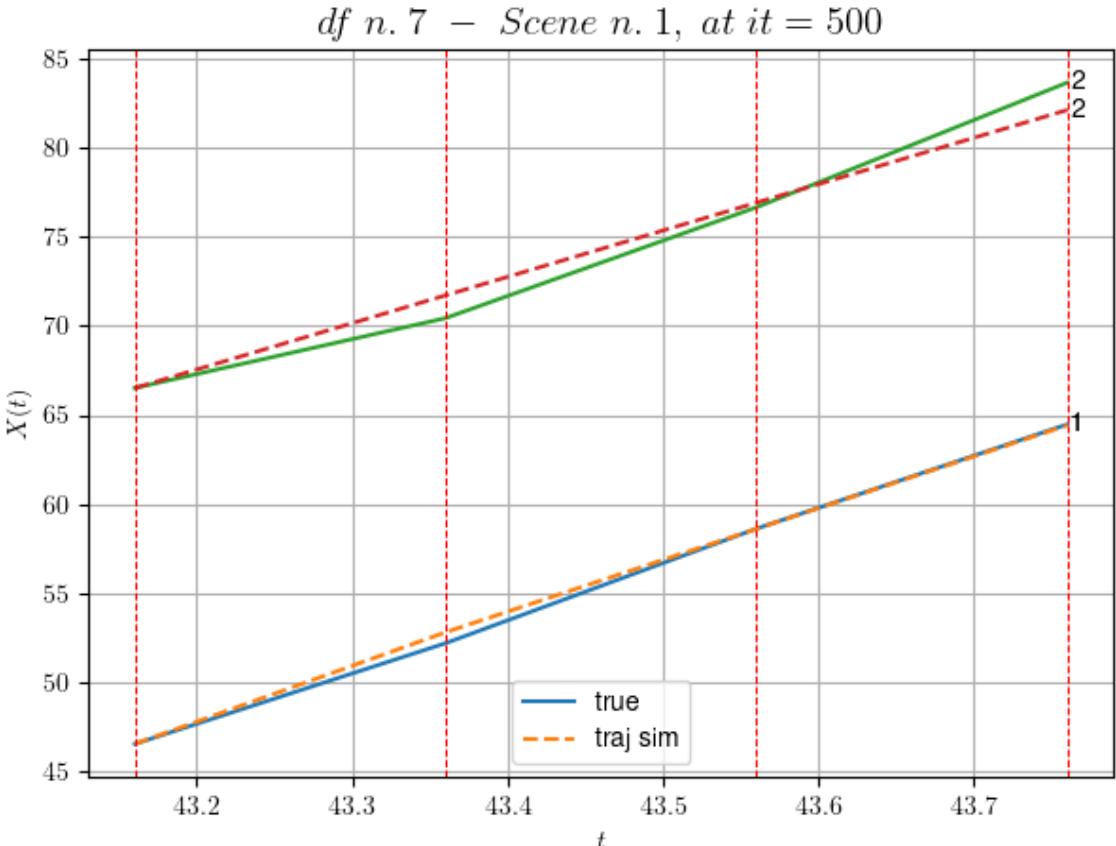
- Time interval n.0: [43.16, 43.36]
 - * y_true: [28.21793458]
 - * v_ann: [31.277217864990234, 25.959463570058276]

- Time interval n.1: [43.36, 43.56]
 - * y_true: [32.07362933]
 - * v_ann: [28.971725463867188, 25.959463570058276]

- Time interval n.2: [43.56, 43.76]
 - * y_true: [29.22963958]
 - * v_ann: [29.00194549560547, 25.959463570058276]

- * err= 0.553175254186999
- * Learning rate NN = 2.952449540316593e-05

* diff = 0.00011055344400812128



For scene 1/30

* use LR_NN=5e-05 with err=1.1538673156098584 at it=24
 * v0_scn_mean = 26.121085027225128
 * MAE = 0.4872305549768564

df n.7, scene n.2/30

We have 7 time intervals inside [44.96, 46.36]

- Time interval n.0: [44.96, 45.16]
 - * y_true: [26.28719925]
 - * v_ann: [27.879335403442383, 26.657757035933585]

- Time interval n.1: [45.16, 45.36]
 - * y_true: [30.92729896]
 - * v_ann: [26.554821014404297, 26.657757035933585]

- Time interval n.2: [45.36, 45.56]
 - * y_true: [23.73776955]
 - * v_ann: [26.534704208374023, 26.657757035933585]

- Time interval n.3: [45.56, 45.76]

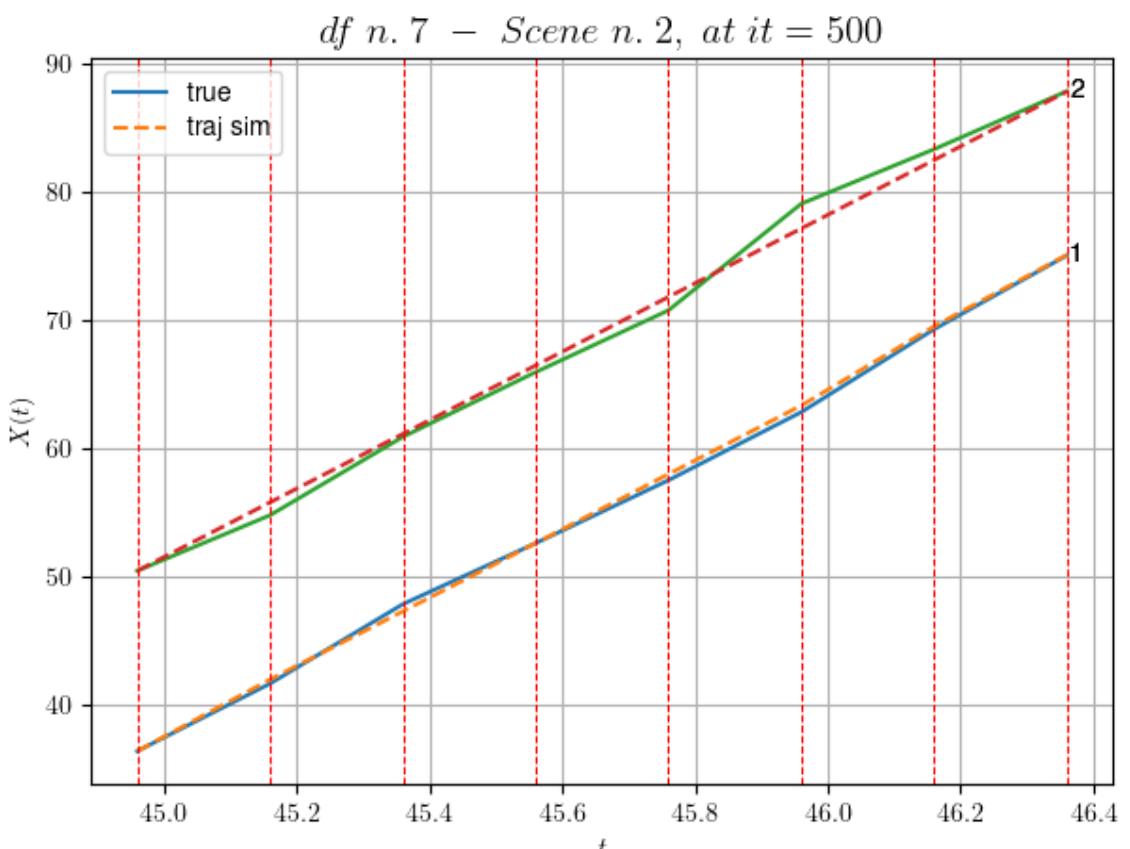
```
* y_true: [24.51414777]
* v_ann: [26.879640579223633, 26.657757035933585]
```

```
- Time interval n.4: [45.76, 45.96]
* y_true: [26.52798583]
* v_ann: [26.702014923095703, 26.657757035933585]
```

```
- Time interval n.5: [45.96, 46.16]
* y_true: [32.24792255]
* v_ann: [30.84831428527832, 26.657757035933585]
```

```
- Time interval n.6: [46.16, 46.36]
* y_true: [28.76269973]
* v_ann: [27.82900047302246, 26.657757035933585]
```

```
* err= 0.48684922245993634
* Learning rate NN = 1.2709323527815286e-05
* diff = 0.0003229703652587457
```



For scene 2/30

```
* use LR_NN=5e-05 with err=3.738180848222285 at it=24
* v0_scn_mean = 26.79144675447068
* MAE = 0.4676174187663412
```

```
df n.7, scene n.3/30
```

```
=====
===== We have 5 time intervals inside [51.36,52.36]
- Time interval n.0: [51.36, 51.56]
  * y_true: [23.57882573]
  * v_ann: [28.00894546508789, 25.158740607132888]
```

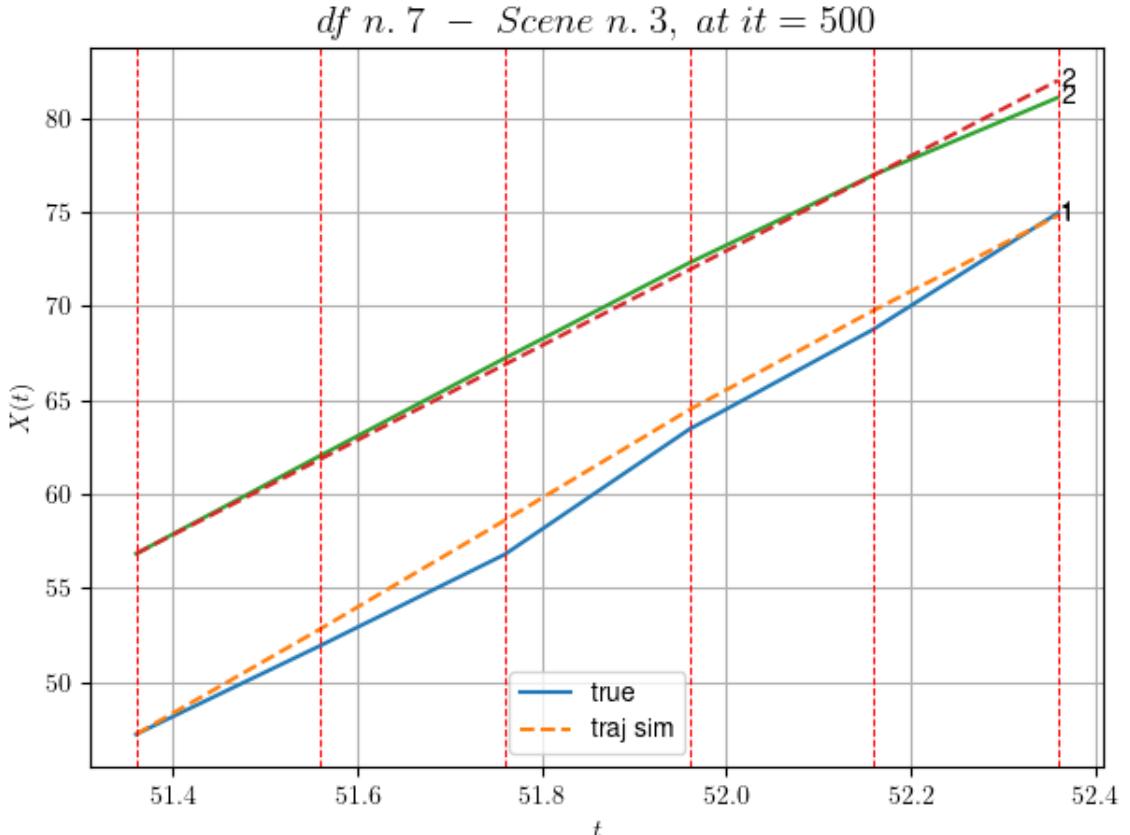
```
-----
----- - Time interval n.1: [51.56, 51.76]
  * y_true: [24.23722079]
  * v_ann: [28.869094848632812, 25.158740607132888]
```

```
-----
----- - Time interval n.2: [51.76, 51.96]
  * y_true: [33.24501337]
  * v_ann: [29.36549949645996, 25.158740607132888]
```

```
-----
----- - Time interval n.3: [51.96, 52.16]
  * y_true: [26.6110662]
  * v_ann: [26.429410934448242, 25.158740607132888]
```

```
-----
----- - Time interval n.4: [52.16, 52.36]
  * y_true: [30.92040212]
  * v_ann: [25.19290542602539, 25.158740607132888]
```

```
-----
----- * err= 0.6053131697695486
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.0015193296607746154
```



For scene 3/30

- * use LR_NN=5e-05 with err=5.458678593124258 at it=24
- * v0_scn_mean = 25.35239098281058
- * MAE = 0.60328424645818

df n.7, scene n.4/30

We have 5 time intervals inside [60.56, 61.56]

- Time interval n.0: [60.56, 60.76]
 - * y_true: [22.61948097]
 - * v_ann: [27.852766036987305, 25.527220166442856]

- Time interval n.1: [60.76, 60.96]
 - * y_true: [23.0211989]
 - * v_ann: [28.383752822875977, 25.527220166442856]

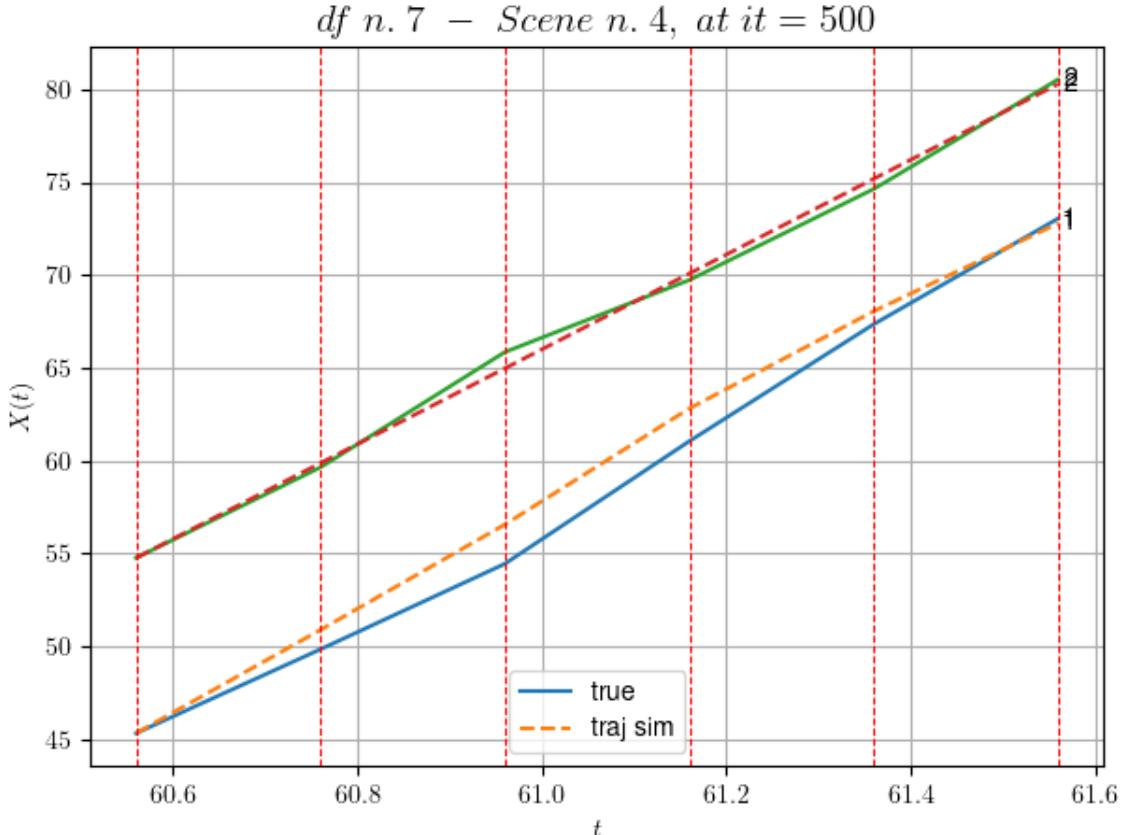
- Time interval n.2: [60.96, 61.16]
 - * y_true: [33.01460981]
 - * v_ann: [31.22576332092285, 25.527220166442856]

- Time interval n.3: [61.16, 61.36]
 - * y_true: [31.5149883]

```
* v_ann: [26.203210830688477, 25.527220166442856]
```

```
- Time interval n.4: [61.36, 61.56]
* y_true: [28.46918699]
* v_ann: [23.69135856628418, 25.527220166442856]
```

```
* err= 0.8790548739664885
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.0026900307452421
```



For scene 4/30

```
* use LR_NN=5e-05 with err=4.79094207854644 at it=24
* v0_scn_mean = 25.706131359750884
* MAE = 0.8789072393557178
```

df n.7, scene n.5/30

```
We have 4 time intervals inside [76.36, 77.16]
- Time interval n.0: [76.36, 76.56]
* y_true: [22.39037134]
* v_ann: [25.803377151489258, 35.5367678218336]
```

```
- Time interval n.1: [76.56, 76.76]
```

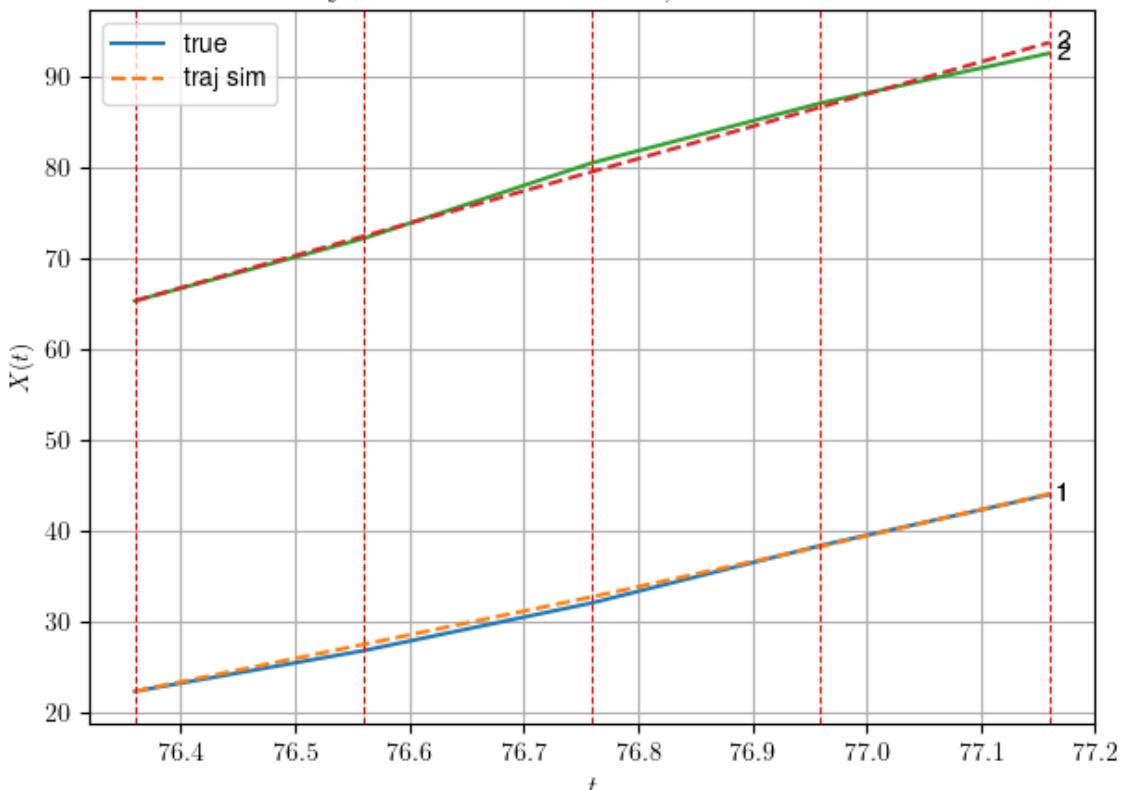
```
* y_true: [26.28445994]
* v_ann: [26.192306518554688, 35.5367678218336]
```

```
- Time interval n.2: [76.76, 76.96]
* y_true: [31.57858085]
* v_ann: [27.719701766967773, 35.5367678218336]
```

```
- Time interval n.3: [76.96, 77.16]
* y_true: [28.06530084]
* v_ann: [28.96088409423828, 35.5367678218336]
```

```
* err= 0.351040129667759
* Learning rate NN = 2.3914839403005317e-05
* diff = 0 0001281000002155722
```

df n. 7 – Scene n. 5, at it = 500



For scene 5/30

```
* use LR_NN=5e-05 with err=3.6416901492612443 at it=24
* v0_scn_mean = 35.31529710900231
* MAE = 0.33655441983949586
```

df n.7, scene n.6/30

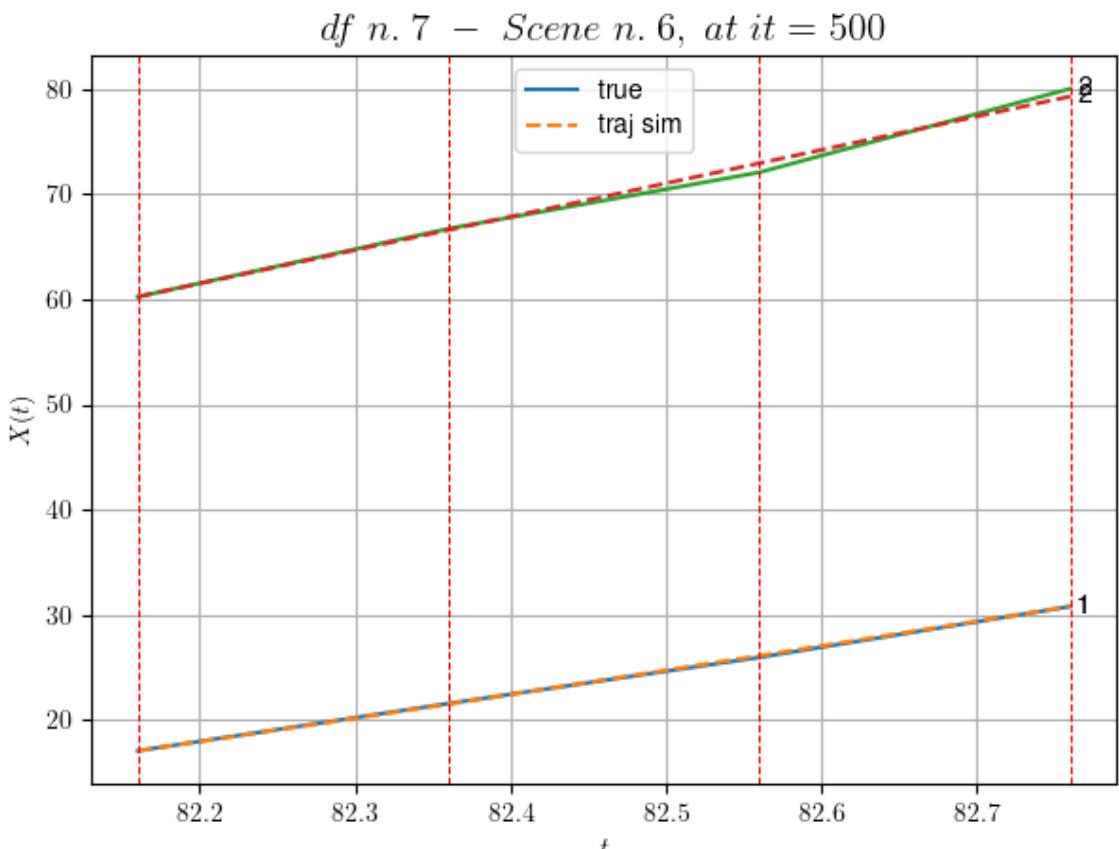
We have 3 time intervals inside [82.16, 82.76]
- Time interval n.0: [82.16, 82.36]

```
* y_true: [22.49086216]
* v_ann: [22.182756423950195, 31.745431023356087]
```

```
- Time interval n.1: [82.36, 82.56]
* y_true: [21.91444074]
* v_ann: [23.03514862060547, 31.745431023356087]
```

```
- Time interval n.2: [82.56, 82.76]
* y_true: [24.18388115]
* v_ann: [23.37485122680664, 31.745431023356087]
```

```
* err= 0.16751719990627828
* Learning rate NN = 5.9048988987342454e-06
* diff = 6.997177651180131e-08
```



For scene 6/30

```
* use LR_NN=1e-05 with err=0.4338409635316325 at it=24
* v0_scn_mean = 31.675613782435306
* MAE = 0.16749387113662403
```

df n.7, scene n.7/30

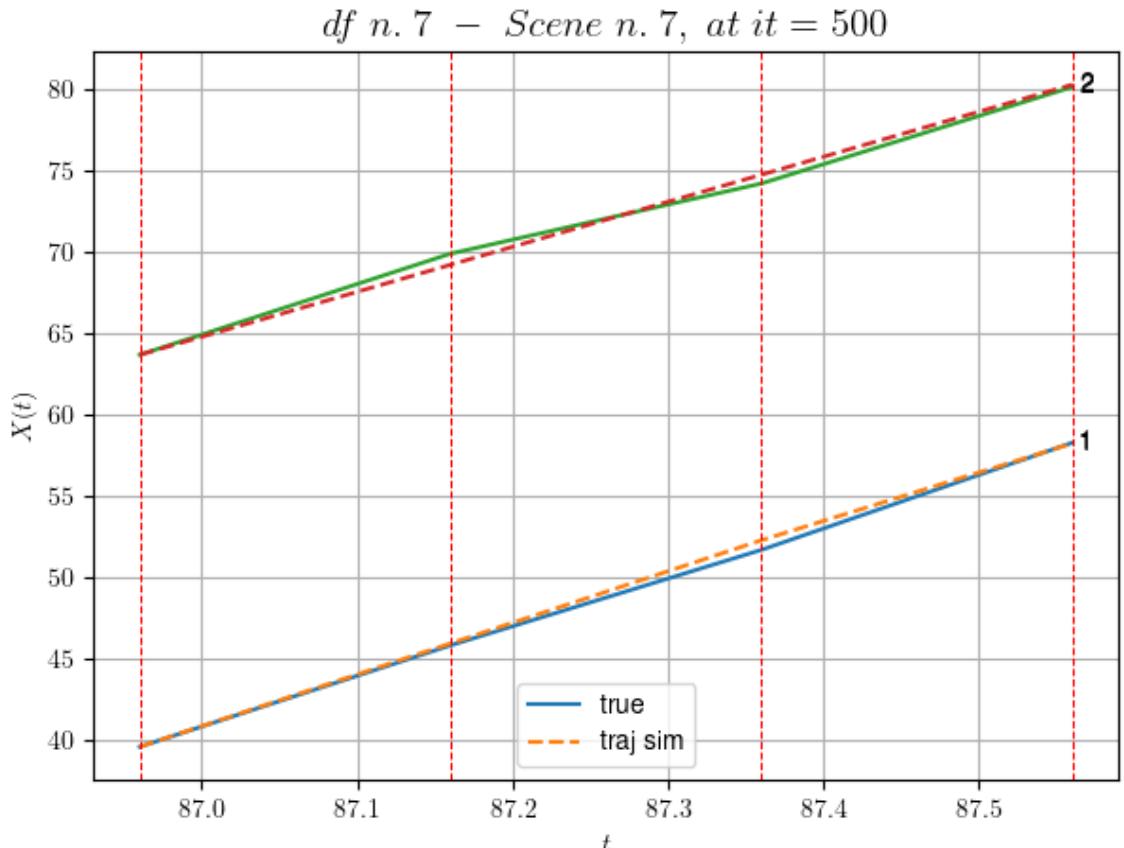
We have 3 time intervals inside [86.96, 87.56]

```
- Time interval n.0: [86.96, 87.16]
* y_true: [31.1433952]
* v_ann: [31.739912033081055, 27.633294787015792]
```

```
- Time interval n.1: [87.16, 87.36]
* y_true: [29.29438457]
* v_ann: [31.647001266479492, 27.633294787015792]
```

```
- Time interval n.2: [87.36, 87.56]
* y_true: [32.87952873]
* v_ann: [29.729618072509766, 27.633294787015792]
```

```
* err= 0.14242693643516616
* Learning rate NN = 2.952449540316593e-05
* diff = 8.036399689967388e-05
```



For scene 7/30

```
* use LR_NN=5e-05 with err=0.6460022299176706 at it=24
* v0_scn_mean = 27.72796299551701
* MAE = 0.14202186267035916
```

df n.7, scene n.8/30

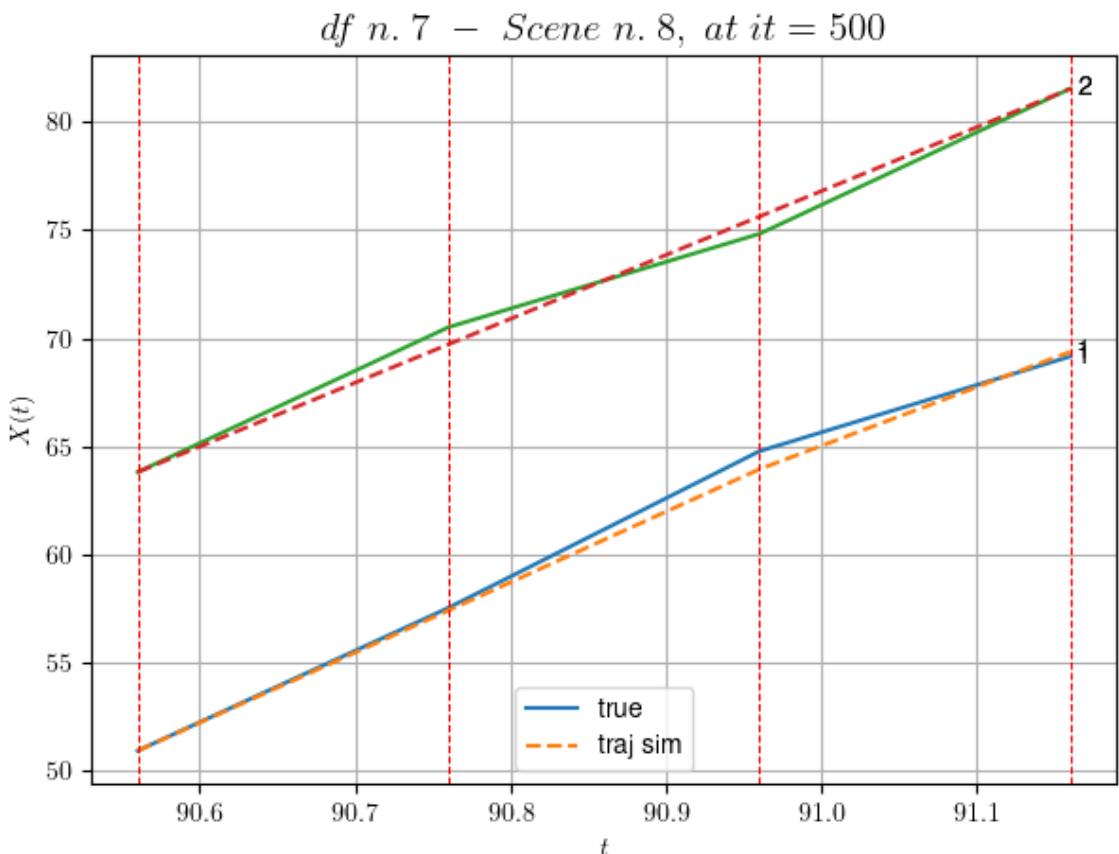
We have 3 time intervals inside [90.56, 91.16]

- Time interval n.0: [90.56, 90.76]
 - * y_true: [33.04453039]
 - * v_ann: [32.42966842651367, 29.53569419125577]
-

- Time interval n.1: [90.76, 90.96]
 - * y_true: [36.18763126]
 - * v_ann: [32.638946533203125, 29.53569419125577]
-

- Time interval n.2: [90.96, 91.16]
 - * y_true: [21.90135867]
 - * v_ann: [27.147520065307617, 29.53569419125577]
-

* err= 0.25282434574899465
 * Learning rate NN = 2.952449540316593e-05
 * diff = 0.0006210067011070408



For scene 8/30

- * use LR_NN=5e-05 with err=0.24864400155105076 at it=24
 - * v0_scn_mean = 29.554266423601977
 - * MAE = 0.25282434574899465
-
-

df n.7, scene n.9/30

```
=====
=====

We have 5 time intervals inside [92.16,93.16]
- Time interval n.0: [92.16, 92.36]
  * y_true: [22.06765878]
  * v_ann: [21.4937801361084, 26.406840765364826]

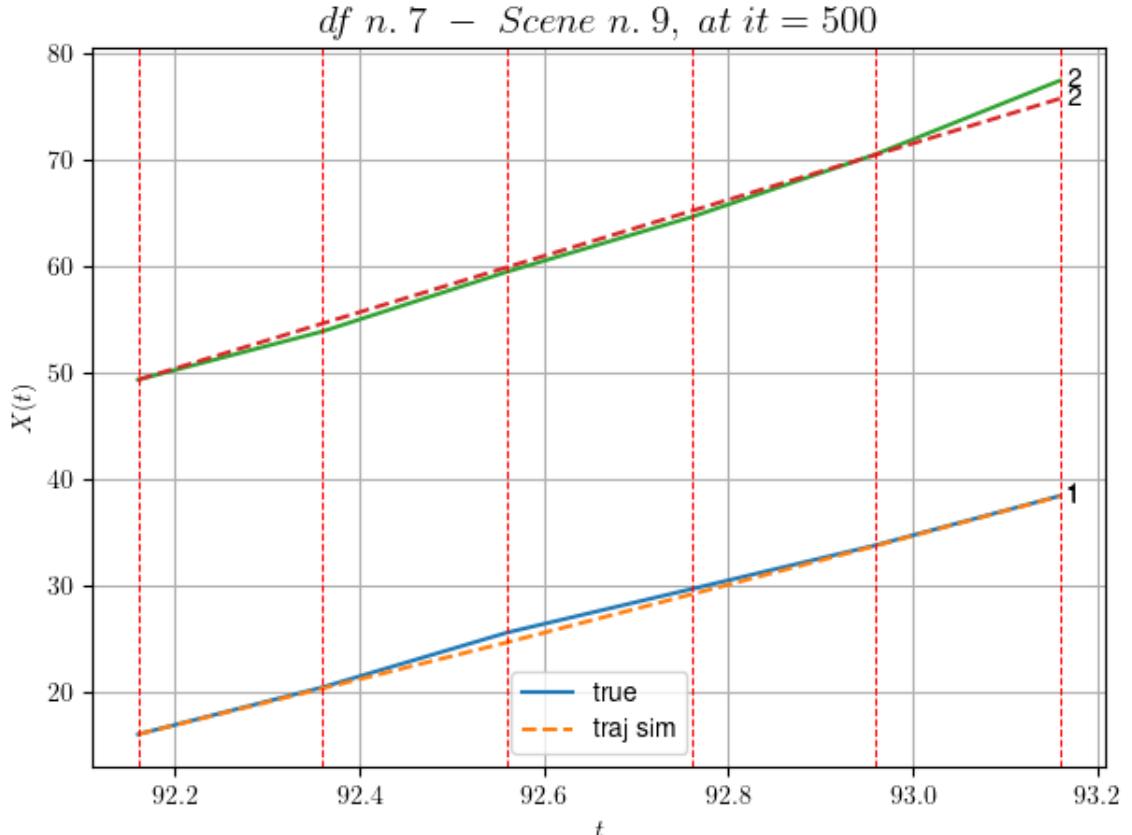
-----
- Time interval n.1: [92.36, 92.56]
  * y_true: [25.65636302]
  * v_ann: [21.649320602416992, 26.406840765364826]

-----
- Time interval n.2: [92.56, 92.76]
  * y_true: [20.44760846]
  * v_ann: [22.542322158813477, 26.406840765364826]

-----
- Time interval n.3: [92.76, 92.96]
  * y_true: [20.60510882]
  * v_ann: [22.769962310791016, 26.406840765364826]

-----
- Time interval n.4: [92.96, 93.16]
  * y_true: [23.19440251]
  * v_ann: [23.351978302001953, 26.406840765364826]

-----
* err= 0.42133405310875144
* Learning rate NN = 3.874203684972599e-05
* dfff = 0.001007711000170000
```



For scene 9/30

- * use LR_NN=0.0001 with err=2.153990288260282 at it=24
- * v0_scn_mean = 26.5505671347227
- * MAE = 0.3815256948982301

df n.7, scene n.10/30

We have 7 time intervals inside [110.96, 112.36]

- Time interval n.0: [110.96, 111.16]
 - * y_true: [22.6227995]
 - * v_ann: [23.27395248413086, 27.6762568074593]

- Time interval n.1: [111.16, 111.36]
 - * y_true: [23.80055078]
 - * v_ann: [24.357208251953125, 27.6762568074593]

- Time interval n.2: [111.36, 111.56]
 - * y_true: [26.30746114]
 - * v_ann: [26.284770965576172, 27.6762568074593]

- Time interval n.3: [111.56, 111.76]
 - * y_true: [25.96075112]

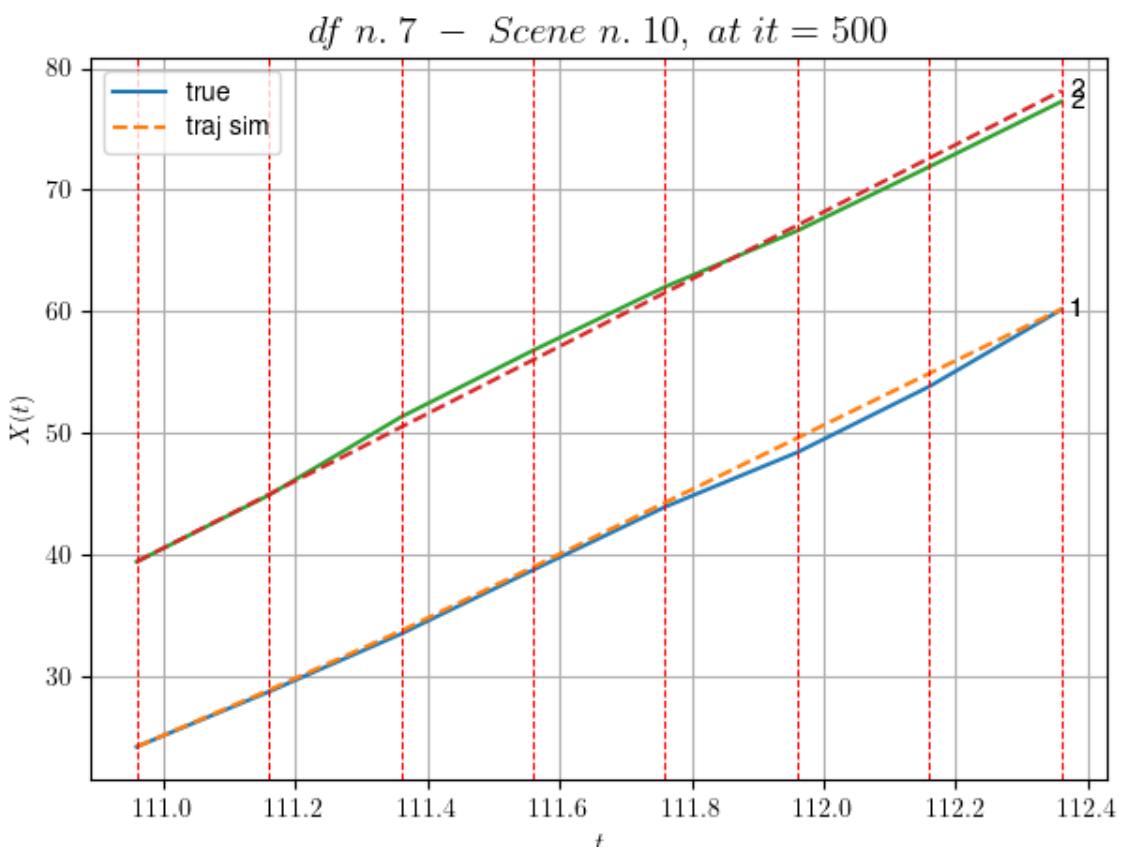
```
* v_ann: [26.541515350341797, 27.6762568074593]
```

```
- Time interval n.4: [111.76, 111.96]
* y_true: [22.42440713]
* v_ann: [26.572288513183594, 27.6762568074593]
```

```
- Time interval n.5: [111.96, 112.16]
* y_true: [27.11798837]
* v_ann: [26.580591201782227, 27.6762568074593]
```

```
- Time interval n.6: [112.16, 112.36]
* y_true: [31.65227574]
* v_ann: [26.419750213623047, 27.6762568074593]
```

```
* err= 0.3639816935405981
* Learning rate NN = 1.2709323527815286e-05
* diff = 0.0014863585802306623
```



For scene 10/30

```
* use LR_NN=5e-05 with err=2.633580298668292 at it=24
* v0_scn_mean = 27.769206535143073
* MAE = 0.3639816935405981
```

```
df n.7, scene n.11/30
```

We have 3 time intervals inside [116.96, 117.56]

- Time interval n.0: [116.96, 117.16]

- * y_true: [29.80898437]

- * v_ann: [30.499656677246094, 14.981640724782324]

- Time interval n.1: [117.16, 117.36]

- * y_true: [21.49364724]

- * v_ann: [17.354887008666992, 14.981640724782324]

- Time interval n.2: [117.36, 117.56]

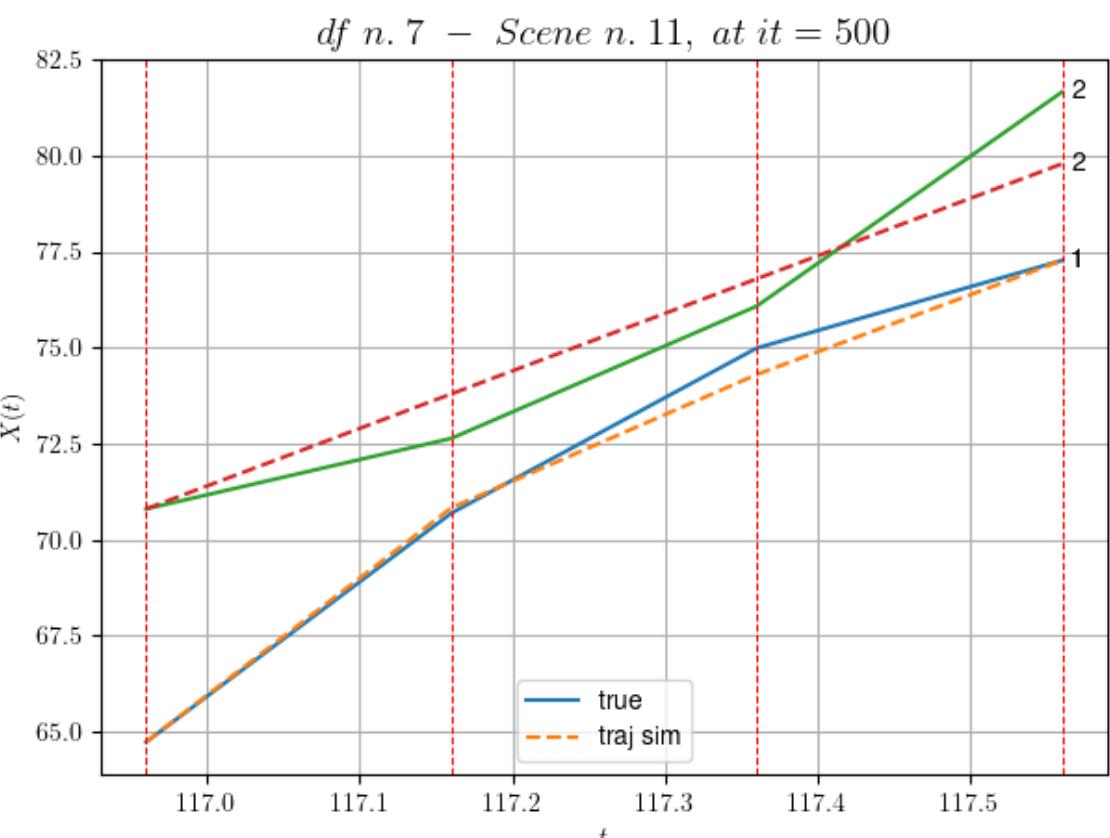
- * y_true: [11.41585007]

- * v_ann: [14.849788665771484, 14.981640724782324]

- * err= 0.7304354059508699

- * Learning rate NN = 0.0002952449722215533

- * diff = 9.40221377310202e-05



For scene 11/30

- * use LR_NN=0.0005 with err=14.47899311423786 at it=24

- * v0_scn_mean = 15.58237509567622

- * MAE = 0.6546795835952827

```
df n.7, scene n.12/30
```

```
=====
=====
```

We have 7 time intervals inside [138.56,139.96]

- Time interval n.0: [138.56, 138.76]
 - * y_true: [4.08913]
 - * v_ann: [22.7132625579834, 23.573405043852205]

-
- Time interval n.1: [138.76, 138.96]
 - * y_true: [21.77829279]
 - * v_ann: [23.857736587524414, 23.573405043852205]

-
- Time interval n.2: [138.96, 139.16]
 - * y_true: [26.03066503]
 - * v_ann: [22.944210052490234, 23.573405043852205]

-
- Time interval n.3: [139.16, 139.36]
 - * y_true: [30.65530212]
 - * v_ann: [24.107759475708008, 23.573405043852205]

-
- Time interval n.4: [139.36, 139.56]
 - * y_true: [33.83772355]
 - * v_ann: [22.34377098083496, 23.573405043852205]

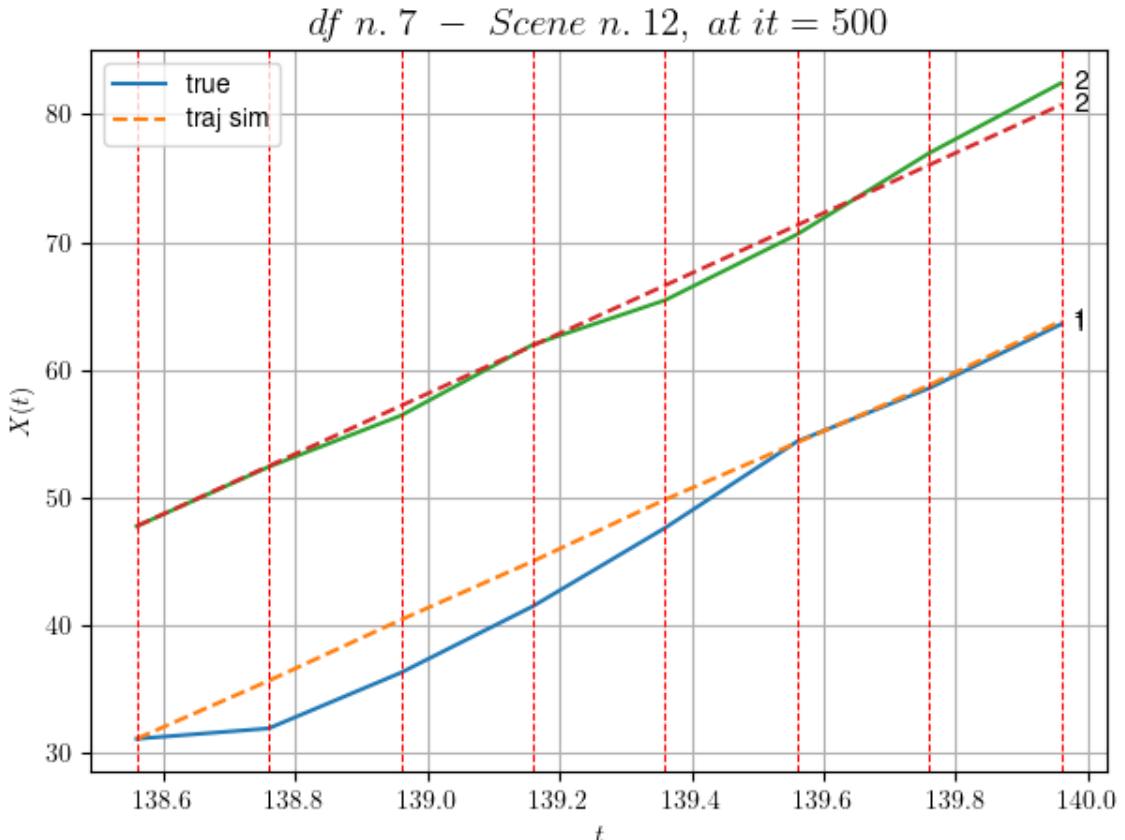
-
- Time interval n.5: [139.56, 139.76]
 - * y_true: [20.86416518]
 - * v_ann: [22.436025619506836, 23.573405043852205]

-
- Time interval n.6: [139.76, 139.96]
 - * y_true: [25.08903332]
 - * v_ann: [25.23517417907715, 23.573405043852205]

```
* err= 3.4194113095010006
```

```
* Learning rate NN = 0.00012709324073512107
```

```
* diff = 0.07927037928487435
```



For scene 12/30

```
* use LR_NN=0.0005 with err=15.01459771150636 at it=24
* v0_scn_mean = 23.8304688420491
* MAE = 1.8739554681007011
```

df n.7, scene n.13/30

We have 3 time intervals inside [154.96, 155.56]

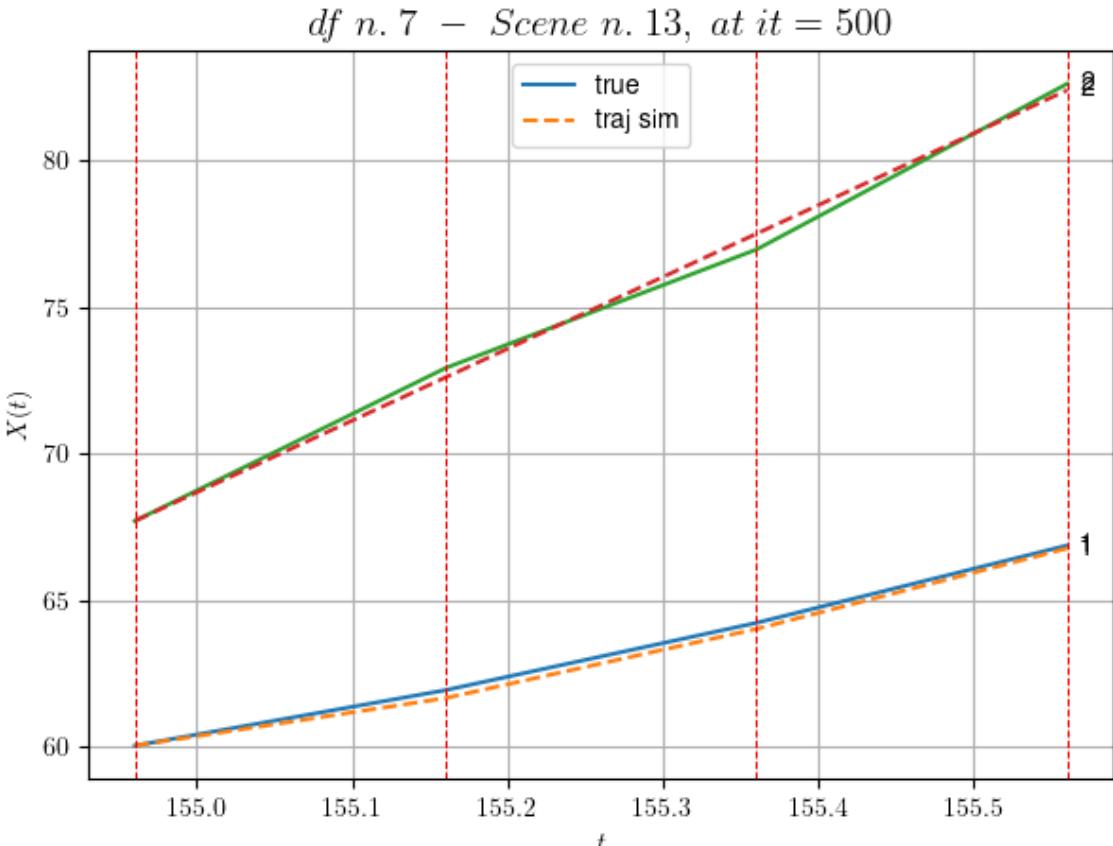
- Time interval n.0: [154.96, 155.16]
 - * y_true: [9.47635991]
 - * v_ann: [8.122161865234375, 24.52487868148255]

- Time interval n.1: [155.16, 155.36]
 - * y_true: [11.49147565]
 - * v_ann: [11.807807922363281, 24.52487868148255]

- Time interval n.2: [155.36, 155.56]
 - * y_true: [13.22499707]
 - * v_ann: [13.757238388061523, 24.52487868148255]

- * err= 0.07072934698914873
 - * Learning rate NN = 5.904899080633186e-05

* diff = 4.746192003982075e-05



For scene 13/30

- * use LR_NN=0.0001 with err=2.1970179352414267 at it=24
- * v0_scn_mean = 24.743883534180874
- * MAE = 0.07072934698914873

df n.7, scene n.14/30

We have 4 time intervals inside [162.36, 163.16]

- Time interval n.0: [162.36, 162.56]
 - * y_true: [21.23426094]
 - * v_ann: [16.972137451171875, 32.323787690864776]

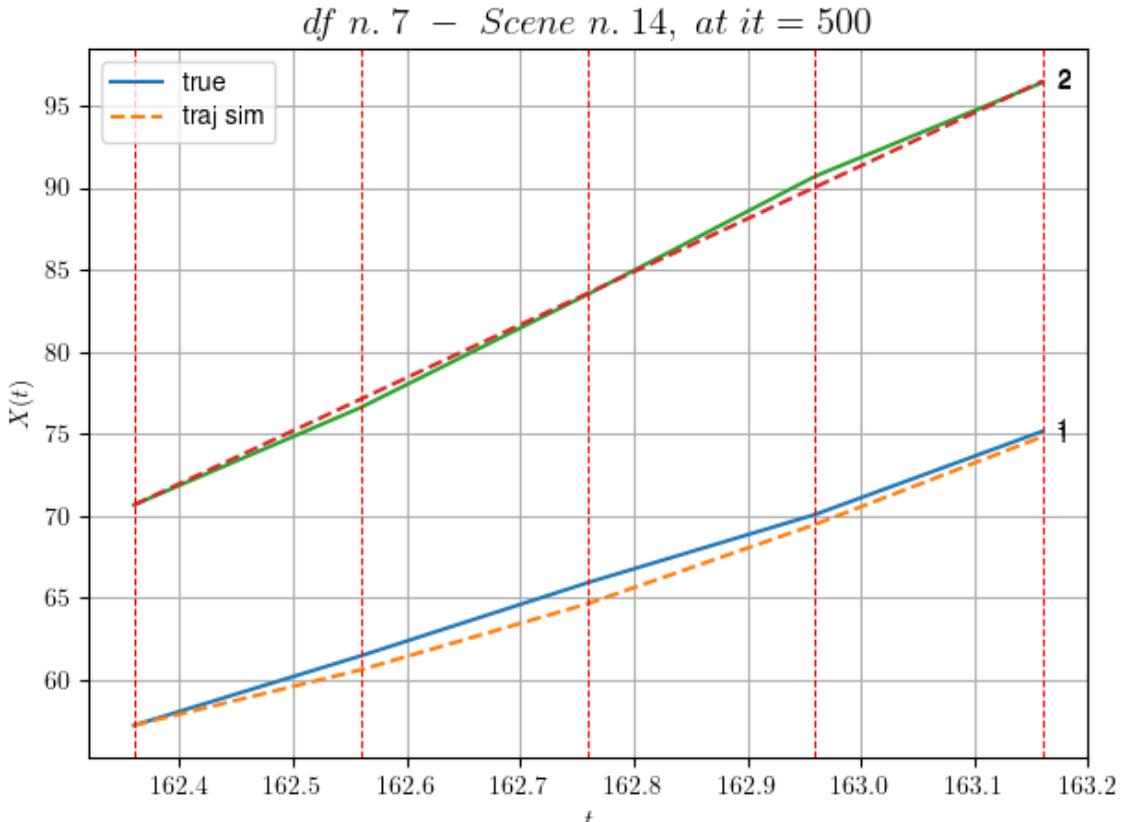
- Time interval n.1: [162.56, 162.76]
 - * y_true: [22.34095528]
 - * v_ann: [20.18027114868164, 32.323787690864776]

- Time interval n.2: [162.76, 162.96]
 - * y_true: [20.77195672]
 - * v_ann: [24.16497230529785, 32.323787690864776]

- Time interval n.3: [162.96, 163.16]

```
* y_true: [25.37230132]
* v_ann: [26.743520736694336, 32.323787690864776]
```

```
* err= 0.3572592136220357
* Learning rate NN = 0.000239148415857926
* diff = 0.002257401044505558
```



For scene 14/30

```
* use LR_NN=0.0005 with err=0.8967226896080873 at it=24
* v0_scn_mean = 32.230836183248016
* MAE = 0.34700267019869946
```

df n.7, scene n.15/30

We have 4 time intervals inside [175.96, 176.76]

- Time interval n.0: [175.96, 176.16]
 - * y_true: [16.06532355]
 - * v_ann: [18.255029678344727, 21.81462918305666]

- Time interval n.1: [176.16, 176.36]
 - * y_true: [18.00626116]
 - * v_ann: [19.06855010986328, 21.81462918305666]

- Time interval n.2: [176.36, 176.56]

```
* y_true: [22.4570007]
* v_ann: [19.315168380737305, 21.81462918305666]
```

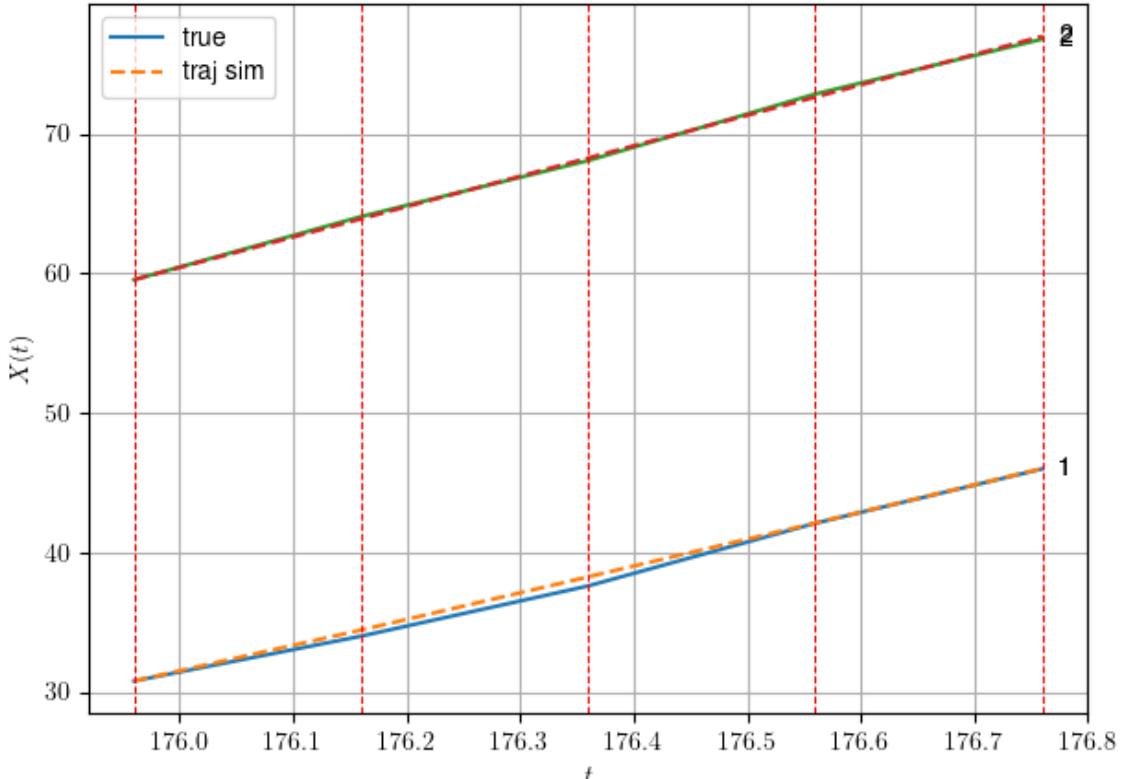
```
- Time interval n.3: [176.56, 176.76]
```

```
* y_true: [19.50562764]
```

```
* v_ann: [19.53078842163086, 21.81462918305666]
```

```
* err= 0.07721333071579098
* Learning rate NN = 4.782968062500004e-06
* diff = 4.556819475622087e-05
```

df n. 7 – Scene n. 15, at it = 500



For scene 15/30

```
* use LR_NN=1e-05 with err=8.224222747403964 at it=24
```

```
* v0_scn_mean = 22.142044015671978
```

```
* MAE = 0.07707675359212947
```

df n.7, scene n.16/30

We have 4 time intervals inside [177.76, 178.56]

```
- Time interval n.0: [177.76, 177.96]
```

```
* y_true: [32.54285647]
```

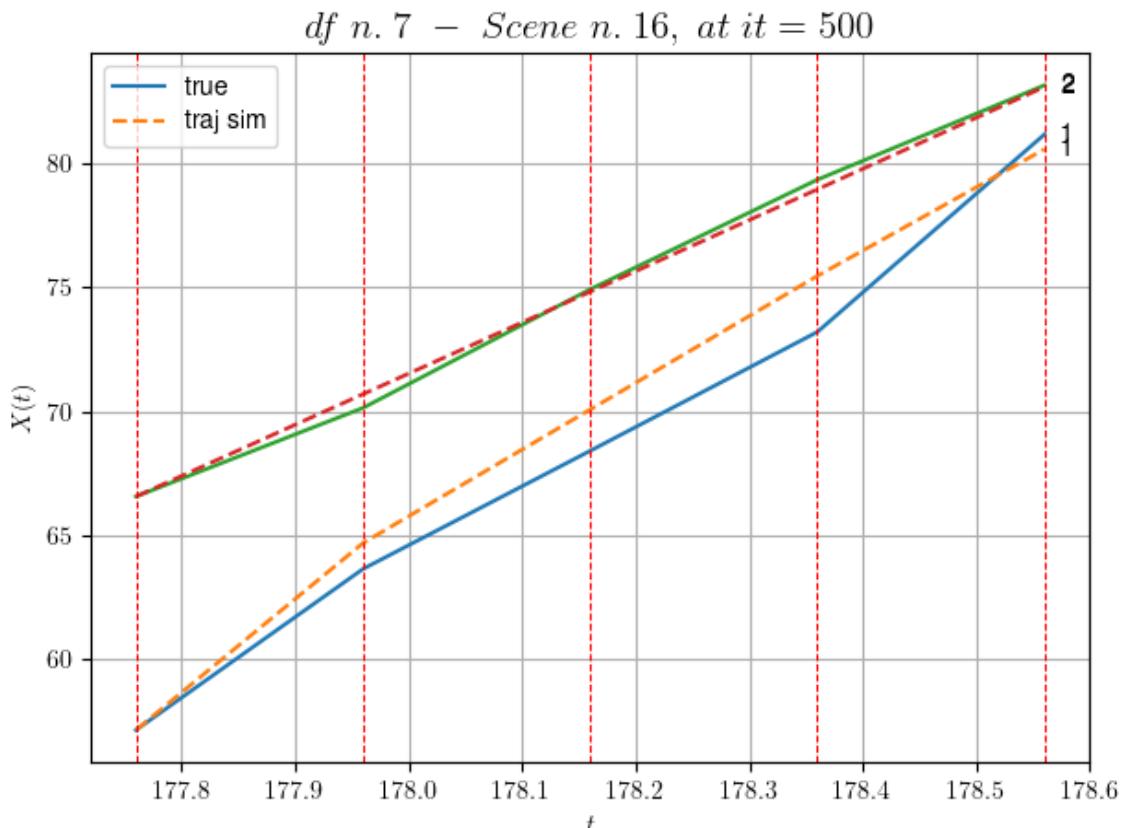
```
* v_ann: [37.7697639465332, 20.683526203706396]
```

- Time interval n.1: [177.96, 178.16]
 * y_true: [23.85498335]
 * v_ann: [26.96674919128418, 20.683526203706396]

- Time interval n.2: [178.16, 178.36]
 * y_true: [24.01227025]
 * v_ann: [26.9860782623291, 20.683526203706396]

- Time interval n.3: [178.36, 178.56]
 * y_true: [39.91143127]
 * v_ann: [25.60427474975586, 20.683526203706396]

* err= 0.9826987571956755
 * Learning rate NN = 2.3914839403005317e-05
 * diff = 0.0032683374790999364



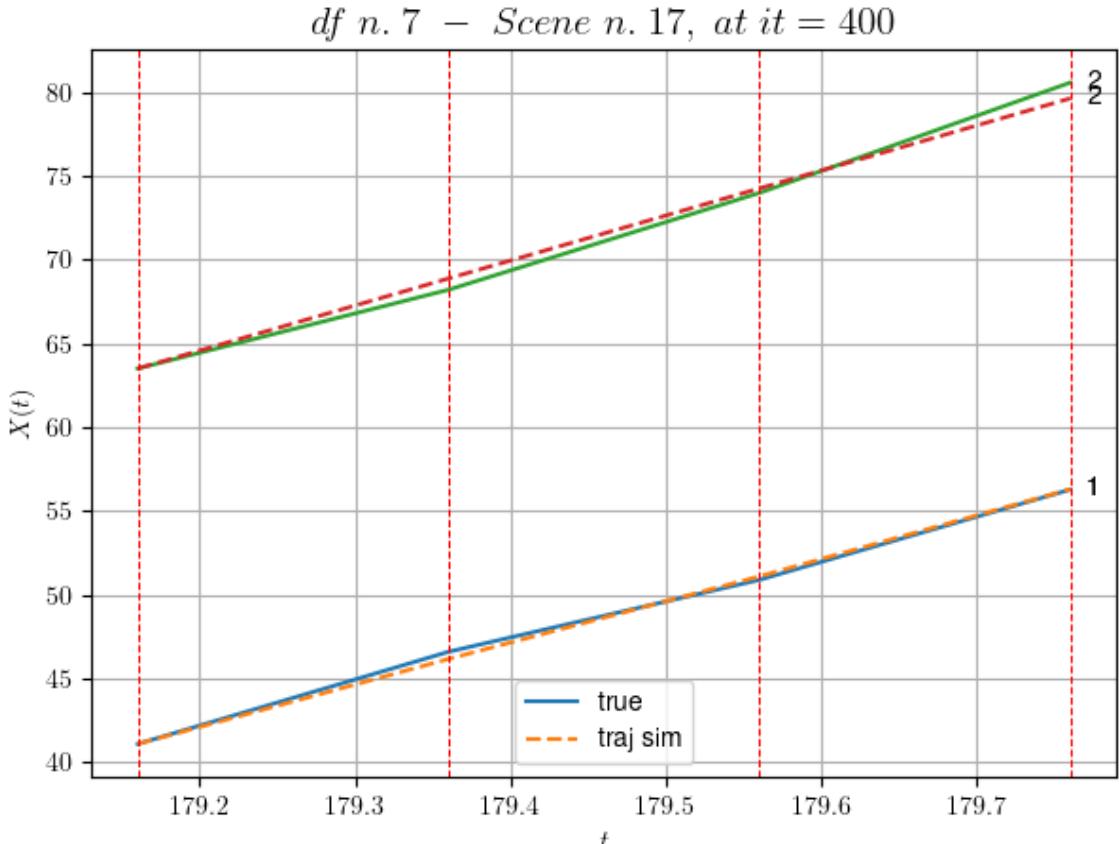
For scene 16/30

* use LR_NN=5e-05 with err=10.8250133247415 at it=24
 * v0_scn_mean = 21.056185155486933
 * MAE = 0.9826987571956755

df n.7, scene n.17/30

We have 3 time intervals inside [179.16,179.76]

```
* err= 0.20549667007304295
* Learning rate NN = 3.2804993679746985e-05
* diff = 8.561881176816222e-07
```

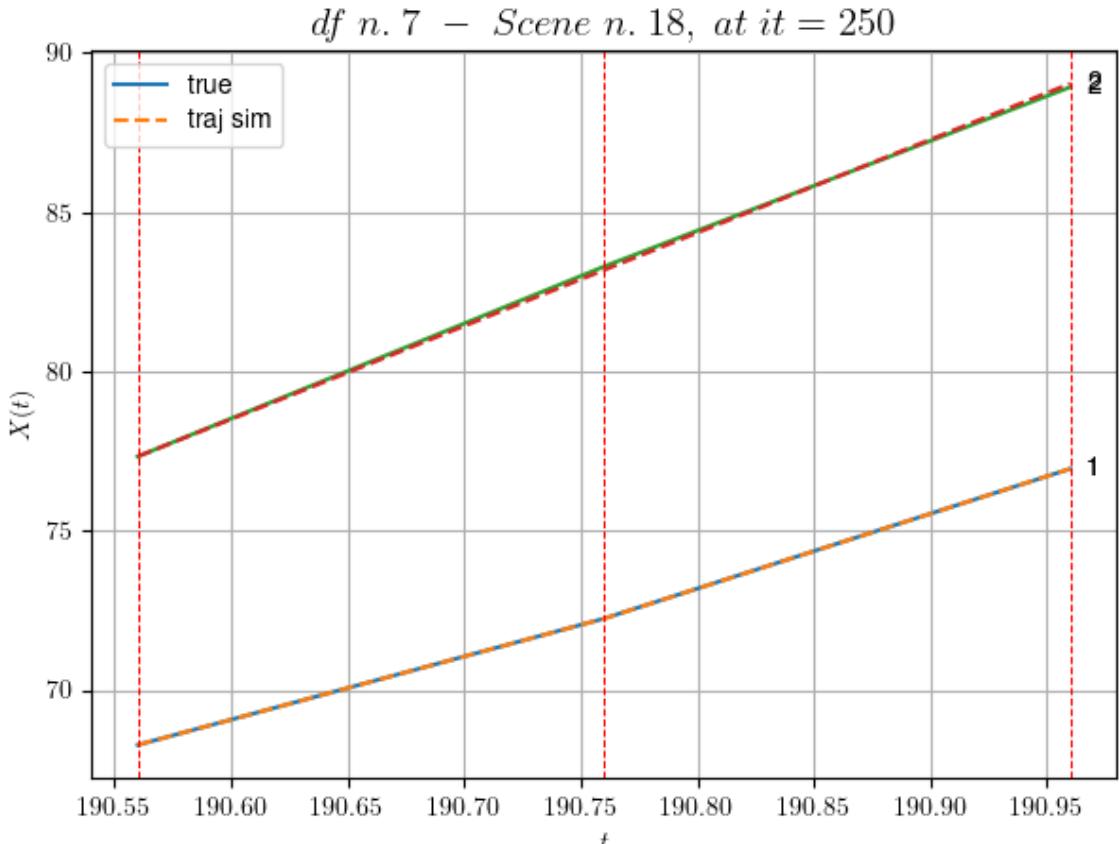


For scene 17/30

```
* use LR_NN=5e-05 with err=0.6348892415664534 at it=24
* v0_scn_mean = 27.0382540430398
* MAE = 0.18305607162497461
```

df n.7, scene n.18/30

```
We have 2 time intervals inside [190.56,190.96]
* err= 0.004042955645188327
* Learning rate NN = 0.0004500000213738531
* diff = 2.3382250631358292e-07
```

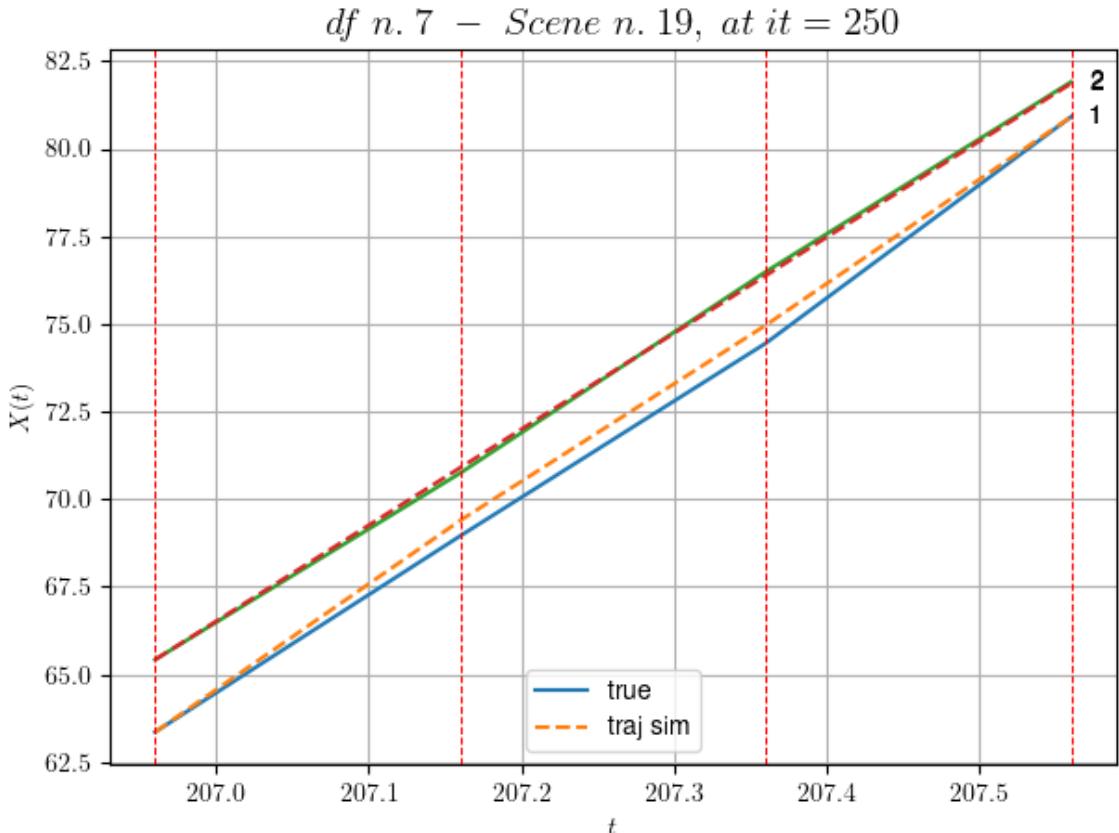


For scene 18/30

* use LR_NN=0.0005 with err=0.028299836282463107 at it=24
* v0_scn_mean = 29.34093584942415
* MAE = 0.004042955645188327

df n.7, scene n.19/30

We have 3 time intervals inside [206.96,207.56]
* err= 0.062026148506087606
* Learning rate NN = 0.0004049999886378646
* diff = 9.436840125442991e-07



For scene 19/30

- * use LR_NN=0.0005 with err=0.510155345690098 at it=24
- * v0_scn_mean = 27.607315270515727
- * MAE = 0.06148952655522817

df n.7, scene n.20/30

We have 7 time intervals inside [219.96, 221.36]

- Time interval n.0: [219.96, 220.16]
 - * y_true: [26.85290938]
 - * v_ann: [28.77395248413086, 31.227007582862328]

- Time interval n.1: [220.16, 220.36]
 - * y_true: [28.31792495]
 - * v_ann: [30.38193130493164, 31.227007582862328]

- Time interval n.2: [220.36, 220.56]
 - * y_true: [31.38990118]
 - * v_ann: [31.488563537597656, 31.227007582862328]

- Time interval n.3: [220.56, 220.76]
 - * y_true: [30.99769]

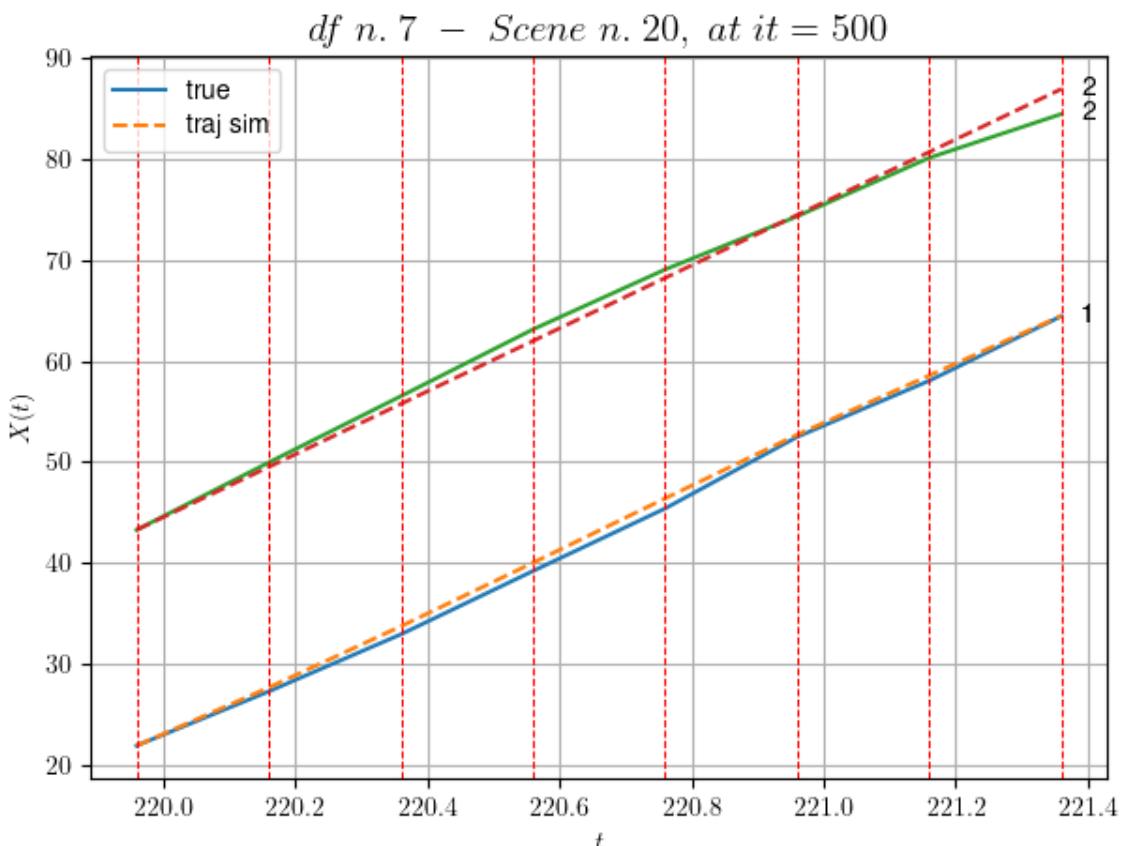
```
* v_ann: [31.9178466796875, 31.227007582862328]
```

```
- Time interval n.4: [220.76, 220.96]
* y_true: [35.50488652]
* v_ann: [31.585153579711914, 31.227007582862328]
```

```
- Time interval n.5: [220.96, 221.16]
* y_true: [27.84910592]
* v_ann: [29.355684280395508, 31.227007582862328]
```

```
- Time interval n.6: [221.16, 221.36]
* y_true: [32.01250046]
* v_ann: [29.63273048400879, 31.227007582862328]
```

```
* err= 0.7548752611234318
* Learning rate NN = 2.541864660088322e-06
* diff = 5 746069639678275e-05
```



For scene 20/30

```
* use LR_NN=1e-05 with err=0.8930727588893238 at it=24
* v0_scn_mean = 31.17792727955715
* MAE = 0.7128945870171391
```

```
df n.7, scene n.21/30
```

```
=====
=====
```

We have 7 time intervals inside [226.76,228.16]
- Time interval n.0: [226.76, 226.96]
 * y_true: [26.80615591]
 * v_ann: [24.959667205810547, 30.698361324533423]

```
-----
-----
```

- Time interval n.1: [226.96, 227.16]
 * y_true: [27.56613237]
 * v_ann: [25.169828414916992, 30.698361324533423]

```
-----
-----
```

- Time interval n.2: [227.16, 227.36]
 * y_true: [23.97470155]
 * v_ann: [24.905792236328125, 30.698361324533423]

```
-----
-----
```

- Time interval n.3: [227.36, 227.56]
 * y_true: [23.66579942]
 * v_ann: [26.203428268432617, 30.698361324533423]

```
-----
-----
```

- Time interval n.4: [227.56, 227.76]
 * y_true: [34.08364768]
 * v_ann: [26.836095809936523, 30.698361324533423]

```
-----
-----
```

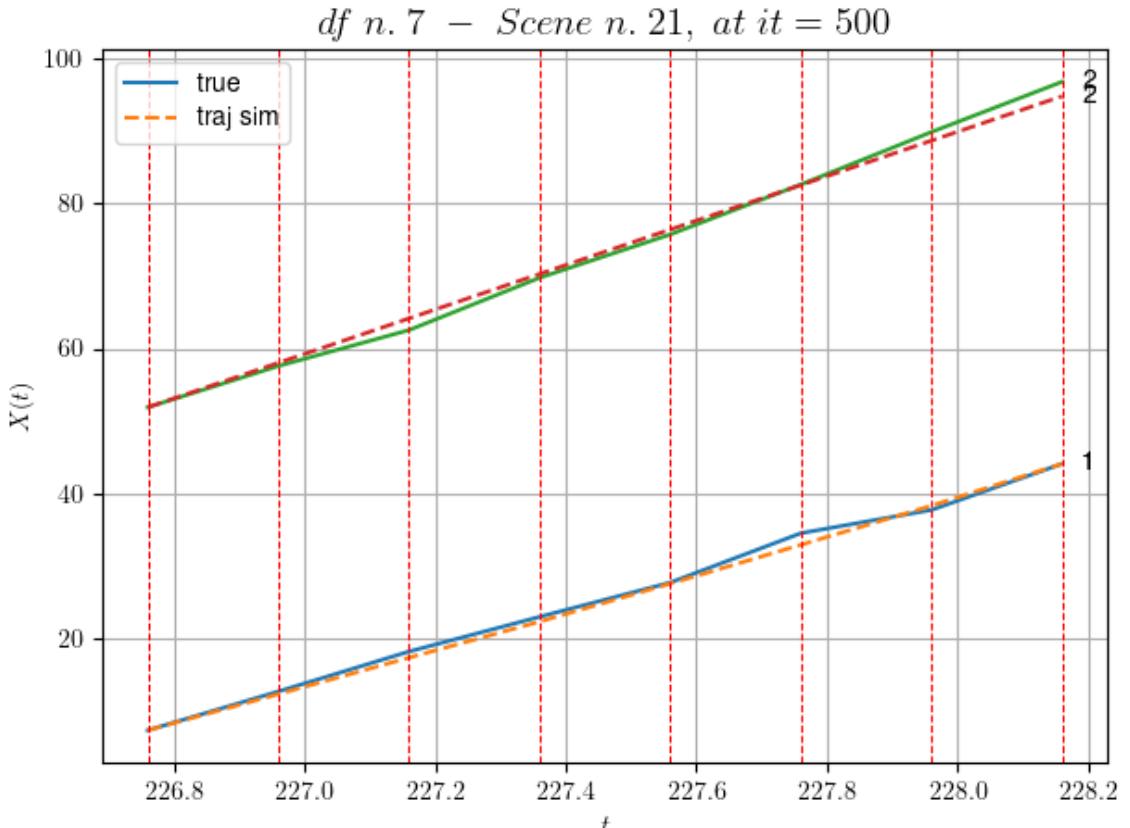
- Time interval n.5: [227.76, 227.96]
 * y_true: [16.0589089]
 * v_ann: [26.996192932128906, 30.698361324533423]

```
-----
-----
```

- Time interval n.6: [227.96, 228.16]
 * y_true: [31.85553957]
 * v_ann: [28.992830276489258, 30.698361324533423]

```
-----
```

* err= 0.820669140984339
* Learning rate NN = 2.541864660088322e-06
* dfff = 0 00022150106511271127



For scene 21/30

- * use LR_NN=1e-05 with err=1.2499605888848184 at it=24
- * v0_scn_mean = 30.67042687155739
- * MAE = 0.8191506342955688

df n.7, scene n.22/30

We have 2 time intervals inside [38.56, 38.96]

- Time interval n.0: [38.56, 38.76]
 - * y_true: [34.50899027 34.29923068]
 - * v_ann: [30.32685089111328, 32.56037139892578, 28.

99001059008476]

- Time interval n.1: [38.76, 38.96]

- * y_true: [33.76780394 27.40980382]

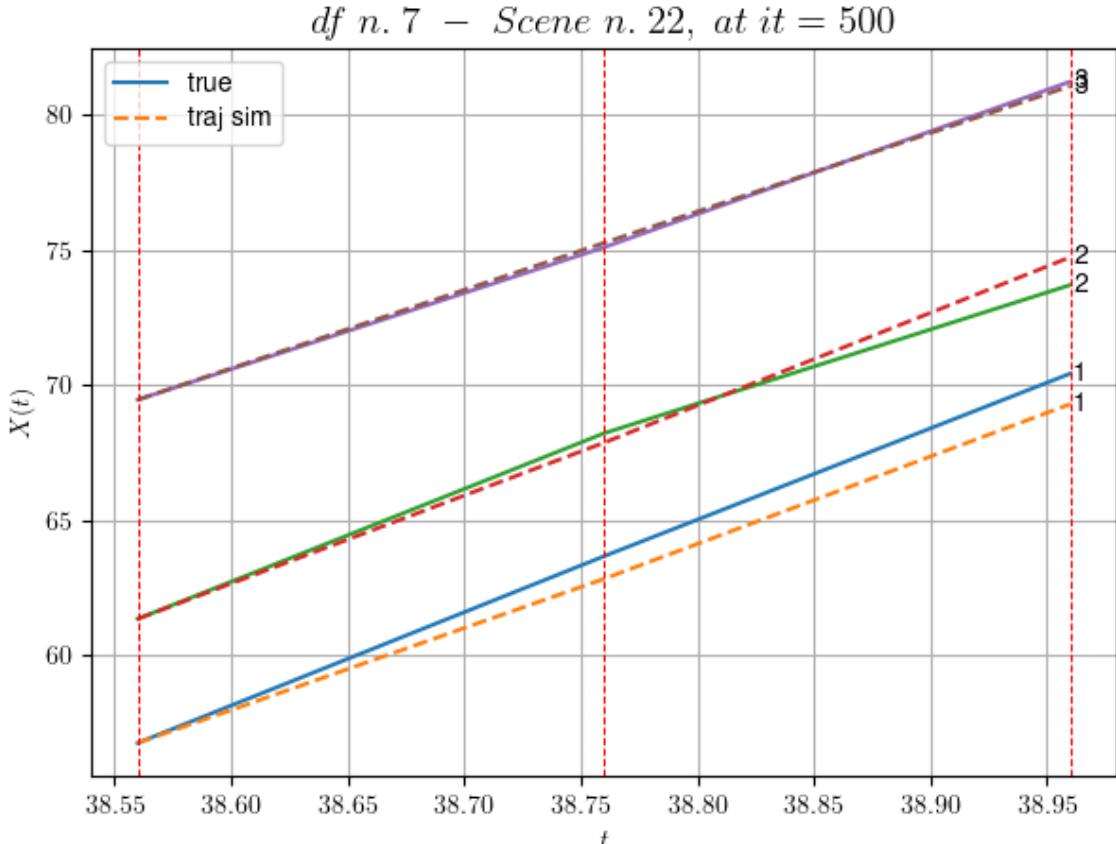
- * v_ann: [32.3045539855957, 34.29445266723633, 28.9

99001059008476]

* err= 0.3565915591706735

* Learning rate NN = 0.0007289999630302191

* diff = 0.01035041942554038



For scene 22/30

- * use LR_NN=0.001 with err=3.246054096173826 at it=24
- * v0_scn_mean = 29.050609909333453
- * MAE = 0.3565915591706735

df n.7, scene n.23/30

We have 3 time intervals inside [39.76, 40.36]

- Time interval n.0: [39.76, 39.96]
 - * y_true: [22.5368218 26.50901133]
 - * v_ann: [26.96225929260254, 27.382570266723633, 28.629752721377198]

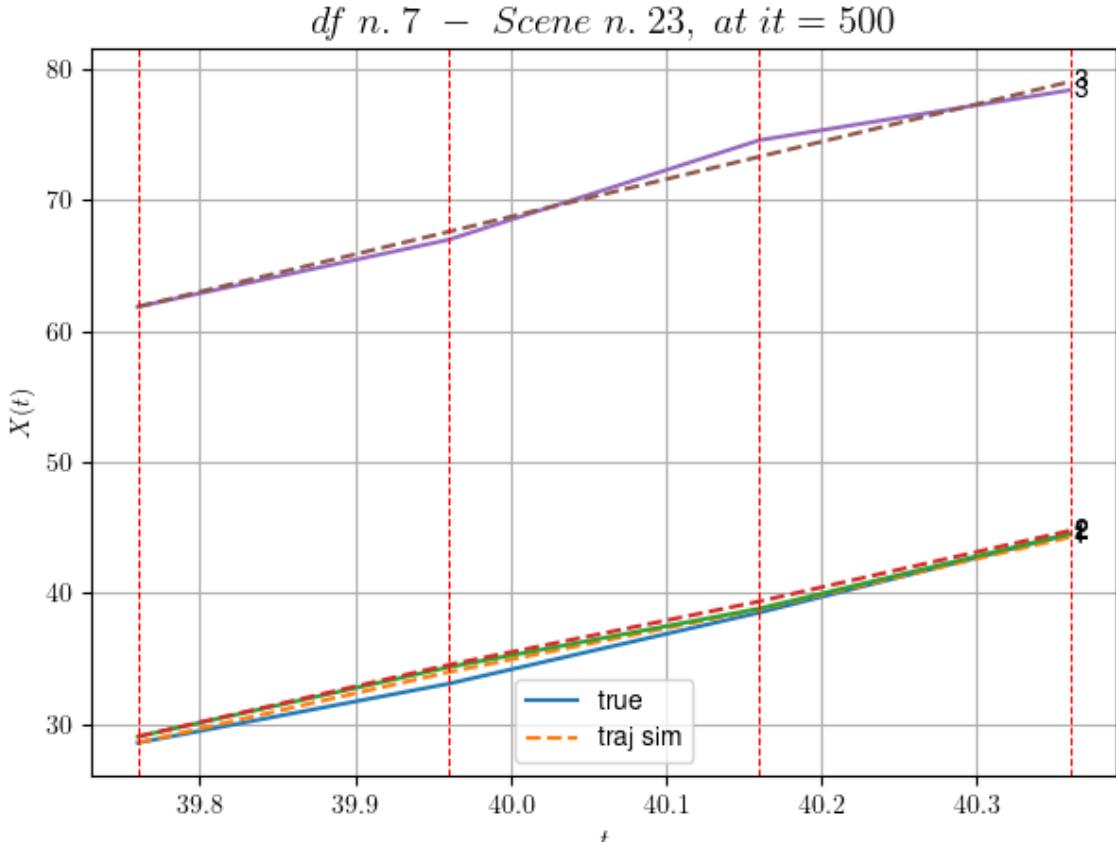
- Time interval n.1: [39.96, 40.16]
 - * y_true: [27.13488394 22.34107329]
 - * v_ann: [23.980571746826172, 24.212411880493164, 28.629752721377198]

- Time interval n.2: [40.16, 40.36]
 - * y_true: [29.97962766 28.56631616]
 - * v_ann: [27.576738357543945, 26.997127532958984, 28.629752721377198]

```

* err= 0.30480923469884263
* Learning rate NN = 0.0005904899444431067
* diff = 0.00035459749718619316

```



For scene 23/30

```

* use LR_NN=0.001 with err=7.415803627316616 at it=24
* v0_scn_mean = 28.711967496573333
* MAE = 0.2998274290204495

```

df n. 7, scene n. 24/30

We have 2 time intervals inside [45.96, 46.36]

- Time interval n.0: [45.96, 46.16]
 - * y_true: [25.63954073 32.24792255]
 - * v_ann: [28.871009826660156, 28.020977020263672, 2
 - 1.679366296074992]

- Time interval n.1: [46.16, 46.36]
 - * y_true: [27.5623729 28.76269973]
 - * v_ann: [29.41240119934082, 27.669963836669922, 2

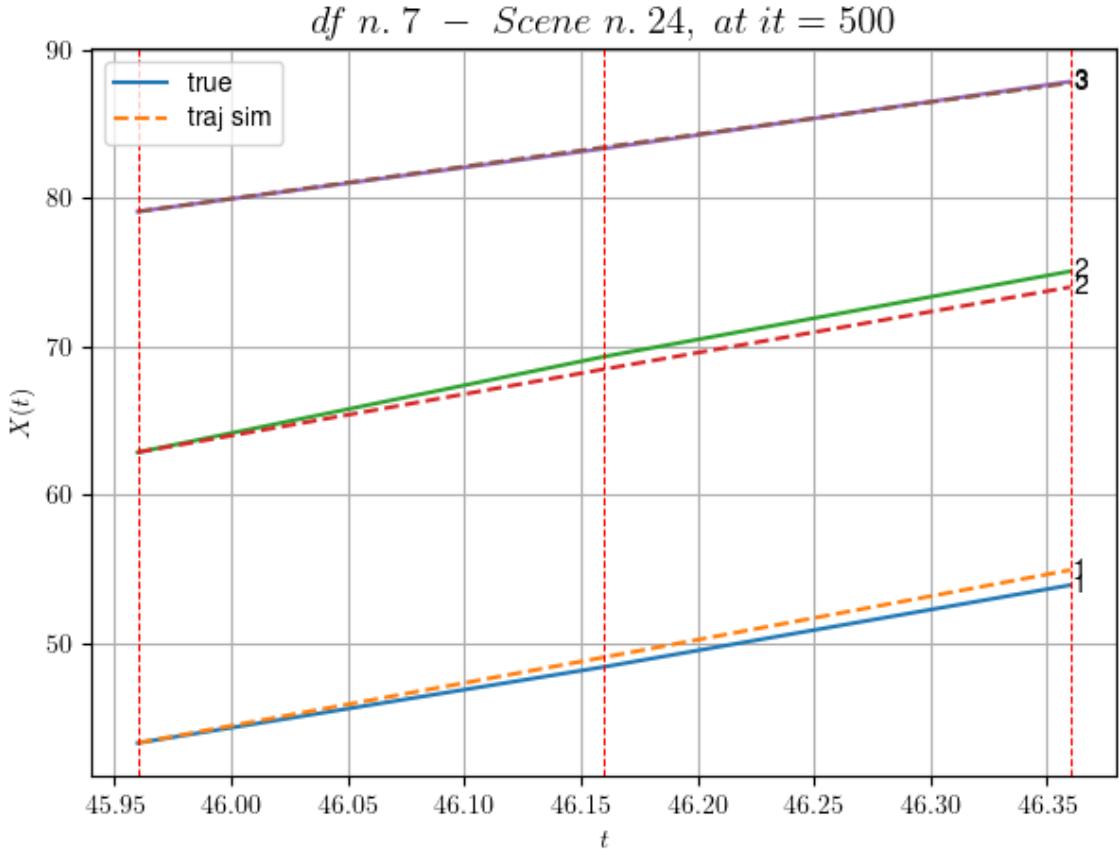
1.679366296074992]

```

* err= 0.3682381734113931
* Learning rate NN = 3.6449993785936385e-05

```

* diff = 0.003537297498062031



For scene 24/30

* use LR_NN=5e-05 with err=3.048832265075832 at it=24
 * v0_scn_mean = 22.178603944732043
 * MAE = 0.3682381734113931

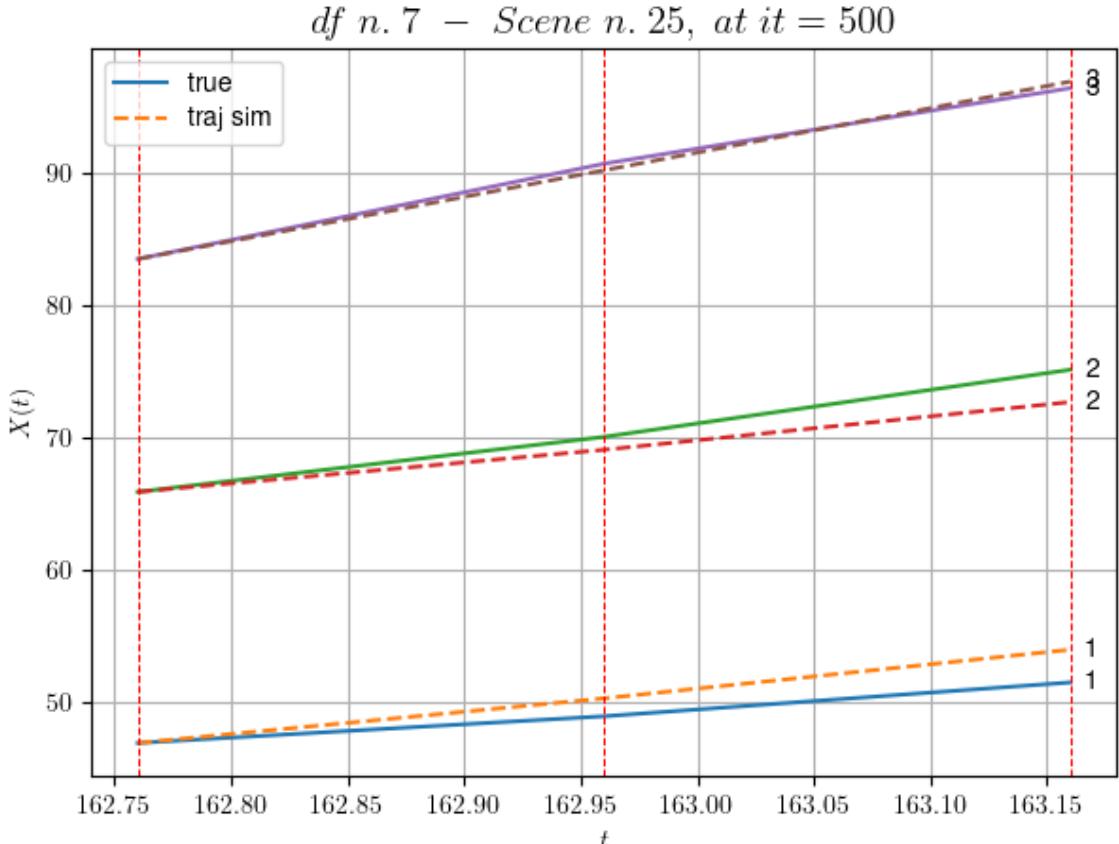
df n.7, scene n.25/30

We have 2 time intervals inside [162.76, 163.16]

- Time interval n.0: [162.76, 162.96]
 - * y_true: [10.08699654 20.77195672]
 - * v_ann: [16.853696823120117, 15.895054817199707, 3.51455461644857]

- Time interval n.1: [162.96, 163.16]
 - * y_true: [12.77745535 25.37230132]
 - * v_ann: [18.395288467407227, 18.04050064086914, 3.51455461644857]

* err= 1.7079761552437052
 * Learning rate NN = 3.6449993785936385e-05
 * diff = 0.0015645863127438098



For scene 25/30

- * use LR_NN=5e-05 with err=1.9622621623093794 at it=24
- * v0_scn_mean = 33.30368149725767
- * MAE = 1.6550958352478637

df n.7, scene n.26/30

We have 3 time intervals inside [165.76, 166.36]

- Time interval n.0: [165.76, 165.96]
 - * y_true: [14.62535373 14.97522028]
 - * v_ann: [14.724869728088379, 14.88167953491211, 27.262209824915317]

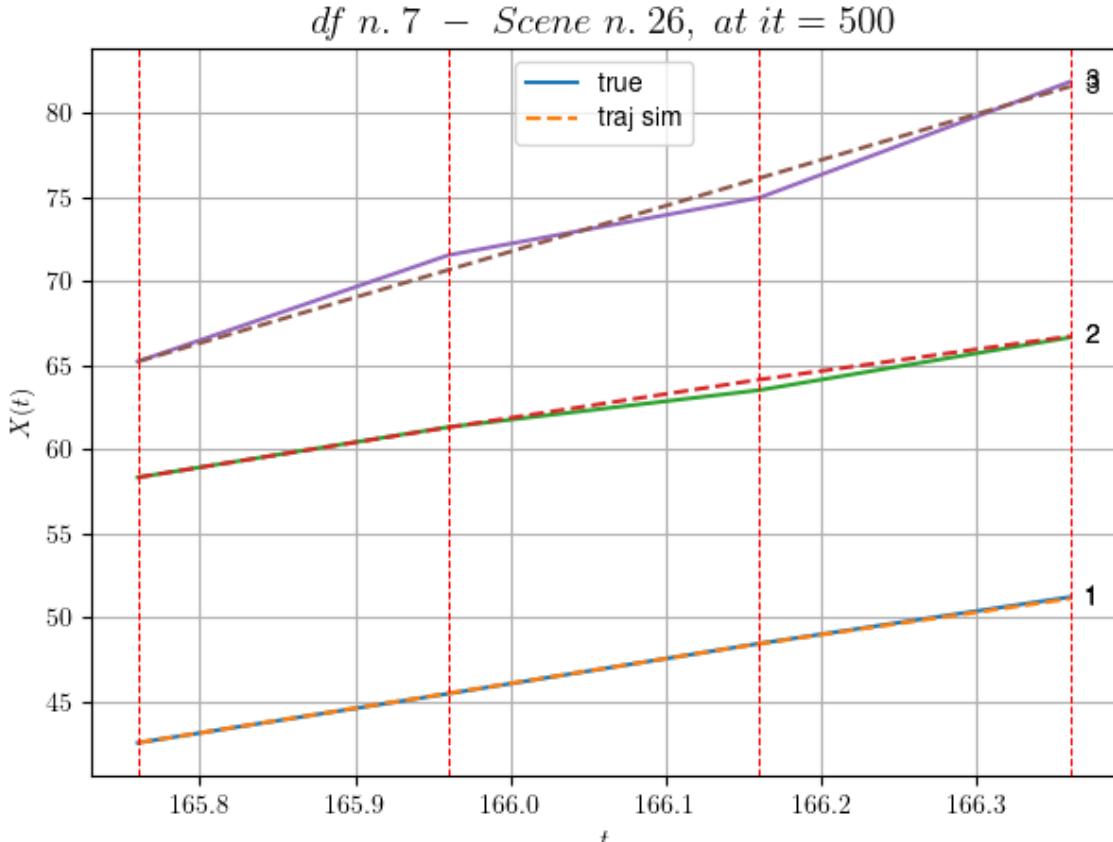
- Time interval n.1: [165.96, 166.16]
 - * y_true: [14.90483904 10.97892299]
 - * v_ann: [14.757588386535645, 14.20052433013916, 27.262209824915317]

- Time interval n.2: [166.16, 166.36]
 - * y_true: [13.82116599 15.66867879]
 - * v_ann: [13.362396240234375, 12.899194717407227, 27.262209824915317]

```

* err= 0.21760361700013267
* Learning rate NN = 0.0005904899444431067
* diff = 0.000471945211639041

```



For scene 26/30

```

* use LR_NN=0.001 with err=1.3569534998689863 at it=24
* v0_scn_mean = 27.426477112500226
* MAE = 0.21694704972683887

```

df n.7, scene n.27/30

We have 3 time intervals inside [188.16, 188.76]

- Time interval n.0: [188.16, 188.36]
 - * y_true: [18.26365072 21.2472937]
 - * v_ann: [19.900728225708008, 21.388477325439453, 2

4.898608242942228]

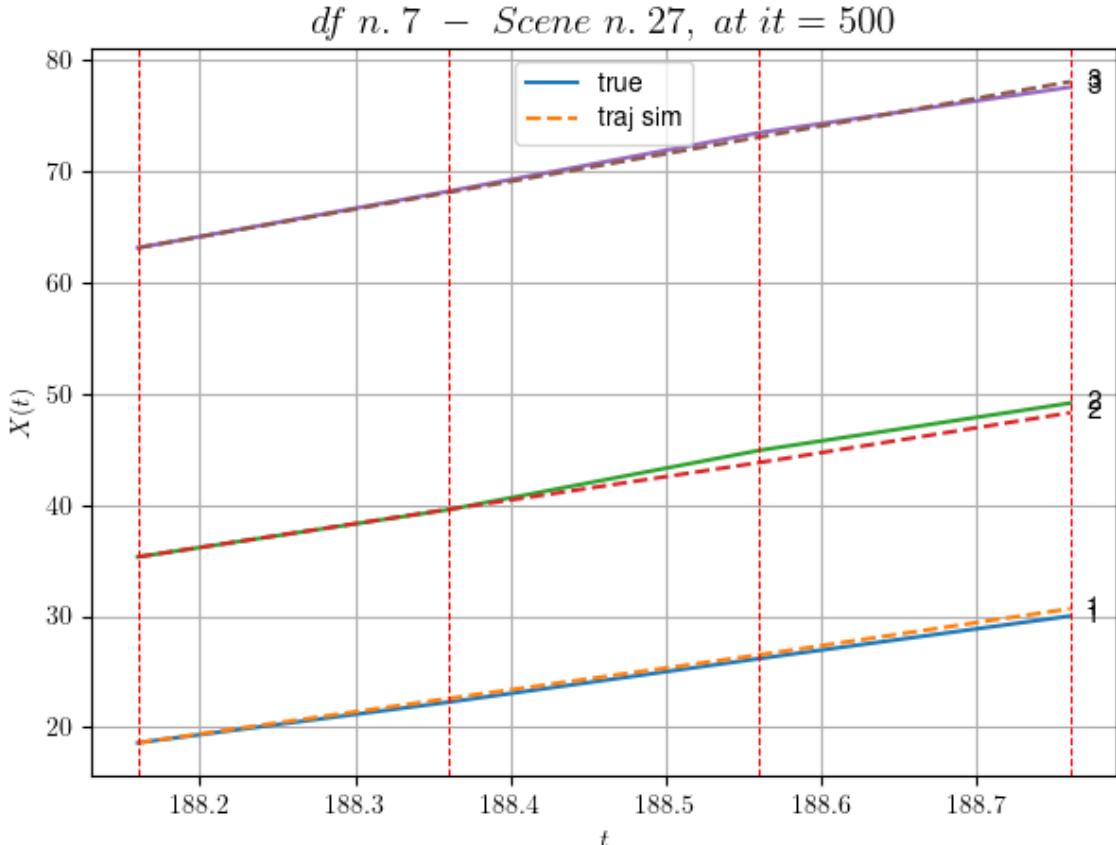
- Time interval n.1: [188.36, 188.56]
 - * y_true: [19.58083161 26.63811802]
 - * v_ann: [19.60663604736328, 21.007610321044922, 2

4.898608242942228]

- Time interval n.2: [188.56, 188.76]
 - * y_true: [19.1135942 21.22632097]

```
* v_ann: [20.763423919677734, 22.380901336669922, 2
4.898608242942228]
```

```
-----  
-----  
* err= 0.2522765662507062  
* Learning rate NN = 5.904899080633186e-05  
* diff = 0.007201138561624826
```



For scene 27/30

```
* use LR_NN=0.0001 with err=2.0718708579101293 at it=24
* v0_scn_mean = 25.20469151932389
* MAE = 0.1859648385834851
```

```
=====
```

df n. 7, scene n. 28/30

```
=====
```

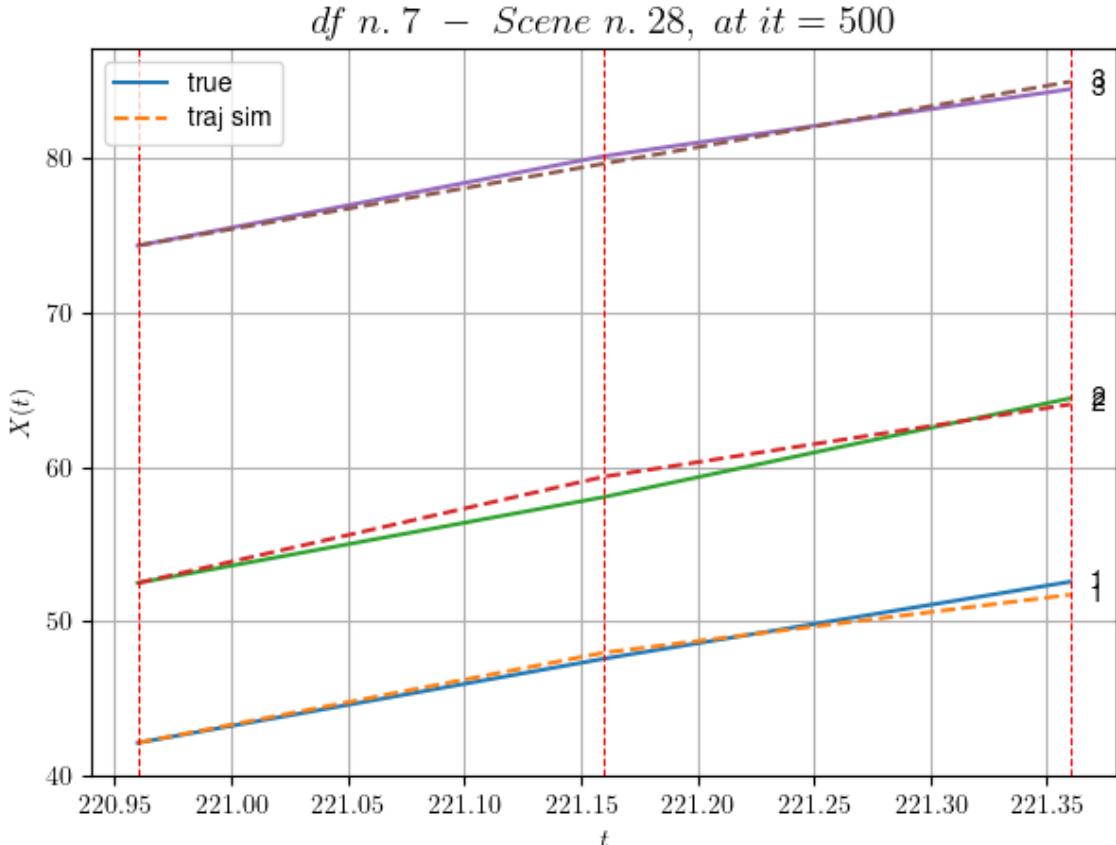
We have 2 time intervals inside [220.96, 221.36]

- Time interval n.0: [220.96, 221.16]
 - * y_true: [27.25777683 27.84910592]
 - * v_ann: [29.213184356689453, 34.44710159301758, 2
6.579845406052705]

- Time interval n.1: [221.16, 221.36]

- * y_true: [24.9447965 32.01250046]
- * v_ann: [18.784875869750977, 23.433128356933594, 2
6.579845406052705]

```
* err= 0.3593056958805833
* Learning rate NN = 0.0007289999630302191
* diff = 0.01461148811502544
```



For scene 28/30

```
* use LR_NN=0.001 with err=2.8654706919625497 at it=24
* v0_scn_mean = 26.785054528131994
* MAE = 0.28791996187275753
```

df n.7, scene n.29/30

We have 4 time intervals inside [166.56, 167.36]

- Time interval n.0: [166.56, 166.76]

- * y_true: [17.24164345 15.73752306 15.58083022]

- * v_ann: [17.772960662841797, 17.450937271118164, 1

- 7.140766143798828, 17.368635969066265]

- Time interval n.1: [166.76, 166.96]

- * y_true: [18.38470966 27.72552812 9.3330177]

- * v_ann: [16.015623092651367, 16.576431274414062, 1

- 5.499788284301758, 17.368635969066265]

- Time interval n.2: [166.96, 167.16]

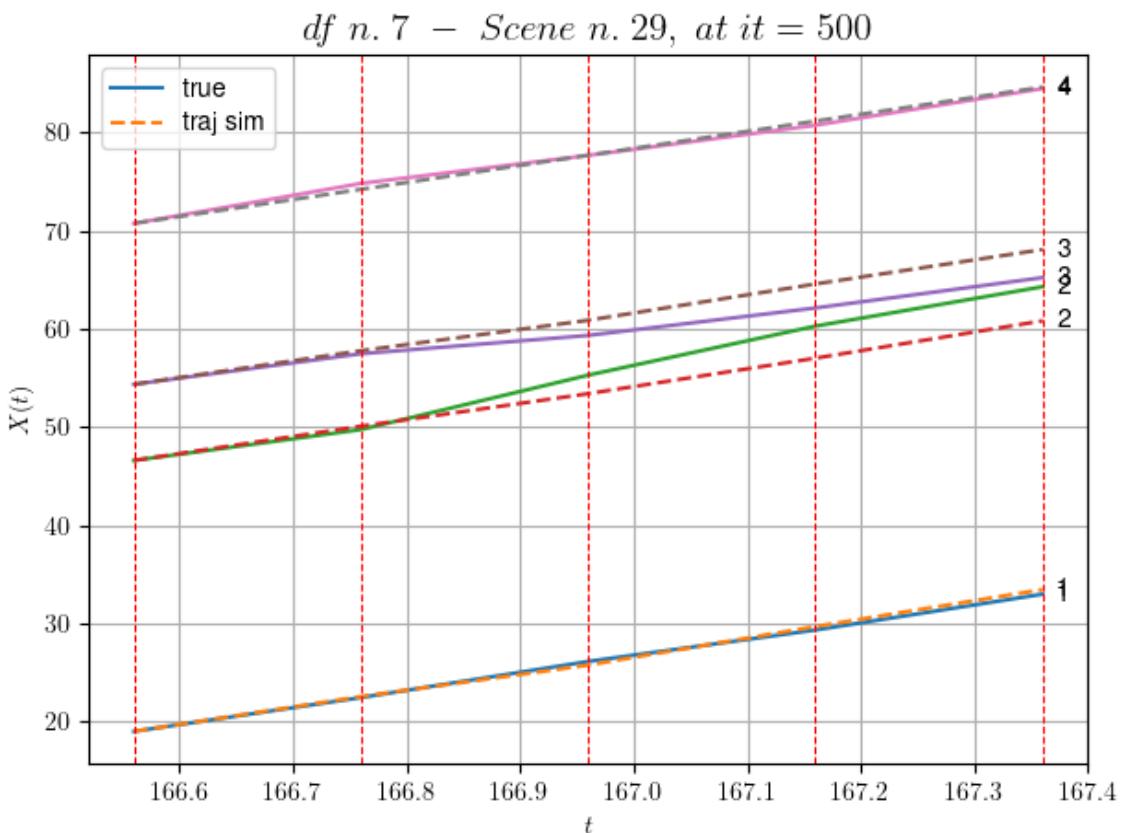
```

* y_true: [16.02323775 24.97208403 13.98221987]
* v_ann: [19.615930557250977, 18.078325271606445, 1
8.482933044433594, 17.368635969066265]

-----
- Time interval n.3: [167.16, 167.36]
* y_true: [18.26534189 20.06151439 15.46259314]
* v_ann: [18.839963912963867, 19.0399112701416, 17.
547197341918945, 17.368635969066265]

-----
* err= 2.2049622222980743
* Learning rate NN = 0.000478296831715852
* diff = 0.00457490587817766

```



For scene 29/30

```

* use LR_NN=0.001 with err=27.602814281842036 at it=24
* v0_scn_mean = 18.379103987412584
* MAE = 2.1021215030907707

```

For df=7 with 30 scenes, time taken: 488.89

In df n.8/10 we have 79 scenes
df n.8, scene n.0/79

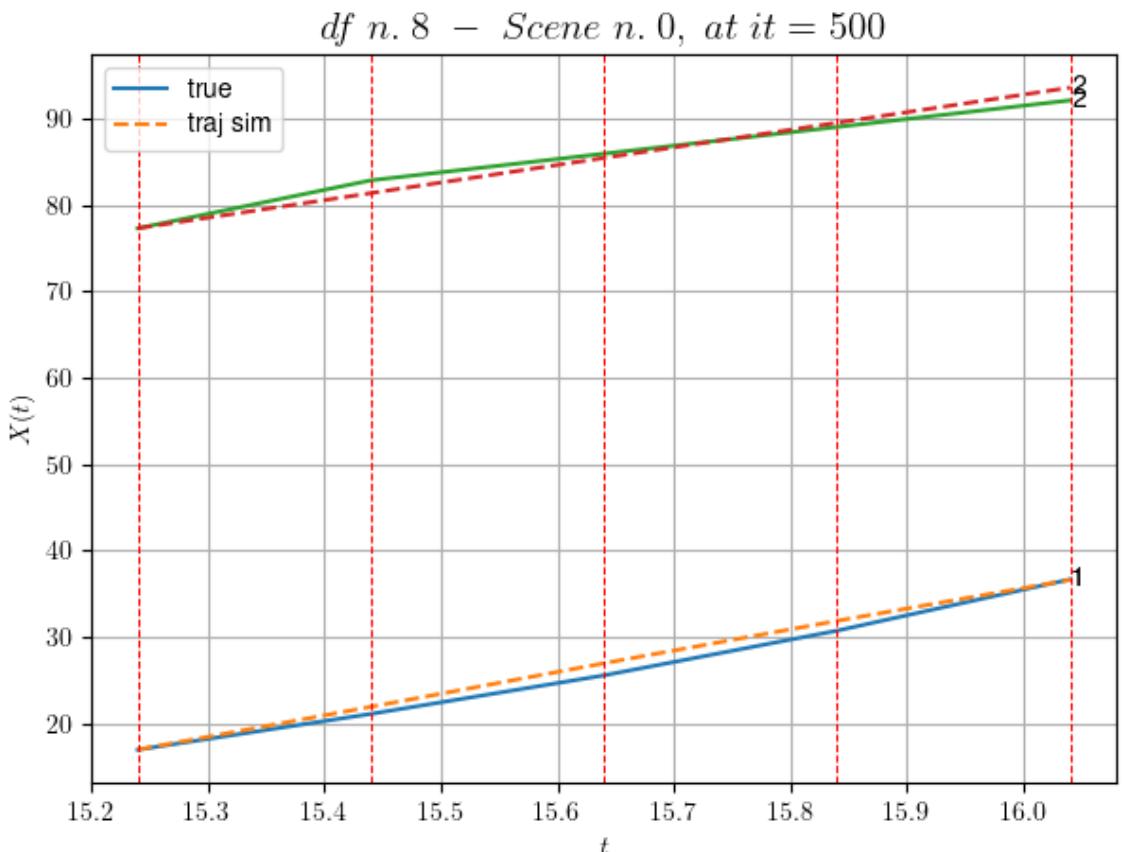
```
=====
We have 4 time intervals inside [15.24,16.04]
- Time interval n.0: [15.24, 15.44]
  * y_true: [20.72015193]
  * v_ann: [24.818281173706055, 20.3722802984085]
```

```
-----
- Time interval n.1: [15.44, 15.64]
  * y_true: [22.3102442]
  * v_ann: [25.226287841796875, 20.3722802984085]
```

```
-----
- Time interval n.2: [15.64, 15.84]
  * y_true: [25.89041527]
  * v_ann: [24.548620223999023, 20.3722802984085]
```

```
-----
- Time interval n.3: [15.84, 16.04]
  * y_true: [29.71065198]
  * v_ann: [23.75572967529297, 20.3722802984085]
```

```
-----
* err= 0.8795769687902739
* Learning rate NN = 4.782968062500004e-06
* diff = 1.9243838766946908e-07
```



For scene 0/79

- * use LR_NN=1e-05 with err=13.958244032165881 at it=24
- * v0_scn_mean = 20.757389086398558
- * MAE = 0.8778505750058351

```
=====
=====

df n.8, scene n.1/79
=====
=====

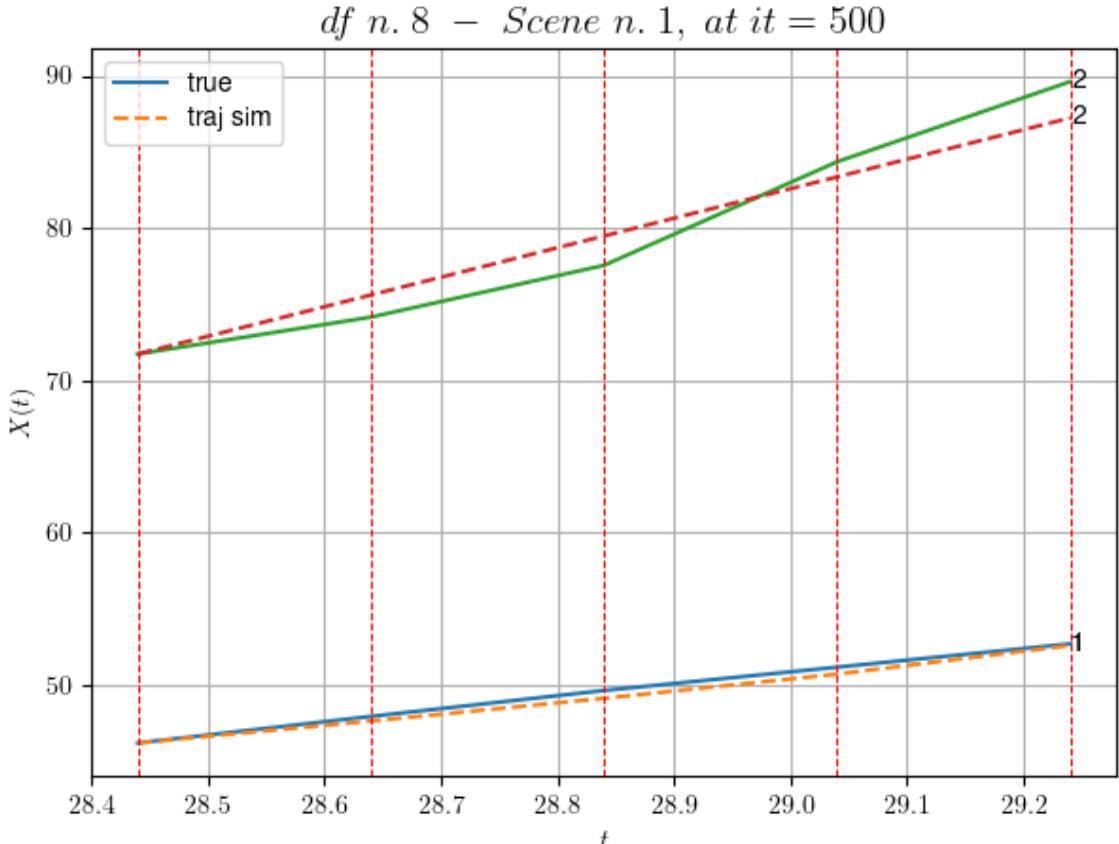
We have 4 time intervals inside [28.44,29.24]
- Time interval n.0: [28.44, 28.64]
  * y_true: [8.71284384]
  * v_ann: [7.207169055938721, 19.374312728051596]

-----
- Time interval n.1: [28.64, 28.84]
  * y_true: [8.50235658]
  * v_ann: [7.444500923156738, 19.374312728051596]

-----
- Time interval n.2: [28.84, 29.04]
  * y_true: [7.66040755]
  * v_ann: [7.95433235168457, 19.374312728051596]

-----
- Time interval n.3: [29.04, 29.24]
  * y_true: [7.66040755]
  * v_ann: [9.406129837036133, 19.374312728051596]

-----
* err= 1.308323491554857
* Learning rate NN = 2.3914839403005317e-05
* diff = 0.00011623373409119786
```



For scene 1/79

- * use LR_NN=5e-05 with err=11.801990740117335 at it=24
- * v0_scn_mean = 19.799340218848332
- * MAE = 1.1392586040641108

df n.8, scene n.2/79

We have 4 time intervals inside [48.04, 48.84]

- Time interval n.0: [48.04, 48.24]
 - * y_true: [1.45008394]
 - * v_ann: [1.0914878845214844, 19.366199251197184]

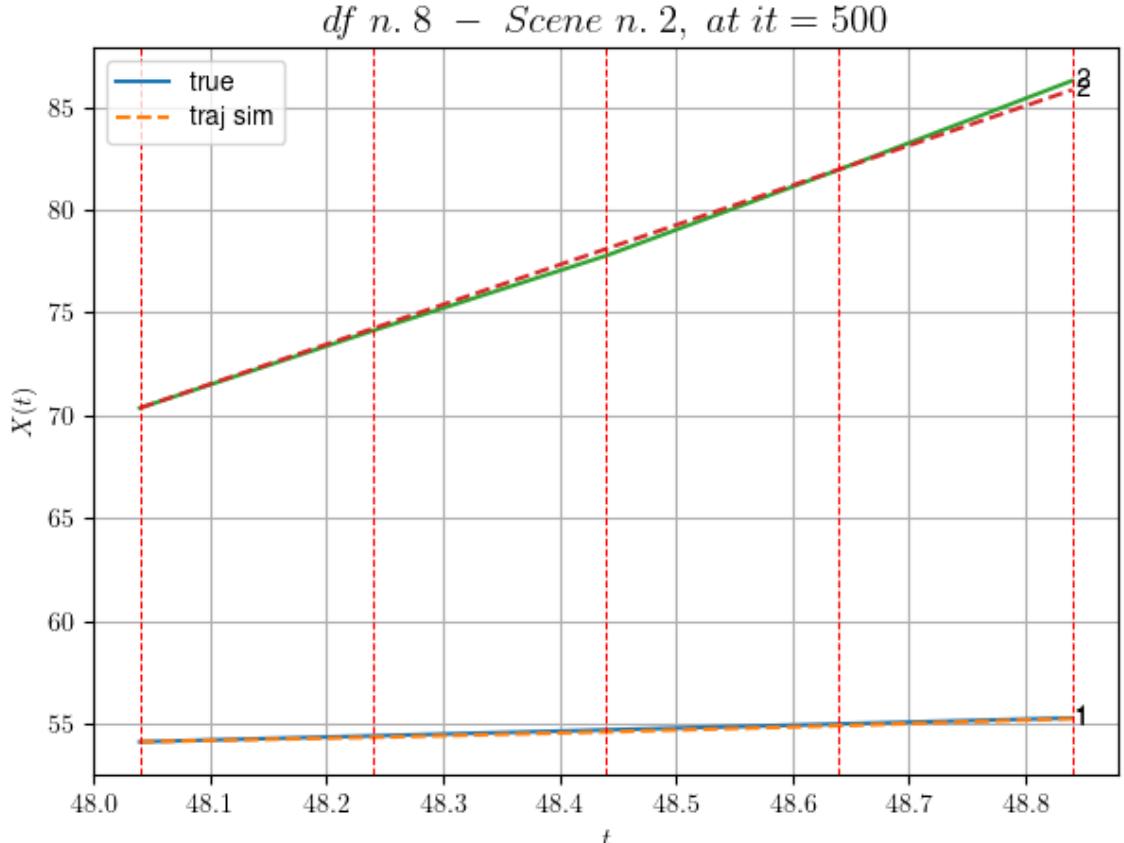
- Time interval n.1: [48.24, 48.44]
 - * y_true: [1.45008394]
 - * v_ann: [1.3203248977661133, 19.366199251197184]

- Time interval n.2: [48.44, 48.64]
 - * y_true: [1.45008394]
 - * v_ann: [1.519823431968689, 19.366199251197184]

- Time interval n.3: [48.64, 48.84]
 - * y_true: [1.45008394]

```
* v_ann: [1.703474998474121, 19.366199251197184]
```

```
* err= 0.034451271089000174
* Learning rate NN = 0.000239148415857926
* diff = 4.126958572682471e-05
```



For scene 2/79

```
* use LR_NN=0.0005 with err=13.179129953851954 at it=24
* v0_scn_mean = 19.791551281068124
* MAE = 0.032323352879472494
```

df n.8, scene n.3/79

We have 7 time intervals inside [58.44, 59.84]

- Time interval n.0: [58.44, 58.64]
 - * y_true: [0.49091559]
 - * v_ann: [19.188119888305664, 27.356016886559164]

- Time interval n.1: [58.64, 58.84]
 - * y_true: [17.39372277]
 - * v_ann: [19.417110443115234, 27.356016886559164]

- Time interval n.2: [58.84, 59.04]

```
* y_true: [26.31054645]
* v_ann: [20.880897521972656, 27.356016886559164]
```

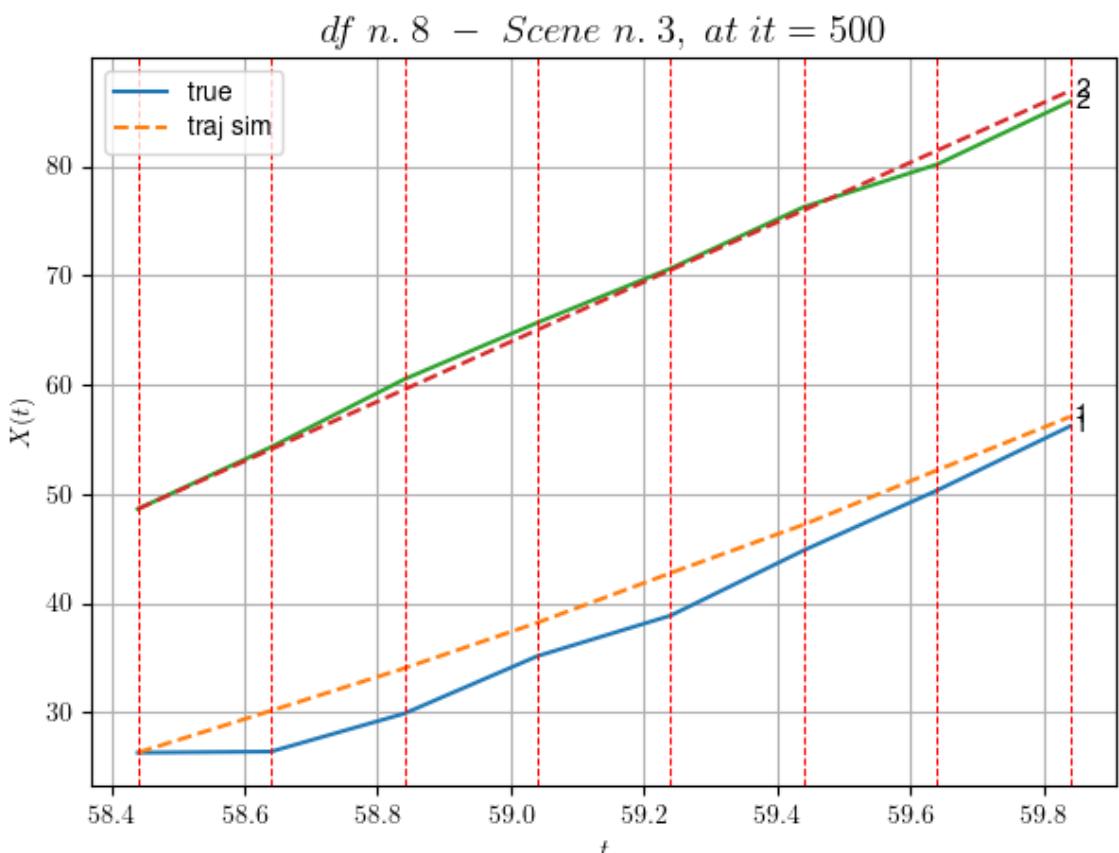
```
- Time interval n.3: [59.04, 59.24]
* y_true: [18.56048997]
* v_ann: [22.742643356323242, 27.356016886559164]
```

```
- Time interval n.4: [59.24, 59.44]
* y_true: [29.87104502]
* v_ann: [22.169710159301758, 27.356016886559164]
```

```
- Time interval n.5: [59.44, 59.64]
* y_true: [27.43120096]
* v_ann: [24.876445770263672, 27.356016886559164]
```

```
- Time interval n.6: [59.64, 59.84]
* y_true: [29.40163264]
* v_ann: [24.51963996887207, 27.356016886559164]
```

```
* err= 4.338643321036199
* Learning rate NN = 0.00012709324073512107
* diff = 0.08478214324707256
```



For scene 3/79

```
* use LR_NN=0.0005 with err=5.649118211351434 at it=24
* v0_scn_mean = 27.461776211076533
* MAE = 2.3894625780852974
```

df n.8, scene n.4/79

We have 3 time intervals inside [64.04, 64.64]

- Time interval n.0: [64.04, 64.24]
 - * y_true: [0.10384778]
 - * v_ann: [-0.08886237442493439, 28.11126217595817]

-
- Time interval n.1: [64.24, 64.44]

- * y_true: [0.10384778]
 - * v_ann: [0.08469942957162857, 28.11126217595817]

-
- Time interval n.2: [64.44, 64.64]

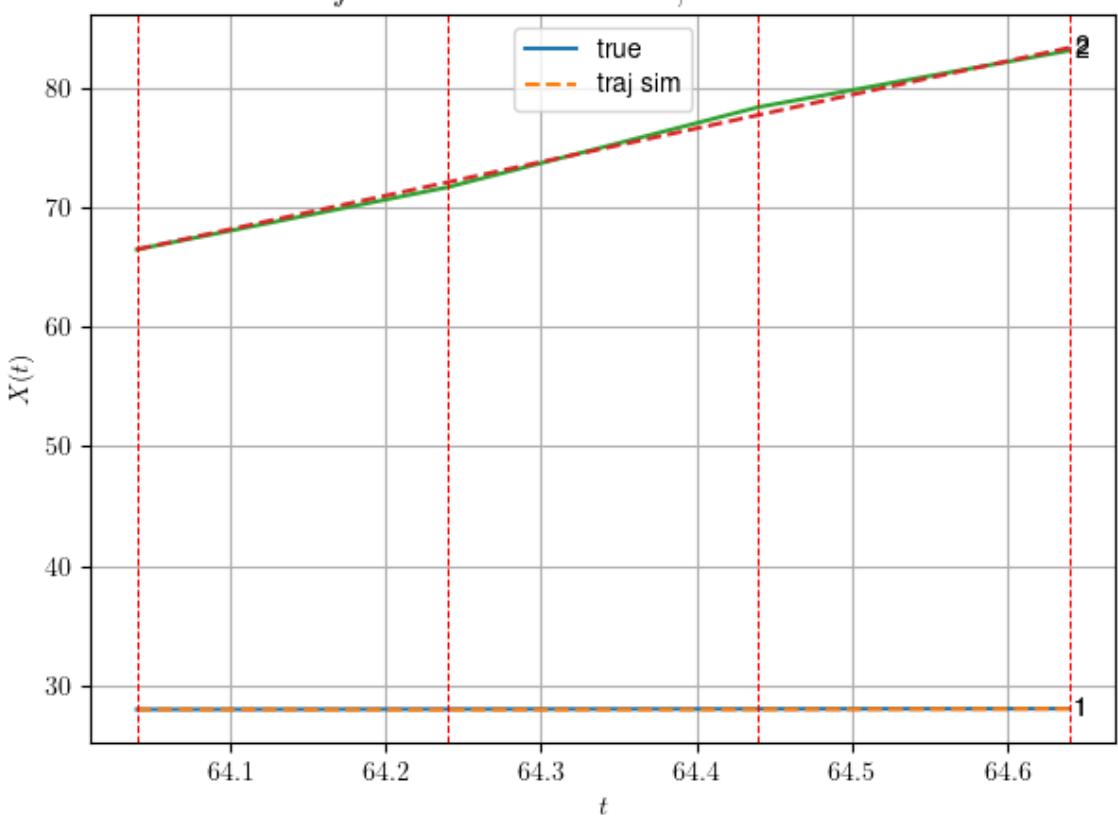
- * y_true: [0.10384778]
 - * v_ann: [0.2655160129070282, 28.11126217595817]

* err= 0.08382086396061743

* Learning rate NN = 5.904899080633186e-05

* diff = 2.271152774999119e-06

df n. 8 – Scene n. 4, at it = 500



```
For scene 4/79
* use LR_NN=0.0001 with err=0.31603660027703995 at it=24
* v0_scn_mean = 28.186811688904818
* MAE = 0.08363599730910103
```

```
=====
=====
```

```
df n.8, scene n.5/79
```

```
=====
=====
```

```
We have 6 time intervals inside [89.24,90.44]
```

```
- Time interval n.0: [89.24, 89.44]
  * y_true: [18.05066392]
  * v_ann: [33.79717254638672, 10.6585127883746]
```

```
-----
-----
```

```
- Time interval n.1: [89.44, 89.64]
  * y_true: [35.35163844]
  * v_ann: [30.909116744995117, 10.6585127883746]
```

```
-----
-----
```

```
- Time interval n.2: [89.64, 89.84]
  * y_true: [13.10073144]
  * v_ann: [24.002195358276367, 10.6585127883746]
```

```
-----
-----
```

```
- Time interval n.3: [89.84, 90.04]
  * y_true: [30.05195835]
  * v_ann: [23.097074508666992, 10.6585127883746]
```

```
-----
-----
```

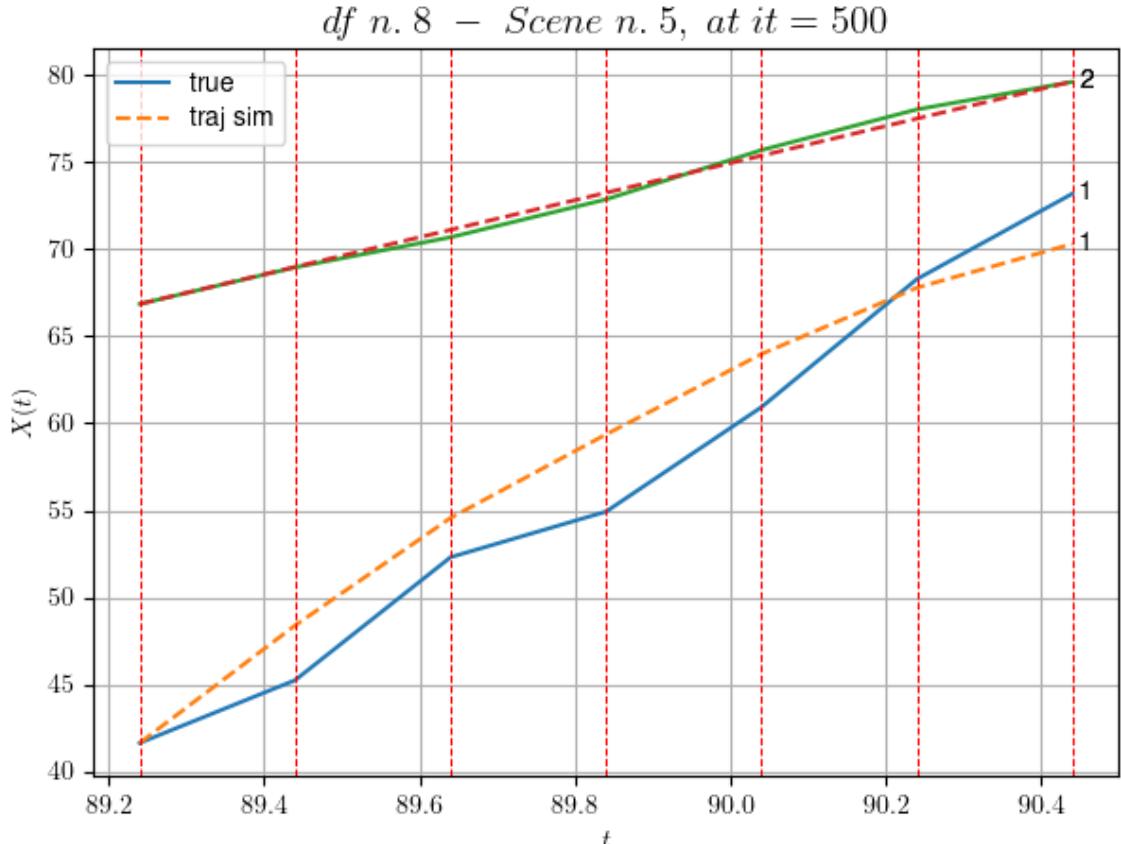
```
- Time interval n.4: [90.04, 90.24]
  * y_true: [36.80298132]
  * v_ann: [19.072500228881836, 10.6585127883746]
```

```
-----
-----
```

```
- Time interval n.5: [90.24, 90.44]
  * y_true: [24.55237984]
  * v_ann: [12.600616455078125, 10.6585127883746]
```

```
-----
-----
```

```
* err= 3.810349133251363
* Learning rate NN = 1.5690524378442205e-05
* diff = 0.017022984036345168
```



For scene 5/79

- * use LR_NN=5e-05 with err=100.14241530547847 at it=24
- * v0_scn_mean = 11.432172276691865
- * MAE = 3.800206494333515

df n.8, scene n.6/79

We have 10 time intervals inside [101.04, 103.04]

- Time interval n.0: [101.04, 101.24]
 - * y_true: [18.44035973]
 - * v_ann: [20.939287185668945, 26.48969548240825]

- Time interval n.1: [101.24, 101.44]
 - * y_true: [17.96043382]
 - * v_ann: [19.30486488342285, 26.48969548240825]

- Time interval n.2: [101.44, 101.64]
 - * y_true: [17.55051624]
 - * v_ann: [19.158803939819336, 26.48969548240825]

- Time interval n.3: [101.64, 101.84]
 - * y_true: [19.81069648]

* v_ann: [17.801265716552734, 26.48969548240825]

- Time interval n.4: [101.84, 102.04]
* y_true: [21.1609002]
* v_ann: [17.33995246887207, 26.48969548240825]

- Time interval n.5: [102.04, 102.24]
* y_true: [24.00120533]
* v_ann: [18.939939498901367, 26.48969548240825]

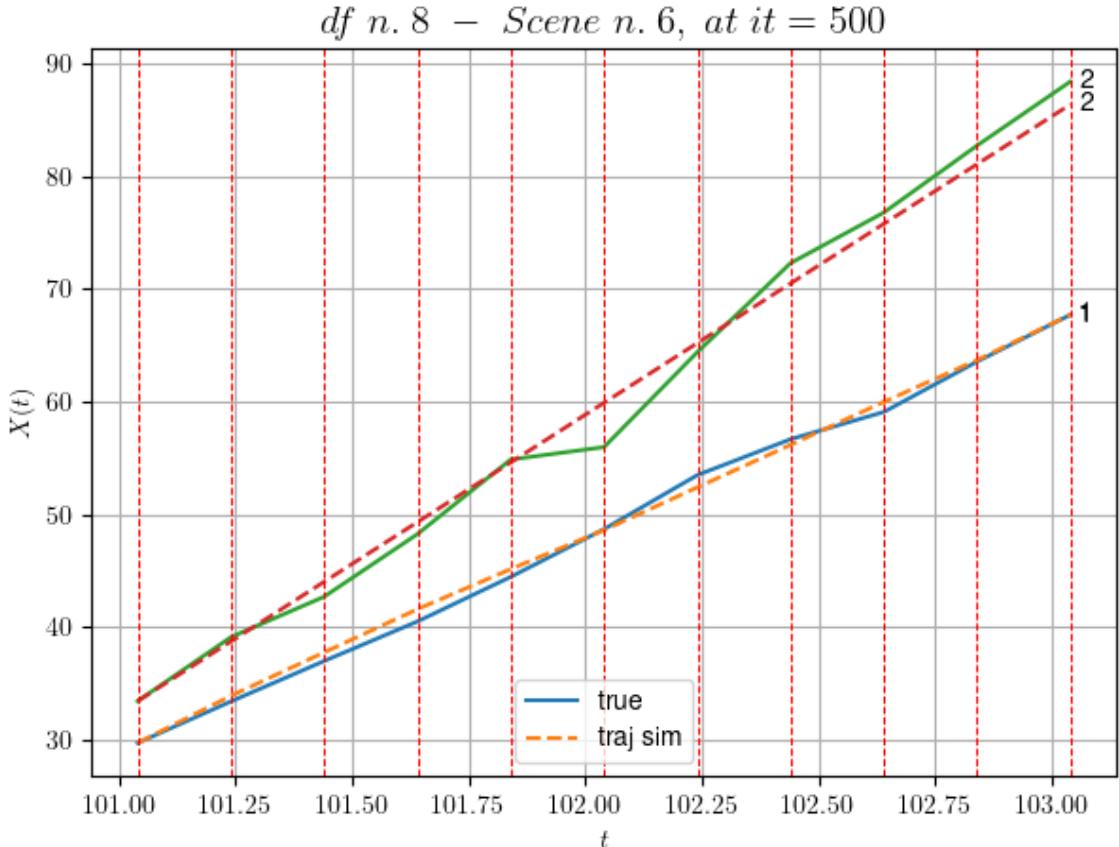
- Time interval n.6: [102.24, 102.44]
* y_true: [15.94092959]
* v_ann: [18.888431549072266, 26.48969548240825]

- Time interval n.7: [102.44, 102.64]
* y_true: [12.10080168]
* v_ann: [19.061979293823242, 26.48969548240825]

- Time interval n.8: [102.64, 102.84]
* y_true: [22.37162153]
* v_ann: [18.586503982543945, 26.48969548240825]

- Time interval n.9: [102.84, 103.04]
* y_true: [20.76175162]
* v_ann: [20.192401885986328, 26.48969548240825]

* err= 1.5980151386828325
* Learning rate NN = 0.00013508510892279446
* diff = 0.004144281271053929



For scene 6/79

- * use LR_NN=0.001 with err=18.584209751320188 at it=24
- * v0_scn_mean = 26.630107663084797
- * MAE = 1.5980151386828325

df n.8, scene n.7/79

We have 3 time intervals inside [105.04, 105.64]

- Time interval n.0: [105.04, 105.24]
 - * y_true: [21.1009302]
 - * v_ann: [29.983182907104492, 27.68802462182387]

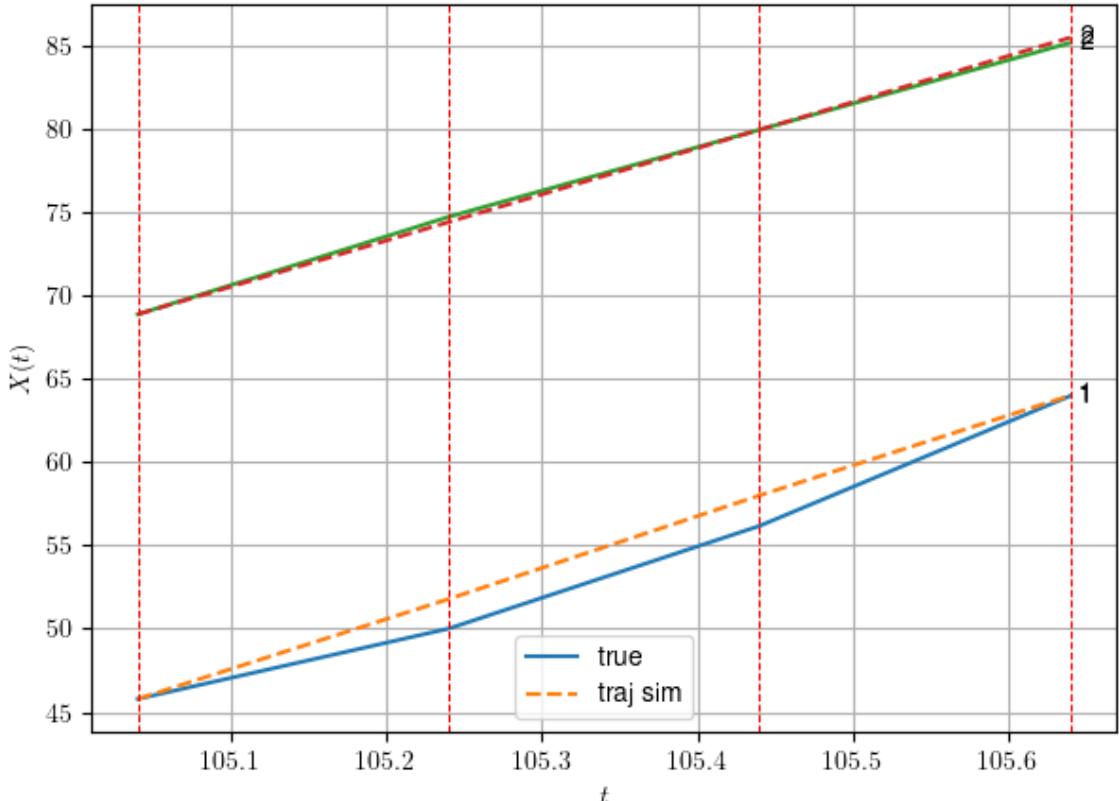
- Time interval n.1: [105.24, 105.44]
 - * y_true: [30.82171709]
 - * v_ann: [31.086687088012695, 27.68802462182387]

- Time interval n.2: [105.44, 105.64]
 - * y_true: [39.03276006]
 - * v_ann: [30.012218475341797, 27.68802462182387]

- * err= 0.8375541874938831
- * Learning rate NN = 2.952449540316593e-05

* diff = 0.0001528053677548602

df n. 8 - Scene n. 7, at it = 500



For scene 7/79

* use LR_NN=5e-05 with err=1.4698489121291374 at it=24
 * v0_scn_mean = 27.780503636933318
 * MAE = 0.8305951496577015

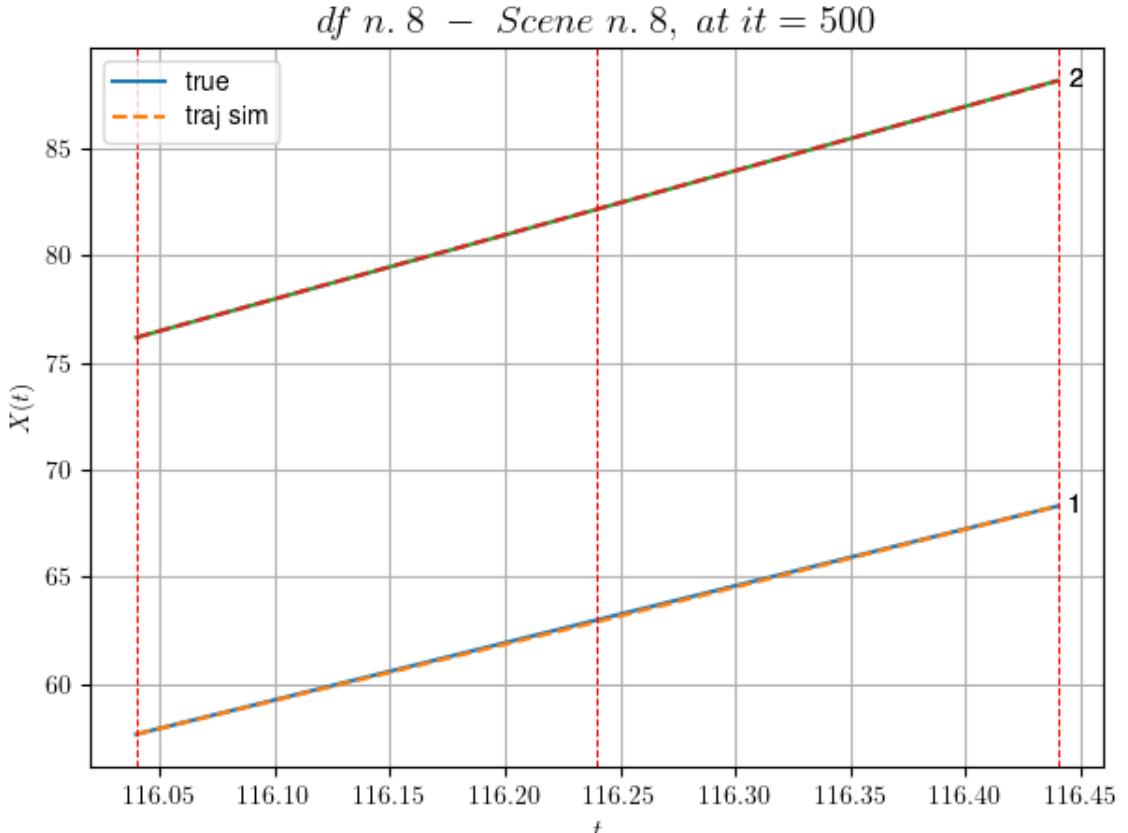
df n.8, scene n.8/79

We have 2 time intervals inside [116.04, 116.44]

- Time interval n.0: [116.04, 116.24]
 - * y_true: [26.70188245]
 - * v_ann: [26.261260986328125, 29.990508338298042]

- Time interval n.1: [116.24, 116.44]
 - * y_true: [26.60221886]
 - * v_ann: [27.02968406677246, 29.990508338298042]

- * err= 0.0013247392995453377
- * Learning rate NN = 7.289998757187277e-05
- * diff = 5.508299010718301e-06



For scene 8/79

- * use LR_NN=0.0001 with err=0.0026736371150109925 at it=24
- * v0_scn_mean = 29.990888004766145
- * MAE = 0.0013192009657846315

df n.8, scene n.9/79

We have 3 time intervals inside [127.84,128.44]

- Time interval n.0: [127.84, 128.04]
 - * y_true: [21.61084593]
 - * v_ann: [22.722017288208008, 37.027384413421686]

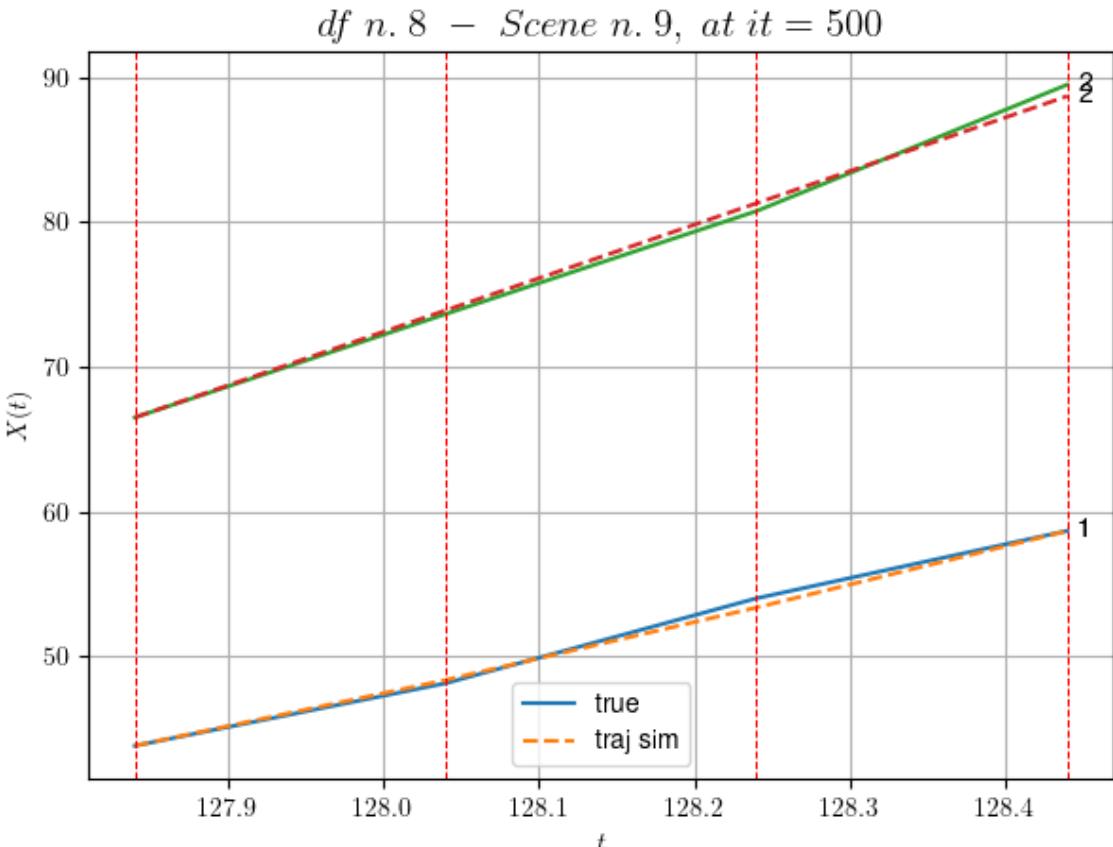
- Time interval n.1: [128.04, 128.24]
 - * y_true: [29.37145511]
 - * v_ann: [25.058387756347656, 37.027384413421686]

- Time interval n.2: [128.24, 128.44]
 - * y_true: [23.33137295]
 - * v_ann: [26.48072624206543, 37.027384413421686]

* err= 0.18199355563182637

* Learning rate NN = 2.952449540316593e-05

* diff = 1.6061962359037452e-06



For scene 9/79

* use LR_NN=5e-05 with err=4.022094972205557 at it=24
 * v0_scn_mean = 36.746289036937824
 * MAE = 0.1817179093943935

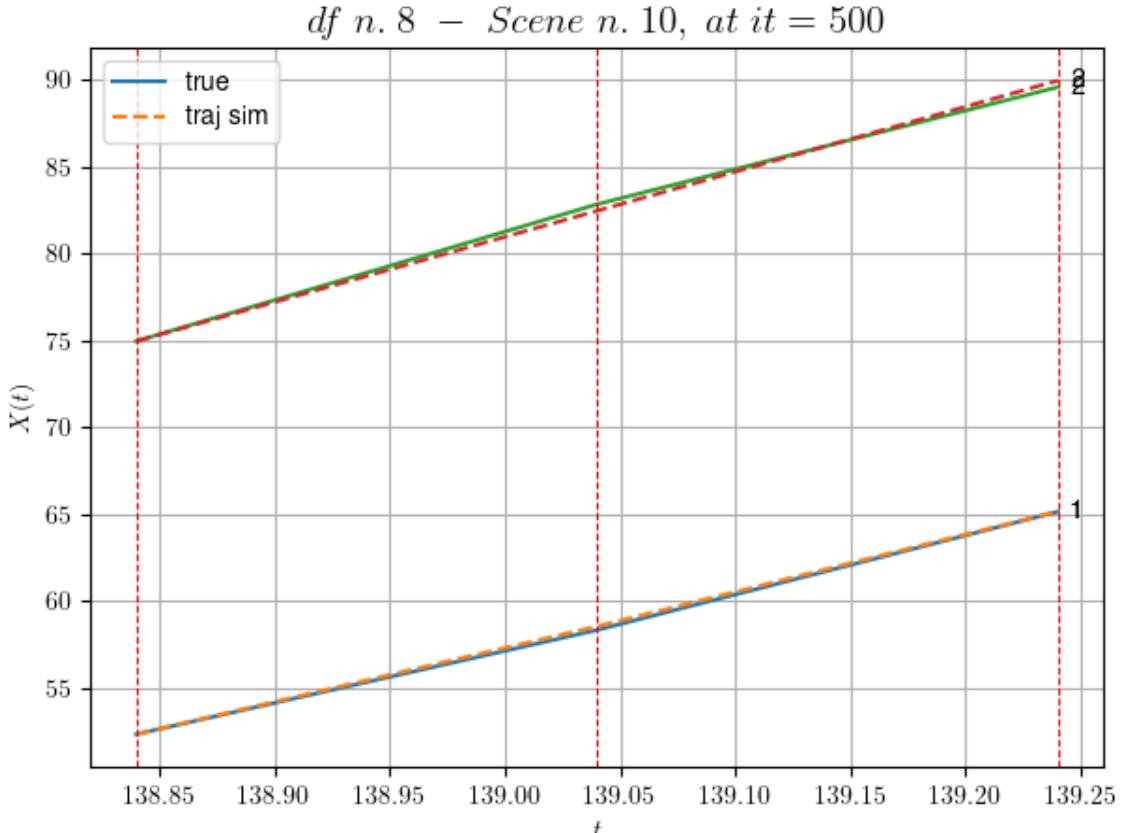
df n.8, scene n.10/79

We have 2 time intervals inside [138.84, 139.24]

- Time interval n.0: [138.84, 139.04]
 * y_true: [30.02321616]
 * v_ann: [31.059711456298828, 37.554786770989494]

- Time interval n.1: [139.04, 139.24]
 * y_true: [34.10253194]
 * v_ann: [33.13908004760742, 37.554786770989494]

* err= 0.05532942087476668
 * Learning rate NN = 7.289998757187277e-05
 * diff = 2.1633981902670352e-05



For scene 10/79

```
* use LR_NN=0.0001 with err=1.76446878803966 at it=24
* v0_scn_mean = 37.25259530020753
* MAE = 0.051569271918967215
```

df n.8, scene n.11/79

We have 3 time intervals inside [154.24, 154.84]

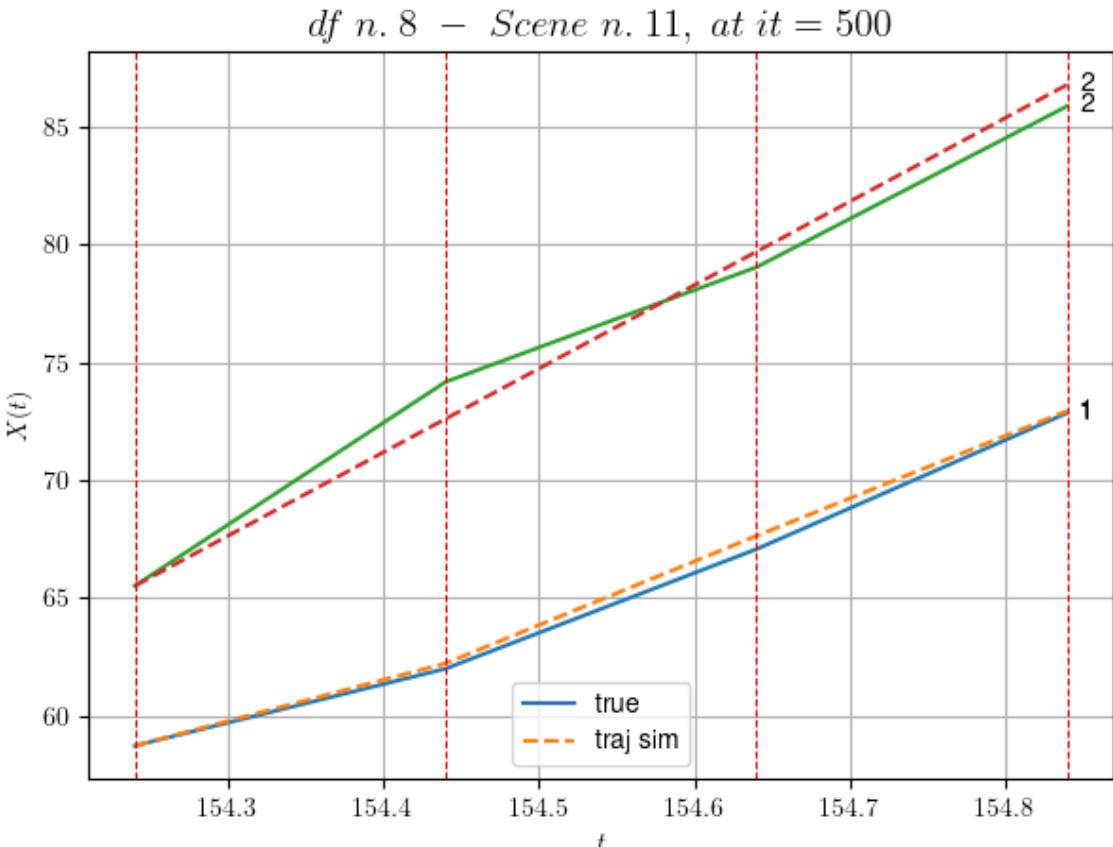
- Time interval n.0: [154.24, 154.44]
 - * y_true: [16.35114044]
 - * v_ann: [17.47532081604004, 35.440393347036846]

- Time interval n.1: [154.44, 154.64]
 - * y_true: [25.35202142]
 - * v_ann: [27.038976669311523, 35.440393347036846]

- Time interval n.2: [154.64, 154.84]
 - * y_true: [28.9027085]
 - * v_ann: [26.50987434387207, 35.440393347036846]

```
* err= 0.5109699099551301
* Learning rate NN = 5.904899080633186e-05
```

* diff = 0.0015139809442610286



For scene 11/79

* use LR_NN=0.0001 with err=1.883518655566701 at it=24
 * v0_scn_mean = 35.22277761319667
 * MAE = 0.5109699099551301

df n.8, scene n.12/79

We have 3 time intervals inside [166.84, 167.44]

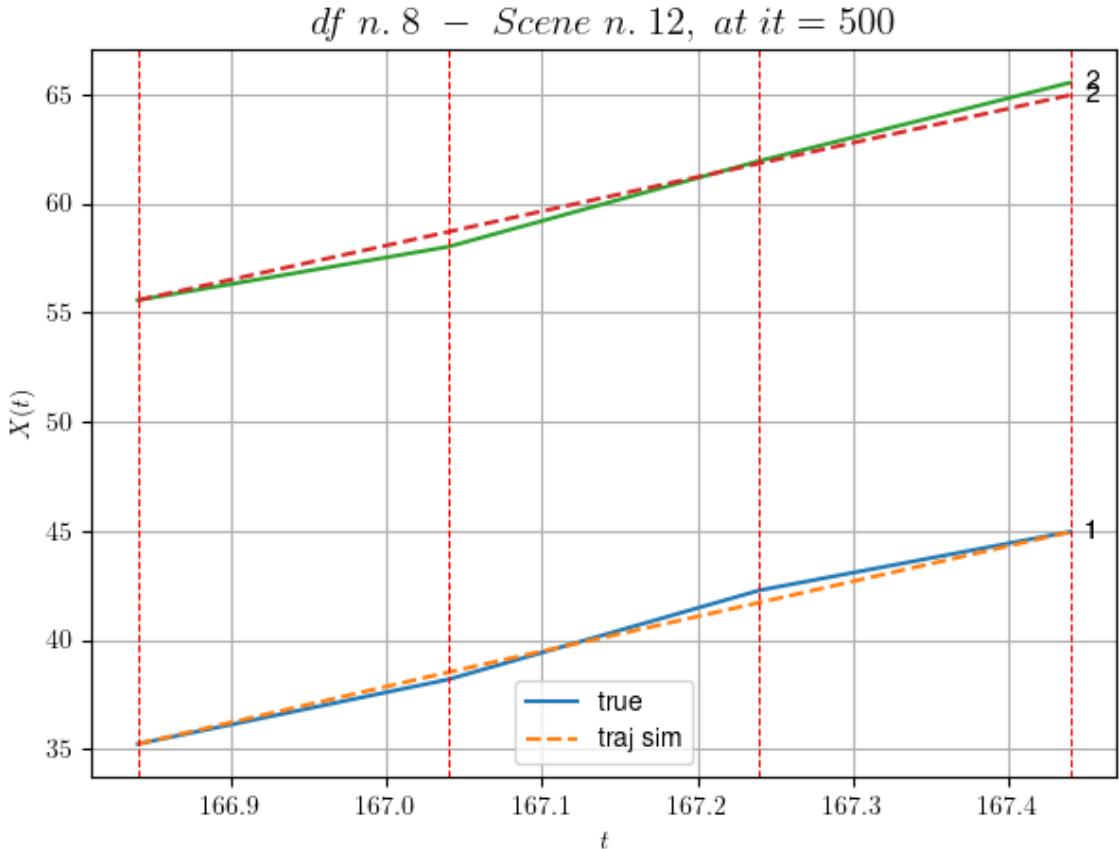
- Time interval n.0: [166.84, 167.04]
 - * y_true: [14.80039759]
 - * v_ann: [16.44564437866211, 15.667717542016634]

- Time interval n.1: [167.04, 167.24]
 - * y_true: [20.4006375]
 - * v_ann: [15.946296691894531, 15.667717542016634]

- Time interval n.2: [167.24, 167.44]
 - * y_true: [13.420495]
 - * v_ann: [16.1745548248291, 15.667717542016634]

* err= 0.15360978676161757

* Learning rate NN = 5.904899080633186e-05
 * diff = 1.3876883396268802e-06



For scene 12/79

* use LR_NN=0.0001 with err=13.640550016591492 at it=24
 * v0_scn_mean = 16.24100884022628
 * MAE = 0.1435047344614105

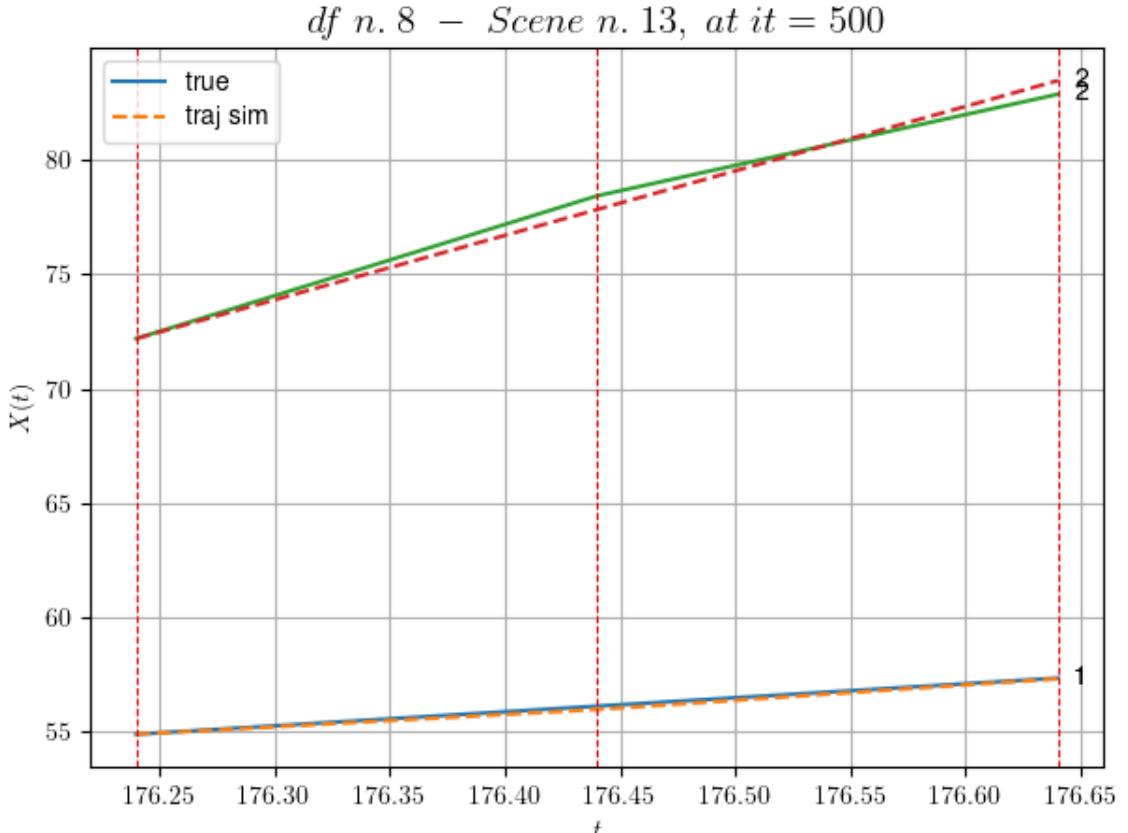
df n.8, scene n.13/79

We have 2 time intervals inside [176.24, 176.64]

- Time interval n.0: [176.24, 176.44]
 - * y_true: [6.14038325]
 - * v_ann: [5.407116889953613, 28.209763890714004]

- Time interval n.1: [176.44, 176.64]
 - * y_true: [6.14038326]
 - * v_ann: [6.722427845001221, 28.209763890714004]

- * err= 0.12321959006798512
- * Learning rate NN = 7.289998757187277e-05
- * diff = 3.815137176038652e-06



For scene 13/79

- * use LR_NN=0.0001 with err=0.30225824567277787 at it=24
- * v0_scn_mean = 28.281373335072352
- * MAE = 0.12321705799513494

df n.8, scene n.14/79

We have 4 time intervals inside [178.44, 179.24]

- Time interval n.0: [178.44, 178.64]
 - * y_true: [22.76155551]
 - * v_ann: [30.746414184570312, 12.308982889932018]

- Time interval n.1: [178.64, 178.84]
 - * y_true: [36.29307367]
 - * v_ann: [23.03217315673828, 12.308982889932018]

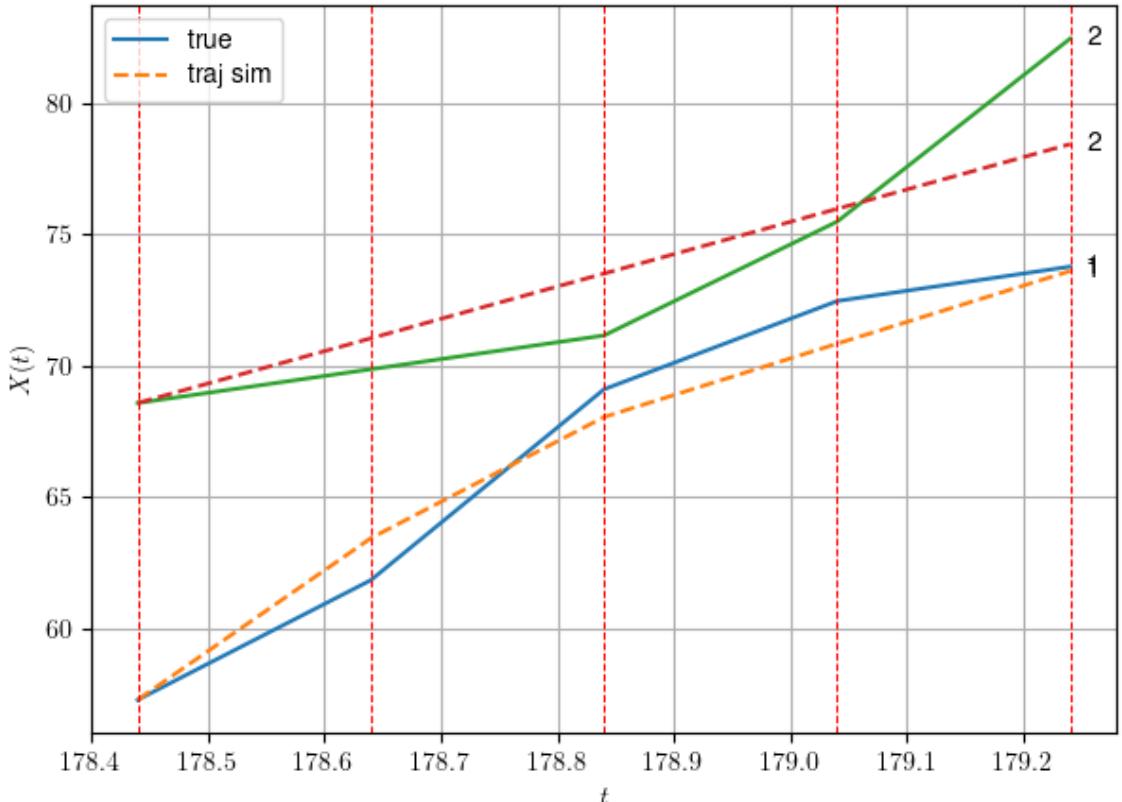
- Time interval n.2: [178.84, 179.04]
 - * y_true: [16.78302591]
 - * v_ann: [13.954487800598145, 12.308982889932018]

- Time interval n.3: [179.04, 179.24]
 - * y_true: [6.55070095]

```
* v_ann: [13.820651054382324, 12.308982889932018]
```

```
* err= 2.963364749657927
* Learning rate NN = 4.7829678806010634e-05
* diff = 0.0036988998969249565
```

df n. 8 – Scene n. 14, at it = 500



For scene 14/79

```
* use LR_NN=0.0001 with err=35.238795847014714 at it=24
* v0 scn mean = 13.016623574199471
* MAE = 2.702372113556603
```

df n.8, scene n.15/79

We have 5 time intervals inside [190.84, 191.84]

- Time interval n.0: [190.84, 191.04]
 - * y_true: [30.51246457]
 - * v_ann: [15.991158485412598, 12.068548421445527]

- Time interval n.1: [191.04, 191.24]
 - * y_true: [14.21130177]
 - * v_ann: [8.713262557983398, 12.068548421445527]

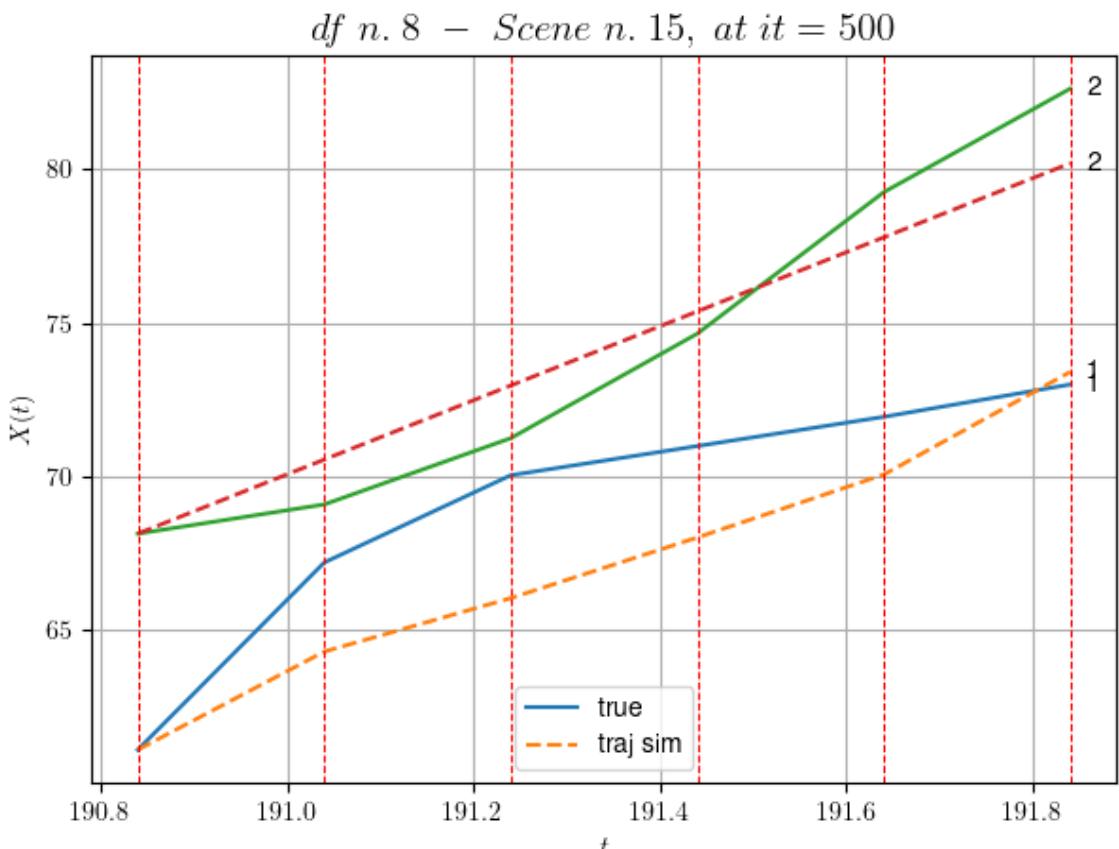
- Time interval n.2: [191.24, 191.44]

```
* y_true: [4.75758557]
* v_ann: [9.876782417297363, 12.068548421445527]
```

```
- Time interval n.3: [191.44, 191.64]
* y_true: [4.75758557]
* v_ann: [10.258270263671875, 12.068548421445527]
```

```
- Time interval n.4: [191.64, 191.84]
* y_true: [5.27623096]
* v_ann: [16.72806167602539, 12.068548421445527]
```

```
* err= 4.227996010632023
* Learning rate NN = 3.874203684972599e-05
* diff = 0.017049465741657777
```



For scene 15/79

```
* use LR_NN=0.0001 with err=58.90089553883806 at it=24
* v0_scn_mean = 12.785806484450706
* MAE = 3.578959737888505
```

df n. 8, scene n. 16/79

We have 2 time intervals inside [194.44,194.84]

```

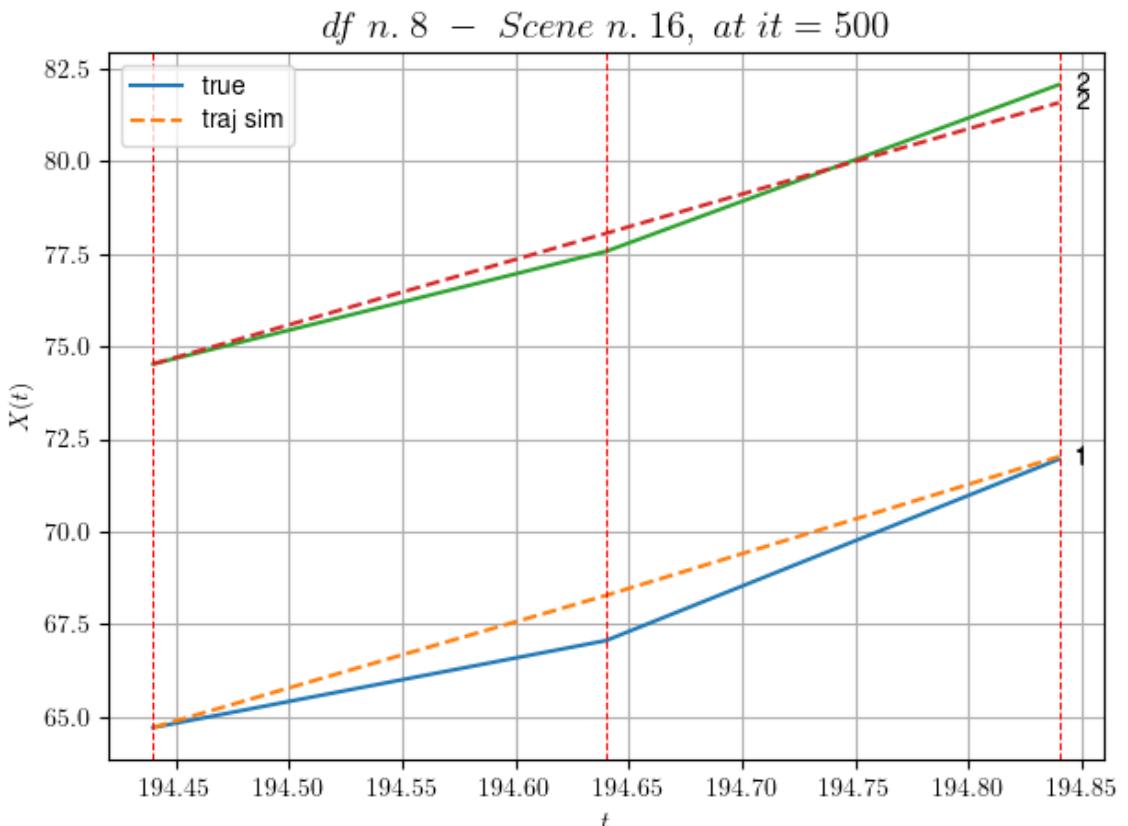
- Time interval n.0: [194.44, 194.64]
  * y_true: [11.75098765]
  * v_ann: [17.849328994750977, 17.64870499817793]
```

```

- Time interval n.1: [194.64, 194.84]
  * y_true: [24.50229075]
  * v_ann: [18.74964714050293, 17.64870499817793]
```

```

* err= 0.3279168650285471
* Learning rate NN = 3.6449993785936385e-05
* diff = 2.0174953126783635e-05
```



For scene 16/79

```

* use LR_NN=5e-05 with err=4.955825893397943 at it=24
* v0_scn_mean = 18.142756798156327
* MAE = 0.3239502942628081
```

df n.8, scene n.17/79

We have 4 time intervals inside [197.84,198.64]

```

- Time interval n.0: [197.84, 198.04]
  * y_true: [22.53153444]
  * v_ann: [13.504585266113281, 23.275091763732032]
```

```

- Time interval n.1: [198.04, 198.24]
  * y_true: [13.78102172]
  * v_ann: [16.925886154174805, 23.275091763732032]
```

```

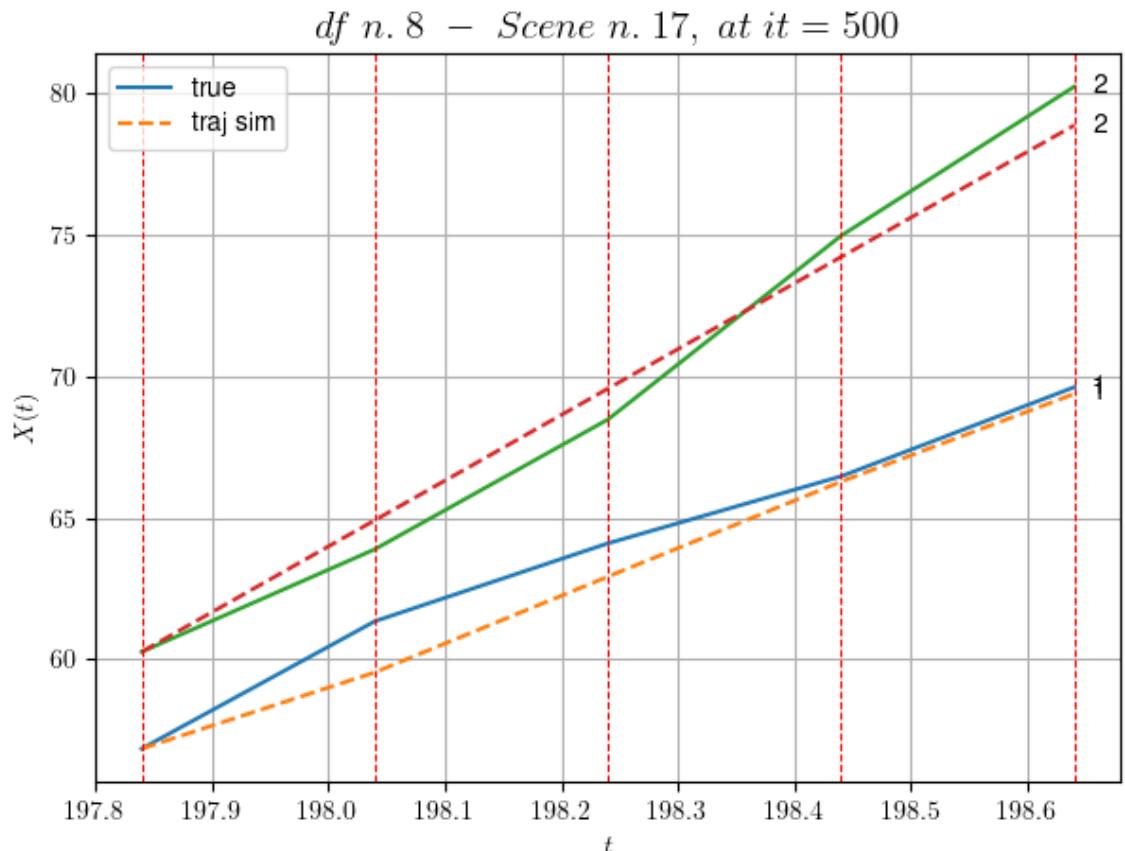
- Time interval n.2: [198.24, 198.44]
  * y_true: [11.85098834]
  * v_ann: [16.794872283935547, 23.275091763732032]
```

```

- Time interval n.3: [198.44, 198.64]
  * y_true: [15.76141547]
  * v_ann: [15.512870788574219, 23.275091763732032]
```

```

* err= 0.9414151518614671
* Learning rate NN = 0.002391484100371599
* diff = 0.017302375273878567
```



For scene 17/79

```

* use LR_NN=0.005 with err=6.040876211540096 at it=24
* v0_scn_mean = 23.544088093131645
* MAE = 0.9414151518614671
```

df n.8, scene n.18/79

We have 6 time intervals inside [210.84, 212.04]

- Time interval n.0: [210.84, 211.04]
 - * y_true: [18.40045523]
 - * v_ann: [22.89507484436035, 21.37734163264228]
-

- Time interval n.1: [211.04, 211.24]
 - * y_true: [21.20064657]
 - * v_ann: [23.80296516418457, 21.37734163264228]
-

- Time interval n.2: [211.24, 211.44]
 - * y_true: [18.20066994]
 - * v_ann: [24.28531265258789, 21.37734163264228]
-

- Time interval n.3: [211.44, 211.64]
 - * y_true: [25.15111829]
 - * v_ann: [24.202146530151367, 21.37734163264228]
-

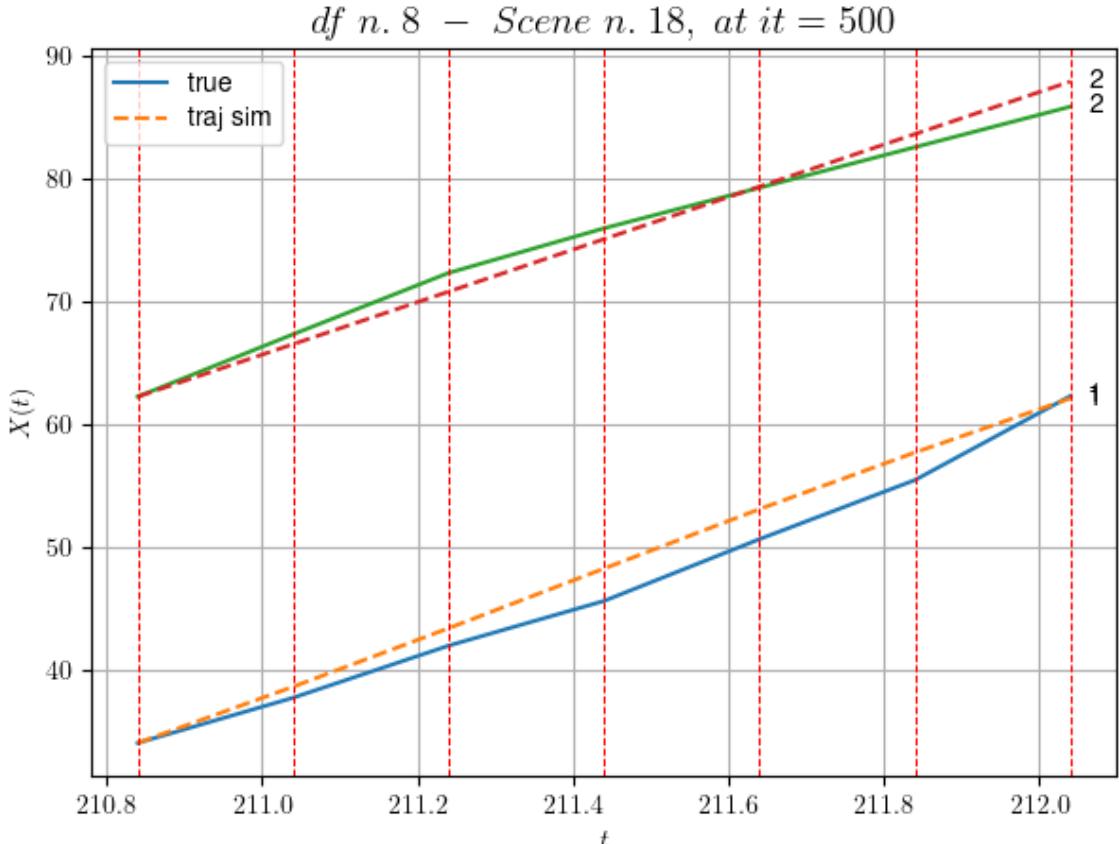
- Time interval n.4: [211.64, 211.84]
 - * y_true: [24.05129892]
 - * v_ann: [23.035287857055664, 21.37734163264228]
-

- Time interval n.5: [211.84, 212.04]
 - * y_true: [34.2022758]
 - * v_ann: [22.018571853637695, 21.37734163264228]
-

* err= 2.1356912761900753

* Learning rate NN = 3.138104830213706e-06

* diff = 0.0027414660704332405



For scene 18/79

- * use LR_NN=1e-05 with err=24.41600433095046 at it=24
- * v0_scn_mean = 21.722247967270818
- * MAE = 2.1337402721877354

df n.8, scene n.19/79

We have 11 time intervals inside [250.44, 252.64]

- Time interval n.0: [250.44, 250.64]
 - * y_true: [16.04072287]
 - * v_ann: [17.145299911499023, 14.644824448517864]

- Time interval n.1: [250.64, 250.84]
 - * y_true: [15.51077127]
 - * v_ann: [15.972097396850586, 14.644824448517864]

- Time interval n.2: [250.84, 251.04]
 - * y_true: [15.34089466]
 - * v_ann: [15.8649263381958, 14.644824448517864]

- Time interval n.3: [251.04, 251.24]
 - * y_true: [16.53189254]

```
* v_ann: [16.000659942626953, 14.644824448517864]
```

```
- Time interval n.4: [251.24, 251.44]
* y_true: [15.66111032]
* v_ann: [15.779473304748535, 14.644824448517864]
```

```
- Time interval n.5: [251.44, 251.64]
* y_true: [15.55114817]
* v_ann: [15.679781913757324, 14.644824448517864]
```

```
- Time interval n.6: [251.64, 251.84]
* y_true: [17.2315068]
* v_ann: [16.25697898864746, 14.644824448517864]
```

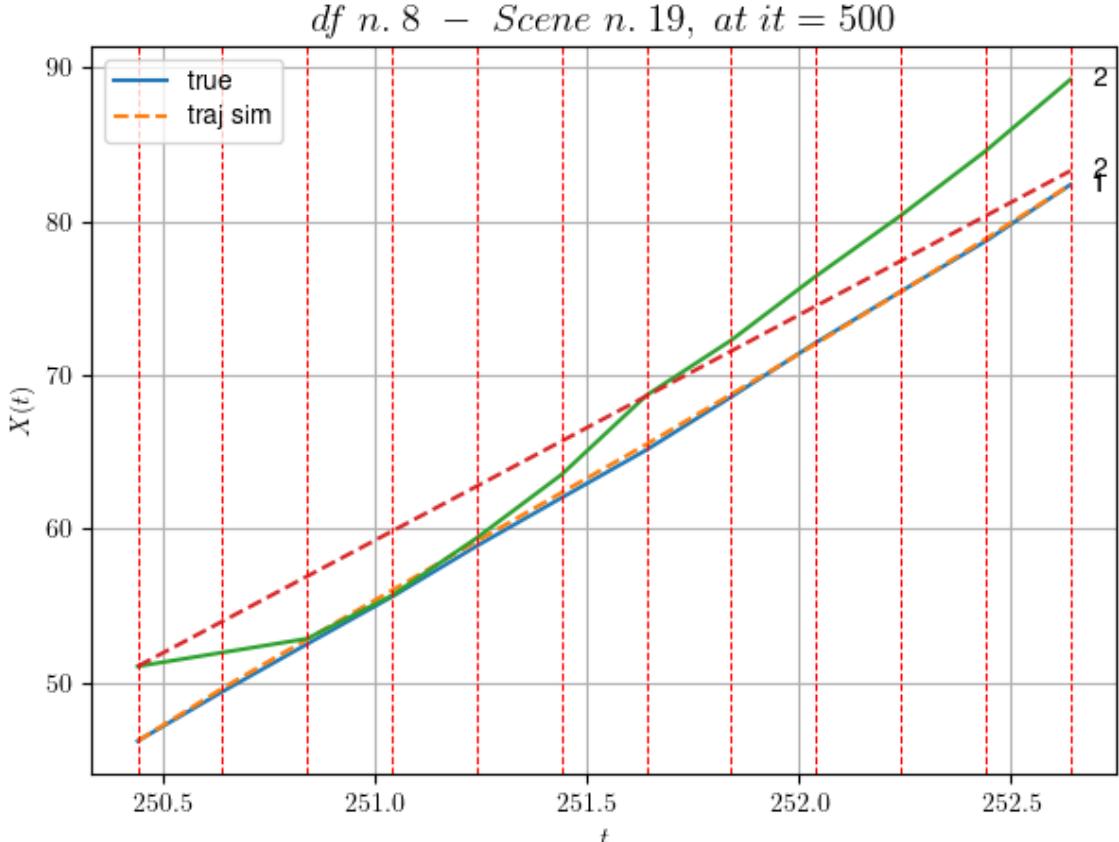
```
- Time interval n.7: [251.84, 252.04]
* y_true: [17.65159646]
* v_ann: [16.436460494995117, 14.644824448517864]
```

```
- Time interval n.8: [252.04, 252.24]
* y_true: [16.61174803]
* v_ann: [16.904104232788086, 14.644824448517864]
```

```
- Time interval n.9: [252.24, 252.44]
* y_true: [16.35178592]
* v_ann: [17.19609832763672, 14.644824448517864]
```

```
- Time interval n.10: [252.44, 252.64]
* y_true: [18.37232882]
* v_ann: [17.61050796508789, 14.644824448517864]
```

```
* err= 5.033713364284705
* Learning rate NN = 0.000547094619832933
* diff = 0.0004765177402710208
```



For scene 19/79

- * use LR_NN=0.005 with err=176.3068748697567 at it=24
- * v0_scn_mean = 15.259031470459682
- * MAE = 4.1302451184183955

df n.8, scene n.20/79

We have 5 time intervals inside [276.64, 277.64]

- Time interval n.0: [276.64, 276.84]
 - * y_true: [19.91101059]
 - * v_ann: [19.91363525390625, 26.490508846064177]

- Time interval n.1: [276.84, 277.04]
 - * y_true: [24.60145519]
 - * v_ann: [24.592405319213867, 26.490508846064177]

- Time interval n.2: [277.04, 277.24]
 - * y_true: [20.33137939]
 - * v_ann: [20.341882705688477, 26.490508846064177]

- Time interval n.3: [277.24, 277.44]
 - * y_true: [20.36164579]

```
* v_ann: [20.354246139526367, 26.490508846064177]
```

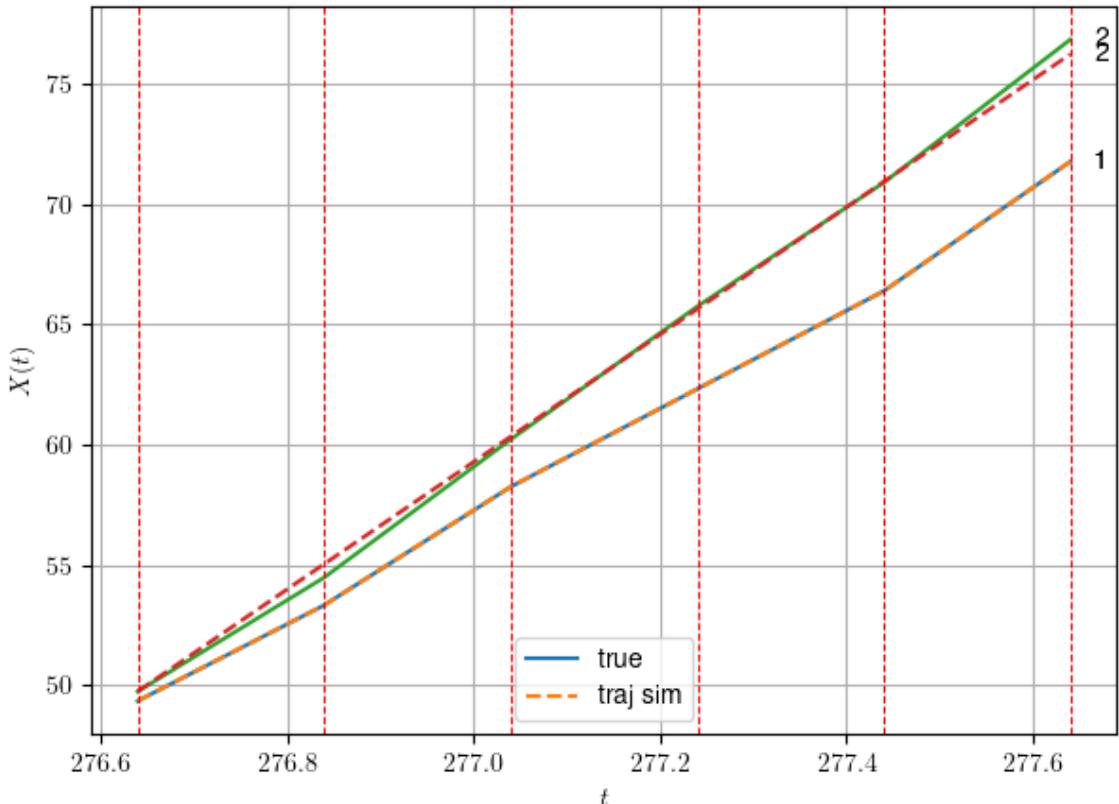
```
- Time interval n.4: [277.44, 277.64]
```

```
* y_true: [26.89241196]
```

```
* v_ann: [26.8953800201416, 26.490508846064177]
```

```
* err= 0.05917748382768175
* Learning rate NN = 0.0038742038886994123
* diff = 3.982994048259969e-07
```

df n. 8 – Scene n. 20, at it = 500



For scene 20/79

```
* use LR_NN=0.01 with err=2.2387603266551594 at it=24
```

```
* v0_scn_mean = 26.630888492195417
```

```
* MAE = 0.05917748382768175
```

df n.8, scene n.21/79

We have 5 time intervals inside [278.64, 279.64]

```
- Time interval n.0: [278.64, 278.84]
```

```
* y_true: [25.33138011]
```

```
* v_ann: [21.881547927856445, 27.40725931573358]
```

```
- Time interval n.1: [278.84, 279.04]
```

```
* y_true: [26.10168972]
* v_ann: [22.401628494262695, 27.40725931573358]
```

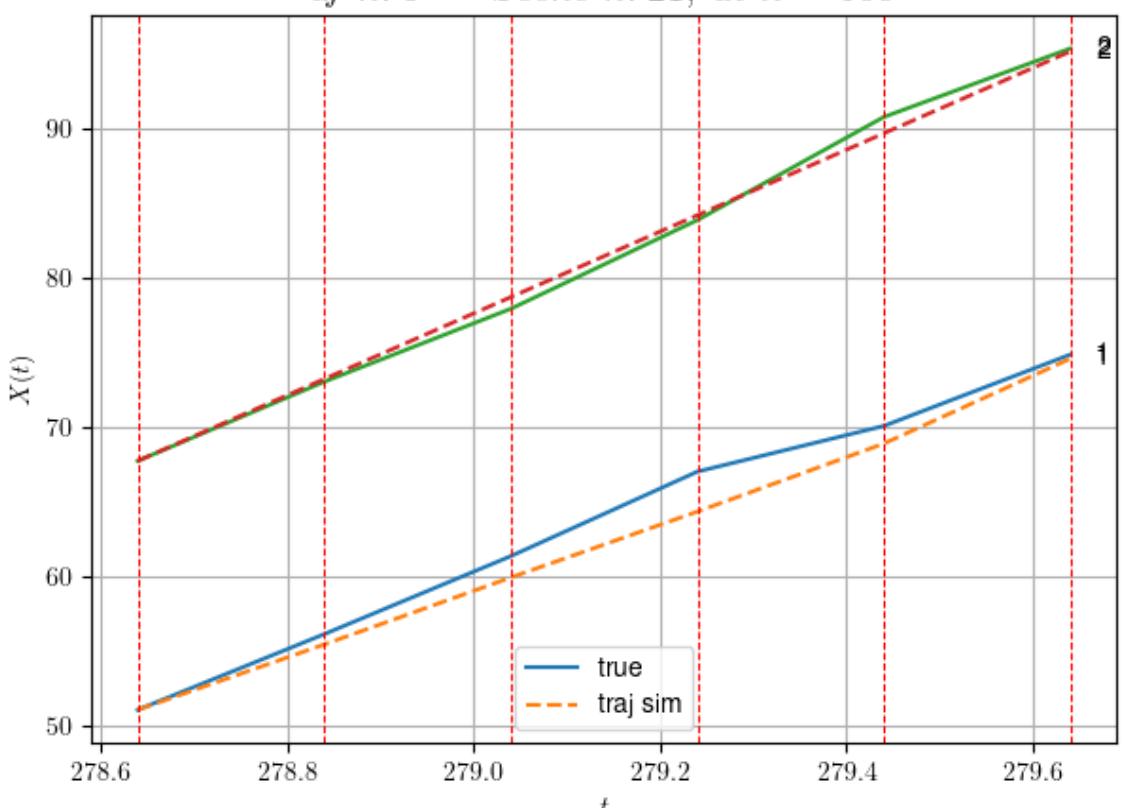
```
- Time interval n.2: [279.04, 279.24]
* y_true: [28.27219854]
* v_ann: [22.048307418823242, 27.40725931573358]
```

```
- Time interval n.3: [279.24, 279.44]
* y_true: [15.3013247]
* v_ann: [22.77739143371582, 27.40725931573358]
```

```
- Time interval n.4: [279.44, 279.64]
* y_true: [23.90239058]
* v_ann: [28.429500579833984, 27.40725931573358]
```

```
* err= 1.094100542008613
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.006411294318292127
```

df n. 8 – Scene n. 21, at it = 500



For scene 21/79

```
* use LR_NN=5e-05 with err=2.031035284641775 at it=24
* v0_scn_mean = 27.510968943083654
* MAE = 1.0800452845436694
```

df n.8, scene n.22/79

We have 4 time intervals inside [281.44, 282.24]

- Time interval n.0: [281.44, 281.64]

* y_true: [31.54245626]

* v_ann: [31.5992374420166, 25.060172008753163]

- Time interval n.1: [281.64, 281.84]

* y_true: [26.752427]

* v_ann: [28.39180564880371, 25.060172008753163]

- Time interval n.2: [281.84, 282.04]

* y_true: [30.20476381]

* v_ann: [28.70564079284668, 25.060172008753163]

- Time interval n.3: [282.04, 282.24]

* y_true: [23.94300381]

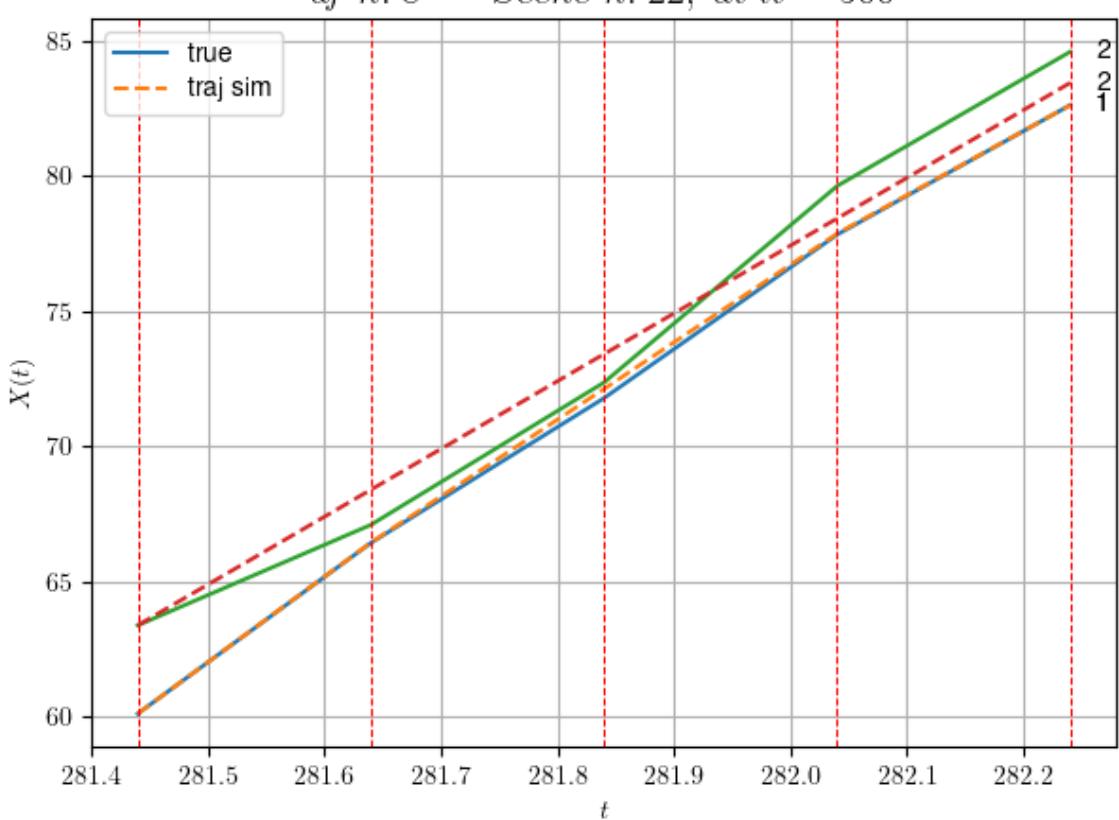
* v_ann: [23.73967933654785, 25.060172008753163]

* err= 0.5657381480587322

* Learning rate NN = 0.002391484100371599

* diff = 0.00033099356500820853

df n. 8 – Scene n. 22, at it = 500



```
For scene 22/79
* use LR_NN=0.005 with err=2.8932635989175393 at it=24
* v0_scn_mean = 25.257765128364888
* MAE = 0.5125049423676644
```

```
=====
=====
```

```
df n.8, scene n.23/79
```

```
=====
=====
```

```
We have 6 time intervals inside [283.84,285.04]
```

```
- Time interval n.0: [283.84, 284.04]
  * y_true: [21.50116485]
  * v_ann: [21.6634521484375, 31.024373752742626]
```

```
-----
-----
```

```
- Time interval n.1: [284.04, 284.24]
  * y_true: [21.05133002]
  * v_ann: [20.683813095092773, 31.024373752742626]
```

```
-----
-----
```

```
- Time interval n.2: [284.24, 284.44]
  * y_true: [35.30269143]
  * v_ann: [19.55109405517578, 31.024373752742626]
```

```
-----
-----
```

```
- Time interval n.3: [284.44, 284.64]
  * y_true: [11.75103348]
  * v_ann: [23.032085418701172, 31.024373752742626]
```

```
-----
-----
```

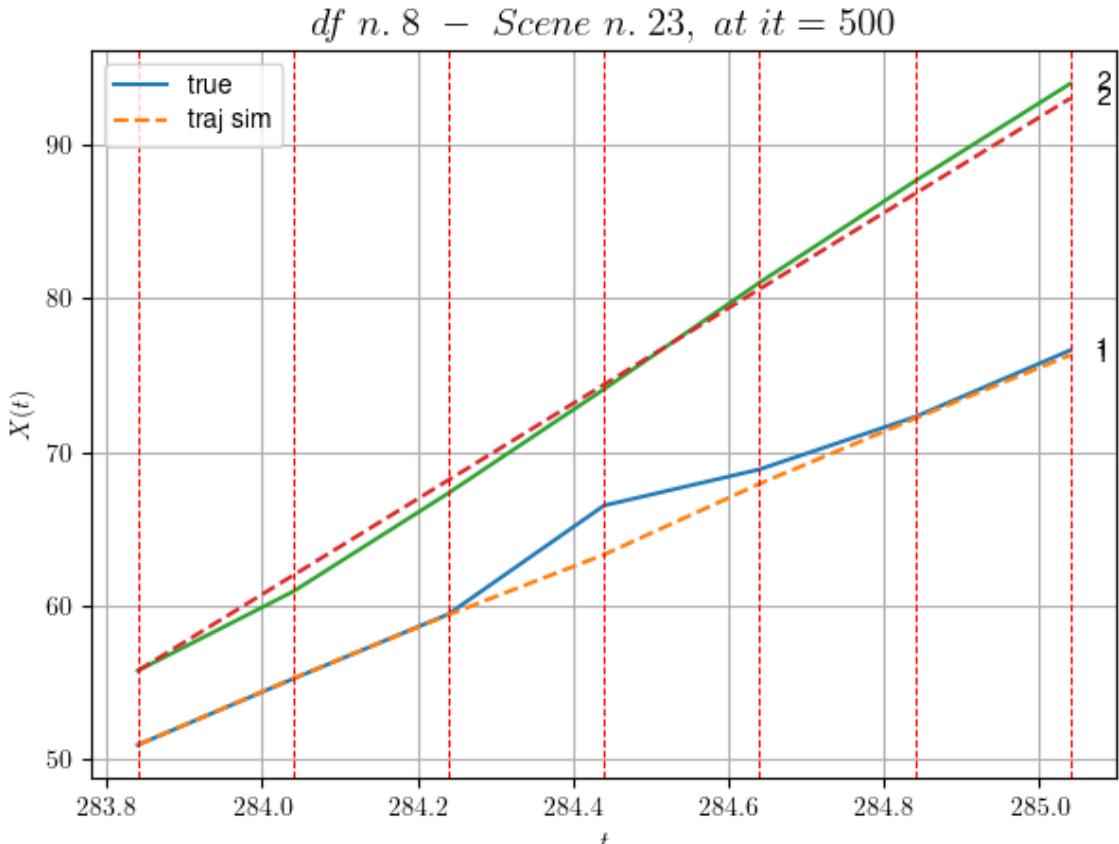
```
- Time interval n.4: [284.64, 284.84]
  * y_true: [17.05163021]
  * v_ann: [21.22376251220703, 31.024373752742626]
```

```
-----
-----
```

```
- Time interval n.5: [284.84, 285.04]
  * y_true: [21.70230716]
  * v_ann: [20.649269104003906, 31.024373752742626]
```

```
-----
-----
```

```
* err= 1.0612413662251976
* Learning rate NN = 0.00031381050939671695
* diff = 0.048829966152391435
```



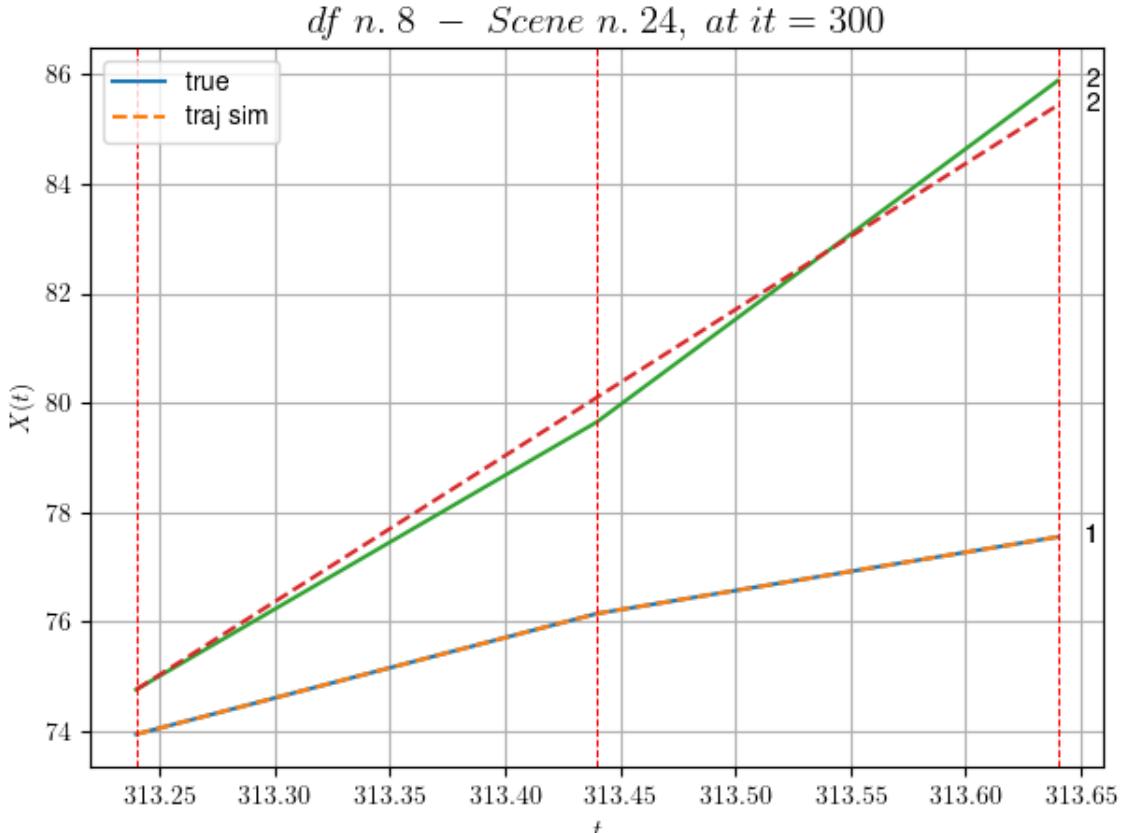
For scene 23/79

- * use LR_NN=0.001 with err=8.60654790215431 at it=24
 - * v0_scn_mean = 30.98339880264076
 - * MAE = 1.0612413662251976
-
-

df n.8, scene n.24/79

We have 2 time intervals inside [313.24, 313.64]

- * err= 0.06676564390545556
- * Learning rate NN = 0.008099999278783798
- * diff = 2.441457904178712e-07



For scene 24/79

- * use LR_NN=0.01 with err=0.33179844849682094 at it=24
- * v0_scn_mean = 26.91875877244017
- * MAE = 0.060089129280486916

df n.8, scene n.25/79

We have 5 time intervals inside [319.44, 320.44]

- Time interval n.0: [319.44, 319.64]
 - * y_true: [9.82525355]
 - * v_ann: [6.556804656982422, 24.072557838554268]

- Time interval n.1: [319.64, 319.84]
 - * y_true: [9.82525355]
 - * v_ann: [6.890491962432861, 24.072557838554268]

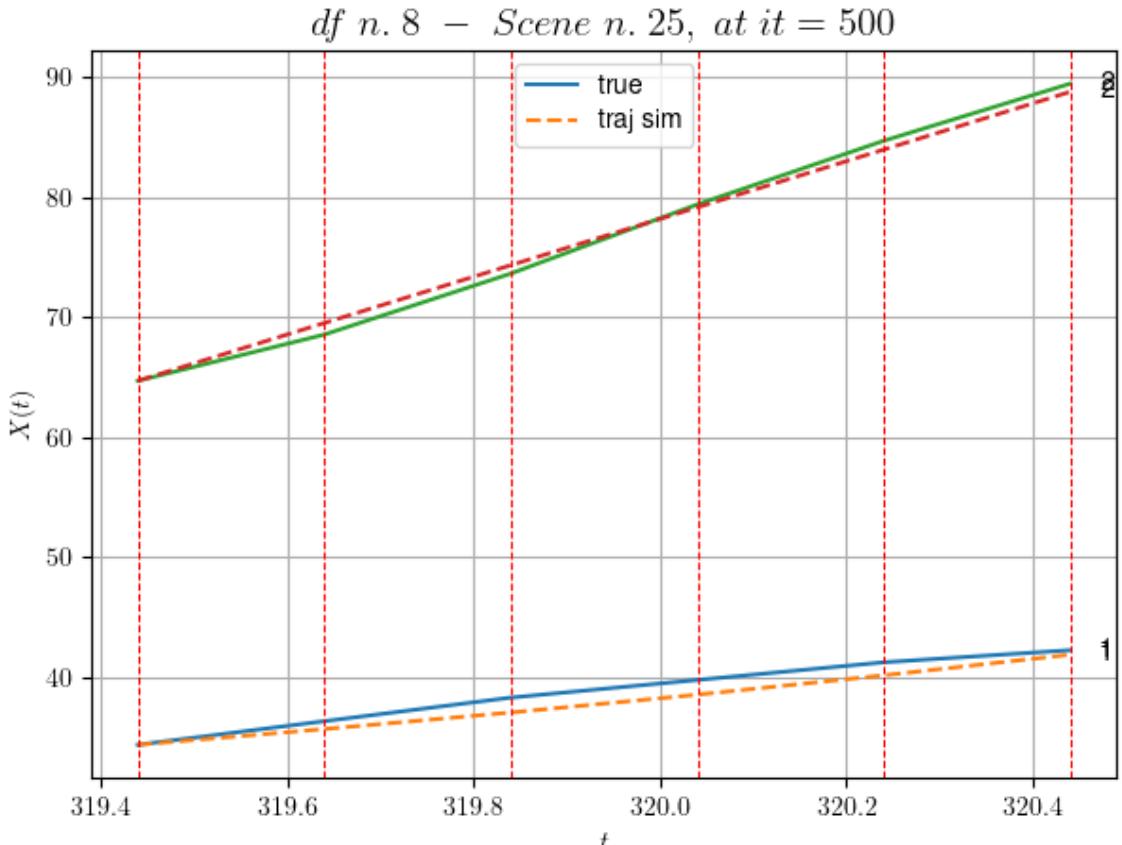
- Time interval n.2: [319.84, 320.04]
 - * y_true: [7.3502267]
 - * v_ann: [7.417989253997803, 24.072557838554268]

- Time interval n.3: [320.04, 320.24]
 - * y_true: [7.3502267]

```
* v_ann: [8.0592679977417, 24.072557838554268]
```

```
- Time interval n.4: [320.24, 320.44]
* y_true: [5.05017556]
* v_ann: [8.614827156066895, 24.072557838554268]
```

```
* err= 0.6057571788259603
* Learning rate NN = 3.874203684972599e-06
* diff = 0.00305492907323468
```



For scene 25/79

```
* use LR_NN=1e-05 with err=6.229089718708358 at it=24
* v0_scn_mean = 24.309655524966516
* MAE = 0.6057571788259603
```

df n.8, scene n.26/79

We have 8 time intervals inside [323.44, 325.04]

```
- Time interval n.0: [323.44, 323.64]
* y_true: [24.33027056]
* v_ann: [19.80133819580078, 25.75837440986018]
```

```
- Time interval n.1: [323.64, 323.84]
```

```
* y_true: [24.59038686]
* v_ann: [20.11836814880371, 25.75837440986018]

-----
- Time interval n.2: [323.84, 324.04]
* y_true: [20.91043945]
* v_ann: [20.8695011138916, 25.75837440986018]

-----
- Time interval n.3: [324.04, 324.24]
* y_true: [19.61052811]
* v_ann: [21.604888916015625, 25.75837440986018]

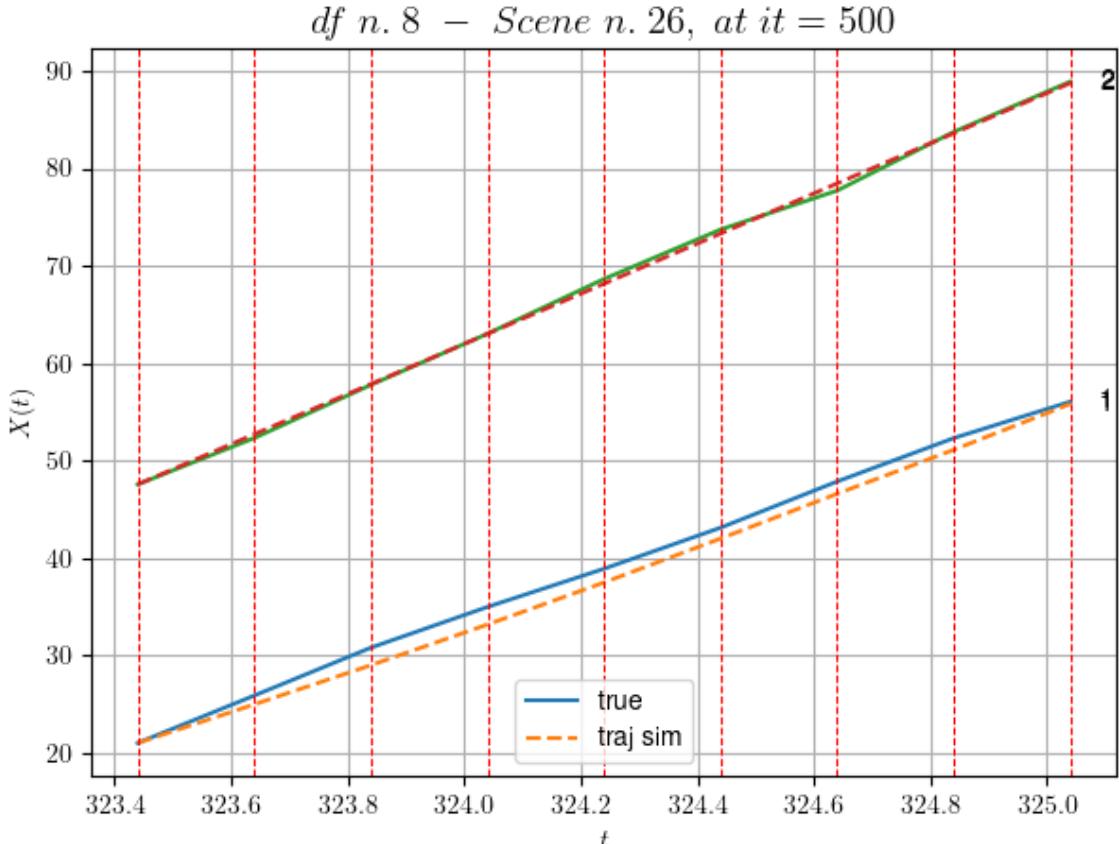
-----
- Time interval n.4: [324.24, 324.44]
* y_true: [21.09069215]
* v_ann: [22.565277099609375, 25.75837440986018]

-----
- Time interval n.5: [324.44, 324.64]
* y_true: [23.7209737]
* v_ann: [22.983951568603516, 25.75837440986018]

-----
- Time interval n.6: [324.64, 324.84]
* y_true: [22.27105843]
* v_ann: [22.566436767578125, 25.75837440986018]

-----
- Time interval n.7: [324.84, 325.04]
* y_true: [18.72109548]
* v_ann: [23.592029571533203, 25.75837440986018]

-----
* err= 0.8226940497603928
* Learning rate NN = 2.058910467894748e-05
* diff = 0.005215856859739354
```



For scene 26/79

- * use LR_NN=0.0001 with err=8.953154165995821 at it=24
- * v0_scn_mean = 25.928039433433494
- * MAE = 0.8145170910276786

df n.8, scene n.27/79

We have 9 time intervals inside [327.84, 329.64]

- Time interval n.0: [327.84, 328.04]
 - * y_true: [22.06055829]
 - * v_ann: [29.23607063293457, 23.318084130194872]

- Time interval n.1: [328.04, 328.24]
 - * y_true: [23.96078165]
 - * v_ann: [27.50159454345703, 23.318084130194872]

- Time interval n.2: [328.24, 328.44]
 - * y_true: [24.43098932]
 - * v_ann: [27.217121124267578, 23.318084130194872]

- Time interval n.3: [328.44, 328.64]
 - * y_true: [18.6708951]

```
* v_ann: [25.397518157958984, 23.318084130194872]
```

```
- Time interval n.4: [328.64, 328.84]
* y_true: [31.01184421]
* v_ann: [24.933202743530273, 23.318084130194872]
```

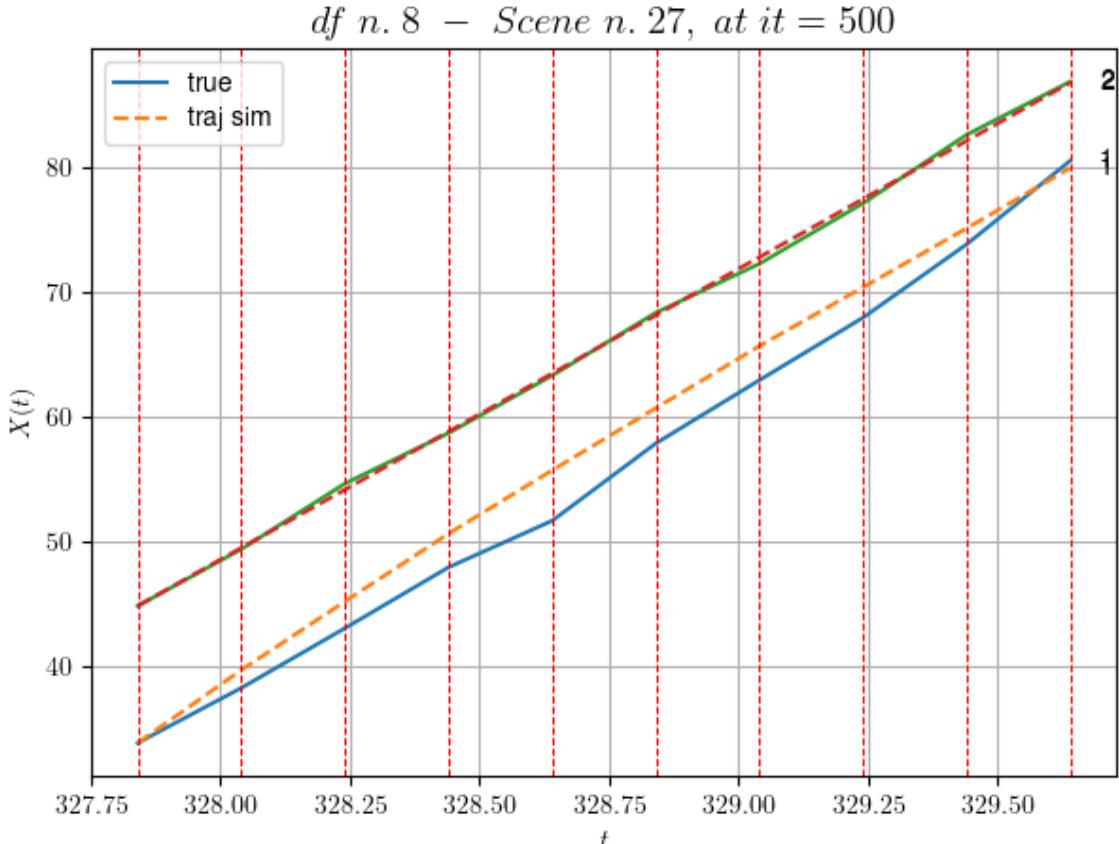
```
- Time interval n.5: [328.84, 329.04]
* y_true: [25.37177893]
* v_ann: [24.90668296813965, 23.318084130194872]
```

```
- Time interval n.6: [329.04, 329.24]
* y_true: [25.06209083]
* v_ann: [23.56731414794922, 23.318084130194872]
```

```
- Time interval n.7: [329.24, 329.44]
* y_true: [29.432885]
* v_ann: [23.633987426757812, 23.318084130194872]
```

```
- Time interval n.8: [329.44, 329.64]
* y_true: [33.52388826]
* v_ann: [24.18964385986328, 23.318084130194872]
```

```
* err= 2.7363929289721556
* Learning rate NN = 0.00016677174426149577
* diff = 0.10905543268756501
```



For scene 27/79

- * use LR_NN=0.001 with err=27.048040449938128 at it=24
- * v0_scn_mean = 23.58536076493576
- * MAE = 1.8191236463683451

df n.8, scene n.28/79

We have 4 time intervals inside [335.04, 335.84]

- Time interval n.0: [335.04, 335.24]
 - * y_true: [24.8512221]
 - * v_ann: [23.1369686126709, 23.061271780932774]

- Time interval n.1: [335.24, 335.44]
 - * y_true: [19.04114233]
 - * v_ann: [21.256141662597656, 23.061271780932774]

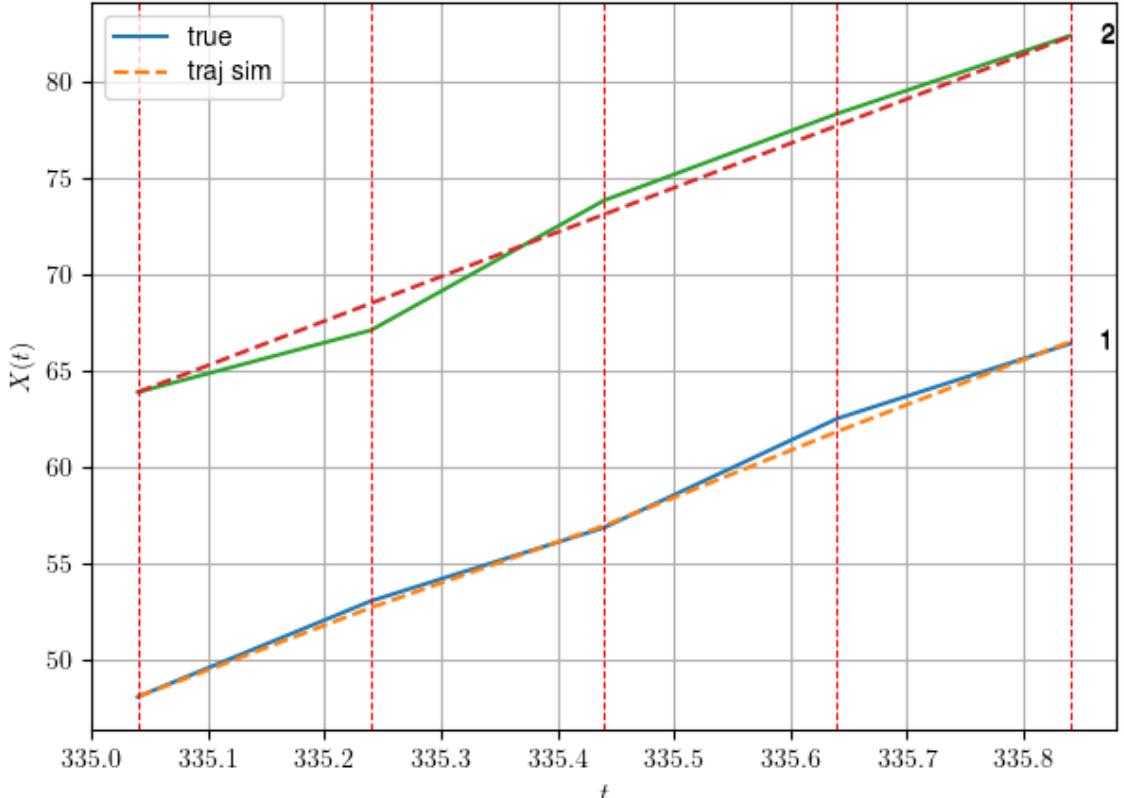
- Time interval n.2: [335.44, 335.64]
 - * y_true: [28.30193393]
 - * v_ann: [24.43621063232422, 23.061271780932774]

- Time interval n.3: [335.64, 335.84]
 - * y_true: [19.46158621]

```
* v_ann: [23.312456130981445, 23.061271780932774]
```

```
* err= 0.34610561799521533
* Learning rate NN = 2.3914839403005317e-05
* diff = 1.725459150203612e-05
```

df n. 8 – Scene n. 28, at it = 500



For scene 28/79

```
* use LR_NN=5e-05 with err=5.54074304254252 at it=24
* v0_scn_mean = 23.338820909643044
* MAE = 0.3340097707206788
```

df n.8, scene n.29/79

We have 14 time intervals inside [366.64, 369.44]

- Time interval n.0: [366.64, 366.84]
 - * y_true: [17.86619918]
 - * v_ann: [12.95947265625, 18.211190440756237]

- Time interval n.1: [366.84, 367.04]
 - * y_true: [7.2501536]
 - * v_ann: [8.04722785949707, 18.211190440756237]

- Time interval n.2: [367.04, 367.24]

```
* y_true: [7.20516912]
* v_ann: [11.319506645202637, 18.211190440756237]
```

```
- Time interval n.3: [367.24, 367.44]
* y_true: [7.17517947]
* v_ann: [7.695538520812988, 18.211190440756237]
```

```
- Time interval n.4: [367.44, 367.64]
* y_true: [5.45014474]
* v_ann: [5.179773807525635, 18.211190440756237]
```

```
- Time interval n.5: [367.64, 367.84]
* y_true: [4.30012159]
* v_ann: [3.8928275108337402, 18.211190440756237]
```

```
- Time interval n.6: [367.84, 368.04]
* y_true: [5.08015369]
* v_ann: [4.309201717376709, 18.211190440756237]
```

```
- Time interval n.7: [368.04, 368.24]
* y_true: [5.6001751]
* v_ann: [4.923346042633057, 18.211190440756237]
```

```
- Time interval n.8: [368.24, 368.44]
* y_true: [6.48521995]
* v_ann: [5.921125888824463, 18.211190440756237]
```

```
- Time interval n.9: [368.44, 368.64]
* y_true: [7.07524984]
* v_ann: [7.231718063354492, 18.211190440756237]
```

```
- Time interval n.10: [368.64, 368.84]
* y_true: [8.15531695]
* v_ann: [8.840277671813965, 18.211190440756237]
```

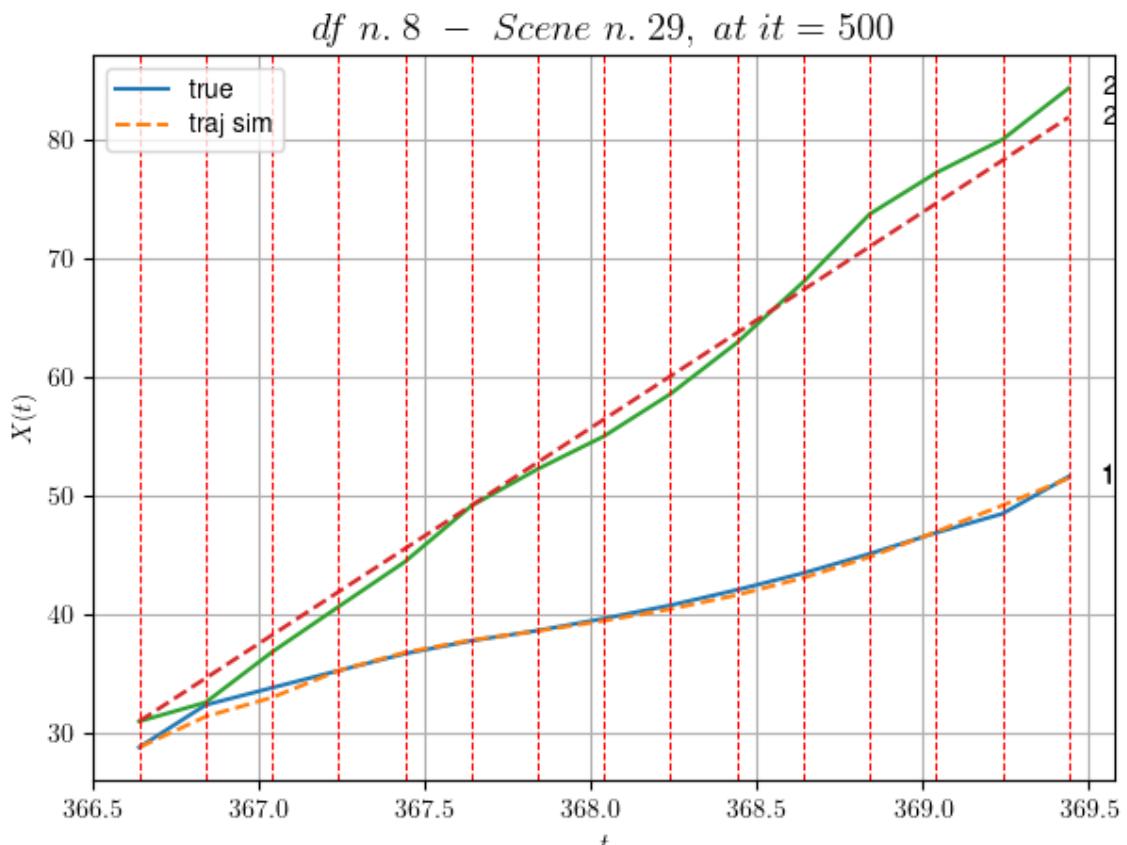
```
- Time interval n.11: [368.84, 369.04]
* y_true: [8.87536169]
* v_ann: [10.588733673095703, 18.211190440756237]
```

```
- Time interval n.12: [369.04, 369.24]
```

```
* y_true: [8.05829994]
* v_ann: [11.19328498840332, 18.211190440756237]
```

```
- Time interval n.13: [369.24, 369.44]
* y_true: [15.69072344]
* v_ann: [11.434242248535156, 18.211190440756237]
```

```
* err= 1.3603262978220487
* Learning rate NN = 5.8149696997134015e-05
* diff = 0.0023305161292783705
```



For scene 29/79

```
* use LR_NN=0.001 with err=179.89205845687113 at it=24
* v0_scn_mean = 18.682742823035806
* MAE = 1.2828809235374166
```

df n.8, scene n.30/79

```
We have 9 time intervals inside [389.24,391.04]
```

```
- Time interval n.0: [389.24, 389.44]
* y_true: [8.38525844]
* v_ann: [8.946720123291016, 19.019765770329105]
```

```
- Time interval n.1: [389.44, 389.64]
* y_true: [9.22528905]
* v_ann: [7.2356109619140625, 19.019765770329105]

-----
- Time interval n.2: [389.64, 389.84]
* y_true: [6.14521269]
* v_ann: [6.9899091720581055, 19.019765770329105]

-----
- Time interval n.3: [389.84, 390.04]
* y_true: [5.3751936]
* v_ann: [6.453953266143799, 19.019765770329105]

-----
- Time interval n.4: [390.04, 390.24]
* y_true: [6.37525125]
* v_ann: [6.502776145935059, 19.019765770329105]

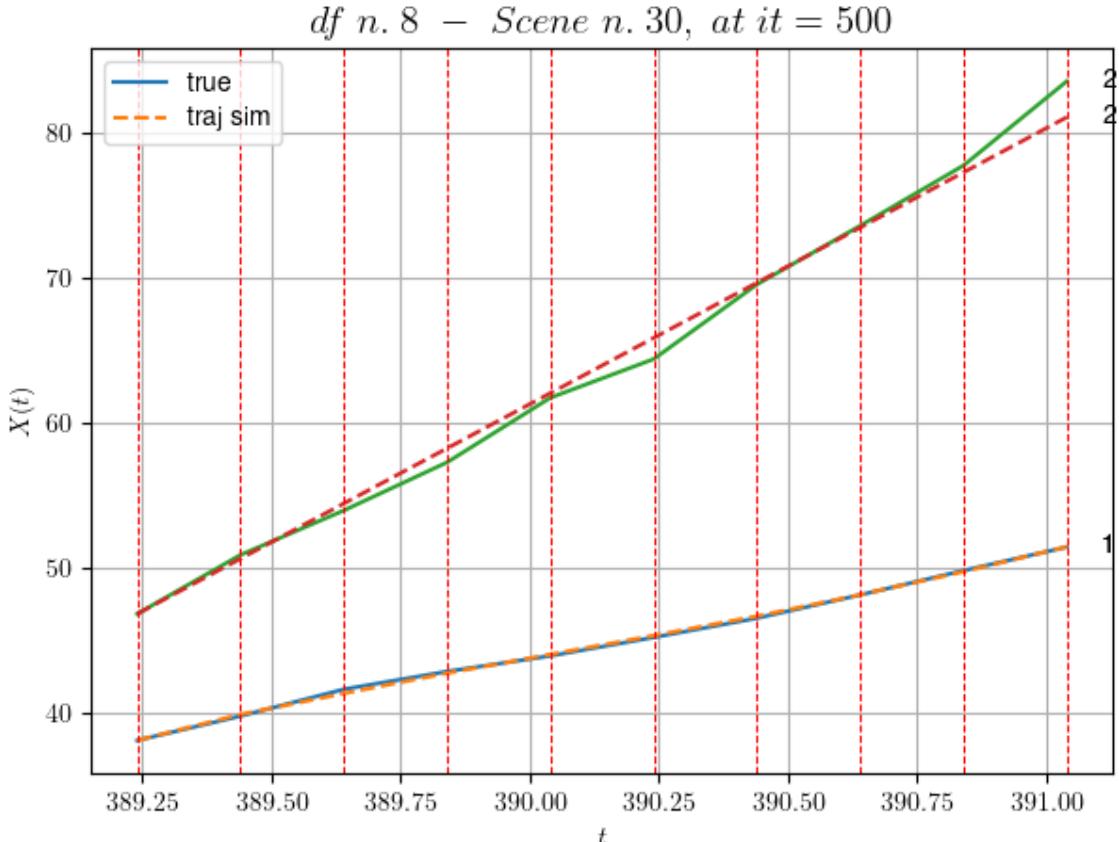
-----
- Time interval n.5: [390.24, 390.44]
* y_true: [6.62526566]
* v_ann: [6.6913323402404785, 19.019765770329105]

-----
- Time interval n.6: [390.44, 390.64]
* y_true: [8.02535814]
* v_ann: [7.371751308441162, 19.019765770329105]

-----
- Time interval n.7: [390.64, 390.84]
* y_true: [8.37538127]
* v_ann: [7.975263595581055, 19.019765770329105]

-----
- Time interval n.8: [390.84, 391.04]
* y_true: [8.11541027]
* v_ann: [8.57518196105957, 19.019765770329105]

* err= 0.5012977343992466
* Learning rate NN = 0.00016677174426149577
* diff = 0.0002155628644239238
```



For scene 30/79

- * use LR_NN=0.001 with err=66.95436051345457 at it=24
- * v0_scn_mean = 19.458975139433267
- * MAE = 0.48257466869514337

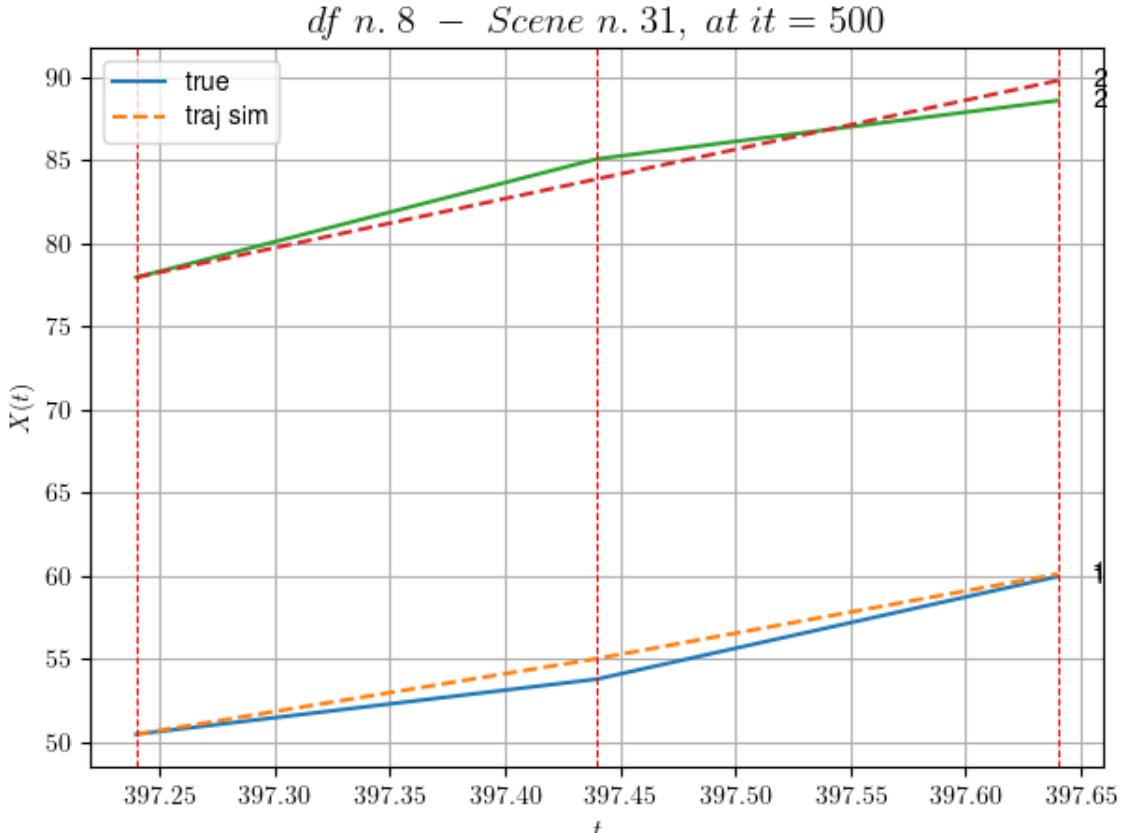
df n.8, scene n.31/79

We have 2 time intervals inside [397.24, 397.64]

- Time interval n.0: [397.24, 397.44]
 - * y_true: [16.60087318]
 - * v_ann: [22.77021026611328, 29.637208516307787]

- Time interval n.1: [397.44, 397.64]
 - * y_true: [30.91194424]
 - * v_ann: [25.486717224121094, 29.637208516307787]

- * err= 0.7402066499612762
- * Learning rate NN = 7.289998848136747e-06
- * diff = 0.0001259984677214332



For scene 31/79

```
* use LR_NN=1e-05 with err=0.7015209994721497 at it=24
* v0_scn_mean = 29.651720175653086
* MAE = 0.6723580716214168
```

df n.8, scene n.32/79

We have 3 time intervals inside [404.84, 405.44]

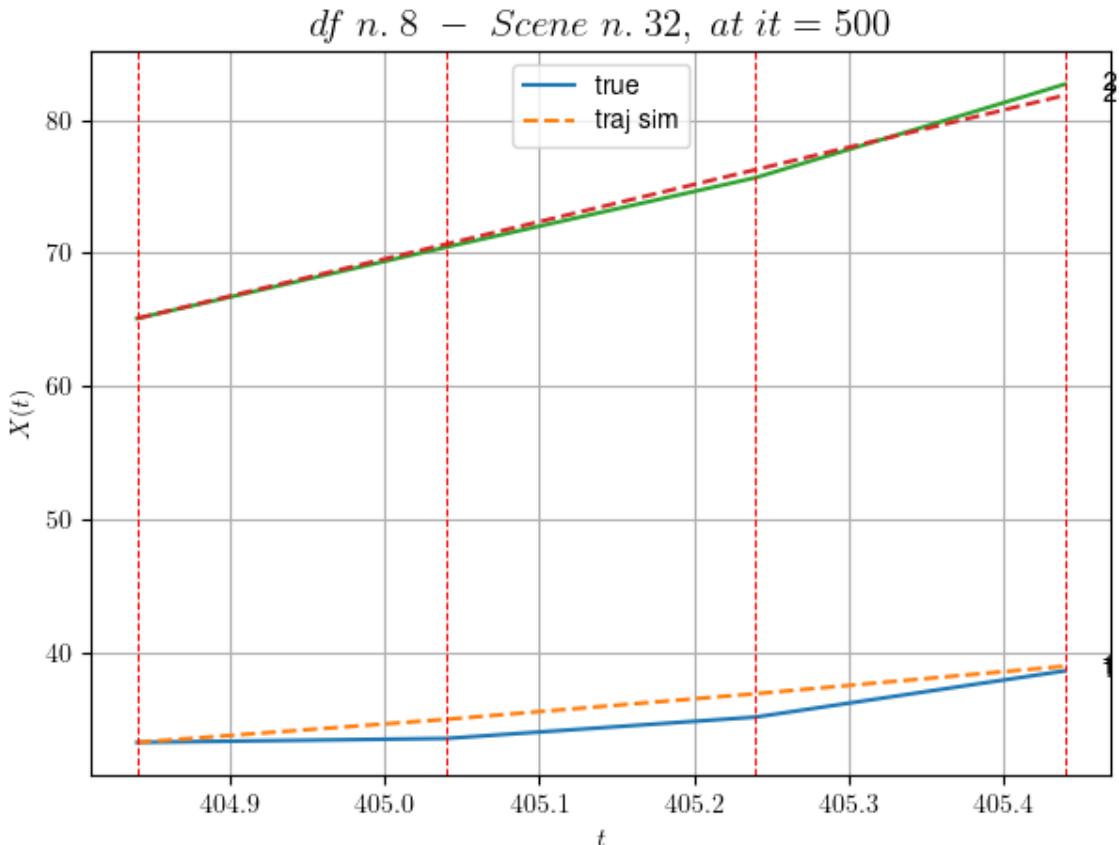
- Time interval n.0: [404.84, 405.04]
 - * y_true: [1.47503232]
 - * v_ann: [8.647281646728516, 27.902766852719747]

- Time interval n.1: [405.04, 405.24]
 - * y_true: [8.01795896]
 - * v_ann: [9.605253219604492, 27.902766852719747]

- Time interval n.2: [405.24, 405.44]
 - * y_true: [17.33045096]
 - * v_ann: [10.317350387573242, 27.902766852719747]

- * err= 0.7938878641266651
- * Learning rate NN = 5.9048988987342454e-06

* diff = 0.0007212026589967779



For scene 32/79

* use LR_NN=1e-05 with err=1.1725529353430393 at it=24
 * v0_scn_mean = 27.986656178592458
 * MAE = 0.7938878641266651

df n.8, scene n.33/79

We have 10 time intervals inside [412.04, 414.04]

- Time interval n.0: [412.04, 412.24]
 - * y_true: [24.0804594]
 - * v_ann: [21.16925811767578, 22.871866245202693]

- Time interval n.1: [412.24, 412.44]
 - * y_true: [27.74068623]
 - * v_ann: [22.596799850463867, 22.871866245202693]

- Time interval n.2: [412.44, 412.64]
 - * y_true: [22.39072047]
 - * v_ann: [24.068002700805664, 22.871866245202693]

- Time interval n.3: [412.64, 412.84]

```
* y_true: [22.94091554]
* v_ann: [23.457672119140625, 22.871866245202693]

-----
- Time interval n.4: [412.84, 413.04]
* y_true: [17.47081843]
* v_ann: [17.375600814819336, 22.871866245202693]

-----
- Time interval n.5: [413.04, 413.24]
* y_true: [23.28131854]
* v_ann: [23.34596061706543, 22.871866245202693]

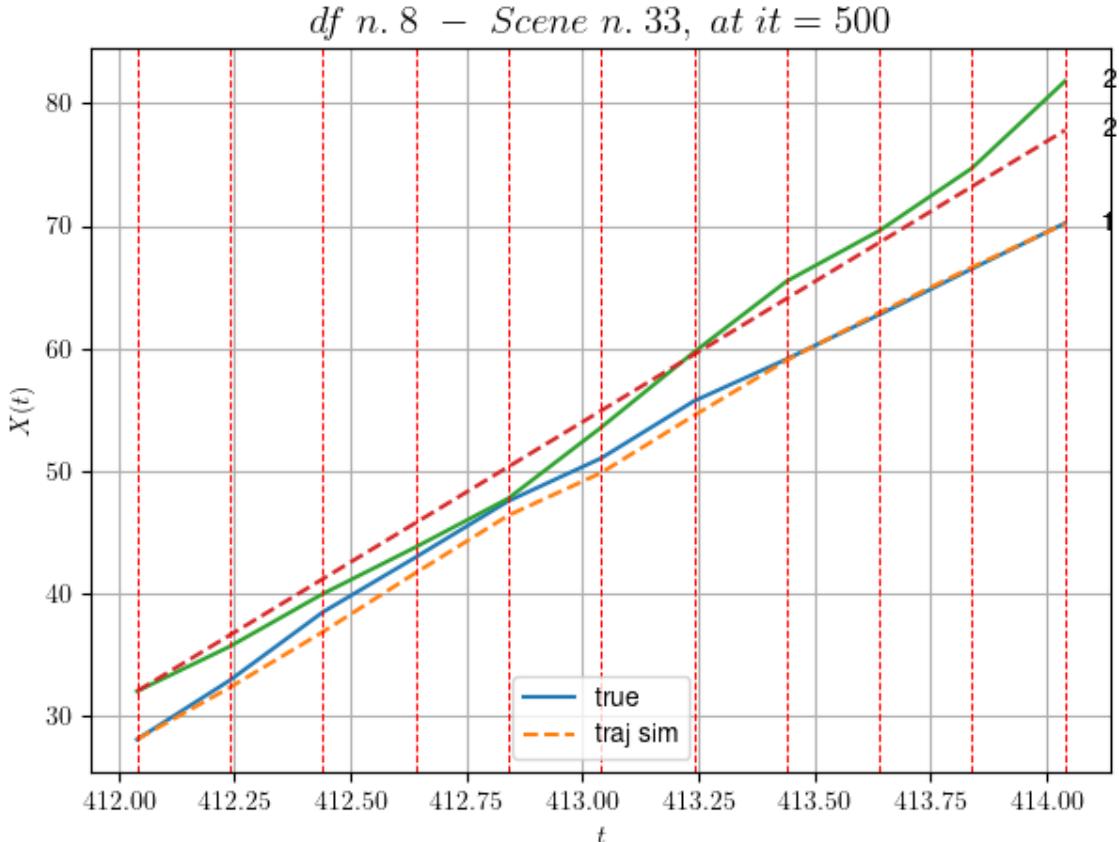
-----
- Time interval n.6: [413.24, 413.44]
* y_true: [17.13105881]
* v_ann: [22.529224395751953, 22.871866245202693]

-----
- Time interval n.7: [413.44, 413.64]
* y_true: [18.16133526]
* v_ann: [19.525787353515625, 22.871866245202693]

-----
- Time interval n.8: [413.64, 413.84]
* y_true: [18.74149771]
* v_ann: [18.554536819458008, 22.871866245202693]

-----
- Time interval n.9: [413.84, 414.04]
* y_true: [18.54169049]
* v_ann: [17.668052673339844, 22.871866245202693]

-----
* err= 2.0377613063347186
* Learning rate NN = 0.0006754255155101418
* diff = 0.03194656286440001
```



For scene 33/79

```
* use LR_NN=0.005 with err=33.35997817225075 at it=24
* v0_scn_mean = 23.156991595340237
* MAE = 2.0377613063347186
```

df n.8, scene n.34/79

We have 11 time intervals inside [418.84, 421.04]

- Time interval n.0: [418.84, 419.04]
 - * y_true: [0.12387653]
 - * v_ann: [10.06844711303711, 20.28967509238386]

- Time interval n.1: [419.04, 419.24]
 - * y_true: [0.12387653]
 - * v_ann: [11.305771827697754, 20.28967509238386]

- Time interval n.2: [419.24, 419.44]
 - * y_true: [11.93873624]
 - * v_ann: [11.850075721740723, 20.28967509238386]

- Time interval n.3: [419.44, 419.64]
 - * y_true: [17.30006217]

```
* v_ann: [12.68708324432373, 20.28967509238386]
```

```
- Time interval n.4: [419.64, 419.84]
* y_true: [16.35009105]
* v_ann: [13.888893127441406, 20.28967509238386]
```

```
- Time interval n.5: [419.84, 420.04]
* y_true: [17.85014325]
* v_ann: [14.514961242675781, 20.28967509238386]
```

```
- Time interval n.6: [420.04, 420.24]
* y_true: [12.95013734]
* v_ann: [14.64802074432373, 20.28967509238386]
```

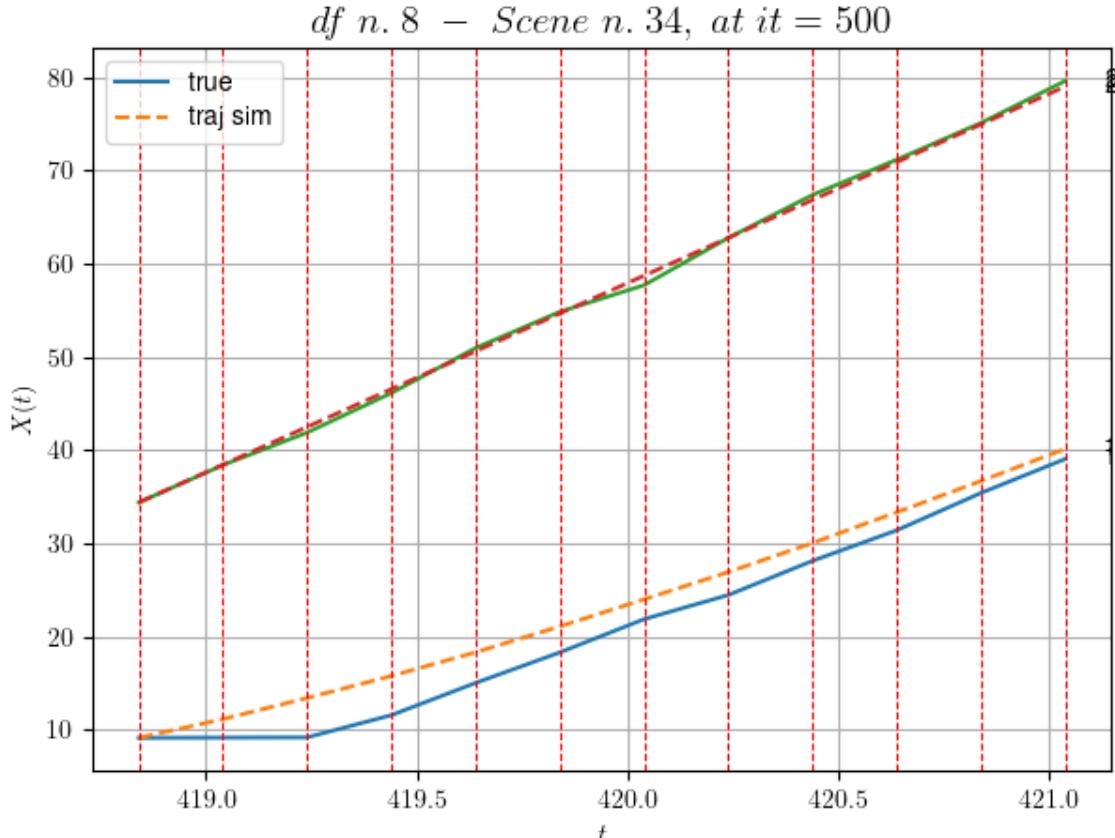
```
- Time interval n.7: [420.24, 420.44]
* y_true: [18.35024999]
* v_ann: [15.604654312133789, 20.28967509238386]
```

```
- Time interval n.8: [420.44, 420.64]
* y_true: [16.40028531]
* v_ann: [16.504741668701172, 20.28967509238386]
```

```
- Time interval n.9: [420.64, 420.84]
* y_true: [20.00043707]
* v_ann: [16.734825134277344, 20.28967509238386]
```

```
- Time interval n.10: [420.84, 421.04]
* y_true: [18.25049412]
* v_ann: [17.281789779663086, 20.28967509238386]
```

```
* err= 3.394504597646364
* Learning rate NN = 5.4709467804059386e-05
* diff = 0.0864385895291524
```



For scene 34/79

- * use LR_NN=0.0005 with err=79.10696939860749 at it=24
- * v0_scn_mean = 20.67808808861416
- * MAE = 1.1656168179970159

df n.8, scene n.35/79

We have 6 time intervals inside [437.64, 438.84]

- Time interval n.0: [437.64, 437.84]
 - * y_true: [22.55008828]
 - * v_ann: [18.972517013549805, 32.073548894469546]

- Time interval n.1: [437.84, 438.04]
 - * y_true: [21.30014205]
 - * v_ann: [20.407155990600586, 32.073548894469546]

- Time interval n.2: [438.04, 438.24]
 - * y_true: [20.75020757]
 - * v_ann: [21.38245391845703, 32.073548894469546]

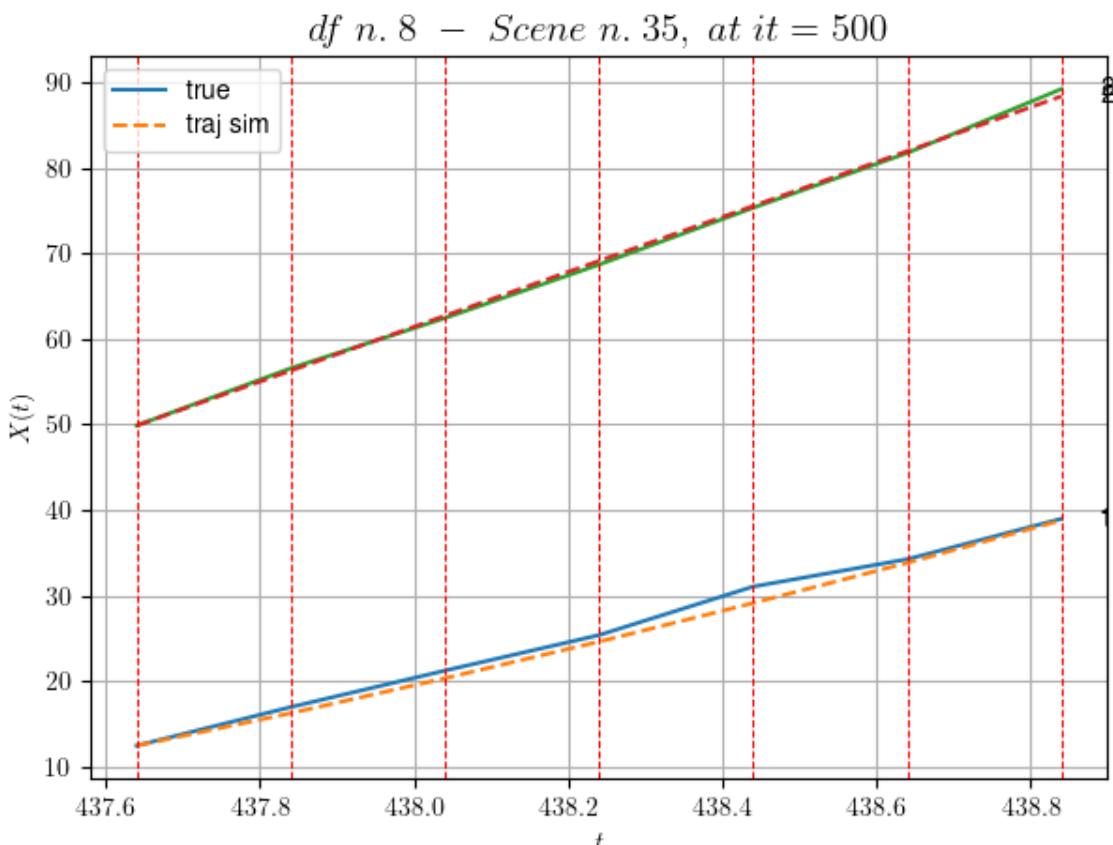
- Time interval n.3: [438.24, 438.44]
 - * y_true: [28.350419]

```
* v_ann: [22.563833236694336, 32.073548894469546]
```

```
- Time interval n.4: [438.44, 438.64]
* y_true: [16.00031722]
* v_ann: [23.50229263305664, 32.073548894469546]
```

```
- Time interval n.5: [438.64, 438.84]
* y_true: [23.650592]
* v_ann: [24.85207748413086, 32.073548894469546]
```

```
* err= 0.49852623079596203
* Learning rate NN = 1.5690524378442205e-05
* diff = 0.003545286259949987
```



For scene 35/79

```
* use LR_NN=5e-05 with err=1.5873788666432374 at it=24
* v0_scn_mean = 31.99060693870682
* MAE = 0.49480079431138646
```

df n.8, scene n.36/79

We have 14 time intervals inside [445.44, 448.24]
- Time interval n.0: [445.44, 445.64]

```
* y_true: [0.12387653]
* v_ann: [5.664320468902588, 21.040373735870407]
```

```
- Time interval n.1: [445.64, 445.84]
* y_true: [0.12387653]
* v_ann: [10.488295555114746, 21.040373735870407]
```

```
- Time interval n.2: [445.84, 446.04]
* y_true: [12.34322315]
* v_ann: [14.662562370300293, 21.040373735870407]
```

```
- Time interval n.3: [446.04, 446.24]
* y_true: [20.41012141]
* v_ann: [16.38341522216797, 21.040373735870407]
```

```
- Time interval n.4: [446.24, 446.44]
* y_true: [18.79015888]
* v_ann: [17.123750686645508, 21.040373735870407]
```

```
- Time interval n.5: [446.44, 446.64]
* y_true: [18.20022789]
* v_ann: [18.256710052490234, 21.040373735870407]
```

```
- Time interval n.6: [446.64, 446.84]
* y_true: [23.54038381]
* v_ann: [18.206981658935547, 21.040373735870407]
```

```
- Time interval n.7: [446.84, 447.04]
* y_true: [19.83041926]
* v_ann: [20.29451560974121, 21.040373735870407]
```

```
- Time interval n.8: [447.04, 447.24]
* y_true: [16.99045407]
* v_ann: [19.841482162475586, 21.040373735870407]
```

```
- Time interval n.9: [447.24, 447.44]
* y_true: [22.71075598]
* v_ann: [18.910547256469727, 21.040373735870407]
```

```
- Time interval n.10: [447.44, 447.64]
```

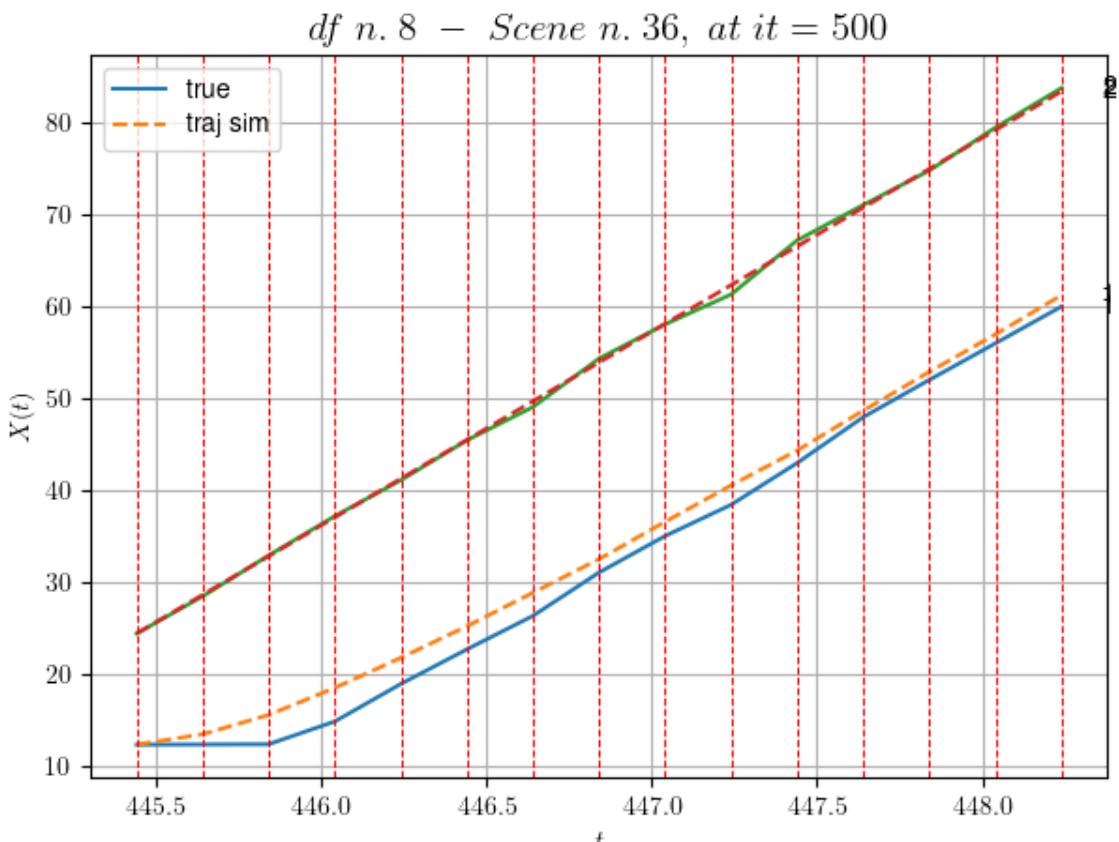
```
* y_true: [24.90098912]
* v_ann: [21.677488327026367, 21.040373735870407]
```

```
- Time interval n.11: [447.64, 447.84]
* y_true: [20.22098889]
* v_ann: [21.035736083984375, 21.040373735870407]
```

```
- Time interval n.12: [447.84, 448.04]
* y_true: [19.88112158]
* v_ann: [20.399320602416992, 21.040373735870407]
```

```
- Time interval n.13: [448.04, 448.24]
* y_true: [19.97131804]
* v_ann: [21.213083267211914, 21.040373735870407]
```

```
* err= 2.0761863367541484
* Learning rate NN = 5.8149696997134015e-05
* diff = 0.0000552555000764206
```



For scene 36/79

```
* use LR_NN=0.001 with err=108.955036990909 at it=24
* v0_scn_mean = 21.39875878636719
* MAE = 0.9863651730735081
```

```
df n.8, scene n.37/79
```

We have 3 time intervals inside [453.64, 454.24]

- Time interval n.0: [453.64, 453.84]
 - * y_true: [28.34103701]
 - * v_ann: [31.8914794921875, 27.92010328442685]

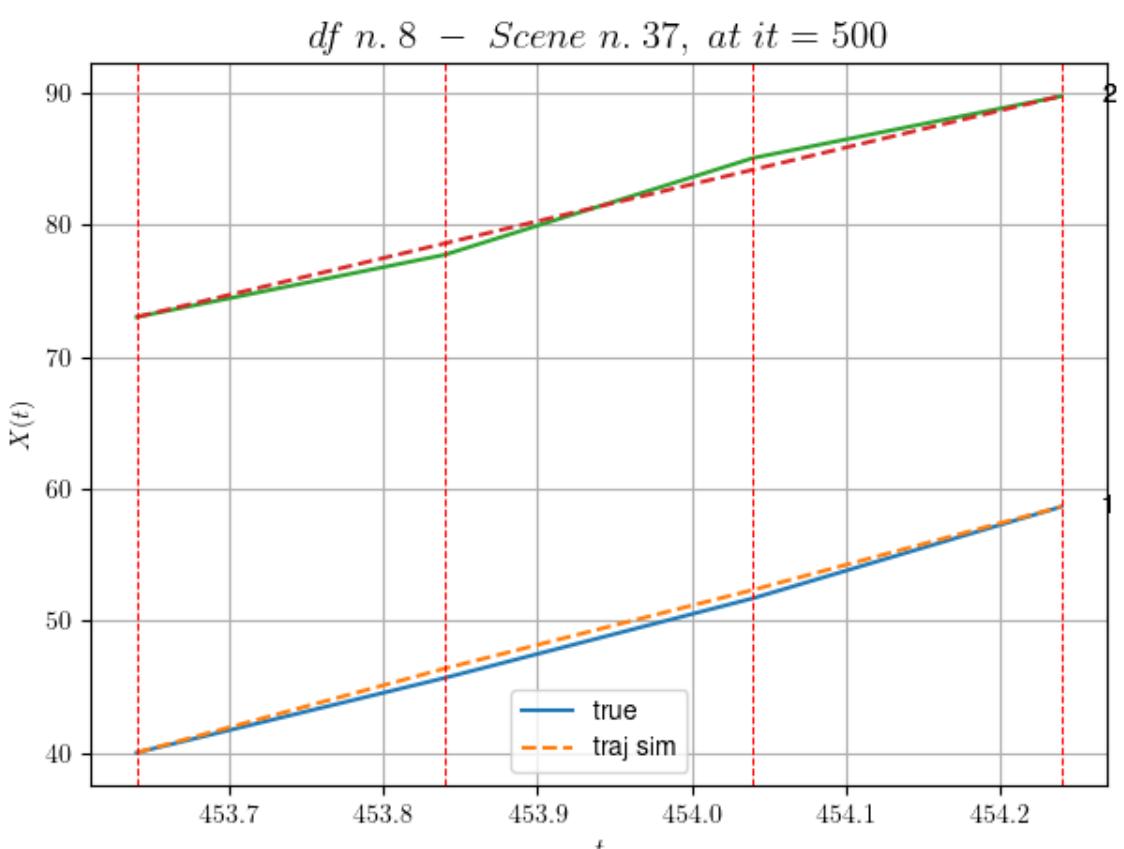
-
- Time interval n.1: [453.84, 454.04]
 - * y_true: [30.17138066]
 - * v_ann: [29.80027198791504, 27.92010328442685]

-
- Time interval n.2: [454.04, 454.24]
 - * y_true: [34.68214182]
 - * v_ann: [31.515316009521484, 27.92010328442685]

* err= 0.304376861474679

* Learning rate NN = 2.952449540316593e-05

* diff = 8.156771424017162e-05



For scene 37/79

* use LR_NN=5e-05 with err=0.5262648792402641 at it=24

* v0_scn_mean = 28.003299153034074

* MAE = 0.3019959107109603

df n.8, scene n.38/79

We have 4 time intervals inside [456.44, 457.24]

- Time interval n.0: [456.44, 456.64]

* y_true: [23.84053136]

* v_ann: [25.658451080322266, 22.637249688333263]

- Time interval n.1: [456.64, 456.84]

* y_true: [24.61071928]

* v_ann: [25.382335662841797, 22.637249688333263]

- Time interval n.2: [456.84, 457.04]

* y_true: [25.2209288]

* v_ann: [23.73967742919922, 22.637249688333263]

- Time interval n.3: [457.04, 457.24]

* y_true: [25.74119407]

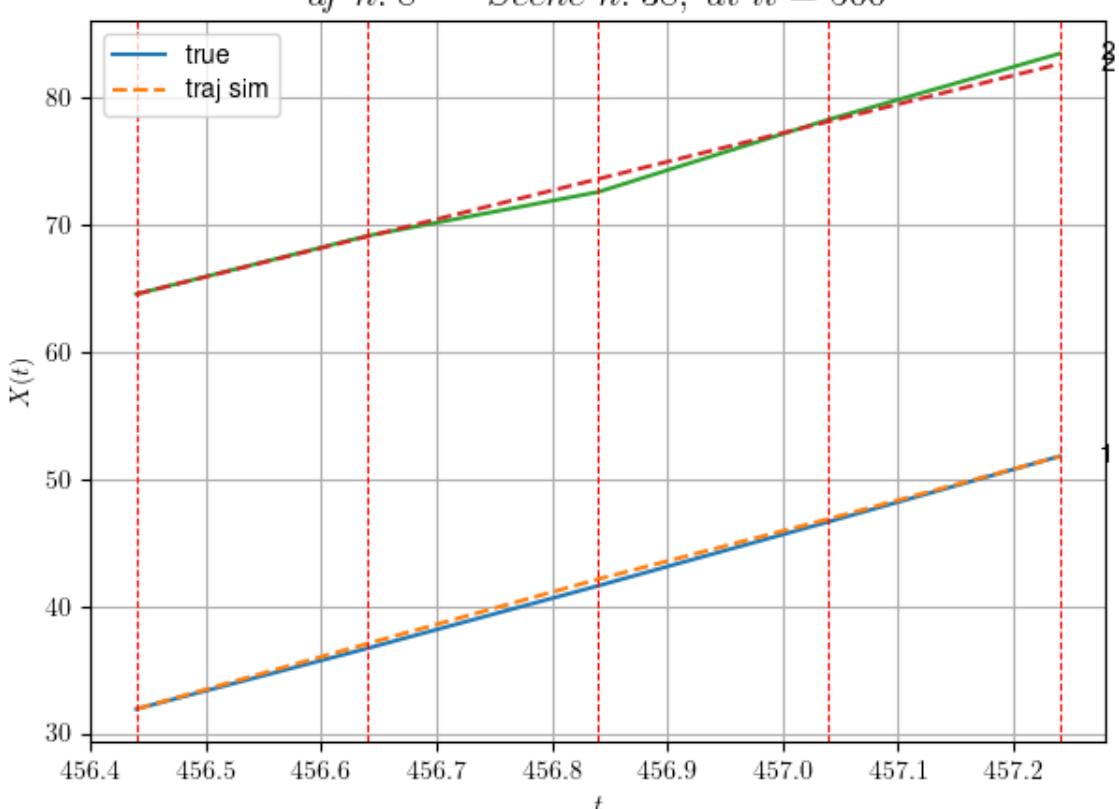
* v_ann: [24.522686004638672, 22.637249688333263]

* err= 0.21867394881162883

* Learning rate NN = 4.782968062500004e-06

* diff = 3.060270717974989e-05

df n. 8 – Scene n. 38, at it = 500



```
For scene 38/79
* use LR_NN=1e-05 with err=6.193266350929978 at it=24
* v0_scn_mean = 22.931759700743914
* MAE = 0.2101061718918742
```

```
=====
=====
```

```
df n.8, scene n.39/79
```

```
=====
=====
```

```
We have 8 time intervals inside [458.64,460.24]
```

```
- Time interval n.0: [458.64, 458.84]
  * y_true: [25.95045298]
  * v_ann: [24.04781150817871, 22.184785448498662]
```

```
-----
-----
```

```
- Time interval n.1: [458.84, 459.04]
  * y_true: [22.25052189]
  * v_ann: [22.99551773071289, 22.184785448498662]
```

```
-----
-----
```

```
- Time interval n.2: [459.04, 459.24]
  * y_true: [20.55060692]
  * v_ann: [23.528675079345703, 22.184785448498662]
```

```
-----
-----
```

```
- Time interval n.3: [459.24, 459.44]
  * y_true: [13.40046688]
  * v_ann: [24.68865203857422, 22.184785448498662]
```

```
-----
-----
```

```
- Time interval n.4: [459.44, 459.64]
  * y_true: [28.40119406]
  * v_ann: [24.628244400024414, 22.184785448498662]
```

```
-----
-----
```

```
- Time interval n.5: [459.64, 459.84]
  * y_true: [25.90135574]
  * v_ann: [21.784297943115234, 22.184785448498662]
```

```
-----
-----
```

```
- Time interval n.6: [459.84, 460.04]
  * y_true: [23.6514835]
  * v_ann: [21.83099365234375, 22.184785448498662]
```

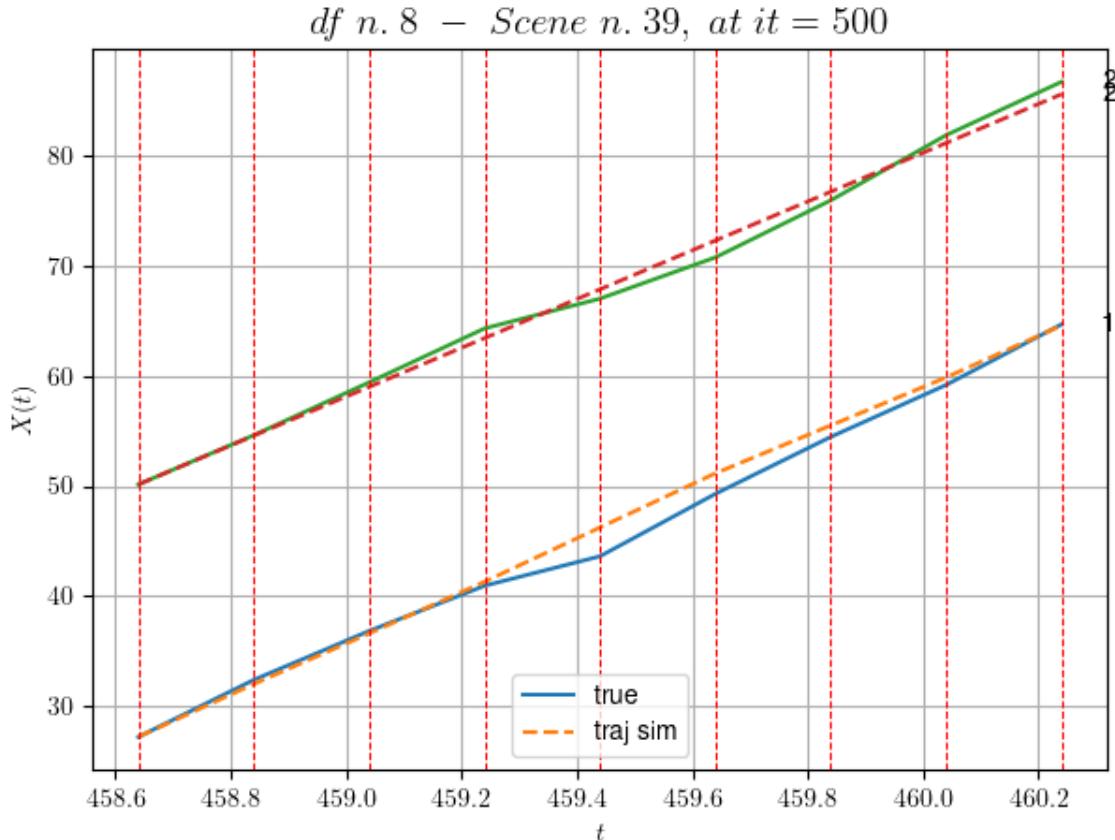
```
-----
-----
```

```
- Time interval n.7: [460.04, 460.24]
  * y_true: [27.5520519]
  * v_ann: [23.639619827270508, 22.184785448498662]
```

```

* err= 1.0367436637213274
* Learning rate NN = 2.058910467894748e-06
* diff = 0.0032658653088228906

```



For scene 39/79

```

* use LR_NN=1e-05 with err=28.3834239305763 at it=24
* v0_scn_mean = 22.497394030498995
* MAE = 1.033626241965374

```

df n.8, scene n.40/79

We have 15 time intervals inside [475.84, 478.84]

- Time interval n.0: [475.84, 476.04]
 - * y_true: [0.12387653]
 - * v_ann: [0.021417729556560516, 18.58562797515516]

- Time interval n.1: [476.04, 476.24]
 - * y_true: [0.12387653]
 - * v_ann: [0.003723018104210496, 18.58562797515516]

- Time interval n.2: [476.24, 476.44]
 - * y_true: [0.12387653]
 - * v_ann: [0.0013525978429242969, 18.58562797515516]

- Time interval n.3: [476.44, 476.64]
 - * y_true: [0.35014507]
 - * v_ann: [0.0006552486447617412, 18.58562797515516]

- Time interval n.4: [476.64, 476.84]
 - * y_true: [15.34010034]
 - * v_ann: [0.00034979896736331284, 18.58562797515516]

6]

- Time interval n.5: [476.84, 477.04]
 - * y_true: [16.47014538]
 - * v_ann: [0.00029758267919532955, 18.58562797515516]

6]

- Time interval n.6: [477.04, 477.24]
 - * y_true: [15.29017682]
 - * v_ann: [0.00024692394072189927, 18.58562797515516]

6]

- Time interval n.7: [477.24, 477.44]
 - * y_true: [14.20020635]
 - * v_ann: [0.00023364675871562213, 18.58562797515516]

6]

- Time interval n.8: [477.44, 477.64]
 - * y_true: [16.81030766]
 - * v_ann: [0.00020449567819014192, 18.58562797515516]

6]

- Time interval n.9: [477.64, 477.84]
 - * y_true: [18.60041729]
 - * v_ann: [0.00019620705279521644, 18.58562797515516]

6]

- Time interval n.10: [477.84, 478.04]
 - * y_true: [15.74042221]
 - * v_ann: [0.00019081466598436236, 18.58562797515516]

6]

- Time interval n.11: [478.04, 478.24]
 - * y_true: [17.32056356]
 - * v_ann: [0.00016136023623403162, 18.58562797515516]

6]

```
- Time interval n.12: [478.24, 478.44]
  * y_true: [22.3908747]
  * v_ann: [0.00015863341104704887, 18.5856279751551]
```

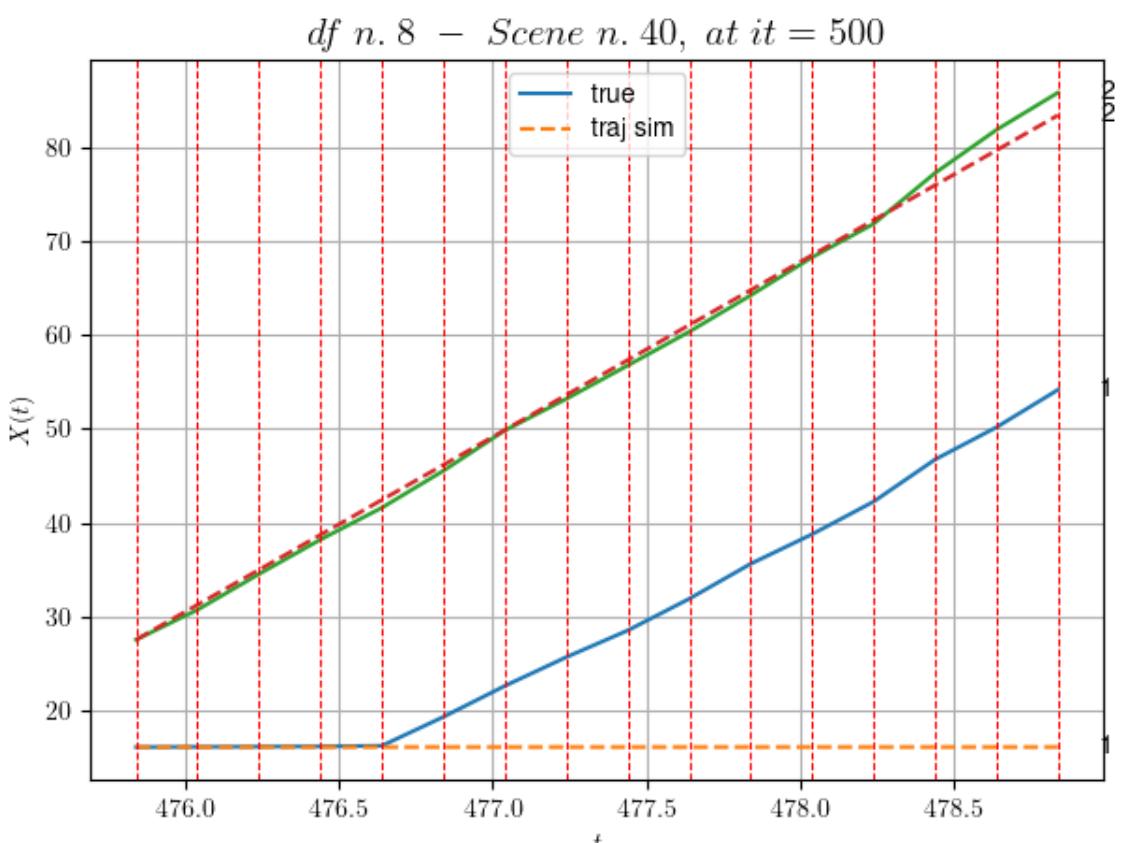
6]

```
- Time interval n.13: [478.44, 478.64]
  * y_true: [17.17076636]
  * v_ann: [0.0001334070402663201, 18.58562797515516]
```

6]

```
- Time interval n.14: [478.64, 478.84]
  * y_true: [19.89107551]
  * v_ann: [0.00010733716771937907, 18.5856279751551]
```

```
* err= 177.11798364317033
* Learning rate NN = 4.7101253585424274e-05
* diff = 0.002462892347068646
```



For scene 40/79

```
* use LR_NN=0.001 with err=197.50483872307868 at it=24
* v0_scn_mean = 19.042202856062147
* MAE = 177.08235190567893
```

=====

df n.8, scene n.41/79

=====

We have 9 time intervals inside [488.24, 490.04]

- Time interval n.0: [488.24, 488.44]
 - * y_true: [23.74050104]
 - * v_ann: [26.926471710205078, 18.510799599164013]

- Time interval n.1: [488.44, 488.64]
 - * y_true: [16.69043259]
 - * v_ann: [24.0802001953125, 18.510799599164013]

- Time interval n.2: [488.64, 488.84]
 - * y_true: [18.92060399]
 - * v_ann: [23.851028442382812, 18.510799599164013]

- Time interval n.3: [488.84, 489.04]
 - * y_true: [28.4711413]
 - * v_ann: [22.925437927246094, 18.510799599164013]

- Time interval n.4: [489.04, 489.24]
 - * y_true: [20.32096673]
 - * v_ann: [21.356761932373047, 18.510799599164013]

- Time interval n.5: [489.24, 489.44]
 - * y_true: [21.55123159]
 - * v_ann: [20.862991333007812, 18.510799599164013]

- Time interval n.6: [489.44, 489.64]
 - * y_true: [19.30126205]
 - * v_ann: [20.501354217529297, 18.510799599164013]

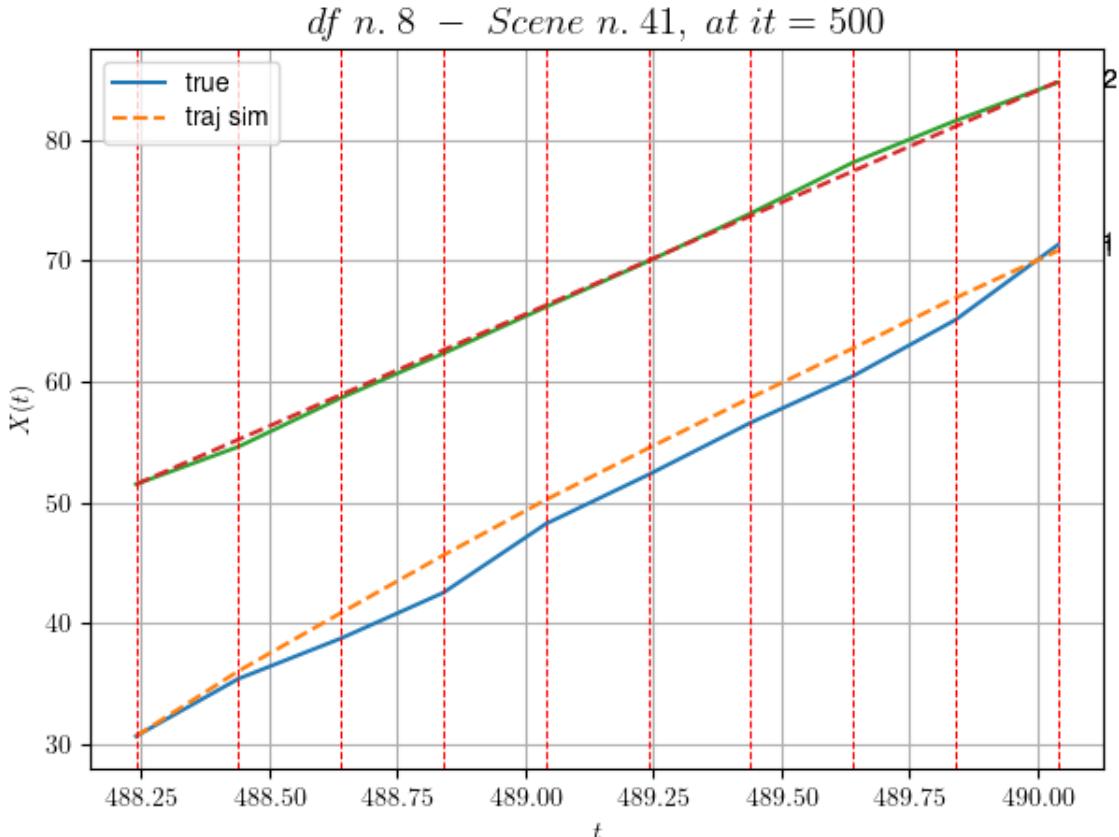
- Time interval n.7: [489.64, 489.84]
 - * y_true: [23.26176809]
 - * v_ann: [20.81808853149414, 18.510799599164013]

- Time interval n.8: [489.84, 490.04]
 - * y_true: [31.05279265]
 - * v_ann: [19.543813705444336, 18.510799599164013]

```

* err= 1.8842233766722711
* Learning rate NN = 8.338587213074788e-05

```



For scene 41/79

```

* use LR_NN=0.0005 with err=75.16969748683456 at it=24
* v0_scn_mean = 18.970367615109517
* MAE = 1.7616758617940684

```

df n.8, scene n.42/79

We have 2 time intervals inside [491.84, 492.24]

- Time interval n.0: [491.84, 492.04]
 - * y_true: [24.0518314]
 - * v_ann: [23.05720329284668, 22.552414214619045]

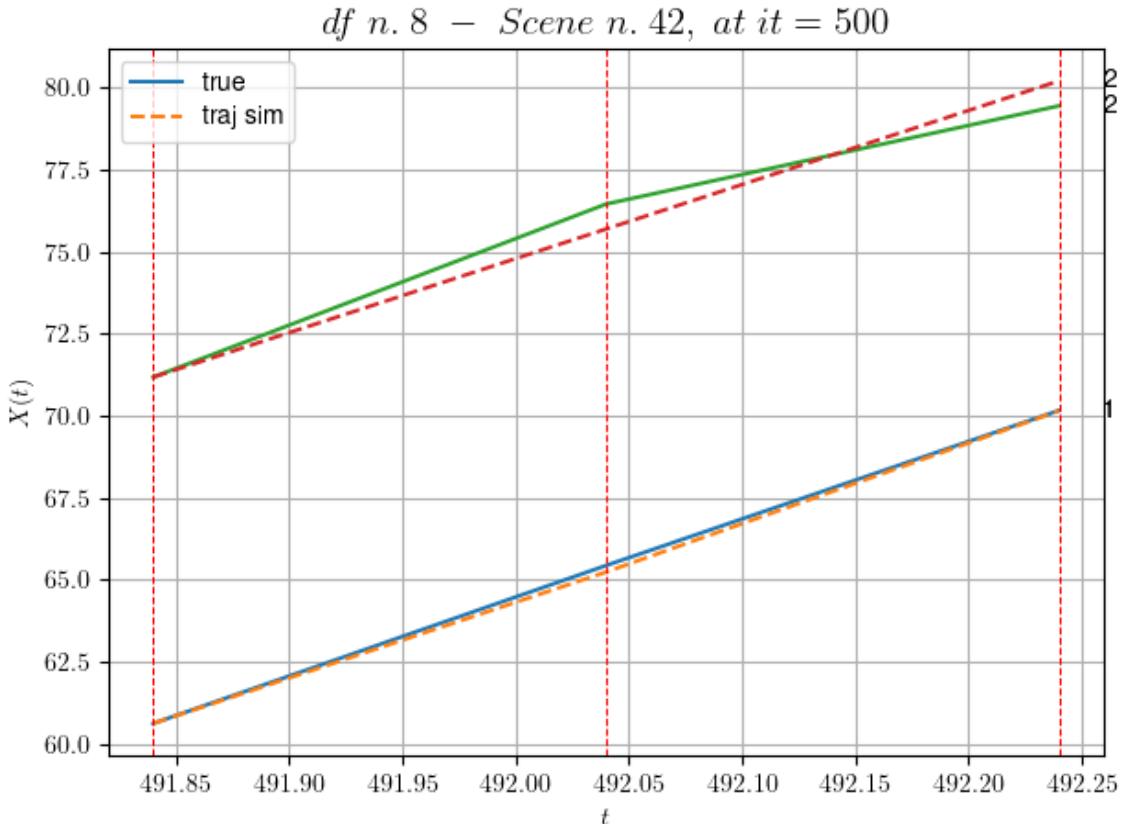
- Time interval n.1: [492.04, 492.24]

- * y_true: [23.60207937]
 - * v_ann: [24.545377731323242, 22.552414214619045]

```

* err= 0.19918027199352767
* Learning rate NN = 0.00036449998151510954
* diff = 6.093050258726418e-06

```



For scene 42/79

- * use LR_NN=0.0005 with err=2.4252147142776863 at it=24
- * v0_scn_mean = 22.85031764597696
- * MAE = 0.19900179251745237

df n.8, scene n.43/79

We have 7 time intervals inside [494.44, 495.84]

- Time interval n.0: [494.44, 494.64]
 - * y_true: [0.12387653]
 - * v_ann: [5.848554611206055, 22.008439992317083]

- Time interval n.1: [494.64, 494.84]
 - * y_true: [0.12387653]
 - * v_ann: [6.600191593170166, 22.008439992317083]

- Time interval n.2: [494.84, 495.04]
 - * y_true: [0.12387653]
 - * v_ann: [7.5343098640441895, 22.008439992317083]

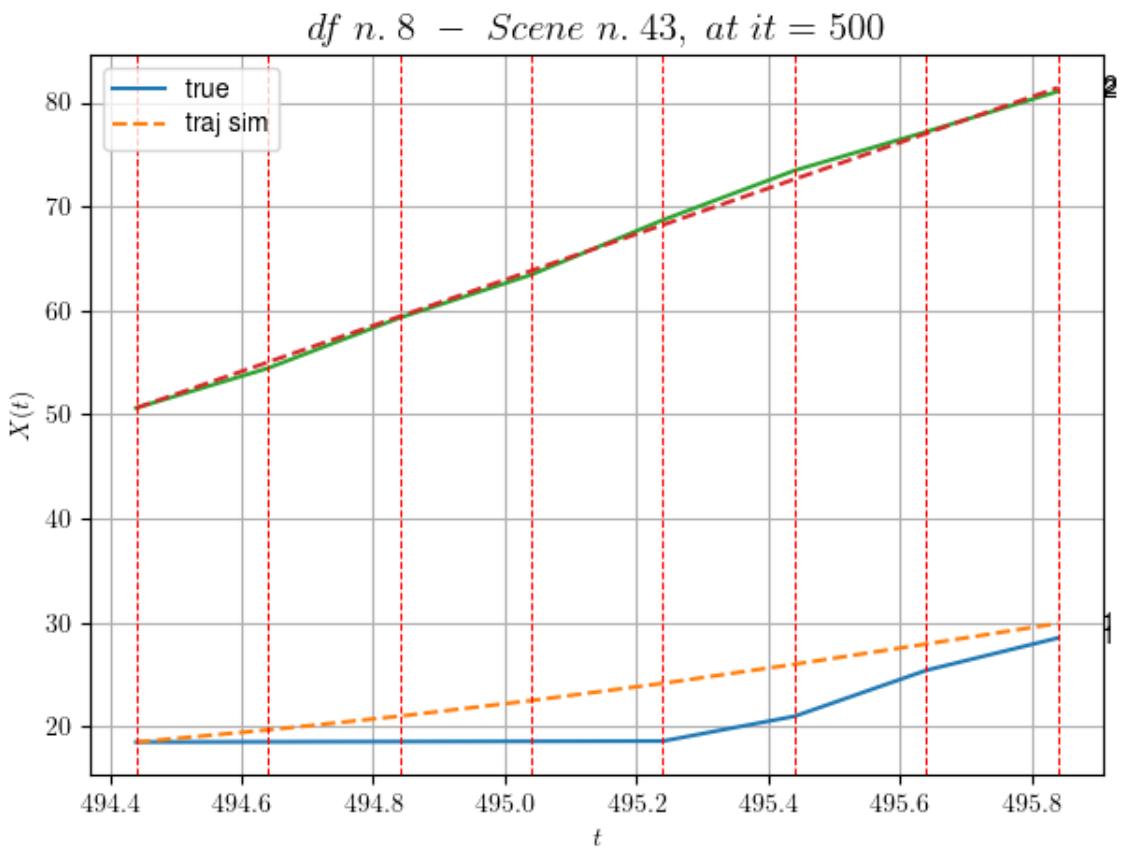
- Time interval n.3: [495.04, 495.24]
 - * y_true: [0.12387653]
 - * v_ann: [8.271431922912598, 22.008439992317083]

```
- Time interval n.4: [495.24, 495.44]
* y_true: [11.92591764]
* v_ann: [9.184325218200684, 22.008439992317083]
```

```
- Time interval n.5: [495.44, 495.64]
* y_true: [22.11023231]
* v_ann: [9.736209869384766, 22.008439992317083]
```

```
- Time interval n.6: [495.64, 495.84]
* y_true: [15.55022087]
* v_ann: [9.916015625, 22.008439992317083]
```

```
* err= 5.528303396818898
* Learning rate NN = 1.2709323527815286e-05
* diff = 0.01542648839205274
```



For scene 43/79

```
* use LR_NN=5e-05 with err=24.51195017848881 at it=24
* v0_scn_mean = 22.328102392564652
* MAE = 5.513644325367039
```

```
df n.8, scene n.44/79
```

- ```
=====
=====
```
- We have 12 time intervals inside [496.44, 498.84]
- Time interval n.0: [496.44, 496.64]
    - \* y\_true: [20.50051219]
    - \* v\_ann: [21.025184631347656, 18.546831523765878]
  
  - Time interval n.1: [496.64, 496.84]
    - \* y\_true: [21.20065888]
    - \* v\_ann: [21.090898513793945, 18.546831523765878]
  
  - Time interval n.2: [496.84, 497.04]
    - \* y\_true: [18.1506795]
    - \* v\_ann: [21.37602996826172, 18.546831523765878]
  
  - Time interval n.3: [497.04, 497.24]
    - \* y\_true: [15.75068343]
    - \* v\_ann: [21.218276977539062, 18.546831523765878]
  
  - Time interval n.4: [497.24, 497.44]
    - \* y\_true: [23.0011677]
    - \* v\_ann: [20.7337703704834, 18.546831523765878]
  
  - Time interval n.5: [497.44, 497.64]
    - \* y\_true: [22.30133962]
    - \* v\_ann: [20.73287582397461, 18.546831523765878]
  
  - Time interval n.6: [497.64, 497.84]
    - \* y\_true: [19.25133447]
    - \* v\_ann: [21.007617950439453, 18.546831523765878]
  
  - Time interval n.7: [497.84, 498.04]
    - \* y\_true: [28.7523245]
    - \* v\_ann: [21.11391830444336, 18.546831523765878]
  
  - Time interval n.8: [498.04, 498.24]
    - \* y\_true: [20.10187804]
    - \* v\_ann: [22.20039939880371, 18.546831523765878]
  
  - Time interval n.9: [498.24, 498.44]
    - \* y\_true: [21.80228844]

\* v\_ann: [22.985506057739258, 18.546831523765878]

---

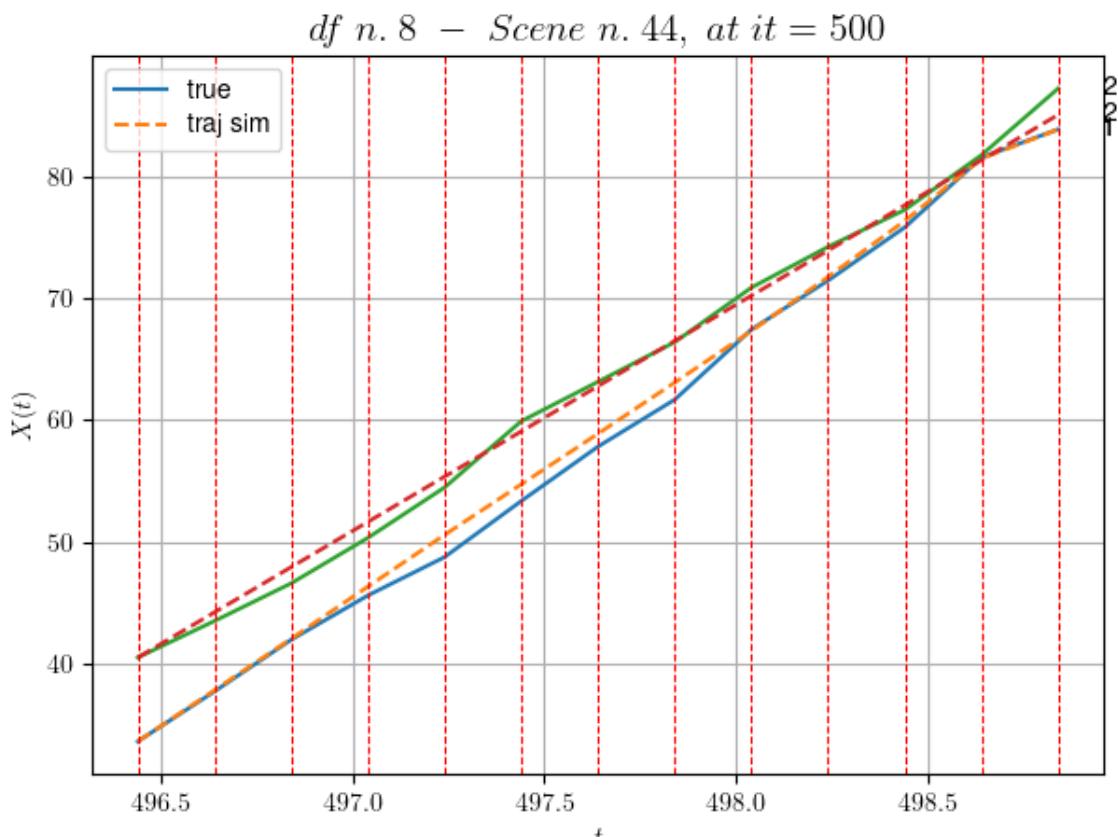
- Time interval n.10: [498.44, 498.64]  
 \* y\_true: [28.64345627]  
 \* v\_ann: [25.51537322998047, 18.546831523765878]

---

- Time interval n.11: [498.64, 498.84]  
 \* y\_true: [11.56150358]  
 \* v\_ann: [11.9536771774292, 18.546831523765878]

---

\* err= 0.7833141406299862  
 \* Learning rate NN = 8.862933464115486e-05  
 \* diff = 0.005170306615943754



For scene 44/79

\* use LR\_NN=0.001 with err=128.0081361402607 at it=24  
 \* v0\_scn\_mean = 19.00495826272766  
 \* MAE = 0.7777030959275941

---



---

df n.8, scene n.45/79

---



---

We have 7 time intervals inside [503.04,504.44]  
 - Time interval n.0: [503.04, 503.24]

```
* y_true: [20.36074323]
* v_ann: [23.430288314819336, 19.009581413848082]

- Time interval n.1: [503.24, 503.44]
* y_true: [14.7806219]
* v_ann: [21.94587516784668, 19.009581413848082]

- Time interval n.2: [503.44, 503.64]
* y_true: [20.79103351]
* v_ann: [20.5195369720459, 19.009581413848082]

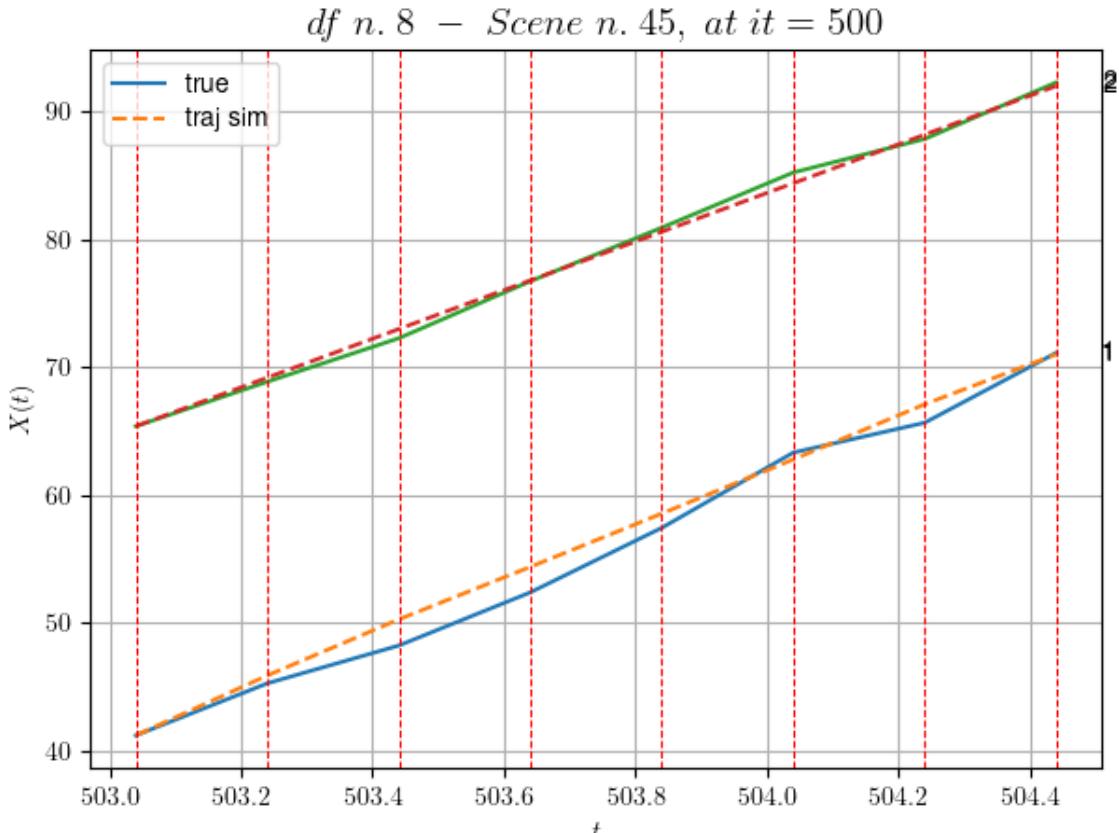
- Time interval n.3: [503.64, 503.84]
* y_true: [25.25148503]
* v_ann: [20.871387481689453, 19.009581413848082]

- Time interval n.4: [503.84, 504.04]
* y_true: [29.42209191]
* v_ann: [21.16462516784668, 19.009581413848082]

- Time interval n.5: [504.04, 504.24]
* y_true: [11.70090906]
* v_ann: [21.580785751342773, 19.009581413848082]

- Time interval n.6: [504.24, 504.44]
* y_true: [27.33251869]
* v_ann: [19.550188064575195, 19.009581413848082]

* err= 0.8618261222057786
* Learning rate NN = 0.00012709324073512107
* diff = 0.000000707071032702
```



For scene 45/79

- \* use LR\_NN=0.0005 with err=42.08195721956883 at it=24
- \* v0\_scn\_mean = 19.44919815721
- \* MAE = 0.7132884368783388

---



---

df n.8, scene n.46/79

---



---

We have 4 time intervals inside [516.64, 517.44]

- Time interval n.0: [516.64, 516.84]
  - \* y\_true: [18.26096698]
  - \* v\_ann: [20.612457275390625, 23.019463891833595]

---

- Time interval n.1: [516.84, 517.04]
  - \* y\_true: [20.81127229]
  - \* v\_ann: [21.630006790161133, 23.019463891833595]

---

- Time interval n.2: [517.04, 517.24]
  - \* y\_true: [22.54159044]
  - \* v\_ann: [19.020294189453125, 23.019463891833595]

---

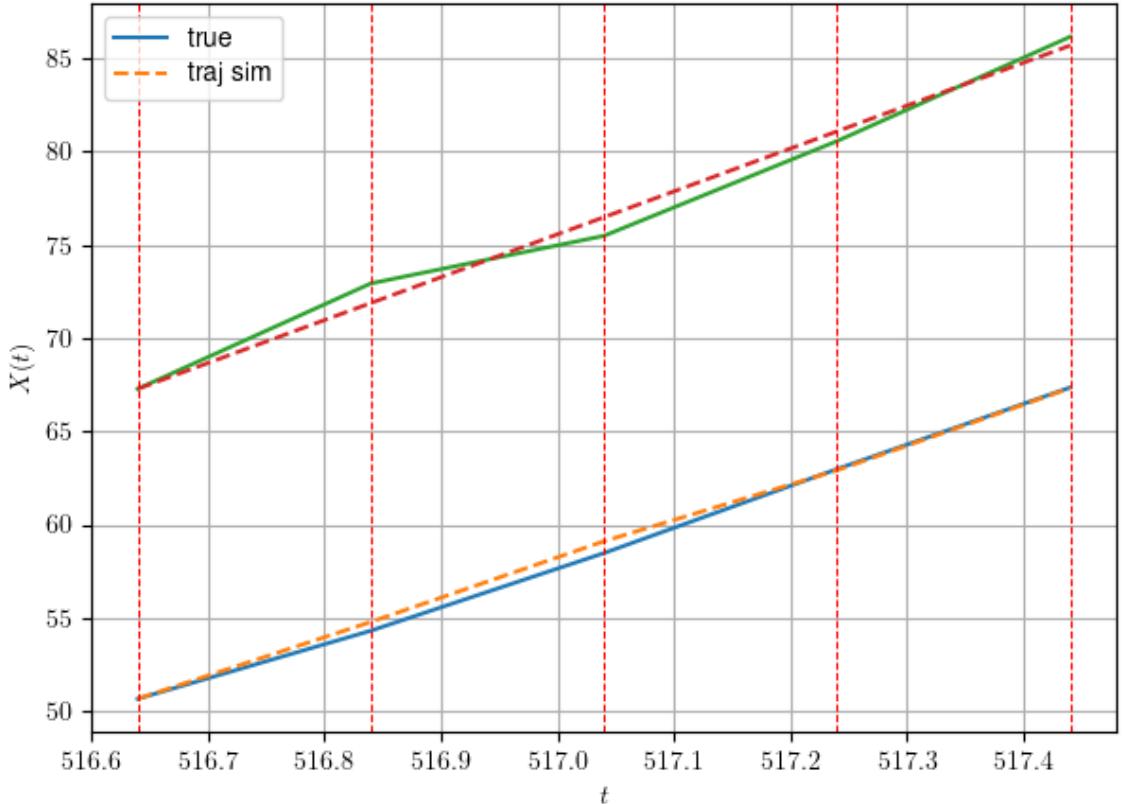
- Time interval n.3: [517.24, 517.44]
  - \* y\_true: [21.87178474]

```
* v_ann: [22.043529510498047, 23.019463891833595]
```

---

```
* err= 0.3227365807606257
* Learning rate NN = 0.000478296831715852
* diff = 3.993313062555792e-06
```

*df n. 8 – Scene n. 46, at it = 500*



For scene 46/79

```
* use LR_NN=0.001 with err=6.326569416542325 at it=24
* v0_scn_mean = 23.298685336107813
* MAE = 0.2977834206801573
```

---



---

df n.8, scene n.47/79

---



---

We have 6 time intervals inside [519.24, 520.44]

- Time interval n.0: [519.24, 519.44]
  - \* y\_true: [9.41391239]
  - \* v\_ann: [9.326798439025879, 21.673608825679928]

---

- Time interval n.1: [519.44, 519.64]
  - \* y\_true: [9.38810376]
  - \* v\_ann: [10.211039543151855, 21.673608825679928]

---

- Time interval n.2: [519.64, 519.84]

```
* y_true: [9.38810376]
* v_ann: [8.603878021240234, 21.673608825679928]
```

---

```
- Time interval n.3: [519.84, 520.04]
* y_true: [9.38810376]
* v_ann: [7.8355584144592285, 21.673608825679928]
```

---

```
- Time interval n.4: [520.04, 520.24]
* y_true: [6.67799104]
* v_ann: [8.149781227111816, 21.673608825679928]
```

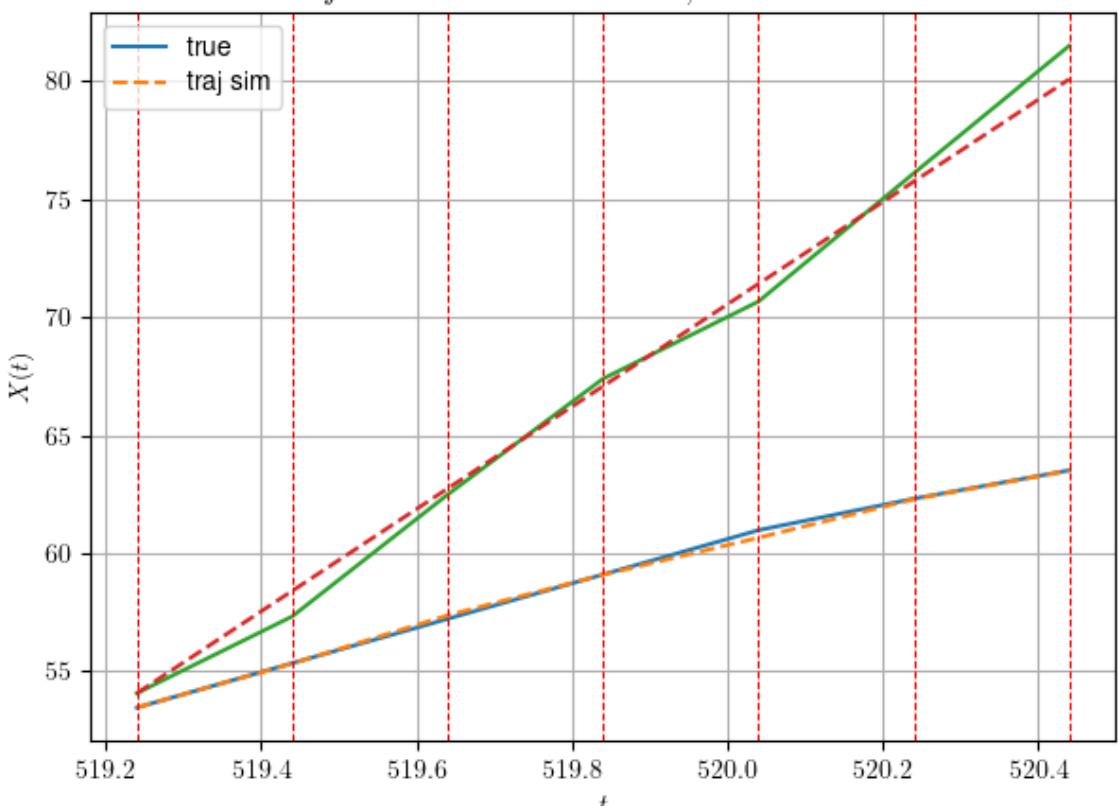
---

```
- Time interval n.5: [520.24, 520.44]
* y_true: [6.00046286]
* v_ann: [6.044743537902832, 21.673608825679928]
```

---

```
* err= 0.29626952207242313
* Learning rate NN = 0.0015690524596720934
* diff = 0.00065023079305776
```

*df n. 8 – Scene n. 47, at it = 500*



For scene 47/79

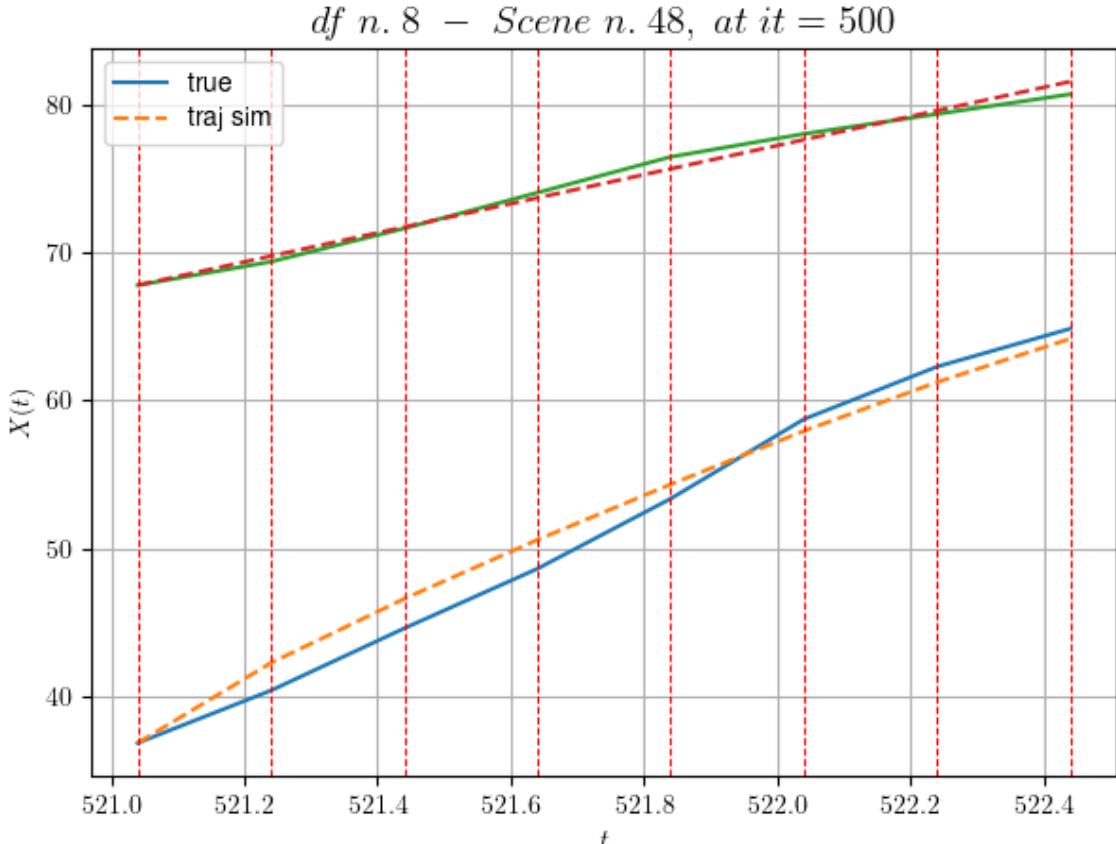
```
* use LR_NN=0.005 with err=17.189544546448474 at it=24
* v0_scn_mean = 22.006664472584326
* MAE = 0.29626952207242313
```

```
df n.8, scene n.48/79
```

```
=====
=====
```

We have 7 time intervals inside [521.04,522.44]

- Time interval n.0: [521.04, 521.24]
  - \* y\_true: [17.76052146]
  - \* v\_ann: [27.102622985839844, 9.8560079838447]
- 
- Time interval n.1: [521.24, 521.44]
  - \* y\_true: [21.0507393]
  - \* v\_ann: [21.709508895874023, 9.8560079838447]
- 
- Time interval n.2: [521.44, 521.64]
  - \* y\_true: [20.2108584]
  - \* v\_ann: [19.984289169311523, 9.8560079838447]
- 
- Time interval n.3: [521.64, 521.84]
  - \* y\_true: [23.71121032]
  - \* v\_ann: [18.788820266723633, 9.8560079838447]
- 
- Time interval n.4: [521.84, 522.04]
  - \* y\_true: [26.93162858]
  - \* v\_ann: [18.0938663482666, 9.8560079838447]
- 
- Time interval n.5: [522.04, 522.24]
  - \* y\_true: [17.80125378]
  - \* v\_ann: [16.540016174316406, 9.8560079838447]
- 
- Time interval n.6: [522.24, 522.44]
  - \* y\_true: [12.87102462]
  - \* v\_ann: [14.7039794921875, 9.8560079838447]
- 
- \* err= 1.0213398825957865
- \* Learning rate NN = 0.00012709324073512107
- \* diff = 0.002479642570952345



For scene 48/79

- \* use LR\_NN=0.0005 with err=143.5851932286343 at it=24
  - \* v0\_scn\_mean = 10.661767664337257
  - \* MAE = 0.8811450333542468
- 
- 

df n.8, scene n.49/79

---



---

We have 9 time intervals inside [529.04, 530.84]

- Time interval n.0: [529.04, 529.24]
    - \* y\_true: [6.80006618]
    - \* v\_ann: [5.372684955596924, 23.147710514458527]
- 

- Time interval n.1: [529.24, 529.44]
    - \* y\_true: [7.54008988]
    - \* v\_ann: [6.694938659667969, 23.147710514458527]
- 

- Time interval n.2: [529.44, 529.64]
    - \* y\_true: [7.7250958]
    - \* v\_ann: [7.634392738342285, 23.147710514458527]
- 

- Time interval n.3: [529.64, 529.84]
  - \* y\_true: [7.70511517]

```
* v_ann: [8.821964263916016, 23.147710514458527]
```

```
- Time interval n.4: [529.84, 530.04]
* y_true: [7.70012001]
* v_ann: [10.360489845275879, 23.147710514458527]
```

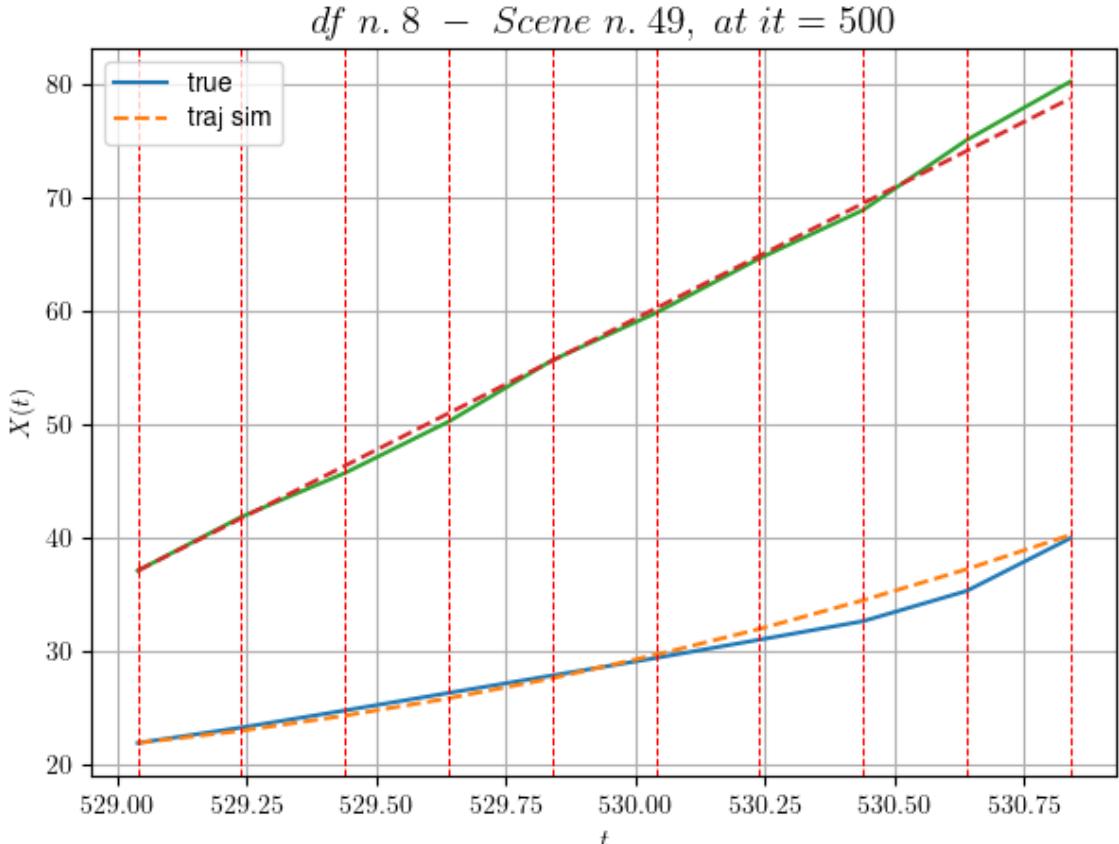
```
- Time interval n.5: [530.04, 530.24]
* y_true: [8.08014987]
* v_ann: [11.402019500732422, 23.147710514458527]
```

```
- Time interval n.6: [530.24, 530.44]
* y_true: [8.17515734]
* v_ann: [12.662813186645508, 23.147710514458527]
```

```
- Time interval n.7: [530.44, 530.64]
* y_true: [13.33942373]
* v_ann: [13.696083068847656, 23.147710514458527]
```

```
- Time interval n.8: [530.64, 530.84]
* y_true: [23.25064431]
* v_ann: [15.087696075439453, 23.147710514458527]
```

```
* err= 0.6677365040463724
* Learning rate NN = 1.667717356212961e-06
* diff = 0.0009919008757243164
```



For scene 49/79

- \* use LR\_NN=1e-05 with err=26.10050761805579 at it=24
- \* v0\_scn\_mean = 23.42180209382778
- \* MAE = 0.6648789916972315

---



---

df n.8, scene n.50/79

---



---

We have 5 time intervals inside [531.84, 532.84]

- Time interval n.0: [531.84, 532.04]
  - \* y\_true: [10.82542785]
  - \* v\_ann: [11.209224700927734, 23.472410774644512]

---

- Time interval n.1: [532.04, 532.24]
  - \* y\_true: [7.02530718]
  - \* v\_ann: [11.662519454956055, 23.472410774644512]

---

- Time interval n.2: [532.24, 532.44]
  - \* y\_true: [8.3145217]
  - \* v\_ann: [14.306798934936523, 23.472410774644512]

---

- Time interval n.3: [532.44, 532.64]
  - \* y\_true: [17.37092059]

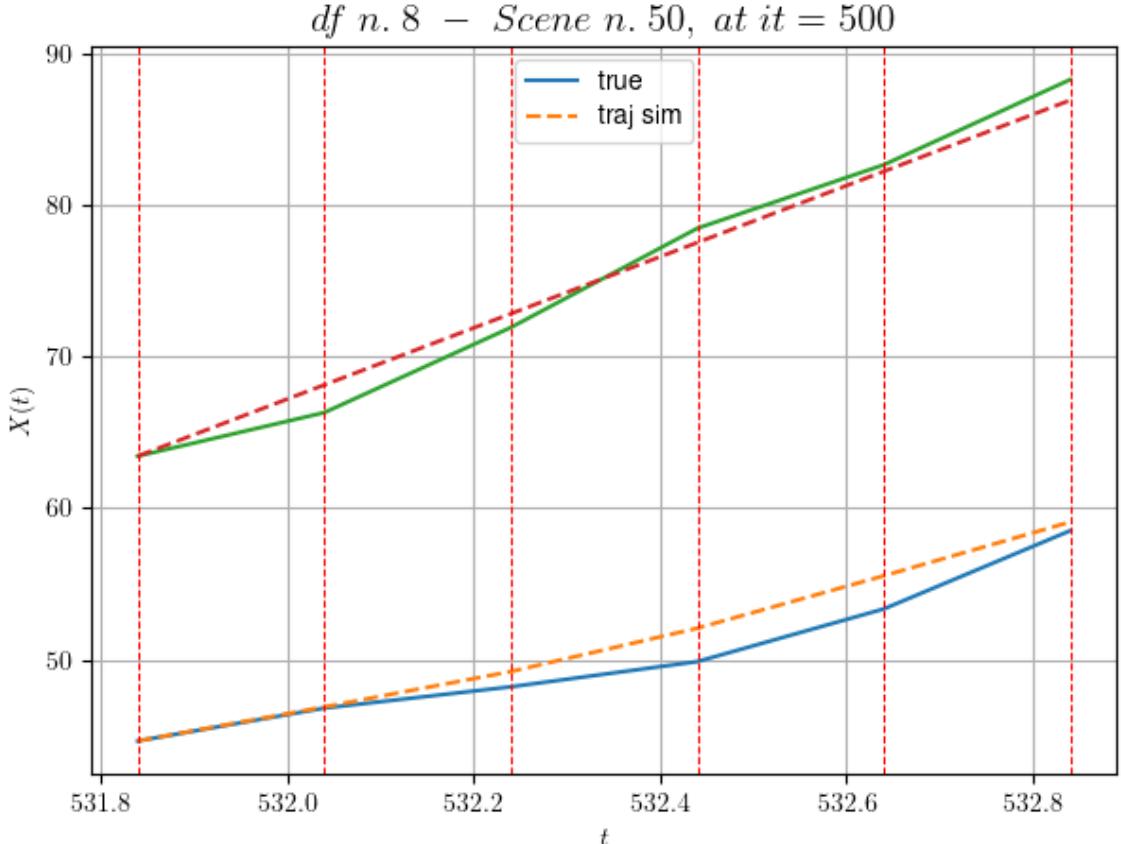
```
* v_ann: [17.279071807861328, 23.472410774644512]
```

---

```
- Time interval n.4: [532.64, 532.84]
* y_true: [25.81155064]
* v_ann: [17.74233055114746, 23.472410774644512]
```

---

```
* err= 1.5028479757259463
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.005565393080547487
```



For scene 50/79

```
* use LR_NN=5e-05 with err=7.79830249355368 at it=24
* v0_scn_mean = 23.733514343609496
* MAE = 1.4951338541716763
```

---



---

df n.8, scene n.51/79

---



---

```
We have 3 time intervals inside [536.64,537.24]
```

```
- Time interval n.0: [536.64, 536.84]
* y_true: [10.77027677]
* v_ann: [12.287590980529785, 15.683354883417405]
```

---



---

```
- Time interval n.1: [536.84, 537.04]
```

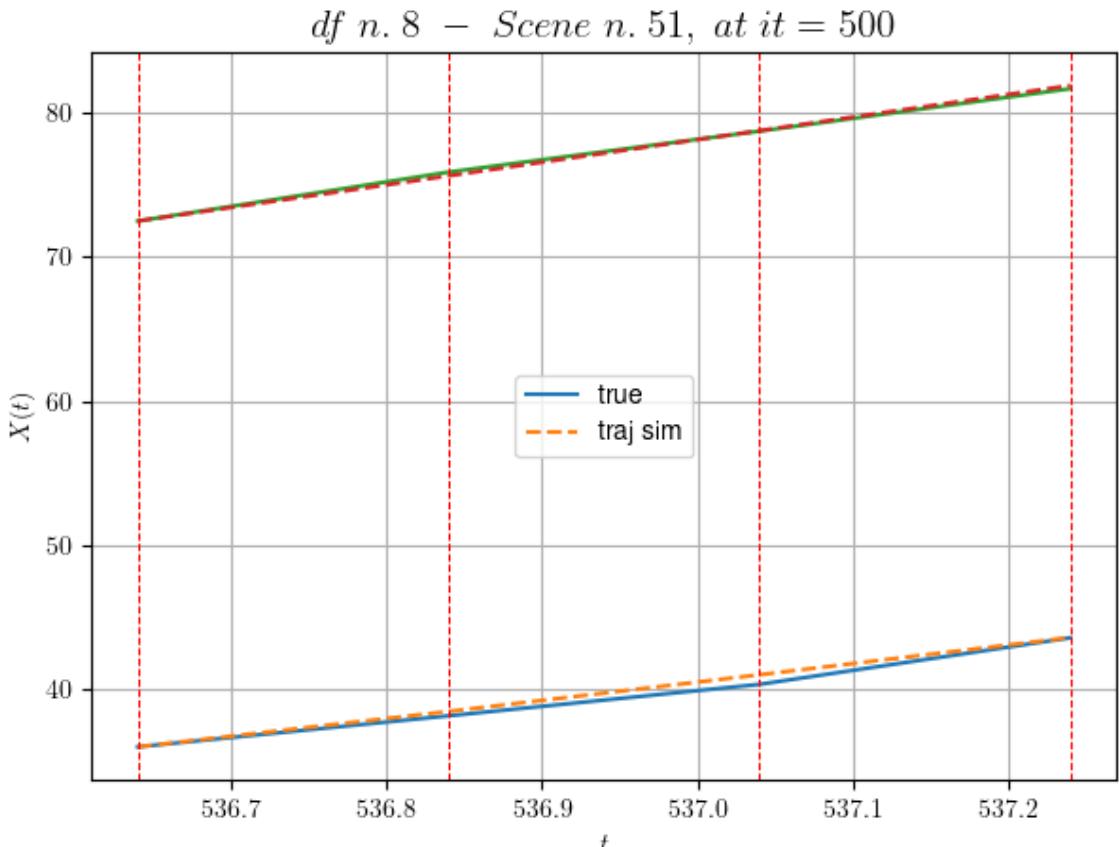
```
* y_true: [10.91031236]
* v_ann: [12.717368125915527, 15.683354883417405]
```

---

```
- Time interval n.2: [537.04, 537.24]
* y_true: [16.15053495]
* v_ann: [12.931617736816406, 15.683354883417405]
```

---

```
* err= 0.08187923475687528
* Learning rate NN = 5.9048988987342454e-06
* diff = 6.808369303751283e-07
```



For scene 51/79

```
* use LR_NN=1e-05 with err=14.758192875665335 at it=24
* v0_scn_mean = 16.25602068797075
* MAE = 0.08177781506875186
```

---



---

df n.8, scene n.52/79

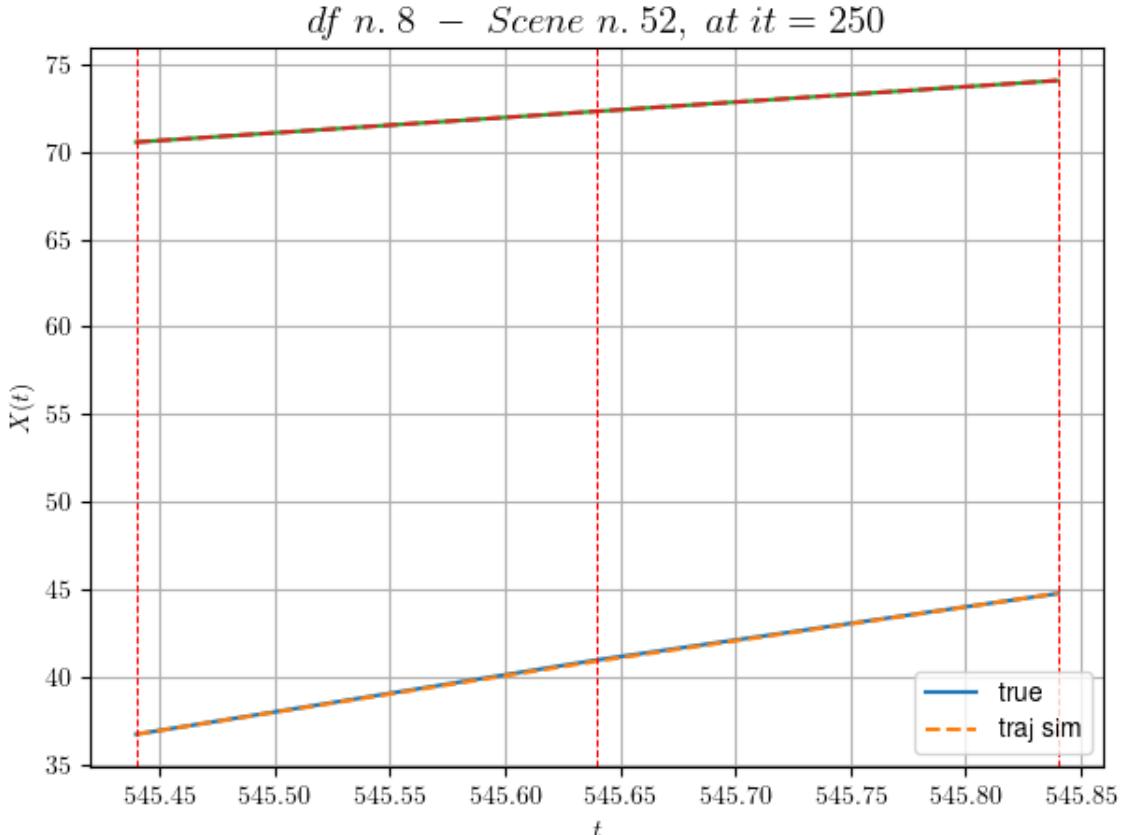
---



---

We have 2 time intervals inside [545.44, 545.84]

```
* err= 0.0008263756933680959
* Learning rate NN = 8.999999408842996e-05
* diff = 8.898838084329171e-08
```



For scene 52/79

```
* use LR_NN=0.0001 with err=14.98151180170559 at it=24
* v0_scn_mean = 10.496813362264408
* MAE = 0.0008263674859474373
```

---



---

df n.8, scene n.53/79

---



---

We have 7 time intervals inside [548.04, 549.44]

- Time interval n.0: [548.04, 548.24]
  - \* y\_true: [10.09033294]
  - \* v\_ann: [11.816665649414062, 22.284223357283732]

---

- Time interval n.1: [548.24, 548.44]
  - \* y\_true: [13.93051874]
  - \* v\_ann: [11.293033599853516, 22.284223357283732]

---

- Time interval n.2: [548.44, 548.64]
  - \* y\_true: [16.31069106]
  - \* v\_ann: [12.28287124633789, 22.284223357283732]

---

- Time interval n.3: [548.64, 548.84]
  - \* y\_true: [11.33053134]

```
* v_ann: [14.165468215942383, 22.284223357283732]
```

---

```
- Time interval n.4: [548.84, 549.04]
* y_true: [13.12068702]
* v_ann: [13.001014709472656, 22.284223357283732]
```

---

```
- Time interval n.5: [549.04, 549.24]
* y_true: [9.70054689]
* v_ann: [13.66039752960205, 22.284223357283732]
```

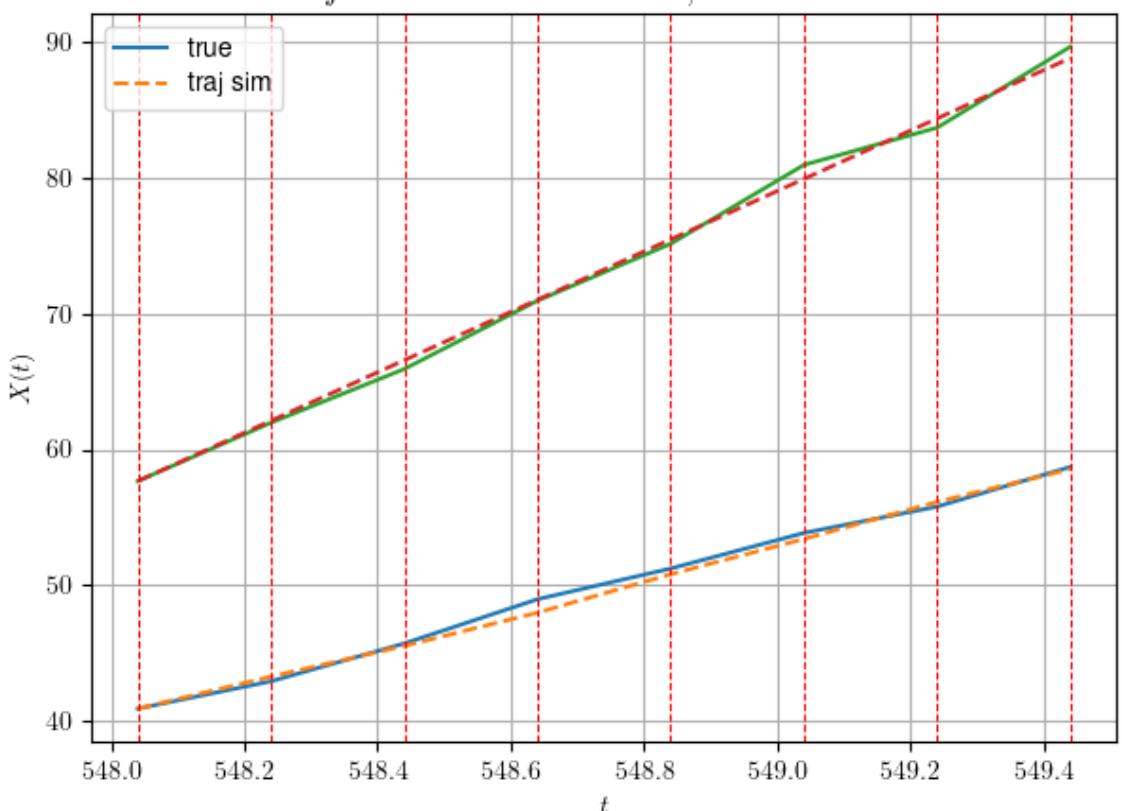
---

```
- Time interval n.6: [549.24, 549.44]
* y_true: [14.67096298]
* v_ann: [12.080768585205078, 22.284223357283732]
```

---

```
* err= 0.2771466177757132
* Learning rate NN = 0.00025418648147024214
* diff = 0.009415775369215118
```

*df n. 8 – Scene n. 53, at it = 500*



For scene 53/79

```
* use LR_NN=0.001 with err=20.442423716647234 at it=24
* v0_scn_mean = 22.592854422931683
* MAE = 0.2771466177757132
```

df n.8, scene n.54/79

We have 4 time intervals inside [574.24, 575.04]

- Time interval n.0: [574.24, 574.44]
  - \* y\_true: [18.8213558]
  - \* v\_ann: [24.200590133666992, 19.077749443552676]

- Time interval n.1: [574.44, 574.64]

- \* y\_true: [30.87266665]
  - \* v\_ann: [23.15535545349121, 19.077749443552676]

- Time interval n.2: [574.64, 574.84]

- \* y\_true: [28.81373524]
  - \* v\_ann: [23.212196350097656, 19.077749443552676]

- Time interval n.3: [574.84, 575.04]

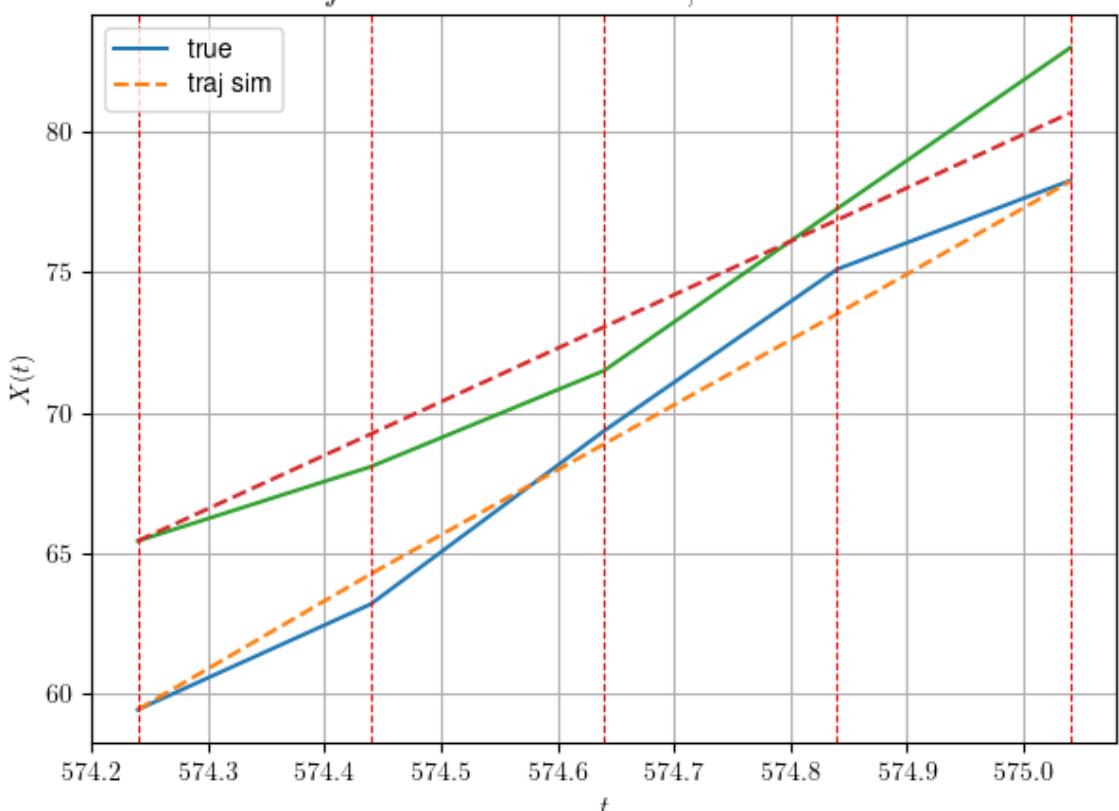
- \* y\_true: [15.81682936]
  - \* v\_ann: [23.59783935546875, 19.077749443552676]

\* err= 1.3248491362221588

\* Learning rate NN = 0.000239148415857926

\* diff = 0.00021001552350496944

df n. 8 – Scene n. 54, at it = 500



For scene 54/79

```
* use LR_NN=0.0005 with err=14.282819779395261 at it=24
* v0_scn_mean = 19.51463946572608
* MAE = 1.2529280978384798
```

```
=====
=====
```

```
df n.8, scene n.55/79
```

```
=====
=====
```

```
We have 3 time intervals inside [584.64, 585.24]
```

- Time interval n.0: [584.64, 584.84]
  - \* y\_true: [24.36091679]
  - \* v\_ann: [28.196735382080078, 18.808680134805034]

```
=====
=====
```

- Time interval n.1: [584.84, 585.04]
  - \* y\_true: [28.1513048]
  - \* v\_ann: [27.745731353759766, 18.808680134805034]

```
=====
=====
```

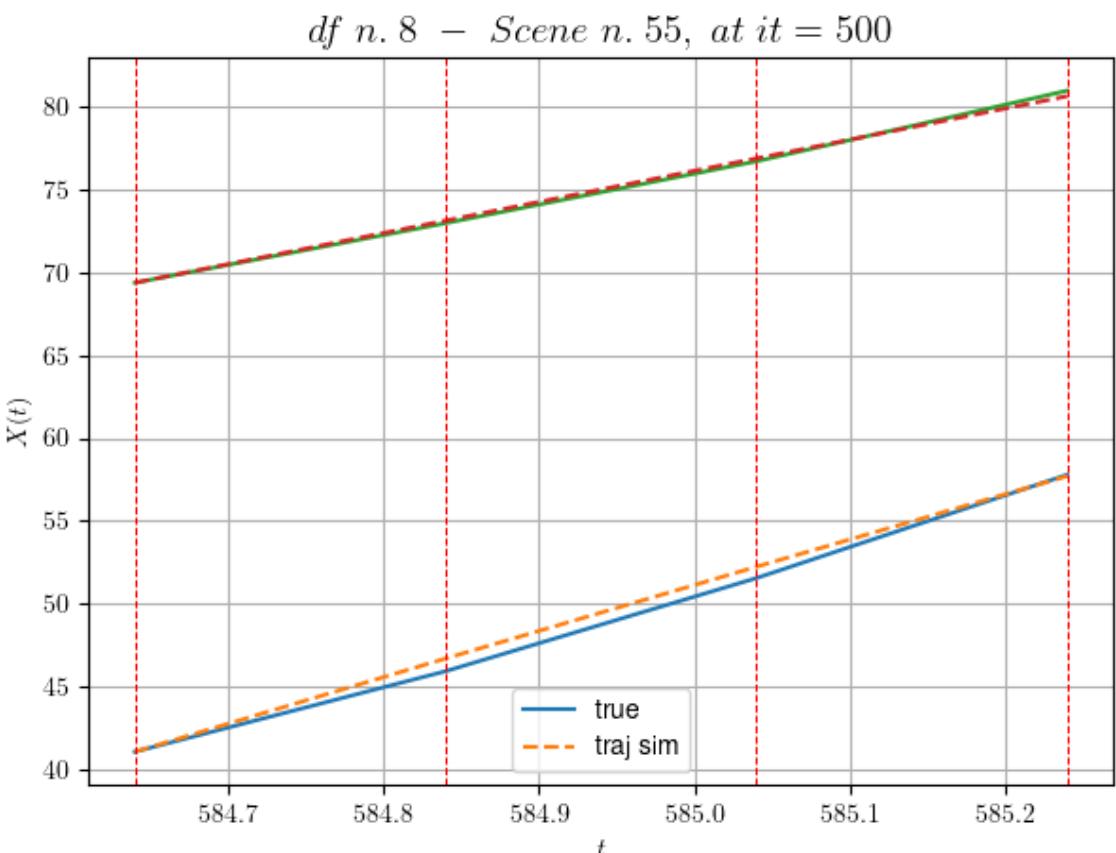
- Time interval n.2: [585.04, 585.24]
  - \* y\_true: [31.25183435]
  - \* v\_ann: [27.393465042114258, 18.808680134805034]

```
=====
=====
```

```
* err= 0.15440071414164774
```

```
* Learning rate NN = 5.9048988987342454e-06
```

```
* diff = 0.00010829401409223616
```



```
For scene 55/79
* use LR_NN=1e-05 with err=8.749070870444074 at it=24
* v0_scn_mean = 19.25633292932748
* MAE = 0.1537961586900155
```

---



---

```
df n.8, scene n.56/79
```

---



---

```
We have 2 time intervals inside [587.44,587.84]
```

- Time interval n.0: [587.44, 587.64]
  - \* y\_true: [23.77240101]
  - \* v\_ann: [23.25481605529785, 30.037171265454383]

---

- Time interval n.1: [587.64, 587.84]

- \* y\_true: [21.65253003]
  - \* v\_ann: [22.09463882446289, 30.037171265454383]

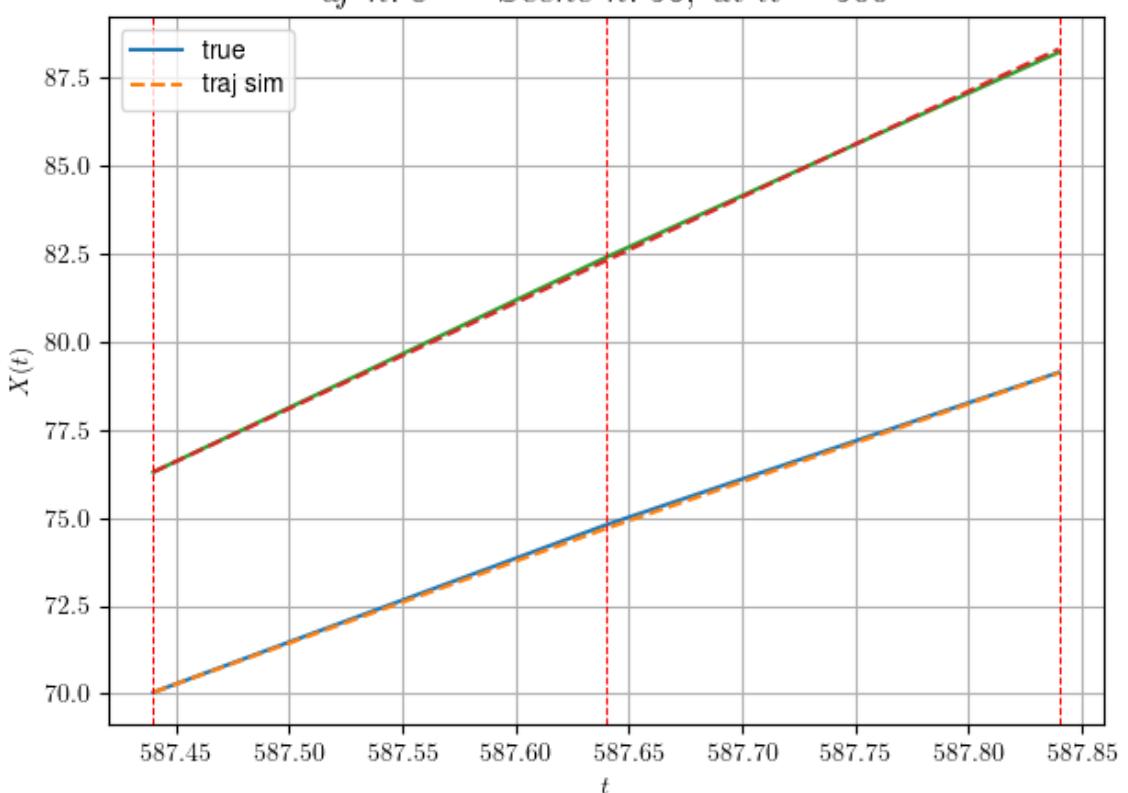
---

- \* err= 0.004726069792443852

- \* Learning rate NN = 0.00036449998151510954

- \* diff = 0.0003387563175519361

*df n. 8 – Scene n. 56, at it = 500*



```
For scene 56/79
```

```
* use LR_NN=0.0005 with err=0.10996885663070341 at it=24
* v0_scn_mean = 30.03568441482847
* MAE = 0.004726069792443852
```

```
=====
=====

df n.8, scene n.57/79
=====

We have 8 time intervals inside [592.84,594.44]
- Time interval n.0: [592.84, 593.04]
 * y_true: [18.30050522]
 * v_ann: [21.34993553161621, 20.354057423513904]

- Time interval n.1: [593.04, 593.24]
 * y_true: [18.46062677]
 * v_ann: [20.453296661376953, 20.354057423513904]

- Time interval n.2: [593.24, 593.44]
 * y_true: [23.16095213]
 * v_ann: [20.420583724975586, 20.354057423513904]

- Time interval n.3: [593.44, 593.64]
 * y_true: [21.00101152]
 * v_ann: [20.671175003051758, 20.354057423513904]

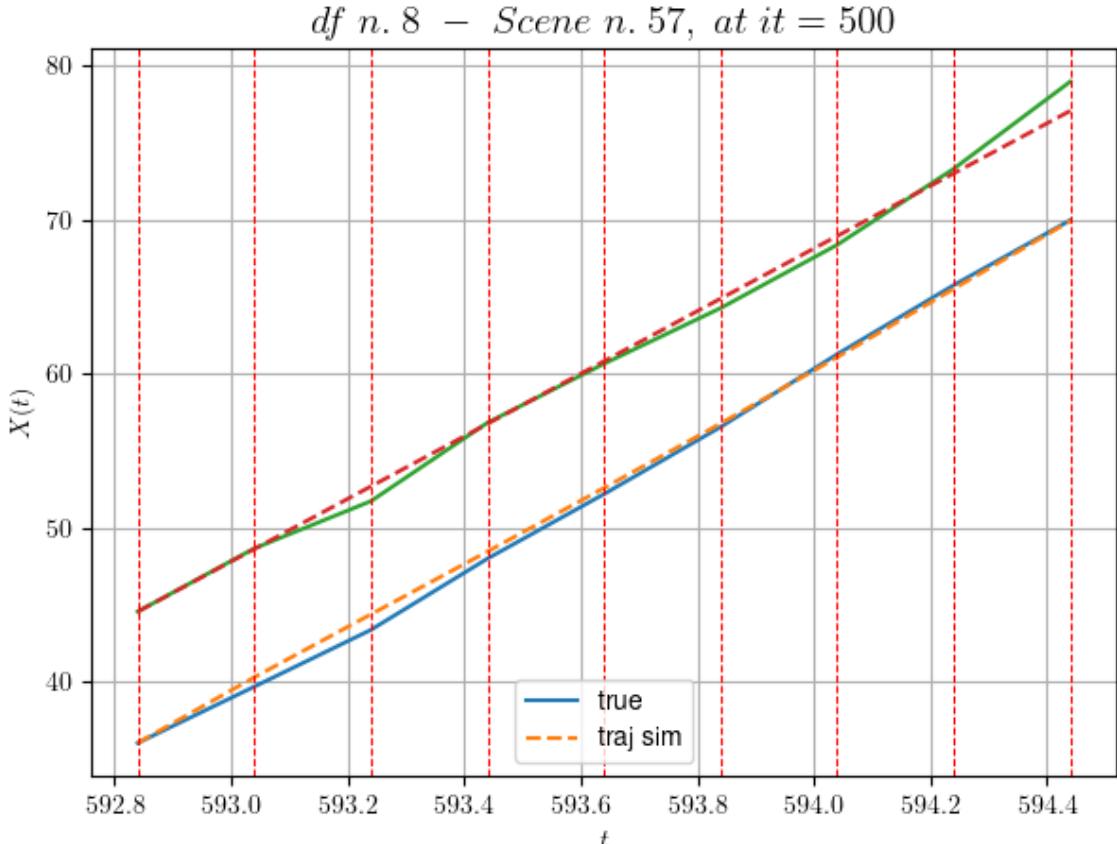
- Time interval n.4: [593.64, 593.84]
 * y_true: [21.80126526]
 * v_ann: [20.95737648010254, 20.354057423513904]

- Time interval n.5: [593.84, 594.04]
 * y_true: [23.66159236]
 * v_ann: [21.555431365966797, 20.354057423513904]

- Time interval n.6: [594.04, 594.24]
 * y_true: [22.4617536]
 * v_ann: [22.259939193725586, 20.354057423513904]

- Time interval n.7: [594.24, 594.44]
 * y_true: [21.12188145]
 * v_ann: [22.044479370117188, 20.354057423513904]

* err= 0.4038885949745582
* Learning rate NN = 0.00020589104678947479
* diff = 0.0033036006516629635
```



For scene 57/79

- \* use LR\_NN=0.001 with err=40.99723442302253 at it=24
- \* v0\_scn\_mean = 20.739895126499388
- \* MAE = 0.3539299027756956

---



---

df n.8, scene n.58/79

---



---

We have 3 time intervals inside [36.44, 37.04]

- Time interval n.0: [36.44, 36.64]
  - \* y\_true: [16.4303266 8.20020738]
  - \* v\_ann: [12.241447448730469, 11.495317459106445, 17.156795934620806]

---



---

- Time interval n.1: [36.64, 36.84]
  - \* y\_true: [18.55044671 6.80018642]
  - \* v\_ann: [12.450620651245117, 12.437301635742188, 17.156795934620806]

---



---

- Time interval n.2: [36.84, 37.04]
  - \* y\_true: [12.9262384 10.75446129]
  - \* v\_ann: [12.15846061706543, 12.805828094482422, 17.156795934620806]

---

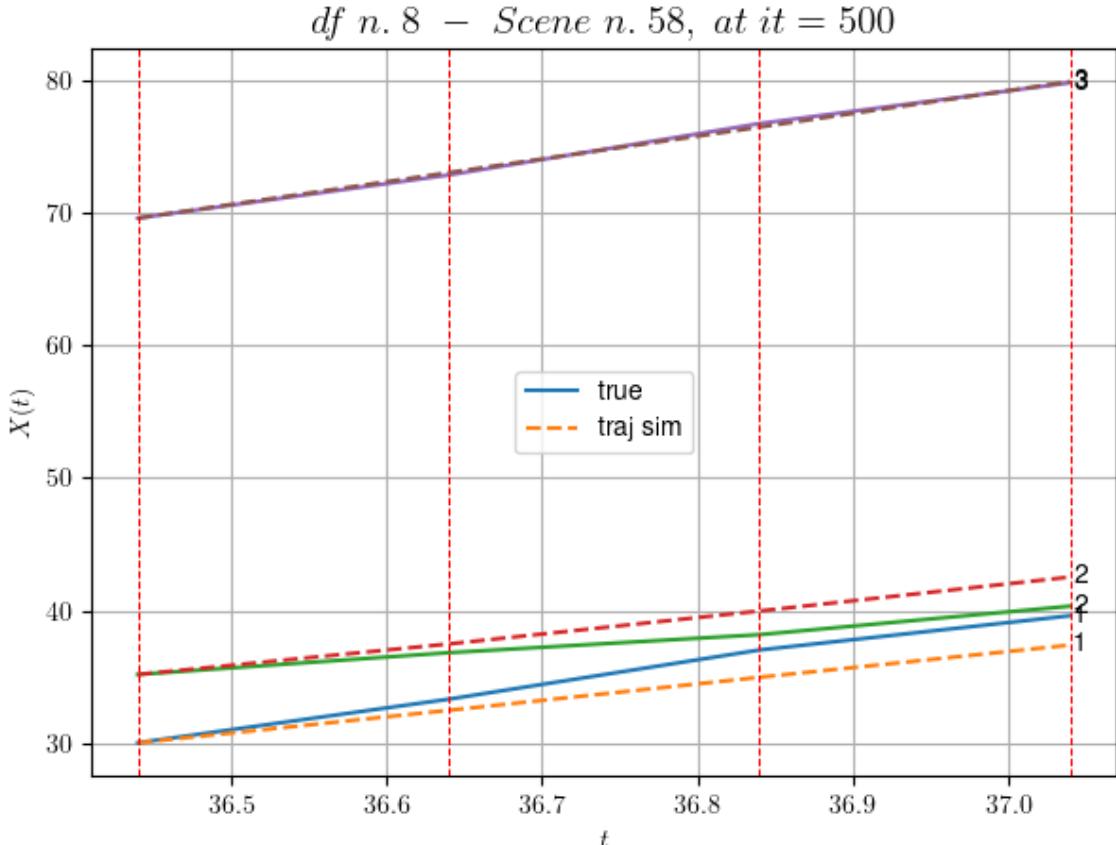


---

```

* err= 1.5324857786603212
* Learning rate NN = 0.0005904899444431067
* diff = 0.001578699495621283

```



For scene 58/79

```

* use LR_NN=0.001 with err=12.545136154205018 at it=24
* v0_scn_mean = 17.927387601911498
* MAE = 1.5324857786603212

```

---



---

df n. 8, scene n. 59/79

---



---

We have 4 time intervals inside [50.24, 51.04]

- Time interval n.0: [50.24, 50.44]
  - \* y\_true: [14.83043604 14.50055453]
  - \* v\_ann: [18.248706817626953, 21.442602157592773, 3 0.15766097411086]

---



---

- Time interval n.1: [50.44, 50.64]
  - \* y\_true: [15.35052738 17.38080918]
  - \* v\_ann: [17.212446212768555, 18.165714263916016, 3 0.15766097411086]

---



---

- Time interval n.2: [50.64, 50.84]
  - \* y\_true: [19.54078826 19.30097894]

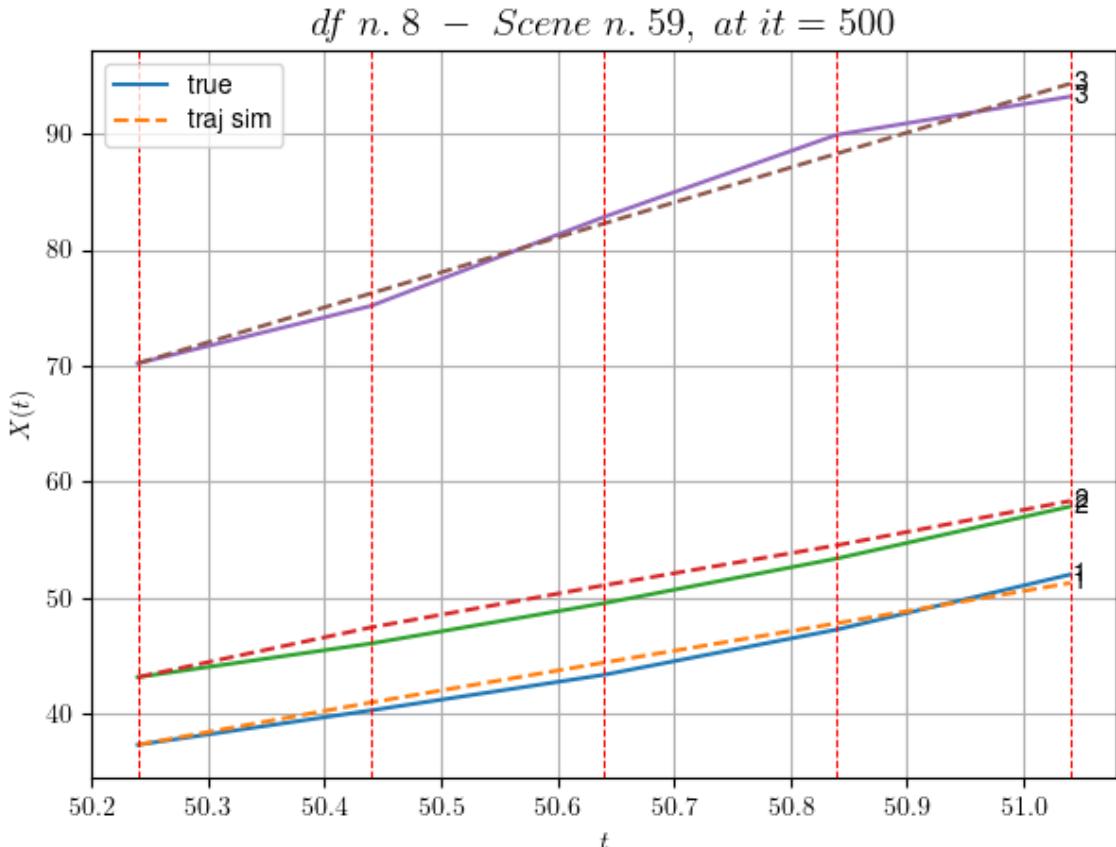
\* v\_ann: [16.956987380981445, 17.286827087402344, 3  
0.15766097411086]

---

- Time interval n.3: [50.84, 51.04]  
\* y\_true: [23.72114006 22.40641196]  
\* v\_ann: [17.376802444458008, 19.096004486083984, 3  
0.15766097411086]

---

\* err= 0.9082158864717492  
\* Learning rate NN = 0.000239148415857926  
\* diff = 0.000567368287508252



For scene 59/79

\* use LR\_NN=0.0005 with err=11.889654879480355 at it=24  
\* v0\_scn\_mean = 30.14820132274279  
\* MAE = 0.8264918108473175

---



---

df n.8, scene n.60/79

---



---

We have 4 time intervals inside [102.24,103.04]  
- Time interval n.0: [102.24, 102.44]  
\* y\_true: [22.78095819 15.94092959]  
\* v\_ann: [20.741931915283203, 20.97298812866211, 3  
1.34829198332158]

```

 - Time interval n.1: [102.44, 102.64]

 * y_true: [23.36120187 12.10080168]

 * v_ann: [20.039188385009766, 20.757081985473633, 3

1.34829198332158]

```

```

 - Time interval n.2: [102.64, 102.84]

 * y_true: [20.51121756 22.37162153]

 * v_ann: [19.020294189453125, 19.075084686279297, 3

1.34829198332158]

```

```

 - Time interval n.3: [102.84, 103.04]

 * y_true: [23.62167761 20.76175162]

 * v_ann: [19.74882698059082, 20.769596099853516, 3

1.34829198332158]

```

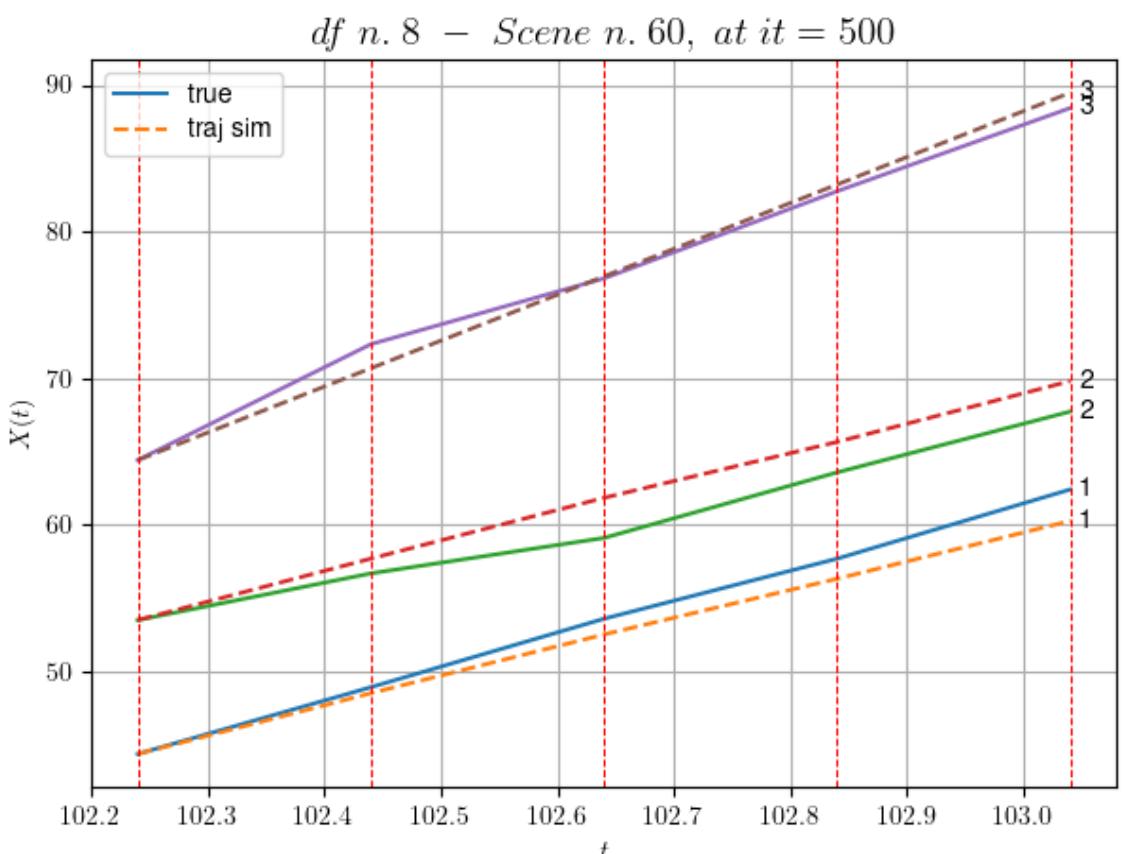
```

* err= 1.9308727570984334

* Learning rate NN = 0.000478296831715852

* diff = 0.0059694597023658424

```



For scene 60/79

```

* use LR_NN=0.001 with err=11.319459928845603 at it=24
* v0_scn_mean = 31.26739452485779
* MAE = 1.845668456428627

```

```
df n.8, scene n.61/79
=====
```

```
We have 3 time intervals inside [108.84,109.44]
```

- Time interval n.0: [108.84, 109.04]

- \* y\_true: [17.9810803 26.65193678]

- \* v\_ann: [20.6812744140625, 20.594690322875977, 20.549015112613265]

```

```

- Time interval n.1: [109.04, 109.24]

- \* y\_true: [14.30252156 22.9019425 ]

- \* v\_ann: [21.229839324951172, 21.540929794311523, 20.549015112613265]

```

```

- Time interval n.2: [109.24, 109.44]

- \* y\_true: [21.24158827 21.25204953]

- \* v\_ann: [20.155942916870117, 19.95627784729004, 20.549015112613265]

```

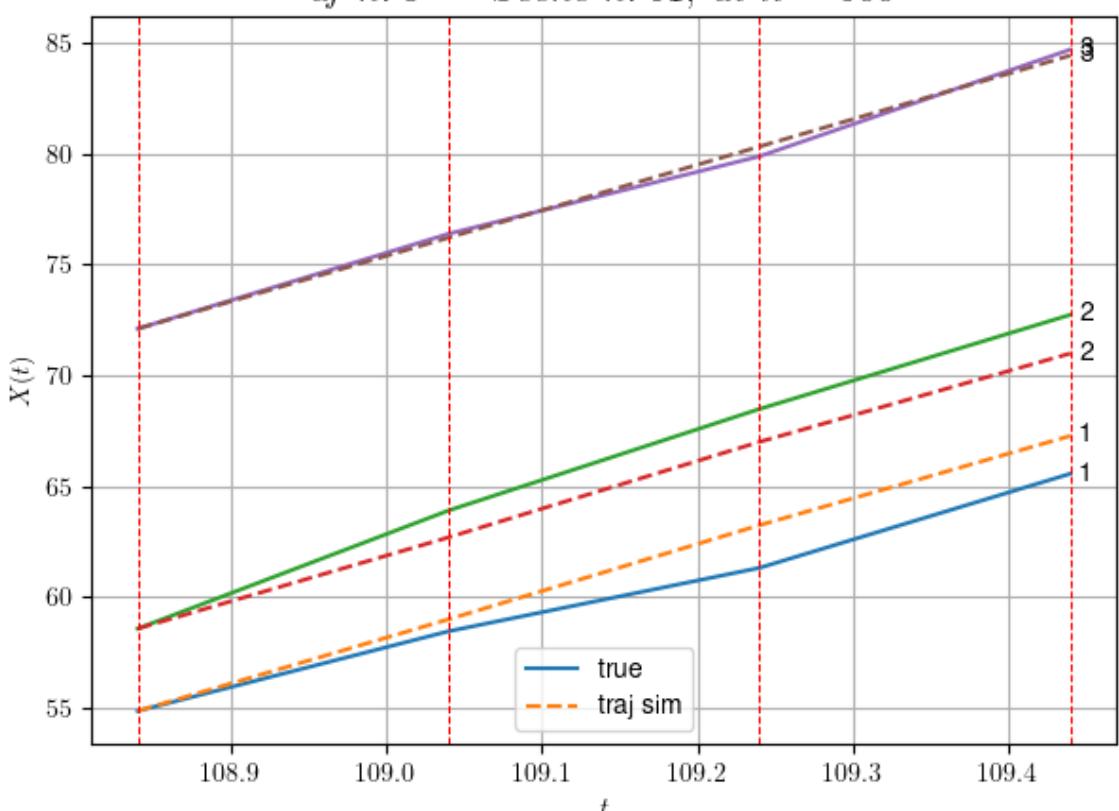
```

- \* err= 1.1599893069876386

- \* Learning rate NN = 0.0005904899444431067

- \* diff = 0.0002899625865397937

*df n. 8 – Scene n. 61, at it = 500*



For scene 61/79

\* use LR\_NN=0.001 with err=5.990068538964277 at it=24

```
* v0_scn_mean = 21.116073781527607
* MAE = 1.126843330657508
```

---



---

df n.8, scene n.62/79

---



---

We have 2 time intervals inside [130.04, 130.44]

- Time interval n.0: [130.04, 130.24]

\* y\_true: [23.9806113 21.72216875]

\* v\_ann: [24.264232635498047, 23.638320922851562, 4  
1.055622304852065]

---



---

- Time interval n.1: [130.24, 130.44]

\* y\_true: [20.38064152 27.22317612]

\* v\_ann: [22.501129150390625, 22.78209686279297, 4  
1.055622304852065]

---



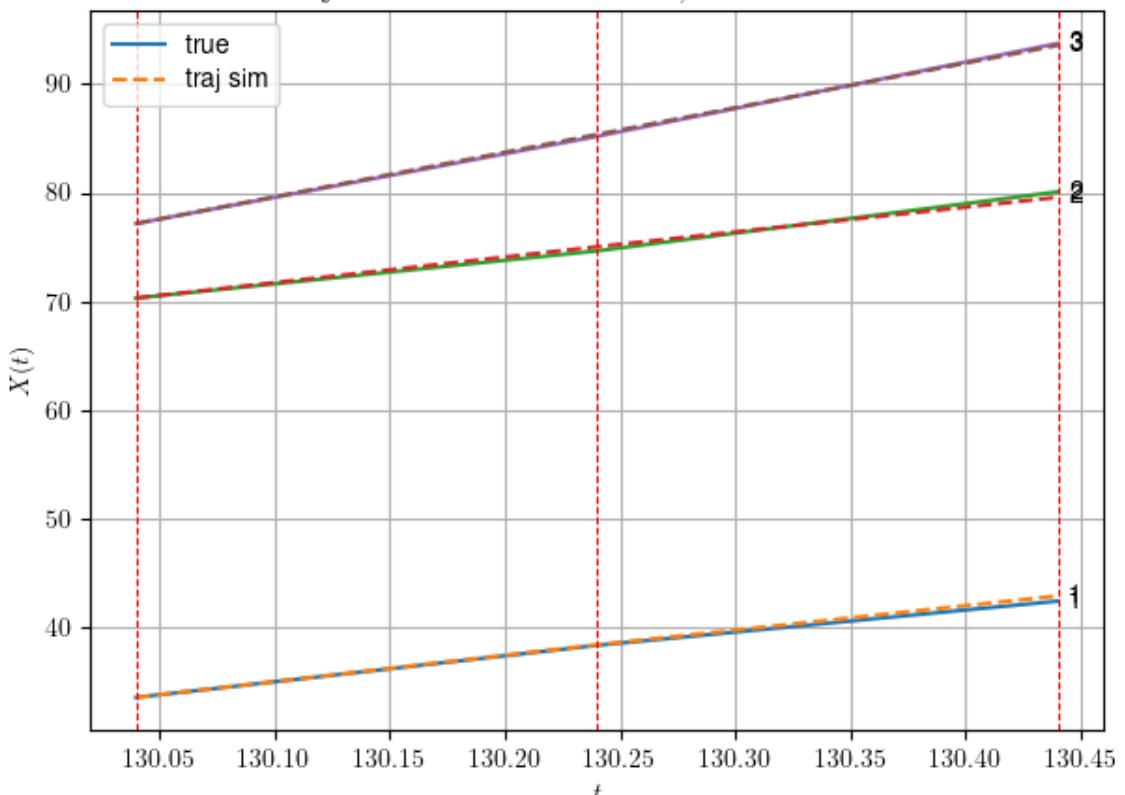
---

\* err= 0.07790620355082505

\* Learning rate NN = 0.00036449998151510954

\* diff = 1.0254525720512422e-05

*df n. 8 – Scene n. 62, at it = 500*



For scene 62/79

\* use LR\_NN=0.0005 with err=9.348358744453995 at it=24

\* v0\_scn\_mean = 40.39228546293464

\* MAE = 0.0775834380134318

---



---

```
=====
df n.8, scene n.63/79
=====

We have 5 time intervals inside [215.24,216.24]
- Time interval n.0: [215.24, 215.44]
 * y_true: [1.34614625 10.42531549]
 * v_ann: [17.663150787353516, 19.179658889770508, 1
5.100689610550242]

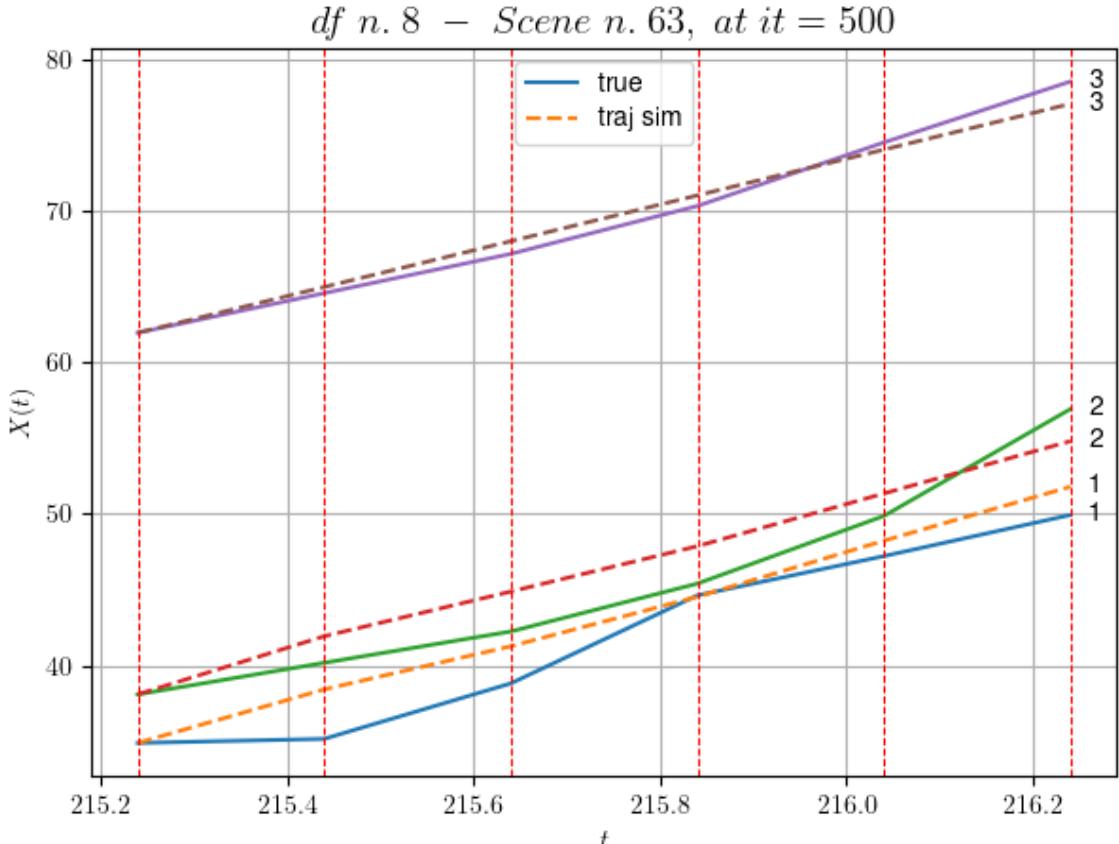
- Time interval n.1: [215.44, 215.64]
 * y_true: [18.28906766 10.32533879]
 * v_ann: [14.216703414916992, 14.737021446228027, 1
5.100689610550242]

- Time interval n.2: [215.64, 215.84]
 * y_true: [29.02100933 15.78058213]
 * v_ann: [16.31635856628418, 14.96120548248291, 15.
100689610550242]

- Time interval n.3: [215.84, 216.04]
 * y_true: [12.95052595 22.3009853]
 * v_ann: [18.488279342651367, 17.374929428100586, 1
5.100689610550242]

- Time interval n.4: [216.04, 216.24]
 * y_true: [13.56563519 35.25195514]
 * v_ann: [17.794097900390625, 17.251253128051758, 1
5.100689610550242]

* err= 2.647636273532127
* Learning rate NN = 0.0003874204121530056
* diff = 0.0008199270770581357
```



For scene 63/79

- \* use LR\_NN=0.001 with err=39.64853015018104 at it=24
- \* v0\_scn\_mean = 15.994647564970462
- \* MAE = 2.6229499990085334

---



---

df n.8, scene n.64/79

---



---

We have 4 time intervals inside [222.64, 223.44]

- Time interval n.0: [222.64, 222.84]
  - \* y\_true: [3.4148313 7.54419185]
  - \* v\_ann: [3.3749287128448486, 5.44924259185791, 12.428538122911212]

---



---

- Time interval n.1: [222.84, 223.04]
  - \* y\_true: [1.34614625 9.61287691]
  - \* v\_ann: [8.033856391906738, 5.596152305603027, 12.428538122911212]

---



---

- Time interval n.2: [223.04, 223.24]
  - \* y\_true: [ 1.34614625 10.20300693]
  - \* v\_ann: [6.644785404205322, 5.736464500427246, 12.428538122911212]

---



---

```

- Time interval n.3: [223.24, 223.44]

* y_true: [1.34614625 10.35053943]

* v_ann: [4.525319576263428, 5.856165409088135, 12.

428538122911212]

```

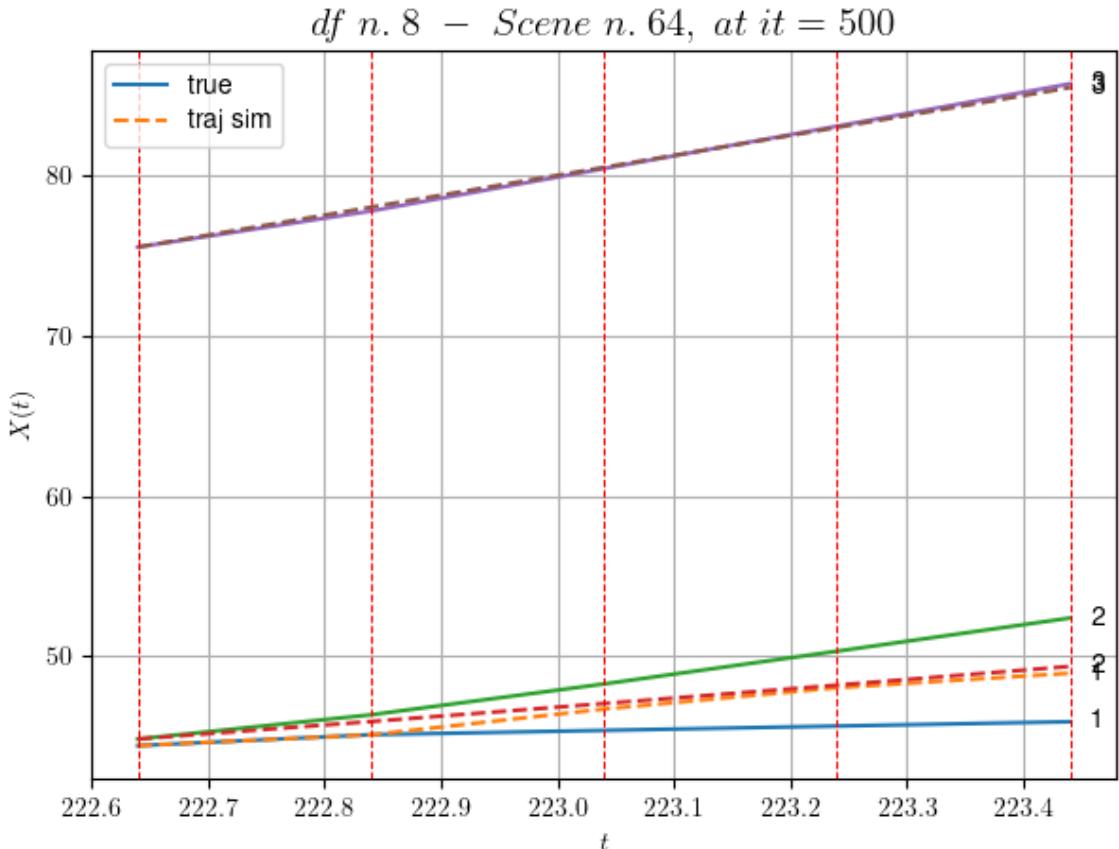
```

* err= 2.1325476860881074

* Learning rate NN = 4.7829678806010634e-05

* diff = 0.0012888351768318707

```



For scene 64/79

```

* use LR_NN=0.0001 with err=25.18381713947493 at it=24

* v0_scn_mean = 13.48282504661597

* MAE = 2.1325476860881074
=====
```

```

df n.8, scene n.65/79
=====
```

```

We have 5 time intervals inside [225.24,226.24]

```

```

- Time interval n.0: [225.24, 225.44]

* y_true: [9.85023046 1.34614625]

* v_ann: [5.434785842895508, 7.447329998016357, 13.

143683398703338]

```

```

- Time interval n.1: [225.44, 225.64]

* y_true: [11.30531094 1.34614625]

```

```

* v_ann: [5.941458702087402, 8.120489120483398, 13.
143683398703338]

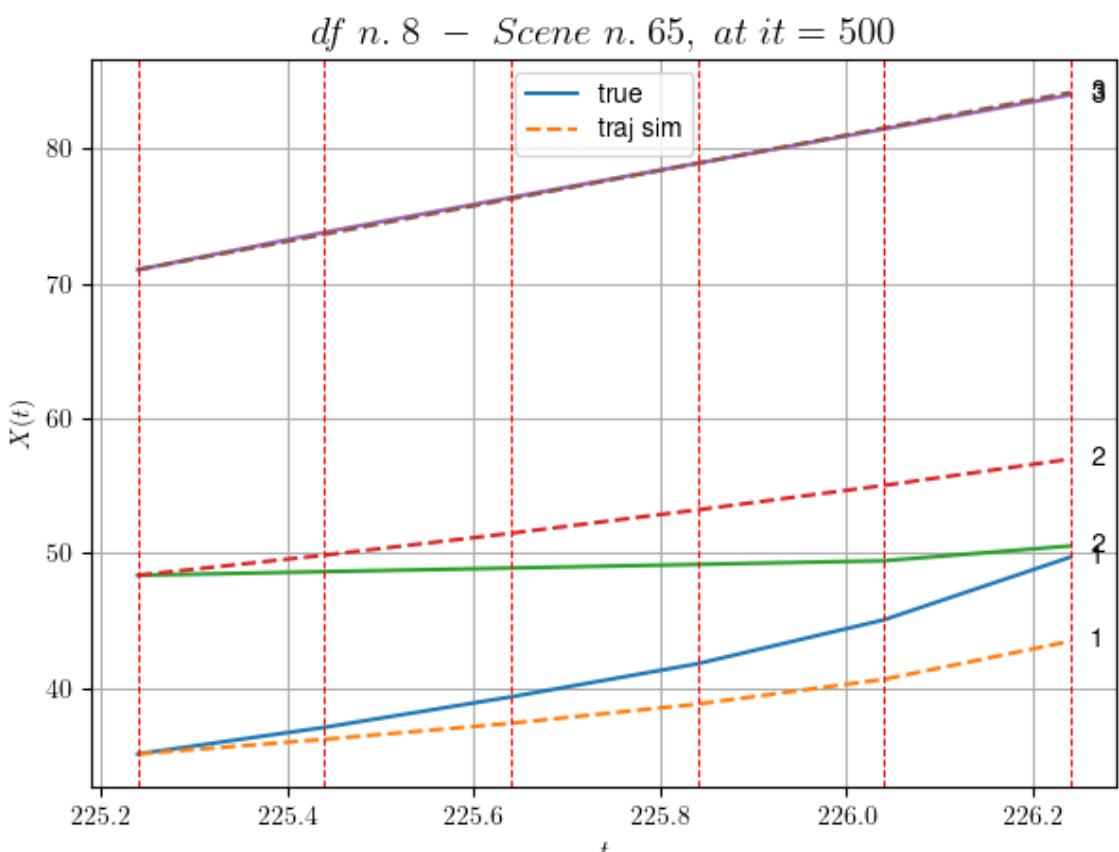
- Time interval n.2: [225.64, 225.84]
* y_true: [12.27536459 1.34614625]
* v_ann: [7.11215353012085, 8.674694061279297, 13.1
43683398703338]

- Time interval n.3: [225.84, 226.04]
* y_true: [16.30233516 1.34614625]
* v_ann: [9.183362007141113, 9.074410438537598, 13.
143683398703338]

- Time interval n.4: [226.04, 226.24]
* y_true: [23.251759 5.49560672]
* v_ann: [14.134968757629395, 9.77261734008789, 13.
143683398703338]

* err= 9.39521390152141
* Learning rate NN = 0.0003874204121530056
* diff = 0.02161697525238715

```



For scene 65/79

```

* use LR_NN=0.001 with err=49.8677326166655 at it=24
* v0_scn_mean = 14.155061637969057
* MAE = 9.386288995838987

```

```
=====
=====

df n.8, scene n.66/79
=====

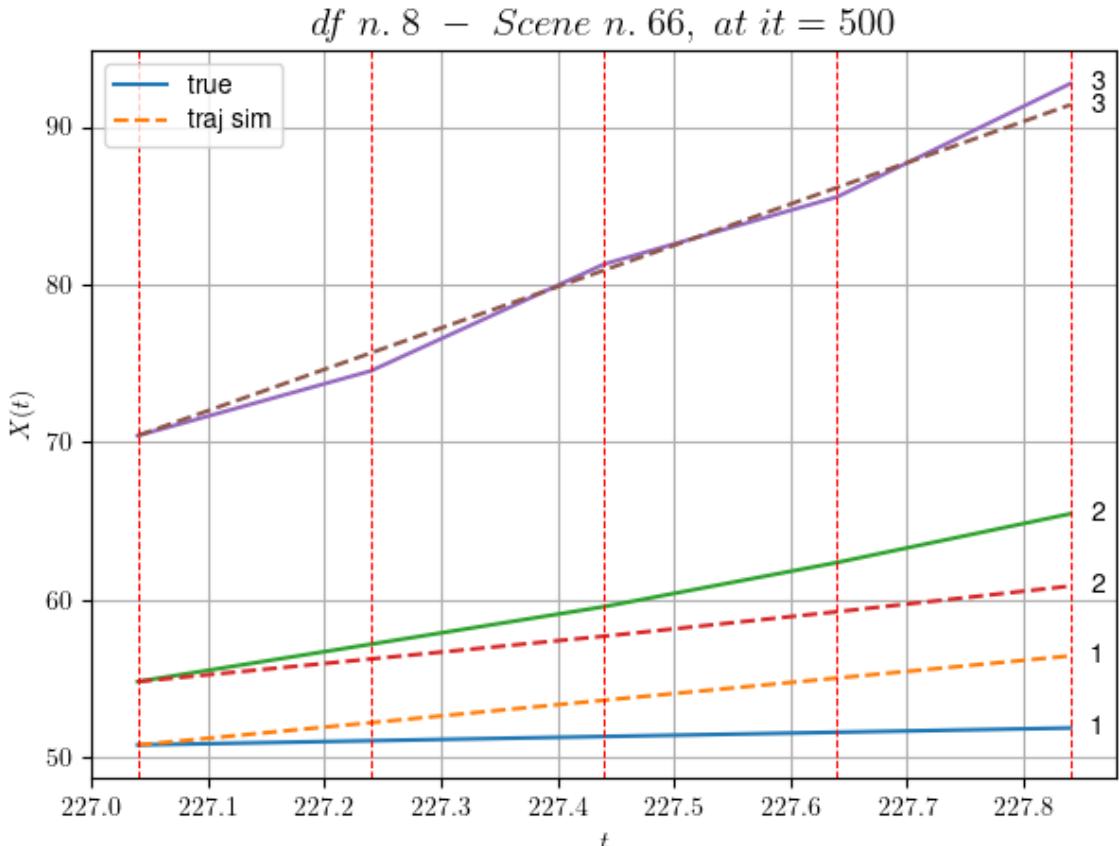
=====
We have 4 time intervals inside [227.04,227.84]
- Time interval n.0: [227.04, 227.24]
 * y_true: [1.34614625 11.86069537]
 * v_ann: [7.072189807891846, 7.183991432189941, 26.
24315546538644]

- Time interval n.1: [227.24, 227.44]
 * y_true: [1.34614625 11.90074479]
 * v_ann: [7.122670650482178, 7.216261863708496, 26.
24315546538644]

- Time interval n.2: [227.44, 227.64]
 * y_true: [1.34614625 14.03099458]
 * v_ann: [7.045731067657471, 7.767498016357422, 26.
24315546538644]

- Time interval n.3: [227.64, 227.84]
 * y_true: [1.34614625 15.45116111]
 * v_ann: [7.024205684661865, 8.143633842468262, 26.
24315546538644]

* err= 5.21169428099634
* Learning rate NN = 0.000239148415857926
* diff = 0.0033699618123765873
```



For scene 66/79

- \* use LR\_NN=0.0005 with err=2.888404910187218 at it=24
- \* v0\_scn\_mean = 26.468565968789253
- \* MAE = 5.196927823647042

---



---

df n.8, scene n.67/79

---



---

We have 2 time intervals inside [237.64, 238.04]

- Time interval n.0: [237.64, 237.84]
  - \* y\_true: [17.80043487 10.22573725]
  - \* v\_ann: [16.615747451782227, 10.81262493133545, 29.702967492374864]

---



---

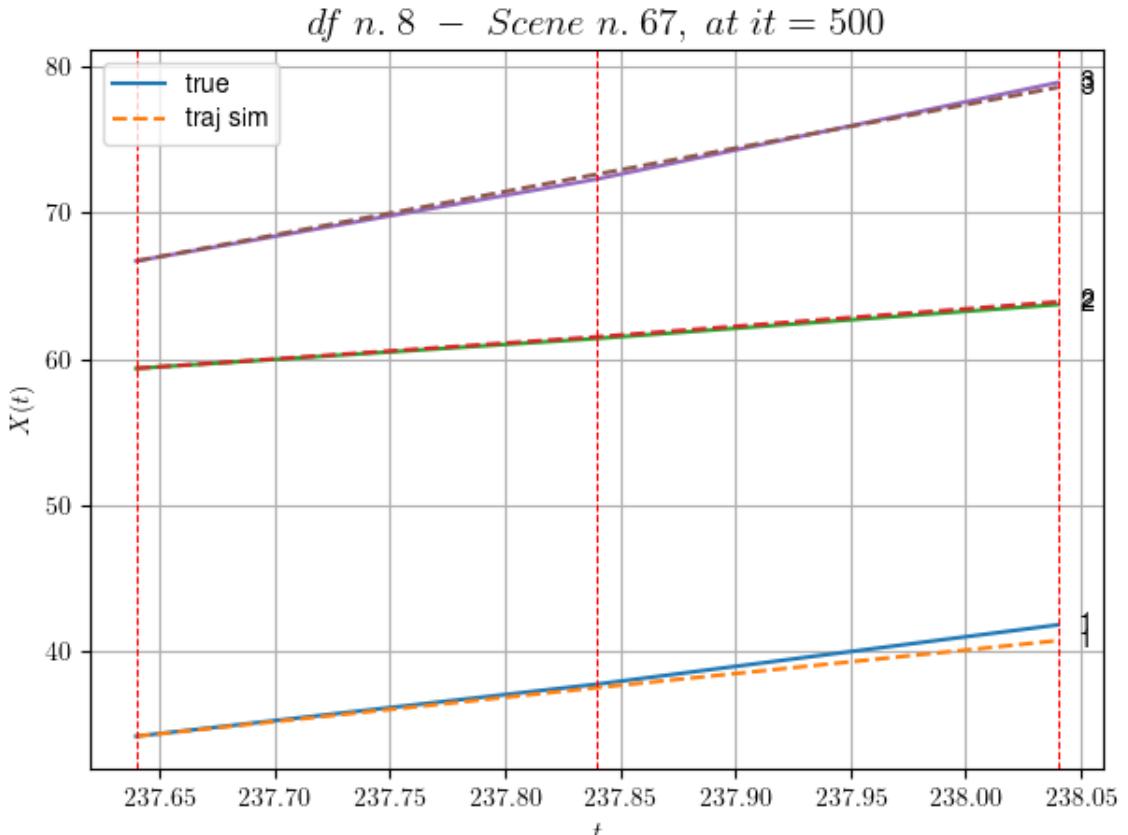
- Time interval n.1: [237.84, 238.04]
  - \* y\_true: [20.29063338 11.60088234]
  - \* v\_ann: [16.097251892089844, 11.954824447631836, 29.702967492374864]

---



---

- \* err= 0.1644620834864939
- \* Learning rate NN = 7.289998848136747e-06
- \* diff = 0.003277497176114169



For scene 67/79

```
* use LR_NN=1e-05 with err=0.2094205331237511 at it=24
* v0_scn_mean = 29.72078942949624
* MAE = 0.14800536573226944
```

---



---

df n.8, scene n.68/79

---



---

We have 2 time intervals inside [239.84, 240.24]

- Time interval n.0: [239.84, 240.04]
  - \* y\_true: [16.30079237 13.85576065]
  - \* v\_ann: [15.659080505371094, 15.501289367675781, 3

0.131239538599125]

---



---

- Time interval n.1: [240.04, 240.24]
  - \* y\_true: [17.06097057 17.27611431]
  - \* v\_ann: [16.56712532043457, 16.77263641357422, 30.

131239538599125]

---

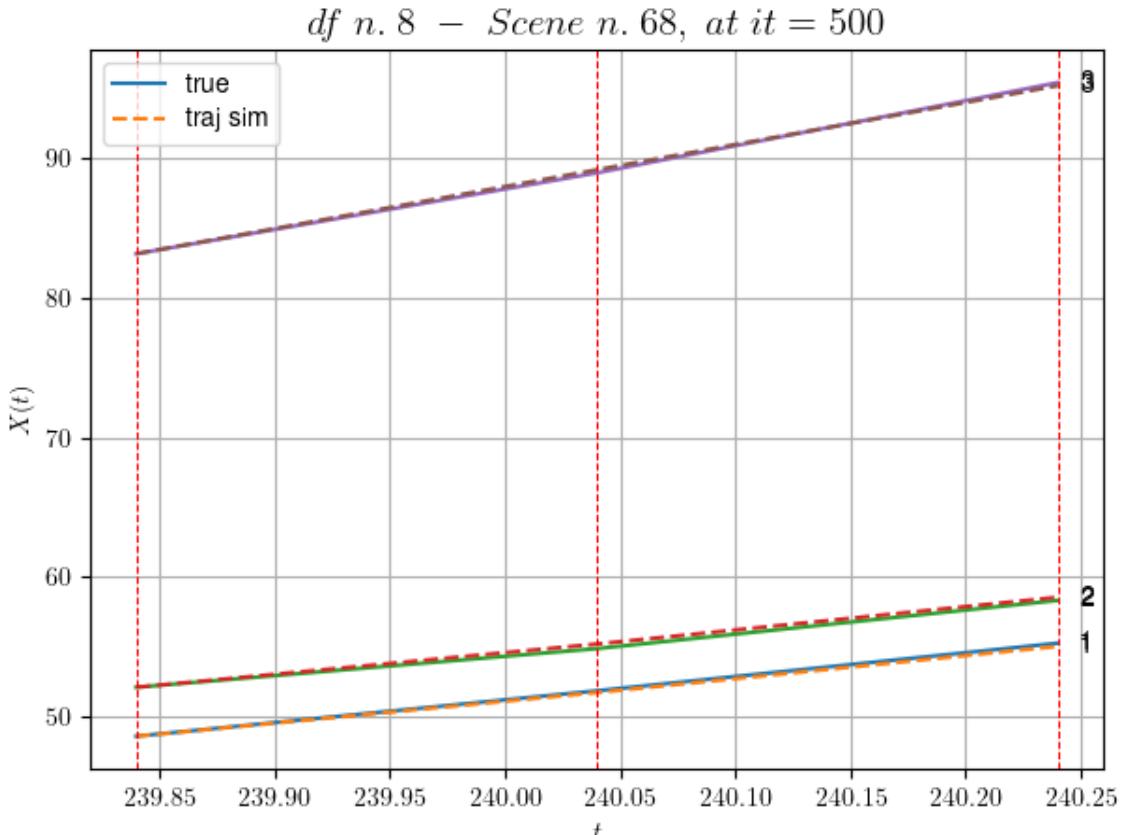


---

\* err= 0.03668226496777934

\* Learning rate NN = 0.0007289999630302191

\* diff = 9.632905929038427e-05



For scene 68/79

\* use LR\_NN=0.001 with err=4.115666282522034 at it=24  
 \* v0\_scn\_mean = 30.12336517217561  
 \* MAE = 0.03639327566220162

---



---

df n.8, scene n.69/79

---



---

We have 4 time intervals inside [243.44, 244.24]

- Time interval n.0: [243.44, 243.64]
  - \* y\_true: [18.26109982 7.28715228]
  - \* v\_ann: [13.63704776763916, 13.10570240020752, 16.

742914270051056]

---

- Time interval n.1: [243.64, 243.84]
  - \* y\_true: [23.05153691 9.06731774]
  - \* v\_ann: [14.078768730163574, 12.879249572753906, 1

6.742914270051056]

---

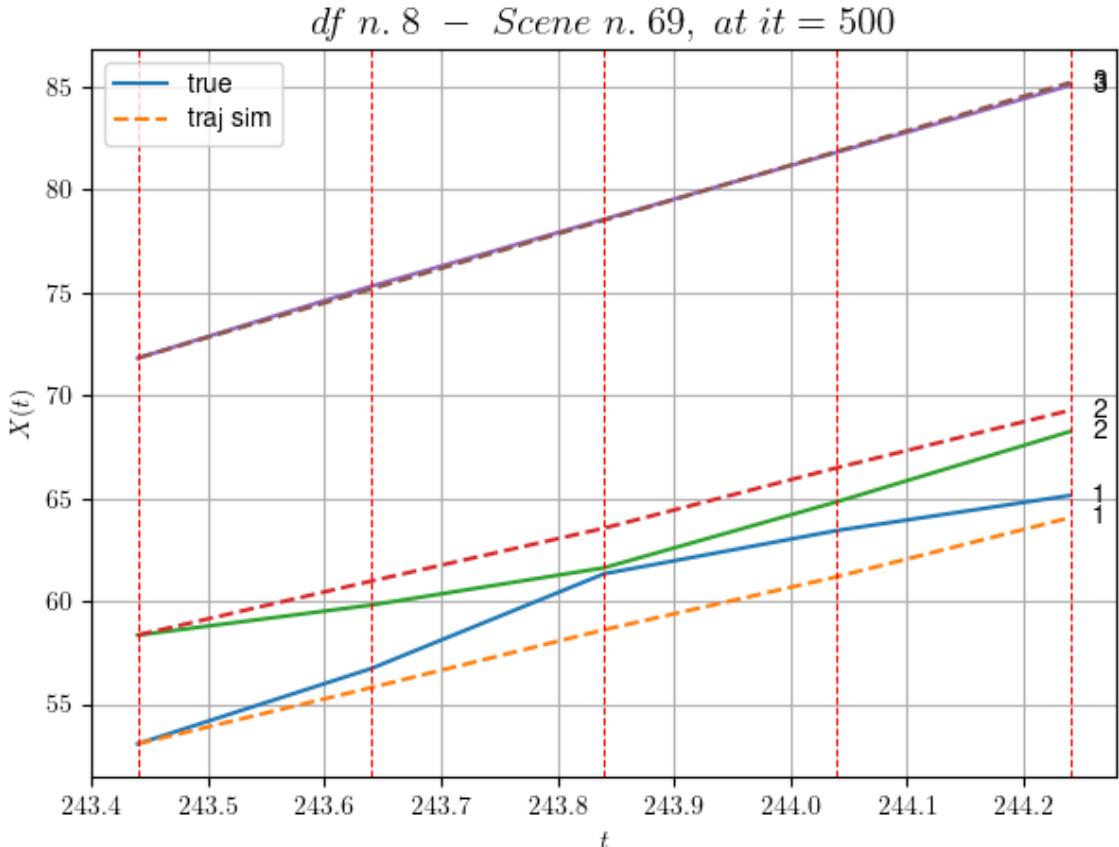
- Time interval n.2: [243.84, 244.04]
  - \* y\_true: [10.52334632 16.05532609]
  - \* v\_ann: [12.900041580200195, 14.69371223449707, 1

6.742914270051056]

---

```
- Time interval n.3: [244.04, 244.24]
 * y_true: [8.51398229 17.08146048]
 * v_ann: [14.361682891845703, 13.949289321899414, 1
6.742914270051056]
```

```
* err= 1.5559604758038077
* Learning rate NN = 0.000478296831715852
* diff = 0.002230356400687361
```



For scene 69/79  
\* use LR\_NN=0.001 with err=26.30051183205985 at it=24  
\* v0\_scn\_mean = 17.53833881863344  
\* MAE = 1.543494170950216

df n.8 scene n.70/79

```
We have 5 time intervals inside [251.64,252.64]
- Time interval n.0: [251.64, 251.84]
 * y_true: [14.32016282 17.2315068]
 * v_ann: [16.609769821166992, 18.525461196899414, 1
2490608802429]
```

- Time interval n.1: [251.84, 252.04]  
  \* y true: [20.34029568 17.65159646]

```

* v_ann: [16.576749801635742, 18.183073043823242, 1
9.82490608802429]

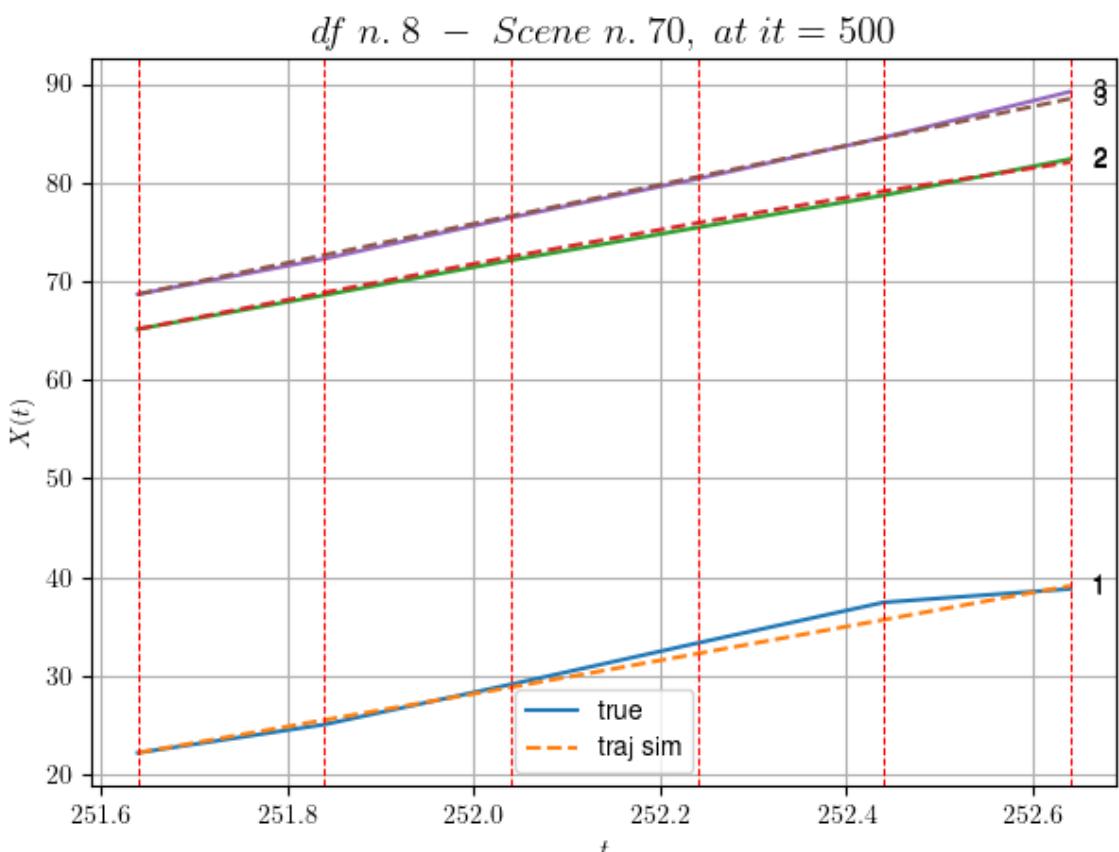
- Time interval n.2: [252.04, 252.24]
* y_true: [20.93040622 16.61174803]
* v_ann: [17.046701431274414, 17.110414505004883, 1
9.82490608802429]

- Time interval n.3: [252.24, 252.44]
* y_true: [20.66049541 16.35178592]
* v_ann: [17.1998348236084, 16.112890243530273, 19.
82490608802429]

- Time interval n.4: [252.44, 252.64]
* y_true: [6.80019415 18.37232882]
* v_ann: [17.24631118774414, 14.690587997436523, 1
9.82490608802429]

* err= 0.33748503287540554
* Learning rate NN = 0.0001937102060765028
* diff = 0.007960978034487864

```



For scene 70/79

```

* use LR_NN=0.0005 with err=24.66004397032414 at it=24
* v0_scn_mean = 20.435411265903163
* MAE = 0.3296414503592884

```

df n.8, scene n.71/79

We have 3 time intervals inside [290.84, 291.44]

- Time interval n.0: [290.84, 291.04]

\* y\_true: [10.67508652 21.71084933]

\* v\_ann: [15.821359634399414, 15.755277633666992, 2

5.378244279773952]

- Time interval n.1: [291.04, 291.24]

\* y\_true: [ 9.47510968 18.71084105]

\* v\_ann: [15.675772666931152, 15.9072904586792, 25.

378244279773952]

- Time interval n.2: [291.24, 291.44]

\* y\_true: [ 9.47510968 24.76138307]

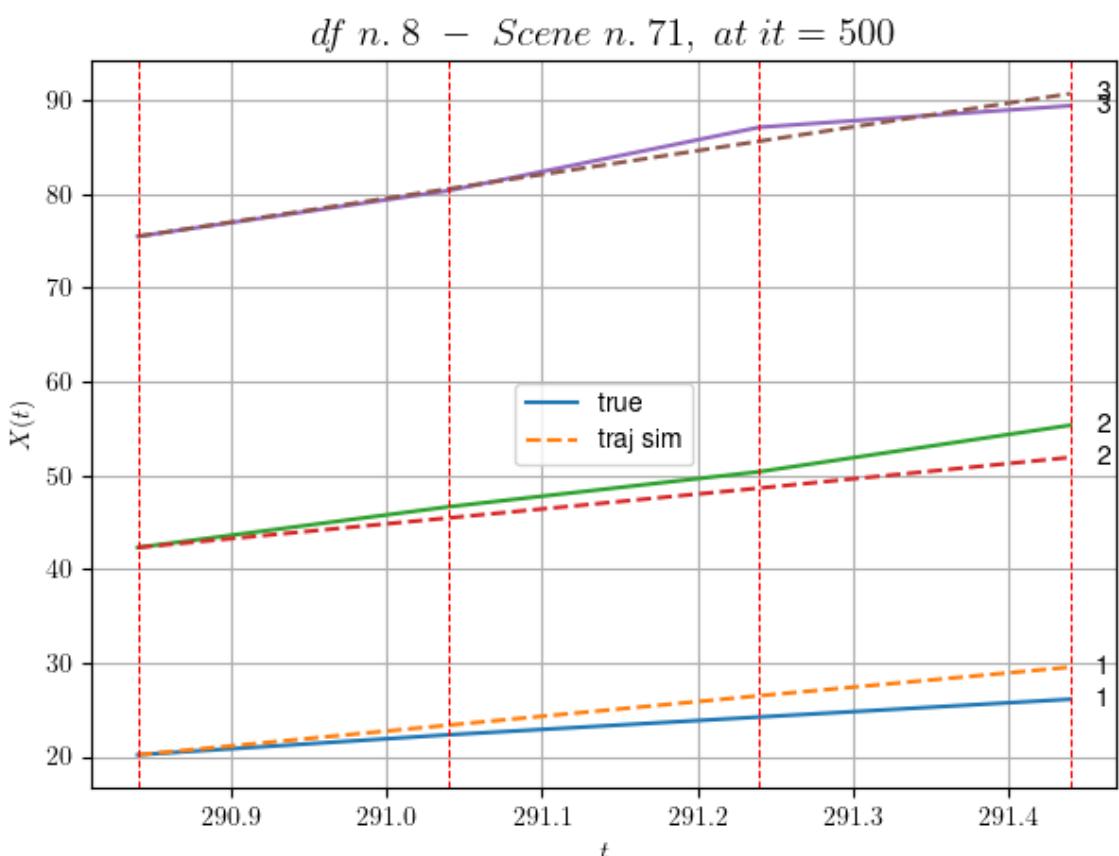
\* v\_ann: [15.222871780395508, 16.369199752807617, 2

5.378244279773952]

\* err= 3.174084072405614

\* Learning rate NN = 2.952449540316593e-05

\* diff = 0.0028710956953750255



```
For scene 71/79
* use LR_NN=5e-05 with err=2.3834308876729438 at it=24
* v0_scn_mean = 25.655549415481346
* MAE = 1.1279305512008981
```

```
=====
=====
```

```
df n.8, scene n.72/79
```

```
=====
=====
```

```
We have 5 time intervals inside [350.64,351.64]
```

```
- Time interval n.0: [350.64, 350.84]
 * y_true: [14.24956692 9.34769854]
 * v_ann: [13.66020393371582, 14.826830863952637, 2
```

```
4.017556031657953]
```

```


```

```
- Time interval n.1: [350.84, 351.04]
```

```
 * y_true: [4.06677119 24.77080184]
 * v_ann: [13.110651016235352, 16.146106719970703, 2
```

```
4.017556031657953]
```

```


```

```
- Time interval n.2: [351.04, 351.24]
```

```
 * y_true: [15.46321179 18.97073364]
 * v_ann: [17.367801666259766, 14.831819534301758, 2
```

```
4.017556031657953]
```

```


```

```
- Time interval n.3: [351.24, 351.44]
```

```
 * y_true: [19.89069297 18.71086293]
 * v_ann: [17.89004135131836, 16.761804580688477, 2
```

```
4.017556031657953]
```

```


```

```
- Time interval n.4: [351.44, 351.64]
```

```
 * y_true: [17.2007296 18.34097485]
 * v_ann: [18.192773818969727, 18.268089294433594, 2
```

```
4.017556031657953]
```

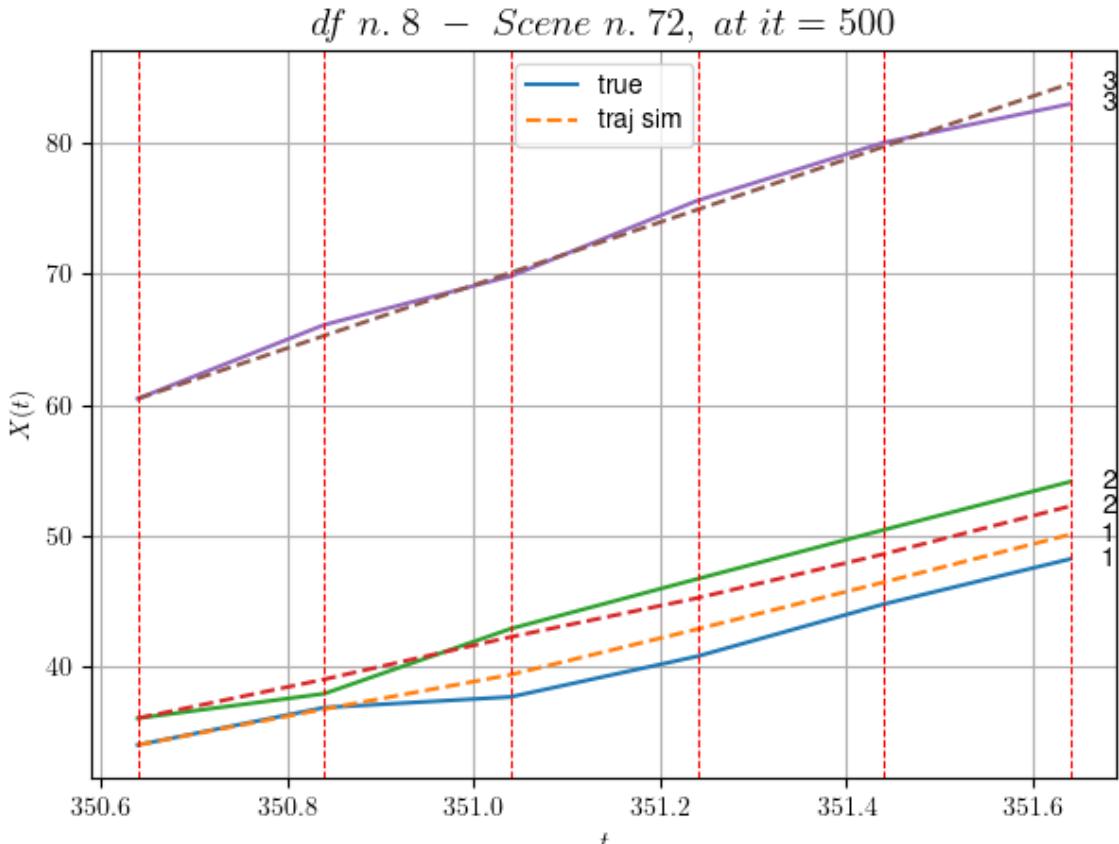
```


```

```
* err= 1.5429405849657085
```

```
* Learning rate NN = 0.0003874204121530056
```

```
* diff = 0.011700687113567199
```



For scene 72/79

- \* use LR\_NN=0.001 with err=10.316217114419304 at it=24
- \* v0\_scn\_mean = 24.376502401159836
- \* MAE = 1.5322817988637283

---



---

df n.8, scene n.73/79

---



---

We have 3 time intervals inside [368.84, 369.44]

- Time interval n.0: [368.84, 369.04]
  - \* y\_true: [17.45059381 8.87536169]
  - \* v\_ann: [13.782978057861328, 12.056540489196777, 1 7.012012000820373]

---



---

- Time interval n.1: [369.04, 369.24]
  - \* y\_true: [23.11801305 8.05829994]
  - \* v\_ann: [14.678169250488281, 13.049481391906738, 1 7.012012000820373]

---



---

- Time interval n.2: [369.24, 369.44]
  - \* y\_true: [ 6.12528304 15.69072344]
  - \* v\_ann: [11.177237510681152, 14.244029998779297, 1 7.012012000820373]

---

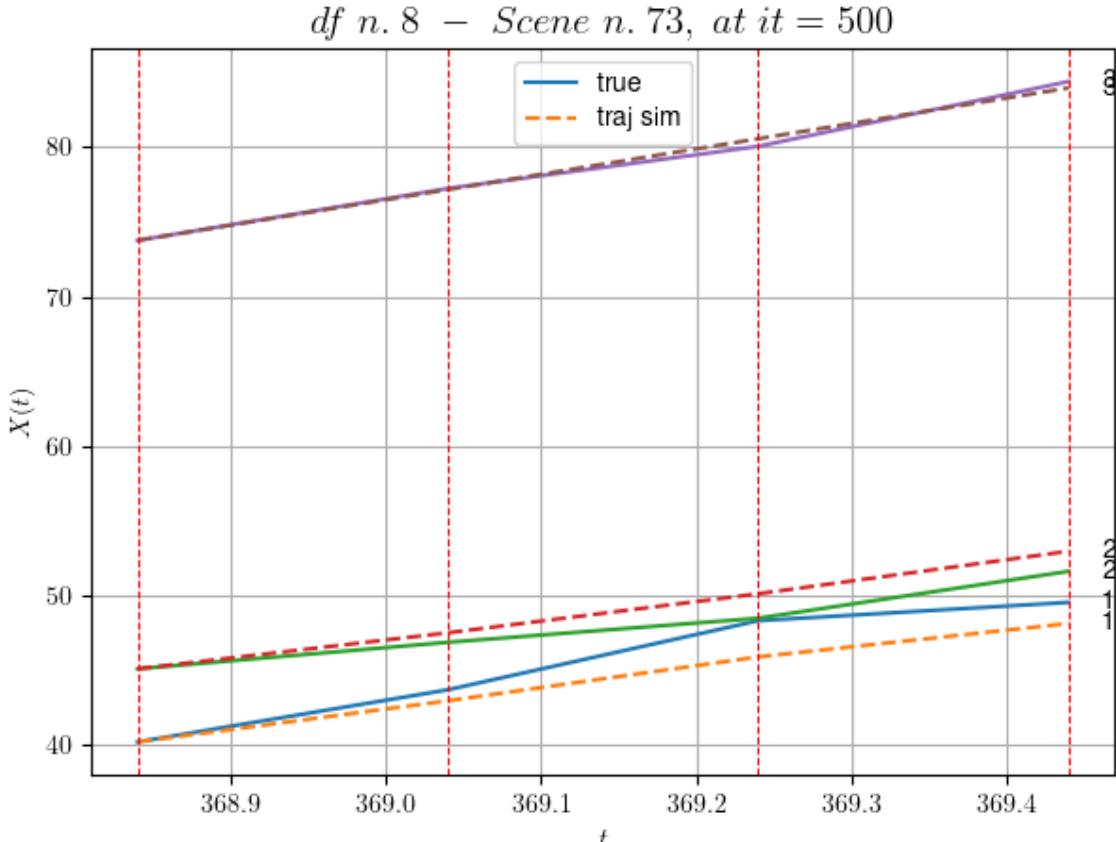


---

```

* err= 1.143980526761617
* Learning rate NN = 0.0002952449722215533
* diff = 0.00023864572751386426

```



For scene 73/79

```

* use LR_NN=0.0005 with err=16.950608711068185 at it=24
* v0_scn_mean = 17.791290697638345
* MAE = 1.112124801945855

```

---

df n.8, scene n.74/79

---

We have 2 time intervals inside [414.44, 414.84]

- Time interval n.0: [414.44, 414.64]
  - \* y\_true: [25.58017481 23.93124381]
  - \* v\_ann: [23.040390014648438, 20.549198150634766, 1
  - 4.740228637605556]

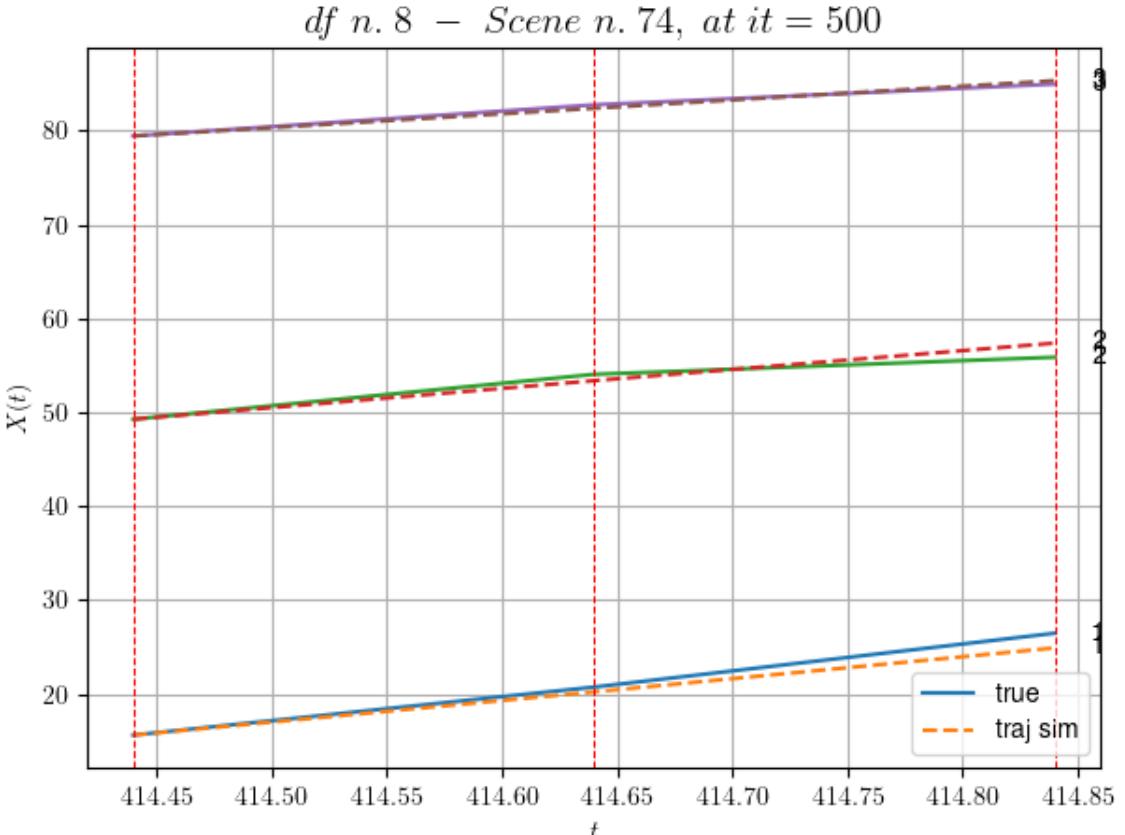
- Time interval n.1: [414.64, 414.84]
  - \* y\_true: [28.7103211 9.12051681]
  - \* v\_ann: [23.42136001586914, 20.026416778564453, 1
  - 4.740228637605556]

```

* err= 0.6341436059852562
* Learning rate NN = 7.289998757187277e-05

```

\* diff = 1.7832650164306685e-05



For scene 74/79

\* use LR\_NN=0.0001 with err=6.090812343976069 at it=24  
 \* v0\_scn\_mean = 15.655814234218601  
 \* MAE = 0.6321276911927597

---



---

df n.8, scene n.75/79

---



---

We have 5 time intervals inside [477.84, 478.84]

- Time interval n.0: [477.84, 478.04]
  - \* y\_true: [17.90015387 15.74042221]
  - \* v\_ann: [18.632740020751953, 18.130542755126953, 21.268159302177217]

---

- Time interval n.1: [478.04, 478.24]
  - \* y\_true: [18.02021575 17.32056356]
  - \* v\_ann: [18.528629302978516, 18.370494842529297, 21.268159302177217]

---

- Time interval n.2: [478.24, 478.44]
  - \* y\_true: [20.95033635 22.3908747 ]
  - \* v\_ann: [18.462154388427734, 18.341285705566406, 21.268159302177217]

```

 - Time interval n.3: [478.44, 478.64]

 * y_true: [19.80040923 17.17076636]

 * v_ann: [18.83799934387207, 19.11232566833496, 21.

268159302177217]

```

```

 - Time interval n.4: [478.64, 478.84]

 * y_true: [18.07046469 19.89107551]

 * v_ann: [18.977497100830078, 19.685102462768555, 2

1.268159302177217]

```

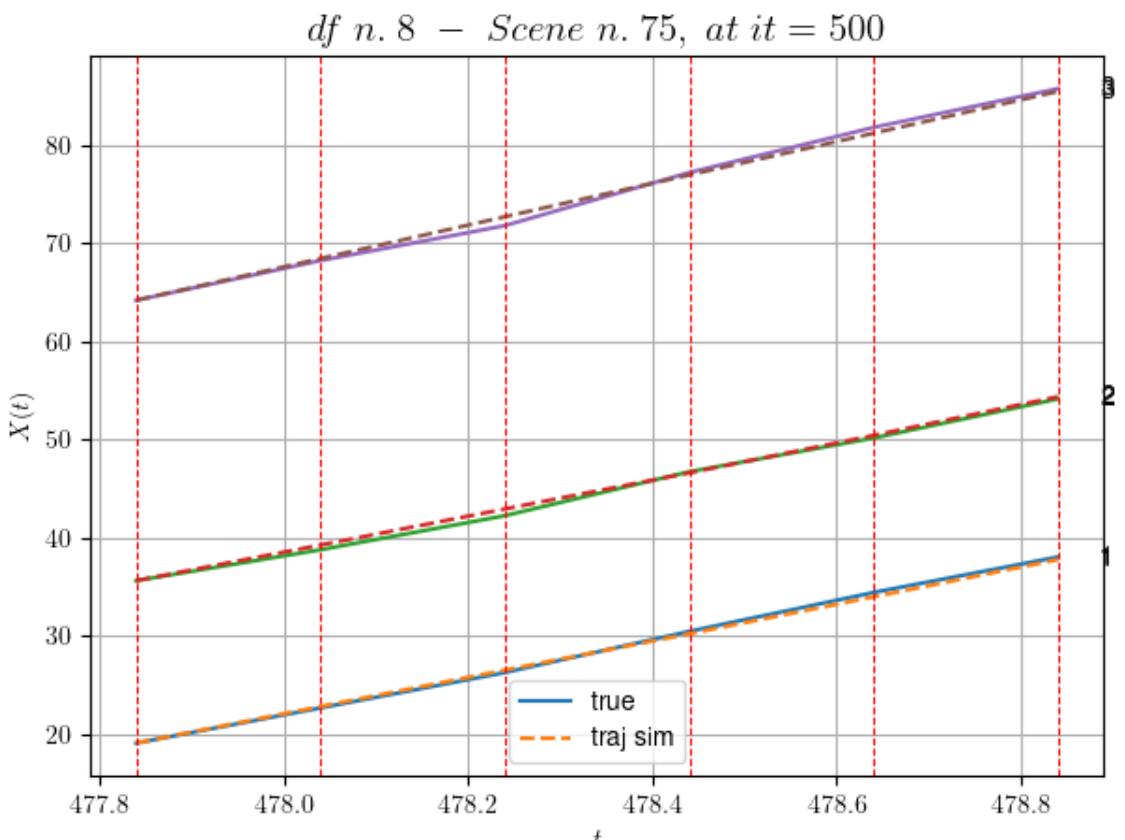
```

* err= 0.14433150196185465

* Learning rate NN = 3.874203684972599e-05

* diff = 0.0006551419094771305

```



```

For scene 75/79

* use LR_NN=0.0001 with err=16.65932677638401 at it=24

* v0_scn_mean = 21.79206935200585

* MAE = 0.14433150196185465
=====

=====


```

```
df n.8, scene n.76/79
=====
```

```

=====

We have 2 time intervals inside [522.64,523.04]

- Time interval n.0: [522.64, 522.84]
=====
```

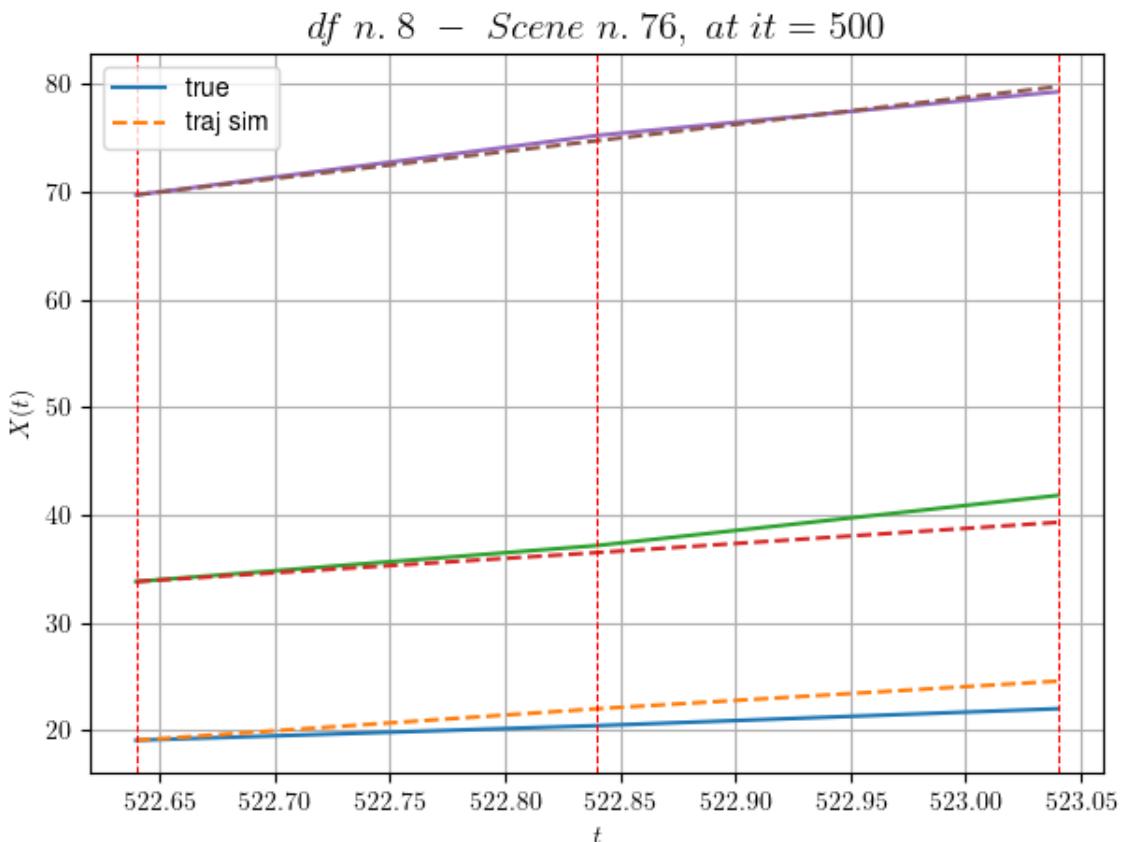
```

* y_true: [6.78505349 16.71042372]
* v_ann: [14.63061809539795, 13.433847427368164, 2
5.155972882594618]

- Time interval n.1: [522.84, 523.04]
* y_true: [7.85007105 23.28071684]
* v_ann: [12.826994895935059, 14.053289413452148, 2
5.155972882594618]

* err= 1.7996943135904342
* Learning rate NN = 7.289998757187277e-05
* diff = 0.00022565232414950565

```



For scene 76/79

```

* use LR_NN=0.0001 with err=0.8736877082662536 at it=24
* v0_scn_mean = 25.446614292152642
* MAE = 1.7329740844371078
=====
```

df n.8, scene n.77/79

```

=====
We have 7 time intervals inside [593.04,594.44]
- Time interval n.0: [593.04, 593.24]
* y_true: [18.14041096 18.46062677]
* v_ann: [18.889612197875977, 19.304838180541992, 2
0.297836048725543]
```

```


 - Time interval n.1: [593.24, 593.44]
 * y_true: [15.67042287 23.16095213]
 * v_ann: [18.750137329101562, 18.969287872314453, 2
0.297836048725543]

 - Time interval n.2: [593.44, 593.64]
 * y_true: [13.25043489 21.00101152]
 * v_ann: [19.244813919067383, 19.20276641845703, 2
0.297836048725543]

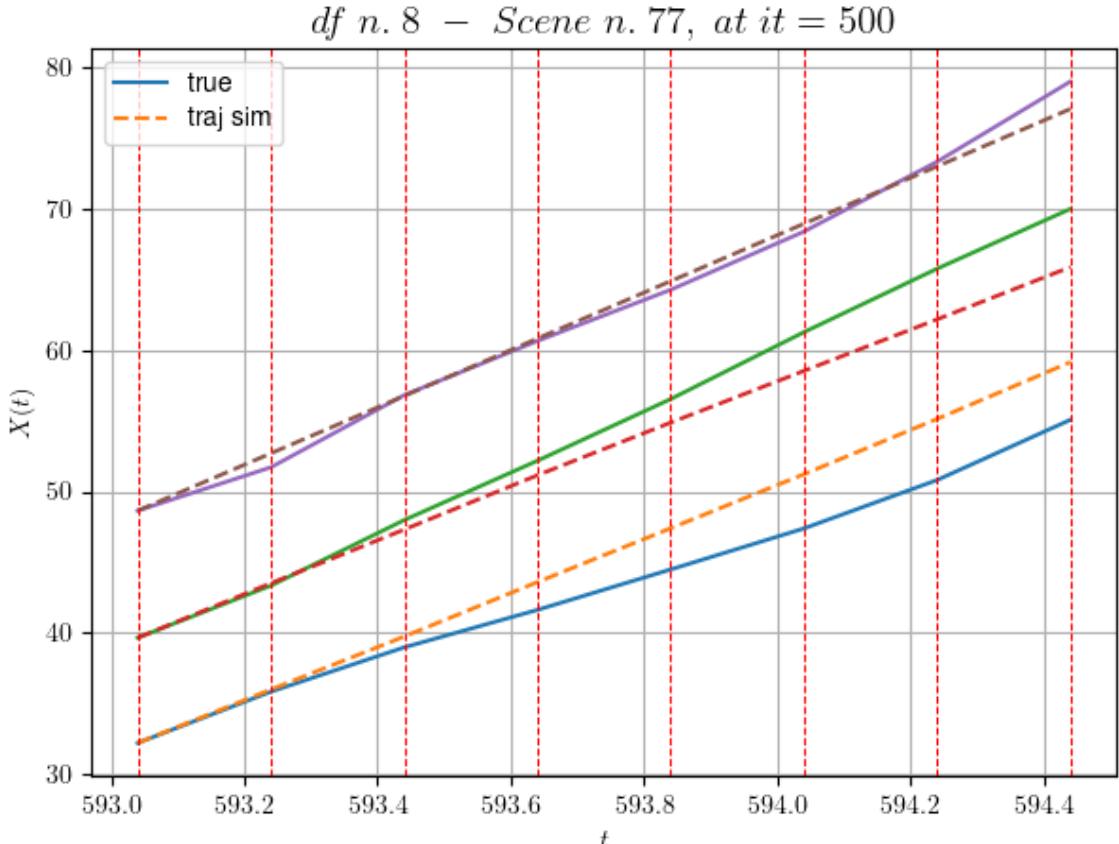
 - Time interval n.3: [593.64, 593.84]
 * y_true: [14.30052292 21.80126526]
 * v_ann: [19.05651092529297, 18.627918243408203, 2
0.297836048725543]

 - Time interval n.4: [593.84, 594.04]
 * y_true: [14.50059166 23.66159236]
 * v_ann: [19.099885940551758, 18.290557861328125, 2
0.297836048725543]

 - Time interval n.5: [594.04, 594.24]
 * y_true: [17.13492662 22.4617536]
 * v_ann: [19.559825897216797, 18.22593879699707, 2
0.297836048725543]

 - Time interval n.6: [594.24, 594.44]
 * y_true: [21.29116558 21.12188145]
 * v_ann: [20.075345993041992, 18.497577667236328, 2
0.297836048725543]

* err= 4.586971440038809
* Learning rate NN = 0.00025418648147024214
* diff = 0.0063110610143607655
```



For scene 77/79

- \* use LR\_NN=0.001 with err=29.48325158751628 at it=24
- \* v0\_scn\_mean = 20.879965450195783
- \* MAE = 4.472013085553343

---



---

df n.8, scene n.78/79

---



---

We have 4 time intervals inside [256.44, 257.24]

- Time interval n.0: [256.44, 256.64]
  - \* y\_true: [ 7.48303167 10.07767618 21.73093279]
  - \* v\_ann: [11.810297966003418, 14.282853126525879, 1  
6.47940444946289, 17.104258674666195]

---



---

- Time interval n.1: [256.64, 256.84]
  - \* y\_true: [13.09283525 13.17831107 21.42106847]
  - \* v\_ann: [16.149858474731445, 16.0621280670166, 14.  
545465469360352, 17.104258674666195]

---



---

- Time interval n.2: [256.84, 257.04]
  - \* y\_true: [11.5255681 16.82586504 17.99104223]
  - \* v\_ann: [16.16248321533203, 16.59123992919922, 15.  
002950668334961, 17.104258674666195]

---



---

```

- Time interval n.3: [257.04, 257.24]

* y_true: [10.66053629 16.53589178 24.03163218]

* v_ann: [15.603470802307129, 16.589982986450195, 1

5.044499397277832, 17.104258674666195]

```

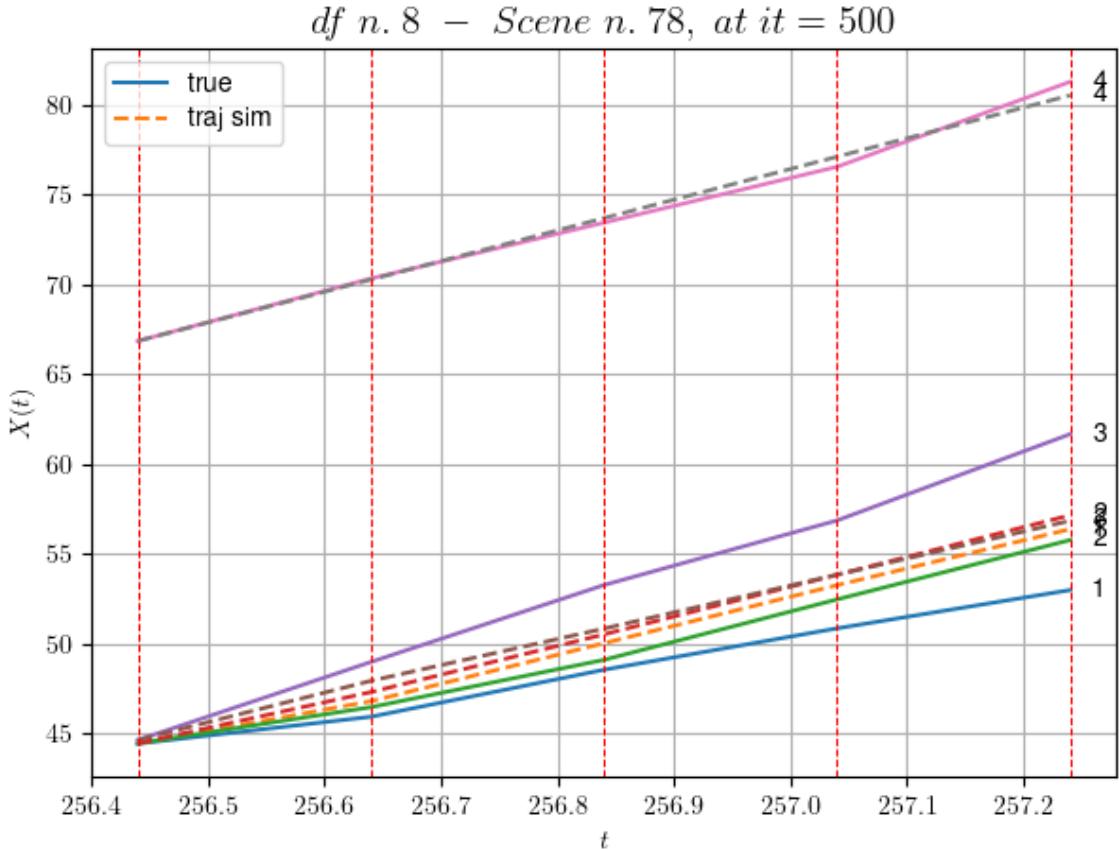
```

* err= 3.3519208672503664

* Learning rate NN = 0.000478296831715852

* diff = 0.009631640140616238

```



For scene 78/79

```

* use LR_NN=0.001 with err=12.177874272830346 at it=24
* v0_scn_mean = 18.135876016246087
* MAE = 3.2776342716452294

```

For df=8 with 79 scenes, time taken: 1805.04

```

```

```

```

```

```

```

```

In df n.9/10 we have 33 scenes

df n.9, scene n.0/33

```
=====
```

We have 5 time intervals inside [15.40,16.40]

```

- Time interval n.0: [15.40, 15.60]
* y_true: [30.73739248]
* v_ann: [33.05859375, 28.3801854174506]
=====
```

```

- Time interval n.1: [15.60, 15.80]

* y_true: [35.33215767]

* v_ann: [31.89232635498047, 28.3801854174506]

```

```

- Time interval n.2: [15.80, 16.00]

* y_true: [26.52685309]

* v_ann: [28.891845703125, 28.3801854174506]

```

```

- Time interval n.3: [16.00, 16.20]

* y_true: [31.26795305]

* v_ann: [30.247421264648438, 28.3801854174506]

```

```

- Time interval n.4: [16.20, 16.40]

* y_true: [29.78305951]

* v_ann: [29.644254684448242, 28.3801854174506]

```

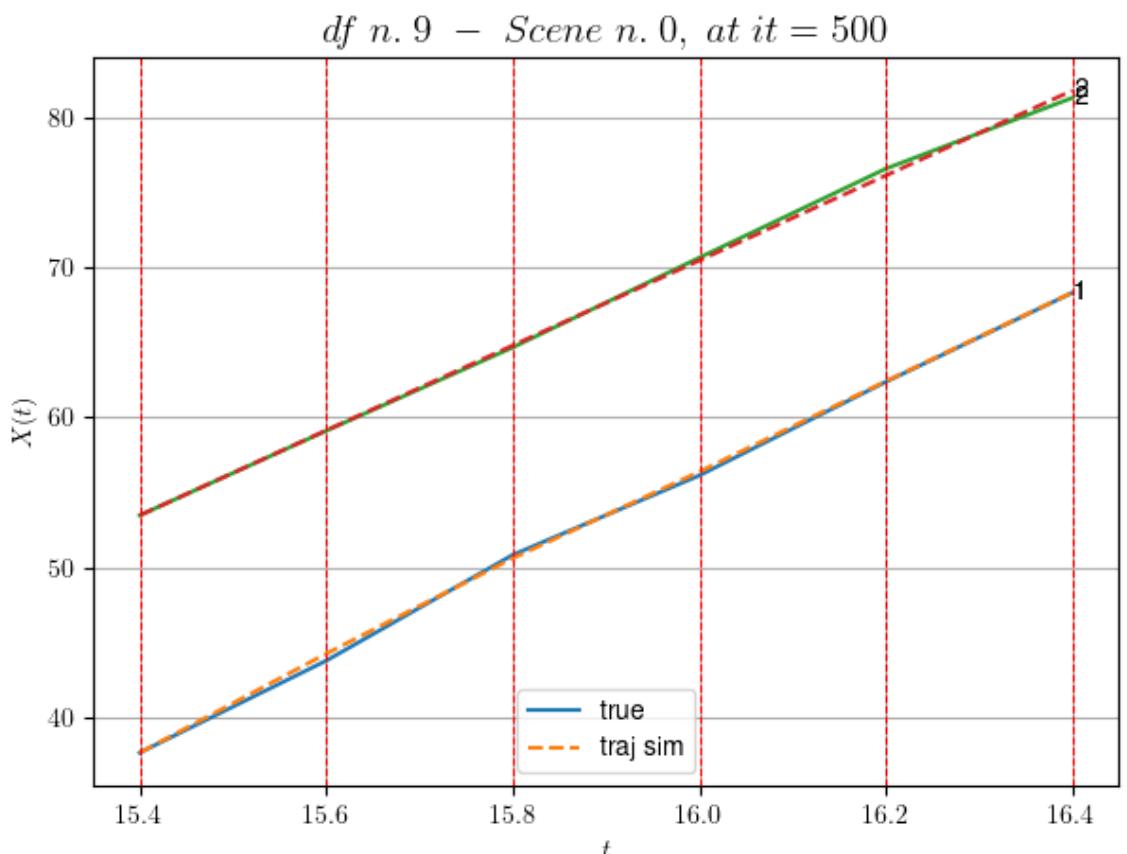
```

* err= 0.0689492387563401

* Learning rate NN = 1.9371018424862996e-05

* diff = 0.0001100426031878654

```



For scene 0/33

```

* use LR_NN=5e-05 with err=0.5690051726547702 at it=24

* v0_scn_mean = 28.444978000740186

```

```
* MAE = 0.06894884183950789
```

---



---

```
df n.9, scene n.1/33
```

---



---

```
We have 2 time intervals inside [19.80,20.20]
```

- Time interval n.0: [19.80, 20.00]
    - \* y\_true: [33.54113565]
    - \* v\_ann: [30.80579376220703, 39.64570602734413]
- 
- 

- Time interval n.1: [20.00, 20.20]

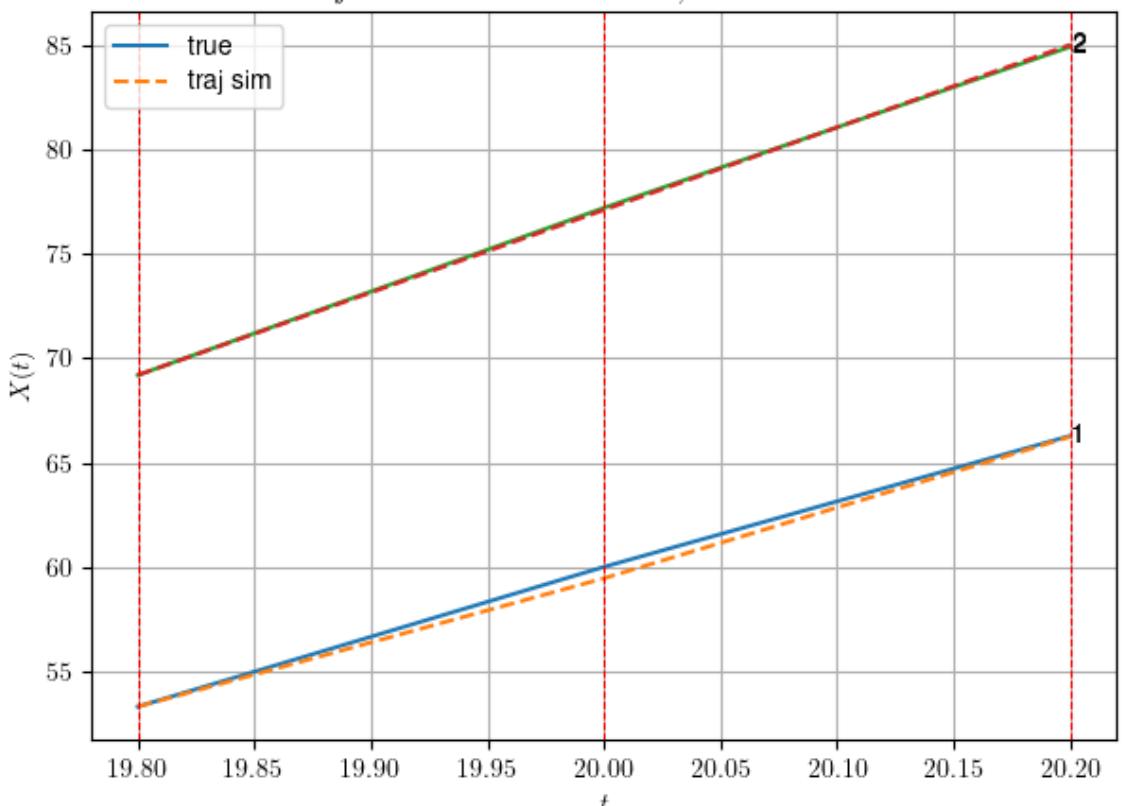
- \* y\_true: [31.45149299]
    - \* v\_ann: [33.965476989746094, 39.64570602734413]
- 
- 

```
* err= 0.053599809674331124
```

```
* Learning rate NN = 7.289998757187277e-05
```

```
* diff = 3.523498373387418e-05
```

*df n. 9 – Scene n. 1, at it = 500*



For scene 1/33

```
* use LR_NN=0.0001 with err=3.088235931983134 at it=24
```

```
* v0_scn_mean = 39.25987778632405
```

```
* MAE = 0.052740589699179455
```

---

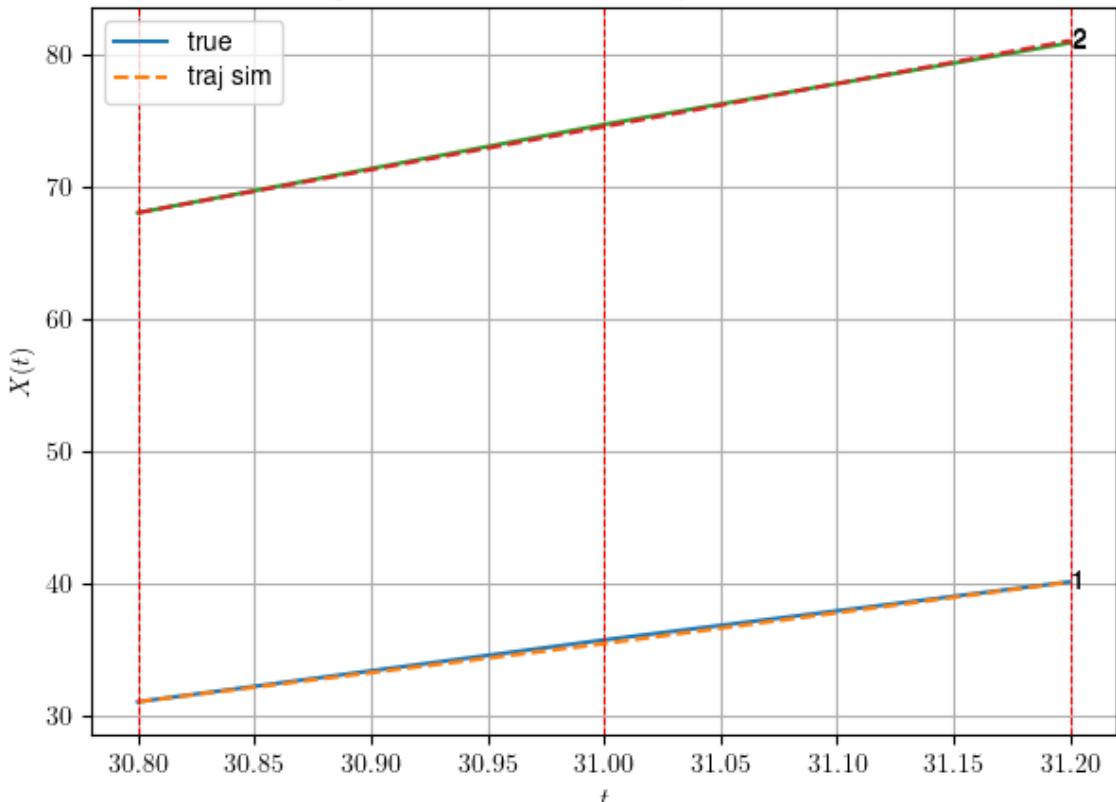


---

```
df n.9, scene n.2/33
=====
```

```
We have 2 time intervals inside [30.80,31.20]
* err= 0.022323779342406806
* Learning rate NN = 8.999999408842996e-06
* diff = 5.816567537168804e-07
```

*df n. 9 – Scene n. 2, at it = 250*



For scene 2/33

```
* use LR_NN=1e-05 with err=0.21155123850274576 at it=24
* v0_scn_mean = 32.33304952646825
* MAE = 0.021532607425090517
```

```
=====
```

```
=====
```

```
df n.9, scene n.3/33
=====
```

```
=====
```

```
We have 5 time intervals inside [36.60,37.60]
```

- Time interval n.0: [36.60, 36.80]
  - \* y\_true: [22.87949769]
  - \* v\_ann: [20.533262252807617, 29.981948107113574]

---

- Time interval n.1: [36.80, 37.00]
  - \* y\_true: [24.659198]
  - \* v\_ann: [23.229074478149414, 29.981948107113574]

---

```

- Time interval n.2: [37.00, 37.20]

* y_true: [29.18472774]

* v_ann: [27.596725463867188, 29.981948107113574]

```

```

- Time interval n.3: [37.20, 37.40]

* y_true: [27.50021757]

* v_ann: [28.265565872192383, 29.981948107113574]

```

```

- Time interval n.4: [37.40, 37.60]

* y_true: [22.55082199]

* v_ann: [26.65990447998047, 29.981948107113574]

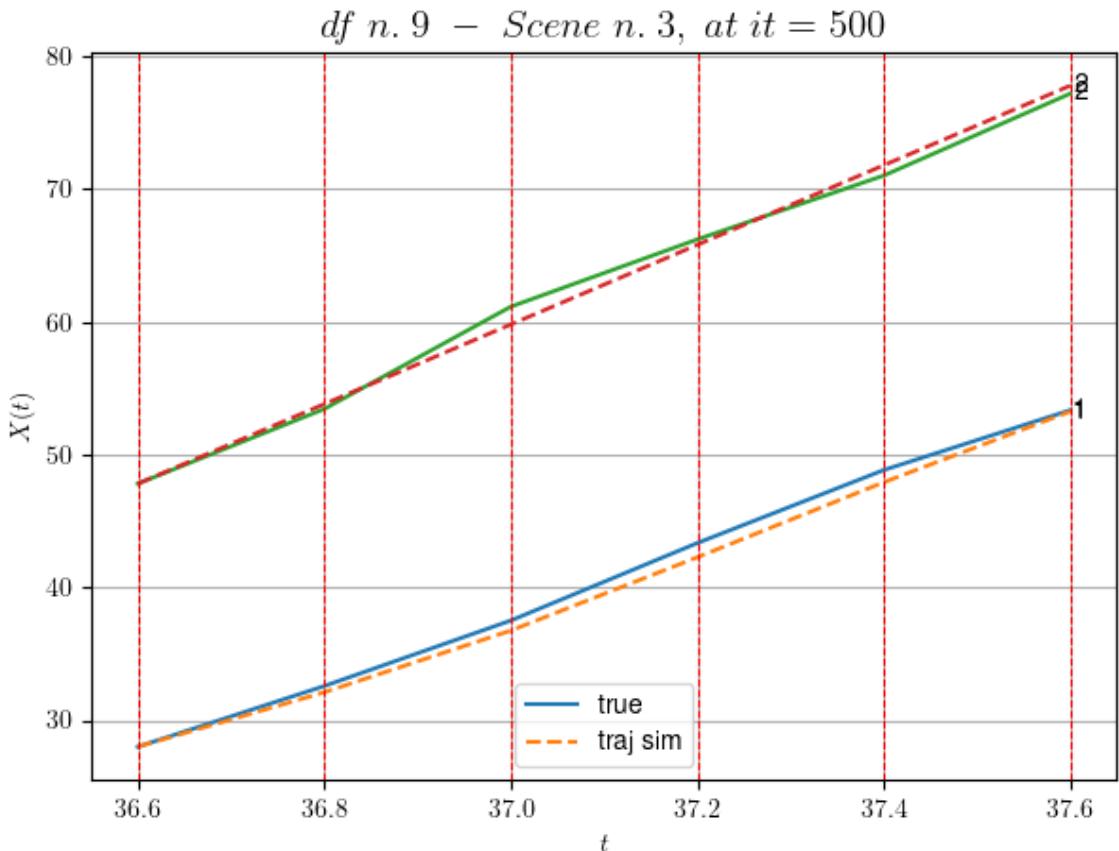
```

```

* err= 0.48832953537798063

* Learning rate NN = 0.0003874204121530056

* diff = 0.017601727461055504
```



For scene 3/33

```

* use LR_NN=0.001 with err=0.31126480726633726 at it=24
* v0_scn_mean = 29.982670182828926
* MAE = 0.27380774539229263
=====
```

```

=====

=====

df n.9, scene n.4/33
=====
```

```
=====
We have 3 time intervals inside [51.40,52.00]
- Time interval n.0: [51.40, 51.60]
 * y_true: [18.9890482]
 * v_ann: [15.007383346557617, 32.13226424153484]
```

```

- Time interval n.1: [51.60, 51.80]
 * y_true: [18.95651223]
 * v_ann: [18.692934036254883, 32.13226424153484]
```

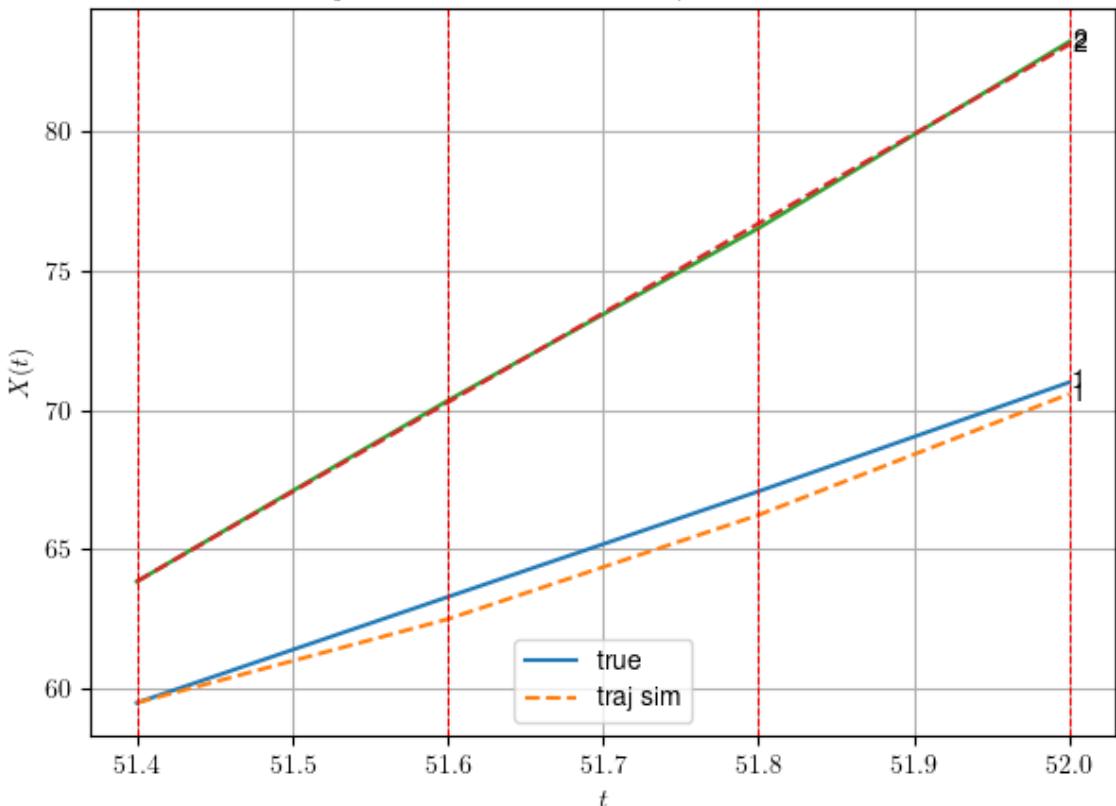
```

- Time interval n.2: [51.80, 52.00]
 * y_true: [19.58186103]
 * v_ann: [21.73796272277832, 32.13226424153484]
```

```

* err= 0.1966832604333681
* Learning rate NN = 0.0002952449722215533
* diff = 0.013226424153484
```

*df n. 9 – Scene n. 4, at it = 500*



For scene 4/33

```
* use LR_NN=0.0005 with err=1.223455968858437 at it=24
* v0_scn_mean = 32.046973671889745
* MAE = 0.1966832604333681
```

=====

=====

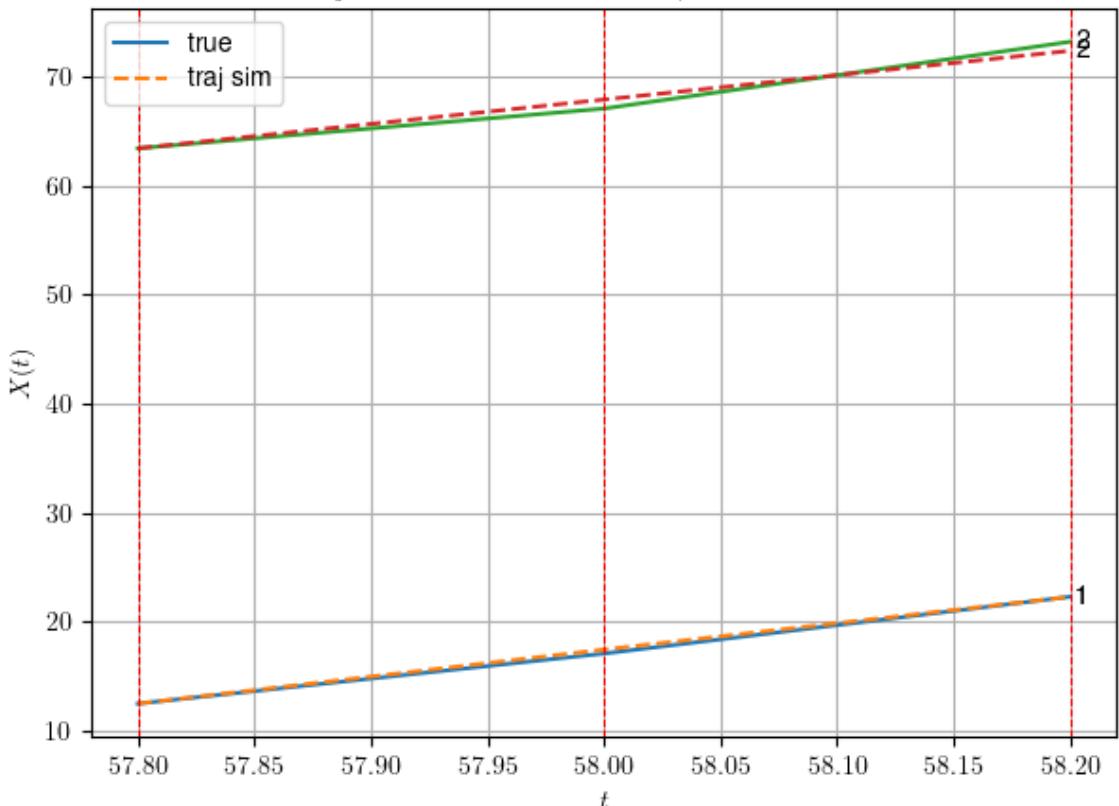
df n.9, scene n.5/33

```
=====
=====
We have 2 time intervals inside [57.80,58.20]
- Time interval n.0: [57.80, 58.00]
 * y_true: [22.99410221]
 * v_ann: [24.80983543395996, 22.383621655895407]
```

```
=====
- Time interval n.1: [58.00, 58.20]
 * y_true: [26.0452022]
 * v_ann: [24.194778442382812, 22.383621655895407]
```

```
=====
* err= 0.25102720224496466
* Learning rate NN = 7.289998848136747e-06
* diff = 2 498858514499158e-06
```

*df n. 9 – Scene n. 5, at it = 500*



For scene 5/33

```
* use LR_NN=1e-05 with err=1.7678420208619228 at it=24
* v0_scn_mean = 22.68827678960138
* MAE = 0.2293337565322932
```

df n.9, scene n.6/33

```
=====
We have 8 time intervals inside [82.40,84.00]
- Time interval n.0: [82.40, 82.60]
 * y_true: [31.06989228]
```

\* v\_ann: [30.767736434936523, 34.29480154475975]

- Time interval n.1: [82.60, 82.80]  
\* y\_true: [29.82804448]  
\* v\_ann: [32.14091491699219, 34.29480154475975]

- Time interval n.2: [82.80, 83.00]  
\* y\_true: [37.59099484]  
\* v\_ann: [33.43424987792969, 34.29480154475975]

- Time interval n.3: [83.00, 83.20]  
\* y\_true: [30.55007052]  
\* v\_ann: [32.4544677734375, 34.29480154475975]

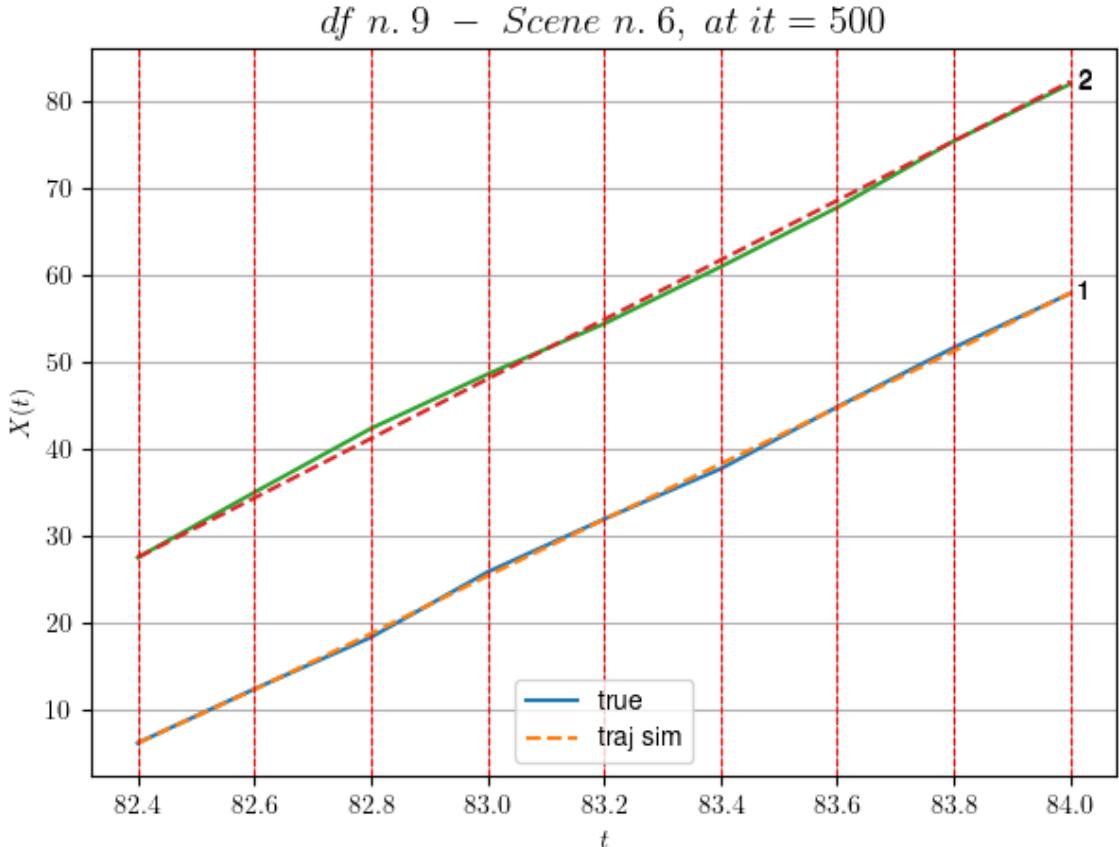
- Time interval n.4: [83.20, 83.40]  
\* y\_true: [28.99841295]  
\* v\_ann: [31.992033004760742, 34.29480154475975]

- Time interval n.5: [83.40, 83.60]  
\* y\_true: [35.67340305]  
\* v\_ann: [32.580257415771484, 34.29480154475975]

- Time interval n.6: [83.60, 83.80]  
\* y\_true: [34.1936425]  
\* v\_ann: [32.50801086425781, 34.29480154475975]

- Time interval n.7: [83.80, 84.00]  
\* y\_true: [31.27112278]  
\* v\_ann: [33.514068603515625, 34.29480154475975]

\* err= 0.24651685452770705  
\* Learning rate NN = 1.029455233947374e-05  
\* diff = 0 00044244767137779917



For scene 6/33

```
* use LR_NN=5e-05 with err=7.825163738827111 at it=24
* v0_scn_mean = 34.123009483002114
* MAE = 0.24566867895268157
```

---



---

df n.9, scene n.7/33

---



---

We have 7 time intervals inside [117.00, 118.40]

- Time interval n.0: [117.00, 117.20]
  - \* y\_true: [27.10832167]
  - \* v\_ann: [24.30488395690918, 32.74675131139]

---

- Time interval n.1: [117.20, 117.40]
  - \* y\_true: [29.73749083]
  - \* v\_ann: [25.986665725708008, 32.74675131139]

---

- Time interval n.2: [117.40, 117.60]
  - \* y\_true: [25.41587293]
  - \* v\_ann: [25.566213607788086, 32.74675131139]

---

- Time interval n.3: [117.60, 117.80]
  - \* y\_true: [22.63777311]

```
* v_ann: [26.505218505859375, 32.74675131139]
```

---

```
- Time interval n.4: [117.80, 118.00]
* y_true: [26.51617559]
* v_ann: [27.508010864257812, 32.74675131139]
```

---

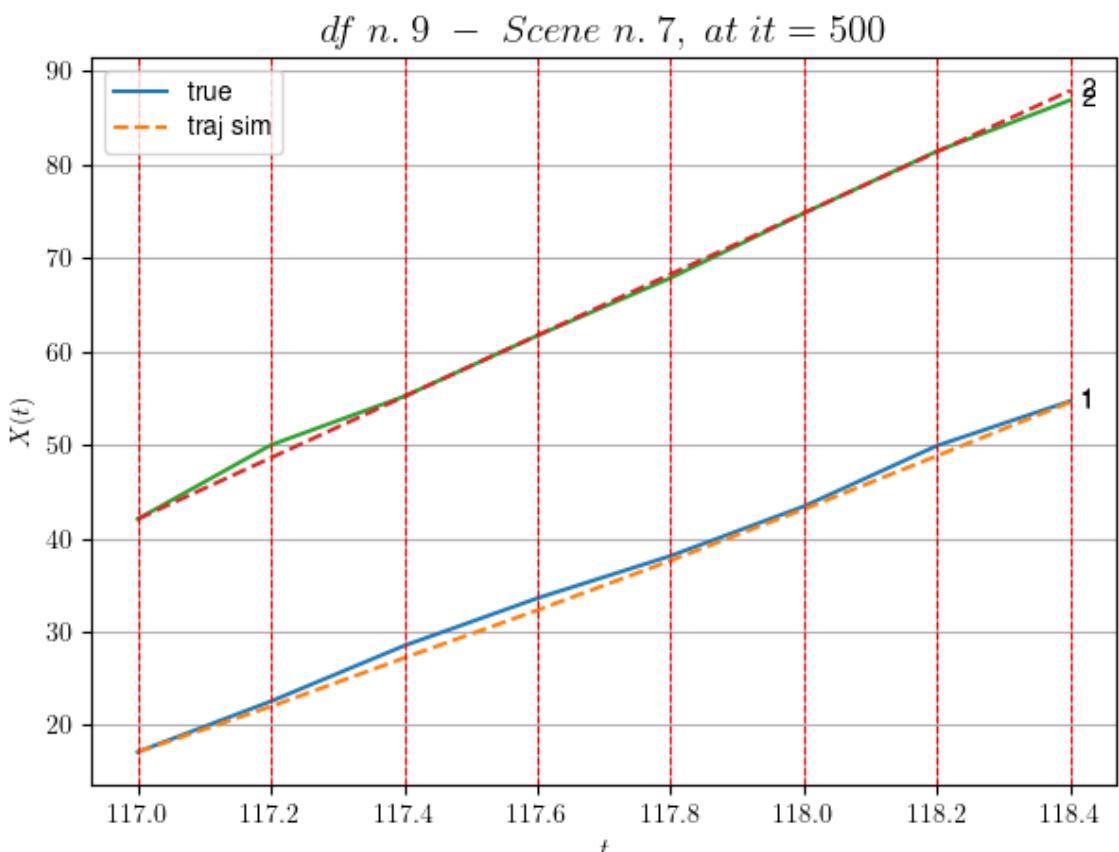
```
- Time interval n.5: [118.00, 118.20]
* y_true: [32.45579962]
* v_ann: [28.567737579345703, 32.74675131139]
```

---

```
- Time interval n.6: [118.20, 118.40]
* y_true: [23.86482679]
* v_ann: [28.763431549072266, 32.74675131139]
```

---

```
* err= 0.5188175936917043
* Learning rate NN = 2.541864660088322e-06
* diff = 0.0014797887887110228
```

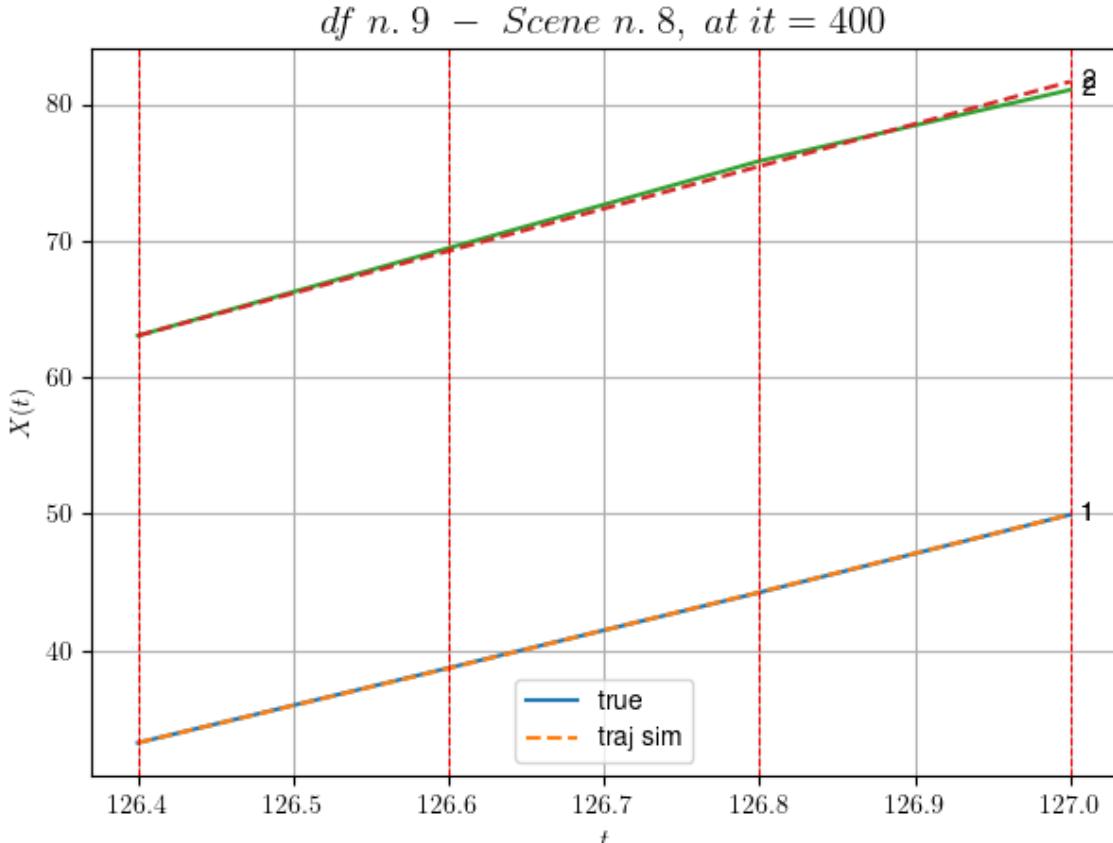


For scene 7/33

```
* use LR_NN=1e-05 with err=2.9322301223592153 at it=24
* v0_scn_mean = 32.636881258955306
* MAE = 0.5182829862502397
```

```
df n.9, scene n.8/33
=====
```

```
We have 3 time intervals inside [126.40,127.00]
* err= 0.06969479301329032
* Learning rate NN = 3.2804993679746985e-05
* diff = 1.2515910280397335e-08
```



For scene 8/33

```
* use LR_NN=5e-05 with err=0.10072506368430598 at it=24
* v0_scn_mean = 30.962134965753556
* MAE = 0.06378431785112404
```

```
df n.9, scene n.9/33
=====
```

```
We have 6 time intervals inside [129.80,131.00]
```

- Time interval n.0: [129.80, 130.00]
  - \* y\_true: [25.09153851]
  - \* v\_ann: [21.3132266998291, 25.485804967815255]

- Time interval n.1: [130.00, 130.20]
  - \* y\_true: [21.96260078]
  - \* v\_ann: [22.099403381347656, 25.485804967815255]

- Time interval n.2: [130.20, 130.40]  
 \* y\_true: [20.15999275]  
 \* v\_ann: [24.679452896118164, 25.485804967815255]

---

- Time interval n.3: [130.40, 130.60]  
 \* y\_true: [23.27663555]  
 \* v\_ann: [23.822362899780273, 25.485804967815255]

---

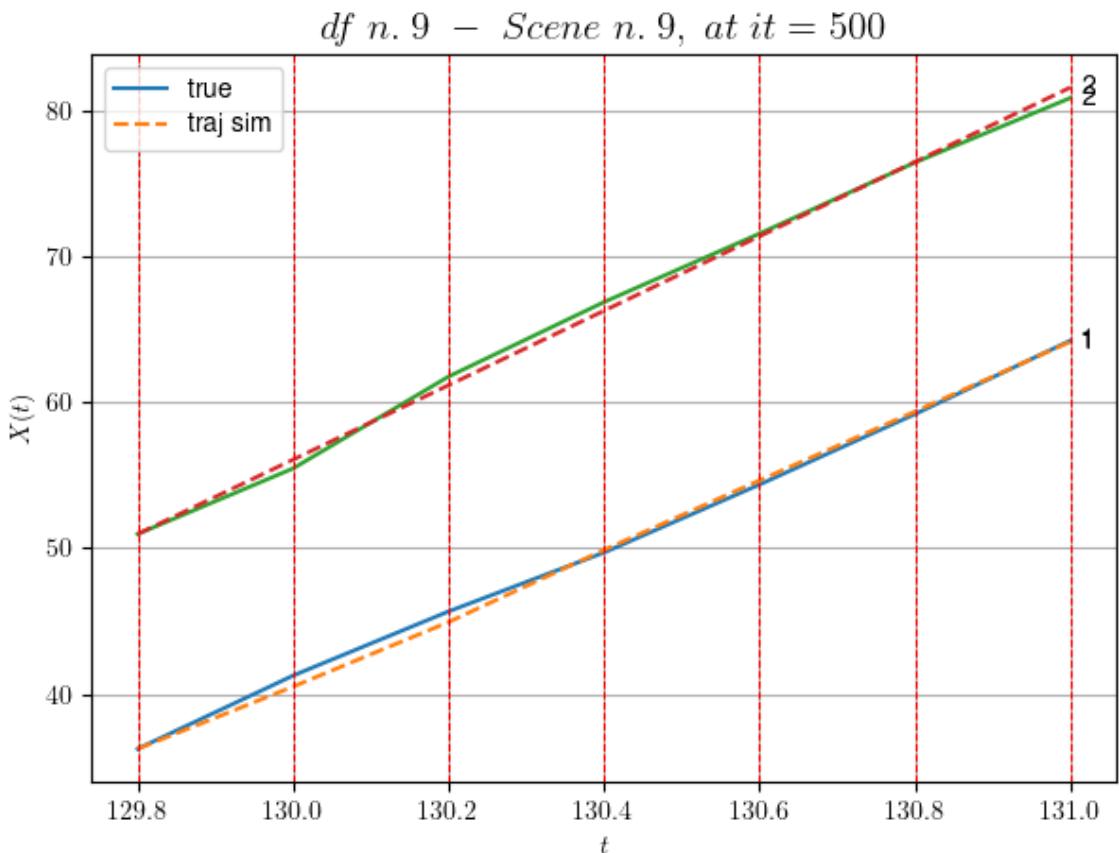
- Time interval n.4: [130.60, 130.80]  
 \* y\_true: [24.11460384]  
 \* v\_ann: [23.58132553100586, 25.485804967815255]

---

- Time interval n.5: [130.80, 131.00]  
 \* y\_true: [25.18866754]  
 \* v\_ann: [23.914640426635742, 25.485804967815255]

---

\* err= 0.20480934329304534  
 \* Learning rate NN = 0.00031381050939671695  
 \* diff = 0.002290164167808195



For scene 9/33

\* use LR\_NN=0.001 with err=5.6705523750129485 at it=24  
 \* v0\_scn\_mean = 25.666372769068097  
 \* MAE = 0.18585884217014903

---

=====

df n.9, scene n.10/33

=====

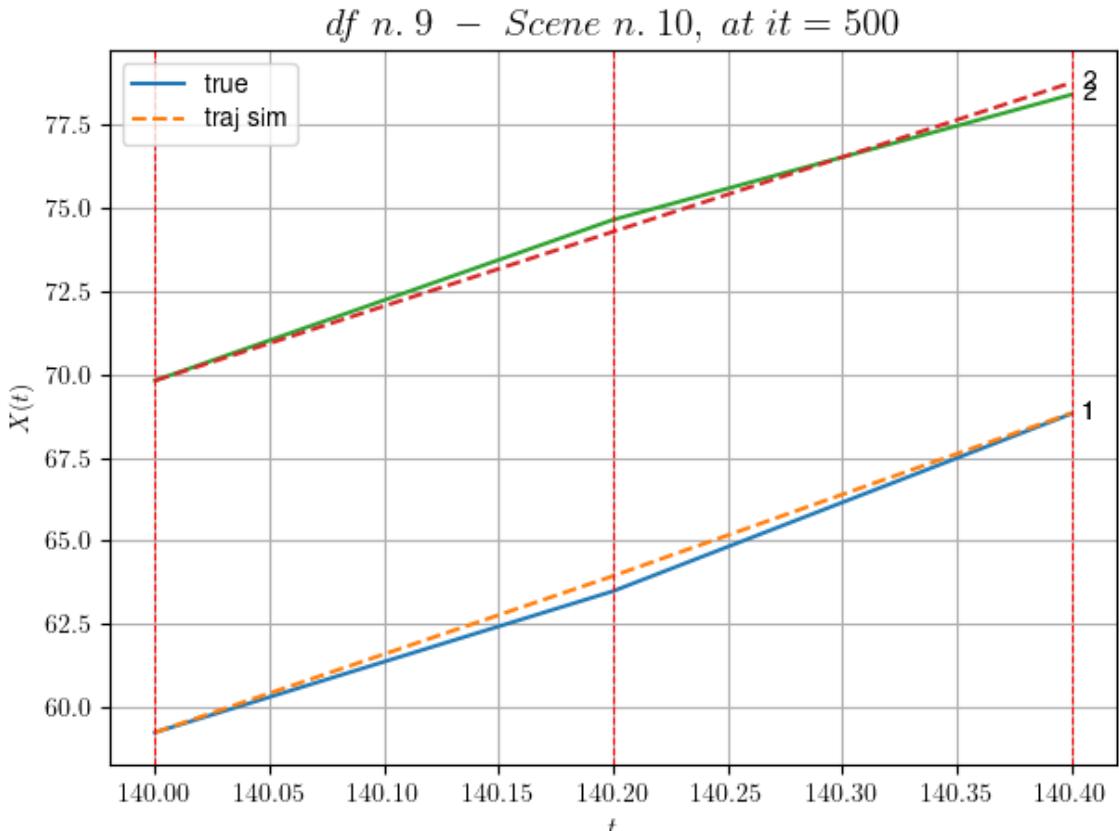
We have 2 time intervals inside [140.00, 140.40]

- Time interval n.0: [140.00, 140.20]
  - \* y\_true: [21.21233893]
  - \* v\_ann: [23.491619110107422, 22.365188336411403]

- Time interval n.1: [140.20, 140.40]

- \* y\_true: [26.63314751]
- \* v\_ann: [24.45899200439453, 22.365188336411403]

\* err= 0.07734225926858074  
\* Learning rate NN = 7.289998757187277e-05  
\* diff = 4.65341984581813e-06



For scene 10/33

- \* use LR\_NN=0.0001 with err=2.198561877078712 at it=24
- \* v0\_scn\_mean = 22.670580802896936
- \* MAE = 0.07706220859022157

=====

df n.9, scene n.11/33

=====

```
=====
We have 2 time intervals inside [143.60,144.00]
- Time interval n.0: [143.60, 143.80]
 * y_true: [21.99451945]
 * v_ann: [26.81011199951172, 27.476067876169346]
```

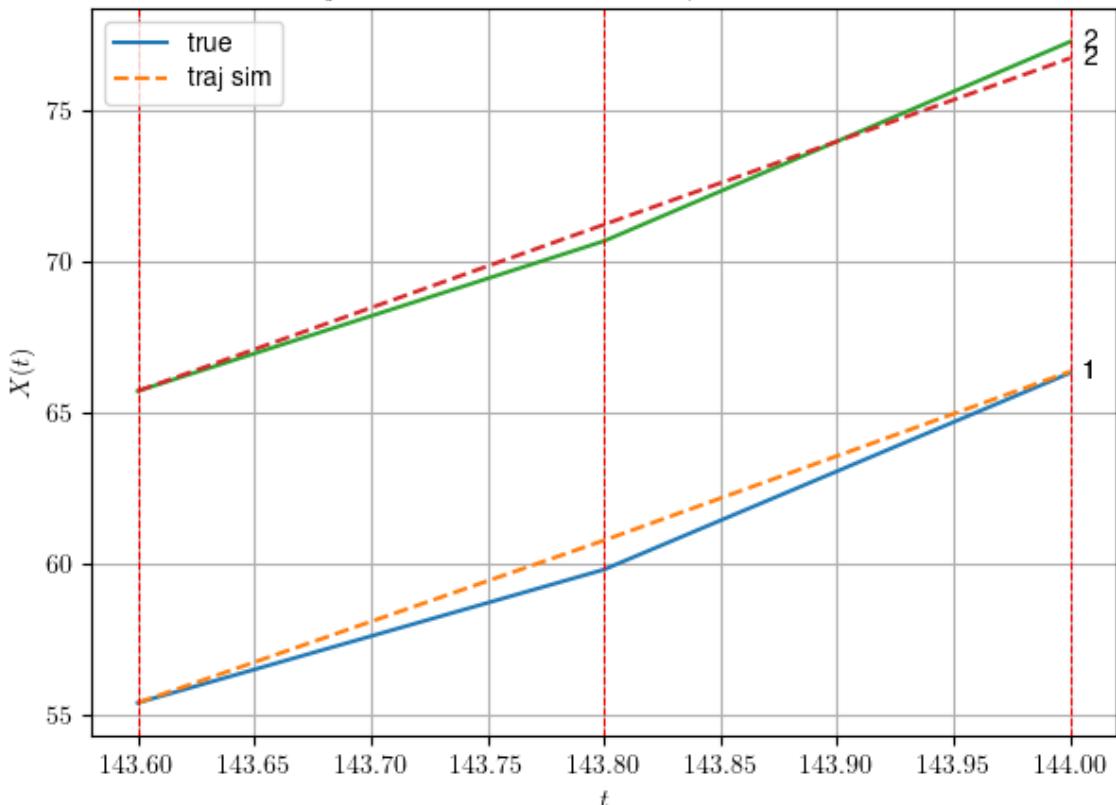
```

- Time interval n.1: [143.80, 144.00]
 * y_true: [32.47370265]
 * v_ann: [27.87208366394043, 27.476067876169346]
```

```

* err= 0.25375418360850993
* Learning rate NN = 3.6449993785936385e-05
* diff = 7.857058010707352e-06
```

*df n. 9 – Scene n. 11, at it = 500*



```
For scene 11/33
* use LR_NN=5e-05 with err=0.34799613013592595 at it=24
* v0_scn_mean = 27.57702516110391
* MAE = 0.22488605200782125
```

---



---

*df n.9, scene n.12/33*

---



---

```
=====
We have 2 time intervals inside [153.60,154.00]
- Time interval n.0: [153.60, 153.80]
 * y_true: [25.49025935]
 * v_ann: [28.302091598510742, 26.67035901994437]
```

```

- Time interval n.1: [153.80, 154.00]

* y_true: [31.45259948]

* v_ann: [28.68208885192871, 26.67035901994437]

```

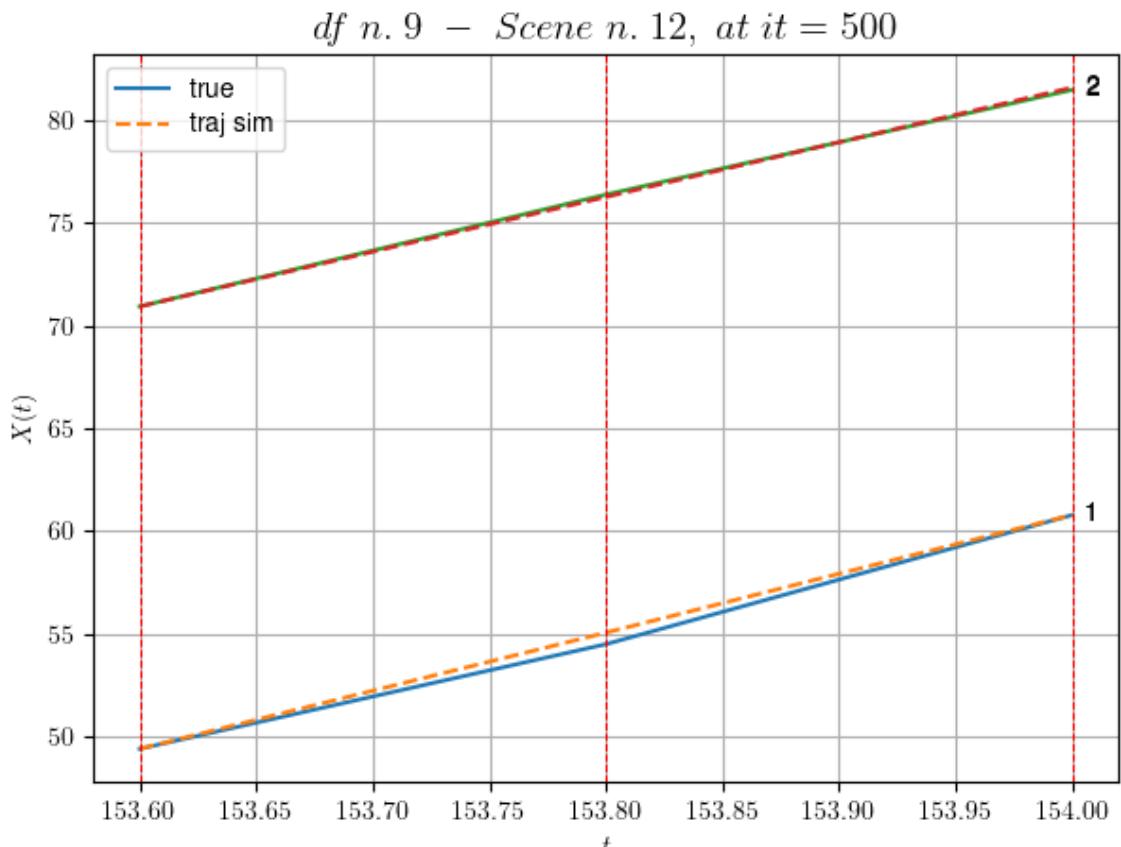
```

* err= 0.05736827791222427

* Learning rate NN = 7.289998848136747e-06

* diff = 7.654158966578783e-06

```



```

For scene 12/33

* use LR_NN=1e-05 with err=0.44231442501952223 at it=24

* v0_scn_mean = 26.803544659121325

* MAE = 0.05725975050049304
=====
```

```
df n.9, scene n.13/33
=====
```

```

We have 5 time intervals inside [155.40,156.40]

- Time interval n.0: [155.40, 155.60]

* y_true: [29.25651225]

* v_ann: [32.19292449951172, 25.42352154213608]

```

```

- Time interval n.1: [155.60, 155.80]

* y_true: [27.27414917]

```

```
* v_ann: [31.444849014282227, 25.42352154213608]
```

---

```
- Time interval n.2: [155.80, 156.00]
* y_true: [30.96998359]
* v_ann: [30.516246795654297, 25.42352154213608]
```

---

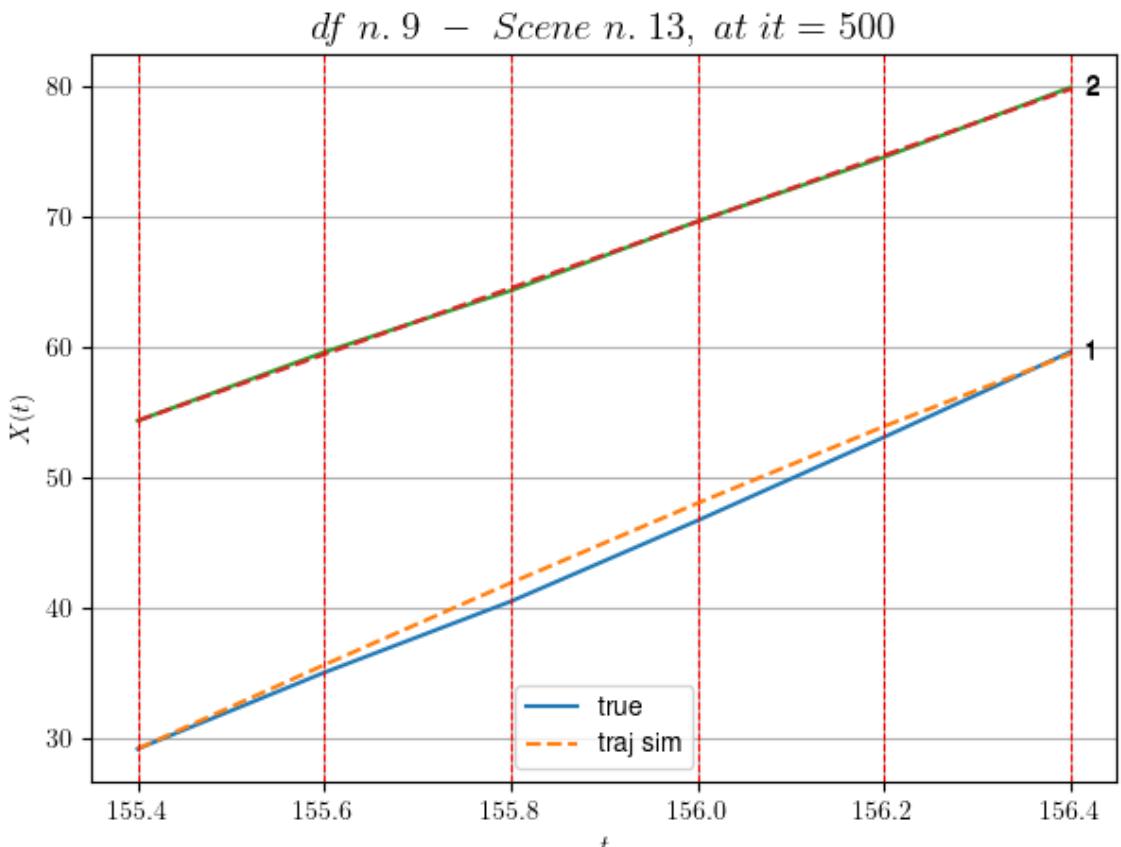
```
- Time interval n.3: [156.00, 156.20]
* y_true: [31.99883945]
* v_ann: [29.46510124206543, 25.42352154213608]
```

---

```
- Time interval n.4: [156.20, 156.40]
* y_true: [32.69834345]
* v_ann: [27.721540451049805, 25.42352154213608]
```

---

```
* err= 0.4124566815372964
* Learning rate NN = 3.874203684972599e-06
* diff = 0.0004961653625643048
```



For scene 13/33

```
* use LR_NN=1e-05 with err=4.211427018362793 at it=24
* v0_scn_mean = 25.606580680415362
* MAE = 0.41171594259583244
```

```
df n.9, scene n.14/33
=====
=====
We have 6 time intervals inside [161.60,162.80]
- Time interval n.0: [161.60, 161.80]
 * y_true: [21.4660985]
 * v_ann: [16.53942108154297, 22.164023913692947]

- Time interval n.1: [161.80, 162.00]
 * y_true: [19.14413932]
 * v_ann: [17.45857810974121, 22.164023913692947]

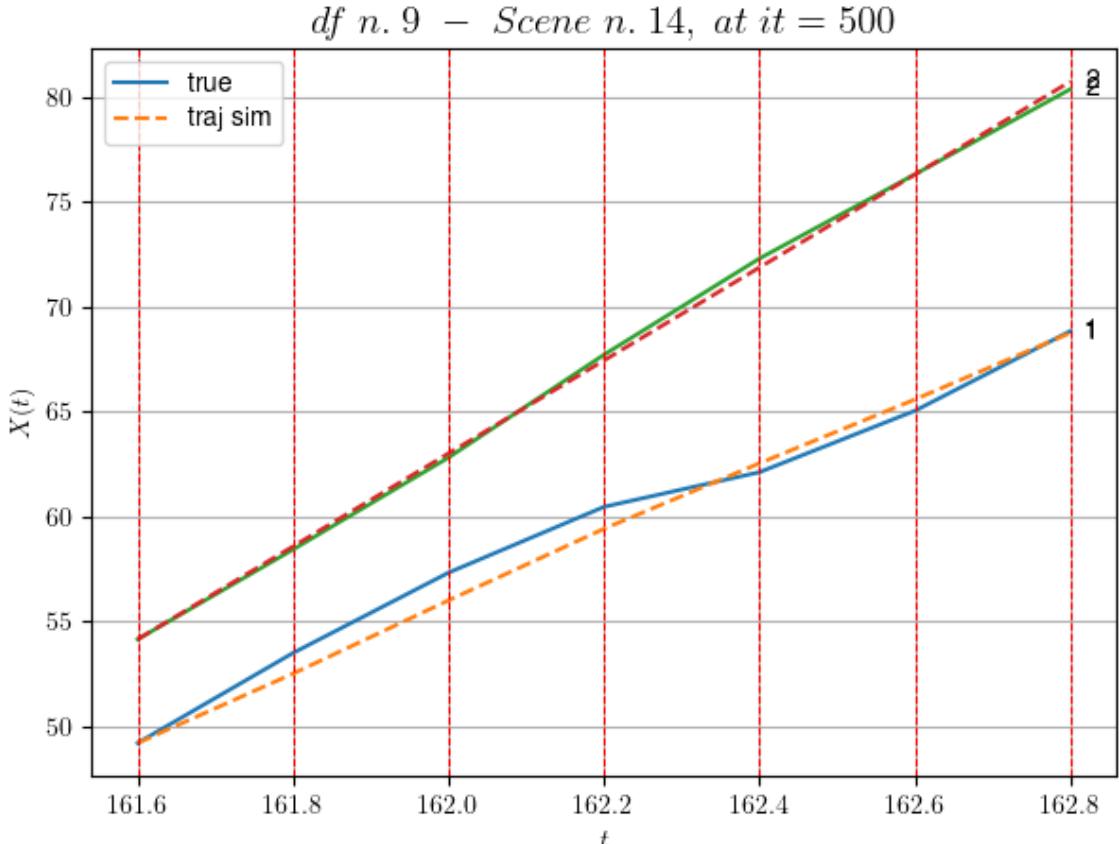
- Time interval n.2: [162.00, 162.20]
 * y_true: [15.69105389]
 * v_ann: [17.06988525390625, 22.164023913692947]

- Time interval n.3: [162.20, 162.40]
 * y_true: [8.26260071]
 * v_ann: [15.617818832397461, 22.164023913692947]

- Time interval n.4: [162.40, 162.60]
 * y_true: [14.64714542]
 * v_ann: [15.223130226135254, 22.164023913692947]

- Time interval n.5: [162.60, 162.80]
 * y_true: [18.99114557]
 * v_ann: [15.857730865478516, 22.164023913692947]

* err= 0.3389114809777
* Learning rate NN = 0.00031381050939671695
* diff = 0.023668011328793703
```



For scene 14/33

- \* use LR\_NN=0.001 with err=19.58468291250644 at it=24
- \* v0\_scn\_mean = 22.477462957085763
- \* MAE = 0.3389114809777

---



---

df n.9, scene n.15/33

---



---

We have 7 time intervals inside [165.60, 167.00]

- Time interval n.0: [165.60, 165.80]
  - \* y\_true: [5.80515552]
  - \* v\_ann: [9.689736366271973, 15.549223069343494]

---

- Time interval n.1: [165.80, 166.00]
  - \* y\_true: [13.42041723]
  - \* v\_ann: [9.839570999145508, 15.549223069343494]

---

- Time interval n.2: [166.00, 166.20]
  - \* y\_true: [9.84291222]
  - \* v\_ann: [10.029153823852539, 15.549223069343494]

---

- Time interval n.3: [166.20, 166.40]
  - \* y\_true: [13.55227269]

```
* v_ann: [10.363840103149414, 15.549223069343494]
```

---

```
- Time interval n.4: [166.40, 166.60]
* y_true: [10.52668652]
* v_ann: [10.483726501464844, 15.549223069343494]
```

---

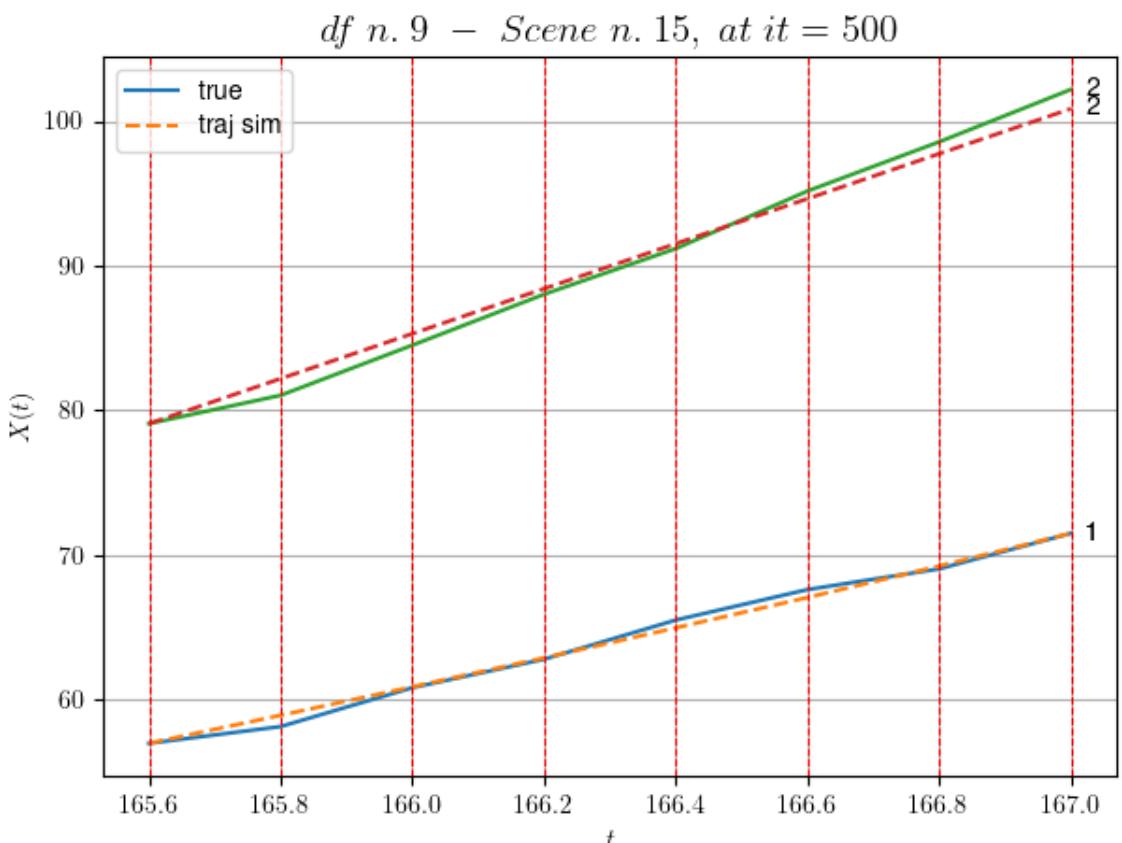
```
- Time interval n.5: [166.60, 166.80]
* y_true: [7.16363747]
* v_ann: [10.893010139465332, 15.549223069343494]
```

---

```
- Time interval n.6: [166.80, 167.00]
* y_true: [12.29236678]
* v_ann: [11.289365768432617, 15.549223069343494]
```

---

```
* err= 0.3883958278499681
* Learning rate NN = 2.541864660088322e-06
* diff = 2.773452238236107e-05
```



For scene 15/33

```
* use LR_NN=1e-05 with err=69.3234135449382 at it=24
* v0_scn_mean = 16.127254146459457
* MAE = 0.3294073975202959
```

```
df n.9, scene n.16/33
```

```
=====
=====
```

We have 18 time intervals inside [172.60,176.20]  
- Time interval n.0: [172.60, 172.80]  
  \* y\_true: [7.57017038]  
  \* v\_ann: [12.133942604064941, 7.5796009487189036]

```


```

- Time interval n.1: [172.80, 173.00]  
  \* y\_true: [5.21712635]  
  \* v\_ann: [11.82004165649414, 7.5796009487189036]

```


```

- Time interval n.2: [173.00, 173.20]  
  \* y\_true: [10.96479034]  
  \* v\_ann: [11.419931411743164, 7.5796009487189036]

```


```

- Time interval n.3: [173.20, 173.40]  
  \* y\_true: [4.35762504]  
  \* v\_ann: [11.325848579406738, 7.5796009487189036]

```


```

- Time interval n.4: [173.40, 173.60]  
  \* y\_true: [7.62623256]  
  \* v\_ann: [10.864712715148926, 7.5796009487189036]

```


```

- Time interval n.5: [173.60, 173.80]  
  \* y\_true: [6.3217065]  
  \* v\_ann: [10.598395347595215, 7.5796009487189036]

```


```

- Time interval n.6: [173.80, 174.00]  
  \* y\_true: [13.07932963]  
  \* v\_ann: [10.327431678771973, 7.5796009487189036]

```


```

- Time interval n.7: [174.00, 174.20]  
  \* y\_true: [16.80719294]  
  \* v\_ann: [10.418182373046875, 7.5796009487189036]

```


```

- Time interval n.8: [174.20, 174.40]  
  \* y\_true: [18.56108748]  
  \* v\_ann: [10.62047004699707, 7.5796009487189036]

```


```

- Time interval n.9: [174.40, 174.60]

```
* y_true: [20.74045442]
* v_ann: [10.740708351135254, 7.5796009487189036]

- Time interval n.10: [174.60, 174.80]
* y_true: [19.75285314]
* v_ann: [10.730648040771484, 7.5796009487189036]

- Time interval n.11: [174.80, 175.00]
* y_true: [15.57181965]
* v_ann: [10.557811737060547, 7.5796009487189036]

- Time interval n.12: [175.00, 175.20]
* y_true: [17.64022945]
* v_ann: [10.42453670501709, 7.5796009487189036]

- Time interval n.13: [175.20, 175.40]
* y_true: [18.20175175]
* v_ann: [10.497321128845215, 7.5796009487189036]

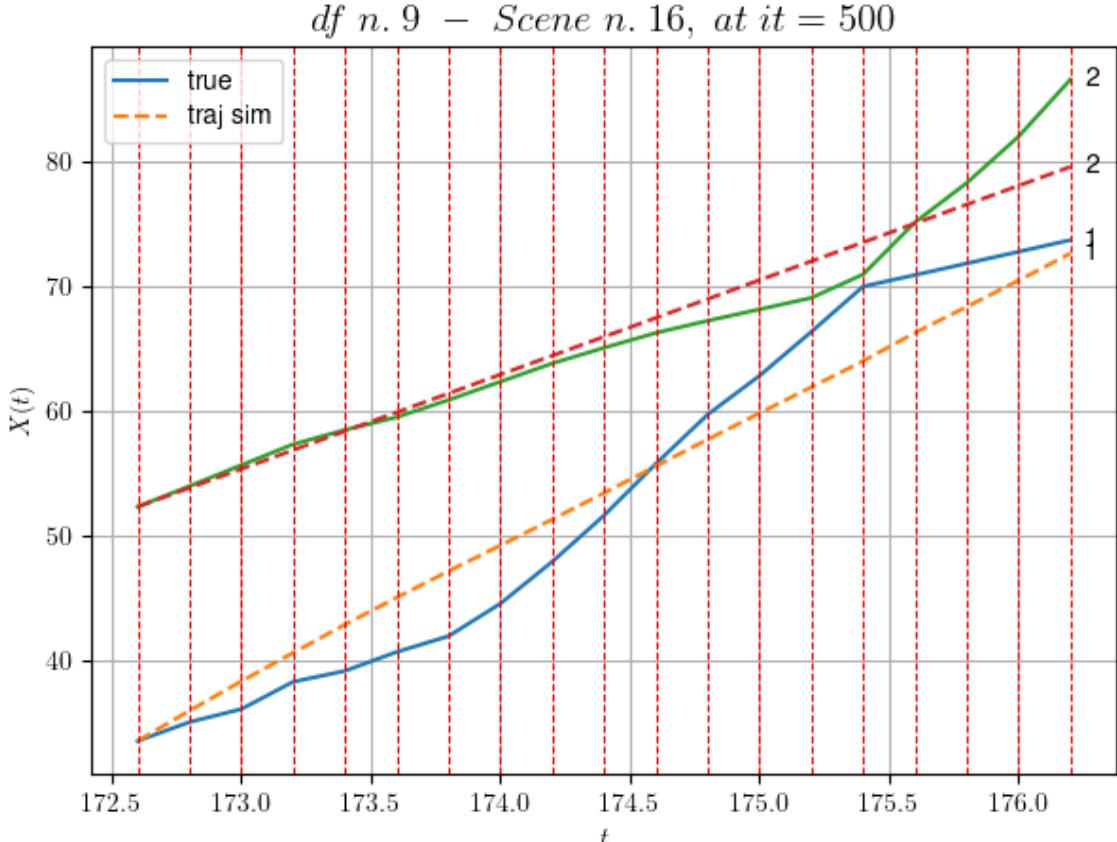
- Time interval n.14: [175.40, 175.60]
* y_true: [4.59061013]
* v_ann: [11.324906349182129, 7.5796009487189036]

- Time interval n.15: [175.60, 175.80]
* y_true: [4.66662748]
* v_ann: [10.455751419067383, 7.5796009487189036]

- Time interval n.16: [175.80, 176.00]
* y_true: [4.68563182]
* v_ann: [10.554618835449219, 7.5796009487189036]

- Time interval n.17: [176.00, 176.20]
* y_true: [4.68563182]
* v_ann: [10.836104393005371, 7.5796009487189036]

* err= 8.209249834736355
* Learning rate NN = 2.5031531549757347e-05
* diff = 0.1020173524170110
```



For scene 16/33

- \* use LR\_NN=0.001 with err=1108.8528662413025 at it=24
- \* v0\_scn\_mean = 8.476416910598848
- \* MAE = 8.200017690438717

---



---

df n.9, scene n.17/33

---



---

We have 16 time intervals inside [186.20, 189.40]

- Time interval n.0: [186.20, 186.40]
  - \* y\_true: [1.63882191]
  - \* v\_ann: [5.418634414672852, 1.6231210654495436]

---

- Time interval n.1: [186.40, 186.60]
  - \* y\_true: [1.63882191]
  - \* v\_ann: [5.426738739013672, 1.6231210654495436]

---

- Time interval n.2: [186.60, 186.80]
  - \* y\_true: [1.63882191]
  - \* v\_ann: [5.434866428375244, 1.6231210654495436]

---

- Time interval n.3: [186.80, 187.00]
  - \* y\_true: [1.63882191]

\* v\_ann: [5.443017959594727, 1.6231210654495436]

- Time interval n.4: [187.00, 187.20]  
\* y\_true: [1.63882191]  
\* v\_ann: [5.4511919021606445, 1.6231210654495436]

- Time interval n.5: [187.20, 187.40]  
\* y\_true: [1.63882191]  
\* v\_ann: [5.459390163421631, 1.6231210654495436]

- Time interval n.6: [187.40, 187.60]  
\* y\_true: [1.63882191]  
\* v\_ann: [5.467611312866211, 1.6231210654495436]

- Time interval n.7: [187.60, 187.80]  
\* y\_true: [1.63882191]  
\* v\_ann: [5.475856781005859, 1.6231210654495436]

- Time interval n.8: [187.80, 188.00]  
\* y\_true: [5.75855569]  
\* v\_ann: [5.48412561416626, 1.6231210654495436]

- Time interval n.9: [188.00, 188.20]  
\* y\_true: [16.01304244]  
\* v\_ann: [5.667425155639648, 1.6231210654495436]

- Time interval n.10: [188.20, 188.40]  
\* y\_true: [19.22001446]  
\* v\_ann: [6.303522109985352, 1.6231210654495436]

- Time interval n.11: [188.40, 188.60]  
\* y\_true: [19.01536942]  
\* v\_ann: [7.127670764923096, 1.6231210654495436]

- Time interval n.12: [188.60, 188.80]  
\* y\_true: [14.56662243]  
\* v\_ann: [8.083996772766113, 1.6231210654495436]

- Time interval n.13: [188.80, 189.00]  
\* y\_true: [14.35212246]

```
* v_ann: [9.060530662536621, 1.6231210654495436]
```

---

```
- Time interval n.14: [189.00, 189.20]
```

```
* y_true: [5.21247894]
```

```
* v_ann: [11.229752540588379, 1.6231210654495436]
```

---

```
- Time interval n.15: [189.20, 189.40]
```

```
* y_true: [1.37332387]
```

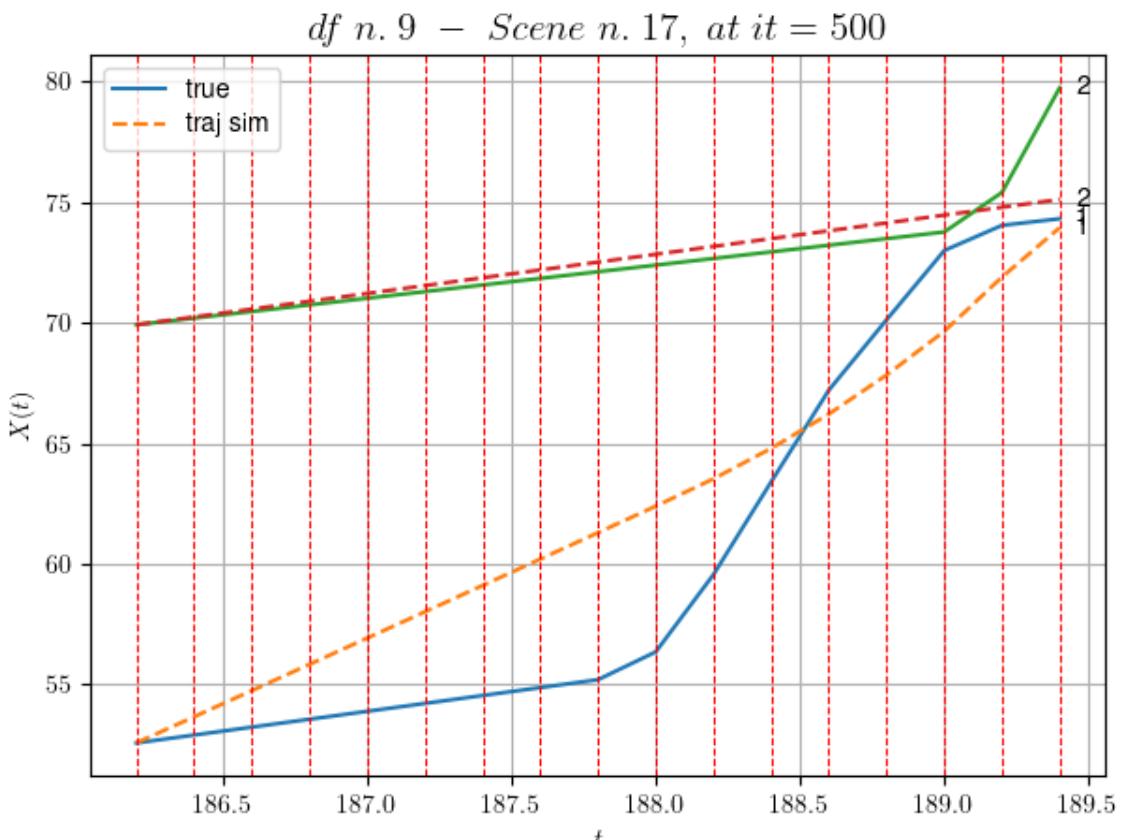
```
* v_ann: [10.239765167236328, 1.6231210654495436]
```

---

```
* err= 6.428111911552352
```

```
* Learning rate NN = 3.81520123937662e-07
```

```
* diff = 0.0026505596635493234
```



For scene 17/33

```
* use LR_NN=1e-05 with err=1417.7702091675123 at it=24
```

```
* v0_scn_mean = 2.758196222614708
```

```
* MAE = 6.428111911552352
```

---



---



---

df n.9, scene n.18/33

---



---



---



---



---



---

We have 5 time intervals inside [191.20,192.20]

---



---



---

- Time interval n.0: [191.20, 191.40]

```
* y_true: [9.81240437]
* v_ann: [9.379501342773438, 9.117095848783483]
```

```
- Time interval n.1: [191.40, 191.60]
```

```
* y_true: [8.00871891]
```

```
* v_ann: [9.414677619934082, 9.117095848783483]
```

```
- Time interval n.2: [191.60, 191.80]
```

```
* y_true: [8.49713355]
```

```
* v_ann: [9.299532890319824, 9.117095848783483]
```

```
- Time interval n.3: [191.80, 192.00]
```

```
* y_true: [10.45079211]
```

```
* v_ann: [9.233314514160156, 9.117095848783483]
```

```
- Time interval n.4: [192.00, 192.20]
```

```
* y_true: [9.87700033]
```

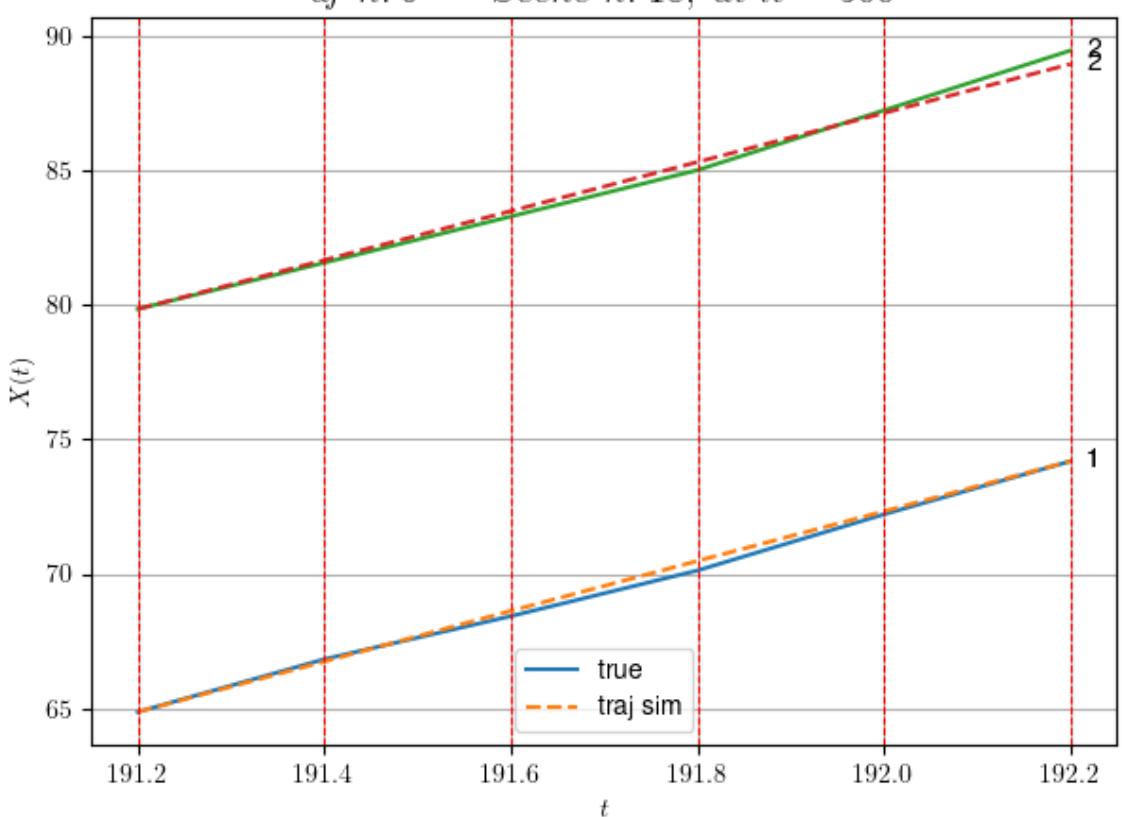
```
* v_ann: [9.333695411682129, 9.117095848783483]
```

```
* err= 0.04916989986429847
```

```
* Learning rate NN = 3.874203684972599e-05
```

```
* diff = 0.00010652520111028707
```

*df n. 9 – Scene n. 18, at it = 500*



For scene 18/33

```
* use LR_NN=0.0001 with err=78.94716943625109 at it=24
* v0_scn_mean = 9.952412014672616
* MAE = 0.047408119675502874
```

---



---

df n.9, scene n.19/33

---



---

```
We have 2 time intervals inside [195.00,195.40]
- Time interval n.0: [195.00, 195.20]
 * y_true: [15.29426248]
 * v_ann: [17.896841049194336, 26.77481390978863]
```

---



---

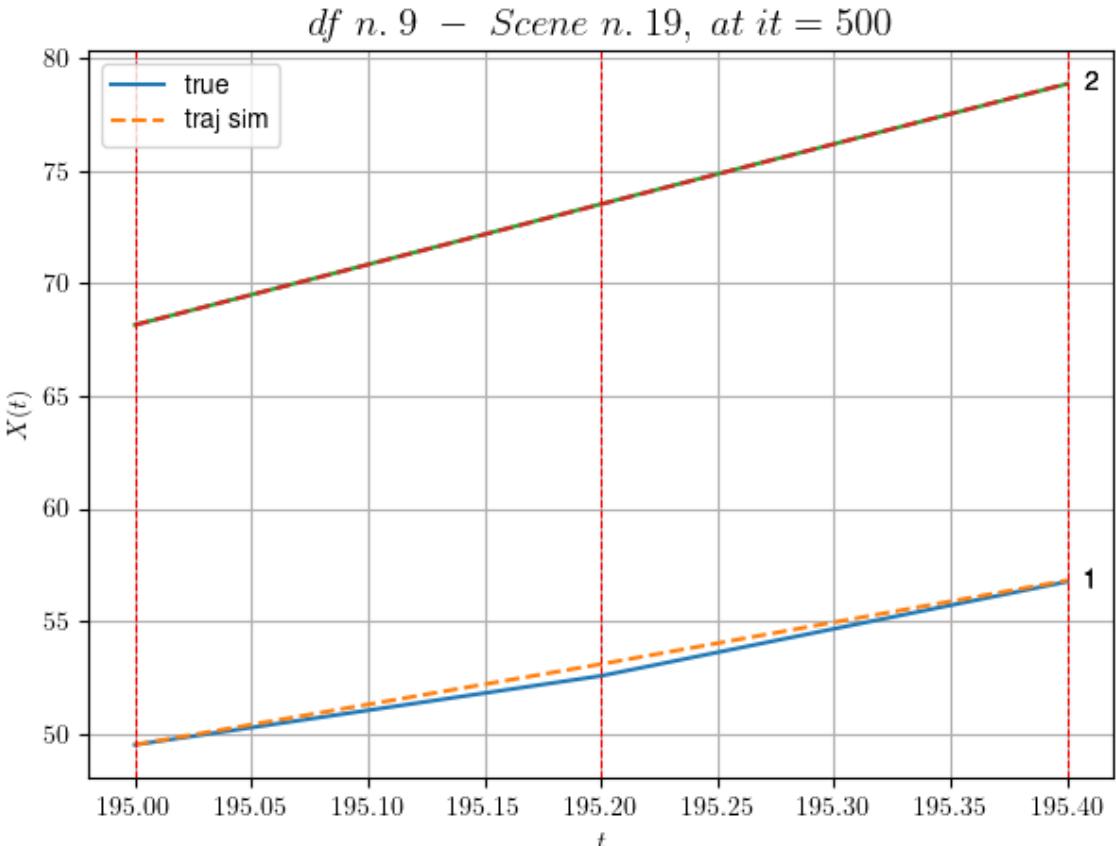
```
- Time interval n.1: [195.20, 195.40]
 * y_true: [20.89286113]
 * v_ann: [18.585084915161133, 26.77481390978863]
```

---



---

```
* err= 0.04579168137615884
* Learning rate NN = 3.6449993785936385e-05
* diff = 0 0001000258421663775
```



For scene 19/33

```
* use LR_NN=5e-05 with err=0.3746766911193671 at it=24
* v0_scn_mean = 26.903821353372216
* MAE = 0.04521376669895619
```

---



---

=====

df n.9, scene n.20/33

=====

We have 6 time intervals inside [197.60, 198.80]

- Time interval n.0: [197.60, 197.80]
  - \* y\_true: [25.64680127]
  - \* v\_ann: [25.249797821044922, 19.310295514409194]
- Time interval n.1: [197.80, 198.00]
  - \* y\_true: [20.34731781]
  - \* v\_ann: [22.631362915039062, 19.310295514409194]
- Time interval n.2: [198.00, 198.20]
  - \* y\_true: [20.0662913]
  - \* v\_ann: [20.531147003173828, 19.310295514409194]
- Time interval n.3: [198.20, 198.40]
  - \* y\_true: [20.76944104]
  - \* v\_ann: [19.72455596923828, 19.310295514409194]
- Time interval n.4: [198.40, 198.60]
  - \* y\_true: [18.04411059]
  - \* v\_ann: [20.461191177368164, 19.310295514409194]
- Time interval n.5: [198.60, 198.80]
  - \* y\_true: [25.21812485]
  - \* v\_ann: [21.505111694335938, 19.310295514409194]

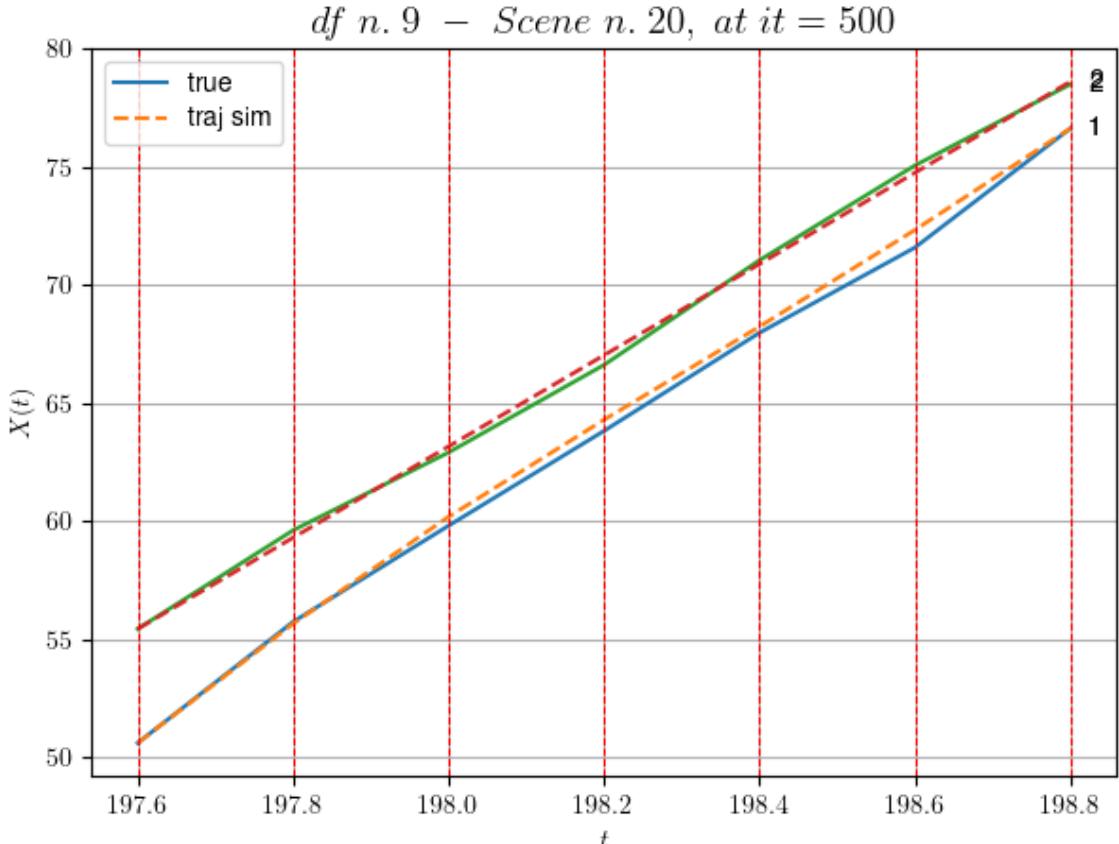
=====

\* err= 0.10416452165854917

\* Learning rate NN = 3.138104875688441e-05

\* diff = 7.350152997402659e-05

=====



For scene 20/33

- \* use LR\_NN=0.0001 with err=29.965019838909082 at it=24
- \* v0\_scn\_mean = 19.73788369375107
- \* MAE = 0.10381295557094888

---



---

df n.9, scene n.21/33

---



---

We have 12 time intervals inside [203.80, 206.20]

- Time interval n.0: [203.80, 204.00]
  - \* y\_true: [7.9642704]
  - \* v\_ann: [8.749903678894043, 17.40555771714608]

---

- Time interval n.1: [204.00, 204.20]
  - \* y\_true: [10.57855329]
  - \* v\_ann: [8.821622848510742, 17.40555771714608]

---

- Time interval n.2: [204.20, 204.40]
  - \* y\_true: [8.12921025]
  - \* v\_ann: [9.044989585876465, 17.40555771714608]

---

- Time interval n.3: [204.40, 204.60]
  - \* y\_true: [8.4807463]

```
* v_ann: [9.143135070800781, 17.40555771714608]
```

```
- Time interval n.4: [204.60, 204.80]
* y_true: [8.87567661]
* v_ann: [9.23643684387207, 17.40555771714608]
```

```
- Time interval n.5: [204.80, 205.00]
* y_true: [10.22775467]
* v_ann: [9.28877067565918, 17.40555771714608]
```

```
- Time interval n.6: [205.00, 205.20]
* y_true: [9.00303465]
* v_ann: [9.382800102233887, 17.40555771714608]
```

```
- Time interval n.7: [205.20, 205.40]
* y_true: [9.60069477]
* v_ann: [9.449384689331055, 17.40555771714608]
```

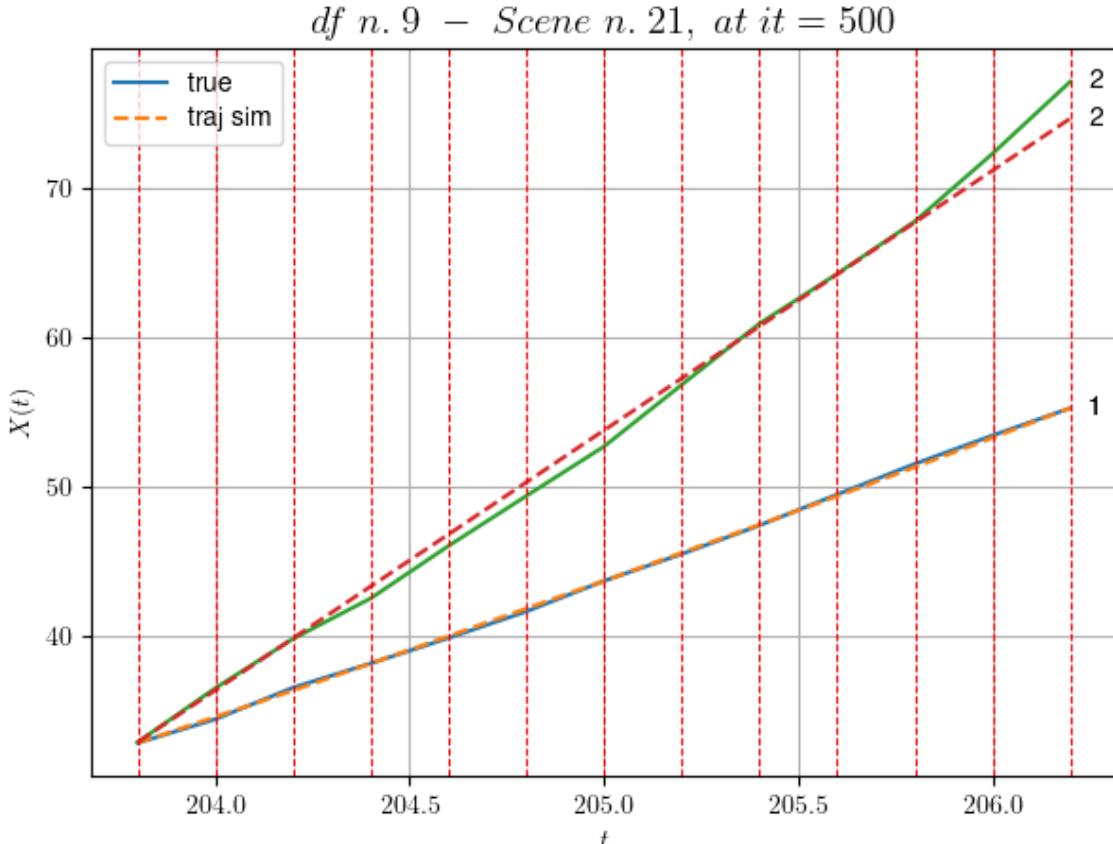
```
- Time interval n.8: [205.40, 205.60]
* y_true: [10.3608587]
* v_ann: [9.54824447631836, 17.40555771714608]
```

```
- Time interval n.9: [205.60, 205.80]
* y_true: [10.23429477]
* v_ann: [9.707636833190918, 17.40555771714608]
```

```
- Time interval n.10: [205.80, 206.00]
* y_true: [9.52209489]
* v_ann: [9.861815452575684, 17.40555771714608]
```

```
- Time interval n.11: [206.00, 206.20]
* y_true: [9.1692133]
* v_ann: [9.92813777923584, 17.40555771714608]
```

```
* err= 0.4264028160488076
* Learning rate NN = 8.862933464115486e-05
* diff = 0.0002710229117705021
```



For scene 21/33

- \* use LR\_NN=0.001 with err=156.14890574926667 at it=24
- \* v0\_scn\_mean = 17.909335408364317
- \* MAE = 0.39366516207168584

---



---

df n.9, scene n.22/33

---



---

We have 2 time intervals inside [219.80, 220.20]

- Time interval n.0: [219.80, 220.00]
  - \* y\_true: [15.58371514]
  - \* v\_ann: [14.061775207519531, 29.573992502784012]

---

- Time interval n.1: [220.00, 220.20]

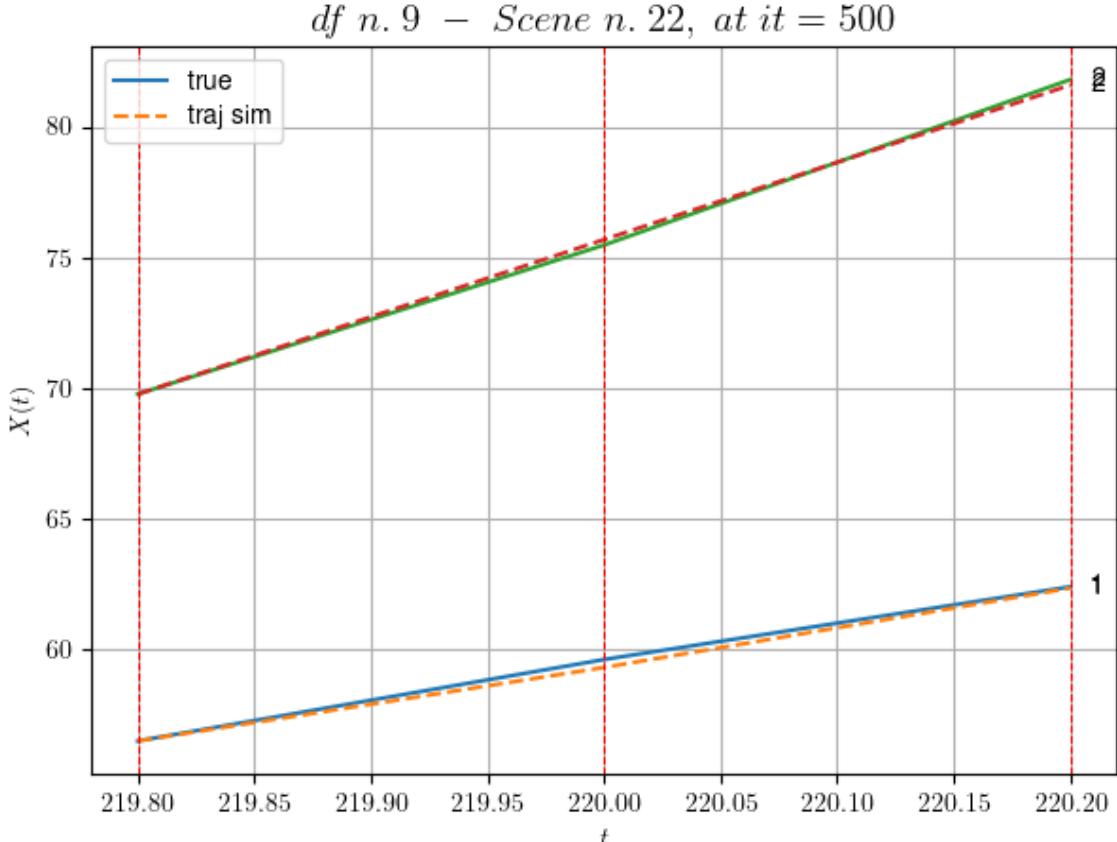
- \* y\_true: [13.92467981]
  - \* v\_ann: [15.18150520324707, 29.573992502784012]

---

- \* err= 0.030617970185620454

- \* Learning rate NN = 7.289998757187277e-05

- \* diff = 0.0001386487614971621



For scene 22/33

- \* use LR\_NN=0.0001 with err=0.05596105480405569 at it=24
- \* v0\_scn\_mean = 29.59103280267158
- \* MAE = 0.030617970185620454

---



---

df n.9, scene n.23/33

---



---

We have 4 time intervals inside [225.20, 226.00]

- Time interval n.0: [225.20, 225.40]
  - \* y\_true: [10.23803701]
  - \* v\_ann: [21.71331214904785, 24.73787660577361]

---

- Time interval n.1: [225.40, 225.60]
  - \* y\_true: [15.18402828]
  - \* v\_ann: [16.53043556213379, 24.73787660577361]

---

- Time interval n.2: [225.60, 225.80]
  - \* y\_true: [24.75572707]
  - \* v\_ann: [17.244281768798828, 24.73787660577361]

---

- Time interval n.3: [225.80, 226.00]
  - \* y\_true: [27.22613969]

```
* v_ann: [22.80831527709961, 24.73787660577361]
```

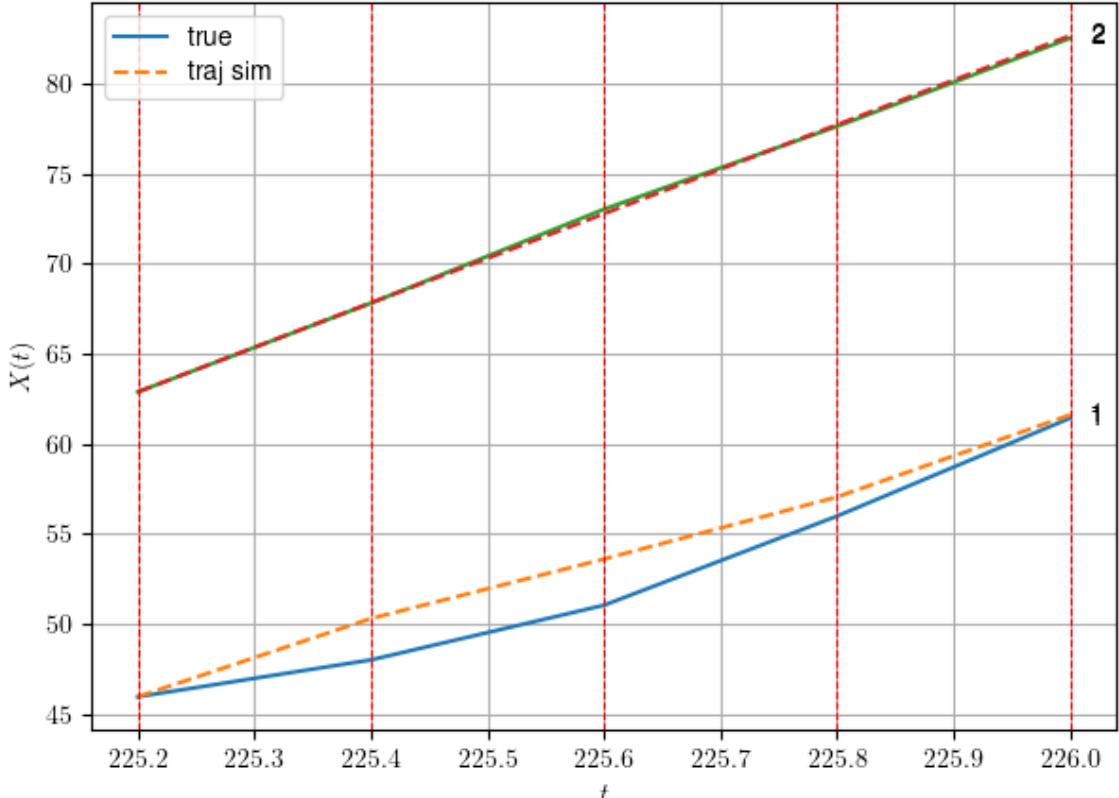
---



---

```
* err= 1.3097063543373788
* Learning rate NN = 0.000478296831715852
* diff = 0.0040324000719793585
```

*df n. 9 – Scene n. 23, at it = 500*



For scene 23/33

```
* use LR_NN=0.001 with err=3.775428460210931 at it=24
* v0_scn_mean = 24.948361541501974
* MAE = 0.4585951862439224
```

---



---

df n.9, scene n.24/33

---



---

We have 3 time intervals inside [5.40, 6.00]

- Time interval n.0: [5.40, 5.60]
  - \* y\_true: [17.46255149 32.38946228]
  - \* v\_ann: [25.142812728881836, 26.95359992980957, 29.081107080157132]

---



---

- Time interval n.1: [5.60, 5.80]
  - \* y\_true: [27.89361325 30.52270411]
  - \* v\_ann: [26.826826095581055, 26.66372299194336, 29.081107080157132]

---



---

```

- Time interval n.2: [5.80, 6.00]

* y_true: [26.75613901 28.6867411]

* v_ann: [29.801069259643555, 28.154869079589844, 2

9.081107080157132]

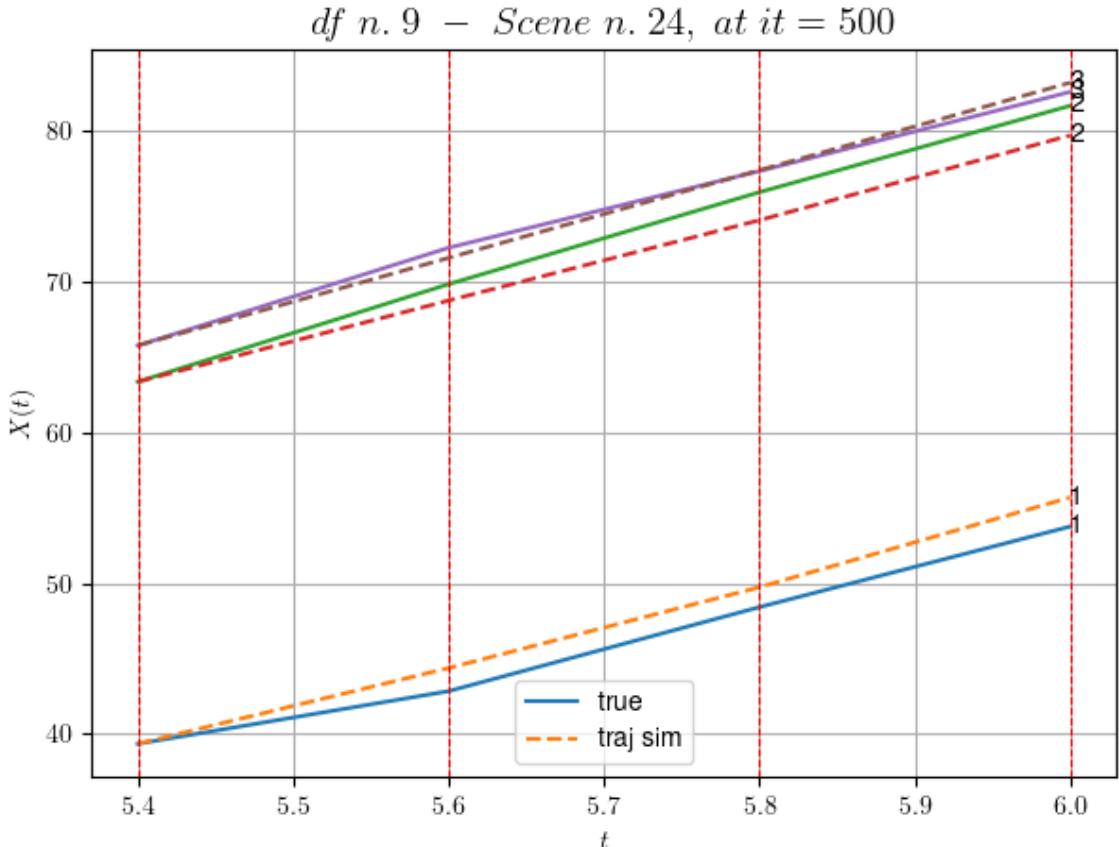
```

```

* err= 1.430812512349391

* Learning rate NN = 0.0005904899444431067

* diff = 0.0023645484714458487
```



For scene 24/33

```

* use LR_NN=0.001 with err=24.39475159918005 at it=24

* v0_scn_mean = 29.13624061409139

* MAE = 1.2207928776198795
```

```

=====

=====

df n.9, scene n.25/33
=====
```

We have 2 time intervals inside [20.80, 21.20]

```

- Time interval n.0: [20.80, 21.00]

* y_true: [29.01888251 26.46522664]

* v_ann: [27.628582000732422, 27.10983657836914, 3

2.73331157196282]
```

```

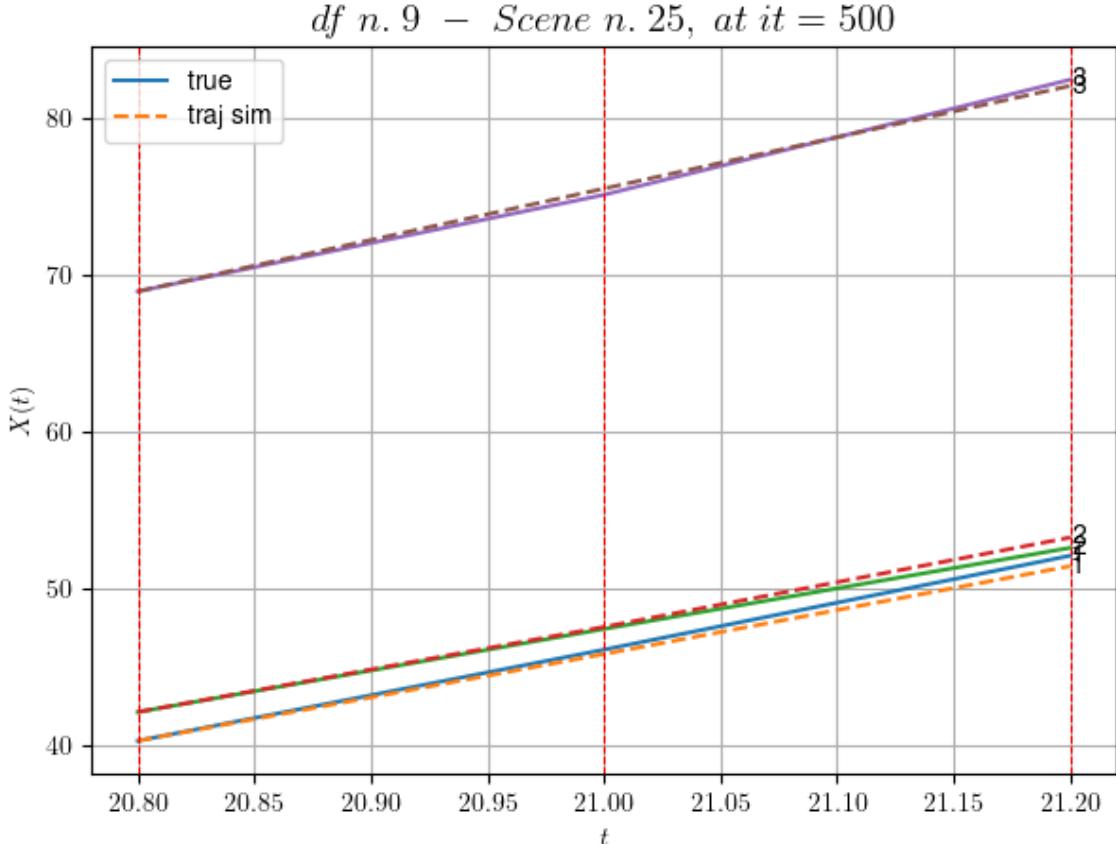
- Time interval n.1: [21.00, 21.20]

* y_true: [29.93697896 25.84808908]
```

```
* v_ann: [28.013999938964844, 28.500791549682617, 3
2.73331157196282]
```

---

```
* err= 0.14215226245701704
* Learning rate NN = 0.0007289999630302191
* diff = 0.00017523860687146398
```



For scene 25/33

```
* use LR_NN=0.001 with err=11.267678265805865 at it=24
* v0_scn_mean = 32.56931300036489
* MAE = 0.13781372668542333
```

---



---

df n.9, scene n.26/33

---



---

We have 6 time intervals inside [37.80,39.00]

- Time interval n.0: [37.80, 38.00]
  - \* y\_true: [21.35828745 27.25004814]
  - \* v\_ann: [20.617088317871094, 21.049230575561523, 2  
3.63905106929795]

---



---

- Time interval n.1: [38.00, 38.20]
  - \* y\_true: [19.23626153 17.91519282]
  - \* v\_ann: [22.726985931396484, 22.557899475097656, 2  
3.63905106929795]

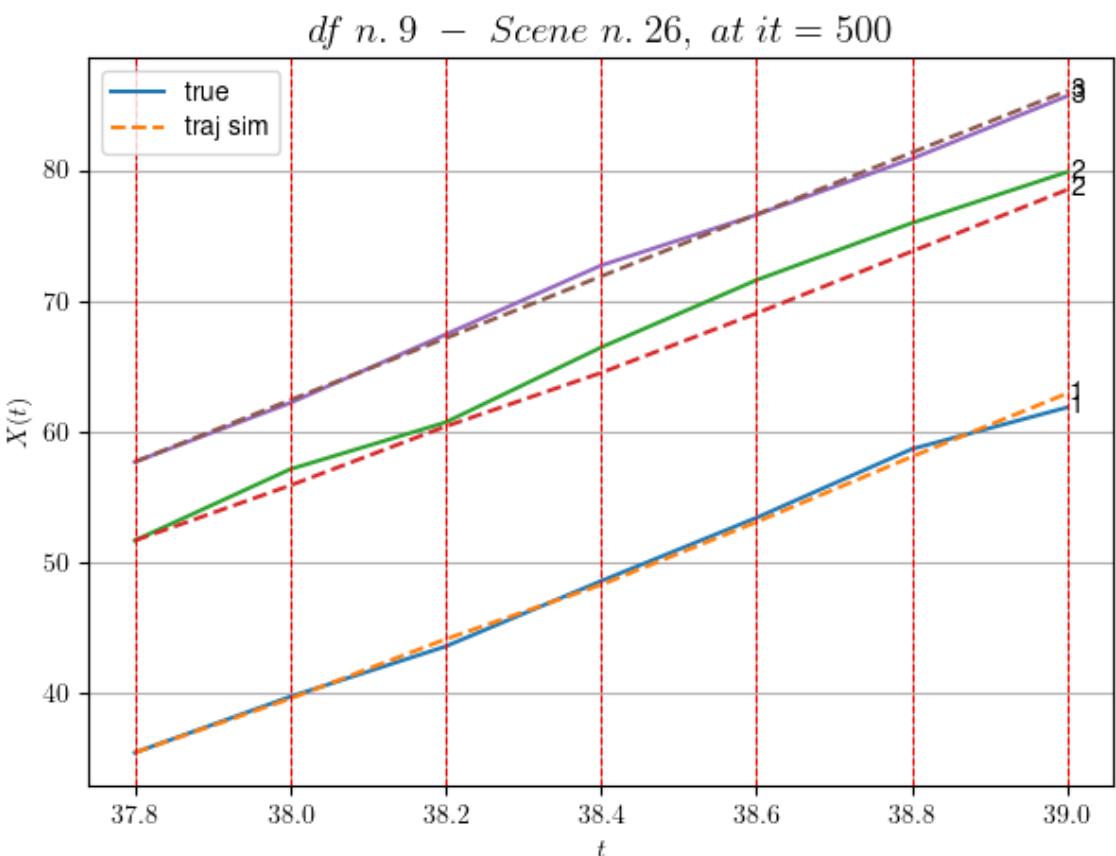
```
- Time interval n.2: [38.20, 38.40]
 * y_true: [24.96063116 28.62771944]
 * v_ann: [20.781444549560547, 20.479454040527344, 2
3.63905106929795]

- Time interval n.3: [38.40, 38.60]
 * y_true: [24.1844348 25.71934895]
 * v_ann: [23.988534927368164, 22.731101989746094, 2
3.63905106929795]

- Time interval n.4: [38.60, 38.80]
 * y_true: [26.26418379 21.80127307]
 * v_ann: [24.961519241333008, 23.66396141052246, 2
3.63905106929795]

- Time interval n.5: [38.80, 39.00]
 * y_true: [15.9216195 19.51476921]
 * v_ann: [24.217180252075195, 23.563068389892578, 2
3.63905106929795]

* err= 1.0283646891909595
* Learning rate NN = 0.00031381050939671695
* diff = 0.05333932770538219
```



For scene 26/33  
 \* use LR\_NN=0.001 with err=33.54587342333969 at it=24  
 \* v0\_scn\_mean = 24.02070771954727  
 \* MAE = 1.0160327295720186

---



---

df n.9, scene n.27/33

---

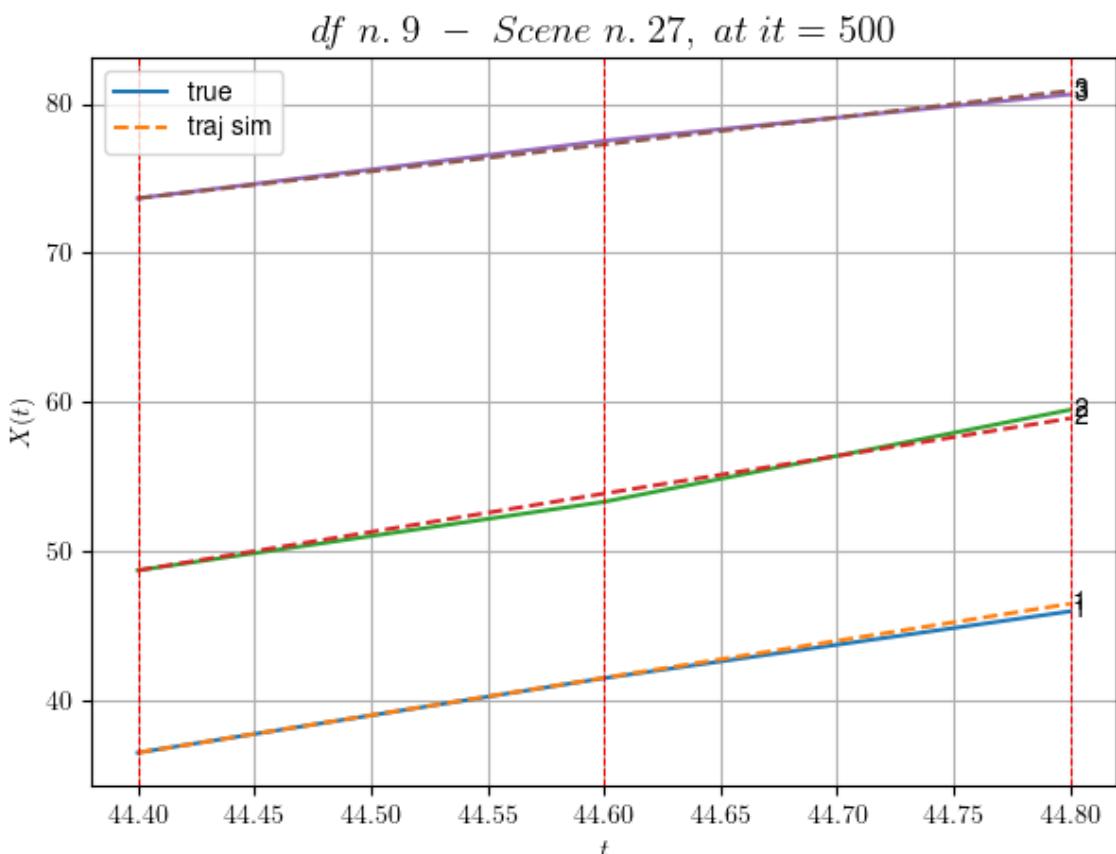


---

We have 2 time intervals inside [44.40, 44.80]  
 - Time interval n.0: [44.40, 44.60]  
   \* y\_true: [24.95803839 22.94664651]  
   \* v\_ann: [25.075822830200195, 25.72568702697754, 1  
 8.01610672050828]

- Time interval n.1: [44.60, 44.80]  
   \* y\_true: [22.38974011 30.85088397]  
   \* v\_ann: [24.81052017211914, 25.201793670654297, 1  
 8.01610672050828]

\* err= 0.1132351713730884  
 \* Learning rate NN = 3.6449993785936385e-05  
 \* diff = 0.0017312321713926215



For scene 27/33  
 \* use LR\_NN=5e-05 with err=5.34852626421386 at it=24

```
* vθ_scn_mean = 18.735139779226916
* MAE = 0.09374005157275213
```

```
=====
```

```
=====
```

```
df n.9, scene n.28/33
```

```
=====
```

```
=====
```

```
We have 3 time intervals inside [117.80,118.40]
```

```
- Time interval n.0: [117.80, 118.00]
 * y_true: [26.21501314 26.51617559]
 * v_ann: [25.136123657226562, 25.00994300842285, 3
```

```
2.94782563350103]
```

```

```

```

```

```
- Time interval n.1: [118.00, 118.20]
```

```
 * y_true: [24.27291409 32.45579962]
 * v_ann: [25.464262008666992, 25.872238159179688, 3
```

```
2.94782563350103]
```

```

```

```

```

```
- Time interval n.2: [118.20, 118.40]
```

```
 * y_true: [21.96072195 23.86482679]
 * v_ann: [25.957210540771484, 26.92022132873535, 3
```

```
2.94782563350103]
```

```

```

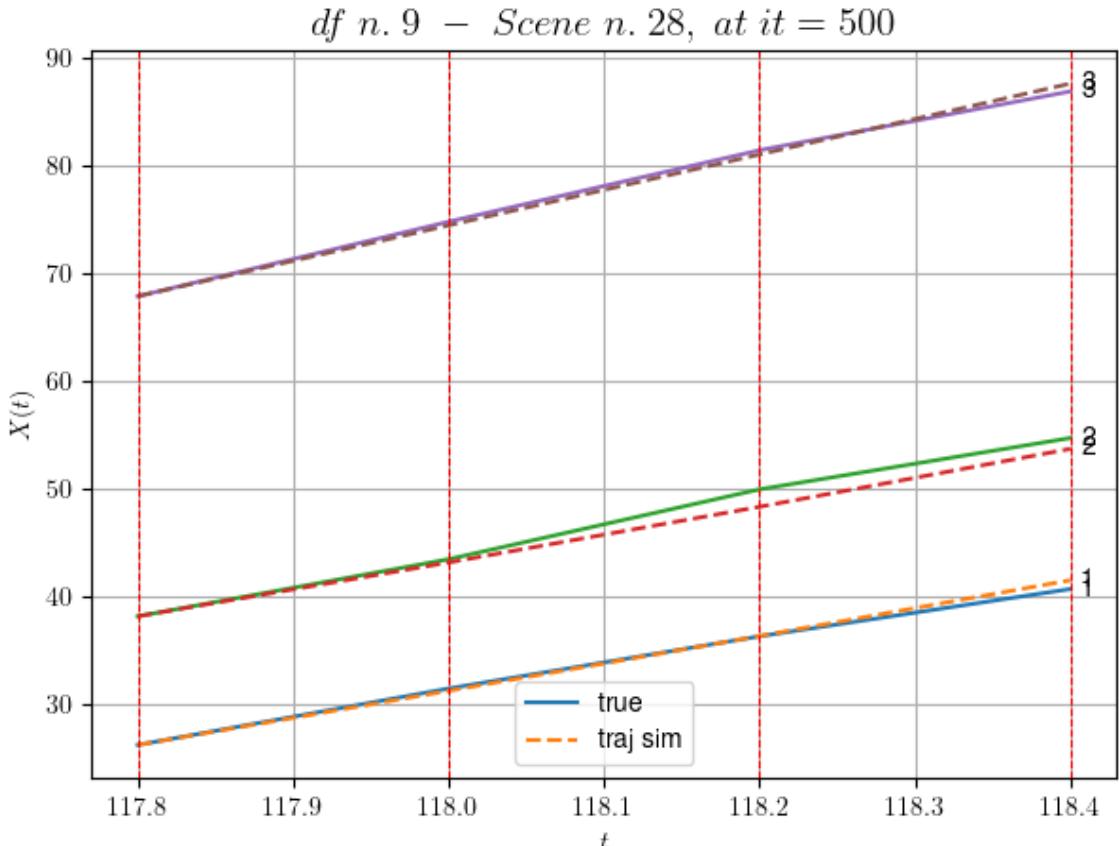
```

```

```
* err= 0.4372519315611228
```

```
* Learning rate NN = 5.904899080633186e-05
```

```
* diff = 0.00352502604759819
```



For scene 28/33

```
* use LR_NN=0.0001 with err=6.573774282733312 at it=24
* v0_scn_mean = 32.7709562278419
* MAE = 0.38110497329208126
```

---



---

df n.9, scene n.29/33

---



---

We have 2 time intervals inside [119.20, 119.60]

- Time interval n.0: [119.20, 119.40]
  - \* y\_true: [23.20444186 22.52067771]
  - \* v\_ann: [25.118560791015625, 25.137928009033203, 2
  - 6.734589830538365]

---



---

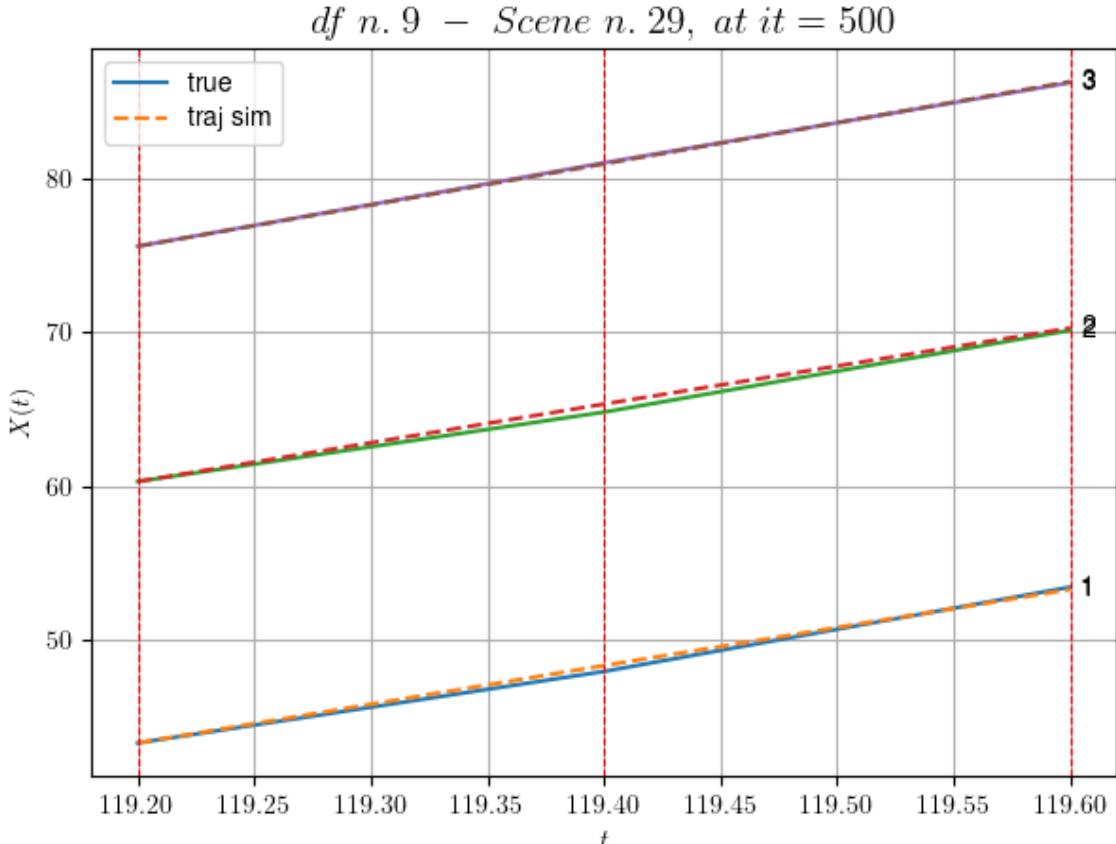
- Time interval n.1: [119.40, 119.60]
  - \* y\_true: [27.39348249 26.5570173 ]
  - \* v\_ann: [24.695222854614258, 24.700077056884766, 2
  - 6.734589830538365]

---



---

- \* err= 0.05323039200475576
- \* Learning rate NN = 3.6449993785936385e-05
- \* diff = 0.0004876262605182091



For scene 29/33

- \* use LR\_NN=5e-05 with err=0.2957757006877008 at it=24
- \* v0\_scn\_mean = 26.930514294096305
- \* MAE = 0.05323039200475576

---



---

df n.9, scene n.30/33

---



---

We have 2 time intervals inside [120.20, 120.60]

- Time interval n.0: [120.20, 120.40]
  - \* y\_true: [30.48045094 26.16776015]
  - \* v\_ann: [26.221895217895508, 26.955690383911133, 27.348987307571523]

---



---

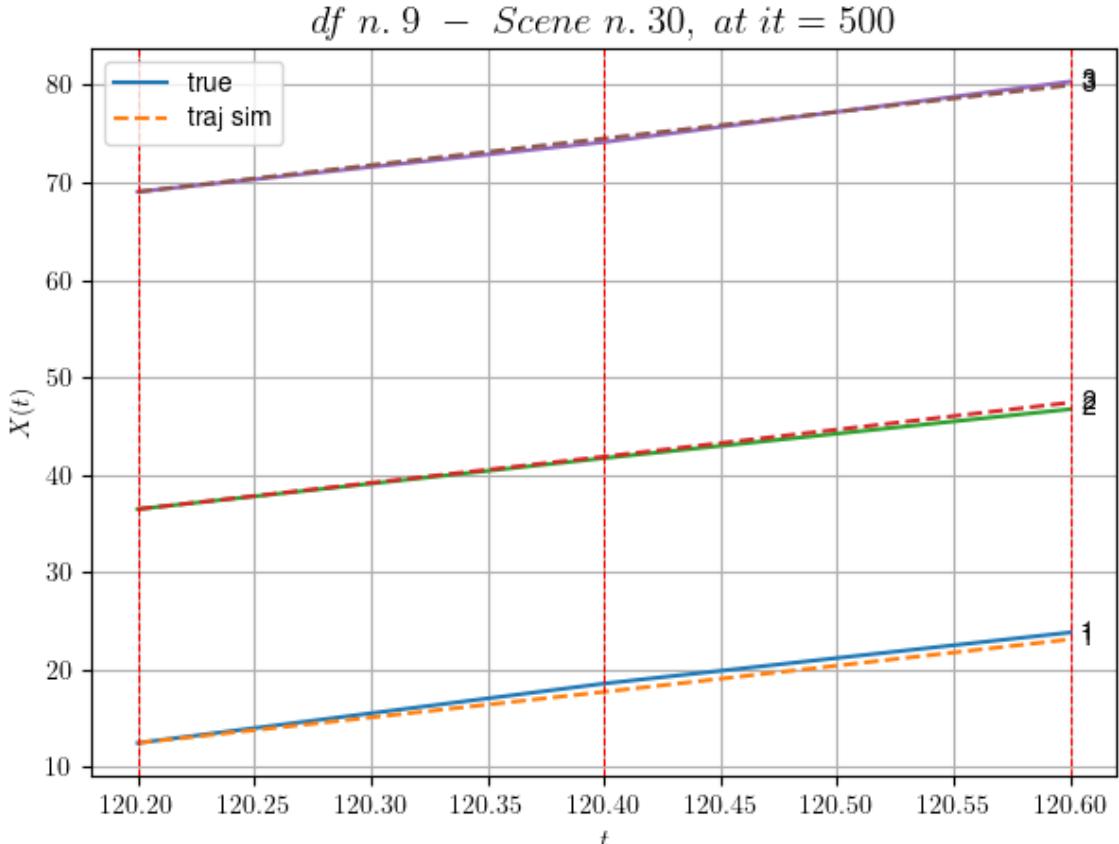
- Time interval n.1: [120.40, 120.60]
  - \* y\_true: [26.23623075 25.12734403]
  - \* v\_ann: [26.937637329101562, 27.72724723815918, 27.348987307571523]

---



---

- \* err= 0.22185028966773823
- \* Learning rate NN = 3.6449993785936385e-05
- \* diff = 0.0014620863503574666



For scene 30/33

- \* use LR\_NN=5e-05 with err=1.6223880747916832 at it=24
- \* v0\_scn\_mean = 27.508047950092237
- \* MAE = 0.22185028966773823

---



---

df n.9, scene n.31/33

---



---

We have 3 time intervals inside [121.40, 122.00]

- Time interval n.0: [121.40, 121.60]
  - \* y\_true: [23.88369588 31.34452269]
  - \* v\_ann: [27.07187843322754, 25.625080108642578, 28.65752843457791]

---



---

- Time interval n.1: [121.60, 121.80]
  - \* y\_true: [22.66516063 24.1738881 ]
  - \* v\_ann: [25.35199737548828, 26.29903793334961, 28.65752843457791]

---



---

- Time interval n.2: [121.80, 122.00]
  - \* y\_true: [27.39865086 24.79107704]
  - \* v\_ann: [24.577346801757812, 25.190757751464844, 28.65752843457791]

---

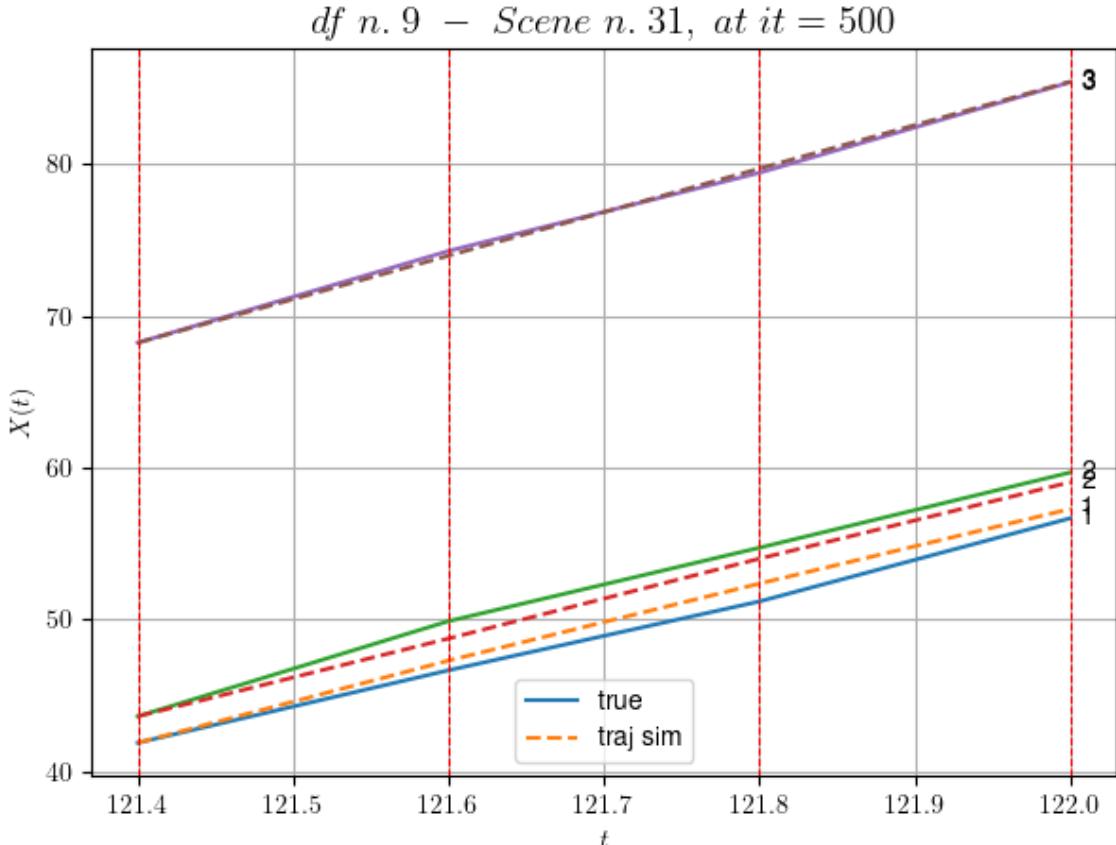


---

```

* err= 0.3804574137843786
* Learning rate NN = 0.0002952449722215533
* diff = 0.0014955589546651882

```



For scene 31/33

```

* use LR_NN=0.0005 with err=13.17536690003462 at it=24
* v0_scn_mean = 28.738076668229162
* MAE = 0.33949820768387

```

df n. 9, scene n. 32/33

We have 2 time intervals inside [205.80, 206.20]

- Time interval n.0: [205.80, 206.00]
  - \* y\_true: [16.81767795 9.52209489]
  - \* v\_ann: [12.459349632263184, 12.036096572875977, 2

3.158651176007396]

- Time interval n.1: [206.00, 206.20]

- \* y\_true: [13.65726133 9.1692133 ]

- \* v\_ann: [12.23106861114502, 12.39069938659668, 23.

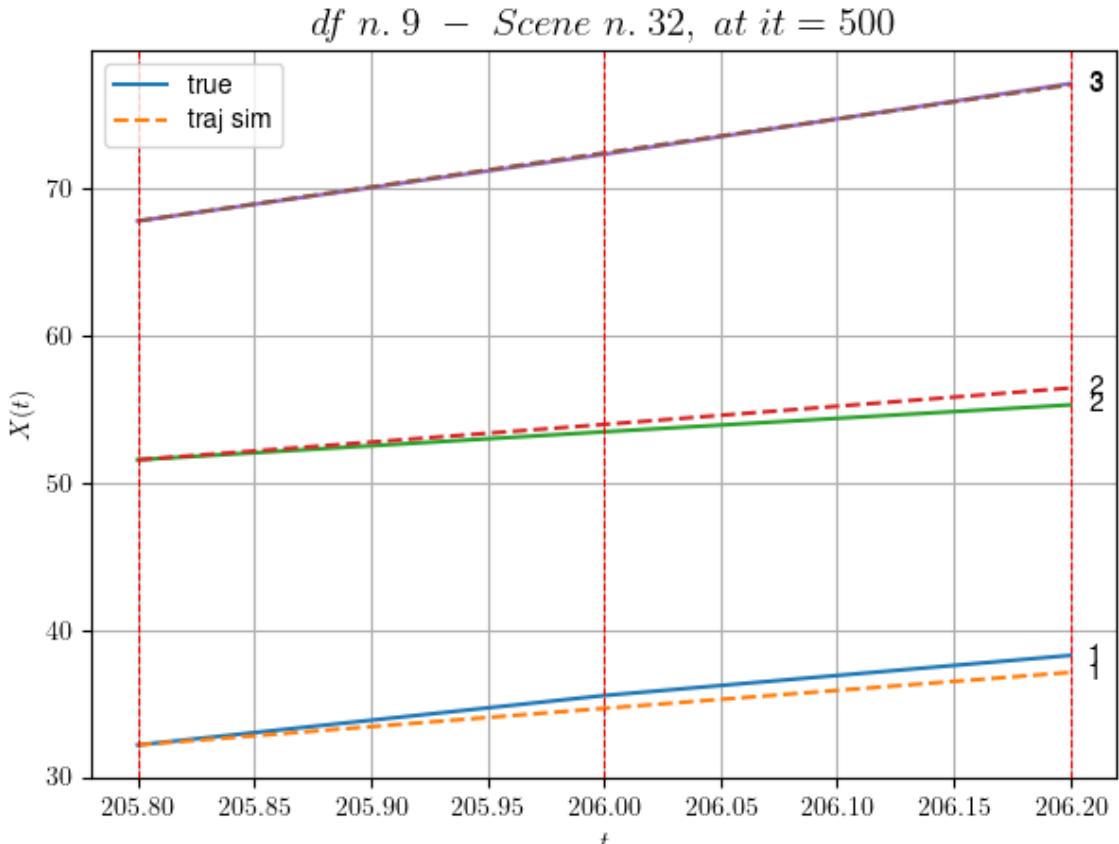
158651176007396]

```

* err= 0.40937660728143754
* Learning rate NN = 3.6449993785936385e-05

```

\* diff = 0.0022865424183908245



For scene 32/33

\* use LR\_NN=5e-05 with err=1.3131305253841532 at it=24  
 \* v0\_scn\_mean = 23.569131798284864  
 \* MAE = 0.39234569538763736

---



---

For df=9 with 33 scenes, time taken: 682.01

---



---



---



---



---



---



---



---



---



---



---



---



---



---



---

In df n.10/10 we have 74 scenes

---



---



---



---



---

df n.10, scene n.0/74

---



---



---



---



---

We have 3 time intervals inside [12.72, 13.32]

- Time interval n.0: [12.72, 12.92]
  - \* y\_true: [11.70075978]
  - \* v\_ann: [11.024742126464844, 23.837684223240988]

- 
- 
- 
- Time interval n.1: [12.92, 13.12]

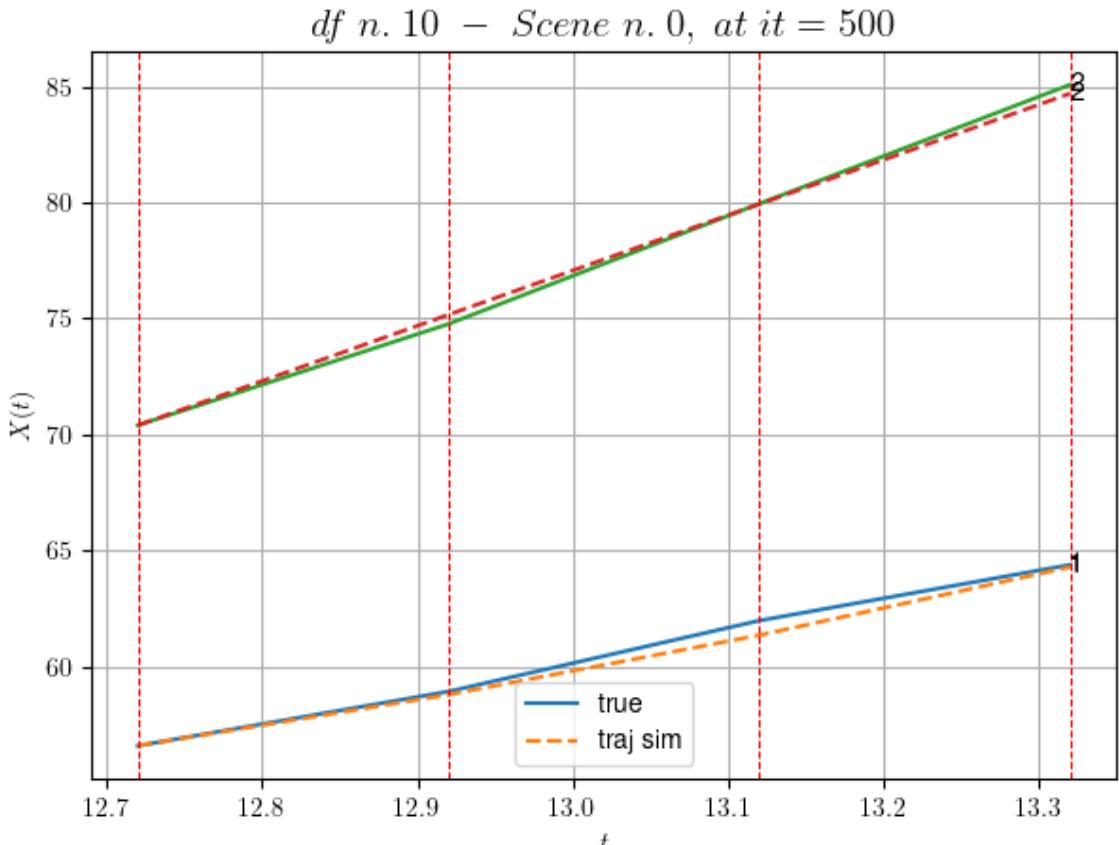
- \* y\_true: [15.28108747]
  - \* v\_ann: [12.808258056640625, 23.837684223240988]

- 
- 
- 
- Time interval n.2: [13.12, 13.32]

```
* y_true: [12.03091739]
* v_ann: [14.69672679901123, 23.837684223240988]
```

---

```
* err= 0.09113291703877305
* Learning rate NN = 5.9048988987342454e-06
* diff = 2.9234652008075512e-05
```



For scene 0/74

```
* use LR_NN=1e-05 with err=2.482597063420733 at it=24
* v0_scn_mean = 24.084176854264243
* MAE = 0.08384444941110816
```

---



---

df n.10, scene n.1/74

---



---

We have 5 time intervals inside [24.52, 25.52]

- Time interval n.0: [24.52, 24.72]
  - \* y\_true: [20.69094088]
  - \* v\_ann: [15.717048645019531, 27.846729228086385]

---

- Time interval n.1: [24.72, 24.92]
  - \* y\_true: [21.00112482]
  - \* v\_ann: [19.134544372558594, 27.846729228086385]

---

```

- Time interval n.2: [24.92, 25.12]
 * y_true: [22.54141935]
 * v_ann: [23.256467819213867, 27.846729228086385]
```

---

```

- Time interval n.3: [25.12, 25.32]
 * y_true: [19.87142322]
 * v_ann: [23.71813201904297, 27.846729228086385]
```

---

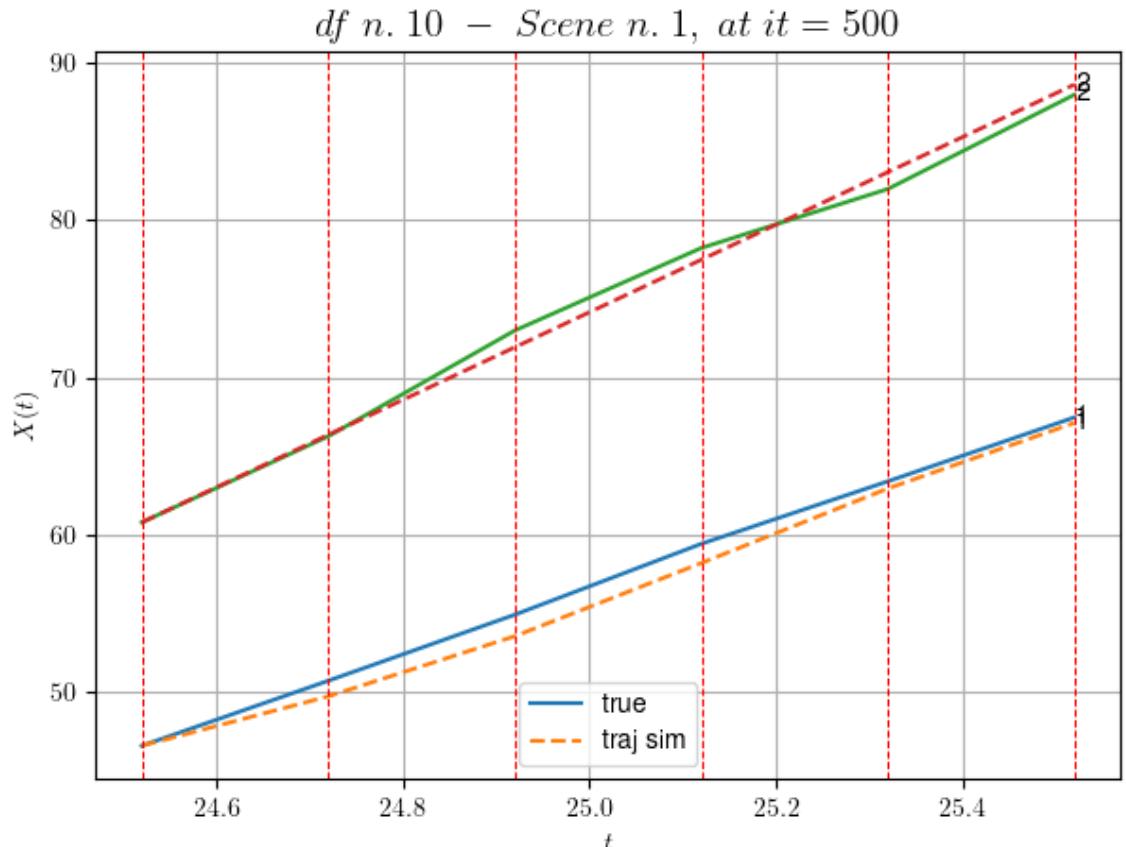
```

- Time interval n.4: [25.32, 25.52]
 * y_true: [20.33168]
 * v_ann: [20.860698699951172, 27.846729228086385]
```

---

```

* err= 0.6632515140190118
* Learning rate NN = 0.0003874204121530056
* diff = 0.010271920452885164
```



For scene 1/74

```

* use LR_NN=0.001 with err=1.4677626970351196 at it=24
* v0_scn_mean = 27.932860058946424
* MAE = 0.4122513654197139
```

---



---

df n.10, scene n.2/74

---



---

```
=====
We have 7 time intervals inside [34.92,36.32]
- Time interval n.0: [34.92, 35.12]
 * y_true: [23.68551506]
 * v_ann: [19.1507625579834, 25.10228996222764]

- Time interval n.1: [35.12, 35.32]
 * y_true: [19.89940705]
 * v_ann: [19.856706619262695, 25.10228996222764]

- Time interval n.2: [35.32, 35.52]
 * y_true: [19.9226572]
 * v_ann: [23.062612533569336, 25.10228996222764]

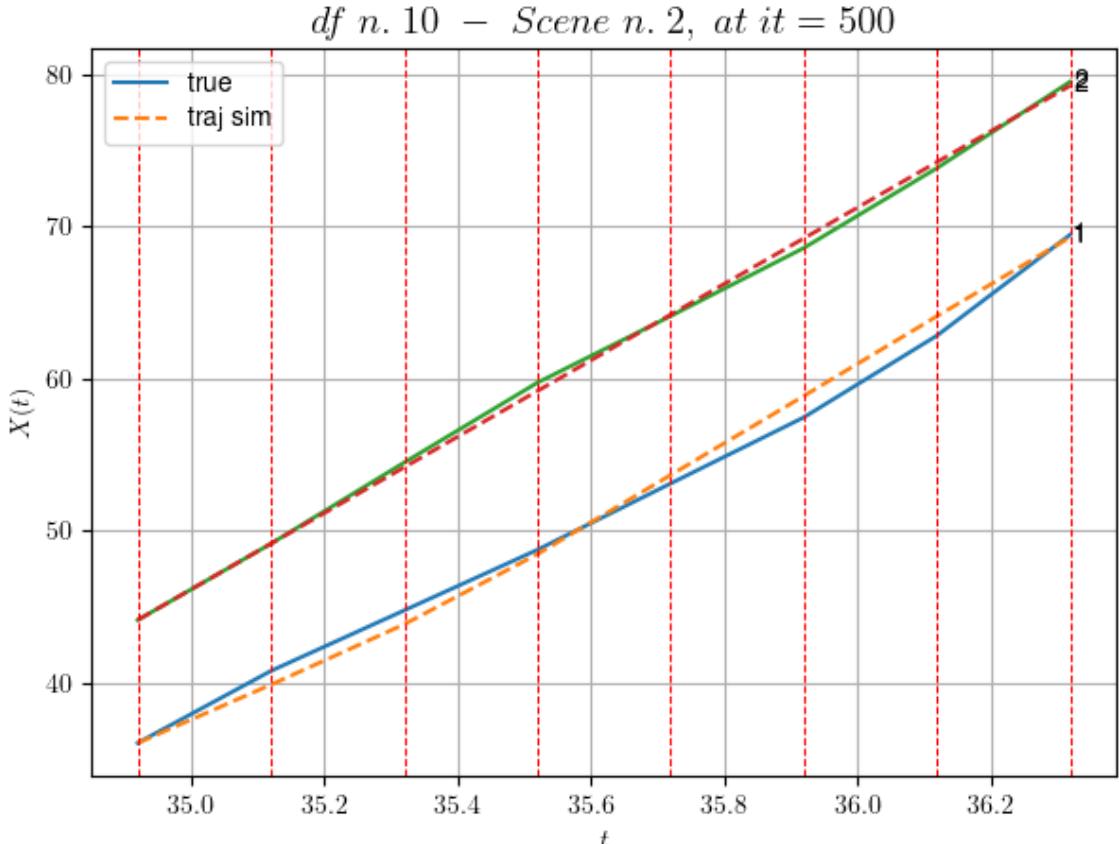
- Time interval n.3: [35.52, 35.72]
 * y_true: [21.80649804]
 * v_ann: [26.02500343322754, 25.10228996222764]

- Time interval n.4: [35.72, 35.92]
 * y_true: [21.75749887]
 * v_ann: [26.011259078979492, 25.10228996222764]

- Time interval n.5: [35.92, 36.12]
 * y_true: [26.91452163]
 * v_ann: [26.246461868286133, 25.10228996222764]

- Time interval n.6: [36.12, 36.32]
 * y_true: [33.17972928]
 * v_ann: [25.962644577026367, 25.10228996222764]

* err= 0.41990604898016887
* Learning rate NN = 1.2709323527815286e-05
* d:fff - 0.0011278447526422142
```



For scene 2/74

- \* use LR\_NN=5e-05 with err=9.082702322815058 at it=24
- \* v0\_scn\_mean = 25.298198363701086
- \* MAE = 0.41990604898016887

---



---

df n.10, scene n.3/74

---



---

We have 3 time intervals inside [41.32, 41.92]

- Time interval n.0: [41.32, 41.52]
  - \* y\_true: [27.9207748]
  - \* v\_ann: [29.477340698242188, 23.270817806163645]

---

- Time interval n.1: [41.52, 41.72]
  - \* y\_true: [27.55103886]
  - \* v\_ann: [27.744104385375977, 23.270817806163645]

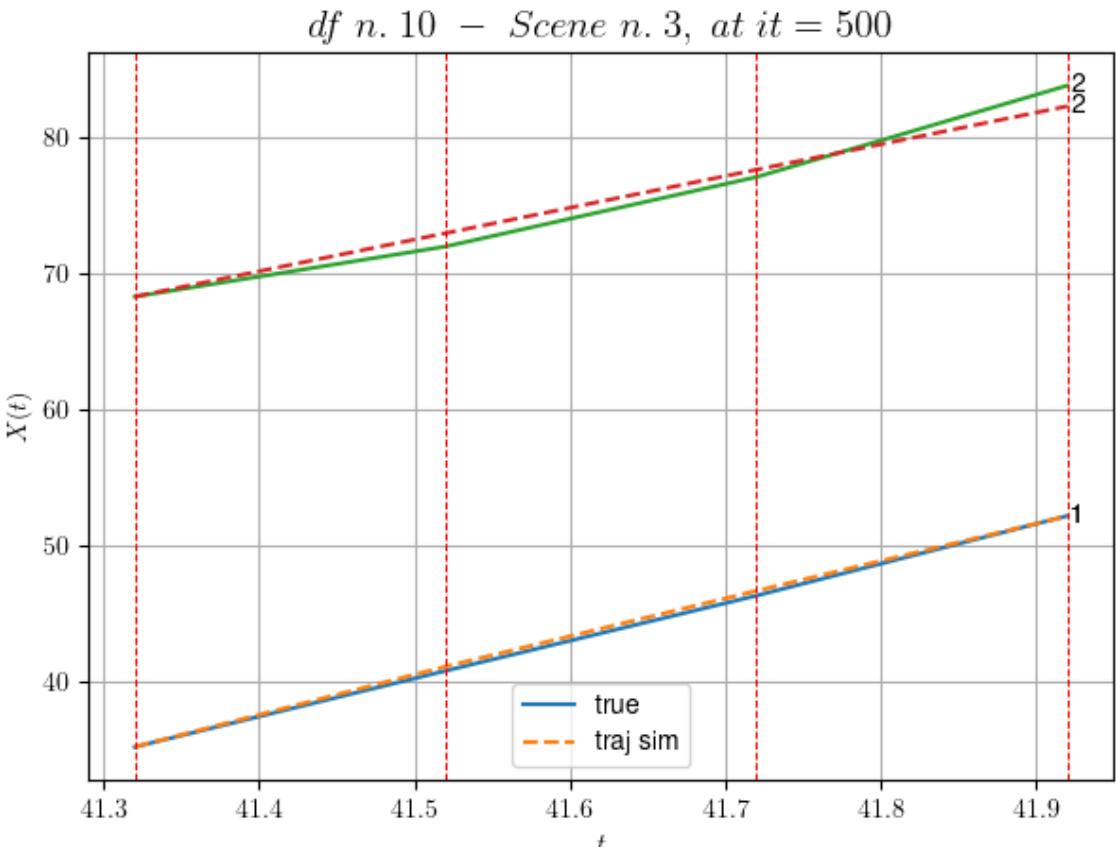
---

- Time interval n.2: [41.72, 41.92]
  - \* y\_true: [29.24138341]
  - \* v\_ann: [27.370487213134766, 23.270817806163645]

---

- \* err= 0.4701085760721957
- \* Learning rate NN = 5.9048988987342454e-06

\* diff = 6.708444870662245e-06



For scene 3/74

\* use LR\_NN=1e-05 with err=2.794002804422973 at it=24  
 \* v0\_scn\_mean = 23.53998509386573  
 \* MAE = 0.425330336184316

---



---

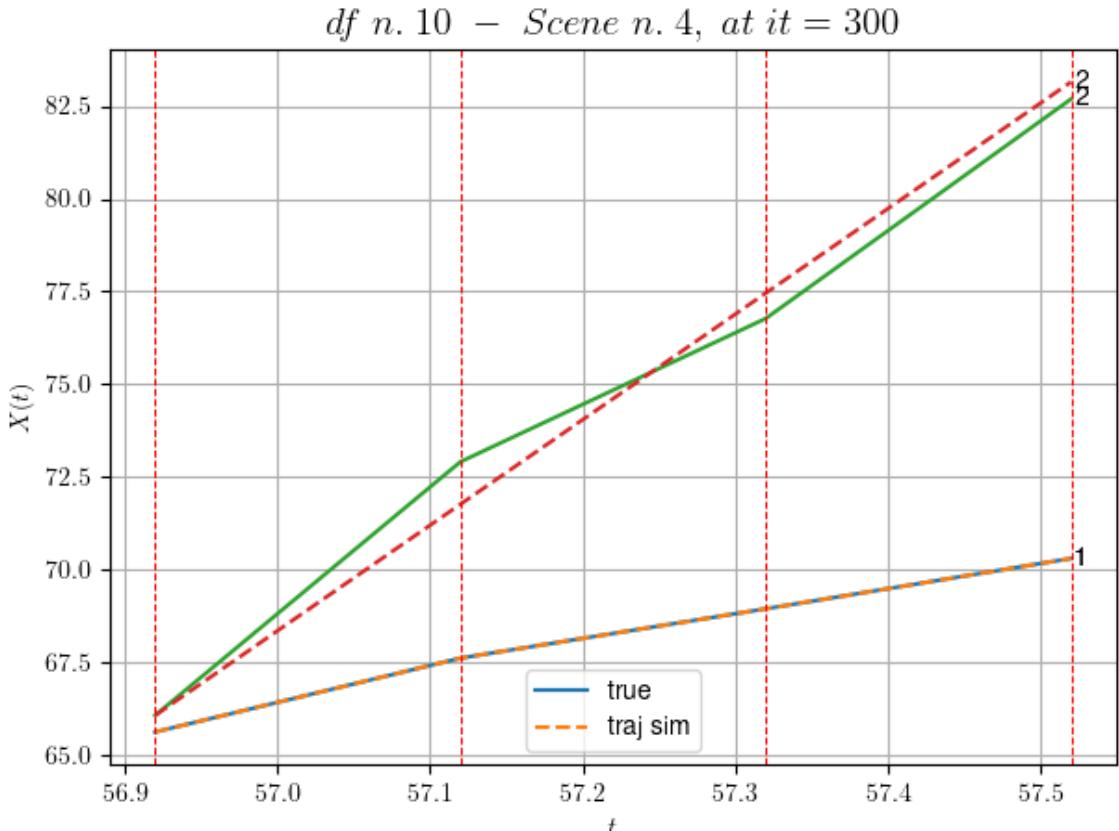
df n.10, scene n.4/74

---



---

We have 3 time intervals inside [56.92,57.52]  
 \* err= 0.2482488946769545  
 \* Learning rate NN = 0.0036449995823204517  
 \* diff = 3.107385972977994e-07



For scene 4/74

- \* use LR\_NN=0.005 with err=0.5490796217230158 at it=24
- \* v0\_scn\_mean = 28.540485153323196
- \* MAE = 0.2482488946769545

---



---

df n.10, scene n.5/74

---



---

We have 4 time intervals inside [59.12, 59.92]

- Time interval n.0: [59.12, 59.32]
  - \* y\_true: [7.04118507]
  - \* v\_ann: [6.460313320159912, 24.64241489798159]

---

- Time interval n.1: [59.32, 59.52]
  - \* y\_true: [9.13519325]
  - \* v\_ann: [6.735259532928467, 24.64241489798159]

---

- Time interval n.2: [59.52, 59.72]
  - \* y\_true: [7.00075911]
  - \* v\_ann: [7.206299781799316, 24.64241489798159]

---

- Time interval n.3: [59.72, 59.92]
  - \* y\_true: [5.57780303]

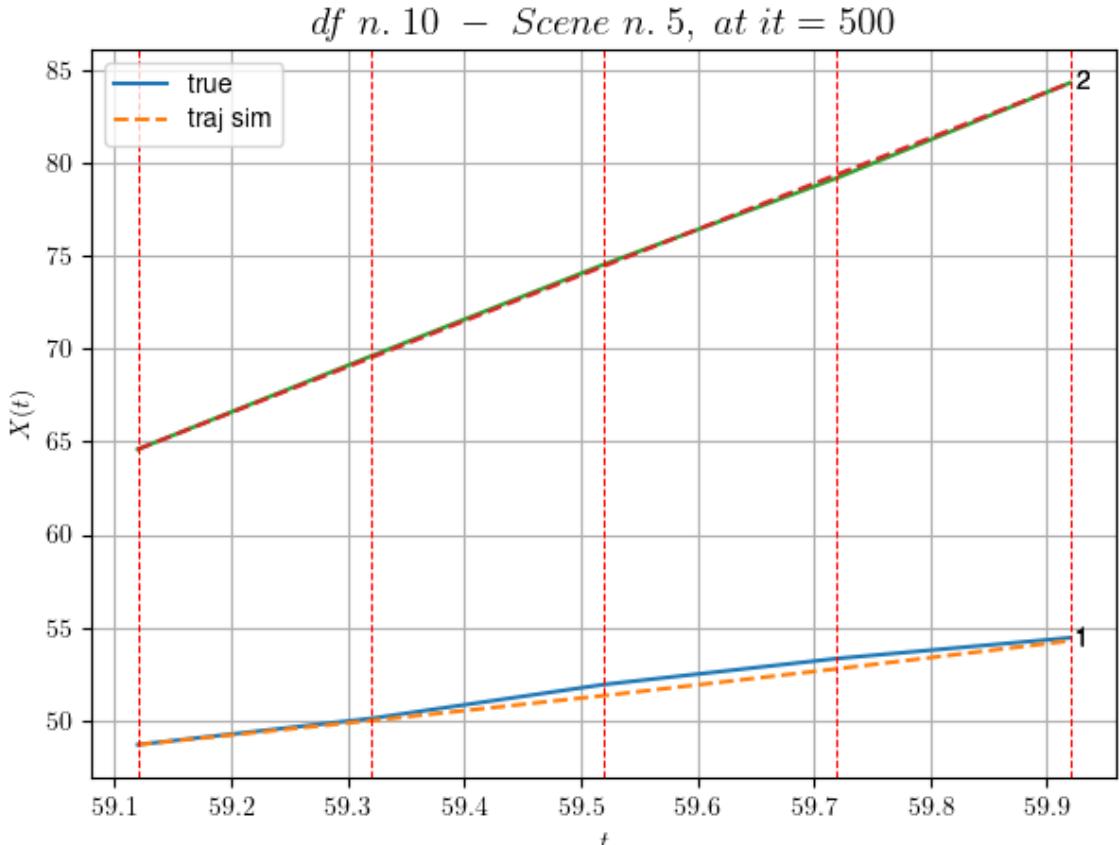
```
* v_ann: [7.5338239669799805, 24.64241489798159]
```

---



---

```
* err= 0.07533049578546407
* Learning rate NN = 2.3914839403005317e-05
* diff = 0 006080503653345351
```



For scene 5/74

```
* use LR_NN=5e-05 with err=3.7043633898554735 at it=24
* v0_scn_mean = 24.856718302021676
* MAE = 0.07533049578546407
```

---



---



---

df n.10, scene n.6/74

---



---



---



---

We have 5 time intervals inside [64.92, 65.92]

- Time interval n.0: [64.92, 65.12]
  - \* y\_true: [5.04006152]
  - \* v\_ann: [8.53528118133545, 23.262500294243743]

---



---

- Time interval n.1: [65.12, 65.32]
  - \* y\_true: [3.97005162]
  - \* v\_ann: [9.199854850769043, 23.262500294243743]

---



---

- Time interval n.2: [65.32, 65.52]

```
* y_true: [3.01004135]
* v_ann: [10.016929626464844, 23.262500294243743]
```

---

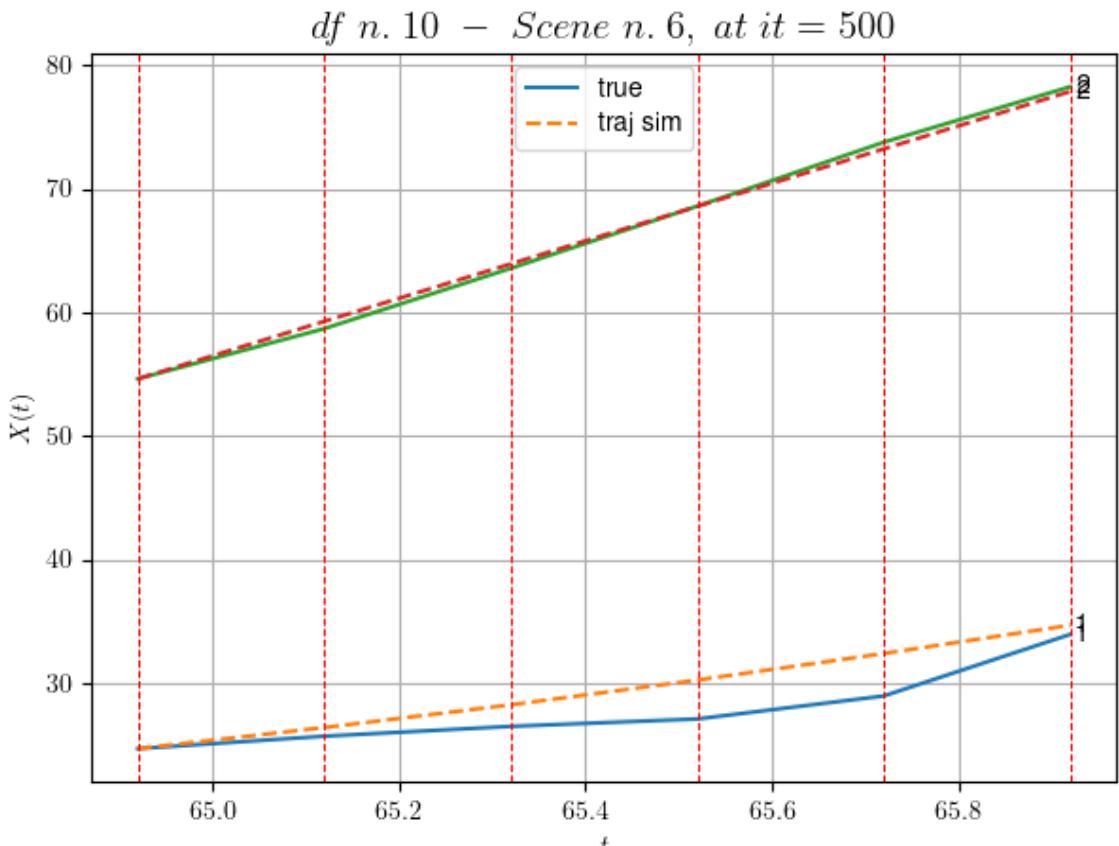
```
- Time interval n.3: [65.52, 65.72]
* y_true: [9.29806192]
* v_ann: [10.751418113708496, 23.262500294243743]
```

---

```
- Time interval n.4: [65.72, 65.92]
* y_true: [24.93048749]
* v_ann: [11.454618453979492, 23.262500294243743]
```

---

```
* err= 2.226338969900687
* Learning rate NN = 1.9371018424862996e-05
* diff = 0.030900124576414445
```



For scene 6/74

```
* use LR_NN=5e-05 with err=9.877261988625179 at it=24
* v0_scn_mean = 23.53200028242218
* MAE = 2.20553048652925
```

---



---

df n.10, scene n.7/74

---



---



---



---

We have 4 time intervals inside [81.72,82.52]

```
- Time interval n.0: [81.72, 81.92]
* y_true: [0.07201947]
* v_ann: [5.109790802001953, 21.36406302671324]
```

---

```
- Time interval n.1: [81.92, 82.12]
* y_true: [0.07201947]
* v_ann: [4.3867878913879395, 21.36406302671324]
```

---

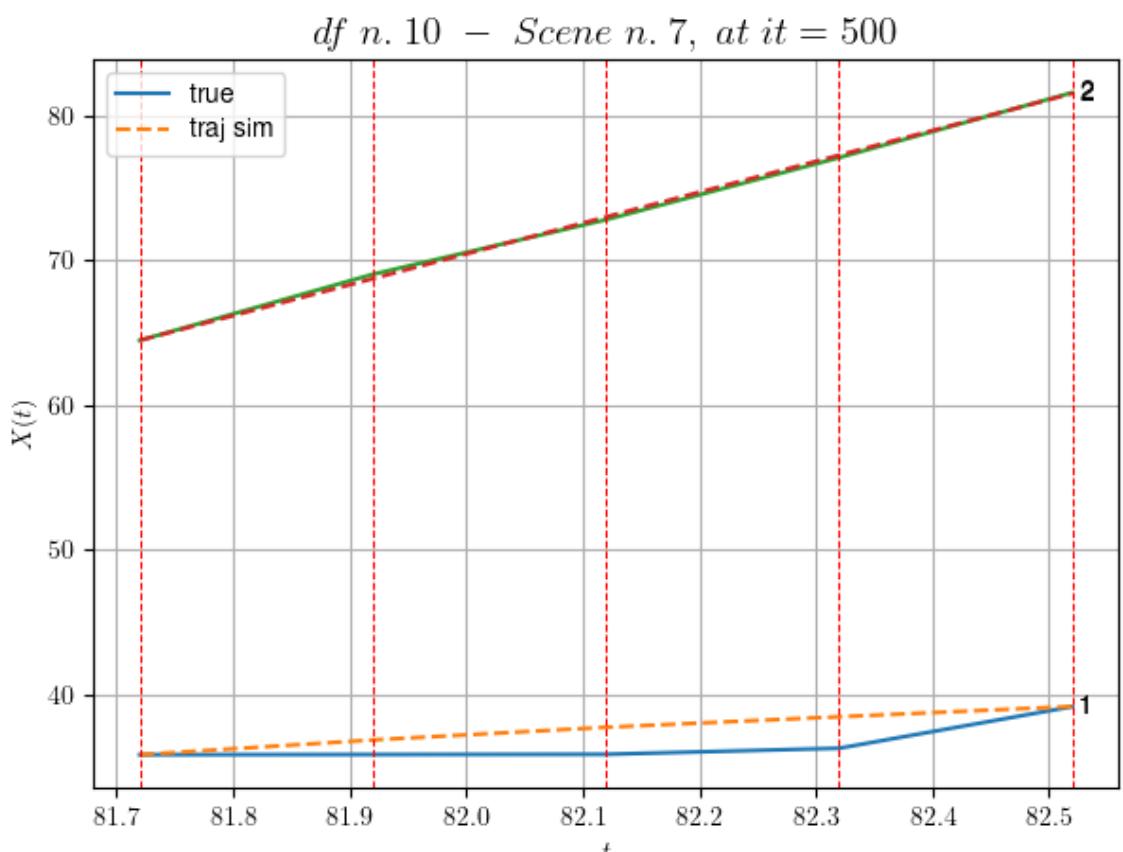
```
- Time interval n.2: [82.12, 82.32]
* y_true: [2.09202578]
* v_ann: [3.628422260284424, 21.36406302671324]
```

---

```
- Time interval n.3: [82.32, 82.52]
* y_true: [14.40039965]
* v_ann: [3.5789477825164795, 21.36406302671324]
```

---

```
* err= 0.9418370760045331
* Learning rate NN = 0.000478296831715852
* diff = 5.385008412961412e-06
```



For scene 7/74

```
* use LR_NN=0.001 with err=9.985761788187983 at it=24
* v0_scn_mean = 21.709500505578543
* MAE = 0.8727141511082902
```

---

```
=====
```

```
df n.10, scene n.8/74
```

```
=====
```

```
We have 8 time intervals inside [85.72,87.32]
```

```
- Time interval n.0: [85.72, 85.92]
 * y_true: [0.07201947]
 * v_ann: [2.532829999923706, 23.19995130380208]
```

```
- Time interval n.1: [85.92, 86.12]
 * y_true: [4.16376399]
 * v_ann: [9.535188674926758, 23.19995130380208]
```

```
- Time interval n.2: [86.12, 86.32]
 * y_true: [21.51063868]
 * v_ann: [17.409921646118164, 23.19995130380208]
```

```
- Time interval n.3: [86.32, 86.52]
 * y_true: [18.36066104]
 * v_ann: [18.682518005371094, 23.19995130380208]
```

```
- Time interval n.4: [86.52, 86.72]
 * y_true: [21.67096239]
 * v_ann: [23.464082717895508, 23.19995130380208]
```

```
- Time interval n.5: [86.72, 86.92]
 * y_true: [26.10134836]
 * v_ann: [21.892757415771484, 23.19995130380208]
```

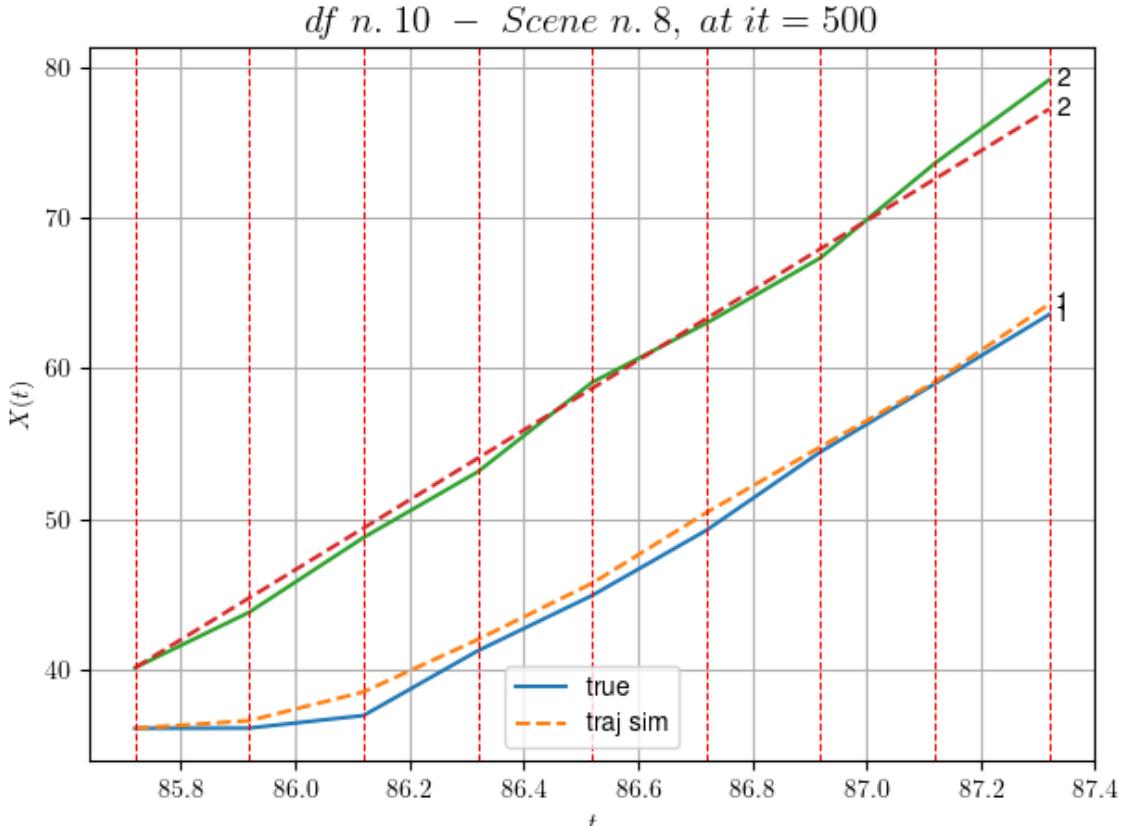
```
- Time interval n.6: [86.92, 87.12]
 * y_true: [22.59141969]
 * v_ann: [21.564149856567383, 23.19995130380208]
```

```
- Time interval n.7: [87.12, 87.32]
 * y_true: [22.98166651]
 * v_ann: [25.867414474487305, 23.19995130380208]
```

```
* err= 0.748411103915843
```

```
* Learning rate NN = 0.00020589104678947479
```

```
* diff = 0.036647324963624106
```



For scene 8/74

- \* use LR\_NN=0.001 with err=19.925680876987798 at it=24
- \* v0\_scn\_mean = 23.471953251598055
- \* MAE = 0.748411103915843

---



---

df n.10, scene n.9/74

---



---

We have 10 time intervals inside [97.32, 99.32]

- Time interval n.0: [97.32, 97.52]
  - \* y\_true: [11.48366043]
  - \* v\_ann: [2.0072062015533447, 19.018016829365102]

---

- Time interval n.1: [97.52, 97.72]
  - \* y\_true: [0.07201947]
  - \* v\_ann: [2.154620885848999, 19.018016829365102]

---

- Time interval n.2: [97.72, 97.92]
  - \* y\_true: [7.07479559]
  - \* v\_ann: [8.973305702209473, 19.018016829365102]

---

- Time interval n.3: [97.92, 98.12]
  - \* y\_true: [20.40065046]

```
* v_ann: [15.389226913452148, 19.018016829365102]
```

```


- Time interval n.4: [98.12, 98.32]
* y_true: [12.25045529]
* v_ann: [12.612838745117188, 19.018016829365102]
```

```


- Time interval n.5: [98.32, 98.52]
* y_true: [19.05081256]
* v_ann: [16.515369415283203, 19.018016829365102]
```

```


- Time interval n.6: [98.52, 98.72]
* y_true: [21.45107875]
* v_ann: [19.283681869506836, 19.018016829365102]
```

```


- Time interval n.7: [98.72, 98.92]
* y_true: [16.6509662]
* v_ann: [20.585880279541016, 19.018016829365102]
```

```

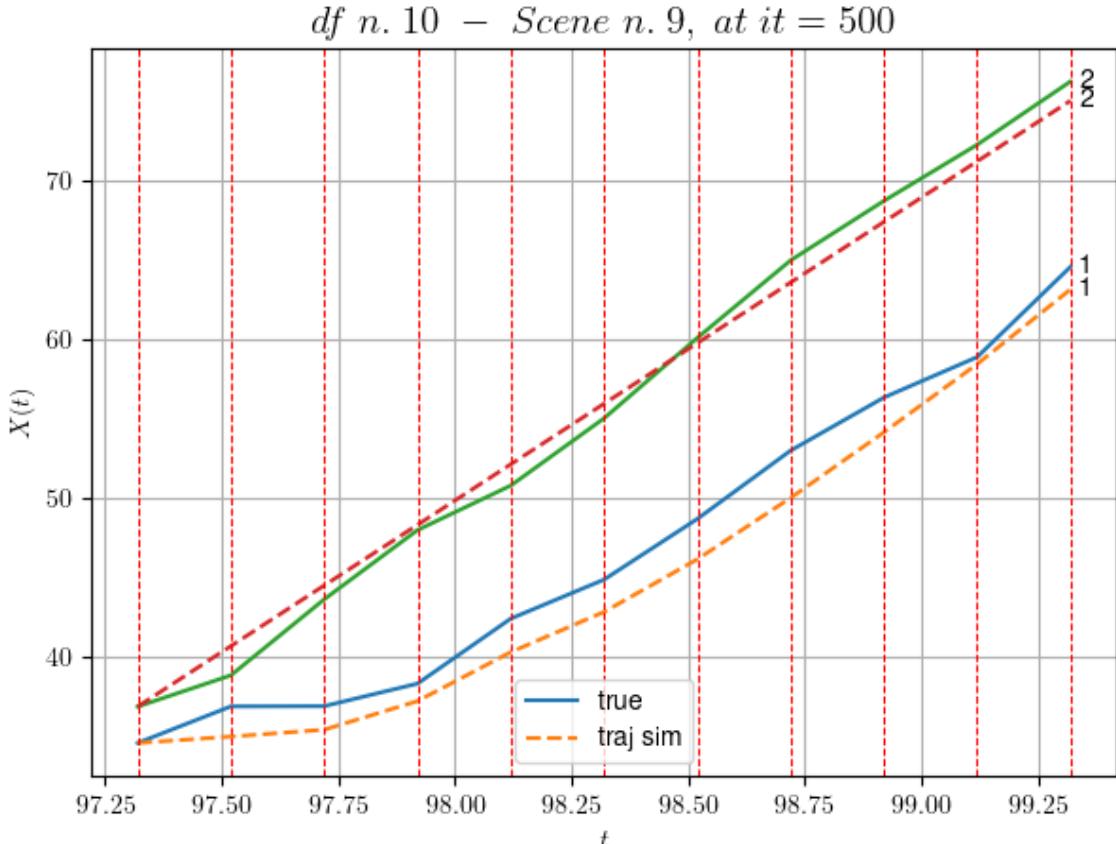

- Time interval n.8: [98.92, 99.12]
* y_true: [12.70081781]
* v_ann: [21.41120719909668, 19.018016829365102]
```

```


- Time interval n.9: [99.12, 99.32]
* y_true: [28.30208991]
* v_ann: [23.416858673095703, 19.018016829365102]
```

```


* err= 2.3153960966693266
* Learning rate NN = 1.3508510164683685e-05
* diff = 0 015671321707171337
```



For scene 9/74

- \* use LR\_NN=0.0001 with err=79.57062769384446 at it=24
- \* v0\_scn\_mean = 19.457296156106693
- \* MAE = 2.3153960966693266

---



---

df n.10, scene n.10/74

---



---

We have 5 time intervals inside [100.52, 101.52]

- Time interval n.0: [100.52, 100.72]
  - \* y\_true: [15.44102969]
  - \* v\_ann: [20.37267303466797, 19.675993616954766]

---

- Time interval n.1: [100.72, 100.92]
  - \* y\_true: [24.7218456]
  - \* v\_ann: [18.896411895751953, 19.675993616954766]

---

- Time interval n.2: [100.92, 101.12]
  - \* y\_true: [19.48315215]
  - \* v\_ann: [21.436790466308594, 19.675993616954766]

---

- Time interval n.3: [101.12, 101.32]
  - \* y\_true: [21.76213859]

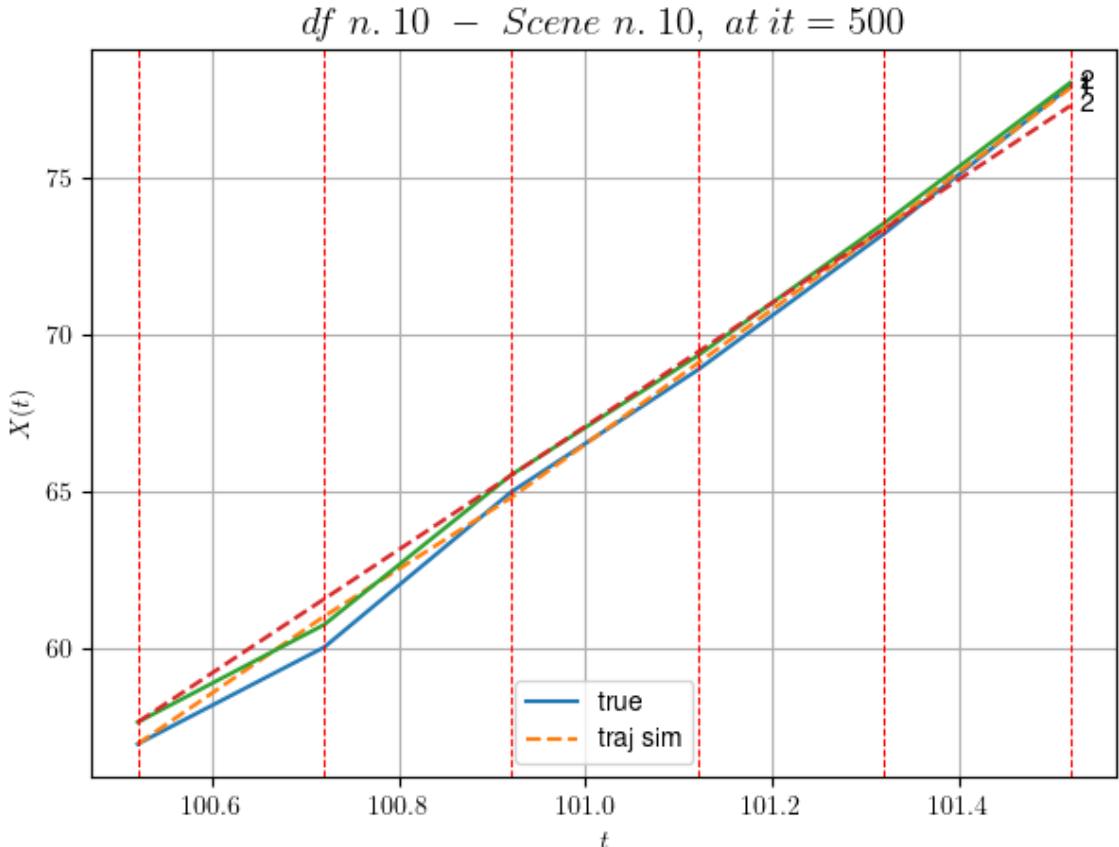
```
* v_ann: [21.527467727661133, 19.675993616954766]
```

---

```
- Time interval n.4: [101.32, 101.52]
* y_true: [23.58257994]
* v_ann: [22.460317611694336, 19.675993616954766]
```

---

```
* err= 0.1960134918395716
* Learning rate NN = 0.0038742038886994123
* diff = 0.0020168475972428823
```



For scene 10/74

```
* use LR_NN=0.01 with err=18.73379902316057 at it=24
* v0_scn_mean = 20.088953872197575
* MAE = 0.1960134918395716
```

---



---

df n.10, scene n.11/74

---



---

We have 4 time intervals inside [103.72, 104.52]

```
- Time interval n.0: [103.72, 103.92]
* y_true: [18.3928945]
* v_ann: [17.879253387451172, 24.24265454583431]
```

---

```
- Time interval n.1: [103.92, 104.12]
```

```
* y_true: [16.70145174]
* v_ann: [17.63405990600586, 24.24265454583431]
```

---

```
- Time interval n.2: [104.12, 104.32]
```

```
* y_true: [20.23196797]
```

```
* v_ann: [18.75406265258789, 24.24265454583431]
```

---

```
- Time interval n.3: [104.32, 104.52]
```

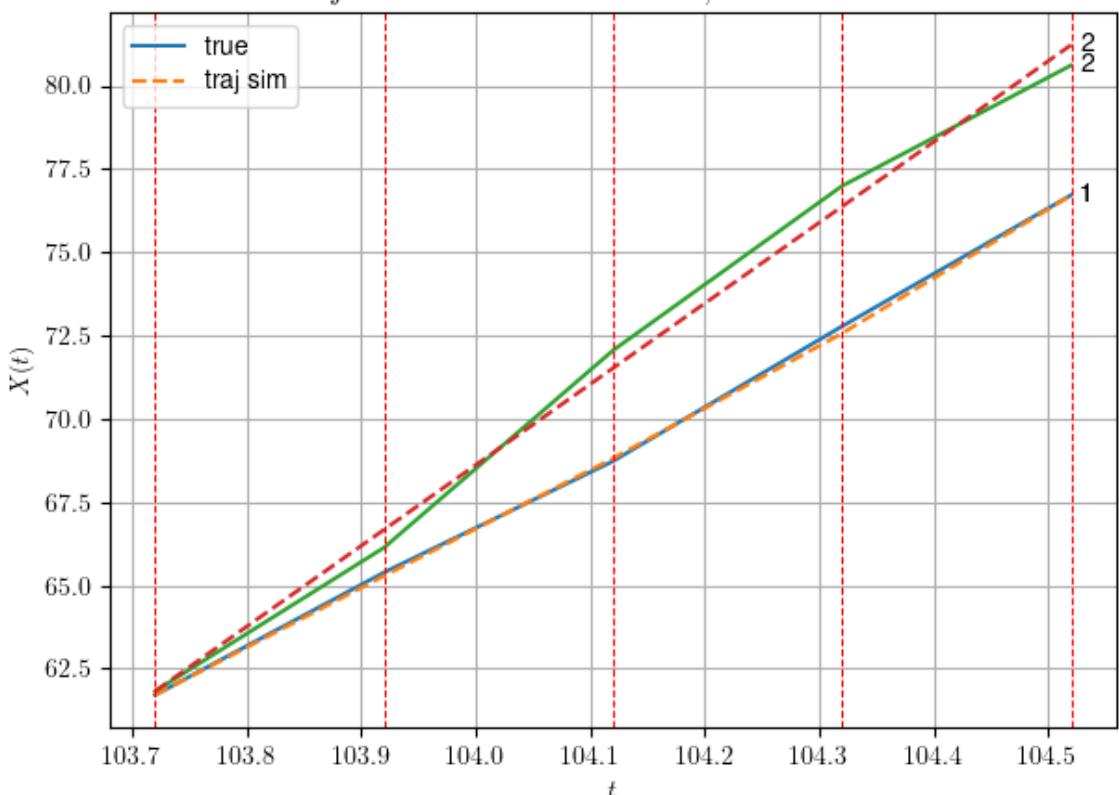
```
* y_true: [19.68212312]
```

```
* v_ann: [20.695032119750977, 24.24265454583431]
```

---

```
* err= 0.13891446474249433
* Learning rate NN = 0.002391484100371599
* diff = 6.609755774231174e-05
```

*df n. 10 – Scene n. 11, at it = 500*



For scene 11/74

```
* use LR_NN=0.005 with err=4.196149612407208 at it=24
```

```
* v0_scn_mean = 24.472948363956885
```

```
* MAE = 0.1384386452552237
```

---



---

df n.10, scene n.12/74

---



---



---



---

We have 2 time intervals inside [109.72,110.12]

```

- Time interval n.0: [109.72, 109.92]
 * y_true: [5.75051979]
 * v_ann: [6.005171298980713, 22.592418168551998]
```

---

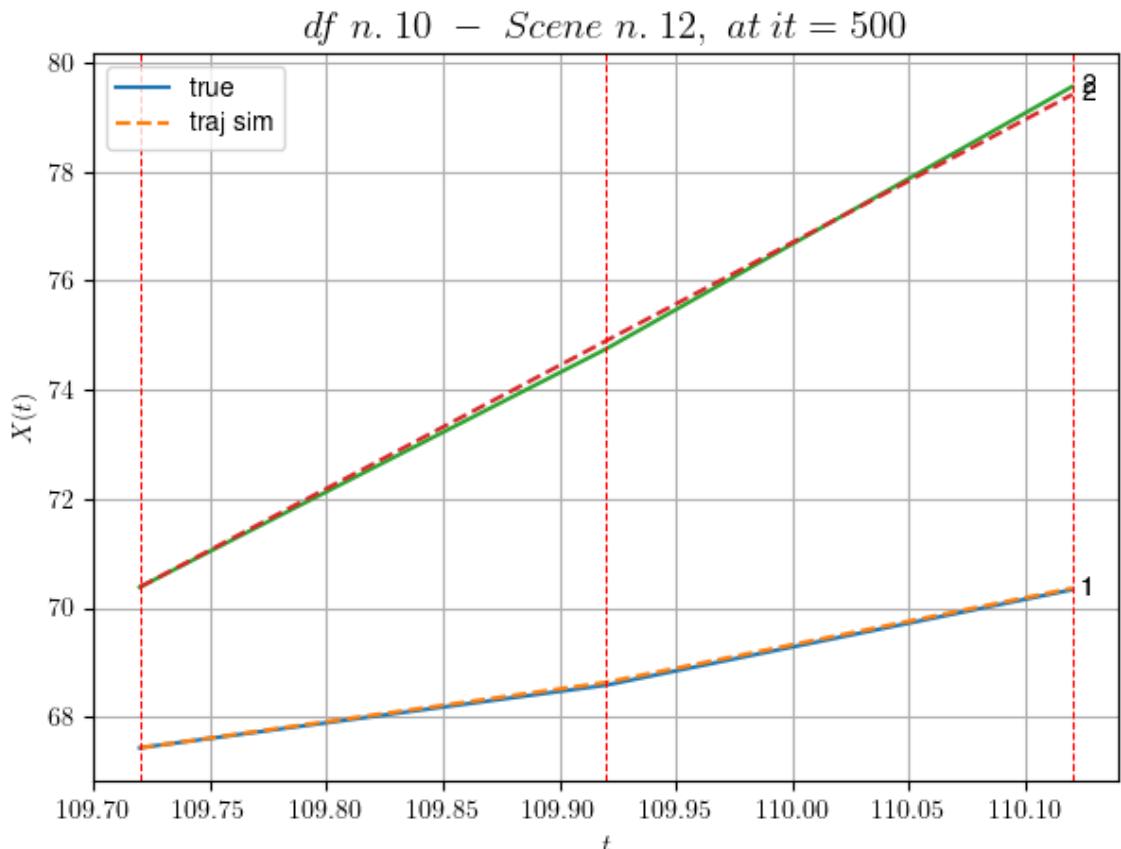
```

- Time interval n.1: [109.92, 110.12]
 * y_true: [8.76081232]
 * v_ann: [8.642029762268066, 22.592418168551998]
```

---

```

* err= 0.0078603268034204
* Learning rate NN = 0.00036449998151510954
* diff = 0.00018752234646493213
```



For scene 12/74

```

* use LR_NN=0.0005 with err=1.7634622071435628 at it=24
* v0_scn_mean = 22.888721441753184
* MAE = 0.0078603268034204
```

---



---

df n.10, scene n.13/74

---



---

We have 8 time intervals inside [116.72,118.32]

```

- Time interval n.0: [116.72, 116.92]
 * y_true: [1.82657583]
 * v_ann: [8.78250789642334, 19.612707397568286]
```

---

```

 - Time interval n.1: [116.92, 117.12]
 * y_true: [1.82657583]
 * v_ann: [3.3795347213745117, 19.612707397568286]

 - Time interval n.2: [117.12, 117.32]
 * y_true: [1.82657583]
 * v_ann: [5.018336296081543, 19.612707397568286]

 - Time interval n.3: [117.32, 117.52]
 * y_true: [1.82657583]
 * v_ann: [7.352627277374268, 19.612707397568286]

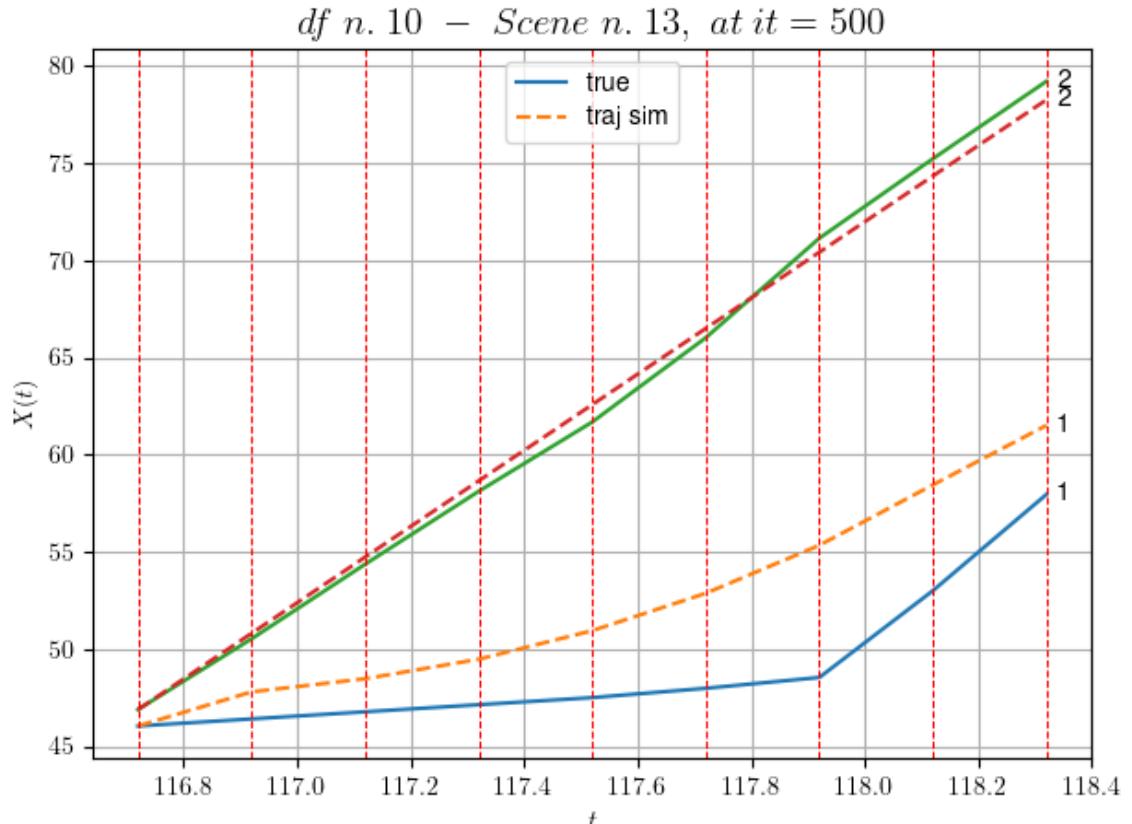
 - Time interval n.4: [117.52, 117.72]
 * y_true: [2.40008723]
 * v_ann: [9.616501808166504, 19.612707397568286]

 - Time interval n.5: [117.72, 117.92]
 * y_true: [2.78242816]
 * v_ann: [12.34409236907959, 19.612707397568286]

 - Time interval n.6: [117.92, 118.12]
 * y_true: [22.34249066]
 * v_ann: [15.552496910095215, 19.612707397568286]

 - Time interval n.7: [118.12, 118.32]
 * y_true: [24.77146428]
 * v_ann: [15.31530475616455, 19.612707397568286]

* err= 7.684272513268717
* Learning rate NN = 2.058910467894748e-06
* diff = 0.023584166114170912
```



For scene 13/74

```
* use LR_NN=1e-05 with err=48.99198300251428 at it=24
* v0_scn_mean = 20.028199101586065
* MAE = 7.684272513268717
```

---



---

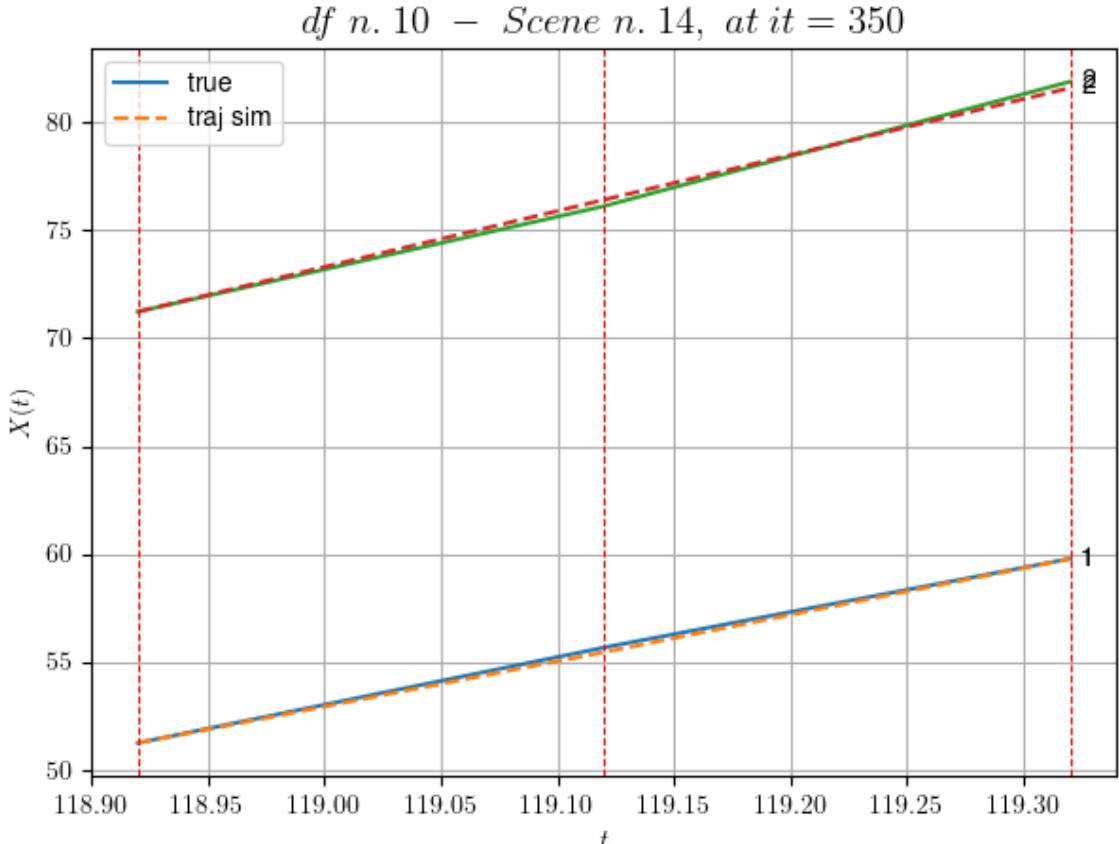
df n.10, scene n.14/74

---



---

```
We have 2 time intervals inside [118.92,119.32]
* err= 0.036441322448771477
* Learning rate NN = 4.049999552080408e-05
* diff = 1.2611421677105605e-07
```



For scene 14/74

- \* use LR\_NN=5e-05 with err=0.4998648203775854 at it=24
- \* v0\_scn\_mean = 26.19984672997232
- \* MAE = 0.03375034791463181

---



---

df n.10, scene n.15/74

---



---

We have 2 time intervals inside [139.92, 140.32]

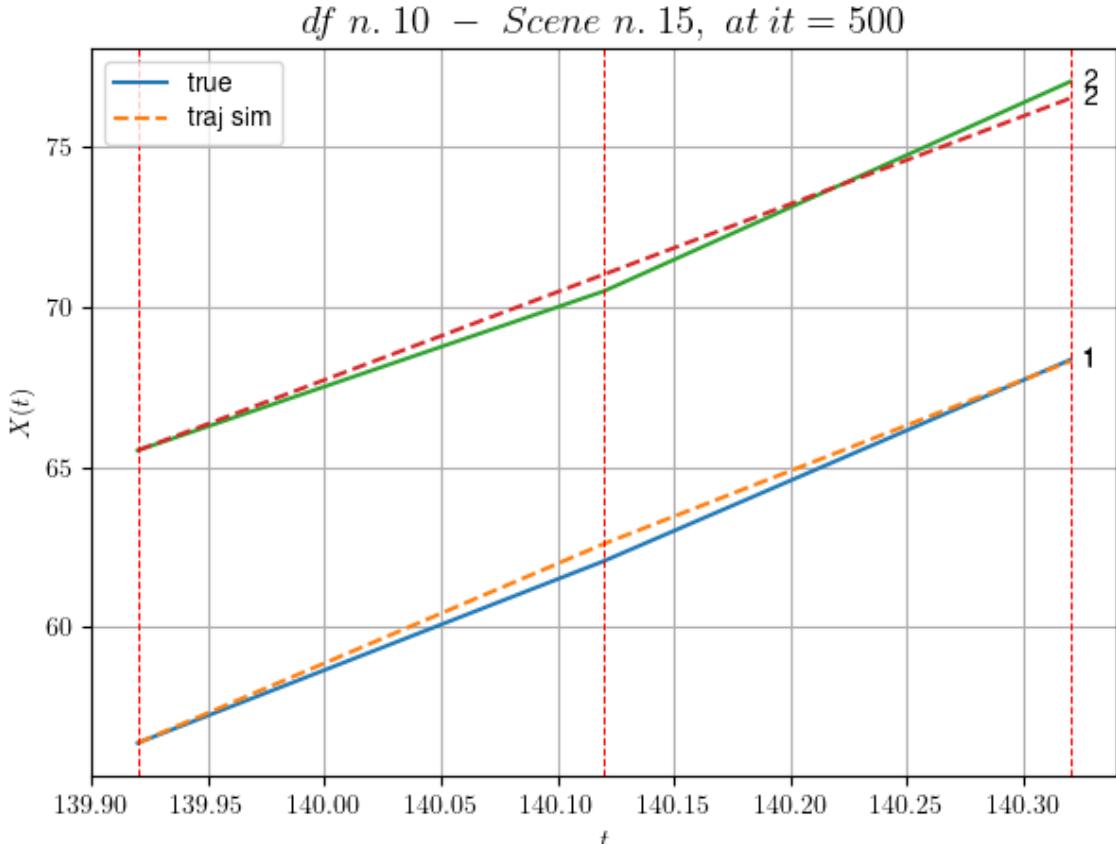
- Time interval n.0: [139.92, 140.12]
  - \* y\_true: [28.34197471]
  - \* v\_ann: [31.02313232421875, 27.422660948669282]

---

- Time interval n.1: [140.12, 140.32]
  - \* y\_true: [31.34257406]
  - \* v\_ann: [28.42546844482422, 27.422660948669282]

---

- \* err= 0.13914815446653864
- \* Learning rate NN = 3.6449993785936385e-05
- \* diff = 3.2664247873182006e-06



For scene 15/74

- \* use LR\_NN=5e-05 with err=0.2859090504713228 at it=24
- \* v0\_scn\_mean = 27.525754510702523
- \* MAE = 0.12521206872784438

---



---

df n.10, scene n.16/74

---



---

We have 5 time intervals inside [159.92, 160.92]

- Time interval n.0: [159.92, 160.12]
  - \* y\_true: [16.1202741]
  - \* v\_ann: [12.3333101272583, 21.428672023291114]

---

- Time interval n.1: [160.12, 160.32]
  - \* y\_true: [13.25025986]
  - \* v\_ann: [12.81291389465332, 21.428672023291114]

---

- Time interval n.2: [160.32, 160.52]
  - \* y\_true: [12.66030115]
  - \* v\_ann: [13.567815780639648, 21.428672023291114]

---

- Time interval n.3: [160.52, 160.72]
  - \* y\_true: [12.80034325]

```
* v_ann: [14.714001655578613, 21.428672023291114]
```

---

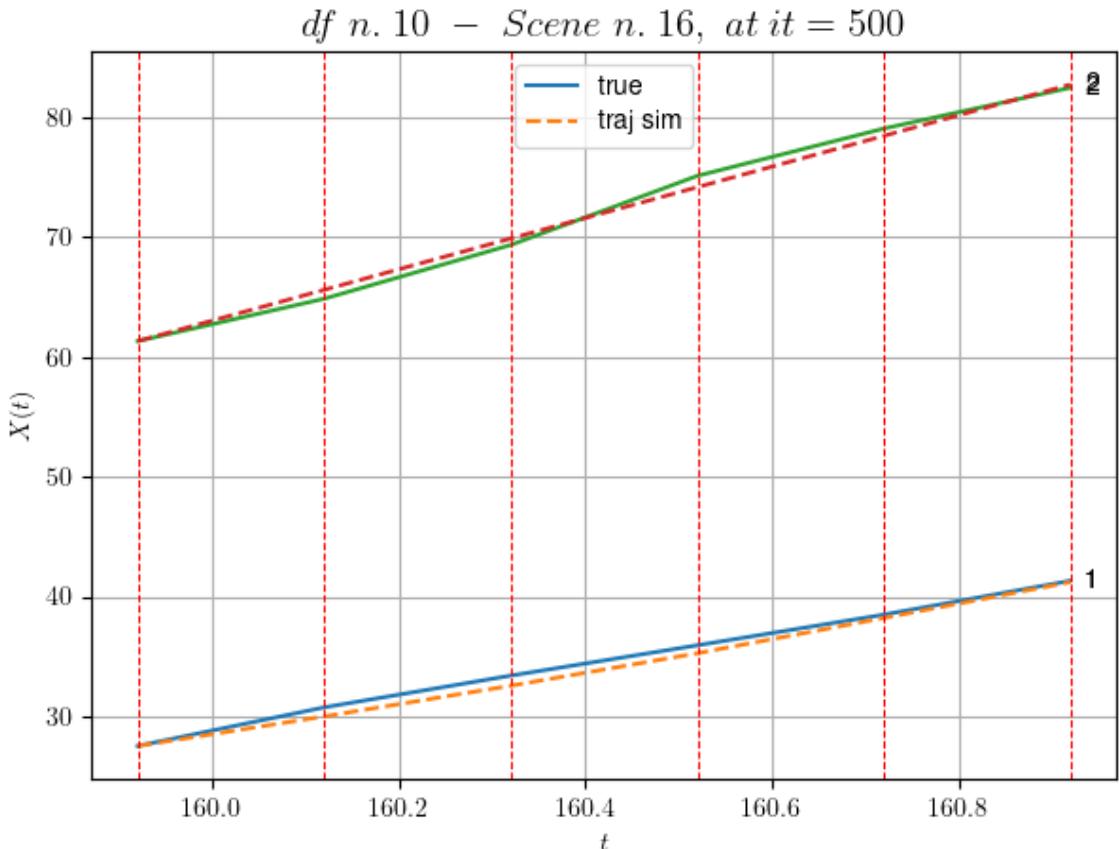
```
- Time interval n.4: [160.72, 160.92]
* y_true: [14.15044353]
* v_ann: [14.993277549743652, 21.428672023291114]
```

---



---

```
* err= 0.33331898360820855
* Learning rate NN = 3.874203684972599e-05
* diff = 0.0004329624971139978
```



For scene 16/74

```
* use LR_NN=0.0001 with err=13.096159583991577 at it=24
* v0_scn_mean = 21.77152514229392
* MAE = 0.32738182613609534
```

---



---

df n.10, scene n.17/74

---



---



---



---

We have 4 time intervals inside [182.72, 183.52]

```
- Time interval n.0: [182.72, 182.92]
* y_true: [22.96029399]
* v_ann: [25.97953987121582, 22.502260179114707]
```

---



---



---



---

```
- Time interval n.1: [182.92, 183.12]
```

```
* y_true: [25.95047007]
* v_ann: [25.455747604370117, 22.502260179114707]
```

---

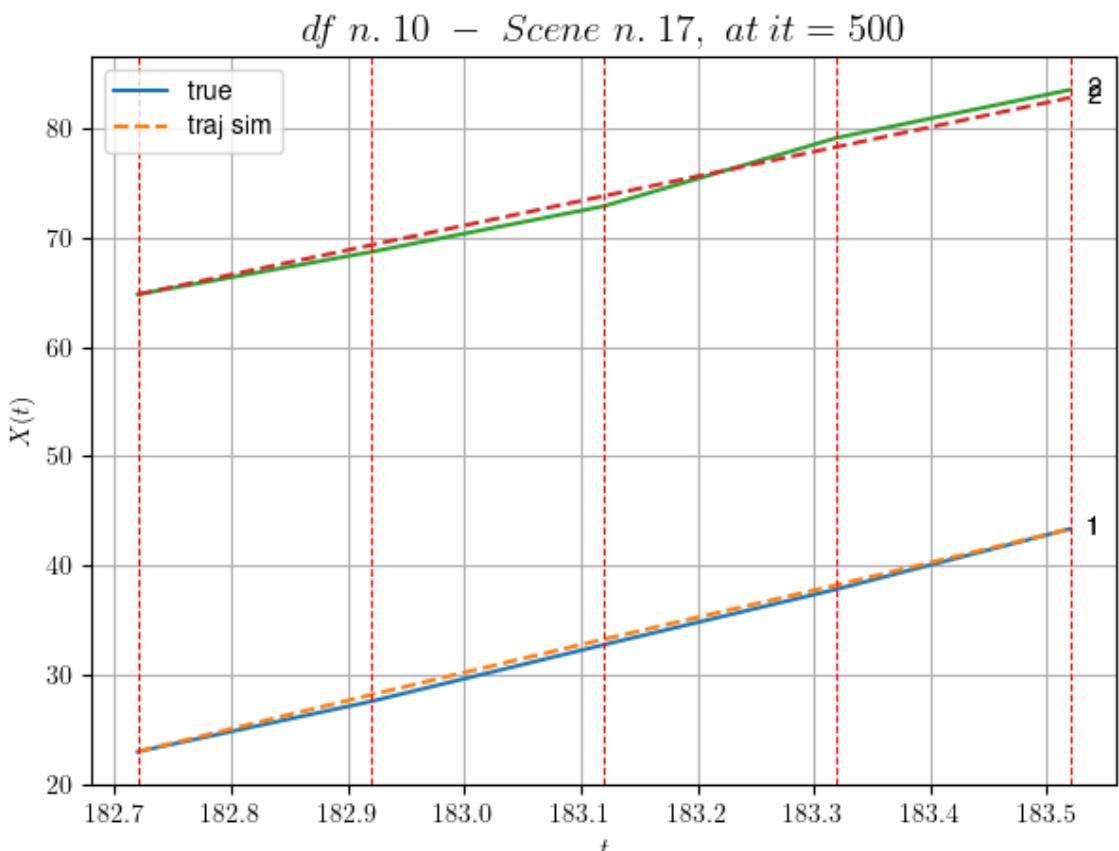
```
- Time interval n.2: [183.12, 183.32]
* y_true: [25.46062236]
* v_ann: [24.83553123474121, 22.502260179114707]
```

---

```
- Time interval n.3: [183.32, 183.52]
* y_true: [27.55089391]
* v_ann: [25.588708877563477, 22.502260179114707]
```

---

```
* err= 0.3221503485419163
* Learning rate NN = 4.782968062500004e-06
* diff = 0.0001227550883265427
```



For scene 17/74

```
* use LR_NN=1e-05 with err=6.20926373215284 at it=24
* v0_scn_mean = 22.802169771892544
* MAE = 0.2958105232005278
```

---



---



---

df n.10, scene n.18/74

---



---



---



---

We have 6 time intervals inside [188.92,190.12]

```
- Time interval n.0: [188.92, 189.12]
 * y_true: [25.11758737]
 * v_ann: [23.45760154724121, 27.06160992268717]

- Time interval n.1: [189.12, 189.32]
 * y_true: [24.28121512]
 * v_ann: [23.85128402709961, 27.06160992268717]

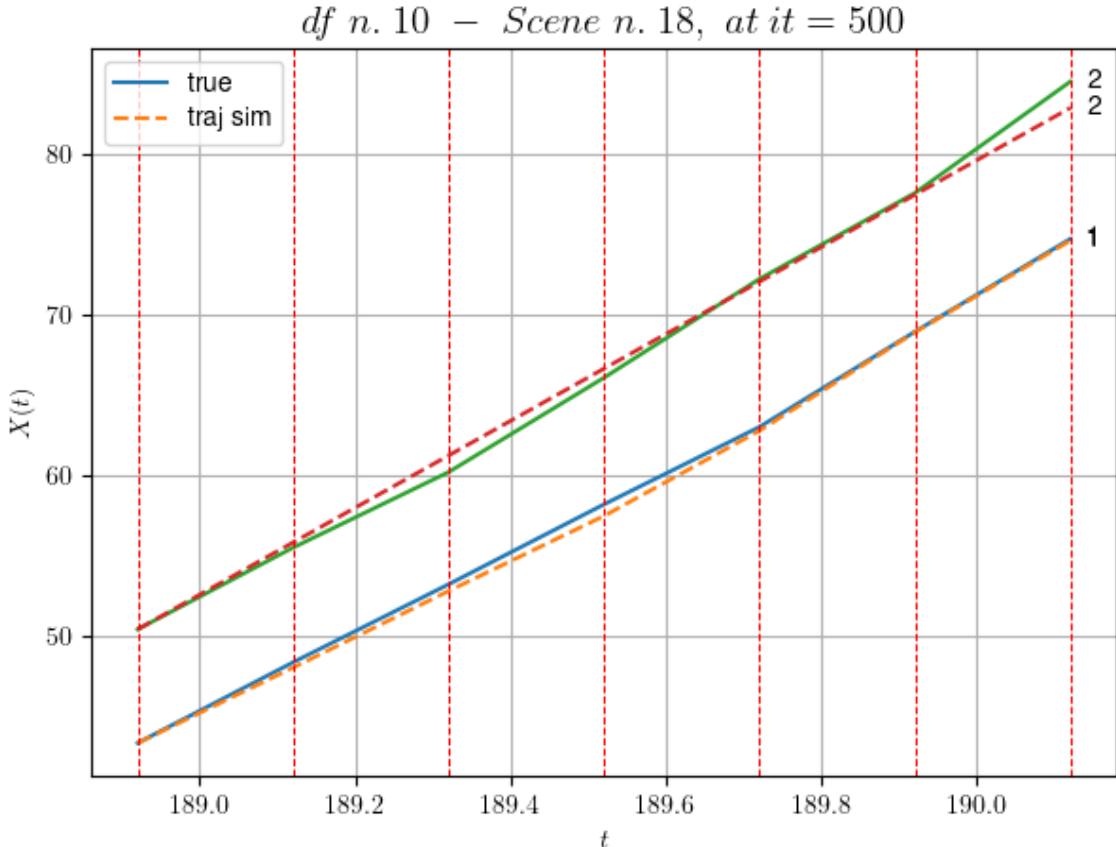
- Time interval n.2: [189.32, 189.52]
 * y_true: [24.90146436]
 * v_ann: [23.385473251342773, 27.06160992268717]

- Time interval n.3: [189.52, 189.72]
 * y_true: [24.10172122]
 * v_ann: [26.539051055908203, 27.06160992268717]

- Time interval n.4: [189.72, 189.92]
 * y_true: [29.66248113]
 * v_ann: [30.650283813476562, 27.06160992268717]

- Time interval n.5: [189.92, 190.12]
 * y_true: [28.89284396]
 * v_ann: [28.538766860961914, 27.06160992268717]

* err= 0.36388371698119376
* Learning rate NN = 0.00015690525469835848
* diff = 0.0007494740681168177
```



For scene 18/74

- \* use LR\_NN=0.0005 with err=1.9882019881788606 at it=24
- \* v0\_scn\_mean = 27.17914552575697
- \* MAE = 0.32300734151202526

---



---

df n.10, scene n.19/74

---



---

We have 9 time intervals inside [201.32, 203.12]

- Time interval n.0: [201.32, 201.52]
  - \* y\_true: [24.52008638]
  - \* v\_ann: [25.656085968017578, 26.320098161162182]

---

- Time interval n.1: [201.52, 201.72]
  - \* y\_true: [25.9301702]
  - \* v\_ann: [26.223655700683594, 26.320098161162182]

---

- Time interval n.2: [201.72, 201.92]
  - \* y\_true: [29.26032799]
  - \* v\_ann: [25.89268684387207, 26.320098161162182]

---

- Time interval n.3: [201.92, 202.12]
  - \* y\_true: [23.25036083]

```
* v_ann: [26.597850799560547, 26.320098161162182]
```

```


- Time interval n.4: [202.12, 202.32]
* y_true: [22.87050849]
* v_ann: [26.36695671081543, 26.320098161162182]
```

```


- Time interval n.5: [202.32, 202.52]
* y_true: [24.47068757]
* v_ann: [25.214542388916016, 26.320098161162182]
```

```


- Time interval n.6: [202.52, 202.72]
* y_true: [28.03104175]
* v_ann: [26.364919662475586, 26.320098161162182]
```

```

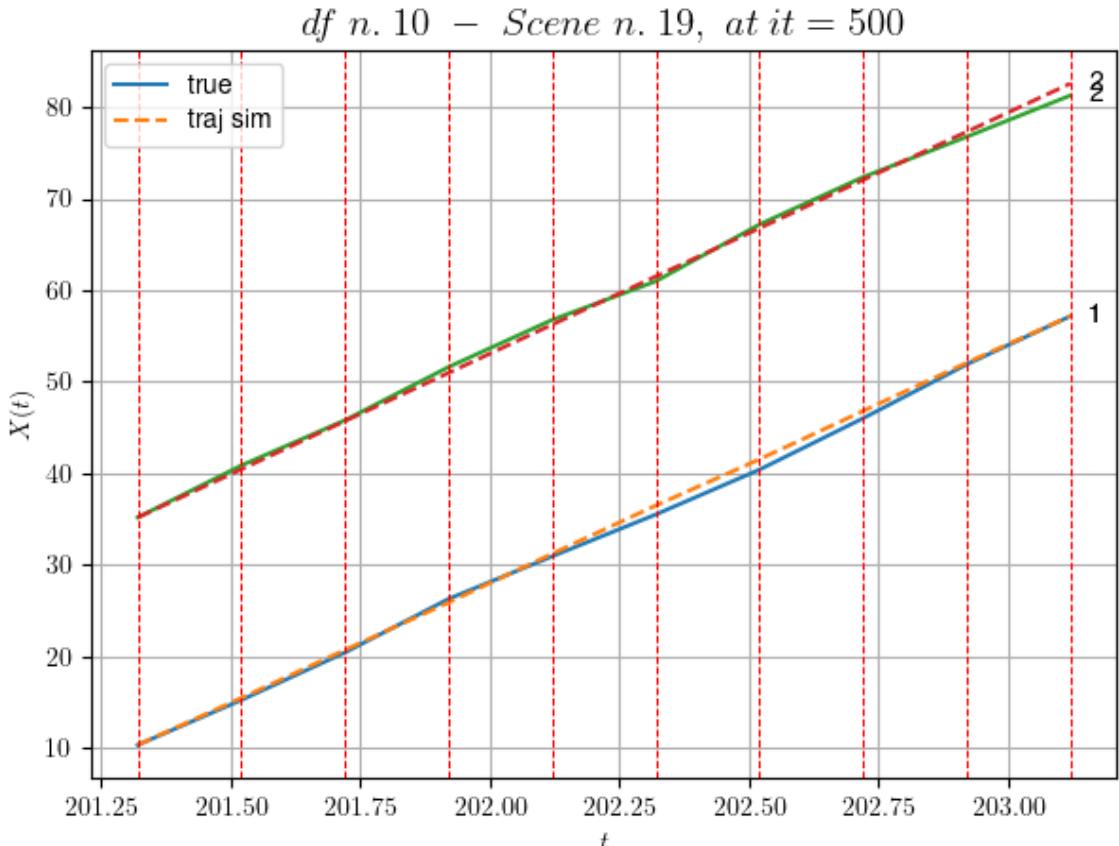

- Time interval n.7: [202.72, 202.92]
* y_true: [29.41136895]
* v_ann: [26.314922332763672, 26.320098161162182]
```

```


- Time interval n.8: [202.92, 203.12]
* y_true: [26.3315156]
* v_ann: [25.490203857421875, 26.320098161162182]
```

```


* err= 0.33360626894903456
* Learning rate NN = 8.338587213074788e-05
* diff = 0.00522667061324722
```



For scene 19/74

- \* use LR\_NN=0.0005 with err=8.676487349595199 at it=24
- \* v0\_scn\_mean = 26.46729423468731
- \* MAE = 0.2734680738583036

---



---

df n.10, scene n.20/74

---



---

We have 6 time intervals inside [209.32, 210.52]

- Time interval n.0: [209.32, 209.52]
  - \* y\_true: [17.92044086]
  - \* v\_ann: [14.363649368286133, 27.594562747147442]

---

- Time interval n.1: [209.52, 209.72]
  - \* y\_true: [18.1805462]
  - \* v\_ann: [16.203433990478516, 27.594562747147442]

---

- Time interval n.2: [209.72, 209.92]
  - \* y\_true: [20.36072689]
  - \* v\_ann: [18.22266960144043, 27.594562747147442]

---

- Time interval n.3: [209.92, 210.12]
  - \* y\_true: [17.38074209]

\* v\_ann: [21.23529052734375, 27.594562747147442]

---

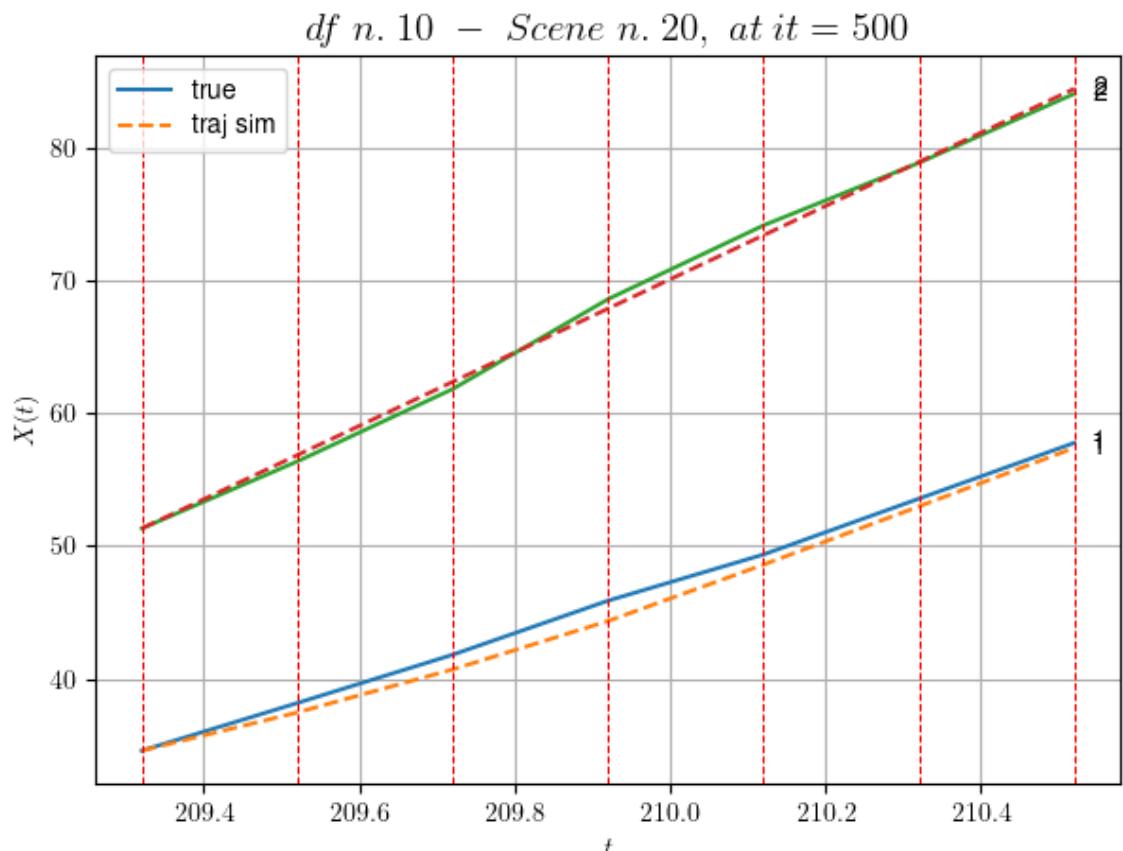
- Time interval n.4: [210.12, 210.32]  
 \* y\_true: [21.02104774]  
 \* v\_ann: [21.917097091674805, 27.594562747147442]

---

- Time interval n.5: [210.32, 210.52]  
 \* y\_true: [21.02121012]  
 \* v\_ann: [22.055025100708008, 27.594562747147442]

---

\* err= 0.4910289538882264  
 \* Learning rate NN = 0.00015690525469835848  
 \* diff = 0.000617476002435835



For scene 20/74

\* use LR\_NN=0.0005 with err=1.7765609125055382 at it=24  
 \* v0\_scn\_mean = 27.690780237242564  
 \* MAE = 0.3848620066961992

---



---

df n.10, scene n.21/74

---



---

We have 3 time intervals inside [214.72,215.32]  
 - Time interval n.0: [214.72, 214.92]

```
* y_true: [24.40146441]
* v_ann: [27.44854736328125, 28.84411723153517]
```

---

```
- Time interval n.1: [214.92, 215.12]
```

```
* y_true: [30.70222368]
```

```
* v_ann: [32.44797134399414, 28.84411723153517]
```

---

```
- Time interval n.2: [215.12, 215.32]
```

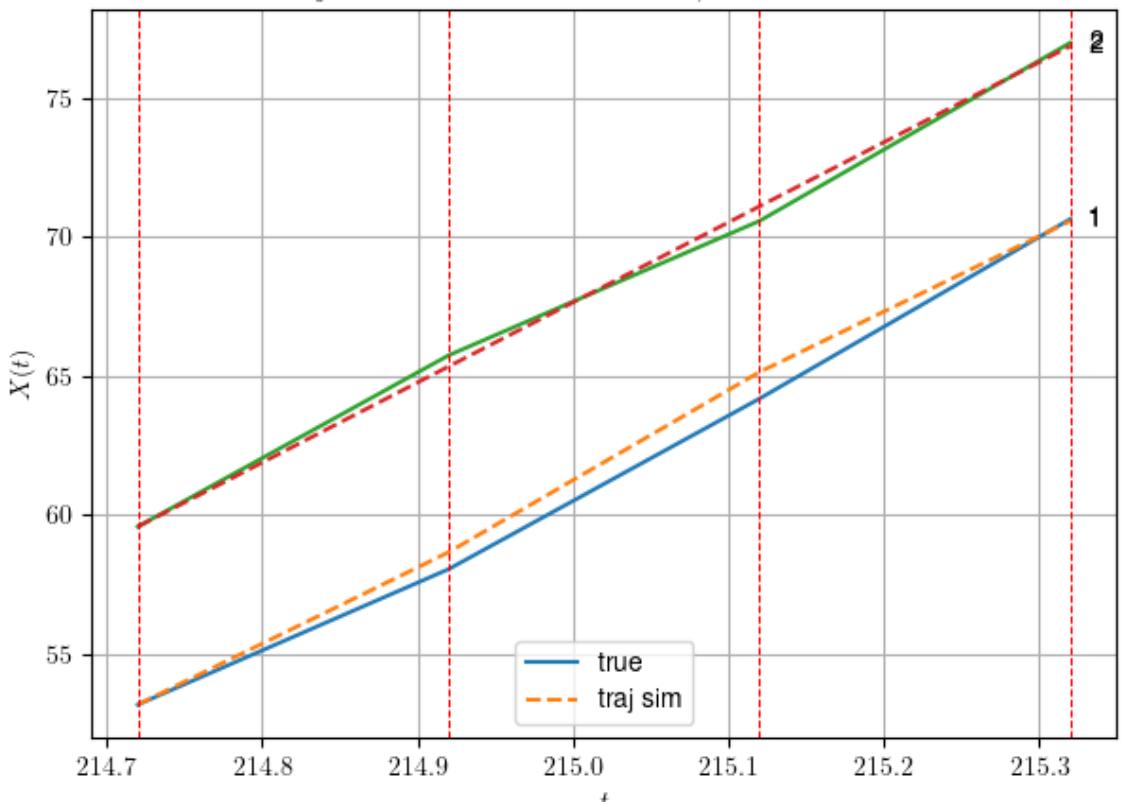
```
* y_true: [32.35284791]
```

```
* v_ann: [27.196876525878906, 28.84411723153517]
```

---

```
* err= 0.21874186194404252
* Learning rate NN = 5.904899080633186e-05
* diff = 2.3215735907577972e-06
```

*df n. 10 – Scene n. 21, at it = 500*



For scene 21/74

```
* use LR_NN=0.0001 with err=0.30188312976416226 at it=24
```

```
* v0_scn_mean = 28.890352542264704
```

```
* MAE = 0.18974808715909958
```

---



---



---

df n.10, scene n.22/74

---



---



---

We have 6 time intervals inside [225.52, 226.72]

```
- Time interval n.0: [225.52, 225.72]
 * y_true: [21.78221563]
 * v_ann: [19.971250534057617, 28.699883785023637]

- Time interval n.1: [225.72, 225.92]
 * y_true: [26.53150038]
 * v_ann: [20.96337890625, 28.699883785023637]

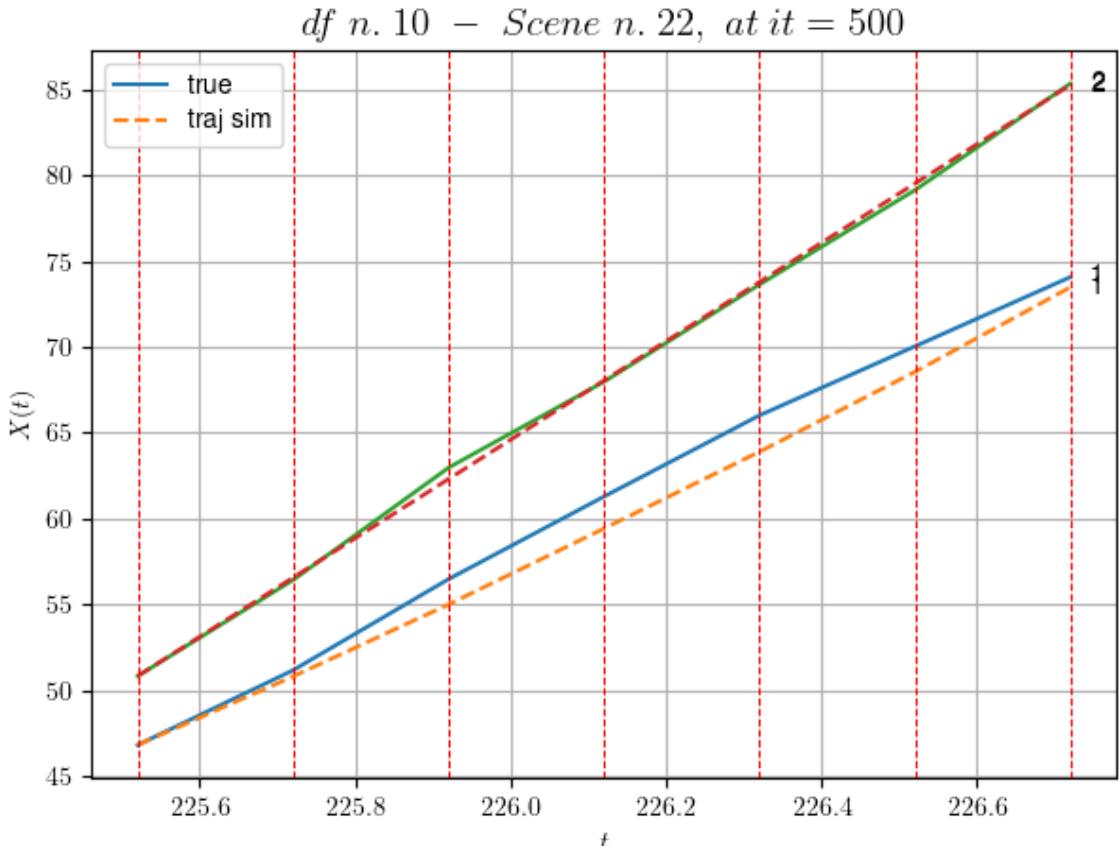
- Time interval n.2: [225.92, 226.12]
 * y_true: [24.06160729]
 * v_ann: [22.129304885864258, 28.699883785023637]

- Time interval n.3: [226.12, 226.32]
 * y_true: [23.65186694]
 * v_ann: [22.358688354492188, 28.699883785023637]

- Time interval n.4: [226.32, 226.52]
 * y_true: [20.10178236]
 * v_ann: [23.27159309387207, 28.699883785023637]

- Time interval n.5: [226.52, 226.72]
 * y_true: [20.18204216]
 * v_ann: [24.659286499023438, 28.699883785023637]

* err= 0.9626038295802392
* Learning rate NN = 3.138104875688441e-05
* diff = 0.07514711625942339
```



For scene 22/74

- \* use LR\_NN=0.0001 with err=5.866679786498162 at it=24
- \* v0\_scn\_mean = 28.75188843361281
- \* MAE = 0.9626038295802392

---



---

df n.10, scene n.23/74

---



---

We have 2 time intervals inside [235.52, 235.92]

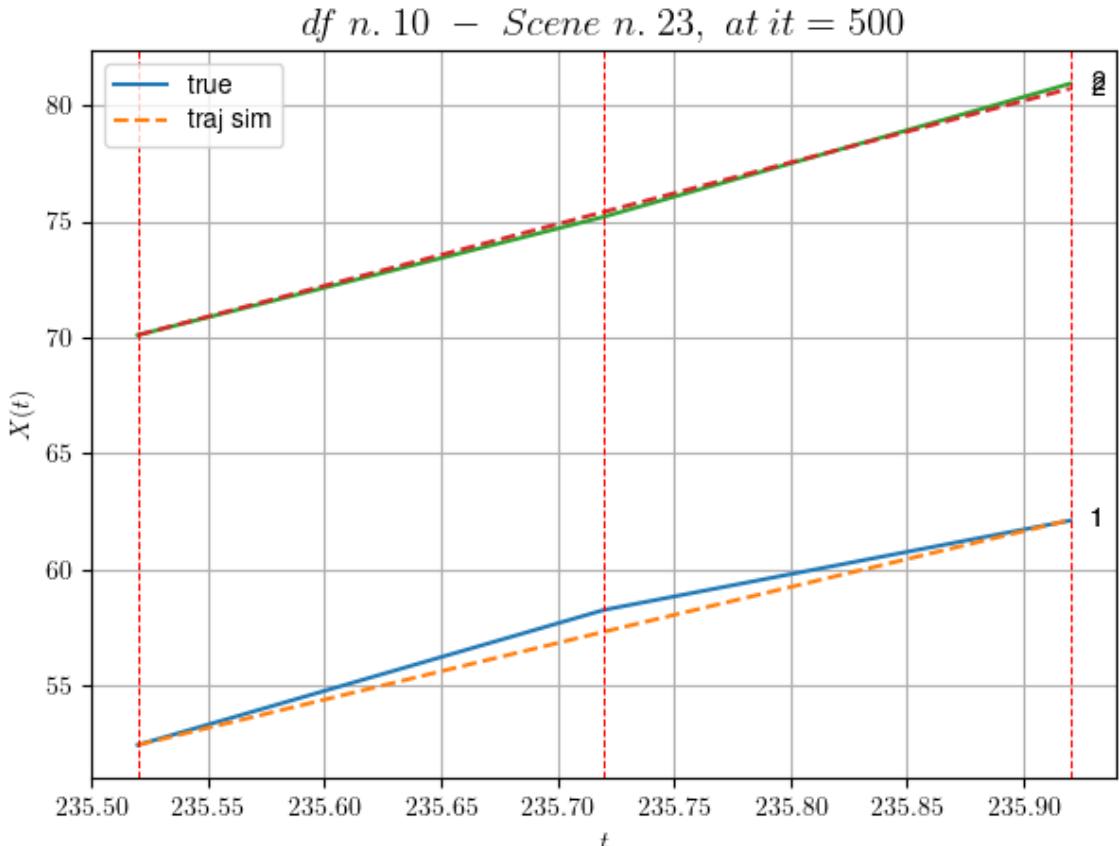
- Time interval n.0: [235.52, 235.72]
  - \* y\_true: [29.10171425]
  - \* v\_ann: [24.397846221923828, 26.569531373914693]

---

- Time interval n.1: [235.72, 235.92]
  - \* y\_true: [19.25133961]
  - \* v\_ann: [24.088647842407227, 26.569531373914693]

---

- \* err= 0.1628056178812728
- \* Learning rate NN = 7.289998757187277e-05
- \* diff = 0.0001827002683590928



For scene 23/74

- \* use LR\_NN=0.0001 with err=0.5148517388706447 at it=24
- \* v0\_scn\_mean = 26.706750118931353
- \* MAE = 0.16163334786963718

---



---

df n.10, scene n.24/74

---



---

We have 4 time intervals inside [264.12, 264.92]

- Time interval n.0: [264.12, 264.32]
  - \* y\_true: [13.05791248]
  - \* v\_ann: [19.048349380493164, 23.45229191089349]

---

- Time interval n.1: [264.32, 264.52]
  - \* y\_true: [24.93096209]
  - \* v\_ann: [20.956701278686523, 23.45229191089349]

---

- Time interval n.2: [264.52, 264.72]
  - \* y\_true: [24.31109264]
  - \* v\_ann: [20.241945266723633, 23.45229191089349]

---

- Time interval n.3: [264.72, 264.92]
  - \* y\_true: [17.76095889]

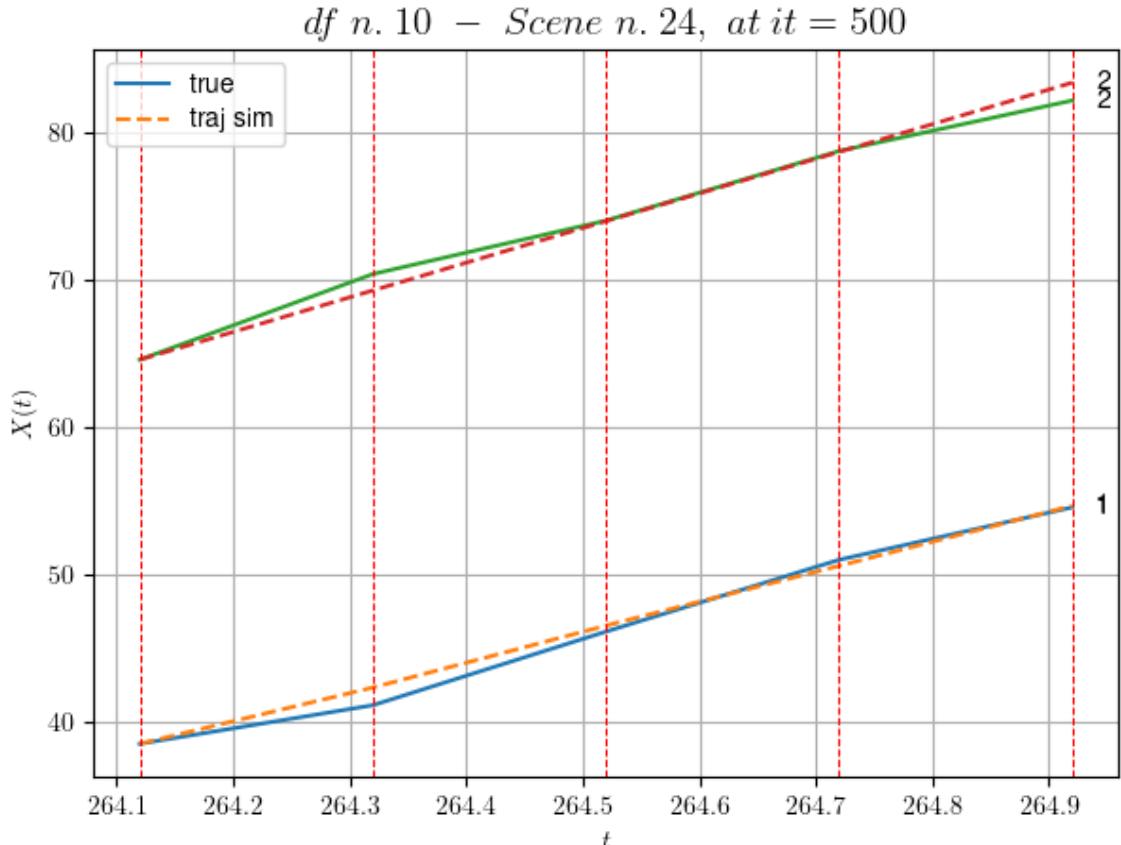
```
* v_ann: [20.359899520874023, 23.45229191089349]
```

---



---

```
* err= 0.44800673421332604
* Learning rate NN = 2.3914839403005317e-05
* diff = 0.00010097072847209398
```



For scene 24/74

```
* use LR_NN=5e-05 with err=6.501906749898194 at it=24
* v0_scn_mean = 23.714200234407553
* MAE = 0.44696736433564616
```

---



---

df n.10, scene n.25/74

---



---



---



---

We have 6 time intervals inside [275.92,277.12]

- Time interval n.0: [275.92, 276.12]
  - \* y\_true: [3.81567404]
  - \* v\_ann: [16.513362884521484, 19.05141022652587]

---

- Time interval n.1: [276.12, 276.32]
  - \* y\_true: [18.48916658]
  - \* v\_ann: [14.409329414367676, 19.05141022652587]

---

- Time interval n.2: [276.32, 276.52]

```
* y_true: [18.87049839]
* v_ann: [16.878496170043945, 19.05141022652587]
```

---

```
- Time interval n.3: [276.52, 276.72]
* y_true: [19.57064874]
* v_ann: [16.868227005004883, 19.05141022652587]
```

---

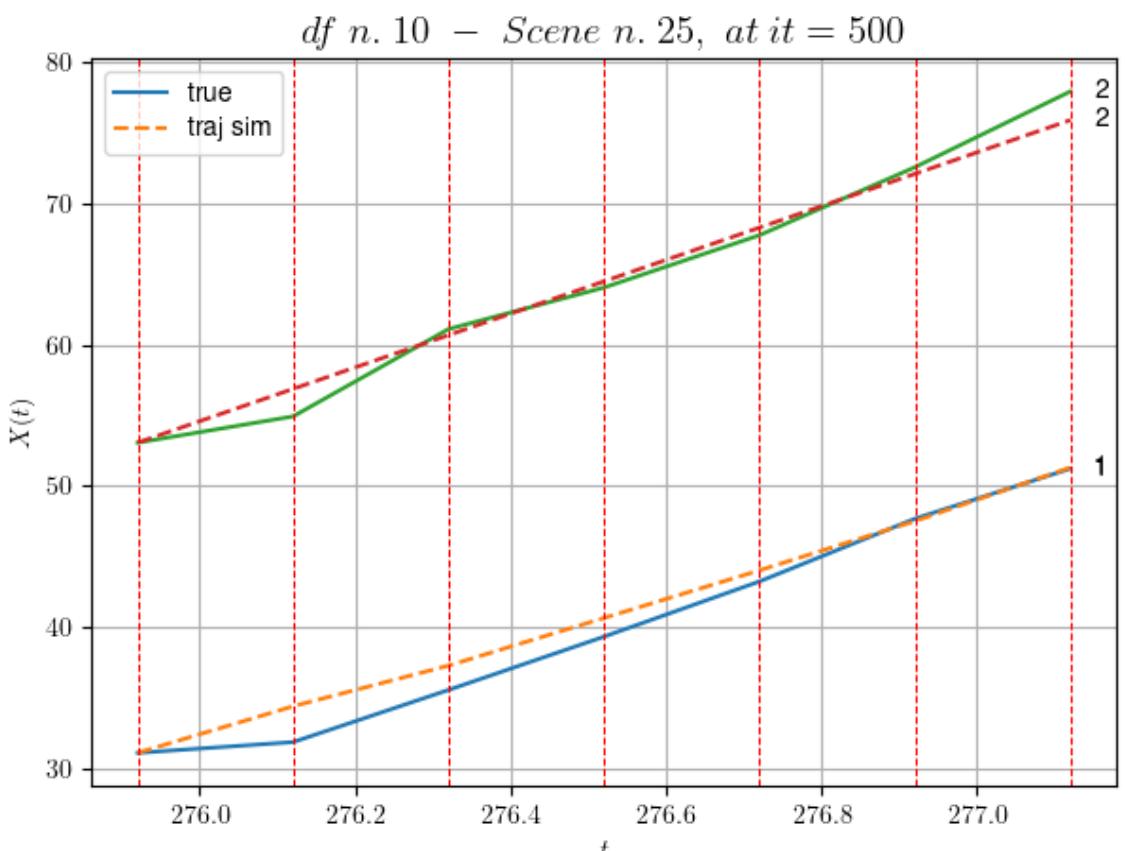
```
- Time interval n.4: [276.72, 276.92]
* y_true: [22.23088263]
* v_ann: [17.442672729492188, 19.05141022652587]
```

---

```
- Time interval n.5: [276.92, 277.12]
* y_true: [17.74082471]
* v_ann: [19.03287124633789, 19.05141022652587]
```

---

```
* err= 1.4747023128692303
* Learning rate NN = 0.00015690525469835848
* diff = 0.021488247891719103
```



For scene 25/74

```
* use LR_NN=0.0005 with err=29.291661974206303 at it=24
* v0_scn_mean = 19.489353817381488
* MAE = 1.1605611424461157
```

```
df n.10, scene n.26/74
=====
```

```
We have 2 time intervals inside [279.52,279.92]
```

- Time interval n.0: [279.52, 279.72]

- \* y\_true: [16.95098752]

- \* v\_ann: [22.2330265045166, 18.48544509200714]

---

- Time interval n.1: [279.72, 279.92]

- \* y\_true: [26.95183076]

- \* v\_ann: [21.54166603088379, 18.48544509200714]

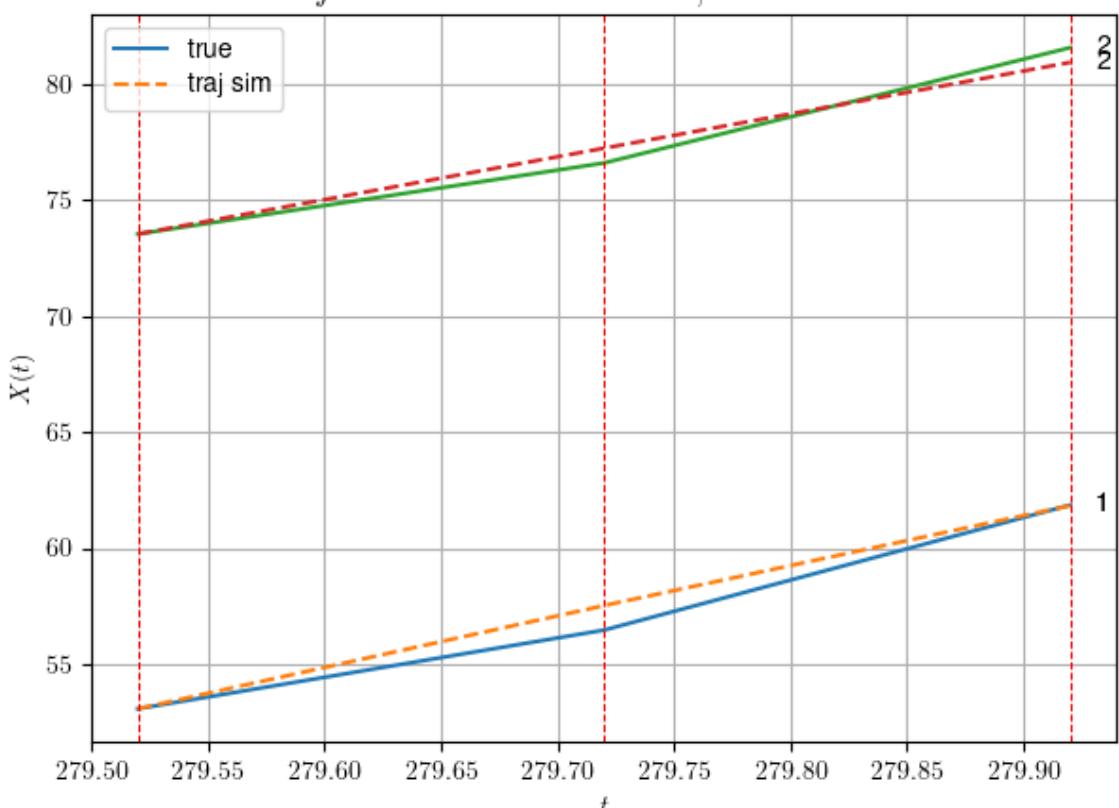
---

- \* err= 0.3212616444499406

- \* Learning rate NN = 3.6449993785936385e-05

- \* diff = 2.8164921050954916e-07

*df n. 10 – Scene n. 26, at it = 500*



For scene 26/74

- \* use LR\_NN=5e-05 with err=4.267843141158494 at it=24

- \* v0\_scn\_mean = 18.94602728823743

- \* MAE = 0.3118783986085457

```
df n.10, scene n.27/74
=====
```

We have 4 time intervals inside [282.72, 283.52]

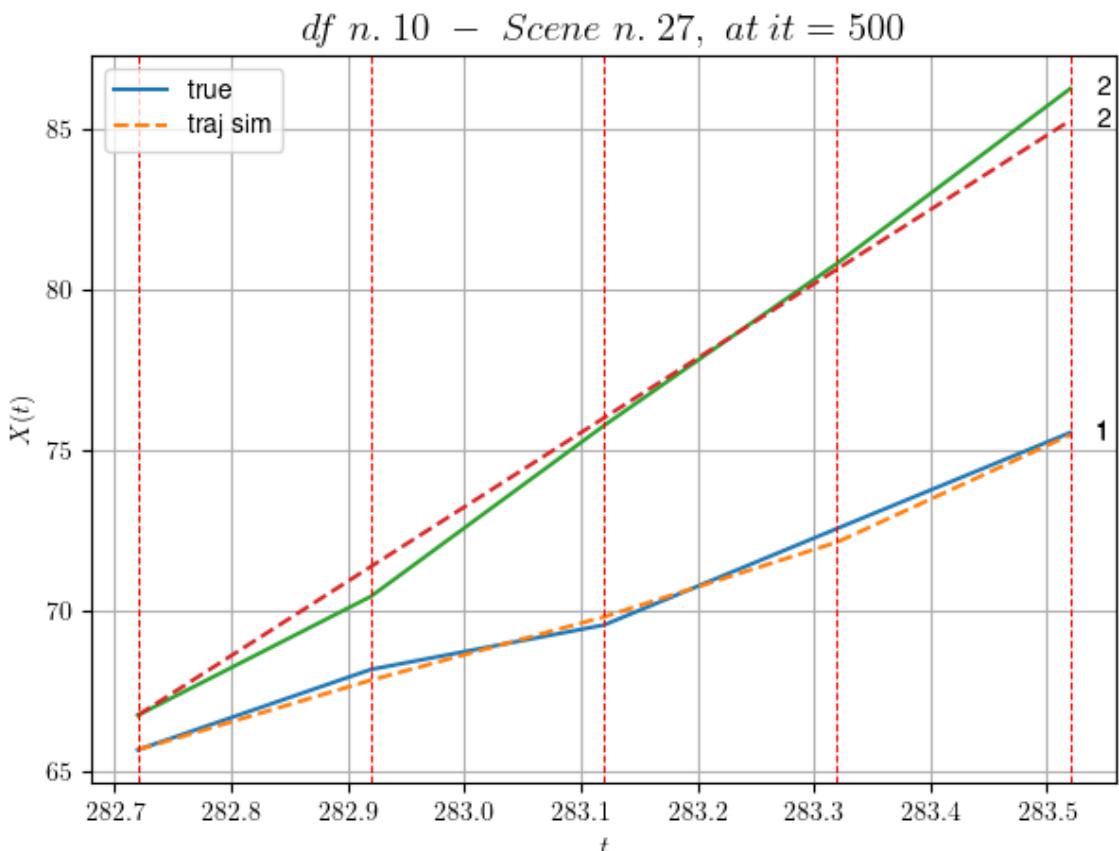
- Time interval n.0: [282.72, 282.92]
    - \* y\_true: [12.52227184]
    - \* v\_ann: [10.85029125213623, 23.180355370996622]
- 

- Time interval n.1: [282.92, 283.12]
    - \* y\_true: [6.92983149]
    - \* v\_ann: [9.867395401000977, 23.180355370996622]
- 

- Time interval n.2: [283.12, 283.32]
    - \* y\_true: [15.03956301]
    - \* v\_ann: [11.651342391967773, 23.180355370996622]
- 

- Time interval n.3: [283.32, 283.52]
    - \* y\_true: [14.95156792]
    - \* v\_ann: [16.71474838256836, 23.180355370996622]
- 

- \* err= 0.2299727987801377
- \* Learning rate NN = 0.002391484100371599
- \* diff = 0.0008345099446221693



For scene 27/74

- \* use LR\_NN=0.005 with err=5.177038366139367 at it=24
- \* v0\_scn\_mean = 23.453141156105396
- \* MAE = 0.22858628818851473

```
=====
=====
```

df n.10, scene n.28/74

```
=====
=====
```

We have 10 time intervals inside [298.32,300.32]

- Time interval n.0: [298.32, 298.52]
  - \* y\_true: [21.88077662]
  - \* v\_ann: [20.416196823120117, 14.578703915530495]

```

```

- Time interval n.1: [298.52, 298.72]
  - \* y\_true: [11.89969318]
  - \* v\_ann: [14.225111961364746, 14.578703915530495]

```

```

- Time interval n.2: [298.72, 298.92]
  - \* y\_true: [4.14685101]
  - \* v\_ann: [14.009329795837402, 14.578703915530495]

```

```

- Time interval n.3: [298.92, 299.12]
  - \* y\_true: [3.95017947]
  - \* v\_ann: [18.34943199157715, 14.578703915530495]

```

```

- Time interval n.4: [299.12, 299.32]
  - \* y\_true: [26.59410461]
  - \* v\_ann: [25.651180267333984, 14.578703915530495]

```

```

- Time interval n.5: [299.32, 299.52]
  - \* y\_true: [23.13143368]
  - \* v\_ann: [22.514850616455078, 14.578703915530495]

```

```

- Time interval n.6: [299.52, 299.72]
  - \* y\_true: [25.67184851]
  - \* v\_ann: [17.47659683227539, 14.578703915530495]

```

```

- Time interval n.7: [299.72, 299.92]
  - \* y\_true: [21.03179268]
  - \* v\_ann: [14.715287208557129, 14.578703915530495]

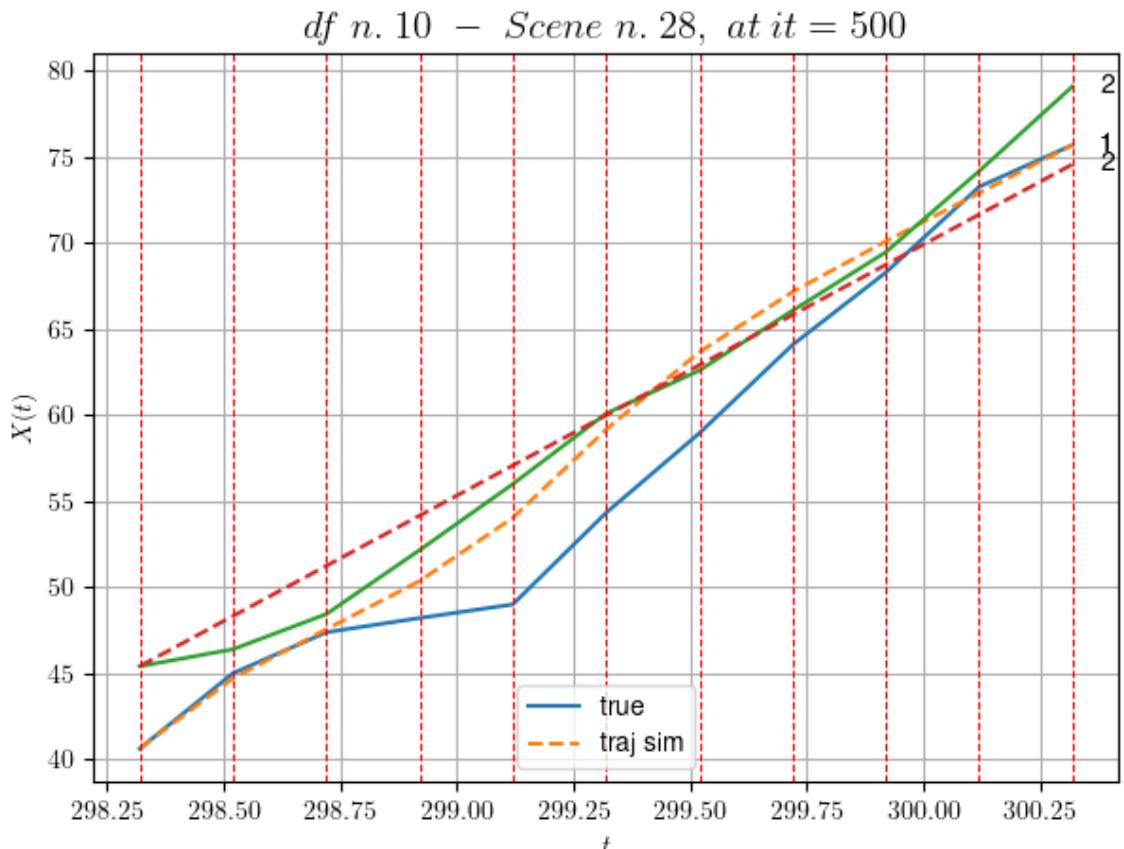
```

```

- Time interval n.8: [299.92, 300.12]
  - \* y\_true: [24.87385504]
  - \* v\_ann: [14.024730682373047, 14.578703915530495]

```
- Time interval n.9: [300.12, 300.32]
 * y_true: [12.13130693]
 * v_ann: [13.965919494628906, 14.578703915530495]
```

```
* err= 6.030014808543104
* Learning rate NN = 6.754255446139723e-05
```



For scene 28/74

```
* use LR_NN=0.0005 with err=156.23957353993558 at it=24
* v0_scn_mean = 15.195555758791583
* MAE = 6.028147314078119
```

---



---

df n.10, scene n.29/74

---



---

We have 4 time intervals inside [303.52,304.32]

```
- Time interval n.0: [303.52, 303.72]
 * y_true: [26.22226166]
 * v_ann: [27.69246482849121, 8.561224404570373]
```

```
- Time interval n.1: [303.72, 303.92]
 * y_true: [20.65203911]
 * v_ann: [19.83392906188965, 8.561224404570373]
```

```

- Time interval n.2: [303.92, 304.12]

* y_true: [18.91793967]

* v_ann: [14.943632125854492, 8.561224404570373]

```

```

- Time interval n.3: [304.12, 304.32]

* y_true: [6.58408867]

* v_ann: [9.73528003692627, 8.561224404570373]

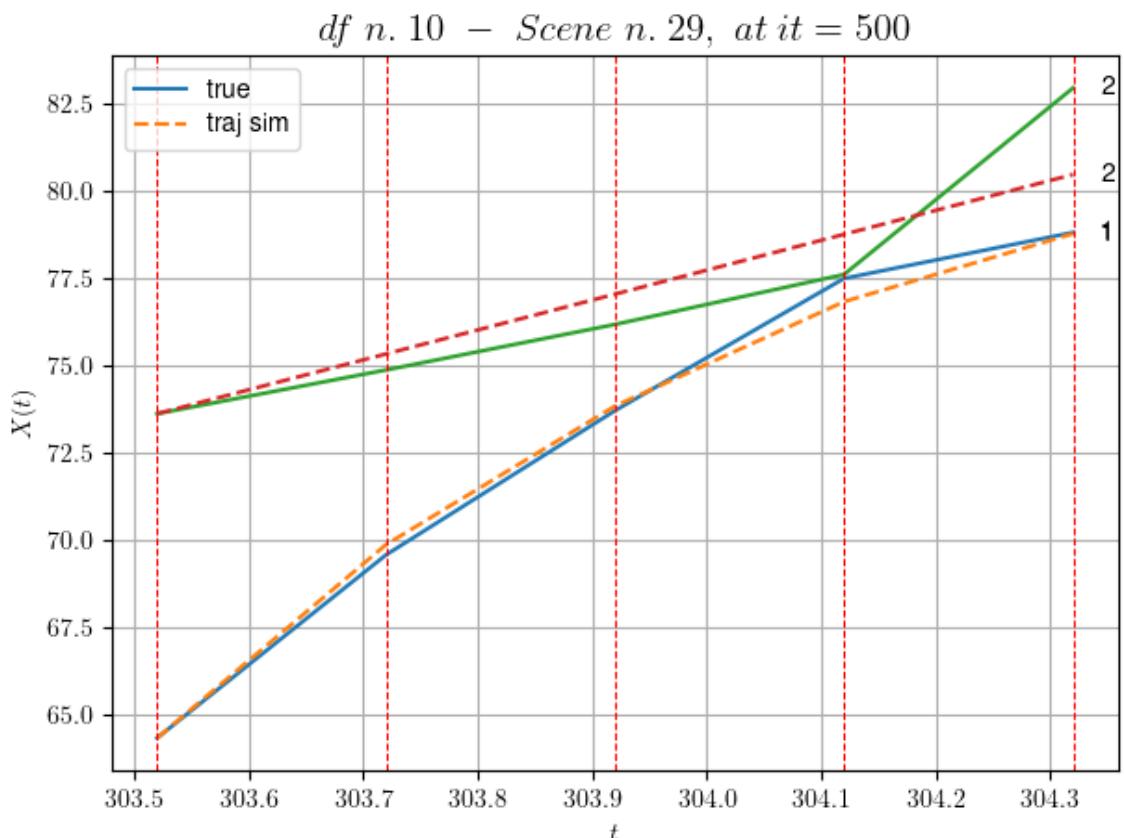
```

```

* err= 0.897446958793549

* Learning rate NN = 0.000478296831715852

* diff = 0.0019620359273905263
```



For scene 29/74

```

* use LR_NN=0.001 with err=53.02133102986684 at it=24

* v0_scn_mean = 9.418775428223885

* MAE = 0.8593337099397292
=====
```

df n.10, scene n.30/74

```

=====
```

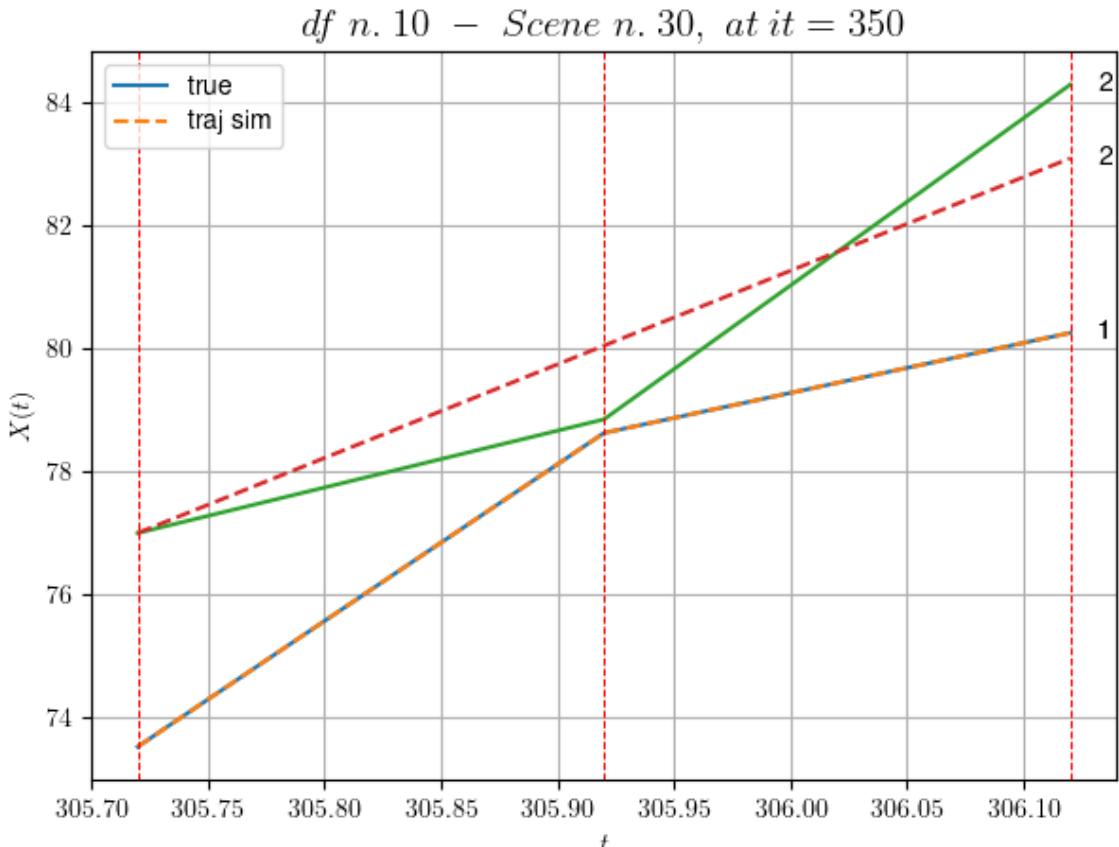
```

We have 2 time intervals inside [305.72,306.12]

* err= 0.47799344645918

* Learning rate NN = 0.004049999639391899
=====
```

\* diff = 2.2490507911587798e-07



For scene 30/74

- \* use LR\_NN=0.005 with err=6.572527678523572 at it=24
- \* v0\_scn\_mean = 16.07268675943605
- \* MAE = 0.430194411789629

---



---

df n.10, scene n.31/74

---



---

We have 4 time intervals inside [311.32, 312.12]

- Time interval n.0: [311.32, 311.52]
  - \* y\_true: [24.08137325]
  - \* v\_ann: [24.095060348510742, 17.69185162158464]

---

- Time interval n.1: [311.52, 311.72]
  - \* y\_true: [20.04132559]
  - \* v\_ann: [21.776453018188477, 17.69185162158464]

---

- Time interval n.2: [311.72, 311.92]
  - \* y\_true: [20.48155914]
  - \* v\_ann: [22.116901397705078, 17.69185162158464]

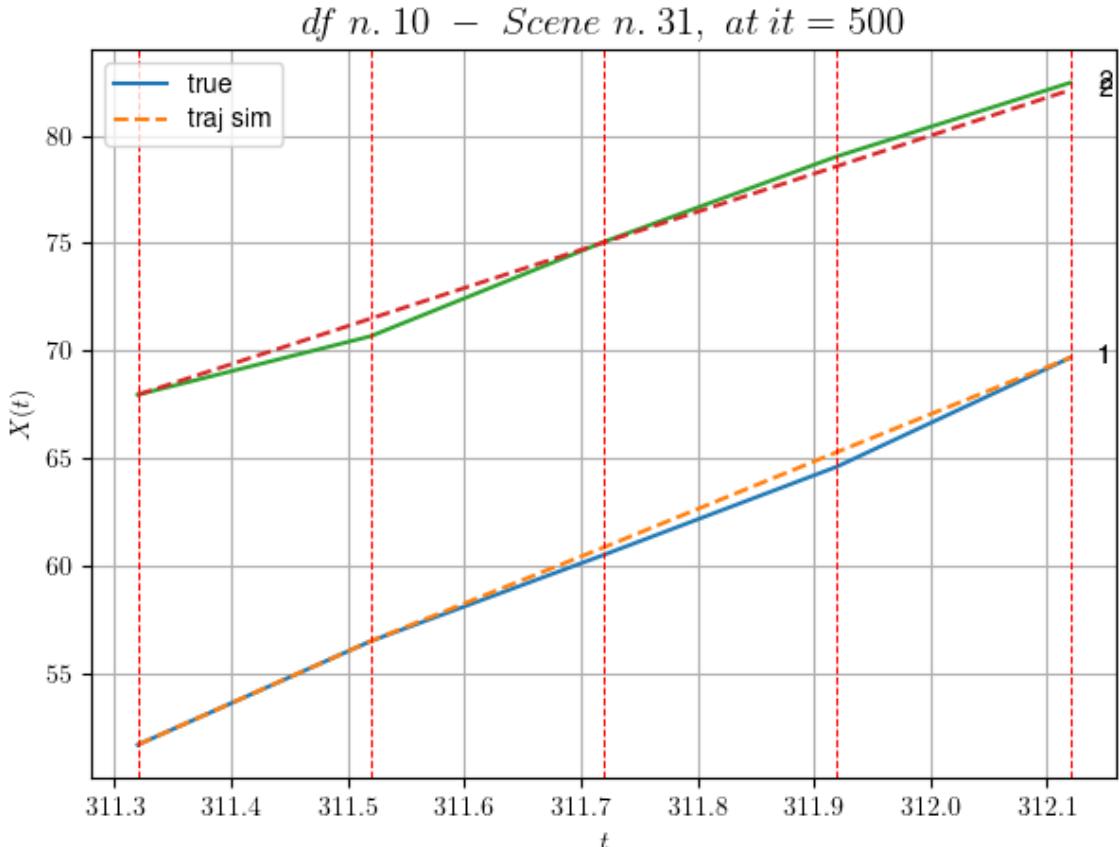
---

- Time interval n.3: [311.92, 312.12]

```
* y_true: [25.29222301]
* v_ann: [21.912263870239258, 17.69185162158464]
```

---

```
* err= 0.15726294399422747
* Learning rate NN = 2.3914839403005317e-05
* diff = 8.433508896846242e-05
```



For scene 31/74

```
* use LR_NN=5e-05 with err=17.391099758667316 at it=24
* v0_scn_mean = 18.184177556627176
* MAE = 0.14759548431343247
```

---



---

df n.10, scene n.32/74

---



---

We have 4 time intervals inside [316.12, 316.92]

- Time interval n.0: [316.12, 316.32]
  - \* y\_true: [5.39037804]
  - \* v\_ann: [5.125096797943115, 23.40156520227089]

---

- Time interval n.1: [316.32, 316.52]
  - \* y\_true: [5.50039632]
  - \* v\_ann: [6.007135391235352, 23.40156520227089]

---



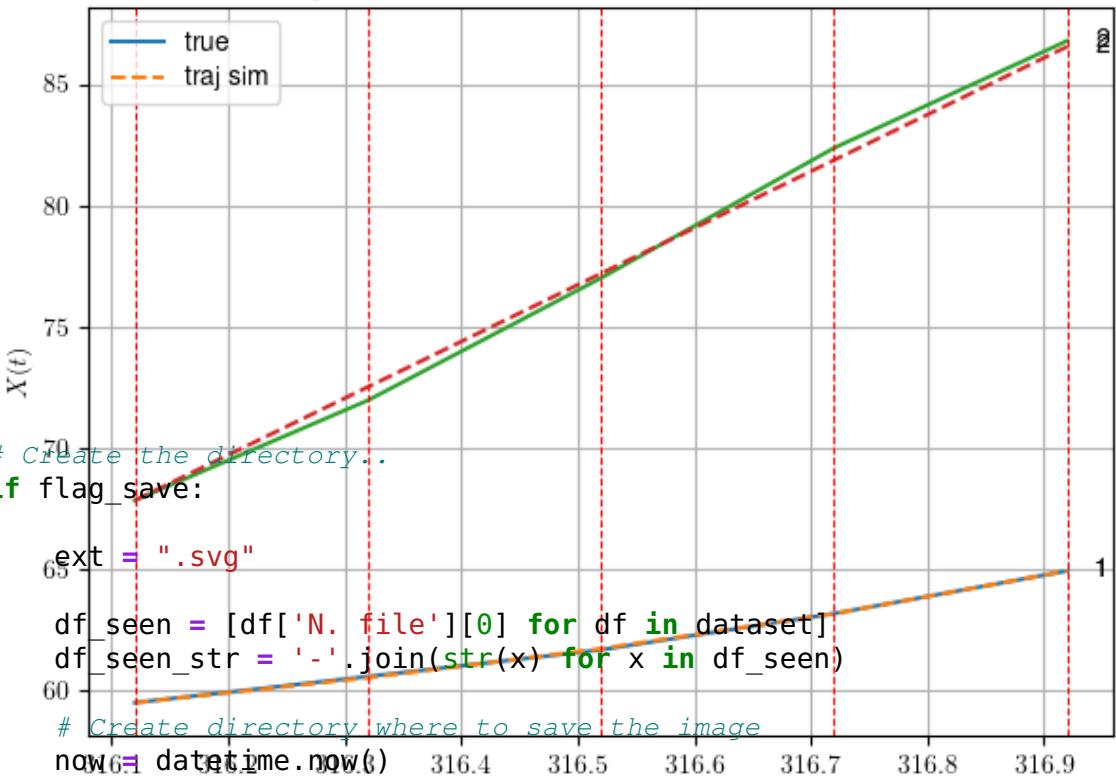
---

```
- Time interval n.2: [316.52, 316.72]
 * y_true: [7.48057532]
 * v_ann: [7.220076560974121, 23.40156520227089]
```

```
- Time interval n.3: [316.72, 316.92]
 * y_true: [8.80069466]
 * v_ann: [8.82235050201416, 23.40156520227089]
```

```
* err= 0.06517224531758974
* Learning rate NN = 0.000478296831715852
* diff = 1.6972641201928873e-06
```

*df n. 10 – Scene n. 32, at it = 500*



```
In [6]: # Create the directory...
if flag_save:
 ext = ".svg"
 df_seen = [df['N_file'][0] for df in dataset]
 df_seen_str = '-'.join(str(x) for x in df_seen)
 # Create directory where to save the image
 now6 = datetime.now()
 d = now.strftime("%Y-%m-%d_%H-%M-%S")_df{df_seen_str}_{NUM_ITER}it
 path = 'out/' + d
 os.mkdir(path)
 usePER_NN=0.001 with err=4.90459951907666 at it=24
 * v0_scn_mean = 23.66550259412989
```

```
In [7]: if flag_saveMAE = 0.05792557385728224
 # Save the solution in a file
=====namefile=="/info_nn10.txt"=====
=====

 with open(path + namefile, 'w') as output:
 info_nn10.to_csv(path + namefile, sep=',', index=False)
df n.10, scene n.33/74
```

```
We have 5 time intervals inside [325.92,326.92]
- Time interval n.0: [325.92, 326.12]
 * y_true: [14.52079076]
 * v_ann: [12.9613037109375, 22.916468107417952]
```

































































































