

October 19, 2020

```
[15]: import sys
      sys.path.insert(1, '../')
```

```
[16]: import numpy as np
      import seaborn as sns
      from matplotlib import pylab as plt
      from matplotlib import rcParams
      import pandas as pd
      import os
      import tqdm
      from collections import Counter
      from matplotlib.colors import LogNorm

      from DataContainers.Experiment import Experiment
      from PythonHeplers.IOHelpers import do_with_all_subfolders
      from DataAnalyzers.PicksAnalyzer import calc_picks

      %matplotlib inline
```

```
[17]: plt.style.use('ggplot')
      rcParams['figure.figsize'] = (20, 10)
```

0.0.1

[1, 2, 5, 10, 20, 40, 80, 160]

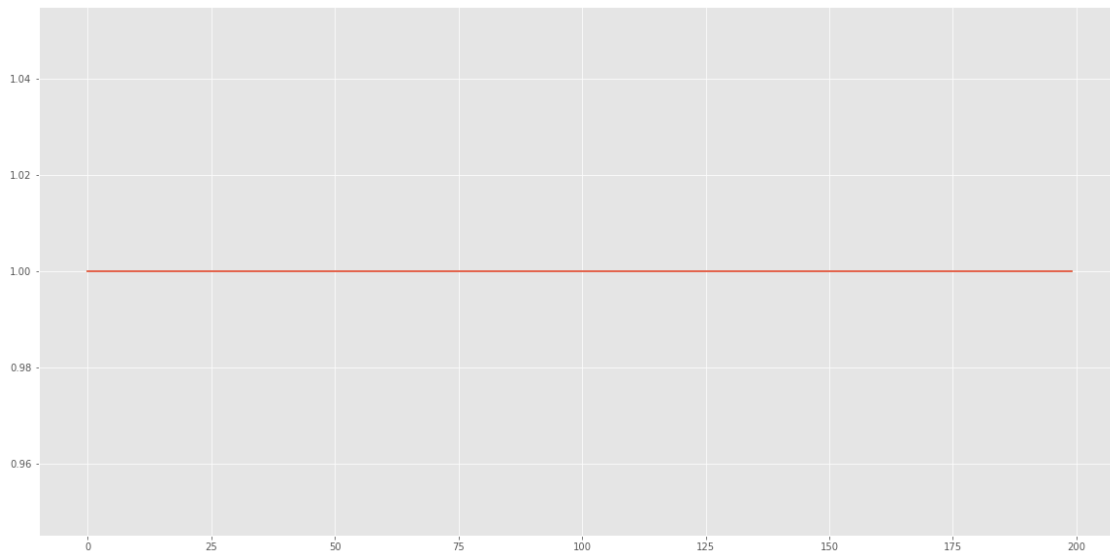
```
[18]: base_dir = 'data/'
      subfolders = sorted(list(os.walk(base_dir))[0][1], key=lambda x: int(x.
      ↪split('_')[-1]))
      subfolders
```

```
[18]: ['x_max_1',
      'x_max_2',
      'x_max_5',
      'x_max_10',
      'x_max_20',
```

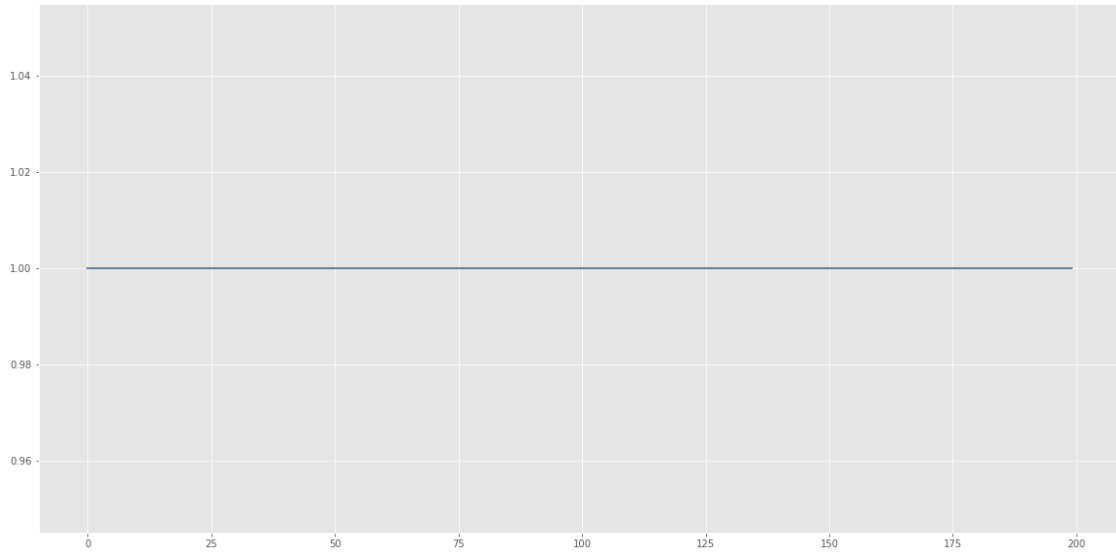
```
'x_max_40',  
'x_max_80',  
'x_max_160']
```

```
[5]: for folder in subfolders:  
    data = list(do_with_all_subfolders(os.path.join(base_dir, folder), lambda x:   
↳ Experiment().fill_from_file_Higgins_legacy_format(x)))  
    print(folder)  
    stats = dict(Counter(sorted(map(lambda x: tuple(calc_picks(x.  
↳ end_values['u']).values()), data), key=lambda x: x[0])))  
    for k in stats:  
        print(k, stats[k])  
    ax = plt.gca()  
    for d in data:  
        ax.plot(d.end_values['u'])  
    plt.show()
```

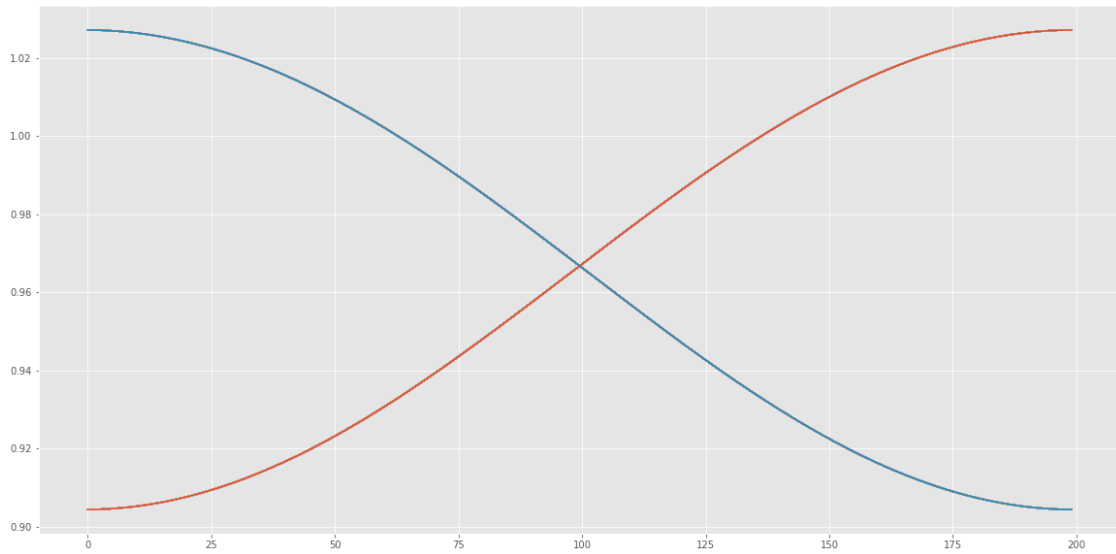
```
x_max_1  
(0, None) 113
```



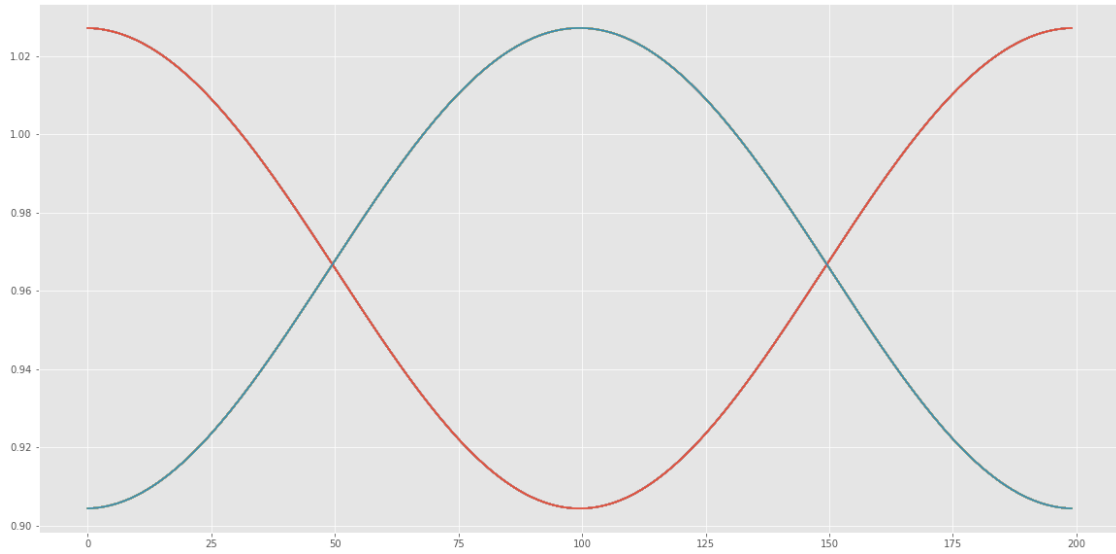
```
x_max_2  
(0, None) 100
```



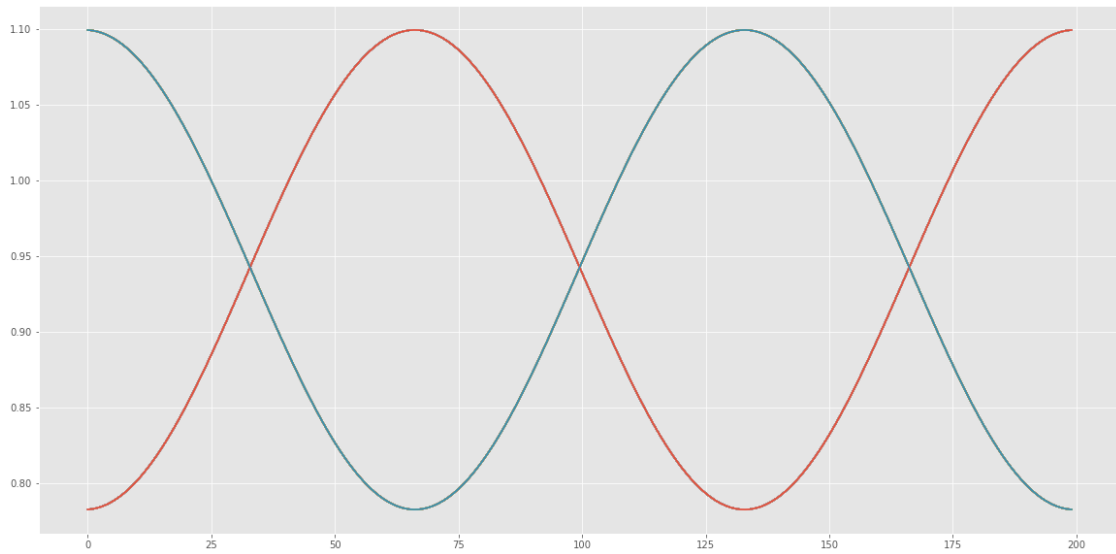
```
x_max_5
(0.0, 'up') 54
(0.0, 'down') 46
```



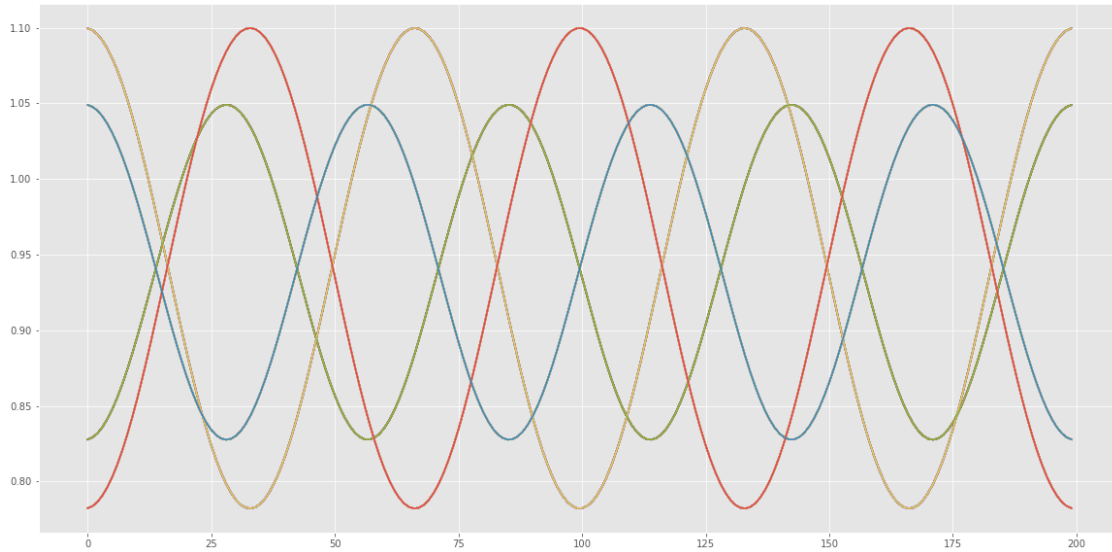
```
x_max_10
(1.0, 'up') 45
(1.0, 'down') 55
```



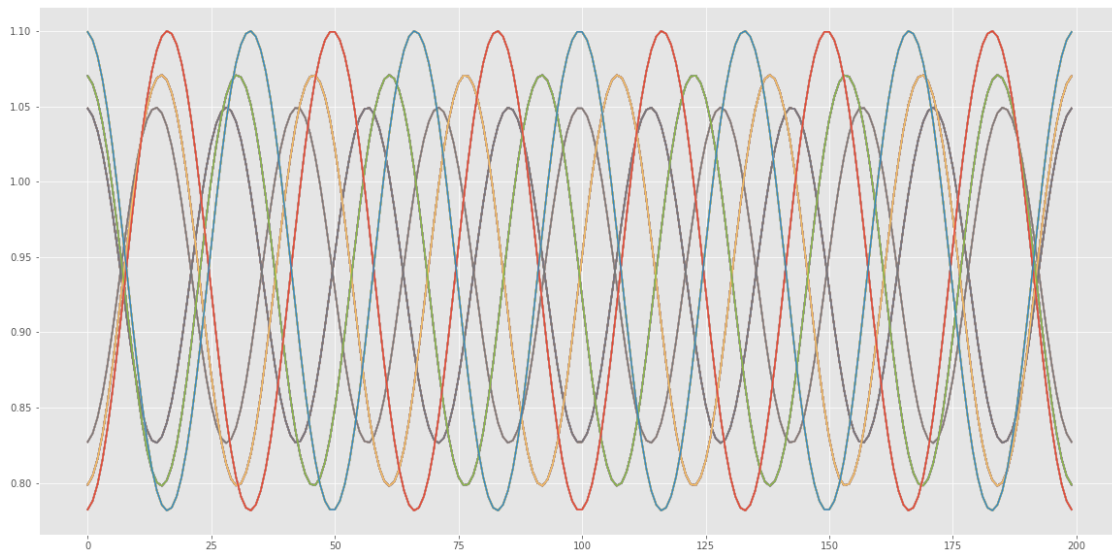
x_max_20
 (1.5, 'down') 47
 (1.5, 'up') 53



x_max_40
 (3.0, 'down') 23
 (3.0, 'up') 30
 (3.5, 'up') 25
 (3.5, 'down') 22



```
x_max_80
(6.0, 'up') 14
(6.0, 'down') 12
(6.5, 'up') 30
(6.5, 'down') 22
(7.0, 'up') 11
(7.0, 'down') 11
```

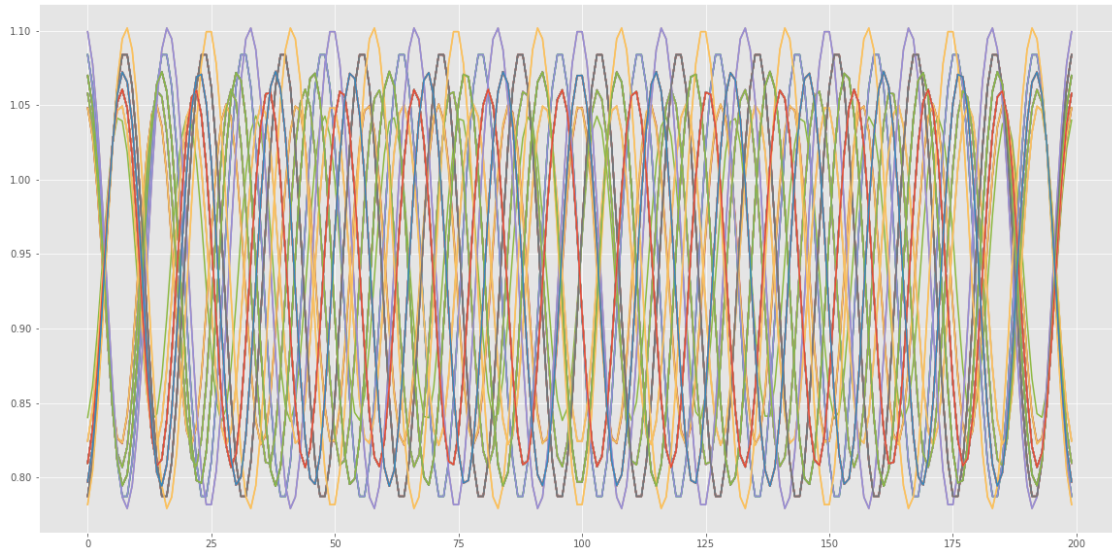


```
x_max_160
(12.0, 'down') 2
(12.0, 'up') 3
```

```

(12.5, 'up') 11
(12.5, 'down') 5
(13.0, 'up') 19
(13.0, 'down') 17
(13.5, 'down') 14
(13.5, 'up') 19
(14.0, 'up') 5
(14.0, 'down') 4
(14.5, 'up') 1

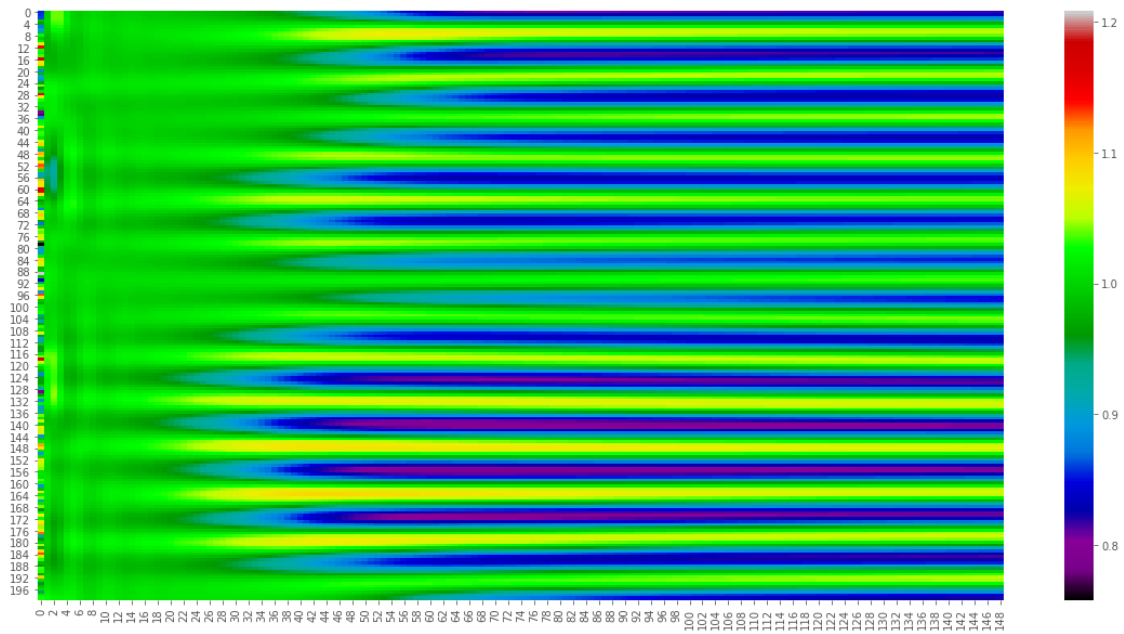
```

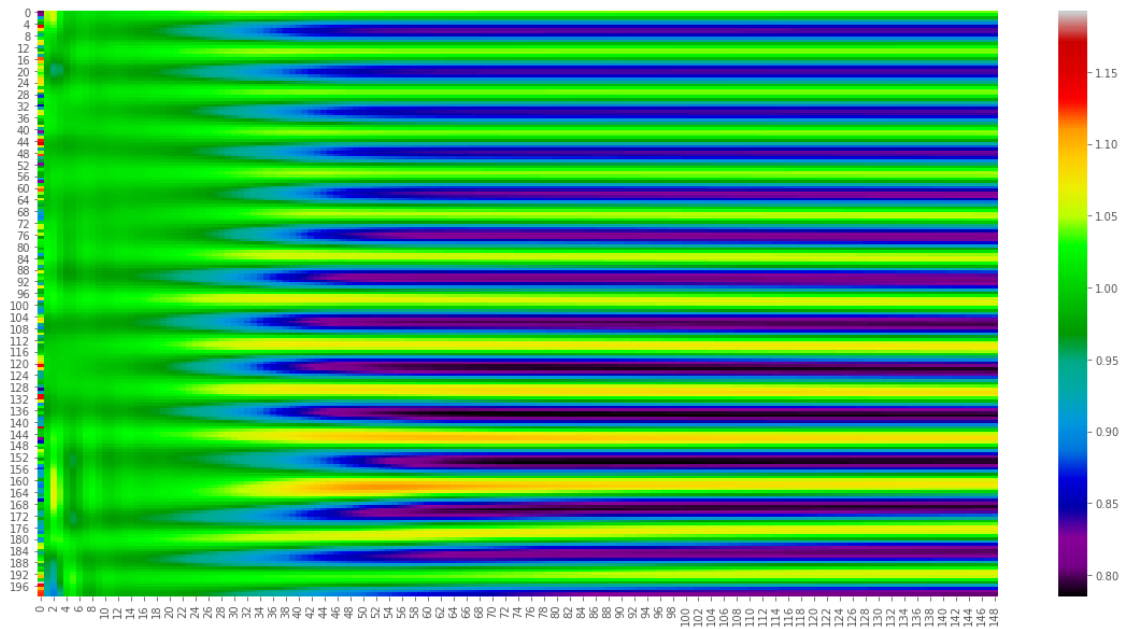


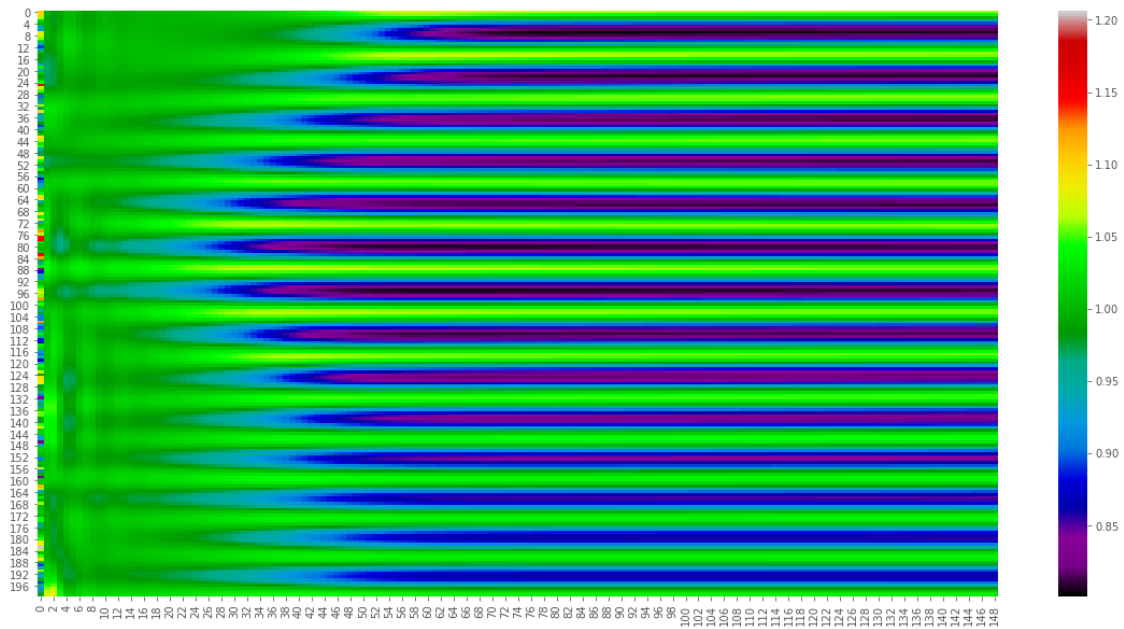
```

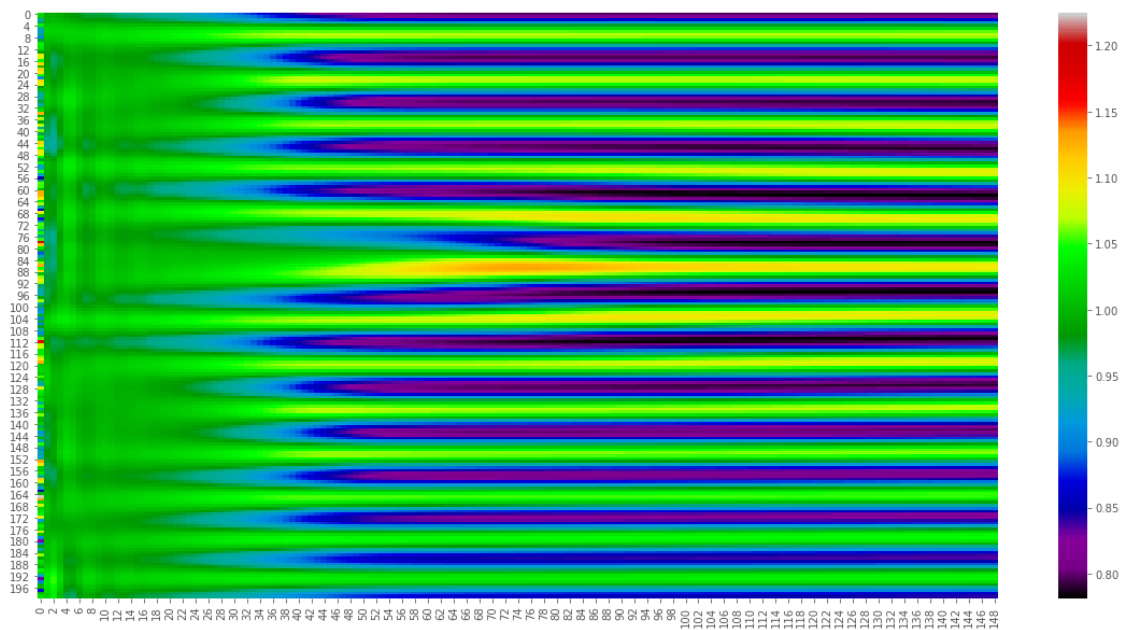
[26]: for i in list(os.walk(f'{base_dir}/x_max_160'))[0][1][25:30]:
        data = Experiment().fill_from_file_Higgins_legacy_format(f'{base_dir}/
↪x_max_160/{i}', load_timelines=True).timelines['u'].T[:,1:150]
        print('-----')
        sns.heatmap(data, cmap='nipy_spectral')
        plt.show()

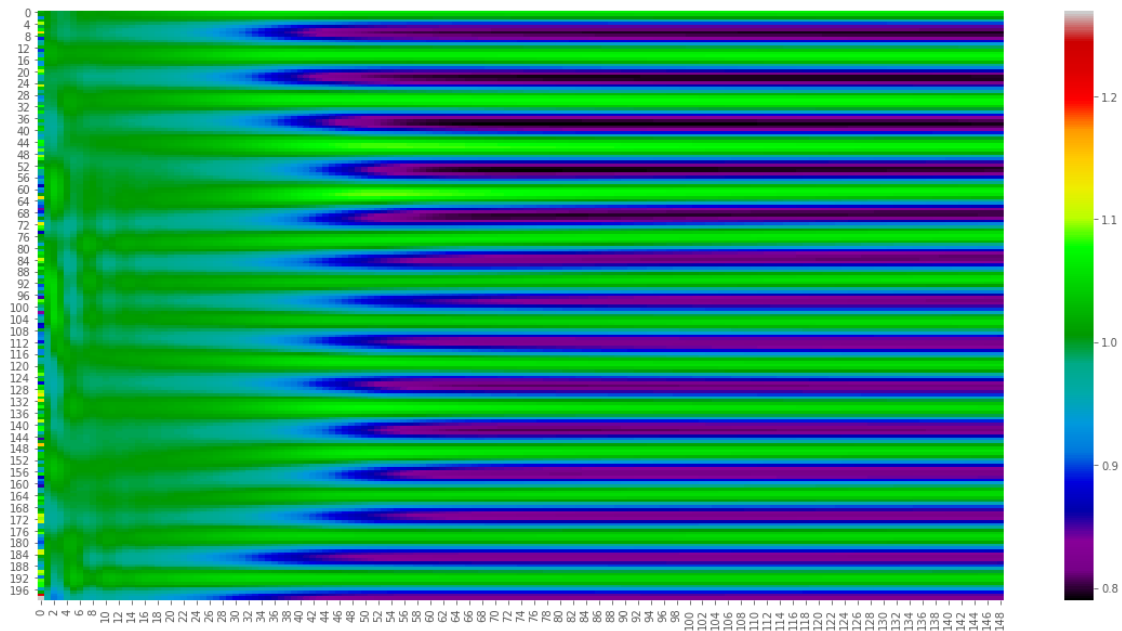
```



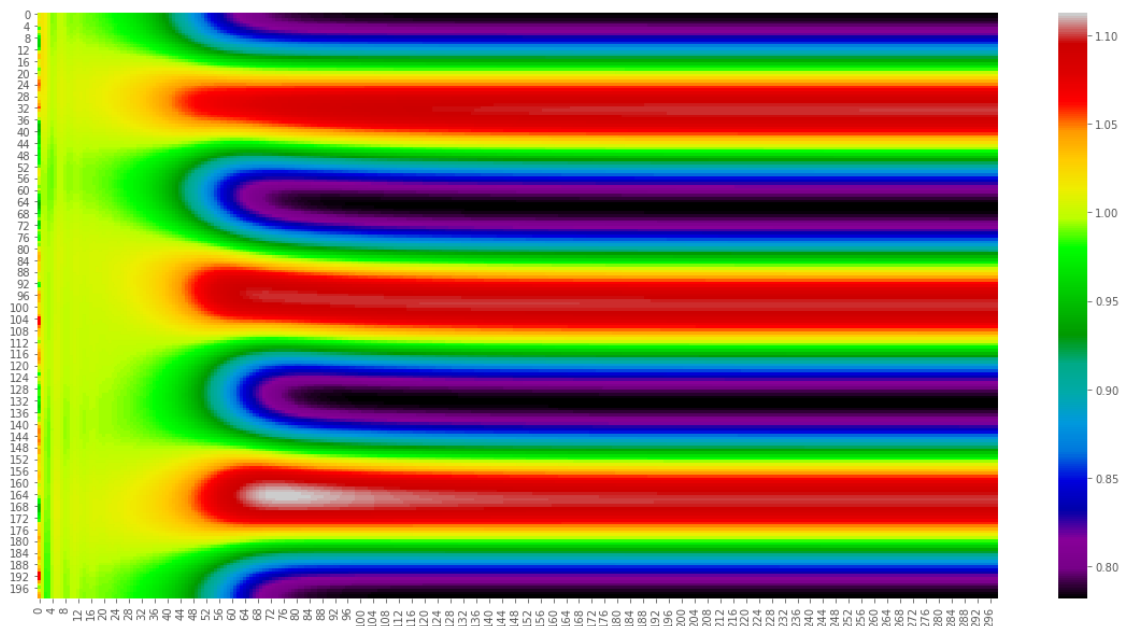


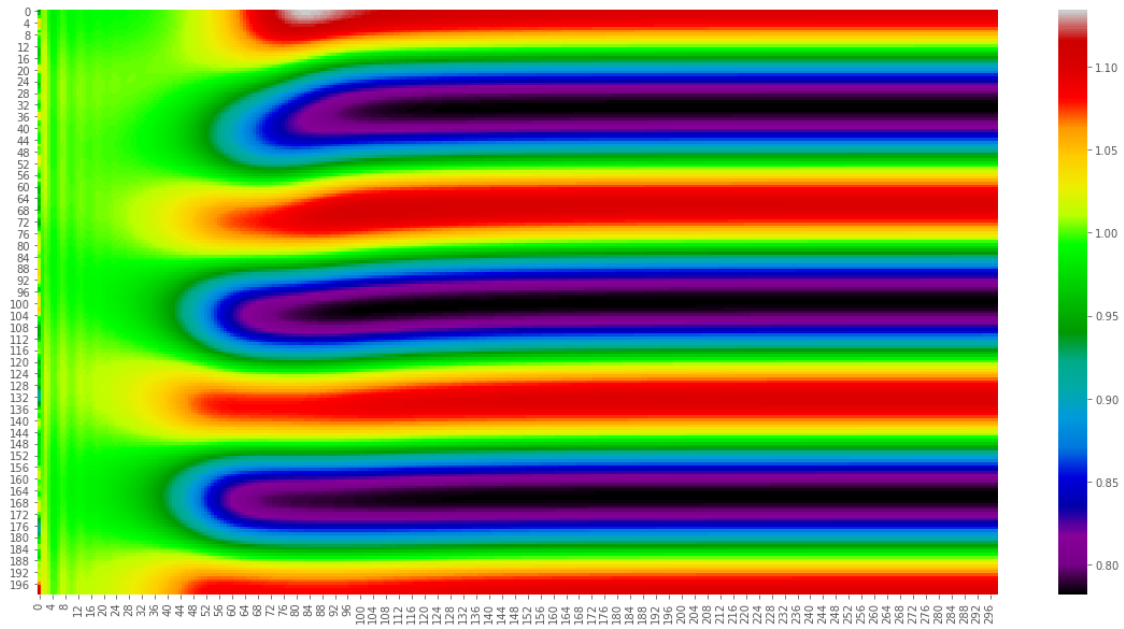


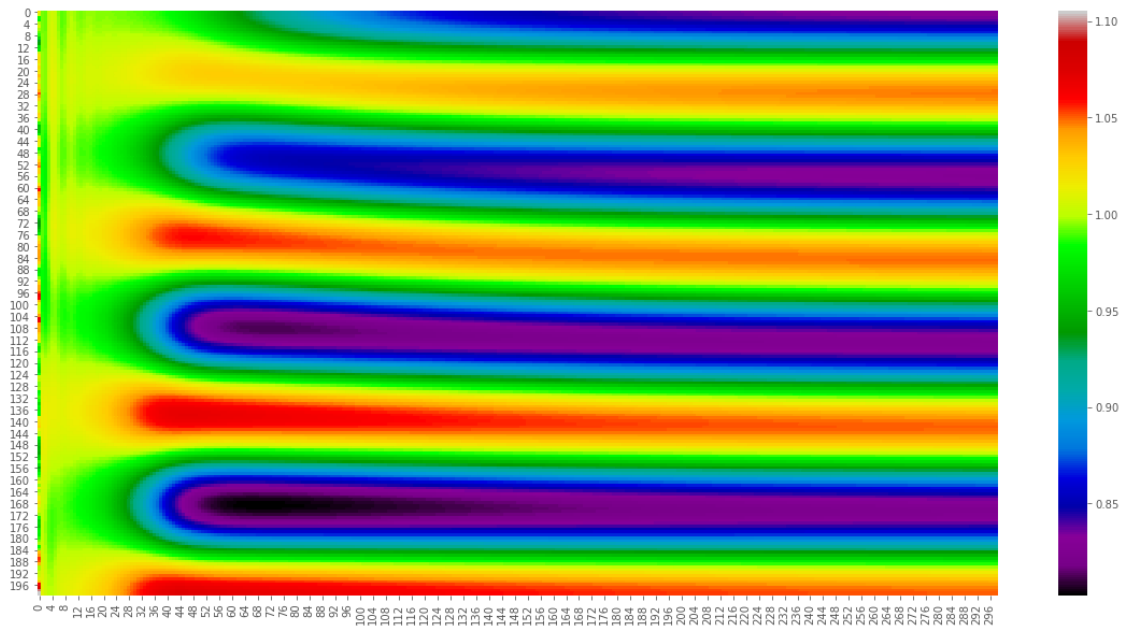


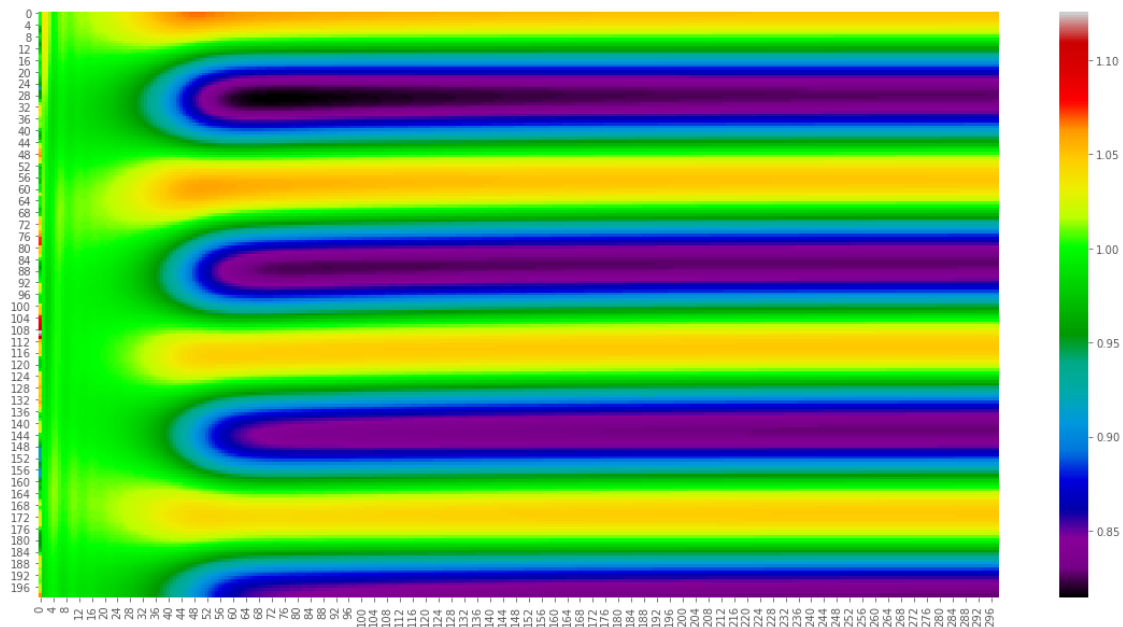
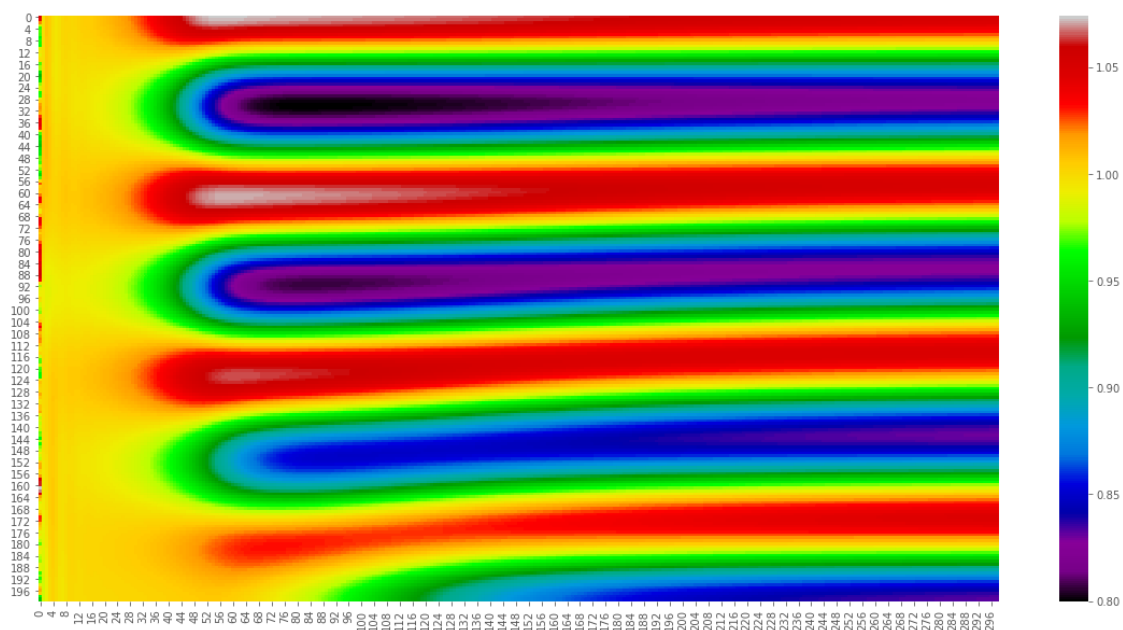


```
[27]: for i in list(os.walk(f'{base_dir}/x_max_40'))[0][1][25:30]:
        data = Experiment().fill_from_file_Higgins_legacy_format(f'{base_dir}/
        ↳x_max_40/{i}', load_timelines=True).timelines['u'].T[:,1:300]
        print('-----')
        sns.heatmap(data, cmap='nipy_spectral')
        plt.show()
```







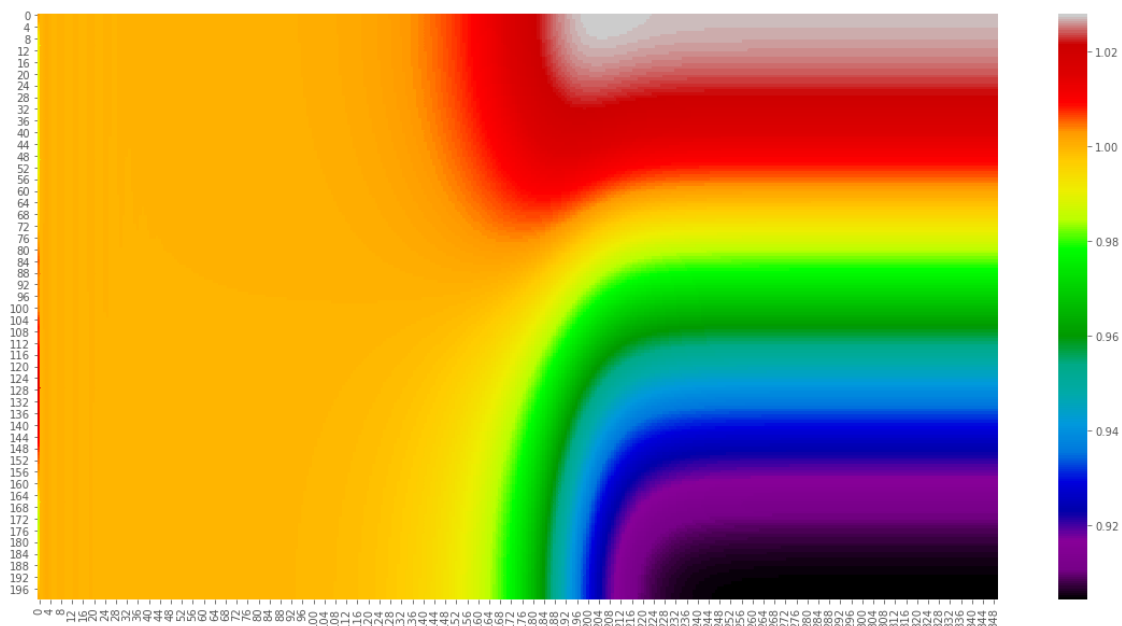
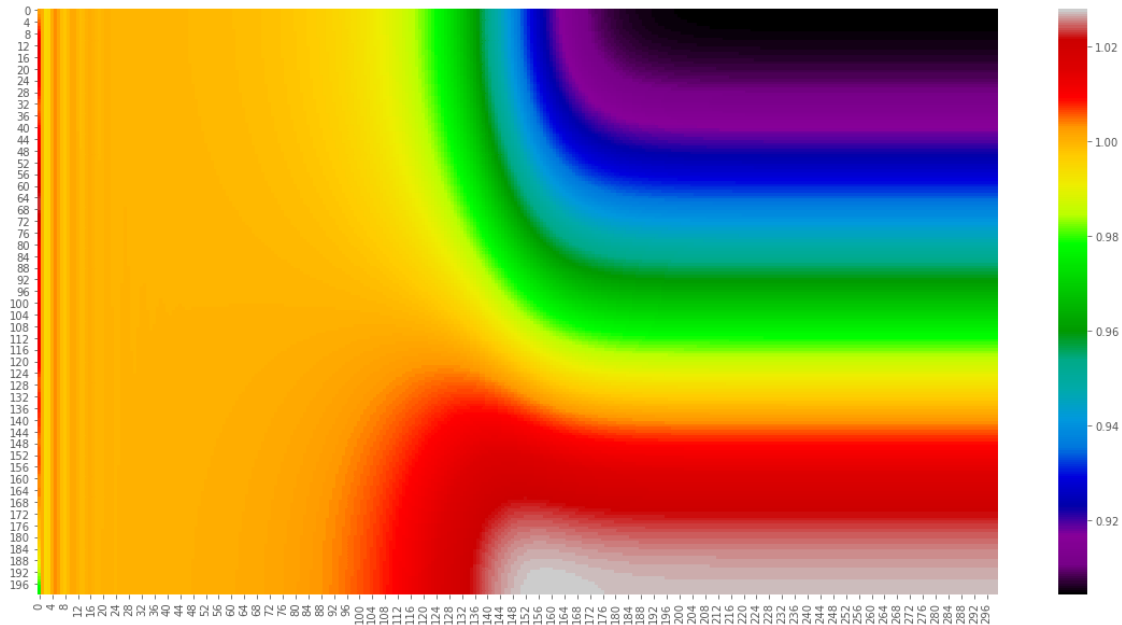


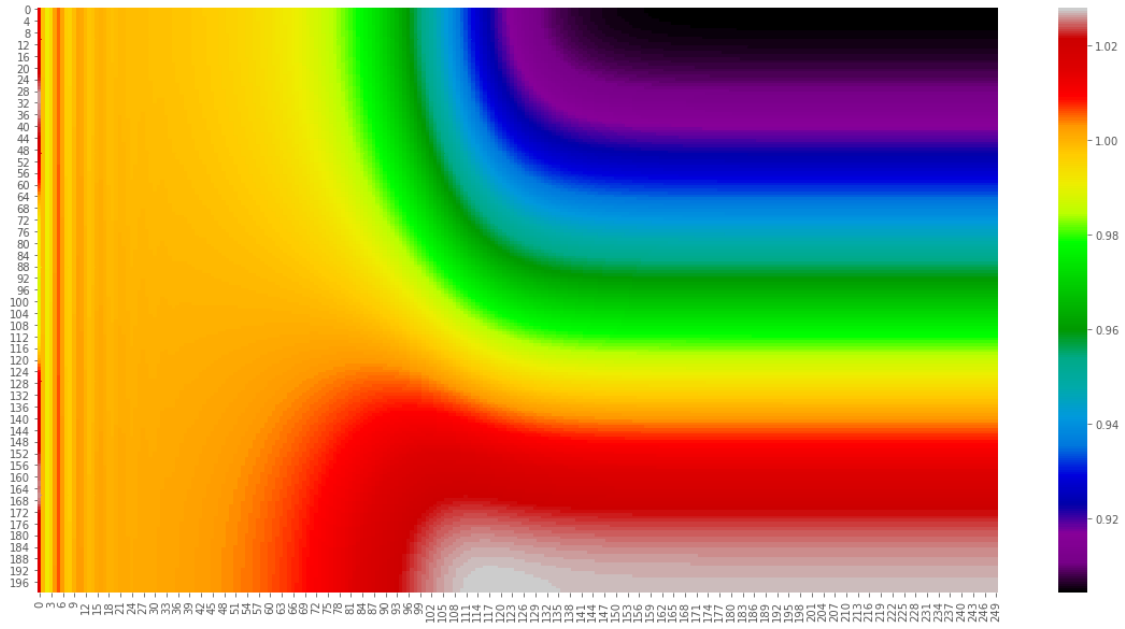
```
[29]: for i in list(os.walk(f'{base_dir}/x_max_5'))[0][1][25:30]:
```

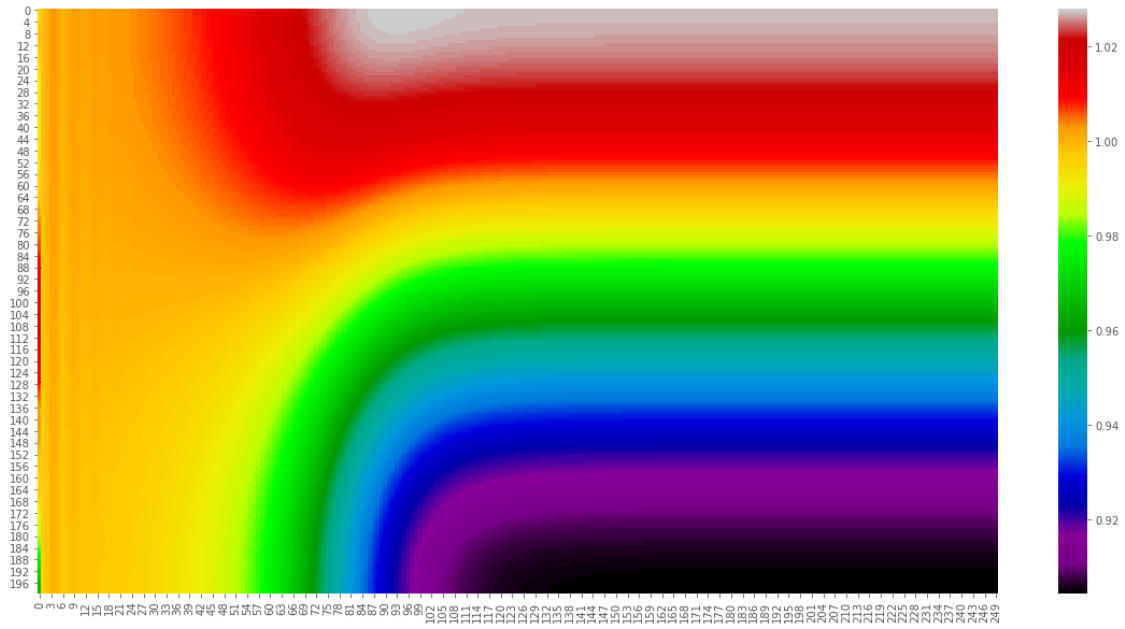
```

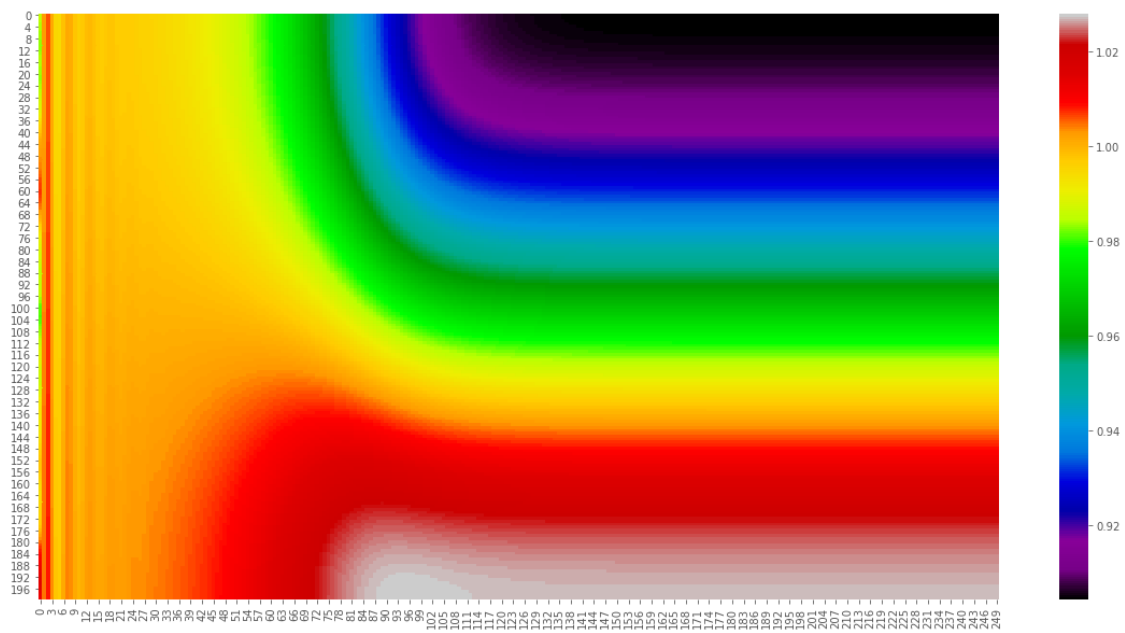
data = Experiment().fill_from_file_Higgins_legacy_format(f'{base_dir}/
↪x_max_5/{i}', load_timelines=True).timelines['u'].T
print('-----')
sns.heatmap(data[:,1:1000], cmap='nipy_spectral')
plt.show()

```









[]: