```
1  ssh://root@103.254.67.181:10006/usr/bin/python -u /home/
   sunfengzhen/pycharm/seq12_goon_predrnnpp/
   interval_pred6_goontrain_result00.py
2  pid memory used =  0.27 Gbytes
3  **************mode: test **************
4  load data from dir : ../../../data/sfz/data_typhoon/rgb/train
5  num of png_file_list = 6480
6  there are 88 sequences
7
8  there are 1056 files in frames_file_name
9  data.shape (1056, 400, 400, 3)
10 there are 1056 pictures in frames_np
11 **************mode: train **************
12 time 01 load data from dir : ../../../data/sfz/data_typhoon/rgb/
   train
13 num of png_file_list = 6480
14 time 02 load data from dir : ../../../data/sfz/data_typhoon/rgb/
   train
15 num of png_file_list = 6480
16 time 03 load data from dir : ../../../data/sfz/data_typhoon/rgb/
   train
17 num of png_file_list = 6480
18 time 04 load data from dir : ../../../data/sfz/data_typhoon/rgb/
   train
19 num of png_file_list = 6480
20 there are 352 sequences
21
22 there are 4224 files in frames_file_name
23 data.shape (4224, 400, 400, 3)
24 there are 4224 pictures in frames_np
25 pid memory used =  9.67 Gbytes
26 Initializing models
27 num_hidden : [128, 64, 64, 64]
28 2019-09-08 14:15:15.395846: I tensorflow/core/platform/
   cpu_feature_guard.cc:141] Your CPU supports instructions that
   this TensorFlow binary was not compiled to use: AVX2 FMA
29 2019-09-08 14:15:15.860743: I tensorflow/core/common_runtime/gpu/
```

```
29  gpu_device.cc:1432] Found device 0 with properties:
30  name: GeForce GTX 1080 Ti major: 6 minor: 1 memoryClockRate(GHz
    ): 1.582
31  pciBusID: 0000:02:00.0
32  totalMemory: 10.92GiB freeMemory: 10.76GiB
33  2019-09-08 14:15:15.860839: I tensorflow/core/common_runtime/gpu/
    gpu_device.cc:1511] Adding visible gpu devices: 0
34  2019-09-08 14:15:18.105313: I tensorflow/core/common_runtime/gpu/
    gpu_device.cc:982] Device interconnect StreamExecutor with
    strength 1 edge matrix:
35  2019-09-08 14:15:18.107772: I tensorflow/core/common_runtime/gpu/
    gpu_device.cc:988]      0
36  2019-09-08 14:15:18.108472: I tensorflow/core/common_runtime/gpu/
    gpu_device.cc:1001] 0:   N
37  2019-09-08 14:15:18.109587: I tensorflow/core/common_runtime/gpu/
    gpu_device.cc:1115] Created TensorFlow device (/job:localhost/
    replica:0/task:0/device:GPU:0 with 10409 MB memory) -> physical
    GPU (device: 0, name: GeForce GTX 1080 Ti, pci bus id: 0000:02:00
    .0, compute capability: 6.1)
38  ckpt.model_checkpoint_path checkpoints/typhoon_predrnn_pp/model.
    ckpt-33000
39  global_step restore from checkpoint 33000
40  2019-09-08 14:16:33.795244: W tensorflow/core/common_runtime/
    bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory
    trying to allocate 1.55GiB. The caller indicates that this is not
     a failure, but may mean that there could be performance gains if
     more memory were available.
41  2019-09-08 14:16:33.808155: W tensorflow/core/common_runtime/
    bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory
    trying to allocate 1.53GiB. The caller indicates that this is not
     a failure, but may mean that there could be performance gains if
     more memory were available.
42  2019-09-08 14:16:33.818326: W tensorflow/core/common_runtime/
    bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory
    trying to allocate 2.06GiB. The caller indicates that this is not
     a failure, but may mean that there could be performance gains if
     more memory were available.
```

43  2019-09-08 14:16:33.832705: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 2.04GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.

44  2019-09-08 14:16:33.851678: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 3.61GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.

45  2019-09-08 14:16:33.876961: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 3.57GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.

46  2019-09-08 14:16:33.921692: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 3.07GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.

47  2019-09-08 14:16:33.940254: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 3.05GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.

48  2019-09-08 14:16:34.104815: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 2.05GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.

49  2019-09-08 14:16:34.117230: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 2.04GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.

50  itr: 33100

51  training loss: 5761.079

```
52  test...
53  mse per seq: 713.303533857519
54  100.23634724183516
55  104.45796446366744
56  115.98170505870472
57  132.62432514537466
58  128.00633933327416
59  131.99685261466286
60  psnr per frame: 31.64112
61  32.35076
62  32.168404
63  31.725586
64  31.161943
65  31.345892
66  31.094141
67  fmae per frame: 3109.004
68  2778.5671
69  2892.2559
70  3079.1812
71  3328.07
72  3262.5193
73  3313.4287
74  ssim per frame: 0.8498488
75  0.856306
76  0.8604376
77  0.8413754
78  0.83221745
79  0.85185856
80  0.85689795
81  sharpness per frame: 24.636362
82  23.977272
83  24.068182
84  26.204546
85  26.306818
86  23.454546
87  23.806818
88  saved to checkpoints/typhoon_predrnn_pp
```

```
 89  itr: 33200
 90  training loss: 5625.7275
 91  test...
 92  mse per seq: 706.9224877140739
 93  99.58288751948963
 94  103.46283903988925
 95  115.05482292175293
 96  131.36583948135376
 97  126.75584379109469
 98  130.7002549604936
 99  psnr per frame: 31.648108
100  32.321297
101  32.161053
102  31.7161
103  31.180164
104  31.383024
105  31.126997
106  fmae per frame: 3068.986
107  2747.0342
108  2853.2686
109  3043.415
110  3285.635
111  3217.6165
112  3266.9478
113  ssim per frame: 0.8500462
114  0.85643333
115  0.8606203
116  0.8415337
117  0.8324686
118  0.85206753
119  0.85715383
120  sharpness per frame: 23.602272
121  23.431818
122  23.863636
123  25.65909
124  25.045454
125  21.943182
```

126 21.670454
127 saved to checkpoints/typhoon_predrnn_pp
128 itr: 33300
129 training loss: 5106.31
130 test...
131 mse per seq: 700.4244162819602
132 98.8530362736095
133 102.60169449719515
134 113.9397157755765
135 130.1357174353166
136 125.84571075439453
137 129.04854154586792
138 psnr per frame: 31.717163
139 32.37689
140 32.221775
141 31.783314
142 31.245155
143 31.457201
144 31.218636
145 fmae per frame: 3060.633
146 2743.913
147 2850.2988
148 3038.7893
149 3275.3962
150 3205.735
151 3249.6658
152 ssim per frame: 0.8501966
153 0.8565363
154 0.86071527
155 0.8416914
156 0.83263284
157 0.85220313
158 0.8574007
159 sharpness per frame: 23.202652
160 22.806818
161 22.65909
162 24.53409

```
163  25.045454
164  22.113636
165  22.056818
166  saved to checkpoints/typhoon_predrnn_pp
167  itr: 33400
168  training loss: 5506.1074
169  test...
170  mse per seq: 697.088367245414
171  98.75650635632601
172  102.26660255952315
173  113.45615430311723
174  129.34763123772362
175  125.14415489543568
176  128.11731789328834
177  psnr per frame: 31.762552
178  32.417076
179  32.26559
180  31.831846
181  31.290499
182  31.499315
183  31.270996
184  fmae per frame: 3070.3894
185  2760.1838
186  2862.143
187  3048.9814
188  3281.6616
189  3214.889
190  3254.4756
191  ssim per frame: 0.85029095
192  0.8565609
193  0.8608145
194  0.8417761
195  0.8327561
196  0.8523224
197  0.8575159
198  sharpness per frame: 23.689392
199  23.625
```

```
200  23.306818
201  25.15909
202  25.079546
203  22.454546
204  22.511364
205  saved to checkpoints/typhoon_predrnn_pp
206  itr: 33500
207  training loss: 4912.3584
208  test...
209  mse per seq: 698.1312422535636
210  98.77657560868697
211  102.16806875575672
212  113.5510367046703
213  129.61392658407038
214  125.52463407949968
215  128.49700052087957
216  psnr per frame: 31.713686
217  32.349167
218  32.21031
219  31.767859
220  31.241816
221  31.472136
222  31.240826
223  fmae per frame: 3041.721
224  2732.907
225  2832.061
226  3019.5117
227  3252.4841
228  3185.017
229  3228.346
230  ssim per frame: 0.85030526
231  0.85657716
232  0.86082155
233  0.8418011
234  0.8328159
235  0.85230255
236  0.8575136
```

```
237  sharpness per frame: 23.304926
238  23.261364
239  22.681818
240  24.693182
241  24.25
242  22.420454
243  22.522728
244  itr: 33600
245  training loss: 4294.5854
246  test...
247  mse per seq: 694.1304366588593
248  98.35400468652898
249  101.98458381132646
250  112.8659118305553
251  128.73524496772072
252  124.76974008300088
253  127.42095127972689
254  psnr per frame: 31.794447
255  32.43758
256  32.28511
257  31.858812
258  31.32569
259  31.547052
260  31.312445
261  fmae per frame: 3065.4705
262  2757.7458
263  2860.6934
264  3041.5256
265  3276.805
266  3207.7002
267  3248.3525
268  ssim per frame: 0.8503584
269  0.85661435
270  0.86086273
271  0.8418529
272  0.8328359
273  0.8523705
```

```
274  0.8576139
275  sharpness per frame: 23.513258
276  23.568182
277  22.988636
278  24.90909
279  24.818182
280  22.386364
281  22.40909
282  saved to checkpoints/typhoon_predrnn_pp
283  itr: 33700
284  training loss: 7047.868
285  test...
286  mse per seq: 694.4680826230483
287  98.37067534706809
288  101.72362301566385
289  112.96346243945035
290  128.80394883589312
291  124.92333037203008
292  127.68304261294278
293  psnr per frame: 31.73131
294  32.354294
295  32.217674
296  31.78279
297  31.257116
298  31.49753
299  31.278456
300  fmae per frame: 3031.4285
301  2724.9526
302  2821.4714
303  3012.6318
304  3242.8616
305  3173.2861
306  3213.368
307  ssim per frame: 0.8503979
308  0.8566677
309  0.86092496
310  0.8418438
```

```
311  0.83291715
312  0.8523865
313  0.8576467
314  sharpness per frame: 23.386362
315  22.795454
316  22.670454
317  24.897728
318  24.65909
319  22.25
320  23.045454
321  itr: 33800
322  training loss: 5537.4414
323  test...
324  mse per seq: 697.800957549702
325  99.10959087718616
326  102.73032314127141
327  113.63561110063033
328  129.14482259750366
329  125.7124233679338
330  127.46818646517667
331  psnr per frame: 31.814575
332  32.45577
333  32.301445
334  31.879015
335  31.350578
336  31.553358
337  31.347298
338  fmae per frame: 3104.9922
339  2801.7712
340  2904.67
341  3083.424
342  3311.9763
343  3247.1853
344  3280.925
345  ssim per frame: 0.85045403
346  0.8567337
347  0.8609647
```

```
348  0.8419273
349  0.8329518
350  0.85243034
351  0.8577163
352  sharpness per frame: 22.903406
353  22.556818
354  22.602272
355  24.829546
356  23.829546
357  21.681818
358  21.920454
359  itr: 33900
360  training loss: 5995.21
361  test...
362  mse per seq: 691.4099949923428
363  98.03137909282337
364  101.34994125366211
365  112.47451344403353
366  128.15648499402133
367  124.5250511819666
368  126.8726250258359
369  psnr per frame: 31.768454
370  32.384274
371  32.249924
372  31.813047
373  31.293154
374  31.536144
375  31.334166
376  fmae per frame: 3029.01
377  2725.3625
378  2822.238
379  3008.6797
380  3238.7188
381  3171.725
382  3207.3367
383  ssim per frame: 0.85043716
384  0.8566824
```

```
385  0.86095196
386  0.84191966
387  0.83297324
388  0.8524124
389  0.857683
390  sharpness per frame: 23.350378
391  23.102272
392  22.90909
393  25.079546
394  24.25
395  22.045454
396  22.71591
397  saved to checkpoints/typhoon_predrnn_pp
398  itr: 34000
399  training loss: 5607.8354
400  test...
401  mse per seq: 690.7952548373829
402  98.06563780524515
403  101.51144292137839
404  112.4117977402427
405  127.8813155781139
406  124.4110163341869
407  126.51404445821589
408  psnr per frame: 31.834665
409  32.465923
410  32.32162
411  31.893959
412  31.368677
413  31.588478
414  31.369318
415  fmae per frame: 3057.9656
416  2755.1904
417  2855.4727
418  3035.7263
419  3264.1587
420  3198.7432
421  3238.5007
```

```
422  ssim per frame: 0.8505223
423  0.85678256
424  0.8610187
425  0.8420652
426  0.83303815
427  0.85246205
428  0.85776716
429  sharpness per frame: 22.886362
430  22.295454
431  22.068182
432  23.15909
433  24.511364
434  22.727272
435  22.556818
436  saved to checkpoints/typhoon_predrnn_pp
437  itr: 34100
438  training loss: 6619.358
439  test...
440  mse per seq: 689.0397760434585
441  97.83900785446167
442  101.13868526978926
443  112.08100305904041
444  127.63670752265237
445  124.17654126340693
446  126.16783107410778
447  psnr per frame: 31.83146
448  32.45136
449  32.31566
450  31.887978
451  31.362316
452  31.58957
453  31.38189
454  fmae per frame: 3046.6365
455  2740.9905
456  2840.6062
457  3026.1545
458  3254.6287
```

```
459  3189.6619
460  3227.7756
461  ssim per frame: 0.8504653
462  0.8566713
463  0.860953
464  0.84198725
465  0.8329878
466  0.8524325
467  0.8577602
468  sharpness per frame: 23.244318
469  23.03409
470  22.53409
471  24.147728
472  24.897728
473  22.40909
474  22.443182
475  saved to checkpoints/typhoon_predrnn_pp
476  itr: 34200
477  training loss: 4911.948
478  test...
479  mse per seq: 689.3153590072285
480  97.82755357568914
481  101.09505484320901
482  112.10199815576726
483  127.81462500312112
484  124.08743474700235
485  126.38869268243963
486  psnr per frame: 31.778082
487  32.386066
488  32.257404
489  31.828209
490  31.306396
491  31.551891
492  31.338512
493  fmae per frame: 3023.0823
494  2719.928
495  2816.3264
```

```
496  3003.7869
497  3232.9023
498  3163.782
499  3201.768
500  ssim per frame: 0.85051507
501  0.85674995
502  0.8610216
503  0.84202933
504  0.8330267
505  0.8524717
506  0.8577907
507  sharpness per frame: 22.785986
508  22.329546
509  21.579546
510  23.772728
511  24.53409
512  22.181818
513  22.318182
514  itr: 34300
515  training loss: 5256.39
516  test...
517  mse per seq: 688.6735835075378
518  97.68854162909768
519  101.05389608036388
520  112.07910164919767
521  127.62127715891057
522  124.16180268200961
523  126.06896430795842
524  psnr per frame: 31.838953
525  32.46614
526  32.323093
527  31.889898
528  31.366
529  31.594233
530  31.39435
531  fmae per frame: 3045.2078
532  2741.3252
```

```
533  2839.4004
534  3025.1196
535  3254.2024
536  3188.4612
537  3222.7366
538  ssim per frame: 0.85050136
539  0.85673064
540  0.86099905
541  0.8420077
542  0.8329949
543  0.85246795
544  0.8578083
545  sharpness per frame: 23.037878
546  22.568182
547  21.693182
548  23.636364
549  24.806818
550  22.65909
551  22.863636
552  saved to checkpoints/typhoon_predrnn_pp
553  itr: 34400
554  training loss: 829.27844
555  test...
556  mse per seq: 686.4347567341545
557  97.40703183954412
558  100.73293235085227
559  111.86343344775113
560  127.29084686799483
561  123.4754944931377
562  125.66501773487438
563  psnr per frame: 31.829407
564  32.45179
565  32.31339
566  31.87915
567  31.357832
568  31.593
569  31.381264
```

```
570  fmae per frame: 3027.3154
571  2723.5583
572  2822.0928
573  3011.994
574  3236.4495
575  3165.4172
576  3204.381
577  ssim per frame: 0.8506027
578  0.8568466
579  0.86109775
580  0.8420683
581  0.83313006
582  0.8525784
583  0.8578947
584  sharpness per frame: 23.00379
585  22.28409
586  21.96591
587  23.704546
588  24.852272
589  22.488636
590  22.727272
591  saved to checkpoints/typhoon_predrnn_pp
592  itr: 34500
593  training loss: 5222.2725
594  test...
595  mse per seq: 687.3887875296853
596  97.57330400293523
597  100.91222728382458
598  112.01437841762196
599  127.42780368978327
600  123.77819620479237
601  125.68287793072787
602  psnr per frame: 31.84801
603  32.482662
604  32.34062
605  31.905682
606  31.380688
```

```
607  31.600523
608  31.377886
609  fmae per frame: 3049.8752
610  2747.7532
611  2846.6877
612  3029.6506
613  3256.3572
614  3190.406
615  3228.396
616  ssim per frame: 0.8505891
617  0.85683864
618  0.8611052
619  0.84205306
620  0.8330917
621  0.8525692
622  0.8578767
623  sharpness per frame: 22.592804
624  22.21591
625  21.90909
626  24.09091
627  23.852272
628  21.670454
629  21.818182
630  itr: 34600
631  training loss: 817.5494
632  test...
633  mse per seq: 685.9983305064114
634  97.5384279164401
635  100.69927232915705
636  111.71717058528553
637  127.08020622080022
638  123.52671850811352
639  125.43653494661504
640  psnr per frame: 31.858154
641  32.477783
642  32.343727
643  31.911266
```

```
644  31.387632
645  31.615944
646  31.412565
647  fmae per frame: 3038.9033
648  2740.2327
649  2835.8828
650  3021.6704
651  3245.277
652  3177.208
653  3213.1501
654  ssim per frame: 0.85056704
655  0.85677487
656  0.8610653
657  0.84206617
658  0.83309275
659  0.8525276
660  0.8578751
661  sharpness per frame: 23.321968
662  22.920454
663  22.795454
664  24.318182
665  24.75
666  22.329546
667  22.818182
668  saved to checkpoints/typhoon_predrnn_pp
669  itr: 34700
670  training loss: 5051.8647
671  test...
672  mse per seq: 693.1735838976773
673  98.20130378549749
674  101.52972637523304
675  112.68417458100753
676  128.62899671901357
677  124.92275723544034
678  127.20662520148538
679  psnr per frame: 31.718697
680  32.325684
```

```
681  32.196156
682  31.76842
683  31.241987
684  31.49151
685  31.28842
686  fmae per frame: 3023.744
687  2718.4736
688  2814.2983
689  3004.0305
690  3237.6956
691  3166.243
692  3201.722
693  ssim per frame: 0.85048276
694  0.85677457
695  0.86103404
696  0.8419888
697  0.8329851
698  0.8523869
699  0.8577276
700  sharpness per frame: 23.21212
701  22.863636
702  22.09091
703  24.181818
704  24.647728
705  22.477272
706  23.011364
707  itr: 34800
708  training loss: 5255.6685
709  test...
710  mse per seq: 685.3012594743209
711  97.29670858383179
712  100.6148383400657
713  111.55801591006193
714  127.09509541771628
715  123.3932035186074
716  125.34339770403776
717  psnr per frame: 31.847776
```

```
718  32.46462
719  32.324875
720  31.893812
721  31.36892
722  31.617542
723  31.416899
724  fmae per frame: 3027.586
725  2727.6655
726  2824.2563
727  3009.483
728  3235.2493
729  3167.238
730  3201.6243
731  ssim per frame: 0.8505686
732  0.8568096
733  0.86105084
734  0.84211314
735  0.8330774
736  0.8525068
737  0.85785395
738  sharpness per frame: 23.410986
739  23.136364
740  22.647728
741  24.647728
742  24.852272
743  22.397728
744  22.78409
745  saved to checkpoints/typhoon_predrnn_pp
746  itr: 34900
747  training loss: 4884.3647
748  test...
749  mse per seq: 686.7571982036937
750  97.34806901758367
751  100.72142319245772
752  111.70790867371993
753  127.39140532233499
754  124.03840387951244
```

```
755  125.549988118085
756  psnr per frame: 31.85496
757  32.472588
758  32.33479
759  31.899683
760  31.37115
761  31.615517
762  31.436043
763  fmae per frame: 3033.7722
764  2730.5737
765  2830.4749
766  3014.2866
767  3242.5432
768  3176.6914
769  3208.0632
770  ssim per frame: 0.850575
771  0.85682833
772  0.86107546
773  0.84213215
774  0.8330723
775  0.8524633
776  0.85787815
777  sharpness per frame: 23.318182
778  22.681818
779  22.522728
780  24.25
781  24.704546
782  22.727272
783  23.022728
784  itr: 35000
785  training loss: 3873.5815
786  test...
787  mse per seq: 686.3619829091159
788  97.21236636421897
789  100.54925029928035
790  111.69419700449163
791  127.23381081494418
```

```
792  123.87242516604337
793  125.79993326013738
794  psnr per frame: 31.823418
795  32.43762
796  32.29813
797  31.860748
798  31.340338
799  31.59506
800  31.408617
801  fmae per frame: 3018.377
802  2715.5303
803  2811.3647
804  2999.5945
805  3230.9546
806  3160.7273
807  3192.0916
808  ssim per frame: 0.8505578
809  0.8568228
810  0.8611002
811  0.8421118
812  0.8330529
813  0.8524322
814  0.85782695
815  sharpness per frame: 23.151514
816  22.21591
817  22.136364
818  24.056818
819  25.011364
820  22.579546
821  22.90909
822  itr: 35100
823  training loss: 3597.4011
824  test...
825  mse per seq: 687.7790307781913
826  97.72817308252507
827  101.1057717149908
828  111.98939973657781
```

829 127.54388085278597
830 123.7384042523124
831 125.67340113899924
832 psnr per frame: 31.856499
833 32.493027
834 32.3456
835 31.916576
836 31.388664
837 31.608284
838 31.38686
839 fmae per frame: 3060.1614
840 2759.1863
841 2857.1785
842 3035.2014
843 3268.3044
844 3201.473
845 3239.6243
846 ssim per frame: 0.8506207
847 0.85686487
848 0.86113936
849 0.84215397
850 0.8330605
851 0.852606
852 0.8578993
853 sharpness per frame: 22.632576
854 22.5
855 21.920454
856 23.375
857 23.704546
858 22.056818
859 22.238636
860 itr: 35200
861 training loss: 5199.4995
862 test...
863 mse per seq: 686.6444173509425
864 97.12390292774548
865 100.61488689075817

866 111.74830176613547
867 127.39042845639315
868 123.97982486811551
869 125.78707244179465
870 psnr per frame: 31.858795
871 32.48613
872 32.34044
873 31.900606
874 31.373735
875 31.620195
876 31.431677
877 fmae per frame: 3035.3044
878 2730.8076
879 2830.0723
880 3016.1812
881 3246.7698
882 3178.3132
883 3209.6833
884 ssim per frame: 0.8505936
885 0.85687447
886 0.861123
887 0.8421141
888 0.833064
889 0.85251147
890 0.85787493
891 sharpness per frame: 22.86553
892 22.102272
893 21.90909
894 23.988636
895 24.454546
896 22.113636
897 22.625
898 itr: 35300
899 training loss: 4133.4307
900 test...
901 mse per seq: 695.5015676671809
902 98.80681740153919

```
903  101.94562170722268
904  113.34047486565329
905  129.01452242244375
906  124.87046319788152
907  127.5236680724404
908  psnr per frame: 31.66398
909  32.2552
910  32.13589
911  31.698553
912  31.195488
913  31.459656
914  31.239113
915  fmae per frame: 3021.4407
916  2723.4944
917  2811.445
918  3003.6482
919  3232.747
920  3157.378
921  3199.9326
922  ssim per frame: 0.85060406
923  0.85687774
924  0.86115587
925  0.842149
926  0.8330915
927  0.8525444
928  0.8578056
929  sharpness per frame: 22.488638
930  22.079546
931  21.613636
932  23.704546
933  23.386364
934  21.886364
935  22.261364
936  itr: 35400
937  training loss: 3569.8423
938  test...
939  mse per seq: 683.8245383609425
```

```
940  96.92165955630216
941  100.28665031086315
942  111.506628816778
943  126.93478406559338
944  123.1608246456493
945  125.0139909657565
946  psnr per frame: 31.848902
947  32.471935
948  32.329758
949  31.89134
950  31.368275
951  31.615576
952  31.416536
953  fmae per frame: 3022.7744
954  2720.305
955  2818.1643
956  3008.7795
957  3233.7556
958  3160.5117
959  3195.1306
960  ssim per frame: 0.85064715
961  0.8569283
962  0.86118203
963  0.8421252
964  0.8331465
965  0.85256505
966  0.85793585
967  sharpness per frame: 22.744318
968  21.931818
969  21.613636
970  23.78409
971  24.193182
972  22.147728
973  22.795454
974  saved to checkpoints/typhoon_predrnn_pp
975  itr: 35500
976  training loss: 5422.818
```

```
977   test...
978   mse per seq: 684.3565371253273
979   96.91030029817061
980   100.33661443536931
981   111.41672563552856
982   127.05933926322244
983   123.28050860491666
984   125.35304888811979
985   psnr per frame: 31.849207
986   32.477993
987   32.337112
988   31.901789
989   31.374727
990   31.61347
991   31.390148
992   fmae per frame: 3028.5735
993   2721.4983
994   2822.1423
995   3009.0562
996   3240.0251
997   3169.0828
998   3209.6353
999   ssim per frame: 0.8506022
1000  0.85689217
1001  0.86112916
1002  0.842124
1003  0.83308274
1004  0.8525187
1005  0.8578667
1006  sharpness per frame: 23.164772
1007  22.5
1008  21.96591
1009  24.079546
1010  24.397728
1011  22.852272
1012  23.193182
1013  itr: 35600
```

```
1014 training loss: 5670.7393
1015 test...
1016 mse per seq: 684.9009469205683
1017 97.20721106095748
1018 100.35147918354382
1019 111.51424616033381
1020 126.99763744527644
1021 123.56072287126021
1022 125.26965019919656
1023 psnr per frame: 31.869085
1024 32.488277
1025 32.35356
1026 31.908745
1027 31.382635
1028 31.635405
1029 31.445875
1030 fmae per frame: 3025.954
1031 2730.096
1032 2820.8098
1033 3007.6807
1034 3232.6453
1035 3165.6924
1036 3198.8008
1037 ssim per frame: 0.85061693
1038 0.85684586
1039 0.8611546
1040 0.84221196
1041 0.83313674
1042 0.8525043
1043 0.8578484
1044 sharpness per frame: 23.045454
1045 22.125
1046 22.181818
1047 23.704546
1048 24.431818
1049 22.727272
1050 23.102272
```

```
1051 itr: 35700
1052 training loss: 5080.0703
1053 test...
1054 mse per seq: 687.6657690351659
1055 97.25860587033358
1056 100.83873089877042
1057 111.99026337536898
1058 127.62906893816861
1059 124.00372394648466
1060 125.94537600603971
1061 psnr per frame: 31.864435
1062 32.508606
1063 32.35344
1064 31.917665
1065 31.387413
1066 31.6116
1067 31.407896
1068 fmae per frame: 3061.924
1069 2754.1682
1070 2856.094
1071 3043.525
1072 3273.7197
1073 3205.4985
1074 3238.539
1075 ssim per frame: 0.85060257
1076 0.85691667
1077 0.86115354
1078 0.84210986
1079 0.83305776
1080 0.8525271
1081 0.8578501
1082 sharpness per frame: 22.65909
1083 21.772728
1084 21.693182
1085 23.65909
1086 23.931818
1087 22.204546
```

```
1088  22.693182
1089  itr: 35800
1090  training loss: 5013.009
1091  test...
1092  mse per seq: 683.2286765358665
1093  96.81649619882756
1094  100.16422167691317
1095  111.3271873214028
1096  126.8408822146329
1097  122.94549374146895
1098  125.13439538262107
1099  psnr per frame: 31.856539
1100  32.48954
1101  32.348423
1102  31.910889
1103  31.385695
1104  31.618702
1105  31.385984
1106  fmae per frame: 3021.5398
1107  2716.8232
1108  2813.6213
1109  3002.229
1110  3231.1104
1111  3160.7437
1112  3204.712
1113  ssim per frame: 0.85073566
1114  0.85702586
1115  0.8612717
1116  0.84229296
1117  0.83322006
1118  0.8526749
1119  0.8579288
1120  sharpness per frame: 22.577652
1121  22.318182
1122  22.21591
1123  23.511364
1124  23.772728
```

```
1125  21.65909
1126  21.988636
1127  saved to checkpoints/typhoon_predrnn_pp
1128  itr: 35900
1129  training loss: 4527.0054
1130  test...
1131  mse per seq: 684.9680402712388
1132  97.02857940847224
1133  100.2825813293457
1134  111.56395613063465
1135  127.07587823000821
1136  123.52550933577798
1137  125.49153583700007
1138  psnr per frame: 31.826185
1139  32.438828
1140  32.30442
1141  31.865105
1142  31.347015
1143  31.60182
1144  31.39992
1145  fmae per frame: 3007.0664
1146  2705.4583
1147  2798.867
1148  2989.0696
1149  3217.6592
1150  3148.2195
1151  3183.126
1152  ssim per frame: 0.8506395
1153  0.8569346
1154  0.86118406
1155  0.84219337
1156  0.83315665
1157  0.85249954
1158  0.85786843
1159  sharpness per frame: 23.128786
1160  22.204546
1161  22.136364
```

```
1162  24.556818
1163  24.647728
1164  22.238636
1165  22.988636
1166  itr: 36000
1167  training loss: 5729.8555
1168  test...
1169  mse per seq: 685.4092221260071
1170  97.06827146356756
1171  100.55995811115612
1172  111.71057202599265
1173  127.17449561032382
1174  123.52648691697554
1175  125.36943799799138
1176  psnr per frame: 31.875372
1177  32.512283
1178  32.36097
1179  31.926374
1180  31.39986
1181  31.627565
1182  31.42517
1183  fmae per frame: 3042.3499
1184  2737.6106
1185  2835.8396
1186  3022.7893
1187  3250.9321
1188  3186.255
1189  3220.6726
1190  ssim per frame: 0.8506554
1191  0.85695624
1192  0.8611792
1193  0.84222066
1194  0.8331038
1195  0.8525806
1196  0.85789204
1197  sharpness per frame: 22.291666
1198  21.78409
```

```
1199  21.261364
1200  23.295454
1201  23.545454
1202  21.602272
1203  22.261364
1204  itr: 36100
1205  training loss: 4834.1323
1206  test...
1207  mse per seq: 685.4696789438075
1208  97.01721980355002
1209  100.47870661995627
1210  111.57696056365967
1211  127.19924181157893
1212  123.66422239216891
1213  125.53332775289363
1214  psnr per frame: 31.879488
1215  32.51337
1216  32.36885
1217  31.932648
1218  31.400959
1219  31.631914
1220  31.429205
1221  fmae per frame: 3040.209
1222  2735.892
1223  2836.2227
1224  3020.7983
1225  3250.3086
1226  3181.8008
1227  3216.2314
1228  ssim per frame: 0.8506848
1229  0.85700667
1230  0.8612179
1231  0.84225535
1232  0.83316845
1233  0.85256255
1234  0.8578978
1235  sharpness per frame: 22.238638
```

```
1236 21.375
1237 21.113636
1238 22.556818
1239 23.65909
1240 22.079546
1241 22.647728
1242 itr: 36200
1243 training loss: 4751.1455
1244 test...
1245 mse per seq: 685.4114150784233
1246 96.85889508507468
1247 100.46263122558594
1248 111.70604814182629
1249 127.07719104940242
1250 123.7092176133936
1251 125.59743196314031
1252 psnr per frame: 31.883356
1253 32.523247
1254 32.36917
1255 31.92865
1256 31.403284
1257 31.639936
1258 31.435846
1259 fmae per frame: 3040.46
1260 2735.6758
1261 2836.5093
1262 3026.0952
1263 3248.1116
1264 3179.9688
1265 3216.3987
1266 ssim per frame: 0.8506839
1267 0.85701984
1268 0.8612314
1269 0.8422291
1270 0.8331831
1271 0.85255206
1272 0.8578883
```

```
1273 sharpness per frame: 23.128786
1274 22.306818
1275 22.5
1276 23.897728
1277 24.363636
1278 22.613636
1279 23.09091
1280 itr: 36300
1281 training loss: 5530.4116
1282 test...
1283 mse per seq: 685.1469157825817
1284 97.06959186900745
1285 100.54193501038985
1286 111.6468825340271
1287 127.10320594094016
1288 123.37928884679621
1289 125.4060115814209
1290 psnr per frame: 31.873459
1291 32.514656
1292 32.36583
1293 31.93291
1294 31.40406
1295 31.623657
1296 31.399626
1297 fmae per frame: 3049.8455
1298 2740.8135
1299 2843.4553
1300 3030.026
1301 3257.8157
1302 3193.7607
1303 3233.2007
1304 ssim per frame: 0.8506329
1305 0.8569487
1306 0.8611868
1307 0.84219384
1308 0.8331076
1309 0.85252345
```

```
1310  0.85783726
1311  sharpness per frame: 22.712122
1312  21.761364
1313  21.625
1314  23.636364
1315  23.84091
1316  22.431818
1317  22.977272
1318  itr: 36400
1319  training loss: 5880.621
1320  test...
1321  mse per seq: 687.2573082013564
1322  97.16091533140703
1323  100.67283144864169
1324  111.95821475982666
1325  127.38055216182362
1326  124.25583949956027
1327  125.8289550000971
1328  psnr per frame: 31.879683
1329  32.51814
1330  32.366127
1331  31.922075
1332  31.398924
1333  31.632051
1334  31.440779
1335  fmae per frame: 3051.4404
1336  2746.8438
1337  2845.0342
1338  3034.3296
1339  3260.0156
1340  3195.4143
1341  3227.0054
1342  ssim per frame: 0.85066605
1343  0.8570074
1344  0.86125654
1345  0.84220827
1346  0.8331382
```

```
1347  0.85251576
1348  0.8578703
1349  sharpness per frame: 22.668562
1350  21.863636
1351  21.806818
1352  23.761364
1353  23.78409
1354  22.011364
1355  22.78409
1356  itr: 36500
1357  training loss: 6136.3984
1358  test...
1359  mse per seq: 683.9925875447013
1360  96.73853848197244
1361  100.05583247271451
1362  111.35733335668391
1363  126.90798612074418
1364  123.6587953784249
1365  125.27410173416138
1366  psnr per frame: 31.87161
1367  32.50009
1368  32.356274
1369  31.911457
1370  31.383905
1371  31.627943
1372  31.449976
1373  fmae per frame: 3021.555
1374  2718.3525
1375  2813.9365
1376  3005.1328
1377  3234.3728
1378  3164.8044
1379  3192.7297
1380  ssim per frame: 0.8506782
1381  0.85699326
1382  0.8612438
1383  0.8422158
```

```
1384  0.83319724
1385  0.8525263
1386  0.85789317
1387  sharpness per frame: 22.583334
1388  21.46591
1389  21.556818
1390  23.693182
1391  23.40909
1392  22.397728
1393  22.977272
1394  itr: 36600
1395  training loss: 4607.747
1396  test...
1397  mse per seq: 690.8372604846954
1398  97.83735266598788
1399  101.06810643456198
1400  112.40162415937944
1401  128.207978552038
1402  124.47982027313925
1403  126.84237839958884
1404  psnr per frame: 31.737358
1405  32.342392
1406  32.21379
1407  31.777285
1408  31.258497
1409  31.520203
1410  31.31198
1411  fmae per frame: 3003.416
1412  2703.794
1413  2792.1416
1414  2983.3289
1415  3214.6062
1416  3143.7532
1417  3182.8713
1418  ssim per frame: 0.8506406
1419  0.8569439
1420  0.86121756
```

```
1421  0.8422113
1422  0.8331363
1423  0.8525127
1424  0.857822
1425  sharpness per frame: 22.776514
1426  21.977272
1427  21.96591
1428  23.727272
1429  23.795454
1430  22.306818
1431  22.886364
1432  itr: 36700
1433  training loss: 6122.9546
1434  test...
1435  mse per seq: 684.9278093034571
1436  96.7834923917597
1437  100.13188769600607
1438  111.58648616617376
1439  127.19938902421431
1440  123.72832887822932
1441  125.49822514707392
1442  psnr per frame: 31.848658
1443  32.474796
1444  32.333836
1445  31.878992
1446  31.35609
1447  31.616316
1448  31.43191
1449  fmae per frame: 3014.7996
1450  2710.5725
1451  2805.7236
1452  2996.4197
1453  3228.5732
1454  3158.026
1455  3189.4827
1456  ssim per frame: 0.85066146
1457  0.85697806
```

```
1458 0.8612457
1459 0.842235
1460 0.83312243
1461 0.8525087
1462 0.8578789
1463 sharpness per frame: 22.988638
1464 22.375
1465 21.977272
1466 23.875
1467 24.079546
1468 22.34091
1469 23.28409
1470 itr: 36800
1471 training loss: 786.0291
1472 test...
1473 mse per seq: 682.1512414325367
1474 96.59977093609896
1475 99.9313958341425
1476 111.06486441872336
1477 126.53628956187855
1478 122.99683605540882
1479 125.02208462628451
1480 psnr per frame: 31.891314
1481 32.514645
1482 32.371292
1483 31.939613
1484 31.415834
1485 31.659044
1486 31.447443
1487 fmae per frame: 3021.222
1488 2716.4797
1489 2813.44
1490 3003.5505
1491 3231.3445
1492 3160.9382
1493 3201.5781
1494 ssim per frame: 0.85076165
```

```
1495 0.85707754
1496 0.86130863
1497 0.84232366
1498 0.8332749
1499 0.85264325
1500 0.857942
1501 sharpness per frame: 22.74053
1502 21.931818
1503 21.75
1504 23.863636
1505 23.5
1506 22.556818
1507 22.84091
1508 saved to checkpoints/typhoon_predrnn_pp
1509 itr: 36900
1510 training loss: 4791.848
1511 test...
1512 mse per seq: 685.7921310988339
1513 96.88169852170077
1514 100.25417744029652
1515 111.7031698660417
1516 127.36190505461259
1517 123.60114002227783
1518 125.99004019390453
1519 psnr per frame: 31.807493
1520 32.43284
1521 32.292828
1522 31.847967
1523 31.326069
1524 31.581266
1525 31.363977
1526 fmae per frame: 3010.1853
1527 2702.5972
1528 2798.2935
1529 2993.9868
1530 3222.5015
1531 3150.3518
```

```
1532  3193.3806
1533  ssim per frame: 0.8506419
1534  0.8570009
1535  0.8612251
1536  0.8421905
1537  0.83313155
1538  0.8525057
1539  0.85779786
1540  sharpness per frame: 22.630682
1541  21.772728
1542  21.068182
1543  23.53409
1544  23.5
1545  22.65909
1546  23.25
1547  itr: 37000
1548  training loss: 4625.7417
1549  test...
1550  mse per seq: 683.9937333627181
1551  96.7496030547402
1552  100.14348576285623
1553  111.34084259379993
1554  127.07051359523426
1555  123.43808715993708
1556  125.25120119615035
1557  psnr per frame: 31.877686
1558  32.51537
1559  32.36919
1560  31.928175
1561  31.394184
1562  31.634336
1563  31.424847
1564  fmae per frame: 3026.0312
1565  2722.6892
1566  2819.4355
1567  3005.5728
1568  3234.6055
```

```
1569  3168.201
1570  3205.6838
1571  ssim per frame: 0.85069704
1572  0.85704076
1573  0.8612617
1574  0.84230465
1575  0.83316916
1576  0.85252666
1577  0.8578792
1578  sharpness per frame: 22.52841
1579  21.78409
1580  21.454546
1581  23.147728
1582  23.693182
1583  22.181818
1584  22.90909
1585  itr: 37100
1586  training loss: 5089.9307
1587  test...
1588  mse per seq: 683.5942445885051
1589  96.7698692408475
1590  100.04486604170366
1591  111.37224227731878
1592  126.89671156623147
1593  123.23469005931507
1594  125.27586540308866
1595  psnr per frame: 31.88016
1596  32.50772
1597  32.36728
1598  31.919994
1599  31.399445
1600  31.645197
1601  31.441313
1602  fmae per frame: 3019.2424
1603  2715.9138
1604  2809.8682
1605  2999.329
```

```
1606  3229.4912
1607  3161.9937
1608  3198.8591
1609  ssim per frame: 0.8506067
1610  0.8569408
1611  0.8611753
1612  0.84222734
1613  0.83304995
1614  0.85245997
1615  0.8577866
1616  sharpness per frame: 22.25379
1617  21.477272
1618  21.125
1619  23.147728
1620  23.09091
1621  22.204546
1622  22.477272
1623  itr: 37200
1624  training loss: 5768.336
1625  test...
1626  mse per seq: 683.824965433641
1627  96.50673536820845
1628  100.04053150523792
1629  111.50183192166415
1630  126.95549193295565
1631  123.23334035006437
1632  125.58703435551037
1633  psnr per frame: 31.852158
1634  32.497044
1635  32.346176
1636  31.903343
1637  31.380785
1638  31.610756
1639  31.37485
1640  fmae per frame: 3018.8164
1641  2708.6294
1642  2808.1843
```

```
1643  3003.37
1644  3231.678
1645  3160.2874
1646  3200.7502
1647  ssim per frame: 0.8507681
1648  0.8571253
1649  0.8613323
1650  0.8422738
1651  0.8332552
1652  0.8526712
1653  0.8579509
1654  sharpness per frame: 22.24621
1655  21.795454
1656  21.318182
1657  23.386364
1658  22.795454
1659  21.78409
1660  22.397728
1661  itr: 37300
1662  training loss: 4923.7173
1663  test...
1664  mse per seq: 684.9410290501335
1665  96.62786600806497
1666  100.19738088954578
1667  111.57588399540295
1668  127.25440913980657
1669  123.65824122862382
1670  125.62724778868936
1671  psnr per frame: 31.873697
1672  32.52
1673  32.36475
1674  31.92254
1675  31.393517
1676  31.627089
1677  31.41429
1678  fmae per frame: 3036.3464
1679  2727.189
```

```
1680  2827.1748
1681  3018.836
1682  3251.3538
1683  3179.7212
1684  3213.804
1685  ssim per frame: 0.85062283
1686  0.8570326
1687  0.86122876
1688  0.84214324
1689  0.83306795
1690  0.8524721
1691  0.85779244
1692  sharpness per frame: 22.589014
1693  22.181818
1694  21.943182
1695  23.488636
1696  22.852272
1697  22.193182
1698  22.875
1699  itr: 37400
1700  training loss: 5075.7
1701  test...
1702  mse per seq: 684.3874585845253
1703  96.69209792397238
1704  100.03100555593318
1705  111.36649625951594
1706  127.14461148868908
1707  123.68203284523703
1708  125.47121451117776
1709  psnr per frame: 31.870005
1710  32.51162
1711  32.370163
1712  31.920471
1713  31.387047
1714  31.62552
1715  31.405212
1716  fmae per frame: 3023.112
```

```
1717  2716.88
1718  2813.2131
1719  3000.2087
1720  3231.41
1721  3167.4397
1722  3209.5203
1723  ssim per frame: 0.850678
1724  0.85704154
1725  0.8612597
1726  0.84233606
1727  0.8331103
1728  0.8525
1729  0.85782033
1730  sharpness per frame: 22.301138
1731  21.53409
1732  21.647728
1733  23.681818
1734  22.954546
1735  21.46591
1736  22.522728
1737  itr: 37500
1738  training loss: 5632.868
1739  test...
1740  mse per seq: 682.7092254812068
1741  96.62386842207475
1742  99.91380101984197
1743  111.26043592799793
1744  126.83558810840954
1745  122.96313628283414
1746  125.11239572004838
1747  psnr per frame: 31.866495
1748  32.507526
1749  32.366196
1750  31.918793
1751  31.393293
1752  31.626875
1753  31.386286
```

```
1754  fmae per frame: 3016.2708
1755  2712.911
1756  2806.1873
1757  2994.7905
1758  3223.7522
1759  3157.9595
1760  3202.0251
1761  ssim per frame: 0.8507502
1762  0.85708594
1763  0.86134154
1764  0.8423361
1765  0.83325315
1766  0.8526383
1767  0.85784644
1768  sharpness per frame: 22.217804
1769  21.693182
1770  21.352272
1771  23.170454
1772  23.136364
1773  21.818182
1774  22.136364
1775  itr: 37600
1776  training loss: 3982.855
1777  test...
1778  mse per seq: 693.6650333838029
1779  98.18537915836681
1780  101.38790104605935
1781  112.84617762132125
1782  128.7285391634161
1783  125.146634795449
1784  127.37040159919046
1785  psnr per frame: 31.69706
1786  32.295998
1787  32.167484
1788  31.73268
1789  31.21305
1790  31.481848
```

```
1791 31.29129
1792 fmae per frame: 3013.4436
1793 2712.6594
1794 2801.415
1795 2995.2693
1796 3227.3438
1797 3154.4788
1798 3189.4968
1799 ssim per frame: 0.8506605
1800 0.857028
1801 0.86129403
1802 0.84226745
1803 0.83309466
1804 0.8524979
1805 0.8577807
1806 sharpness per frame: 22.831442
1807 22.125
1808 21.875
1809 23.795454
1810 23.386364
1811 22.5
1812 23.306818
1813 itr: 37700
1814 training loss: 3386.6335
1815 test...
1816 mse per seq: 684.7896526510066
1817 96.86269656094638
1818 100.03205901926214
1819 111.55487298965454
1820 127.2022348317233
1821 123.50411304560575
1822 125.63367620381442
1823 psnr per frame: 31.816742
1824 32.439526
1825 32.309868
1826 31.854076
1827 31.335419
```

```
1828  31.59488
1829  31.366692
1830  fmae per frame: 3003.8918
1831  2699.942
1832  2791.9407
1833  2984.0642
1834  3214.5625
1835  3145.7554
1836  3187.0862
1837  ssim per frame: 0.8506703
1838  0.85703284
1839  0.8612787
1840  0.8422602
1841  0.8331325
1842  0.85255694
1843  0.8577606
1844  sharpness per frame: 22.422348
1845  21.977272
1846  21.704546
1847  23.397728
1848  23.03409
1849  22.03409
1850  22.386364
1851  itr: 37800
1852  training loss: 765.4886
1853  test...
1854  mse per seq: 683.125638073141
1855  96.52607640353116
1856  99.7177790294994
1857  111.10593834790316
1858  126.77807881615378
1859  123.291597626426
1860  125.7061678496274
1861  psnr per frame: 31.878454
1862  32.513985
1863  32.374405
1864  31.923578
```

```
1865  31.393072
1866  31.640856
1867  31.424835
1868  fmae per frame: 3014.568
1869  2711.1223
1870  2804.3213
1871  2994.59
1872  3222.435
1873  3155.443
1874  3199.4954
1875  ssim per frame: 0.85066175
1876  0.85702014
1877  0.8612594
1878  0.8422747
1879  0.83314914
1880  0.85252625
1881  0.85774064
1882  sharpness per frame: 22.863638
1883  22.181818
1884  22.045454
1885  24.21591
1886  23.761364
1887  21.647728
1888  23.329546
1889  itr: 37900
1890  training loss: 4709.437
1891  test...
1892  mse per seq: 683.8131844347173
1893  96.35981325669722
1894  99.73544159802523
1895  111.45881470766935
1896  127.08979402888905
1897  123.60994031212546
1898  125.55938053131104
1899  psnr per frame: 31.864687
1900  32.50746
1901  32.35995
```

```
1902 31.902418
1903 31.374052
1904 31.622625
1905 31.42162
1906 fmae per frame: 3015.1785
1907 2704.2778
1908 2801.1208
1909 3000.9875
1910 3228.8274
1911 3159.8079
1912 3196.0493
1913 ssim per frame: 0.8507392
1914 0.85713845
1915 0.8613739
1916 0.8422876
1917 0.8332185
1918 0.85254365
1919 0.85787314
1920 sharpness per frame: 22.47159
1921 22.21591
1922 21.761364
1923 23.636364
1924 23.386364
1925 21.738636
1926 22.09091
1927 itr: 38000
1928 training loss: 4438.2397
1929 test...
1930 mse per seq: 684.0307523120533
1931 96.60764468799938
1932 99.76129150390625
1933 111.41612967577848
1934 126.99356959082864
1935 123.60922325741161
1936 125.64289359612899
1937 psnr per frame: 31.84465
1938 32.470905
```

1939 32.337154
1940 31.881817
1941 31.362951
1942 31.609785
1943 31.40529
1944 fmae per frame: 3008.697
1945 2701.7278
1946 2794.3362
1947 2990.1921
1948 3221.676
1949 3152.8865
1950 3191.363
1951 ssim per frame: 0.8506746
1952 0.8570429
1953 0.8613239
1954 0.8422465
1955 0.8331311
1956 0.8524988
1957 0.85780454
1958 sharpness per frame: 22.473486
1959 22.09091
1960 21.886364
1961 23.818182
1962 22.818182
1963 21.886364
1964 22.34091
1965 itr: 38100
1966 training loss: 4973.5034
1967 test...
1968 mse per seq: 689.4268165501682
1969 97.46163064783269
1970 100.68927010622892
1971 112.24639229340987
1972 128.1042766571045
1973 124.41752631014043
1974 126.50772053545171
1975 psnr per frame: 31.747427

**1976** 32.359013
**1977** 32.23102
**1978** 31.783161
**1979** 31.265505
**1980** 31.529762
**1981** 31.3161
**1982** fmae per frame: 3007.5085
**1983** 2703.2085
**1984** 2793.4104
**1985** 2989.0232
**1986** 3223.1587
**1987** 3148.661
**1988** 3187.5896
**1989** ssim per frame: 0.8506744
**1990** 0.8570907
**1991** 0.8613128
**1992** 0.84228826
**1993** 0.83308524
**1994** 0.8524912
**1995** 0.8577782
**1996** sharpness per frame: 22.369318
**1997** 22.0
**1998** 21.977272
**1999** 23.363636
**2000** 23.045454
**2001** 21.59091
**2002** 22.238636
**2003** itr: 38200
**2004** training loss: 4810.792
**2005** test...
**2006** mse per seq: 683.5356940789657
**2007** 96.47047636725686
**2008** 99.80401715365323
**2009** 111.3250207901001
**2010** 127.20925621552901
**2011** 123.24607055837458
**2012** 125.48085299405184

2013 `psnr per frame: 31.83297`
2014 `32.47201`
2015 `32.32868`
2016 `31.874207`
2017 `31.346996`
2018 `31.599571`
2019 `31.37636`
2020 `fmae per frame: 3006.6062`
2021 `2700.6782`
2022 `2793.2441`
2023 `2986.783`
2024 `3218.803`
2025 `3148.7314`
2026 `3191.3975`
2027 `ssim per frame: 0.8506692`
2028 `0.85707766`
2029 `0.86130136`
2030 `0.84222966`
2031 `0.83311176`
2032 `0.85253567`
2033 `0.8577597`
2034 `sharpness per frame: 21.87121`
2035 `21.670454`
2036 `21.045454`
2037 `23.045454`
2038 `22.772728`
2039 `20.931818`
2040 `21.761364`
2041 `itr: 38300`
2042 `training loss: 4261.089`
2043 `test...`
2044 `mse per seq: 683.2409262006933`
2045 `96.36941641027278`
2046 `99.73639150099321`
2047 `111.22061829133467`
2048 `127.04411307248202`
2049 `123.47341671856967`

```
2050  125.39697020704097
2051  psnr per frame: 31.870277
2052  32.503994
2053  32.360096
2054  31.905022
2055  31.373716
2056  31.635529
2057  31.443316
2058  fmae per frame: 3007.655
2059  2704.3594
2060  2798.5994
2061  2989.4963
2062  3222.7188
2063  3148.193
2064  3182.5618
2065  ssim per frame: 0.85073394
2066  0.8571419
2067  0.8613459
2068  0.8423821
2069  0.8331558
2070  0.85253453
2071  0.8578436
2072  sharpness per frame: 22.371214
2073  21.59091
2074  21.556818
2075  23.65909
2076  23.170454
2077  21.920454
2078  22.329546
2079  itr: 38400
2080  training loss: 4787.2217
2081  test...
2082  mse per seq: 686.5035729625008
2083  96.96894363923506
2084  100.18481852791525
2085  111.76846564899792
2086  127.43092259493741
```

| | |
|---|---|
| 2087 | 124.04990976507014 |
| 2088 | 126.10051278634505 |
| 2089 | psnr per frame: 31.796347 |
| 2090 | 32.408894 |
| 2091 | 32.275986 |
| 2092 | 31.825459 |
| 2093 | 31.312078 |
| 2094 | 31.574165 |
| 2095 | 31.381495 |
| 2096 | fmae per frame: 3007.6033 |
| 2097 | 2700.3923 |
| 2098 | 2793.24 |
| 2099 | 2990.3977 |
| 2100 | 3222.5315 |
| 2101 | 3151.7478 |
| 2102 | 3187.3096 |
| 2103 | ssim per frame: 0.8505567 |
| 2104 | 0.8570313 |
| 2105 | 0.8612023 |
| 2106 | 0.84211713 |
| 2107 | 0.8330219 |
| 2108 | 0.8523438 |
| 2109 | 0.8576239 |
| 2110 | sharpness per frame: 22.310606 |
| 2111 | 22.045454 |
| 2112 | 21.738636 |
| 2113 | 24.25 |
| 2114 | 22.71591 |
| 2115 | 21.238636 |
| 2116 | 21.875 |
| 2117 | itr: 38500 |
| 2118 | training loss: 4768.0566 |
| 2119 | test... |
| 2120 | mse per seq: 684.2327486818486 |
| 2121 | 96.68455258282748 |
| 2122 | 100.14761187813498 |
| 2123 | 111.3770866394043 |

```
2124  127.02662073482166
2125  123.46391396089034
2126  125.53296288576993
2127  psnr per frame: 31.90219
2128  32.543297
2129  32.393517
2130  31.950676
2131  31.41811
2132  31.656822
2133  31.450695
2134  fmae per frame: 3039.573
2135  2736.3694
2136  2833.919
2137  3020.385
2138  3248.2842
2139  3180.598
2140  3217.8838
2141  ssim per frame: 0.8507115
2142  0.8571545
2143  0.86131495
2144  0.8422771
2145  0.833157
2146  0.85254365
2147  0.8578219
2148  sharpness per frame: 22.079544
2149  21.28409
2150  21.5
2151  23.227272
2152  22.613636
2153  21.375
2154  22.477272
2155  itr: 38600
2156  training loss: 5324.078
2157  test...
2158  mse per seq: 685.5697090409019
2159  96.50094171003862
2160  99.90578820488669
```

```
2161  111.58395234021273
2162  127.51901227777654
2163  123.94864465973593
2164  126.11136984825134
2165  psnr per frame: 31.81459
2166  32.465557
2167  32.31748
2168  31.858324
2169  31.325739
2170  31.570044
2171  31.350395
2172  fmae per frame: 3003.8801
2173  2696.1982
2174  2789.1423
2175  2985.4524
2176  3216.74
2177  3147.8447
2178  3187.9033
2179  ssim per frame: 0.85077
2180  0.8571905
2181  0.86139625
2182  0.84232086
2183  0.83322376
2184  0.8526256
2185  0.85786283
2186  sharpness per frame: 22.064394
2187  21.761364
2188  21.136364
2189  23.568182
2190  22.84091
2191  21.25
2192  21.829546
2193  itr: 38700
2194  training loss: 4793.0703
2195  test...
2196  mse per seq: 686.0063687237827
2197  96.90507650375366
```

```
2198  100.29574905742298
2199  111.59653693979436
2200  127.51879115538163
2201  124.01563375646418
2202  125.67458131096579
2203  psnr per frame: 31.895775
2204  32.54263
2205  32.395683
2206  31.95038
2207  31.412056
2208  31.644855
2209  31.429052
2210  fmae per frame: 3046.326
2211  2741.4292
2212  2836.9387
2213  3022.9119
2214  3255.8289
2215  3191.7876
2216  3229.0583
2217  ssim per frame: 0.8506763
2218  0.85707116
2219  0.86132795
2220  0.84236217
2221  0.8330923
2222  0.85241723
2223  0.85778695
2224  sharpness per frame: 22.215906
2225  21.386364
2226  20.795454
2227  22.886364
2228  23.454546
2229  22.295454
2230  22.477272
2231  itr: 38800
2232  training loss: 6119.3125
2233  test...
2234  mse per seq: 684.7450482195073
```

```
2235  96.55510091781616
2236  99.79499574141069
2237  111.46388361670755
2238  127.2549506967718
2239  123.91596369309859
2240  125.76015355370261
2241  psnr per frame: 31.837873
2242  32.474068
2243  32.332706
2244  31.874
2245  31.34717
2246  31.601372
2247  31.3979
2248  fmae per frame: 3007.8445
2249  2699.7722
2250  2791.5974
2251  2989.1584
2252  3221.8623
2253  3153.7664
2254  3190.9102
2255  ssim per frame: 0.85064244
2256  0.8570977
2257  0.8613007
2258  0.84228194
2259  0.8330497
2260  0.85240513
2261  0.85771936
2262  sharpness per frame: 22.517046
2263  21.943182
2264  21.306818
2265  23.71591
2266  23.28409
2267  22.21591
2268  22.636364
2269  itr: 38900
2270  training loss: 5661.5557
2271  test...
```

```
2272  mse per seq: 691.5873328122226
2273  97.48972433263606
2274  101.30774810097434
2275  112.58422257683493
2276  128.32484488053754
2277  125.211928172545
2278  126.66886474869467
2279  psnr per frame: 31.887144
2280  32.543827
2281  32.379837
2282  31.93564
2283  31.39998
2284  31.631525
2285  31.432049
2286  fmae per frame: 3077.921
2287  2772.1096
2288  2873.9436
2289  3056.754
2290  3287.121
2291  3221.9272
2292  3255.6704
2293  ssim per frame: 0.8506629
2294  0.8571384
2295  0.8612677
2296  0.842294
2297  0.8330771
2298  0.8524551
2299  0.857745
2300  sharpness per frame: 22.206438
2301  22.102272
2302  21.704546
2303  22.954546
2304  22.96591
2305  21.375
2306  22.136364
2307  itr: 39000
2308  training loss: 778.17487
```

```
2309  test...
2310  mse per seq: 682.7327866771004
2311  96.3477450284091
2312  99.714167508212
2313  111.20635674216531
2314  127.01138942891902
2315  123.1597027128393
2316  125.29342525655574
2317  psnr per frame: 31.861832
2318  32.499393
2319  32.35687
2320  31.907734
2321  31.379047
2322  31.621277
2323  31.406675
2324  fmae per frame: 3007.7644
2325  2699.207
2326  2795.4878
2327  2988.0703
2328  3220.1267
2329  3151.978
2330  3191.7139
2331  ssim per frame: 0.85072404
2332  0.85717416
2333  0.8613624
2334  0.84230214
2335  0.8331343
2336  0.85254216
2337  0.85782933
2338  sharpness per frame: 21.742424
2339  21.227272
2340  20.71591
2341  23.113636
2342  22.5
2343  21.113636
2344  21.78409
2345  itr: 39100
```

```
2346 training loss: 4048.0012
2347 test...
2348 mse per seq: 682.6864844452251
2349 96.21939715472135
2350 99.70469149676236
2351 111.11474700407548
2352 126.96814732118087
2353 123.04946719516407
2354 125.63003427332097
2355 psnr per frame: 31.857729
2356 32.521767
2357 32.370174
2358 31.923847
2359 31.386513
2360 31.591444
2361 31.352636
2362 fmae per frame: 3018.3027
2363 2702.029
2364 2802.2937
2365 2994.8289
2366 3229.4001
2367 3166.9102
2368 3214.3538
2369 ssim per frame: 0.85067195
2370 0.8571832
2371 0.86131954
2372 0.8422972
2373 0.83309454
2374 0.8524807
2375 0.85765576
2376 sharpness per frame: 21.857954
2377 21.386364
2378 21.227272
2379 22.863636
2380 22.647728
2381 21.363636
2382 21.65909
```

```
2383  itr: 39200
2384  training loss: 1943.335
2385  test...
2386  mse per seq: 688.667903098193
2387  97.11376615004106
2388  100.41824280131947
2389  111.94289094751531
2390  127.91171151941472
2391  124.30508802153848
2392  126.97620365836404
2393  psnr per frame: 31.762976
2394  32.394844
2395  32.253635
2396  31.80957
2397  31.285992
2398  31.530712
2399  31.303083
2400  fmae per frame: 3000.9773
2401  2693.923
2402  2785.5894
2403  2980.974
2404  3214.299
2405  3143.9924
2406  3187.087
2407  ssim per frame: 0.85070974
2408  0.8571682
2409  0.86138636
2410  0.8422966
2411  0.8331463
2412  0.85251594
2413  0.8577454
2414  sharpness per frame: 21.804924
2415  21.40909
2416  20.863636
2417  23.056818
2418  22.545454
2419  21.079546
```

```
2420  21.875
2421  itr: 39300
2422  training loss: 5084.625
2423  test...
2424  mse per seq: 681.8274118250066
2425  96.25046071139249
2426  99.60794505206022
2427  111.03983731703325
2428  126.8214993910356
2429  122.98694012381814
2430  125.12072922966696
2431  psnr per frame: 31.880869
2432  32.529987
2433  32.384502
2434  31.934284
2435  31.402138
2436  31.635134
2437  31.399178
2438  fmae per frame: 3013.797
2439  2706.9912
2440  2803.0535
2441  2992.6787
2442  3223.8787
2443  3156.4595
2444  3199.7205
2445  ssim per frame: 0.8507447
2446  0.85719645
2447  0.86139965
2448  0.8423558
2449  0.8331845
2450  0.85255396
2451  0.8577782
2452  sharpness per frame: 21.914772
2453  21.59091
2454  20.943182
2455  23.329546
2456  22.65909
```

```
2457  21.136364
2458  21.829546
2459  saved to checkpoints/typhoon_predrnn_pp
2460  itr: 39400
2461  training loss: 5972.4277
2462  test...
2463  mse per seq: 683.2038393237374
2464  96.19885366613215
2465  99.59551134976473
2466  111.18388479406184
2467  126.95289954272184
2468  123.57995661822233
2469  125.69273335283452
2470  psnr per frame: 31.866179
2471  32.503017
2472  32.359196
2473  31.89928
2474  31.372889
2475  31.629633
2476  31.43305
2477  fmae per frame: 3004.0403
2478  2696.5369
2479  2792.9573
2480  2985.4016
2481  3216.6462
2482  3147.682
2483  3185.0188
2484  ssim per frame: 0.85070103
2485  0.85718364
2486  0.86134905
2487  0.8423323
2488  0.8331344
2489  0.85247797
2490  0.857729
2491  sharpness per frame: 22.267046
2492  21.761364
2493  21.238636
```

```
2494  23.25
2495  23.21591
2496  21.772728
2497  22.363636
2498  itr: 39500
2499  training loss: 5943.2305
2500  test...
2501  mse per seq: 680.9644157236272
2502  96.16477426615629
2503  99.3707296631553
2504  110.8633862842213
2505  126.49546753276478
2506  123.05627244169062
2507  125.01378553563899
2508  psnr per frame: 31.882057
2509  32.516956
2510  32.38232
2511  31.927832
2512  31.401796
2513  31.643269
2514  31.42016
2515  fmae per frame: 3002.1497
2516  2695.682
2517  2789.5654
2518  2980.7568
2519  3211.6794
2520  3146.243
2521  3188.971
2522  ssim per frame: 0.8508296
2523  0.8572346
2524  0.86147475
2525  0.84248257
2526  0.8332727
2527  0.8526438
2528  0.8578691
2529  sharpness per frame: 22.111742
2530  21.806818
```

```
2531 21.045454
2532 23.511364
2533 22.75
2534 21.59091
2535 21.96591
2536 saved to checkpoints/typhoon_predrnn_pp
2537 itr: 39600
2538 training loss: 4793.1177
2539 test...
2540 mse per seq: 682.5015554644845
2541 96.17151539975947
2542 99.52208670702848
2543 110.96444520083341
2544 126.8566119887612
2545 123.37136262113398
2546 125.61553354696794
2547 psnr per frame: 31.872574
2548 32.519573
2549 32.378906
2550 31.926918
2551 31.393522
2552 31.62232
2553 31.394215
2554 fmae per frame: 3006.8562
2555 2696.6836
2556 2792.5972
2557 2981.0876
2558 3215.7932
2559 3155.4492
2560 3199.5264
2561 ssim per frame: 0.85072774
2562 0.8572158
2563 0.8613805
2564 0.84243464
2565 0.8331707
2566 0.8524855
2567 0.8576796
```

2568 sharpness per frame: 21.64962
2569 21.136364
2570 20.806818
2571 22.681818
2572 22.522728
2573 20.931818
2574 21.818182
2575 itr: 39700
2576 training loss: 5832.6704
2577 test...
2578 mse per seq: 683.2279689745469
2579 96.39409966902299
2580 99.69528029181741
2581 111.09502046758479
2582 127.0499585758556
2583 123.53937003829263
2584 125.45423993197355
2585 psnr per frame: 31.902441
2586 32.548954
2587 32.405144
2588 31.955147
2589 31.418867
2590 31.654003
2591 31.432528
2592 fmae per frame: 3021.6038
2593 2717.5793
2594 2809.4946
2595 2998.0095
2596 3233.9375
2597 3166.8235
2598 3203.7788
2599 ssim per frame: 0.8507231
2600 0.85718036
2601 0.8614015
2602 0.84241176
2603 0.833118
2604 0.8524716

```
2605  0.8577554
2606  sharpness per frame: 21.886362
2607  21.21591
2608  20.96591
2609  23.03409
2610  22.75
2611  21.227272
2612  22.125
2613  itr: 39800
2614  training loss: 5007.625
2615  test...
2616  mse per seq: 681.8180697831241
2617  96.19491746208884
2618  99.50291468880393
2619  110.9720028963956
2620  126.79816727204756
2621  122.88544145497409
2622  125.46462600881404
2623  psnr per frame: 31.874535
2624  32.54069
2625  32.394672
2626  31.943666
2627  31.408049
2628  31.627632
2629  31.332508
2630  fmae per frame: 3015.1797
2631  2706.596
2632  2800.0166
2633  2990.9084
2634  3223.8704
2635  3157.4148
2636  3212.272
2637  ssim per frame: 0.85071784
2638  0.85722595
2639  0.86141676
2640  0.84235406
2641  0.8331141
```

```
2642  0.8525537
2643  0.8576429
2644  sharpness per frame: 21.895834
2645  21.193182
2646  21.15909
2647  23.011364
2648  22.46591
2649  21.318182
2650  22.227272
2651  itr: 39900
2652  training loss: 6052.119
2653  test...
2654  mse per seq: 683.6102615053004
2655  96.26993081786416
2656  99.62838190252131
2657  111.2272650978782
2658  127.08551810004495
2659  123.61597678878091
2660  125.78318879821084
2661  psnr per frame: 31.889673
2662  32.5415
2663  32.39261
2664  31.93379
2665  31.401745
2666  31.649683
2667  31.418707
2668  fmae per frame: 3017.1853
2669  2709.4854
2670  2802.78
2671  2996.7498
2672  3230.2195
2673  3160.1218
2674  3203.7546
2675  ssim per frame: 0.85072166
2676  0.8572066
2677  0.8614228
2678  0.84237784
```

```
2679  0.8331287
2680  0.8525036
2681  0.8576903
2682  sharpness per frame: 22.149622
2683  21.647728
2684  21.21591
2685  23.102272
2686  22.96591
2687  21.545454
2688  22.420454
2689  itr: 40000
2690  training loss: 4754.0273
2691  test...
2692  mse per seq: 683.5508069341832
2693  96.07639156688343
2694  99.75218564813787
2695  111.19074973193082
2696  127.23737322200428
2697  123.07020822438326
2698  126.22389854084362
2699  psnr per frame: 31.8453
2700  32.54625
2701  32.378384
2702  31.922802
2703  31.366365
2704  31.561096
2705  31.296907
2706  fmae per frame: 3043.6555
2707  2718.1252
2708  2822.7197
2709  3013.0327
2710  3256.7588
2711  3197.6494
2712  3253.6494
2713  ssim per frame: 0.8508343
2714  0.85733485
2715  0.8615015
```

```
2716  0.8424404
2717  0.83325523
2718  0.85267204
2719  0.85780185
2720  sharpness per frame: 21.376894
2721  20.704546
2722  20.681818
2723  22.988636
2724  22.443182
2725  20.53409
2726  20.90909
2727  itr: 40100
2728  training loss: 4566.308
2729  test...
2730  mse per seq: 683.4880130290985
2731  96.21830012581565
2732  99.58963831988248
2733  111.16619534925981
2734  127.2077016396956
2735  123.6506506096233
2736  125.65552698482166
2737  psnr per frame: 31.860487
2738  32.500126
2739  32.359398
2740  31.904829
2741  31.372187
2742  31.617176
2743  31.409197
2744  fmae per frame: 3005.9932
2745  2697.53
2746  2791.8945
2747  2985.3896
2748  3220.0764
2749  3152.086
2750  3188.983
2751  ssim per frame: 0.8506856
2752  0.8571966
```

```
2753  0.86139035
2754  0.84237766
2755  0.83304423
2756  0.8523999
2757  0.8577046
2758  sharpness per frame: 22.094696
2759  21.795454
2760  21.352272
2761  23.431818
2762  22.886364
2763  21.113636
2764  21.988636
2765  itr: 40200
2766  training loss: 5985.037
2767  test...
2768  mse per seq: 684.1624543450096
2769  96.46041694554415
2770  99.88718878139149
2771  111.28226297551936
2772  127.10830437053333
2773  123.47136144204573
2774  125.95291982997547
2775  psnr per frame: 31.88505
2776  32.55255
2777  32.400513
2778  31.95019
2779  31.416502
2780  31.620764
2781  31.36979
2782  fmae per frame: 3035.1194
2783  2723.8584
2784  2819.4165
2785  3008.0383
2786  3243.8547
2787  3183.8264
2788  3231.7224
2789  ssim per frame: 0.85068196
```

2790 0.8571865
2791 0.8613949
2792 0.8423189
2793 0.83309466
2794 0.85249305
2795 0.85760385
2796 sharpness per frame: 21.244318
2797 20.625
2798 20.306818
2799 22.53409
2800 21.602272
2801 20.84091
2802 21.556818
2803 itr: 40300
2804 training loss: 4395.48
2805 test...
2806 mse per seq: 682.3903282989155
2807 95.92059538581155
2808 99.34476319226351
2809 110.93626295436512
2810 126.88188747926192
2811 123.46278377012773
2812 125.84403551708569
2813 psnr per frame: 31.862001
2814 32.518257
2815 32.36996
2816 31.913916
2817 31.375757
2818 31.61703
2819 31.377094
2820 fmae per frame: 3002.245
2821 2691.4824
2822 2786.1907
2823 2982.176
2824 3215.2642
2825 3147.0881
2826 3191.2688

```
2827  ssim per frame: 0.8507758
2828  0.85728955
2829  0.8614849
2830  0.8423971
2831  0.83318067
2832  0.8525343
2833  0.8577685
2834  sharpness per frame: 21.732954
2835  21.272728
2836  21.03409
2837  23.079546
2838  22.522728
2839  20.625
2840  21.863636
2841  itr: 40400
2842  training loss: 5028.0796
2843  test...
2844  mse per seq: 683.2473685958169
2845  96.20849758928472
2846  99.60706190629439
2847  111.06065260280262
2848  127.03120010549372
2849  123.7333945794539
2850  125.60656181248751
2851  psnr per frame: 31.899452
2852  32.53876
2853  32.39517
2854  31.940832
2855  31.407177
2856  31.660307
2857  31.454462
2858  fmae per frame: 3019.6992
2859  2711.2637
2860  2805.6929
2861  2996.0654
2862  3234.6475
2863  3167.5095
```

```
2864  3203.017
2865  ssim per frame: 0.8506808
2866  0.85716194
2867  0.86135846
2868  0.8423811
2869  0.8330875
2870  0.8524468
2871  0.8576488
2872  sharpness per frame: 22.193182
2873  21.46591
2874  21.102272
2875  23.795454
2876  22.829546
2877  21.511364
2878  22.454546
2879  itr: 40500
2880  training loss: 4271.777
2881  test...
2882  mse per seq: 683.9690717133609
2883  96.25111452015963
2884  99.72355170683427
2885  111.31913562254472
2886  127.23520491339944
2887  123.32049502025951
2888  126.1195699301633
2889  psnr per frame: 31.812271
2890  32.472755
2891  32.31539
2892  31.865032
2893  31.333788
2894  31.562166
2895  31.324493
2896  fmae per frame: 2994.9802
2897  2685.9626
2898  2778.8127
2899  2975.1736
2900  3206.5159
```

```
2901  3139.2944
2902  3184.121
2903  ssim per frame: 0.8508447
2904  0.85733694
2905  0.86154455
2906  0.8423872
2907  0.8332741
2908  0.852679
2909  0.85784644
2910  sharpness per frame: 21.125
2911  20.602272
2912  20.40909
2913  22.670454
2914  21.693182
2915  20.397728
2916  20.977272
2917  itr: 40600
2918  training loss: 3446.8386
2919  test...
2920  mse per seq: 682.6221979748119
2921  96.21246881918474
2922  99.54713400927457
2923  111.10424561934038
2924  126.7686971317638
2925  123.25790977478027
2926  125.73174262046814
2927  psnr per frame: 31.84945
2928  32.49174
2929  32.349205
2930  31.899097
2931  31.37961
2932  31.607893
2933  31.369158
2934  fmae per frame: 2998.7742
2935  2689.1428
2936  2782.044
2937  2978.6492
```

```
2938  3210.1448
2939  3142.9219
2940  3189.7424
2941  ssim per frame: 0.8507193
2942  0.8572417
2943  0.861449
2944  0.84235877
2945  0.83315873
2946  0.85243744
2947  0.85767055
2948  sharpness per frame: 21.445076
2949  20.761364
2950  20.522728
2951  22.636364
2952  22.272728
2953  20.75
2954  21.727272
2955  itr: 40700
2956  training loss: 3348.145
2957  test...
2958  mse per seq: 684.1300496621566
2959  96.03197093443437
2960  99.63712874325839
2961  111.24291723424739
2962  127.15641684965654
2963  123.53100533918901
2964  126.53061056137085
2965  psnr per frame: 31.830744
2966  32.494705
2967  32.340553
2968  31.88999
2969  31.354761
2970  31.582964
2971  31.32149
2972  fmae per frame: 3005.8347
2973  2688.7449
2974  2788.1658
```

```
2975  2986.5498
2976  3219.4368
2977  3150.695
2978  3201.414
2979  ssim per frame: 0.85080695
2980  0.8573587
2981  0.8614997
2982  0.8423977
2983  0.8332359
2984  0.8525856
2985  0.85776365
2986  sharpness per frame: 21.80871
2987  21.170454
2988  20.636364
2989  22.920454
2990  22.897728
2991  21.363636
2992  21.863636
2993  itr: 40800
2994  training loss: 5389.4375
2995  test...
2996  mse per seq: 687.5960354804993
2997  97.0756050456654
2998  100.14511468193747
2999  111.91449611837214
3000  127.75144100189209
3001  124.27791946584529
3002  126.4314591667869
3003  psnr per frame: 31.781977
3004  32.40221
3005  32.27968
3006  31.820152
3007  31.306355
3008  31.558083
3009  31.325373
3010  fmae per frame: 2996.8008
3011  2692.2146
```

```
3012  2780.4697
3013  2975.594
3014  3206.5588
3015  3140.1453
3016  3185.8228
3017  ssim per frame: 0.8506565
3018  0.85713464
3019  0.861367
3020  0.84237266
3021  0.83309656
3022  0.85236645
3023  0.85760236
3024  sharpness per frame: 22.001894
3025  21.40909
3026  21.204546
3027  23.431818
3028  22.75
3029  21.295454
3030  21.920454
3031  itr: 40900
3032  training loss: 4719.32
3033  test...
3034  mse per seq: 683.2082130908966
3035  96.16447702321139
3036  99.55455537275834
3037  111.21039789373225
3038  127.20424838499589
3039  123.42241027138449
3040  125.65212414481424
3041  psnr per frame: 31.86998
3042  32.525986
3043  32.380512
3044  31.9182
3045  31.38514
3046  31.625153
3047  31.384893
3048  fmae per frame: 3008.6282
```

3049 2698.1482
3050 2793.5132
3051 2986.0984
3052 3220.0393
3053 3153.337
3054 3200.6345
3055 ssim per frame: 0.8507703
3056 0.85729796
3057 0.86147344
3058 0.84242994
3059 0.8331759
3060 0.85256124
3061 0.8576834
3062 sharpness per frame: 21.17803
3063 20.863636
3064 20.352272
3065 22.636364
3066 21.704546
3067 20.363636
3068 21.147728
3069 itr: 41000
3070 training loss: 5086.2007
3071 test...
3072 mse per seq: 683.7103429057381
3073 96.2307083823464
3074 99.50486261194402
3075 111.17966729944402
3076 127.21210887215354
3077 123.52847795052962
3078 126.05451778932051
3079 psnr per frame: 31.830809
3080 32.469997
3081 32.330105
3082 31.872353
3083 31.338764
3084 31.599249
3085 31.374384

```
3086  fmae per frame: 2996.4512
3087  2688.1584
3088  2780.1553
3089  2977.965
3090  3209.9534
3091  3138.5784
3092  3183.8984
3093  ssim per frame: 0.85080075
3094  0.8573042
3095  0.8615122
3096  0.8424295
3097  0.8332358
3098  0.8525578
3099  0.85776514
3100  sharpness per frame: 21.537878
3101  21.602272
3102  20.78409
3103  22.931818
3104  22.03409
3105  20.431818
3106  21.443182
3107  itr: 41100
3108  training loss: 5600.148
3109  test...
3110  mse per seq: 688.9322788498619
3111  96.72207814996892
3112  100.10281796888871
3113  112.02228970961137
3114  128.14395735480568
3115  124.8153333013708
3116  127.12580236521634
3117  psnr per frame: 31.774378
3118  32.416065
3119  32.275536
3120  31.803919
3121  31.275885
3122  31.538397
```

```
3123  31.336473
3124  fmae per frame: 3007.8547
3125  2697.1274
3126  2789.1765
3127  2987.6296
3128  3222.6062
3129  3154.91
3130  3195.678
3131  ssim per frame: 0.8506128
3132  0.85717386
3133  0.86135393
3134  0.8423395
3135  0.8330263
3136  0.85228974
3137  0.85749334
3138  sharpness per frame: 21.535986
3139  21.25
3140  20.761364
3141  23.011364
3142  21.977272
3143  20.647728
3144  21.568182
3145  itr: 41200
3146  training loss: 3943.0427
3147  test...
3148  mse per seq: 690.8722644719211
3149  97.14106284488331
3150  100.48556795987216
3151  112.28273218328303
3152  128.39515347914264
3153  124.76120021126486
3154  127.80654779347506
3155  psnr per frame: 31.750193
3156  32.391834
3157  32.252975
3158  31.803162
3159  31.275505
```

```
3160  31.510988
3161  31.266699
3162  fmae per frame: 2998.3584
3163  2686.9321
3164  2779.6187
3165  2978.683
3166  3209.6091
3167  3142.6553
3168  3192.6514
3169  ssim per frame: 0.850732
3170  0.8572921
3171  0.8614599
3172  0.84239155
3173  0.8331549
3174  0.8524792
3175  0.8576147
3176  sharpness per frame: 21.511366
3177  21.011364
3178  20.545454
3179  23.21591
3180  22.488636
3181  20.386364
3182  21.420454
3183  itr: 41300
3184  training loss: 760.3621
3185  test...
3186  mse per seq: 682.8264779394323
3187  96.18246418779546
3188  99.423781004819
3189  110.97561632503162
3190  126.95176163586703
3191  123.56126811287619
3192  125.731586673043
3193  psnr per frame: 31.899057
3194  32.550518
3195  32.409805
3196  31.953493
```

```
3197  31.414827
3198  31.649153
3199  31.416552
3200  fmae per frame: 3012.334
3201  2706.455
3202  2797.0793
3203  2989.118
3204  3221.4556
3205  3158.3306
3206  3201.5654
3207  ssim per frame: 0.8507004
3208  0.85720724
3209  0.86140424
3210  0.8424103
3211  0.8331781
3212  0.85241437
3213  0.8575879
3214  sharpness per frame: 21.530304
3215  21.102272
3216  20.625
3217  23.011364
3218  22.511364
3219  20.568182
3220  21.363636
3221  itr: 41400
3222  training loss: 5732.978
3223  test...
3224  mse per seq: 681.7348468520424
3225  95.86090952699834
3226  99.25590792569247
3227  110.87066589702259
3228  126.83123896338724
3229  123.19175338745117
3230  125.72437115149064
3231  psnr per frame: 31.86564
3232  32.517536
3233  32.370968
```

```
3234 31.913837
3235 31.382454
3236 31.629591
3237 31.379478
3238 fmae per frame: 2995.5244
3239 2686.6768
3240 2779.3557
3241 2975.171
3242 3209.2522
3243 3139.0857
3244 3183.6052
3245 ssim per frame: 0.85080266
3246 0.8573595
3247 0.8615318
3248 0.84248966
3249 0.8332142
3250 0.8525285
3251 0.8576921
3252 sharpness per frame: 21.626894
3253 21.056818
3254 21.079546
3255 23.21591
3256 22.375
3257 20.71591
3258 21.318182
3259 itr: 41500
3260 training loss: 5032.7476
3261 test...
3262 mse per seq: 685.5125597607006
3263 96.47674469514327
3264 99.82195867191662
3265 111.4115321852944
3266 127.51888673955744
3267 123.94174415414983
3268 126.341693314639
3269 psnr per frame: 31.812782
3270 32.44404
```

```
3271  32.30176
3272  31.849854
3273  31.321156
3274  31.585407
3275  31.374475
3276  fmae per frame: 2994.0222
3277  2687.4226
3278  2778.8335
3279  2973.5947
3280  3208.3398
3281  3137.5845
3282  3178.3584
3283  ssim per frame: 0.85068744
3284  0.8572393
3285  0.86141664
3286  0.8423843
3287  0.833079
3288  0.85241103
3289  0.85759413
3290  sharpness per frame: 21.880682
3291  21.806818
3292  21.0
3293  23.125
3294  22.34091
3295  21.068182
3296  21.943182
3297  itr: 41600
3298  training loss: 3746.2124
3299  test...
3300  mse per seq: 683.4999286694961
3301  96.05920607393438
3302  99.36324938860807
3303  111.01376260410656
3304  127.1890549659729
3305  123.45521961558948
3306  126.41943602128462
3307  psnr per frame: 31.883104
```

```
3308  32.549305
3309  32.406284
3310  31.944874
3311  31.404669
3312  31.62675
3313  31.366743
3314  fmae per frame: 3018.5842
3315  2704.237
3316  2798.1387
3317  2990.9702
3318  3231.1292
3319  3168.197
3320  3218.8337
3321  ssim per frame: 0.85068375
3322  0.85724044
3323  0.8614475
3324  0.842397
3325  0.8330494
3326  0.85241854
3327  0.85754985
3328  sharpness per frame: 21.242424
3329  20.78409
3330  20.431818
3331  22.545454
3332  21.977272
3333  20.5
3334  21.21591
3335  itr: 41700
3336  training loss: 749.5159
3337  test...
3338  mse per seq: 686.9746153571389
3339  96.6515610001304
3340  100.25901343605734
3341  111.59116662632336
3342  127.59426905892111
3343  124.39084219932556
3344  126.48776303638111
```

```
3345  psnr per frame: 31.909426
3346  32.571804
3347  32.418064
3348  31.971455
3349  31.42818
3350  31.648108
3351  31.418959
3352  fmae per frame: 3051.4817
3353  2740.4612
3354  2840.0408
3355  3026.4563
3356  3259.9788
3357  3199.1858
3358  3242.7686
3359  ssim per frame: 0.8507223
3360  0.8572668
3361  0.86144125
3362  0.84240264
3363  0.83313906
3364  0.8524572
3365  0.857627
3366  sharpness per frame: 21.524622
3367  21.295454
3368  21.079546
3369  23.443182
3370  22.227272
3371  19.795454
3372  21.306818
3373  itr: 41800
3374  training loss: 4457.294
3375  test...
3376  mse per seq: 681.9790216142482
3377  95.93629184636202
3378  99.22607504237781
3379  110.85891814665361
3380  126.77975888685746
3381  123.38617875359274
```

```
3382  125.79179893840443
3383  psnr per frame: 31.860748
3384  32.50738
3385  32.368225
3386  31.907146
3387  31.376892
3388  31.618135
3389  31.386702
3390  fmae per frame: 2992.5303
3391  2683.8313
3392  2776.516
3393  2971.799
3394  3204.0273
3395  3137.4734
3396  3181.5344
3397  ssim per frame: 0.8508396
3398  0.85739714
3399  0.8615643
3400  0.8424801
3401  0.8332882
3402  0.852578
3403  0.8577299
3404  sharpness per frame: 21.181818
3405  21.102272
3406  20.329546
3407  22.863636
3408  21.477272
3409  20.397728
3410  20.920454
3411  itr: 41900
3412  training loss: 3931.7058
3413  test...
3414  mse per seq: 684.4875939976085
3415  95.94651382619685
3416  99.46707170659846
3417  111.16618871688843
3418  127.41229209032926
```

```
3419  123.78350114822388
3420  126.71202650937167
3421  psnr per frame: 31.848938
3422  32.532955
3423  32.372955
3424  31.912199
3425  31.366926
3426  31.59018
3427  31.318409
3428  fmae per frame: 3011.182
3429  2699.3328
3430  2791.9573
3431  2987.583
3432  3225.215
3433  3156.9172
3434  3206.0876
3435  ssim per frame: 0.85071754
3436  0.8573025
3437  0.8614821
3438  0.84234005
3439  0.83309937
3440  0.8524843
3441  0.85759676
3442  sharpness per frame: 21.814394
3443  21.727272
3444  21.488636
3445  23.71591
3446  22.431818
3447  20.318182
3448  21.204546
3449  itr: 42000
3450  training loss: 3842.152
3451  test...
3452  mse per seq: 681.4080372073433
3453  95.78273849053816
3454  99.12513108686967
3455  110.70991204001687
```

```
3456  126.6604488546198
3457  123.30336423353715
3458  125.82644250176169
3459  psnr per frame: 31.905924
3460  32.55513
3461  32.411587
3462  31.954292
3463  31.41812
3464  31.662764
3465  31.433655
3466  fmae per frame: 3008.6875
3467  2696.773
3468  2792.2263
3469  2987.0146
3470  3219.9993
3471  3156.0173
3472  3200.0945
3473  ssim per frame: 0.8507846
3474  0.85737514
3475  0.86150336
3476  0.8424459
3477  0.8332145
3478  0.85252225
3479  0.8576462
3480  sharpness per frame: 21.725378
3481  21.204546
3482  21.045454
3483  23.477272
3484  22.454546
3485  20.886364
3486  21.28409
3487  itr: 42100
3488  training loss: 4840.213
3489  test...
3490  mse per seq: 681.0183190432462
3491  95.74099464849992
3492  99.14967042749578
```

```
3493  110.69964729655872
3494  126.71822196787053
3495  123.11049212108959
3496  125.59929258173162
3497  psnr per frame: 31.87581
3498  32.519917
3499  32.374382
3500  31.918358
3501  31.382824
3502  31.639183
3503  31.420216
3504  fmae per frame: 2994.7424
3505  2685.155
3506  2780.5754
3507  2974.9536
3508  3207.8733
3509  3138.5537
3510  3181.3445
3511  ssim per frame: 0.85086584
3512  0.857425
3513  0.8616146
3514  0.8424912
3515  0.8332777
3516  0.85257983
3517  0.85780644
3518  sharpness per frame: 21.458334
3519  20.852272
3520  20.40909
3521  22.84091
3522  22.375
3523  20.852272
3524  21.420454
3525  itr: 42200
3526  training loss: 3746.1548
3527  test...
3528  mse per seq: 691.1728767048229
3529  97.03434796766801
```

```
3530  100.27897171540694
3531  112.34906586733732
3532  128.63000145825472
3533  125.35296899622136
3534  127.52752069993453
3535  psnr per frame: 31.749037
3536  32.38376
3537  32.24857
3538  31.774286
3539  31.241522
3540  31.512423
3541  31.333668
3542  fmae per frame: 3001.7812
3543  2693.1924
3544  2783.0408
3545  2983.3115
3546  3216.667
3547  3149.1265
3548  3185.3499
3549  ssim per frame: 0.85062855
3550  0.8572498
3551  0.8614347
3552  0.84236336
3553  0.83301145
3554  0.85224444
3555  0.85746783
3556  sharpness per frame: 21.56629
3557  21.363636
3558  20.806818
3559  23.306818
3560  22.21591
3561  20.431818
3562  21.272728
3563  itr: 42300
3564  training loss: 4609.86
3565  test...
3566  mse per seq: 686.423024892807
```

```
3567  96.46536536650224
3568  99.71181579069658
3569  111.61474440314554
3570  127.81520704789595
3571  124.05733329599553
3572  126.75855898857117
3573  psnr per frame: 31.793634
3574  32.43134
3575  32.30107
3576  31.830084
3577  31.30176
3578  31.564568
3579  31.333
3580  fmae per frame: 2996.4617
3581  2687.3298
3582  2777.8967
3583  2975.3647
3584  3210.3584
3585  3140.0022
3586  3187.8179
3587  ssim per frame: 0.8507038
3588  0.85730606
3589  0.8615095
3590  0.84236604
3591  0.8330992
3592  0.8524315
3593  0.85751057
3594  sharpness per frame: 21.276516
3595  21.09091
3596  20.568182
3597  23.147728
3598  21.886364
3599  20.03409
3600  20.931818
3601  itr: 42400
3602  training loss: 793.7411
3603  test...
```

```
3604 mse per seq: 680.875137719241
3605 95.89100187475032
3606 99.23482769185847
3607 110.67659417065707
3608 126.68586319143122
3609 122.84488886052912
3610 125.54196193001486
3611 psnr per frame: 31.884157
3612 32.54761
3613 32.401833
3614 31.951447
3615 31.411835
3616 31.62564
3617 31.366577
3618 fmae per frame: 3009.4297
3619 2697.9685
3620 2792.967
3621 2984.505
3622 3218.3843
3623 3155.8845
3624 3206.869
3625 ssim per frame: 0.85070974
3626 0.8572662
3627 0.8614658
3628 0.842391
3629 0.83311313
3630 0.8524765
3631 0.8575458
3632 sharpness per frame: 21.435606
3633 21.136364
3634 20.818182
3635 23.25
3636 22.204546
3637 20.420454
3638 20.78409
3639 saved to checkpoints/typhoon_predrnn_pp
3640 itr: 42500
```

3641 training loss: 4087.1182
3642 test...
3643 mse per seq: 681.5109068480405
3644 95.7915544943376
3645 99.13435558839278
3646 110.69002437591553
3647 126.71132989363237
3648 123.42537498474121
3649 125.758267511021
3650 psnr per frame: 31.899443
3651 32.547504
3652 32.404537
3653 31.946783
3654 31.409418
3655 31.655743
3656 31.432661
3657 fmae per frame: 3002.1052
3658 2692.4927
3659 2786.742
3660 2979.8804
3661 3213.1562
3662 3148.1797
3663 3192.1797
3664 ssim per frame: 0.8507852
3665 0.85734487
3666 0.86152196
3667 0.84247977
3668 0.833215
3669 0.85248625
3670 0.8576632
3671 sharpness per frame: 21.897728
3672 21.579546
3673 21.363636
3674 23.352272
3675 22.636364
3676 20.863636
3677 21.59091

```
3678  itr: 42600
3679  training loss: 4583.543
3680  test...
3681  mse per seq: 684.2691794525493
3682  95.8093762181022
3683  99.47207927703857
3684  111.06337716362692
3685  127.33167071775956
3686  124.01438201557507
3687  126.57829406044699
3688  psnr per frame: 31.88626
3689  32.553196
3690  32.400784
3691  31.944313
3692  31.396008
3693  31.633238
3694  31.390009
3695  fmae per frame: 3016.2424
3696  2696.6318
3697  2797.9207
3698  2992.999
3699  3230.033
3700  3164.1846
3701  3215.685
3702  ssim per frame: 0.85076046
3703  0.8573591
3704  0.86151594
3705  0.8424825
3706  0.83317184
3707  0.85247064
3708  0.8575631
3709  sharpness per frame: 21.51515
3710  21.03409
3711  20.727272
3712  23.5
3713  22.431818
3714  20.488636
```

```
3715  20.90909
3716  itr: 42700
3717  training loss: 6027.2554
3718  test...
3719  mse per seq: 683.1121041558006
3720  95.86759476228194
3721  99.29416036605835
3722  110.90108611366965
3723  126.98483154990457
3724  123.8882565498352
3725  126.17617481405085
3726  psnr per frame: 31.867567
3727  32.511837
3728  32.364964
3729  31.910448
3730  31.372993
3731  31.62502
3732  31.42013
3733  fmae per frame: 2999.9207
3734  2687.6868
3735  2782.4626
3736  2981.1665
3737  3215.546
3738  3146.2952
3739  3186.3662
3740  ssim per frame: 0.850687
3741  0.8572983
3742  0.86145014
3743  0.8423201
3744  0.83308905
3745  0.85236305
3746  0.8576017
3747  sharpness per frame: 21.981062
3748  21.488636
3749  21.011364
3750  24.136364
3751  22.71591
```

```
3752  20.875
3753  21.65909
3754  itr: 42800
3755  training loss: 4592.1
3756  test...
3757  mse per seq: 681.1694113991477
3758  95.76596305587076
3759  99.0948993509466
3760  110.5917518789118
3761  126.70172327215022
3762  123.19517174634066
3763  125.8199020949277
3764  psnr per frame: 31.889847
3765  32.53639
3766  32.3942
3767  31.938477
3768  31.401527
3769  31.648851
3770  31.41964
3771  fmae per frame: 2996.29
3772  2688.1152
3773  2780.4524
3774  2972.8232
3775  3208.3877
3776  3140.272
3777  3187.6892
3778  ssim per frame: 0.8507655
3779  0.85736006
3780  0.8615269
3781  0.842474
3782  0.83312476
3783  0.852491
3784  0.85761666
3785  sharpness per frame: 21.454546
3786  21.125
3787  20.75
3788  23.170454
```

```
3789  22.443182
3790  20.125
3791  21.113636
3792  itr: 42900
3793  training loss: 4584.362
3794  test...
3795  mse per seq: 692.5228845856407
3796  97.46364823254672
3797  100.6667927828702
3798  112.62764510241422
3799  128.8426167314703
3800  124.72098471901633
3801  128.2011970173229
3802  psnr per frame: 31.693176
3803  32.347336
3804  32.214188
3805  31.756386
3806  31.23136
3807  31.442696
3808  31.16709
3809  fmae per frame: 3007.091
3810  2694.563
3811  2783.1145
3812  2981.3914
3813  3214.8413
3814  3152.7805
3815  3215.857
3816  ssim per frame: 0.850612
3817  0.85728264
3818  0.8614696
3819  0.8422579
3820  0.83294183
3821  0.85236686
3822  0.857353
3823  sharpness per frame: 21.179924
3824  20.761364
3825  20.454546
```

```
3826  23.181818
3827  21.522728
3828  20.022728
3829  21.136364
3830  itr: 43000
3831  training loss: 4631.545
3832  test...
3833  mse per seq: 687.562613552267
3834  96.5207909670743
3835  99.65299051458186
3836  111.56920706142078
3837  128.07174227454445
3838  124.6380455493927
3839  127.1098371852528
3840  psnr per frame: 31.780594
3841  32.42182
3842  32.290524
3843  31.818712
3844  31.279627
3845  31.54706
3846  31.325819
3847  fmae per frame: 2998.1448
3848  2688.8152
3849  2777.4634
3850  2975.6296
3851  3213.3728
3852  3144.1357
3853  3189.4517
3854  ssim per frame: 0.85065216
3855  0.8572638
3856  0.8614963
3857  0.8423849
3858  0.8329658
3859  0.8523238
3860  0.8574781
3861  sharpness per frame: 21.67424
3862  21.28409
```

```
3863  21.022728
3864  23.125
3865  22.78409
3866  20.579546
3867  21.25
3868  itr: 43100
3869  training loss: 4847.5864
3870  test...
3871  mse per seq: 690.4597428928722
3872  97.02007285031405
3873  100.73990245298906
3874  112.18346929550171
3875  128.2569952878085
3876  124.9894234050404
3877  127.26987960121848
3878  psnr per frame: 31.904066
3879  32.579315
3880  32.41747
3881  31.973097
3882  31.425905
3883  31.637001
3884  31.391613
3885  fmae per frame: 3078.0862
3886  2767.9485
3887  2865.4077
3888  3052.744
3889  3287.3435
3890  3226.0835
3891  3268.9905
3892  ssim per frame: 0.8507746
3893  0.85743177
3894  0.8615419
3895  0.84244215
3896  0.83316064
3897  0.8524627
3898  0.8576088
3899  sharpness per frame: 22.123106
```

```
3900  21.556818
3901  21.78409
3902  24.28409
3903  22.772728
3904  21.011364
3905  21.329546
3906  itr: 43200
3907  training loss: 3858.893
3908  test...
3909  mse per seq: 681.7678158716722
3910  95.65230423753911
3911  98.98536775328897
3912  110.67495246367021
3913  126.8256483078003
3914  123.49006607315756
3915  126.13947703621604
3916  psnr per frame: 31.89271
3917  32.54691
3918  32.40489
3919  31.940407
3920  31.399199
3921  31.651262
3922  31.413607
3923  fmae per frame: 3000.2637
3924  2690.3828
3925  2782.8936
3926  2977.878
3927  3212.9297
3928  3145.182
3929  3192.3162
3930  ssim per frame: 0.8506867
3931  0.85728896
3932  0.86150265
3933  0.8423159
3934  0.8331039
3935  0.8524015
3936  0.85750747
```

```
3937  sharpness per frame: 21.857954
3938  21.272728
3939  21.352272
3940  23.65909
3941  22.647728
3942  20.806818
3943  21.40909
3944  itr: 43300
3945  training loss: 5297.945
3946  test...
3947  mse per seq: 682.4236619039016
3948  95.55882449583574
3949  99.02572033622049
3950  110.67666972767223
3951  126.98250146345659
3952  123.84706083211032
3953  126.33288504860617
3954  psnr per frame: 31.904282
3955  32.562912
3956  32.41227
3957  31.950987
3958  31.401905
3959  31.65462
3960  31.443
3961  fmae per frame: 3004.5413
3962  2692.109
3963  2787.1177
3964  2982.8103
3965  3219.6865
3966  3152.3682
3967  3193.157
3968  ssim per frame: 0.85073596
3969  0.85738814
3970  0.8615383
3971  0.84242594
3972  0.83313745
3973  0.852381
```

```
3974  0.8575451
3975  sharpness per frame: 21.676134
3976  20.943182
3977  21.170454
3978  23.568182
3979  22.511364
3980  20.625
3981  21.238636
3982  itr: 43400
3983  training loss: 4571.13
3984  test...
3985  mse per seq: 683.2004493366588
3986  96.0503861470656
3987  99.54860206083818
3988  110.92844659631902
3989  126.96272863041271
3990  123.72766275839372
3991  125.9826231436296
3992  psnr per frame: 31.934692
3993  32.5887
3994  32.437252
3995  31.985008
3996  31.441923
3997  31.683247
3998  31.472038
3999  fmae per frame: 3025.2961
4000  2718.6467
4001  2813.2935
4002  3002.3682
4003  3236.5916
4004  3170.7263
4005  3210.1494
4006  ssim per frame: 0.85077876
4007  0.85739386
4008  0.86153793
4009  0.8424492
4010  0.83319765
```

```
4011  0.85246944
4012  0.8576243
4013  sharpness per frame: 21.628786
4014  21.363636
4015  21.181818
4016  23.681818
4017  22.431818
4018  20.079546
4019  21.03409
4020  itr: 43500
4021  training loss: 4604.4736
4022  test...
4023  mse per seq: 682.8247509002686
4024  95.94540944966403
4025  99.31591697172685
4026  110.89844625646418
4027  127.00061039491133
4028  123.60693762519143
4029  126.05743020231074
4030  psnr per frame: 31.841711
4031  32.488804
4032  32.350876
4033  31.89518
4034  31.360807
4035  31.604494
4036  31.350105
4037  fmae per frame: 2993.8342
4038  2681.3376
4039  2774.6826
4040  2970.7993
4041  3205.9148
4042  3138.8186
4043  3191.4517
4044  ssim per frame: 0.85071516
4045  0.8573663
4046  0.86152166
4047  0.8423874
```

```
4048  0.8331358
4049  0.85240006
4050  0.85747963
4051  sharpness per frame: 21.138256
4052  20.90909
4053  20.556818
4054  23.397728
4055  21.806818
4056  19.602272
4057  20.556818
4058  itr: 43600
4059  training loss: 4346.83
4060  test...
4061  mse per seq: 698.706215728413
4062  97.89289643547751
4063  101.9779430736195
4064  113.33183657039295
4065  129.8479094071822
4066  126.56546332619406
4067  129.09016691554677
4068  psnr per frame: 31.852678
4069  32.552982
4070  32.379826
4071  31.937983
4072  31.376213
4073  31.57547
4074  31.293598
4075  fmae per frame: 3112.283
4076  2792.9795
4077  2897.3806
4078  3079.2297
4079  3324.0688
4080  3262.7954
4081  3317.2446
4082  ssim per frame: 0.85065407
4083  0.8573414
4084  0.8614638
```

```
4085  0.8424229
4086  0.8330321
4087  0.8523047
4088  0.85735935
4089  sharpness per frame: 21.238638
4090  20.829546
4091  20.772728
4092  22.71591
4093  22.09091
4094  20.045454
4095  20.977272
4096  itr: 43700
4097  training loss: 4761.8467
4098  test...
4099  mse per seq: 684.9078666513616
4100  96.18779719959606
4101  99.47615736181086
4102  111.35863096063787
4103  127.65097899870439
4104  123.67096989805049
4105  126.56333223256198
4106  psnr per frame: 31.813179
4107  32.46705
4108  32.328526
4109  31.859875
4110  31.325994
4111  31.577093
4112  31.320526
4113  fmae per frame: 2990.1064
4114  2678.9954
4115  2770.1064
4116  2969.432
4117  3203.5032
4118  3132.6807
4119  3185.9226
4120  ssim per frame: 0.85071355
4121  0.8573683
```

```
4122 0.8615578
4123 0.84240836
4124 0.83303857
4125 0.8524141
4126 0.85749453
4127 sharpness per frame: 21.732954
4128 21.46591
4129 21.28409
4130 23.227272
4131 22.53409
4132 20.545454
4133 21.34091
4134 itr: 43800
4135 training loss: 4288.482
4136 test...
4137 mse per seq: 681.1183985796841
4138 95.50722843950444
4139 98.9517898126082
4140 110.61684673482722
4141 126.7884823625738
4142 123.4175386428833
4143 125.8365125872872
4144 psnr per frame: 31.898148
4145 32.559265
4146 32.403847
4147 31.941664
4148 31.397224
4149 31.655886
4150 31.430992
4151 fmae per frame: 2996.413
4152 2686.8074
4153 2779.7341
4154 2978.277
4155 3213.4463
4156 3140.0154
4157 3180.1985
4158 ssim per frame: 0.85081244
```

```
4159  0.8574528
4160  0.86158407
4161  0.8424625
4162  0.8332054
4163  0.8525476
4164  0.8576221
4165  sharpness per frame: 22.073862
4166  21.5
4167  21.306818
4168  23.556818
4169  23.045454
4170  21.227272
4171  21.806818
4172  itr: 43900
4173  training loss: 4723.788
4174  test...
4175  mse per seq: 685.6948437473991
4176  95.8994959267703
4177  99.31725207242098
4178  111.14494080977006
4179  127.57150168852372
4180  124.56591294028543
4181  127.19574030962858
4182  psnr per frame: 31.837317
4183  32.497974
4184  32.342354
4185  31.873291
4186  31.32982
4187  31.59153
4188  31.388908
4189  fmae per frame: 2998.6426
4190  2684.7126
4191  2776.9382
4192  2977.7173
4193  3216.6174
4194  3147.9033
4195  3187.9678
```

```
4196  ssim per frame: 0.85063094
4197  0.8573101
4198  0.86148036
4199  0.8423315
4200  0.8329739
4201  0.8522781
4202  0.8574114
4203  sharpness per frame: 21.744318
4204  21.5
4205  21.21591
4206  23.272728
4207  22.556818
4208  20.488636
4209  21.431818
4210  itr: 44000
4211  training loss: 4631.62
4212  test...
4213  mse per seq: 684.8032852086154
4214  95.99464121731845
4215  99.36079827221957
4216  111.21273586966775
4217  127.50031813708219
4218  124.04710125923157
4219  126.68769045309587
4220  psnr per frame: 31.833593
4221  32.483425
4222  32.34238
4223  31.872107
4224  31.33303
4225  31.601318
4226  31.369287
4227  fmae per frame: 2990.697
4228  2681.0242
4229  2771.955
4230  2970.2117
4231  3204.3193
4232  3134.5117
```

```
4233  3182.1592
4234  ssim per frame: 0.8506601
4235  0.8573086
4236  0.8614931
4237  0.84233266
4238  0.83304334
4239  0.8523524
4240  0.85743064
4241  sharpness per frame: 21.75
4242  21.65909
4243  21.53409
4244  23.943182
4245  22.329546
4246  20.147728
4247  20.886364
4248  itr: 44100
4249  training loss: 4550.9365
4250  test...
4251  mse per seq: 688.3144849430431
4252  96.34391596100546
4253  100.02296417409724
4254  111.59639818018132
4255  127.88301025737415
4256  124.95802985538135
4257  127.51016651500355
4258  psnr per frame: 31.904337
4259  32.586636
4260  32.427853
4261  31.971138
4262  31.418829
4263  31.639782
4264  31.381794
4265  fmae per frame: 3050.1152
4266  2730.6838
4267  2830.653
4268  3023.2366
4269  3261.2986
```

```
4270  3201.0798
4271  3253.74
4272  ssim per frame: 0.85068566
4273  0.85738367
4274  0.86150986
4275  0.8424706
4276  0.8330849
4277  0.8522901
4278  0.85737514
4279  sharpness per frame: 21.905304
4280  21.397728
4281  21.318182
4282  23.568182
4283  22.897728
4284  20.954546
4285  21.295454
4286  itr: 44200
4287  training loss: 3170.7607
4288  test...
4289  mse per seq: 683.7047605297782
4290  95.87147534977306
4291  99.45642629536715
4292  110.84759131344882
4293  127.25341987609863
4294  123.78673406080766
4295  126.48911363428289
4296  psnr per frame: 31.909971
4297  32.58051
4298  32.423077
4299  31.973356
4300  31.425545
4301  31.649548
4302  31.407782
4303  fmae per frame: 3017.6487
4304  2704.82
4305  2801.4617
4306  2989.6143
```

```
4307  3229.7979
4308  3166.6758
4309  3213.5227
4310  ssim per frame: 0.8506438
4311  0.8573278
4312  0.86146355
4313  0.8424418
4314  0.8329564
4315  0.85227495
4316  0.85739875
4317  sharpness per frame: 21.761362
4318  21.318182
4319  21.056818
4320  22.59091
4321  22.852272
4322  21.079546
4323  21.670454
4324  itr: 44300
4325  training loss: 5145.208
4326  test...
4327  mse per seq: 682.3006021542983
4328  95.78195437518033
4329  99.1713144345717
4330  110.73939401453191
4331  127.03556034781717
4332  123.33244310725819
4333  126.23993587493896
4334  psnr per frame: 31.87884
4335  32.562473
4336  32.415005
4337  31.956238
4338  31.409283
4339  31.621778
4340  31.30825
4341  fmae per frame: 3010.081
4342  2693.7185
4343  2787.0947
```

```
4344  2978.3643
4345  3216.7385
4346  3159.2422
4347  3225.3289
4348  ssim per frame: 0.85068065
4349  0.8573668
4350  0.8615202
4351  0.8424185
4352  0.83306825
4353  0.8523792
4354  0.85733104
4355  sharpness per frame: 21.183714
4356  21.022728
4357  20.625
4358  23.318182
4359  21.693182
4360  19.613636
4361  20.829546
4362  itr: 44400
4363  training loss: 4871.1816
4364  test...
4365  mse per seq: 682.2814100222154
4366  95.78956066478382
4367  99.06821775436401
4368  110.89972942525691
4369  127.07454937154597
4370  123.13011227954517
4371  126.31924052671953
4372  psnr per frame: 31.853739
4373  32.51509
4374  32.378677
4375  31.915556
4376  31.379719
4377  31.60778
4378  31.325615
4379  fmae per frame: 2991.3313
4380  2676.677
```

```
4381 2768.1978
4382 2966.7874
4383 3202.9678
4384 3137.9243
4385 3195.4329
4386 ssim per frame: 0.8507359
4387 0.8574085
4388 0.86158025
4389 0.8424081
4390 0.83310276
4391 0.85247684
4392 0.85743904
4393 sharpness per frame: 21.410986
4394 21.238636
4395 21.056818
4396 23.022728
4397 21.90909
4398 19.75
4399 21.488636
4400 itr: 44500
4401 training loss: 4874.982
4402 test...
4403 mse per seq: 684.1233243942261
4404 96.01688036051664
4405 99.6367180997675
4406 111.0821488120339
4407 127.3432566469366
4408 123.66562594066967
4409 126.37869453430176
4410 psnr per frame: 31.910448
4411 32.590992
4412 32.43664
4413 31.982502
4414 31.434298
4415 31.649431
4416 31.36883
4417 fmae per frame: 3036.318
```

```
4418  2718.876
4419  2818.4028
4420  3006.0852
4421  3246.054
4422  3185.7834
4423  3242.7068
4424  ssim per frame: 0.85066575
4425  0.85738033
4426  0.86150473
4427  0.842369
4428  0.83303165
4429  0.85234225
4430  0.85736656
4431  sharpness per frame: 21.441286
4432  21.21591
4433  20.988636
4434  23.181818
4435  22.28409
4436  20.09091
4437  20.886364
4438  itr: 44600
4439  training loss: 4610.231
4440  test...
4441  mse per seq: 683.1400956240567
4442  95.69727501002225
4443  99.14344141700052
4444  110.81144835732199
4445  127.09425466710871
4446  123.97369332747026
4447  126.419982845133
4448  psnr per frame: 31.865198
4449  32.519974
4450  32.369434
4451  31.907204
4452  31.363567
4453  31.61883
4454  31.412182
```

```
4455  fmae per frame: 2991.319
4456  2682.5308
4457  2774.5552
4458  2970.278
4459  3205.4377
4460  3137.2593
4461  3177.854
4462  ssim per frame: 0.85062927
4463  0.85732365
4464  0.8614645
4465  0.8422868
4466  0.8330112
4467  0.8522837
4468  0.85740566
4469  sharpness per frame: 21.642044
4470  21.363636
4471  20.96591
4472  23.761364
4473  22.329546
4474  20.363636
4475  21.068182
4476  itr: 44700
4477  training loss: 4913.1562
4478  test...
4479  mse per seq: 687.9637264988639
4480  96.50979404015975
4481  99.73060720617121
4482  111.66483922438188
4483  128.12648591128263
4484  124.6165635802529
4485  127.31543653661555
4486  psnr per frame: 31.799273
4487  32.44726
4488  32.313793
4489  31.84359
4490  31.305962
4491  31.562078
```

```
4492  31.322948
4493  fmae per frame: 2996.0625
4494  2683.639
4495  2773.0374
4496  2971.9043
4497  3208.832
4498  3144.1985
4499  3194.7654
4500  ssim per frame: 0.8505237
4501  0.8572321
4502  0.8614086
4503  0.8423847
4504  0.8328596
4505  0.8520973
4506  0.8571602
4507  sharpness per frame: 21.842804
4508  21.579546
4509  21.193182
4510  23.602272
4511  22.386364
4512  20.897728
4513  21.397728
4514  itr: 44800
4515  training loss: 4783.9775
4516  test...
4517  mse per seq: 681.7354568784887
4518  95.69351740316911
4519  99.19529882344332
4520  110.60544521158391
4521  126.76196952299638
4522  123.39504541050304
4523  126.08418050679293
4524  psnr per frame: 31.915787
4525  32.572502
4526  32.423855
4527  31.967726
4528  31.422577
```

```
4529  31.66997
4530  31.438099
4531  fmae per frame: 3007.6611
4532  2700.0703
4533  2795.6326
4534  2984.9446
4535  3219.0374
4536  3150.9126
4537  3195.3696
4538  ssim per frame: 0.8506952
4539  0.8573751
4540  0.86150473
4541  0.8424332
4542  0.8330669
4543  0.8523615
4544  0.85742944
4545  sharpness per frame: 21.820076
4546  21.386364
4547  21.25
4548  23.181818
4549  22.738636
4550  21.056818
4551  21.306818
4552  itr: 44900
4553  training loss: 3837.6143
4554  test...
4555  mse per seq: 684.2718686624007
4556  96.06988055055791
4557  99.33566303686662
4558  111.11667078191584
4559  127.33506887609309
4560  123.89773186770353
4561  126.5168535492637
4562  psnr per frame: 31.832624
4563  32.48948
4564  32.34971
4565  31.88711
```

```
4566  31.352898
4567  31.584917
4568  31.331633
4569  fmae per frame: 2991.4739
4570  2679.2952
4571  2768.898
4572  2965.8381
4573  3202.4211
4574  3139.7498
4575  3192.6414
4576  ssim per frame: 0.8506694
4577  0.8573683
4578  0.8615761
4579  0.8423715
4580  0.83300394
4581  0.85233325
4582  0.8573631
4583  sharpness per frame: 21.57197
4584  21.181818
4585  20.988636
4586  23.454546
4587  22.375
4588  20.193182
4589  21.238636
4590  itr: 45000
4591  training loss: 4776.3525
4592  test...
4593  mse per seq: 681.3450480374423
4594  95.65278699181296
4595  99.12404838475314
4596  110.64269746433605
4597  126.94336188923229
4598  123.33404081518
4599  125.64811249212785
4600  psnr per frame: 31.912941
4601  32.569202
4602  32.419415
```

```
4603  31.9589
4604  31.41342
4605  31.670893
4606  31.445814
4607  fmae per frame: 3000.9827
4608  2693.5994
4609  2787.693
4610  2979.0234
4611  3213.9204
4612  3142.7998
4613  3188.8608
4614  ssim per frame: 0.8506415
4615  0.8573324
4616  0.8614554
4617  0.8423241
4618  0.83295435
4619  0.8523401
4620  0.8574425
4621  sharpness per frame: 22.092804
4622  21.647728
4623  21.34091
4624  24.40909
4625  22.829546
4626  20.96591
4627  21.363636
4628  itr: 45100
4629  training loss: 4562.7344
4630  test...
4631  mse per seq: 683.3994588418441
4632  95.86764409325339
4633  99.44579978422685
4634  111.00410218672319
4635  127.04770421981812
4636  123.7996288429607
4637  126.23457971486178
4638  psnr per frame: 31.933416
4639  32.595272
```

```
4640  32.441036
4641  31.983501
4642  31.441229
4643  31.683687
4644  31.455782
4645  fmae per frame: 3019.7637
4646  2712.6917
4647  2807.7463
4648  2998.2344
4649  3231.6584
4650  3162.2764
4651  3205.9749
4652  ssim per frame: 0.8506333
4653  0.8573467
4654  0.8614743
4655  0.84231496
4656  0.832968
4657  0.85229295
4658  0.857403
4659  sharpness per frame: 22.07197
4660  21.522728
4661  21.329546
4662  24.022728
4663  23.318182
4664  20.795454
4665  21.443182
4666  itr: 45200
4667  training loss: 4896.4233
4668  test...
4669  mse per seq: 684.7778258973902
4670  95.75946738503195
4671  99.22181172804399
4672  110.98179192976518
4673  127.50607841665095
4674  124.47056594761935
4675  126.83811049027877
4676  psnr per frame: 31.857132
```

```
4677 32.51355
4678 32.36699
4679 31.895702
4680 31.346163
4681 31.60428
4682 31.4161
4683 fmae per frame: 2988.363
4684 2678.758
4685 2770.7964
4686 2963.9624
4687 3204.247
4688 3137.989
4689 3174.4236
4690 ssim per frame: 0.8505821
4691 0.85733336
4692 0.8614781
4693 0.84242016
4694 0.8328788
4695 0.85211927
4696 0.85726285
4697 sharpness per frame: 22.05871
4698 21.71591
4699 21.488636
4700 23.488636
4701 23.113636
4702 21.0
4703 21.545454
4704 itr: 45300
4705 training loss: 3995.5078
4706 test...
4707 ^CTraceback (most recent call last):
4708   File "/home/sunfengzhen/pycharm/seq12_goon_predrnnpp/
     interval_pred6_goontrain_result00.py", line 381, in <module>
4709     tf.app.run()
4710   File "/usr/local/lib/python2.7/dist-packages/tensorflow/
     python/platform/app.py", line 125, in run
4711     _sys.exit(main(argv))
```

```
4712    File "/home/sunfengzhen/pycharm/seq12_goon_predrnnpp/
interval_pred6_goontrain_result00.py", line 285, in main
4713      test_ims = test_input_handle.get_batch()
4714    File "/home/sunfengzhen/pycharm/seq12_goon_predrnnpp/
data_provider/typhoon.py", line 67, in get_batch
4715      input_batch[i, :self.current_input_length, :, :, :] =
data_slice #elesun , :, :, :]
4716 KeyboardInterrupt
4717
4718 Process finished with exit code 1
4719
```