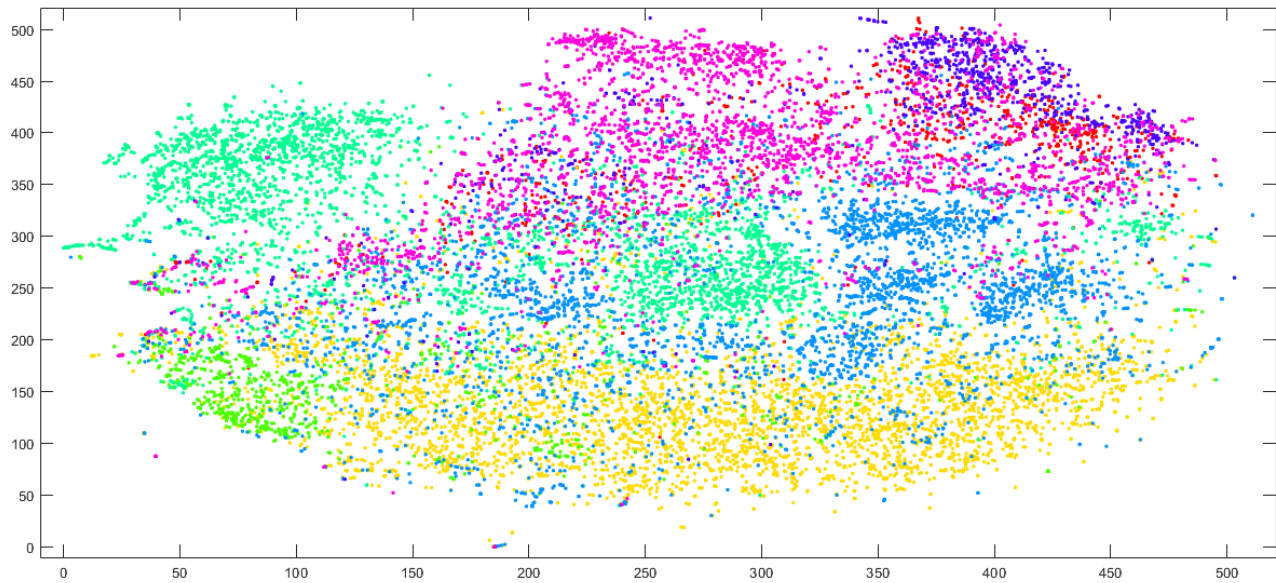


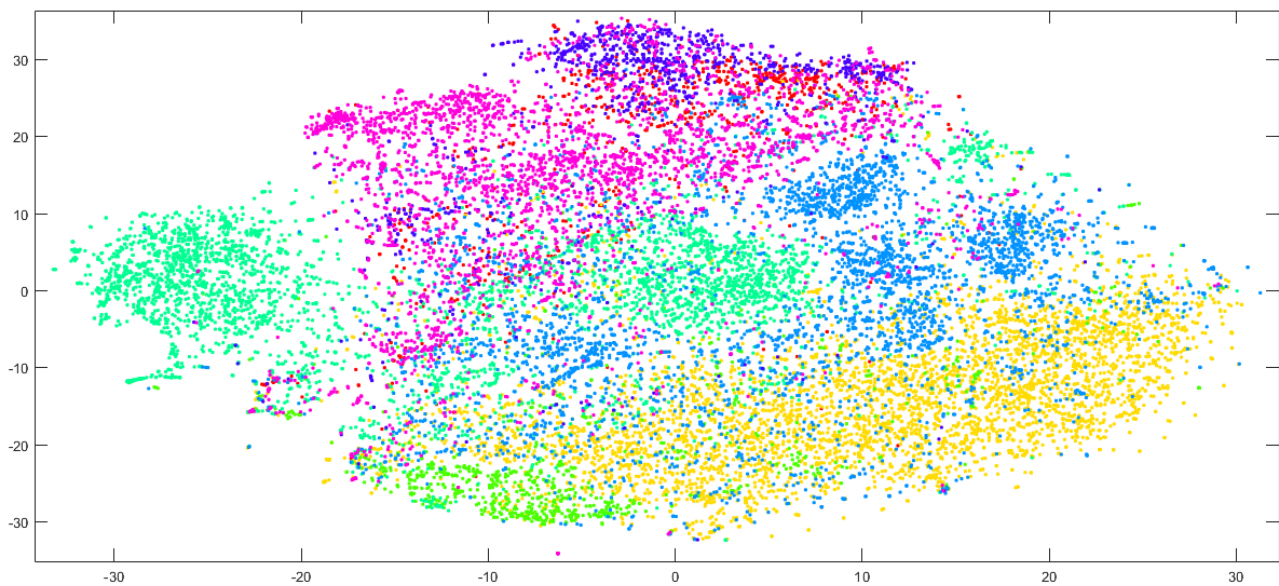
<Appendix>

PixelSNE: Pixel-Aligned Stochastic Neighbor Embedding for Efficient 2D Visualization with Screen-Resolution Precision

We present the visualization results generated from pixel-aligned SNE (PixelSNE) and Barnes-Hut SNE (BH-SNE) with the computing time in the parentheses.

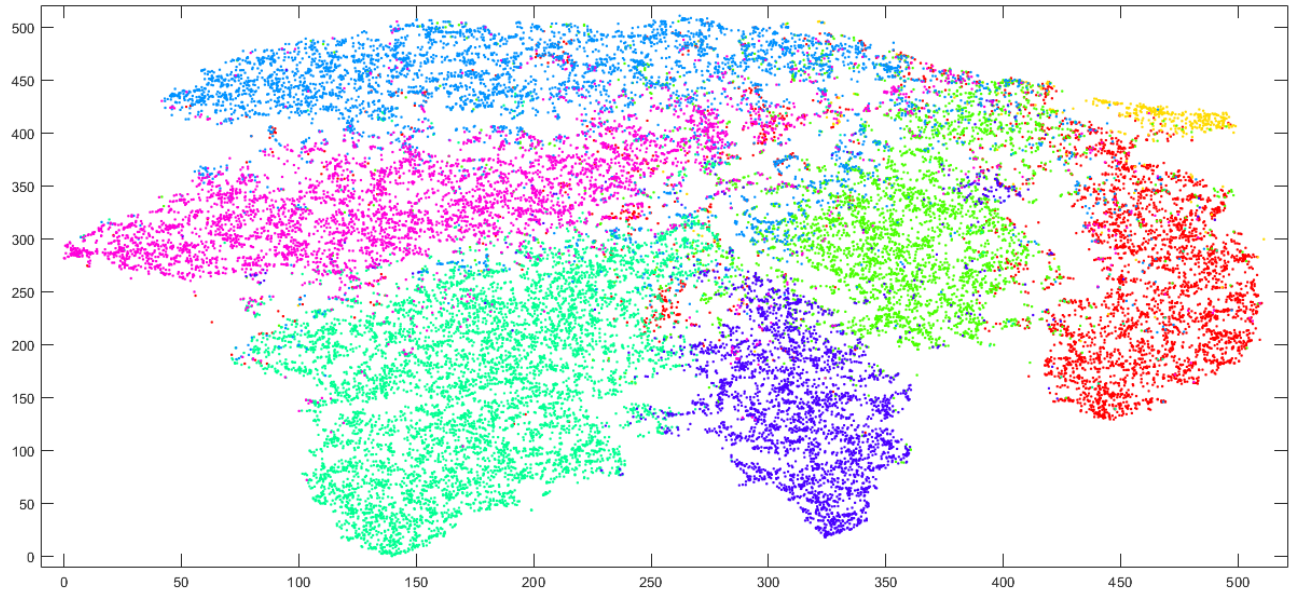


(a) PixelSNE-RP (1m 27s), $r = 512$

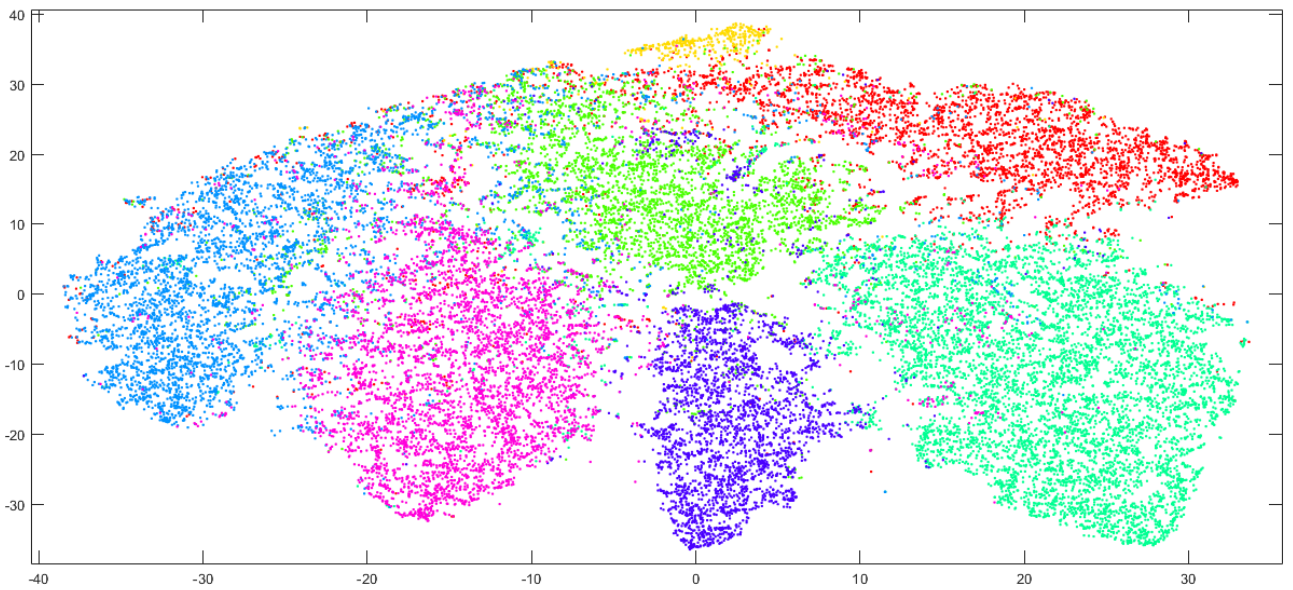


(b) BH-SNE (2m 59s)

Figure 1: 2D embedding of 20News dataset. The numbers in parentheses indicate the computing time.

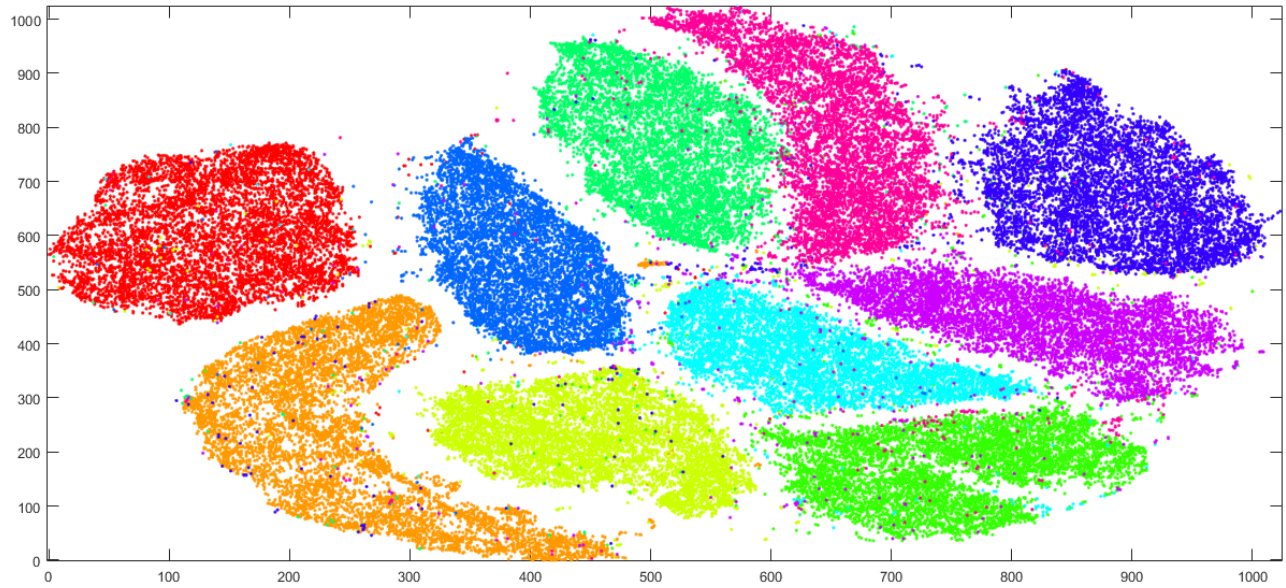


(a) PixelSNE-RP (2m 21s), $r = 512$

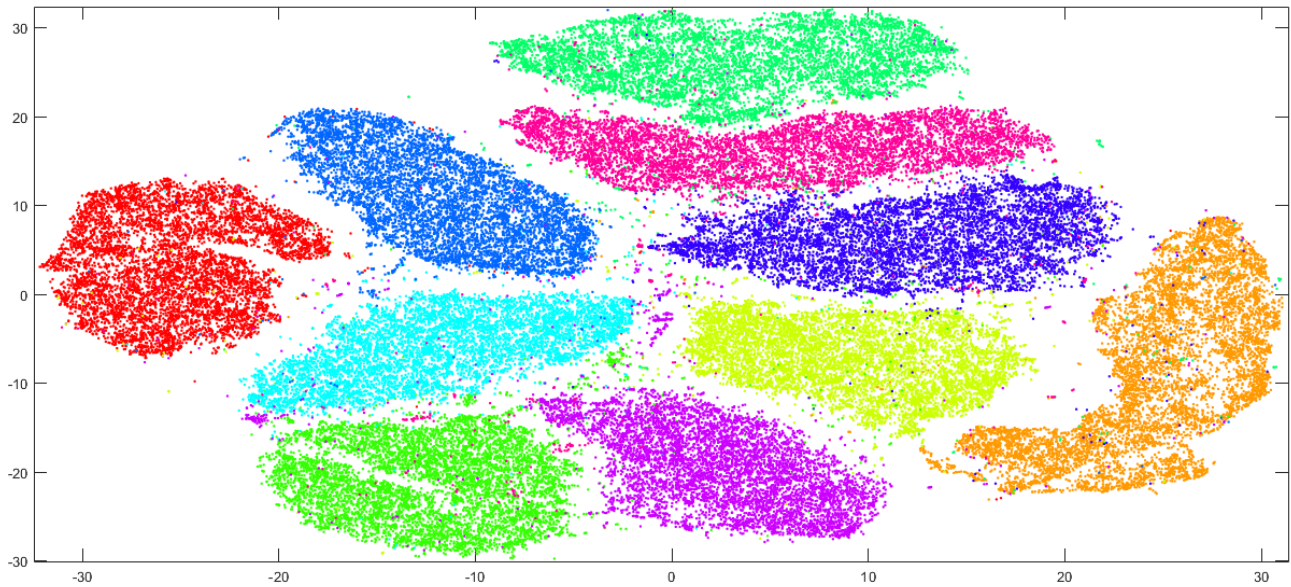


(b) BH-SNE (5m 33s)

Figure 2: 2D embedding of FecExp dataset. The numbers in parentheses indicate the computing time.

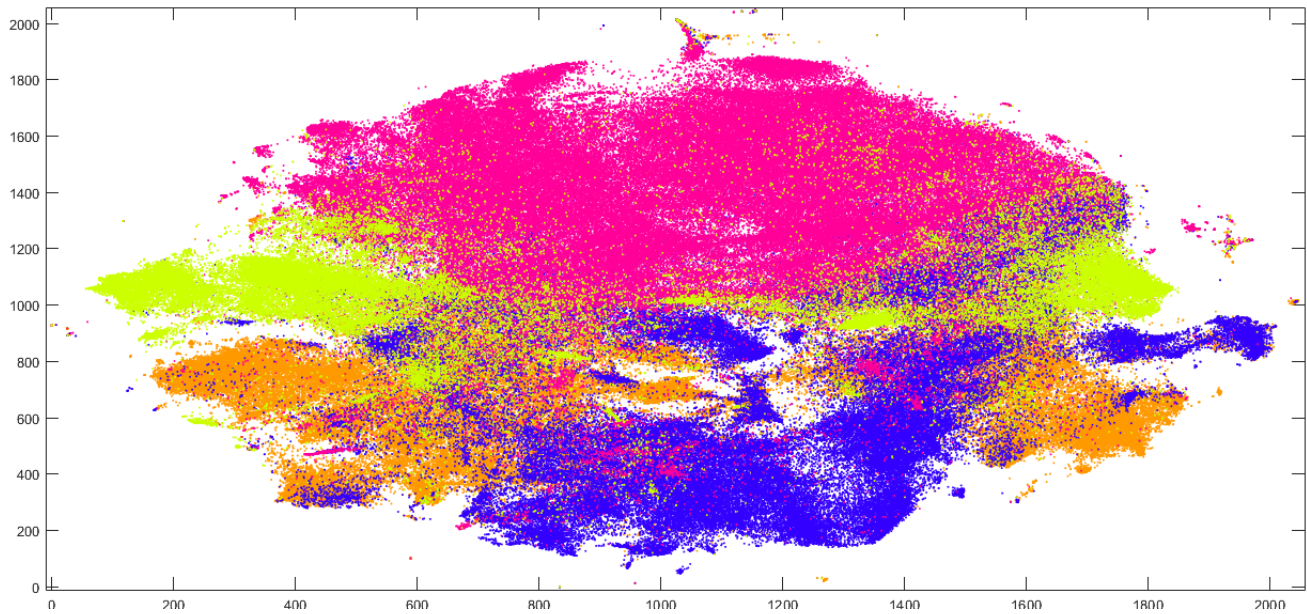


(a) PixelSNE-RP (7m 27s), $r = 1024$

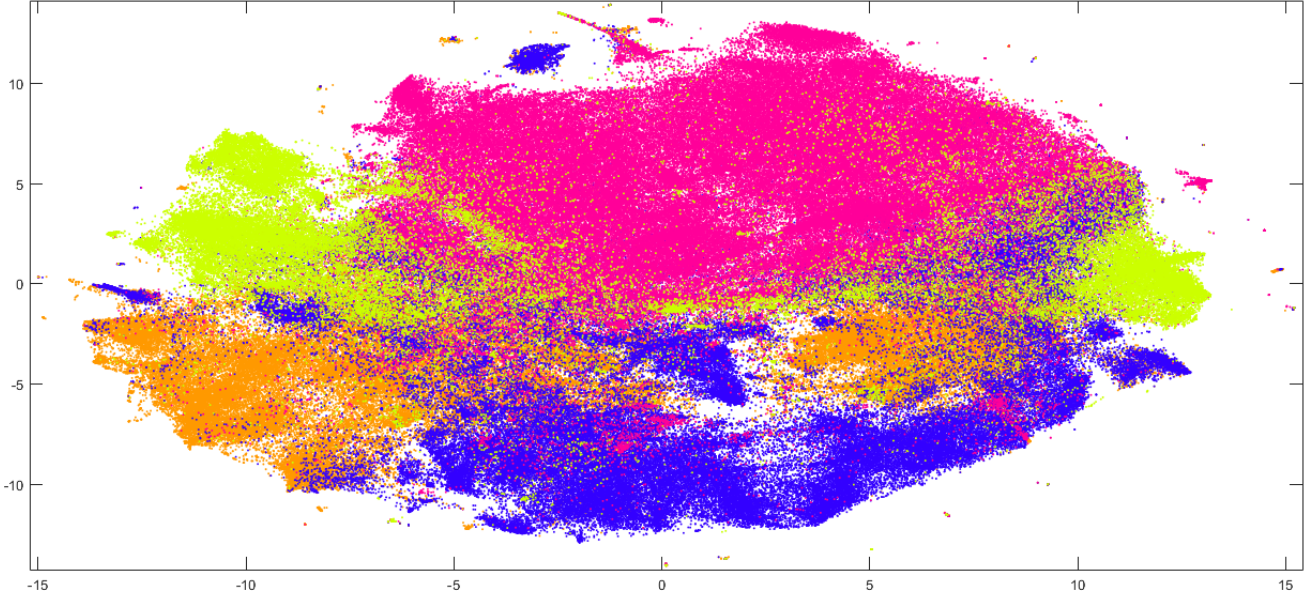


(b) BH-SNE (19m)

Figure 3: 2D embedding of MNIST dataset. The numbers in parentheses indicate the computing time.

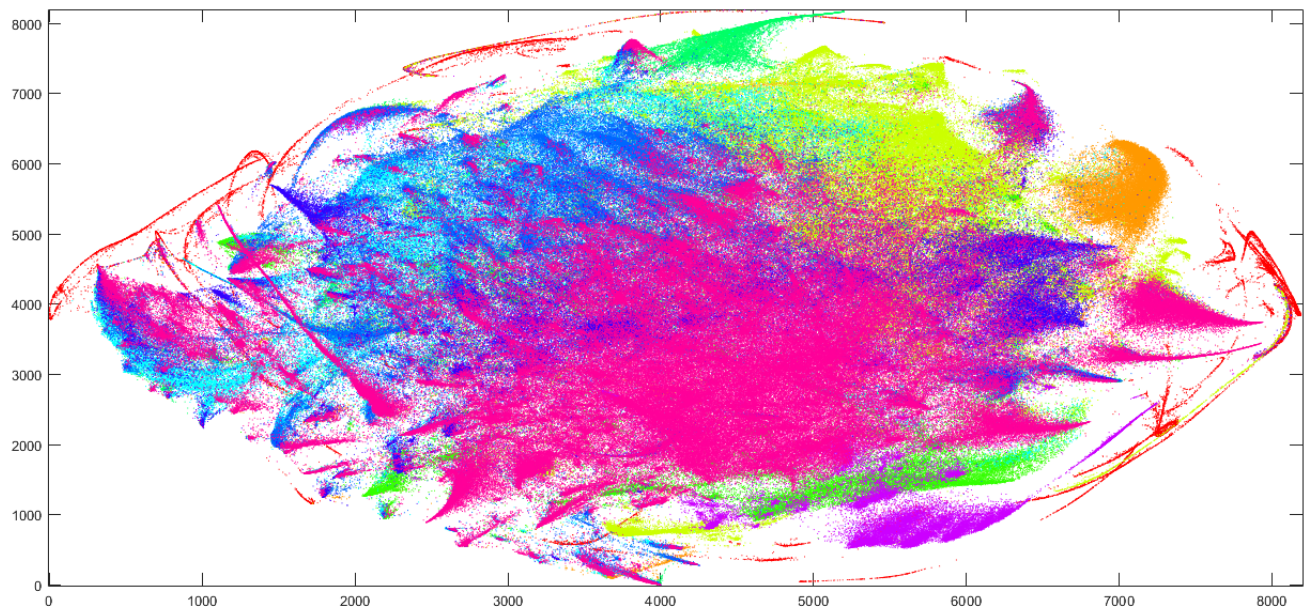


(a) PixelSNE-RP (56m 24s), $r = 2048$

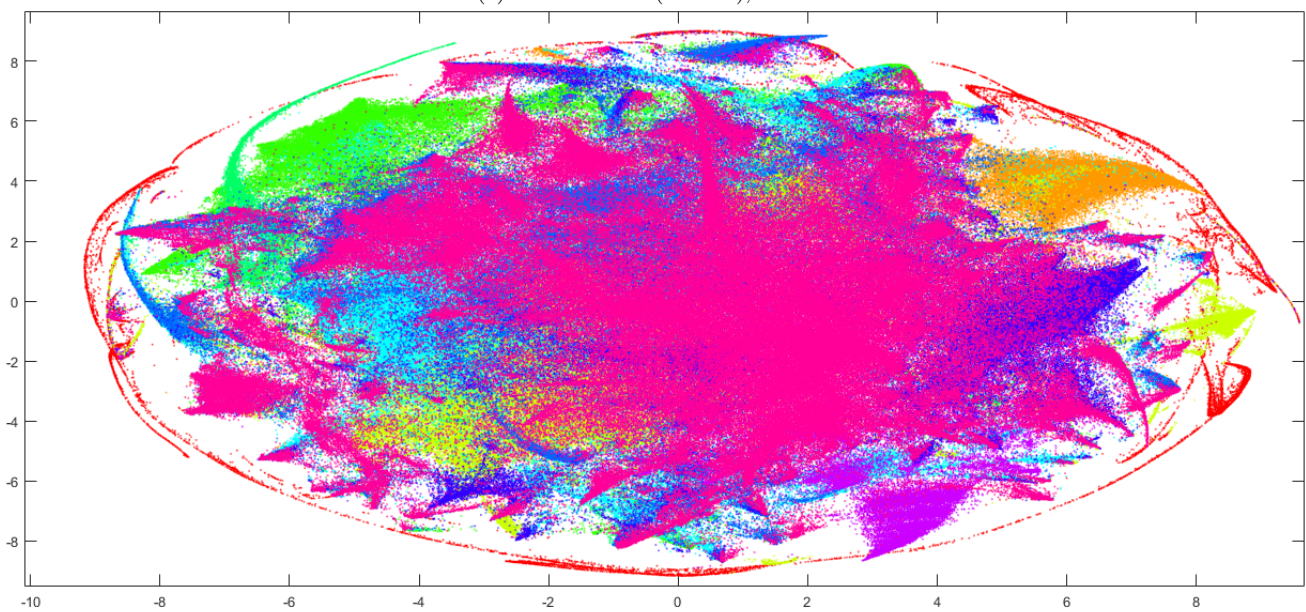


(b) BH-SNE (5h 46m)

Figure 4: 2D embedding of NewsAgg dataset. The numbers in parentheses indicate the computing time.



(a) PixelSNE-RP (3h 54m), $r = 8192$



(b) BH-SNE (18h 16m)

Figure 5: 2D embedding of Yelp dataset. The numbers in parentheses indicate the computing time.