

J_D	λ_x	λ_y	Initialization	Epoch 1	Epoch 20
0.5	5.0	0.9	0.930 [0.921, 0.938]	0.991 [0.987, 0.995]	0.996 [0.993, 0.999]
0.5	5.0	0.5	0.975 [0.970, 0.980]	0.998 [0.996, 0.999]	0.999 [0.999, 1.000]
0.5	2.0	0.9	0.761 [0.744, 0.779]	0.995 [0.991, 0.998]	0.999 [0.996, 1.000]
0.5	2.0	0.5	0.892 [0.877, 0.907]	0.999 [0.998, 1.000]	1.000 [0.999, 1.000]
0.0	5.0	0.9	0.862 [0.852, 0.871]	1.000 [0.999, 1.000]	1.000 [1.000, 1.000]
0.0	5.0	0.5	0.915 [0.907, 0.922]	1.000 [1.000, 1.000]	1.000 [1.000, 1.000]
0.0	2.0	0.9	0.649 [0.634, 0.664]	1.000 [1.000, 1.000]	1.000 [1.000, 1.000]
0.0	2.0	0.5	0.748 [0.734, 0.761]	1.000 [1.000, 1.000]	1.000 [1.000, 1.000]

Table 1: Average overlap q_{dyn} between the network states s' (supervised phase) and s^* (unsupervised phase) across training. Each entry reports the median overlap and its 5th-95th percentile range over the training set of Entangled-MNIST. We vary the self-coupling strength J_D , left field λ_x , and right field λ_y , and track the evolution of the overlap at initialization, after the first training epoch, and after 20 epochs.