# I. Sparse Recovery

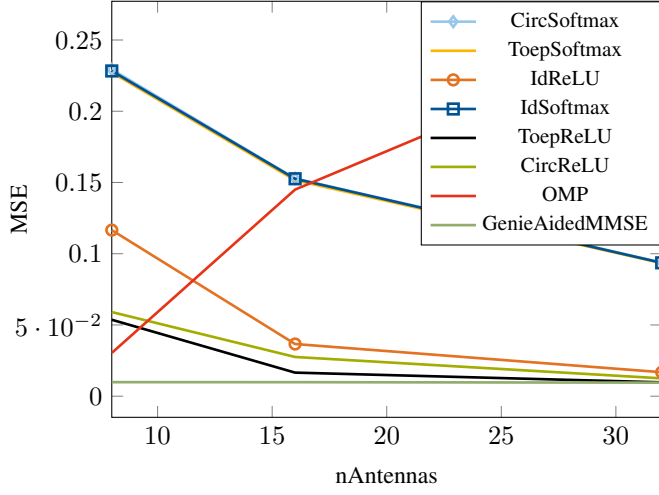## A. Sparsity = 50%

### SNR = 20dB:

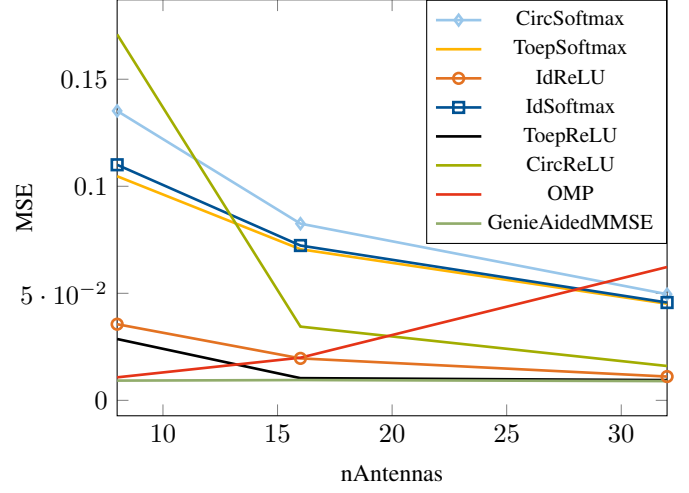

Fig. 1: MSE with Sparse Recovery SNR = 10dB



Fig. 3: MSE with Sparse Recovery SNR = 20dB
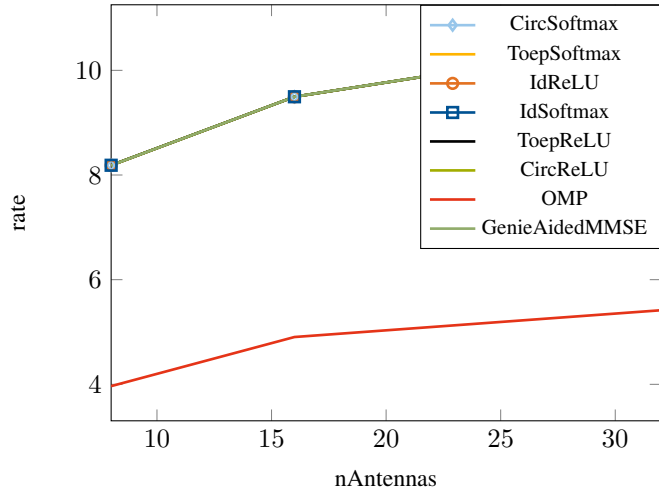


Fig. 2: Rates with Sparse Recovery SNR = 10dB
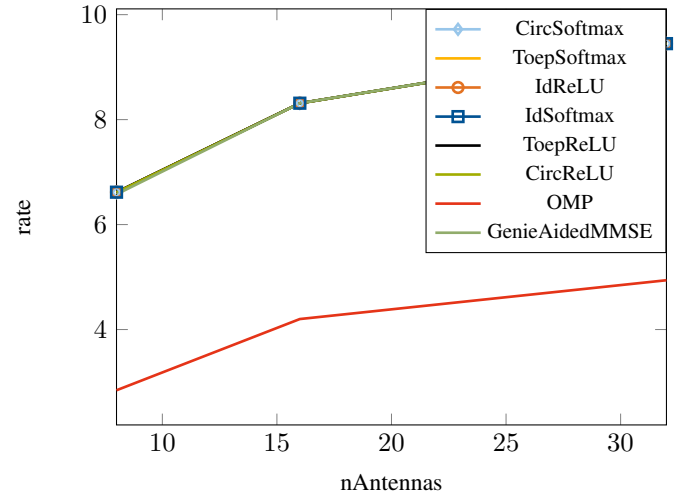
## B. Sparsity = 25%



Fig. 4: Rates with Sparse Recovery SNR = 20dB

**Sparsity = 25%, 32 antennas**
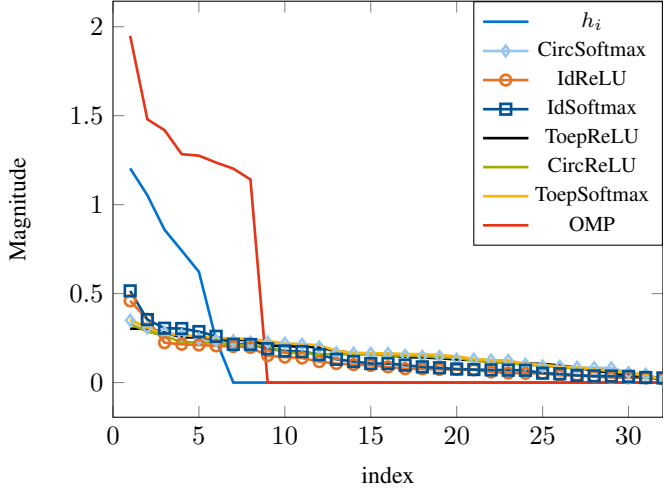
*A. Sparsity = 25%*



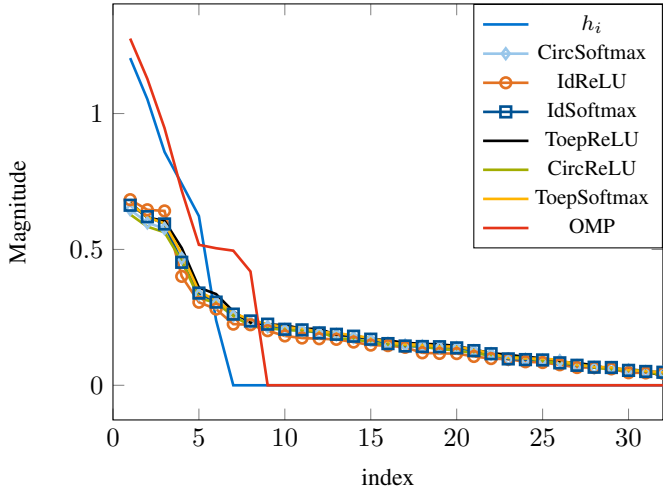Fig. 5: Comparison of input and output with CNN with 8000 samples and SNR = 0dB



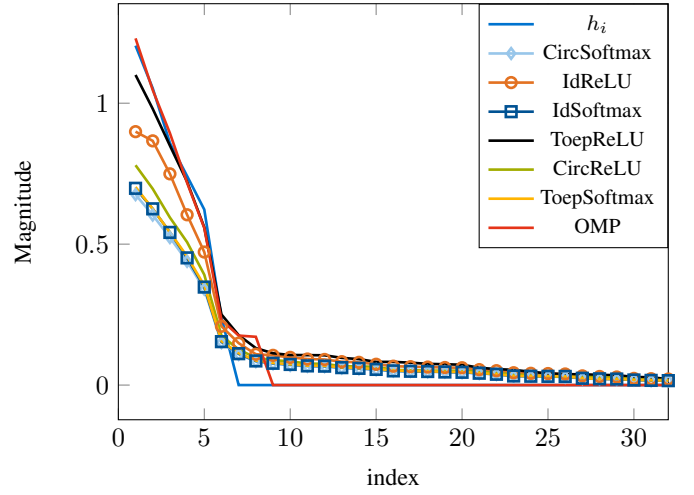Fig. 6: Comparison of input and output with CNN with 8000 samples and SNR = 10dB



Fig. 7: Comparison of input and output with CNN with 8000 samples and SNR = 20dB

TABLE I: Simulation parameters

| SNR | 0/10/20 |
|---|---|
| nLearningBatches | 8000 |
| nLearningBatchSize | 50 |
| sparsity | 25% |
| nBatches | 200 |
| nBatchSize | 50 |

TABLE II: Testing parameters

| Number of samples | 6000 |
|---|---|
| Number of antennas | 32 |