



























Fig. 7. Plots of reconstruction PSNR from noisy measurements in the proposed system and a baseline sensing system which is a Gaussian random sensing matrix. (a) Plots with the object, the parameters, and the basis used in Fig. 5(c) and (b) plots with the object, the parameters, and the basis used in Fig. 6(c).

A useful avenue for future work is to analyze theoretical properties of the proposed systems. It would be interesting to see how many more measurements would be required in general for the proposed systems to produce a certain accuracy, which is related to the validity of the sparsity assumption in the proposed systems. Also, it would be very useful to find a more efficient sparsity transformation that provides a better RIP and a better sparse representation of the objects of interest. Furthermore, we plan to investigate other coding schemes that may provide a better RIP overall to better exploit the sparsity assumption.