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*Signal Reconstruction from Frame and Sampling Erasures.*

In this talk, I will discuss three new, efficient algorithms for reconstructing signals from frame erasures. Older methods of reconstruction require inverting an  $n \times n$  matrix, where  $n$  denotes the dimension of the underlying Hilbert space. The three new methods require only an  $L \times L$  matrix inversion, where  $L$  denotes the size of the set of erased indices. The first two methods also apply for infinite frames and sampling theory, provided the erasure set is finite. The third method allows the signal recipient to correct for erasures without giving away knowledge of the encoding frame. I will discuss all three methods, display some numerical experiments, and discuss some of the underlying theory. This is joint work with Deguang Han, David Larson, and Wenchang Sun. (Received September 21, 2015)