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The low-rank matrix recovery problem is ubiquitous in data analysis applications, specifically in signal processing. Recently, work has been done to investigate the analogous problem for higher-dimensional data sets, namely, tensors. Since rank has several different definitions in the tensor setting, depending on the decomposition of the tensor in question, many different approaches to the problem have been generated. In this talk, we examine the recovery problem for tensors with low Tucker rank. In this case, the tensor decomposition is the Tucker decomposition, one example of which is the higher-order singular value decomposition. We apply a stochastic iterative hard-thresholding algorithm to the problem and demonstrate its effectiveness. The stochastic nature of the algorithm gives it many favorable properties that allow it to outperform a standard iterative hard-thresholding algorithm, especially in the large-scale setting. (Received September 12, 2019)