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Subspace tracking for dimension reduction in streaming data

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Abstract

The real-time analysis of streaming data from sensors can be challenging when the number of sensors is large, the sampling rate is high, and the statistics of the data vary over time. We discuss how we can identify the important data streams using subspace tracking methods such as incremental SVD, PAST, and SPIRIT. These methods track the reduced dimension space as new data come in and the old data become obsolete.