LAWRENCE
LIVERMORE
NATIONAL
LABORATORY

LLNL-ABS-451154

# Subspace Tracking for Dimension Reduction in Streaming Data

C. Kamath

August 25, 2010

SIAM Conference on Computational Science and Engineering
Reno, NV, United States
February 28, 2011 through March 4, 2011

# Subspace tracking for dimension reduction in streaming data

Chandrika Kamath
Lawrence Livermore National Laboratory
Livermore, CA 94551

*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.