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A Sparse Decomposition Framework for USC Viterbi **Complex System Analysis and Design** School of Engineering

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Overall graph local and regular



 $K^2 \geq \frac{192 \log NS^2}{\delta_S^2 - 64c_1} \quad \begin{array}{l} \mbox{K is the number of states observed in the sample-path} \\ \mbox{N is the size of the state space} \end{array}$

 $c_1 \ge \frac{\delta_S^2}{64}$ $K \sim O\left(S^2 \sqrt{n \log n}\right)$





~2000 states











