1010-68-99 **Bo Brinkman** and **Adriana Karagiozova*** (karagioz@cs.princeton.edu). *Low Dimensional Embeddings of Series-Parallel Graphs into $\ell_1$.*

Embeddings of finite metric spaces into geometric spaces have become a standard component of the computer scientist's toolbox. In particular, the study of embeddings of (geodesic) graph metrics into normed spaces has attracted considerable attention. We consider the problem of embedding a series-parallel graph into a low-dimensional subspace of $\ell_1$, and give an algorithm that achieves dimensionality roughly $(D \log^2 n) n^{O(1)/D^{4/3}}$ with only $D$ distortion. The best known lower bound is $d = n^{\Omega(1)/D^2}$, proved by Brinkman and Charikar. (Received August 22, 2005)