

1. How do you solve directed flow?
2.  $l_k$  distance on a tree, is embeddable in Effective Resistance.
3.  $L_1^{1/2}$  is in  $L_1$ , where  $L_1$  is the sum of cut vectors. Here, a cut vector is a cut indicator vector, each entry shifted so the sum of vector elements is 0. Note that  $L_G^{\dagger/2}$  is in  $L_G^\dagger$  for  $L_G$  a Laplacian. The same holds for Euclidean distance!
4. Why does Matrix Chernoff for  $L_G^\dagger$  give such terrible concentration for each effective resistance?
5. Can graphical spectral sketches preserve all pairs max flow?
6. Can graphical spectral sketches / spectral sparsifiers, preserve  $q$ -norm flow?