

Graph Splittings and Realization Counting

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A minimally rigid graph with given general edge lengths has only finitely many realizations in the plane. We are interested in counting these realizations. A recent combinatorial algorithm enables us to do this computation for the complex plane. The algorithm is recursive and exponential. In this talk we show how to use certain splitting properties of a graph in order to speed up the computation. The splitting we are going to use yields two graphs that have fewer vertices than minimally rigid graphs and therefore allow a motion. The trajectories of moving vertices and their intersections play an important role.

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