Geometric Graph Theory
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Homework 4.

Submission deadline: Wednesday, Oct 24, on paper or by email.

1 Let G be a 2-connected graph and let $s, t \in V$, $s \neq t$. Prove that G has two spanning trees S and T such that so that if P is a path in Sstarting at s and Q is a path in T starting at t, then P and Q don't use the same edge in the same direction.

2 Replace the two diagonals of a unit square by rigid bars, and the four sides by rubber bands of the same strength. Show that the resulting structure is in equilibrium, and compute the forces acting in the rubber bands and bars.

3 Let P be a convex polygon in the plane and let us triangulate it with noncrossing diagonals. Prove that the resulting structure has no stress.