1041-57-74 **Blake Mitchell**, **Nick Navaroli** and **Rolland Trapp*** (rtrapp@csusb.edu), 5500 University Pkwy, San Bernardino, CA 92407. *Bridge Probability Energy of Knots.* Preliminary report.

We discuss two energies of polygonal knots, the crossing probability energy and the bridge probability energy. Both geometric and topological lower bounds for these energies are derived, which indicate that energy minimizing conformations should have a certain degree of regularity. In particular, energy minimizers for the bridge probability energy should approximate "constant curvature" representatives of minimum curvature for the knot type. The bridge probability energy on sequences of polygons inscribed in a smooth curve is shown to approach the curvature of the curve. Finally, data regarding energy minimizers will be presented. (Received August 04, 2008)