1063-57-249 **Heather M. Russell*** (hmrussellmath@gmail.com), **Moshe Cohen** and **Oliver Dasbach**. *A dimer model for the twisted Alexander polynomial.* Preliminary report.

A dimer is an edge in a bipartite graph, and a dimer covering is a perfect matching for that graph. We will revisit Kauffman's well-known state sum model for the Alexander polynomial using the language of dimers. By providing some additional structure we are able to extend this model to give a state sum formula for the twisted Alexander polynomial of a knot together with a representation of the knot group. This project is joint with Moshe Cohen (Bar-Ilan University) & Oliver Dasbach (LSU). (Received August 17, 2010)