

1014-57-1275 **Melanie Anne Pivarski*** (pivarski@math.cornell.edu), Malott Hall, Ithaca, NY 14853. *Heat Kernel Asymptotics on Euclidean Polytopal Complexes*. Preliminary report.

An Euclidean complex is formed by taking a collection of n dimensional convex polytopes and joining them along $n - 1$ dimensional faces. Within each polytope, we will have the same metric structure as R^n . When we join them, we will glue the faces of two polytopes together so that points on one face are identified with points on the other face, and the metrics on those faces are preserved. We will also require that these structures have a countable number of polytopes, are locally finite, and have bounded angles and side lengths. We will consider the heat kernel on this space and describe asymptotics for it. (Received September 27, 2005)