1039-05-81 **Thomas Lam***, Department of Mathematics, Harvard University, Cambridge, MA 02138, and **Luc Lapointe**, **Jennifer Morse** and **Mark Shimozono**. *k-shape poset and k-Schur functions.* Preliminary report.

I will discuss on-going work concerning a new class of partitions, called k-shapes, which depend on a positive integer k. These shapes interpolate between k and $k+1$-cores.

The study of k-shapes is motivated by the study of k-Schur functions. These symmetric functions first appeared in the study of Macdonald positivity and were later discovered to be the homology Schubert basis of the affine Grassmannian of $SU(k+1)$. The purpose of k-shapes is to study the positivity properties of affine Schubert bases induced by the natural maps $\Omega SU(k) \hookrightarrow \Omega SU(k+1)$, where $\Omega SU(k)$ denotes the based loops into $SU(k)$. (Received March 06, 2008)