1115-55-242 **Mao Li** and **Washington Mio*** (mio@math.fsu.edu), Department of Mathematics, Florida State University, Tallahassee, FL 32306-4510. *Persistent Homology and Barcode Fields.* Preliminary report.

Persistent homology, among other things, lets us construct informative topological summaries of the shape of data. Using a kernel construction, we propose a localized form of homology represented by a continuous barcode field that is stable with respect to the Wasserstein metric and thus robust to noise and outliers. We also discuss applications to shape analysis. (Received September 20, 2015)