1112-51-101 **Aaron Naber***, 2033 Sheridan Road, Evanston, IL 60208. *Singular Sets of Harmonic Maps and Minimal Surfaces.*

If $f : M \to N$ is a stationary harmonic map, then it is well understood how to stratify M by the singular set of f given by $S^k(f)$. Roughly, $S^k(f)$ is the collection of points in M such that no tangent map of f has $k+1$ degrees of symmetries. It is classical that dim $S^k(f) \Leftarrow k$, however little else is known in general. In this talk we discuss recent work which proves S^k is k-rectifiable. If f is minimizing, then we prove uniform $n-3$ measure bounds on $S(f)$. More effectively, we show $|\nabla f|$ has uniform estimates in weak L^3, which is sharp, as there are examples which do not live in L^3. The techniques involve an analysis of the recently introduced quantitative stratification, using a new energy covering argument, combined with a new rectifiable-Reifenberg result, and a new L^2-subspace approximation result for stationary harmonic maps. Similar statements are proved for integral currents with bounded mean curvature. This is joint work with Daniele Valtorta. (Received July 23, 2015)