Topological singularities of Sobolev maps

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Abstract. Sobolev maps $u : M \to N$ between two smooth Riemannian manifolds M and N may inherit topological singularities from both the domain and target. This phenomenon can have analytical consequences as it prevents smooth maps from being close to u with respect to the Sobolev norm. The talk, based on a joint work with P. Bousquet (Toulouse) and J. Van Schaftingen (UCLouvain), will present how such topological singularities arise and how one can detect and quantify them for any given Sobolev map.