

Topological singularities in nonlinear Sobolev spaces.

In the setting of the Sobolev space $W^{k,p}(B^m; N)$ from the unit ball B^m into a compact manifold N , we present a new approach to identify those Sobolev maps which can be approximated by a sequence in $C^\infty(\overline{B^m}; N)$. This is a joint work with Augusto Ponce and Jean Van Schaftingen.