

Bubble decomposition for the harmonic map heat flow in the equivariant case

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Abstract

I will present a recent joint work with Andrew Lawrie from MIT. We consider the harmonic map heat flow for maps from the plane R^2 to the sphere S^2 , under the so-called equivariant symmetry. It is known that solutions to the initial value problem can exhibit bubbling along a sequence of times - the solution decouples into a superposition of harmonic maps concentrating at different scales and a body map that accounts for the rest of the energy. We prove that this bubble decomposition occurs continuously in time. The main new ingredient in the proof is the notion of a collision interval motivated by our recent work on the soliton resolution problem for equivariant wave maps.