Threshold dynamics for corotational wave maps

Abstract. In this talk, we will consider the dynamics of corotational wave maps from $\mathbb{R}^2 \to \mathbb{S}^2$ at threshold energy. It is known that topologically trivial wave maps with energy $< 8\pi$ are global and scatter to a constant map. We will discuss a recent result which states that a corotational wave map with energy equal to 8π is globally defined and scatters in one time direction, and in the other time direction, either the map is globally defined and scatters, or the map breaks down in finite time and converges to a superposition of two harmonic maps. A second result will also be discussed which proves the existence of a map that breaks down in finite time.