Calderon -Zygmund Analysis Seminar

Monday, Oct 13, 3:45 pm, Ryerson 358

Soliton resolution for exterior wave maps

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Abstract. We consider the wave maps from $\mathbb{R}^{1+3}_{t,x} \setminus (\mathbb{R} \times B(0,1)) \to S^3$ with Dirichlet boundary condition at $r = 1$. Each such finite energy equivariant wave map has a fixed integer-valued topological degree, and in each degree class there is a unique harmonic map that minimizes the energy. We show that any arbitrary equivariant exterior wave map with finite energy will scatter to the unique harmonic map in its degree class. This revolves a recent conjecture of Bizoń, Chmaj and Maliborski, who observed this asymptotic behavior numerically.

This is a joint work with C. Kenig, A. Lawrie and W. Schlag.