Scattering for wave maps exterior to a ball

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In this talk I will discuss some recent work that was completed in collaboration with Professor Wilhelm Schlag. We consider 1-equivariant wave maps from $\mathbb{R}_t \times (\mathbb{R}^3_\times \setminus B) \to S^3$ where $B$ is a ball centered at 0, and $\partial B$ gets mapped to a fixed point on $S^3$. We show that 1-equivariant maps of degree zero scatter to zero irrespective of their energy. For positive degrees, we prove asymptotic stability of the unique harmonic maps in the energy class determined by the degree.