

**Discontinuous ground states for the NLSE on \mathbb{R} with a
Fülöp-Tsutsui δ interaction**

Alice Ruighi

Politecnico di Torino

alice.ruighi@polito.it

We analyse the existence and the stability of the ground states of the one-dimensional nonlinear Schrödinger equation with a focusing power nonlinearity and a defect located at the origin. A ground state is intended as a global minimizer of the action functional on the Nehari's manifold and the defect considered is a Fülöp-Tsutsui δ type, namely a δ condition that allows discontinuities. The existence of ground states is proved by variational techniques, while the stability results follow from the Grillakis-Shatah-Strauss' theory.

This is a joint work with Riccardo Adami.