

Uniqueness and nondegeneracy of ground states to nonlinear Schrödinger equations

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Abstract. This talk is devoted to the uniqueness and nondegeneracy of ground states to nonlinear Schrödinger equations. Here we consider a combined power type nonlinearity which involves the Sobolev critical exponent. We show that if the frequency is sufficiently large and the dimension is larger than or equal to 5, then the ground state is unique and nondegenerate up to translations. This talk is based on joint work with Takafumi Akahori (Shizuoka Univ.), Slim Ibrahim (Univ. of Victoria), Hiroaki Kikuchi (Tsuda Univ.) and Hayato Nawa (Meiji Univ.).