

Floer and Rabinowitz-Floer homologies for the Non-Linear Dirac Equation

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In the past few years, there have been many construction of a Morse-Floer type homology related to non-linear equations involving the Dirac operator on compact spin manifolds. In this talk I will discuss the construction of an isomorphism between the Floer-Rabinowitz homology corresponding to the non-linear Dirac equation and the Floer homology on corresponding time-energy extended phase space. This construction of this isomorphism is done through a careful analysis of a moduli space of hybrid flow lines.

This work is in collaboration with Takeshi Isobe.