Semirelativistic Choquard equations with singular potentials and general nonlinearities arising from Hartree-Fock theory

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Abstract

The aim of this talk is to present the results obtained for a Choquard equation driven by a semirelativistic Schrödinger operator, in a joint work with B. Bieganowski and S. Secchi. First, we would like to explain some physical motivations that lead to the study of this problem. Therefore, through a variational approach, we provide a criterion for the existence of ground state solutions. Moreover, a compactness property for a sequence of ground state solutions is also shown.