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Studies of Single Component Fermi Gas near a p-wave Resonance with LOCV Method GUANGCUN LIU, YICAI ZHANG, SHIZHONG ZHANG, The Univ of Hong Kong, DEPARTMENT OF PHYSICS AND CENTRE OF THEORETICAL AND COMPUTATIONAL PHYSICS TEAM — We study a single component Fermi gas near a p-wave resonance with the Lowest Order Constrained Variation (LOCV) method. With a many-body trial wave function, we calculate the ground state energy as well as contacts of p-wave resonant Fermi gas. The general behavior of the contacts are in accordance with experimental findings. We also calculate the compressibility of the system and identify a possible region of instability close to the p-wave resonance.

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