Is superconductor magnetic characteristic associated with unpaired itinerant electrons?

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ABSTRACT: The Microscopic theories of ferromagnetic superconductors and antiferromagnetic superconductors have many unanswered questions concerning the properties. Otherwise, To explain these phenomenon the Cooper pair have to sign-changing state sometimes and another times is unconventional spin triply-state. This theories maybe are not gospel. In such a scenario, the electron system of materials are reinterpreted and discussed. The Heisenberg direct exchange model, spin-density-wave, Hartree-Fock and local magnetization theories are emploied to calculate the electrons team effect the magnetical property. The results indicate that the cooper pairs reduces the local magnetization and the unpaired itinerant electrons is likely to participating influence the magnetic characteristic.

KEY WORDS: Magnetic property, Unpaired itinerant electrons, Heisenberg direct exchange model