



Advances in Condensed Matter Physics

Special Issue on  
**Exotic Superconductivity in Correlated Electron Systems**

CALL FOR PAPERS

Over the past decade, the search for high- $T_c$  superconductivity (SC) and its novel superconducting mechanisms is one of the most challenging tasks of condensed matter physicists and material scientists. In this process, the most striking achievement is the discovery of high- $T_c$  and unconventional superconductivity in strongly correlated 3d-electron systems cuprates and iron pnictides/chalcogenides. In exotic superconductors, behaviors beyond the BCS theory (in the SC states) and the Fermi-liquid theory (in the normal states) are observed frequently. In general, exotic superconductivity is tightly related to correlated electron systems, where there are strong interplays among charge, spin, orbit, and lattice degrees of freedom. Thus, we focus on exotic superconductivity in material systems with correlated electrons in the present special issue.

We welcome experimental and theoretical researchers to contribute original and outstanding research articles as well as review articles focusing on the present issue.

Potential topics include, but are not limited to:

- ▶ Design and synthesis of new superconductors: new structure, new approaches to inducing superconductivity, thin films, crystal growth, and so on
- ▶ Transport, caloric, and spectroscopy measurements on the physical properties of superconductors with correlated electrons
- ▶ Theory, modelling, and numerical simulation of superconducting mechanism and electronic structure for the superconductors with correlated electrons
- ▶ Novel quantum phenomenon in superconductors with correlated electrons: quantum criticality, novel strong correlated electronic state, vortex matter, and so on
- ▶ Other superconducting states under special conditions: low-dimensional SC, interfacial SC, topological SC, and so on

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