Special Issue

Exploration of Novel Quantum Spin Liquid Materials

Message from the Guest Editor

Since the term of resonating valence-bond (RVB) was first introduced by P. W. Anderson to explain the superconductor in 1987, the quatum spin liquid (QSL) states and related low-energy physics have been a longsought goal in condensed matter physics and are believed to cause many exotic behaviors, such as the significant magnetocaloric effect produced in the spin frustration system and the topological protection of long-range quantum entanglement. Although different models have been proposed by theorists, the progress of experimental research is relatively slow due to the limited QSL materials. In the past decade, with the development of material design, growth technology, and characterizing instruments, breakthroughs have been made in experiments. However, novel multi-body effects and urgent scientific problems have emerged in theoretical calculation, material exploration, and physical property characterization. This Special Issue will compile recent developments in the field of QSL. The articles will cover various topics, ranging from but not limited to theoretical simulation, sample synthesis, bulk properties characterization, and dynamics measurements.

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. Materials provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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