

Abstract Submitted
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Crystal structure and magnetic properties of 5d double perovskite oxide Sr₂EuOsO₆ JIANFENG HE, National Institute for Materials Science (NIMS), HAI L. FENG, Max Planck Institute for Chemical Physics of Solids, YAHUA YUAN, YOSHIHIRO TSUJIMOTO, KAZUNARI YAMAURA, National Institute for Materials Science (NIMS), SUPERCONDUCTING PROPERTIES UNIT, NATIONAL INSTITUTE FOR MATERIALS SCIENCE TEAM, GRADUATE SCHOOL OF CHEMICAL SCIENCES AND ENGINEERING, HOKKAIDO UNIVERSITY TEAM, MATERIALS PROCESSING UNIT, NATIONAL INSTITUTE FOR MATERIALS SCIENCE TEAM — Polycrystalline Sr₂EuOsO₆ has been synthesized with high-pressures and temperatures. It crystallizes in a monoclinic double perovskite structure and shows an antiferromagnetic-like transition at 51 K in a magnetic susceptibility measurement. The transition has been further characterized by specific measurements and electrical resistivity measurements. The results are compared with the magnetic properties of Ba₂EuOsO₆ [1] and other double perovskite oxides containing Os(V) atom. We will discuss role of spin-orbit coupling and spin polarization on the gapped electronic structure of Sr₂EuOsO₆ and other related compounds.

[1] Y. Hinatsu et al. J. Solid State Chem. 206 (2013) 300.

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