

Abstract Submitted  
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**Pressure-induced structural transition in SrRu<sub>2</sub>O<sub>6</sub>**<sup>1</sup> J.-Q. YAN, Oak Ridge National Laboratory, JOSE ALONSO, Instituto de Ciencia de Materiales de Madrid, S. OKAMOTO, Oak Ridge National Laboratory, M. OCHI, Osaka University, R. ARITA, RIKEN Center for Emergent Matter Science, XIANG LI, ZONGYAO LI, J.-S. ZHOU, University of Texas at Austin — SrRu<sub>2</sub>O<sub>6</sub> crystallizes into a quasi-two-dimensional structure with layers of edge-sharing RuO<sub>6</sub> octahedra separated by nonmagnetic Sr layers. Despite this quasi-two-dimensional structure, SrRu<sub>2</sub>O<sub>6</sub> was found to order magnetically at an usually high Neel temperature of 565 K. As part of the effort understanding the underlying mechanisms driving the high Neel temperature, we studied the effect of high pressure on the structure, magnetism, and physical properties of SrRu<sub>2</sub>O<sub>6</sub>. The results from our density functional calculations will also be presented.

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