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Continuous metal-insulator transition at 410 K of the antiferromagnetic perovskite NaOsO_3 K. YAMAURA, Y.G. SHI, Y.F. GUO, S. YU, M. ARAI, A.A. BELIK, A. SATO, E. TAKAYAMA-MUROMACHI, National Institute for Materials Science, Japan, H.F. TIAN, H.X. YANG, J.Q. LI, Chinese Academy of Sciences, China, T. VARGA, J.F. MITCHELL, Argonne National Laboratory, S. OKAMOTO, Oak Ridge National Laboratory — Newly synthesized perovskite NaOsO_3 shows a Curie-Weiss metallic nature at high temperature and suddenly goes into an antiferromagnetically insulating state at 410 K on cooling. Electronic specific heat at the low temperature limit is absent, indicating that the band gap fully opens. *In situ* observation in electron microscopy undetected any lattice anomalies in the vicinity of the transition temperature. It is most likely that the antiferromagnetic correlation plays an essential role in the gap opening. Use of the Advanced Photon Source was supported by the U.S. Department of Energy, Office of Science, Office of Basic Energy Sciences, under Contract No. DE-AC02-06CH11357. This research was supported in part by the WPI Initiative on Materials Nanoarchitectonics from MEXT, Japan, and the Grants-in-Aid for Scientific Research (20360012) from JSPS.

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