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Orbital angular momentum textures in perovskite oxide materials WONSIG JUNG, WONSIG KYUNG, YOONYOUNG KOH, Institute of Physics and Applied Physics, Yonsei University, Seoul 120-749, Korea, YOSHIYUKI YOSHIDA, National Institute of Advanced Industrial Science and Technology, Tsukuba 305-8568, Japan, Y.J. CHOI, Institute of Physics and Applied Physics, Yonsei University, Seoul 120-749, Korea, MASASHI ARITA, KENYA SHIMADA, Hiroshima Synchrotron Radiation Center, Hiroshima University, Higashi-Hiroshima, Hiroshima 739-0046, Japan, C. KIM, Institute of Physics and Applied Physics, Yonsei University, Seoul 120-749, Korea — We measured electronic structures of perovskite oxide materials Sr_2MO_4 (M=Rh, Ru, Ir) with angle-resolved photoemission spectroscopy using circular dichroism (CD) method to investigate orbital characters. We observe large CD which shows complicated orbital structures of Sr_2MO_4. CD signal comes from obital angular momentum induced from inversion symmetry breaking at cleaved surfaces. We compare results from various orbitals of 3-, 4- and 5-d.

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