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Emergent superconductivity in tricolor Kondo superlattices YUICHI KASAHARA, Y. NARITSUKA, T. ISHII, S. MIYAKE, T. TERASHIMA, Y. MATSUDA, Department of Physics, Kyoto University, Y. TOKIWA, Augsburg University, M. SHIMOZAWA, T. SHIBAUCHI, The University of Tokyo — Spinorbit interactions, together with inversion symmetry breaking, dramatically affect the superconductivity, leading to several exotic phenomena. In the presence of strong electron correlations, such phenomena are predicted to be more pronounced in two-dimensional system. Here, we report on the observation of superconductivity in tricolor Kondo superlattices with an asymmetric stacking sequence. In such superlattices, superconducting state emerges from strongly correlated heavy electrons confined within a two-dimensional Kondo lattice with asymmetric potential gradient. We found that angular and temperature dependences of upper critical fields show distinct behavior from those in centrosymmetric systems, suggesting suppression of the Pauli pair-breaking effect due to strong spin-orbit coupling associated with global inversion symmetry breaking. We will also discuss the possibility of helical or stripe phase with inhomogeneous order parameter in the tricolor Kondo superlattices.

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