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Superconductivity in Pd, Ir, and Pt chalcogenide YOON SEOK OH, Rutgers Center for Emergent Materials and Department of Physics and Astronomy, Rutgers University, JUNJIE YANG, Laboratory for Pohang Emergent materials, Postech, Korea, Y.J. CHOI, A. HOGAN, Y. HORIBE, S.-W. CHEONG, Rutgers Center for Emergent Materials and Department of Physics and Astronomy, Rutgers University — Large spin-orbit coupling in materials with heavy chalcogens can result in unique quantum states or functional properties such as topological insulator, giant thermoelectric power, and superconductivity. When materials contain heavy cations in addition to heavy chalcogens, spin-orbit coupling can be further enhanced. For these reasons, we have studied the superconductivity of Pd, Ir, and Pt tellurides and selenides. In the exploration of these chalcogenides, we have focused on the competition between superconductivity and charge density wave that is associated with superlattice reflections.

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