

Abstract Submitted
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Superconducting

phases of monolayer transition-metal dichalcogenides¹ EVAN SOSENKO, VIVEK AJI, Univ of California - Riverside — Layered group-VI dichalcogenides, e.g., MoS₂, are two dimensional materials that engender novel coupled spin and valley physics. Characterized by strong spin-orbit coupling and inversion symmetry breaking, they give rise to novel phenomena such as the spin Hall and valley Hall effect. In this talk, I focus on the intrinsic and substrate induced superconducting phases expected in this new class of materials. We will discuss the nature of the quasiparticles resulting from valley discriminating, pair breaking processes, and the effect of the BCS phase on the nature of opto-electronic coupling and nontrivial Berry curvature associated with the bands near each valley.

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