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Effects of inversion symmetry breaking in monolayer FeSe JOSEPH O'HALLORAN, MINGXING CHEN, DANIEL AGTERBERG, MICHAEL WEINERT, Univ of Wisconsin, Milwaukee — In this talk, we will discuss the role of broken inversion symmetry due to a substrate on the electronic and magnetic correlated states of monolayer iron selenide (FeSe). We use the group theoretic method of invariants with first principles density functional theory (DFT) calculations to investigate differences between bulk and single layer superconducting and magnetic orders. We show that a spin vortex crystal phase is stabilized, and that two-gap superconductivity is stabilized (though the gaps may be of similar magnitude).

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