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Theory of spin-orbit effects in the t_{2g} band of pseudo-cubic perovskites GURU KHALSA, The University of Texas at Austin, BYOUNGHAK LEE, Texas State University, ALLAN MACDONALD, The University of Texas at Austin — Epitaxial interfaces of perovskite systems have recently been the focus of an enormous amount of research due to their novel properties and potential for integration with silicon based technologies. Although the role of spin-orbit effects has been discussed in the literature, a first principles study of their influence on electronic structure has been lacking. We have conducted a study of spin-orbit effects in pseudo-cubic t_{2g} perovskite systems in which inversion symmetry has been broken by the presence of an external electric field. In this talk, we discuss our results and compare with available magneto transport studies on LAO/STO and related systems.

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