

Abstract Submitted
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Theory of SrTiO₃ 2DEGs GURU KHALSA, ALLAN MACDONALD, The University of Texas at Austin — There has been much recent interest in oxide 2DEGS - in particular those involving SrTiO₃. In spite of the simple conduction band structure of the parent material, there has been no quantitative understanding of the physical properties of these systems. We have built a model, informed by experiment, that is sufficiently realistic to describe defect free surface/interface states in SrTiO₃. The model is able to account for non-local dielectric screening and the orbital dependence of quantum confinement effects. Preliminary results of the model will be compared with experiment.

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