

## Test abstract from Alison

We present the results of ab initio density functional calculations of perovskite-structure  $\text{La}(\text{Al,Fe,Cr})\text{O}_3$ . Our calculations reveal two structurally distorted ground states of opposite polarization. Motivated by the growth of three-layer superlattices with enhanced polarization, we investigate the ferroelectricity and magnetic ordering of the  $\text{La}(\text{Al,Fe,Cr})\text{O}_3$  system with the goal of finding emergent multiferroicity due to interfacial strain and inversion symmetry breaking. Finally, we investigate constrained tetragonal  $\text{LaAlO}_3$  to determine its role in the ferroelectric properties of the supercell.

**Primary author:** Dr HATT, Alison (LBNL)

**Co-author:** Dr COATES, Nelson (Cal Maritime)

**Track Classification:** Tract 1 (default)