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Magnetoelectric Phase Control in Epitaxial Oxides from First Principles CRAIG FENNIE, Argonne National Lab, KARIN RABE, Rutgers, The State University of New Jersey — We propose a design strategy - based on the coupling of spins, optical phonons, and strain - for systems in which magnetic (electric) phase control can be achieved by an applied electric (magnetic) field. Using first-principles density-functional theory calculations, we present a realization of this strategy for the magnetic perovskite $EuTiO_3$.

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