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Ferroelectric control of magnetization in BiFeO3/CoFe heterostructures. MARTIN GAJEK, LANE MARTIN, JOHN HERON, JAN SEIDEL, University of Califonia at Berkeley, RAMAMOORTHY RAMESH, University of California at Berkeley, CONCEPT GROUP BERKELEY TEAM — The cross coupling between ferroic order parameters in multiferroics opens an alternative for the control of magnetism in magnetoelectric devices by purely electrical means. We first report on the exchange coupling between BiFeO3, an antiferromagnetic ferroelectric , and CoFe. We then show that the domain structure of the ferromagnet can be changed by poling the ferroelectric layer. Finally, we will discuss the implementation of our findings into possible device schemes.

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