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Electrostatic Tuning of the Proximity-Induced Exchange Field in EuS/Al Bilayers[1] TIJIANG LIU, JOSEPH PRESTIGIACOMO, PHILIP ADAMS, Lousiana State University, LOUSIANA STATE UNIVERSITY COLLABORATION — We demonstrate that the proximity-induced exchange field, H_{ex} in ferromagnetic/paramagnetic bilayers can be modulated with an electric field. An electrostatic gate arrangement is used to tune the magnitude of H_{ex} in the Al component of EuS/Al bilayers. We produced modulations of ~ 30 Oe in H_{ex} with the application of perpendicular electric fields of the order of $\pm 10^6$ V/cm. Several possible mechanisms accounting for the electric field's influence on the interfacial coupling between the Al layer and the ferromagnetic insulator EuS will be discussed.

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