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**Strongly anisotropic flux pinning in superconducting PbBi thin films covered by periodic ferromagnet stripes** DONALD NAUGLE, ZYXIN YE, WENHAO WU, IGOR LYUKSYUTOV, Department of Physics and Astronomy, Texas A&M University — We have studied the vortex pinning via their magnetic interaction with a periodic structure of parallel magnetic stripes. Superconducting lead-bismuth (82% Pb and 18% Bi) alloy films were covered by an insulating Ge layer and periodic a Ni array of magnetic stripes fabricated on the top of the Ge layer by electron-beam lithography and thermal evaporation. The critical current density was significantly stronger when the current was applied parallel to the stripes than when the current was perpendicular to the stripes. This is attributed to the barrier to the vortex motion provided by the magnetic interaction with magnetic stripes. The enhancement in critical current was most significant at temperatures close to the superconducting transition temperature.

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