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Magnetic domains in the ferromagnetic and ferroelectric mixture of (La, Lu, Sr)MnO_3 ALEX DE LOZANNE, WEIDA WU, CASEY ISRAEL, Department of Physics, University of Texas at Austin, N. HUR, S. PARK, S.-W. CHEONG, Department of Physics and Astronomy, Rutgers University — Single crystals of $(La_{5/8}Sr_{3/8}MnO_3)_x(LuMnO_3)_{1-x}$ (LSMO)(LMO) synthesized by the floating-zone method were studied by Magnetic Force Microscopy (MFM). Samples were mechanically cut and polished with the surface normal to the growth direction. Polarized optical microscopy shows that LSMO and LMO are separated in a stripe-like pattern due to the chemical immiscibility.[1] MFM images show magnetic domains ($\sim 1\mu$m) in the LSMO stripes and no magnetic signal in the LMO phase.

[1]S. Park, et al., PRL 92, 167206 (2004)

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