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Rare Earth Doping in the (Sr,Ca)Fe2As2 System TYLER DRYE, SHANTA SAHA, Center for Nanophysics and Advanced Materials, Department of Physics, University of Maryland-College Park, PETER ZAVALIJ, Department of Chemistry, University of Maryland-College Park, JOHNPIERRE PAGLIONE, Center for Nanophysics and Advanced Materials, Department of Physics, University of Maryland-College Park — The (Sr,Ca)Fe2As2 system shows an unusual persistence of the Neel ordering temperature of ∼200 K up to a concentration of 70% calcium. We present electrical transport, magnetic susceptibility and structural characterization data as a function of rare earth substitution into Sr0.3Ca0.7Fe2As2 single crystals, focusing on the resultant phase diagram and the comparisons of solubility limit of rare earth substitution as compared to end members SrFe2As2 and CaFe2As2.

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