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Superconductivity and enhanced susceptibility in $SrFe_2As_2$ single crystals S. R. SAHA, N. P. BUTCH, K. KIRSHENBAUM, J. PAGLIONE, Center for Nanophysics and Advanced Materials, Department of Physics, University of Maryland — Single crystals of $SrFe_2As_2$ grown using a self-flux solution method were characterized via x-ray, transport, magnetization and specific heat studies, revealing a superconducting transition at 21 K which appears far below the magnetostructural transition at 198 K as evidenced by transitions in resistivity and susceptibility. We present experiments which probe the nature of this phase and its relation to the enhancement of magnetic susceptibility in superconducting samples.

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