Abstract Submitted
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Stripe order in $La_{2-x}Ba_xCuO_4$ in high magnetic fields[1] M. HUECKER, BNL, M. VON ZIMMERMANN, HASYLAB at DESY, Z.J. XU, J.S. WEN, G.D. GU, I.A. ZALIZNYAK, BNL, J.-H. CHUNG, NCNR at NIST, E.S. CHOI, NHMFL, J.M. TRANQUADA, BNL — The observation of enhanced spin stripe order in the vortex cores of $La_{2-x}Sr_xCuO_4$ has been a landmark experiment that revealed the intimate connection between superconductivity and incommensurate antiferromagnetism. Only recently we have observed a corresponding field dependence of the spin and, more importantly, of the charge stripe order in $La_{2-x}Ba_xCuO_4$. Here we present our recent results from neutron diffraction, x-ray diffraction, and torque measurements in high magnetic fields. These helped us to establish the field versus temperature and doping phase diagrams for spin and charge order, and to further corroborate the stripe model as the more appropriate description than for example spiral and vortex states.

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