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Exploring the critical dynamic exponent using YBCO films and untwinned crystal in zero and non-zero magnetic field SU LI, HUA XU, STEVEN M. ANLAGE, C. J. LOBB, University of Maryland, College Park — The phase transition in high Tc superconductors in zero and non-zero magnetic field has been intensely studied. However, there are debates on the critical dynamic exponent z from both simulations and experiments. We will report our result on z from our dc transport measurement in both YBCO films and untwinned crystals. Our results show that the finite size effects, which can cause misinterpretation in the film data, are absent in the crystal data, and the data on both the films and crystals give a very similar result for the critical dynamic exponent. (This work was supported by NSF grant number DMR-0302596)

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