

Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Observation of magnetic field-induced contraction of fission yeast cells using optical projection microscopy¹ XI YANG², Fermi National Accelerator Laboratory, A.W. BECKWITH, Department of Physics, University of Houston — The charges in live cells interact with or produce electric fields, which results in enormous dielectric responses, flexoelectricity, and related phenomena. Here we report on a contraction of *Schizosaccharomyces pombe* (fission yeast) cells induced by *magnetic fields*, as observed using a phase-sensitive projection imaging technique. Unlike electric fields, magnetic fields only act on moving charges. The observed behavior is therefore quite remarkable, and may result from a contractile Lorentz force acting on diamagnetic screening currents. This would indicate extremely high intracellular charge mobilities. Besides, we observed a large electro-optic response from fission yeast cells.

¹Published in CEJP, Fall 2004

²Accelerator physics Post doctorate

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Date submitted: 10 Nov 2004

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