Abstract Submitted
for the OSS05 Meeting of
The American Physical Society

**Optical Studies and Poling of DNA NLO Waveguides** EMILY HECKMAN, PERRY YANEY, University of Dayton, JAMES GROTE, F. KENNETH HOPKINS, US Air Force Research Laboratory — Deoxyribonucleic acid (DNA), extracted from salmon sperm through an enzyme isolation process, is precipitated with a surfactant complex, cetyltrimethl-ammonium (CTMA), for application as a nonlinear optical material. Preliminary characterization studies suggest that DNA-CTMA may be suitable for use as the host material in the poled core layer of electro-optically-active waveguide devices. Poling results and techniques for poled chromophore-DNA-CTMA films will be discussed. Optical characterization studies of the DNA-CTMA films, including optical propagation losses and considerations in making DNA-CTMA an optical quality material, will be presented.

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Date submitted: 09 Mar 2005 Electronic form version 1.4