## Abstract Submitted for the DAMOP13 Meeting of The American Physical Society

Optical Frequency Comb Spectroscopy of Rare Earth Atoms¹ JERLYN SWIATLOWSKI, CHRISTOPHER PALM, TRINITY JOSHI, CAITLIN MONTCRIEFFE, DEREK JACKSON KIMBALL, California State University - East Bay — We discuss progress in our experimental program to employ optical-frequency-comb-based spectroscopy to understand the complex spectra of rare-earth atoms. We plan to carry out systematic measurements of atomic transitions in rare-earth atoms to elucidate the energy level structure and term assignment and determine presently unknown atomic state parameters. This spectroscopic information is important in view of the increasing interest in rare-earth atoms for atomic frequency standards, in astrophysical investigations of chemically peculiar stars, and in tests of fundamental physics (tests of parity and time-reversal invariance, searches for time variation of fundamental constants, etc.). We are presently studying the use of hollow cathode lamps as atomic sources for two-photon frequency comb spectroscopy.

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