

## ThF<sup>+</sup> AS A CANDIDATE FOR eEDM MEASUREMENTS

MICHAEL C. HEAVEN, JOSHUA H. BARTLETT, *Department of Chemistry, Emory University, Atlanta, GA 30322.*

The low-lying  $^3\Delta_1$  state of ThF<sup>+</sup> has advantageous properties for studies of the electron electric dipole moment. Calculations indicate that internal fields as high as 90 GV/cm can be generated, and there is just one isotope of ThF with significant natural abundance. Previous experiments show two low-lying electronic states of ThF<sup>+</sup> spaced by 315 cm<sup>-1</sup> (JCP 136, 104305 (2012)). These are  $^1\Sigma$  and  $^3\Delta_1$ , but the ordering is still in question. Experiments are in progress to determine the electronic angular momentum of the ground state. Laser excitation spectra for ThF<sup>+</sup> have been recorded for transitions in the 19300-21100 cm<sup>-1</sup> range. For eEDM studies it is technically more convenient to work with lower energy transitions. Survey spectra covering the range 15000-19000 cm<sup>-1</sup> are currently being recorded. Results from these measurements will be presented and their relevance to possible eEDM studies will be discussed.