Abstract Submitted
for the DAMOP08 Meeting of
The American Physical Society

Polarizability of Mg^+ from fine structure measurements of high-L Rydberg states of magnesium.[1] ERICA L. SNOW, SUNY Fredonia, STEPHEN R. LUNDEEN, Colorado State University — Microwave spectroscopy studies by means of selective laser excitation with detection of Rydberg levels by Stark ionization have been used to measure the fine structure intervals of n=17 for a range of angular momentum states, $6 \leq L \leq 11$, in magnesium. The long-range polarization model was used to extract the dipole and quadrupole polarizability of Mg^+ from the fine structure data. Contributions due to higher order terms in the polarization model, which are known to affect the interpretation of the quadrupole polarizability in similar cases, such as barium and Si^{2+}, were evaluated. The experimental data and the results of the analysis will be presented.

[1]Supported by U. S. Department of Energy.

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Date submitted: 04 Feb 2008 Electronic form version 1.4