Abstract Submitted
for the DAMOP18 Meeting of
The American Physical Society

Calculations of the ground-state hyperfine structure for Rb, Cs, Fr, Ba^+, and Ra^+ JACINDA GINGES, The University of Queensland, ANDREY VOLOTKA, Helmholtz-Institut Jena, STEPHAN FRITZSCHE, Helmholtz-Institut Jena and Friedrich-Schiller-Universität Jena — We have performed a comprehensive and high-accuracy study of the ground-state hyperfine structure for heavy alkali-metal atoms Rb, Cs, Fr and alkali-metal-like ions Ba^+ and Ra^+ of interest for atomic parity violation studies. We have rigorously evaluated the quantum electrodynamic radiative corrections at one-loop level and have carefully considered the effect due to the magnetization distribution of the nucleus. Many-body calculations in the all-orders correlation potential method were performed.

Jacinda Ginges
The University of Queensland

Date submitted: 02 Mar 2018 Electronic form version 1.4