

Abstract Submitted
for the 4CF11 Meeting of
The American Physical Society

Collisional ^3He and ^{129}Xe Frequency Shifts in Rb–Noble-Gas Mixtures ZAYD MA, ERIC SORTE, BRIAN SAAM, University of Utah — The Fermi-contact interaction that characterizes collisional spin exchange of a noble gas with an alkali-metal vapor also gives rise to NMR and EPR frequency shifts of the noble-gas nucleus and the alkali-metal atom, respectively. We have measured the enhancement factor κ_0 that characterizes these shifts for Rb- ^{129}Xe to be 493 ± 31 , making use of the previously measured value of κ_0 for Rb- ^3He . This result allows accurate ^{129}Xe polarimetry with no need to reference a thermal-equilibrium NMR signal.

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Date submitted: 16 Sep 2011

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