

Abstract Submitted  
for the DAMOP19 Meeting of  
The American Physical Society

**Sensitivity improvement of nuclear magnetic resonance gyroscope with natural abundance of Xe gas** YE JIN YU, HAN SEB MOON, Pusan National University — We investigated on the operation of Nuclear Magnetic Resonance gyroscope(NMRG) using two different isotopes of natural abundance of Xe gas,  $^{129}\text{Xe}$  and  $^{131}\text{Xe}$  independently and simultaneously. Rb atoms are used to make Xe hyperpolarized via spin-exchange interactions which is highly affected by the optical pumping rate of Rb and the spin exchange rate between the two atoms. In this work, we present a sensitivity measurement results of NMRG using natural abundance Xe depending on the spin polarization degree of Xe adjusted by optical pump power and vapor cell temperature changes.

Ye Jin Yu  
Pusan National University

Date submitted: 31 Jan 2019

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