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Atom spin gyroscope based on Rb-Xe vapor cell. SIN HYUK YIM, SANGKYUNG LEE, TAE HYUN KIM, ZAEILL KIM, KYU MIN SHIM, Agency for Defense Development, ATOM OPTIC SENSOR TEAM TEAM — We present results of atom spin gyroscope (ASG) using dual species of noble gases. The vapor cell contain Rb, ^{129}Xe, ^{131}Xe, N_2, and H_2 gases. The magnetic field fluctuation can be reduced by using two Larmor frequencies of 118 Hz and 35 Hz, respectively. We apply parametric modulation of z-axis of magnetic field to extract the ^{129}Xe and ^{131}Xe signals. The transverse relaxation time of ^{129}Xe and ^{131}Xe are 70 s and 10 s, respectively. The Angular Random Walk (ARW) of the ASG is 0.98 deg/h$^{1/2}$ and Bias instability is 5.46 deg/h. Further developments will be made by enriched Xe vapor cell.

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