

Abstract Submitted  
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**Apparatus for Rb-<sup>129</sup>Xe/<sup>131</sup>Xe-N<sub>2</sub> vapor cells.** SIN HYUK YIM, SANGKYUNG LEE, TAE HYUN KIM, DEOK YOUNG LEE, KYU MIN SHIM, Agency for Defense Development — We present the experimental setup for the production of atomic vapor cell containing Rb, <sup>129</sup>Xe, <sup>131</sup>Xe, N<sub>2</sub>, and H<sub>2</sub> gases. A cell is 12.5 mm cubic with pyrex. Long stem is attached on top of the cell. The cell is cleaned several times with neutral detergent, distilled water, acetone, ethanol, IPA, and methanol respectively. The cell is attached to high vacuum chamber and baked for a week with turbo pump and ion pump. A Rb dispenser is activated after finishing the baking procedure. While the dispenser is activated, the cell is cooled in the cold water to collect Rb atoms into the cell. Mixed gases, then, with <sup>129</sup>Xe, <sup>131</sup>Xe, N<sub>2</sub>, and H<sub>2</sub> are inserted into the Rb cell by monitoring the total pressure. The Rb-<sup>129</sup>Xe/<sup>131</sup>Xe-N<sub>2</sub> vapor cells are sealed by glass welding technique. The transverse spin relaxation time of <sup>129</sup>Xe/<sup>131</sup>Xe are 10 s and 20 s, respectively, which are measured by using free induction technique.

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