

## **An ultra-low radioactivity measurement facility at the Center for Underground Physics in Korea**

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As a few ultra-low background rare decay experiments at the Yangyang underground laboratory in Korea are being prepared and under operation, a number of ultra-low radioactivity measurement detectors have been developed. For a screening of raw materials or detector components, an ICP-MS, an argon gas ionization counter, a ZnS counter, and a number of HPGe detectors are operating. A silicon PIN photodiode based radon detector has been upgraded for a measurement of the air from a radon reduction system in a radon level of 10 mBq/m<sup>3</sup>. An array of 14 HPGe detectors was installed for an efficient measurement of background gamma rays from bigger samples than those could be tested in two single crystal HPGe detectors. As candidates of detector materials, various types of scintillation crystals such as CaMoO<sub>4</sub>, Li<sub>2</sub>MoO<sub>4</sub>, and NaI(Tl) have been grown with purified raw materials and tested for their radioactivity background levels with the above mentioned instruments. A summary of their developments and preliminary performances together with a future plan will be presented.

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