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## Features of Cold Neutron Induced Prompt Gamma Activation Analysis at HANARO Research Reactor

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A new cold neutron prompt gamma activation analysis (CN-PGAA) system has been developed at the HANARO cold neutron source. The CN-PGAA is installed at the end position of a CG2B neutron guide. It was designed to be composed of an n-type HPGe and a BGO and will be operated in single bare, Compton suppression and pair spectrometer modes, and there is a gap for a beam chopper for a time-of-flight PGAA. The sample box is made from Teflon for He-filled or vacuum environments. The neutron beam profile and neutron flux are simulated using a McSTAS code and measured by time of flight and gold activation methods. Neutron temperature at sample position is about 40K and the true integrated neutron flux to be over  $5.0 \times 10^8$  n/cm<sup>2</sup>s. Its performance has been tested by using various certified reference materials

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