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Nuclear spectroscopy projects at center for exotic nuclear studies (CENS)

Center for Exotic Nuclear Study in the Institute of Basic Science was recently founded to study fundamental questions in astrophysics and nuclear physics through investigations of radioactive atomic nuclei. The center is composed of four groups: experimental nuclear structure, experimental nuclear reaction, experimental nuclear astrophysics, and nuclear theory.
In the experimental groups, many detectors are currently under development/planned which can be applied for the nuclear spectroscopic study at new accelerator facility RAON, such as Clover HPGe detector array (AGARD), Co-axial Ge detector array, Si detector array (STARK and STARK-Jr), LaBr3 detector array (KHALA), conversion electron detector array (SCEPTER) and neutron detector array (PANDORA II). Several projects utilizing detectors such as decay station and in-beam gamma-ray spectroscopy have recently started for low-energy branches at RAON. Also, many international collaboration projects are ongoing, such as the IDATEN project utilizing the LaBr3 detector array from Korea and the UK, forming the largest LaBr3 array at RIBF RIKEN. The current status of the detector system development for nuclear spectroscopy and possible setups will be presented.

Notes

Primary author: KIM, Yung Hee (Institute for Basic Science, Center for Exotic Nuclear Studies)

Presenter: KIM, Yung Hee (Institute for Basic Science, Center for Exotic Nuclear Studies)