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The KOBRA facility for neutron-rich beam production at RISP

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The KOBRA (Korea Broad acceptance Recoil spectrometer and Apparatus) facility, which is being designed for Rare Isotope Science Project (RISP), will be utilized to produce rare isotope (RI) beams for the study of a broad range of topics in low-energy nuclear physics. The RI beams will be produced by employing the rearrangement reaction such as (p,d) at a few MeV/nucleon and the multi-nucleon transfer reaction at ~20 MeV/nucleon (see, e.g., [1,2]). We briefly introduce the KOBRA facility and report on the present status of the development of KOBRA. In particular, we discuss estimates of RI beam intensity based on the ray-tracing code combined with a proper combination of nuclear reaction models (mainly DIT/GEMINI [1,3]) that have been successfully applied to describe the multi-nucleon transfer reaction in the energy range 15-25 MeV/nucleon.

References

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