Contribution ID: **66** Type: **Oral Presentation**

Large acceptance spectrometers and possible new developments

Monday, 11 May 2015 11:10 (30 minutes)

Large acceptance spectrometers have played significant roles in RI-beam physics. They have been widely and successfully used for studies of exotic structures far from the stability line, reactions of astrophysical interest, heavy-ion reactions to probe the equation of state of nuclear matter, and so forth. For instance, correlation measurements, of the heavy fragment and neutron(s) after the breakup of rare isotopes, have been used to reconstruct the invariant mass of unbound states beyond the neutron drip line, such as 26O. At RIBF at RIKEN, the SAMURAI facility was commissioned in 2012 as such a large
acceptance spectrometer. I will present some details of the development of this facility and how it has been used for such studies. I will also discuss the on-going developments at SAMURAI. Such large acceptance spectrometers have also been developed, or will be developed, at other world-leading facilities such as GSI/FAIR and MSU/FRIB, which are also presented. I will also remark on the future prospects for large acceptance spectrometers.

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Session Classification: Session 3