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In beam gamma-ray spectroscopy of fast exotic beams at the RIBF

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At the Radioactive Isotope Beam Factory stable primary beams are accelerated up to 345 MeV/nucleon and incident on a production target to produce secondary beam cocktails with the fragment separator BigRIPS ranging from the lightest nuclei up to the uranium region. For in-beam gamma-ray spectroscopy, the secondary beams impinge on a reaction target at energies between 100 and 300 MeV/nucleon. Reaction residues are detected with the ZeroDegree spectrometer and gamma-rays detected with the NaI(Tl) based DALI2 array. In my presentation I will give an overview of recent experiments performed at the RIBF employing this technique including the measurements inside and beyond the "Island of Inversion" as well as investigations around the doubly-magic nuclei 100Sn, 78Ni and 132Sn. Besides discussing selected results a description of the setup and an overview of in-beam gamma-ray spectroscopy physics program at the RIBF will given.