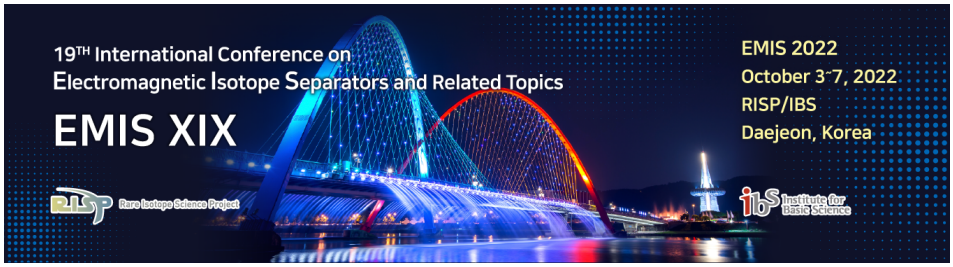

Contribution ID: **105** Type: **Poster Session**

The new CERN-ISOLDE fast tape station

Monday, 3 October 2022 18:30 (8 minutes)

For the operation of a radioactive ion beam (RIB) facility the employment of a suitable decay spectroscopy setup is essential. CERN-ISOLDE uses for more than 40 years a tape station as primary asset for the determination of RIB production yields and as diagnostic tool for beam commissioning before each physics experiment as well as radioactive beam development. To improve timing and noise characteristics, a new fast tape station (FTS) was built and initially commissioned in 2018 [1], and recently relocated to its final position within the CERN-ISOLDE central beam line. The FTS consists of a vacuum chamber with four detector positions, accommodating an in-beam β-detector, a 4π β-detector [2], a high purity germanium detector for the measurements of γ-rays and a silicon detector for α-particles. We report here on the technical details in terms of hardware and software, the first operational years of the FTS and future upgrades and extension of the yield measurement capabilities and capacities at ISOLDE.

[1] R. Catherall, et al. J. Phys. G: Nucl. Part. Phys. **44** (2017), 094002.
[2] C. Neacşu et al., Nucl. Inst. and Meth. A **1026** (2022), 166213.

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Session Classification: Poster Session