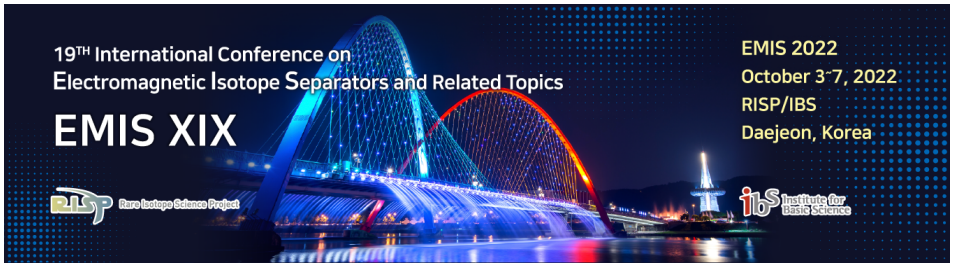

Contribution ID: **106** Type: **Poster Session**

Radioactive ion beams of Sb isotopes

Monday, 3 October 2022 18:38 (8 minutes)

Because of the magic number $Z = 50$, there is great scientific interest in isotopes of tin and the neighboring indium and antimony nuclei. At CERN-ISOLDE, radioactive ion beams (RIBs) of In, Sn and Sb are typically produced from uranium carbide (neutron-rich) and lanthanum carbide (neutron-deficient) targets. While for the former two elements yield data is available, to date, no data has been reported for Sb isotopes using 1.4-GeV protons [1]. During the 2018 and 2021 experimental campaigns at CERN-ISOLDE, Sb RIBs were produced with 1.4-GeV protons from the Proton Synchrotron Booster using UC_x and LaC_x targets and resonant laser ionization. As a result, both proton- and neutron-rich RIB production yields could be determined via β-, γ-decay and ion beam current measurements. In addition, isomeric ratios of Sb, as well as Sn during earlier experimental campaigns, were determined by means of collinear laser spectroscopy. The respective results will be presented in this contribution.

[1] J. Ballof, et al. Nuclear Inst. and Methods in Physics Research B **463** (2020), 211–215.

Primary author: STEGEMANN, Simon (CERN)

Co-authors: BALLOF, Jochen (CERN); BERNERD, Cyril (KU Leuven - CERN); CHRYSALIDIS, Katerina (CERN); HEINKE, Reinhard (CERN); LECHNER, Simon (CERN); LEIMBACH, David (University Gothenbourg); MARSH, Bruce (CERN); Mr PAMIES, Ferran Boix (CERN); Mr RAMOS, João Pedro (CERN); ROTHE, Sebastian (CERN); VAZQUEZ RODRIGUEZ, Liss (CERN); Mr WILKINS, Shane (CERN); Mr YORDANOV, Deyan Todorov (Institut de Physique Nucléaire, CNRS-IN2P3, Université Paris-Sud, Université Paris-Saclay, Orsay, France); COLLAPS COLLABORATION

Presenter: STEGEMANN, Simon (CERN)

Session Classification: Poster Session