First negative halogen beams produced at PSBooster-ISOLDE

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Chemically pure radioactive halogen beams have interesting potentials for solid state and nuclear physics, for instance for implantation studies or in precise β-decay measurements. They can be produced as positive ions by the ISOL approach, with potential isobaric contaminations, or as pure negative ion beams, with a LaB_6 negative surface ion source. Here, we present data on the first negative beams produced online at ISOLDE since the use of a pulsed 1.4 GeV proton primary beam delivered by the CERN PS-Booster complex. This permits the determination of precise time release structures of a UCx target-LaB_6 ion source for Br, Cl and I RIBs. Yields and estimations of in-target production are finally compared to those obtained at SC-ISOLDE with continuous beams of 600 MeV protons.

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