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Proton radii of neutron-rich B isotopes and neutron surface thickness in ^{17}B RITUPARNA KANUNGO, Saint Mary's University, Halifax, ALFREDO ESTRADA, Saint Mary's University, Halifax; GSI, Germany, WATARU HORIUCHI¹, Hokkaido University, Hokkaido — As the neutron to proton asymmetry increases nuclei develop exotic structures such as neutron skin and halo. It is important to investigate how this asymmetry affects the proton distribution. The matter and proton radii have started unfolding a complete picture of the halo. For two-neutron halos the correlation between the halo neutrons and their distance from the core can be derived to define the average halo geometry. The proton radii are crucial information to extract the neutron skin thickness to constrain the equation of state of asymmetric nuclear matter. Very limited information is available on the proton radii of very neutron-rich nuclei. In this presentation, we will describe the new technique of extracting proton radii from charge changing cross sections using relativistic beams at GSI, Germany. The presentation will show first measurements of proton radii of the neutron-rich boron isotopes. The implications of the results in understanding the neutron surface thickness in the Borromean ^{17}B and its possible halo structure will be discussed.

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