

# INVESTIGATING PROTON EMITTERS AT THE LIMITS OF STABILITY WITH RADIOACTIVE BEAMS FROM THE OAK RIDGE FACILITY<sup>1</sup>

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By using beams from the Holifield Radioactive Ion Beam Facility at the Oak Ridge National Laboratory it should be possible to identify many new ground-state proton emitters in the mass region from Sn to Pb. In these investigations nuclei produced in fusion-evaporation reactions will be separated from the incident ions and dispersed in mass/charge with a recoil mass separator and then implanted into a double-sided Si strip detector for the study of proton (and  $\alpha$ -particle) radioactivity. This paper summarizes data presently extant on proton emitters and then focuses on tests and initial experiments that will be carried out with stable beams and with radioactive ions as they are developed at the Oak Ridge facility.

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<sup>1</sup>Abstract of published paper: Application of Accelerators in Research and Industry, AIP Press, New York, (1997), p. 405.

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