Abstract Submitted
for the APR13 Meeting of
The American Physical Society

Tritium neutrino mass experiments: measuring the molecular dissociation probability[1] LAURA BODINE, DIANA PARNO, R.G. HAMISH ROBERTSON, University of Washington — The next generation of tritium-based neutrino mass experiments (e.g. KATRIN, Project8) requires a comprehensive understanding of the distribution of molecular states excited in the decay. The distribution and the resulting dissociation probability have recently been calculated to high precision. Two dissociation experiments from the 1950s disagree with the modern predictions and further study is needed to resolve the discrepancy and validate the calculations. The Tritium Recoil-Ion Mass Spectrometer is designed to measure the molecular tritium branching ratio to the bound molecular ion $^3HeT^+$ using a novel approach.

[1]This research is supported by the DOE under grant DE-FG02-97ER41020.

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Date submitted: 11 Jan 2013 Electronic form version 1.4