

Abstract Submitted
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New measurement scheme to investigate low energy charge transfer in $\text{H} + \text{H}_2^+$ V.M. ANDRIANARIJAONA, Department of Physics, Pacific Union College, Angwin, CA 94508, USA — The merged-beam apparatus at Oak Ridge National Laboratory (ORNL) in Oak Ridge, Tennessee, can reliably access low energy charge transfer in $\text{H} + \text{H}_2^+ \rightarrow \text{H}^+ + \text{H}_2$ and is able to benchmark the total cross section at 200 to under 0.1 eV/u, but is not equipped with a device that would provide the ro-vibrational state distribution of the primary molecular ions. A new experimental scheme, which will allow to upgrade the heretofore only total absolute cross section measurements to vibrationally resolved cross section measurements and will make comparison to state-to-state calculations (PRA **67** 022708 (2003) possible, will be presented.

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