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Results from the Measurement of the ¹⁹Ne Half-Life at KVI LEAH

BROUSSARD, Duke University — We report on the results of the 2009 measurement of the ¹⁹Ne half-life performed at the Trapped Radioactive Isotopes: Microlaboratories for Fundamental Physics (Tri μ p) facility at the Kernfysisch Versneller Instituut (KVI). This system is a member of the set of $T=\frac{1}{2}$ mirror transitions, which can potentially be used to extract V_{ud} with similar precision to the $0^+ \to 0^+$ decays. A blinded analysis of the data has yielded the half-life 17.2832 \pm 0.0077 seconds, which is 1.2σ from the global average used in a recent review of $\mathcal{F}t$ values of the mirror transitions, and 6σ from the average of the higher precision results performed at Princeton. We will review the systematic effects which contribute to the uncertainty, and discuss post-unblinding analysis efforts.

Leah Broussard Duke University

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