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#### Abstract

Mass determination of the lowest $T=2$ state in ${ }^{32}$ S SMARAJIT TRIAMBAK, ALEJANDRO GARCIA, GREGORY HODGES, ERIC ADELBERGER, ERIK SWANSON, SETH HOEDL, SKYKILO SJUE, ANNE SALLASKA, CENPA, UNIVERSITY OF WASHINGTON TEAM ${ }^{1}$ - We present data of a recent mass determination of the lowest $T=2$ state in ${ }^{32} \mathrm{~S}\left(E_{x} \approx 12 \mathrm{MeV}\right)$ with an uncertainty of $\approx 0.3 \mathrm{keV}$ using the ${ }^{31} \mathrm{P}(p, \gamma)$ reaction. The state of interest was populated using the resonance at $E_{p}=3285 \mathrm{keV}$ and the decaying gammas of energies $\approx 8124 \mathrm{keV}$ and 3923 keV were detected using HPGe detectors at $\pm 90^{\circ}$ and $0^{\circ}$ to the incident beam. Systematic effects and implications to the Isobaric Multiplet Mass Equation for the $\mathrm{A}=32$ multiplet will be discussed. ${ }^{1}$ Weak Interactions Group


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