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**Precision Determination of the Excitation Energy of
the Long-Lived Isomer in the Superaligned Fermi Emitter**

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— Some Q-value measurements for superallowed Fermi emitters used in
calculation of the V_{ud} quark mixing matrix element came into question
after measurements at ANL and confirmation of these measurements by
JYFLTRAP found the Q-value for ⁴⁶V to differ by more than 2 keV
(7 σ) from the previous accepted value. A new precision Q-value mea-
surement for the superallowed emitter ⁴²Sc performed by JYFLTRAP
found no substantial shift from the previous accepted Q-value. Their
measurement included a new precision measurement of the excitation
energy of the 7+ long-lived isomeric state of ⁴²Sc, which did not agree
with old measurements. New measurements of this excited state have
been preformed at YRASTBall to within roughly 200 eV. Combined
with recent measurements for the mass of this excited state preformed
by the Canadian Penning Trap group of ANL, a new precision Q-value
measurement has been completed and no substantial shift in the ⁴²Sc
Q-value is observed.

Prefer Oral Session
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