Abstract Submitted
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Branching Ratio Measurement in ^{23}Ne Beta Decay[1] HITESH RAHANGDALE, YONATAN MISHNAYOT[2], BEN OHAYON[3], VISHAL SRIVASTAVA, The Hebrew University of Jerusalem, Israel, SERGEY VAINTRAUB, TSVIKI HIRSH, Soreq Nuclear Research Center, Isreal, JASON T HARKE, NICHOLAS D SCIELZO, AARON GALLANT, RICHARD HUGHES, Lawrence Livermore National Laboratory, USA, GUY RON, The Hebrew University of Jerusalem, Israel — The recoil-ion energy distribution in the decay of ^{23}Ne among other beta emitters can be used to extract the $\beta - \nu$ angular correlation coefficient($a_{\beta\nu}$), which if measured precisely enough can be used as a probe to look for the scalar and tensor exotic couplings, absent in the standard model of physics. Here we present a precise measurement of the $\beta - \gamma$ branching ratio measurement in ^{23}Ne β decay to the 440 keV excited state of ^{23}Na, which is essential for obtaining the $a_{\beta\nu}$ in ^{23}Ne. The measurement was done using the coincidence between beta and gamma, following the beta decay of ^{23}Ne contained in a small volume. The ^{23}Ne was produced by ^{23}Na(n,p)^{23}Ne reaction on finely ground salt(NaCl), by the neutrons obtained from the SARAF accelerator and liquid Lithium target. With the use of better detection systems than the previous measurements, we aim to achieve uncertainty of $\leq 1\%$. I will present the preliminary results obtained, which are more precise than, and are in agreement with the previous measurements.

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