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The branching ratio of the sub-threshold 1^- state in the β -decay of ^{16}N K.E. REHM, X.D. TANG, M. CARPENTER, J.P. GREENE, R.V.F. JANSSENS, Argonne National Laboratory, L. JISONNA, Northwestern University, C.L. JIANG, C.J. LISTER, M. NOTANI, N. PATEL, R.C. PARDO, G. SAVARD, J.P. SCHIFFER, Argonne National Laboratory, R.E. SEGEL, Northwestern University, A. WUOSMAA, Western Michigan University, S. ZHU, Argonne National Laboratory — A measurement of the β -delayed α decay of ^{16}N can give information about the E1 component of the astrophysical S-factor of the $^{12}\text{C}(\alpha,\gamma)^{16}\text{O}$ reaction. The uncertainty in this measurement depends on many parameters, which are used in the fitting procedure. One of them is the ratio of the β decay in ^{16}N , populating the sub-threshold 1^- state in ^{16}O . We have performed a new measurement of this branching ratio using Gammasphere. The ^{16}N particles were produced by bombarding a deuterium target with a ^{15}N beam from the ATLAS accelerator at Argonne. From this experiment a new branching ratio has been obtained, which is about 10% higher than the previous value. The implication of this new value on the S(E1) factor will be discussed. *This work was supported in part by the U.S. Department of Energy, Office of Nuclear Physics, under Contract No. DE-AC02-06CH11357 and by the NSF Grant No. PHY-02-16783 (Joint Institute for Nuclear Astrophysics).*

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