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Towards a measurement of the ^{44}Ti(α,p)^{47}V reaction[1] BENJAMIN ASHER, SERGIO ALMARAZ-CALDERON, EILENS LOPEZ-SAAVEDRA, NATHAN GERKEN, Florida State Univ, MELINA AVILA, CALEM HOFFMAN, ERNST REHM, CALYTON DICKERSON, DANIEL SANTIAGO-GONZALEZ, HESHANI JAYATISSA, CHENG-LIE JIANG, Argonne National Laboratory, GEMMA WILSON, Louisiana State University — The detection of gamma-rays from the decay of the long lived radioisotope ^{44}Ti ($t_{1/2}$ = 60.0y) by satellite based observatories, has been associated with core collapse supernovae remnants. The detected amount of ^{44}Ti in the interstellar medium might provide critical insight for understanding the explosion mechanism of core collapse supernovae. The rate of the ^{44}Ti(α,p)^{47}V reaction is a key reaction which determines the final abundance of Ti produced in such explosive environment. We have successfully developed a ^{44}Ti beam via the ^{42}Ca(He,n) ^{44}Ti reaction at the new in-flight Radioactive Ion Separator (RAISOR) at Argonne National Laboratory. Preliminary results on the development and characterization of a ^{44}Ti beam will be presented as well as preparations on the use of this beam with the Multi-Sampling Ionization Chamber (MUSIC) detector to measure the ^{44}Ti(α,p)^{47}V reaction in the astrophysically relevant energy region.

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