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Study of ^{9}C via the d(^{10}C,t)^{9}C reaction S.T. MARLEY, A.H. WUOSMAA, S. BEDOOR, J.C. LIGHTHALL, D.V. SHETTY, Western Michigan University, M. ALCORTA, P.F. BERTONE, J.A. CLARK, C.M. DEIBEL, C.L. JIANG, T. PALCHAN-HAZAN, R.C. PARDO, K.E. REHM, A.M. ROGERS, ANL, C. UGALDE, ANL/University of Chicago/JINA — The structure of the proton-rich nucleus ^{9}C is poorly known. Only a few excited states have been observed and little information exists on their single-particle characteristics. The measured magnetic dipole moment is anomalously high and could suggest higher order configurations in the ground state wave function. The ^{10}C(d,t)^{9}C reaction, in inverse kinematics, was used to populate states in ^{9}C. The radioactive ^{10}C beam was produced at the ATLAS In-flight facility through the p(^{10}B,^{10}C)n reactions using a 185 MeV ^{10}B beam incident on a cryogenic H_2 gas cell. The intensity of the secondary beam (E=171 MeV) was about 4x10^4 pps. The beam was incident on a 650 μg/cm^2 deuterated polyethylene (CD_2) target. Tritons were detected in a series of annular double sided silicon detectors covering θ_{lab} between 12 and 42 degrees. The heavy recoils were detected in a set of forward-angle silicon detectors in a ΔE-E configuration. Preliminary results will be presented. Work was supported by the U. S. Department of Energy, Office of Nuclear Physics, under Contracts DE-FG02-04ER41320 and DE-AC02-06CH11357.

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