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Stretched states in ^{12,13}B from the ^{14,15}C(d,α)^{12,13}B reactions[1] A.H. WUOSMAA, S. BEDOOR, J.C. LIGHTHALL, S.T. MARLEY, D.V. SHETTY, Western Michigan University, J.P. SCHIFFER, M. ALBERS, M. ALCORTA, S. ALMAREZ-CALDERON, B.B. BACK, C.R. HOFFMAN, R.C. PARDO, K.E. REHM, Argonne National Laboratory, P.F. BERTONE, Louisiana State University — We have studied the ^{14,15}C(d,α)^{12,13}B reactions in inverse kinematics using HELIOS (the HELIcal Orbit Spectrometer) at Argonne National Laboratory. It is known that the (d,α) and (α,d) reactions are highly selective and strongly populate states where the transferred proton and neutron are transferred from, or to the same shell-model orbitals with aligned spins coupled to the maximum possible angular momentum ("stretched states") and T_{np}=0. For exotic nuclei studied with radioactive beams, this reaction accesses states at high spin and excitation energy otherwise inaccessible with knockout or single-nucleon transfer. Beams of 17.1 MeV/u ^{14}C, and 15.7 MeV/u ^{15}C made using the In-Flight production method, bombarded CD_2 targets. Alpha particles were detected in the HELIOS position-sensitive silicon-detector array at forward laboratory angles. Heavy beam-like recoils were detected in coincidence using silicon ΔE-E telescopes also at forward angles. Evidence for strongly populated unbound states in ^{12,13}B with possible fully aligned character will be presented.

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