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Measurement of near-threshold states in 12C using beta-delayed charged particle decay JACK BISHOP, School of Physics Astronomy, Texas AM University, TX, 77840, GRIGORY ROGACHEV, SUNGHOON AHN, EVGENY KOSHCHIY, ERIC ABOUD, MARINA BARBUI, ALEXANDRA BOSH, CURTIS HUNT, JOSHUA HOOKER, HESHANI JAYATISSA, RORY O'DWYER, Cyclotron Institute, Texas AM University, TX, 77840, EMMANUELLE POLLACO, IRFU, CEA, Saclay, Gif-Sur-Ivette, France, COLE PRUITT, Department of Chemistry, Washington University, St. Louis, Missouri, BRIAN ROEDER, ANTTI SAASTAMOINEN, Cyclotron Institute, Texas AM University, TX, 77840, LEE SOBOTKA, Department of Chemistry, Washington University, St. Louis, Missouri, SRITEJA UPADHYAYULA, Cyclotron Institute, Texas AM University, TX, 77840
— The TexAT detector, an active target Time Projection Chamber (TPC), has recently been upgraded at the Cyclotron Institute at Texas AM University. By utilizing the advantage of a TPC (4π geometrical coverage), radioactive ion beams implanted into the chamber can be readily studied for rare processes. Of particular interest, to demonstrate the sensitivity of such a technique to probing 3-body correlations, is the decay mechanism of the 0_2^+ state in ^{12}C, known as the Hoyle state. Using TexAT, this state is populated using β^+-decay of ^{12}N and the β-delayed charged particles are measured and stopped inside the TPC. This talk will detail the latest results of this experiment and demonstrate the versatility of this technique.

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