Abstract Submitted
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Decay of ^{10}C excited states above the $2p + 2\alpha$ threshold and the contribution from "democratic" two-proton emission K.M. MERCURIO, R.J. CHARITY, R. SHANE, L.G. SOBOTKA, J. ELSON, Washington University in St. Louis, M. FAMIANO, A. WUOSMAA, Western Michigan University, A. BANU, C. FU, L. TRACHE, R.E. TRIBBLE, Texas A&M University Cyclotron Institute — The decay of ^{10}C excited states to the $2p + 2\alpha$ exit channel has been studied using an E/A = 10.7 MeV ^{10}C beam inelastically scattered from a ^{9}Be target. Levels associated with the two-proton decay to the ground state of ^{8}Be have been observed. These include states at 5.18 and 6.54 MeV which decay by sequential two-proton emission through the long-lived intermediate state of ^{9}B. In addition, these two states have branches, or there exist other states at almost the same energies, for which there is no long-lived intermediate state between the two proton emissions. For the 6.57 MeV state, the two protons are preferably emitted on the same side of the decaying ^{10}C fragment. Evidence is found for a state at E*= 8.4 MeV in ^{10}C which decays through the 2.35 MeV second excited state of ^{9}B. A large data set of kinematically complete ^{6}Be$\rightarrow$2p + α events was also collected.

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