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Investigating the nature of excited 0^+ states populated in the ^{162}Er(p,t) reaction C. BURBADGE, P.E. GARRETT, V. BILDSTEIN, A. DIAZ VARELA, M.R. DUNLOP, R. DUNLOP, D.S. JAMIESON, D. KISLIUK, K.G. LEACH, J. LORANGER, A.D. MACLEAN, A.J. RADICH, E.T. RAND, C.E. SVENSSON, University of Guelph, G.C. BALL, S. TRIAMBAK, TRIUMF, T. FAESTERMANN, Technische Universität München, R. HERTENBERGER, H.-F. WIRTH, Ludwig Maximilian Universität München — A continuing challenge in nuclear structure physics is the determination of the nature of low-lying excited 0^+ states. Various approaches have been implemented to interpret the occurence of these states, such as vibrational excitations in β and γ phonons or pairing excitations. One of the difficulties, however, in resolving the nature of these states is that there is a paucity of data, particularly for the excited 0^+ states. Two-neutron transfer reactions are ideal for probing $0^+ \rightarrow 0^+$ transitions in deformed nuclei. Excited 0^+ states in ^{160}Er have been studied via the (p,t) reaction at the Maier-Leibnitz Laboratory in Garching, Germany. Reaction products were momentum-analyzed with a Q3D magnetic spectrograph. The variance in the cross section of these low-lying excited 0^+ states suggests a special character for the 0_2^+ state. Final results of the relative population of the excited 0^+ states will be presented.

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