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E8 4 High-spin rotational bands and systematics of even-even $T_z = 1$ nuclei in the $A = 80$ region.* D. RUDOLPH, C. BAKTASH, H.-Q. JIN, C.-H. YU, *ORNL* C.J. GROSS, *ORISE* W. SATULA, *UT,JIHIR* R. WYSS, *Royal Inst. Tech.,Sweden* M. DEVLIN, D.R. LAFOSSE, F. LERMA, D.G. SARANTITES, *Washington Univ.* I. BIRRIEL, J.X. SALADIN, D. WINCHELL, V. WOOD, *Pitts. Univ.* G. SYLVAN, S.L. TABOR, *FSU* High-spin states of the $T_z = 1$ nuclei ^{74}Kr, ^{78}Sr, and ^{82}Zr were studied with the reaction ^{28}Si+^{58}Ni at 130 MeV beam energy. The GAMMASPHERE array in conjunction with the 4π charged-particle detector array MICROBALL were used to detect γ rays in coincidence with evaporated light charged particles. The known $\pi = +$, $\alpha = 0$ yrast bands were extended to $I = 28\ \hbar$ at 20 MeV excitation energy. For all three nuclei, a number of positive- and negative-parity side-bands were established; altogether 15 new rotational bands were found. The data are discussed using the pairing-and-deformation self-consistent total routhian surface (TRS) model. The structures of ^{74}Kr and ^{78}Sr are governed by the shell gaps at large prolate deformation while ^{82}Zr seems to exhibit shape coexistence. Isospin $T = 0$ pairing might influence the structure of the negative-parity bands in ^{74}Kr. Evidence is presented that nearly identical bands in this mass region are due to the *fp* orbitals acting as spectators. In general, these data can be interpreted using conventional mean-field theories without any need to invoke additional T=0 *np* pairing correlations.

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