Band Structures and Nucleon Alignments in $^{173,175}$W C.J. GUESS, S.K. TANDEL$^1$, P. CHOWDHURY, U. SHIRWADKAR, Department of Physics, University of Massachusetts Lowell, Lowell, MA 01854, USA, M.P. CARPENTER, R.V.F. JANSSENS, T.L. KUOO, T. LAURITSEN, C.J. LISTER, D. SEWERY-NIAK, X. WANG, S. ZHU, Argonne National Laboratory, Argonne, IL 60439, USA, D.J. HARTLEY, Department of Physics, U.S. Naval Academy, Annapolis, MD 21402, USA — Spectroscopic study of nuclei in the A~180 region is essential to better understand regional relationships between Nilsson orbitals. Highly excited rotational states in both nuclei were populated at Argonne National Laboratory via a 230 MeV $^{50}$Ti beam from the ATLAS accelerator incident on a $^{128}$Te target. The Gammasphere array was used to detect $\gamma$ decays from excited states. Rotational bands built on the level 1/2$^-$[521], p$^{3/2}$ in $^{173,175}$W have been extended to spins of 40 and 35$\hbar$ respectively, and bands built on the 7/2$^+$[633], i$^{13/2}$ configuration extended to 38 and 27$\hbar$ respectively. New sidebands in $^{173}$W have been observed in all previously-discovered bands. Alignments from i$^{13/2}$ neutron and h$^{11/2}$ proton crossings are consistent with predictions of Woods-Saxon cranking calculations. Experimental results and regional systematics will be presented.

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