other groups, is in marked contrast to previous expectations. The largest log ft value found is 6 with a few examples near this number. The majority, however, is contained in the band 5.0 ± 0.3. There is no recognizable distinction between transitions with $\Delta I = 0$ and $\Delta I = 1$; that is, one has to postulate Gamow-Teller selection rules.

The members of the group with the assignment Δ = 1, $\Delta I = 0, 1$ (first forbidden) leave without exception initial and final odd nucleon group in a different shell. No log ft value below*6 or above 8 is found with a clustering around about 6.2 and 7.2 (compare Feenberg and Trigg, Reference 7). The distinction between the allowed and first forbidden groups, which formerly seemed to be somewhat vague, has now become quite clear. The dividing line at log ft 6 seems never to be violated by either group, but a more reliable criterion is given by the numbers of the odd nucleon groups in relation to shell structure.

There is again no clear distinction between transitions with $\Delta I = 0$ and $\Delta I = 1$. In this connection it should be pointed out that inferences from transitions with $N > 83$ have to be taken with caution, owing to the ambiguities in interpretation in this range.

TABLE II. CLASSIFICATION OF β-DECAYS TO GROUND STATE OF ODD A NUCLEI ACCORDING TO CHANGES IN SPIN (Δ I) AND PARITY (NO,YES)

Column 1: Initial isotope Z-Element-A.

Column 2: Sign of emitted charge, maximum energy in Mev.

Column 3: Initial and final odd nucleon number in this order.

Column 4: Assignment of orbitals to initial and final odd nucleon group in this order.

Column 5: Log ft.

Column 6: Log (W_o^2-1)ft for $\Delta I = 2$, Yes. W_o = energy of β transition in units mc^2.

*Exceptions are the two very heavy nuclei Hg^{205} and Pb^{209} where Z-dependent factors in the matrix elements may have become of importance. (Compare the discussion by Konopinski, Ref. 8).