

strange since 73 protons in Ta¹⁸¹ show a spin 7/2.

32. In the chain Ba¹⁴⁰ - La - Ce the odd-odd nucleus is the middle one. The transition of La is certainly highly forbidden, indicating a high spin. It is then very difficult to understand why Ba¹⁴⁰ is much less strongly forbidden, unless its spin is different from zero. The other alternative is that the 1.02-Mev β -ray does not go to the ground state.
33. According to a recent private communication by E. Jensen Pr¹⁴² shows the form of the β spectrum typical for transition with change of parity and spin change 2. This poses a somewhat difficult problem. A possibility suggested by Jensen is $d5/2-h9/2$. However, this means a change of orbital momentum by 3, which one would expect to lead to considerably higher ft values.
34. Most interpretations from here on are very tentative, owing to the absence of spin data for high neutron numbers.
35. The combination given is the only one which gives a high enough spin. The ft value for this β -decay, although very large, is considerably less than expected for the transition to the Hf¹⁷⁶ ground state involving a spin change of 7.
36. The γ -rays in these transitions are all assumed to be in series.
37. Alternatives are $d3/2-p1/2$ and $s1/2-f5/2$.
38. The low ft value for a first forbidden transition may be explained on the basis of the high Z value; compare Konopinski, Rev. Mod. Phys. 15, 209 (1943).