will have a behAvior in between these two potentials. The shell grouping is given in column five, with the numbers of particles per shell and the total number of particles. up to and including each shell in column six and seven respectively.

Within each shell the levels may be expected to be close in energy, and not necessarily in the order of the table, although the order of levels of the same orbital angular momentum and different spin should be maintained. Two exceptions, $_{11}Na^{23}$ with spin 3/2 instead of the expected $d_5/_2$, and $_{25}Mn^{55}$ with 5/2 instead of the expected f7/2, are the only violations.

Table 2 lists the known spins and orbital assignments from magnetic moments (*) when these are known and unambiguous, for the even-odd nucleii up to 83. Beyond 83 the data is limited and no exceptions to the assignment appear.

Up to Z or N = 20 the assignment is the same as that of Feenberg and No.rdheim. At the beginning of the next shell, $f_7/_2$ levels occur at 21 and 23, as they should. At 28 the the $f_7/_2$ levels should be filled, and no spins of 7/2 are encountered any more in this shell. This subshell may contribute to the stqbility of Ca 4^8. If the $g_9/_2$ level did not cross the $p_1/_2$ **or** $f_5/2$ **levels**, the first spin of 9/2 should occur at 41, which is indeed the case. Three nuclei with N or Z = 49 have $g_9/_2$ orbits. No s or d levels should occur in this shell and there is no evidence for any.

The only exception to the proposed assignment in this shell is the spin 5/2 instead of 7/2 for Mq55 and the fact, that the magnetic moment of

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