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ON CLOSED SHEIIS IN NUCLEI. II

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Feenberg [1], [2] and Nordlkeim[3] have used the spins and magnetic moments of the even-odd nuclei to determine the angular momentum of the eigenfunction of the odd particle. The tabulations given by them indicate that spin orbit coupling favors the state of higher total angular momentum, If - strong spin.orbit coupling' increasing with angular momentum is assumed, a level assignment encounters a very few contradictions. with experimental facts and requires no major crossing of the levels from those of a square well potential. The magic numbers O, 82, and 126 occur at the' place of the spin-orbit splitting of levels of high angular momentum,

Table 1 contains in column two in order of decreasing binding energy the levels of the square well potential. The quantum number gives the number of radial nodes. Two levels of the same quantum number gives the number of radial nodes. Two levels of the same quantum number cannot cross for any type of potential well, except due to spin-orbit splitting. No evidence of any crossing is founds Column three contains the usual spectroscopic designation of the levels, as used. by Nordheim and Feenberg. Column one groups together those levels which are degenerate for a three dimensional isotropic oscillator potential. A well with rounded corners

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(1)) Eugene Feenberg, PHYS, REV, 320, (1949)
(2) Eugene Feenberg, PHYS, REV, (1949)
(3): Iothar Nordheim, PHYS. REV, (1949)
The author is indebted to these authors for having obtained copies of both (2) and (3) before publication,

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