

(11.9) Which neutron and proton states account for the spin value I of ^{14}N ?

$A := 14$ $Z := 7$ $N := A - Z$ $N = 7$ Hence this is an odd-odd nucleus.

Total spin is 1 (Table 11.3) and parity +. Both the odd p and odd n ought to be in $1p_{1/2}$.

$$j_p := \frac{1}{2} \quad l_p := 1 \quad j_n := \frac{1}{2} \quad l_n := 1$$

Hence: $I_{\text{oddodd}} := j_p + j_n$ eqn (11.27a) and thus $I_{\text{oddodd}} = 1$