

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

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

Total spin is 1 (Table 6.3) 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  $I_{\text{oddodd}} = 1$