$E_{corr}(+2) =$ 1.5 MeV (conf. Fig. 1) Box 3

$$\Delta\varepsilon_{sp} = 2\left(|\varepsilon_{p1/2}| - |\varepsilon_{g9/2}|\right) = 6.82\ \text{MeV}$$

Thus $2\Delta\varepsilon_{sp} - E_{corr} = (6.82 - 1.5)\ \text{MeV} = 5.32\ \text{MeV}$

$$\begin{cases} X_1^a(k) = \dfrac{\frac{1}{2}\Omega_k^{1/2}\ \Lambda_1(+2)}{2\left(|\varepsilon_{g9/2}| - |\varepsilon_k|\right) + 1.5\ \text{MeV}} \\[2ex] Y_1^a(i) = -\dfrac{\frac{1}{2}\Omega_i^{1/2}\ \Lambda_1(+2)}{2\left(|\varepsilon_i| - |\varepsilon_{p1/2}|\right) + 5.32\ \text{MeV}} \end{cases} \qquad \Omega_j = \frac{2j+1}{2}$$

Table 2.C.2

| Units | | MeV | MeV-1 | |
|---|---|---|---|---|
| $n l_k j_k$ | $\Omega_k$ | $\lvert\varepsilon_{g9/2}\rvert - \lvert\varepsilon_k\rvert$ | $C(k) = \frac{\frac{1}{2}\Omega_k^{1/2}}{2(\lvert\varepsilon_{g9/2}\rvert - \lvert\varepsilon_k\rvert) + 1.5\ \text{MeV}}$ | $X_1^a(k)$ |
| $1g_{9/2}$ | 5 | 0 | 0.745 | 0.82 |
| $0i_{11/2}$ | 6 | 0.77 | 0.403 | 0.44 |
| $0j_{15/2}$ | 8 | 1.41 | 0.327 | 0.36 |
| $2d_{5/2}$ | 3 | 1.56 | 0.187 | 0.21 |
| $3s_{1/2}$ | 1 | 2.03 | 0.090 | 0.10 |
| $1g_{7/2}$ | 4 | 2.47 | 0.155 | 0.17 |
| $2d_{3/2}$ | 2 | 2.51 | 0.108 | 0.12 |

$$\sum_k C^2(k) = 0.903$$

coincides exactly with column $^{210}$Pb of Table XXI Adv. in N.P

| Units | | MeV | MeV-1 | |
|---|---|---|---|---|
| $n l_i j_i$ | $\Omega_i$ | $\lvert\varepsilon_i\rvert - \lvert\varepsilon_{p1/2}\rvert$ | $D(i) = -\frac{\frac{1}{2}\Omega_i^{1/2}}{2(\lvert\varepsilon_i\rvert - \lvert\varepsilon_{p1/2}\rvert) + 5.32\ \text{MeV}}$ | $Y_1^a(i)$ |
| $2p_{1/2}$ | 1 | 0 | -0.094 | -0.10 |
| $1f_{5/2}$ | 3 | 0.57 | -0.134 | -0.15 |
| $2p_{3/2}$ | 2 | 0.90 | -0.099 | -0.11 |
| $0i_{13/2}$ | 7 | 1.64 | -0.154 | -0.17 |
| $1f_{7/2}$ | 4 | 2.35 | -0.100 | -0.11 |
| $0h_{9/2}$ | 5 | 3.47 | -0.091 | -0.10 |

$$\sum_i D^2(i) = 0.079$$

$$\Lambda_1^2(+2)\left(\sum_k C^2(k) - \sum_i D^2(i)\right) = (0.903 - 0.079)\ \text{MeV}^{-2} = 0.824\ \text{MeV}^{-2}; \quad \Lambda_1(+2) = \frac{\text{MeV}}{\sqrt{0.824}} = 1.102\ \text{MeV}$$

$$\Lambda_1(+2) = 1.102\ \text{MeV}$$