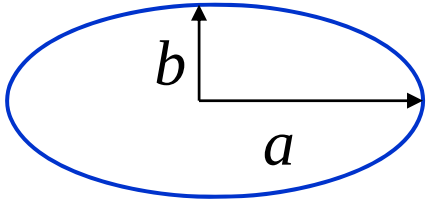
表面振動

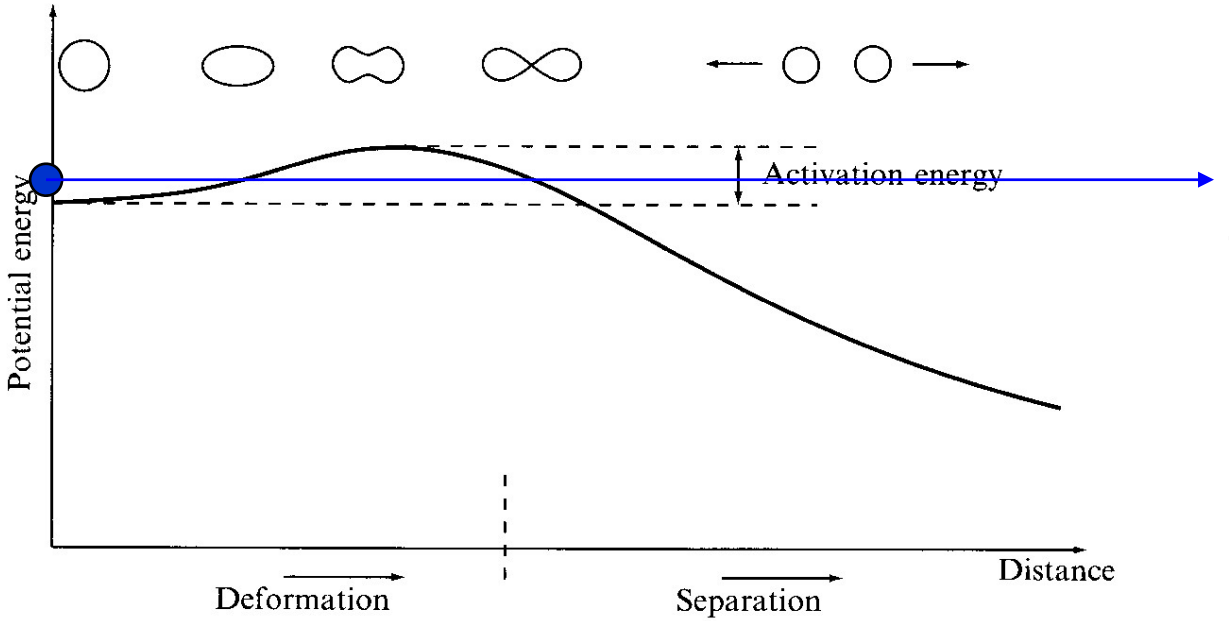
$$B(N,Z) = a_v A - a_s A^{2/3} - a_C \frac{Z^2}{A^{1/3}} - a_{\mathrm{sym}} \frac{(N-Z)^2}{A}$$

回転楕円体



$$a = R \cdot (1+\epsilon)$$
$$b = R \cdot (1+\epsilon)^{-1/2}$$

$$E_{\mathrm{surf}} = E^{(0)}_{\mathrm{surf}} (1 + 2\epsilon^2/5 + \cdots)$$
$$E_C = E^{(0)}_C (1 - \epsilon^2/5 + \cdots)$$



量子
トンネル

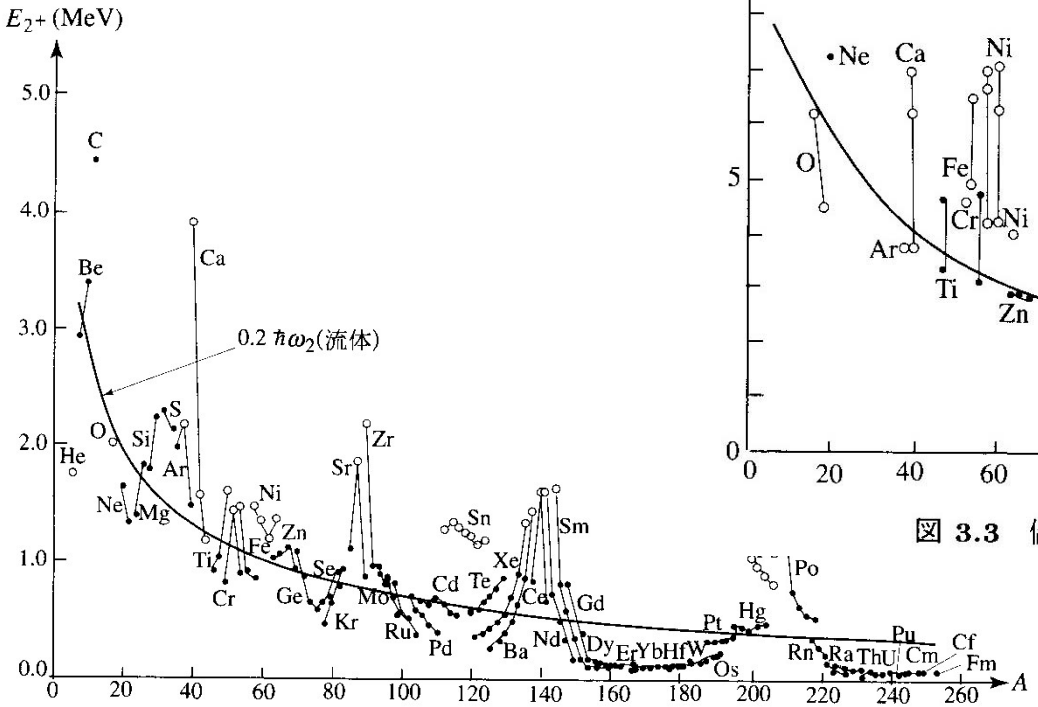


図 3.2　偶々核の第 1 励起 2^+ 状態の励起エネルギー

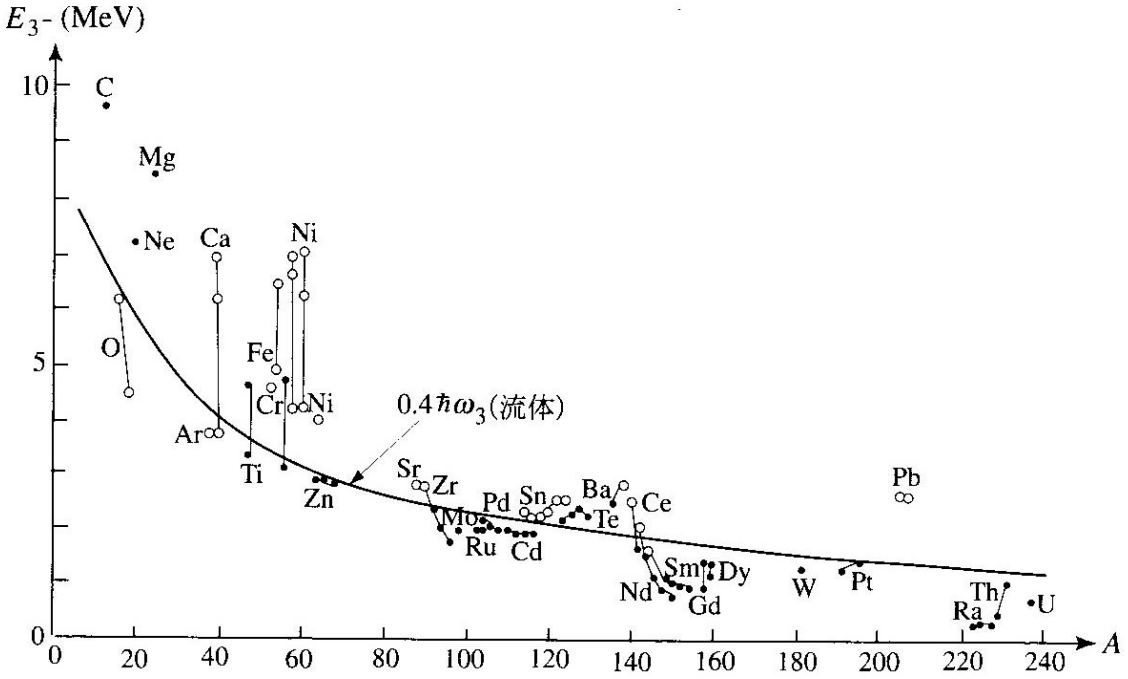


図 3.3　偶々核の第 1 励起 3^- 状態の励起エネルギー

2重フォノン状態

4^+ ——— 1.282 MeV
2^+ ——— 1.208 MeV
0^+ ——— 1.133 MeV

2^+ ——— 0.558 MeV

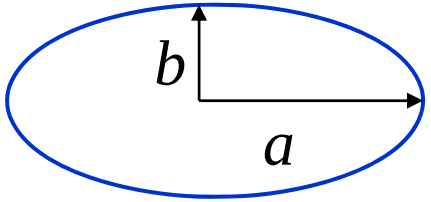
0^+ ———

^{114}Cd

核分裂

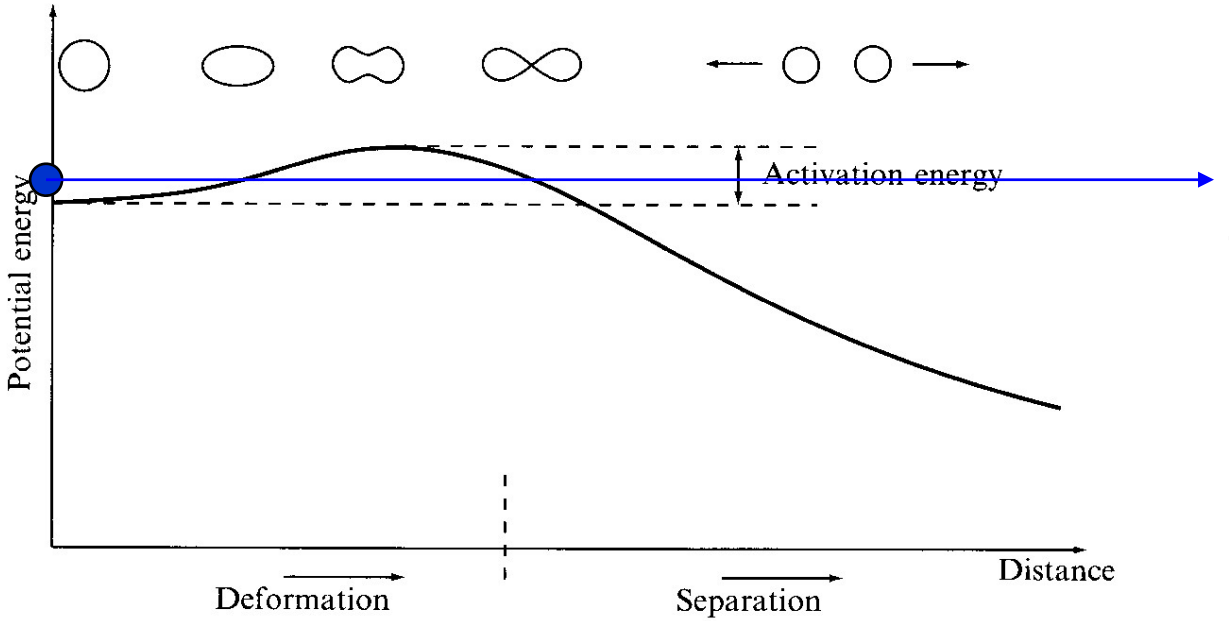
$$B(N,Z) = a_v A - a_s A^{2/3} - a_C \frac{Z^2}{A^{1/3}} - a_{\mathrm{sym}} \frac{(N-Z)^2}{A}$$

回転楕円体



$$a = R \cdot (1+\epsilon)$$
$$b = R \cdot (1+\epsilon)^{-1/2}$$

$$E_{\mathrm{surf}} = E^{(0)}_{\mathrm{surf}} (1 + 2\epsilon^2/5 + \cdots)$$
$$E_C = E^{(0)}_C (1 - \epsilon^2/5 + \cdots)$$



量子
トンネル