

(11.7) Calculate the spins and nuclear g factors for (a) ^{45}Ca , (b) ^{60}Co , and (c) ^{141}Pr , using data in Table 11.3.

$$B_n := 5.0507866 \cdot 10^{-27} \frac{\text{joule}}{\text{tesla}}$$

Definition of B_n

$$g(I, \mu) := \frac{\mu}{B_n \cdot I}$$

Function defined according to eqn. (11.21)

$$\text{(a) } ^{45}\text{Ca}, I = 7/2, \mu_I = -1.327 \cdot B_n$$

$$I_{Ca} := \frac{7}{2}$$

$$g(I_{Ca}, -1.327 \cdot B_n) = -0.379$$

$$\text{(b) } ^{60}\text{Co}, I = 5, \mu_I = 3.799 \cdot B_n$$

$$I_{Co} := 5$$

$$g(I_{Co}, 3.799 \cdot B_n) = 0.76$$

$$\text{(c) } ^{141}\text{Pr}, I = 5/2, \mu_I = 4.136 \cdot B_n$$

$$I_{Pr} := \frac{5}{2}$$

$$g(I_{Pr}, 4.136 \cdot B_n) = 1.654$$