

**Introduction to Quantum Mechanics, 2nd ed.**  
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**Corrections to the 14th Printing**  
 (August 1, 2014)

- Page 138, Table 4.2, caption:  $P_l^m(\cos \theta) \rightarrow |P_l^m(\cos \theta)|$ .
- Page 150, line 4: 1924  $\rightarrow$  1926.
- Page 196, Equation 4.199, insert (after a space) before period: ( $m \geq 0$ ).
- Page 229. Problem 5.18(b): remove “There is an exception:” and change “ $\psi(x) = 0$ .” to “ $\psi(x) = 0/0$  (indeterminate).”
- Page 247, last equation:  $n = 1 \rightarrow n = 0$ .
- Page 319, Problem 8.1, line 2: insert comma after  $V_0$ .
- Page 367, Equation 9.97, bottom line:  $\frac{l}{2l-1} \rightarrow \frac{l}{2l+1}$ .
- Page 367, Problem 9.22, add at end:

You may find useful the following recursion formulas (which hold for  $m \geq 0$ ):

$$(2l + 1)xP_l^m(x) = (l + m)P_{l-1}^m(x) + (l - m + 1)P_{l+1}^m(x) \quad [9.99]$$

$$(2l + 1)\sqrt{1 - x^2} P_l^m(x) = P_{l+1}^{m+1}(x) - P_{l-1}^{m+1}(x) \quad [9.100]$$

(G. B. Arfken and H. J. Weber, “Mathematical Methods for Physicists, 5th ed.”, Academic Press, San Diego, p. 774), and the orthogonality relation (which follows from Eq. 4.33):

$$\int_{-1}^1 P_l^m(x)P_l^m(x) dx = \frac{2}{(2l + 1)} \frac{(l + |m|)!}{(l - |m|)!}. \quad [9.101]$$

- Page 401, Table 11.1, last term in  $h_2^{(2)}$ :  $+\frac{i}{x} \rightarrow -\frac{i}{x}$ .
- Page 408, Problem 11.7, line 3:  $\infty \rightarrow 0$ .
- Page 429, lines 11 and 12: “electron”  $\rightarrow$  “positron”.
- Page 459, under “associated Legendre function”: add “, 367”.
- Page 466, under “recursion formula”: add “,196, 367”.