

Typos In Classical Dynamics of Particles and Systems by Thornton & Marion, 5th Edition

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[N.B.] What follows is simply my own collection of typos and/or suggestions for improvements, confirmed by neither the publisher nor the author. So, caveat emptor!

- Page xiv : Chapter 10 title, “Noninertial” → “Noninertial”
- Page 75 : 2nd sentence, “Using the technique of Example C.2 of Appendix C...” → “Example C.3”
- Page 111 : Example 3.2, “These equations can be covered into...” → “converted”
- Page 117 : Figure 3-13, $2m\sqrt{gb} \dot{\theta}$ → $2m\sqrt{g\ell} \dot{\theta}$
- Page 176 : Eqs.(4.50)-(4.51), $x + \epsilon$ → $x_0 + \epsilon$
- Page 190 : Example 5.2, left-hand side, $\frac{GMm}{r^2}$ → $\frac{GMm}{R^2}$
- Page 190 : Example 5.2, “...account for more than 90 percent of the known mass...” → “80 percent”
- Page 223 : right below Eq.(6.81), $y(x) = y$ → $f(x) = y$
- Page 266 : Eqs.(7.157)-(7.159), to explicitly distinguish between the variations (δ) and the derivatives (d or ∂) of functions, replace all incidents of dH, dq_k, dp_k and dt with $\delta H, \delta q_k, \delta p_k$ and δt , respectively
- Page 275 : Figure 7-11, missing an axis label z
- Page 278 : Eq.(7.203), right-hand side, $-\langle \sum_{\alpha} \mathbf{F}_{\alpha} \cdot \dot{\mathbf{r}}_{\alpha} \rangle$ → $-\langle \sum_{\alpha} \mathbf{F}_{\alpha} \cdot \mathbf{r}_{\alpha} \rangle$
- Page 322 : Eq.(8.99), 3rd term, $-\frac{l^2 \sin \alpha}{m^2 \rho^3}$ → $-\frac{l^2 \sin^2 \alpha}{m^2 \rho^3}$
- Page 338 : “VI. The total internal torque must vanish if the internal forces and central—that is, if $\mathbf{f}_{\alpha\beta} = -\mathbf{f}_{\beta\alpha}, \dots$ ” → “VI. The total internal torque must vanish if the internal forces and central—that is, if $\mathbf{f}_{\alpha\beta} = -\mathbf{f}_{\beta\alpha}$ —and if $\mathbf{f}_{\alpha\beta}$ is along the same direction as $\pm \mathbf{r}_{\alpha\beta}, \dots$ ”
- Page 367 : Example 9.11, “...dust particles of radius R_2 that are at rest.” → “...dust particles of radius R_2 that are at rest throughout the scattering process (because dust particles are much heavier than the molecules).”
- Page 372 : 7th sentence, “...the instantaneous total mass of the space ship in m , and...” → “is”
- Page 376-377 : Example 9.12, “Using the result of Problem 9-57...” → “Problem 9-58”
- Page 389 : Eq.(10.7), right-hand side, first line, i and x_i → i and x_i

- Page 402 : equation right below Eq.(10.38), right-hand side, $\frac{1}{2m} \rightarrow \frac{l}{2m}$
- Page 403 : Figure 10-10, the arrow indicating θ_0 should start from the line with a label h , not from the line through the North pole (see the correct figure in the 4th edition)
- Page 434 : Example 11.7, “...(Equation 11.52 of Example 11.4)...” \rightarrow “Example 11.6”
- Page 440 : footnote with marker *, “Tensors (and matrices) with this property are said to be Hermitian.” \rightarrow “Hermitian”
- Page 476-477 : Eqs.(12.28), (12.34)-(12.35), to distinguish between the coefficient in the kinetic energy written with generalized velocities (denoted by $M_{jk} = M_{jk}(q_l)$) and the leading term in its approximation near q_{l0} (denoted by $m_{jk} = M_{jk}(q_{l0})$), replace all incidents of m_{jk} with M_{jk}
- Page 477 : right after Eqs.(12.35), “...we cannot choose the constant term $m_{jk}(q_{l0})$ to be zero, so this leading term becomes...” \rightarrow “ $M_{jk}(q_{l0})$ ”
- Page 527 : Figure 13-4, caption, $f(\nu t) = 0 \rightarrow f(\nu t) = 0$
- Page 528 : Eq.(13.66), to be consistent with Eq.(13.72) later, $\Psi(x, t) = \sum_r \Psi_r(x, t) = \sum_r \Psi_r(x) e^{i\omega_r t} \rightarrow \Psi(x, t) = \sum_r a_r \Psi_r(x, t) = \sum_r a_r \Psi_r(x) e^{i\omega_r t}$
- Page 530 : right below Eq.(13.74), “...which is time-dependent form of the one-dimensional wave equation,...” \rightarrow “time-independent”
- Page 538 : 1st sentence in Section 13.9, “It was demonstrated in Section 3.9 that...” \rightarrow “Section 3.8”
- Page 600 : Eq.(C.6), $y^n = r^2 e^{rx} \rightarrow y'' = r^2 e^{rx}$