

ERRATA: Peter H Zipfel “Modeling and Simulation of Aerospace Vehicle Dynamics”, AIAA Educational Series, 2000. 1st Printing, 2000
--- As of 18 Oct 04, PHZ ---

Page		Erroneous	Correct
xix		CEP central error probable	CEP <u>circular</u> error probable
6	Third eq. down	(Last symbol:)] ^B	(Last symbol:)] ^I
6	Last line	as already characterized in Chapter 4, ...	as already characterized, ...
32	2 nd eq. down	$\begin{bmatrix} y_1^A \\ y_1^A \\ y_1^A \end{bmatrix}$	$\begin{bmatrix} y_1^A \\ y_2^A \\ y_3^A \end{bmatrix}$
65	Last three equations Credit: Mark Smith	$[a_2]^B = \frac{[S_{AB}]^B [g]^B}{ s_{AB} g }$	$[a_2]^B = \frac{[S_{AB}]^B [g]^B}{ [S_{AB}]^B [g]^B }$
		$[a_3]^B = [A_1]^B [a_2]^B = - \frac{[S_{AB}]^B [S_{AB}]^B [g]^B}{ s_{AB} ^2 g }$	$[a_3]^B = ... = - \frac{[S_{AB}]^B [S_{AB}]^B [g]^B}{ s_{AB} [S_{AB}]^B [g]^B }$
		$[T]^{BA} = \begin{bmatrix} -\frac{[s_{AB}]^B}{ s_{AB} } & \frac{[S_{AB}]^B [g]^B}{ s_{AB} g } & -\frac{[S_{AB}]^B [S_{AB}]^B [g]^B}{ s_{AB} ^2 g } \end{bmatrix}$	$[T]^{BA} = \begin{bmatrix} ... & \frac{[S_{AB}]^B [g]^B}{ [S_{AB}]^B [g]^B } & -\frac{[S_{AB}]^B [S_{AB}]^B [g]^B}{ s_{AB} [S_{AB}]^B [g]^B } \end{bmatrix}$
81	Eq. 3.27	$\gamma = \arctan \left(\frac{w_G}{\sqrt{u_G^2 + v_G^2}} \right)$	$\gamma = \arctan \left(\frac{-w_G}{\sqrt{u_G^2 + v_G^2}} \right)$
82	3 rd para, last line	to Table 3.1 for a summary.	to Table <u>3.2</u> for a summary.
113	4 th line from bottom up	$D^R v_I^M$	$D^R v_T^M$
116	First eq. on top of page	$... \left[\frac{dT}{dt} \right]^B ...$	$... \left[\frac{dT}{dt} \right]^{BB} ...$
117	3 rd equation	$\left[\frac{d\omega^{TE}}{dt} \right]^T = ...$	$\left[\frac{d\omega^{TE}}{dt} \right]^L = ...$
199	Eq. (6.58)	$[\Delta l]^I \equiv [l(t)]^I - [l(t_o)]^I + [m_B]^I \Delta t$	$[\Delta l]^I \equiv [l(t)]^I - [l(t_o)]^I = [m_B]^I \Delta t$
121	Top line	$-\psi \sin \phi + \dot{\phi}$	$-\psi \sin \theta + \dot{\phi}$
142	Ex. 5.1	$\mathbf{p}_{\Sigma B_i}^I = \sum_k \mathbf{p}_{B_i}^I = \sum_k m^{B_i} \mathbf{v}_{B_i}^I = ...$	$\mathbf{p}_{\Sigma B_i}^R = \sum_k \mathbf{p}_{B_i}^R = \sum_k m^{B_i} \mathbf{v}_{B_i}^R = ...$
147	2 nd Eq, 2 nd line	$= m^n D^{I_2} (D^{I_2} \mathbf{s}_{B_{I_2}}) + \boldsymbol{\Omega}^{I_2 I_1} (D^{I_2} \mathbf{s}_{B_{I_2}}) = ...$	$= m^n D^{I_2} (D^{I_2} \mathbf{s}_{B_{I_2}}) + m^n \boldsymbol{\Omega}^{I_2 I_1} (D^{I_2} \mathbf{s}_{B_{I_2}}) = ...$
211	Problem 6.8, first equation	$[I_B^B]^B = \begin{bmatrix} I_1 & 0 & 0 \\ 0 & I_1 & 0 \\ 0 & 0 & I_3 \end{bmatrix}$	$[I_B^B]^B = \begin{bmatrix} I_1 & 0 & 0 \\ 0 & I_1 & 0 \\ 0 & 0 & I_3 \end{bmatrix}$
214	Two equations	both equal signs are missing	insert equal signs
222	Unnamed eq. after Eq.(7.21) Credit: M. Weiss	$D^I \mathbf{p}_B^I = ...$	$D^I \varepsilon \mathbf{p}_B^I = ...$
245	Eq. 7.79, 3 rd line	$C_{n_{\delta e}}$	$C_{m_{\delta e}}$

245	Eq. 7.80, 2 nd line	C_{l_β}	$C_{l_{\dot{\beta}}}$ (dot over β)
264	Eq.(8.13) (and also equation above)	$\begin{bmatrix} \dot{V} \\ \dot{\chi}V \cos \gamma \\ V\dot{\gamma} \end{bmatrix}$	$\begin{bmatrix} \dot{V} \\ \dot{\chi}V \cos \gamma \\ -V\dot{\gamma} \end{bmatrix}$
270	Eq. 8.20	$C_L = C_{L_{\alpha 0}} + C_{L_\alpha} \alpha$	$C_L = C_{L_{\alpha 0}} + C_{L_\alpha} \alpha$
280	1 st Eq.	$F_r = \frac{C_D S}{\cos \alpha} q_c$	$F_r = \frac{C_D S}{\cos \alpha} \bar{q}_c$
282	Fig 8.14, “A2 Propulsion” block	$m = \frac{F}{I_{sp} g_o}$	$\dot{m} = \frac{F}{I_{sp} g_o}$
283	First para	$[\overline{s_{BI}}]^G = [0 \ 0 \ R_\oplus + h]$	$[\overline{s_{BI}}]^G = [0 \ 0 \ -(R_\oplus + h)]$
297	Eq. (9.19), second line on left side	$\dot{\psi}_{UI} V \cos \theta_{UI}$	$\dot{\psi}_{UI} U \cos \theta_{UI}$
359	Fig. 9.60, second block	$\ddot{\Phi} = \dots$	$\Phi = \dots$
327	Eq. (9.80), second part	$\theta_{SB} = \arctan \left\{ \frac{(u_{TB})_3^B}{\dots} \right\}$	$\theta_{SB} = \arctan \left\{ \frac{-(u_{TB})_3^B}{\dots} \right\}$
346	Fig. 9.45 Credit: M. Weiss	G1 Environment	G2 Environment
379	3 rd equation from bottom	$\omega^{BE} = \omega^{BB'} \omega^{B'E}$	$\omega^{BE} = \omega^{BB'} + \omega^{B'E}$
387	4 th line from top	$e = 0.8181919$	$e = 0.08181919$
390	Eq. (10.41), first component on right side	$3\sqrt{5} C_{2,0} \dots$	$-3\sqrt{5} C_{2,0} \dots$
399	Eq. 10.56	$\left[\frac{dv_B^E}{dt} \right]^D = -[\Omega^{BE}]^B [v_B^E]^B \frac{1}{m} [f_{a,p}]^B + \dots$	$\left[\frac{dv_B^E}{dt} \right]^B = -[\Omega^{BE}]^B [v_B^E]^B + \frac{1}{m} [f_{a,p}]^B + \dots$
409	4-th text line	$\delta_{eff}^2 = \delta q + \delta r /2$	$\delta_{eff} = (\delta q + \delta r)/2$
462	Line above Eq. 10.133	...the covariance σ_{xy}^2	...the covariance σ_{xy}
462	Eq. 10.133	$\sigma_{xy}^2 = \frac{\sum_{i=1}^n (x_i - \mu_x)(y_i - \mu_y)}{n-1}$	$\sigma_{xy} = \frac{\sum_{i=1}^n (x_i - \mu_x)(y_i - \mu_y)}{n-1}$
462	4 th Eq.	$\rho_{xy} = \frac{\sigma_x \sigma_y}{\sigma_{xy}}$	$\rho_{xy} = \frac{\sigma_{xy}}{\sigma_x \sigma_y}$
464	In 2 nd eq. from top	$\frac{1}{2} \int_0^m \frac{r}{\sigma_r} e^{-\frac{r^2}{2\sigma_r^2}} dr$	$\frac{1}{2} \int_0^m \frac{r}{\sigma_r^2} e^{-\frac{r^2}{2\sigma_r^2}} dr$