

# Errata

## Transition between Regular Reflection and Mach Reflection in the Dual-Solution Domain

Christopher Mouton

1. Equation 3.54 should read

$$M_2^2 = \frac{(\gamma - 1) M_1^2 \sin^2(\phi + \theta_1) + 2}{\sin^2(\phi + \delta) (2\gamma M_1^2 \sin^2(\phi + \theta_1) - (\gamma - 1))}.$$

2. Equation 3.64 should read

$$\begin{pmatrix} A_r & a_{14} & a_{15} \\ a_{23} & a_{24} & a_{25} \\ 1 & a_{54} & a_{55} \end{pmatrix} \begin{pmatrix} s_*^+ \\ \frac{EF^+}{FH^+} \end{pmatrix} = \begin{pmatrix} g^+ + \sin \theta_1 \\ \frac{g^+ + \sin \theta_1}{\gamma M_\infty^2} + g^+ + \sin \theta_1 - P_1^+ \sin \theta_1 \\ g^+ \end{pmatrix}.$$

3. The  $x$ -axis in Figure 4.19 should be divided by a factor of 100, so that they read 0, 0.0012, and 0.0024. The first sentence of the caption for Figure 4.19 should similarly read “The graph to the left of 0.001164 is from Sedov’s exact solution for strong shocks, and the graph to the right of 0.001164 is the Euler solution.”

4. Equations 4.30 and 4.31 should read

$$\begin{aligned} l_1 &= G \cos \theta_1 (\cot \alpha - \cot \theta_1) + d \csc \theta_1, \\ l_2 &= G \csc \alpha \sin(\alpha - \theta_1). \end{aligned}$$

5. Equations 4.32 and 4.33 are no longer needed.

6. Equation 4.36 should read

$$\frac{l_1}{l_2} \sqrt{1 + \left(\frac{l_2}{l_1}\right)^2} \geq M_1.$$

7. Equation 4.37 is incorrect, refer to Equation 4.36 for the proper expression.

8. Figure 4.23 should have a  $y$ -axis label which reads

$$\frac{E_0}{P_\infty} \times 10^4,$$

and the caption does not need to state the free-stream density.