

Symmetry Methods for Differential Equations

Errata

I thank those who have drawn my attention to the errors below, especially Prof. Stéphane Lafortune. If you find any other mistakes, please let me know.

Page 50

The displayed expression immediately above (3.35) should be

$$B(x) = c_1 + c_2x, \quad D(x) = -2c_2,$$

Page 96

Equation (6.12) should be

$$x = c_3 + \frac{1}{c_1} (\ln | -1 \pm \sqrt{2c_1(y - c_2)} | \pm \sqrt{2c_1(y - c_2)}). \quad (6.12)$$

Page 106

The ODE in Exercise 6.2 should be

$$y'' = \frac{xyy' - y^2}{x^4}.$$

Page 136

The heading for Section 8.1 should be ‘Scalar PDEs with Two Independent Variables’.

Page 147

The displayed expression immediately below (8.64) should be

$$D_J = D_{x^1}^{j_1} D_{x^2}^{j_2} \dots D_{x^N}^{j_N},$$

Page 163

Equation (9.28) should be

$$u = \sqrt{c_1 - 2t - (x - \varepsilon)^2}. \quad (9.28)$$

Page 163

Equation (9.29) should be

$$u = \sqrt{c_1 - 2t - (x - \varepsilon)^2} + \delta. \quad (9.29)$$

Page 163

The last sentence of Example 9.5 should be ‘Both generate rotations in the (x, u) plane, but \tilde{X}_5 generates rotations about (ε, δ) rather than $(0, 0)$.’

Page 204

The first sentence of the hint for Exercise 6.5 should be as follows. ‘Let $(r_1, v_1) = (x, y'/y)$; these are fundamental differential invariants for the group generated by X_2 .’