

Errata – Nonlinear Regression Modeling for Engineering Applications  
R. Russell Rhinehart, Wiley & Sons, 2016 – First printing  
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Page ix, change the title of Section 10.3.8 to “Reduced Gradient (RG)”

Page xviii, Item 10, change “east squares” to “least squares”.

Page xxix, GRG item, change the name “GRG” to “Reduced Gradient” and remove “Generalized” from the description.

Page 29, the last exponent in Equation (2.16) should be 2 not 3. Replace  $ix_1x_2^3$  with  $ix_1x_2^2$ .

Page 48, in the second to last paragraph of Section 3.3, 1) replace “Therefore, the data value might be between 0.629 and 6.19” with “Therefore, the data value might be between 0.629 and 0.619”. And 2) replace “The max error would be +/- 0.05” with “The max error would be +/- 0.005”.

Page 48, the very last item in Section 3.3, replace  $-\pm 0.00025$  with  $\pm 0.00025$ .

Page 56, Example 3.3, change the line “The calibration procedure sets the flow rate and measures  $\dot{Q}$  and  $i$ ” to “Set a valve position, and measure flow rate,  $\dot{Q}$ , and transmitter signal,  $i$ ”.

Page 56, Example 3.3, add absolute value symbol to the last equation, making it “ $(i - i_0)^b |\Delta_a| + a(i - i_0)^b |\ln(i - i_0) \Delta_b| < 0.01rms \quad \forall i$ ”.

Page 57, add the squared term to Equation (3.17). It should be  $\sigma_y^2 = \sum \left( \frac{\partial f}{\partial x_i} \right)^2 \sigma_{x_i}^2$ .

Page 58, remove the “are’ from the first line of the second paragraph in Section 3.6.3.

Page 67, Section 4.1, first line, change “will” to “would”.

Page 73, Figure 4.8, the  $x^*$  should be changed to  $x'$  to match the rest of the text.

Page 74, Equation (4.8) the symbol  $\pi$  is missing. The correct equation is  $f(x) =$

$$\frac{1}{\sqrt{2\pi}\sigma_{\ln(x)}} e^{-\frac{1}{2} \left( \frac{\ln(x) - \ln(\bar{x})}{\sigma_{\ln(x)}} \right)^2}$$

Page 102, Figure 6.1 should have labels “SS” for the before Transient, and after Transient periods for both the L and  $T_{\text{mix}}$  graphs.

Page 110, replace a 36 with a 40 in the line below Figure 6.4. It should read “about 36. At sample number 700, the PV makes a step rise to a value of about 40. The”

Page 144, second line above Equation (8.4) change “Lagrange Multiplier” to “Lagrange-type multiplier”.

Page 144, third line below Equation (8.4) change “Lagrange Multiplier” to “Lagrange-type multiplier”.

Page 145, first line below Equation (8.7) change “Lagrange Multiplier” to “Lagrange-type multiplier”.

Page 147, fifth line on the page change “Lagrange Multiplier” to “Lagrange-type multiplier”.

Page 149, second line above Equation (9.1) change “three” to “four”.

Page 167, change the title of Section 10.3.8 to “Reduced Gradient (RG)”

Page 167, second line, change “The Generalized Reduced Gradient (GRG)” to “The Reduced Gradient (RG) method”

Page 182, last line on the page, change “left” to “top”.

Page 183, fifth line from the bottom, change “right-hand side” to “lower illustration”.

Page 206, Equation (13.15), the “+” signs should be “-“ signs. Change to  $\min_{\{a, b, c\}} J = \sum(x_i y_i - a x_i - b - c(y_i - a))^2$ .

Page 212, second line below Equation (13.21), change “SSE” to “SSD”.

Page 226, the “-“ sign is missing from Equation (14.16). It should be  $S.T_{.0.95} \cong -3 \Delta t \ln(1 - \lambda)$ .

Page 255, Item 4, change “Lagrange Multiplier” to “Lagrange-type multiplier”.

Page 258, last two lines in Section 16.3.1.2, change “values” to “variables” and “value” to “variable”.

Page 279, delete the  $a^2 + b^2$  in the third line after Equation (18.8).

Page 297, Section 20.2, second paragraph, second line change “or” to “of”.