

Errata in "Statistical Process Adjustment for Quality Control" by E. del Castillo, 1st Printing, March 2002

1. Page 17, figure 1.10 caption: should say "...ensemble of a stochastic process", not "...ensemble of a single stochastic process".
2. Page 31, second line from top: should say: "Figures 1.18 and 1.19..." (instead of "Figure 18 and 19").
3. Page 57, 3rd line from bottom: should say "...measurements" (in plural).
4. Page 73, Figure 3.2. Figures (a) and (b) have labels " $1/f = 0.9090$ " and " $f = 1.1$ " respectively, when the "f's" should be Greek ϕ 's instead: $1/\phi$ and ϕ , respectively. Similarly, Figure c) should say " ϕ_j " instead of " f_j ".
5. Page 107, first line from top: should say "Minitab" (it says "Mintab").
6. Page 165, second line from bottom (prob. 4.16): should say "...difference ($\nabla(Y_t)$)..." (right parenthesis missing).
7. Page 174, second line in example 4.14: should say "...the steady model (see West and Harrison, 1997)."
8. Page 226, Figure 6.7. The third label on the "Y" axis, from top to bottom should say: Y_{t+T_D} , not Y_{t+TD} .
9. Page 264, line 11 from bottom: insert a space between "to" and $\hat{\theta}_0$.
10. Figures 8.1, 8.2, and 8.3 (pages 265-266). The labels ϕ_1 and ϕ_2 on the figures should have "hats": $\hat{\phi}_1$ and $\hat{\phi}_2$.
11. Figure 8.4: (p. 269). The labels g , ϕ , and θ should have a "hat": \hat{g} , $\hat{\phi}$, and $\hat{\theta}$.
12. Page 287, line 12 from bottom: should say "...Del Castillo, 2000)." (delete left parenthesis before "2000").
13. Page 304, line 8: should say: $\left[I - \begin{pmatrix} 1.92 & 0 \\ 0 & 1.29 \end{pmatrix} \right] \mathcal{B} - \dots$ (the first element on the matrix should be a 1.92, not 1.95).
14. Page 346: the following data file is missing from the list: "File name: Prob6-7.txt; Remarks: Cusum chart data; Used in: Problem 6.7." This should be listed right after the "PIOptimization.xls" entry on the table.
15. Page 351, Lucas and Crosier reference: should say "...CUSUM.." (says "COSUM").
16. The back cover says that I'm with the Department of Industrial Manufacturing and Engineering at Penn State. It should say: Department of Industrial and Manufacturing Engineering. This is also mentioned incorrectly on Wiley's web site.

Typos/errors found after May 2002

1. Page 19, footnote. The footnote should read: If in the denominator we use $N - k$ rather than N we may get an estimate with larger mean square error for large k . Only when the mean is known dividing by $N - k$ gives an unbiased estimate, otherwise, either estimate is biased, although the bias is negligible for large N (i.e., they are asymptotically unbiased, see Fuller (1996), Theorem 6.2.2). The reason to prefer using N instead of $N - k$ is that for large k , the estimator with N guarantees that the matrix: $\hat{\Gamma}_k = \begin{bmatrix} \hat{\gamma}_0 & \hat{\gamma}_1 & \dots & \hat{\gamma}_{k-1} \\ \vdots & \ddots & & \\ \text{symm.} & & & \hat{\gamma}_0 \end{bmatrix}$ is nonnegative definite. Notice how since we defined a biased estimate for σ^2 with a denominator of N , it follows that $\hat{\gamma}_0 = \hat{\sigma}^2$.
2. Page 42, Appendix 1C: the probability statement implies that Y_2 is stochastically larger than Y_1 , not the other way around.
3. Page 305, first line: should say "Table 9.1", not "Table 9,1".

4. There is a “hat” missing on σ on the chart limits equation (2nd equation from bottom).
5. Page 120, line 3: replace the comma by a period after “the mean”.
6. Table 3.3, page 97. On the white noise column, second row, should say: $\hat{\sigma}(r_k) = \frac{1}{\sqrt{N}}$ (square root is missing).
7. Figure 3.20, p. 102. There shouldn’t be an arrow coming out of the block “difference series”. Also, the arrow coming out to the right of the “stationary series?” block should be label “YES” instead of “NO”.
8. Page 140, Table 4.1, second figure, for a (0,1,3) transfer function: the impulse and step responses should start at period 3 like all other figures on the table, not at period 2.
9. Page 147, last equation on page: should say ε_t^* instead of N_t .
10. Page 165, 2nd line from bottom: should say: (∇Y_t) . (Delete extra parenthesis).
11. Page 161. n_B, n_C, n_D and n_F are the number of parameters we want to fit in each polynomial, not the order of the polynomials. Thus, for $b_0 - b_1 \mathcal{B}$ we need $n_B = 2$.
12. Page 188. The one-step ahead forecast error (third equation from top) should be denoted $\hat{Y}_{t+1|t}$, not $\hat{Y}_{t+1|t}$ which refers to the forecast. Same typo found for the two step ahead forecast on page 189 (fifth eq. from top).
13. Page 191, second equation from bottom: should say $\text{Var}[(Y_{t+k|t} - \hat{Y})^2]$ (remove tilde).
14. Page 181, Figure 5.4. Should say $\mu + \varepsilon_t$, not ε_t .
15. Page 86. The expression for γ_0 should have a denominator of $1 - \phi^2$ not $1 - \theta^2$.
16. Page 108, just before section 3.8 add: An estimator for σ_ε^2 is $\text{SS}(\hat{\phi}, \hat{\theta})/n$.
17. Page 7 and page 9: the tables should say \bar{Y}_t , not Y_t .
18. Page 34: when $\Delta \ll T_c$, we have that ϕ tends to one, not to zero.
19. Page 64, 2nd equation should say $\mathcal{Z}^{-1}(Y(z)) = C\phi^k$.
20. Page 83. Should say $\gamma_1 = (-\theta_1 + \theta_1\theta_2)\sigma_\varepsilon^2$; $\gamma_2 = -\theta_2\sigma_\varepsilon^2$; and $\rho_1 = \frac{-\theta_1 + \theta_1\theta_2}{1 + \theta_1^2 + \theta_2^2}$.
21. Table 4.1, pp. 140-141. b_1 and b_2 should have negative signs in the “Model” column to be consistent with the Box-Jenkins sign convention for the coefficients in the polynomials in \mathcal{B} .
22. Page 48, third eq. from bottom: there is a $\mathcal{F}^{n_a - n_b}$ term missing that multiplies the RHS.
23. Page 118, prob. 3.15. Should say: “...is exactly -1/2”.
24. Page 331, 3rd line from top, should say: $\hat{B}_1 = \hat{V}_2 - \hat{A}_1 \hat{B}_0$.
25. Page 332, 1st equation: the first term on the RHS has a missing \mathbf{X}_t .
26. Page 334, 2nd eq: the RHS should have a negative sign.
27. Page 336, ridge controller: the RHS of the eq. should have a negative sign.