

## Errata for TIMESLAB (As of May 16, 1990)

14. In part (d), the sum is only  $n$  when  $\omega_j = 0$ .
16. There should be a  $(t - 1)$  between the  $\pi$  and  $\omega$  in the right hand sides of the second and third equations in part (d) of the theorem.
17. In the discussion of Figure 1.5, the  $\gamma$ 's should be changed to  $\delta$ 's.
24. There should be a  $d\omega$  at the end of part (b) of Theorem 1.4.4.
25. There are  $d\omega$ 's missing at the end of the first two integrals at the bottom of the page.
26. The last expression in the seventh line from the bottom should be  $2 \cdot 1024 \cdot \log_2 1024$ . Also, the 50,000 should be 20,000 in the fifth line from the bottom.
31. The 2nd equation should be  $y(t) = x(t + 1) - x(t) = a + b(t + 1) + \epsilon(t + 1) - [a + bt + \epsilon(t)]$ .
38. In the third line above Section 1.6.5,  $\hat{x}(1)$  should be defined as 0. Thus the fourth line of code on page 39 and lines 29 and 48 of the EXPSM macro should be `w=<0,w>`.
39. The  $w$  in the line below the form of the ARDT command should be in typewriter font.
50. The 95 in the second line of part (a) of Example 1.5 should be 5.
60. In Problem C1.11, the  $\alpha$  in the displayed equation should have subscript  $j$ . The problem should also say to divide  $y(t)$  by the sum of the weights and to superimpose plots of  $x$  and  $y$  so that they "line up" properly.
64. In part (d) of Problem T1.1 there is a factor  $n$  missing in the numerator of the fraction.
65. The  $-$  in the fourth line of Problem T1.3 should be a  $+$ .
65. In part (b) of Problem T1.6, there are square brackets missing in the expression for  $\hat{R}(v)$ . The left bracket is after the  $a^2$ , while the right bracket is at the end of the line. Also, the formula for  $c$  should be  $c = \cot 2\pi/p$ .
66. The  $\sigma^2$  in the second line of part (b) of Problem T1.7 should be  $\sigma^2/k$ .
67. In Problem T1.12, the equation should be  $z(t) - 2 \cos \omega z(t - 1) + z(t - 2) = 0$ .
80. The last expression for  $f_Y$  should be  $f_Y(\omega) = R_Y(0) + 2 \sum_{v=1}^q R_Y(v) \cos 2\pi v \omega$ .
87. There should be a transpose on  $(x_1, \dots, x_n)$  in the first line below the first equation on the page.
94. In part (b) of the theorem, the  $\omega \in [0, 1]$  should be  $t \in \mathcal{Z}$ .
95. The index  $t - K + 1$  of  $\epsilon$  and  $\epsilon^2$  in the proof of Theorem 2.5.2 should be  $t - K - 1$ .
98. In the eighth line, Problem T1.7 should be T1.12. Also, in Model 1, there is a 1 missing after the  $-$  in the second  $\epsilon$ .
100. The  $k$  in the second displayed equation should be  $K$ .
104. The third displayed equation should be  $R(v) + \alpha_1 R(v - 1) + \alpha_2 R(v - 2) = 0$ ,
104. The  $\beta_2 z_1^v$  in the 13th line should be  $\beta_2 z_2^v$ , while in the next line, the  $\beta_2 t$  should be  $\beta_2 v$ .
105. The 1 in the summation in the second expression under "Prediction for AR Processes" should be a  $j$ .
108. The graph in the upper right of Figure 2.7 is incorrect.
113. The graph in the upper right of Figure 2.8 is incorrect.
124. In the expression for  $\alpha_{j+1}(j + 1)$  halfway down the page, the minus sign in front of the fraction should be before  $R(j + 1)$  rather than in front of the entire fraction.
126. The summation in the first line should be  $\sum_{j=0}^p \alpha_j z^j$ .
127. The first displayed equation on the page should begin  $\lambda_{j+1}(k) = \lambda_j(k) -$  rather than  $\lambda_{j+1}(k) = \lambda_j(k) +$ .
129. The date of the Newton and Pagano reference about three fourths of the way down the page should be 1983 not 1982.
148. The  $z$ 's in line 15 of PARZ.MAC should be  $z_1$ 's.
155. In Problem C2.9, the IDARMA macro is discussed in Example 2.7, not Example 2.6.
156. In Problem T2.5, the  $z$  should be  $z = \cos 2\pi\omega$ . Also, there is a  $d\omega$  missing in the next to last formula on the page.
191. In part (e) of the theorem,  $M/n$  goes to 0 not  $\infty$ .
205. There is a  $+\epsilon(t)$  missing at the end of the last equation on the page.
206. In Part (c) of Theorem 3.4.3, the  $1/2\sigma^4$  should be  $2\sigma^4$ .
212. There should not be a minus sign in the definition of  $\tilde{\theta}_{p+1}$ .
228. In the second paragraph, the phrase "not significantly different from zero" should be "significantly different from zero".

231. The  $mS$  in the fifth line of the first full paragraph should be  $rS$ .
236. The SEASEST in the title of Table 3.9 should be SALESRHO.
244. In Item 1, the lower limit on the sum in the denominator should be  $t$  not  $j$ .
247. The 3.2 in the first line should be 3.3.
261. The CIS macro generated the graphs in Figure 3.1, not Figure 3.2.
282. Between lines 174 and 175 of the macro there should be a line reading  $nmj=n-nmj$ .
286. The FISHPV macro is mislabeled as FISHCDF in its second line.
294. There should be a sentence at the end of Problem C3.14 reading “Make sure to subtract the overall mean before using ARMASEL.”
296. The  $\mu^2$  in Problem T3.3 should be  $b_n\mu^2$  where  $b_n \rightarrow 0$ .
299. In Problem T3.13, the 2 in the denominator of  $\hat{a}$  should be  $1/2$ .
299. There are two mistakes in problem T3.14: 1) the expression “where  $\hat{\rho}^2$  is ...” should read “where  $\hat{\rho}$  is...”, and 2) the 0.8427 in part (b) should be 0.1573.
303. The end of the first sentence on the page should read “ $R_{11}$  and  $R_{22}$  are symmetric about lag zero.”
312. The RW on the last line should be WN.
319. The slope of the phase for the delay process is  $-2\pi d$ , not  $2\pi d$ .
328. In the first two equations in Theorem 4.1.8, the  $\mathbf{R}(\mathbf{v} - \mathbf{j})$  should be  $\mathbf{R}(\mathbf{j} - \mathbf{v})$ , the  $\mathbf{R}(\mathbf{j} - \mathbf{v})$  should be  $\mathbf{R}(\mathbf{v} - \mathbf{j})$ , and the subscripts on the  $\delta$ 's should be  $v$ 's not  $k$ 's.
329. There is an  $\mathbf{X}(\mathbf{t} - \mathbf{p})$  missing after the  $\mathbf{A}(\mathbf{p})$  in the first equation on the page.
331. The  $\bar{X}$ 's in the first equation on the page should be in bold face.
332. There is a  $(v)$  missing after the  $\hat{R}_{ij}$  in the second line of part (b) of the theorem. Also, the summation in the second from last equation on the page should be  $\sum_{v=-\infty}^{\infty} \rho_{11}(v)\rho_{22}(v+m-l)$
334. The last paragraph mistakenly claims that the gas furnace data is plotted in Figure 4.4.
338. The condition on  $M/n$  is that it go to 0, not to  $\infty$ .
341. The hat should be a tilde on the sigma on the left hand side of the equal sign in the second equation.
355. The  $h_1R_{11}(v) + h_2R_{22}(v)$  in part (a) of Problem T4.1 should be  $h_1^2R_{11}(v) + h_2^2R_{22}(v)$ .
361. The third equation in the definition of the sweep operator is defining the  $k$ th row, not the  $j$ th row.
371. The definition of  $W_n$  should be  $W_n = e^{2\pi i/n}$ .
372. In the sixth line it should say “since  $e^{2\pi i} = 1$ ”.
377. There are four mistakes on this page:
  1. In part (a), the  $\Sigma$  should have a  $Z$  as a subscript, not an  $X$ .
  2. The displayed equation in part (b) should read  $\mathbf{AZ} + \mathbf{b} \sim \mathbf{N}_s(\mathbf{A}\mu_Z + \mathbf{b}, \mathbf{A}\Sigma_Z\mathbf{A}^T)$ ;
  3. There is a comma missing before the  $\Sigma_{YY}$  in the first displayed equation in part (ci).
  4. Just after the first displayed equation in part (cii), it should read  $\mathbf{X} \sim \mathbf{N}_d$ , not  $\mathbf{X} \sim \mathbf{N}_r$ .
378. There is an  $\mathbf{A}$  missing after the  $\Sigma_{XX}$  in the expression for the variance of a quadratic form in part (h).
384. The  $\mathbf{V}_t$  in the tenth line should be lower case.
386. In the last line the  $Y_{n,m}$  should be  $Y_{n,M}$ .
387. The  $b_n^2$  in the last displayed equation on the page should be  $b_n$ .
398. Near the middle of the page, it is the elements of  $\mathbf{u}$  that have the correct sign, not those of  $\mathbf{v}$ .
399. The last element of the 11th row of data should be 83.8, not 83.9. Note that the file HALD.DAT is not included on the distribution diskettes.
403. The  $\mathbf{Y}_1$  in the fourth line should be  $\mathbf{y}_1$ .
457. In Figure B.2, the solid curve is for the median not the mean.
480. Under Purpose 2, instead of  $X(t)$  it should be  $X(i)$ . This same mistake is made on page 481.
485. The arguments  $p$  and  $q$  can be 0.
488. The first entry for  $Q$  in the “Input” section should be deleted and replaced by one for  $q$  which is an Integer containing order  $q (> 0)$ .
506. The description of  $Q$  should read “at which  $\mathbf{f}$  was calculated”.
520. The B.6 in the Remark for ENDIF should be B.7.
524. In remark 2, the numbers 101, 222, and 444 should be 101, 202, and 404.
545. The elements of  $\mathbf{rvar}$  in PARCORR are the unstandardized residual variances.
559. The format for the READ command should be `READ(fname,x,n[,nskip])`.
609. The year of the Newton and Pagano (1982) reference should be 1983.