List of Corrections for the Book
Modern Control System Engineering, by Z. Gajić and M. Lelić

Updated April 4, 2002 (UPDATED DECEMBER, 2005)

TEXT

page 27, first line under formula (1.74), replace $\mathbf{y}_n$ by $\mathbf{u}_n$.

page 60, in the denominator of the transfer function, replace $10s$ by $15s + 20$.

page 70, in the formula at the bottom, change – to +.

page 78, in formula (2.46), replace $G_1(z)G_2(z)$ by $G_2(z)G_1(z)$.

page 110, add a dot on $\mathbf{x}$, formula at the top.

page 113, add a dot on $\mathbf{x}$, next to the last formula.

page 113, the second formula from the bottom, add a dot for the derivative of $\mathbf{x}$.

page 129, in the first formula multiply the input matrix by $\mathbf{u}$.

page 130, replace $k_2 - k_1$ by $k_2 - k_0$ in the first term in (b).

page 131, replace $i + 1$ by $i - 1$ in formulas (3.77), (3.78), and (3.80).

page 146, Part 1. (c), replace `f(t)` by `f`

PAGE 164, 2nd formula from the bottom, replace $1/(s + a)^{n_1}$ by $1/(s + a)^{n_1 - i}$.

PAGE 165, 2nd line, replace $a > 0$ by $a < 0$.

PAGE 175, in Theorem 4.5, replace "open by "closed".

PAGE 177, Theorem 4.6, replace "inside of the unit circle" by "inside or on the unit circle".

PAGE 181, 3rd line above Theorem 38, replace "closed right" by "open right".

PAGE 185, 2nd and 3rd formulas, in the 2nd product change the upper summation limit from n to $(n - n_1)/2$

page 229, formula (5.21) replace m by r.

page 243, formula (5.37), replace $\hat{\mathbf{y}}(y)$ by $\hat{\mathbf{y}}(t)$, and replace $\mathrm{Ke}(t)$ by $\mathrm{KCe}(t)$.

page 246, in formula (5.56) for $\mathbf{A}_q$ add $\mathbf{A}$ in between of $\mathbf{C}$ and $\mathbf{L}_2$.

page 226, first line, replace $\mathbf{x}(t)$ and $\mathbf{y}(t)$ by $\mathbf{x}(k)$ and $\mathbf{y}(k)$.

PAGE 263, Figure 6.2, θ is the angle between the positive real axis and λ_1 vector, not between the negative real axis and vector λ_1 as presented in the figure.

page 267, formula (6.18), change 1/100 to 100.

page 326, second line from the bottom, delete `(A,B,C,D,K)` and `plot(r)`.

page 335, formula (8.12), replace respectively $a_0, a_1, ..., a_{n-2}$ by $a_{n-1}, a_{n-2}, ..., a_1$.

page 336, replace $(2, 3)$ and $(3, 3)$ elements in the matrix Q by 2 and -1, respectively.

page 342, formula for MPOS, change $1 - \zeta_c$ to $1 - \zeta_c^2$.

page 353, the right-hand side of formula (8.29), omit twice G.

page 353, the right-hand side of formula (8.30), omit twice G.

page 353, formula (8.31), add twice the subscript c to α.

page 356, lines 8 and 9, replace twice α by α_c.

page 398, change $1/K_a$ to $2/K_a$.

PAGE 401, Figure 9.15, replace ω_{max} by ω_{min} and ϕ_{max} by ϕ_{min}.

PAGE 408, use the MATLAB function `feedback(num,den,1,1,-1)` insted of the `cloop` function.

PAGE 426, in the last formula replace $\sqrt{1 - \zeta^2}$ by $\sqrt{1 - 2\zeta^2}$.

PAGE 427, first formula, the same change as on PAGE 426.

page 407, lines 4 and 5 from the bottom, replace ω_1 by ω_{max}.

page 422, line 14, change step 5 to step 4.

page 422, multiply the phase-lag controller transfer function by 0.0114.

page 444, formula (10.39) replace $\dot{x}(k)$ by $x(k+1)$.

page 447, formula (10.48), replace $t_f \rightarrow 0$ by $t_f \rightarrow \infty$.

page 447, Figure 10.1, the input to the Kalman filter should come from the signal leaving block $\mathbf{B}$, not from the summation element.

page 451, formula (10.59), delete $y_a(k+n-N)$.

page 451, formula (10.60), delete $y(k+n-N)$.

page 457, line 17, add (eds.) after Willems.

page 464, formula (a.3), replace ω by ∞ and replace 2π by $2\pi j$.

page 467, Table A.1, row two, replace st_0 by $-st_0$.

page 468, Table A.2, row three, replace $s+1$ by $s+\alpha$.

page 468, Table A.2, row eight, in the numerator replace s by $s+\alpha$.

page 471, second formula, replace p_i by $-p_i$.

page 473, Table B.1, row ten, replace 1 by j.

page 474, Table B.2, row five, replace $z-a$ by $z-1$.

MATLAB PROGRAMS

page 60, line 2, replace indicate by indicates.

page 243, formula (5.37), add $\mathbf{C}$ in between of $\mathbf{K}$ and $\mathbf{e}$.

page 285, line 2 from the bottom, change parameter by parameters.

page 344, line 5, change `den1` to `cden1`.

page 344, line 6, change `cnum1` by `cnum2` and `den1` by `cden2`.

page 344, lines 2 and 3, change `cloop` by `feedback` (for MATLAB 5)

page 358, line 3, change `[cnumc,cdenc]` by `(cnumc,cdenc)`.

page 407, line 6, replace in by into.

page 408, line 2, replace `log` by `log10`.

page 416, line 4, replace `log` by `log10` and recalculate the values obtained.

page 422, line 12, add `0.8424*` in front of `abs`.

PROBLEMS

page 36, Problem 1.8, replace $\dot{\theta}_0$ by ω_0.

page 255, Problem 5.12, replace type by tape.

page 256, Problem 5.14, change subscripts for the nominal point into (x_{1n}, x_{2n}, u_n).

page 289, Problem 6.12, add at the end "with the following output matrices"

$$\mathbf{C} = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \end{bmatrix}, \quad \mathbf{D} = \begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$$

page 377, Problem 8.9, change 50% to 100%.

page 377, Problem 8.11, change $3\,\mathrm{s}$ to $2\,\mathrm{s}$.

page 378, Problem 8.14, line 1, change phase-lag to phase-lead.

page 426, Problem 9.1, change ζ^2 to $2\zeta^2$.

page 428, Problem 9.8, replace 0.48 by 48.

page 430, Problem 9.17, part (b), replace part by parts.