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Updated Corrections for the first printing of
Linear System Theory, Second Edition
Wilson J. Rugh
Prentice Hall, 1996

Page 5: Third line from bottom: change R^n to R^m.

Page 17 The binomial coefficient should be defined as

$$\binom{k}{r-1} = \begin{cases} \dfrac{k(k-1)\cdots(k-r+2)}{(r-1)!} = \dfrac{k!}{(r-1)!\,(k-r+1)!}\,, & k \geq r-1 \\ 0\,, \quad k < r-1 \end{cases}$$

Page 41: Equation (4): change index range to $k = 1, 2, \ldots$.

Page 50: Last equation: change $x_\delta(t)$ to $y_\delta(t)$.

Page 59: In the middle two equations: remove the superfluous 2's

Page 61: Eighth line: change ''proof Lemma'' to ''proof of Lemma.''

Page 80: First equation: change e^{At} to e^{Jt}.

Page 91: First equation: change the numerator to $-\alpha$.

Page 97: In Note 5.7, the first result is stated in a misleading, though not exactly incorrect, manner. Consult the cited paper for details.

Page 123: Line below last equation: change ''Theorem 7.8'' to ''Theorem 7.9.''

Page 123: In Example 7.10, the conditions on $a_1(t)$ are contradictory, so we can conclude nothing.

Page 125: Exercise 7.1: change third line to ''uniform exponential stability?''

Page 138: Exercise 8.4: change ''Show that not'' to ''Do.''

Page 141: In Note 8.1, the cited paper by Solo appeared in *Vol. 7, No. 4, pp. 331 - 350, 1994*

Page 163: The argument in the last paragraph is incorrect. Replace by:

''By the remarks above, there is for each positive integer k an $n \times 1$ vector x_k satisfying

$$\|x_k\| = 1\,; \quad x_k^T B(t) = 0\,, \quad t \in [-k,\, k]$$

In this way we define a bounded (by unity) sequence of $n \times 1$ vectors $\{x_k\}_{k=1}^{\infty}$, and it follows that there exists a convergent subsequence $\{x_{k_j}\}_{j=1}^{\infty}$. Denote the limit as

$$x_0 = \lim_{j \to \infty} x_{k_j}$$

To prove that $x_0^T B(t) = 0$ for all t, suppose we are given any time t_a. Then there exits a positive integer J_a such that $t_a \in [-k_j, k_j]$ for all $j \geq J_a$. Therefore $x_{k_j}^T B(t_a) = 0$ for all $j \geq J_a$, which implies, passing to the limit, $x_0^T B(t_a) = 0$.''

Page 164: First line: change x_1^T to x_0^T.

Page 176: Equation (46) is missing an additional numerator factor of $(s + 1)$. Equation (47) is missing the gain factor $1/(r_1 c_1)$. The intervening paragraph must be reworded to state that series two-bucket realizations do not exist, but a parallel two-bucket realization does.

Page 259: In Exercise 14.5, replace "Theorem 7.10" by "Theorem 7.11"

Page 310: In Exercise 16.8, replace the given $G(s)$, which is not strictly proper, by

$$G(s) = \begin{bmatrix} s & s+2 \\ 1 & s+1 \end{bmatrix} \begin{bmatrix} s^2+2 & (s+1)^2 \\ (s+1)^2 & 2s^2 \end{bmatrix}^{-1}$$

Page 353: In Exercise 18.6, next-to-last line, replace "prove that" by "does"

Page 364: In the right side of (16), last line, replace "0" by "Ap_j"

Page 543: In Exercise 28.2, replace "from $V^{-1}V = I$" by "from $VV^{-1} = I$"