
If you find errors of any kind, please let us know.

Please notice that obvious mistakes are not listed here.

June 18, 2016

1. p21, Exercise 1.3, just above ‘Prove that’: \((F,H) \in \mathbb{R}\) should be \((F,H) \in \mathbb{R}^2\).

2. p31, Section 2.3.1. At several places reference is made to Equation (2.3.1). What was meant is the first displayed formula of Section 2.3.1.

3. Lemma 2.3.9: \(c_i \in \mathbb{R}^g\) should read \(c_i \in \mathbb{R}^q\).

4. p90, third line of proof of Theorem 3.3.22; ‘is the zero polynomial’ should ‘is not the zero polynomial’.

5. p96, first line of (3.44). The right hand side should read:

\[ e^{-t}(e^t - 1) \]

6. p119, 6th line from below: reference to (4.2) should be to (4.1).

7. p141, Eq. (4.56): the numerator should apply to the second and fourth entry of the right hand side of \(f(x,u)\).

8. p146, Exercise 4.9. The matrix \(R(\xi)\) is wrong. The following alternative should work:

\[
R(\xi) = \begin{bmatrix}
3 + 3\xi & 2 + 5\xi + \xi^2 \\
-5 + 3\xi^2 & -5 - 4\xi + 4\xi^2 + \xi^3
\end{bmatrix}.
\]

9. p 177, right above Section 5.3.1: \(q(\xi)\) should be \(p(\xi)\).

10. p196, Exercise 5.13: in the second equation \(-k_3w_2\) should be \(-k_1w\).

11. p217, last sentence of proof of Theorem 6.4.2: \(q(\xi)\) is defined as \(q(\xi) = \dot{r}(\xi)b + dp(\xi)\), rather than \(q(\xi) = \dot{r}(\xi)b + d\).

12. p232, Exercise 6.3, Part b. In the displayed formula, giving the relation between \(u\) and \(y\), the bar on \(q_1\) on the right hand side, should be deleted.

13. p233, Exercise 6.4. In the equation for \(\Sigma_2\), \(q_1\) should be replaced by \(q_2\).

14. p234, Exercise 6.10.b. ‘What are the dynamics of \(w_1\) if \(r_{11}(\xi)\) and \(r_{12}(\xi)\) are not coprime?’ should be: ‘What are the dynamics of \(w_1\) if \(r_{12}(\xi)\) and \(r_{22}(\xi)\) are not coprime?’

15. p237, item (a) should read:

\[
\frac{d^k}{dt^k}x = c(A^k x + A^{k-1} bu + A^{k-2}b \frac{d}{dt} u + \cdots + Ab \frac{d^{k-2}}{dt^{k-2}} u + b \frac{d^{k-1}}{dt^{k-1}} u) + \frac{d^k}{dt^k} u.
\]

16. p245, Theorem 7.2.2 (iii), if should be if and only if

17. p246, Example 7.2.3.1: The inequalities should be swapped. The system is asymptotically stable if \(a > 0\) and unstable if \(a < 0\).
18. p254, line 6 from top, not counting (7.17): \( \frac{d}{dt^2} \) should be \( \frac{d}{dt} \).

19. p255, bottom: (7.3) should be (7.4) (two times).

20. p256, top: (7.15) should be (7.4).

21. p277, Exercise 7.29: the differential equation for \( x_2 \) should be:
\[
\frac{d}{dt} x_2 = -x_1 - (\alpha + x_1^2) x_2
\]

22. p373. In the second line of Theorem 10.8.8 the role of \( w_1 \) and \( w_2 \) should be swapped: \( w_1 \) is output and \( w_2 \) is input.

23. p380, Exercise 10.17(e): the second ‘plus’ in (10.66) should be a ‘minus’

24. p386, bottom line: \( c_3 \) should be larger than \( c_2 \).

25. p392, first unnumbered displayed formula, the potential energy has a factor \( r \) too much in the denominator.

26. p392, second unnumbered displayed formula, first line, left hand side should read: \( \frac{d}{dt} \frac{\partial L}{\partial \dot{r}} - \frac{\partial L}{\partial r} \left( r, \dot{\theta}, \frac{dr}{dt}, \frac{d\theta}{dt} \right) \)

27. p392, (A.15), the square in the right hand side of the second line should be deleted.