List of Errata

p. 99: missing assumption in Theorem 3.39 that local solutions can always be extended to global solutions

p. 109: missing superscripts H in the first two lines of the last display

p. 110: read $Z_1^H = [\, I_{\hat{d}} \;\; 0 \,]$ in fifth display

p. 110: upper right entry of first matrix in sixth display must read W

p. 140: read μ instead of $\hat{\mu}$ in line 4

p. 142: incorrectly aligned entries in the last block row of the second display

p. 147: incorrect reference to [1127], correct citation is

P. Kunkel and V. Mehrmann. Generalized Inverses of Differential-Algebraic Operators. *SIAM J. Matrix Anal.* 17:426–442, 1996.

p. 156: page must start with "Splitting $\hat{U} = [\, \hat{Z}' \;\; \hat{Z} \,]$ and $\hat{V} = [\, \hat{T}' \;\; \hat{T} \,]$ according to the above block structure"

p. 156: fifth display must start with "$\operatorname{rank} E(x) \geq$ "

p. 197: in line 5 read $x_1^2 + x_2^2 + x_3^2 = 1$

p. 199: "than" instead of "as" in line -10

p. 206: read $\mathbb{U} \subseteq \mathbb{M}$ instead of $\mathbb{U} \in \mathbb{M}$

p. 219: missing "and of i" at the end of Definition 5.1 and Definition 5.2

p. 221: in Theorem 5.7 missing $\mathbb{D} \subseteq \mathbb{R}^n$

p. 227: incorrect entries in Table 5.2 for $s = 3$, correct values are

$$\alpha_{12} = \frac{296 - 169\sqrt{6}}{1800}, \quad \alpha_{21} = \frac{296 + 169\sqrt{6}}{1800}$$

p. 231: missing "for $\nu = 1$" in line 10

p. 238: cut "and (5.40)" in line 11

p. 243: read β_l instead of β_j in formula (5.53)

p. 243: line -2 must start with "Since $\tilde{L}_s \in \mathbb{P}_s$"

p. 244: read $\dot{X}_{i,m}$ instead of $\dot{X}_m$ and $\dot{X}_{i,j}$ instead of $\dot{X}_j$ in second but last display

p. 245: read "(5.60) solvable for sufficiently small h" in the line after (5.60)

p. 248: replace $x_1^*(\hat{t}_l)$ by $x_2^*(\hat{t}_l)$ at its last occurrence in the third display

p. 249: missing factor $\frac{1}{h}$ in the third argument of $\hat{F}_1$ in the last display

p. 250: line -7 must start with "and $\mathcal{G}_s$ is Lipschitz continuous"

p. 252: read $\hat{A}_2(t_{i+1})X_s^0 + \hat{f}_2(t_{i+1})$ after the fifth display

p. 253: missing factor $\frac{1}{h}$ at the end of sixth display

p. 259: read $\dot{x}(t_i)$ instead of $\dot{x}(t_k)$ in formula (5.101)

p. 265: read $x^*(t_{i-l})$ instead of x_{i-l}^* in third display

p. 266: read α_k instead of α in first and third display

p. 277: read "to a flying mass point"

p. 315: read "$x_2(0) = \delta_2$" in line 2

p. 316: in formula (7.50b) missing bar in the first norm symbol

p. 320: read $DL[z](x)$ instead of $DL[z]x$

p. 348: incorrect reference to [130,131], correct citations are

P. Kunkel, V. Mehrmann, and R. Stöver. Symmetric collocation for unstructured nonlinear differential-algebraic equations of arbitrary index. *Numer. Math.* 98:277–304, 2004.

P. Kunkel, V. Mehrmann, and R. Stöver. Multiple shooting for unstructured nonlinear differential-algebraic equations of arbitrary index. *SIAM J. Numer. Anal.* 42:2277–2297, 2004.

p. 348: replace $x_{i,j}$ by $x_{i,l}$ in the arguments of $\hat{F}_1$ in Exercise 1 and Exercise 2

p. 368: missing "t" in the name "Rheinboldt" in references [173,175–178]

by 18.11.2011