

Addenda to "Multiple Time Scale Dynamics"

Christian Kuehn

August 6, 2018

Abstract

This document collects addenda to the book [Kue15]. In particular, everything that could be added as potential comments and everything that concerns the production/publication process but does not appear in the book itself. The collection of addenda is in historical order.

- During production, I extensively discussed with Springer the future possibility that electronic versions of the book should have the reference list digitalized, i.e., every item gets a suitable DOI link added to it. Since the reference list is very long, electronic links make a lot of sense for this book. Hence, if this is not implemented by Springer within the next few years, please feel free to constantly remind them that it would be a good idea to do it.
- Consider the restriction operation $F|_{C_0}$ of a mapping F to a critical manifold C_0 . Even if $F = F(x, y, \varepsilon)$, so F depends upon ε , one usually does not write $F|_{C_0 \times \{0\}}$ but $\varepsilon = 0$ is understood in the notation $F|_{C_0}$ and $\times \{0\}$ is not written in the subscript to simplify the notation.
- In A SIAM Review article reviewing the book, Margaret Beck pointed out correctly that the historical perspective of the subject is not given clearly. First, I should have made precise that around 1980 the main surge of personal computers started. This made computing an immediate affordable alternative to pen-and-paper asymptotic calculations. This development clearly changed the field of singular perturbations. Furthermore, I should have pointed out far more often that there are colleagues, who have already done an admirable job of tracing the history of the subject. For example, the book "Historical Developments in Singular Perturbations" and the paper "Singular Perturbation Theory: A Viscous Flow out of Göttingen" by Bob O'Malley are way better than anything I could have produced to properly track the history of the subject.

References

[Kue15] C. Kuehn. *Multiple Time Scale Dynamics*. Springer, 2015. 814 pp.