



Beamer Presentation for delete

Daniel Topa
daniel.topa@hii.com

Huntington Ingalls Industries
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Outline I

- 1 Introduction
- 2 Backup Slides



Introduction

This is the introduction frame.



Backup Slides

Extensions

Bibliography I

- [1] Luis Barreira and Claudia Valls. “Stability theory and Lyapunov regularity”. In: Journal of Differential Equations 232.2 (2007), pp. 675–701.
- [2] Richard Bellman. “Vector lyapunov functions”. In: Journal of the Society for Industrial and Applied Mathematics, Series A: Control 1.1 (1962), pp. 32–34.
- [3] T. A. Burton. “On the Construction of Lyapunov Functions”. In: SIAM Journal on Applied Mathematics 17.6 (1969), pp. 1078–1085. ISSN: 00361399. (Visited on 12/22/2024).

Bibliography II

- [4] **S. G. Deo. “On Vector Lyapunov Functions”. In: Proceedings of the American Mathematical Society 29.3 (1971), pp. 575–580. ISSN: 00029939, 10886826. (Visited on 12/22/2024).**
- [5] **Luca Dieci and Erik S. Van Vleck. “Lyapunov Spectral Intervals: Theory and Computation”. In: SIAM Journal on Numerical Analysis 40.2 (2003), pp. 516–542. ISSN: 00361429. (Visited on 12/22/2024).**
- [6] **Peter Giesl. Construction of global Lyapunov functions using radial basis functions. Vol. 1904. 190. Springer, 2007.**
- [7] **Wolfgang Hahn. Stability of Motion. Springer, 1967.**

Bibliography III

- [8] **Imad M. Jaimoukha and Ebrahim M. Kasenally.**
“Krylov Subspace Methods for Solving Large Lyapunov Equations”. In: **SIAM Journal on Numerical Analysis** 31.1 (1994), pp. 227–251. ISSN: 00361429. (Visited on 12/22/2024).

- [9] **V. V. Kozlov.** **“Lyapunov’s Methods in Stability Theory: Historical Perspectives”.** In: **Russian Mathematical Surveys** 47.1 (1992), pp. 85–95.

- [10] **V Lakshmikantham.** **“Vector Lyapunov functions and conditional stability”.** In: **Journal of Mathematical Analysis and Applications** 10.2 (1965), pp. 368–377.

Bibliography IV

- [11] V Lakshmikantham. “On the method of vector Lyapunov functions”. In: (1974).
- [12] Joseph LaSalle and Solomon Lefschetz. **Stability by Liapunov’s Direct Method with Applications**. Academic Press, 1961.
- [13] Aleksandr Mikhailovich Liapunov. **Stability of Motion by AM Liapunov**. Vol. 30. Elsevier, 2000.
- [14] A. M. Liapunov. **The General Problem of the Stability of Motion**. Originally published in Russian (1892), French translation (1907). Princeton University Press, 1947.

Bibliography V

- [15] J. L. Massera. “Erratum: Contributions to Stability Theory”. In: *Annals of Mathematics* 68.1 (July 1958). (1 page), p. 202. DOI: 10.2307/1970049.
- [16] José L Massera. “Contributions to stability theory”. In: *Annals of Mathematics* 64.1 (1956), pp. 182–206.
- [17] Salah-Eldin A. Mohammed and Michael K. R. Scheutzow. “Lyapunov Exponents of Linear Stochastic Functional Differential Equations. Part II. Examples and Case Studies”. In: *The Annals of Probability* 25.3 (1997), pp. 1210–1240. ISSN: 00911798, 2168894X. (Visited on 12/22/2024).

Bibliography VI

- [18] **Chutipon Pukdeboon. “A review of fundamentals of Lyapunov theory”. In: J. Appl. Sci 10.2 (2011), pp. 55–61.**
- [19] **David A. Ross. “An Elementary Proof of Lyapunov’s Theorem”. In: The American Mathematical Monthly 112.7 (2005), pp. 651–653. ISSN: 00029890, 19300972. (Visited on 12/22/2024).**
- [20] **Shankar Sastry and Shankar Sastry. “Lyapunov stability theory”. In: Nonlinear systems: analysis, stability, and control (1999), pp. 182–234.**

Bibliography VII

- [21] D. Shevitz and B. Paden. “Lyapunov stability theory of nonsmooth systems”. In: Proceedings of 32nd IEEE Conference on Decision and Control. 1993, 416–421 vol.1. DOI: 10.1109/CDC.1993.325114.
- [22] Daniel Shevitz and Brad Paden. “Lyapunov stability theory of nonsmooth systems”. In: IEEE Transactions on automatic control 39.9 (1994), pp. 1910–1914.
- [23] V. I. Smirnov. “A. M. Lyapunov and the Stability of Motion”. In: Uspekhi Matematicheskikh Nauk (1958). Discusses historical perspectives on Lyapunov’s work.



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