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THE STUDY OF DISTRIBUTIVE PARAMETER SYSTEMS FOR FLIGHT CONTROL.(U)

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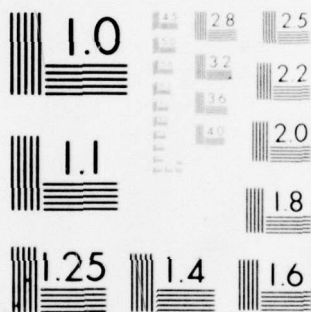
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on
The Study of Distributive Parameter Systems
for Flight Control
under
AFOSR Grant 72-2243

Principal Investigator: E. B. Lee
March 1977

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The research conducted was directed toward the development of controller synthesis and analysis techniques for systems with many degrees of freedom. The research results are documented in the published papers, reports and Ph.D. theses of the project (the lists of which follows):

Ph.D. Theses

1. D. K. Scharmack, "Optimal Empty Vehicle Shuttling in Demand Activated Urban Transportation Systems", Ph.D. Thesis, University of Minnesota, June 1972.
2. R. Triggiani, "Controllability, Observability and Stabilizability of Dynamical Systems in Banach Space with Bounded Operators", Ph.D. Thesis, University of Minnesota, December 1972.
3. L. Verhavert, "In-Flight Thrust Vector Control", Ph.D. Thesis, University of Minnesota, December 1974.
4. S. Yang, "Low Sensitivity Design of Optimal Feedback Systems for Longitudinal Control of Automated Transit Vehicles", Ph.D. Thesis, University of Minnesota, December 1974 (coadvisor W. Garrard).

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1. H. N. Koivo and E. B. Lee, "Controller Synthesis for Linear Systems with Retarded State and Control Variables and Quadratic Cost", Automatica, Vol. 8, 203-208 (1972).
2. (Book) E. B. Lee and L. Markus, "Optimal Control Theory Foundations", Hayka, Moscow (1972).
3. E. B. Lee, "Feedback Controllers for Linear Time Delay Systems", Proceedings Symp. on Differential Delay and Functional Equations; Control and Stability, U. of Warwick, Coventry, England, 9-11 (1972).
4. E. B. Lee and D. A. Spyker, "On Linear Periodic Control Problems", IEEE Trans. on Auto. Control, Vol. AC-18, 39-41 (1973).
5. E. B. Lee, "Feedback Controllers for Linear Time Delay Systems", Notes Summer Short Course on Advances in Control Systems, Washington University, St. Louis, (July 1973).
6. K. Burhardt and E. B. Lee, "Simulation Techniques for Urban Traffic Systems", Proceedings Summer Simulation Conference, Montreal, 1973.
7. E. B. Lee and A. Manitius, "Synthesis Techniques for Multivariable Feedback Systems with Time Delays", Proc. IFAC Symp. on Multivariable Technological Systems, Manchester, Sept. (1974).

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12. E. B. Lee, "Linear Hereditary Control Systems", 47-72, in Calculus of Variations and Control Theory, Academic Press Inc. (1976).
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16. R. Triggiani, "Pathological Asymptotic Behavior of Control Systems in Banach Space", J. Math Analysis and Applications (to appear).
17. M. Delfour, E. B. Lee and A. Manitius, "F-Reduction of the Operator Riccati Equations for Hereditary Differential Systems", Proceedings 2nd Symposium of Control of Distributed Parameter Systems, Coventry, 1977.

OTHER REPORTS

1. W. B. Reed III, "System Identification Methods Using Frequency Response Data", Project Report, Center for Control Sciences, University of Minnesota, Feb. 1976.
2. R. Hanson, "Optimal Time Delay Feedback Approximation", Project Report, Hybrid Computer Laboratory, University of Minnesota, May 1973.