1082-65-279 **Jonas Denißen*** (denissen@mpi-magdeburg.mpg.de), Sandtorstr. 1, 39106 Magdeburg, Germany. *Optimal bounds on the solution of linear time-periodic systems.*

In this talk, we give an overview of the Floquet theory for linear time-periodic (LTP) systems and describe the derivation of bounds for the solution of these systems. Floquet-Lyapunov transformations for linear ordinary differential equations with periodic coefficients are introduced and used and thereby, optimal constants can be determined by the differential calculus for norms of matrix functions. These new optimal bounds mean a theoretical and practical progress for LTP systems and cannot be obtained by the methods employed so far. Numerical results for periodically excited multi-mass vibration systems are shown. (Received July 10, 2012)