

Pseudospectral approximation of characteristic roots and multipliers: how multiplicities affect convergence

Dimitri Breda¹ and **Davide Liessi¹**

¹*CDLab - Computational Dynamics Laboratory, Department of Mathematics, Computer Science and Physics, University of Udine, Italy (e-mail: dimitri.breda@uniud.it, liessi.davide@spes.uniud.it)*

In this talk we revisit the convergence results about the use of pseudospectral techniques in discretizing either the infinitesimal generator or the solution operator of linear delay differential equations. Since these methods are used to approximate the rightmost or dominant eigenvalues in view of stability, the focus is to discuss how these methods reproduce numerically multiple eigenvalues and how the multiplicity of the latter affects the error and the possibility of reaching a desired tolerance.