

The Arnoldi process for ill-posed problems

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Abstract

The Arnoldi process is the basis for the GMRES method, which is one of the most popular iterative methods for the solution of large linear systems of algebraic equations that stem from the discretization of a linear well-posed problem. The Arnoldi process and GMRES also can be applied to the solution of ill-posed problems. This talk discusses properties of Tikhonov regularization and iterative methods, that are based on the Arnoldi process, for the solution of linear ill-posed problems. The talk presents joint work with Silvia Gazzola, Silvia Noschese, Paolo Novati, and Ronny Ramlau.
