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Seminar

Range Restricted GMRES methods and some experimental considerations

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Abstract: The right-hand side vector of linear discrete ill-posed problems that can occur in science and engineering applications often represents an experimental measurement that is contaminated by error. The solution to these problems is typically very sensitive to this error. Previous works have shown that error propagation into the computed solution may be reduced by using specially designed iterative methods that allow the user to select the subspace in which the approximate solution is computed. Since the dimension of this subspace is often quite small, its choice is important for the quality of the computed solution. Iterative methods that modify the Generalized Minimal RESidual (GMRES) and block GMRES methods for the solution of appropriate linear systems of equations will be discussed, as well as experimental considerations.

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