

**On the numerical solution of certain linear multiterm  
matrix equations and applications**

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Linear matrix equations have arisen as the natural algebraic form associated with the discretization of a growing number of application problems. The case where the unknown matrix appears in at most two additive terms in the equation has been extensively studied, and satisfactory solution strategies have been developed for various classes of problems, both in the small and large scale cases. The general multiterm setting is regarded as far more complicated, and only recently practical solution methods have been proposed. In this talk we discuss new procedures that can take advantage of certain algebraic properties of the coefficient matrices, yielding effective algorithms both in terms of computational time and memory requirements.

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