

Krylov Model-Order Reduction Techniques for Time- and Frequency-Domain Wavefield Problems

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In this talk we present several Krylov model-order reduction techniques to efficiently simulate time- and frequency-domain wavefield propagation in inhomogeneous media. We show how certain symmetry properties of the governing wave equations can be exploited to effectively reduce spatially discretised wavefield systems. The implementation of perfectly matched layers in a Krylov setting is also discussed and numerical results illustrating the performance of Krylov model-order reduction are presented as well.