

# Krylov Subspace Methods for Model Order Reduction of Bilinear Control Systems

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We discuss the use of Krylov subspace methods with regard to the problem of model order reduction. The focus lies on bilinear control systems, a special class of nonlinear systems, which are closely related to linear systems. While most existent approaches base on series expansions around zero, we will extend the underlying ideas to a more general context and show that there exist several ways to reduce bilinear systems. We will explain the benefit of using two-sided projection methods and briefly address the problem of stability preserving model reduction. By means of some numerical examples, we will illustrate the performance of the presented reduction methods.