Parametric Model Order Reduction
via Interpolation of Gramians

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Abstract: Model order reduction by balanced truncation of parameter-dependent dynamical systems is discussed. It is well-known that in order to balance and truncate the original system, its associated (parameter-dependent) Lyapunov equations must be solved for the gramians of the given system. We will interpolate these gramians on a given grid in the parameter domain. They are then used for the balanced truncation. Further attempt to speed up the computation is conducted. Two examples from different fields of application are presented.

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