

Subset Selection in Parameter Estimation

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Abstract. Increasing demands on accuracy of models describing the dynamics of complex systems, in particular in life sciences, require rather comprehensive models with a large number of system parameters. In addition, in clinical applications it is often necessary to adapt a model to individual patients. These requirements are in contrast to a very limited availability of data for model validation and parameter estimation. As a consequence it is impossible to identify all parameters of a complex model with sufficient accuracy. Therefore we need systematic methods in order to select those parameters which can be identified with sufficient accuracy on the basis of available data. In the talk we present some approaches to this problem which have been developed in recent years. These approaches are based on rank revealing QR-algorithms, minimal asymptotic standard deviations or on the selection of subspaces with minimal distance to certain eigenspaces.

References:

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