

Séminaire du LVA

Structured Matrix Problems in System Theory and Identification

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State-of-the-art data processing methods are model based and require a model identification step prior to solving the data processing problem. Starting with a review of classical system identification, this talk presents a model-free data processing approach, in which model parameters need not be explicitly estimated. The underlying computational tool in the new setting is low-rank approximation of a structured matrix constructed from the data. Preserving the structure in the approximation leads to statistically optimal estimators as well as to fast computational methods.