

Multiparametric model reduction using TT-format
Ivan Oseledets

One of the most promising applications of the novel tensor formats is the solution of the multiparametric problems and multiparametric model reduction.

The solution is represented as a big tensor and the solution is sought in this format directly. The idea to lower the complexity is to perform ALS iterations between physical and parametric spaces and treat them separately

In this talk, I will show how the recent results can be applied to tackle this problem. Possible variants include: 1) Cross interpolation, especially the TT-RC (TT-Renormalization-Cross) method (Oseledets, Savostyanov) 2) Solution of linear systems in the TT-format using DMRG approach (Oseledets, Dolgov)

Numerical experiments will be provided.