GEOMETRIC STRUCTURES IN MODEL REDUCTION METHODS

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Tensor formats based on subspaces are widely used in scientific computation. Their constructions are usually based on a hierarchy of tensor product subspaces spanned by orthonormal bases, because in most cases one needs representations which are fitted to the special structure of the mathematical object under consideration [2]. In this work we introduce a general class of tensor formats based in subspaces and its geometric properties [2]. We explain using these geometric structures the Proper Generalized Decomposition [3] and the Dirac-Frenkel variational principle [4].

References

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