A Sub-Stiefel Procrustes problem

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Abstract

In the talk we consider a Procrustes problem on the set of sub-Stiefel matrices of order n. For $n = 2$, this problem has arisen in computer vision to solve the surface unfolding problem considered in [2]-[4]. A sub-Stiefel matrix is a matrix that results from deleting simultaneously the last row and the last column of an orthogonal matrix.

An iterative algorithm for computing the solution of the sub-Stiefel Procrustes problem is proposed. For these purposes we investigate the properties of sub-Stiefel matrices. We also relate the sub-Stiefel Procrustes problem with the Stiefel Procrustes problem and compare it with the orthogonal Procrustes problem.

The talk is based on the paper [1].

Keywords

Procrustes problem, Sub-Stiefel matrix, Approximation of a matrix.

References

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