Closed-form expressions for projectors and applications to inertial proximal best approximation algorithms

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Abstract

In this presentation we will investigate the problem of finding the projection onto the polyhedral sets in Hilbert spaces. We will prove that the general theorem of the form of such projectors given in [4, Theorem 6.41] is a direct consequence of Kuhn-Tucker conditions related to the optimization problem. From this point we will provide closed-form expressions for projectors onto polyhedral sets and propose a finite steps scheme to find an explicit projection of a given point onto a polyhedral set. At the end of the presentation we will show applications of the closed-form formulas to the projection algorithm for finding a point from a coupled monotone inclusions set.

References

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