

Asynchronous block-iterative best approximation scheme with memory

Anna Jeziarska*, Krzysztof Rutkowski and Ewa Bednarczuk

Abstract

In this talk, we address an asynchronous block-iterative primal-dual proximal algorithm with memory and its implementation in an image processing framework. Often in image processing, optimization problems on huge data sets is computationally and memory expensive. The challenges of dealing with huge data sets motivates for introducing new algorithms involving asynchronous computations for parallel and distributed optimization. Hence in this talk, we formulate asynchronous block version of inertial proximal primal-dual best approximation algorithm using recent results presented in [1], [2]. We present an experimental study related to primal-dual best approximation algorithm with and without memory.

References

- [1] Bednarczuk E. and Jeziarska, A. and Rutkowski, K. E. Inertial proximal best approximation primal-dual algorithm, ArXiv e-prints, 2016, no. 1610.08697
- [2] Combettes, P. L. and Eckstein, J. Asynchronous block-iterative primal-dual decomposition methods for monotone inclusions Mathematical Programming, 2016

*Systems Research Institute Polish Academy of Sciences, ul. Newelska 6, 01-447 Warsaw, Poland