

Fejer processes with diminishing disturbances and applications optimization and variational inequalities

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Problems of finding an arbitrary point of convex feasible set (convex feasibility problem, CFP), stationary points of monotone mappings (convex optimization, variational inequalities) are quite common objects of investigation in theory and applications [1]. One of the unifying themes for algorithmic developments in these areas are Fejer processes [2] which serve as a convenient abstraction to study convergence of numerous computational methods. A special attraction of Fejer processes is that they can be combined with different kinds of decomposition schemes and generate various methods suitable for parallel computations. This report reviews recent results [3] on Fejer processes with diminishing disturbances and suggests a new adaptive parameter-free step-size control rule for such algorithms which is the further development of [4]. The finite-dimensional case with basic euclidian space E , inner product xy and norm $\|x\| = \sqrt{xx}$ will be considered.

References

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