

15/2020



ONLINE INSPEM'S WEEKLY SEMINAR

DATE : 5 JUNE 2020 | TIME : 11.15 AM (Malaysia) / 10:15 PM (Chicago)
MEDIUM : VIDEO CONFERENCE

The url will be given once the participant has confirmed attendance



Dr. Oday Hazaimah

Northern Illinois University

INSPEM Class of 2011



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Topic : Half-Extragradient Method in Nonsmooth Convex Optimization

ABSTRACT

In this talk, an analytical approach for solving nonsmooth convex optimization and variational inequality problems is presented. The proposed iteration is a natural modification of the classical Extragradient algorithm in which it finds the solution of the sum of two monotone operators by evaluating the smooth operator twice per iteration. One of the main advantages of the proposed scheme is to avoid evaluating an extra-gradient step per iteration, this modification is suggested when the composite objective function is a sum of three convex functions, one of them nonsmooth. The convergence of the generated sequence is established by forcing Fejer monotonicity. Moreover, convergence and complexity analyses for the functional value sequence are derived for the two proposed algorithms, called the Half-Extragradient method and its accelerated version. We provide a sublinear complexity of $O(1/k)$ for the Half-Extragradient and $O(1/k^2)$ for its associate accelerated version.

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