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Abstracts of Short Communications and Posters

Section:

17. Control Theory and Optimization

1991 MS Classification: 47H05, 49M45, 65J15, 90C25
Combettes, Patrick, City University of New York, New York, USA
Some convergence principles in convex optimization.
The convergence proofs of convex optimization algorithms often follow standard patterns. This suggests the existence of broad structures within which a number of algorithms could be recast and then analyzed in a simplified and unified manner. Such structures will be brought out and general weak, strong, and linear convergence principles will be studied. Several extensions of the notion of Fejér-monotonicity will be presented and investigated. Various applications will be discussed within the proposed framework, including convex feasibility problems, zeros of sums of monotone operators, ergodic operator splitting algorithms, and ϵ-subgradient algorithms.