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COLOQUIO OPTIMIZACIÓN Y EQUILIBRIO

TITULADO

A mediodía de Optimización y análisis variacional

EXPOSITORES

- Pr. Dimitri Bertsekas, Departamento de Ingeniería Eléctrica e Informática en la Facultad de Ingeniería en el Instituto de Tecnología de Massachusetts (MIT), en Cambridge, Massachusetts.

- Pr. Assen Dontchev, Mathematical Reviews y la Universidad de Michigan.

- Pr. R. Tyrrell Rockafellar, Departamentos de matemáticas y matemáticas aplicadas en la Universidad de Washington, Seattle.

PROGRAMA

Miércoles, 9 de marzo:

- 15:00-15:45 hrs:

Pr. Dimitri Bertsekas, MIT, Massachusetts. Título: TBA

- 15:45-16:30 hrs.
Pr. Assen Dontchev, Mathematical Reviews and University of Michigan.
Title: The Newton method: main developments and enhancements.

Abstract: This talk gives an overview of convergence results for various Newton-type methods including extensions to variational inequalities and optimization problems based on metric regularity properties of mappings in variational analysis. Applications to model predictive control will be presented.

16:30-17:00 : Coffee break and discussion

-17:00-17:45 hrs.
Pr. R. Tyrrell Rockafellar, University of Washington, Seattle
Title: Solving Stochastic Variational Inequalities

Abstract: With Monotonicity by Progressive Hedging Stochastic variational inequality problems, single-stage or multistage, can be formulated with nonanticipativity as an explicit constraint on the interaction of decisions with information. The introduction of multipliers for that constraint allows in theory for a decomposition into separate subproblems each of the scenarios, as if hindsight were available, but a key question is how to generate the right value for those multipliers.

When monotonicity is present in the variational inequality, the progressive hedging algorithm of stochastic programming can be adapted to this setting. Solutions can then be calculated by iterations in which the multipliers, in parallel to those providing the present cost of future information in simpler models, are approximated and adjusted step by step.

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