



Séminaire conjoint avec / Joint Seminar with
la chaire de recherche industrielle CRSNG/Hydro-Québec en optimisation stochastique
de la production d'électricité
NSERC/Hydro-Québec Industrial Chair on the Stochastic Optimization of Electricity
Generation



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A STOCHASTIC ZONAL DECOMPOSITION ALGORITHM FOR NETWORK ENERGY MANAGEMENT PROBLEMS

Abstract : We consider a network with zones and links. Each zone representing an energy market (a country, part of a country or a set of countries) has to satisfy a stochastic demand using its hydro and thermal units and eventually importing and exporting using links connecting the zones. Assuming that we have the appropriate tools to solve a single zonal problem (approximate dynamic programming, stochastic dual dynamic programming, etc.), the proposed algorithm allows us to coordinate the productions of all zones. The proposed algorithm is a stochastic forward-backward splitting algorithm close to quantity decomposition algorithms. After presenting the problem and the algorithm in a deterministic framework, we present an extension to solve stochastic optimal control problems with a network structure.

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MERCREDI / WEDNESDAY

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Salle / Room 5441
Pavillon André-Aisenstadt
Université de Montréal

Ouvert à tous / Open to all

Organisateur / Organizer
Bernard Gendron

