

1139-90-654

Panagiotis Andrianesis* (panosa@bu.edu), 15 Saint Mary's Street, Brookline, MA 02446, and
Ioannis Paschalidis, Michael Caramanis and **Ruidi Chen**. *Data-driven marginal cost
estimation in electricity markets using inverse optimization.*

In this work we consider the strategic bidding problem in the context of a day-ahead electricity market, where electricity suppliers submit linear non-decreasing supply functions for their as-bid marginal costs. Our aim is to infer the true cost parameters of these supply functions based on past observations of the market results, and some knowledge on the electricity generation unit technologies. We employ a data-driven estimation technique which combines inverse optimization with the theory of variational inequalities, and explore cases with the presence of noise in the data. (Received February 20, 2018)