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Markovian and non-markovian neural networks compared to HJB for the control of a fishing site

Abstract :

This talk based on a joint work with Mathieu Laurière and Gilles Pagès deals with the design of optimal fishing quota within a model used in Ivory Coast for the long term evolution of the fish biomass.

The numerical tests validate supervised learning for stochastic control in this case. However the control may or may not be not Markovian depending on the neural network .

For comparison the same problem is solved with Stochastic Dynamic Programming.