

SEMINARIO PROBABILIDADES

EXPOSITOR

Marcel Nutz
Columbia University

TITLE

Canonical Supermartingale Couplings

ABSTRACT:

Two probability distributions in second stochastic order can be coupled by a supermartingale, and in fact by many. Is there a canonical choice? We construct and investigate two couplings which arise as optimizers for constrained Monge-Kantorovich optimal transport problems where only supermartingales are allowed as transports. Much like the Hoeffding-Frechet coupling of classical transport and its symmetric counterpart, the Antitone coupling, these can be characterized by order-theoretic minimality properties, as simultaneous optimal transports for certain classes of reward (or cost) functions, and through no-crossing conditions on their supports. However, our two couplings have asymmetric geometries due to the directed nature of the supermartingale constraint. (Based on joint works with M. Beiglbock, F. Stebegg, N. Touzi)

Martes 13 de marzo a las 16:00 hrs, Sala de Seminarios John Von Neumann CMM. Beauchef 851, Torre Norte, 7mo piso.

