

Stochastic Epidemic Models with Partial Information: Optimal Control Problems

Friday, 5 August 2022 10:00 (20 minutes)

This presentation is based on and continues the companion talk of Florent Ouabo Kamkumo. We consider stochastic optimal control problems arising in the mathematical modeling of decision-making processes in the cost-optimal management and containment of epidemics. We focus on the impact of uncertainties such as dark figures which have been addressed in the companion talk and can be treated as optimal control problems under partial information. Working with the diffusion approximations for the population dynamics and the associated Kalman filter estimates of non-observable state variables leads to control problems for controlled diffusion processes.

This is joint work with Ralf Wunderlich

Primary authors: MBOUANDI NJIASSE, Ibrahim (BTU Cottbus-Senftenberg); OUABO KAMKUMO, Florent (Institute of Mathematics, BTU Cottbus-Senftenberg, Germany)

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