

Socio-economic applications of finite state mean field games

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We present different applications of finite state mean field games to socio-economic sciences.

Examples include paradigm shifts in the scientific community or the consumer choice behaviour in the free market. The corresponding finite state mean field game models are hyperbolic systems of partial differential equations, for which we present and validate different a numerical method. We illustrate the behaviour of solutions with various numerical experiments, which show interesting phenomena like shock formation. We conclude with an investigation of the shock structure in the case of two-state problems.

This is a joint work with Diogo A. Gomes and Marie-Therese Wolfram.