



Contribution ID: 34

Type: not specified

About Use of Everett's Interpretation of Quantum Mechanics for Decision Making

Friday, June 24, 2022 9:20 AM (20 minutes)

Modern decision making (DM) theory stands on classical probability. But there seems to be a variety of situations when the decision theory fails to explain some psychological and cognitive effects observed in human decision making.

Other aspects not covered by the classical approach are that the results of merging information depend on the order of merging, or that the observation influences the next state.

Main question posed is whether quantum probability is suitable for DM and can solve these problems.

The contribution tries to formulate a decision making task by using Everett's many-worlds interpretation of quantum mechanics.

The targeted long-term perspective is to use Everett's interpretation to develop a quantum version of fully probabilistic design of decision strategies. The presentation will cover the very preliminary results.

Primary author: GAJ, Aleksej (Department of Mathematics, FNSPE, Czech Technical University in Prague)

Co-author: KÁRNÝ, Miroslav (Department of Adaptive Systems, Institute of Information Theory and Automation, Czech Academy of Sciences)

Presenter: GAJ, Aleksej (Department of Mathematics, FNSPE, Czech Technical University in Prague)

Session Classification: Dynamic Decision Making