

Quantum Information Seminar

Quantum Shannon theory with superpositions of trajectories

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Date:

May 24 2019

Friday

2:00-3:00pm

Venue:

Room 308

Chow Yei Ching Building

The University of Hong Kong

Abstract:

Shannon's theory of information was built on the assumption that the information carriers were classical systems. Its quantum counterpart, quantum Shannon theory, explores the new possibilities arising when the information carriers are quantum systems. Traditionally, quantum Shannon theory has focused on scenarios where the internal state of the information carriers is quantum, while their trajectory is classical. Here we propose a second level of quantisation where both the information and its propagation in spacetime is treated quantum mechanically. The framework is illustrated with a number of examples, showcasing some of the counterintuitive phenomena taking place when information travels simultaneously through multiple transmission lines.

About the Speaker:

Hlér Kristjánsson is a PhD student at Department of Computer Science, University of Oxford.

All are welcome!

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