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沖縄科学技術大学院大学

THEORETICAL SCIENCES VISITING PROGRAM

TSVP TALK

Quantum Error Correction via Poset Metrics

Rescheduled

2023
THU. **July 13**

15:00–16:00

HYBRID L4E48, ZOOM



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Quantum computing, a cutting-edge technology, relies on error-correcting codes to ensure accuracy. While classical error correction assumes an unbiased channel, the quantum realm presents unique challenges. In this talk, we explore the use of algebraic combinatorics in quantum error correction, specifically poset codes. These codes address coordinate prioritization. By incorporating poset codes, we tailor quantum error correction to specific requirements, enabling more efficient and reliable quantum computing systems. No prior knowledge is assumed. We provide a gentle introduction, showcase intriguing examples, and present recent results.

Tulane University

Mahir Bilen Can

Mahir Bilen Can is a Professor of Mathematics at Tulane University in New Orleans. His research interests include algebraic (semi)group theory, real algebraic geometry, representation theory as well as information theory. He has a particular interest in the application of algebraic geometry to the theory of error-correcting codes. In his recent work, he has developed a theory of quantum error-correcting codes that can handle biased information channels.

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