HARVARD UNIVERSITY 17 Oxford Street Cambridge, MA 02138



Tuesday, June 23, 2020, at 10:00 (Boston) 15:00 (UK/Eire) 16:00 (C.Europe) 22:00 (China)

Mathematical Picture Language Seminar Zoom at: <u>https://harvard.zoom.us/j/779283357</u>

"Quantum Fourier Analysis"

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Abstract: Quantum Fourier analysis (QFA) is a subject that combines an algebraic Fourier transform (pictorial in the case of subfactor theory and topological quantum field theory) with analytic estimates. QFA also leads to new uncertainty principles for entropies, including entanglement entropies, Rényi entropies, and relative entropies. We give an overview of quantum Fourier analysis in this talk. We highlight an application in recent work joint with Sebastien Palcoux and Jinsong Wu: we find new, surprisingly efficient, analytic obstructions of unitary categorification of fusion rings by applying quantum Fourier analysis to the Drinfeld center of unitary fusion categories.

