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Research Interests: Operator Theory, Analysis and Applications

Structured Operators and Matrices

Toeplitz, Hankel, Toeplitz + Hankel, Wiener-Hopf,
Bessel Operators, Airy Operators, etc.

Spectral Properties of the Operators

Eigenvalue behavior, invertibility, traces, determinant asymptotics,
computations of constants in expansions

Nature of Symbols

Smooth symbols, Fisher-Hartwig type symbols,
symbols that vanish on an arc (sine kernels)

Applications

Statistical mechanics, phase transitions, number theory,
random matrix theory