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Resurgence, Matrices, and Strings (TH Colloquium)

Wednesday 5 June 2019 14:00 (1h 15m)

Perturbation theory is generically divergent, leading to series with zero radius of convergence. When such asymptotic perturbative-series are resurgent, this problem can be tackled by extending the perturbative series into a non-perturbative trans-series, in a specified fashion. Resurgent trans-series may then be used to go beyond perturbation theory in generic problems across theoretical physics, and address diverse non-perturbative phenomena. This colloquium will cover a brief introduction to resurgence and trans-series, with some illustrative applications within (zero-dimensional) gauge theories (i.e., matrix models) and (topological) string-theoretic settings

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