Integrability in Condensed Matter Physics and Quantum Field Theory



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Talk: Tracy-Widom distribution in supersymmetric gauge theories

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It was recently recognized that various observables in four-dimensional supersymmetric gauge theories can be computed for an arbitrary 't Hooft coupling as determinants of certain semi-infinite matrices. I will show that these quantities can be expressed as Fredholm determinants of the so-called Bessel kernel and they are closely related to celebrated Tracy-Widom distribution (more precisely, its finite temperature generalization) describing level-spacing distributions in matrix model.

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