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Phase transition in some Dirac Ensembles

After a quick introduction to some of the ideas of random matrix theory, I shall focus on current efforts to prove the existence of phase transition in some random matrix models suggested by noncommutative geometry. The talk is based on my recent joint papers arXiv:2006.02891: Phase transitions in random noncommutative geometries; and arXiv:1906.09362: Random finite noncommutative geometries and topological recursion.