

Noncommutative geometry and number theory

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This talk will give a general overview of recent work exploring relationships between the statistics of prime numbers and non-commutative statistical mechanics. The departure point is work of Bost-Connes who several years ago constructed a C^* -dynamical system with partition function the Riemann zeta function and a phase transition at the pole of the zeta function. More recently, this older work has inspired a suggested approach of Alain Connes to the Riemann Hypothesis.