Seminar/Talk

Operator Norm Bounds on the Correlation Matrix of the SK Model

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Host: Laszlo Erdös, Jan Maas

In this talk I will discuss basic predictions for the replica symmetric regime of the Sherrington-Kirkpatrick spin glass model. For the model without external field, Talagrand conjectured that at high temperature the two point correlation matrix has operator norm that is bounded uniformly in the system size N. Based on suitable Schatten norm estimates, he was able to show that the operator norm grows at most logarithmically in N. I will present a different strategy that is based on ideas related to the TAP approach and that enables an exact computation of the operator norm as $N\to\infty$, valid in the full high temperature regime. I will conclude the talk with some related open questions for the SK model with non-zero external field. The talk is based on joint work with A. Schertzer, C. Xu and H.-T. Yau.

Monday, December 16, 2024 03:45pm - 05:00pm
Central Bldg / O1 / Mondi 2a (I01.O1.008)

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