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String Theory in Greater Paris

Rencontres Théoriciennes

"Supergravité, théorie des cordes et théorie M"

Jeudi 23 Janvier 2020, 10:00

Giulio Biroli

LPENS

A connection between SYK physics and glassy dynamics

From the stochastic dynamics of a broad class of classical mean-field glass models, one may obtain a quantum model with finite zero-temperature entropy, a quantum transition at zero temperature, and a time-reparametrization (quasi)invariance in the dynamical equations for correlations. The low-eigenvalue spectrum of the resulting quantum model is directly related to the structure and exploration of metastable states in the landscape of the original classical glass model. This mapping reveals deep connections between classical glasses and the properties of SYK-like models.

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