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Non-ergodic metallic and insulating phases of Josephson junction chains

A 1D array of Josephson junctions at high temperatures can exhibit a non-ergodic regime [1], which is similar to a glass. The glassiness occurs because the system is not able to reach all the many-body space. In fact, one can induce a transition to a fully many-body localized phase by heating up the system. In this talk, I will analyse the properties of the non-ergodic phase in the quantum and classical regime and compare with standard glasses.

[1] M. Pino, L. B. Ioffe, and B. L. Altshuler, Proceedings of the National Academy of Sciences (2015), 10.1073/pnas.1520033113.

