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Breaking Of Ergodicity In A Canonical Spin System BRUNO GONCALVES, Emory University, FAUSTO BORGONOVI, Universita' Cattolica, G. LUCA CELARDO, Universidad Autonoma de Puebla — Breaking of ergodicity occurs when the phase space of an anisotropic spin system is disconnected. The related 11phase" separation produces a power-law divergence of the recurrence time within one disconnected portion (demagnetization time) at some critical energy. Such average time can be also evaluated for a system in contact with a thermal bath and found to diverge at low temperature even for few particle systems.

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