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EINLADUNG zum IFP-SEMINAR

Ordered phases of non-unitary Floquet quantum matter

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The City University of New York

Host: Silke Bühler-Paschen

Termin: Mittwoch, 2. August 2023, 16:00 Uhr

Ort: TU Wien, Freihausgebäude

Wiedner Hauptstraße 8-10, 1040 Wien

Seminarraum DC rot 07 (roter Bereich, 7. OG)

Oder via ZOOM

<https://tuwien.zoom.us/j/63020566887?pwd=RmYvRmVwOGU5YVBrOHpodWRKaHFWQT09>

Vor dem Vortrag gibt es ab 15:30 Kaffee und Kekse

Abstract:

While quantum evolution is traditionally formulated in continuous time, recent developments in non-equilibrium many-body physics exploited discrete time quantum circuits where the interplay of unitary evolution and quantum measurements can be studied in detail. This generalization is also natural in the context of synthetic quantum matter, where dynamics may be applied stroboscopically, e.g. with quantum gates. We explore a mathematical connection between quantum circuits and formal analytic continuation of classical partition sums in one dimension higher (e.g. the Yang-Lee and Fisher zeroes). We find that certain Ising models host novel ordered phases, with magnetic order modulating in space or time, with periodicity determined dynamically, e.g. by interactions or measurement rate. This talk is mostly based on ref. <https://journals.aps.org/prresearch/abstract/10.1103/PhysRevResearch.4.013018>.

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