

Pole skipping away from maximal chaos

Thursday, 18 March 2021 13:30 (1 hour)

The pole skipping phenomenon is a subtle effect in the thermal energy density retarded two point function at a special point in the complex frequency and momentum planes. For maximally chaotic theories, this special point is related to data characterising the butterfly effect, and is explained by a common dynamical origin of energy transport and scrambling. I will argue that pole skipping also happens in non-maximally chaotic theories and its location corresponds to the stress tensor contribution to many body chaos. I will test this proposal in the large q limit of an SYK chain, where I determine both the Lyapunov growth of the OTO correlator and the energy density two point function exactly as a function of the coupling, interpolating between weakly coupled and maximally chaotic behaviour.

45' talk + 15' discussion

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