Attachment to answer to referee 2

Nicolas Macé, Nicolas Laflorencie, Fabien Alet

February 25, 2019

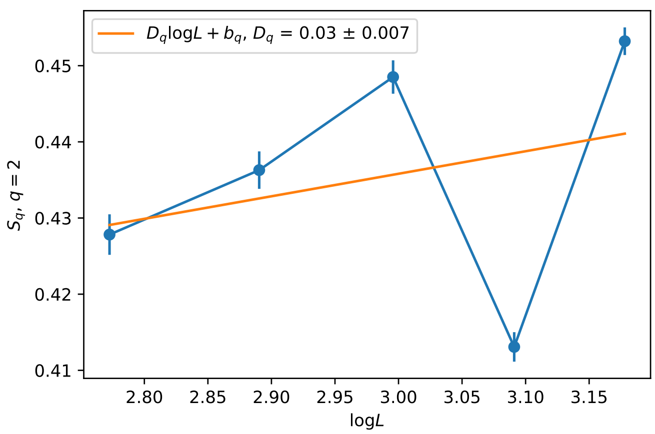

Figure 1: Average orbital participation entropy (as defined in Eq. (9)) for $h = 3$, and system sizes $L = 16, 18, 20, 22, 24$.

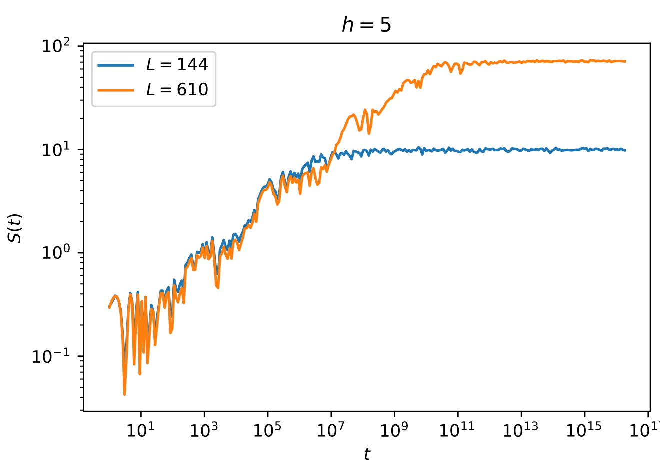

Figure 2: Half-chain entanglement entropy growth on two free fermions chains. The entanglement entropy is computed in high energy product states.

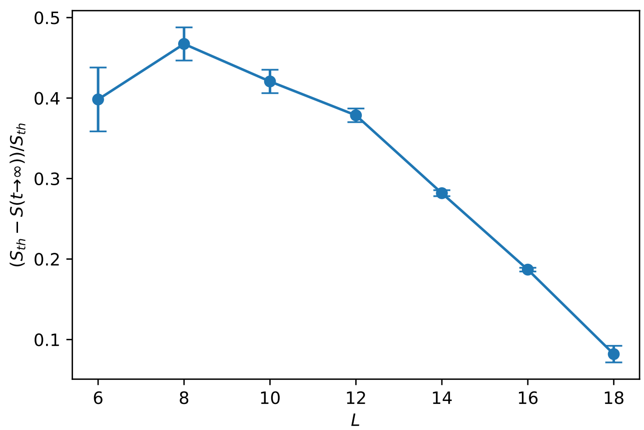

Figure 3: Saturation half-chain entanglement entropy divided by the Page prediction for the thermal value $S_{\rm th} = \frac{L}{2}\ln 2 - \frac{1}{2}$. Initial states are product states whose average energy is at one sigma from the infinite temperature energy $E_{T=\infty} = -\Delta/4$, except for the $L = 18$ data where the average is performed over the 50 product states whose energy is the closest to infinite temperature energy.

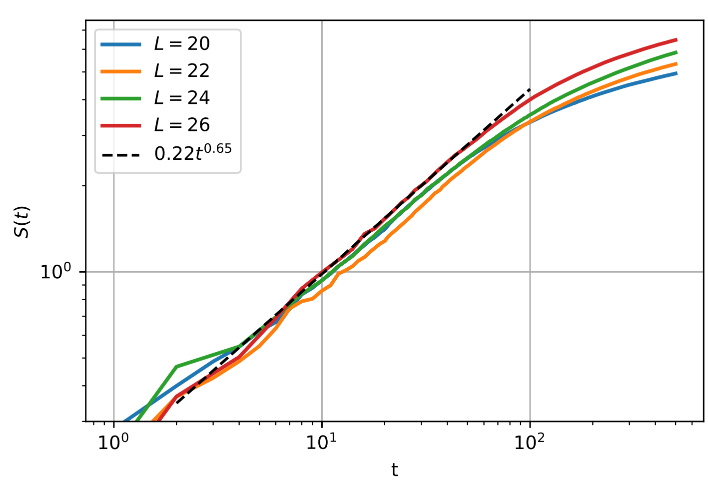

Figure 4: Entanglement growth for initial high energy product states at $h = 1$, for a fixed sample which is progressively extended on its right.

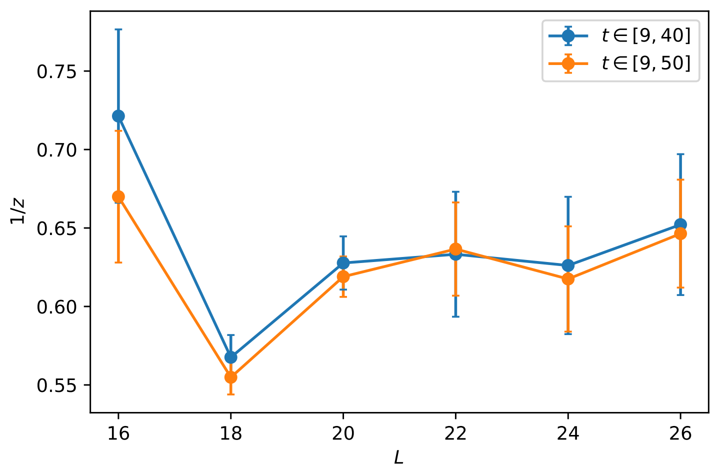

Figure 5: Fit of the dynamical exponent $z(h = 1)$ using entanglement growth data in a two time windows, as a function of system size. For $L \geq 20$, the numerics is compatible with a size-independent exponent.