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【172】 Heating and dynamics in Floquet conformal field theory

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We study the generic dynamics of a special class of integrable periodically modulated quantum systems. Using conformal field theory and in particular a mapping to sine-square deformed field theories, we analytically obtain the full Floquet dynamics of a large class of conformal field theories. These integrable systems show both heating and non-heating phases. In our work, we explore the correlation between heating and the dynamical behaviour of excitations. We show that the excitations of the system propagate along light cones in curved space-time. This propagation serves to underpin the dynamical processes which lead to heating via an abrupt change in the dynamics. Our work uncovers unexpected rich physics present in integrable Floquet systems.

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