
Stefano Lepri

stefano.lepri@isc.cnr.it

Anomalous diffusion of phonons in one dimension

Istituto dei Sistemi Complessi
Consiglio Nazionale delle
Ricerche
Unita Operativa di Firenze
Via Madonna del Piano 10
I-50019 Sesto Fiorentino, Italy

One-dimensional systems often display anomalous energy diffusion and transport. This leads to a breakdown of macroscopic transport relations like e.g. the Fourier law. Besides its intrinsic theoretical interest, these features are relevant for low-dimensional structures in view of the applications to nanoscale heat transfer. We will review numerical, theoretical and experimental results mostly focusing on lattices of nonlinear classical oscillators.