Contribution ID: 19

Type: not specified

## Transport of chaotic trajectories in the phase space of the Fermi-Ulam model

Friday 2 December 2016 15:45 (10 minutes)

The chaotic sea of the phase space of the Fermi-Ulam model is studied in the context of transport of trajectories. The transport is investigated in terms of the histogram of transported trajectories and survival probability. We regard two scenarios: i) the regions of origin are located at a low portion of the chaotic sea and the destination regions are at intermediate/high portions of the chaotic sea. ii) The regions of origin and destination are layers that enclose portions of chaotic sea around islands of regular motion. We show that the histogram of transport is scaling invariant and we show that the probability presents, depending on location of the regions of origin and destination, an exponential decay followed by a power law decay, an exponential decay followed by a stretched exponential decay, a single exponential decay, or two regimes of exponential decay. The behavior of the survival probability in the first and second cases are due to the mixed structure of the phase space, while the third and fourth cases indicate that, depending on location of the regions of origin and destination. The fast exponential decay followed by the a slower exponential decay, the fourth case, indicates the existence of two groups of trajectories that evolve in the chaotic sea. One of them evolves more directly from the region of origin to the region of destination while the other evolves in a larger portion of the chaotic sea before reaching the destination window.

## Tipo de Apresentação

Oral

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Track Classification: Comunicações Orais II