

Glashov, Sheldon Lee; Mittag, Laurence

Three rods on a ring and the triangular billiard. (English) Zbl 0952.70501
J. Stat. Phys. 87, No. 3-4, 937-941 (1997).

Summary: We demonstrate the equivalence of two seemingly disparate dynamical systems. One consists of three hard rods, sliding along a frictionless ring and making elastic collisions. The other consists of one ball moving on a frictionless triangular table with elastic rails. Several applications of this result are discussed.

MSC:

70F99 Dynamics of a system of particles, including celestial mechanics
70F35 Collision of rigid or pseudo-rigid bodies
37D50 Hyperbolic systems with singularities (billiards, etc.) (MSC2010)

Cited in 7 Documents

Keywords:

billiards; hard rods; impact phenomena; tonks gas

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