

CHAOTIC BEHAVIOUR OF BILLIARDS AND LORENTZ GAS

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We will present some chaotic properties of the Z^2 -periodic planar Lorentz gas. This process describes the evolution in time of a point particle moving in the plane and bouncing on round obstacles Z^2 -periodically disposed. We will present different results such as: the asymptotic behaviour of the position, the study of return times, the limits of additive functionals (pinball game in a Lorentz gas). We will also briefly see different behaviours in other chaotic billiards (stadium, billiards with cusps).