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**Free manifolds of dynamic billiards.** (Russian. English summary) Zbl 1004.37504

Regul. Khaoticheskaya Din. 2, No. 3-4, 62-71 (1997).

The authors deal with free manifolds of dynamic billiards and consider such class of dynamic billiards that allow to construct mathematical billiards equivalent to the original ones. They show that free manifolds of dynamic billiards in a constant and Newtonian force field are surfaces of rotation in three-dimensional Euclidean space. Moreover, it is shown that parabolic billiards in a Newtonian attracting force field are equivalent to plane mathematical billiards.

Reviewer: [Messoud Efendiev \(Berlin\)](#)

**MSC:**

37D50 Hyperbolic systems with singularities (billiards, etc.) (MSC2010)

**Keywords:**

[free manifolds](#); [dynamic billiards](#); [Newtonian force field](#); [parabolic billiards](#)