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A relation between the topological invariance of the Godbillon-Vey invariant and the Differentiability of Anosov foliations. (English) [Zbl 0653.57018](#)

Foliations, Proc. Symp., Tokyo 1983, Adv. Stud. Pure Math. 5, 159-167 (1985).

[For the entire collection see [Zbl 0627.00017](#).]

In this paper, we study Anosov's unstable foliations of the geodesic flows of negatively curved surfaces to show some relation between the topological invariance of the Godbillon-Vey invariant of codimension one C^2 -foliations and the differentiability of such foliations. We treat foliations only on closed oriented 3-manifolds, so that we study the Godbillon-Vey number which is the value of the Godbillon-Vey invariant on the fundamental class of the manifold.

MSC:

[57R30](#) Foliations in differential topology; geometric theory
[37D99](#) Dynamical systems with hyperbolic behavior

Cited in **6** Documents

Keywords:

differentiability of foliations; unstable foliations of the geodesic flows of negatively curved surfaces; topological invariance of the Godbillon-Vey invariant; Godbillon-Vey number