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Mixing of some classes of special flows over rotations of the circle. (Russian)

In a recent paper of V. I. Arnol’d [Funktsional. Anal. i Prilozhen. 25 (1991), no. 2, 1–12, 96; MR1142204] it was shown that in the typical case the phase space of a Hamiltonian system on the two-dimensional torus with multivalued Hamiltonian function splits into a finite number of cells, filled up by periodic trajectories, and one ergodic component, on which the phase flow $S^t$ is isomorphic to a special flow over a rotation of the circle. This flow may be defined by a function $f$ having a finite number of asymmetric logarithmic singularities. The aim of the paper under consideration is to consider the question about the mixing property of such flows. It is proved that, under some technical assumptions on the singularities of the function $f$, the flow $S^t$ is mixing.

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