Kochergin, A. [Kochergin, Andrey Vasilyevich] (RS-MOSCEC)  
Well-approximable angles and mixing for flows on $T^2$ with nonsingular fixed points.  
(English summary)  

The author improves his own results on sufficient conditions for a special flow over circle rotations to be mixing. The roof function of the special flow considered is piecewise $C^1$ with finitely many asymmetric logarithmic singularities. (For previous related results, see [Y. G. Sinaĭ and K. M. Khanin, Funktsional. Anal. i Priložhen. 26 (1992), no. 3, 1–21; MR1189019; A. V. Kochergin, Mat. Sb. 195 (2004), no. 3, 15–46; MR2068956].) The first theorem states that, under relatively less restrictive conditions on the asymmetric roof function, the special flow is mixing for irrational rotation numbers that are well approximable by rational numbers. The second theorem gives sufficient conditions on the asymmetric roof function that guarantee the mixing property of the special flow for any irrational rotation numbers.

The proofs are based on estimations of the derivative of the Birkhoff sums of the roof function.

References


5. A. V. Kochergin, Nonsingular saddle points and mixing in flows on two-dimensional torus II, Mat. Sb. 195 (2004), no. 3, 15–46. (Russian) MR2068956 MR2068956

Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.