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leonid koralov* (koralov@math.umd.edu), Department of Mathematics, University of Maryland, College Park, MD 20742, and **Dmitry Dolgopyat**. *Averaging of Hamiltonian Flows with an Ergodic Component*.

We consider a process which consists of the fast motion along the stream lines of an incompressible vector field perturbed by white noise. We showed that for almost all rotation numbers of the unperturbed flow, the perturbed flow converges to an 'effective', averaged Markov process. This is a generalization of the classical results of Freidlin and Wentzell who considered the case when all the flow lines of the unperturbed flow are closed curves. (Received February 10, 2009)