We start with a mini-survey on some problems of pseudoperiodic topology.

In the main part of the paper we consider analogs of irrational winding lines on a torus for arbitrary Riemann surfaces. These analogs are leaves of foliations defined by closed differential 1-forms. We study asymptotic topological dynamics of the winding lines. We take long pieces of leaves of the foliation and consider the behavior of cycles obtained by joining the endpoints of each piece by short segments.

We prove that generically there is a flag of subspaces $V_1 \subset V_2 \subseteq \cdots \subseteq V_g \subseteq V \subset H_1(M_g^2;\mathbb{R})$ in the first homology group with the following properties. The 1-dimensional subspace $V_1$ is spanned by the asymptotic cycle. Deviation of a cycle representing a long piece of leaf from the subspace $V_j$ is of order $l^{\nu_{j+1}}$, $j = 1, \ldots, g-1$, where $l$ is the length of corresponding piece of leaf. The bound is uniform with respect to choice of leaf and position of the piece of leaf on it. The deviation of any leaf from the subspace $V$ is uniformly bounded by a constant. "Universal constants" $0 \leq \nu_j < 1$ are represented in terms of Lyapunov exponents of the Teichmüller geodesic flow on the corresponding moduli space of Abelian differentials.

This statement is a corollary of an analogous statement for interval exchange transformations.