

In this paper, we advance the entropy theory of discrete non-autonomous dynamical systems that was initiated by Kolyada and Snoha in 1996. The first part of the paper is devoted to the measure-theoretic entropy theory of general topological systems. We derive several conditions guaranteeing that an initial probability measure, when pushed forward by the system, produces an invariant measure sequence whose entropy captures the dynamics on arbitrarily fine scales. In the second part of the paper, we apply the general theory to the non-stationary subshifts of finite type, introduced by Fisher and Amoux. In particular, we give sufficient conditions for the variational principle, relating the topological and measure-theoretic entropy, to hold.