

**G. Froyland**, "*Fourier approximation of the statistical properties of Anosov maps on tori*"

We study the stability of statistical properties of Anosov maps on tori by examining the stability of the spectrum of an analytically twisted Perron-Frobenius operator on the anisotropic Banach spaces of Gouëzel and Liverani. We obtain the stability of various statistical properties (the variance of a CLT and the rate function of an LDP) of Anosov maps to general perturbations, including new classes of numerical approximations. In particular, we obtain new results on the stability of the rate function under deterministic perturbations. As a key application, we focus on perturbations arising from numerical schemes and develop two new Fourier-analytic methods for efficiently computing approximations of the aforementioned statistical properties. This includes the first example of a rigorous scheme for approximating the peripheral spectral data of the Perron-Frobenius operator of an Anosov map without mollification. Using the two schemes we obtain the first rigorous estimates of the variance and rate function for Anosov maps.