POLLICOTT–RUELLE RESONANCES VIA KINETIC BROWNIAN MOTION

ALEXIS DROUOT

When M is a Riemannian manifold with negative curvature, its geodesic flow $\Phi_t : S^*M \to S^*M$ has the Anosov property. Hence, the associated corellations decay exponentially with rates called Pollicott–Ruelle resonances. We show that these (dynamical) quantities are limits of eigenvalues of the generator of a stochastic process, called the kinetic Brownian motion. This process models diffusion phenomena with constant speed of propagation.