

Rufus Bowen introduced the specification property for uniformly hyperbolic dynamical systems and used it to establish uniqueness of equilibrium states, including the measure of maximal entropy. After reviewing Bowen's argument, we will present our recent work on extending Bowen's approach to non-uniformly hyperbolic systems. We will describe the general result, which makes precise the notion of "entropy (or pressure) of obstructions to specification" using a decomposition of the space of finite-length orbit segments, and then survey various applications, including factors of beta-shifts, derived-from-Anosov diffeomorphisms, and geodesic flows in non-positive curvature and beyond.