Abstract

In this talk, We shall present a general principle for Hausdorff dimension of the Carte-sian product of limsup sets arising in Diophantine approximation. As an application, it yields that

$$\dim_{\mathcal{H}} W(\psi)\times\ldots\times W(\psi)=\mathrm{d}\text{-}1+\dim_{\mathcal{H}} W(\psi)$$

where $W(\psi)$ is the set of ψ-well approximable points in $\mathbb{R}$ and ψ: $\mathbb{N}\to\mathbb{R}^{+}$ is a positive non-increasing function. This is a joint work with Prof. Bao-wei Wang.