**青年学术论坛邀请报告**

时间：8月16日（周五）下午1:00-2:00

地点：数学楼126

报告人：阮火军（教授）

题目：Metrics on fractals and sub-Gaussian heat kernel

摘要： It is well-known that for a Brownian motion, if we change the media to be inhomogeneous by a measure $\mu$, then the new motion will diffuse according to a different metric $D(x,y)$ (time changed process). Recently, Kigami initiated a general scheme to construct the admissible metrics through some self-similar weight function $g$ on the symbolic space. In this talk, we study this construction on the nested fractals and the generalized Sierpinski carpets, while the self-similar weight functions $g\_{\textit{\textbf{a}}}$ are ``symmetric", generated by a vector of symmetric weights $\textit{\textbf{a}}$. Our focus is on the set $\mathcal{M}$ of $\textit{\textbf{a}}$ where the admissible metrics arisen. They have very rich structure due to the many symmetric properties. We discuss the metric chain condition (MCC) and its close connection with the geodesic spaces. The MCC is important in the lower estimate of the sub-Gaussian kernel. We use the results developed to sharpen the sub-Gaussian estimate in literature. This is a joint work with Qingsong Gu, Ka-Sing Lau and Hua Qiu.

邀请人：苗俊杰