



Department of Mathematics
The Chinese University of Hong Kong

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數學系
香港中文大學

Phone: (852) 3943 7988 • Fax: (852) 2603 5154 • Email: dept@math.cuhk.edu.hk (Math. Dept.)
Room 220, Lady Shaw Building, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

Seminar

Dirichlet Problems on Domains in Sierpinski Gaskets

*Professor Hua QIU
Nanjing University*

Abstract

We study boundary value problems for harmonic functions on certain domains in the level- l Sierpinski gaskets $\mathcal{S}G_l$ ($l \geq 2$) whose boundaries are Cantor sets. We give explicit analogues of the Poisson integral formula to recover harmonic functions from their boundary values. Three types of domains, the left half domain of $\mathcal{S}G_l$ and the upper and lower domains generated by horizontal cuts of $\mathcal{S}G_l$ are considered at present. We characterize harmonic functions of finite energy and obtain their energy estimates in terms of their boundary values. This paper settles several open problems raised in previous work. This is a jointwork with Shiping Cao.

Date : February 17, 2017 (Friday)
Time : 3:45pm – 4:45pm
Venue : Room 222, Lady Shaw Building,
The Chinese University of Hong Kong

All are Welcome