


复旦大学数学科学学院

数学综合报告会

报告题目：**Martin boundary for discontinuous Markov processes**

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摘要： The Martin boundary (with respect to Brownian Motion) of an open set D is an abstract boundary introduced in 1941by Martin so that every nonnegative classical harmonic function in D can be written as an integral of the Martin kernel with respect to a finite measure on the Martin boundary. This integral representation is called a Martin representation. The conceptsof Martin boundary and Martin kernel were extended to general Markov processes by Kunita and Watanabe in 1965. In order for the Martin representation to be useful, one needs to have a better understanding of the Martin boundary, for instance,its relation with the Euclidean boundary. In 1970, Hunt and Wheeden proved that, in the classical case, the Martoin boundary of a bounded Lipschitz domain coincides with its Euclidean boundary. Subsequently, a lot of progress has been made in studying the Martin boundary in the classical case.

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