

*Institute of Mathematical Research**Department of Mathematics*

PROBABILITY AND INFORMATION THEORY SEMINAR

An Introduction to Extortionate Strategy of Symmetric Games

Mr. Keren Shen

The University of Hong Kong

Abstract

Two-player iterated games are a fundamental component of evolutionary game theory. They describe the situations where two players interact with each other repeatedly by using conditional strategies that depend on the outcome of previous rounds. In 2012, a new class of strategies for iterated prisoner's dilemma was proposed by William Press and Freeman Dyson which was called Zero-Determinant strategies. These strategies can unilaterally enforce a fixed linear relationship between the two players's payoffs, independent of the other player's action.

A subset of those strategies are extortionate strategies which exceeding that of the other by a fixed percentage. In this talk, we show that extortionate strategy can also be applied to other iterated games with a 2 by 2 matrix, namely the prisoner's dilemma, the chicken game and the leader game. We also analyze the case when both players use extortionate strategy.

Date: May 6, 2013 (Monday)

Time: 4:00 – 5:00pm

Place: Room 206, Run Run Shaw Bldg., HKU

All are welcome