

Department of Mathematics & Statistics

GRADUATE STUDENT SEMINAR¹

Speaker: Hongyun Dong

Title: *The reduced group C^* -algebra of the free group \mathbb{F}_2*

Date: Friday, November 30, 2007

Time: 2.00 pm

Location: Laboratory Building 204

Abstract:

A very important example of a non-amenable group is the free group \mathbb{F}_2 on two generators u and v . There are many ways to show that \mathbb{F}_2 is not amenable. We know that if G is a discrete amenable group then the reduced group C^* -algebra $C_r^*(G)$ is isomorphic to the group C^* -algebra $C^*(G)$. For the free group \mathbb{F}_2 , $C^*(\mathbb{F}_2)$ is not simple, but the $C_r^*(\mathbb{F}_2)$ is simple, so they are not isomorphic and hence \mathbb{F}_2 is not amenable. Also we will show that the reduced group C^* -algebra $C_r^*(\mathbb{F}_2)$ is a simple unital projectionless C^* -algebra.

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¹Concurrent with the OPERATOR ALGEBRA SEMINAR