

The Oliver Club

www.math.cornell.edu/~oliver/

Rigidity of Quotient Structures

Let A be an algebraic structure, such as a Boolean algebra, a group, or an operator algebra. Let I and J be ideals of A . Is it true that every isomorphism between the quotients A/I and A/J lifts to an endomorphism of A ? It has been known for some time that the answer to this question may depend on set-theoretic axioms and that the Continuum Hypothesis almost always implies the negative answer.

Assume A carries a complete separable metric and that the ideals I and J are Borel. We can split the above question into following two questions:

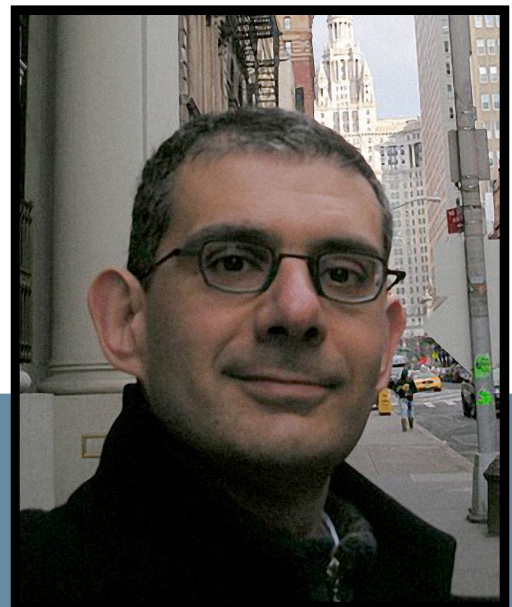
- (1) Does every isomorphism with a Borel-measurable representation lift?*
- (2) Does every isomorphism have a Borel-measurable representation?*

If all the algebraic operations on A are continuous, then the answer to question (1) does not depend on additional set-theoretic axioms. I will discuss some instances in which both questions (1) and (2) have positive answer.

Ilijas Farah

York University

Refreshments will be served at 3:55 PM in the Mathematics Department lounge (532 Malott Hall).



Thursday, May 1, 2008
at 4:25 PM in 406 Malott Hall