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*Group cohomology and automorphisms of corona algebras*

I will exploit a connection between the derived inverse limit functors  $\varprojlim^{(n)}$  and the structure of automorphism groups of corona algebras. By combining this with some simple ideas from set theory I will prove that the Continuum Hypothesis implies that for every stable separable  $C^*$ -algebra  $A$  its corona  $C(A)$  has many outer automorphisms. This is a joint work with Sam Coskey.