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Jon Carlson and **Sunil K Chebolu***, Department of Mathematics, Illinois State University, Normal, IL 61761, and **Jan Minac**. *A Strong Generating Hypothesis for the Stable Module Category.*

Generating Hypothesis is a famous conjecture in homotopy theory due to Peter Freyd from 1965 which states that a map between finite spectra that induces the zero map on stable homotopy groups is null homotopic. Although this original conjecture is still unsolved, in the intervening years the corresponding conjecture in other triangulated categories including derived categories of rings and stable module category of a group algebra has been solved. In recent joint work with Jon Carlson and Jan Minac we formulated a strong form of this conjecture and solved it for the stable module category of a group algebra. This work has led to a new characterization of groups with periodic cohomology and related results on the finite generation problem for Tate cohomology. I will present an overview of this work which is based on arXiv:1509.02845. (Received November 06, 2016)