

Scientific Report

Brent Cody

Purpose of visit

The purpose of the visit was to share some recent joint research with Menachem Magidor and to explore potential further applications of our new method, which allows one to control the continuum function on an interval $[\kappa, \lambda]$, in any reasonable way, where $\kappa < \lambda$ are regular cardinals while preserving the λ -supercompactness of κ from a hypothesis of the weakest possible consistency strength.

Description of the work carried out during the visit

I gave a short presentation to a small group of researchers including Sy-David Friedman and James Cummings, both of whom provided ideas for additional applications of the presented material.

Description of the main results obtained

I had a conversation with Sy Friedman regarding a generalization of the research I presented. More precisely, if κ is λ -supercompact, rather than attempting to control the continuum function just on $[\kappa, \lambda]$ while preserving the λ -supercompactness of κ from a weak hypothesis we address the more general question: to what extent can one control the continuum function globally while preserving λ -supercompactness of κ from such a hypothesis.

James Cummings also provided an idea of an additional application of the method: it might be possible to use the methods I presented to determine precisely what kinds of stationary reflection and non-reflection are consistent with ZFC below \aleph_ω .

Future collaboration

I am currently working on a joint project with Sy Friedman and Radek Honzik that grew out of our conversation at YST 2013.

Projected publications

I should submit several papers within the next few months on the research discussed above:

1. a paper with Sy Friedman and Radek Honzik on supercompactness and the continuum function and
2. a paper on stationry reflection and non-reflection below \aleph_ω .