

TOPOLOGY SEMINAR

Title: *The geometry of the cyclotomic trace*

Speaker: Aaron Mazel-Gee
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Date: Tuesday, February 21, 2017

Location: 258 Hurley Hall

1st Talk:

Time: 2:30 PM

Break: 3:30 pm

2nd Talk:

Time: 4:00 pm

Abstract

Talk I: 2:30-3:30 - Overview (for general topology audience) Talk II: 4:00-5:00 - Technical details (for specialists) The cyclotomic trace is a natural map running from algebraic K-theory to topological cyclic homology (TC). This trace map is important both conceptually and computationally, as it is known to be "locally constant" by the celebrated Dundas--Goodwillie--McCarthy theorem: its fiber remains unchanged under nilpotent extensions of connective associative ring spectra. However, the original construction of TC is quite subtle, and in particular it does not permit a precise interpretation of TC or of the cyclotomic trace at the level of derived algebraic geometry. In this talk, I will describe a new construction of TC that affords just such a precise geometric interpretation, which is based on nothing but universal properties (coming from Goodwillie calculus) and the geometry of 1-manifolds (via factorization homology). This represents joint work with David Ayala and Nick Rozenblyum.