

Topology Seminar

Rob Thompson

of CUNY will be speaking on

An unstable change of rings for Morava E -theory

on September 21 at 4:30 in
MIT Room 2-131

The Bousfield-Kan (or unstable Adams) spectral sequence can be constructed for various homology theories such as Brown-Peterson homology BP , Johnson-Wilson theory $E(n)$ or Morava E -theory E_n . For nice spaces the E_2 -term is given by Ext in a category of unstable comodules. We establish an unstable Morava change of rings isomorphism between $\text{Ext}_{\mathcal{U}_{BP_*BP}}(BP_*, M)$ and $\text{Ext}_{\mathcal{U}_{E_n*E_n}}(E_{n*}, E_{n*} \otimes_{BP_*} M)$ for unstable BP_*BP -comodules that are v_n -local and satisfy $I_n M = 0$. We show that the latter can be interpreted as Ext in the category of comodules over a certain bialgebra. This has implications for the convergence of the Bousfield-Kan spectral sequence.