

TRANSFER MAPS OF PROFINITE GROUPS AND THEIR APPLICATION IN CHROMATIC HOMOTOPY THEORY

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Abstract:

For a finite cover of spaces from E to B, there is a "wrong way map", the transfer map, from the cohomology of E to the cohomology of B. This agrees with the transfer map in group cohomology. We will define a similar transfer map for a profinite group with finite cohomology dimension. As an application, after K(1)-localization, the classical J-homomorphism can be interpreted as a profinite transfer map. In joint work in progress with Ningchuan Zhang, we extend this idea to define and study profinite transfers between homotopy fixed points of the Morava E-theory for closed subgroups of the Morava stabilizer group. This defines analogs of the J-homomorphism at higher chromatic heights.