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Title:

Chromatic congruences and Bernoulli numbers

Abstract:

For every n and a fixed prime p , we construct a new congruence for the orbifold Euler characteristic of a group which we call the chromatic congruence at the height n . Here the word “chromatic” refers to the chromatic stable homotopy theory, though to understand this talk no background in stable homotopy theory is required. The p -adic limit of these congruences when n tends to infinity recovers the well-known Brown-Quillen congruence. We apply these results to mapping class groups and using Harer-Zagier we get an infinite family of congruences for Bernoulli numbers. At the end we will see that these congruences in particular recover classical congruences for Bernoulli numbers due to Kummer, Voronoi, Carlitz and Cohen.