

Dirichlet L -series at $s = 0$ and the scarcity of Euler systems

Dominik Bullach

Essen, November 25, 2021

Abstract

In 1989 Coleman made a distribution-theoretic conjecture which predicts that every Euler system over \mathbb{Q} should essentially be cyclotomic in nature. In this talk I will discuss work joint with Burns, Daoud and Seo which not only allows us to prove Coleman's Conjecture but also provides an elementary interpretation of, and thereby more direct strategy to proving, the equivariant Tamagawa Number Conjecture (eTNC) for Dirichlet L -functions at $s = 0$. As a concrete application we obtain an unconditional proof of the 'minus part' of the eTNC over finite abelian CM extensions of totally real fields.