

Philadelphia Area Number Theory Seminar

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The nonvanishing of Selmer groups for certain symplectic Galois representations

Abstract: Given an automorphic representation π of $\mathrm{SO}(n; n+1)$ with certain nice properties at infinity, one can nowadays attach to π a p -adic Galois representation R of dimension $2n$. The Bloch-Kato conjectures then predict in particular that if the L -function of R vanishes at its central value, then the Selmer group attached to a particular twist of R is nontrivial.

I will explain work in progress proving the nonvanishing of these Selmer groups for such representations R , assuming the L -function of R vanishes to odd order at its central value. The