Numerical evidence for the equivariant Birch and Swinnerton-Dyer conjecture.

Werner Bley (Cassels)

In the first part of the talk we describe an algorithm which computes a relative algebraic K-group as an abstract abelian group. We also show how this representation can be used to do computations in these groups. This is joint work with Steve Wilson. Our motivation for this project originates from the study of the Equivariant Tamagawa Number Conjecture which is formulated as an equality of an analytic and an algebraic element in a relative algebraic K-group. As a first application we give some numerical evidence for ETNC in the case of the base change of an elliptic curve defined over the rational numbers. In this special case ETNC is an equivariant version of the Birch and Swinnerton-Dyer conjecture.