Group Cohomology and Applications to Number Theory Matteo Paganin Department of Mathematics, Sabanci University

Group Actions and Derived Functors have been a fundamental tool in Group Theory, Algebraic Geometry, and Number Theory during the last century. I will introduce the basic definitions in these topics and show the role they play in the concrete example of the action of the absolute Galois group of a number field over the Mordell-Weil group of an elliptic curve.