

MOTIVIC HOMOTOPY THEORY

MARC LEVINE

Abstract Algebraic geometry and topology share a long history of interaction, cross-fertilization and competition. The latest phase involves the newly created field of *motivic homotopy theory*. This can be thought of as an expansion of homotopy theory to a setting that directly involves algebraic geometry, and has enabled the introduction of techniques of algebraic topology to problems in algebra, number theory and algebraic geometry. We will discuss the sources of this development together with a look at the recent applications of the theory.