

Whether you're in algebraic geometry, number theory, operator algebras, topological geometry, or physicist of the appropriate kind, algebraic K-theory encodes important structure. So it is only natural that K-theory is fiendishly hard to calculate. Twenty five years after Quillen's definition of higher algebraic K-theory, next to no complete calculations had appeared. The last twenty five years, this has changed dramatically. Broadly speaking, there are now two inroads: motivic cohomology and topological cyclic homology. I plan to talk about the latter, starting from generalities and a historical overview and highlighting some of the most important break-throughs.