THE K-THEORY OF FINITE FIELDS

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ABSTRACT. To begin I will describe one accepted definition of the algebraic K-groups $K_i(R)$ of a ring R. The rest of the talk will consist of a sketch in broad strokes of Quillen's computation of the K-groups of a finite field k. The overarching strategy of the calculation is to relate the K-theory of k to the K-theory of $\mathbb{C}$ (which we know, due to Bott periodicity), and this involves creative use of the "Brauer lifting" construction from modular representation theory. Our discussion will end on a cliffhanger.

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