CENTRAL EXTENSIONS OF ALGEBRAIC GROUPS VIA CELLULAR $\mathbb{A}^1$-HOMOLOGY

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I will outline the computation of the cellular $\mathbb{A}^1$-homology of a split, semisimple, simply connected algebraic group in low degrees and use it to describe the group of central extensions of such a group by a suitable strictly $\mathbb{A}^1$-invariant sheaf. These results in particular yield a motivic proof of the result of Brylinski and Deligne classifying central extensions of such algebraic groups by K_2. The talk is based on joint work with Fabien Morel.