

DIRAC OPERATORS AND LIE ALGEBRA COHOMOLOGY

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ABSTRACT. Dirac cohomology is a new tool to study unitary and admissible representations of semisimple Lie groups. It was introduced by Vogan and further studied by Kostant and ourselves [V2], [HP1], [K4]. The aim of this paper is to study the Dirac cohomology for the Kostant cubic Dirac operator and its relation to Lie algebra cohomology. We show that the Dirac cohomology coincides with the corresponding nilpotent Lie algebra cohomology in many cases, but in general it has better algebraic behavior and it is more accessible for calculation.

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