

Seminário CEADEL*

14 Junho – 15:00 - sala 6.2.33

The Kostant form of $\mathfrak{U}(sl_n^+)$ and projective resolutions of Weyl modules

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Abstract:

The Schur algebra for the general linear group has finite global dimension. So one can try to construct explicit projective resolutions of the Weyl modules for the Schur algebra.

Let R be a commutative ring and denote by $\mathfrak{U}_n^+(R)$ the Kostant form over R of the universal enveloping algebra of the Lie algebra of $n \times n$ complex nilpotent upper triangular matrices. In this talk I will explain the construction of functors that map (minimal) projective resolutions of the rank-one trivial $\mathfrak{U}_n^+(R)$ -module to (minimal) projective resolutions of rank-one modules for the Borel-Schur algebra. Using Woodcock's Theorem, from these resolutions one can easily obtain projective resolutions of the Weyl modules for the Schur algebra.

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