

1125-20-1843

Christopher P Bendel, Daniel K Nakano and Cornelius Pillen*

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Let G be a simple algebraic group over an algebraically closed field of prime characteristic p which is split over the prime field. If p is roughly twice the size of the Coxeter number or larger it is well-known that the tensor product of a Steinberg module and any simple G -module with restricted highest weight is a tilting module. Not much is known about these tensor products for smaller primes. This question is of interest because it is closely related to two long-standing conjectures by Stephen Donkin. The first concerns the lifting of projective modules of the Frobenius kernels to G . The second deals with various types of filtrations and their connection. This talk is a survey of known results together with explicit examples. (Received September 19, 2016)