

# Characters of certain finite-dimensional modules for hyper current algebras

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## Resumo

This talk is concerned with the study of certain classes of modules for hyper algebras of current algebras. A hyper algebra is a Hopf algebra associated to a Lie algebra, similar to its universal enveloping algebra, and obtained from it by first choosing a certain integral form and then changing scalars. They provide a way to pass from a category of modules for a Lie algebra over an algebraically closed field of characteristic zero to its analog in positive characteristic. If the underlying Lie algebra is simply laced, we show that local Weyl modules are isomorphic to certain Demazure modules, extending to positive characteristic a result due to Fourier-Littelmann. More generally, we extend a result of Naoi by proving that local Weyl modules admit a Demazure flag, i.e., a filtration with factors isomorphic to Demazure modules. Using this, we prove a conjecture of Jakelić-Moura stating that the character of local Weyl modules for hyper loop algebras are independent of the (algebraically closed) ground field. This is a joint work with A. Bianchi and A. Moura.