

Whittaker modules for Lie superalgebras

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Abstract

Whittaker modules are a natural generalization of weight modules in the Bernstein-Gelfand-Gelfand category \mathcal{O} . In this talk, we introduce a construction of simple Whittaker modules for Lie superalgebras. We present a solution to the problem of determining the composition factors of the standard Whittaker modules in terms of composition factors of Verma modules. We explain the connection between the Whittaker modules and the finite-dimensional modules over finite W -superalgebras.

This talk is based on joint work with Shun-Jen Cheng and Volodymyr Mazorchuk.