1163-81-251 **Bely Rodriguez Morales*** (belymorales@id.uff.br), R. Prof. Marcos Waldemar de Freitas, Bloco G, Niteroi, Rio de Janeiro, 24210-201, Brazil. *Logarithmic modules over vertex algebras and nilmanifolds.*

While studding chiral differential operators over certain nilmanifolds often some logarithmic singularities appear. We will briefly discus the theory of logarithmic quantum fields and logarithmic modules as a tool to handle this type of singularities. Finally, we will present a highly non-trivial example of logarithmic module by generalizing the construction of vertex operators in terms of exponentiated scalar fields to Jacobi theta functions naturally appearing in these nilmanifolds. (Received August 30, 2020)