
TIANSHU LIU, The University of Melbourne
osp(1—2) Minimal Models And Their Coset Construction

Conformal field theory is an essential tool of modern mathematical physics with applications to string theory and to the critical behaviour of statistical lattice models. The symmetries of a conformal field theory include all angle-preserving transformations. In two dimensions, these transformations generate the Virasoro algebra, a powerful symmetry that allows one to calculate observable quantities analytically. The construction of one family of conformal field theories from the affine Kac-Moody algebra $sl(2)$ were proposed by Kent in 1986 as a means of generalising the coset construction to non-unitary Virasoro minimal models, these are known as the Wess-Zumino-Witten models at admissible levels. This talk aims to illustrate, with the example of the affine Kac-Moody superalgebra $osp(1—2)$ at admissible levels, how the representation theory of a vertex operator superalgebra can be studied through a coset construction. The method allows us to determine key aspects of the theory, including its module characters, modular transformations and fusion rules.