

Representations over Virasoro algebra with infinite multiplicities

Talk

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In this talk we shall present certain new results and constructions for representations of the Virasoro algebra with infinite-dimensional weight spaces. Motivated by the representation theory of Virasoro vertex algebras, we consider tensor products of irreducible modules from intermediate series with irreducible highest weight modules for Virasoro algebra. We present a new irreducibility criterion, and give several examples. We shall also study generalizations of this construction for Heisenberg-Virasoro algebra and for W -algebra $W(2, 2)$.

MSC2010: 17B68, 17B69.

Keywords: Virasoro algebra, vertex algebra, intertwining operators.

Section: Lie Groups and Representation Theory.