

TOWARDS A DECOMPOSITION OF CLIFFORD VERTEX ALGEBRAS

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Time: Wed, Oct. 27th, 11:00-11:30

Venue: Room 111, SCMS

Abstract:

For any complex simple Lie algebra \mathfrak{g} , we study the Clifford vertex algebra $SC(\mathfrak{g})$ viewed as the loop analog of Clifford algebra associated to \mathfrak{g} with the normalized Killing form. The work extends the result about Chevalley-Kostant presentation of $L(\rho)$ on the Clifford algebra. We consider the embedding of the Lie algebra \mathfrak{g} into its orthogonal algebra identified with the conformal weight 1 piece of $SC(\mathfrak{g})$, and hence equip an affine Lie algebra $\widehat{\mathfrak{g}}$ -module structure on $SC(\mathfrak{g})$. We then classify all the singular vectors in $SC(\mathfrak{g})$ and decompose it into a direct sum of irreducible submodules of $\widehat{\mathfrak{g}}$. We will show that the irreducible component of $SC(\mathfrak{g})$ are corresponding to certain subsets of positive roots.