



Contribution ID: 10

Type: 20 Min Talk

## Wilson lines construction of $\mathfrak{sl}_3$ toroidal conformal blocks

Wednesday, 5 July 2023 09:30 (30 minutes)

We study  $\mathcal{W}_3$  toroidal conformal blocks for degenerate primary fields in AdS/CFT context. In the large central charge limit  $\mathcal{W}_3$  algebra reduces to  $\mathfrak{sl}_3$  algebra and  $\mathfrak{sl}_3$  blocks are defined as contributions to  $\mathcal{W}_3$  blocks coming from the generators of  $\mathfrak{sl}_3$  subalgebra. We consider the construction of  $\mathfrak{sl}_3$  toroidal blocks in terms of Wilson lines operators of 3d Chern-Simons gravity in the thermal  $\text{AdS}_3$  space-time. According to the correspondence, degenerate primary fields are associated with Wilson lines operators acting in the corresponding finite-dimensional  $\mathfrak{sl}_3$  representations. We verify this dual construction for one-point toroidal block using  $\mathfrak{sl}_3$  tensor technique in the bulk theory and an algorithm based on AGT correspondence in the boundary CFT.

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**Track Classification:** Participants Talks