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Universal Virasoro constraints for additive theories

Tuesday 21 January 2025 11:00 (1 hour)

Recently, Virasoro constraints were formulated for sheaf-counting theories which was motivated by their original appearance on the Gromov-Witten side. The main difference lies in the ability to take direct sums of sheaves which allowed us (B.-Lim-Moreira) to connect these constraints to the geometric vertex algebra of Joyce. The upshot, that moduli spaces satisfying Virasoro constraints determine physical states of the vertex algebra, holds in larger generality than just for sheaves. In this talk, I will recall our original statement and explain how it can be extended to representations of quivers. This is already sufficient to illustrate how to formulate it for any additive theory. One can then use wall crossing expressed in terms of Joyce's vertex algebra, to prove Virasoro constraints in many cases.

Presenter: BOJKO, Arkadij