Vertex algebras, factorization algebras and applications

Report of Contributions

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"Vertex algebras associated with hypertoric varieties" by Toshiro Kuwabara (Tsukuba U)

Hypertoric varieties are known as an example of conical symplectic singularities and their resolutions. Using BRST reduction, we construct a sheaf of (h-adic) vertex algebras over a family of Poisson deformations of a hypertoric variety. A conformal vector is constructed explicitly, and we obtain a vertex operator algebra as a vertex algebra of global sections.

As certain special cases, the construction gives localization of affine W-algebras of subregular type A of level -N+1, and one of simple affine VOA of type A of level -1.

Summary