

## Reduction by Stages for Affine $W$ -algebras

*Friday, July 25, 2025 2:30 PM (30 minutes)*

Affine  $W$ -algebras form a family of vertex algebras generalising affine and Virasoro Lie algebras. They are in 1-to-1 correspondence with some affine Poisson varieties, the Slodowy slices. In this talk, I will present how one can use Poisson geometry to prove reduction by stages for affine  $W$ -algebras. By definition, we say that reduction by stages holds whenever some  $W$ -algebra can be obtained as the noncommutative Hamiltonian reduction of another  $W$ -algebra. This work is joint with Naoki Genra.

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