

**SOME COMBINATORIAL ASPECTS  
OF REPRESENTATION THEORY OF AFFINE LIE ALGEBRAS**

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ABSTRACT. Finding combinatorial bases of standard modules for affine Lie algebras is part of Lepowsky-Wilson's approach to study famous Rogers-Ramanujan and related identities by using representation theory.

Besides giving an introduction to this fruitful area of research, results from joint work with M. Primc will be presented. We obtain new monomial bases of a distinguished class of subspaces for standard modules of affine Lie algebra  $\mathfrak{sl}(3, \mathbb{C})$ . This construction naturally yields the known fermionic-type formulas for interesting combinatorial objects called admissible configurations.

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