

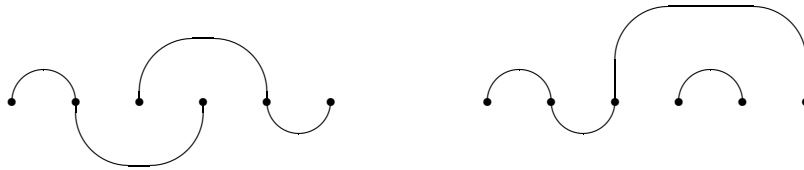
# Wave graph bases of tensor invariants of classical Lie groups and algebras

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## Abstract

Introduced in author's thesis [1], wave graphs give us a new combinatorial approach to the representations and invariants of classical Lie groups and algebras. For example, wave graphs



correspond to the following invariants of  $SL(3)$  and  $Sp(4)$ :

$$((x \wedge y \wedge z) \otimes (x \wedge y \wedge z))^{(34)}, \quad ((\omega \wedge \omega) \otimes \omega)^{(465)}$$

where  $\omega = p_1 \wedge q_1 + p_2 \wedge q_2$ .

## References

- [1] ALEKSANDRS MIHAILOVS. *A Combinatorial Approach to Representations of Lie Groups and Algebras*. PhD thesis, University of Pennsylvania, 1998.