

Webs, invariants, and clusters

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Let V be a 3-dimensional complex vector space endowed with a volume form. The special linear group $SL(V)$ naturally acts on collections of vectors, covectors, and matrices. A powerful tool for constructing and manipulating polynomial invariants of such actions is provided by the combinatorial machinery of tensor diagrams, which includes Kuperberg’s diagrammatic calculus of webs. In joint work with Pavlo Pylyavskyy, we use these techniques to describe and study cluster structures on classical rings of $SL(V)$ -invariants.

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