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# A noncommutative geometric LR rule

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## Abstract

The geometric Littlewood-Richardson (LR) rule is a combinatorial algorithm for computing LR coefficients derived from degenerating the Richardson variety into a union of Schubert varieties in the Grassmannian. Such rules were first given by Vakil and later generalized by Coskun. In this paper we give a noncommutative version of the geometric LR rule. As a consequence, we establish a geometric explanation for the positivity of noncommutative LR coefficients in certain cases.

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