

WHEELING AND THE NON-COMMUTATIVE WEIL COMPLEX

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The Duflo isomorphism is an algebra isomorphism between the invariant pieces of the symmetric and universal enveloping algebras of a semi-simple Lie algebra. “Wheeling” refers to a diagrammatic analogue of this. Bar-Natan, Le and Thurston’s elegant proof exploited a fundamental property of the Kontsevich integral knot invariant. We’ll give a purely combinatorial proof of wheeling based on Alexseev and Meinrenken’s non-commutative Weil complex. The relationship of this proof to the Kontsevich integral presents an interesting puzzle.

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