

Abstract

We study the effect of Feynman integration and diagrammatic differential operators on the structure of group-like elements in the algebra generated by coloured vertex-oriented uni-trivalent graphs. We provide applications of our results to the study of the LMO invariant, a quantum invariant of manifolds. We also indicate further situations in which our results apply and may prove useful. The enumerative approach that we adopt has a clarity that has enabled us to perceive a number of generalizations.