LI GUO, Rutgers University at Newark, Newark, New Jersey 07102
Differential Algebraic Birkhoff Decomposition and the renormalization of multiple zeta values

In the Hopf algebra approach of Connes and Kreimer on renormalization of quantum field theory, the renormalization process is viewed as a special case of their Algebraic Birkhoff Decomposition. We give a differential algebra variation of this decomposition and apply this to the study of multiple zeta values.