

The concept of operadic categories was introduced in a 2015 paper “Operadic categories and duoidal Deligne’s conjecture” by Batanin and Markl as a generalisation of various “operad-like” structures, including classical operads and their variants, versions of PROPs and other similar structures. This thesis introduces the concept of the wreath product of operadic categories and demonstrates that this construction satisfies the axioms of operadic categories. We show that the wreath product of operadic categories is non-commutative and associative. Furthermore, we show that a wreath product of Batanin’s k -trees and l -trees produces a $k + l$ -tree. Our work also establishes a relationship between the Boardman-Vogt product of single-colored operads and the wreath product of their operadic Grothendieck constructions. It is our hope that the wreath product of operadic categories will be a valuable tool in the understanding of the Boardman-Vogt tensor product of coloured operads.