

PROPeradic structures and quantum field theory.

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Abstract

In this non-technical presentation, I will present PROPs (PROducts and Permutations), that are a generalisation of operads with multiple inputs and outputs and explain how we plan to use a universal property of a PROP of graphs to solve the problem of regularisation of quantum field theory. We will see how PROP-like structures such as wheeled PROPs and TRAPs may be more adapted to this problem, and how they appear in families of infinite dimensional spaces. This talk is based on the preprint 2005.02115 and curent work with with Loïc Foissy and Sylvie Paycha.