Additivity and descent of constructible factorization algebras

Abstract

The celebrated approach to perturbative Quantum Field Theories (QFTs) proposed by K.Costello and O.Gwilliam uses factorization algebras as the main device to encode algebras of observables. Within those algebraic avatars, constructible factorization algebras model TFTs with defects. In this talk, we will revisit the basics of this new axiomatization of QFTs, and we will discuss two fundamental properties: additivity and descent. The second one concerns the process of gluing constructible factorization algebras along open covers of the underlying space, while additivity identifies constructible factorization algebras over a product of spaces. Based on joint work with A.Švraka, arXiv:2510.26504.