
TOMASZ MASZCZYK, Institute of Mathematics, Polish Academy of Sciences, and University of Warsaw, Warsaw, Poland
Noncommutative algebraic sets

We construct a strong monoidal faithful and full embedding of the cartesian monoidal category of sets into 1-cells of some 2-category. These 1-cells are opmonoidal functors (admitting the right adjoint) between some monoidal categories (“quantum vector spaces over quantum fields”). The image of this embedding will be regarded as picking classical sets among their quantum counterpart. Next, I will show how to endow (convolution) representations of “quantum fields” (some associative unital algebras) with a structure of an enriched category, whose morphisms form “quantum sets” as above. This category should be understood as “quantum category of quantum fields”. It generalizes its classical counterpart, in particular the classical Galois group. For any associative algebra we construct an enriched functor (“functor of quantum points”) from the enriched category of “quantum fields” to the category of “quantum sets”.