Hopf algebras for monads on tensor categories

Ieke Moerdijk

We develop a bit of the theory of monads on tensor categories and Hopf algebras for such monads, with the aim of showing that the Connes-Kreimer Hopf algebra structure on rooted trees is a particular instance of a categorical construction of large families of Hopf algebras. (The case where the monad is given by an operad is worked out in my recent preprint "On the Connes-Kreimer construction of Hopf algebras", see http://www.math.uu.nl/people/moerdijk/preprints.html.)