MEMORIAL UNIVERSITY

Algebra Seminar

Coends and categorical Hopf algebras

Speaker

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2:00 p.m., HH-3017

Abstract:

We first review some basics of category theory, the construction of a coend as a categorical Hopf algebra, and duals and homomorphic images of categorical Hopf algebras. We then prove that, in the case of the category of finite-dimensional modules over a finite-dimensional quasitriangular ribbon Hopf algebra, the hypothesis that the field is algebraically closed can be dropped in the result in Theorem 1.1 of the paper "Non-degeneracy conditions for braided finite tensor categories" by Kenichi Shimizu, which states that in a braided finite tensor category over an algebraically closed field, the triviality of the Müger centre implies that the Hopf pairing is non-degenerate. The coend in this category can be constructed as the dual space of the quasitriangular Hopf algebra.