
MITJA MASTNAK, Saint Mary's University

Bialgebras and coverings

Abstract: If A, B are algebras and C a coalgebra, then a linear map $f: A \otimes C \rightarrow B$ is called a measuring if it corresponds to an algebra map from A to the convolution algebras $\text{Hom}(C, B)$, or, intrinsically, if for x, y in A and c in C we have that $f(1_A, c) = \varepsilon(c)1_B$ and $f(xy, c) = f(x, c_1)f(y, c_2)$. If A, B are bialgebras, then we say that f is a partial covering if it is also a coalgebra map. A covering is a surjective partial-covering.

In the talk I will discuss the bi-category of bialgebras, with (partial) coverings and the idea of classifying bialgebras up to covering equivalence. This is joint work with A. Lauve and fits into the general scheme of Grunenfelder and Paré of using coalgebras instead of sets as parameterizing objects.