A Hopf algebra of subword complexes (Extended abstract)

Nantel Bergeron^{*1} and Cesar Ceballos^{*2}

¹Department of Mathematics and Statistics [Canada] – Faculty of Pure and Applied Sciences 4700 Keele Street North York, Ontario, Canada, M3J 1P3, Canada ²Faculty of Mathematics [Vienna] – Oskar-Morgenstern-Platz 1, 1090 Wien, Austria

Abstract

We introduce a Hopf algebra structure of subword complexes, including both finite and infinite types. We present an explicit cancellation free formula for the antipode using acyclic orientations of certain graphs, and show that this Hopf algebra induces a natural non-trivial sub-Hopf algebra on c-clusters in the theory of cluster algebras.

*Speaker