A day on Moduli and Skein algebras in Toulouse

Rapport sur les contributions

ID de Contribution: **1**   Type: **Non spécifié**

Structure of moduli algebras and application to skein algebras

vendredi 24 mars 2023 09:00 (45 minutes)

The moduli algebra of a compact oriented surface with n punctures (n>0) is a "twisted tensor product" of several copies of the quantized coordinate algebra O_q(G). I will first explain the definition. Then I will present results on the structure of these algebras, namely that they are finitely generated, Noetherian and do not contain zero divisors. If time permits, the ingredients of the proofs will be discussed. Finally I will define an isomorphism between moduli algebras and skein algebras. In this talk we only consider quantum groups at generic parameter (no roots of unity).

Joint work with S. Baseilhac and P. Roche.

Orateur: Dr FAITG, Matthieu

ID de Contribution: **2**   Type: **Non spécifié**

Classification of representations of reduced stated skein algebras

vendredi 24 mars 2023 09:45 (45 minutes)

In this talk, I will introduce a family of algebras named reduced stated skein algebras and present a classification of their finite dimensional (semi-weight) representations.

These representations are conjectured to be the building blocks of some SL_2 TQFT which extend some constructions of Blanchet-Costantino-Geer-Patureau Mirand and Baseilhac-Benedetti.

If time permits, I will explain how we can deduce from this classification some projective representations of the mapping class groups and some new links invariants. This is a joint work with H.Karuo.

Orateur: Dr KORINMAN, Julien

ID de Contribution: **3**   Type: **Non spécifié**

On the SL_n stated skein algebra of the triangle

vendredi 24 mars 2023 10:45 (45 minutes)

Orateur: Prof. LE, Thang

ID de Contribution: **4**   Type: **Non spécifié**

Quantum moduli algebras at roots of unity

vendredi 24 mars 2023 11:30 (45 minutes)

We prove that the graph algebra and the quantum moduli
algebra associated to a punctured sphere and complex semisimple Lie
algebra $\mathfrak{g}$ are Noetherian rings and finitely generated
rings over
$mc(q)$. Moreover, we show that these two properties still
hold on
$mc[q, q^{-1}]$ for the integral version of the graph algebra.
We also study the specializations
$Ll_{0,n}^e$ of the graph algebra
at a root of unity
e of odd order, and show that
$Ll_{0,n}^e$ and
its invariant algebra under the quantum group $U_{e(\mathfrak{g})}$
have classical fraction algebras which are central simple algebras of
PI degree that we compute.

Orateur: M. ROCHE, Philippe (IMAG)