Du
30
MARS.
2019

14h30
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15h30

SÉMINAIRE BOURBAKI

Luca MIGLIORINI — HOMFLY polynomials from the Hilbert schemes of a planar curve , after D. Maulik, A. Oblomkov, V. Shende...

Institut Henri Poincaré
Amphithéâtre Hermite
11 rue Pierre-et-Marie-Curie, 75005 Paris

INSCRIPTION

Among the most interesting invariants one can associate with a link $L \subset S3$ is its HOMFLY polynomial $P(L,v,s) \in Z[v\pm1,(s-s-1)\pm1]$. A. Oblomkov and V. Shende conjectured that this polynomial can be expressed in algebraic geometric terms when L is obtained as the intersection of a plane curve singularity $(C,p) \subset C2$ with a small sphere centered at p: if $f=0$ is the local equation of C, its Hilbert scheme $C[n]p$ is the algebraic variety whose points are the length n subschemes of C supported at p, or, equivalently, the ideals $I \subset C[[x,y]]$ containing f and such that $\dim C[[x,y]]/I=n$. If $m:C[n]p \to Z$ is the function associating with the ideal I the minimal number m(I) of its generators, they conjecture that the generating function $Z(C,v,s)=\sum ns2n\int C[n]p(1-v2)m(I)d\chi(I)$ coincides, up to a renormalization, with $P(L,v,s)$. In the formula the integral is done with respect to the Euler characteristic measure $d\chi$. A more refined version of this surprising identity, involving a colored'' variant of P(L,v,s), was conjectured to hold by E. Diaconescu, Z. Hua and Y. Soibelman. The seminar will illustrate the techniques used by D. Maulik to prove this conjecture.

INSTITUT HENRI POINCARÉ - UAR839

Sorbonne Université / CNRS
11 rue Pierre et Marie Curie
75231 Paris Cedex 05

HORAIRES

L'institut :
• lundi au vendredi de 8h30 à 18h,
• fermé les jours fériés.

Le musée - Maison Poincaré :
• lundi, mardi, jeudi et vendredi
de 9h30 à 17h30,
• samedi de 10h à 18h,
• fermé le mercredi et le dimanche.