

Séminaire de théorie des nombres

Le 05 juin 2023 à 14h (Jussieu)

Reductions of Galois Representations

Exposé de Eknath Ghate
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Résumé : Determining the shape of the reductions of two-dimensional crystalline representations is an old problem going back to Deligne, and Fontaine and Edixhoven.

In particular, this reduction can be both irreducible and reducible. A conjecture I made about 5 years ago - the zig-zag conjecture - says that for exceptional weights with respect to half-integral slopes, the reduction varies through an alternating sequence of irreducible and reducible representations depending on the relative sizes of two auxiliary parameters.

In this talk we give a survey of work done on the reduction problem, concentrating on our recent proof of the zig-zag conjecture.