Hurwitz spaces and modular towers
(Survey talk)

Anna Cadoret

Profinite Arithmetic Geometry
Red Lodge - Montana, April 3rd - April 7th, 2006

Abstract

The aim of this survey talk is to construct modular towers and abelianized modular towers. The first part will be devoted to basic definitions and results for G-covers of the projective lines and their associated coarse moduli space - called Hurwitz spaces. The second part will describe the construction of modular towers and motivate it by the dihedral group example.

References

[F95] M. FRIED, *Introduction to Modular Towers:Generalizing the relation between dihedral groups and modular curves*, Proceedings AMS-NSF Summer Conference, **186**, Cont. Math. series, Recent Developments in the Inverse Galois Problem, p.111-171, 1995.

[FV91] M. FRIED and H. VOLKLEIN, *The Inverse Galois Problem and Rational Points on Moduli Spaces*, Math. Ann. **290**, p. 771-800, 1991.

[RoW04] M. ROMAGNY and S. WEWERS, *Hurwitz spaces*, to appear in *Groupes de Galois arithmétiques et différentiels*, Proceedings of the 2004 Luminy conference, Séminaires et Congrès **13**, S.M.F., D. Bertrand and P. Dèbes eds, 2006.