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On extensions of number fields with given quadratic algebras and cohomology

At the beginning of the century, Labute and Minac introduced a criterion, on presentations of pro- p groups, ensuring that the cohomological dimension is two. Groups with presentations satisfying this condition are called mild.

In this talk, we introduce a new criterion on the presentation of finitely presented pro- p groups which allows us to compute their cohomology groups and infer quotients of mild groups of cohomological dimension strictly larger than two.

We interpret these groups as Galois groups over p -rational fields with prescribed ramification and splitting.