On parametric sets of regular Galois extensions over number fields

Joachim KÖNIG Technion I.I.T, Haifa

The Beckmann-Black problem for a group G over a field k asks whether every Galois extension of k with group G arises as a specialization of a k-regular Galois extension with group G. We discuss new results on variants of the Beckmann-Black problem over number fields. In particular, we show (under relatively weak assumptions on the group G) that no finite set S of k-regular G-extensions is "G-parametric", i.e. not all G-extensions of k are specializations of elements of S.