Der Wissenschaftsfonds.

Institut f. Analysis und Computational Number Theory (Math. A)

Zahlentheoretisches Kolloquium

Donnerstag, 13. 11. 2014,
ACHTUNG - NEUE BEGINNZEIT: **10:00 Uhr s.t.**

Seminarraum C 208, 2. Stock, Steyrergasse 30, TU Graz

Forms of differing degrees over number fields

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Abstract: Consider a system of m forms of degree d in n variables over the integers. A classical result by Birch uses the circle method to provide an asymptotic formula for the number of integer solutions to this system in a homogeneously expanding box, as long as n is large compared to m and d. An analogous result over arbitrary number fields was proved by Skinner. In joint work with M. Madritsch, we extend Skinner's techniques to a recent generalization of Birch's theorem by Browning and Heath-Brown, where they allow the forms to have differing degrees.

We discuss the main ingredients of the proof, as well as consequences of this result to the Hasse principle, weak approximation, and Manin's conjecture.

R.Tichy