Einladung

Im Oberseminar Reelle Geometrie und Algebra hält

**Tomas Bajbar**

(IOR)

am **Freitag, 14.11.2014**, einen Vortrag zum Thema:

*Coercive polynomials and their Newton polytopes*

Der Vortrag findet um **13:30 Uhr** in **F426** statt.
Alle Interessenten sind herzlich eingeladen.

**Abstract:** Many interesting properties of polynomials are closely related to the geometry of their Newton polytopes. We analyze the coercivity on $\mathbb{R}^n$ of multivariate polynomials $f \in \mathbb{R}[x]$ in terms of their Newton polytopes. In fact, we introduce the broad class of so-called gem regular polynomials and characterize their coercivity via conditions imposed on the vertex set of their Newton polytopes. These conditions solely contain information about the geometry of the vertex set of the Newton polytope, as well as sign conditions on the corresponding polynomial coefficients. For all other polynomials, the so-called gem irregular polynomials, we introduce sufficient conditions for coercivity based on those from the regular case. For some special cases of gem irregular polynomials we establish necessary conditions for coercivity, too. Finally we address some stability issues.