

Einladung

Im Rahmen des Schwerpunktskolloquiums „Analysis und Numerik“ hält

Frau Professor Dr. Drahoslava Janovská
(University of Chemistry and Technology, Prague)

am **Donnerstag, dem 24. Mai 2018**, einen Vortrag zum Thema:

Zeros of polynomials over quaternions and related algebras

Der Vortrag findet um **17:00 Uhr** in Raum **F 426** statt.

Alle Interessenten sind herzlich eingeladen.

Andrea Barjasic

Beauftragte für das Kolloquium

Abstract: We will focus on finding zeros of polynomials with coefficients from quaternions and related algebras in \mathbb{R}^4 . The algebras in question are quaternions, coquaternions, nectarines, and conectarines. We give a short introduction to properties and differences of these algebras. There are various methods for find zeros of polynomials with coefficients from these algebras. It turns up that when the polynomial has degree n , it has at most $n(2n - 1)$ zeros. We have created an algorithm for finding almost all zeros of polynomials of degree n over these algebras using a real polynomial of degree $2n$, called companion polynomial. We will give also a short remark on algorithm that allows to find so-called unexpected zeros which otherwise are not detectable.

D. Janovská, G. Opfer: The number of zeros of unilateral polynomials over coquaternions and related algebras, Electron. Trans. Numer. Anal., 46 (2017), pp. 5570.

D. Janovská, G. Opfer: Matrices over nondivision algebras without eigenvalues, Adv. Appl. Clifford Algebras, 41 (2016), 591612.

D. Janovská, G. Opfer: Zeros and singular points for one-sided, coquaternionic polynomials with an extension to other \mathbb{R}^4 algebras, Electron. Trans. Numer. Anal., 41 (2014), pp. 133158.