



BERGISCHE
UNIVERSITÄT
WUPPERTAL

Vortrag im Mathematischen Kolloquium am 19. Juni 2018:

Dr. Stefan Güttel:

The Nonlinear Eigenvalue Problem

Given a matrix-valued function F which depends nonlinearly on a scalar parameter z , the basic nonlinear eigenvalue problem consists of finding those z for which $F(z)$ is singular. Such problems arise in many areas of computational science and engineering, including acoustics, control theory, fluid mechanics, and structural engineering.

In this lecture I will give an introduction to nonlinear eigenvalue problems and some of their interesting mathematical properties. I will discuss and relate various classes of algorithms for their solution.