

**Invitation to the talk *Biaxial testing of ductile damage in metals: New approaches and specimens* of Dr.-Ing. Steffen Gerke at the GAMM Student Chapter at TU Dortmund University**

Place: MB I - R165 (Seminar room, hybrid)  
Zoom Link: [Link](#)  
Meeting ID: 915 6897 8523  
Passcode: 617631

Date: Tuesday, 28th February 2023  
Time: 2:00 pm (14:00)

**Preliminary agenda**

*TOP 1:* Seminar talk by [Dr.-Ing. Steffen Gerke](#) (see abstract below)

*TOP 2:* Discussion and Questions

*TOP 3:* Open Exchange

**Abstract**

Biaxial testing of ductile damage in metals: New approaches and specimens

*[Dr.-Ing. Steffen Gerke](#) - University of the Bundeswehr Munich, Institute for Mechanics and Statics*

The damage and failure behavior of ductile metals depends on the stress state and consequently on the loading history. Before significant damage processes occur, larger plastic deformations have usually already developed and a localization of the deformation begins. One possibility to investigate the damage behavior under different stress conditions are experiments with carefully selected biaxially loaded specimens. In this presentation different test specimen geometries will be discussed and from these new cruciform specimens for the investigation of the damage behavior will be motivated. Furthermore, various aspects of the experimental procedure, such as machine control and the use of digital image correlation (DIC), will be discussed. Finally, a wide range of experimental results with proportional and non-proportional tests are presented.

---