

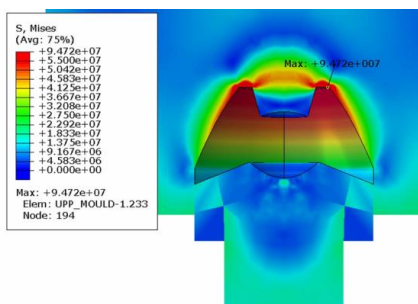
Student Assistant (m/f)

Constitutive Modeling of Viscoelastic Material



Non-isothermal Glass Molding (NGM) has recently been developed at the Fraunhofer IPT and has become a key technology for cost-efficient manufacturing of precision glass optics with complex geometry. The development of numerical modeling allows an innovative approach to design a time- and cost effective NGM process.

This research aims at a comprehensive development of the material model to study the viscoelastic behaviors of the glass under the molding conditions. The constitutive modeling including thermo-rheological-mechanical behaviors of the glass will be addressed and implemented in ABAQUS via user-subroutine UMAT.



Work description

- Modeling of the viscoelastic behaviors of glass in the Non-isothermal glass molding process
- Implementation of the viscoelastic model into FEM solver, i.e. ABAQUS via user-subroutine UMAT

Requirements

- Good knowledge in FEM simulation
- Good experience with UMAT and Fortran programming
- Basic understanding of Molecular Dynamics Simulation
- Working on this research 12-15 hours/week

Contact person

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