



Vortrag



Bubble dynamics and electrohydrodynamics effects

Samuel Siedel
Maître de Conférences
SIMAP/EPM, Grenoble, France

The mechanical behaviour of bubbles is a key parameter to properly model and design a large number of processes such as two-phase heat transfer devices, chemical reactors, some food processes, etc. However, due to complex and coupled physical phenomena and due to the multiple scales involved, an accurate description and prediction of bubble dynamics is not an easy task. Based on several experimental studies and on analytical modelling, the quasi-static bubble growth regime will be introduced and bubble dynamics in such a regime (volumetric growth, shape, contact line physics and detachment) will be fully presented.

Electrohydrodynamics (EHD) refers to the application of electric fields into a fluid medium. When applied to a two-phase system, a new force field is created that particularly impacts the mechanical equilibrium of the interface. As a promising method to enhance and control processes, the influence of electric fields on bubble immersed in a dielectric liquid has been investigated. Supported by experimental observation and measurements, an innovative numerical method to model EHD distorted bubbles will be presented.

Termin: **29.07.2015, 13:00 Uhr**
Ort: **ZEU 150a**

Kontakt: Prof. Dr.-Ing. habil. Jochen Fröhlich
Sekretariat: 0351-463 34736, sekretariat-psm@mailbox.tu-dresden.de