

Rheologentagung 2009 Berlin



Joint symposium DRG and ProcessNet-FA Rheologie "Rheology and viscoelastic flow instabilities" – Gemeinsame Diskussionstagung der Deutschen Rheologischen Gesellschaft (DRG) und des ProcessNet Fachausschusses „Rheologie“

19–20 MARCH
BERLIN, GERMANY

In a long time tradition, the joint symposium was co-organized by the DRG and ProcessNet during 19-20 March 2009. It took place in the comfortable buildings of the Bundesanstalt für Materialprüfung (BAM) that offered generously the conference rooms. The symposium had an open announcement but a part was contributed to the topic "viscoelastic flow instabilities". This session was opened by an invited talk of Alexander Morozov, Edinburgh. He reviewed the historical and actual theoretical and experimental work in this field. In the final part of his talk he presented a weakly nonlinear theory that could explain viscoelastic instabilities in straight channels and, e.g., could be connected to the phenomenon of shark skin and melt fracture. The latter led to a lot of discussion throughout the session and it showed that the topic is both actual and far from being fully understood. The following talks were given by Teodor Burghela, Erlangen and Ingo Naue, Karlsruhe who presented experimental results on elastic turbulence and melt flow instabilities. Robert Vogt, Freiburg presented experimental results on melt fracture in oscillatory measurements together with a theoretical model on the basis of the Tanner and Keentok equation. Tobias Himmel, Berlin proposed in his talk the use of thermoplastic elastomers to reduce shark skin. Jürgen Griebel, Erlangen gave the last talk of this session and presented a comparative study on LDPE and LLDPE from which only the latter one produced shark skin.

The first talk of the next session was given by Anke Lindner, Paris who presented data on the flow of dense granular suspensions. Christian Clasen, Leuven, presented the second generation of flexure based microgap rheometer. Silke Rathgeber, Mainz demonstrated a microrheological approach based on fluorescence correlation spectroscopy and Ulrich Handge, Bayreuth presented the rheological properties of PA 6-

nanocomposites on the base of silica nanotubes. Ingo Allig, Darmstadt gave a seminar on the destruction and reformation kinetics of carbon nanotube networks in polymer melts. The day ended with the awarding of the Rheology price for the best PhD thesis in Rheology and the prizewinner Sebastian Heidenreich, Berlin gave the final presentation on flow properties of fluids of rods.

The next day started with two talks on CaBER experiments by Christian Wagner, Saarbrücken and Katarzyna Niedzwiedz, Karlsruhe. Thereafter, Tatsawan Tipvarakarnkoon talked about combined effect of xanthan fractions and temperature on rheology of xanthan/guar blends. Peter Schmiedel, Düsseldorf, reported on foam properties, surface- and bulk- rheology of foams and model surfactant solutions. Florian Stadler, Louvain presented an approach to recover the microscopic structure of polymers from relaxation spectra and Manuela Duxenneuner, Zürich presented experimental data on the simultaneous inner and outer flow visualization of forming droplets in microchannel. Saeid Kheirandish, Linz gave a seminar on nonlinear Rheology and miscibility of polyfin melts and Steffen Schneider, Weimar on rheological properties of dry plaster. The last talk was given by Markus Hütter, Zürich on dynamic density-functional theory in flow and non-uniform temperature.

The symposium was attended by over 80 people and the talks and discussions of overall high quality. The poster session and the buffet on Thursday evening gave the opportunity to discuss some scientific ideas more profoundly and to meet known and new colleagues. The next spring meeting will take place in Karlsruhe together with the Kolloidgesellschaft.

Christian Wagner
c.wagner@mx.uni-saarland.de

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