

ANNUAL MEETING OF THE RHEOLOGY GROUP
OF THE GERMAN SOCIETY OF PROCESS ENGINEERING AND
CHEMICAL ENGINEERING (GVC - FACHAUSSCHUSS RHEOLOGIE)

KONGRESSHAUS BADEN-BADEN, GERMANY
FEBRUARY 17TH-18TH, 2000

The annual meeting of the German Society of Process Engineering and Chemical Engineering's Rheology group took place in Baden-Baden/Germany during February 17.-18. 2000. The meeting's aim is to inform on recent developments in academia and industry and is not devoted to specific topics or themes. The program of both days therefore consisted out of 16 talks that covered a broad area of rheological research as material, measuring, and modelling aspects.

During the first session on suspensions held on Thursday afternoon H. Fitzkow (Universität Magdeburg, Germany) reported on systems with a broad particle size distribution that are typical for gypsum residue from smoke cleaning devices in large power plants. The audience later on discussed the influence of the used geometries and the yielding behavior of such systems. The second talk was given by E. Windhab (ETH Zürich, Switzerland) instead of his Ph.D. student B. Ouriev. The topic of his talk was the Doppler ultrasound methods and its application to shear thinning and shear thickening suspension systems as chocolate and other no transparent systems in pressure driven flow conditions. M. Hufschmidt (RWTH Aachen, Germany) studied the phase separation of suspension near walls by NMR spectroscopy. Since his main interest are

thixoforming metal alloys that cannot be investigated in a NMR a model system of PMMA in sucrose solution was investigated. The last talk in the suspension session was given by G. Bartelmes (Universität Karlsruhe, Germany). Here a model to describe the rheological properties in relation to different agglomeration behavior of suspension particles, similar to the Fluid Immobilization Model recently presented by E. Windhab, was introduced.

The evening session offered four talks on very different subjects. T. Wunderlich (Universität Erlangen/Nürnberg, Germany) demonstrated the influence of electrode size and shape on the electrorheological effect in ER-fluids in narrow channels. His main goal is to improve the performance of ER-fluids in clutches, dampers and other visco-controlled devices. J. Tyrach then investigated the flow behavior of concrete by using the ball measuring system (for more details see also Appl. Rheol. 9, 4, 145-147). J.-C. Eischen (ETH Zürich, Switzerland) reported on his investigations on diluted, semi-diluted and concentrated fiber systems and the image analysis to quantify the orientation effects in such systems (see also Appl. Rheol. 9, 4 174-175). The final presentation was then given by W. Gleissle, "rheological primary rock" as he was introduced by

the chair (Universität Karlsruhe, Germany) on a phenomenological model on the pressure loss in viscoelastic fluids when passing a porous media. Shortly afterwards all participants headed out for dinner at "Münchner Löwenbräu" and later on to some bars for a late night cocktail.

The second day started early (*i.e.* too early for physicist soul of the first author) with a talk on time-temperature super-



Ready to go!

This is an extract of the complete reprint-pdf, available at the Applied Rheology website
<http://www.appliedrheology.org>

92 Applied Rheology March/April 2000
The complete reprint-pdf, available at the Applied Rheology website
<http://www.appliedrheology.org>



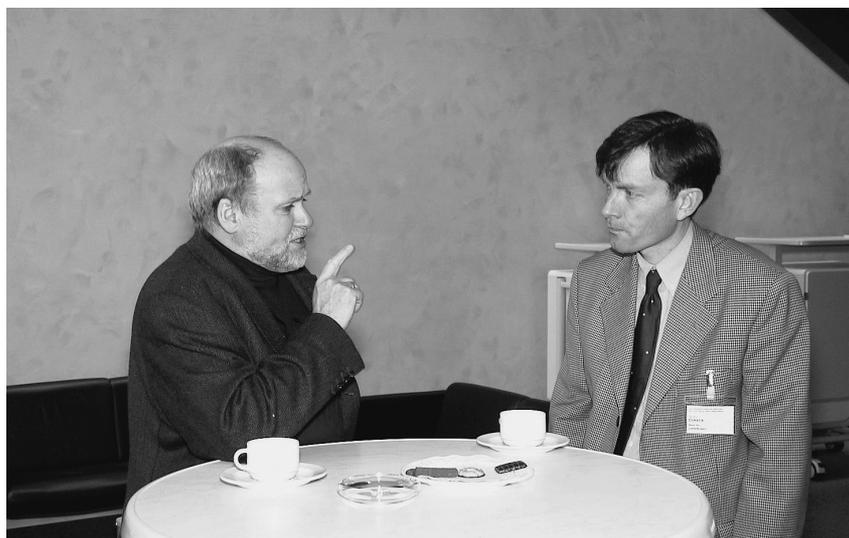
position of viscoelastic surfactant solutions presented by P. Fischer (ETH Zürich, Switzerland). W. Thimm (Freiburger Materialforschungszentrum, Germany) then reported on the determination of the molecular weight distribution from the relaxation time spectra by using a generalized mixing rule derived from the reptation model (see also *Appl. Rheol.* 9, 6, 242-243). The model was probed by a bimodal mixture of several polymers and showed a good comparison to gel permeation chromatography. In a more process oriented talk M. Mours (BASF Ludwigshafen, Germany) presented the transient morphological developments of immiscible polymer blends passing a cylindrical die. Different coalescence rates at the rim and in the center of the dispersed material were observed while the mean particle size distribution could be described by the Palierne-Model. A second talk on drop dispersing was given by S. Kaufmann (ETH Zürich, Switzerland). He focused on the effect of mixed shear, extensional forces and relaxation times on the deformation and break-up of immiscible systems and how to design a efficient dispersing apparatus.

The final session was kicked off by C. Wilkes (Universität-GH Essen, Germany) after a coffee break with too less cookies. In his work the deformation and orientation of polymer change in deluted solutions subjected to extensional flow is of interest. At very interesting talk on

extensional viscosity measured by stretching a small liquid bridge was given by M. Stelter (Universität Erlangen-Nürnberg, Germany). The method itself and the comparison to similar experiments in low gravity were discussed lively afterwards. H. Bastian (Universität Stuttgart, Germany) reported on strain hardening effects in linear and branched polyolefine melts and the comparison with a molecular stress theory derived from the reptation model. The challenging final talk was given by P. Rubio on the Pom-Pom Model comparing the original differential approximation of McLeish and Larson with the full (integral) model. The effect of both formulations on the stretching behavior of the polymer segments was discussed and compared with experimental data.

The next meeting will be held in early February in Regensburg/Germany. Information can be requested from K. O. Schaller at GVC's main office (Fax: x49.211.6214162).

pf at editors@ar.ethz.ch



W. Gleißle does not agree.

This is an extract of the complete reprint-pdf, available at the Applied Rheology website
<http://www.appliedrheology.org>

This is an extract of the complete reprint-pdf, available at the Applied Rheology website
<http://www.appliedrheology.org>

Applied Rheology
 March/April 2000

93