2nd SIG43 wokshop on fibre suspension flows

Royal Institute of Technology, Stockholm, Sweden, February 9-10, 2010

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Introduction

ERCOTAC Special Interest Group on Fibre Suspension Flows (SIG43) was established 2008. Its second workshop was arranged February 9-10 2010 at the Royal Institute of Technology, Stockholm, Sweden. Local arrangements were made by Dr. Fredrik Lundell and his group at KTH Mechanics. The workshop was attended by 26 researchers from six countries (Canada, Finland, France, the Netherlands Poland and Sweden). There were participants from the industrial companies Metso, Inc. and Noss AB. The first workshop of SIG43 was held at the Technical Research Centre of Finland (VTT) in Jyväskylä, Finland in April 2009.

Scientific program

There were 14 presentations on numerical and experimental work on fibre suspensions and related topics:

- *Best practice guidelines for computational fluid dynamics of dispersed multiphase flows*, **Renè Oliemans**, Multiphase Flow B.V.
- *Flocculation of latex particles in a pure shear flow*, **Salaheddine Skali-Lami**, INPL, Nancy
- *Near-wall fibre orientation in a headbox*, **Allan Carlsson**, University of British Columbia
- *In-line pipe rheometry for complex slurries/nano cellulose suspensions*, **Juha Salmela**, VTT
- *Suspension rheology and its implication on energy efficient pumping*, **Richard Holm**, Innventia
- *Modelling of the fibre anisotropy profile in shear layers using an empirical rotational diffusion coefficient*, **Anders Dahlkild**, KTH
- *Fiber suspensions between counter-rotating discs*, **Charlotte Ahlberg**, KTH
- *Deposition properties for fibrous particles in the respiratory airways*, **Sofie Högberg**, Luleå University of Technology
- *Experiments on fiber flocculation in a contracting channel flow*, **Hannu Eloranta**, Tampere University of Technology
- *Dynamics of flexible fibres in a turbulent flow field*, **Srdjan Sasic**, Chalmers University of Technology
- *Streak formation in near wall turbulent fibre suspension flow*, **Karl Håkansson**, KTH
- *On the fibre orientation probability distribution in a contracting channel flow*, **Heidi Niskanen**, University of Kuopio

- *Modelling fibre orientation with the use of a Langragian approach*, **Grzegorz Kondora**, Czestochowa University of Technology
- *Integrating numerical simulations and experiments for the estimation of complex flows*, **Gabriele Bellani**, KTH

Tour of experimental facilities

Visits to the fluid physics laboratory of KTH Mechanics and the FeX pilot plant at Innventia AB were made during the visit. The Innventia visit included a guided tour of the FeX pilot paper machine including a new, flexible online stock preparation system. The tour to the fluid physics laboratory gave an overview of experimental equipments such as the MTL windtunnel, shocktubes and several setups for the study of fibre suspension flows.

Workshop material

A printed abstract booklet is available, full papers were not written. For more information on the 2nd workshop, please contact Dr. Fredrik Lundell, fredrik@mech.kth.se and for information on the special interest group please contact Professor Jari Hämäläinen, jari.hamalainen@uku.fi.