

EUROMECH

EUROPEAN MECHANICS SOCIETY

Final Report

Please send this report to the Secretary General of EUROMECH, within one month after the Colloquium.

EUROMECH Colloquium No: 430

Title: Formulations and Constitutive Laws for very Large Strains

Dates and location: Oct. 3-5, 2001, Prague

Chairperson: Jiri Plesek

Co-Chairperson: Larsgunnar Nilsson

Is there need of another Colloquium on the same or a related subject? Which year?

There are many conferences on finite strains but the colloquia are welcome. Let us say, in 2-3 year's time.

Full registration fee: 160 EUR

What other funding was obtained? 3x200 EUR for three young scientists offered by EM society.

What were the participants offered?

Lunches, coffee break refreshments, welcome ceremony at the Old Town Hall, concert at Strahov Monastery, conference dinner, and a steamboat party with music and dinner.

Number of members of EUROMECH (reduced registration fee): 10

Number of non-members of EUROMECH (full registration fee): 32

Number of participants from each country:

Austria	<u> 2 </u>	Germany	<u> 6 </u>	Romania	<u> 1 </u>
Belgium	<u> </u>	Great Britain	<u> 3 </u>	Russia	<u> 2 </u>
Byelorussia	<u> </u>	Greece	<u> </u>	Slovakia	<u> </u>
Bosnia	<u> </u>	Hungary	<u> 1 </u>	Slovenia	<u> 1 </u>
Bulgaria	<u> </u>	Ireland	<u> </u>	Spain	<u> </u>
Croatia	<u> </u>	Italy	<u> </u>	Sweden	<u> 2 </u>
Czech Republic	<u> 18 </u>	Latvia	<u> </u>	Switzerland	<u> </u>
Denmark	<u> </u>	Lithuania	<u> </u>	Ukraine	<u> </u>
Estonia	<u> </u>	Netherlands	<u> 1 </u>	Yugoslavia	<u> </u>
Finland	<u> </u>	Norway	<u> </u>	Turkey	<u> </u>
France	<u> 2 </u>	Poland	<u> </u>	Others	<u> 3 </u>
Georgia	<u> </u>	Portugal	<u> </u>	Total	<u> 42 </u>

Others = Izrael (1), USA (2)

Scientific Report

EUROMECH Colloquium 430

Formulations and Constitutive Laws for very Large Strains

Chairman: J. Plešek (Prague)
Co-Chairmen: L. Nilsson (Linköping)

The Euromech colloquium, focussed on the development of constitutive equations under finite strain conditions, was held at the Institute of Thermomechanics, Academy of Sciences of the Czech Republic in Prague October 3rd – 5th, 2001. The colloquium brought together researchers interested in the theoretical development and experimental assessment of constitutive models capable of describing finite strain situations as well as those who were concerned with their computer implementation. Research groups presented their views of existing formulations, proposed new approaches, and discussed important results obtained from their analyses.

There were 42 scientists from 14 countries taking part. Each presentation lasted 30 minutes, including discussion, which was found to be the optimum time for a small conference of this type. The following topics were addressed: Total versus rate formulations, hyperelasticity, finite strain plasticity, computational procedures, localisation and experimental identification/verification. In summary, most talks dealt with the problems involving inelastic strains: The reconciliation of Lagrangian formulation for stress evaluation with Eulerian systems, suitable for modelling inelastic flows, was recognized as the main challenge to be tackled.

Full length papers will be published in the post-conference proceedings during 2002.