

Please send this report to the Secretary of the European Mechanics Council, Professor Bengt Lundberg, Dept of Mechanical Engineering, Luleå University of Technology, S-951 87 Luleå, Sweden, one month after the Colloquium

### General

Euromech Colloquium No: 281

Title: Response of Structures Subjected to Large Dynamic Loads

Chairmen: Professor Norman Jones and Professor S. Kaliszky

Place and country: The University of Liverpool, U.K.

Dates: 23-26 July 1991

### Finance

The conference fee £110 included Meals, coffee and tea breaks, cocktail parties, transport, (buses), paperwork (book of abstracts, photocopying, postage etc.)

Funding: Fee from delegates with financial and administrative support from the Impact Research Centre and the University of Liverpool

Accommodation (type and cost): University Halls of Residence - £17/night (inc. breakfast)  
Mid-day meals (£6.50, £5, £5) evening meals (£9, £25\*, £30\*)

Meals: \*Impact Research Centre support was used to reduce the actual cost to participants

### Participation

About 10 participants from Eastern European countries dropped out of the Colloquium programme in the few weeks before the Colloquium\*

Total number of participants: 49 Distribution of participants by country:

Code	Country	Number	Code	Country	Number
	Austria	<u>1</u>	I	Italy	<u>1</u>
B	Belgium	<u>      </u>	IRL	Ireland	<u>      </u>
BG	Bulgaria	<u>      </u>	N	Norway	<u>4</u>
CH	Switzerland	<u>      </u>	NL	Netherlands	<u>1</u>
CS	Czechoslovakia	<u>      </u>	P	Portugal	<u>1**</u>
D	Germany	<u>1</u>	PL	Poland	<u>      </u>
DK	Denmark	<u>1</u>	R	Rumania	<u>      </u>
E	Spain	<u>      </u>	S	Sweden	<u>1</u>
F	France	<u>2</u>	SF	Finland	<u>      </u>
GB	Great Britain	<u>25</u>	YU	Yugoslavia	<u>      </u>
GR	Greece	<u>      </u>	SU	Soviet Union	<u>      </u>
H	Hungary	<u>1</u>	-	Others	<u>10</u>

\* A list of delegates is attached

\*\*Late registrant - does not appear on the list of delegates

Is there need of another colloquium on the same subject? Which year? Yes, 1996

## Scientific Report

The subject matter of this Colloquium attracted significant interest throughout Eastern and western Europe. Unfortunately, most of the Eastern European participants dropped out of the programme in the few weeks immediately before the Colloquium. Nevertheless, the scientific level of the papers was uniformly high and followed by vigorous discussion. A copy of the final programme is enclosed together with a book of abstracts.

Papers were presented on a wide range of topics within the scope of the Colloquium. They ranged from a thought-provoking paper on chaotic responses in dynamic elastic-plastic beam problems to the use of modern numerical codes to examine projectile impact. A number of papers studied the influence of material elasticity on the large plastic deformations of dynamically loaded structural members. The dynamic failure of structures was examined from several viewpoints, while a number of studies of interest for energy absorbing systems were reported. Several papers examined concrete structures, scaling effects and some practical industrial problems. A strong group of papers focused on the response and energy absorbing characteristics of composite structures.

It emerged from this Colloquium that there are many interesting and outstanding mechanics problems which require solution. Furthermore, the participants are working on a wide range of important practical problems. Thus, it appears that this topic should grow in importance and that it would be worthwhile holding another Colloquium in 1996.

*Norman Jones*