

Please send this report to the Secretary of the European Mechanics Council, Professor Bengt Lundberg, School of Engineering, Uppsala University, Box 534, S-751 21 Uppsala, Sweden, within one month after the Colloquium.

General

Euromech Colloquium No: 299

Title: Impact damage in composites

Co-Chairmen: C. Ruiz, J. Harding

Place and country: Oxford, UK

Dates: 24-26 March 1993

Finance

The conference fee of 140 included accommodation (full board) Mansfield College

Funding:

Accommodation (type and cost): included

Meals: included

Participation

Total number of participants: _____

Distribution of participants by country:

Code	Country	Number	Code	Country	Number
A	Austria	_____	IRL	Ireland	_____
B	Belgium	_____	LT	Latvia	_____
BG	Bulgaria	_____	LV	Lithuania	_____
CH	Switzerland	1	N	Norway	_____
CS	Czechoslovakia	_____	NL	Netherlands	_____
D	Germany	3	P	Portugal	_____
DK	Denmark	_____	PL	Poland	1
E	Spain	_____	R	Rumania	_____
EE	Estonia	_____	S	Sweden	2
F	France	8	SF	Finland	_____
GB	Great Britain	30	YU	Yugoslavia	_____
GR	Greece	_____	CIS	CIS	_____
H	Hungary	_____	-	Others US	1
I	Italy	_____			

Is there need of another colloquium on the same subject? Which year? Perhaps in 1995/96

Scientific Report

The Symposium was well supported by Industry, discussion during and after the sessions was free and informal. The decision not to publish proceedings made it possible to present up-to-date results and discuss current research and further work. A copy of the programme and summaries of the presentations were included.

EUROMECH COLLOQUIUM 299

IMPACT DAMAGE IN COMPOSITES

University Technology Centre for Solid Mechanics
Department of Engineering Science
Oxford University

24 - 26 March 1993

The provisional programme and a list of the papers contributed to date is given below. Please complete and return the attached registration form with your payment. **The deadline for registration is 1st February, 1993.** The final programme together with copies of the abstracts etc. will be sent to you after this date.

Provisional Programme

Wednesday 24th March

11.00-12.00	Registration at Mansfield College
12.30	LUNCH
14.00-15.30	Session 1
16.00-17.30	Session 2
18.00-19.30	RECEPTION
19.30	DINNER

Thursday 25th March

9.00-10.30	Session 3
11.00-12.30	Session 4
12.45-13.45	LUNCH
14.00-15.30	Session 5
16.00-18.00	Visit to UTC
19.30	CONFERENCE DINNER

Friday 26th March

9.00-10.30	Session 6
11.00-12.00	Session 7
12.00-12.30	Concluding Remarks
12.45	LUNCH

PRELIMINARY LIST OF CONTRIBUTED PAPERS

SESSIONS 1, 2

Penetration, perforation and fracture

- Penetration of composites by high speed projectiles-
measurements of deceleration and force* S. Bless
(Institute for Advanced Technology, Univ. of Texas)
- Impact behaviour of the bi-layer armours* H. Orsini
(Etablissement Technique Central de l'Armement) F. Tardivel
- Fracture patterns in the core of a sandwich plate
under impact loading* P. Kosza
(Institut fur Mechanik, Zurich)
- Penetration and perforation mechanisms in composite
armour materials* I.G. Crouch
(Defense Research Agency, Chertsey, U.K.)
- Penetration of metal/FRP laminates* A. Asquith
(Oxford University) C. Ruiz

SESSIONS 3, 4

Damage Characterisation and material testing

- Impact damage influence on the fatigue lifetime
of carbon-epoxy laminates* V. Tamuzs
(Latvian Academy of Sciences)
- Impact damage behaviour of selected continuous
glass fibre reinforced thermoset and thermoplastic
matrix composites* D. Sangha
(British Aerospace Defence, Ltd)
- Three directional shock strength of wound glass-
fibre-reinforced plastic* A.G. Ivanov
(Russia) M.A. Syrunin
A.G. Fedorenko
- Impact evaluation of stressed composites* R. Lee
(AEA Technology)
- Influence of the loading rate on the damage
threshold due to shear stresses in crossply laminates* J-L. Lataillade
(ENSAM France) M. Delaet

TITLE NOT YET RECEIVED
(DRA Farnborough)

D.J. Bray

Impact behaviour of small curved structural elements
DLR Institute of Structures and Design

R.M. Aoki

SESSION 5

Mathematical modelling and analysis

Harmonic waves in laminated composites

A.G. Kalpakov

Mathematical modelling dynamic fracture
nonelastic composites

C. Kukudzanov

Predicting damage extent in CFRP under low
velocity impact.

G.A.O. Davies

Use of finite element method to evaluate the
response and optimisation of structures of a
composite nature

K. Kormi
D.C. Webb

SESSIONS 6, 7

Mechanical Properties

Impact testing at Shorts
(Shorts, Belfast)

G. Wright

The determination of mechanical properties and
fracture characteristics of carbon/epoxy and carbon/
thermoplastic composites during quasi-static and
dynamic loading
(Cranfield Institute of Technology)

D.J. Towle
A. Doig

Investigations of the impact tolerance behaviour
of CFRP
(Wehrwissenschaftliches Institut für Materialuntersuchungen)

H. Morlo

Tension-impact failure in woven reinforced glass
fibre-epoxy composite at elevated temperatures
(Military Technical Academy, Poland)

L. Kruszka

Effect of strain-rate on the interlaminar shear
strength of laminated composites
(Oxford University)

J. Harding

TITLE NOT YET RECEIVED
(Riso National Laboratory, Denmark)

S. Andersen