

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: 365

Title: Structural Damage Assessment Using Advanced Signal Processing Procedures

Dates and location: 30 June - 2 July 1997 - University of Sheffield UK

Chairman: Keith Worden (Dr)

Co-Chairman: Fabio Brancaloni (Prof.)

Is there need of another Colloquium on the same or a related subject? Which year? Yes 1999

Full registration fee: £ 275

What other funding was obtained? none

What were the participants offered? registration + proceedings + ~~to~~ meals.

Number of members of EUROMECH (reduced registration fee): 7

Number of non-members of EUROMECH (full registration fee): 30

Number of participants from each country:

Austria	___	Germany	<u>3</u>	Romania	___
Belgium	<u>1</u>	Great Britain	<u>20</u>	Russia	___
Byelorussia	___	Greece	___	Slovakia	___
Bosnia	___	Hungary	___	Slovenia	___
Bulgaria	___	Ireland	<u>1</u>	Spain	___
Croatia	___	Italy	<u>4</u>	Sweden	___
Czech Republic	___	Latvia	___	Switzerland	___
Denmark	<u>2</u>	Lithuania	___	Ukraine	___
Estonia	___	Netherlands	___	Yugoslavia	___
Finland	___	Norway	___	Others	<u>24</u>
France	<u>1</u>	Poland	<u>1</u>	Total	<u>37</u>
Georgia	___	Portugal	___		

Please turn

Scientific Report

The identification and quantification of damage in structures and machines is currently one of the most important areas in Engineering research. Effective early diagnosis of damage allows increased expectations of reliability and safety and also reduces the cost of ownership via efficient maintenance.

Many of the recent advances in damage assessment and condition monitoring are the result of applying advanced signal processing procedures. In particular, ideas from the fields of multivariate statistics, pattern recognition and optimisation have proved extremely fruitful. The object of the meeting was to review recent developments and assess the current state of the art. In this, it was extremely successful, drawing together contributors from a variety of Engineering disciplines: Electrical, Civil, Control, Mechanical and Chemical. All contributions were refereed and the standard was uniformly high.

All in all, 37 participants from 9 countries took part. In addition various members of the local organising committee took part and several students boosted the numbers to about 55. 41 papers were presented and collected together in the published proceedings and supplement. The present DAMAS was the second conference in this series. The first took place in Pescara, Italy in 1995. It is clear that there have been many interesting developments in the intervening years. Plans are underway for a third DAMAS meeting in Dublin, Ireland in 1999. It is hoped that this will also receive Euromech Support.