

EUROMECH

EUROPEAN MECHANICS SOCIETY

Final Report

Date: Feb 1st, 96

Please send this report to the Secretary-General of EUROMECH, 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: 339 Dates: 8-9 september 1996

Title: Internal waves, turbulence & mixing in stably-stratified flows.

Co-Chairman: /

Place and country: Ecole Normale Supérieure de Lyon, Lyon, France.

Is there need of another colloquium on the same subject? Which year? Yes, in 1998 would be appropriate.

Finance

Conference fee: $\begin{cases} 800 \text{ F for EMS members} \\ 1000 \text{ F for non EMS members.} \end{cases}$ The fee included: $\begin{cases} \cdot \text{ set of abstracts} \\ \cdot \text{ coffee breaks} \\ \cdot \text{ 3 lunches} \end{cases}$

Funding: - Sponsorship: 125 000 F
- Registration fees: 33 900 F.

Accommodation (type and cost): lodging at Ecole Normale Sup.² (150 F / night / person. breakfast included)

Meals: 60 F / person / meal.

Participation

Number of participants from each country:

Austria	_____	Germany	<u>3</u>	Rumania	_____
Belgium	_____	Great Britain	<u>16</u>	Russia	<u>5</u>
Bielorussia	_____	Greece	_____	Slovakia	_____
Bosnia	_____	Hungary	_____	Slovenia	_____
Bulgaria	_____	Ireland	_____	Spain	<u>4</u>
Croatia	_____	Italy	_____	Sweden	<u>1</u>
Czech Republic	_____	Latvia	_____	Switzerland	<u>4</u>
Denmark	<u>1</u>	Lithuania	_____	Ukraine	_____
Estonia	_____	Netherlands	<u>1</u>	Yugoslavia	_____
Finland	_____	Norway	<u>1</u>	Others*	<u>19</u>
France	<u>21</u>	Poland	_____	Total	<u>76</u>
Georgia	_____	Portugal	_____		

* USA, Mexico, Canada, Japan

Please turn

Scientific Report

A report has been written in collaboration with Joël SOMMERIA and submitted to the Journal of Fluid Mechanics. The report has been accepted for publication and is enclosed.

C. Staquet

Chantal STAQUET.

Internal waves, turbulence and mixing in stratified flows: A report on Euromech colloquium 339

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Abstract

Euromech colloquium 339 was organized by C. Staquet in Lyon (France) from September 6 to 9, 1995. It involved seventy-six participants from fourteen countries. Papers were presented on various aspects of stably stratified flows: (1) internal waves, their generation mechanisms, propagation and reflection properties, their instabilities leading to breaking; (2) vortex structures in stably stratified fluids, which can be slow layerwise structures, or small intense vortices, appearing for instance in shear flow instabilities; (3) statistical properties of random wave fields or stratified turbulence; (4) mixing properties resulting from internal wave fields and stratified turbulence. These quite different dynamical regimes are often closely connected in actual flow problems, and a purpose of this colloquium was to better understand these connections. Participants were interested in fundamental aspects or in more specific applications, in engineering, geophysics and astrophysics. The colloquium was a rare opportunity to gather scientists with these different points of view, to compare approaches and results, and to stress general problems.