

C H R O N I C L E

**5-TH INTERNATIONAL SPRING SCHOOL ON ACOUSTO-OPTICS AND APPLICATIONS.
GDAŃSK-JURATA, 25-29 MAY, 1992.**

The international spring meetings on Acousto-optics and Applications are organized every three years since 1980.*)

The 5-th School was organized by the University of Gdańsk, Institute of Experimental Physics in co-operation with the Quantum and Molecular Acoustics section of the Polish Acoustical Society, the Committee of Acoustics of the Polish Academy of Sciences and sponsored by the Ministry of Education and by SPIE the International Society of Optical Engineering in association with the Polish Chapter of SPIE.

The Scientific Committee included: Prof. L. ADLER, Ohio State University, USA; Prof. A. ALIPPI, Instituto di Acustica, Rome Italy; Prof. P. BANERJEE, University of Alabama, USA; Dr E. BLOMME, Technisch Institut, BELGIUM; Prof. M. A. BREAZEALE, Univ. of Mississippi, USA; Dr R. C. CHIVERS, University of Surrey, U.K.; Prof. I. GABRIELLI, Univ. Trieste, Italy; Prof. H. W. JONES, Halifax, Canada; Prof. Z. KLESZCZEWSKI, Silesian Techn. Univ., Poland; Prof. A. KORPEL, Dept. ECE., Univ. of Iowa, USA; Prof. S. V. KULAKOV, Inst. Aviat. Instr., Petersburg, Russia; Prof. O. LEROY, Kath. Univ., Leuven-Kortrijk, Belgium; Prof. M. ŁABOWSKI, Univ. A. Mickiewicza, Poland; Prof. I. MALECKI, Polish Acad. Sci., Poland; Prof. W. MAYER, Georgetown University, USA; Prof. R. MERTENS, Roy. Belg. Acad. Sci., Belgium; Prof. A. OPILSKI, Silesian Techn. Univ., Poland; Prof. V. PARYGIN, Moscow State University, Russia; Prof. T. C. POON, Polyt. Inst. State Univ., Virginia, USA; Prof. V. PROKLOV, Acad. Sci., Moscow, Russia; Prof. J. RANACHOWSKI, Inst. Fund. Techn. Res. Polish Acad. of Sciences, Poland; Dr R. REIBOLD, PTB, Braunschweig, Germany; Prof. J. SAPIRIEL, Centr. Nat. d'Etudes Tel., Paris, France; Prof. M. SZUSTAKOWSKI, Military Techn. Acad., Poland; Prof. Chen Tsai, Univ. California, Irvine, USA; Prof. A. ZAREMBOWITZ, Dep. Rech. Phys., Paris, France.

*The previous took place:

- 1-st School, Gdańsk-Wieżyca, 1980, May 26-30 proceedings issued by the University of Gdańsk; a report published in Arch. Acoust. 6, 85 (1981) and in Ultrasonics, 19, 44 (1981).
- 2-nd School, Gdańsk-Wieżyca, 1983, May 24-29 proceedings issued by the University of Gdańsk; a report published in Arch. Acoust. 9, 381 (1984) and Ultrasonics 22, 15 (1984).
- 3-rd School, Gdańsk-Wieżyca, 1986, May 26-31 proceedings issued by the University of Gdańsk; a report published in Ultrasonics, 25, 182 (1987).
- 4-th School, Gdańsk-Sobieszewo, 1989, May 23-27 proceedings published by World Scientific, Singapore-New Jersey-London-Hong Kong, 1990.

The organizing Committee consisted of Prof. A. ŚLIWIŃSKI, president, Prof. P. KWIEK, vice president, Dr M. KOSMOL, secretary and members: Prof. Cz. LEWA, Dr M. BORYSEWICZ, Dr B. LINDE, Dr A. MARKIEWICZ and Dr A. SIKORSKA.

The meeting took place at Jurata situated on the Hel Peninsula 70 km from Gdańsk and gathered 46 specialists from different countries: Belgium (3), Bielorrussia (1), Canada (2), France (1), Germany (4), Italy (1), Lithuania (1), Poland (22), Russia (4), Switzerland (1), USA (4). 34 papers were presented among which there were 16 invited lectures, 11 other oral contributions and 7 posters.

Besides physical and technological topics typical for acousto-optics, comprising light ultrasound interaction in solids (including surface waves) and liquids, the programme covered some problems of photoacoustics concerning generation of sound by light and acoustic microscopy. Many practical problems related to acousto-optical signal processing and construction of acousto-optical devices (modulators, filters, convolvers and analyzers) were subjects of interest.

The programme of the School included:

General papers

1. Fresnel phenomena in the nearfield of light diffracted by ultrasound.
E. Blomme, R. Briers, O. Leroy
2. Imaging properties of SAM.
S. Boseck
3. Towards transducer interferometry in water.
R. C. Chivers, R. D. Bacon, J. N. Som
4. Light interaction with thermal waves.
D. Čiplys, R. Rimeila, J. Paskauskas
5. Acousto-optic Image Correlators.
P. Das, C. DeCusatis
6. Analysis of the light vector in the diffraction by few waves of two antiparallel ultrasonic beams.
I. Gabrielli
7. Some Comments on Reconstruction Problems in Acoustic Tomography.
H. Jones
8. On ultrasound light diffraction.
R. Reibold, P. Kwiek
9. Description of Several Analytical Methods Used in the Past Fifty Years of Acousto-Optic Research in Belgium.
O. Leroy
10. Acousto-optical Confirmation of the Localized Wave Phenomena.
D. Kent Lewis
10. Collinear Light Diffraction on a Gaussian Acoustic Beam.
V. N. Parygin
11. Guided wave Multichannel Acoustooptic Devices Based on Collinear Wave Propagation.
V. V. Proklov, E. M. Korablev

12. Acousto-optics of Semiconductor Crystals and Superlattices.
J. Sapriel, P. Renosi
13. Acousto-optical examination of material properties.
A. Śliwiński
14. Performance of Acoustooptic Devices in the Presence of Noise.
Chen-Wen Tarn, Partha P. Banerjee, Jaw-Jueh Liu, P. Pliszka
15. Close to Collinear Acousto-Optical Interaction in TeO₂ Single Crystal.
V. B. Voloshinov

Oral contribution papers

1. Additional Phase Shift Effects in Acoustooptic Interaction and its Applications.
V. I. Balakshy
2. Photoacoustic imaging of semiconductor structures.
J. Bodzenta, B. Pustelna, Z. Kleszczewski
3. Diffraction of Inhomogeneous waves from Simple Rough Surface.
R. Briers, O. Leroy
4. Acousto-optic Devices for Digital Optical Holographic Gratings.
C. DeCusatis, P. Das, D.M. Lityński
5. Coherent and incoherent processes of acoustooptic interaction on the rough surface.
I. B. Esipov, N. N. Andreyev
6. The Scanning Ultrasound Microscope (ELSAM) and it's Application On the Inspection of Biological Tissues.
H. J. Hein
7. Thickness measurements on multilayered structures by SAW dispersion.
J. Krause
8. Digital generation of high quality periodic signals for the use with acousto-optic modulators.
M. Roland-Mieszkowski, P. Kwiek, A. Śliwiński
9. Time-frequency analysis of pulse photoacoustic signals.
J. Motylewski, K. Marasek
10. Photoacoustic cell for liquids and solids investigations.
J. Ranachowski, J. Motylewski, J. Rzeszotarska, W. Opydo
11. High resolution pin scanning microscopy.

J. Zieniuk

Poster form papers

1. Acoustooptic interactions in nematic liquid crystal.
M. Borysewicz, M. Kosmol
2. Photodeflection Spectroscopy of the Flowing Gyrotropic Media.
G. S. Mityurich, P. V. Astakhov
3. Photoacoustic transformation in gyrotropic media at interaction of two light beams.
G. S. Mityurich, V. P. Zelyony, A. N. Serdyukov
4. Physics and Technology of Ultrasound in Moscow.
N. Shibanova

