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Liquid Crystals Today

Meeting Reports

VIth International Topical Meeting on Optics of Liquid Crystals

25–29 September 1995 Hotel Westminster, Le Touquet, France Mark Warenghem, CRUAI, Lens, France

The Westminster Hotel at Le Touquet (France) hosted the Vith Topical Meeting on Optics of Liquid Crystals from Sunday 24 to Friday 29 September. This series of international conferences gathers, every other year, the specialists in the field. For this meeting and with the agreement of the scientific committee, a double goal was set: first to allow a maximum of young researchers to attend the meeting, and second to widen the audience and the topics covered. It seems that this double goal was achieved. There were 88 delegates, an increase over previous conferences, and amongst them, more than a third were 'new' to the field. A greater diversity of countries were represented besides the usual ones (EU, CEE, and some Eastern European countries) delegates were attracted from Brazil, Japan, Korea and Mexico.

Thanks to the external financial support, the organizing committee was able to partially support 10 young researchers, selected on both scientific and geographic grounds.

The organizing committee received 125 abstracts of which 47 were selected as oral presentations, 71 as posters, with 7 rejections; 20 posters were not presented for various reasons. The talks were distributed between seven sessions, each having its own topic. The addition to the usual—Linear Optics, Non-linear Optics, Surfaces, Electro-optic and Photonic devices—some new topics were introduced: Composite and Confined Systems, Wave-Guides, Dyes and Photochemistry. Such new entries have naturally emerged from the increasing work done in these fields. It seems that these new sessions were welcomed.

The relatively small number of attendees ensured plenty of discussion, and informal exchanges were further encouraged by having scientific sessions and accommodation on the same site.

2nd Iberoamerican Workshop on Complex Fluids and its Applications

24-26 July 1995 Serra Negra, Sao Paolo, Brazil

Antonio Figueiredo Neto, Chairman of the Workshop, and Daniel Pusiol, President of the Iberoamerican Liquid Crystals Society

he 1995 Workshop proved to be as successful as the first such meeting organized in 1993 in Córdoba, Argentina, at which the regional Liquid Crystal Society was founded. The second Workshop was held in the small town of Serra Negra, located in the mountains outside Sao Paulo, Brazil, and was attended by a total of about 50 participants from Iberoamerican countries (Spain, Brazil, Chile and Argentina) as well as from some European countries (France, Germany, Italy, UK and Romania). Chemists, physicists and technologists active in the field of liquid crystals, biological membranes and ferrofluids reported on recent activities conducted in their research groups.

The Workshop was excellently organized thanks to the efforts of Professor Antonio Figueiredo Neto and the collaboration of Professors Elisabeth Andreoli de Oliveira and Suhaila Maluf Shibli, together with the efficient assistance of the secretary Ms Rosana Gimenez. There were 13 invited talks, 13 oral contributions and 17 poster presentations, covering a wide range of topics within the general field of complex fluids.

Professor G. Barbero from Torino reported on the sub-surface deformation in a nematic liquid crystal sample of finite thickness. This theme was extended by Professor A. L. Alexe-Ionescu (Bucharest) and Professor L. R. Evangeslista (Maringa, Brazil) who respectively discussed theoretical developments in the elastic theory of Langmuir-Blodgett films and the nematic surface energy. A discussion of the kinetics and instabilities of the non-equilibrium nematic-isotropic interface was given by Professor L. Oscar Nassif de Mesquita (Belo Horizonte, Brazil) Professor V. L. Lorman from Amiens, France, talked about liquid crystal structure and optical properties of the multilayer antiferro- and ferrielectric phases in chiral smectics. Professor Nicholas Heaton (Instituto de Ciencia y Tecnología de Polímeros, Madrid) gave a talk on the application of NMR to study slow motions in biological membranes. The use of magnetic resonance and spin relaxation in the investigation of liquid crystals was pursued further by the group from Córdoba, Argentina, who presented work on EPR in micellar systems (Professor P. Levstein). Molecular dynamics simulations of phase transitions of systems of anisotropic molecules were presented by Professor J. R. Grigera from La Plata, Argentina.

Professor L. Oriol (Zaragoza, Spain) reviewed recent advances in the field of metallomesogens and their incorporation in polymeric materials. A fascinating talk on molecular design and mesophase induction by complexation was presented by Professor K. Praefcke (Berlin). Molecular architecture and its influence on mesophase behaviour was reviewed by Professor H. Gallardo (Florianopolis, Brazil). R. Martinez gave an overview of the recent work carried out by the group from Concepción, Chile, on novel mesogenic materials.

The short oral contributions and poster presentations as well as the invited talks generated much enthusiastic discussion and stimulated a number of potential future collaborative projects.

The next Iberoamerican Workshop on Complex Fluids is to be held in Chile and will be organized by Professor Carlos Aguilera.

Mathematical Models for Liquid Crystals

17–22 September 1995 Il Palazzone, Cortona, Italy

E. G. Virga, Università di Napoli, Frederico II, Italy

Workshop on Mathematical Models for Liquid Crystals was organized under the auspices of the Italian *Istituto di Alta Matematica*, an institution which promotes advanced studies in mathematics. It was held from 17 September through to 22 September 1995 and took place in the *Palazzone*, a 16th Century villa which belongs to the *Scuola Normale* of Pisa. The Meeting mainly focused on four topics, namely Surfaces, Smectics, Biaxials, and Defects, with Round

Table Discussions organized and chaired by A. Strigazzi, F. M. Leslie, and E. G. Virga. Plenty of time was allowed also for informal discussion. Twenty-two participants attended the Workshop.

S. Faetti (Pisa) and G. Barbero (Torino) gave an overview from different perspectives of some new theories which describe the surface properties of nematics. P. Galatola (Torino) presented a molecular model to illustrate the effect of surfaces in inducing distortions in the bulk nematics. Within the Round Table Discussion on Surfaces P. Ponti (Torino) talked about the orienting effect of Langmuir-Blodgett multilayers and C. Papenfuss (Berlin) talked about films and phase boundaries within a continuum theory of two-dimensional liquid crystals. P. Schiller (Halle) described some instabilities in hexatic liquid crystals with tilted molecules. T. Carlsson (Göteborg) reviewed some recent work on the continuum modelling of flows, both in smectics A and C. G. Capriz (Pisa) talked about permeation in smectics, suggesting connections with diverse phenomena such as granular continua and avalanches. A. Strigazzi (Torino) proposed a simple model to explain the transitions observed in hexyl-cyclohexane-carboxylic acid when both the dimer concentration and the twist anchoring vary. G. Blake and G. McKay (both from Strathclyde) presented different models to account for the compressibility of layers in smectic Cs. The former was concerned with the most general form of the free energy allowing also for moderate changes in the tilt angle independent from the layer thickness, while the latter put forward a special energy and attempted to solve a specific equilibrium problem, under the assumption that the tilt angle and the layer thickness are related to one another. F. M. Leslie (Strathclyde) put in the same perspective on both the flow alignment phenomena expected to be exhibited by biaxial nematics and those long known for uniaxial nematics. P. Biscari (Milano) proposed a continuum theory for a class of elastomers. W. Muschik (Berlin) applied his mesoscopic theory of liquid crystals to biaxial molecules. R. Rosso (Milano) explored the biaxial structure of hedgehogs, showing in particular how these defects could be metastable against biaxial perturbations. S. Stallinga (Nijmegen) proposed a unified elastic theory for liquid crystals, which applies to smectics and canonics, as well as to biaxials. G. Guidone Peroli (Pisa) presented a model which tells when point defects in a capillary tube are attracted by the meniscus and when they tend to coalesce. A. Sonnet (Berlin) analysed some twisted director configurations by use of an appropriate twist tensor. E. G. Virga (Napoli) employed a geometric construction, much reminiscent of Wulff's, to find the equilibrium confocal textures of a smectic A confined between two parallel plates. G. Galatola showed another extension of Wulff's construction, which had proved useful in the study of two-dimensional domains formed in monolayers. A de Meyere (Gent) illustrated a direct minimization of energy functionals for ferroelectric smectics. Finally, P Teixeira (Amsterdam), who closed the Meeting, presented a cell dynamics model to describe the formation of liquid crystals in polymerdispersed phases.

The following have accepted positions on the E⁻⁻itorial Board of *Liquid Crystals Today*, and contributions, comments or suggestions may be submitted to any member of the Editorial Board.

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