

4th International Conference on Cryocrystals and Quantum Crystals (CC 2002)

(Preface)

The conference on Cryocrystals and Quantum Crystals, CC 2002, was a continuation of a series of conferences, which was started in 1995 in Almaty, Kazakstan by professor Andrei Drobyshev. The original intent of the conference was to provide a platform for scientists from the former Soviet Union, and from countries of Eastern Europe to meet and exchange information with their western colleagues, and in particular to make it possible for the younger investigators to get directly acquainted with the most recent research and results done in their respective fields elsewhere in the world. With nearly a hundred participants the conference was a resounding success, and therefore it was decided to organize two years later a second similar conference, this time chaired by Prof. Andrzej Jezowski in Polanica-Zdroi in Poland.

The scientists present there have voiced their preference for organizing the third conference in 1999 in Germany, and suggested that in particular Munich or the surrounding Bavarian region, with their central location and easy accessibility from east or west would provide a suitable venue. Severe funding difficulties have, however, prevented organizing the conference as planned, but fortunately Prof. Jezowski came again to the rescue, and was able to obtain sufficient funding to organize in 2000 the conference again in Poland, this time in the attractive «Karkonoze» mountains region, in Szklarska Poremba.

For the next issue of the conference, CC 2002, we finally managed to obtain some funding from the German funding agency, Deutsche Forschungsgemeinschaft, so that with additional support from the Fonds der Chemischen Industrie, as well as some funds from several industrial sponsors we could go ahead. Let me note that when I say we, I am adhering to the practice common in the academic world, where if a professor says we did this or that, he (or she) actually means that his students and coworkers did it. This fully applies in the present case, and I would at this point like to express my gratitude to my coworkers who took care of most of the difficult and time consuming tasks and chores necessarily involved in organizing a conference.

At this point, we would at this point like to express our gratitude to a number of our colleagues and

friends invited as participants or speakers at the conference, who have, in view of the very tight financial situation, agreed to come on their own money, without any support from the conference organizers. I am also very pleased to acknowledge the help of the organizers of the previous issues of this conference, who provided me with the lists and addresses of former participants, both agreed to participate in the CC 2002 conference, and were always generous with their help and advice. Finally, our sincere thanks go also to the members of the organizing committee, as well as the colleagues on the international advisory committee for their assistance, advice, and countless helpful suggestions.

The Conference was held in the «Kardinal-Döpfner-Haus» in Freising, and several of my colleagues have asked me why on Earth did we organize it in some small dump they have never heard of, rather than in Munich. Actually, if one looks back into history, one can easily find time when there was no Munich at all, while Freising already existed as a prosperous seat of Bishop and an important commercial crossroad. The «Marienkirche», church adjoining the conference site and located on a hill called Domberg, as well as another church, «Stephanskirche» on a nearby «Weihenstephaner» hill, were both built already at the beginning of the 8th century. Freising at that time also boasted the only bridge over the river Isar in this area, and was an important crossroad long before Munich is ever even first mentioned, or appears on the map.

Only several hundred years later, an insignificant Benedictine Monastery was built some twenty miles south of Freising. The monks living there, as well as the Duke of Bavaria, viewed with some displeasure the generous income which Freising and its Bishop collected from the numerous business travelers moving along the important East-West salt-road, and crossing the bridge in Freising. In 1158, the monks, and the Duke, who was perhaps appropriately called Henry the Lion, decided on a three step plan to remedy this situation. In the first step they constructed their own bridge near their monastery, and in the second one, they burned down the one in Freising. In the third,

and perhaps most important step, they had the whole procedure sanctioned by the Emperor, Henry Barbarossa, and in fact the day this happened, June 14, 1158 is considered the day of founding of Munich. If one considers the methods employed in founding the place, one might even come to the conclusion that organizing the Cryocrystal meeting in Freising rather than Munich might have been a wise choice.

In addition to being now distinguished for hosting this conference dealing with low temperature solids, Freising is also well known in the area of liquids. Besides its long history and ancient churches, Freising also presumably boasts the oldest continuously operating brewery, the Weihenstephaner «Kloster Brauerai», which got its license to brew beer in 1040, long before Munich came into existence. Initially, the brewery belonged to the monastery, but since beer is in Bavaria a rather precious commodity, the worldly authorities did not particularly like seeing all the profits go to the church and its monks. In the 19th century the brewery was therefore, as a sign at its entrance proudly states, «secularized», and is now operated by the state for the enjoyment of all, as many participants of the conference who visited the adjoining «Biergarten» may have experienced themselves.

However, the major reason for organizing the conference obviously was science, rather than just enjoyment of the relaxed Bavarian lifestyle, and this is the topic to which we would now briefly like to turn. Overall over one hundred scientists from at least sixteen different countries took part in the conference, presented more than thirty oral presentation, as well as numerous posters in the evening poster sessions. True to the original goals of the conferences, nearly one half of the participants came from countries of the former Soviet Union and Eastern Europe, with young scientists and graduate students being strongly represented. In view of these goals, the decision was also made to publish, in contrast with the previous conferences of the series, the proceedings of CC 2002 in the «Fizika Nizkikh Temperatur» («Low Temperature

Physics») journal based in Kharkov, Ukraine, rather than in a western commercial journal.

In spite of the name, which would suggest a relatively narrow, tightly focused conference, its topical coverage was, similar to the previous conferences of the series, relatively broad. Strongly represented were again studies of spectroscopy and dynamics of cryocrystals and low temperature matrices. Like in the previous conferences, number of talks also dealt with the interesting topic of spectroscopy and behavior of condensed systems at ultra high pressures. Also strongly represented were presentation dealing with quantum solids, condensed systems where amplitudes of the zero point motions are not negligible compared with the interatomic distances, and where quantum effects become increasingly important, with in particular the isotopes of hydrogen and helium falling into this category. Besides three dimensional solids, a session was included dealing mainly with surfaces, monolayers and two dimensional systems. One session dealt with the thermodynamics of the low temperature systems, and new to this conference were presentations dealing with fast dynamics on the femtosecond time scale, as well as several studies of biological systems at low temperature, including among other topics relaxation of proteins at ultra-low temperatures.

Obviously, the most important ingredient of any conference are its participants, and the main factor in deciding if a conference is a success or not, is the quality of the science presented there. I personally have found most of the presentation at the conference excellent, and in my opinion the CC 2002 was from this point of view a resounding success. We are therefore deeply indebted to all of the participants, whether authors of oral presentations, session chairmen, or contributors to the poster sessions, or whether just taking part in the ample discussions. We sincerely hope that everyone had an enjoyable time in Freising, and are looking forward to meeting you all at the next conference, presumably in the year 2004.

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