

Preface

The Fifth International Conference on Geometry, Integrability and Quantization took place, as in previous years, at the Sts Constantin and Elena resort on the Black Sea coast of Bulgaria from June 5th to June 12th, 2003.

The lecture courses dealt with new applications of Cartan's method of moving frames, the dynamics of knotted vortex filaments, Dirac spinors and conformal surface immersions, and aspects of supersymmetry in quantum mechanics and field theory.

The contributed talks dealt with the quantization of gauge theories, flow stability problems, Poisson structures, stratification reduction of dynamical systems, Delaunay surfaces, contact manifolds, zeroes of orthogonal polynomials, phase spaces and the variational bicomplex, DNA supercoiling, dynamics of deformable objects, the non-Euclidean style in special relativity, prequantizable coadjoint orbits and precession of the Euler top.

As may be clear from the above, this year again the subject matter was wide-ranging, from new approaches for classical problems to very recent developments. But the tools used were often closely related; a mixture of differential geometry, integrability criteria and quantization procedures. In this way physicists and mathematicians from different fields could get an impression of how the techniques they work with can be applied in often unexpected ways to a variety of problems. And perhaps they were left with a deeper appreciation of the unity of science.

Besides listening to lectures and scientific discussions the participants could enjoy the excursions to nearby historical and natural sites, as well as the adjoining beaches and their facilities. The editors thank all the participants for the friendly atmosphere which dominated the meeting, and for their oral and written contributions. We express special thanks to the Scientific Assistants Angel Zhivkov, Mariana Hadzhilazova and Vassil Vassilev, who took over much of the organizational work and helped the participants to feel at home. We also thank Mariana for her help in proofreading the contributed manuscripts for the Proceedings.

We look forward to the Sixth International Conference on Geometry, Integrability and Quantization, to be held on June 3–10, 2004 at the same location, and hope it will be as satisfying as its predecessors.

The Editors