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INVITED TALKS — PART I



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and Their Microscopic Description**

organized by

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## PREFACE

A variety of approaches to the microscopic description of nuclear collisions has been recently proposed. The Symposium at Bled was organized with the wish to compare some of these proposals, to see the real progress and to estimate the prospects.

The results of calculations on light complex nuclei were reviewed. Calculations concentrated mainly on "alpha particle" nuclei. Before extending the calculations to more complex systems, it seemed necessary to clear open problems regarding the consistency, the effective Hamiltonian, the efficiency of numerical technologies and the validity of approximations.

The discussion on the clustering in light nuclei concerned the description of the intermediate system in collisions; it was extended also to the structure of certain low-lying states.

Deep inelastic scattering, one of the central problems in heavy ion physics, has a place on any meeting these days. It was instructive to discuss the differences between several new approaches.

After the initial success of the time dependent Hartree-Fock calculations there was a feeling that it is time to think about its future. At Bled we had both, presentation of new results as well as attempts to use the TDHF as a basis for a more complete scattering theory.

Collisions of complex nuclei at high energy are a new field with many new data coming out and with many adequate and inadequate theories. It seems a prosperous site to mine new problems.

Finally, we tried to learn about problems and experiences of our older brothers, the atomic physicists, in the microscopic description of reactions. The problems of atomic and molecular physics which were opened by heavy ion accelerators were also close to the interest of nuclear physicists.

The Symposium was concentrated around invited talks. The size of the Symposium was convenient so that a large part of participants could present their ideas. We are glad that we had as many young as senior speakers. The speakers are to be congratulated for the good working, lively atmosphere they created with their illuminating talks.

The Supplement 2 contains the contributed papers. It was ready for distribution at the time of the meeting.

The invited papers and the discussions are published in two volumes, Supplement 3 and 4. We would like to thank the speakers for having sent their manuscripts promptly and carefully prepared.

Several authors submitted written versions of their talks in a more complete form, enriched with proofs and details. This caused some financial problems, but the organizers decided not to ask for shortening of manuscripts. There were some problems with manuscripts which were not prepared in photo-ready form. In the wish to get the proceedings published as soon as possible the editors took the freedom to unify somewhat the title pages, to contract the waste space and to put figures at the end. The editors admit responsibility for any unadequate handling of this.

The discussions are presented in the Proceedings as they were recorded in written form by the participants and speakers.

We would like to express our thanks to our sponsors. The financial assistance and support by the Association of research workers of Yugoslavia, the Faculty of Natural

Sciences and Technology and the Jožef Stefan Institute are gratefully acknowledged.

Finally, it is a pleasure to thank to the people of the Jožef Stefan Institute for help and assistance which made this symposium possible. We appreciate the support and help by professor B. Frllec, the director of Jožef Stefan Institute. We are grateful to Darja Ude, the administrative secretary of the conference, whose efficiency made many problems easily solvable.

**Editors:**

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