PREFACE

Since the first CEBAF energy upgrade workshop in 1994 there have been a number of developments which made it clear that another workshop was appropriate. The 1994 workshop was organized to discuss the physics possibilities at CEBAF with beam energies approaching 8 GeV, approximately double that of the original design. Since that time, numerous improvements in cavities and other aspects of the accelerator have made it clear that a signficant energy upgrade is possible, and a long range plan has been developed to acheive energies well beyond the 8 GeV. A staged approach to the accelerator upgrade has been presented to officials at the Department of Energy. In it the accelerator is first upgraded to 6 or possibly 7.5 GeV over roughly five years. This would be followed by an upgrade to nearly 12 GeV in another five years. Ultimately the machine has the potential of reaching an energy near 24 GeV. This plan has been "blessed", at least in principle, by the DOE and is included in their long range planning. To make effective use of such a research tool the physics program must plan ahead as well.

Given the time scales of these energy upgrades, it is clear that scientists working at Jefferson Laboratory need to start planning and designing the new or upgraded equipment necessary to carry out the physics program with higher energies. Also evident, given the passage of four years since the previous meeting, was the need to review the physics program possible with the higher energies. Thus the purpose of the workshop was not simply to address the physics issues associated with higher energies, but also to consider and discuss the equipment and instrumentation necessary for the measurements, and to generate working groups of scientists who would pursue these ideas to the proposal and construction stage. With the proposed energy upgrade schedule, it is imperative that such work begin now.

The workshop was held at Jefferson Lab on June 15-18, 1998. It was organized with three days of plenary sessions and one day of parallel sessions. The workshop began with a presentation by Larry Cardman detailing the plans and time scale for upgrading the accelerator. The remainder of the first day consisted of invited papers discussing the physics potential of CEBAF with higher energies. The following day and a half consisted of plenary sessions which reviewed the state-of-the-art of equipment and instrumentation. These were followed by two half-day parallel sessions. The first consisted of four sessions organized by physics topics, and the second was organized by experimental Halls, including the potential for a new Hall (Hall D) devoted primarily to meson spectroscopy. A summary of these parallel sessions was presented in a plenary session on the final afternoon.

These proceedings contain most of the invited papers presented at the workshop, both on physics and on instrumentation. There are, of course, a few missing - those whose manuscripts never arrived, and also a few talks which were primarily discussion sessions were not appropriate for inclusion. It is our expectation that from this workshop, and possibly more importantly from the large effort put forth by some scientists prior to the workshop, working groups will form and lead the construction of the instrumentation required to carry out the exciting physics possibilities discussed at the workshop.

The organizers wish to thank two groups of people who have contributed so much to the success of this workshop. First we would like to thank the organizers of the physics parallel sessions, Rolph Ent and Thia Keppel, Jim Napolitano, Paul Stoler, and Mark Strikman. These persons did a fantastic job in focusing on the topic of their parallel session and assembling an array of excellent speakers. In a similar manner the Hall leaders, Kees deJager, Bernard Mecking, Roger Carlini, and Dennis Weygand for "Hall D", with much help from a number of their collaborators put together an outstanding combination of physics and instrumentaion topics and speakers.

The second group of people whom we wish to thank are the Jefferson user liaison team, Karen Hokansson, Shannon Walsh, Gladys Smith, Mary Dickinson, Thanh Duong, Kari Heffner, Shauna Keddell, Samina Khawaja, Matt Maravalis, Nga Pham, Lori Powell, Greg Smith, and Kimberly Thomas. We could not have held any workshop without their efforts. They did everything necessary to ensure the success of the workshop, and their help is greatly acknowleded and sincerely appreciated.

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