INTRODUCTION

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The 1963 Summer Study was organized to provide background information that could serve as a guide in planning Brookhaven's future program in high-energy physics. A group of about 40 visitors from the United States and abroad was comprised of roughly equal numbers of high-energy physicists and accelerator physicists. A similar number of Brookhaven staff members took an active part in the study.

Nineteen formal sessions were held during the six weeks of the study. This volume is a compilation of the minutes of the sessions, to which we have added several contributed papers. The onerous task of editing these proceedings has been ably supervised by Dr. J.W. Bittner.

The discussion during the summer study centered on objectives and techniques of experimentation at high center-of-mass energies using either colliding beams or super-energy accelerators. Also a great deal of interest was expressed in possible increase in intensity of existing and proposed accelerators. This raised attendant questions about space-charge limits, intensity-dependent beam instabilities and residual radioactivity. Papers on these and other associated topics will be found in the proceedings.

The summer study was attended by the following:

L.C. Teng
S.C. Frautschi
J.R. Rees
E.H.S. Burhop
A. Schoch
R.H. Dalitz
R. Levi Setti

Argonne National Laboratory
California Institute of Technology
Cambridge Electron Accelerator
CERN

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L.M. Lederman M. Schwartz R. Serber J. Steinberger	Columbia University
E.C. Fowler	Duke University
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P.G. Kruger A.I. Yavin	University of Illinois
D. Keefe L.J. Laslett D.H. Miller A.M. Sessler	Lawrence Radiation Laboratory
G.B. Yodh	University of Maryland
I.A. Pless	Massachusetts Institute of Technology
W.R. Frisken	McGill University
L.W. Jones K.M. Terwilliger	University of Michigan
M. Bernde F.T. Cole C.D. Curtis G. del Castillo A. Galonsky F.E. Mills E.M. Rowe M.F. Shea I. Sviatoslavsky D.A. Swenson B. Waldman	Midwestern Universities Research Association
H. Bruck G. Gendreau	Orsay
G.K. O'Neill	Princeton University
A. Melissinos	University of Rochester
B. Thevenet	Sac1ay
W.D. Walker	University of Wisconsin
W.A. Wallenmeyer	U.S. Atomic Energy Commission

Members of the Brookhaven Accelerator and Physics Department staffs and summer visitors.

Yale University

V.W. Hughes