

ANNUAL REPORT
of the
MICHIGAN STATE UNIVERSITY
CYCLOTRON LABORATORY*
for the period
July 1, 1970 to July 1, 1971

By
Project Staff

September 1971
East Lansing, Michigan

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This year we have made a major change in the format of our Annual Report by including a new section consisting of a series of brief writeups on Research in Progress. Such a section is more difficult to prepare than the compilation of reprints and preprints which has previously constituted our Annual Report; the result is however much more useful in that a very current picture of our program is conveyed—more up to date in fact than any other common channel of information exchange.

This year's Annual Report is also different in that it includes all of the programs in the laboratory, which contrasts with previous years when results were sorted out in accord with the source of funds and individual annual reports were submitted for each grant or contract. These individual reports inevitably involved substantial duplication since collaborations in the laboratory have always been a very flexible pattern depending on particular scientific interests and quite independent of funding boundaries. Moreover all the programs use the laboratory facilities which were entirely obtained through grants from the National Science Foundation and all programs are then in a real sense supported to a substantial degree by NSF, even though operating support may be from some other source. We are then submitting this combined Annual Report to all the agencies supporting programs here. To indicate the relative contribution of these sources we show in Table I the percentage operating support from each source for the year 1970-71 and, in Table II, the faculty and postdoctoral staff attached to each grant or contract.

Let me then turn to a few general remarks on the overall state of the laboratory in the year 70-71. In its early years our program

mainly centered on instrumentation; as a result our instrumentation now has many exceptional characteristics and these facilities are in a state of vigorous use on a broad spectrum of problems in nuclear physics. Summarizing the accomplishments of our nuclear program in any brief way I find in fact to be very difficult. In a real sense this whole report is such a summary. As I leaf through the manuscript pages the main summary thought which comes to me is a feeling of seeing a large amount of high quality data on a broad variety of topics. Included in this I note a number of topics showing close collaboration between theorist and experimentalist, a pattern which we expect to occur even more in the future now that George Bertsch has joined our faculty filling the last of our Science Development positions. I also note that we are managing to handle an increasing number of experiments involving collaboration with visitors from other laboratories, an arrangement which we have found nearly always to be both productive and stimulating. Our desire in fact is to accommodate any experiment for which the facilities of this laboratory are particularly appropriate independent of questions of institutional affiliation. If you have an idea for an experiment we would be pleased to hear from you.

Finally I wanted to thank those who in years past have taken the trouble to comment on our Annual Report. This feedback has been most valuable in our discussions of pros and cons of various formats and we hope readers will keep on letting us know what they find useful or not useful. We appreciate such help greatly.

Henry Blosser

Table I. Sources of support for MSU Cyclotron Laboratory programs for year 1970-71.

Institution or Agency	Grants or Contracts	Per Cent of Total
1-National Science Foundation	Grants GP-6760 & GP-27483	60.5
2-Atomic Energy Commission	Contract AT(11-1)-1051	6.7
3-Atomic Energy Commission	Contract AT(11-1)-1779	6.9
4-Office of Naval Research	Contract N-00014-68-A-0109-0008	2.5
5-National Aeronautics & Space Agency	Contract NGR-23-004-056	1.9
6-Michigan State University		21.5

Table II. List of faculty and postdoctoral personnel as of June 1971 and source of salary funds. Numbers refer to grants and contracts listed in Table I.

Professors	Assoc. Professor
S. Austin 1,6	W. Benenson 1,6
H. Blosser 1,6	F. Bernthal 3,6
A. Galonsky 1,6	G. Bertsch 2,6
M. Gordon 1,6	J. Borysowicz 2,6
C. Gruhn 1,6	G. Crawley 1,4,6
E. Kashy 1,6	J. Nolen 1,6
W. Kelly 1,6	H. Wildenthal 1,6
W. McHarris 3,6	
H. McManus 2,6	
	Postdoctorals
	M. Dworzecka 2
	R. Hinrichs 1
	O. Katyal 5
	B. McKellar 2
	P. Miller 1
	F. Petrovich 2
	H. Robertson 1
	R. Warner 3
Asst. Professors	
T. Arnette 1,6	
R. Jolly 1,6	

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