

ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE
CERN EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

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Votre référence
Your reference

Notre référence
Our reference CERN/TCC 68-30

▶ A rappeler dans la réponse
Please quote in your reply

Genève, le 9.7.1968

Dear Colleague,

CERN is now preparing its budget estimates for the next five years. The cost of running CERN is clearly related to the demands made by outside laboratories for the use of CERN facilities and so the Chairmen of the three experimental Committees (TCC, EEC and Physics III) have been asked to prepare estimates of the future needs of outside groups for the use of the CERN directorate in making its forecasts. This of course is not easy, but one factor which can certainly be taken as a starting point is the future capacity of European groups to measure bubble chamber film.

To help us in making this evaluation of measuring power we should be very grateful if you would complete the enclosed questionnaire. Since a 'first-order' answer to CERN is desirable by August we should like to receive your reply before Friday, 26th July.

In answering the questions on the future it is important that the information you give corresponds to your best realistic estimate of the position (rather than 'maximum' plans) and, for example, please give the number of measurements you feel your group can handle rather than the theoretical maximum out-put from (say) an HPD measuring 24 hrs. per day for 365 days per year !

The answers of individual groups will not be published, but we shall have some discussion of the overall picture at a TCC meeting in the Autumn. At that time we will also discuss what further information may be necessary for a 'second-order' estimate.

It is of interest - and perhaps will be a help in making your own evaluation - to read the enclosed report on a similar exercise carried out at CERN. An important aspect of this CERN study to which we should like to draw your attention is the magnitude of the associated computing load, particularly for post-Grind 'physics' analysis. Total measuring-power is certainly not the only relevant factor although it may be the easiest to estimate. We should be very interested in any comments you have, in particular on the future trends in experimental elementary particle physics using bubble-chambers or other devices (e.g. Ω -project).

Yours sincerely,

J.H. Mulvey
Chairman, Track Chamber Committee.

Remarks on Answering Questionnaire

1. Would the person answering please fill in his name and that of the group; in the case of several groups replying from the same University or Institut please make sure the equipment and staff numbers etc. are not counted more than once ! If your group shares an HPD (or similar device) please give the percentage of your use.

2. In making the estimates for the future give the number of measurements you regard as adequate for a satisfactory research programme (not just the theoretically possible maximum from, say, an HPD working for $\pi 10^7$ seconds per year).

3. Estimated computing time. Here we should like an estimate of total needs; that is all filtering, Thresh and Grind, SUMX and all 'physics' computation. The unit chosen, for one year, is $(7090 \text{ secs} \times 10^{-7})$. As a guide in relating this unit to other computers CERN uses the equivalences:

$$1 \times 7090 = 1.9 \times 10^7 \text{ secs/year (63\% efficiency)}$$

$$1 \times 3800 = 3 \times 7090$$

$$1 \times 6400 = 5 \times 7090$$

$$1 \times 6600 = 8 \times 7090 = 15 \times 10^7 \text{ sec/yr.}$$

If you find it not appropriate to use these units, please write your total estimate of time and in the space for comments state which computer is used for the estimate.

4. Please answer the staff questions in terms of the number of 'full-time-equivalents'. 'Research Physicist' means those actively engaged in the research programme; physicists engaged in supporting activities (programming, or engineering) should be included under the other appropriate headings. Please include people engaged in development (e.g. building PEPR etc.). Under 'Scanners and Measurers etc.' please include all expeditors, librarians etc.

5. Please make use of space for General Comments !

MEASURING POWER QUESTIONNAIRE: Please return to: R. Budde, CERN, before Friday 26th July

University or Institute Group Name of Correspondent	Year ending 1st June 1968		1970		1972		General Comments etc. Do you plan to use: a) CERN 3.5 M b) Gargamelle c) Other special projects yes/no yes/no
	No. of machines	No. of measurements	No. of machines	expected No. of measurements	No. of machines	expected No. of measurements	
	Total Computer time required (7090 secs x 10 ⁻⁷)	Estimate of total expected computer time (7090 secs x 10 ⁻⁷)	Estimate of total expected computer time (7090 secs x 10 ⁻⁷)	Estimate of total expected computer time (7090 secs x 10 ⁻⁷)			
Image Plane Digitizers							
	on line						
	off line						
I.E.P. etc	on line						
	off line						
LFD (or share of)							
PEPR (or share of)							
SPIRAL READER							
FOLLY (or other - please specify)							
TOTALS							
No. of Research Physicists							
No. of Graduate Students							
No. of Programmers etc.							
No. of Scanners and measurers etc.							
No. of supporting Physicists and engineers							
No. of Technicians							
Type of Computer (used for final data processing and analysis. If wholly devoted to B.C. work please add '#')							

General Comments: (continue on a separate sheet)