

Programmes used at Moscow

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SUMMARY

Dr. Nikitin indicated that in Russia, general trends in programming were very similar to those which had already been described by other laboratories. The main effort at present was being directed towards the development of the filtering programme for the Moscow flying-spot device.

DISCUSSION

(Communications 4, 5 and 6)

ZOLL; Are you supposed to type the table of mass assignments on a tape, or does the computer generate this tape?

BURREN: No, you just type the hypothesis on a card and specify for which reel of tape or between which event numbers you wanted to try that hypothesis; or else you type half a dozen cards because you usually want to test more than one hypothesis at a time.

HULSIZER: Could you give us an idea of what it cost to write those programmes in FORTRAN, with respect to speed and memory load.

BURREN: We started writing the hypothesis-testing programme last June and we actually used the fitting part of it before Christmas, and the hypothesis programme in May or June for the first time. The geometry we started only about November and actually for production purposes the helix-fitting is not yet in, but it has worked - I think it is probably the first time F. Solmitz' method has been programmed. That is still going on, and is just about finished now.

As to the size of programme, the hypothesis-testing programme at the moment takes 13,000 IBM instructions and 13,000 words of store, but this is probably reducible by, at least 5,000, probably 10,000. When the fitting programme was written, we did not know how we were going to write the hypothesis programme and at the moment we have to do a rather messy dump in-between to get the data from one form into the other, so probably 5 to 10,000 can be saved on that quite easily.

The geometry is about 4,000 words of store and about 10 - 12,000 words of programme.

MACLEOD: Could you explain a little how the masses are introduced into your programme or am I mistaken in understanding the programme does make a mass-dependent fit to the tracks?

ZOLL: Well this is a bit complicated. We are using a coding system and a special kind of measuring procedure, where you measure first all the tracks which belong to one vertex or subsidiary vertex. You punch a code after the last track and this tells the computer what possible hypothesis to use, for any one of these tracks and code runs, along with the tracks specifying on binary digits which mass assignments need to be used. The mass-independent fit is calculated, then the mass-dependent iterations are performed before writing the results for each track.

POWELL: Could you say a few words about the FSD device to which you have just referred?

NIKITIN: It is being built mostly on the lines of your machine. I can give you some details about it, perhaps, but the overall design is very near to that you have.