The version of GRIND on the 6600 system library will shortly be replaced by version 3.05. The actual date of the change will be announced on the 6600 notice board.

The differences between version 3.05 and the last one are as follows:

1. **Run Cards.**

   The TIME card now has the proper effect again, i.e. the appropriate routine (XSENSW) has been modified so as to be compatible with the system conventions.

   The job is terminated after a certain length of time, which is specified on the TIME run-card in minutes (in columns 21-30) and seconds (in columns 31-40).

2. **Neutral V's.**

   The handling of neutral V's has been modified in two ways:

   (i) in certain circumstances, when the decay point is close to the production point the momentum and dip of the neutral particle are regarded as unmeasured, while its azimuthal direction is regarded as measured. If, in addition, the momentum of one of the decay particles is unmeasured, this gives a combination of unmeasured quantities which was not previously allowed for in the program, and the event would fail. In this version of GRIND the appropriate routine (QUAMIS) has been extended to include this class of event;

   (ii) if one of the decay particles in a neutral V undergoes a secondary scatter which is measured, the production fit (sic !) was incorrectly treated. This was due to a programming error (in INTYP8) which has been corrected in this version of GRIND.

3. **Printed Output.**

   The geometry print-out (BCDGE0) has been modified so that zero is printed (instead of garbage) for the momentum of a track and its error, etc., when the track is straight and has an unmeasured momentum.
4. Titles.

When running with Titles on cards in the TESTNB node, it is no longer mandatory that the Titles supplied be applicable to the first event (GTITLE has been modified). Of course, the same limit as before (10) still applies to the maximum number of consecutive events which can be on the input tape for which no titles are supplied.

5. Errors on zero length tracks.

Due to a programming error (in SCATX) the old version used to try to calculate multiple scattering errors for zero length tracks. This, of course, yielded garbage. It has now been corrected.


(i) The coding in NATURE has been improved to speed execution.

(ii) The version number in GVERSNS has been updated to 3.05.

(iii) The co-ordinates of the primary interaction vertex in an event which fails completely in THRESH are now recorded as (0,0) on the index update tape rather than as the co-ordinates of the primary interaction vertex of the last event which succeeded in THRESH (GUPDTX).

7. New routines.

(i) BKPR2 (as described in section E) will be on the library.

(ii) GPUNCH (as described in section E) will be on the library.

GENERAL SECTION

The following modifications will be included:

(i) HUNTEC, to read the cards produced by GPUNCH.

(ii) MOVE and UCOPY have been combined into a modified MOVE which now has an entry point UCOPY. Both routines will act in the same way as before.

(iii) XSENSW has been modified to make the TIME run card operate as described. This change was necessary because the Final Sipros version of TIMEZB gives the elapsed time in thousandths of a minute rather than in seconds as it used to do under Interim Sipros.

R.J. Royston
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