1. THE DIRAC LANGUAGE FAMILY.

Activities and levels of users

The language used in the current interactive experiments, DIRAC-1, is the first prototype in the family of information-oriented languages we have designed. The objective of this project is to facilitate flexible interaction with large files of scientific data. The language is of the non-procedural type and demands no previous computer experience on the part of the user. It allows creation, updating, bookkeeping and validating operations as well as the querying of data files; these activities take place in conversational mode exclusively. To the more sophisticated user, the DIRAC languages offer a simple interface with the Stanford text editor (WYLBUR) and to the systems programmer, they make available a straightforward interface with FORTRAN that does not require intermediate storage of the extracted information outside of the direct-access memory. (2)

The name DIRAC (DIRect ACcess) is intended to remind the user of this fact. It also summarizes the five data types handled by the language, respectively: Date, Integer, Real, Alphanumeric, Code.

Four operation modes

The user of DIRAC can apply to any file (that he is authorized to access any command within one of the four sets grouped under the modes: CREATE, UPDATE, STATUS and QUERY. The first of these modes is a privileged one, but this privilege can be extended to any user by the data-base administrator at the time of file creation: it consists in the definition of a file or a series of inter-related files, according a terminology to be defined below, in both nomenclature and