

THE FLUKA CODE: PHYSICS AND APPLICATIONS

A. Fassò

The development of the modern FLUKA code, which has taken place in the last 15 years, has been stimulated by the need to solve a wide variety of radiation transport problems spanning a huge range of energies and projectiles. The maximum priority in the design has always been given to accurate physics modelling.

The main features of the physical models embedded in FLUKA will be shortly described, as well as their range of application.

FLUKA is successfully applied in several fields, including but not limited to detector simulation, dosimetry, radiation protection, radiation therapy, aircrew dosimetry and space problems. FLUKA is the standard tool used at CERN and SLAC for beam-machine interaction problems and radiation protection.

Several examples of successful applications of the code from low energy synchrotron radiation problems to cosmic ray energies will be presented and discussed.

Finally, a brief presentation will be given of the FLUKA project, a joint venture between INFN and CERN.