COMPUTER AIDED METHODS
IN RADIATION PROTECTION

ABSTRACT 32

ALGORITHMS FOR COUNTING RATE - CONVENIENT FOR DIGITAL RADIATION MONITORS

NAME/S/ AND AFFILIATION/S/ OF AUTHOR/S/

A.M. Koturović, R.B. Vukanović

Institute of Nuclear Sciences "Boris Kidrič"

PRINCIPAL AUTHOR'S ADDRESS Inst. of Nuclear Sciences, Electronics De

P.O.Box 522 11001 Beograd   COUNTRY Yugoslavia

Session: 4   Type of Presentation: Oral

The quality of computer based radiation monitors depends greatly on the applied algorithm for counting rate estimates, since the source of information are pulses originating from radiation detector. The applied algorithm influences directly the quality of results given by the instrument.

This paper deals at the begining with the criteria which are the qualities of importance for radiation monitors (response time, error, fluctuations etc).

When the qualities are established, the algorithms are formulated. Two types of algorithms are presented: quasiexponential and the linear. The liner algorithm is subdivided into three versions, everyone of which has some advantages. The algorithms are discussed in detail, and their performances are illustrated.

The relevant parameter is formulated and used as the base for the comparison of different algorithms. Such confrontation of algorithms gives the elements for discussion which algorithms are convenient or inconvenient for stationary and/or portable radiation monitors. This discussion is given in the paper and corresponding conclusions are carried out. The experience with an algorithm incorporated in the realized radiation monitor is commented, and a few more topics for further analysis, in the samo domain, are pointed out at the end.

AI

NA

E

D

PF

C

S