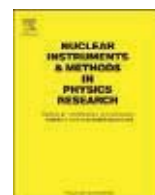Contents lists available at ScienceDirect

Nuclear Instruments and Methods in Physics Research A

journal homepage: www.elsevier.com/locate/nima

A new method to compensate for counting losses due to system dead time

S.M. Karabıdak [a,*], U. Çevik [a,b], S. Kaya [a]

[a] Karadeniz Technical University, Department of Physics, 61080 Trabzon, Turkey
[b] University of Antwerp, Department of Chemistry, B-2610 Antwerpen, Belgium

A R T I C L E   I N F O

A B S T R A C T

Determination of count losses and pile-up pulse effects in quantitative and qualitative analysis became a vital step in various analyses. Therefore, compensating for counting losses is of importance. These counting losses are due to the pulse pile-up, *paralyzable* and *non-paralyzable* system dead time or a combination of these mechanisms. In this work, a new method is suggested for the correction of dead time losses resulting from the above mechanisms. For this purpose, a source code was developed. It was found that the peaking time was an important parameter over system dead time. The method suggested seems to be more effective even at high count rate.

© 2009 Elsevier B.V. All rights reserved.