NINTH INTERNATIONAL CONFERENCE ON RADIATION IN VARIOUS FIELDS OF RESEARCH

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BOOK OF ABSTRACTS

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The new matrix method for deriving counting rate equations describing coincidence summing of gamma and X-rays for germanium spectrometers

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The method for deriving counting rate equations in coincidence summing of gamma and X-rays that we have developed has made it much easier to obtain the results as well as the measurement process itself. This method allows us to determine the activity of a radioactive source directly without calibration of the detector and also to simultaneously to determine the efficiency of detection. We have successfully applied the method to the radionuclide with a simpler decay scheme such as ^{139}Ce, ^{57}Co, ^{133}Ba. The application of this method to the ^{152}Eu as a radionuclide with a much more complex decay scheme has also been equally successful. We are applying the method to ^{235}U and ^{231}Th and the preliminary results show that it is possible to apply this method to these radionuclides as well.

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