NE102A PLASTIC SCINTILLATOR RESPONSE TO $^3$He IONS

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Plastic scintillators are widely used in detecting nuclear radiation due to their low construction cost, the ability to be produced in nearly any shape and size and relatively fast time response, among which NE102A (or its equivalents, BC400 and EJ-212) is one of the most famous and widely used scintillators in the focal plane of the particle magnetic spectrometers. In this study, the response of a large NE102A scintillator to $^3$He ions was investigated in the energy range of 55–87 MeV. The experimental data were collected from the measurements carried out at the accelerator center of the University of Groningen, the Netherlands (KVI-CART). The results of this research, acceptably consistent with previous published experimental data, confirmed that the response of the NE102A scintillator to $^3$He ions with energies more than 10 MeV is approximately linear.

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