ABSTRACT

Terbium-161 is a therapeutic radionuclide and potential candidate for theranostics. It will be an emerging radionuclide in nuclear medicine to treat metastases arises due to various type of cancers like prostate etc. Assessment of nuclear reaction cross section data was performed to produce therapeutic radionuclide of terbium-161 for medical applications via charged particle induced nuclear data on different targets i.e., ^{nat}Gd and ^{nat}Dy. Experimental data were analysed and compared with theoretical calculations of nuclear model codes TALYS 1.9 and EMPIRE 3.2.2. Th evaluated excitation functions find importance in various practical applications including nuclear medicine and improvement of nuclear model calculations.