

## ABSTRACT

This study has been carried out to compile and evaluate the experimental nuclear reaction cross-sections for the production of  $^{83}\text{Sr}$  which is a longer lived positron emitter radionuclide and useful for medical applications for Therapy process. Strontium is the substituent of calcium especially in the bones.  $^{83}\text{Sr}$  is promising candidate for the Therapeutic applications. This radionuclide is useful especially for metastases cancer treatment. In the present work, Cross-section data of charged particle induced reactions which are induced by proton, helion and alpha on different target nuclei were appraised. Experimental Data is analyzed, for reliability, some data points are neglected which have very large deviations. At that point, theoretical nuclear model calculations are done by using the code ALICE-IPPE and TALYS 1.9 to compare the theoretical and experimental excitation functions. Recommended cross-sections are generated to calculate the thick target yields (TTY) of  $^{83}\text{Sr}$  with minimum nuclidic impurities.