

## A study of proton-induced reactions on natural Silicon

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Experimental excitation functions of isotopes produced in reactions  $p + {}^{\text{nat}}\text{Si}$  [1,2] are compared with the results of nuclear reaction program TALYS and semi-empirical cross section formulas. We consider excitation functions of 7 isotopes ( ${}^{28}\text{Mg}$ ,  ${}^{26}\text{Al}$ ,  ${}^{24,22}\text{Na}$ ,  ${}^{18}\text{F}$  and  ${}^{10,7}\text{Be}$ ) produced in  ${}^{\text{nat}}\text{Si}(p, x)$  reactions at bombarding energies of 20-144 MeV. They are compared with the predictions of the code TALYS 1.95 [3] and the semi-empirical formulas of Silberberg-Tsao (code yieldx) [4] and SPACS [5]. Comparisons of the results of the code TALYS 1.95 and previously published results of code ALICE [2] are also made. The predictive power of code TALYS 1.95 may be questioned for reaction products with mass number very much smaller than the target and of semi-empirical formulas at energies below 60 MeV.

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