

Multigroup Activation Cross Sections

K. Devan

Reactor Physics Division, Indira Gandhi Centre for Atomic Research, Kalapakkam-603 102

For the estimation of the activation of various experimental foils as well as of materials present in a reactor the activation cross sections in specified group structure are required. We had created earlier [1,2] the activation cross sections for different materials in 25, 50 and 100 group structures to meet the above purposes.

Activation cross sections of Al^{27} , Mn^{55} , Fe , Co^{59} , Cu , Au^{197} , Th^{232} and U^{235} in 100 group structure were calculated from ENDL/84-V for use in estimation of activities of various foils in the proposed PFBR mock up shield experiment at APSARA reactor [3].

Activation cross sections of Zr and its isotopes were also calculated from ENDF/B-VI for activation studies in FBTR [4].

Though cross sections were required for specific reactions for the above purposes, cross sections for all reactions have been calculated and are available with us.

1. K. Devan, V. Gopalakrishnan and M. M. Ramanadhan, Activation Cross Sections of Sodium and Structural Nuclides in 25 and 100 Groups from JENDL-2, Internal Note RPD/NDS/32 (1990).
2. V. Gopalakrishnan, Activation Cross Sections in 50 Groups for Isotopes of Na, Fe, Cr, Ni, Cu, Co, Mo, and Mn With Two Different Weighting Spectra, Internal Note RPD/NDS/53 (1993)
3. K. Devan, Activation cross sections of Al^{27} , Mn^{55} , Fe , Co^{59} , Cu , Au^{197} , Th^{232} and U^{235} in 25 and 100 Group Structures from ENDL/84-V Library, Internal Note, RPD/NDS/56(1994).
4. K. Devan, 25 and 100 Group Activation Cross Sections of Zr and its Isotopes from ENDF/B-VI, Internal Note, RPD/NDS/60(1994)