

10/2/2012
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Possible new sub-libraries for ENDF/B-VII.X

New fusion facilities (NIF, ITER, Z-Machine, ...) present the data community with new problems and opportunities. In a typical ICF capsule, there are many components, including plastic and foam spacers. In a plasma environment, these materials ionize and effectively making their component atoms into projectiles. We have had requests from users at both LLNL and LANL to extend our charged-particle sub-libraries to include ^{12}C , ^6Li and ^7Li . In addition, LLNL's ECPL library also includes a ^4He sub-library with complete evaluations.

We propose adding several new sub-library designators to the ENDF format. The current list of sub-library designators is given in the ENDF manual on page 7 in Table 3. We propose extending Table 3 to include several materials with $Z \leq 6$:

NSUB	IPART	ITYPE	Sub-library Names
20040	2004	0	Incident-Alpha data (^4He)
30060	3006	0	Incident-Lithium-6 data
30070	3007	0	Incident-Lithium-7 data
40090	4009	0	Incident-Beryllium-9 data
40100	4010	0	Incident-Beryllium-10 data
50100	5010	0	Incident-Boron-10 data
50110	5011	0	Incident-Boron-11 data
60120	6012	0	Incident-Carbon-12 data
60130	6013	0	Incident-Carbon-13 data