

## Serpent 1.1.0 thermal scattering libraries based on JEF-2.2, JEFF3.1, ENDF/B-VI.8 and ENDF/B-VII

Thermal scattering data for light water, heavy water and graphite generated using NJOY-99.259. All data included in the main xsdir files. General format:

<mm><ll>.<id>

where <mm> is the material (lw = light water, hw = heavy water, gr = graphite) and <ll> is the library (j2 = JEF-2.2, j3 = JEFF-3.1, e6 = ENDF/B-VI.8, e7 = ENDF/B-VII). Library id's and the associated temperatures (in Kelvin) are given in the table below.

Data evaluation	id	Light water	Heavy water	Graphite
JEF-2.2		(lwj2)	(hwj2)	(grj2)
	00t	293.6	293.6	293.6
	01t	323.6	323.6	-
	02t	-	-	-
	03t	373.6	373.6	-
	04t	-	-	400
	05t	423.6	423.6	-
	06t	-	-	-
	07t	473.6	473.6	-
	08t	-	-	500
	09t	523.6	523.6	-
	10t	-	-	-
	11t	573.6	573.6	-
	12t	-	-	600
	13t	623.6	623.6	-
	14t	-	-	-
	16t	-	-	700
	18t	-	-	800
	20t	-	-	1000
	22t	-	-	1200
	24t	-	-	1600
	26t	-	-	2000

<b>Data evaluation</b>	<b>id</b>	<b>Light water</b>	<b>Heavy water</b>	<b>Graphite</b>
JEFF-3.1		(lwj3)	(hwj3)	(grj3)
	00t	293.6	293.6	293.6
	01t	323.6	323.6	-
	02t	-	-	-
	03t	373.6	373.6	-
	04t	-	-	400
	05t	423.6	423.6	-
	06t	-	-	-
	07t	473.6	473.6	-
	08t	-	-	500
	09t	523.6	523.6	-
	10t	-	-	-
	11t	573.6	573.6	-
	12t	-	-	600
	13t	623.6	-	-
	14t	647.2	643.9	-
	16t	-	-	700
	18t	800	-	800
	20t	1000	-	1000
	22t	-	-	1200
	24t	-	-	1600
	26t	-	-	2000

<b>Data evaluation</b>	<b>id</b>	<b>Light water</b>	<b>Heavy water</b>	<b>Graphite</b>
ENDF/B-VI.8		(lwe6)	(hwe6)	(gre6)
	00t	296	296	296
	01t	-	-	-
	02t	350	350	-
	03t	-	-	-
	04t	400	400	400
	05t	-	-	-
	06t	450	450	-
	07t	-	-	-
	08t	500	500	500
	09t	-	-	-
	10t	-	-	-
	11t	-	-	-
	12t	600	600	600
	13t	-	-	-
	14t	-	-	-
	16t	-	-	700
	18t	800	800	800
	20t	1000	1000	1000
	22t	-	-	1200
	24t	-	-	1600
	26t	-	-	2000

<b>Data evaluation</b>	<b>id</b>	<b>Light water</b>	<b>Heavy water</b>	<b>Graphite</b>
ENDF/B-VII		(lwe7)	(hwe7)	(gre7)
	00t	293.6	293.6	296
	01t	-	-	-
	02t	350	350	-
	03t	-	-	-
	04t	400	400	400
	05t	-	-	-
	06t	450	450	-
	07t	-	-	-
	08t	500	500	500
	09t	-	-	-
	10t	550	550	-
	11t	-	-	-
	12t	600	600	600
	13t	-	-	-
	14t	650	650	-
	16t	-	-	700
	18t	800	-	800
	20t	-	-	1000
	22t	-	-	1200
	24t	-	-	1600
	26t	-	-	2000