

Major contributors to the beta decay heat, ^{235}U thermal

0.1 s		^{97}Sr	^{96}Sr	$^{97\text{m}}\text{Y}$	^{95}Rb	24 %
	⟨E⟩ Jeff	2456	1972	2433	2829	
	⟨E⟩ Jendl	2285	1970	2355	3102	
		- 7 %	=	- 3 %	+ 10 %	
0.3 s		^{96}Sr	^{97}Sr	$^{97\text{m}}\text{Y}$	^{142}Cs	23 %
	⟨E⟩ Jeff	1972	2456	2433	2899	
	⟨E⟩ Jendl	1970	2285	2355	2449	
		=	- 7 %	- 3 %	- 18 %	
1.0 s		^{96}Sr	$^{97\text{m}}\text{Y}$	^{142}Cs	^{99}Zr	20 %
	⟨E⟩ Jeff	1972	2433	2899	1539	
	⟨E⟩ Jendl	1970	2355	2449	1710	
		=	- 3 %	- 18 %	+ 11 %	
3.0 s		^{96}Y	^{92}Rb	^{99}Zr	^{142}Cs	20 %
	⟨E⟩ Jeff	3205	2875	1539	2899	
	⟨E⟩ Jendl	2657	3499	1710	2449	
		- 20 %	+ 22 %	+ 11 %	- 18 %	
10. s		^{96}Y	^{100}Nb	^{92}Rb	^{101}Nb	25 %
	⟨E⟩ Jeff	3205	2493	2875	1863	
	⟨E⟩ Jendl	2657	2480	3499	1686	
		- 20 %	=	+ 22 %	- 10 %	
30. s		^{98}Nb	^{95}Sr	^{141}Cs	^{135}Te	20 %
	⟨E⟩ Jeff	1965	2208	1935	2442	
	⟨E⟩ Jendl	1628	2210	1940	2084	
		- 21 %	=	=	- 17 %	
100. s		^{140}Cs	^{91}Rb	^{144}La	^{98}Nb	23 %
	⟨E⟩ Jeff	1964	1612	1382	1965	
	⟨E⟩ Jendl	1752	1500	1380	1628	
		- 12 %	- 7 %	=	- 21 %	
300. s		^{137}Xe	^{90}Rb	^{139}Cs	^{95}Y	27 %
	⟨E⟩ Jeff	1695	2049	1640	1437	
	⟨E⟩ Jendl	1700	1992	1640	1440	
		=	- 3 %	=	=	
1000. s		^{94}Y	^{139}Cs	^{95}Y	^{102}Tc	33 %
	⟨E⟩ Jeff	1814	1640	1437	1945	
	⟨E⟩ Jendl	1810	1640	1440	1420	
		=	=	=	- 37 %	

Beta-decay and decay-heat

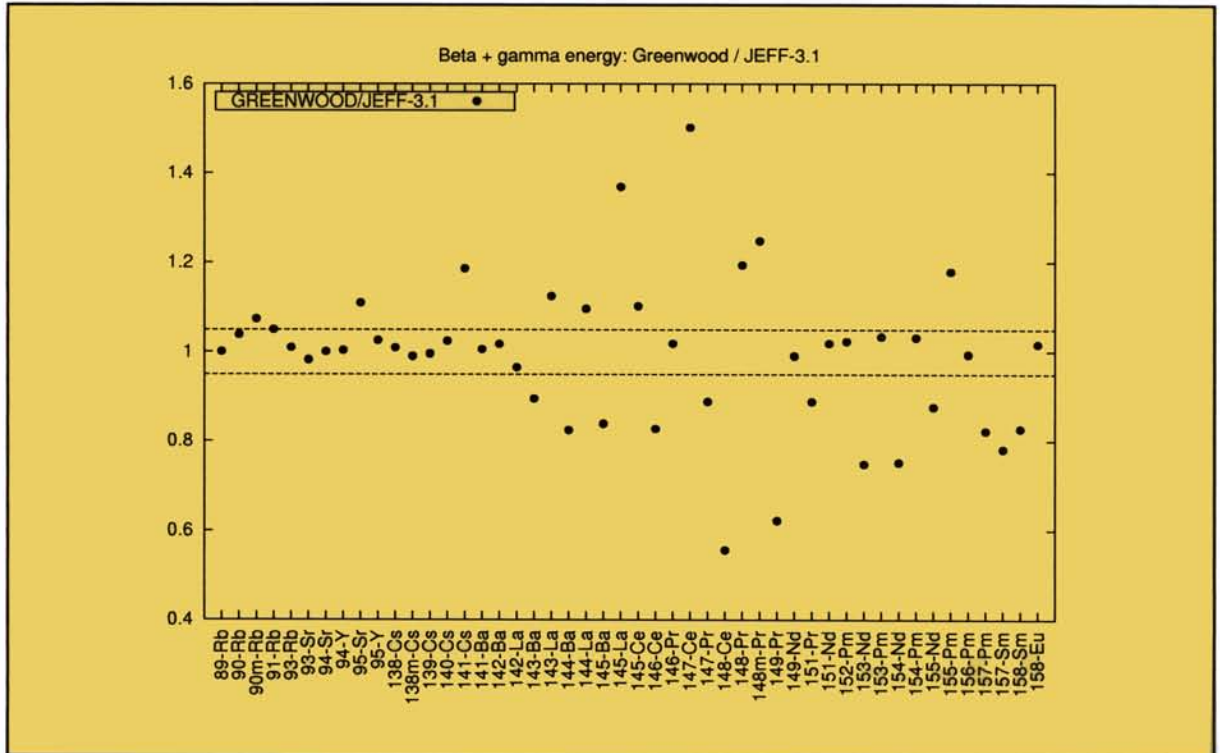


Major contributors to the beta decay heat, ²³⁹Pu thermal

0.1 s		^{97m} Y	¹⁰³ Nb	⁹⁷ Sr	⁹⁶ Sr	22 %
	⟨E⟩ Jeff	2433	1843	2456	1972	
	⟨E⟩ Jendl	2200	2111	2265	1970	
		- 11 %	+ 15 %	- 7 %	=	
0.3 s		^{97m} Y	¹⁰³ Nb	⁹⁶ Sr	⁹⁹ Zr	22 %
	⟨E⟩ Jeff	2433	1843	1972	1539	
	⟨E⟩ Jendl	2200	2111	1970	1710	
		- 11 %	+ 15 %	=	+ 11 %	
1.0 s		^{97m} Y	¹⁰³ Nb	⁹⁹ Zr	¹⁰² Nb	22 %
	⟨E⟩ Jeff	2433	1843	1539	2402	
	⟨E⟩ Jendl	2200	2111	1710	2832	
		- 11 %	+ 15 %	+ 11 %	+ 18 %	
3.0 s		⁹⁹ Zr	¹⁰⁰ Nb	⁹⁶ Y	¹⁰² Nb	19 %
	⟨E⟩ Jeff	1539	2493	3205	2402	
	⟨E⟩ Jendl	1710	2480	2656	2832	
		+ 11 %	=	- 21 %	+ 18 %	
10. s		¹⁰⁰ Nb	¹⁰¹ Nb	⁹⁶ Y	¹⁰⁰ Zr	25 %
	⟨E⟩ Jeff	2493	1863	3205	1307	
	⟨E⟩ Jendl	2480	1686	2656	1114	
		=	- 10 %	- 21 %	- 17 %	
30. s		⁹⁸ Nb	⁹⁹ Nb	⁹⁵ Sr	¹⁰⁶ Tc	19 %
	⟨E⟩ Jeff	1965	1514	2208	1943	
	⟨E⟩ Jendl	1628	1275	2210	1692	
		- 21 %	- 19 %	=	- 15 %	
100. s		¹⁴⁰ Cs	¹⁰³ Mo	⁹⁸ Nb	¹⁰³ Tc	22 %
	⟨E⟩ Jeff	1964	1316	1965	981	
	⟨E⟩ Jendl	1752	1120	1628	704	
		- 12 %	- 18 %	- 21 %	- 39 %	
300. s		¹³⁷ Xe	¹⁰² Tc	¹⁰³ Tc	¹³⁹ Cs	25 %
	⟨E⟩ Jeff	1695	1945	981	1640	
	⟨E⟩ Jendl	1700	1420	704	1640	
		=	- 37 %	- 39 %	=	
1000. s		¹⁰² Tc	¹³⁹ Cs	¹⁰⁴ Tc	⁹⁴ Y	32 %
	⟨E⟩ Jeff	1945	1640	1595	1814	
	⟨E⟩ Jendl	1420	1640	1403	1810	
		- 37 %	=	- 14 %	=	

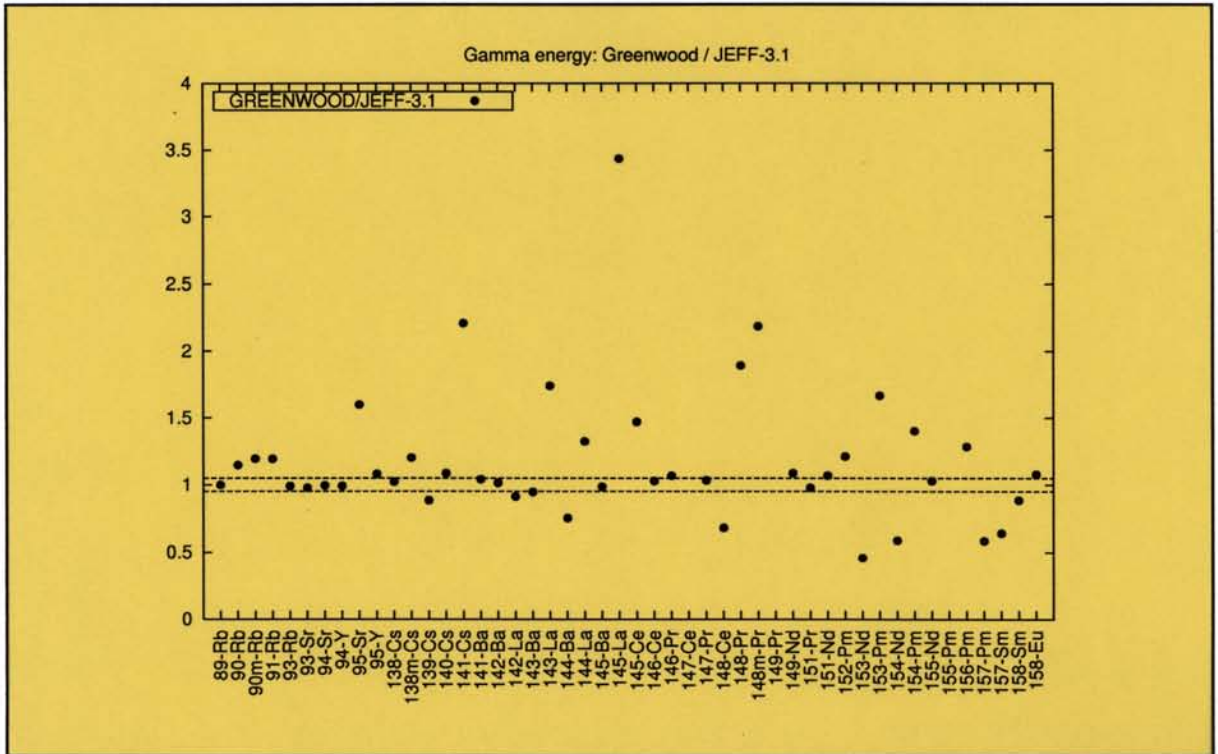


Comparison between Greenwood's and JEFF-3.1 beta + gamma average energy



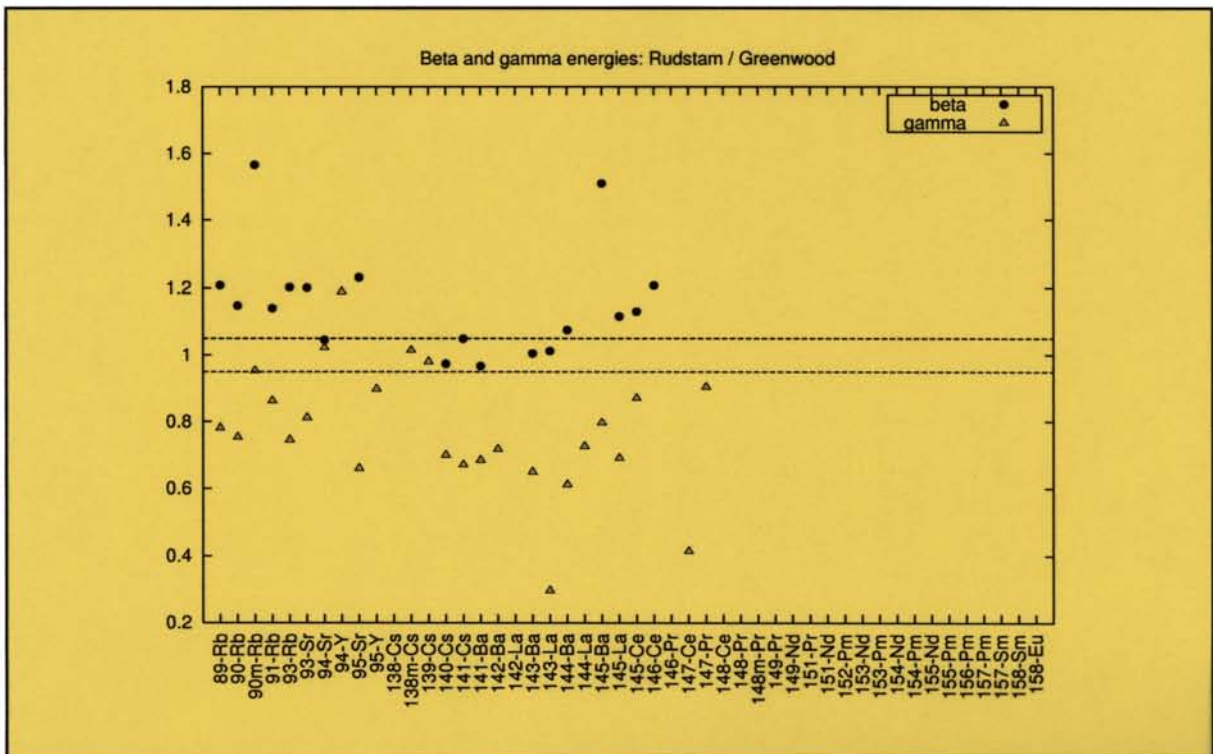


Comparison between Greenwood's and JEFF-3.1 gamma average energy



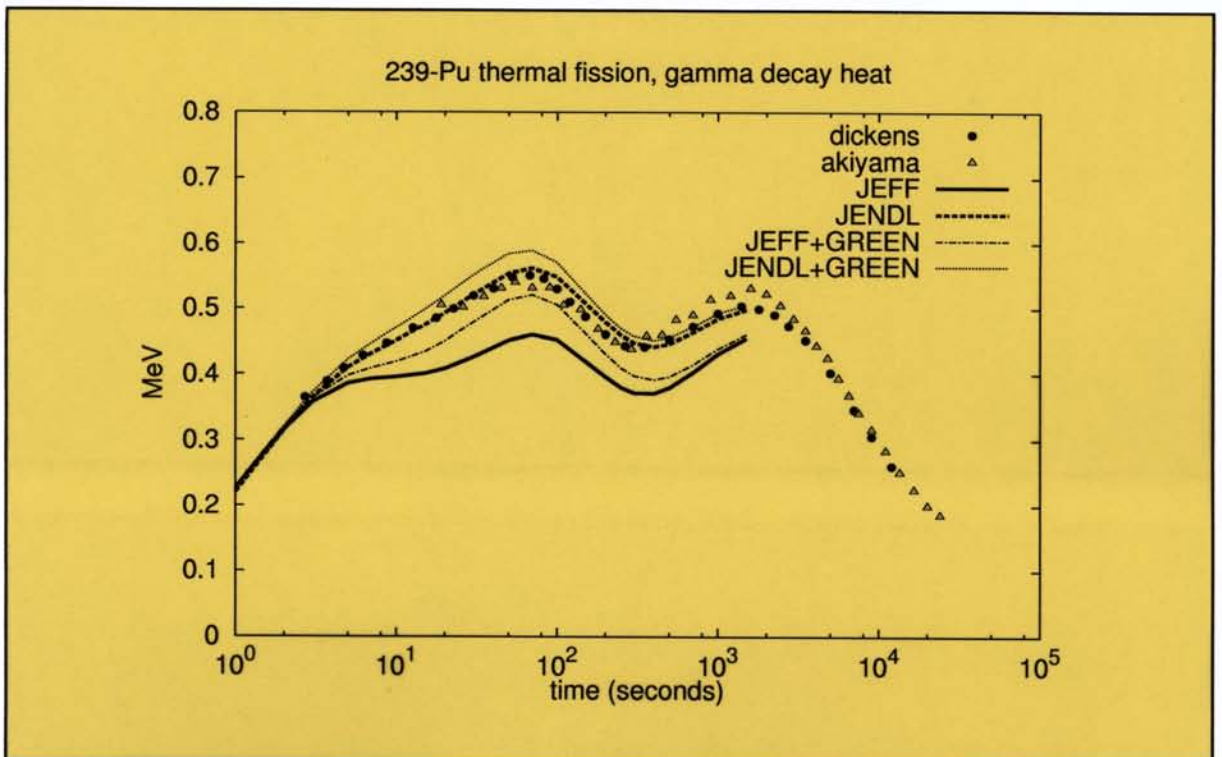
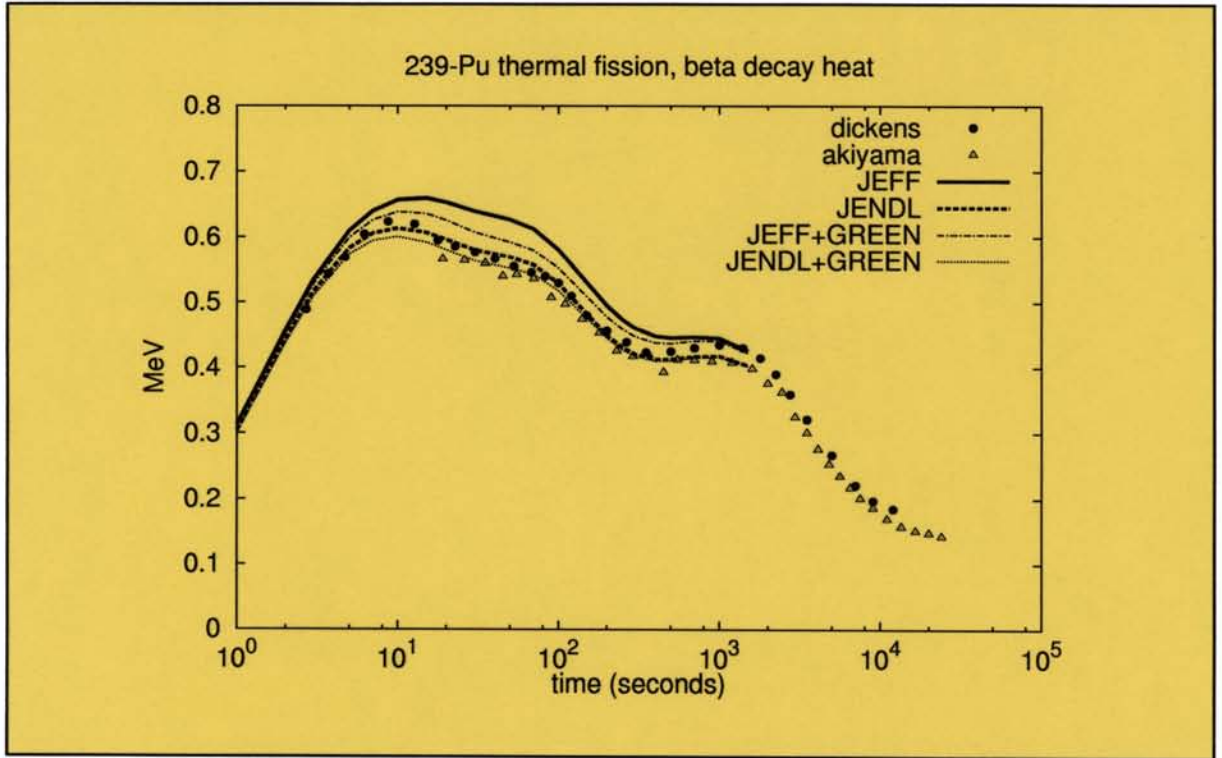


Comparison between Greenwood's and Rudstam's beta and gamma average energies





Decay heat including Greenwood's average energies





Comparison between the JENDL and JEFF libraries and experimental results

¹⁴⁰ Cs	JEFF-3.1 (1995)	JENDL-3.2(1999)	δ	Greenwood	Rudstam
Q_{β}	6370	6220			
E_{β}	1964	1752	- 11 %	1910	1860
E_{γ}	1675	2216	32 %	1818	1270
δQ	0.21 %				
¹⁴⁴ La	JEFF-3.1 (1989)	JENDL-3.2(1999)	δ	Greenwood	Rudstam
Q_{β}	5600	5541			
E_{β}	1382	1380	=	986	
E_{γ}	2330	2330	=	3085	2240
δQ	0.87 %				