TABLE 5. List of IRDFF-II benchmark neutron fields. Note that "adhoc" MAT numbers have been assigned (unrelated to the charge of the decaying nucleus).

No.	Name	MAT	$E_{\rm aver}[MeV]$	Description
		Measured by Time-of-Flight neutron fields including the ^{252}Cf(sf) standard		
1	^{252}Cf(sf)	9861	2.121	Spontaneous fission neutron spectrum from ^{252}Cf
2	^{235}U(n$_{th}$,f) PFNS	9228	2.000	Thermal-neutron induced prompt fission spectrum from ^{235}U
3	^{9}Be(d,n) 16MeV	9408	5.608	Spectrum of neutrons from 16 MeV deuterons incident on a beryllium target
4	^{9}Be(d,n) 40MeV	9409	15.58	Spectrum of neutrons from 40 MeV deuterons incident on a beryllium target
		Measured by Time-of-Flight neutron fields not accepted as benchmark fields		
1	^{233}U(n$_{th}$,f) PFNS	9222	2.030	Thermal-neutron induced prompt fission spectrum from ^{233}U
2	^{239}Pu(n$_{th}$,f) PFNS	9437	2.073	Thermal-neutron induced prompt fission spectrum from ^{239}Pu
		Neutron benchmark fields from detailed computational models		
1	ACRR-FF-32	9010	0.575	ACRR-FF-32 Reactor Extended Cavity Spectrum 640-group
2	ACRR-CdPoly	9011	0.657	ACRR-CdPoly Reactor Bucket Spectrum 640-group
3	ACRR-PLG	9012	0.439	ACRR-PLG Reactor Bucket Spectrum 640-group
4	ACRR-LB44	9013	0.715	ACRR-LB44 Reactor Bucket Spectrum 640-group
5	FREC-II	9015	0.545	FREC-II Spectrum (external cavity attached to ACRR) 640-group
6	SPR-III	9014	1.251	SPR-III Reactor Central Cavity Spectrum 640-group
7	Mol BR1 Mark-III	9020	1.864	Mol BR1 Mark-III, ^{235}U converter in Cd and Graphite cavity, 640-group
8	LR0-Rez	9032	0.646	Rez-LR0 Reactor spectrum, 640-group
9	TRIGA-JSI	9041	0.389	TRIGA Mark-II Pneumatic tube (bare), 640-group
10	TRIGA-JSI/BN	9042	0.848	TRIGA Mark-II boron nitride cover, 640-group
11	TRIGA-JSI/B4C	9043	0.923	TRIGA Mark-II boron carbide cover, 640-group
12	TRIGA-JSI/10B4C	9044	1.090	TRIGA Mark-II enriched boron carbide cover, 640-group
13	ISNF	9004	1.058	ISNF Reactor Spectrum 725-group
14	CFRMF	9005	0.741	CFRMF Reactor Spectrum from IRDF-2002
15	Sigma-Sigma	9007	0.763	Sigma-Sigma facility in ^{nat}U and BC spheres inside Graphite column, 725-group
16	HMF001	9101	1.433	Godiva, central region, 725-group
17	HMF028	9102	1.343	Flattop-25, central region, 725-group
18	IMF007	9103	0.570	Big-Ten 725-group
19	FMR001	9110	1.483	IPPE-BR1, central region, 725-group
20	FNS-Grph-096mm	9201	5.267	FNS-Graphite block with a D-T source and monitors at 96 mm, 725-group
21	FNS-Grph-293mm	9202	1.957	FNS-Graphite block with a D-T source and monitors at 293 mm, 725-group
		ICSBEP spectra not accepted as benchmark fields		
1	PMF001	9104	1.797	Jezebel, central region, 725-group
2	PMF002	9105	1.747	Jezebel-240, central region, 725-group
3	PMF006	9106	1.589	Flattop-Pu, central region, 725-group
4	PMF008	9107	1.681	Thor, central region, 725-group
		Analytical spectrum functions accepted as benchmark fields		
1	Thermal Maxw.	9901		Thermal Maxwellian at 293.6 K
2	1/E [0.55eV–2MeV]	9902		Pure 1/E between Ecd and E2 (0.55 eV$< E <$ 2 MeV)
3	Maxwellian (25 keV)	9925		Maxwellian at 25 keV
4	Maxwellian (30 keV)	9930		Maxwellian at 30 keV
		Analytical spectrum functions not used as benchmark fields		
1	Const.	9900		Constant spectrum Phi=1
2	1/E [0.5eV–20MeV]	9904		Pure 1/E between Ecd and E2 (0.5 eV < E < 20 MeV)
3	Maxwellian Fission	9905		Pure Maxwellian fission spectrum at temperature 2.03 MeV
4	Linear	9910		Linear spectrum Phi=E (1.E-5 eV < E < 20 MeV)
5	Maxwellian (32 keV)	9932		Maxwellian at 32 keV
6	Maxwellian (35 keV)	9935		Maxwellian at 35 keV
7	Maxwellian (40 keV)	9940		Maxwellian at 40 keV
8	Maxwellian (45 keV)	9945		Maxwellian at 45 keV
9	Maxwellian (50 keV)	9950		Maxwellian at 50 keV
10	Maxwellian (60 keV)	9960		Maxwellian at 60 keV