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Memo CP-D/757

Date: 3 August 2012
To: Distribution
From: N. Otsuka, S. Babykina
Subject: **Comparison between Landolt-Börnstein and EXFOR (Phase II)**
Reference: Memo CP-D/725

Following the Action 30 of the NRDC 2012 to us:

Continue comparison between Landolt-Börnstein compilation and EXFOR for light charged-particle induced isotope production cross sections.

we have checked the current EXFOR Master File against the 682 articles listed in Landolt-Börnstein (LB) data book (Subvolumes 13-F,G,H and I) for light-charged particle (p,d,t,³He,α) induced reaction activation cross sections. We found 219 articles are missing in EXFOR.

Some of them could be compiled from other articles. To avoid duplication, we assessed the experiments described in these missing articles, and identified articles requiring creation of a new entry or revision of an existing entry. The result is summarized below. We are missing 185 experiments in EXFOR.

	Status of article	articles	(%)
	Compiled	453	66
C	Not compiled. New entry must be created.	185	27
H	Not compiled. New entry can be created (high energy data)	10	2
S	Not compiled. But the work is compiled from another article.	32	5
	The article is not available.	1	0
	The article reports quantities not defined in EXFOR.	1	0
	Sum	682	100

Articles belonging to the 2nd (C) and 4th (S) category require creation and revision of EXFOR entries, respectively. Centres are asked to assess articles and start compilation and revision of EXFOR entries. We also occasionally found compilation mistakes etc. All actions to centres are listed at the end of this memo.

In order to complete this assessment, the **IAEA Library** (Head: Ms AH WIN Daw) collected a lot of articles in journals, conference proceedings, laboratory reports etc. Our requests were often challenging for the library because bibliographical information was often incomplete and some regional publications were not well accessible. Our special thanks go to Ms Linda VIDE and her library colleagues for their professional works. The Library also understands the importance of our task, and decided to add all relevant subvolumes of LB to their collection. These books will be useful when quality of an article copy image is not satisfactory for our compilation.

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Actions to Centres (2012-08-03)

Actions:

- A: The article is compiled. But AUTHOR must be corrected.
 E: The article is compiled. But its English translation information must be added.
 C: The article must be compiled in a new entry. Send its entry number to NDS (=Valentina).
 H: The article can be compiled in a new entry. (High energy data). Send its entry number (or rejection) to NDS (=Valentina).
 R: The article is compiled. But REFERENCE must be corrected.
 S: The article must be added as a secondary reference.

The first and second field gives the subvolume numbers and reference key numbers assigned in Landolt-Börnstein (LB), and they can be used when we need cross checking with LB compilation.

Vol.	LBKey	1st Author	Typ	Publication	Vol	Issue	Page	Year	Lab	EXFOR	Centre	Act.	Remark
13l	Mer81	M.Merkel	J	RCA	29		173	1981	2GERTHD	A0177	(CAJaD)	S	or new entry?
13f	Vys93	J.H.Zaidi	J	UPJ	38		1773	1993	4UKRIJI	A0618	(CAJaD)	S	Possibly UPJ must be the prim. ref.
13g	Bha88	H.D.Bhardwaj	J	PRM	31		109	1988	3INDCAU	A0465	CAJaD	A	Bhardwai->Bhardwaj
13f	Abr84	S.N.Abramovich	J	YK	1984	2/56	55	1984	4RUSEPA	A0166	CAJaD	A	
13f	Abr85	S.N.Abramovich	J	IZV	49		917	1985	4RUSEPA	A0167	CAJaD	A,E	J,BAS,49,(5),77,1985
13f	Ged92	A.D.Gedeonov	C	91VILLIG			82	1991	4ZZZDUB		CAJaD	C	
13f	Vla57	N.A.Vlasov	J	AE	2		169	1957	4RUSKUR		CAJaD	C	J,SJA,2,189,1957
13f	Dmi65	P.P.Dmitriev	J	AE	18		184	1965	4RUSFEI		CAJaD	C	J,SJA,18,228,1965
13f	Dmi69	A.K.Chaubey	J	AE	26		467	1969	4RUSFEI		CAJaD	C	J,SJA,26,539,1969
13f	Kon69	N.A.Konyakhin	J	AE	27		208	1969	4RUSFEI		CAJaD	C	J,SJA,27,944,1969
13g	Gla80	V.T.Gladun	J	IZK	1980	4	82	1980	4KASKAZ		CAJaD	C	
13f	Kha90	I.N.Khaustov	J	IZK	1990	2	3	1990	4KASKAZ		CAJaD	C	
13l	Vas81	A.Vasidov	J	IZU	1981	3	93	1981	4UZUZB		CAJaD	C	
13f	Muk85	S.Mukhammedov	J	IZU	1985	5	81	1985	4UZUZB		CAJaD	C	

13f	Khr72	Yu.V.Khrisanfov	J	IZV	36		641	1972	4RUSSUL		CAJaD	C	wrong page in LB13f (64); J,BAS,36,580,1973
13f	Ale73	Yu.A.Aleksandrov	J	IZV	37		1885	1973	4RUSSUL		CAJaD	C	J,BAS,37,(9),76,1974
13g	Koz90c	P.Kozma	J	NIM/A	291		662	1990	4ZZZDUB		CAJaD	C	
13I	Bel86	B.N.Belyaev	J	YF	44		876	1986	4RUSLIN		CAJaD	C	
13f	Tep58	I.B.Teplov	J	ZET	34		334	1958	4RUSMOS		CAJaD	C	
13f	Kuz61	V.V.Kuznetsov	J	ZET	40		1263	1961	4ZZZDUB		CAJaD	C	
13I	Chu63	V.Chuan-Pen	J	ZET	44		1800	1963	4ZZZDUB		CAJaD	C	
13I	Mal84	V.M.Maltsev	P	JINR-6-84-682				1984	4ZZZDUB		CAJaD	C	
13I	Ale75a	E.G.Alekseev	P	LNPI-191				1975	4RUSLIN		CAJaD	C	prim. ref.=J,RRL,36,125,1978
13I	Mak61	K.V.Makaryunas	S	Proc.ANLit.SSR	1		117	1961	4LITLIT		CAJaD	C	prim. ref.: J,ZET,38,372,1960
13I	Kri77	G.A.Krivososov	J	IZV	41		2196	1977	4UKRKFT	A0048	CAJaD	E	J,BAS,41,(10),175,1977
13f	Guz80	B.Ya.Guzhovskii	J	IZV	44		1983	1980	4RUSEPA	A0081	CAJaD	E	J,BAS,44,?? (request is in process)
13F	Vys91	O.N.Vysotsky	J	IZV	55		153	1991	4UKRIJI	A0620	CAJaD	E	J,BAS,55,(1),144,1991
13f	Gon94	J.-L.Reyss	J	IZV	58		81	1994	2FRCEA	A0574	CAJaD	E	J,BAS,58,778,1994
13I	Tru82	A.M.Trufanov	J	YF	36		299	1982	4RUSFEI	A0164	CAJaD	E	J,SNP,36,174,1982
13I	Kuz58a	V.V.Kuznetsov	J	ZET	35		587	1958	4ZZZDUB	A0877	CAJaD	E	J,JET,35,406,1959
13f	Koz88	P.Kozma	J	CZJ/B	38		973	1988	4ZZDUB		CAJaD	H	E=9 GeV/c
13f	Koz88	P.Kozma	J	CZJ/B	38		1317	1988	4ZZZDUB		CAJaD	H	E=9 GeV/c
13f	Kon84	V.P.Kondratev	J	YF	40		1371	1984	4RUSSUL		CAJaD	H	E(d)=8.9GeV; J,SNP,40,870,1984
13f	But86	V.S.Butsev	J	YF	44		425	1986	4ZZZDUB		CAJaD	H	E(d)=7.3 GeV; J,SNP,44,271,1986
13g	Abd79	A.U.Abdurakhimov	P	JINR-E1-12730				1979	4ZZZDUB		CAJaD	H	E(a)=18 GeV
13f	Koz86	P.Kozma	R	JINR-E1-86-607				1986	4ZZZDUB		CAJaD	H	E(p,d)=9 GeV/C
13g	Zhu70	O.A.Zhukova	J	IZK	1970	4	1	1970	4KASKAZ	A0647	CAJaD	R	J,IZK,4,1,1970- >J,IZK,1970,(4),1,1970
13f	Abr85a	H.D.Bhardwaj	J	YK	1985	2	10	1985	3INDCAU	A0270	CAJaD	R	
13f	Abr85b	S.N.Abramovich	J	YK	1985	2	14	1985	4RUSEPA	A0273	CAJaD	R	
13I	Sat92	N.P.M.Sathik	C	92BOMBAY	35		224	1992	3INDVEC	A0605	CAJaD	S	

13I	Bha92a	M.K.Bhardwaj	C	92BOMBAY	35		226	1992	3INDVEC	A0629	CAJaD	S	
13I	Sin93b	N.L.Singh	C	93CALICUT	36B		254	1993	3INDVEC	A0296	CAJaD	S	D6012.007 must be deleted. Duplication.
13I	Shu85	A.Yu.Shukolyukov	J	(Geolkhomiya)	12		1737	1985	4RUSFVE	A0919	CAJaD	S	sec.ref for A0919.021-028; new journal code
13I	Kon96	S.N.Kondratev	J	AE	81		273	1996	4UKRIJI	A0606	CAJaD	S	J,AE/T, 81, 714,1997
13I	Bel61	B.N.Belyaev	J	DOK	140		337	1961	4ZZZDUB	A0914	CAJaD	S	
13g	Vys90	O.N.Vysotskii	J	IZK	1990	2	43	1990	4UKRIJI	A0423	CAJaD	S	
13I	Muk86	S.Mukhammedov	J	IZU	1986	2	90	1986	4UZ UZB	A0212	CAJaD	S	or new entry?
13I	Tru84	A.M.Trufanov	J	IZV	48		1982	1984	4RUSFEI	A0221	CAJaD	S	
13I	Vin93	V.M.Vinogradov	J	IZV	57		154	1993	4RUSSUL	A0841	CAJaD	S	
13I	Hog73a	J.J.Hogan	J	JIN	35		1429	1973	1CANMCG	B0025	CAJaD	S	
13I	Sev82	M.E.Sevior	J	NP/A	378		349	1982	3AULAML	A0392	CAJaD	S	sec.ref. for A0392.009-010
13I	Por77	N.T.Porile	J	PL/B	67		43	1977	1USALAS	B0147	CAJaD	S	
13g	Mur78	H.Muramatsu	J	RI	27		636	1978	2JPNIPC	B0128	CAJaD	S	
13I	Ste90a	G.F.Steyn	R	NAC/AR/90-01			252	1990	3SAFNAC	A0507	CAJaD	S	
13f	Wes89	S.M.Qaim	R	UCRL-ID-115738			1	1993	2FRBRC	A0433	CAJaD	S	
13I	Bel87	B.N.Belyaev	S	87ZVENIGRD				1987		A0921	CAJaD	S	new conf. code
13f	Abr93	A.D.Gedeonov	J	IZV	57	10	187	1993	4ZZZDUB	A0535	CAJaD	S,E	J,BAS,57,1832,1993
13f	Abr94	N.A.Vlasov	J	IZV	58	1	87	1994	4RUSKUR	A0539	CAJaD	S,E	J,BAS,5875,1994
13f	Wol52	R.L.Wolfgang	J	PR	85		437	1952	1USACHI	F0142	CNPD	A	WOLEGANG->Wolfgang
13f	Pyl78	R.V.Pyle	J	ANS	30		623	1978	1USABRK	F0011	CNPD	R	TNS -> ANS
13f	Ram77	R.Rao	J	PR/C	15		2255	1977	2GERBON	F0830	CNPD	S?	(d,2n) agrees, (d,4n) disagrees
13g	Min90	Y.Minai	J	ARI	41		57	1990	2JPNTOK		JCPRG	C	
13f	Nis69	T.Nishi	J	BCR	47		162	1969	2JPNKTO		JCPRG	C	70Ge(d,p) in P0119; 133Ce(d,*) in E1881
13f	Shi75	S.Shibata	J	JMS	23		127	1975	2JPNTOK		JCPRG	C	
13f	Ish61	T.Ishimatsu	J	JPJ	16		367	1961	2JPNKYU		JCPRG	C	

13f	Mik66	T.Mikito	J	PL	23		586	1966	2JPNTOK		JCPRG	C	
13l	Noz81	T.Nozaki	J	RCA	29		57	1981	2JPNSUU		JCPRG	C	
13f	Nag78a	Y.Nagame	J	RI	27		631	1978	2JPNIPC		JCPRG	C	a-data in B0135
13l	Zha94	Y.L.Zhao	P	A-INS-1994			19	1995	2JPNJAE		JCPRG	C	
13l	Ras92	M.H.Rashid	C	92BOMBAY	35		234	1992	3INDVEC		NDPCI	C	
13l	Gau92	R.P.Gautam	C	92BOMBAY	35		238	1992	3INDVEC		NDPCI	C	
13l	Nai93	A.G.C.Nair	C	RCA	36		188	1993	3INDVEC		NDPCI	C	new Conf. code
13h	Cha90a	C.I.W.Tingwell	J	ARI	41		401	1990	3INDMUA		NDPCI	C	
13h	Moh94	H.Morinaga	J	JPJ	63		84	1994	3INDVEC		NDPCI	C	Th data in o1179
13g	Sin91	B.P.Singh	J	NC/A	104		475	1991	3INDMUA		NDPCI	C	
13l	Sin82	G.Singh	J	PRM	19		565	1982	3INDTRM		NDPCI	C	
13l	Ism89	M.Ismail	J	PRM	32		605	1989	3INDVEC		NDPCI	C	
13h	Cha90	A.K.Chaubey	R	IC/90/149				1990	3INDVEC		NDPCI	C	
13l	Gar81	H.J.Gardner	J	AUJ	34		25	1981	3AULAML	D0696	NDS	C	
13f	Roh70	S.Kaufman	J	JIN	32		1413	1970	3SAFNLP	D0693	NDS	C	
13f	Mor62a	R.Moreh	J	NP	36		315	1962	3ISLREH	D0692	NDS	C	
13f	Bet69	I.de Betancourt	J	RCA	12		206	1969	3ARGCNE	D0694	NDS	C	
13f	Sir70	L.N.Siri	J	RCA	14		159	1970	3ARGUBA	D0700	NDS	C	
13f	Ush76	O.H.Usher	J	RCA	23		159	1976	3ARGCNE	D0698	NDS	C	
13f	Ush77a	O.H.Usher	J	RCA	24		59	1977	3ARGCNE	D0701	NDS	C	
13l	Bas90	M.A.V.Bastos	J	RCA	50		189	1990	3BZLIPE	D0699	NDS	C	
13f	Fle65	G.N.Flerov	J	RRP	10		217	1965	3RUMBUC		NDS	C	
13f	Mer72	R.C.Mercader	J	ZP	255		103	1972	3ARGUPA	D0695	NDS	C	
13h	Bar86	S.De Barros	J	ZP/A	323		101	1986	3BZLUFR	D0691	NDS	C	
13l	Sin92a	N.L.Singh	C	92BOMBAY	35B		230	1992	3INDVEC	D0491	NDS	S	
13f	Lon91	X.Long	J	ARI	42		1234	1991	3CPRSIU	S0024	NDS	S	

13f	Pen92	X.Peng	J	NIM/B	68		145	1992	3CPRCPR	S0024	NDS	S	
13l	Sat93	N.P.M.Sathik	C	93CALICUT	36		250	1993	3INDVEC	D6091	NDS	S?	new Conf. code; waiting author's answer.
13l	Sin93a	N.L.Singh	C	93CALICUT	36B		246	1993	3INDVEC	D0491	NDS	S?	waiting author's answer
13f	Who69	T.Matsuo	J	RCA	12		75	1969	2GERSEI	D0026	NDS		
13h	Jah83	P.Jahn	J	APP/B	14		873	1983	2GERJUL		NEADB	C	
13f	Sch68	E.Schuster	J	ARI	19		471	1968	2GERSIE		NEADB	C	
13f	Lag65	M.Lagarde	J	CR	261		3364	1965	2FRFR		NEADB	C	
13f	Che70	A.Chevarier	J	CR	270		182	1970	2FRLYO		NEADB	C	
13l	Reg75	S.Regnier	J	CR	280		513	1975	2FRFR		NEADB	C	
13l	Lef59	M.Lefort	J	CR/B	248		216	1959	2FRFR		NEADB	C	
13g	Jac68	C.Jacquot	J	CR/B	266		963	1968	2GERKFK		NEADB	C	
13l	Reg73	S.Regnier	J	EPL	18		9	1973	2FRGRA		NEADB	C	
13l	Rey81	J.-L.Reyss	J	EPL	53		203	1981	2FRCEA		NEADB	C	
13l	Kra77	S.Kramer	J	INC	13		205	1977	2GERTHD		NEADB	C	
13l	Sil62	D.J.Silvester	J	JIN	24		1181	1962	2UKQML		NEADB	C	
13f	Deb68	R.Debuyt	J	JIN	30		691	1968	2JPNTOK		NEADB	C	
13h	Gra79	I.S.Grant	J	JP/G	5		1741	1979	2UKMAN		NEADB	C	
13h	Olk60	J.Olkowsky	J	JPR	21		405	1960	2FRPAR		NEADB	C	
13l	Pof61	N.Poffe	J	JPR	22		639	1961	2FRPAR		NEADB	C	
13h	Bim69	R.Bimbot	J	JPR	30		513	1969	2FRPAR		NEADB	C	
13h	Bim71a	E.B.Norman	J	JPR	32		243	1971	2FRPAR		NEADB	C	
13f	Che71	N.Chevarier	J	JPR	32		483	1971	2FRLYO		NEADB	C	
13g	Dem71	A.Demeyer	J	JPR	32		583	1971	2FRLYO		NEADB	C	
13g	ALA79	J.P.Alard	J	NIM	160		419	1979	2FRCLE		NEADB	C	
13f	Bis94	R.Bisconti	J	NIM/B	88		282	1994	2ZZZISP		NEADB	C	
13f	Car59a	J.H.Carver	J	NP	11		400	1959	2UKHAR		NEADB	C	

13g	Las60	N.O.Lassen	J	NP	19		579	1960	2DENCOP		NEADB	C	
13g	Gil64	L.J.Gilly	J	NP	55		375	1964	2BLGLVN		NEADB	C	
13f	Owe65	R.O.Owens	J	NP	71		625	1965	2UKOXF		NEADB	C	
13f	Cog66	M.Cogneau	J	NP	79		203	1966	2BLGLVN		NEADB	C	
13f	Bre66	D.S.Brenner	J	NP	89		267	1966	2DENNBI		NEADB	C	
13h	Bri67	H.F.Brinckmann	J	NP	96		318	1967	2GERDRE		NEADB	C	
13f	Bjo67	Bjornholm	J	NP/A	95		513	1967	2DENNBI		NEADB	C	
13f	Rep70	R.Repnow	J	NP/A	147		183	1970	2GERMPH		NEADB	C	
13h	Dja75	A.Djaloedis	J	NP/A	250		149	1975	2GERJUL		NEADB	C	
13f	Orn53	L.Th.M.Ornstein	J	PHY	19		915	1953	2NEDAMS		NEADB	C	
13f	Kou53	B.Koudijs	J	PHY	19		1133	1953	2NEDAMS		NEADB	C	
13g	Les71	J.Lestringuez	J	PL/B	36		331	1971	2FRPAR		NEADB	C	
13g	Jun70	O.A.Capuro	J	PR/C	1		435	1970	2FRSTR		NEADB	C	a-data in C0380
13g	Bro76a	F.Brochard	J	PR/C	13		967	1976	2FRULP		NEADB	C	
13f	Asl81	E.Aslanides	J	PR/C	23		1826	1981	2ZZZCER		NEADB	C	
13f	Dec93	P.Decrock	J	PR/C	48		2057	1993	3INDVEC		NEADB	C	
13f	Who67	K.Von Wohlleben	J	RCA	8		78	1967	2GERSIE		NEADB	C	
13f	Lan68	J.Lange	J	RCA	9		66	1968	2GERKFK		NEADB	C	
13f	Lan69	G.C.Martin	J	RCA	11		121	1969	2GERKFK		NEADB	C	
13f	Hag84	E.Hagebo	J	RCA	35		133	1984	2ZZZCER		NEADB	C	
13f	Lor61	K.Lorenzen	J	ZN	16		933	1961	2GERMUN		NEADB	C	
13f	Boc61	R.Bock	J	ZP	164		546	1961	2GERMPH		NEADB	C	
13f	Boc63	R.Bock	J	ZP	174		440	1963	2GERMPH		NEADB	C	
13l	Mek67	V.N.Mekhedov	J	YF	5		34	1967	4ZZZDUB	O0304	NEADB	E	J,SNP,5,24,1967
13g	Rai75c	G.M.Raisbeck	J	PRL	35		155	1975	2FRPAR		NEADB	H	E(a)=2.8 GeV
13l	Rea58	P.Reasbeck	J	JIN	7		343	1958	2UKBIR	O1921	NEADB	S	

13f	Lin50	M.Lindner	J	PR	78		499	1950	1USABRK	C0386	NNDC	A	Linder -> Lindner
13g	Lin53	M.Lindner	J	PR	91		1501	1953	1USACRD	C0702	NNDC	A	Linder->Lindner
13f	Mar62	S.S.Markowitz	J	AC	34		329	1962	1USACLU		NNDC	C	
13g	Hil66	M.Hillman	J	ARI	17		9	1966	1USABNL		NNDC	C	
13f	Gre70	M.W.Greene	J	ARI	21		719	1970	1USABNL		NNDC	C	
13l	Nel62	J.B.Nelson	J	BAP	7		112	1962	1USATEX		NNDC	C	
13l	Kau62a	S.Kaufman	J	BAP	7		623	1962	1USACOL		NNDC	C	
13f	Dou56	R.A.Douglas	J	CJP	34		1097	1956	1USAIOW		NNDC	C	
13I	Hal75	T.H.Hall	J	CJP	53		445	1975	1CANALA		NNDC	C	
13l	Kin79	J.D.King	J	CJP	57		286	1979	1CANTOR		NNDC	C	
13I	Fun67	H.Funk	J	EPL	3		193	1967	1USACLU		NNDC	C	
13g	Hud57	J.Hudis	J	JIN	4		237	1957	1USABNL		NNDC	C	
13f	Hal59	K.L.Hall	J	JIN	9		193	1959	1USAMSU		NNDC	C	
13h	Sik59	T.Sikkeland	J	JIN	11		261	1959	1USACLU		NNDC	C	
13f	Dik79b	M.Diksic	J	NIM	159		171	1979	1CANMCG		NNDC	C	
13f	Lie89	V.Liebler	J	NIM/B	36		7	1989	1USACOR		NNDC	C	
13I	Din64	G.U.Din	J	NP	50		267	1964	1USARIC		NNDC	C	
13f	Ril66	T.E.Ward	J	NP	83		364	1966	1USAFSU		NNDC	C	
13h	Mar66	G.C.Martin	J	NP	89		481	1966	1USANOT		NNDC	C	
13f	Pem66a	R.L.Hahn	J	NP	89		417	1986	1USAPIT		NNDC	C	
13h	Swa70	D.J.Swanson	J	NP/A	144		344	1970	1USAPUR		NNDC	C	
13f	Won70	P.Wong	J	NP/A	151		549	1970	1USAPUR		NNDC	C	
13h	Won70	P.Wong	J	NP/A	151		549	1970	1USAPUR		NNDC	C	
13h	Chu71a	E.T.Chulick	J	NP/A	173		487	1971	1USATEX		NNDC	C	
13I	Chu71c	E.T.Chulick	J	NP/A	173		497	1971	1CANMCM		NNDC	C	
13g	Rud72	C.Rudy	J	NP/A	188		430	1972	1USAWAS		NNDC	C	

13I	Hey72a	H.R.Heydegger	J	NP/A	196		156	1972	1USACHI		NNDC	C	
13l	Ner73	A.V.Nero	J	NP/A	210		60	1973	1USACAL		NNDC	C	
13g	Rio74	M.Rios	J	NP/A	236		523	1974	1USACAL		NNDC	C	
13h	Gla79	M.D.Glascock	J	NP/A	329		73	1979	1USAMRY		NNDC	C	
13g	Gea82	J.V.Geaga	J	NP/A	386		589	1982	1USACLU		NNDC	C	
13l	Pau80	M.Paul	J	PL/B	94		303	1980	1USAANL		NNDC	C	
13f	Tem47	D.H.Templeton	J	PR	72		758	1947	1USACLA		NNDC	C	
13h	Tem47a	D.H.Templeton	J	PR	72		766	1947	1USACLU		NNDC	C	
13f	Sno50	S.C.Snowdon	J	PR	78		299	1950	1USAPEN		NNDC	C	
13f	Sun50	K.H.Sun	J	PR	78		338	1950	1USAPIT		NNDC	C	
13f	Sun51	O.D.Brill	J	PR	82		459	1951	1USAPEN		NNDC	C	
13f	Bar51	F.O.Bartell	J	PR	84		463	1951	1USACLA		NNDC	C	
13f	Mis51	J.A.Miskel	J	PR	84		700	1951	1USAWAS		NNDC	C	
13h	Spi54	F.N.Spiess	J	PR	94		1292	1954	1USACLU		NNDC	C	
13f	Jar55	N.Jarmie	J	PR	98		41	1955	1USALAS		NNDC	C	
13f	But55	J.W.Butler	J	PR	99		643	1955	1USANRL		NNDC	C	
13f	Wil55	D.H.Wilkinson	J	PR	100		32	1955	1USABNL		NNDC	C	
13f	Hic55	H.G.Hicks	J	PR	100		1284	1955	1USALRL		NNDC	C	
13f	She56	R.Sher	J	PR	102		242	1956	1USABNL		NNDC	C	
13I	Coh56	B.L.Cohen	J	PR	102		453	1956	1USAORL		NNDC	C	
13h	Che56a	A.Chetham-Strode	J	PR	102		747	1956	1USACLU		NNDC	C	
13h	Gla56	R.A.Glass	J	PR	104		434	1956	1USACLU		NNDC	C	
13f	Kaf56	P.Kafalas	J	PR	104		703	1956	1USAMIT		NNDC	C	
13f	Che56	A.Chetham-Strode	J	PR	104		1314	1956	1USACLA		NNDC	C	
13f	Sug57	T.T.Sugihara	J	PR	108		1264	1957	1USACLK		NNDC	C	
13g	Net58	D.R.Nethaway	J	PR	109		504	1958	1USACLA		NNDC	C	

13h	Van58a	I.-M.Ladenbauer	J	PR	110		507	1958	1USACLU		NNDC	C	
13h	Car58a	A.A.Caretto	J	PR	110		1169	1958	1USABNL		NNDC	C	
13l	Mor59	D.L.Morrison	J	PR	113		289	1959	1USABNL		NNDC	C	part of data in B0156.004
13g	Cum59	J.B.Cumming	J	PR	114		1600	1959	1USABNL		NNDC	C	
13h	Gun59	R.Gunnik	J	PR	115		1247	1959	1USAPUR		NNDC	C	
13f	For59	B.M.Foreman	J	PR	116		382	1959	1USABRK		NNDC	C	
13f	Jen60	R.C.Jensen	J	PR	118		771	1960	1USAWAS		NNDC	C	
13f	Van60	R.Vandenbosch	J	PR	120		1313	1960	1USAANL		NNDC	C	n-data in 12212
13f	And60	O.U.Anders	J	PR	120		2114	1960	1USAMHG		NNDC	C	
13f	Por61	N.T.Porile	J	PR	121		184	1961	1USABNL		NNDC	C	
13h	Col61	L.J.Colby	J	PR	121		1410	1961	1USAPUR		NNDC	C	
13h	Col61a	L.Ruby	J	PR	121		1415	1961	1USAPUR		NNDC	C	
13f	Bow62	L.H.Bowen	J	PR	127		1698	1962	1USAMIT		NNDC	C	
13h	Rit62	J.C.Ritter	J	PR	128		1778	1962	1USAPUR		NNDC	C	
13g	Nel63	J.W.Nelson	J	PR	129		1723	1963	1USAFSU		NNDC	C	
13f	Ril64a	C.Riley	J	PR	134		B559	1964	1USAFSU		NNDC	C	
13h	Han64	L.F.Hansen	J	PR	136		B1000	1964	1USALRL		NNDC	C	
13f	Nel64	J.B.Nelson	J	PR	136		B71	1964	1USATEX		NNDC	C	
13h	Har56	B.G.Harvey	J	PR	104		1315	1965	1USACLU		NNDC	C	
13f	Haz65	J.-P.Hazan	J	PR	137		B1202	1965	1USAROC		NNDC	C	
13h	Hah65	R.L.Hahn	J	PR	137		B1491	1965	1USAPUR		NNDC	C	
13h	Lis65	F.L.Lisman	J	PR	140		B863	1965	1USAPUR		NNDC	C	
13f	Sah66a	G.B.Saha	J	PR	151		907	1966	1USAPUR		NNDC	C	
13h	Pow66	J.A.Powers	J	PR	152		1096	1966	1USAPUR		NNDC	C	
13f	Nat67	J.B.Natowitz	J	PR	155		1352	1967	1USAPUP		NNDC	C	
13h	Iye68	R.H.Iyer	J	PR	172		1186	1968	1USAPUR		NNDC	C	

13f	Ril70	X.Feng	J	PR/C	1		1776	1970	1USAFSU		NNDC	C	
13g	Umb70	C.J.Umbarger	J	PR/C	2		1378	1970	1USAFSU		NNDC	C	
13h	Bon70	P.Bond	J	PR/C	2		1887	1970	1USACSE		NNDC	C	
13g	Chu72a	L.B.Church	J	PR/C	6		1293	1972	IUSASUB		NNDC	C	
13f	Ful72	N.L.Singh	J	PR/C	6		1720	1972	3INDVEC		NNDC	C	
13h	Nam73	M.N.Namboodiri	J	PR/C	7		1222	1973	1USASTB		NNDC	C	
13g	Rad74	R.V.Carlson	J	PR/C	9		1718	1974	1USABRK		NNDC	C	
13g	Kar74	P.Karol	J	PR/C	10		150	1974	1USAPEN		NNDC	C	
13f	Ful75	T.Matsuo	J	PR/C	11		50	1975	3INDVEC		NNDC	C	
13l	Ku77	T.H.Ku	J	PR/C	16		1984	1977	1USACAR		NNDC	C	
13l	Joh79	C.H.Johson	J	PR/C	20		2052	1979	1USAORL		NNDC	C	part of data in T0135,T0126
13g	Woo85	L.W.Woo	J	PR/C	32		706	1985	1USAINU		NNDC	C	
13f	War87	T.E.Ward	J	PR/C	36		2680	1987	IUSAINU		NNDC	C	
13l	Fen90	X.Feng	J	PR/C	42		451	1990	1USALAS		NNDC	C	
13f	Iye66	R.H.Iyer	J	PRL	17		541	1966	1USAPUR		NNDC	C	
13g	Kin75	C.H.King	J	PRL	35		988	1975	1USAMSU		NNDC	C	part of data in A1262
13l	Kau76a	S.Kaufman	J	PR/C	13		253	1976	1USAANL		NNDC	H	E(p)=300 GeV
13l	Bar97	D.W.Bardayan	J	PR/C	55		820	1997	1USABRK		NNDC	H	E(p)=1.85 GeV, 5.0 GeV
13l	Eng73	G.English	J	PRL	31		244	1973	1USAPUR		NNDC	H	E(p)=300 GeV
13f	Tuc61	J.L.Tuck	J	NF	1		201	1961	1USALAS	C0018	NNDC	S	
13h	Ten47	D.J.Tendam	J	PR	72		1118	1947	1USAPUR	P0094	NNDC	S	
13l	Por58	N.T.Porile	J	PR	112		1954	1958	1USABNL	C0704	NNDC	S	
13l	Kol93	K.L.Kolsky	J	PR/C	48		236	1993	1USABNL	T0145	NNDC	S	
13g	Gla78	B.G.Glagola	J	PRL	41		1698	1978	1USAMRD	C0165	NNDC	S	
13g	Jun68a	M.Jung	J	CR/B	266		815	1968	2GERKFK	C0380	NNDC	S?	

