

Memo 40-3/159

To: Distribution

17 March 1976

From: Otto Schwerer *Schwerer*

Subject: 1.) Request for data on P-31
2.) Related completeness control of Exfor

1.) We received a request from the Vienna Institut für Radiumforschung und Kernphysik for all existing neutron data on P-31, for the purpose of a data evaluation. Several data sets are missing in Exfor (see the attached Cinda pages) and we request the responsible centers to send us these data.

2.) On this occasion we performed an Exfor completeness check against Cinda.

Attachment

Clearance: J.J. Schmidt *W*

Distribution:

L. Lesca, NDCC (5)
S. Pearlstein, NNCSC (5)
V. Manokhin, CJD (5)

NDS: P.M. Attree
M. Khalil
R. Lessler
H.D. Lemmel
A. Lorenz
K. Okamoto
✓ J.J. Schmidt
R. Yaghubian
file

The result is shown in the enclosed CINDA pages. The CINDA entries apparently not covered by Exfor are marked by arrows and the center identification numbers according to the corresponding service areas.

Please note the following remarks:

- a) We did not verify if the marked articles really contain relevant data.
- b) Some references occur several times under different quantities. Also, we did not check whether, in some cases, different Cinda entries should be blocked together or not.
- c) Some of the marked references are old and their compilation probably of low priority.
- d) Some of the marked references, which have a cross in the "Data" column should be available in Neudada and we should appreciate receiving a retrieval on these data.
- e) The check was based on Cinda 75 + Supplement (cut-off date 1 Oct 1975) and on Exfor entries transmitted up to 1 Feb 1976.
- f) Within the limitations mentioned above, this case shows:

Of about 182 experimental data sets (= Cinda blocks), 92 have been compiled in Exfor, 90 not.

|| From the data sets published between 1950 and 1969, 80 were compiled and 66 not; from data sets published since 1970 only 12 were compiled and 24 not.

The total cross sections are quite well covered (14 data sets compiled, 4 missing), but for diff. inel. + inel. gamma data only 7 sets have been compiled and 17 are missing.

15 Phosphorus 29

Quantity	Energy (ev)		Lab	Type	Documentation		Author,Comments	Date
	Min	Max			Ref	Vol Page		
(n,p)	6.0+6		POL	Theo Jour	APP	16 93	Mar57 Sawicki.DIRECT INT,N POLARIZ+DIF SIG	
(n,p)	6.0+6		POL	Theo Jour	APP	17 21	Jan58 Sawicki+ .COLL MODEL+DIFF SIG CORREC	
(n,d)	9.2+6		LVP	Expt Jour	PPSA	70 78	Jan57 Calvert+ INVERSE ANGDIST+SIGMA	
(n,d)	5.4+6		ALA	Expt Jour	NP	76 65	Feb66 Davies+ INVERSE.N ANGDIST.SI 28(DN)	
(n,d)	-		HAM	Expt Jour	NP/A	108 666	Feb68 Felst+.INV ANGDIST,E(D)=2.9-3.25MEV	
(n,d)	5.4+6		ALA	Expt Jour	NP/A	119 146	Oct68 Lam+ INV.ANG DISTR OF NEUTS TO GRND	

15 Phosphorus 30

Quantity	Energy (ev)		Lab	Type	Documentation		Author,Comments	Date
	Min	Max			Ref	Vol Page		
(n,p)	1.4+7		IIT	Theo Jour	NP/A	96 121	Apr67 Gardner+ RELATIVE ISOTOPIC X SECTION	
Lvl Density		+7	MIL	Theo Jour	NC/B	51 1 100	Sep67 Gadioli+ LVL DEN PARAMS FROM SIG ANAL	
Lvl Density		-	BUC	Expt Jour	NP/A	140 23	Jan70 Magda+ PARAM A FROM (ALPHA,N) SPECTR	

15 Phosphorus 31

Quantity	Energy (ev)		Lab	Type	Documentation		Author,Comments	Date	Acc. No.
	Min	Max			Ref	Vol Page			
Evaluation	5.0+5	1.5+7	LRL	Eval Rept	UCRL-	5351	Nov58 HOWERTON CURVS TOT SIN SNE SEL NP		
Evaluation	3.5+6	4.8+6	AGN	Eval Rept	TID	21629 PERK	Dec645 ES.ELASTIC SCATTERING.TABLES		
Total	Maxwl		COL	Expt Jour	PR	48 265	Aug35 Dunning+ IONCH.TRANS.RA--BE PARAFIN N		
Total	Maxwl		CAV	Expt Jour	PRSA	162 127	Sep37 Goldhaber+ BRIGGS.TRANSMISSION 13.6B		
Total	1.0+5	1.8+5	ITY	Expt Jour	PR	56 881	Nov39 Amaldi+ TRANSM.C-D NS. AVERAGE ES.		
Total	2.1+4		UFT	Expt Jour	PR	56 891	Nov39 Goloborodko-LEIPUNSKI. D PHOTONEUTS.		
Total	2.4+4	8.3+5	ANL	Expt Jour	PR	71 508	Apr47GN SOURCES 6ES POWDER SCATT FIELDS+.		
Total	Maxwl		ETH	Expt Jour	HPA	20 105	Apr47Rossel. TRANSM. POWDER SAMPLE		
Total	2.4+6	3.7+6	ETH	Expt Jour	NC	8 383	Jun51 RICAMO		
Total	1.4+7		LAS	Expt Jour	PR	88 562	Nov52 COON ET AL.		+ 60593
Total	1.4+7		ROM	Expt Jour	NC	10 281	Mar53 Ageno+LI TARGET TRANSMIS.2.22+ -0.05B		+ 51054
Total	4.0+4	7.0+5	BAR	Expt Jour	PR	90 615	May53 Snowdon+.RESOLUTION 40KEV		+ 51075
Total	1.2+5	8.5+5	MIT	Expt Jour	PR	92 652	Nov53 Hansen+ TRANS 2KEV RESOL CURVE		+ 51091
Total	4.0+4	1.8+5	DKE	Expt Priv	NEWSON		Apr54Newson. = 1 DATA INDEX LINE		+ 51726
Total	2.6+6	1.3+7	LAS	Expt Jour	PR	94 1678	Jun54 Nereson+DARDEN RSLN 10 PERCENT		+ 51119
Total	6.0+3	2.0+4	ORL	Expt Jour	PR	109 926	Feb58 Good+.TOF+SC MON DECREAS 5-4BFROMSKV		+ 51266
Total				Rept	WASH-	190	Feb56 SUPERSEDED*		
Total	5.0+5	1.5+7	LRL	Eval Rept	UCRL-	5351	Nov58 HOWERTON XPTL CURVE		
Total	3.0+6	5.0+6	CAT	Expt Jour	NCS	11 458	Mar59 Cuzzocrea+ ABST.50KEV RESOLUTION NDG		
Total	2.5+6	5.4+6	CAT	Expt Jour	NC	18 671	Nov60 Cuzzocrea+ TRANSMISS.RESOL=30-40KEV		+ 60550
Total				Jour	NP	47 129	Aug63 SEE ALSO *FLUCT.TH		
Total	3.0+6	5.0+6	CAT	Expt Abst	HPA	33 997	Dec60 Ricamo.SIG VS A CURV PRELM TBP LATER		
Total	3.0+6	5.0+6	JAE	Expt Conf	61Vienna	1 75	Aug61 Tsukada+.PPR12.GRAPH.VDG.TOF		
Total	2.8+7		LVN	Expt Jour	JPR	22 652	Oct61 Deconninck+ TRANSMISS.2.03B AT 28.4MV		+ 61078
Total	2.8+7			Data	EXFOR20195.005		May74 1PNT.		+ 60490
Total	2.0+6	5.0+6	CAT	Revw Jour	NC	23 1136	Mar62 Agodi+FLUCTUATION BETWEEN AUTHORS		+ 60490
Total	3.2+6	4.1+6	JAE	Expt Jour	JPI	18 610	May63 Tsukada+. RESOL 50-20KEV.		+ 60490
Total	3.2+6	4.4+6		Data	EXFOR20292.005		Jun74 27PTS.		+ 60490
Total	1.8+6	5.2+6	CAT	Theo Jour	NP	47 129	Aug63 Agodi+XSECT PEAKS CFD FLUCTUATION TH		
Total	3.1+5	2.5+6	CCP	Eval Jour	AE	15 493	Dec63 Nikolaev.TABLE OF CHARACTRSTC-PARAMS		
Total				Rept	INDSWG-64	274	64.SEE ALSO		
Total	2.0+5	2.2+6	ANL	ExTh Jour	NP	59 113	FR EAF15 6 68 ENG SJA15 1281 JNE18		52190
Total	5.0+6	8.5+6	PAD	Expt Jour	NC/B	44 2 455	Oct64 Elwyn+BY INT.OF SCAT MEASURED AT 5AS		+ 60559
Total				Rept	EANDC(E)66U114		Aug66 Fasoli+.RESOL 40KEV.STAT ER+-2PC.GRP		
Total	5.0+5	2.5+6	FEI	Expt Conf	67Kharov		Feb66 ABSTRACT		
Total	7.0+5	1.2+6	SAC	Expt Rept	CEA-	3279R	Feb67 Filippov+. TBP IN IZV		
Total	8.4+5	1.2+6		Jour	CR	257 1073	Jun67 Cabe.RES+INT STR SEARCH.TOF.N-DISCR		+ 60167
Total	9.0+5	2.2+6	FEI	Expt Conf	68Dubna § 17		Jul63 - = 1 DATA INDEX LINE		
Total	8.8+5	2.0+6		Prog	ICD-3 102		Jun68 Filippov+VDG.TRANS.TBL.GRPH.FLUCTUAT		
Total	9.0+5	2.2+6		Rept	INDC(CCP)-16		Oct66.GRAPH CFD REFS.VDG		
Total	8.8+5	2.0+6		Prog	INDSWG-152E		Jul71 .PAGE 67.ENGLISH TRANSL OF 68DUBNA		
Total	1.4+7		DEB	Expt Jour	AHP	28 87	66.PAGE 102. ENGLISH TRANSL OF ICD-3		+ 60167
Total	1.4+7			Data	EXFOR30113.010		Mar70 Angeli+ TRANSM.SHORT DESC.THEORY.TBL		+ 60167
Total	1.4+7		KOS	Expt Prog	INDC(HUN)-1G		Feb71 VALUE AT 14.5 MEV		+ 60167
Total							Apr70.PROG REPORT. EXP TL+LITER SURVEY.NDG		

SEN DATA. +
FE(NP) +
DER METHOD,GE-LI +

-ACTIV-ANAL
AL AVG SIG

20 MILLI-B

CFD OTHERS
EL FE056 NP
08MEV LVLS

TMDL,SMALL
/B
X SECTION
PIRICAL FORM

2 ->

4 ->

15 Phosphorus 31

Quantity	Energy (ev)		Lab	Type	Documentation		Date	Author, Comments	Data	Quantity	Energy (ev)	
	Min	Max			Ref	Vol Page					Min	Max
Total	2.5+6	1.5+7	BNW	Expt Jour	PR/C 3	576	Feb71	Foster+.TRANS.CURVS,CFD OTHERS+TH		Diff Elastic	8.0+6	9.0
				Rept	WASH-1068	153	Mar66	SUPERSEDED*		Diff Elastic	6.4+6	
				Jour	NIM 36	1	Sep65	SUPERSEDED*		Diff Elastic	5.0+6	
				Rept	HW-77311	21	Apr63	SUPERSEDES			4.0+6	
				Rept	HW-73116	37	Apr62	SUPERSEDES			6.0+6	
	2.3+6	1.5+7		Data	EXFOR10047.017		Aug73	243PTS.	+	Diff Elastic	2.5+6	3.4
Total	1.3+7	1.5+7	DEB	Eval Jour	AHP 30	115	Oct71	Angeli+ AVG SIG.CFD CALC.TBLS.GRAPH		Polarization	Maxwl	
2 → Total	7.5+5	9.0+6	GLS	Expt Jour	JP/A 5	1090	Jul72	Kellie+ TOF.LINAC		Polarization	3.3+6	
1 → Total	8.0+5	3.5+6	MCM	Expt Jour	CJP 50	2385	Oct72	Norman+. CURVE				
Total	1.3+7	1.5+7	DEB	Eval Rept	IAEA-153	173		73Boedy+ MOST PROBABLE VAL OF SIG,TBL		Potntal Scat	1.2+2	3.0
Reson Params	1.5+5		DKE	Abst	PR 99	1625	Sep55	PAPER10WT1KEV IF J IS 1 DUKE		Scattering	Maxwl	
Reson Params	1.6+5		DKE	Expt Priv	PATTERSON		Dec57	Patterson. = 2 DATA INDEX LINES	+5228	Scattering	2.4+6	
Reson Params	1.0+3	1.4+5	DKE	Rept	WASH1006SAILOR		Oct58	DUKEBILPCH 160DEGNS TBD		Scattering	Maxwl	
2 → Reson Params	1.4+7	1.4+7	CIS	Expt Jour	NP 54	253	May64	Colli. = 1 DATA INDEX LINES	+	Scattering	6.0+4	1.8
Reson Params	2.6+4		FOA	Expt Jour	PS 4	95	Dec71	Nystroem+. RES E + CAPT AREA GIVEN				
				Rept	EANDC(OR)99		Aug70	EQUIVALENT*		Scattering	1.0+6	2.0
	2.7+4			Data	EXFOR20248.009		May74	IPNT.NG AREA.	+	Scattering	2.0+5	2.0
Strnth Fnctn		4.0+6	JAE	ExTh Jour	JPJ 18	610	May63	Tsukada+.		Nonelastic	1.4+7	
	3.0+6	4.0+6		Expt Data	EXFOR20292.006		Jun74	IPNT.	+			
Elastic	Maxwl		ORL	Expt Rept	AECU-2277			52Levy+. NEUTR.DIFFR.BY ALP COH.	50023			
Elastic	5.0+5	1.5+7	LRL	Eval Rept	UCRL-5351		Nov58	HOWERTON FROM TOT-SNE		Nonelastic	5.0+5	1.0
Elastic	2.5-2		ORL	Expt Jour	ARN 11	303		61Wilkinson. = 2 DATA INDEX LINES	+50122	Nonelastic	2.5+6	
Elastic	3.5+6	5.0+6	JAE	Expt Conf	61Vienna 1	75	Aug61	Tsukada+. PPR12.GRAPH,VDG,TOF				
	3.5+6	4.8+6		Data	EXFOR20341.010		Jul74	OPTS.DATA NOT AVAILABLE	+			
Elastic	3.5+6	4.8+6	AGN	Eval Rept	TID 21629	PERK	Dec64	ES.CALC FROM BNL400.UCL5573 DATA		Nonelastic	1.4+7	
Elastic	1.4+7	1.4+7	TUR	Expt Jour	NP 68	369	Jun65	Bonazzola. = 1 DATA INDEX LINES	+61225	Nonelastic	1.4+7	
Elastic	2.0+6		FEI	Expt Rept	EANDC-50	200	Jul65	Kazakova+ EXPT, TABLE CFD OPTMODEL	+80114	n Emission	1.4+7	
				Prog	YFI-3	6	Sep66	.TABLE		Nonelastic y	Slow	
				Conf	65Antwerp	576	Jul65	.ABSTRACT ONLY OF EANDC-50		Nonelastic y	Slow	
4 → Elastic	1.5+6		IFU	Expt Prog	INDC-140E	6		66.ENGLISH TRANSL OF YFI-3.		Nonelastic y	Slow	
				Prog	YFI-5	42	Oct67	Korzh+ TBL OPTMDL PARAMS + TOTELAST		Nonelastic y	2.4+6	
Elastic	1.5+6		IFU	Comp Jour	YF 7	277	Feb68	Korzh+ OPTMOD PARS-FIT TO EXPIL-SIG		Nonelastic y	2.1+6	
				Jour	SNP 7	2	Aug68	TRANSLATN.*		Nonelastic y	3.2+6	
3 → Elastic	2.5+6	3.4+6	TUD	Expt Prog	ZFK-262	33	Sep73	Mohamed+ INTEG FROM ANGDIST,SIG GIVN		Nonelastic y	2.5+6	
Diff Elastic	Fast		CCP	Jour	AE 12	243	Mar62	CURVES AND AV COS FOR FAST REACTR		Tot Inelastc	2.5+6	
								ENGLISH SJA12 255 FRANCAIS EAF12 3 7		Tot Inelastc	Thrsh	
1 → Diff Elastic	2.0+5	2.2+6	ANL	Expt Conf	CONF-340	6	63	Elwyn+ POL+DIFF SIGS SANGS CURVES		Tot Inelastc	3.5+6	
				Abst	BAP 8	513	Oct63	ABST. B9 *		Tot Inelastc	8.0+5	
Diff Elastic	3.5+6	4.8+6	AGN	Eval Rept	TID 21629	PERK	Dec64	ES.LEGNDR COEF CALC FROM OTHERDATA		Tot Inelastc	2.5+6	
Diff Elastic	3.5+6	4.9+6	JAE	Expt Jour	JPJ 19	2249	Dec64	Tanaka. VDG. 250KEV RSLN.TOF 15-160D	+60589	Tot Inelastc	5.9+6	
				Rept	INDSWG-101		65	*GRAPH		Tot Inelastc	None	
				Conf	61Vienna 1	75	Aug61	* P.12		Tot Inelastc	1.5+7	
				Conf	61Vienna 1	76	Aug61		+	Diff Inelast	2.4+6	
				Rept	INDSWG-112			*GRAPH		Diff Inelast	1.4+7	
Diff Elastic	3.5+6	4.8+6		Data	EXFOR20341.011		Jul74	35PTS.D/DA.	+	Diff Inelast	3.5+6	
Diff Elastic	1.4+7		TUR	Expt Jour	NP 68	369	Jun65	Bonazzola+30-160DEG CFD OPTMOD	+61225	Diff Inelast	3.5+6	
				Jour	NCS 3	4	65	ABSTRACT *		Diff Inelast	1.4+7	
Diff Elastic	2.0+6		FEI	Expt Rept	EANDC-50	200	Jul65	Kazakova+ EXPT,CURVE CFD OPTMODEL	+	Diff Inelast	1.4+7	
				Prog	ICD-2	112	Jul65	.CURVE				
				Conf	65Antwerp	576	Jul65	.ABSTRACT ONLY OF EANDC-50	Daster P22			
				Prog	INDSWG-101E			65.ENGLISH TRANSL OF ICD-2 112 7/65				
Diff Elastic	3.5+6	4.8+6	AI	Eval Rept	NAA-SR-11980IV		Apr67	Campbell+ LEG COEFS TBL+CURVS C-MSYS		Diff Inelast	1.4+7	
2 → Diff Elastic	6.0+6		HAR	Expt Rept	AERE-R-5618		Nov67	Currie+ ANGDIST CFD OPTMDL GRAPH		Diff Inelast	1.4+7	
				Rept	AERE-PR/NP11		Apr67	SUPERSEDED*				
				Rept	AERE-PR/NP9		Apr66	SUPERSEDED* NOTE		Diff Inelast	1.4+7	
Diff Elastic	1.5+6		IFU	Comp Jour	YF 7	277	Feb68	Korzh+ GRPH SIG(ANG),OPTMOD PARS-FIT		Diff Inelast	6.0+6	
				Jour	SNP 7	2	Aug68	TRANSLATN.*				
2 → Diff Elastic	6.0+6		GLS	Expt Jour	NP/A 113	564	Jun68	Martin+. TOF.LIQ SCINT.CFD P-B+STATM	+	Diff Inelast	6.0+6	
Diff Elastic	1.4+7		RAM	Theo Jour	AP 49	320	Sep68	Rahman+ STRONG ABSORPTION MODEL,GRPH		Diff Inelast	8.0+6	
Diff Elastic	8.0+6		KTY	Expt Abst	BAP 13	1420	Nov68	Mittler+ VDG TOF 30-145DEG CFD OPTMD	+50301	Diff Inelast	1.4+7	
Diff Elastic	2.0+6	6.0+6	SCU	Theo Rept	ICD-6	236	69	Averyanov+ CALC ANGDIST CFD EXPT,GRPH		Diff Inelast	4.2+6	
1 → Diff Elastic	8.0+6	9.0+6	KTY	Expt Abst	DA/B 32	1142	Aug71	MITTLER TOF.CFD OPTMOD,STATMOD CALC.		Diff Inelast	1.4+7	
Diff Elastic	0.0+0	1.5+7	FEI	Eval Book	NIKOLAEV	94		72.LEG COEFS+ANG DISTRIBUTS,GRAPH		Diff Inelast	6.0+6	
Diff Elastic	4.6+3	6.5+6	SCU	Theo Rept	YK-8/2	3	Sep72	Bazajants+ ANISOFR GROUP-PARAMS,TBL		Diff Inelast	8.0+6	
				Rept	INDC(CCP)-39		Jul74	.P1. ENGLISH OF YK-8/2 3				

15 Phosphorus 31

Data	Quantity	Energy (eV)		Lab	Type	Documentation		Author, Comments	Date	Data	
		Min	Max			Ref	Vol Page				
OTHERS+TH	2 → Diff Elastic	8.0+6	9.0+6	KTY Expt Jour	NP/A	196	65	Nov72 Brandenberger+ D-D NS,		10263	
	Diff Elastic	6.4+6		FR Expt Diss	FRNC-TH	-418		Mar73 Ramstein. ORSAY VDG			
	Diff Elastic	5.0+6		SCU Comp Rept	YK- 15	153		Aug73 Averjanov+ H-F.OPTMOD.DIFFSIG.GRAPH			
		4.0+6			Rept YK- 15	153		Aug73 - + H-F.OPTMOD.DIFFSIG.GRAPH			
+ TBL5.GRAPH	3 → Diff Elastic	2.5+6	3.4+6	TUD Expt Prog	ZFK-262	33		Aug73 - + H-F.OPTMOD.DIFFSIG.GRAPH		+ 51248	
	1 → Polarization	Maxwl		SIF Expt Jour	PR	82	5	Sep73 Mohamed+ TOF.ANGDIST CFD CALC.GRAPH			
	4 → Polarization	3.3+6		FEI Expt Prog	YFI-3	5		Apr51 Meyerhof+			
								Sep66 Kazakova+ POLAR SCAT-NEUTS GVN,OPTMOD ENGLISH INDC-140E 5			
AL OF SIG,TBL DUKE	Potntal Scat	1.2+2	3.0+2	ANL Expt Jour	PR	76	100	Jul49 1/10 ERSLN TRNSM MN CO SCATT DETCTRS		+ 52190	
	Scattering	Maxwl		CAV Expt Jour	PRSA	162	127	Sep37 Goldhaber+. 10.4B REL 4.83B FOR C			
	Scattering	2.4+6		JAP Expt Jour	SCP	34	865	Aug38 Kikuchi+.D+D.G-M.SIG=2.6B			
	Scattering	Maxwl		JAP Expt Jour	SCP	36	153	Jul39 Kimura.SIG=9.1 PM 0.9B			
INDEX LINES AREA GIVEN	Scattering	6.0+4	1.8+6	ANL Expt Jour	PR	107	1077	Aug57 Langsdorf+.LEGENDRE COEFS CURVES		+ 80045	
	Scattering	1.0+6	2.0+6	ANL Expt Prog	WASH-1048	1		Oct61 SEE ALSO *			
	Scattering	2.0+5	2.2+6	ANL ExTh Jour	NP	59	113	Jun64 Elwyn.SCT+POLRZ TBD C BETTER RESOLTN			
	Nonelastic	1.4+7		CCP Expt Jour	AE	1	4 155	Oct64 Elwyn+DIFF SIG CFD OPTMOD + H-F CALC			
COH.	Nonelastic	5.0+5	1.5+7	LRL Eval Rept	UCRL-5351			Sep56 Flerov+. SPHERE TRANSM, 1130+-30MB		+ 80045	
	Nonelastic	2.5+6		IFU ExTh Jour	AE	20	8	Apr57 TRANSLATN.*			
					Jour	SJA	1	4 617	56TRANSLATN.*		
					Conf	55Geneva	2	3	Nov58 HOWERTON ASSUMED CURVE+XPT AT 14 MEV		
INDEX LINES TOF	Nonelastic	1.4+7		TUD Theo Jour	KE	16	252	Jan66 Korzh+ SUMMARY OF SEVERAL YRS WORK		+	
	Nonelastic	1.4+7		TUD Theo Conf	ZFK-271	63		Aug55 .			
	Nonelastic	1.4+7		TUD Theo Prog	ZFK-262	25		Jul66 ENGLISH TRANSL OF AE 20 8 1/66			
	Nonelastic	Slow		OSA Expt Jour	JPJO	17	189	Aug73 Hermsdorf+ INTEG FITTED DIFFSIG.TBL			
C-50	Nonelastic	Slow		OSA Expt Jour	JPJO	18	188	Nov73 Secliger+ N-SPEC.NDG.INTEG-SIG SHOWN		+ 80226	
	Nonelastic	Slow		OSA Expt Jour	JPJO	18	115	Sep73 Hermsdorf+ CALC N-SPEC CFD EXP.NDG			
	Nonelastic	Slow		OSA Expt Jour	JPJO	19	369	35 Kikuchi+. LESS THAN 1.8B			
	Nonelastic	Slow		OSA Expt Jour	JPJO	18	115	36 Kikuchi+.SIG GIVN BY D+D NEUTRON			
MS + TOTELAST	Nonelastic	2.4+6		OSA Expt Jour	JPJO	19	369	36 Kikuchi+.REL SIG GIVN FOR G-EMISSION		+ 512M	
	Nonelastic	2.4+6		OSA Expt Jour	JPJO	21	75	37 Aoki.D+D NEUTRON.RELATIV SIG GIVN			
	Nonelastic	2.1+6	2.8+6	OSA Expt Jour	JPJO	21	232	39 Kikuchi+.D-D P LI-D N.SIG GIVN			
	Nonelastic	3.2+6		NRL Expt Jour	PR	96	386	39 Aoki. SIG GIVN			
TO EXPTL-SIG	1 → Nonelastic	2.5+6		IFU Expt Jour	JET	4	769	Oct54 Sherrer+ C-W+CRYST SPEC 5 PEAKS		+ 60889	
	Tot Inelastic	2.5+6		IFU Expt Jour	JET	31	907	Jun57 ENGLISH OF ZET 31 907			
	Tot Inelastic	Thrsh	1.5+7	LRL Eval Rept	UCRL-5351			Nov56 Strizhak. SPHERE METHOD.TABLE			
	Tot Inelastic	3.5+6	5.0+6	JAE Expt Conf	61Vienna	1	75	Nov58 HOWERTON ASSUMED SIN+NA NA UNKNOWN			
DIST.SIG GIVN	4 → Tot Inelastic	8.0+5	4.0+6	IFU Expt Prog	INDSWG-126	22		Aug61 Tsukada+. PPR12.GRAPH.VDG.TOF		Daster 331	
	Tot Inelastic	2.5+6		Conf	55Geneva	2	3	66 Pasechnik. AT 5 ES. TBP IN AE			
	Tot Inelastic	5.9+6	5.9+6	HAR Expt Jour	NP/A	113	564	Aug55 . INTEGR SIGMA.IEN.TABLE			
	Tot Inelastic	None		NZW Expt Prog	AEC(NZ)-347	70		Jun68 Martin. = 1 DATA INDEX LINES			
FAST REACTOR	3 → Tot Inelastic	1.5+7		TUD Expt Prog	ZFK-262	28		Sep70.TOF.IN PROGRESS.PRELIM RESULTS.NDG		+ 512M	
	Diff Inelastic	2.4+6		LAS Expt Jour	PR	103	343	Sep73 Hermsdorf+ DEDUCED FROM N-EMIS.TABLE			
	Diff Inelastic	1.4+7		CRC Expt Rept	PR-P-41	20		Jul56 Cranberg+.TOF 90DEG 1.25MEV LVL 51MB			
	Diff Inelastic	3.5+6	4.8+6	JAE Expt Conf	61Vienna	1	75	Apr59 TOF.J-11MEV DIRECT+ 6MEV PERIODIC			
OPTMOD	1 → Diff Inelastic	3.5+6	4.8+6	JAE Expt Conf	61Vienna	1	75	Aug61 Tsukada+. PPR12.GRAPH.H-F THEORY		+ 60889	
	Diff Inelastic	3.5+6	4.8+6	Data	EXFOR20341.012			Jul74 64PTS.D.DA.			
	Diff Inelastic	1.4+7		ORL Expt Prog	WASH-1044			Aug63 SPECTRA VS A.PROBABLY NO ABS S			
	Diff Inelastic	1.4+7		FEI Expt Rept	FEI-4			65 Anufrienko+ SPEC OF SECONDARY NEUTNS			
OPTMODEL	Diff Inelastic	1.4+7		Prog	YFI-1	11		65.		+ 52213	
	Diff Inelastic	1.4+7		Prog	INDSWG-120E			65.ENGLISH TRANSL OF YFI-1 11 /65			
	Diff Inelastic	1.4+7		Data	EXFOR40133.005			Feb73 N-SPECTRUM AT 92 DEG			
	Diff Inelastic	1.4+7		ORL Expt Prog	WASH1056 XII-5			Mar65 Stelson.TOF.450 KEV RSLN.TBP IN NP			
CURVS C-MSYS	4 → Diff Inelastic	1.4+7		TUR Expt Jour	NP	68	369	Jun65 Bonazzola+ ANGDIST TOI.26+2.23MEV LVL		+ 61225	
	Diff Inelastic	1.4+7		Jour	NCS	3	4 1184	65 ABSTRACT *			
	Diff Inelastic	6.0+6		FEI Expt Rept	FEI-39			Jan66 Sal'Nikov+ TOF SPECT.RING GEOM.E-SPEC			
	Diff Inelastic	6.0+6		HAR Expt Rept	AERE-R-5618			Nov67 Currie+ ANGDIST CFD TH GRAPH			
OD PARS-FIT	2 → Diff Inelastic	6.0+6		Rept	AERE-PR/NP11			Apr67 SUPERSEDED*		+ 50301	
	Diff Inelastic	6.0+6		Rept	AERE-PR/NP9			Apr66 SUPERSEDED* NOTE			
	Diff Inelastic	6.0+6		GLS Expt Jour	NP/A	113	564	Jun68 Martin+. TOF.LIQ SCINT.CFD P-B+STATM			
	Diff Inelastic	1.4+7		KTY Expt Abst	BAP	13	1420	Nov68 Mittler+ VDG TOF 30-145DEG CFD OPTMD			
-B+STATM	2 → Diff Inelastic	1.4+7		BOR Expt Jour	APH	4	3 289	69 Roturier.THESIS		+ 50301	
	Diff Inelastic	4.2+6	4.8+6	SCU Theo Rept	ICD-6	236		69 Averyanov+ CALC ANGDIST CFD EXPT.GRPH			
	Diff Inelastic	1.4+7		TUR Expt Jour	NCL	2	14 667	Nov69 Bonazzola+ TOF MANY LVL UP TO 6 MEV			
	Diff Inelastic	6.0+6		CCP Comp Rept	ICD-6	106		70 Sluchevskaja.SIG(ANG) TO LVLS.GRAPH			
N MODEL.GRPH	1 → Diff Inelastic	8.0+6	9.0+6	KTY Expt Abst	DA/B	32	1142	Aug71 MITTLER TOF.CFD THEORY.			

15 Phosphorus 31

Quantity	Energy (ev)		Lab	Type	Documentation			Author, Comments	Date	Data	Quantity	Energy (ev)		
	Min	Max			Ref	Vol	Page					Min	Max	
Diff Inelast	1.4+7		TUD	Theo	Prog	ZFK-223	21	Sep71 Seeliger+ DIFFSIG FIT TO EXPTS,GRAPH			Res Int Capt	-		
Diff Inelast	1.4+7		TUD	Expt	Prog	ZFK-223	24	Sep71 Giera+ TOF.DOUBLE-DIFFSIG EXPT,NDG			(n,y)	Maxwl		
Diff Inelast	1.4+7		TUD	Theo	Prog	ZFK-243	22	Sep72 Hermsdorf+ INTERM STATES.A-SYSTEMAT						
Diff Inelast	8.0+6	9.0+6	KTY	Expt	Jour	NP:A	196 65	Nov72 Brandenberger+ D-D NS.TOF SPEC. 2LVL		10263	(n,y)	Maxwl		
Diff Inelast	1.4+7		TUD	Theo	Conf	73Kiev	1 258	May73 Hermsdorf+ DESCRIPTION OF N-SPEC.			(n,y)	Maxwl		
Diff Inelast	4.2+6	4.8+6	SCU	Comp	Rept	YK-15	153	Aug73 Averbjanov+ H-F,OPIMOD,DIFFSIG,GRAPH			(n,y)	Maxwl		
3 -> Diff Inelast	3.2+6	3.4+6	TUD	Expt	Conf	ZFK-271	102	Feb74 Mohamed+ TOF.ANGDIST.TOBE COMPLETED			(n,y)	File		
	2.5+6	3.4+6			Prog	ZFK-262	33	Sep73 .TOF.ANGDIST.TO BE COMPLETED,NDG						
1 -> Inelastic gamma	2.5+6		WLY	Expt	Jour	PR 110	915	May58 Boley+,SC 2.21 1.27 0.95 MEV G REL 1			(n,y)	Maxwl		
Inelastic gamma	1.4+7		USA	Expt	Jour	NSE 8	173	Sep60 Caldwell+ G PROD SIG+SPEC 2-8MEV GS		50791	(n,y)	2.5-2	2.5-2	
Inelastic gamma	3.0+6		CCP	Expt	Jour	AE 9	403	Nov60 Androsenko+.TABLE OF GAMMA-ENERGIES				Maxwl		
					Jour	SJA 9	945	Sep61 TRANSLATN.*GERMAN KE4 510 6/61			(n,y)	Maxwl		
Inelastic gamma	3.0+6		ZUR	Theo	Jour	PR B 133	732	Feb64 N-G ANG.CORR CALC 5/2+ TO 1/2+GND E2			(n,y)	Maxwl		
2 -> Inelastic gamma	4.7+6	5.5+6	HAR	Expt	Prog	AERE-PR,NP13		Feb68 Armitage+ VDG GE-LI DET TBC			(n,y)	Maxwl		
Inelastic gamma	2.8+6		NRD	Expt	Prog	WASH-1124	133	Nov68 Engesser+ TO BE COMPLETED NDG			(n,y)	3.0+4	6.5+4	
1 -> Inelastic gamma	2.8+6		NRD	ExTh	Prog	WASH-1127	158	Apr69 Engesser+ 2GAM ES,4ANGS.H-F CALC,TBP						
2 -> Inelastic gamma	1.3+6	4.2+6	FRK	Expt	Priv	BASS		Jun69 Bass. = 1 DATA INDEX LINES		+	(n,y)	Maxwl		
2 -> Inelastic gamma	1.4+7	1.4+7	STR	Expt	Jour	RPA 4	271	Jun69 Klotz+SPEC AT 90 DEGREES			(n,y)	+3	+5	
2 -> Inelastic gamma	4.3+6	5.3+6	HAR	Expt	Rept	AERE-R-6195		Sep69 Armitage+ SPECT GAM GE-LI TABLE			(n,y)	+0	+6	
Inelastic gamma	Maxwl		GLS	Expt	Conf	72Budapest	150	Aug72 Kellie+ SIG FOR GAM-DEEXCITATN .GRPH			(n,y)	1.5+7		
Inelastic gamma	9.0+7		GLS	Expt	Jour	NIM 109	3 479	Jun73 Crawford.SIG PRODUCTION GAM SPEC,NDG			(n,y)	1.5+7		
2 -> Inelastic gamma	8.0+5	9.0+5	GLS	Expt	Jour	NP.A	208 525	Jul73 Kellie+ LINAC. SIG FOR 2 GAMMAS,CURV		+				
2 -> Inelastic gamma	9.0-6		GLS	Expt	Prog	EANDC(UK)	151	Aug73 Crawford+ LINAC TOF CFD H-F THEORY				1.5+7		
(n,2n)	Thresh	Up	BRK	Expt	Jour	PR 53	492	Mar38 SAGANE LIMITS FOR N2N THRESHOLD E(N)			(n,y)	4.7+6	8.3+6	
1 -> (n,2n)	Thresh	1.7+7	CAR	Expt	Jour	PR 81	184	Jan51 Cohen.AVR SIG,N SPEC.BETA ACT.			(n,y)	-		
1 -> (n,2n)	1.2+7	1.8+7	NRD	Expt	Jour	PR 118	228	Apr60 FERGUSON MEAS ACT SIG=0 -74 MB			(n,y)	1.4+7		
(n,2n)	Fiss		CRC	Eval	Rept	CRC-1003		Dec60 Roy+ ESTIMATED AVG SIG=0.01MB						
(n,2n)	1.4+7		ANL	Expt	Jour	PR 122	168	Apr61 Rayburn. SIG=10.9 MB.		50157				
					Rept	ANL-5915		58.SUPERSEDED						
					Abst	BAP 3	365	58.SUPERSEDED						
(n,2n)	1.5+7		ARK	Expt	Jour	NP 35	353	Jun62 Kantele+ REL CU63(N2N).GAMMA COUNT		50735		1.4+7		
(n,2n)	1.4+7		BOL	Expt	Jour	NC 26	1328	Dec62 Cevolani+RESULTS CFD OTHER DATA+THEO		60555	(n,y)	2.0+4	6.0+4	
(n,2n)	1.2+7	1.9+7	HAM	Expt	Jour	ZP 174	1	May63 Bormann+CURV.60MB AT 20MEV		61214				
(n,2n)	1.4+7		BOR	Expt	Jour	CR 257	659	Jul63 Carles.ACTIVATION.SIGMA REL CU63		60166				
(n,2n)	1.4+7		ROM	Comp	Jour	NCS 301		Sep63 Amaldi.S.1+ -0.45MB AT E=14.1MEV			(n,y)	Maxwl	2.5-2	
(n,2n)	1.5+7		OSL	Expt	Jour	NP 51	302	Feb64 Grimeland+SIG=8.5MB REL 98MB N,ALPHA			+	File		
(n,2n)	1.5+7				Data	EXFOR20057.002		Sep71 IPNT.SIG.			(n,y)	-3	+3	
(n,2n)	1.4+7	1.5+7	IRK	Theo	Jour	OAWS 174	11	65 Hille+.CF XPT/TH INTERPRET SIG N2N			(n,y)	Maxwl		
					Conf	65Antwerp	§ 117	Jul65 SEE ALSO *				Spect (n,y)	Maxwl	
1 -> (n,2n)	1.4+7		ORL	Expt	Rept	ORNL-3672		Jan65 Strain. BY NAT ELEMENT IRRAD. 10.5MB			Spect (n,y)	File		
(n,2n)	1.5+7		BOS	Expt	Conf	65Calcutta	150	Feb65 Mitra+ SIG VAL REL CU63(N,2N) GIVEN		+	Spect (n,y)	Maxwl		
(n,2n)	1.5+7		OSL	Expt	Jour	PR/B 137	878	Feb65 Grimeland. = 1 DATA INDEX LINE		+	Spect (n,y)	Maxwl		
	1.5+7				Data	EXFOR20106.		Sep71 2PTS.SIG.		+				
(n,2n)	1.4+7		HAM	Comp	Jour	NP 65	257	Mar65 Bormann. 7EXPT VALS.CFD SHELL EFFECT						
(n,2n)	1.3+7	1.5+7	BNL	Theo	Jour	NSE 23	238	Nov65 PEARLSTEIN +AVG FISS SPECT.STAT MOD			Spect (n,y)	Maxwl		
(n,2n)	1.5+7		MUA	Expt	Jour	NP 88	349	Nov66 Prasad+.T-D NEUT ACT REL TO FE56(NP)		+	Spect (n,y)	Maxwl		
	1.5+7				Data	EXFOR30015.002		May70 SIGMA AT 1 ENERGY		+				
(n,2n)	1.5+7		TUR	Expt	Jour	NP:A	93 218	Mar67 Pasquarelli.CFD OTHER MEASUREMENTS		61054				
(n,2n)	1.5+7		BOS	ExTh	Jour	IJP 41	754	Oct67 Mitra.ACT,16.0+ -1.6MB, CFD STATMOD		70070				
(n,2n)	1.4+7	1.5+7	IRK	Comp	Jour	OAWS 177	469	69 Hille.				File		
(n,2n)	1.5+7		DEB	Comp	Jour	REA 7	93	Dec69 Csikai+ SIG+HL COMPILTN.N- ACTIV-ANAL			Spect (n,y)	File		
(n,2n)	Fiss		KOS	Eval	Prog	INDC(HUN)-12		Jun74 Boedy+ PG20.CALC+EXPTL SIG CFD,TABLE			Spect (n,y)	Maxwl		
(n,2n)	1.4+7	1.5+7	JYV	Eval	Rept	JU-RR-3/1970		Jun70 Leppaemaeki+ TABLE OF EVAL AVG SIG			Spect (n,y)	4.7+6	8.3+6	
(n,2n)	1.5+7		DEB	Eval	Jour	REA 11	153	Mar73 Boedy. COMPILATION+RECOMM.VALUE,TBL			Spect (n,y)	1.0+6	8.5+6	
					Rept	INDC(HUN)-10		Jan73 - . SAME EVAL AS REA 11 (1973)			Spect (n,y)	3.0+4		
					Rept	IAEA-153	173	73 - . RECOMM. VALUE ONLY			Spect (n,y)	Maxwl		
(n,2n)	1.4+7		LOU	Expt	Prog	INR-1464	12	May73 Araminowicz+BRIEF,ACTIV,TABLE,GRAPH						
(n,2n)	1.4+7				Data	EXFOR30264.005		Nov73 SIGMA AT 14.6 MEV		+	Spect (n,y)	1.4+7		
(n,2n)	Fiss		DEB	Theo	Jour	AK 16	351	74 Boedy. AVG SIG CALC.USING XPTL DATA						
(n,2n)	1.5+7		TAT	Theo	Jour	JP:A	7 1457	Aug74 Kondaiah. CALC ON STAT MODEL				1.4+7		
(n,3n)	Fiss		BNL	Theo	Jour	NSE 23	238	Nov65 Pearlstein. STATISTICAL MODEL			Spect (n,y)	1.0+6	8.5+6	
Photo-Fissn	7.0+6	2.0+7	DAV	Expt	Abst	DA/B 30	1853	Oct69 HEMERT DIF SIG,THRS PHOT,NTN EXPT.			Spect (n,y)	2.7+4		
Absorption	Maxwl		JAP	Expt	Jour	SCP 36	153	Jul39 Kimura.SIG=6.8 B						
Absorption	Maxwl		ORL	Expt	Jour	PR 83	643	Aug51 POMERANCE LOCAL OSC REL AU ABS 95 B		51020	Spect (n,y)	Maxwl		
Res Int Abs		+5	ANL	Expt	Jour	PR 79	11	Jul50 Harris+ EPI-CD.REL THERMAL ACT. B-W			Spect (n,y)	1.5+7		
2 -> Res Int Abs	5.0-1		AE	Expt	Rept	AE-RFT-113		Feb65 Quensel. NON 1/V 447+ -50B REL B10			(n,p)	Fast		

15 Phosphorus 31

Data	Quantity	Energy (ev)		Lab	Type	Documentation		Date	Author, Comments	
		Min	Max			Ref	Vol Page			
S,GRAPH	Res Int Capt			ORL	Revw Conf	55	Geneva 5 96	Aug55	Macklin+ TABLE.EXPT CFD THEORY,P833	
EXPT,NDG	(n,y)	Maxwl		LUQ	Expt Jour	PR	58 554	Sep40	Lapointe+ ABS IN WATERBATH.REL BORON	
-SYSTEMAT								Nov40	SEE ALSO *BETA ACT.REL MN55N.G	
SPEC. 2LVL	(n,y)	Maxwl		JAP	Expt Jour	SCP	38 167	Jan41	Sinma+ LI+D.RELATIVE SIG MEASUREMENT	
N-SPEC.	(n,y)	Maxwl		UI	Expt Jour	PR	59 102	Jan41	O'Neal+ ACTIVATION. REL TO MN.	
FSIG,GRAPH	(n,y)	Maxwl		ANL	Expt Jour	PR	72 888	Nov47	Seren+ .COUNTED P32 DEC.BETAS	
COMPLETED	2→(n,y)	Pile		HAR	Expt Jour	PPSA	63 1175	Oct50	Colmer+ LITTLER.PILE OSC REL HAR B	
ATED,NDG					Rept	AERE-N/R	-527	Jun50	SEE ALSO.	
G REL I	1→(n,y)	Maxwl		ORL	Expt Jour	PR	83 641	Aug51	SEE ALSO PILE OSC. ABSORP.	
-8MEV GS	(n,y)	2.5-2	2.5-2	KJL	Expt Jour	JNE	1 231	Feb55	Crumpton+.	
MA-ENERGIES		Maxwl			Data	EXFOR20046.003		Sep71	IPNT.SIG.	
0 6/61	(n,y)	Maxwl		KJL	Expt Jour	JNE	1 231	Feb55	Grimeland. ACT CS REL NA GVN	
O 1/2+GND E2	1→(n,y)	Maxwl		PSU	Expt Abst	DA/B	27 919	Sep66	Kappe. ACT CS REL NA-23 GIVEN	
TBC	(n,y)	Maxwl		IBJ	Expt Rept	PAN-	407/IX	Mar63	Jozefowicz.BETA COUNT.0.172+ -0.008B	
D NDG	(n,y)	3.0+4	6.5+4	ORL	Expt Jour	PR	129 2695	Mar63	Macklin+ LIQ SCINT.7+ -1.0.5+ -0.2MB	
F CALC					Rept	WASH-	1041 30	Oct62	SUPERSEDED*	
EX LIN	+	Maxwl		WWA	Expt Jour	NKA	8 437	Jul63	Jozefowicz. ACT CS GIVEN	
		+3	+5	RPI	Expt Prog	WASH-	1071 164	Nov66	Hockenbury+ .TOF.RSLN 1.3-5NS/M,NDG	
TABLE		+0	+6	RPI	Expt Abst	ANS	9 479	Nov66	Hockenbury+ TOF NDG ANALYSIS TBC	
CITATN ,GRPH	(n,y)	1.5+7		DEB	Expt Jour	NP/A	95 229	Mar67	Csikai+ SIG REL AL27(N.ALFA)	
M SPEC,NDG	(n,y)	1.5+7		DEB	Expt Jour	NP/A	95 229	Mar67	Csikai+ .ACTIV.THEORY SIG=F(N),TABLE	
MAS,CURV	+				Jour	MFF	16 123	Feb68	- .THESIS.IN HUNGARIAN.EXPT.GRPH	
I-F THEORY		1.5+7			Data	EXFOR30067.004		Nov70	VALUF AT 14.7 MEV. (= NP A95 TBL 1)	
THRESHOLD E(N)	(n,y)	4.7+6	8.3+6	AE	Expt Conf	JINR-D3893	105	May68	Nilsson+ ABSTRACT,VAN DE GRAAFF,NDG	
CT.	(n,y)	-		IEA	Comp Rept	IEA-INFORM	10	Aug68	Atalla. TABLES OF HL.SIG AND GAMM-E	
0 -74 MB	(n,y)	1.4+7		NJS	Expt Jour	NP/A	138 412	Nov69	Cvelbar+ SCINT TELESC SPECTR.SIG GIV	
01MB	+				Jour	FIZS	4 53	Dec72	SIGMA VS MASS NUMBER.GRAPH	
					Conf	72Budapest § D-21		Aug72	SIGMA VS MASS NUMBER.GRAPH	
					Jour	NP/A	158 251	Dec70	SIGMA VS MASS NUMBER.GRAPH	
					Rept	NJS-R-545		Oct68	SIG GIV.CFD ACT SIG	
					Data	EXFOR30184.006		Oct72	1 DATA LINE	
MA COUNT	+	1.4+7			Jour	PS	4 95	Dec71	Nystrom+ .TOF.NAI.GRPH G-YLD.RESPARM	
R DATA+THEO	+	2.0+4	6.0+4	FOA	Expt Jour	Conf	69Studs	Aug69	SUPERSEDED*	
MEV	+				Rept	EANDC(OR)59		Dec66	SUPERSEDED*	
CU63	+				Jour	NIM	109 3 493	Jun73	Ishikawa.LIQUID SCINT SPECT	
MEV	+	Maxwl	2.5-2	JAE	Expt Jour	Data	EXFOR20301.003	Jun74	IPNT.SIGMA.	
IB N,ALPHA	+	Pile			Conf	73Munich	1 523	Aug73	Kopeccky+ CORREL TO SIG(D.P),GRAPH	
ET SIG N2N	+		-3	+3	RCN Eval	INDC(SEC)-43		Dec74	Kopeccky+ CORREL TO (D.P) VS SIG.GRPH	
	2→(n,y)	Maxwl			RCN Expt	Prog	PR	85 1012	Mar52	Kinsey+ PAIR SPECT. LINE WIDTH=130KV
	1→Spect (n,y)	Maxwl			CRC Expt	Jour	PR	102 1109	May56	Braid.CS ABS 3 LINES ISOTOP ASSIGNM
AD. 10.5MB	+	Pile			CRC Expt	Jour	PR	102 1109	Jan58	Deloume.BY APPROXIMATION CURV+TABLE
N) GIVEN	+	Maxwl			GEA Eval	Rept	DC-(58)-1-30	Mar59	Groshev+.NDG.REFS GVN.EXPT DESCRIBED	
DEX LINE	+	Maxwl			CCP Expt	Jour	AE 6 281	Nov60	TRANSLATN.* JNE A12 47 5-60	
	+				Jour	SJA	6 170	Feb60	TRANSLATN	
					Jour	KE	3 144	Jul59	Manning+ .SC SPECJ 1.15.3.26MEV LVLS	
HELL EFF	+	Maxwl			CRC Expt	Jour	PR	115 401	Apr67	VAN MIDDELKOOP 54 GAMMAS GE(LI)
SPECT,STAT MOD	+	Maxwl			UTR Expt	Jour	NP/A	97 209	Apr70	SUPERSEDED*
L TO FE56(NP)	+				Rept	EANDC(E)127U		Mar69	SUPERSEDED*	
UREMENTS	+				Rept	EANDC(E)115U		Oct65	SUPERSEDED*	
TATMOD	+				Jour	NP	72 1	May74	51PTS.	
		File			Data	EXFOR20212.002		Sep67	Lycklama+ GE(LI) DET 64 GAMMA ES	
-ACTIV-ANAL	1→Spect (n,y)	Pile			MCM Expt	Jour	CJP	45 3039	May74	Ishaq. GAMMA PAIR SPECTROM. NO DATA.
G CFD,TABLE	Spect (n,y)	Maxwl			MCM Expt	Abst	DA/B	34 5613	May68	Nilsson+ ABSTRACT,VAN DE GRAAFF,NDG
L AVG SIG	Spect (n,y)	4.7+6	8.3+6	AE	Expt Conf	JINR-D3893	105	Jan69	Bergqvist+ .TOF	
MM.VALUE,TBL	2→Spect (n,y)	1.0+6	8.5+6	FOA	Expt Prog	EANDC(OR)83L		Jan69	Lundberg+ TOF	
1 (1973)	2→Spect (n,y)	3.0+4		FOA	Expt Prog	EANDC(OR)83L		Nov69	Keckemeti+ AVG GAM-MULTIPLICITY,TBL	
Y	3→Spect (n,y)	Maxwl			KFI Expt	Jour	YF	10 907	May70	TRANSLATN.*
BLE,GRAPH	+				Jour	SNP	10 524	Nov69	Cvelbar+ SIGMA VS GAMMA ENERGY,GRAPH	
		Spect (n,y)	1.4+7		NJS Expt	Jour	NP/A	138 412	Oct66	.SCINT SPECTR DESCRIBED
					Jour	NIM	44 292	Oct72	25 DATA LINES	
XPIL DATA					Data	EXFOR30184.007		Aug70	Bergqvist+ .NAI(TL).NDG.SEMI-D CAPT	
ODEL		Spect (n,y)	1.0+6	8.5+6	LND Expt	Prog	EANDC(OR)99 24	Dec70	Lundberg+ .TOF.NAI. 27KEV RES. I-TBLE	
EL	2→Spect (n,y)				FOA Expt	Jour	PS	2 265	Aug69	SUPERSEDED*
NTN EXPT.					Conf	69Studs	667	Mar72	Rudolph.ANAL OF N-CAPT	
EL AU ABS 95 B	+	Spect (n,y)	Maxwl		ROS Revw	Rept	ZFK-231	Feb73	Kravtsov+ ABST.GE-LLG-SPEC AT 90DEG	
L ACT. B-W	4→Spect (n,y)	1.5+7			CCP Expt	Conf	73Tbilisi 159	Oct40	Amaki+ (D+LLD+BE)N SP.RATIO VS AL27	
REL B10	(n,p)	Fast			JAP Expt	Jour	PR	58 659		

15 Phosphorus 31

Quantity	Energy (ev)		Lab	Type	Documentation Ref Vol Page	Author, Comments Date	Data	Quantity	Energy (ev)	
	Min	Max							Min	Max
(n,p)	+6	+7	JAP	Expt Jour	SCP 39 267	Dec41 Sugimoto. LI, BE + D. SIG REL TO AL27-N,P		(n,p)	1.5+7	
(n,p)				Jour	SCP 38 377	Jun41 SEE ALSO *		(n,p)	1.5+7	
(n,p)	2.3+6	3.2+6	BAS	Expt Jour	HPA 21 278	Aug48 Metzger+. SIG CURVE MAX FOR 3MEV		(n,p)	1.0-4	1.8+7
(n,p)	1.8+6	4.0+6	CAV	Expt Jour	PCP 45 141	Jan49 Bretscher + WILKINSON REL YIELD CURVE		(n,p)	+6	+7
(n,p)	9.0+7		BRK	Expt Jour	PR 75 537	Feb49 Knox. UPPER LMT SIG REL C12(N,2N)GVN		(n,p)	1.4+7	1.5+7
1 → (n,p)	1.7+7		CAR	Expt Jour	PR 81 184	Jan51 Cohen. AVR SIG. N SPEC. BETA ACT.		(n,p)	Fiss	
(n,p)	1.9+6	3.6+6	ETH	Expt Jour	NC/A 8 383	Jun51 Ricamo. ACTIV. CURVE ONLY. = 1 DATA LINE		(n,p)	1.5+7	
(n,p)	1.5+6	3.8+6		Jour	HPA 23 561	Sep50 Luscher+. CURVE WITH RES	+ 60543	(n,p)	Thresh	Up
(n,p)	1.4+7		LAS	Expt Jour	PR 88 1309	Dec52 FORBES. COUNTED SI31 DEC. BETAS	+ 51056			
3 → (n,p)	1.4+7	1.5+7	CRC	Expt Jour	CJP 31 267	Feb53 Paul + CLARKE. COUNTED SI31 DEC. BETAS	+ 50366	(n,p)	Fiss	
(n,p)			BKB	Expt Jour	NC 2 1336	Dec55 Grineland. CALC. MEAN. CFD WITH HUGHES		(n,p)	+6	
(n,p)	1.5+7		GLS	Theo Jour	PM 2 473	Apr57 Brown+. COMPNUCL 30MB, DIRECT 35MB			+6	
(n,p)	1.6+6	1.4+7	LAS	Expt Jour	PR 109 425	Jan58 Grundl. = 1 DATA INDEX LINES	+ 51263	(n,p)	1.4+7	
(n,p)	3.1+6	5.3+6	KYU	Expt Jour	JPJ 13 431	May58 Morita. COUNTED SI31 DECAY BETAS	+ 60469	(n,p)	Fiss	
(n,p)	3.2+6	5.2+6		Data	EXFOR20284.002	Jun74 10PTS. SIGMA.			1.5+7	
(n,p)			HAR	Theo Rept	AERE-R/R-2687	Sep58 QUOTE RICHMOND TBP 30.2 +-1.5 MB			Thresh	2.0+7
1 → (n,p)	1.5+7		LRL	Eval Rept	UCRL-5351	Nov58 HOWERTON XPTL CURVE			1.4+7	
(n,p)			GES	Expt Jour	NUC 17 1 54	Jan59 ROCHLIN ACT 19 TO 31.2MB			1.4+7	
(n,p)			BNL	Eval Rept	BNL-634 5	60 Sher+. BEST VALUE=30+-3MB.			1.4+7	
(n,p)			HAR	Eval Rept	AERE-R-3251	Feb60 MELLISH CFD REVSD 832(NP) VALUE 60MB			1.4+7	
1 → (n,p)	8.2+6	1.5+7	LRL	Expt Rept	AWRE/O-2/60	Apr60 Hinves + PARKER COMPARES MEASURED VALS			1.4+7	
(n,p)	2.7+6	5.0+6	CAT	Expt Jour	NC 16 450	Apr60E 14 114 MB			1.4+7	
(n,p)				Jour	NP 47 129	May60 Cuzzocrea + ACTIVATION 50 DATA POINTS	+ 60547	(n,d)		
(n,p)			Fiss		60S-Vienna 383	Aug63 SEE ALSO *FLUCT. TH				
(n,p)	Thresh	Up	GEA	Revw Conf	60S-Vienna 383	Jun60 Moteff + THRS - SIG - TBLs FOR DOSIMETRY			1.4+7	
(n,p)			CON	Theo Jour	PR 119 721	Jul60 FORT WORTH BULLOCK TH CFD XPT		(n,d)	1.4+7	
(n,p)			CNE	Expt Jour	JNEA 12 177	Aug60 Ricabarra + RATIO TO S32(NP) + SIGMA		(n,d)	1.4+7	
(n,p)				Data	EXFOR30167.	Apr72 RATIO TO S32(NP)				
(n,p)			CRC	Eval Rept	CRC-1003	Dec60 Roy+. ESTIMATED AVG SIG=14.0MB			1.4+7	1.5+7
(n,p)			AUA	Theo Rept	AAEC/E-59	Mar61 Nicholson+. FISSN SIG GVN + CFD OTHER'S			1.4+7	
(n,p)	1.4+7		HAR	Expt Jour	NP 24 274	Apr61 Allan. COUNT. PROT. NUCL. EMULS	+ 61209	(n,a)	None	
(n,p)	1.4+7			Data	EXFOR20004.	Nov70 2PTS. CMPD. NUC.			Fast	
2 → (n,p)	3.9+6	4.9+6	JAE	Revw Conf	61Vienna 1 75	Aug61 Tsukada+. PPR12, GRAPH, VDG, TOF			+6	+7
(n,p)	1.4+7		CIS	Expt Jour	NC 21 966	Sep61 Colli + E + ANG. DIST. OF P. EVAP + DIR EFFEC				
(n,p)	1.4+7		BRN	Expt Jour	PR 125 1011	Feb62 Peck. 155+-16MB FOR PROTONS P 2.9MEV	+ 51388	(n,a)	9.0+7	
(n,p)	2.0+6	5.0+6	CAT	Revw Jour	NC 23 1136	Mar62 Agodi + LVL DENSITY AGREES WITH THEORY			1.4+7	1.5+7
2 → (n,p)	1.5+7		ARK	Expt Jour	NP 35 353	Jun62 Kantele + REL CU63(N2N). BETA COUNT	+ 50735	(n,a)	+5	+7
(n,p)	1.0+6		AMS	Expt Jour	PHY 28 661	Jul62 Heertje + USED RA-BE SOURCE			Fiss	
(n,p)			DGE	Eval Conf	62Harwell 2 11	Dec62 Delattre + RECOMM EFF + TOT - AVG SIG GVN			Thresh	Up
2 → (n,p)	1.5+6	1.0+7	SAC	Revw Conf	62Harwell 2 157	Dec62 Lamberieux + INTEG SIG COMPILED, GRAPH			Fiss	
(n,p)	3.3+6		AE	Expt Prog	EANDC(OR)19L	Jan63 Nilsson + TRESHOLD MEAS REL S32			1.4+7	
(n,p)	1.8+6	5.1+6	CAT	Theo Jour	NP 47 129	Aug63 Agodi + XSECT PEAKS CFD FLUCTUATION TH			2.0+6	5.0+6
(n,p)			AUA	Expt Jour	JNAB 18 417	Aug64 Boldeman. ACT REL S32 NP, CFD OTHERS	+ 70317	(n,a)	1.5+7	
(n,p)				Data	EXFOR30143.005	Dec71 NEUTRON CONVERTER. U-235 FISS SPEC AV			1.2+7	1.8+7
(n,p)	1.4+7		SAH	Comp Jour	NP 60 273	Nov64 Chatterjee. MEAN OF EXPT CFD SHELLMOD				
(n,p)	1.0+6		AMS	Expt Jour	PHY 30 1846	Dec64 Heertje + PU-BE-SOURCE 25PC BELOW 1MEV	+ 61036			
(n,p)	1.4+7	1.5+7	IRK	Theo Jour	OAWS 174 11	65 Hille+. CF XPT. TH INTERPRET SIG N2N				
(n,p)	1.5+7		OSL	Expt Jour	PR. B 137 878	Feb65 Grineland. = 1 DATA INDEX LINE		(n,e)	Fiss	
(n,p)	1.5+7			Data	EXFOR20106.005	Sep71 1PNT. SIG.			1.2+7	1.9+7
(n,p)			CEA	Theo Conf	65IAEA 235	Mar65 Chanteur + AVG SIGS OF 2 FISS - SPECS			3.0+6	5.2+6
(n,p)	2.0+6	9.0+7	CER	Revw Conf	65IAEA 502	Mar65 Charlabus + PRELIMIN SIG ABOVE 20MEV			2.5+6	5.1+6
(n,p)			IIT	Comp Conf	65IAEA 251	Mar65 Barrall + CALC SIGS: 3 SPECS, CFD EXPTS				
4 → (n,p)			CCP	Expt Jour	AE 18 469	May65 Golubev + VAL GVN REL TO PU-239(N,F)			1.4+7	
(n,p)				Jour	SJA 18 608	May65 TRANSLATN.*			1.0+7	2.0+7
1 → (n,p)			NMX	Expt Abst	DA 25 6704	May65 Grundl. U235 SPEC., REL U235			1.4+7	
(n,p)	1.4+7	1.5+7	IND	Comp Jour	NUC 23 8 112	Aug65 CHATTERJEE TABLE WITH REFS			1.4+7	
(n,p)	Thresh	2.0+7	GEL	Comp Rept	EUR-119E VOL.1	Apr66 Liskien + PAULSEN. ALL DATA EXCIT FUNCT			1.4+7	1.5+7
2 → (n,p)	1.5+6	2.2+6	GEL	Expt Conf	66Paris 1 217	Oct66 PPR90. PAULSEN+. CURVE. ACTIV METH VDG			1.4+7	
(n,p)	1.5+7		TUR	Expt Jour	NP/A 93 218	Mar67 Pasquarelli. CFD OTHER MEASUREMENTS	+ 61054	(n,a)	1.5+7	
(n,p)	1.4+7		IIT	Theo Jour	NP/A 96 121	Apr67 Gardner + RELATIVE ISOIOPIC X SECTION			1.5+7	
(n,p)	1.4+7	1.5+7	NAP	Comp Rept	INFN/BE-67-10	Jul67 Cuzzocrea + AVERAGED CHOSEN DATA.			1.5+7	
(n,p)	1.7+6	1.4+7	LAS	Expt Jour	NSE 30 39	Oct67 GRUNDL DETECTOR EXCITATION MEASTS	+ 10917	(n,a)	1.4+7	
2 → (n,p)			BNW	Theo Rept	BNWL-SA-1794	Apr68 Meelroy. SAND 2 CALCULATN.			5.0+6	9.0+6
(n,p)	1.4+7		BOR	Expt Jour	APH 4 3 289	69 Roturier. THESIS			1.4+7	
(n,p)	1.4+7	1.5+7	IRK	Comp Jour	OAWS 177 467	69 Hille.				
2 → (n,p)	1.4+7	1.4+7	MIL	Expt Priv	PIGNANELLI	Jan69 Colli. = 1 DATA INDEX LINES			1.5+7	

15 Phosphorus 31

Data	Quantity	Energy (ev)		Lab	Type	Documentation			Author, Comments	Date
		Min	Max			Ref	Vol	Page		
AL27-N,P	(n,p)	1.5+7		DEB	Comp Jour	REA 7 93			Dec69Csikai+ SIG+HL COMPILT.N- ACTIV-ANAL	
	(n,p)	1.5+7		MUA	Expt Conf	69Roorke 2 112			Dec69Prasad+ SIG VALUE FOR 2.6 H HALF-L	+
OR 3MEV	(n,p)	1.0-4	1.8+7	BNW	Rept	BNWL-1312			May70 Simons+	
LD CURVE	(n,p)	+6	+7	HAR	Revw Rept	STI/DOC/10-107			May70 Wright. PAGE37,THRESHOLD DETECT DATA	
(N,2N)GVN	(n,p)	1.4+7	1.5+7	JYV	Eval Rept	JU-RR-3/1970			Jun70 Leppaemaeki+ TABLE OF EVAL AVG SIG	
CT.	(n,p)	Fiss		MOL	Eval Conf	70Helsinki 2 535			Jun70 Fabry+39. RECOMMENDED DATA, TABLES	+
DATA LINE	3 → (n,p)	1.5+7		MUA	Expt Jour	NC/A 3 3 467			Jun71 Prasad+ ACTIVATION CFD STATMOD	
	(n,p)	Thrsh	Up	CCP	Theo Jour	YF 15 744			Apr72Savel'Ev+ H-F CALCS CFD EXPTS,GRAPHS	
DEC.BETAS	+					Jour	SNP 15 416		Oct72 ENGL OF YF 15 744	
DEC.BETAS	+								May72 Fabry.36+-2MB	
TH. HUGHES	+	(n,p)		Fiss	MOL	Eval Rept	BLG-465		73 Peto+ AVERAGE SIG FOR ALF-BE N.TABLE	
ECT 35	+	(n,p)		KOS	Expt Jour	AHP 33 363			Feb74 SIG FOR PU-BE AND PO-BE NEUTRONS	+
EX LINES	+	(n,p)				Data	EXFOR30265.004		Feb73 Kovrigin+ ABST,P-SPECT,CALCULATION	
BETAS	+	(n,p)		CCP	Theo Conf	73Tbilisi 153			Mar73 Zijp.RECOMM INIEG CFD DIFF CALC.TBLS	+
	+	(n,p)		RCN	Revw Conf	73Paris 2 271			Aug73 Robertson+ SIG=85.6MB. REL FE056 NP	
+ -1.5 MB	+	2 → (n,p)		NPL	Expt Jour	JNE 27 531			Oct73 Zijp+COMPFILEVAL.CS.FAST N.METROLOGY	
	+	(n,p)		RCN	Comp Rept	RCN-196			Nov73 Seeliger+ P-EMISSION-SPEC, NDG	
VALUE 60MB	+	(n,p)		TUD	Theo Conf	ZFK-271 63			Sep73 Hermsdorf+ (N.NP).CALC P-SPEC.NDG	
MEASURED VALS	+	(n,p)		TUD	Theo Prog	ZFK-262 25			Apr74 Kovrigin+ SPEC PROTONS,GRAPH	
ATA POINTS	+	4 → (n,p)		CCP	Expt Jour	YF 19 715			Apr74 Kovrigin+ COUNT-TELESCOP,P-SPEC GRPH	
	+	(n,p)		TIL	Expt Jour	YF 19 715			Oct74 ENGLISH OF YF 19 715	
DOSIMETRY	+	2 → (n,d)				Jour	SNP 19 363		Aug59 Colli+SIG OF ORDER NP E DIST OF P	
H CFD XPT	+	4 → (n,d)		CIS	Expt Jour	NC 13 868			Aug59 Velyukhov+.GRPHS A+E DISTR OF DEUTS	
+ SIGMA	+	(n,d)		FTI	Expt Jour	DOK 127 781			Feb60 TRANSLATN.*AEC-TR-6398 I 157	
4.0MB	+	(n,d)				Conf	59Tashkent 1 129		Sep59 .SUPERSEDED	+
CFD OTHER'S	+	2 → (n,d)		CIS	Expt Jour	NC 16 991			Jun60 Colli.SCINT COUNT.ANGDIST.	
LS	+	(n,a)		BRN	Expt Jour	PR 129 1728			Feb63 Zatzick+ DEUT ANG DIST+DIFF SIGS	
TOF	+	(n,a)				Abst	BAP 6 237		Apr61.SUPERSEDD	
+DIR EFFEC	+	(n,a)		IND	Comp Jour	NUC 23 8 112			Aug65 CHATTERJEE TABLE WITH REFS	
ONS P 2.9MEV	+	2 → (n,d)		KON	ExTh Jour	NP 73 631			Nov65 SAEKI ANG+E DIST OF D CFD BUTLER THY	
ES WITH THEORY	+	(n,a)		PAR	Expt Jour	CR 198 2089			Jun34 Curie+ RADIOACTIVITY	
COUNT	+	(n,a)		JAP	Expt Jour	PR 58 659			Oct40 Amaki+ (D+LLD+BE)N SP.RATIO VS AL27	
CE	+	(n,a)		JAP	Expt Jour	SCP 39 267			Dec41 Sugimoto.LI.BE+D.SIG REL TO AL27-N.A	
-AVG SIG VGN	+	(n,a)				Jour	SCP 38 377		Jun41 SEE ALSO	
FILED,GRAPH	+	1 → (n,a)		BRK	Expt Jour	PR 75 537			Feb49 Knox. SIG P(N,2A) REL C12(N,2N) GVN	+ 50366
S32	+	(n,a)		CRC	Expt Jour	CJP 31 267			Feb53 Paul+CLARKE COUNTED AL28 DEC.BETAS	
FLUCTUATION TH	+	2 → (n,a)		KJL	Expt Conf	57Paris 1 48			Sep57 Samsahl.SAELAN. EXPTL VALUE OF 1954	
CFD OTHERS	+	(n,a)		GES	Expt Jour	NUC 17 1 54			Jan59 ROCHLIN ACT 0.75 TO 1.43MB	
FISS SPEC AV	+	(n,a)		CON	Theo Jour	PR 119 721			Jul60 FORT WORTH BULLOCK TH CFD XPT	
FD SHELLMOD	+	3 → (n,a)		CRC	Eval Rept	CRC-1003			Dec60 Roy+.ESTIMATED AVG SIG=1.3MB	
C BELOW 1MEV	+	(n,a)		SAH	Expt Conf	62Madras 46			Feb62 Sen.ENERG+ANG DSTRB OF ALFAS. C-W.	
LET SIG N2N	+	(n,a)		CAT	Revw Jour	NC 23 1136			Mar62 Agodi+FLUCTUATION BETWEEN AUTHORS	+ 50735
DEX LINE	+	(n,a)		ARK	Expt Jour	NP 35 353			Jun62 Kantele+ REL CU63(N,2N).GAMMA COUNT	+ 51410
SS-SPECS	+	(n,a)		KTY	Expt Jour	PR 128 1276			Nov62 Kern+. ACT CFD STAT TH	
ABOVE 20MEV	+	(n,a)				Abst	BAP 6 375		Jun61 .SUPERSEDD	
CFD EXPTS	+	(n,a)				Rept	U/KTY-60-2PHYS		Feb60 .SUPERSEDED	
PU-239(N,F)	+	(n,a)				Abst	BAP 4 414		Nov59 .SUPERSEDD	
35	+	(n,a)		Fiss	GDT	Revw Conf	62Harwell 1 153		Dec62 Romanko+ FISSN AVERAGE VALUE GIVEN	+ 61214
REFS	+	(n,a)		HAM	Expt Jour	ZP 174 1			May63 Bormann+ CURV.CURV 125-35MB 13-20MEV	
EXCIT FUNCT	+	(n,a)		CAT	Theo Jour	NP 47 129			Aug63 Agodi+XSECT PEAKS CFD FLUCTUATION TH	+ 60635
IV METH VDG	+	(n,a)		CAT	Expt Jour	NP 48 686			Nov63 Cuzzocrea+ SIG RISES TO 2.3MB	
UREMENTS	+	(n,a)				Jour	NP 47 129		Aug63 SEE ALSO *FLUCT.TH	
C X SECTION	+	(n,a)		SAH	Comp Jour	NP 49 686			Dec63 Chatterjee. OTHER'S SIG GVN.SHELL-TH	
EN DATA.	+	(n,a)		CIS	Theo Jour	NP 51 449			Feb64 Saettamenichella+STATMOD CF EXCIT FN	
TION MEASTS	+	(n,a)		CIS	Theo Jour	NP 51 460			Feb64 Facchini+STATMOD SIG XPT/CALC GOOD	
DEX LINES	+	(n,a)		IIT	Theo Jour	NP 60 49			Nov64 Gardner+PREDICTED BY EMPIRICAL FORM	
	+	(n,a)		IRK	Theo Jour	OAWS 174 11			65 Hille+.CF XPT/TH INTERPRET SIG N2N	
	+	(n,a)		ORL	Expt Rept	ORNL-3672			Jan65 Strain. BY NAT ELEMENT IRRAD. 124MB	
	+	(n,a)		BOS	Expt Conf	65Calcutta 150			Feb65 Mitra+ SIG VAL REL SI28(N,P) GIVEN	
	+	(n,a)		OSL	Expt Jour	PR:B 137 878			Feb65 Grineland. = 1 DATA INDEX LINE	+
	+	(n,a)				Data	EXFOR20106.006		Sep71 1PNT.SIG.	+
	+	(n,a)		BEH	Expt Jour	NP 66 419			May65 Peil.ACT 142+-17MB REL AL27 NP=85MB	+ 60 659
	+	(n,a)		FRK	Expt Preg	EANDC(E)66GU			Feb66 Bass+ TBP.XCIT FNCT.E RSLN 25KEV	+ 60 228
	+	(n,a)		WWA	ExTh Jour	NP 77 276			Mar66 Turkiewicz+.DIFF SPECT MEASURED	30312
	+	(n,a)		RBZ	Expt Rept	ZFK-122 288			Jul66 Turkiewicz+ABSTR,SPEC+ANGDST.SIG VAL	+ 61054
	+	(n,a)		TUR	Expt Jour	NP/A 93 218			Mar67 Pasquarelli.CFD OTHER MEASUREMENTS	

15 Phosphorus 31

Quantity	Energy (ev)		Lab	Type	Documentation		Author,Comments	Date	Data	Quantity	Energy (ev)	
	Min	Max			Ref	Vol Page					Min	Max
(n,α)	1.4+7	1.5+7	NAP	Comp Rept	INFN/BE-67-11		Sep67 Cuzzocrea+ AVERAGED CHOSEN DATA.			(n,p)	Maxwl	
4 → (n,α)	Fiss		CCP	Expt Jour	AE 25 437		Nov68 Nasyrov.(AVG+EFFECTIV)THRESH-SIG-TBL			(n,p)	1.4+7	
				Jour	EAF 25 5 125		Nov68 TRANSLATN.*			(n,α)	1.4+7	
(n,α)	1.4+7	1.5+7	IRK	Comp Jour	OAWS 177 465		Dec69Csikai+ SIG+HL COMPILTN,N-ACTIV-ANAL			Lvl Density	1.4+7	1.4+
(n,α)	1.5+7		DEB	Comp Jour	REA 7 93		Jun70 Leppaemaeki+ TABLE OF EVAL AVG SIG			Lvl Density	+7	
(n,α)	1.4+7	1.5+7	JYV	Eval Rept	JU-RR-3/1970		Apr72Savel'Ev+ H-F CALCS CFD EXPTS,GRAPHS			Lvl Density	-	
(n,α)	Thrb	Up	CCP	Theo Jour	YF 15 744		Oct72 * ENGLISH OF YF 15 744			Lvl Density	-	
(n,α)	1.4+7		GER	Revw Conf	73Paris 2 193		Mar73 Krivan.EVALUATED DATA CFD.TABLE			Lvl Density	-	6.0+
(n,α)	1.4+7	1.5+7	KAZ	Theo Jour	YF 18 705		Oct73 Levkovsky.AVERAGED SIG.CALC,TBL			Lvl Density	-	
				Jour	SNP 18 361		Apr74. ENGLISH OF YF 18,705			Lvl Density	None	
(n,α)	1.4+7		TUD	Theo Prog	ZFK-262 25		Sep73 Hermsdorf+ +(N,NA).CALC A-SPEC,NDG					
(n,α)	1.4+7		TUD	Theo Conf	ZFK-271 63		Nov73 Seeliger+ A-EMISSION SPEC, NDG					
(n,np)	1.5+7		GLS	Theo Jour	PM 2 473		Apr57Brown+ N.PN COMPNUC 75MB.DIRECT 70MB					
(n,np)	1.4+7		HAR	Expt Jour	NP 24 274		Apr61Allan.163+-14MB REL FE54(N,P)SIG					
	1.4+7			Data	EXFOR20004.		Nov70 2PTS.					+61209
(n,np)	1.4+7		BRN	Expt Jour	PR 125 1011		Feb62Peck. 70+-14MB FOR PROTONS P 2.8MEV					+51388
(n,np)	1.4+7	1.5+7	IRK	Theo Jour	OAWS 174 11		65 Hille+.CF XPT-TH INTERPRET SIG N2N					
(n,np)	1.4+7	1.5+7	IND	Comp Jour	NUC 23 8 112		Aug65 CHATTERJEE TABLE WITH REFS					
2 → (n,np)	1.4+7		BOR	Expt Jour	APH 4 3 289		69 Roturier.THESIS					
(n,np)	1.4+7	1.5+7	JYV	Eval Rept	JU-RR-3/1970		Jun70 Leppaemaeki+ TABLE OF EVAL AVG SIG					
→ Lvl Density	1.4+7		BRN	Expt Jour	PR 125 1011		Feb62Peck. TEMP=1.4 +- .10MEV+SPIN PARAM					
Lvl Density	3.0+6	4.0+6	JAE	Expt Jour	JPJ 18 610		May63 Tsukada+ FROM TOT C.S. FLUCTUATIONS					+
	3.0+6	4.0+6		Data	EXFOR20292.007		Jun74 IPNT.MEAN LVLSP.					+
Lvl Density	1.4+7		RBZ	Expt Jour	NP 44 123		Jun63 Antolkovic.LVL DENS PAR FROM S32(NP)					+
3 → Lvl Density	1.4+7		RBZ	Expt Jour	NP 44 123		Jun63 Antolkovic.LVL DENS PAR FROM S32(NP)					+
				Conf	62Padua 287		Sep62 * SHORTER TEXT AS NP 44					
				Jour	NC 22 853		Nov61 * PRELIMINARY RESULTS					
Lvl Density	1.4+7		FEI	Expt Rept	Jour YF 2 826		Nov65 Anufrienko+.PARAMS FROM NONELASTIC					+Duster
				Rept	FEI-30		Dec65.					P8,P7
				Rept	FEI-4		65.					
				Prog	YFI-1 11		65.					
				Jour	SNP 2 589		May66 .ENGLISH TRANSL OF YF 2 826 11/65					
				Prog	INDSWG-120E 10		65 ENGLISH TRANSL OF YFI-1 11 /65					
Lvl Density	+7		MIL	Theo Jour	NC/B 51 1 100		Sep67 Gadioli+LVL DEN PARAMS FROM SIG ANAL					
Lvl Density	+6		MIL	Theo Jour	EN 15 1 54		Jan68 Facebini+ LDL PARS FROM LOW EN RES					
Lvl Density	-		MUN	Theo Jour	NP/A 127 289		Apr69Vonach+ CUTOFF PAR.BACK-SHIFT FERMIGS					
Lvl Density	-		ANA	Theo Jour	NP/A 133 33		Aug69 Williams. ITERATIVE CALC.TOSMEV LVLS					
Lvl Density	+7		FEI	Theo Jour	IZV 34 1805		Aug70 Sokolov+ THERMODYN FUNCTIONS,CALCS					
				Jour	BAS 34 1603		Aug70 *ENGL OF IZV 34 1805					
3 → Lvl Density	1.4+7		TUD	Expt Prog	ZFK-223 25		Sep71 Giera+ TOF.ELAS.LVL-DENSITY PAR,TBL					
Lvl Density	1.4+7		CCP	Expt Jour	YF 19 715		Apr74Kovrigin+ VALUE GIVEN					
4 → Lvl Density	1.4+7		TIL	Expt Jour	YF 19 715		Apr74Kovrigin+ (N.P).S131 LVL DENS+TEMP					
				Jour	SNP 19 363		Oct74. ENGLISH OF YF 19 715					
(n,He3)	1.5+7		ARK	Expt Jour	PR 117 1568		Mar60 POULARIKAS ACTIVATION MEASUREMENTS					+ 51331
1 → (n,He3)	1.4+7		ARK	Expt Jour	PR 125 297		Jan62 Bramlitt. ACTIV SIG M 0.25MB.5.56MN					+
(n,He3)	1.4+7	1.5+7	JYV	Eval Rept	JU-RR-3/1970		Jun70 Leppaemaeki+ TABLE OF EVAL AVG SIG					
(n,He3)	1.4+7		RBZ	Expt Prog	INDC(SEC)-18		Aug71 Diksic+ P193.ACTIVATION,SIGMA GIVEN					+
	1.4+7			Data	EXFOR30152.002		Apr72 1 DATA LINE					+
(n,He3)	1.5+7		RBZ	Expt Prog	INDC(SEC)-35		Sep73 Diksic+ TABLE ONLY					
(n,He3)	1.5+7		JUL	Expt Priv	JRC to be publ		74 Qaim+ RADIOCHEM SEPARATION, GRAPH					
2 → (n,He3)	1.5+7		JUL	Expt Jour	JIN 36 239		Feb74 Qaim.ACTIV MEAS UPPER LIMIT					
(n,He3)	1.5+7		RBZ	Expt Jour	JIN 36 477		Mar74 Diksic+ ACTIV MEAS					
(γ,n)	+7		BSP	Revw Conf	55Geneva 2 169		Aug55 Souza-Santos+.P897.THRESHOLD VAL GVN					
(γ,n)	1.3+7	2.4+7	TOH	Expt Jour	JPJ 17 1672		Oct62 Mutsuro.BETATRON.S-CURV GIVN					
(γ,n)	2.6+7		JAE	Expt Prog	EANDC(J)3L8		Mar66 Lin.TOF E SPECTRUM STUDIED					
(γ,n)	2.3+7		JAE	Expt Jour	JPJ 23 919		Nov67 Mishina.ASAMI+.LIN,TOF.E SPECTRUM					

15 Phosphorus 32

Quantity	Energy (ev)		Lab	Type	Documentation		Author,Comments	Date	Data
	Min	Max			Ref	Vol Page			
Reson Params	None		UTR	Expt Jour	NP/A 97 209		Apr67VAN MIDDELKOOP. = 1 DATA INDEX LINES		+
Inelastic γ	1.1+6		ZUR	Theo Jour	PR/B 133 732		Feb64N-G ANG CORR CALC 0+ TO 1+ GND STATE		
(n,p)	Fiss		ROS	Comp Rept	ZFK-RN-23		Sep64 Jantsch. UNPUBLISHED RESULT		

15 Phosphorus 31

Data	Quantity	Energy (ev)		Lab	Type	Documentation		Author, Comments	Data
		Min	Max			Ref	Vol Page		
E COEFF	Reson Params	Maxwl		MCM	Expt	Diss	ISHAQ	73.G-WIDS.AVAILBL NATL LIBR.CAN.OTTAW	
	n Emission	1.5+7		TUD	Expt	Rept	ZFK-277	Jul74 Hermsdorf+ DIFFSIG AT 5ANGS.TBL+GRPH	
		1.5+7				Data	EXFOR30275.	Apr74 DOUBLDIF(5ANG.575PTS)+PARTIAL ANGDIS	+
Data	Diff Inelast	1.4+7		BOR	Expt	Jour	APH 4 3 289	69 Roturier, THESIS	
BL	1 → Spect (n,γ)	Maxwl		MCM	Expt	Diss	ISHAQ	70. ENGLISH OF APH 4 289	
	(n,p)	1.4+7		BOR	Expt	Jour	APH 4 3 289	69 Roturier, THESIS	
	4 → (n,p)	1.4+7		CCP	Expt	Conf	75Leningrd 3041	73. GE-LI.AVAILBL NATL LIBR.CAN.OTTAW	
	(n,p)	Fiss		PTB	Eval	Rept	PTB-FMRB-60	70. ENGLISH OF APH 4 289	
	(n,np)	1.4+7		BOR	Expt	Jour	APH 4 3 289	69 Roturier, THESIS	
	2 → (n,He3)	1.5+7		JUL	Expt	Jour	JRC 21 395	70. ENGLISH OF APH 4 289	
	(n,He3)	1.5+7		RBZ	Expt	Jour	JIN 36 477	74 Qaim+ CHEM SEPAR.SIG VS Z SYSTEMATIC	
		1.4+7				Data	EXFOR30152.002	74 Diksic+ ACTIV,GE(LI),TABLES	
								Apr72 1 DATA LINE	+