PROGRAM SPECT	'RA		SPECTF
	==		SPECTE
An extension	of LINEAR to 1	inearize ALl MF=5 spectra.	SPECTE
		utron induced, photon spectra.	SPECTR
2021/01/26 -	MF=6 Still NOT	Implemented	SPECTE
		-	SPECTE
First release	d in 2010 - Ea	rlier below dates refer to LINEAR.	SPECTE
			SPECTE
VERSION 74-1	(MAY 1974)		SPECTE
VERSION 75-1			SPECTE
	(OCTOBER 1976)		SPECTE
	(JANUARY 1977)		SPECTE
VERSION 78-1			SPECTE
		C-7600 AND CRAY-1 VERSION.	SPECTE
		, CDC AND CRAY VERSION.	SPECTE
	(DECEMBER 1980		SPECTE
ZERSION 81-1	-	/	SPECTE
		IMPROVED COMPUTER COMPATIBILITY.	SPECTE
		*MAJOR RE-DESIGN.	SPECTI
ARSION 05 1	(UANOAKI 1905)	*PAGE SIZE INCREASED - 1002 TO 3006.	
		*ELIMINATED COMPUTER DEPENDENT CODING.	
		*NEW, MORE COMPATIBLE I/O UNIT NUMBER.	
		*ADDED OPTION TO KEEP ALL ORIGINAL	SPECTI
		ENERGY POINTS FROM EVALUATION.	SPECT
		*ADDED STANDARD ALLOWABLE ERROR OPTION	
		(CURRENTLY 0.1 PER-CENT).	SPECT
		IMPROVED BASED ON USER COMMENTS.	SPECT
	• •	IMPROVED BASED ON USER COMMENTS.	SPECT
/ERSION 84-2		*UPDATED FOR ENDF/B-VI FORMATS.	SPECT
		*SPECIAL I/O ROUTINES TO GUARANTEE	SPECT
		ACCURACY OF ENERGY.	SPECT
		*DOUBLE PRECISION TREATMENT OF ENERGY	SPECT
		(REQUIRED FOR NARROW RESONANCES).	SPECT
VERSION 85-1	(AUGUST 1985)	*FORTRAN-77/H VERSION	SPECT
VERSION 86-1	(JANUARY 1986)	*ENDF/B-VI FORMAT	SPECT
VERSION 87-1	(JANUARY 1987)	*DOUBLE PRECISION TREATMENT OF CROSS	SPECT
		SECTION	SPECT
VERSION 88-1	(JULY 1988)	*OPTIONINTERNALLY DEFINE ALL I/O	SPECT
		FILE NAMES (SEE, SUBROUTINE FILEIO	SPECT
		FOR DETAILS).	SPECT
		*IMPROVED BASED ON USER COMMENTS.	SPECT
ZERSTON 89-1		*PSYCHOANALYZED BY PROGRAM FREUD TO	SPECT
210201 05 2	(011101111 1909)	INSURE PROGRAM WILL NOT DO ANYTHING	SPECT
		CRAZY.	SPECT
		*UPDATED TO USE NEW PROGRAM CONVERT	SPECT
		KEYWORDS.	
			SPECT
		*ADDED LIVERMORE CIVIC COMPILER	SPECT
	(CONVENTIONS.	SPECT
VERSION 90-1	(JUNE 1990)	*EXTENDED TO LINEARIZE PHOTON	SPECT
		INTERACTION DATA, MF=23 AND 27	SPECT
			SPECT
		*UPDATED BASED ON USER COMMENTS.	
		*NEW MORE CONSISTENT ENERGY OUTPUT	SPECT
		*NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE.	SPECT SPECT
		*NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE. *WARNINGINPUT PARAMETER FORMAT	SPECT SPECT SPECT
		*NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE.	SPECT SPECT SPECT
		*NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE. *WARNINGINPUT PARAMETER FORMAT	SPECT SPECT SPECT SPECT
VERSION 91-1		*NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE. *WARNINGINPUT PARAMETER FORMAT HAS BEEN CHANGEDSEE DESCRIPTION	SPECT SPECT SPECT SPECT SPECT
VERSION 91-1		*NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE. *WARNINGINPUT PARAMETER FORMAT HAS BEEN CHANGEDSEE DESCRIPTION BELOW.	SPECT SPECT SPECT SPECT SPECT
VERSION 91-1		*NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE. *WARNINGINPUT PARAMETER FORMAT HAS BEEN CHANGEDSEE DESCRIPTION BELOW. *ADDED INTERPOLATION LAW 6 - ONLY USED	SPECT SPECT SPECT SPECT SPECT SPECT
	(JULY 1991)	*NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE. *WARNINGINPUT PARAMETER FORMAT HAS BEEN CHANGEDSEE DESCRIPTION BELOW. *ADDED INTERPOLATION LAW 6 - ONLY USED FOR CHARGED PARTICLE CROSS SECTIONS	SPECT SPECT SPECT SPECT SPECT SPECT SPECT
	(JULY 1991)	*NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE. *WARNINGINPUT PARAMETER FORMAT HAS BEEN CHANGEDSEE DESCRIPTION BELOW. *ADDED INTERPOLATION LAW 6 - ONLY USED FOR CHARGED PARTICLE CROSS SECTIONS FOR COULOMB PENETRABILITIES.	SPECT SPECT SPECT SPECT SPECT SPECT SPECT SPECT
	(JULY 1991)	*NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE. *WARNINGINPUT PARAMETER FORMAT HAS BEEN CHANGEDSEE DESCRIPTION BELOW. *ADDED INTERPOLATION LAW 6 - ONLY USED FOR CHARGED PARTICLE CROSS SECTIONS FOR COULOMB PENETRABILITIES. *ADDED NU-BAR (TOTAL, DELAYED, PROMPT) POLYNOMIAL OR TABULATED ALL CONVERTED	SPECT SPECT SPECT SPECT SPECT SPECT SPECT SPECT SPECT
	(JULY 1991) (JANUARY 1992)	*NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE. *WARNINGINPUT PARAMETER FORMAT HAS BEEN CHANGEDSEE DESCRIPTION BELOW. *ADDED INTERPOLATION LAW 6 - ONLY USED FOR CHARGED PARTICLE CROSS SECTIONS FOR COULOMB PENETRABILITIES. *ADDED NU-BAR (TOTAL, DELAYED, PROMPT) POLYNOMIAL OR TABULATED ALL CONVERTED TO LINEARLY INTERPOLABLE	SPECT SPECT SPECT SPECT SPECT SPECT SPECT SPECT SPECT
	(JULY 1991) (JANUARY 1992)	 *NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE. *WARNINGINPUT PARAMETER FORMAT HAS BEEN CHANGEDSEE DESCRIPTION BELOW. *ADDED INTERPOLATION LAW 6 - ONLY USED FOR CHARGED PARTICLE CROSS SECTIONS FOR COULOMB PENETRABILITIES. *ADDED NU-BAR (TOTAL, DELAYED, PROMPT) POLYNOMIAL OR TABULATED ALL CONVERTED TO LINEARLY INTERPOLABLE *INCREASED PAGE SIZE FROM 3006 TO 5010 	SPECT SPECT SPECT SPECT SPECT SPECT SPECT SPECT SPECT SPECT
	(JULY 1991) (JANUARY 1992)	*NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE. *WARNINGINPUT PARAMETER FORMAT HAS BEEN CHANGEDSEE DESCRIPTION BELOW. *ADDED INTERPOLATION LAW 6 - ONLY USED FOR CHARGED PARTICLE CROSS SECTIONS FOR COULOMB PENETRABILITIES. *ADDED NU-BAR (TOTAL, DELAYED, PROMPT) POLYNOMIAL OR TABULATED ALL CONVERTED TO LINEARLY INTERPOLABLE *INCREASED PAGE SIZE FROM 3006 TO 5010 POINTS.	SPECT SPECT SPECT SPECT SPECT SPECT SPECT SPECT SPECT SPECT SPECT
	(JULY 1991) (JANUARY 1992)	 *NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE. *WARNINGINPUT PARAMETER FORMAT HAS BEEN CHANGEDSEE DESCRIPTION BELOW. *ADDED INTERPOLATION LAW 6 - ONLY USED FOR CHARGED PARTICLE CROSS SECTIONS FOR COULOMB PENETRABILITIES. *ADDED NU-BAR (TOTAL, DELAYED, PROMPT) POLYNOMIAL OR TABULATED ALL CONVERTED TO LINEARLY INTERPOLABLE *INCREASED PAGE SIZE FROM 3006 TO 5010 POINTS. *ALL ENERGIES INTERNALLY ROUNDED PRIOR 	SPECTI SPECTI SPECTI SPECTI SPECTI SPECTI SPECTI SPECTI SPECTI SPECTI SPECTI
	(JULY 1991) (JANUARY 1992)	*NEW MORE CONSISTENT ENERGY OUTPUT ROUTINE. *WARNINGINPUT PARAMETER FORMAT HAS BEEN CHANGEDSEE DESCRIPTION BELOW. *ADDED INTERPOLATION LAW 6 - ONLY USED FOR CHARGED PARTICLE CROSS SECTIONS FOR COULOMB PENETRABILITIES. *ADDED NU-BAR (TOTAL, DELAYED, PROMPT) POLYNOMIAL OR TABULATED ALL CONVERTED TO LINEARLY INTERPOLABLE *INCREASED PAGE SIZE FROM 3006 TO 5010 POINTS.	SPECTI SPECTI SPECTI SPECTI SPECTI SPECTI SPECTI SPECTI

VERSION 92-2 (JULY 1922) *CORRECTD CONVERSION OF NOT SECURA *CORRECTD CONVERSION OF NOT AN SPECTRA SFORTMADOS NU-BAR 159 NOT AN SPECTRA URBRIGHT AND				
<pre>VERSION 93-1 (MARCH 1993) *UPDATED FOR USE WITH LAREY COMPILER SPECTRA ENERGY DEPENDENT QUANTITY). SPECTRA ON IBM-PCS. ** VERSION 93-1 (MARCH 1993) *UPDATED FOR USE WITH LAREY COMPILER SPECTRA 30000 POINTS SIZE FROM 5010 TO SPECTRA 30000 POINTS SIZE FROM 5010 TO SPECTRA WERSION 94-1 (JANUARY 1994) *VARIABLE ENDF/B DATA FILENAMES SPECTRA TO ALLOW ACCESS TO FILE STRUCTURES SPECTRA COLLOW ACCESS ALL FILES BEFORE TERMINATING SPECTRA COLSE ALL FILES BEFORE TERMINATING SPECTRA CONSERVICE COMPUTER INDEPENDENCE SPECTRA CONSERVICE ONTOUTO FRECISION SPECTRA CONSERVICE ONTOUTO FRECISION SPECTRA CONSERVICE ONTOUTO FRECISION SPECTRA CONSERVICE ONTOUTO FRECISION SPECTRA CONSERVICE ON SOLUTION SPECTRA CONSERVICE ON SOLUTION SPECTRA CONSERVICE ON SUBCETRA CONSERVICE ON SOLUTION SPECTRA CONSERVICE ON SUBCETRA CONSERVICE ON SUBCETRA CONSERVICENTIAL ANDED MF = 9 AND 10 LINEARIZATION SPECTRA CONSERVICENTIAL TARES SPECTRA CONSERVICENTIAL MARCES SALE ON SPECTRA CONSERVICENTIAL MARCES SALE CONSECTRA CONSERVICENTIAL MARCES SALE SPECTRA CONSERVICENTIAL MARCES SALE SPECTRA CONSUMPTIONAL INFORMENTS BASED ON USER FEEDBACK SUBCETRA CONSUMPTIONE DELOW MINIMUM COMIN SPECTRA CONSERVICE ONAME SALE SPECTRA CONSERVICENTAL SALE CONSERVICENTA CONSERVICENTAL CONSERVICENTA CONSERVICENTAL SALE ON SPECTRA CONSERVICENTICE AN</pre>			DEPENDENCE.	SPECTRA
VERSION 93-1 (MARCH 193) VERSION 93-1 (MARCH 193) VERSION 94-1 (JANUARY 194) VERSION 96-1 (JANUARY 194) VERSION 97-1 (MARCH 1949) VERSION 97-1 (MARCH 1949) VERSION 99-1 (MARCH 194) VERSION 99-1 (MARCH 194) VERSION 99-1 (MARCH 194) VERSION 99-1 (MARCH 194) VERSION 99-1 (JANUARY 194) VERSION 99-1 (JANUARY 194) VERSION 99-2 (JUNE 194) VERSIO	VERSION 92-2	(JULY 1992)	*CORRECTED CONVERSION OF NU-BAR FROM	SPECTRA
<pre>THE SPONTANEOUS NU-BAR IS NOT AN SPECTRA ENERGY DEPENDENT QUANTLY). SPECTRA ON IBM-PCS. ************************************</pre>			POLYNOMIAL TO TABULATED - COPY	SPECTRA
VERSION 93-1 (MARCH 1993) *UFORATED FOR USE WITH LAREY COMPILER SPECTRA SPECTRA 3000 POINTS SPECTRA 3000 POINTS SPECTRA 3000 POINTS SPECTRA WERSION 94-1 (JANUARY 1994)*UARIABLE ENDY/B DATA FILENAMES SPECTRA WERSION 94-1 (JANUARY 1994)*UARIABLE ENDY/B DATA FILENAMES SPECTRA (WARNING - INDU' DARAMETER FORMAT SPECTRA (WARNING - INDU' DARAMETER FORMAT SPECTRA WERSION 96-1 (JANUARY 1996)*OLDER ELSANDING INSPECTRA *ILOSEALL FILES BEFORE TERMINATING SPECTRA (SEE, SUBBOTINE ENDIT) SPECTRA *ILOSEALL FILES BEFORE TERMINATING SPECTRA *ILOSEALL FILES BEFORE TERMINATING SPECTRA *ILOSEALL FILES DEFORE TERMINATING SPECTRA *ILOSEALL FILES DEFORE TERMINATING SPECTRA *ILOSEALL FILES DEFORE TERMINATING SPECTRA *ILOSEAL FILES DEFORE TERMINATING SPECTRA *ILOSEAL FILES SPECTRA *ILOSEAL FILE SIZE FOM 3000 TO SPECTRA *UNFROVED OUTPUT FROMISION SPECTRA *ILOSEAL FILES SPECTRA *ILOSEAL FILES SPECTRA *ILOSEAL FILES SPECTRA *ILOSEAL FILE SIZE FOM 3000 TO SPECTRA #ONN SCREEN DARES SIZE FOM 3000 TO SPECTRA #ONN REALD FOR MORE DIGITS SPECTRA *UNFROVED OUTPUT FROMISE SPECTRA *UNFROMENTE ENERT FOR SIGNET SPECTRA *UNFROMENTE SETTOR FORMAT SPECTRA *UNFROMENTE DEST FORMAT SPECTRA *UNFROMENTE BASED ON RECENT FORMAT SPECTRA *UNFROMENTE BASED ON SPECTRA *UNFROMENTE SASED ON SPECTRA *UNFROM				SPECTRA
<pre>VERSION 93-1 (MARCH 1993) *UPDATED FOR USE WITH LAMEY COMPILER SPECTRA ON IBW-PCS. *INCREASED PAGE SIZE FOM 5010 TO SPECTRA 30000 POINTS SPECTRA UPRSION 94-1 (JANUARY 1994) *UANIARLE ENDF/B DATA FILENAMES SPECTRA TO ALLOW ACCESS TO FILE STURCTURES SPECTRA (WARNING - INDUT PARAMETER FORMAT SPECTRA (WARNING - INDUT PARAMETER FORMAT SPECTRA (WARNING - INDUT PARAMETER FORMAT SPECTRA (SDES, SUBMOTINE ENDIT) VERSION 96-1 (JANUARY 1996) *COMPLETE RE-WRITE *IMFROVED COMPUTER INDEPENDENCE SPECTRA *ALL DOUBLE PRECISION SPECTRA *UNFROVED COMPUTER INDEPENDENCE SPECTRA *ALL DOUBLE PRECISION SPECTRA *UNFROVED COMPUTER INDEPENDENCE SPECTRA *UNFROVED COMPUTER INDEPENDENCE SPECTRA *ALL DOUBLE PRECISION SPECTRA *UNFROVED COMPUTER INDEPENDENCE SPECTRA *UNFROVED CONFUT FRACISION SPECTRA *UNFROVED CONFUT REAL *UNFROVED CONFUT REAL *UNFROVED CONFUS SPECTRA *DEFINE SCRACTER ILL NAMES SPECTRA *DEFINE SCRACTER ILL NAMES SPECTRA *DEFINE SCRACTER ILL NAMES SPECTRA *UNFROVED CONFUS SECTRA *UNFROME TOF FORMAT SPECTRA *UNFROME TOF FORMAT SPECTRA *UNFRIGUE TERFANDIAL VALUE *UNFRIGUE TERFANDIAL VALUE *UNFRIGUES VALUE *UN</pre>				
VERSION 94-1 (JANUARY 1994) VARIABLE ENDY/B DATA FILENAMES SPECTRA 30000 POINTS SPECTRA VERSION 94-1 (JANUARY 1994) VARIABLE ENDY/B DATA FILENAMES SPECTRA (WARNING - INUUT PARAMETRE SPECTRA (WARNING - INUUT PARAMETRE SPECTRA (WARNING - INUUT PARAMETRE SPECTRA (SEE, SUBGOTINE ENDIT) SPECTRA *CLOSE ALL FILES BEFORE TERMINATING SPECTRA (SEE, SUBGOTINE ENDIT) SPECTRA *CLOSE ALL FILES BEFORE TERMINATING SPECTRA *ALLAD DOUBLE PERCEISION *ALLO DOUBLE PERCEISION SPECTRA *ALLAD SOUTPUT ENDIT) SPECTRA *ALLAD SOUTES INDEFENENCE SPECTRA *ALKAYS INCLUDE THERMAL YALUE SPECTRA *DEFINED SCRAFCH FILE NAMES SPECTRA *DEFINED SCRAFCH FILE NAMES SPECTRA *DEFINE THE FEDERAL VERSION 99-1 (MARCH 1999) *ASSIME END/G-VI, NOT V, IF MISSING SPECTRA *GENERAL IMPROVEMENTS BASED ON SPECTRA *GENERAL UPARE BASED ON SPECTRA *GENERAL SPECTRA *GENERAL UPARE BASED ON SPECTRA *GENERAL UPARE BASED ON SPECTRA *GENERAL UPARE BASED SIZE TRA *GOLY PROCESS ME=5 - SKIP ALL ONERS SPECTRA *GAME SECTRA *ADA				
<pre>*INCREASED FAGE SIZE FEON 5010 TO SPECTRA 30000 FOINTS SPECTRA VERSION 94-1 (JANUARY 1994) *VARIABLE ENDF/B DATA FILENAMES SPECTRA HAS BEEN CHANCED) *DALOW ACCESS TO FILE STRUCTURES SPECTRA (WARNING - INPUT PARAMETER FORMAT SPECTRA BEEN CHANCED) *CLOSE ALL FILES BEFORE TEEMINATING SPECTRA (SEE, SUBBOUTINE ENDITE SPECTRA *INFROVED COMPUTER INDEPENDENCE SPECTRA *INFROVED COMPUTER INDEPENDENCE SPECTRA *INFROVED COMPUTER NUMERS *ON SCREEN OUTPUT NOEPHDENCE SPECTRA *INFROVED CONFUTT FILES *ON SCREEN OUTPUT SPECTRA *INFROVED CONFUTT FILES *INFROVED CONFUTT FILES *INFROVED CONFUTT FILES *INFROVED CONFUTTER FRAME *INFROVED CONFUTT FILES *INFROM TRASHTMENT OF ENDF/B I/O SPECTRA *INFROVED CONFUTT FILES *INFROM TRASHTMENT OF ENDF/B I/O SPECTRA *INFROVED CONFUTT FILES *INFROM TRASHTMENT OF ENDF/B I/O SPECTRA *INFROVED CONFUTT FOR SPECTRA *INFROVED CONFUTT FOR SPECTRA *INFROVED CONFUTT FOR SPECTRA *INFROVED CONFECTED CHARACTER TO FLOATING SPECTRA FOINT READ FOR MORE DIGITS SPECTRA *URDIATED TEST FOR ENDF/B FORMAT SPECTRA VERSION 99-1 (MARCH 1999) *CORRECTED CHARACTER TO FLOATING SPECTRA *URDIATED TEST FOR ENDF/B FORMAT SPECTRA VERSION 99-2 (JUNE 1999) *ASSUME ENDF/B-VI, NOT V, IF MISSING SPECTRA VERSION 99-2 (JUNE 1999) *ASSUME ENDF/B-VI, NOT V, IF MISSING SPECTRA VERS 2000-1 (FERUARY 2000) *ANDED MF = 9 AND 10 LINEARIZATION SPECTRA WERS. 2000-1 (FERUARY 2000) *ANDED MF = 9 AND 10 LINEARIZATION SPECTRA WERS. 2000-1 (FERUARY 2000) *ADDED MF = 9 AND 10 UNERFEEDBACK SPECTRA *GENERAL INFROVEMENTS BASED ON SPECTRA WERS. 2000-1 (FERUARY 2001) *OPTIONAL INFUT PARAMETERS SPECTRA *GENERAL INFROVEMENTS BASED ON SPECTRA WERS. 2000-1 (FERUARY 2001) *OPTIONAL INFUT PARAMETERS SPECTRA *GENERAL INFROVEMENTS BASED ON SPECTRA *GENERAL INFROVEMENTS SAFETRA SPECTRA *GENERAL INFROVEMENTS SAFET ASSED ON SPECTRA *GENERAL INFROVEMENTS SAFET ASSED ON</pre>	VERSION 93-1	(MARCH 1993)		
30000 POINTS SPECTRA SPECTRA TO ALLOW ACCESS TO FILE STRUCTURES SPECTRA (RARING - INUET PARAMETER FORMAT SPECTRA +ALS BEEN CHANCED) VERSION 96-1 (JANUARY 1996) *COMPLETE RE-MRITE SPECTRA *LOSE ALL FILES BEFORE TERMINATING SPECTRA *LISE BEFORE TERMINET VERSION 96-1 (JANUARY 1996) *COMPLETE RE-MRITE SPECTRA *ALL DOUBLE PRECISION *ON SCREEM COUPFOT SPECTRA *ALL DOUBLE PRECISION SPECTRA *ALL DOUBLE PRECISION *ON SCREEM COUPFOT SPECTRA *ALL DOUBLE PRECISION SPECTRA *ALL DOUBLE PRECISION *ON SCREEM COUPFOT SPECTRA *ALL DOUBLE PRECISION SPECTRA *ALMAYS INCLUDE TERMAL VALUE *URPSION 99-1 (MARCH 1999) *CORRECTED CHARACTER TO FLOATING SPECTRA *DEFINED CHARACTER TO FLOATING VERSION 99-1 (MARCH 1999) *CORRECTED CHARACTER TO FLOATING SPECTRA *UDDATED TEST FOR ENDF/B FORMAT VERSION 99-2 (JUNE 1999) *ASSUME EMDF/B-VI, NOT V, IF MISSING SPECTRA WERSION 99-2 (JUNE 1999) SPECTRA *GENERAL IMPROVEMENTS BASED ON VERS 2000-1 (FERUARY 2000) *ADDED MF = 9 AND 10 LINEARIZATION SPECTRA WERS 2001-1 (JAN. 2004) GENERAL UPDATE BASED ON USER FEEDBACK VERS 2002-1 (MAY 2002) *OTHONAL IMPOVEMENTS BASED ON SPECTRA WERS. 2010-1 (JAN. 2004) GENERAL UPDATE BASED ON USER FEEDBACK VERS 2010-1 (FERUARY 2004) *GENERAL UPDATE BASET ON USER FEEDBACK SPECTRA *CORRECTED INT-6 N				
<pre>VERSION 94-1 (JANUARY 1994) *VARIABLE ENDF/B DATA FILENAMES SPECTRA TO ALLOW ACCESS TO FILE STRUCTURES SPECTRA (WARNING - INPUT PARAMETER FORMAT SPECTRA HAS BEEN CHANCED) SPECTRA (SEE, SUBROUTINE ENDIT) SPECTRA (SEE, SUBROUTINE ENDIT) SPECTRA *CLOSE ALL FILES BEFORE TERMINATING SPECTRA *LIMENCED COMPUTER INDEFENDENCE SPECTRA *LIMENCED COMPUTER INDEFENDENCE SPECTRA *LIMENCED COMPUTER INDEFENDENCE SPECTRA *LIMENCED OUTPUT PRECISION SPECTRA *ON SCREEN OUTPUT SPECTRA *ON SCREEN OUTPUT SPECTRA *UNERCOME DITUT PRECISION SPECTRA *LIMENCED OTFUT PRECISION SPECTRA *DEFINED SCRATCH FILE NMESS SPECTRA *ON SCREECTED CHARACTER TO FLOATING SPECTRA fOOOD POINTS VERSION 99-1 (MARCH 1999) *CORRECTED CHARACTER TO FLOATING SPECTRA UVERSION BASED ON SPECTRA UVERSION 99-2 (JUNE 1999) *ASSUME ENDP/B-VI, NOT V, IF MISSING SPECTRA UVERSION 99-2 (JUNE 1999) *ASSUME ENDP/B-VI, NOT V, IF MISSING SPECTRA UVERS 2000-1 (FERUARY 2000)*ADDED MF = 9 AND 10 LINEARIZATION SPECTRA UVERS 2001-1 (FERUARY 2000)*ADDED MF = 9 AND 10 LINEARIZATION SPECTRA UVERS 2005-1 (JAN 2005) *ALMAYS KEEP CRIGINAL TABULATED SPECTRA *OS SUBDIVIDE BELOW MINIMUM XCMIN SPECTRA NU-BAR POINTS. SPECTRA *NO SUBDIVIDE BELOW MINIMUM XCMIN SPECTRA *NO SUBDIVIDE BELOW MINIMUM XCMI</pre>				
<pre>To ALLOW ACCESS TO FILE STRUCTURES SPECTRA (WARNIGO - INUET PARAMETER FORMAT SPECTRA *CLOSE ALL FILES BEFORE TERMINATING SPECTRA (SEE, SUBBOUTINE ENDIT) SPECTRA *CONCLETE R8-WRITE SPECTRA *ILL DOUBLEF PREVIEW SPECTRA *ONCOLETE R8-WRITE SPECTRA *ONCOLET R8-WRITE SPECTRA *ONCOLETE R8-WRITE SPECTRA *ONCOLETE R8-WRITE SPECTRA *DEFINED SCRATCH FILE NAMES SPECTRA *DINT READ FOR MORE DIGITS SPECTRA POINT READ FOR MORE DIGITS SPECTRA POINT READ FOR MORE DIGITS SPECTRA *UDDATED TEST FOR ENDF/S FORMAT SPECTRA VERSION 99-2 (JUNE 1999) *ASSUME SED ON SPECTRA *GENERAL IMPROVEMENTS BASED ON SPECTRA WERSION 99-2 (JUNE 1999) *ASSUME SPECTRA WERSION 99-2 (JUNE 1999) *ASSUME SPECTRA *GENERAL IMPROVEMENTS BASED ON SPECTRA WERS 2002-1 (FEBRUARY 2000) *ADDED MF = 9 AND 10 LINEARIZATION SPECTRA WERS 2002-1 (JAN 2002) *OPTIONAL IMPOREMENTS BASED ON SPECTRA WERS 2002-1 (JAN 2003) *GENERAL UPDATE BASED ON USER FEEDBACK SPECTRA WERS 2002-1 (JAN 2004) *GENERAL UPDATE BASED ON USER FEEDBACK SPECTRA WERS 2002-1 (JAN 2005) *GENERAL UPDATE BASED ON USER FEEDBACK SPECTRA WUERS 2002-1 (JAN 2005) *GENERAL UPDATE BASED ON USER FEEDBACK SPECTRA WUERS 2002-1 (JAN 2005) *GENERAL UPDATE BASED ON USER FEEDBACK SPECTRA WERS 2002-1 (JAN 2007) *GENERAL UPDATE BASED ON USER FEEDBACK SPECTRA *CORRECTED INT-6 NEAR THRESHOLD SPECTRA *CORRECTED INT-6 NEAR THRESHOLD SPECTRA *00-AMAYS MRES - SKIP ALL OTHER SPECTRA *00-AMAYS MRES - SKIP ALL AND SPECTRA *00-AMAYS MRES - SKIP ALL AND SPECTRA *10-CREAKED AGAINST ALL ENDY/B-VII. SPECTRA *10-CREAKED AGAINST ALL</pre>		(TANKIADI 1004)		
<pre>(WARNING - INUT PARAMETER FORMAT SPECTRA HAS BEEN CHANCED) *CLOSE ALL FILES BEFORE TEEMINATING SPECTRA (SEE, SUBBOUTINE EMDIT) SPECTRA *IMPROVED COMPUTER INDEPENDENCE SPECTRA *IMPROVED COMPUTER INDEPENDENCE SPECTRA *ALL DOUBLE PRECISION SPECTRA *ON SCREEN CUTPUT SPECTRA *ON SCREEN CUTPUT SPECTRA *ON SCREEN CUTPUT SPECTRA *UNERON TREATMENT OF ENDF/B I/O SPECTRA *DISCREEN CUTPUT PRECISION SPECTRA *DISCREEN CUTPUT PRECISION SPECTRA *DISCREEN CUTPUT FREMAL VALUE SPECTRA *DISCREEN CUTPUT FREMAL VALUE SPECTRA *DISCREEN CUTPUT FORMAT CHANCES SPECTRA FOINT READ FOR MORE DIGITS SPECTRA FOINT READ FOR MORE DIGITS SPECTRA VERSION 99-1 (MARCH 1999) *CORRECTED CHARACTER TO FLOATING SPECTRA VUERSION BASED ON RECENT FORMAT CHANCESSECTRA VUERSION BASED ON SPECTRA UUER TEEDBACK SPECTRA VERSION 99-2 (JUNE 1999) *ASSUME ENDF/B-VI, NOT V, IF MISSING SPECTRA *UERSENTA IMPROVEMENTS BASED ON SPECTRA VERS. 2000-1 (FEBRUARY 2000)*ADDED MF = 9 AND 10 LINEARIZATION SPECTRA VUERS 2000-1 (GRENCAL UPDATE BASED ON USER TEEDBACK VERS. 2005-1 (AN 2005) *ALMAYS KEEP ORGINAL TABLATED SPECTRA VUERS 2005-1 (AN 2005) *ALMAYS KEEP ORGINAL TABLATED SPECTRA VERS. 2005-1 (AN 2005) *ALMAYS KEEP ORGINAL TABLATED SPECTRA NU-BAR FOINTS. SPECTRA N</pre>	VERSION 94-1	(JANUARI 1994)		
HAS BEEN CHANGED) SPECTRA *CIDE ALL FILES BEFORE TEMINATING SPECTRA (SEE, SUBBOUTINE ENDIT) SPECTRA *INFROVED COMPUTER INDEPENDENCE SPECTRA *ALL DOUBLE PRECISION SPECTRA *ALL DOUBLE PRECISION SPECTRA *ALL DOUBLE PRECISION SPECTRA *UNFROVED COMPUTE INDEPENDENCE SPECTRA *UNFROVED COMPUT PRECISION SPECTRA *UNFROVED CUTUPT PRECISION SPECTRA *DEFINED SCRATCH FILE NAMES SPECTRA *UPDATED TEST FOR ENDF/B FORMAT SPECTRA VERSION 99-2 (JUNE 1999) *CORRECTD CHARACTER TO FLOATING SPECTRA *UPDATED TEST FOR ENDF/B FORMAT SPECTRA *UPDATED TEST FOR ENDF/B FORMAT SPECTRA VERS 2000-1 (FEERUARY 2000)*ADDED MF = 9 AND 10 LINEARIZATION SPECTRA VERS 2000-1 (FEERUARY 2001)*ADDED MF = 9 AND 10 LINEARIZATION SPECTRA VERS 2000-1 (FEERUARY 2001) *ADDED MF = 9 AND 10 UNERFEEDBACK VERS 2000-1 (JAN 2001) *CREVENTA DUSER FEEDBACK VERS 2000-1 (JAN 2001) *CREVENTA DUSER FEEDBACK VERS 2000-1 (JAN 2001) *CRECKED AGNUSAL TABULATED SPECTRA *USARSAUMAYS KEEP ORIGINAL TABULATED SPECTRA *NO SUBDIVIDE BELOW MINIMM XCMIN SPECTRA *NO SUBDIVIDE BELOW MINIMM SCHIN SPECTRA *NO SUBDIVIDE BELOW MINIMA SCHIN SPECTRA *NO SUBDIVIDE BELOW MINIMM XCMIN SPECTRA *NO SUBDIVIDE BELOW MINIMM XCMIN SPECTRA *NO SUBDIVIDE BELOW MINIMA SCHIN SPECTRA *NO SUBDIVIDE SELOW MINIMAS. SPECTRA *NO SUBDIVIDE SELOW MINIMAL SPECTRA *NO SU				
<pre>*CLOSE ALL FILES DEFORE TERNINATING SPECTRA (SE, SUBBOUTIME ENDIT) SPECTRA *COMPLETE RE-WRITE SPECTRA *LID DOUBLE PRECISION SPECTRA *UNFROM TREATMENT OF ENDF/B 1/0 SPECTRA *LIMPROVED OUTPUT PRECISION SPECTRA *LIMPROVED OUTPUT SEASED ON SOUTO SPECTRA FOILT READ FOR MORE DIGITS SPECTRA VERSION 99-1 (MARCH 1999) *CORRECTED CHARACTER TO FLOATING SPECTRA VERSION 99-2 (JUNE 1999) *ASSUME ENDF/B-TORMAT SPECTRA VERSION 99-2 (JUNE 1999) *ASSUME ENDF/B-TORMAT SPECTRA VERS 2000-1 (FEBRUARY 2000) *ADDED MF = 9 AND 10 LIMPROVEMENTS BASED ON SPECTRA VERS. 2002-1 (JAN 2001) *ADDED MF = 9 AND 10 LIMPROVEMENTS BASED ON SPECTRA VERS. 2004-1 (JAN 2004) *OPTIONAL IMPUT PARAMETERS SPECTRA VERS. 2004-1 (JAN 2004) *OPTIONAL IMPUT PARAMETERS SPECTRA VERS. 2004-1 (JAN 2004) *OPTIONAL IMPUT PARAMETERS SPECTRA *GORMENTS KEEP ORIGINAL TABULATED SPECTRA NU-BAR POINTS: SPECTRA *USUAR VERS. 2004-1 (JAN 2007) *CORRECTED INT-6 NEAR THRESHOLD SPECTRA *NO SUBDIVIDE BELOW MINIMUM XOMIN SPECTRA *NO SUBDIVIDE BELOW MINIMUM XOMIN SPECTRA *12 CHARACTER FILE NAMES. SPECTRA *14 CORRECTED INT-6 NEAR THRESHOLD SPECTRA *12 CHARACTER FILE NAMES. SPECTRA *12 CHARACTER FILE NAMES. SPECTRA *14 CORRECTED INT-6 NEAR THRESHOLD SPECTRA *12 CHARACTER FILE NAMES. SPECTRA *12 CHARACTER FILE NAMES. SPECTRA *14 CONSULTION ONFILIE ELOW MINIMUM XOMIN SPECTRA *14 CACTER ON SPECTRA *14 Added EROR SLOP SPECTRA *23 and 64 bit COMPATIBLE SPECTRA *10 FLOATING SPECTRA *10 FLOATING SPECTRA *10 FLOATING SPECTRA *10 FLOATING SPECTRA *10 FLOATING SPECTRA *20 ANDED ME SESTEND NAME SPECTRA *10 FLOATING SPECTRA *20 AND SPECTRA *20 AND SPECTRA</pre>			-	
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<pre>*IMPROVED OUTPUT PRECISION SPECTRA *DEFINED SCRATCH FILE NAMES SPECTRA *DEFINED SCRATCH FILE NAMES SPECTRA *DEFINED SCRATCH FILE NAMES SPECTRA *INCREASED PAGE SIZE FROM 30000 TO SPECTRA 60000 POINTS SPECTRA POINT READ FOR MORE DIGITS SPECTRA *UPDATED TEST FOR ENDF/B FORMAT SPECTRA *EXENDE NASSUME ENDF/B-VI, NOT V, IF MISSING SPECTRA MF=1, MT-451. SPECTRA *CENERAL IMPROVEMENTS BASED ON SPECTRA MF=1, MT-451. SPECTRA *CENERAL INPROVEMENTS BASED ON SPECTRA *CENERAL INPROVEMENTS BASED ON SPECTRA USER FEEDBACK SPECTRA *CENERAL UPDATE BASED ON USER FEEDBACKSPECTRA *CENERAL UPDATE BASED ON USER FEEDBACKSPECTRA *CENERAL UPDATE BASED ON USER FEEDBACKSPECTRA MU-BAR FOINTS. SPECTRA NU-BAR FOINTS. SPECTRA *CENERAL UPDATE BASED ON USER FEEDBACKSPECTRA *CENERAL UPDATE BASED ON USER FEEDBACKSPECTRA *UERS. 2005-1 (JAN. 2005) *ALWAYS KEEP ORIGINAL TABULATED SPECTRA *NO SUBDITOE BELOW MINIMM XCMIN SPECTRA *1NCREASED FAGE SIZE FROM 60,000 TO SPECTRA 600,000 POINTS SPECTRA *2 CHARACTER FILE NAMES. SPE</pre>			*ON SCREEN OUTPUT	SPECTRA
 DEFINED SCRATCH FILE NAMES SPECTRA *ALWAYS INCLUDE THERMAL VALUE SPECTRA *ALWAYS INCLUDE THERMAL VALUE SPECTRA 60000 POINTS SPECTRA 60000 POINTS SPECTRA *UCREASED FACE SIZE FROM 3000 TO SPECTRA 60000 POINTS SPECTRA *CORRECTED CHARACTER TO FLOATING SPECTRA *UPADED TEST FOR MORE DIGITS SPECTRA *UPADED TEST FOR MORE DIGITS SPECTRA *CEMERAL IMPROVEMENTS BASED ON SPECTRA *CEMERAL IMPROVEMENTS BASED ON SPECTRA *GEMERAL IMPROVEMENTS BASED ON SPECTRA USER FEEDBACK SPECTRA VERS. 2000-1 (FEBRUARY 2000) *ADDED MF = 9 AND 10 LINERATIZATION SPECTRA USER FEEDBACK SPECTRA USER SEEDBACK SPECTRA *GEMERAL IMPROVEMENTS BASED ON SPECTRA USER FEEDBACK SPECTRA USER FEEDBACK SPECTRA USER FEEDBACK SPECTRA USER FEEDBACK SPECTRA USER FEEDBACK SPECTRA USER FEEDBACK SPECTRA *GEMERAL IMPROVEMENTS BASED ON USER FEEDBACKSPECTRA USER FEEDBACK SPECTRA USER FEEDBACK SPECTRA *OPTIONAL INPUT PARAMETERS SPECTRA *OPTIONAL INPUT PARAMETERS SPECTRA *UN-BAR FOINTS. SPECTRA *UN-BAR FOINTS. SPECTRA *UN-BAR FOINTS. SPECTRA *UN-BAR FOINTS. SPECTRA *ON SUBDIVIDE BLOW MINIMUM XCMIN SPECTRA *ON SUBDIVIDE BLOW MINIMUM XCMIN SPECTRA *ON SUBDIVIDE BLOW MINIMUM XCMIN SPECTRA *TNCREASED PAGE SIZE FROM 60,000 TO SPECTRA *TNCREASED PAGE SIZE FROM 60,000 TO SPECTRA *TNCREASED PAGE SIZE FROM 60,000 TO SPECTRA *ONLY PROCESS MP=5 - SKIP ALL OTHERS SPECTRA *ONLY PROCESS MP=5 - SKIP ALL OTHERS SPECTRA *ONLY PROCESS MP=5 - SKIP ALL OTHERS SPECTRA *Added CODENNE *22 and 64 bit COMPATIBLE SPECTRA *Added CODENNE SPECTRA *Added COMPATIER FILE NAMES. SPECTRA *COPATION				
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<pre>VERS. 2012-1 (Aug. 2012) *Added MF=15, neutron induced photon SPECTRA spectra. SPECTRA *Added CODENAME SPECTRA *32 and 64 bit Compatible SPECTRA *32 and 64 bit Compatible SPECTRA *Added ERROR stop SPECTRA *Added ERROR stop SPECTRA *Added COUT9. SPECTRA *Replaced ALL 3 way IF Statements. SPECTRA *Corrected MF=15 Data - it was adding SPECTRA SEND between sub-sections. SPECTRA *Deleted unused parts, e.g., NUBAR. SPECTRA *Deleted based on user feedback SPECTRA *Updated based on user feedback SPECTRA *Changed DGAMMA to REDGAMMA to avoid SPECTRA *All floating input parameters changedSPECTRA to character input + IN9 conversion. SPECTRA *All floating input parameters changedSPECTRA to character input + IN9 conversion. SPECTRA *Additional Interpolation Law Tests SPECTRA *Check Maximum Tabulated Energy to SPECTRA</pre>				
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VERS. 2019-1 (June 2019) *Additional Interpolation Law Tests SPECTRA *Check Maximum Tabulated Energy to SPECTRA			-	
*Check Maximum Tabulated Energy to SPECTRA				
	VERS. 2019-1	(June 2019)	-	
Insure IC IS the same for all MIS - SPECTRA				
			insure it is the same for all MTS -	SERCIVA

if not, print WARNING messages. SPECTRA *Corrected END Histogram linearized - SPECTRA Previously deleted last point - ERRORSPECTRA to assume this has Y=0 - now keep SPECTRA point, but insure Y = 0. SPECTRA VERS. 2020-1 (Mar. 2020) *Added Target Isomer State SPECTRA VERS. 2021-1 (Jan. 2021) *Updated for FORTRAN 2018 SPECTRA SPECTRA OWNED, MAINTAINED AND DISTRIBUTED BY SPECTRA SPECTRA _____ THE NUCLEAR DATA SECTION SPECTRA INTERNATIONAL ATOMIC ENERGY AGENCY SPECTRA P.O. BOX 100 SPECTRA A-1400, VIENNA, AUSTRIA SPECTRA EUROPE SPECTRA SPECTRA ORIGINALLY WRITTEN BY SPECTRA SPECTRA ------Dermott E. Cullen SPECTRA SPECTRA PRESENT CONTACT INFORMATION SPECTRA SPECTRA Dermott E. Cullen SPECTRA 1466 Hudson Wav SPECTRA Livermore, CA 94550 SPECTRA U.S.A. SPECTRA Telephone 925-443-1911 SPECTRA E. Mail RedCullen1@Comcast.net SPECTRA Website RedCullen1.net/HOMEPAGE.NEW SPECTRA SPECTRA AUTHORS MESSAGE SPECTRA SPECTRA -----THE REPORT DESCRIBED ABOVE IS THE LATEST PUBLISHED DOCUMENTATION SPECTRA FOR THIS PROGRAM. HOWEVER, THE COMMENTS BELOW SHOULD BE CONSIDEREDSPECTRA THE LATEST DOCUMENTATION INCLUDING ALL RECENT IMPROVEMENTS. PLEASESPECTRA READ ALL OF THESE COMMENTS BEFORE IMPLEMENTATION. SPECTRA SPECTRA AT THE PRESENT TIME WE ARE ATTEMPTING TO DEVELOP A SET OF COMPUTERSPECTRA INDEPENDENT PROGRAMS THAT CAN EASILY BE IMPLEMENTED ON ANY ONE SPECTRA OF A WIDE VARIETY OF COMPUTERS. IN ORDER TO ASSIST IN THIS PROJECTSPECTRA IT WOULD BE APPECIATED IF YOU WOULD NOTIFY THE AUTHOR OF ANY SPECTRA COMPILER DIAGNOSTICS, OPERATING PROBLEMS OR SUGGESTIONS ON HOW TO SPECTRA IMPROVE THIS PROGRAM. HOPEFULLY, IN THIS WAY FUTURE VERSIONS OF SPECTRA THIS PROGRAM WILL BE COMPLETELY COMPATIBLE FOR USE ON YOUR SPECTRA COMPUTER. SPECTRA SPECTRA PURPOSE SPECTRA SPECTRA _____ THIS PROGRAM IS DESIGNED TO CONVERT ENDF/B FILE 3, 23 AND 27 DATA SPECTRA TO LINEAR-LINEAR INTERPOLABLE FORM. ANY SECTION THAT IS ALREADY SPECTRA LINEAR-LINEAR INTERPOLABLE WILL BE THINNED. SPECTRA SPECTRA IN THE FOLLOWING DISCUSSION FOR SIMPLICITY THE ENDF/B TERMINOLOGY SPECTRA ---ENDF/B TAPE---WILL BE USED. IN FACT THE ACTUAL MEDIUM MAY BE SPECTRA TAPE, CARDS, DISK OR ANY OTHER MEDIUM. SPECTRA SPECTRA ENDF/B FORMAT SPECTRA SPECTRA THIS PROGRAM ONLY USES THE ENDF/B BCD OR CARD IMAGE FORMAT (AS SPECTRA OPPOSED TO THE BINARY FORMAT) AND CAN HANDLE DATA IN ANY VERSION SPECTRA OF THE ENDF/B FORMAT (I.E., ENDF/B-I, II, III, IV, V OR VI FORMAT).SPECTRA SPECTRA IT IS ASSUMED THAT THE DATA IS CORRECTLY CODED IN THE ENDF/B SPECTRA FORMAT AND NO ERROR CHECKING IS PERFORMED. IN PARTICULAR IT IS SPECTRA ASSUMED THAT THE MAT, MF AND MT ON EACH LINE IS CORRECT. SEQUENCE SPECTRA NUMBERS (COLUMNS 76-80) ARE IGNORED ON INPUT, BUT WILL BE SPECTRA CORRECTLY OUTPUT ON ALL LINES. THE FORMAT OF SECTION MF=1, MT=451 SPECTRA AND ALL SECTIONS OF MF=3 MUST BE CORRECT. THE PROGRAM COPIES ALL SPECTRA OTHER SECTION OF DATA AS HOLLERITH AND AS SUCH IS INSENSITIVE TO SPECTRA THE CORRECTNESS OR INCORRECTNESS OF ALL OTHER SECTIONS. SPECTRA SPECTRA

OUTPUT FORMAT	SPECTRA
	SPECTRA
IN THIS VERSION OF LINEAR ALL ENERGIES WILL BE OUTPUT IN F (INSTEAD OF E) FORMAT IN ORDER TO ALLOW ENERGIES TO BE WRITTEN	SPECTRA SPECTRA
WITH UP TO 9 DIGITS OF ACCURACY. IN PREVIOUS VERSIONS THIS WAS AN	
OUTPUT OPTION. HOWEVER USE OF THIS OPTION TO COMPARE THE RESULTS	SPECTRA
OF ENERGIES WRITTEN IN THE NORMAL ENDF/B CONVENTION OF 6 DIGITS	SPECTRA
TO THE 9 DIGIT OUTPUT FROM THIS PROGRAM DEMONSTRATED THAT FAILURE TO USE THE 9 DIGIT OUTPUT CAN LEAD TO LARGE ERRORS IN THE DATA	SPECTRA SPECTRA
DUE TO TRUNCATION OF ENERGIES TO 6 DIGITS DURING OUTPUT.	SPECTRA
	SPECTRA
CONTENTS OF OUTPUT	SPECTRA
	SPECTRA
ENTIRE EVALUATIONS ARE OUTPUT, NOT JUST THE LINEARIZED DATA CROSS SECTIONS, E.G. ANGULAR AND ENERGY DISTRIBUTIONS ARE ALSO	SPECTRA SPECTRA
INCLUDED.	SPECTRA
	SPECTRA
DOCUMENTATION	SPECTRA
THE FACT THAT THIS PROGRAM HAS OPERATED ON THE DATA IS DOCUMENTED	SPECTRA
BY THE ADDITION OF 3 COMMENT LINES AT THE END OF EACH HOLLERITH	SPECTRA
SECTION IN THE FORM	SPECTRA
	SPECTRA
**************************************	SPECTRA
FOR ALL DATA GREATER THAN 1.00000-10 IN ABSOLUTE VALUE DATA LINEARIZED TO WITHIN AN ACCURACY OF 0.1 PER-CENT	SPECTRA SPECTRA
	SPECTRA
THE ORDER OF SIMILAR COMMENTS (FROM RECENT, SIGMA1 AND GROUPIE)	SPECTRA
REPRESENTS A COMPLETE HISTORY OF ALL OPERATIONS PERFORMED ON	SPECTRA
THE DATA BY THESE PROGRAMS.	SPECTRA SPECTRA
THESE COMMENT LINES ARE ONLY ADDED TO EXISTING HOLLERITH SECTIONS,	
I.E., THIS PROGRAM WILL NOT CREATE A HOLLERITH SECTION. THE FORMAT	
OF THE HOLLERITH SECTION IN ENDF/B-V DIFFERS FROM THE THAT OF	SPECTRA
EARLIER VERSIONS OF ENDF/B. BY READING AN EXISTING MF=1, MT=451	SPECTRA
IT IS POSSIBLE FOR THIS PROGRAM TO DETERMINE WHICH VERSION OF THE ENDF/B FORMAT THE DATA IS IN. WITHOUT HAVING A SECTION OF	SPECTRA SPECTRA
MF=1, MT=451 PRESENT IT IS IMPOSSIBLE FOR THIS PROGRAM TO	SPECTRA
DETERMINE WHICH VERSION OF THE ENDF/B FORMAT THE DATA IS IN, AND	SPECTRA
AS SUCH IT IS IMPOSSIBLE FOR THE PROGRAM TO DETERMINE WHAT FORMAT	SPECTRA
SHOULD BE USED TO CREATE A HOLLERITH SECTION.	SPECTRA
REACTION INDEX	SPECTRA SPECTRA
	SPECTRA
THIS PROGRAM DOES NOT USE THE REACTION INDEX WHICH IS GIVEN IN	SPECTRA
SECTION MF=1, MT=451 OF EACH EVALUATION.	SPECTRA
THIS PROGRAM DOES NOT UPDATE THE REACTION INDEX IN MF=1, MT=451.	SPECTRA SPECTRA
THIS CONVENTION HAS BEEN ADOPTED BECAUSE MOST USERS DO NOT	SPECTRA
REQUIRE A CORRECT REACTION INDEX FOR THEIR APPLICATIONS AND IT WAS	
NOT CONSIDERED WORTHWHILE TO INCLUDE THE OVERHEAD OF CONSTRUCTING	
A CORRECT REACTION INDEX IN THIS PROGRAM. HOWEVER, IF YOU REQUIRE	
A REACTION INDEX FOR YOUR APPLICATIONS, AFTER RUNNING THIS PROGRAM YOU MAY USE PROGRAM DICTIN TO CREATE A CORRECT REACTION INDEX.	SPECTRA
	SPECTRA
SECTION SIZE	SPECTRA
	SPECTRA
SINCE THIS PROGRAM USES A LOGICAL PAGING SYSTEM THERE IS NO LIMIT TO THE NUMBER OF POINTS IN ANY SECTION, E.G., THE TOTAL CROSS	SPECTRA SPECTRA
SECTION MAY BE REPRESENTED BY 200,000 DATA POINTS.	SPECTRA
	SPECTRA
FOR ANY LINEARIZED SECTION THAT CONTAINS 60000 OR FEWER POINTS	SPECTRA
THE ENTIRE OPERATION WILL BE PERFORMED IN CORE AND THE LINEARIZED	
DATA WILL BE OUTPUT DIRECTLY TO THE ENDF/B FORMAT. FOR ANY SECTION THAT CONTAINS MORE POINTS THE DATA WILL BE LINEARIZED A PAGE AT A	
TIME (1 PAGE = 60000 POINTS) AND OUTPUT TO SCRATCH. AFTER THE	SPECTRA
ENTIRE SECTION HAS BEEN LINEARIZED THE DATA WILL BE READ BACK FROM	
SCRATCH AND OUTPUT TO THE ENDF/B FORMAT.	SPECTRA
	SPECTRA
SELECTION OF DATA	SPECTRA SPECTRA

THE PROGRAM SELECTS DATA TO BE LINEARIZED BASED EITHER ON EITHER SPECTRA MAT (ENDF/B MAT NO.) OR ZA AS WELL AS MF AND MT NUMBERS. THIS SPECTRA PROGRAM ALLOWS UP TO 100 MAT/MF/MT OR ZA/MF/MT RANGES TO BE SPECTRA SPECIFIED BY INPUT PARAMETERS. THE PROGRAM WILL ASSUME THAT THE SPECTRA ENDF/B TAPE IS IN MAT ORDER, REGARDLESS OF THE CRITERIA USED SPECTRA TO RETRIEVE MATERIALS. IF RETRIEVAL IS BY MAT RANGE THE PROGRAM SPECTRA WILL TERMINATE WHEN A MAT IS FOUND THAT IS ABOVE ALL REQUESTED SPECTRA MAT RANGES. IF RETRIEVAL IS BY ZA RANGE THE PROGRAM WILL SEARCH SPECTRA THE ENTIRE ENDF/B TAPE.

PROGRAM OPERATION

SPECTRA SPECTRA SPECTRA SPECTRA

SPECTRA

SPECTRA

SPECTRA SPECTRA

SPECTRA

SPECTRA

SPECTRA

SPECTRA SPECTRA

SPECTRA

EACH SECTION OF DATA IS CONSIDERED SEPARATELY. EACH SECTION OF SPECTRA ENDF/B DATA TO LINEARIZE IS REPRESENTED BY A TABLE OF ENERGY SPECTRA VS. CROSS SECTION AND ANY ONE OF FIVE ALLOWABLE INTERPOLATION LAWSSPECTRA BETWEEN ANY TWO TABULATED POINTS. THIS PROGRAM WILL REPLACE EACH SPECTRA SECTION OF DATA CROSS SECTIONS BY A NEW TABLE OF ENERGY VS. SPECTRA CROSS SECTION IN WHICH THE INTERPOLATION LAW IS ALWAYS LINEAR IN ENERGY AND CROSS SECTION BETWEEN ANY TWO TABULATED POINTS. SPECTRA

DATA IS READ AND LINEARIZED A PAGE AT A TIME (ONE PAGE CONTAINS SPECTRA 60000 DATA POINTS). IF THE FINAL LINEARIZED SECTION CONTAINS TWO SPECTRA PAGES OR LESS, DATA POINTS IT WILL BE ENTIRELY CORE RESIDENT SPECTRA AFTER IT HAS BEEN LINEARIZED AND WILL BE WRITTEN DIRECTLY FROM SPECTRA CORE TO THE OUTPUT TAPE. IF THE LINEARIZED SECTION IS LARGER THAN SPECTRA TWO PAGES, AFTER EACH PAGE IS LINEARIZED IT WILL BE WRITTEN TO SPECTRA SCRATCH. AFTER THE ENTIRE SECTION HAS BEEN LINEARIZED IT WILL SPECTRA BE READ BACK FROM SCRATCH, TWO PAGES AT A TIME, AND WRITTEN TO SPECTRA THE OUTPUT TAPE. SPECTRA

KEEP EVALUATED DATA POINTS

SOMETIMES IT IS CONVENIENT TO KEEP ALL ENERGY POINTS WHICH WERE SPECTRA PRESENT IN THE ORIGINAL EVALUATION AND TO MERELY SUPPLEMENT THESE SPECTRA POINTS WITH ADDITIONAL ENERGY POINTS IN ORDER TO LINEARIZE THE SPECTRA CROSS SECTIONS. FOR EXAMPLE, IT IS OFTEN CONVENIENT TO KEEP THE SPECTRA THERMAL VALUE (AT 0.0253 EV) OR THE VALUE AT 14.1 MEV. SPECTRA

THE CURRENT VERSION OF THIS PROGRAM WILL ALLOW THE USER TO KEEP SPECTRA ALL ORIGINAL EVALUATED DATA POINTS BY SPECIFYING 1 IN COLUMNS SPECTRA 34-44 OF THE FIRST INPUT LINE. THIS WILL TURN OFF THE BACKWARD SPECTRA THINNING (SEE UCRL-50400, VOL. 17, PART A FOR EXPLANATION) AND SPECTRA RESULT IN ALL ORIGINAL ENERGY POINTS BEING KEPT. CAUTION SHOULD SPECTRA BE EXERCISED IN USING THIS OPTION SINCE IT CAN RESULT IN A SPECTRA CONSIDERABLE INCREASE IN THE NUMBER OF DATA POINTS OUTPUT BY SPECTRA THIS CODE. SPECTRA

FOR ALL USERS WHO ARE NOT INTERESTED IN THIS OPTIONS NO CHANGES SPECTRA ARE REQUIRED IN THE INPUT TO THIS PROGRAM, I. E. IF COLUMNS SPECTRA 34-44 ARE BLANK (AS FOR ALL PREVIOUS VERSIONS OF THIS CODE) THE SPECTRA PROGRAM WILL OPERATE EXACTLY AS IT DID BEFORE. SPECTRA

ALLOWABLE ERROR

ALLOWABLE ERROR MUST ALWAYS BE SPECIFIED IN THE INPUT TO THIS SPECTRA PROGRAM AS A FRACTION, NOT A PER-CENT. FOR EXAMPLE, INPUT THE SPECTRA ALLOWABLE FRACTIONAL ERROR 0.001 IN ORDER TO OBTAIN DATA THAT IS SPECTRA ACCURATE TO WITHIN 0.1 PER-CENT. SPECTRA

THE CONVERSION OF THE DATA FROM THE GENERAL INTERPOLATION FORM TO SPECTRA LINARLY INTERPOLABLE FORM CANNOT BE PERFORMED EXACTLY. HOWEVER, ITSPECTRA CAN BE PERFORMED TO VIRTUALLY ANY REQUIRED ACCURACY AND MOST SPECTRA IMPORTANTLY CAN BE PERFORMED TO A TOLERANCE THAT IS SMALL COMPAREDSPECTRA TO THE UNCERTAINTY IN THE CROSS SECTIONS THEMSELVES. AS SUCH THE SPECTRA CONVERSION OF CROSS SECTIONS TO LINEARLY INTERPOLABLE FORM CAN BE SPECTRA PERFORMED WITH ESSENTIALLY NO LOSE OF INFORMATION. SPECTRA

THE ALLOWABLE ERROR MAY BE ENERGY INDEPENDENT (CONSTANT) OR ENERGYSPECTRA DEPENDENT. THE ALLOWABLE ERROR IS DESCRIBED BY A TABULATED SPECTRA FUNCTION OF UP TO 20 (ENERGY,ERROR) PAIRS AND LINEAR INTERPOLATIONSPECTRA BETWEEN TABULATED POINTS. IF ONLY ONE TABULATED POINT IS GIVEN THESPECTRA

ERROR WILL BE CONSIDERED CONSTANT OVER THE ENTIRE ENERGY RANGE. WITH THIS ENERGY DEPENDENT ERROR ONE MAY OPTIMIZE THE OUTPUT FOR ANY GIVEN APPLICATION BY USING A SMALL ERROR IN THE ENERGY RANGE OF INTEREST AND A LESS STRINGENT ERROR IN OTHER ENERGY RANGES.	SPECTRA SPECTRA SPECTRA SPECTRA SPECTRA
DEFAULT ALLOWABLE ERROR	SPECTRA SPECTRA
IN ORDER TO INSURE CONVERGENCE OF THE LINEARIZING ALGORITHM THE ALLOWABLE ERROR MUST BE POSITIVE. IF THE USER INPUTS AN ERROR THAT IS NOT POSITIVE IT WILL AUTOMATICALLY BE SET TO THE DEFAULT VALUE (CURRENTLY 0.001, CORRESPONDING TO 0.1 PER-CENT) AND INDICATED AS SUCH IN THE OUTPUT LISTING.	SPECTRA SPECTRA SPECTRA SPECTRA SPECTRA
COULOMB PENETRABILITY (INTERPOLATION LAW = 6)	SPECTRA SPECTRA SPECTRA
INTRODUCED FOR ENDF/B-VI. THIS IS DEFINED AS,	SPECTRA
SIG(E) = C1*EXP(-C2/SQRT(E - T))	SPECTRA SPECTRA SPECTRA
THIS PROGRAM ONLY CONSIDERS EXOTHERMIC REACTIONS - $T = 0$	SPECTRA SPECTRA SPECTRA
$SIG(E) = C1 \times EXP(-C2/SQRT(E))$	SPECTRA SPECTRA
WARNINGTHIS INTERPOLATION LAW SHOULD ONLY BE USED FOR REACTIONS WHICH HAVE A POSITIVE Q-VALUE (EXOTHERMIC REACTIONS), SINCE HERE WE ONLY CONSIDER T = 0.0 IN THE FORMALISM. IN ALL OTHER CASES A WARNING MESSAGE WILL BE PRINTED.	
INPUT FILES	SPECTRA
UNIT DESCRIPTION	SPECTRA SPECTRA SPECTRA
2 INPUT LINES (BCD - 80 CHARACTERS/RECORD) 10 ORIGINAL ENDF/B DATA (BCD - 80 CHARACTERS/RECORD)	SPECTRA SPECTRA
OUTPUT FILES	SPECTRA SPECTRA
UNIT DESCRIPTION	SPECTRA SPECTRA
3 OUTPUT REPORT (BCD - 120 CHARACTERS/RECORD) 11 FINAL ENDF/B DATA (BCD - 80 CHARACTERS/RECORD)	SPECTRA SPECTRA SPECTRA
SCRATCH FILES	SPECTRA SPECTRA
UNIT DESCRIPTION	SPECTRA SPECTRA
	SPECTRA
12 SCRATCH FILE (BINARY - 180000 WORDS/RECORD	SPECTRA SPECTRA
OPTIONAL STANDARD FILE NAMES (SEE SUBROUTINE FILEIO)	SPECTRA SPECTRA
UNIT FILE NAME	SPECTRA
	SPECTRA
2 SPECTRA.INP 3 SPECTRA.LST	SPECTRA SPECTRA
10 ENDFB.IN	SPECTRA
11 ENDFB.OUT	SPECTRA
12 (SCRATCH)	SPECTRA
	SPECTRA SPECTRA
INPUT PARAMETERS	SPECIRA
	SPECTRA
FOR VERSIONS EARLIER THAN 90-1 THIS PROGRAM ONLY ALLOWED THE USER TO SPECIFY BY INPUT PARAMETERS WHICH MATERIALS (MAT) TO PROCESS.	
FOR EACH REQUESTED MATERIAL NEUTRON INTERACTION CROSS SECTIONS	SPECTRA
(MF=3) WOULD BE LINEARIZED AND THE REMAINDER OF THE MATERIAL	SPECTRA
WOULD BE COPIED.	SPECTRA
FOR VERSIONS 90-1 AND LATER THIS PROGRAM WILL ALLOW THE USER TO	SPECTRA SPECTRA
TO SPECIFY BY INPUT PARAMETERS EXACTLY WHAT SECTIONS OF DATA	SPECIRA
TO PROCESS. FOR EACH SECTION OF DATA, SPECIFIED BY MAT, MF, MT	SPECTRA
RANGES, SECTIONS OF MF=3, 23 AND 27 WILL BE LINEARIZED AND ALL	SPECTRA

		TED SECTIONS WILL BE COPIED. ALL SECTIONS WHICH ARE	
		LY REQUESTED WILL BE SKIPPED AND WILL NOT APPEAR ON	SPECTRA
ENDF/	B FILE	OUTPUT BY THIS PROGRAM.	SPECTRA
			SPECTRA
		W PROCEDURE YOU CAN MINIMIZE THE SIZE OF THE ENDF/B	SPECTRA
		BY THIS PROGRAM, E.G., IF YOU ONLY WANT NEUTRON	SPECTRA
	MF=3 DA	NS FOR SUBSEQUENT PROCESSING YOU NEED ONLY REQUEST	SPECTRA SPECTRA
ONLI	ME=5 DA	IA.	SPECTRA
HOWEV	EB VOII	MUST UNDERSTAND THAT ONLY THOSE SECTIONS WHICH YOU	SPECIRA
		EQUEST WILL APPEAR ON THE ENDF/B FILE OUTPUT BY	SPECTRA
		. FOR EXAMPLE, IF YOU WISH TO DOCUMENT EXACTLY	SPECTRA
		ARIZED THE DATA BY INCLUDING COMMENTS IN MF=1, MT=451	
		T EXPLICITLY REQUEST THAT MF=1, MT=451 BE PROCESSED	SPECTRA
		ERIAL THAT YOU REQUEST. SIMILAR IF YOU WANT THE	SPECTRA
ENTIR	E EVALU	ATION YOU MUST REQUEST ALL MF AND MT TO BE OUTPUT.	SPECTRA
			SPECTRA
LINE	COLS.	DESCRIPTION	SPECTRA
			SPECTRA
1	1-11	SELECTION CRITERIA (0=MAT, 1=ZA)	SPECTRA
	12-22	MONITOR MODE SELECTOR	SPECTRA
		= 0 - NORMAL OPERATION	SPECTRA
		= 1 - MONITOR PROGRESS OF LINEARIZING OF THE DATA.	SPECTRA
		EACH TIME A PAGE OF DATA POINTS IS WRITTEN TO	
		THE SCRATCH FILE PRINT OUT THE TOTAL NUMBER OF	
		POINTS ON SCRATCH AND THE LOWER AND UPPER	SPECTRA
		ENERGY LIMITS OF THE PAGE (THIS OPTION MAY BE	
		USED IN ORDER TO MONITOR THE EXECUTION SPEED	SPECTRA
	22-22	OF LONG RUNNING JOBS). MINIMUM CROSS SECTION OF INTEREST (BARNS).	SPECTRA SPECTRA
	23-33	(IF 0.0 OR LESS IS INPUT THE PROGRAM WILL	SPECIRA
		USE 1.0E-10). ENERGY INTERVALS WILL NOT BE	SPECTRA
		SUB-DIVIDED IF THE ABSOLUTE VALUE OF THE CROSS	SPECTRA
		SECTION WITHIN THE INTERVAL IS LESS THAN THIS VALUE.	
		AN EXCEPTION TO THIS RULE IS NEAR THRESHOLDS ENERGY	
		INTERVALS WILL BE SUB-DIVIDED UNTIL CONVERGENCE	SPECTRA
		REGARDLESS OF THE MAGNITUDE OF THE CROSS SECTION.	SPECTRA
	34-44	KEEP ORIGINAL EVALUATED DATA POINTS.	SPECTRA
		= 0 - NO.	SPECTRA
		= 1 - YES - ADDITIONAL POINTS MAY BE ADDED IN ORDER	SPECTRA
		TO LINEARIZE DATA, BUT ALL ORIGINAL	SPECTRA
		DATA POINTS WILL BE INCLUDED IN THE	SPECTRA
2	1 70	RESULTS. ENDF/B INPUT DATA FILENAME	SPECTRA
2	1-72	(STANDARD OPTION = ENDFB.IN)	SPECTRA SPECTRA
3	1-72	ENDF/B OUTPUT DATA FILENAME	SPECTRA
•		(STANDARD OPTION = ENDFB.OUT)	SPECTRA
4-N	1- 6		SPECTRA
	7-8	LOWER MF LIMIT	SPECTRA
	9-11	LOWER MT LIMIT	SPECTRA
	12-17	UPPER MAT OR ZA LIMIT	SPECTRA
	18-19	UPPER MF LIMIT	SPECTRA
	20-22	UPPER MT LIMIT	SPECTRA
		•	SPECTRA
		PER LINE. THE LIST OF RANGES IS TERMINATED BY A	SPECTRA
			SPECTRA
		IS LESS THAN THE LOW LIMIT IT WILL BE SET EQUAL TO	
		THE LOWER LIMIT. IF THE UPPER LIMIT IS STILL ZERO IT WILL BE SET EQUAL TO 999999. IF THE UPPER MF OR	
		MT LIMIT IS ZERO IT WILL BE SET TO 99 OR 999	SPECTRA
		RESPECTIVELY.	SPECIRA
VARY	1-11	ENERGY FOR ERROR LAW	SPECTRA
		ALLOWABLE FRACTIONAL ERROR FOR ERROR LAW.	SPECTRA
		THE ACCEPTABLE LINEARIZING ERROR MAY BE SPECIFIED TO	
		BE EITHER ENERGY INDEPENDENT (DEFINED BY A SINGLE	SPECTRA
		ERROR), OR ENERGY DEPENDENT (DEFINED BY UP TO 20	
		ENERGY, ERROR PAIRS). FOR THE ENERGY DEPENDENT CASE	SPECTRA
		LINEAR INTERPOLATION WILL BE USED TO DEFINE THE ERROR	
		AT ENERGIES BETWEEN THOSE AT WHICH IT IS TABULATED.	
		IN ALL CASES THE ERROR LAW IS TERMINATED BY A BLANK	
		LINE. IF ONLY ONE ENERGY, ERROR PAIR IS GIVEN THE	SPECTRA

THE LAW WILL BE CONSIDERED TO BE ENERGY INDEPENDENT. SPECTRA IF MORE THAN ONE PAIR IS GIVEN IT WILL BE CONSIDERED SPECTRA TO BE ENERGY DEPENDENT (NOTE, ENERGY INDEPENDENT SPECTRA FORM WILL RUN FASTER THAN THE EQUIVALENT ENERGY SPECTRA DEPENDENT FORM). FOR AN ENERGY DEPENDENT ERROR LAW SPECTRA ALL ENERGIES MUST BE ASCENDING ENERGY ORDER. FOR SPECTRA CONVERGENCE OF THE LINEARIZING ALGORITHM ALL ERRORS SPECTRA MUST BE POSITIVE. IF AN ALLOWABLE ERROR IS NOT SPECTRA POSITIVE IT WILL BE SET EQUAL TO THE STANDARD OPTION SPECTRA (CURRENTLY 0.001, CORRESPONDING TO 0.1 PER-CENT). SPECTRA IF THE FIRST ERROR LINE IS BLANK IT WILL TERMINATE SPECTRA THE ERROR LAW AND THE ERROR WILL BE TREATED AS SPECTRA ENERGY INDEPENDENT, EQUAL TO THE STANDARD OPTION SPECTRA (CURRENTLY 0.1 PER-CENT). (SEE EXAMPLE INPUT 4). SPECTRA SPECTRA EXAMPLE INPUT NO. 1 SPECTRA SPECTRA RETRIEVE DATA BY ZA IN ORDER TO FIND ALL URANIUM ISOTOPES AND SPECTRA THORIUM 232. RETRIEVE ALL NEUTRON INTERACTION CROSS SECTIONS SPECTRA (MF=3). ALL ENERGY INTERVALS IN WHICH THE CROSS SECTION IS SPECTRA AT LEAST 1 MICRO-BARN (1.0E-06 BARNS) WILL BE SUBDIVIDED. SPECTRA BACKWARD THINNING WILL BE PERFORMED. FROM 0 TO 100 EV LINEARIZE SPECTRA TO WITHIN 0.1 PER-CENT ACCURACY. FROM 100 EV TO 1 KEV VARY SPECTRA ACCURACY BETWEEN 0.1 AND 1.0 PER-CENT. ABOVE 1 KEV USE 1 SPECTRA PER-CENT ACCURACY. SPECTRA SPECTRA EXPLICITLY SPECIFY THE STANDARD FILENAMES. SPECTRA SPECTRA IN THIS CASE THE FOLLOWING 11 INPUT LINES ARE REQUIRED SPECTRA SPECTRA 0 1.00000- 6 0 1 SPECTRA ENDFB.IN SPECTRA ENDFB.OUT SPECTRA 92000 3 0 92999 3999 SPECTRA (UPPER LIMIT AUTOMATICALLY SET TO 90232 3999) SPECTRA 90232 3 0 0 3 0 (END OF REQUEST LIST) SPECTRA 0.00000+ 0 1.00000-03 SPECTRA 1.00000+ 2 1.00000-03 SPECTRA 1.00000 + 3 1.00000 - 02SPECTRA 1.00000+ 9 1.00000-02 SPECTRA (END OF ERROR LAW) SPECTRA SPECTRA EXAMPLE INPUT NO. 2 SPECTRA SPECTRA SAME AS THE ABOVE CASE, EXCEPT LINEARIZE ALL DATA TO WITHIN THE SPECTRA STANDARD ACCURACY (CURRENTLY 0.1 PER-CENT). IN ORDER TO USE THE SPECTRA STANDARD ACCURACY YOU NEED NOT SPECIFY ANY ERROR LAW AT ALL. IN SPECTRA THIS CASE INCLUDE THE HOLLERITH SECTION, MF=1, MT=451, FOR EACH SPECTRA MATERIAL. SPECTRA SPECTRA LEAVE THE DEFINITION OF THE FILENAMES BLANK - THE PROGRAM WILL SPECTRA THEN USE STANDARD FILENAMES. SPECTRA SPECTRA IN THIS CASE THE FOLLOWING 9 INPUT LINES ARE REQUIRED SPECTRA SPECTRA 1 0 1.00000- 6 0 SPECTRA (USE DEFAULT FILENAME = ENDFB.IN) SPECTRA (USE DEFAULT FILENAME = ENDFB.OUT) SPECTRA 92000 1451 92999 1451 SPECTRA 92000 3 0 92999 3999 SPECTRA 90232 1451 0 1451 SPECTRA 90232 3 0 030 (UPPER LIMIT AUTOMATICALLY SET TO 90232 3999) SPECTRA (END OF REQUEST LIST) SPECTRA (0.1 PER-CENT ERROR, END OF ERROR LAW) SPECTRA SPECTRA EXAMPLE INPUT NO. 3 SPECTRA SPECTRA LINEARIZE ALL MATERIALS ON AN ENDF/B TAPE TO WITHIN AN ACCURACY SPECTRA OF 0.5 PER-CENT (0.005 AS A FRACTION). IN THIS CASE YOU NEED NOT SPECTRA SPECIFY THE MAT, MF, MT RANGES. SPECTRA SPECTRA

READ THE ENDF/B DATA FROM \ENDFB6\ZA092238 AND WRITE THE ENDF/B DATA TO \ENDFB6\LINEAR\ZA092238.	SPECTRA SPECTRA
	SPECTRA
IN THIS CASE THE FOLLOWING 6 INPUT LINES ARE REQUIRED	SPECTRA
	SPECTRA
(MAT, 1.0E-10 BARNS, THI	N) SPECTRA
\ENDFB6\ZA092238	SPECTRA
\ENDFB6\LINEAR\ZA092238	SPECTRA
(RETRIEVE ALL DATA, END REQUEST LIST)	SPECTRA
5.00000-03	SPECTRA
(END OF ERROR LAW)	SPECTRA
	SPECTRA
NOTE THAT IN THIS CASE IF THE INPUT HAD SPECIFIED AN EQUIVALENT	SPECTRA
ENERGY DEPENDENT ERROR LAW BY GIVING A NUMBER OF ENERGY POINTS	SPECTRA
AT EACH OF WHICH THE ERROR IS 0.5 PER-CENT THE PROGRAM WOULD TAK	E SPECTRA
LONGER TO RUN (I.E., ONLY USE AN ENERGY DEPENDENT ERROR LAW WHEN	SPECTRA
IT IS NECESSARY).	SPECTRA
	SPECTRA
EXAMPLE INPUT NO. 4	SPECTRA
	SPECTRA
IN ORDER TO LINEARIZE ALL MATERIALS ON AN ENDF/B TAPE TO THE	SPECTRA
STANDARD OPTION OF 0.1 PER-CENT IT IS ADEQUATE TO INPUT A SET	SPECTRA
OF COMPLETELY BLANK LINES WHICH WILL AUTOMATICALLY INVOKE ALL	SPECTRA
OF THE STANDARD OPTIONS.	SPECTRA
	SPECTRA
LEAVE THE DEFINITION OF THE FILENAMES BLANK - THE PROGRAM WILL	SPECTRA
THEN USE STANDARD FILENAMES.	SPECTRA
	SPECTRA
IN THIS CASE THE FOLLOWING THREE INPUT LINES ARE REQUIRED	SPECTRA
	SPECTRA
(MAT, 1.0E-10 BARNS, THI	N) SPECTRA
(USE DEFAULT FILENAME = ENDFB.IN)	SPECTRA
(USE DEFAULT FILENAME = ENDFB.OUT)	SPECTRA
(RETRIEVE ALL DATA, END REQUEST LIST)	SPECTRA
(0.1 PER-CENT ERROR, END OF ERROR LAW)	SPECTRA
	SPECTRA
	==SPECTRA

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