

	PARAMETERS AND EXAMPLE PROBLEMS.	EVALPLOT
	*CORRECTED FOR ENDF/B-VI DEFINITION OF TEMPERATURE FROM MF=1/MT=451.	EVALPLOT
	*CORRECTED LOGIC SO THAT EACH REQUEST IS TREATED SEPARATELY TO CREATE A PLOT, UNLESS REQUESTS ARE CHAINED TOGETHER.	EVALPLOT
	*ADDED VARIABLE CHARACTER SIZE INPUT.	EVALPLOT
VERSION 93-1 (MARCH 1993)	*INCREASED PAGE SIZE FROM 12000 TO 210000	EVALPLOT
	*INCREASED THE NUMBER OF ENERGIES VS. LEGENDRE COEFFICIENTS FROM 167 TO 7000	EVALPLOT
	*UPDATED FOR ON SCREEN GRAPHICS USING THE LAHEY FORTRAN COMPILER.	EVALPLOT
VERSION 94-1 (JANUARY 1994)	*VARIABLE ENDF/B DATA FILENAMES TO ALLOW ACCESS TO FILE STRUCTURES (WARNING - INPUT PARAMETER FORMAT HAS BEEN CHANGED)	EVALPLOT
	*CLOSE ALL FILES BEFORE TERMINATING (SEE, SUBROUTINE ENDIT)	EVALPLOT
VERSION 96-1 (JANUARY 1996)	*COMPLETE RE-WRITE	EVALPLOT
	*IMPROVED COMPUTER INDEPENDENCE	EVALPLOT
	*ALL DOUBLE PRECISION	EVALPLOT
	*UNIFORM TREATMENT OF ENDF/B I/O	EVALPLOT
	*IMPROVED OUTPUT PRECISION	EVALPLOT
	*DEFINED SCRATCH FILE NAMES	EVALPLOT
	*ALL DOUBLE PRECISION	EVALPLOT
VERSION 97-1 (APRIL 1997)	*INCREASED PAGE SIZE FROM 210000 TO 480,000	EVALPLOT
VERSION 99-1 (MARCH 1999)	*CORRECTED CHARACTER TO FLOATING POINT READ FOR MORE DIGITS	EVALPLOT
	*UPDATED TEST FOR ENDF/B FORMAT VERSION BASED ON RECENT FORMAT CHANGE	EVALPLOT
	*GENERAL IMPROVEMENTS BASED ON USER FEEDBACK	EVALPLOT
VERS. 2000-1 (FEBRUARY 2000)	*ADDED MF=10, ACTIVATION CROSS SECTION PLOTS.	EVALPLOT
	*INCREASED DIMENSIONS TO HANDLE MORE SECTIONS - UP TO 1,000	EVALPLOT
	*GENERAL IMPROVEMENTS BASED ON USER FEEDBACK	EVALPLOT
VERS. 2002-1 (Nov. 2002)	*OPTIONAL INPUT PARAMETERS	EVALPLOT
	*OPTIONAL BLACK OR WHITE BACKGROUND	EVALPLOT
	*COLOR POSTSCRIPT FILES	EVALPLOT
VERS. 2004-1 (MARCH 2004)	*ADDED INCLUDE FOR COMMON	EVALPLOT
	*INCREASED PAGE SIZE TO 600,000	EVALPLOT
	*INCREASED THE NUMBER OF ENERGIES VS. LEGENDRE COEFFICIENTS FROM 7000 TO 20000	EVALPLOT
VERS. 2007-1 (JAN. 2007)	*CHECKED AGAINST ALL ENDF/B-VII.	EVALPLOT
	*INCREASED PAGE SIZE TO 2,400,000 FROM 600,000.	EVALPLOT
	VS. LEGENDRE COEFFICIENTS TO 80,000 FROM 20,000 (MUST BE 1/30 PAGE SIZE).	EVALPLOT
	*ADDED (N,REMAINDER) TO FIRST PLOT.	EVALPLOT
VERS. 2007-2 (DEC. 2007)	*72 CHARACTER FILE NAMES.	EVALPLOT
VERS. 2008-1 (JULY 2008)	*UPDATED FOR MF=4/LTT = 3 = LEGENDRE PLUS TABULATED	EVALPLOT
VERS. 2010-1 (Aug. 2010)	*Extended to plots up to 100 Legendre Coefficients versus incident energy.	EVALPLOT
VERS. 2011-1 (July 2011)	*Increased MT.DAT from 200 to 1,000 entries, to accommodate new MTs.	EVALPLOT
	*Updated MF=10 plots to identify ZAP and state for Neutron Activation.	EVALPLOT
	*Updated for energy release parameters MF=3, MT=301 to 450.	EVALPLOT
VERS. 2012-1 (Aug. 2012)	*Updated incident particle list to include photon (ZA = 0).	EVALPLOT
	*Added CODENAME	EVALPLOT

THE PROGRAM SHOULD BE SIMPLE TO INTERFACE TO VIRTUALLY ANY PLOTTER OR GRAPHICS TERMINAL AND THE APPEARANCE AND LAYOUT OF THE PLOTS SHOULD BE INDEPENDENT OF WHICH PLOTTER IS USED.

PROGRAM IDENTIFICATION

AS DISTRIBUTED THE FIRST FRAME OF PLOTTED OUTPUT WILL DOCUMENT THE PROGRAM NAME, VERSION AND INSTALLATION. THIS INFORMATION IS STORED AS DATA IN THE ARRAY VERSES NEAR THE BEGINNING OF SUBROUTINE FRAME0. IF YOU WISH TO CUSTOMIZE THE OUTPUT TO IDENTIFY YOUR INSTALLATION CHANGE THE LAST TWO LINES OF THE ARRAY VERSES.

SIZE OF PLOTS

THE PROGRAM HAS A BUILT-IN DEFAULT SIZE TO MAKE EACH PLOT 13.50 BY 10.24 INCHES. THIS SIZE WAS SELECTED ASSUMING THAT THE RESOLUTION OF THE PLOTTER IS 1024 RASTER POINTS PER INCH. THE USER MAY CHANGE THE SIZE OF THE PLOT BY SPECIFYING ANY REQUIRED SIZE ON THE FIRST INPUT LINE. IN PARTICULAR FOR USE ON ANY PLOTTER THAT USES CENTIMETERS INSTEAD OF INCHES THE USER MAY MERELY SPECIFY THE REQUIRED SIZE OF THE PLOT IN CENTIMETERS (E.G., TO OBTAIN A 13.50 BY 10.24 INCH PLOT, THE USER NEED ONLY SPECIFY 34.3 BY 26 ON THE FIRST INPUT LINE...ASSUMING 2.54 CENTIMETERS PER INCH, OR 343 BY 260 FOR MILLIMETERS...ASSUMING 25.4 MILLIMETERS PER INCH).

CHARACTER SIZE

THE PLOT HAS A BUILT-IN CHARACTER SIZE WHICH HAS BEEN DEFINED FOR COMPATIBILITY WITH THE BUILT-IN PLOT SIZE. IF THE USER SPECIFIES BY INPUT A DIFFERENT PLOT SIZE, THE PROGRAM WILL AUTOMATICALLY SCALE THE SIZE OF ALL CHARACTERS BY THE RATIO OF THE Y SIZE OF PLOT SPECIFIED BY THE USER TO THE BUILT-IN Y SIZE OF PLOTS (E.G., FOR PLOTS WHICH ARE ONLY 5.12 HIGH (Y DIRECTION) ALL CHARACTERS WILL BE SCALED TO BE ONLY 1/2 THE CHARACTER SIZE ON PLOTS WHICH ARE 10.24 HIGH (10.24 = THE BUILT-IN SIZE). NOTE, CHANGES IN THE X SIZE OF THE PLOT WILL NOT HAVE ANY EFFECT ON THE CHARACTER SIZE (E.G., FOR A LONG PLOT, 30 BY 10.24 THE CHARACTER SIZE WILL BE THE SAME AS ON A 13.50 BY 10.24 PLOT).

PLOT PER FRAME

BY INPUT THE USER CAN SPECIFY NOT ONLY THE ACTUAL SIZE OF THE LOCAL PLOTTER, BUT ALSO HOW MANY PLOTS SHOULD APPEAR ON EACH FRAME. THIS IS DONE BY SPECIFYING THE LAYOUT OF A FRAME IN TERMS OF THE NUMBER OF PLOTS IN THE X AND Y DIRECTION. FOR EXAMPLE BY SPECIFYING THAT EACH FRAME BE DIVIDED INTO 3 PLOTS IN THE X DIRECTION AND 2 PLOTS IN THE Y DIRECTION, EACH FRAME WILL CONTAIN UP TO 6 PLOTS (3 X 2). INTERNALLY EACH PLOT WILL BE GENERATED TO STANDARD A4 SIZE, AS DESCRIBED ABOVE, AND THEN ON OUTPUT SCALED TO THE NUMBER OF PLOTS PER FRAME SPECIFIED BY THE USER INPUT.

ENDF/B FORMAT

THIS PROGRAM ONLY USES THE ENDF/B BCD OR CARD IMAGE FORMAT (AS OPPOSED TO THE BINARY FORMAT) AND CAN HANDLE DATA IN ANY VERSION OF THE ENDF/B FORMAT (I.E., ENDF/B-I, II, III, IV, V OR VI FORMAT).

IT IS ASSUMED THAT THE DATA IS CORRECTLY CODED IN THE ENDF/B FORMAT AND NO ERROR CHECKING IS PERFORMED. IN PARTICULAR IT IS ASSUMED THAT THE MAT, MF AND MT ON EACH LINE IS CORRECT. SEQUENCE NUMBERS (COLUMNS 76-80) ARE IGNORED. FORMAT OF SECTION MT=452,455,456/ MF=1, AND ALL SECTIONS OF MF=3, 4 AND 5 MUST BE CORRECT. ALL OTHER SECTION OF DATA ARE SKIPPED AND AS SUCH THE OPERATION OF THIS PROGRAM IS INSENSITIVE TO THE CORRECTNESS OR INCORRECTNESS OF ALL OTHER SECTIONS.

INTERPOLATION LAW

EACH TABLE OF DATA MAY USE EITHER COMPLETELY HISTOGRAM OR COMPLETELY LINEAR INTERPOLATION LAW (THE TWO INTERPOLATION LAWS

DEFINITION OF 20 DATA TYPES	EVALPLOT
-----	EVALPLOT
NEUTRONS (MF = 3)	EVALPLOT
-----	EVALPLOT
(1) TOTAL, ELASTIC, CAPTURE, FISSION, TOTAL INELASTIC, REMAINDER	EVALPLOT
(2) (N,2N), (N,3N) AND (N,N' CHARGED PARTICLE)	EVALPLOT
(3) (N,CHARGED PARTICLE)	EVALPLOT
(4) PARTICLE PRODUCTION (PROTON, DEUTERON, ETC.) AND DAMAGE	EVALPLOT
(5) TOTAL, FIRST, SECOND, ETC. CHANCE FISSION.	EVALPLOT
(6) TOTAL INELASTIC, INELASTIC DISCRETE LEVELS AND CONTINUUM	EVALPLOT
(7) (N,P) TOTAL AND LEVELS (ONLY IF LEVELS ARE GIVEN)	EVALPLOT
(8) (N,D) TOTAL AND LEVELS (ONLY IF LEVELS ARE GIVEN)	EVALPLOT
(9) (N,T) TOTAL AND LEVELS (ONLY IF LEVELS ARE GIVEN)	EVALPLOT
(10) (N,HE-3) TOTAL AND LEVELS (ONLY IF LEVELS ARE GIVEN)	EVALPLOT
(11) (N,ALPHA) TOTAL AND LEVELS (ONLY IF LEVELS ARE GIVEN)	EVALPLOT
(12) PARAMETERS MU-BAR, XI AND GAMMA	EVALPLOT
(13) NU-BAR - TOTAL, PROMPT AND DELAYED	EVALPLOT
(19) ENERGY RELEASE PARAMETERS, MF=3, MT=301-450	EVALPLOT
ACTIVATION (MF=10)	EVALPLOT
-----	EVALPLOT
(20) ALL mt=1 TO 999.	EVALPLOT
PHOTONS (MF=23 AND 27)	EVALPLOT
-----	EVALPLOT
(14) TOTAL, COHERENT, INCOHERENT, TOTAL PHOTOELECTRIC, TOTAL PAIR PRODUCTION	EVALPLOT
(15) TOTAL AND SUBSHELL PHOTOELECTRIC	EVALPLOT
(16) TOTAL, NUCLEAR AND ELECTRON PAIR PRODUCTION	EVALPLOT
(17) COHERENT FORM FACTOR AND INCOHERENT SCATTERING FUNCTION	EVALPLOT
(18) REAL AND IMAGINARY SCATTERING FACTORS	EVALPLOT
IDENTIFICATION OF DATA	EVALPLOT
-----	EVALPLOT
ALL PLOTS IDENTIFY THE TARGET, E.G., U-238 AND UNITS OF THE X AND Y AXIS, E.G., X = ENERGY (MEV) OR COSINE (LAB), ETC., Y = CROSS SECTION (BARNS) OR PROBABILITY/COSINE, ETC.	EVALPLOT
FOR TYPES OF DATA (MF=1, 3, 23 AND 27) DIFFERENT REACTIONS (MT) ARE GROUPED TOGETHER TO APPEAR ON THE SAME PLOT. THE TITLE AT THE TOP OF THE PLOT WILL IDENTIFY THE TYPE OF DATA BEING PLOTTED AND THE LEGEND BOX WITHIN THE PLOT WILL IDENTIFY EACH REACTION.	EVALPLOT
FOR ANGULAR AND ENERGY DISTRIBUTIONS (MF=4 OR 5) EACH PLOT WILL CONTAIN DATA FOR A SINGLE REACTION (MT) AND DIFFERENT INCIDENT NEUTRON ENERGIES. THE TITLE AT THE TOP OF THE PLOT WILL IDENTIFY THE REACTION AND THE LEGEND BOX WITHIN THE PLOT WILL IDENTIFY THE INCIDENT ENERGY.	EVALPLOT
FOR LEGENDRE COEFFICIENT THE DATA IN ENDF/B FORMAT WILL BE INVERTED IN ORDER TO PRESENT EACH LEGENDRE COEFFICIENT VERSUS INCIDENT ENERGY. THE TITLE AT THE TOP OF THE PLOT WILL IDENTIFY THE REACTION AND THE LEGEND BOX WITHIN THE PLOT WILL IDENTIFY THE LEGENDRE ORDER.	EVALPLOT
INPUT FILES	EVALPLOT
-----	EVALPLOT
UNIT DESCRIPTION	EVALPLOT
-----	EVALPLOT
2 INPUT LINES (BCD - 80 CHARACTERS/RECORD)	EVALPLOT
9 MT DEFINITIONS (BCD - 80 CHARACTERS/RECORD)	EVALPLOT
10 ENDF/B DATA (BCD - 80 CHARACTERS/RECORD)	EVALPLOT
12 SOFTWARE CHARACTERS (BCD - 80 CHARACTERS/RECORD)	EVALPLOT
OUTPUT FILES	EVALPLOT
-----	EVALPLOT
UNIT DESCRIPTION	EVALPLOT
-----	EVALPLOT
3 OUTPUT REPORT (BCD - 120 CHARACTERS/RECORD)	EVALPLOT
16 PLOTTING UNIT	EVALPLOT

SCRATCH FILES				EVALPLOT	
-----				EVALPLOT	
UNIT	DESCRIPTION			EVALPLOT	
-----				EVALPLOT	
11	SCRATCH FILE (BINARY - 960000 WORDS/RECORD = 2*PAGE SIZE)			EVALPLOT	
OPTIONAL STANDARD FILE NAMES (SEE SUBROUTINE FILIO1 AND FILIO2)				EVALPLOT	
-----				EVALPLOT	
UNIT	FILE NAME			EVALPLOT	
-----				EVALPLOT	
2	EVALPLOT.INP			EVALPLOT	
3	EVALPLOT.LST			EVALPLOT	
9	MT.DAT			EVALPLOT	
10	ENDFB.IN	(OR AS INPUT PARAMETER)		EVALPLOT	
11	(SCRATCH)			EVALPLOT	
12	PLOT.CHR			EVALPLOT	
16	(PLOTING UNIT...USUALLY A DUMMY)			EVALPLOT	
INPUT PARAMETERS				EVALPLOT	
-----				EVALPLOT	
LINE	COLUMNS	FORMAT	DESCRIPTION	EVALPLOT	
-----				EVALPLOT	
1	1-11	E11.4	LOWER X LIMIT OF PLOTTER	EVALPLOT	
	12-22	E11.4	UPPER X LIMIT OF PLOTTER	EVALPLOT	
	23-33	E11.4	LOWER Y LIMIT OF PLOTTER	EVALPLOT	
	34-44	E11.4	UPPER Y LIMIT OF PLOTTER	EVALPLOT	
	45-55	I11	NUMBER OF PLOTS PER FRAME IN X DIRECTION	EVALPLOT	
	56-66	I11	NUMBER OF PLOTS PER FRAME IN Y DIRECTION	EVALPLOT	
	67-70	F4.1	CHARACTER SIZE MULTIPLIER	EVALPLOT	
				= 0 OR 1 - NORMAL CHARACTER SIZE	EVALPLOT
				= OTHERWISE - CHARACTERS SCALED BY THIS	EVALPLOT
				FACTOR.	EVALPLOT
	2	1-72	A72	ENDF/B DATA FILENAME (LEAVE BLANK FOR STANDARD = ENDFB.IN)	EVALPLOT
	3	1-11	I11	RETRIEVAL CRITERIA	EVALPLOT
				= 0 - MAT	EVALPLOT
			= 1 - ZA	EVALPLOT	
	12-22	I11	TYPE OF GRID	EVALPLOT	
			= 0 - TICK MARKS ON BORDER	EVALPLOT	
			= 1 - SOLID AT COARSE INTERVALS	EVALPLOT	
			= 2 - DASHED AT COARSE INTERVALS	EVALPLOT	
			= 3 - SOLID AT FINE INTERVALS	EVALPLOT	
			= 4 - DASHED AT FINE INTERVALS	EVALPLOT	
			= 5 - SOLID COARSE/DASHED FINE GRID	EVALPLOT	
	23-33	I11	SHOULD BORDER BE PLOTTED ON EACH PLOT	EVALPLOT	
			= 0 - NO	EVALPLOT	
			= 1 - YES	EVALPLOT	
	34-44	I11	LINE THICKNESS	EVALPLOT	
			= 0 - 5 = BORDER/CURVES/CHARACTERS	EVALPLOT	
			= -1 - -5 = BORDER/CURVES (NOT CHARACTERS)	EVALPLOT	
			NOTE, THE GRID IS NEVER THICK.	EVALPLOT	
	45-55	I11	SHOULD TEMPERATURE BE PLOTTED.	EVALPLOT	
			= 0 - YES	EVALPLOT	
			= 1 - NO	EVALPLOT	
	56-66	E11.4	ALLOWABLE RATIO OF PLOT Y RANGE MAXIMUM TO	EVALPLOT	
			MINIMUM - IF THIS RATIO IS EXCEEDED THE Y	EVALPLOT	
			RANGE MINIMUM WILL BE CHANGED TO THE Y RANGE	EVALPLOT	
			MAXIMUM TIMES THIS RATIO.	EVALPLOT	
			IF THIS RATIO IS NOT POSITIVE, IT IS	EVALPLOT	
			INTERPRETED TO MEAN NO LIMIT ON Y RANGE.	EVALPLOT	
	67-70	I4	BACKGROUND COLOR	EVALPLOT	
			= 0 = BLACK	EVALPLOT	
			= OTHERWISE = WHITE	EVALPLOT	
4-N	1- 6	I6	LOWER MAT OR ZA LIMIT	EVALPLOT	
	7- 8	I2	LOWER MF LIMIT	EVALPLOT	
	9-11	I3	LOWER MT LIMIT	EVALPLOT	
	11-22	E11.4	LOWER X LIMIT (USUALLY ENERGY) - EV	EVALPLOT	
	23-28	I6	UPPER MAT OR ZA LIMIT	EVALPLOT	
	29-30	I2	UPPER MF LIMIT	EVALPLOT	
	31-33	I3	UPPER MT LIMIT	EVALPLOT	

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34-44  E11.4  UPPER X LIMIT (USUALLY ENERGY) - EV          EVALPLOT
45-55  I11    TYPE OF DATA TO RETRIEVE AND PLOT          EVALPLOT
          = -1 - CHAIN THIS REQUEST TO THE NEXT ONE      EVALPLOT
          = 0 - ALL                                       EVALPLOT
          = 1-21 - TYPE AS SPECIFIED ABOVE              EVALPLOT
          2020/1/9 - Changed 20 to 21                   EVALPLOT

```

THERE MAY BE UP 100 MAT/MF/MT OR ZA/MF/MT REQUEST RANGES. INPUT MUST BE TERMINATED BY A BLANK LINE.

IF X LIMITS ARE NOT SPECIFIED (I.E., LOWER AND UPPER X LIMIT = 0) THIS WILL BE INTERPRETED TO MEAN NO LIMIT AND ALL DATA WILL BE PLOTTED OVER THEIR ENTIRE ENERGY RANGE, I.E., YOU NEED NOT KNOW AND SPECIFY THE ACTUAL ENERGY LIMITS OF THE DATA.

EXAMPLE DEFINITION OF PLOTTER

2015 - WARNING - THE FOLLOWING DESCRIPTION IS OUT-OF-DATE.
TODAY THE DIMENSIONS OF THE PLOTTER ARE IN INCHES.

THE FIRST INPUT LINE DEFINES THE DIMENSIONS OF THE PLOTTER BEING USED IN ANY UNITS (INCHES, CENTIMETERS, MILLIMETERS, ANYTHING) WHICH APPLY TO THE PLOTTER. IN ADDITION THE FIRST LINE DEFINES HOW MANY PLOTS SHOULD APPEAR ON EACH FRAME. THE PLOTTING AREA DEFINED ON THE FIRST INPUT LINE MAY BE SUBDIVIDED INTO ANY NUMBER OF PLOTS IN THE X AND Y DIRECTION. FOR EXAMPLE, TO PRODUCE A SERIES OF FRAMES EACH CONTAINING 3 PLOTS IN THE X DIRECTION AND 2 PLOTS IN THE Y DIRECTION (6 PLOTS PER FRAME) COLUMN 45-55 OF THE FIRST INPUT LINE SHOULD BE 3 AND COLUMNS 56-66 SHOULD BE 2.

IF THE LOCAL PLOTTER USES DIMENSIONS OF INCHES IN ORDER TO OBTAIN 10 X 10 INCH FRAMES WITH 3 X 2 PLOTS PER FRAME THE FIRST INPUT LINE SHOULD BE,

```

0.0      10.0      0.0      10.0      3      2

```

IF THE LOCAL PLOTTER USES DIMENSION OF MILLIMETERS THE SAME PHYSICAL SIZE PLOT MAY BE OBTAINED IF THE FIRST INPUT LINE IS,

```

0.0      254.0      0.0      254.0      3      2

```

FOR SIMPLICITY THE FOLLOWING EXAMPLE INPUTS WILL NOT DISCUSS THE PHYSICAL DIMENSIONS OF THE PLOTTER AND THE FIRST INPUT LINE WILL IN ALL CASES INDICATE 10 X 10 INCH PLOTS WITH ONLY 1 PLOT PER FRAME.

ALL OF THE FOLLOWING EXAMPLE WILL USE,

- 1) A DASHED GRID (SECOND LINE, COLS. 12-22 = 2)
- 2) NO BORDER (SECOND LINE, COLS. 23-33 = 0)
- 3) LINE THICKNESS -2 (SECOND LINE, COLS. 34-44 = -2)
- 4) TEMPERATURE ON PLOTS (SECOND LINE, COLS. 45-55 = 0)
- 5) NO Y RANGE LIMIT (SECOND LINE, COLS. 56-66 = 0.0)

EXAMPLE INPUT NO. 1

FOR ALL THORIUM AND URANIUM ISOTOPES PLOT NEUTRON CROSS SECTIONS ENTIRE ENERGY RANGE. IN ADDITION PLOT TYPE 1 DATA, MAJOR NEUTRON CROSS SECTIONS OVER THE ENERGY RANGE 1 EV TO 1 KEV. USE THE STANDARD FILENAME (ENDFB.IN) FOR THE ENDF/B DATA. THE FOLLOWING 6 INPUT LINES ARE REQUIRED,

```

0.0      10.0      0.0      10.0      3      2
ENDFB.IN
1          2          0          -2          0 0.0
90000 3 0          90999 3999          0
90000 3 0 1.00000+ 090999 3999 1.00000+ 3          1
(BLANK LINE MUSE FOLLOW LAST REQUEST)

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EXAMPLE INPUT NO. 2

PLOT FE-56 ELASTIC AND INELASTIC ANGULAR DISTRIBUTIONS BETWEEN


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                                EVALPLOT
IN ORDER TO INTERFACE THIS PROGRAM FOR USE ON ANY PLOTTER WHICH EVALPLOT
DOES NOT USE THE ABOVE CONVENTIONS IT IS MERELY NECESSARY FOR THE EVALPLOT
THE USER TO WRITE 6 SUBROUTINES WITH THE NAMES PLOTS, PLOT AND PENEVALPLOT
WITH THE SUBROUTINE ARGUMENTS DESCRIBED ABOVE AND TO THEN CALL THEEVALPLOT
LOCAL EQUIVALENT ROUTINES.
                                EVALPLOT
                                EVALPLOT
                                EVALPLOT
COLOR PLOTS
-----EVALPLOT
TO SELECT PLOTTING COLORS SUBROUTINE PEN (DESCRIBED ABOVE) IS USEEVALPLOT
TO SELECT ONE OF THE AVAILABLE COLORS. IF YOU HAVE COLOR ON YOUR EVALPLOT
PLOTTER YOU SHOULD PROVIDE A SUBROUTINE PEN TO SELECT COLORS.
                                EVALPLOT
                                EVALPLOT
BLACK AND WHITE PLOTS
-----EVALPLOT
WHEN PRODUCING BLACK AND WHITE PLOTS SUBROUTINE PEN NEED MERELY EVALPLOT
BE A DUMMY SUBROUTINE TO IGNORE ANY ATTEMPT TO CHANGE COLORS,
                                EVALPLOT
                                EVALPLOT
SUBROUTINE PEN(IPEN)
RETURN
END
                                EVALPLOT
                                EVALPLOT
SIMILAR BOXCOLOR CAN BE A DUMMY
                                EVALPLOT
                                EVALPLOT
SUBROUTINE BOXCOLOR(X,Y,IFILL,IBORDER)
RETURN
END
                                EVALPLOT
                                EVALPLOT
CHARACTER SET
-----EVALPLOT
THIS PROGRAM USES COMPUTER AND PLOTTER DEVICE INDEPENDENT SOFTWAREEVALPLOT
CHARACTERS. THIS PROGRAM COMES WITH A FILE THAT DEFINES THE PEN EVALPLOT
STROKES REQUIRED TO DRAW ALL CHARACTERS ON AN IBM KEYBOARD (UPPER EVALPLOT
AND LOWER CASE CHARACTERS, NUMBERS, ETC.) PLUS AN ALTERNATE SET OFEVALPLOT
ALL UPPER AND LOWER CASE GREEK CHARACTERS AND ADDITIONAL SPECIAL EVALPLOT
SYMBOLS.
                                EVALPLOT
                                EVALPLOT
THE SOFTWARE CHARACTER TABLE CONTAINS X AND Y AND PEN POSITIONS TOEVALPLOT
DRAW EACH CHARACTER. IF YOU WISH TO DRAW ANY ADDITIONAL CHARACTERSEVALPLOT
OR TO MODIFY THE FONT OF THE EXISTING CHARACTERS YOU NEED ONLY
MODIFY THIS TABLE.
                                EVALPLOT
                                EVALPLOT
ADDITIONAL FONTS
-----EVALPLOT
THIS PROGRAM COMES WITH 3 COMPLETE SETS OF THE SAME CHARACTERS
USING DIFFERENT FONTS. FOR SPEED IN PLOTTING IT IS RECOMMENDED
THAT YOU USE THE SIMPLEX FONT. FOR FINISHED PLOTS SUITABLE FOR
PUBLICATION, BUT REQUIRING MORE TIME TO GENERATE A PLOT, IT IS
RECOMMENDED THAT YOU USE THE DUPLEX OR COMPLEX FONT - YOU CAN
EXPERIMENT WITH ANY OF THE 3 FONTS TO DETERMINE WHICH BEST MEETS
YOUR NEEDS.
                                EVALPLOT
                                EVALPLOT
TO USE ANY ONE OF THE FONTS MERELY BY SURE THAT IT IS DEFINED AS
UNIT 12 FOR INPUT (IF USING STANDARD FILENAMES IT SHOULD BE
NAMED PLOT.CHR). SO THAT SWITCHING FONTS CAN BE SIMPLY DONE
MERELY BY COPYING THE FONT THAT YOU WANT TO THE UNIT 12 THAT
YOU ARE USING FOR INPUT.
                                EVALPLOT
                                EVALPLOT
CONTROL CHARACTERS
-----EVALPLOT
IN THE SOFTWARE CHARACTER TABLE ALL CHARACTERS TO BE PLOTTED WILL
HAVE PEN POSITION = 2 (DRAW) OR = 3 (MOVE). IN ADDITION THE TABLE
CURRENTLY CONTAINS 4 CONTROL CHARACTERS,
                                EVALPLOT
                                EVALPLOT
PEN POSITION = 0
-----EVALPLOT
SHIFT THE NEXT PRINTED CHARACTER BY X AND Y. 3 CONTROL CHARACTERS
ARE PRESENTLY INCLUDED IN THE SOFTWARE CHARACTER TABLE TO ALLOW
SHIFTING.
                                EVALPLOT
                                EVALPLOT
{ = SHIFT UP (FOR SUPERSCRIPTS.....X= 0.0, Y= 0.5)
                                EVALPLOT

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} = SHIFT DOWN (FOR SUBSCRIPTS.....X= 0.0, Y=-0.5) EVALPLOT
\ = SHIFT LEFT 1 CHARACTER (FOR BACKSPACE...X=-1.0, Y= 0.0) EVALPLOT
EVALPLOT
PEN POSITION =-1 EVALPLOT
----- EVALPLOT
SELECT THE NEXT PRINTED CHARACTER FROM THE ALTERNATE CHARACTER EVALPLOT
SET. AT PRESENT THIS CONTROL CHARACTER IS, EVALPLOT
EVALPLOT
| = SWITCH TO ALTERNATE CHARACTER SET EVALPLOT
EVALPLOT
THESE 4 CONTROL CHARACTERS ARE ONLY DEFINED BY THE VALUE OF THE EVALPLOT
PEN POSITION IN THE SOFTWARE CHARACTER TABLE (I.E., THEY ARE NOT EVALPLOT
HARD WIRED INTO THIS PROGRAM). AS SUCH BY MODIFYING THE SOFTWARE EVALPLOT
CHARACTER TABLE THE USER HAS THE OPTION OF DEFINING ANY CONTROL EVALPLOT
CHARACTERS TO MEET SPECIFIC NEEDS. EVALPLOT
EVALPLOT
THESE CHARACTERS MAY BE USED IN CHARACTER STRINGS TO PRODUCE EVALPLOT
SPECIAL EFFECTS. FOR EXAMPLE, TO PLOT SUBSCRIPT 5, B, SUPERSCRIP EVALPLOT
10 USE THE STRING, EVALPLOT
EVALPLOT
}5B{1{0 EVALPLOT
EVALPLOT
EVALPLOT
TO PLOT B, SUBSCRIPT 5 AND SUPERSCRIP 10 WITH THE 5 DIRECTLY EVALPLOT
BELOW THE 1 OF THE 10 WE CAN USE THE BACKSPACE CHARACTER TO EVALPLOT
POSITION THE 1 DIRECTLY ABOVE THE 5 USING THE STRING, EVALPLOT
EVALPLOT
B)5\{1{0 EVALPLOT
EVALPLOT
EVALPLOT
TO PLOT UPPER CASE GREEK GAMMA FOLLOWED BY THE WORD TOTAL (I.E., EVALPLOT
RESONANCE TOTAL WIDTH) USE THE STRING. EVALPLOT
EVALPLOT
|G TOTAL EVALPLOT
EVALPLOT
NOTE, WHEN THESE CONTROL CHARACTERS ARE USED THEY ONLY EFFECT THE EVALPLOT
NEXT 1 PRINTED CHARACTER (SEE, ABOVE EXAMPLE OF PLOTTING SUPER- EVALPLOT
SCRIPT 10 WHERE THE SHIFT UP CONTROL CHARACTER WAS USED BEFORE THE EVALPLOT
1 AND THEN AGAIN BEFORE THE 0 AND THE BACKSPACE AND SHIFT UP EVALPLOT
CONTROL CHARACTERS WERE USED IN COMBINATION). EVALPLOT
EVALPLOT
IF THESE 4 CONTROL CHARACTERS ARE NOT AVAILABLE ON YOUR COMPUTER EVALPLOT
YOU CAN MODIFY THE SOFTWARE CHARACTER TABLE TO USE ANY OTHER 4 EVALPLOT
CHARACTERS THAT YOU DO NOT NORMALLY USE IN CHARACTER STRINGS (FOR EVALPLOT
DETAILS SEE THE SOFTWARE CHARACTER TABLE). EVALPLOT
EVALPLOT
STANDARD/ALTERNATE CHARACTER SETS EVALPLOT
----- EVALPLOT
THE SOFTWARE CHARACTER TABLE CONTAINS 2 SETS OF CHARACTERS WHICH EVALPLOT
ARE A STANDARD SET (ALL CHARACTERS ON AN IBM KEYBOARD) AND AN EVALPLOT
ALTERNATE SET (UPPER AND LOWER CASE GREEK CHARACTERS AND SPECIAL EVALPLOT
CHARACTERS). TO DRAW A CHARACTER FROM THE ALTERNATE CHARACTER SET EVALPLOT
PUT A RIGHT BRACKET CHARACTER (|) BEFORE A CHARACTER (SEE THE EVALPLOT
ABOVE EXAMPLE AND THE SOFTWARE CHARACTER TABLE FOR DETAILS). THIS EVALPLOT
CONTROL CHARACTER WILL ONLY EFFECT THE NEXT 1 PLOTTED CHARACTER. EVALPLOT
EVALPLOT
SUB AND SUPER SCRIPTS EVALPLOT
----- EVALPLOT
TO DRAW SUBSCRIPT PRECEED A CHARACTER BY }. TO DRAW SUPERSCRIP EVALPLOT
PRECEED A CHARACTER BY { (SEE THE ABOVE EXAMPLE AND THE SOFTWARE EVALPLOT
CHARACTER TABLE FOR DETAILS). THESE CONTROL CHARACTER WILL ONLY EVALPLOT
EFFECT THE NEXT 1 PLOTTED CHARACTER. EVALPLOT
EVALPLOT
BACKSPACING EVALPLOT
----- EVALPLOT
TO BACKSPACE ONE CHARACTER PRECEED A CHARACTER BY \ (SEE, THE EVALPLOT
ABOVE EXAMPLE AND THE SOFTWARE CHARACTER TABLE FOR DETAILS). THIS EVALPLOT
CONTROL CHARACTER WILL PERFORM A TRUE BACKSPACE AND WILL EFFECT EVALPLOT
ALL FOLLOWING CHARACTERS IN THE SAME CHARACTER STRING. EVALPLOT
EVALPLOT
PLOT DIMENSIONS EVALPLOT
----- EVALPLOT
ARE DEFINED BY USER INPUT. INTERNALLY THE PROGRAM WILL CREATE A EVALPLOT

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PLOT IN APPROXIMATELY A4 OR 8-1/2 BY 11 INCH FORMAT. DURING EVALPLOT
OUTPUT THE PLOT IS TRANSFORMED TO THE UNITS (INCHES, CENTIMETERS, EVALPLOT
MILLIMETERS, WHATEVER) OF THE PLOTTER BEING USED AND OUTPUT. EVALPLOT
EVALPLOT
===== PLOTTER/GRAPHICS TERMINAL INTERFACE =====EVALPLOT
=====EVALPLOT