======================================================================= Evalplot

Evalplot

PROGRAM EVALPLOT Evalplot

================ Evalplot

VERSION 75-1 (AUGUST 1975) Evalplot

VERSION 76-1 (JULY 1976) Evalplot

VERSION 77-1 (APRIL 1977) Evalplot

VERSION 78-1 (JULY 1978) Evalplot

VERSION 79-1 (FEBRUARY 1979) Evalplot

VERSION 80-1 (JULY 1980) \*IBM VERSION Evalplot

VERSION 80-2 (DECEMBER 1980) Evalplot

VERSION 81-1 (MARCH 1981) Evalplot

VERSION 81-2 (AUGUST 1981) \*IMPROVED ZOOM CAPABILITY Evalplot

VERSION 82-1 (JANUARY 1982) \*IMPROVED COMPUTER COMPATIBILITY Evalplot

VERSION 83-1 (JANUARY 1983) \*ELIMINATED COMPUTER DEPENDENT CODING. Evalplot

VERSION 83-2 (OCTOBER 1983) \*ADDED PLOTTING OF HISTOGRAM DATA. Evalplot

VERSION 84-1 (DECEMBER 1984)\*ADDED PLOTS OF LEGENDRE COEFFICENTS Evalplot

AS A FUNCTION OF ENERGY. Evalplot

\*ADDED SMALL PLOTTING MODE. Evalplot

VERSION 85-1 (AUGUST 1985) \*FORTRAN-77/H VERSION Evalplot

VERSION 86-1 (JANUARY 1986) \*ENDF/B-VI FORMAT Evalplot

VERSION 88-1 (JULY 1988) \*MAJOR REVISION TO MAKE CODE EASILY Evalplot

INTERFACEABLE TO ALMOST ANY PLOTTER. Evalplot

\*WARNING...INPUT PARAMETERS FROM BEEN Evalplot

CHANGED (SEE, DESCRIPTION BELOW) Evalplot

\*COMPUTER INDEPENDENT SOFTWARE Evalplot

CHARACTERS. Evalplot

\*COLOR PLOTS. Evalplot

\*MT NUMBER DEFINITIONS FROM DATA FILE Evalplot

READ BY PROGRAM Evalplot

\*FORTRAN-77 REQUIRED (FORTRAN-H NO Evalplot

SUPPORTED BY THIS PROGRAM). Evalplot

\*OPTION...INTERNALLY DEFINE ALL I/O Evalplot

FILE NAMES (SEE, SUBROUTINE FILEIO Evalplot

FOR DETAILS). Evalplot

\*IMPROVED BASED ON USER COMMENTS. Evalplot

VERSION 89-1 (JANUARY 1989) \*PSYCHOANALYZED BY PROGRAM FREUD TO Evalplot

INSURE PROGRAM WILL NOT DO ANYTHING Evalplot

CRAZY. Evalplot

\*UPDATED TO USE NEW PROGRAM CONVERT Evalplot

KEYWORDS. Evalplot

\*ADDED LIVERMORE CIVIC COMPILER Evalplot

CONVENTIONS. Evalplot

\*FORTRAN-77/FORTRAN-H COMPATIBLE Evalplot

\*SPECIAL ENDF/B MATERIAL DEFINITIONS Evalplot

(ZA.LT.1000) FROM DATA FILE READ Evalplot

BY PROGRAM. Evalplot

VERSION 89-2 (MARCH 1989) \*ADDED ENDF/B-V AND VI MT Evalplot

DEFINITIONS. PROGRAM WILL DETERMINE Evalplot

ENDF/B FORMAT BASED ON MF=1, Evalplot

MT=451 AND USE ASPPROPRIATE MT Evalplot

DEFINITIONS. IF NO MF=1, MT=451 Evalplot

PROGRAM WILL USE ENDF/B-V Evalplot

MT DEFINITIONS. Evalplot

VERSION 89-3 (JUNE 1989) \*3 CHARACTER FONTS Evalplot

VERSION 92-1 (JANUARY 1992) \*COMPLETE REWRITE OF CODE Evalplot

\*ADDED PHOTON DATA, MF=23 AND 27 Evalplot

\*ADDED INCIDENT CHARGED PARTICLES Evalplot

(IDENTIFIED IN PLOT TITLES) Evalplot

\*ADDED FORTRAN SAVE OPTION. Evalplot

\*UPDATED BASED ON USER COMMENTS Evalplot

\*ADDED RETRIEVAL BY UP TO 100 Evalplot

MAT/MF/MT OR ZA/MF/MT RANGES Evalplot

\*WARNING...INPUT PARAMETER FORMAT Evalplot

HAS BEEN CHANGED...SEE DESCRIPTION Evalplot

BELOW. Evalplot

VERSION 92-2 (FEBRUARY 1992)\*ADDED PHOTON SPECTRA, MF=15. Evalplot

\*ADDED MULTIPLICATION OF DISTRIBUTIONS Evalplot

IN MF=5 AND 15 BY PROBABILITY=YIELD. Evalplot

\*INCREASED PAGE SIZE TO 12000 POINTS Evalplot

VERSION 92-3 (MAY 1992) \*CORRECTED DESCRIPTION OF INPUT Evalplot

PARAMETERS AND EXAMPLE PROBLEMS. Evalplot

\*CORRECTED FOR ENDF/B-VI DEFINITION OF Evalplot

TEMPERATURE FROM MF=1/MT=451. Evalplot

\*CORRECTED LOGIC SO THAT EACH REQUEST Evalplot

IS TREATED SEPARATELY TO CREATE A Evalplot

PLOT, UNLESS REQUESTS ARE CHAINED Evalplot

TOGETHER. Evalplot

\*ADDED VARIABLE CHARACTER SIZE INPUT. Evalplot

VERSION 93-1 (MARCH 1993) \*INCREASED PAGE SIZE FROM 12000 Evalplot

TO 210000 Evalplot

\*INCREASED THE NUMBER OF ENERGIES Evalplot

VS. LEGENDRE COEFFICIENTS FROM Evalplot

167 TO 7000 Evalplot

\*UPDATED FOR ON SCREEN GRAPHICS Evalplot

USING THE LAHEY FORTRAN COMPILER. Evalplot

VERSION 94-1 (JANUARY 1994) \*VARIABLE ENDF/B DATA FILENAMES Evalplot

TO ALLOW ACCESS TO FILE STRUCTURES Evalplot

(WARNING - INPUT PARAMETER FORMAT Evalplot

HAS BEEN CHANGED) Evalplot

\*CLOSE ALL FILES BEFORE TERMINATING Evalplot

(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 Evalplot

TO 480,000 Evalplot

VERSION 99-1 (MARCH 1999) \*CORRECTED CHARACTER TO FLOATING Evalplot

POINT READ FOR MORE DIGITS Evalplot

\*UPDATED TEST FOR ENDF/B FORMAT Evalplot

VERSION BASED ON RECENT FORMAT CHANGE Evalplot

\*GENERAL IMPROVEMENTS BASED ON Evalplot

USER FEEDBACK Evalplot

VERS. 2000-1 (FEBRUARY 2000)\*ADDED MF=10, ACTIVATION CROSS Evalplot

SECTION PLOTS. Evalplot

\*INCREASED DIMENSIONS TO HANDLE MORE Evalplot

SECTIONS - UP TO 1,000 Evalplot

\*GENERAL IMPROVEMENTS BASED ON Evalplot

USER FEEDBACK Evalplot

VERS. 2002-1 (Nov. 2002) \*OPTIONAL INPUT PARAMETERTS 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 Evalplot

VS. LEGENDRE COEFFICIENTS FROM Evalplot

7000 TO 20000 Evalplot

VERS. 2007-1 (JAN. 2007) \*CHECKED AGAINST ALL ENDF/B-VII. Evalplot

\*INCREASED PAGE SIZE TO 2,400,000 Evalplot

FROM 600,000. Evalplot

VS. LEGENDRE COEFFICIENTS TO Evalplot

80,000 FROM 20,000 (MUST BE 1/30 Evalplot

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 Evalplot

PLUS TABULATED Evalplot

VERS. 2010-1 (Aug. 2010) \*Extended to plots up to 100 Legendre Evalplot

Coefficients versus incident energy. Evalplot

VERS. 2011-1 (July 2011) \*Increased MT.DAT from 200 to 1,000 Evalplot

entries, to acommodate new MTs. Evalplot

\*Updated MF=10 plots to identify ZAP Evalplot

and state for Neutron Activation. Evalplot

\*Updated for energy release parameters Evalplot

MF=3, MT=301 to 450. Evalplot

VERS. 2012-1 (Aug. 2012) \*Updated incident particle list to Evalplot

include photon (ZA = 0). Evalplot

\*Added CODENAME Evalplot

\*32 and 64 bit Compatible Evalplot

\*Added ERROR stops Evalplot

VERS. 2013-1 (Nov. 2013) \*OUT9 replaced NORMX Evalplot

VERS. 2015-1 (Jan. 2015) \*Updated MF=10 Labels, which requires Evalplot

longer plot titles. Evalplot

\*Restricted character size multiplier Evalplot

to 0.5 to 1.5 to accommodate longer Evalplot

plot titles. Evalplot

\*Replaced ALL 3 way if statements. Evalplot

**VERS. 2015-2 (Mar. 2015) \*Minor changes based on user feedback Evalplot**

**Evalplot**

**2015-2 Acknowledgment Evalplot**

**===================== Evalplot**

**I thank Chuck Whitmer (TerraPower,WA) for reporting the errors Evalplot**

**that led to the 2015-2 Improvements in this code. Evalplot**

**Evalplot**

**I thank Jean-Christophe Sublet (UKAEA) for contributing MAC Evalplot**

**executables and Bojan Zefran (IJS, Slovenia) for contributing Evalplot**

**LINUX (32 or 63 bit) executables. And most of all I must thank Evalplot**

**Andrej Trkov (NDS, IAEA) for overseeing the entire PREPRO project Evalplot**

**at IAEA, Vienna. This was a truly International team who worked Evalplot**

**together to produce PREPRO 2015-2. Evalplot**

Evalplot

OWNED, MAINTAINED AND DISTRIBUTED BY Evalplot

------------------------------------ Evalplot

THE NUCLEAR DATA SECTION Evalplot

INTERNATIONAL ATOMIC ENERGY AGENCY Evalplot

P.O. BOX 100 Evalplot

A-1400, VIENNA, AUSTRIA Evalplot

EUROPE Evalplot

Evalplot

ORIGINALLY WRITTEN BY Evalplot

------------------------------------ Evalplot

Dermott E. Cullen Evalplot

Evalplot

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--------------------------- Evalplot

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Evalplot

AUTHORS MESSAGE Evalplot

--------------- Evalplot

THE REPORT DESCRIBED ABOVE IS THE LATEST PUBLISHED DOCUMENTATION Evalplot

FOR THIS PROGRAM. HOWEVER, THE COMMENTS BELOW SHOULD BE CONSIDERED Evalplot

THE LATEST DOCUMENTATION INCLUDING ALL RECENT IMPROVEMENTS. PLEASE Evalplot

READ ALL OF THESE COMMENTS BEFORE IMPLEMENTATION, PARTICULARLY Evalplot

THE COMMENTS CONCERNING MACHINE DEPENDENT CODING. Evalplot

Evalplot

AT THE PRESENT TIME WE ARE ATTEMPTING TO DEVELOP A SET OF COMPUTER Evalplot

INDEPENDENT PROGRAMS THAT CAN EASILY BE IMPLEMENTED ON ANY ONE Evalplot

OF A WIDE VARIETY OF COMPUTERS. IN ORDER TO ASSIST IN THIS PROJECT Evalplot

IT WOULD BE APPECIATED IF YOU WOULD NOTIFY THE AUTHOR OF ANY Evalplot

COMPILER DIAGNOSTICS, OPERATING PROBLEMS OR SUGGESTIONS ON HOW TO Evalplot

IMPROVE THIS PROGRAM. HOPEFULLY, IN THIS WAY FUTURE VERSIONS OF Evalplot

THIS PROGRAM WILL BE COMPLETELY COMPATIBLE FOR USE ON YOUR Evalplot

COMPUTER. Evalplot

Evalplot

PURPOSE Evalplot

------- Evalplot

THIS PROGRAM IS DESIGNED TO READ EVALUATED DATA FROM THE ENDF/B Evalplot

FORMAT AND TO PLOT THE DATA. THE USER MAY SELECT CROSS SECTIONS, Evalplot

PARAMETERS (E.G. NU-BAR, MU-BAR, ETC.), ANGULAR DISTRIBUTIONS Evalplot

AND/OR ENERGY DISTRIBUTIONS TO BE PLOTTED. Evalplot

Evalplot

IN THE FOLLOWING FOR SIMPLICITY THE ENDF/B TERMINOLOGY--ENDF/B Evalplot

TAPE--WILL BE USED. IN FACT THE ACTUAL MEDIUM MAY BE TAPE, CARDS, Evalplot

DISK OR ANY OTHER MEDIUM. Evalplot

Evalplot

ON WHAT COMPUTERS WILL THE PROGRAM RUN Evalplot

------------------------------------------------------------------ Evalplot

THE PROGRAM HAS BEEN IMPLEMENTED ON A WIDE VARIETY OF COMPUTERS Evalplot

FROM THE ONE EXTREME OF LARGE MAINFRAME CRAY AND IBM COMPUTERS Evalplot

TO THE OTHER EXTREME OF SUN TERMINALS AND IBM PERSONAL COMPUTERS. Evalplot

THE PROGRAM IS DESIGNED TO RUN ON VIRTUALLY ANY COMPUTER. FOR Evalplot

SPECIAL CONSIDERATIONS SEE THE SECTIONS BELOW ON, Evalplot

(1) COMPUTER DEPENDENT CODING Evalplot

(2) PLOTTER/GRAPHICS TERMINAL INTERFACE Evalplot

Evalplot

2015 PLOTTER DIMENSIONS Evalplot

================================================================== Evalplot

PLOTTER DIMENSIONS ARE IN INCHES - NOT CM, MM, OR CUBITS. Evalplot

THIS IS DONE FOR HISTORICAL REASONS AND HOPEFULLY THIS WILL Evalplot

NOT INCONVENIENCE ANYONE - IN PRACTICE I HAVE USED EXACTLY THE Evalplot

SAME DIMENSION = X = 0 to 12.5 and Y = 0 to 10 FOR DECADES Evalplot

TO PRODUCE BOTH ON-SCREEN AND HARDCOPY POSTSCRIPT PLOTS. Evalplot

Evalplot

I STRONGLY SUGGEST THAT YOU NOT CHANGE THESE DIMENSIONS UNLESS Evalplot

YOU MUST = BASED ON THE PLOT SIZE YOU OBTAIN WHEN YOU FIRST RUN Evalplot

THIS CODE. Evalplot

Evalplot

GRAPHICS INTERFACE Evalplot

------------------------------------------------------------------ Evalplot

THIS PROGRAM USES A SIMPLE CALCOMP LIKE GRAPHICS INTERFACE WHICH Evalplot

REQUIRES ONLY 3 SUBROUTINES...PLOTS, PLOT AND PEN (DESCRIBED IN Evalplot

DETAIL BELOW). ALL CHARACTERS AND SYMBOLS ARE DRAWN USING TABLES Evalplot

OF PEN STROKES (SUPPLIED WITH THIS PROGRAM). USING THIS METHOD Evalplot

THE PROGRAM SHOULD BE SIMPLE TO INTERFACE TO VIRTUALLY ANY PLOTTER Evalplot

OR GRAPHICS TERMINAL AND THE APPEARANCE AND LAYOUT OF THE PLOTS Evalplot

SHOULD BE INDEPENDENT OF WHICH PLOTTER IS USED. Evalplot

Evalplot

PROGRAM IDENTIFICATION Evalplot

---------------------- Evalplot

AS DISTRIBUTED THE FIRST FRAME OF PLOTTED OUTPUT WILL DOCUMENT Evalplot

THE PROGRAM NAME, VERSION AND INSTALLATION. THIS INFORMATION IS Evalplot

STORED AS DATA IN THE ARRAY VERSES NEAR THE BEGINNING OF Evalplot

SUBROUTINE FRAME1. IF YOU WISH TO CUSTOMIZE THE OUTPUT TO IDENTIFY Evalplot

YOUR INSTALLATION CHANGE THE LAST TWO LINES OF THE ARRAY VERSES. Evalplot

Evalplot

SIZE OF PLOTS Evalplot

------------- Evalplot

THE PROGRAM HAS A BUILT-IN DEFAULT SIZE TO MAKE EACH PLOT 13.50 Evalplot

BY 10.24 INCHES. THIS SIZE WAS SELECTED ASSUMING THAT THE Evalplot

RESOLUTION OF THE PLOTTER IS 1024 RASTER POINTS PER INCH. THE Evalplot

USER MAY CHANGE THE SIZE OF THE PLOT BY SPECIFYING ANY REQUIRED Evalplot

SIZE ON THE FIRST INPUT LINE. IN PARTICULAR FOR USE ON ANY PLOTTER Evalplot

THAT USES CENTIMETERS INSTEAD OF INCHES THE USER MAY MERELY Evalplot

SPECIFY THE REQUIRED SIZE OF THE PLOT IN CENTIMETERS (E.G., TO Evalplot

OBTAIN A 13.50 BY 10.24 INCH PLOT, THE USER NEED ONLY SPECIFY Evalplot

34.3 BY 26 ON THE FIRST INPUT LINE...ASSUMING 2.54 CENTIMETERS PER Evalplot

INCH, OR 343 BY 260 FOR MILLIMETERS..ASSUMING 25.4 MILLIMETERS Evalplot

PER INCH). Evalplot

Evalplot

CHARACTER SIZE Evalplot

-------------- Evalplot

THE PLOT HAS A BUILT-IN CHARACTER SIZE WHICH HAS BEEN DEFINED FOR Evalplot

COMPATIBILITY WITH THE BUILT-IN PLOT SIZE. IF THE USER SPECIFIES Evalplot

BY INPUT A DIFFERENT PLOT SIZE, THE PROGRAM WILL AUOTMATICALLY Evalplot

SCALE THE SIZE OF ALL CHARACTERS BY THE RATIO OF THE Y SIZE OF THE Evalplot

PLOT SPECIFIED BY THE USER TO THE BUILT-IN Y SIZE OF PLOTS (E.G., Evalplot

FOR PLOTS WHICH ARE ONLY 5.12 HIGH (Y DIRECTION) ALL CHARACTERS Evalplot

WILL BE SCALED TO BE ONLY 1/2 THE CHARACTER SIZE ON PLOTS WHICH Evalplot

ARE 10.24 HIGH (10.24 = THE BUILT-IN SIZE). NOTE, CHANGES IN THE Evalplot

X SIZE OF THE PLOT WILL NOT HAVE ANY EFFECT ON THE CHARACTER SIZE Evalplot

(E.G., FOR A LONG PLOT, 30 BY 10.24 THE CHARACTER SIZE WILL BE THE Evalplot

THE SAME AS ON A 13.50 BY 10.24 PLOT). Evalplot

Evalplot

PLOT PER FRAME Evalplot

-------------- Evalplot

BY INPUT THE USER CAN SPECIFY NOT ONLY THE ACTUAL SIZE OF THE Evalplot

LOCAL PLOTTER, BUT ALSO HOW MANY PLOTS SHOULD APPEAR ON EACH Evalplot

FRAME. THIS IS DONE BY SPECIFYING THE LAYOUT OF A FRAME IN TERMS Evalplot

OF THE NUMBER OF PLOTS IN THE X AND Y DIRECTION. FOR EXAMPLE BY Evalplot

SPECIFYING THAT EACH FRAME BE DIVIDED INTO 3 PLOTS IN THE X Evalplot

DIRECTION AND 2 PLOTS IN THE Y DIRECTION, EACH FRAME WILL CONTAIN Evalplot

UP TO 6 PLOTS (3 X 2). INTERNALLY EACH PLOT WILL BE GENERATED TO Evalplot

STANDARD A4 SIZE, AS DESCRIBED ABOVE, AND THEN ON OUTPUT SCALED Evalplot

TO THE NUMBER OF PLOTS PER FRAME SPECIFIED BY THE USER INPUT. Evalplot

Evalplot

ENDF/B FORMAT Evalplot

------------- Evalplot

THIS PROGRAM ONLY USES THE ENDF/B BCD OR CARD IMAGE FORMAT (AS Evalplot

OPPOSED TO THE BINARY FORMAT) AND CAN HANDLE DATA IN ANY VERSION Evalplot

OF THE ENDF/B FORMAT (I.E., ENDF/B-I, II,III, IV, V OR VI FORMAT). Evalplot

Evalplot

IT IS ASSUMED THAT THE DATA IS CORRECTLY CODED IN THE ENDF/B Evalplot

FORMAT AND NO ERROR CHECKING IS PERFORMED. IN PARTICULAR IT IS Evalplot

ASSUMED THAT THE MAT, MF AND MT ON EACH LINE IS CORRECT. SEQUENCE Evalplot

NUMBERS (COLUMNS 76-80) ARE IGNORED. FORMAT OF SECTION MT=452, 455 Evalplot

OF MF=1, AND ALL SECTIONS OF MF=3, 4 AND 5 MUST BE CORRECT. ALL Evalplot

OTHER SECTION OF DATA ARE SKIPPED AND AS SUCH THE OPERATION OF Evalplot

THIS PROGRAM IS INSENSITIVE TO THE CORRECTNESS OR INCORRECTNESS Evalplot

OF ALL OTHER SECTIONS. Evalplot

Evalplot

INTERPOLATION LAW Evalplot

----------------- Evalplot

EACH TABLE OF DATA MAY USE EITHER COMPLETELY HISTOGRAM OR Evalplot

COMPLETELY LINEAR INTERPOLATION LAW (THE TWO INTERPOLATION LAWS Evalplot

CANNOT BE MIXED TOGETHER IN ONE TABLE). EITHER OF THESE TWO Evalplot

REPRESENTATIONS WILL BE STORED IN CORE IN LINEARLY INTERPOLABLE Evalplot

FORM. IF THIS PROGRAM FINDS ANY DATA THAT USES ANY OTHER Evalplot

INTERPOLATION LAW IT WILL PRINT AN ERROR MESSAGE AND PLOT THE Evalplot

TABLE AS IF IT WERE LINEARLY INTERPOLABLE. THE ONLY ERROR THAT Evalplot

WILL RESULT IN THE PLOT WILL BE IN THE CURVE FOLLOWED BETWEEN Evalplot

TABULATED POINTS. PROGRAM LINEAR (UCRL-50400, VOL. 17, PART A) Evalplot

MAY BE USED TO CONVERT CROSS SECTIONS TO LINEARLY INTERPOLABLE Evalplot

FORM. PROGRAM LEGEND CAN BE USED FOR ANGULAR DISTRIBUTIONS AND Evalplot

PROGRAM ENERGY CAN BE USED FOR SECONDARY ENERGY DISTRIBUTIONS. Evalplot

Evalplot

REACTION INDEX Evalplot

-------------- Evalplot

THIS PROGRAM DOES NOT USE THE REACTION INDEX WHICH IS GIVEN IN Evalplot

SECTION MF=1, MT=451 OF EACH EVALUATION. Evalplot

Evalplot

PAGE SIZE Evalplot

--------- Evalplot

ONLY ONE PAGE OF DATA = 600000 DATA POINTS - IS KEPT IN CORE AT Evalplot

ANY GIVEN TIME. IF THERE IS MORE THAN THIS MANY POINTS THEY WILL Evalplot

BE KEPT ON A SCRATCH FILE AND LOADED INTO CORE AS NEEDED. Evalplot

Evalplot

TO CHANGE THE PAGE SIZE, Evalplot

Evalplot

1) CHANGE 600000 TO THE NEW PAGE SIZE Evalplot

2) CHANGE 1200000 TO TWO TIMES THE NEW PAGE SIZE Evalplot

Evalplot

SECTION SIZE Evalplot

------------ Evalplot

SINCE THIS PROGRAM USES A LOGICAL PAGING SYSTEM THERE IS NO LIMIT Evalplot

TO THE NUMBER OF POINTS IN ANY SECTION, E.G., THE TOTAL CROSS Evalplot

SECTION MAY BE REPRESENTED BY 200,000 DATA POINTS. Evalplot

Evalplot

THE ONLY EXCEPTION TO THIS RULE IS THAT EACH TABLE OF DATA WHICH Evalplot

USES A HISTOGRAM INTERPOLATION LAW CANNOT EXCEED HALF THE SIZE Evalplot

OF THE IN CORE PAGE (PRESENTLY 600000/2=300000) WHICH IS ADEQUATE Evalplot

FOR ALMOST ALL HISTOGRAM (E.G. MULTIGROUP) REPRESENTATIONS OF Evalplot

A SINGLE TABLE (E.G. REACTION). Evalplot

Evalplot

WHAT DATA CAN BE PLOTTED Evalplot

------------------------ Evalplot

THIS CODE CAN PLOT VIRTUALLY ANY NEUTRON OR PHOTON CROSS SECTIONS Evalplot

(MF=3 OR 23) AND ANY TABULATED ANGULAR OR ENERGY DISTRIBUTIONS OR Evalplot

LEGENDRE COEFFICIENTS. WHAT IS ACTUALLY PLOTTED DEPENDS ON WHAT Evalplot

DATA IS SELECTED BY THE USER. Evalplot

Evalplot

SELECTION OF DATA Evalplot

----------------- Evalplot

DATA TO BE PLOTTED IS SPECIFIED BY INPUTTING UP TO 100 MAT/MF/MT Evalplot

RANGES OR UP TO 100 ZA/MF/MT RANGES. IN ADDITION FOR EACH RANGE Evalplot

THE USER MAY SPECIFY AN X RANGE (USUALLY ENERGY) AND THE TYPE OF Evalplot

DATA TO BE PLOTTED (SEE: THE DESCRIPTION OF TYPES, BELOW). Evalplot

Evalplot

THE X RANGE FOR MF = 1, 3, 23 AND 27 AND MF = 4 LEGENDRE Evalplot

COEFFICIENTS WILL BE USED AS THE X LIMITS OF THE PLOTS, E.G., Evalplot

PLOT ENERGY DEPENDENT CROSS SECTIONS BETWEEN 1 AND 20 MEV. Evalplot

Evalplot

THE X RANGE FOR MF = 4 AND 5 WILL BE USED TO ONLY SELECT ANGULAR Evalplot

AND ENERGY DISTRIBUTION FOR WHICH THE INCIDENT NEUTRON ENERGY Evalplot

IS IN THE X RANGE. E.G., ONLY PLOT ANGULAR DISTRIBUTIONS WHERE Evalplot

THE INCIDENT NEUTRON ENERGY IS 1 TO 20 MEV. Evalplot

Evalplot

INTERACTIVE VS. BATCH MODE Evalplot

-------------------------- Evalplot

VERSION 92-1 AND LATER VERSIONS OF THIS CODE ONLY USE A BATCH Evalplot

MODE WHERE ALL REQUESTS ARE READ AND PROCESSED. EARLIER VERSIONS Evalplot

OF THIS CODE HAD BOTH AN INTERACTIVE MODE (WHERE REQUESTS WHERE Evalplot

READ AND EXECUTED ONE AT A TIME) AND A BATCH MODE. INTERACTIVE Evalplot

MODE HAS BEEN DROPPED AND WILL NOT TO REINTRODUCED UNLESS THE Evalplot

AUTHOR IS INFORMED BY USERS THAT THEY WERE USING THE INTERACTIVE Evalplot

MODE. Evalplot

Evalplot

PLOT LAYOUT Evalplot

----------- Evalplot

VERSION 92-1 AND LATER VERSIONS OF THIS CODE WILL PLOT ALL Evalplot

CURVES ON A SINGLE PLOT. EARLIER VERSIONS OF THIS CODE ALLOWED Evalplot

THE OPTION TO HAVE, Evalplot

MULTIPLE PLOTS - INDIVIDUAL SCALING Evalplot

MULTIPLE PLOTS - COMMON SCALING Evalplot

SINGLE PLOT Evalplot

MULTILE PLOTS PER PLOT HAVE BEEN DROPPED AND WILL NOT BE Evalplot

REINTRODUCED UNLESS IT IS DEMONSTRATED TO THE AUTHOR THAT THEY Evalplot

ARE OF PRACTICAL USE IN SOME APPLICATION. Evalplot

Evalplot

PROCESSING OF DATA Evalplot

------------------ Evalplot

IN THE CASE OF NEUTRON AND PHOTON CROSS SECTIONS (MF=3 OR 23) Evalplot

AND PARAMETERS (MF=1 OR 27) ALL DATA IN A FILE (MF) IS READ Evalplot

GROUPED TOGETHER BY TYPE (AS EXPLAINED BELOW) AND PLOTTED. Evalplot

Evalplot

IN THE CASE OF ANGULAR AND ENERGY DISTRIBUTIONS (MF=4 OR 5) ONLY Evalplot

ONE SECTION OF DATA AT A TIME IS READ AND PLOTTED. Evalplot

Evalplot

TYPES OF DATA (MF=1, 3, 23 AND 27 ONLY) Evalplot

--------------------------------------- Evalplot

THESE DATA ARE DIVIDED INTO UP TO 20 TYPES AND EACH TYPE OF Evalplot

DATA IS GROUPED TOGETHER AND PLOTTED (IF THE DATA IS ACTUALLY Evalplot

PRESENT). Evalplot

Evalplot

WHAT TYPE OF DATA IS ACTUALLY PLOTTED CAN BE CONTROLLED BY USER Evalplot

INPUT EITHER BASED ON SELECTED MAT/MF/MT OR ZA/MF/MT RANGES OR Evalplot

BY EXPLICITLY SELECTING ONLY ONE TYPE OF DATA IS TO BE PLOTTED Evalplot

(SEE THE DESCRIPTION OF INPUT BELOW). Evalplot

Evalplot

SIMPLE REQUESTS Evalplot

--------------- Evalplot

GENERALLY EACH MAT/MF/MT OR ZA/MF/MT REQUESTED IS TREATED Evalplot

SEPERATELY AND THE SPECIFIED DATA IS GROUPED BY TYPE AND PLOTTED. Evalplot

FOR EXAMPLE, THE USER MAY SPECIFY USING ONE REQUEST THAT ALL Evalplot

TYPES OF DATA BE PLOTTED OVER THE ENTIRE ENERGY RANGE AND USE Evalplot

A SECOND REQUEST TO SPECIFY THAT ONE PARTICULAR TYPE OF DATA Evalplot

BE PLOTTED OVER A SPECIFIC ENERGY RANGE. Evalplot

Evalplot

CHAINED REQUESTS Evalplot

---------------- Evalplot

REQUESTS MAY ALSO BE CHAINED TOGETHER (SEE, THE DESCRIPTION OF Evalplot

INPUT BELOW), WHERE A NUMBER OF REQUESTS MAY BE USED TO SELECT Evalplot

DATA, BUT ONLY THE LAST REQUEST IN A CHAIN WILL CAUSE ALL SELECTED Evalplot

DATA TO BE PLOTTED. CHAINED REQUESTED ARE INDICATED ON INPUT BY Evalplot

A SERIES OF REQUESTS FOR DATA TYPE = -1, EXCEPT FOR THE LAST Evalplot

REQUEST OF THE CHAIN, WHICH MUST SPECIFY A TYPE DATA = 0 (ALL) Evalplot

OR A POSITIVE NUMBER. UNLIKE SIMPLE REQUESTS, WHERE EACH WILL Evalplot

PRODUCE ONE OR MORE PLOTS, WITH CHAINED REQUESTS THE ENTIRE Evalplot

SERIES OF CHAINED REQUESTS WILL BE TREATED AS A SINGLE REQUEST Evalplot

AND WILL PRODUCE ONE OR MORE PLOTS. Evalplot

Evalplot

FOR EXAMPLE, DATA TYPE = 1 WILL NORMALLY INCLUDE, Evalplot

MT = 1 - TOTAL Evalplot

= 2 - ELASTIC Evalplot

= 4 - TOTAL INELASTIC Evalplot

= 5 - (N,REMAINDER) Evalplot

= 18 - FISSION Evalplot

= 102 - CAPTURE Evalplot

IF YOU WISH TO EXCLUDE TOTAL INELASTIC FROM A PLOT YOU NEED ONLY Evalplot

SPECIFY TWO CHAINED REQUESTS THE FIRST TO SELECT MT = 1 THROUGH Evalplot

2 (TO INCLUDE TOTAL AND ELASTIC) AND A SECOND TO INCLUDE MT = 18 Evalplot

THROUGH 102. THE FIRST REQUEST SHOULD SPECIFY DATA TYPE = -1 AND Evalplot

SECOND 1 (THIS WILL CHAIN THE 2 REQUESTS TOGETHER, SO THAT MT =1 Evalplot

THROUGH 2, AND MT = 18 THROUGH 102 ALL APPEAR ON THE SAME PLOT). Evalplot

SINCE MT = 4 (TOTAL INELASTIC) IS NOT REQUESTED IT WILL NOT BE Evalplot

PLOTTED. Evalplot

Evalplot

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

Evalplot

ACTIVATION (MF=10) Evalplot

------------------ Evalplot

(20) ALL mt=1 TO 999. Evalplot

Evalplot

PHOTONS (MF=23 AND 27) Evalplot

----------------------- Evalplot

(14) TOTAL, COHERENT, INCOHERENT, TOTAL PHOTOELECTRIC, TOTAL Evalplot

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

Evalplot

Evalplot

IDENTIFICATION OF DATA Evalplot

---------------------- Evalplot

ALL PLOTS IDENTIFY THE TARGET, E.G., U-238 AND UNITS OF THE X AND Evalplot

Y AXIS, E.G., X = ENERGY (MEV) OR COSINE (LAB), ETC., Y = CROSS Evalplot

SECTION (BARNS) OR PROBABILITY/COSINE, ETC. Evalplot

Evalplot

FOR TYPES OF DATA (MF=1, 3, 23 AND 27) DIFFERENT REACTIONS (MT) Evalplot

ARE GROUPED TOGETHER TO APPEAR ON THE SAME PLOT. THE TITLE AT Evalplot

THE TOP OF THE PLOT WILL IDENTIFY THE TYPE OF DATA BEING PLOTTED Evalplot

AND THE LEGEND BOX WITHIN THE PLOT WILL IDENTIFY EACH REACTION. Evalplot

Evalplot

FOR ANGULAR AND ENERGY DISTRIBUTIONS (MF=4 OR 5) EACH PLOT WILL Evalplot

CONTAIN DATA FOR A SINGLE REACTION (MT) AND DIFFERENT INCIDENT Evalplot

NEUTRON ENERGIES. THE TITLE AT THE TOP OF THE PLOT WILL IDENTIFY Evalplot

THE REACTION AND THE LEGEND BOX WITHIN THE PLOT WILL IDENTIFY Evalplot

THE INCIDENT ENERGY. Evalplot

Evalplot

FOR LEGENDRE COEFFICIENT THE DATA IN ENDF/B FORMAT WILL BE Evalplot

INVERTED IN ORDER TO PRESENT EACH LEGENDRE COEFFICIENT VERSUS Evalplot

INCIDENT ENERGY. THE TITLE AT THE TOP OF THE PLOT WILL IDENTIFY Evalplot

THE REACTION AND THE LEGEND BOX WITHIN THE PLOT WILL IDENTIFY Evalplot

THE LEGENDRE ORDER. Evalplot

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

Evalplot

OUTPUT FILES Evalplot

------------ Evalplot

UNIT DESCRIPTION Evalplot

---- ----------- Evalplot

3 OUTPUT REPORT (BCD - 120 CHARACTERS/RECORD) Evalplot

16 PLOTTING UNIT Evalplot

Evalplot

SCRATCH FILES Evalplot

------------- Evalplot

UNIT DESCRIPTION Evalplot

---- ----------- Evalplot

11 SCRATCH FILE (BINARY - 960000 WORDS/RECORD = 2\*PAGE SIZE) Evalplot

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 (PLOTTING UNIT...USUALLY A DUMMY) Evalplot

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 Evalplot

(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

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

= 1-20 - TYPE AS SPECIFIED ABOVE Evalplot

Evalplot

THERE MAY BE UP 100 MAT/MF/MT OR ZA/MF/MT REQUEST RANGES. INPUT Evalplot

MUST BE TERMINATED BY A BLANK LINE. Evalplot

Evalplot

IF X LIMITS ARE NOT SPECIFIED (I.E., LOWER AND UPPER X LIMIT = 0) Evalplot

THIS WILL BE INTERPRETED TO MEAN NO LIMIT AND ALL DATA WILL BE Evalplot

PLOTTED OVER THEIR ENTIRE ENERGY RANGE, I.E., YOU NEED NOT Evalplot

KNOW AND SPECIFY THE ACTUAL ENERGY LIMITS OF THE DATA. Evalplot

Evalplot

EXAMPLE DEFINITION OF PLOTTER Evalplot

----------------------------- Evalplot

2015 - WARNING - THE FOLLOWING DESCRIPTION IS OUT-OF-DATE. Evalplot

TODAY THE DIMENSIONS OF THE PLOTTER ARE IN INCHES. Evalplot

Evalplot

THE FIRST INPUT LINE DEFINES THE DIMENSIONS OF THE PLOTTER BEING Evalplot

USED IN ANY UNITS (INCHES, CENTIMETERS, MILLIMETERS, ANYTHING) Evalplot

WHICH APPLY TO THE PLOTTER. IN ADDITION THE FIRST LINE DEFINES Evalplot

HOW MANY PLOTS SHOULD APPEAR ON EACH FRAME. THE PLOTTING AREA Evalplot

DEFINED ON THE FIRST INPUT LINE MAY BE SUBDIVIDED INTO ANY NUMBER Evalplot

OF PLOTS IN THE X AND Y DIRECTION. FOR EXAMPLE, TO PRODUCE A Evalplot

SERIES OF FRAMES EACH CONTAINING 3 PLOTS IN THE X DIRECTION AND Evalplot

2 PLOTS IN THE Y DIRECTION (6 PLOTS PER FRAME) COLUMN 45-55 OF Evalplot

THE FIRST INPUT LINE SHOULD BE 3 AND COLUMNS 56-66 SHOULD BE 2. Evalplot

Evalplot

IF THE LOCAL PLOTTER USES DIMENSIONS OF INCHES IN ORDER TO OBTAIN Evalplot

10 X 10 INCH FRAMES WITH 3 X 2 PLOTS PER FRAME THE FIRST INPUT Evalplot

LINE SHOULD BE, Evalplot

Evalplot

0.0 10.0 0.0 10.0 3 2 Evalplot

Evalplot

IF THE LOCAL PLOTTER USES DIMENSION OF MILLIMETERS THE SAME Evalplot

PHYSICAL SIZE PLOT MAY BE OBTAINED IF THE FIRST INPUT LINE IS, Evalplot

Evalplot

0.0 254.0 0.0 254.0 3 2 Evalplot

Evalplot

FOR SIMPLICITY THE FOLLOWING EXAMPLE INPUTS WILL NOT DISCUSS THE Evalplot

PHYSICAL DIMENSIONS OF THE PLOTTER AND THE FIRST INPUT LINE WILL Evalplot

IN ALL CASES INDICATE 10 X 10 INCH PLOTS WITH ONLY 1 PLOT PER Evalplot

FRAME. Evalplot

Evalplot

ALL OF THE FOLLOWING EXAMPLE WILL USE, Evalplot

1) A DASHED GRID (SECOND LINE, COLS. 12-22 = 2) Evalplot

2) NO BORDER (SECOND LINE, COLS. 23-33 = 0) Evalplot

3) LINE THICKNESS -2 (SECOND LINE, COLS. 34-44 =-2) Evalplot

4) TEMPERATURE ON PLOTS (SECOND LINE, COLS. 45-55 = 0) Evalplot

5) NO Y RANGE LIMIT (SECOND LINE, COLS. 56-66 = 0.0) Evalplot

Evalplot

EXAMPLE INPUT NO. 1 Evalplot

------------------- Evalplot

FOR ALL THORIUM AND URANIUM ISOTOPES PLOT NEUTRON CROSS SECTIONS Evalplot

ENTIRE ENERGY RANGE. IN ADDITION PLOT TYPE 1 DATA, MAJOR NEUTRON Evalplot

CROSS SECTIONS OVER THE ENERGY RANGE 1 EV TO 1 KEV. USE THE Evalplot

STANDARD FILENAME (ENDFB.IN) FOR THE ENDF/B DATA. THE FOLLOWING Evalplot

6 INPUT LINES ARE REQUIRED, Evalplot

Evalplot

0.0 10.0 0.0 10.0 3 2 Evalplot

ENDFB.IN Evalplot

1 2 0 -2 0 0.0 Evalplot

90000 3 0 90999 3999 0 Evalplot

90000 3 0 1.00000+ 090999 3999 1.00000+ 3 1 Evalplot

(BLANK LINE MUSE FOLLOW LAST REQUEST) Evalplot

Evalplot

EXAMPLE INPUT NO. 2 Evalplot

------------------- Evalplot

PLOT FE-56 ELASTIC AND INELASTIC ANGULAR DISTRIBUTIONS BETWEEN Evalplot

1 AND 20 MEV. THE FOLLOWING 6 INPUT LINES ARE REQUIRED, Evalplot

Evalplot

0.0 10.0 0.0 10.0 3 2 Evalplot

ENDFB.IN Evalplot

1 2 0 -2 0 0.0 Evalplot

26056 4 2 1.00000+ 626056 4 2 2.00000+ 7 0 Evalplot

26056 4 4 1.00000+ 626056 4 4 2.00000+ 7 0 Evalplot

(BLANK LINE MUSE FOLLOW LAST REQUEST) Evalplot

Evalplot

EXAMPLE INPUT NO. 3 (CHAINED INPUT) Evalplot

----------------------------------- Evalplot

FOR ALL THORIUM AND URANIUM ISOTOPES PLOT TOTAL, ELASTIC ,CAPTURE Evalplot

AND FISSION, BUT NOT INELASTIC CROSS SECTIONS OVER THERE ENTIRE Evalplot

ENERGY RANGE AND FROM 1 KEV TO 1 MEV. THE FOLLOWING 8 INPUT Evalplot

LINES ARE REQUIRED, Evalplot

Evalplot

0.0 10.0 0.0 10.0 3 2 Evalplot

ENDFB.IN Evalplot

1 2 0 -2 0 0.0 Evalplot

90000 3 1 90999 3 2 -1 Evalplot

90000 3 18 90999 3102 1 Evalplot

90000 3 1 1.00000+ 390999 3 2 1.00000+ 6 -1 Evalplot

90000 3 18 1.00000+ 390999 3102 1.00000+ 6 1 Evalplot

(BLANK LINE MUSE FOLLOW LAST REQUEST) Evalplot

Evalplot

NOTE, THIS EXAMPLE INCLUDES 2 CHAINED REQUESTED - INPUT LINES 3 Evalplot

AND 4 SELECTING DATA AND PRODUCING A PLOT OVER THE ENTIRE ENERGY Evalplot

RANGE AND INPUT LINES 5 AND 6 SELECTING THE SAME DATA AND Evalplot

PRODUCING A PLOT FROM 1 KEV TO 1 MEV. Evalplot

Evalplot

ANY NUMBER OF REQUEST LINES MAY TO CHAINED TOGETHER TO SELECT Evalplot

DATA. THE CHAIN ENDS WHERE THE TYPE OF DATA (COLS. 45-55) IS NOT Evalplot

NEGATIVE AND THEN THE SELECTED DATA WILL BE PLOTTED. Evalplot

Evalplot

EXAMPLE INPUT NO. 4 Evalplot

------------------- Evalplot

FOR THE SAME EXAMPLE AS ABOVE, EXCEPT USE A DIFFERENT FILENAME Evalplot

FOR THE ENDF/B DATA TO READ FROM A FILE TREE STRUCTURE. THE Evalplot

FOLLOWING 8 INPUT LINES ARE REQUIRED, Evalplot

Evalplot

0.0 10.0 0.0 10.0 3 2 Evalplot

EVALUATION/ENDFB6/THORIUM Evalplot

1 2 0 -2 0 0.0 Evalplot

90000 3 1 90999 3 2 -1 Evalplot

90000 3 18 90999 3102 1 Evalplot

90000 3 1 1.00000+ 390999 3 2 1.00000+ 6 -1 Evalplot

90000 3 18 1.00000+ 390999 3102 1.00000+ 6 1 Evalplot

(BLANK LINE MUST FOLLOW LAST REQUEST) Evalplot

Evalplot

===== PLOTTER/GRAPHICS TERMINAL INTERFACE ============================= Evalplot

Evalplot

THIS PROGRAM USES A SIMPLE CALCOMP LIKE INTERFACE INVOLVING Evalplot

ONLY 6 SUBROUTINES, Evalplot

Evalplot

STARPLOT - INITIALIZE PLOTTER Evalplot

NEXTPLOT - CLEAR THE SCREEN FOR THE NEXT PLOT Evalplot

ENDPLOTS - TERMINATE PLOTTING Evalplot

Evalplot

PLOT(X,Y,IPEN) - DRAW OR MOVE FROM LAST LOCATION TO (X,Y), Evalplot

END OF CURRENT PLOT OR END OF PLOTTING. Evalplot

IPEN = 2 - DRAW Evalplot

= 3 - MOVE Evalplot

Evalplot

PEN(IPEN) - SELECT COLOR. Evalplot

IPEN- COLOR = 1 TO N (N = ANY POSITIVE INTEGER) Evalplot

Evalplot

BOXCOLOR(X,Y,IFILL,IBORDER) - FILL A RECTANGULAR BOX DEFINED Evalplot

BY THE X AND Y CORNERS - X(1), Evalplot

X(2), Y(1),Y(2) Evalplot

IFILL - COLOR TO FILL BOX WITH Evalplot

IBORDER - COLOR OF BOX BORDER Evalplot

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 PEN Evalplot

WITH THE SUBROUTINE ARGUMENTS DESCRIBED ABOVE AND TO THEN CALL THE Evalplot

LOCAL EQUIVALENT ROUTINES. Evalplot

Evalplot

COLOR PLOTS Evalplot

------------------------------------------------------------------ Evalplot

TO SELECT PLOTTING COLORS SUBROUTINE PEN (DESCRIBED ABOVE) IS USED Evalplot

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

------------------------------------------------------------------ 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) Evalplot

RETURN Evalplot

END Evalplot

Evalplot

SIMILAR BOXCOLOR CAN BE A DUMMY Evalplot

Evalplot

SUBROUTINE BOXCOLOR(X,Y,IFILL,IBORDER) Evalplot

RETURN Evalplot

END Evalplot

Evalplot

CHARACTER SET Evalplot

------------------------------------------------------------------ Evalplot

THIS PROGRAM USES COMPUTER AND PLOTTER DEVICE INDEPENDENT SOFTWARE Evalplot

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 OF Evalplot

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 TO Evalplot

DRAW EACH CHARACTER. IF YOU WISH TO DRAW ANY ADDITIONAL CHARACTERS Evalplot

OR TO MODIFY THE FONT OF THE EXISTING CHARACTERS YOU NEED ONLY Evalplot

MODIFY THIS TABLE. Evalplot

Evalplot

ADDITIONAL FONTS Evalplot

---------------- Evalplot

THIS PROGRAM COMES WITH 3 COMPLETE SETS OF THE SAME CHARACTERS Evalplot

USING DIFFERENT FONTS. FOR SPEED IN PLOTTING IT IS RECOMMENDED Evalplot

THAT YOU USE THE SIMPLEX FONT. FOR FINISHED PLOTS SUITABLE FOR Evalplot

PUBLICATION, BUT REQUIRING MORE TIME TO GENERATE A PLOT, IT IS Evalplot

RECOMMENDED THAT YOU USE THE DUPLEX OR COMPLEX FONT - YOU CAN Evalplot

EXPERIMENT WITH ANY OF THE 3 FONTS TO DETERMINE WHICH BEST MEETS Evalplot

YOUR NEEDS. Evalplot

Evalplot

TO USE ANY ONE OF THE FONTS MERELY BY SURE THAT IT IS DEFINED AS Evalplot

UNIT 12 FOR INPUT (IF USING STANDARD FILENAMES IT SHOULD BE Evalplot

NAMED PLOT.CHR). SO THAT SWITCHING FONTS CAN BE SIMPLY DONE Evalplot

MERELY BY COPYING THE FONT THAT YOU WANT TO THE UNIT 12 THAT Evalplot

YOU ARE USING FOR INPUT. Evalplot

Evalplot

CONTROL CHARACTERS Evalplot

------------------------------------------------------------------ Evalplot

IN THE SOFTWARE CHARACTER TABLE ALL CHARACTERS TO BE PLOTTED WILL Evalplot

HAVE PEN POSITION = 2 (DRAW) OR = 3 (MOVE). IN ADDITION THE TABLE Evalplot

CURRENTLY CONTAINS 4 CONTROL CHARACTERS, Evalplot

Evalplot

PEN POSITION = 0 Evalplot

---------------- Evalplot

SHIFT THE NEXT PRINTED CHARACTER BY X AND Y. 3 CONTROL CHARACTERS Evalplot

ARE PRESENTLY INCLUDED IN THE SOFTWARE CHARACTER TABLE TO ALLOW Evalplot

SHIFTING. Evalplot

Evalplot

{ = SHIFT UP (FOR SUPERSCRIPTS..............X= 0.0, Y= 0.5) Evalplot

} = 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, SUPERSCRIPT Evalplot

10 USE THE STRING, Evalplot

Evalplot

}5B{1{0 Evalplot

Evalplot

TO PLOT B, SUBSCRIPT 5 AND SUPERSCRIPT 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

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 SUPERSCRIPT 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

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