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====================================================================== Evalplot
                                                                       Evalplot
     PROGRAM 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
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                          *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
                                                                 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
UNIVERSITY OF CALIFORNIA                                         Evalplot
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TELEPHONE  925-423-7359                                          Evalplot
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WEBSITE    HTTP://WWW.LLNL.GOV/CULLEN1                           Evalplot
                                                                 Evalplot
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AUTHORS MESSAGE                                                  Evalplot
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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
ON WHAT PLOTTERS WILL THE PROGRAM RUN                            Evalplot
---------------------------------------------------------------- Evalplot
THE PLOTTER MAY USE UNITS OF INCHES, CENTIMETERS, MILLIMETERS,   Evalplot
VIRTUALLY ANYTHING. INTERNALLY THE PROGRAM WILL DEFINE PLOTS IN  Evalplot
APPROXIMATELY A4 OR 8-1/2 BY 11 INCH FORMAT. AS PART OF THE      Evalplot
INPUT THE USER DEFINES THE ACTUAL SIZE OF THE PLOT IN THE UNITS  Evalplot
(I.E., INCHES, CENTIMETERS, MILLIMETERS, WHATEVER) OF THE REAL   Evalplot
PLOT. THE PLOT IS TRANSFORMED TO THE SIZE OF THE LOCAL PLOTTER   Evalplot
AND OUTPUT. USING THIS CONVENTION THIS PROGRAM SHOULD BE EASY    Evalplot
TO INTERFACE TO VIRTUALLY ANY PLOTTER OR GRAPHICS TERMINAL.      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
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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
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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
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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 18 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
   =  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 18 DATA TYPES                                        Evalplot
------------------------------------------------------------------ Evalplot
NEUTRONS (MF = 3)                                                  Evalplot
-----------------                                                  Evalplot
(1) TOTAL, ELASTIC, CAPTURE, FISSION AND TOTAL INELASTIC           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
```

```
                                                                      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
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   1-60    A60   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
                     = 1-18 - 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
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
```