**======================================================================= Complot**

**Complot**

**PROGRAM COMPLOT Complot**

**=============== Complot**

**VERSION 83-1 (FEBRUARY, 1983) Complot**

**VERSION 83-2 (MAY, 1983) Complot**

**VERSION 83-3 (DECEMBER, 1983) \*MAJOR MODIFICATION. Complot**

**\*ADDED SELECTION OF PLOTS BY MAT OR Complot**

**ZA/MT/ENERGY RANGE (EV). Complot**

**\*ADDED VARIABLE AXIS UNITS (PROGRAM Complot**

**CONTROLLED..X=MILLI-EV, EV, KEV, Complot**

**MEV...Y=MILLI-BARNS, BARNS). Complot**

**VERSION 84-1 (APRIL, 1984) \*ADDED SELECTION BY REACTION/ENERGY Complot**

**RANGE. Complot**

**\*ADDED IDENTIFY DATA POINTS OPTION Complot**

**(SMALL BOX DRAWN AROUND EACH CROSS Complot**

**SECTION AND RATIO POINT). Complot**

**\*IMPROVED NON-IBM GRAPHICS INTERFACE Complot**

**(ALL CHARACTER POSITIONING NOW Complot**

**BASED ON CHARACTER, NOT RASTER, Complot**

**SIZE). Complot**

**VERSION 85-1 (APRIL, 1985) \*SPECIAL I/O ROUTINES TO GUARANTEE Complot**

**ACCURACY OF ENERGY. Complot**

**\*DOUBLE PRECISION TREATMENT OF Complot**

**ENERGY (REQUIRED FOR NARROW Complot**

**RESONANCES). Complot**

**\*ADDED (ZA,MT) EQUIVALENCE OPTION. Complot**

**\*ADDED SMALL PLOT OPTION. Complot**

**VERSION 85-2 (AUGUST, 1985) \*FORTRAN-77/H VERSION Complot**

**VERSION 86-1 (JANUARY, 1986) \*ENERGY DEPENDENT SCATTERING RADIUS Complot**

**VERSION 86-2 (DECEMBER, 1986) \*DOUBLE PRECISION PLOT SCALING Complot**

**(REQUIRED FOR NARROW ENERGY RANGES) Complot**

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

**INTERFACEABLE TO ALMOST ANY PLOTTER Complot**

**\*WARNING..INPUT PARAMETERS FROM BEEN Complot**

**CHANGED (SEE, DESCRIPTION BELOW) Complot**

**\*COMPUTER INDEPENDENT SOFTWARE Complot**

**CHARACTERS. Complot**

**\*COLOR PLOTS. Complot**

**\*MT NUMBER DEFINITIONS FROM DATA Complot**

**FILE READ BY PROGRAM Complot**

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

**SUPPORTED BY THIS PROGRAM). Complot**

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

**FILE NAMES (SEE, SUBROUTINE FILEIO Complot**

**FOR DETAILS). Complot**

**\*IMPROVED BASED ON USER COMMENTS. Complot**

**VERSION 88-2 (OCTOBER 1988) \*IMPROVED BASED ON USER COMMENTS. Complot**

**\*ADDED LIVERMORE CIVIC COMPILER Complot**

**CONVENTIONS. Complot**

**\*UPDATED TO USE NEW PROGRAM CONVERT Complot**

**KEYWORDS. Complot**

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

**INSURE PROGRAM WILL NOT DO ANYTHING Complot**

**CRAZY. Complot**

**\*FORTRAN-77/FORTRAN-H COMPATIBLE Complot**

**\*SPECIAL ENDF/B MATERIAL DEFINITIONS Complot**

**(ZA.LT.1000) FROM DATA FILE READ Complot**

**BY PROGRAM. Complot**

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

**DEFINITIONS. PROGRAM WILL DETERMINE Complot**

**ENDF/B FORMAT BASED ON MF=1, Complot**

**MT=451 AND USE AS PPROPRIATE MT Complot**

**DEFINITIONS. IF NO MF=1, MT=451 Complot**

**PROGRAM WILL USE ENDF/B-VI Complot**

**MT DEFINITIONS. Complot**

**VERSION 90-1 (AUGUST 1990) \*A NEW PROGRAM Complot**

**\*ADDED INTERACTIVE MOUSE INPUT Complot**

**\*ADDED 3 CHARACTER FONTS Complot**

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

**\*ADDED FORTRAN SAVE OPTION. Complot**

**\*ADDED MAXIMUM RATIO RANGE WHEN Complot**

**PLOTTING RATIOS. Complot**

**\*ADDED GRID TYPES Complot**

**\*ADDED VARIABLE LINE THICKNESS Complot**

**\*WARNING...INPUT PARAMETER FORMAT Complot**

**HAS BEEN CHANGED...SEE DESCRIPTION Complot**

**BELOW. Complot**

**VERSION 92-1 (JANUARY 1992) \*ADDED INCIDENT CHARGED PARTICLES Complot**

**(IDENTIFIED IN PLOT TITLES) Complot**

**\*ADDED COMPLETELY COMPATIBLE I/O Complot**

**FOR READING FLOATING POINT NUMBERS. Complot**

**VERSION 92-2 (MAY 1992) \*CORRECTED DESCRIPTION OF INPUT Complot**

**PARAMETERS AND EXAMPLE PROBLEMS. Complot**

**\*ADDED VARIABLE CHARACTER SIZE INPUT Complot**

**VERSION 93-1 (MARCH 1993) \*UPDATE FOR ON SCREEN GRAPHIC Complot**

**OUTPUT USING THE LAHEY COMPILER Complot**

**\*ADDED NU-BAR (TOTAL, DELAYED, Complot**

**PROMPT). Complot**

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

**TO ALLOW ACCESS TO FILE STRUCTURES Complot**

**(WARNING - INPUT PARAMETER FORMAT Complot**

**HAS BEEN CHANGED) Complot**

**\*CLOSE ALL FILES BEFORE TERMINATING Complot**

**(SEE, SUBROUTINE ENDIT) Complot**

**VERSION 95-1 (MARCH 1995) \*CORRECTED CROSS SECTION Complot**

**MULTIPLIER FOR EQUIVALENCES Complot**

**\*CORRECTED RATIO SCALING, FOR Complot**

**MAXIMUM RATIO LESS THAN 1.0 Complot**

**VERSION 96-1 (JANUARY 1996) \*COMPLETE RE-WRITE Complot**

**\*IMPROVED COMPUTER INDEPENDENCE Complot**

**\*ALL DOUBLE PRECISION Complot**

**\*UNIFORM TREATMENT OF ENDF/B I/O Complot**

**\*IMPROVED OUTPUT PRECISION Complot**

**\*DEFINED SCRATCH FILE NAMES Complot**

**\*INCREASED PAGE SIZE FROM 24000 Complot**

**TO 48000 POINTS Complot**

**VERSION 97-1 (APRIL 1997) \*INCREASED PAGE SIZE FROM 48000 Complot**

**TO 480000 POINTS Complot**

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

**POINT READ FOR MORE DIGITS Complot**

**\*UPDATED TEST FOR ENDF/B FORMAT Complot**

**VERSION BASED ON RECENT FORMAT CHANGE Complot**

**\*GENERAL IMPROVEMENTS BASED ON Complot**

**USER FEEDBACK Complot**

**VERS. 2000-1 (FEBRUARY 2000)\*GENERAL IMPROVEMENTS BASED ON Complot**

**USER FEEDBACK Complot**

**VERS. 2002-1 (MAY 2002) \*INPUT PARAMETERS OPTIONAL Complot**

**\*CONTROL MINIMUM RATIO RANGE BY INPUT Complot**

**\*OPTIONAL BLACK OR WHITE BACKGROUND Complot**

**VERS. 2004-1 (SEPT. 2004) \*ADDED INCLUDE FOR COMMON Complot**

**\*INCREASED PAGE SIZE FROM 480000 Complot**

**TO 600000 POINTS Complot**

**\*ADDED NEW REICH-MOORE TO FILE2 TO Complot**

**ALLOW IDENTIFICATION OF RESOLVED AND Complot**

**ANY FOLLOWING UNRESOLVED RESONANCE Complot**

**REGIONS. Complot**

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

**\*INCREASED MAXLOAD TO 600,000 FROM Complot**

**12,000 Complot**

**VERS. 2009-1 (JAN. 2009) \*IGNORED DIFFERENCES NEAR RESONANCE Complot**

**REGION BOUNDARIES (RESOLVED AND Complot**

**UNRESOLVED). Complot**

**VERS. 2010-1 (July 2010) \*Allow comparison plot even if there Complot**

**is no difference (just see data). Complot**

**\*ONLY plot linearly interpoolable data Complot**

**\*Include threshold energy points to Complot**

**show cross sections, but NOT ratios Complot**

**near threshold. Complot**

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

**entries, to accommodate new MTs. Complot**

**VERS. 2012-1 (Aug. 2012) \*Increased incident particle list to Complot**

**include photon (ZA = 0). Complot**

**\*Added CODENAME Complot**

**\*32 and 64 bit Compatible Complot**

**\*Added ERROR stop Complot**

**VERS. 2013-1 (Nov. 2013) \*ONLY use min/max ratios to decide Complot**

**whether or not to plot - non-positive Complot**

**cross sections are no longer used. Complot**

**\*Limited per-cent differences to fit Complot**

**output format = -9999 to +9999 %. Complot**

**\*OUT9 replaced NORMX Complot**

**VERS. 2015-1 (Jan. 2015) \*Added MF=10 Radionuclide Production Complot**

**which requires longer plot titles. Complot**

**\*Restricted character size multiplier Complot**

**to 0.5 to 1.5 to accommodate longer Complot**

**plot titles. Complot**

**\*Replaced ALL 3 way if statements. Complot**

**VERS. 2015-2 (Mar. 2015) \*Corrected tables for X and Y axis Complot**

**labels = see change search for 2015-2 Complot**

**VERS. 2015-3 (Oct. 2015) \*Allow multiple LRF=7 regions plus Complot**

**unreslved region - earlier assumed Complot**

**LRF=7 never used unrsesolved. Complot**

**VERS. 2017-1 (May 2017) \*For MF=2 use MT=151 to define Complot**

**Unresolved Resonance Region (URR). Complot**

**Ignore NJOY MT=152 and 153. Complot**

**\*All floating input parameters changed Complot**

**to character input + IN9 conversion. Complot**

**\*Added MF=4 Legendre Coefficient Complot**

**Comparison: f1 through f6 Complot**

**\*Doubled in core storage to 1,200,000. Complot**

**\*Replaced Q MeV by MT= at top of plots Complot**

**(Q value in ENDF is now only defined Complot**

**in MF=3, making it difficult for all Complot**

**other MF now treated by this code) Complot**

**\*Initial Linear X scaling for MF=1 Complot**

**(nu-bar) and MF=4 (Legendre) = Complot**

**this can be turned OFF by ZOOM Complot**

**+ Unless energy range is requested = Complot**

**allows MF=1 and 4 default Linear X Complot**

**scaling to be turned off by input Complot**

**parameters, i.e., by COMHARD Complot**

**\*Zoom lower energy limit restricted Complot**

**1.0d-5 eV - to lower zoom of linear Complot**

**energy plots (otherwise cannot find Complot**

**actual lower limit on plot). Complot**

**Complot**

**2015-2 Acknowledgment Complot**

**===================== Complot**

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

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

**Complot**

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

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

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

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

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

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

**Complot**

**OWNED, MAINTAINED AND DISTRIBUTED BY Complot**

**------------------------------------ Complot**

**THE NUCLEAR DATA SECTION Complot**

**INTERNATIONAL ATOMIC ENERGY AGENCY Complot**

**P.O. BOX 100 Complot**

**A-1400, VIENNA, AUSTRIA Complot**

**EUROPE Complot**

**Complot**

**ORIGINALLY WRITTEN BY Complot**

**------------------------------------ Complot**

**Dermott E. Cullen Complot**

**Complot**

**PRESENT CONTACT INFORMATION Complot**

**--------------------------- Complot**

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**Complot**

**AUTHORS MESSAGE Complot**

**--------------- Complot**

**THE COMMENTS BELOW SHOULD BE CONSIDERED THE LATEST DOCUMENTATION Complot**

**ALL RECENT IMPROVEMENTS. PLEASE READ ALL OF THESE COMMENTS BEFORE, Complot**

**PARTICULARLY THE COMMENTS CONCERNING MACHINE DEPENDENT CODING. Complot**

**Complot**

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

**INDEPENDENT PROGRAMS THAT CAN EASILY BE IMPLEMENTED ON ANY ONE Complot**

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

**IT WOULD BE APPECIATED IF YOU WOULD NOTIFY THE AUTHOR OF ANY Complot**

**COMPILER DIAGNOSTICS, OPERATING PROBLEMS OR SUGGESTIONS ON HOW TO Complot**

**IMPROVE THIS PROGRAM. HOPEFULLY, IN THIS WAY FUTURE VERSIONS OF Complot**

**THIS PROGRAM WILL BE COMPLETELY COMPATIBLE FOR USE ON YOUR Complot**

**COMPUTER. Complot**

**Complot**

**PURPOSE Complot**

**------- Complot**

**COMPARE ENDF/B FORMATTED DATA FROM TWO SEPARATE INPUT TAPES. Complot**

**REACTIONS ARE CONSIDERED TO BE COMPARABLE IF THEY HAVE THE SAME Complot**

**(ZA,MF,MT). RESULTS ARE PRESENTED IN GRAPHICAL FORM. Complot**

**Complot**

**IN THE FOLLOWING FOR SIMPLICITY THE ENDF/B TERMINOLOGY--ENDF/B Complot**

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

**DISK OR ANY OTHER MEDIUM. Complot**

**Complot**

**ON WHAT COMPUTERS WILL THE PROGRAM RUN Complot**

**------------------------------------------------------------------ Complot**

**THE PROGRAM HAS BEEN IMPLEMENTED ON A VARIETY OF COMPUTERS FROM Complot**

**CRAY AND IBM MAINFRAME TO SUN WORKSTATIONS TO AN IBM-AT PC. THE Complot**

**PROGRAM IS SMALL ENOUGH TO RUN ON VIRTUALLY ANY COMPUTER. Complot**

**Complot**

**THE PROGRAM USES A SIMPLE CALCOMP LIKE GRAPHICS INTERFACE Complot**

**(DESCRIBED BELOW) AND ALLOWS THE USER SPECIFY THE PHYSICAL SIZE Complot**

**OF THE PLOTTER BEING USED, BY INPUT PARAMETERS. USING THESE Complot**

**CONVENTIONS THIS PROGRAM CAN BE EASILY INTERFACED TO VIRTUALLY Complot**

**ANY PLOTTER. Complot**

**Complot**

**FOR SPECIAL CONSIDERATIONS SEE THE SECTIONS BELOW ON, Complot**

**(1) COMPUTER DEPENDENT CODING Complot**

**(2) PLOTTER/GRAPHICS TERMINAL INTERFACE Complot**

**Complot**

**GRAPHICS INTERFACE Complot**

**------------------------------------------------------------------ Complot**

**THIS PROGRAM USES A SIMPLE CALCOMP LIKE GRAPHICS INTERFACE WHICH Complot**

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

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

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

**THE PROGRAM SHOULD BE SIMPLE TO INTERFACE TO VIRTUALLY ANY PLOTTER Complot**

**OR GRAPHICS TERMINAL AND THE APPEARANCE AND LAYOUT OF THE PLOTS Complot**

**SHOULD BE INDEPENDENT OF WHICH PLOTTER IS USED. Complot**

**Complot**

**2015 PLOTTER DIMENSIONS Complot**

**================================================================== Complot**

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

**THIS IS DONE FOR HISTORICAL REASONS AND HOPEFULLY THIS WILL Complot**

**NOT INCONVENIENCE ANYONE - IN PRACTICE I HAVE USED EXACTLY THE Complot**

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

**TO PRODUCE BOTH ON-SCREEN AND HARDCOPY POSTSCRIPT PLOTS. Complot**

**Complot**

**I STRONGLY SUGGEST THAT YOU NOT CHANGE THESE DIMENSIONS UNLESS Complot**

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

**THIS CODE. Complot**

**Complot**

**PROGRAM IDENTIFICATION Complot**

**---------------------- Complot**

**AS DISTRIBUTED THE FIRST FRAME OF PLOTTED OUTPUT WILL DOCUMENT Complot**

**THE PROGRAM NAME, VERSION AND INSTALLATION. THIS INFORMATION IS Complot**

**STORED AS DATA IN THE ARRAY VERSES NEAR THE BEGINNING OF Complot**

**SUBROUTINE FRAME1. IF YOU WISH TO CUSTOMIZE THE OUTPUT TO IDENTIFY Complot**

**YOUR INSTALLATION CHANGE THE LAST TWO LINES OF THE ARRAY (VERSES). Complot**

**Complot**

**ENDF/B FORMAT Complot**

**------------- Complot**

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

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

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

**Complot**

**BOTH SETS OF EVALUATED DATA MUST BE IN THE ENDF/B FORMAT. ONLY Complot**

**SECTIONS OF FILE 2 (RESONANCE PARAMETERS) AND FILES 3, 23 AND 27 Complot**

**(TABULATED DATA) WILL BE READ AND ALL OTHER SECTIONS WILL BE Complot**

**SKIPPED. IN FILE 2 THE ONLY IMPORTANT INFORMATION IS THE ENERGY Complot**

**LIMITS OF THE RESOLVED AND UNRESOLVED RESONANCE REGION WHICH IS Complot**

**LOCATED IN THE SAME FIELDS IN ALL VERSIONS OF THE ENDF/B FORMAT. Complot**

**SIMILARLY THE FORMAT OF FILES 3, 23 AND 27 IS THE SAME IN ALL Complot**

**VERSIONS OF ENDF/B. THEREFORE THIS PROGRAM CAN BE USED WITH DATA Complot**

**IN ANY ENDF/B FORMAT (I.E. ENDF/B-I, II, III, IV, V OR VI). Complot**

**Complot**

**CROSS SECTION INTERPOLATION Complot**

**--------------------------- Complot**

**CROSS SECTIONS MUST BE IN EITHER HISTOGRAM (I.E., INTERPOLATION Complot**

**LAW 1) OR LINEARLY INTERPOLABLE (I.E. INTERPOLATION LAW 2) FORM. Complot**

**IF THEY ARE NOT A WARNING MESSAGE WILL BE PRINTED AND EXECUTION Complot**

**WILL BE TERMINATED. SEE INSTRUCTIONS BELOW ON HOW TO CONVERT Complot**

**DATA TO HISTOGRAM OR LINEARLY INTERPOLABLE FORM. Complot**

**Complot**

**REACTION INDEX Complot**

**-------------- Complot**

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

**SECTION MF=1, MT=451 OF EACH EVALUATION. Complot**

**Complot**

**SECTION SIZE Complot**

**------------ Complot**

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

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

**SECTION MAY BE REPRESENTED BY 200,000 DATA POINTS. Complot**

**Complot**

**DATA SELECTION Complot**

**-------------- Complot**

**THE USER MAY SPECIFYING THE DATA TO BE COMPARED BY INPUTTING UP Complot**

**TO 100 MAT/MT/ENERGY OR ZA/MT/ENERGY RANGES. IF THE UPPER LIMIT Complot**

**OF THE MAT OR ZA RANGE IS LESS THAN THE LOWER LIMIT IT WILL BE SET Complot**

**EQUAL TO THE LOWER LIMIT (I.E. THIS INDICATE ONLY COMPARE ONE Complot**

**MAT OR ZA). IF THE UPPER LIMIT IS STILL ZERO IT WILL BE SET TO Complot**

**9999 (NO LIMIT). IF THE UPPER MF OR MT LIMIT IS ZERO IT WILL BE Complot**

**SET TO 99 OR 999, RESPECTIVELY (NO LIMIT). IF THE UPPER ENERGY Complot**

**LIMIT IS ZERO IT WILL BE SET TO A LARGE NUMBER (NO LIMIT). Complot**

**Complot**

**THE LIST OF RANGES MUST BE TERMINATED BY A BLANK LINE (I.E. ZERO Complot**

**LOWER AND UPPER MAT/MF/MT OR ZA/MF/MT LIMITS). Complot**

**Complot**

**IF THE FIRST RANGE LINE IS BLANK THIS LINE WILL TERMINATE THE Complot**

**LIST OF REQUESTS (I.E. A SECOND BLANK LINE NEED NOT BE INPUT) Complot**

**AND ALL PHYSICALLY COMPARABLE DATA WILL BE PLOTTED. Complot**

**Complot**

**WHICH REACTIONS WILL BE PLOTTED Complot**

**------------------------------- Complot**

**THOSE REACTIONS WITH THE SAME (ZA, MF, MT) WILL BE COMPARED, BUT Complot**

**ONLY THOSE DATA WHICH DIFFER BY A USER SPECIFIED ALLOWABLE Complot**

**DIFFERENCE WILL BE PLOTTED. IN ORDER TO FORCE ALL COMPARABLE Complot**

**REACTIONS TO BE PLOTTED THE USER NEED ONLY SPECIFY AN ALLOWABLE Complot**

**DIFFERENCE OF ZERO. Complot**

**Complot**

**EQUIVALENT REACTIONS Complot**

**-------------------- Complot**

**IN ORDER TO COMPARE REACTIONS WHICH HAVE DIFFERENT ZA, MF OR MT Complot**

**THE USER IS ALLOWED TO SPECIFY AN EQUIVALENCE LIST OF UP TO Complot**

**100 (ZA,MF,MT) COMBINATIONS ON THE MASTER FILE WHICH ARE TO BE Complot**

**EQUATED TO DIFFERENT (ZA,MF,MT) ON THE SECOND FILE. THIS OPTION Complot**

**MAY BE USED TO COMPARE SIMILAR REACTIONS FROM DIFFERENT MATERIALS Complot**

**(E.G. IRON AND NICKEL INELASTIC SCATTERING) OR DIFFERENT REACTIONS Complot**

**FROM THE SAME OR DIFFERENT MATERIALS (E.G. U-235 CAPTURE AND Complot**

**FISSION - IN WHICH CASE THE RATIO WILL BE THE CAPTURE TO FISSION Complot**

**RATIO) OR THE SAME REACTION IN DIFFERENT VERSIONS OF THE ENDF/B Complot**

**FORMAT WHICH MAY BE ASSIGNED DIFFERENT MT NUMBERS, E.G., THE Complot**

**PHOTOELECTRIC CROSS SECTION IS MT=602 IN ENDF/B-V AND EARLIER Complot**

**VERSIONS OF ENDF/B, BUT IS MT=522 IN ENDF/B-VI. Complot**

**Complot**

**IN THESE EQUIVALENCE LISTS A ZERO FIELD IMPLIES ALL. FOR EXAMPLE, Complot**

**TO EQUATE MT=522 FROM ONE FILE TO MT=602 ON THE OTHER, FOR ALL Complot**

**MATERIALS, ONE NEED ONLY SPECIFY ZA=0, MF=23, MT=522 EQUIVALENT Complot**

**TO ZA=0, MF=23 AND MT=602. Complot**

**Complot**

**PLOT FORMATS Complot**

**------------ Complot**

**THE TWO CROSS SECTIONS ARE CONSIDERED TO BE A STANDARD (THE FIRST Complot**

**CROSS SECTION) AND A CROSS SECTION TO BE COMPARED TO THE STANDARD Complot**

**(THE SECOND CROSS SECTION). THE OUTPUT FROM THIS PROGRAM IS A Complot**

**SERIES OF PLOTS. EACH PLOT WILL CONTAIN THE STANDARD CROSS SECTION Complot**

**AND IN ADDITION THE USER MAY SPECIFY THAT EACH PLOT ALSO CONTAIN Complot**

**THE SECOND CROSS SECTION AND/OR THE RATIO OF THE SECOND CROSS Complot**

**SECTION TO THE FIRST CROSS SECTION. Complot**

**Complot**

**THE USER MAY SELECT ONE OF THE FOLLOWING FIVE PLOT FORMATS (THE Complot**

**NUMBER PRECEDING THE OPTION IS THE VALUE OF THE PLOT MODE SELECTOR Complot**

**THAT THE USER SHOULD SPECIFY AS INPUT ON THE FIRST LINE). Complot**

**Complot**

**(0) THE STANDARD CROSS SECTION (I.E. FIRST EVALUATION) AND THE Complot**

**RATIO OF THE SECOND EVALUATION TO THE FIRST EVALUATION. THE Complot**

**DATA WILL BE PRESENETED AS TWO SUB-PLOTS PER PLOT WITH THE Complot**

**STANDARD CROSS SECTION IN THE UPPER HALF OF THE PLOT AND THE Complot**

**RATIO IN THE LOWER HALF OF THE PLOT. Complot**

**Complot**

**(1) THE STANDARD CROSS SECTION (I.E. FIRST EVALUATION) AND THE Complot**

**SECOND EVALUATION. THE DATA WILL BE PRESENTED AS TWO SUB-PLOTS Complot**

**PER PLOT WITH THE STANDARD CROSS SECTION ON THE UPPER HALF Complot**

**OF THE PLOT AND THE SECOND CROSS SECTION IN THE LOWER HALF OF Complot**

**THE PLOT. Complot**

**Complot**

**(2) THE STANDARD CROSS SECTION (I.E. FIRST EVALUATION) AND THE Complot**

**SECOND EVALUATION. THE DATA WILL BE PRESENTED AS ONE PLOT Complot**

**CONTAINING BOTH THE STANDARD AND SECOND CROSS SECTION. THE Complot**

**STANDARD CROSS SECTION WILL BE PRESENTED AS A SOLID LINE AND Complot**

**THE SECOND CROSS SECTION WILL BE PRESENTED AS A DASHED LINE. Complot**

**Complot**

**(3) THE STANDARD CROSS SECTION, SECOND CROSS SECTION AND RATIO OF Complot**

**THE SECOND CROSS SECTION TO THE FIRST CROSS SECTION. THE DATA Complot**

**WILL BE PRESENTED AS THREE SUB-PLOTS PER PLOT WITH THE Complot**

**STANDARD CROSS SECTION IN THE UPPER THIRD OF THE PLOT, THE Complot**

**SECOND CROSS SECTION IN THE MIDDLE THIRD AND THE RATIO OF THE Complot**

**TWO IN THE LOWER THIRD OF THE PLOT (RECOMMENDED OPTION). Complot**

**Complot**

**(4) THE STANDARD CROSS SECTION, SECOND CROSS SECTION AND RATIO OF Complot**

**THE SECOND CROSS SECTION TO THE FIRST CROSS SECTION. THE DATA Complot**

**WILL BE PRESENTED AS TWO SUB-PLOTS PER PLOT WITH THE STANDARD Complot**

**AND SECOND CROSS SECTION ON THE SAME SUB-PLOT IN THE UPPER Complot**

**TWO THIRDS OF THE PLOT AND THE RATIO OF THE TWO IN THE LOWER Complot**

**THIRD OF THE PLOT. THE STANDARD CROSS SECTION WILL BE Complot**

**PRESENTED AS A SOLID LINE AND THE SECOND CROSS SECTION WILL BE Complot**

**PRESENTED AS A DASHED LINE. Complot**

**Complot**

**ADDITIONAL PLOT FEATURES Complot**

**------------------------ Complot**

**IN ADDITION TO THE CROSS SECTIONS AND/OR RATIO THE FOLLOWING Complot**

**INFORMATIONS WILL BE INCLUDED ON EACH PLOT. Complot**

**Complot**

**(1) AN IDENTIFICATION FOR EACH SET OF CROSS SECTIONS (UP TO 30 Complot**

**CHARACTERS FOR EACH SET). Complot**

**Complot**

**(2) THE MAXIMUM NEGATIVE AND POSITIVE PER-CENT DIFFERENCE BETWEEN Complot**

**THE TWO CROSS SECTIONS. Complot**

**Complot**

**(3) ARROWS INDICATING THE ENERGY AT WHICH THE MAXIMUM DIFFERENCES Complot**

**(MINIMUM AND MAXIMUM RATIO) OCCUR. Complot**

**Complot**

**(4) THE ENERGY LIMITS OF THE RESOLVED AND UNRESOLVED RESONANCE Complot**

**REGION (IF THEY FALL WITHIN THE ENERGY LIMITS OF THE PLOT). Complot**

**Complot**

**RATIO DATA Complot**

**---------- Complot**

**IF RATIO OUTPUT IS REQUESTED THE RATIO WILL BE DEFINED AT EACH Complot**

**ENERGY THAT APPEARS IN EITHER EVALUATION. BETWEEN THESE ENERGIES Complot**

**THE RATIO WILL BE PLOTTED ASSUMING LINEAR DEPENDENCE BETWEEN Complot**

**TABULATED VALUES. FOR HISTOGRAM OR LINEARLY INTERPOLABLE CROSS Complot**

**SECTIONS THIS REPRESENTATION WILL POINT OUT ALL EXTREMA OF THE Complot**

**RATIO, BUT NOT NECESSARILY THE ENERGY DEPENDENCE BETWEEN TABULATED Complot**

**VALUES. Complot**

**Complot**

**IF THE EVALUATED DATA IS NOT IN EITHER HISTOGRAM OR LINRARLY Complot**

**INTERPOLABLE FORM THE RATIO MAY NOT EVEN FIND ALL EXTREMA. FOR Complot**

**EXAMPLE, IF ONE EVALUATION IS LINEARLY INTERPOLABLE AND THE Complot**

**OTHER NON-LINEAR, BUT BOTH AGREE AT ALL TABULATED ENERGIES THE Complot**

**RATIO WILL APPEAR TO BE EQUAL TO UNITY AT ALL ENERGIES, BUT IN Complot**

**FACT THE CROSS SECTION BETWEEN TABULATED ENERGIES MAY BE QUITE Complot**

**DIFFERENT USING LINEAR VS. NON-LINEAR INTERPOLATION. FOR THIS Complot**

**REASON ONLY LINEARLY INTERPOLABLE OR HISTOGRAM DATA IS ALLOWED Complot**

**AS INPUT TO THIS PROGRAM. Complot**

**Complot**

**LINEAR INTERPOLABLE Complot**

**------------------- Complot**

**ALL CROSS SECTIONS MAY BE CONVERTED TO LINEARLY INTERPOLABLE FORM Complot**

**BE USING PROGRAM LINEAR (UCRL-50400, VOL. 17, PART A). Complot**

**Complot**

**HISTOGRAM Complot**

**--------- Complot**

**ALL LINEARLY INTERPOLABLE CROSS SECTION MAY BE CONVERTED TO Complot**

**HISTOGRAM (I.E. MULTIGROUP) FORM BY USING PROGRAM GROUPIE Complot**

**(UCRL-50400, VOL. 17, PART D). Complot**

**Complot**

**INPUT UNITS Complot**

**----------- Complot**

**UNIT DESCRIPTION Complot**

**---- ----------- Complot**

**2 INPUT LINE Complot**

**9 MT DEFINITIONS. Complot**

**10 FIRST ENDF/B FORMATTED EVALUATION (STANDARD). Complot**

**11 SECOND ENDF/B FORMATTED EVALUATION. Complot**

**17 SOFTWARE CHARACTERS. Complot**

**18 SOFTWARE SYMBOLS AND LINE TYPES Complot**

**Complot**

**OUTPUT UNITS Complot**

**------------ Complot**

**UNIT DESCRIPTION Complot**

**---- ----------- Complot**

**3 NORMAL OUTPUT REPORT. Complot**

**16 PLOTTER UNIT Complot**

**Complot**

**SCRATCH UNITS Complot**

**------------- Complot**

**UNIT DESCRIPTION Complot**

**---- ----------- Complot**

**12 SCRATCH UNIT FOR FIRST EVALUATION Complot**

**13 SCRATCH UNIT FOR SECOND EVALUATION Complot**

**14 SCRATCH UNIT FOR RATIO (ONLY USED IF RATIOS REQUESTED). Complot**

**Complot**

**OPTIONAL STANDARD FILE NAMES (SEE SUBROUTINE FILIO1 AND FILIO2) Complot**

**--------------------------------------------------------------- Complot**

**UNIT FILE NAME Complot**

**---- ---------- Complot**

**2 COMPLOT.INP Complot**

**3 COMPLOT.LST Complot**

**9 MT.DAT Complot**

**10 ENDFB.IN1 (OR AS READ FROM INPUT) Complot**

**11 ENDFB.IN2 (OR AS READ FROM INPUT) Complot**

**12-14 (SCRATCH) Complot**

**15 PLOT.CHR Complot**

**16 (PLOTTER UNIT...USUALLY A DUMMY) Complot**

**Complot**

**INPUT PARAMETERS Complot**

**------------------------------------------------------------------ Complot**

**LINE COLUMNS FORMAT DESCRIPTION Complot**

**---- ------- ------ ----------- Complot**

**1 1-11 E11.4 LOWER X LIMIT OF PLOTTER Complot**

**12-22 E11.4 UPPER X LIMIT OF PLOTTER Complot**

**23-33 E11.4 LOWER Y LIMIT OF PLOTTER Complot**

**34-44 E11.4 UPPER Y LIMIT OF PLOTTER Complot**

**45-55 I11 NUMBER OF PLOTS PER FRAME IN X DIRECTION Complot**

**56-66 I11 NUMBER OF PLOTS PER FRAME IN Y DIRECTION Complot**

**67-70 F4.1 CHARACTER SIZE MULTIPLIER Complot**

**= 0 TO 1 - NORMAL CHARACTER SIZE Complot**

**= OTHERWISE - CHARACTERS SCALED BY THIS Complot**

**FACTOR Complot**

**Complot**

**PLOT ORIENTATION IS BASED ON THE UPPER X Complot**

**LIMIT Complot**

**= .GT.0 - X HORIZONTAL/Y VERTICAL Complot**

**= .LT.0 - Y HORIZONTAL/X VERTICAL Complot**

**AFTER TESTING THE UPPER X LIMIT WILL BE Complot**

**SET TO ITS ABSOLUTE VALUE. Complot**

**2 1-72 A72 FILENAME FOR FIRST ENDF/B DATA FILE Complot**

**(LEAVE BLANK FOR ENDFB.IN1) Complot**

**3 1-72 A72 FILENAME FOR SECOND ENDF/B DATA FILE Complot**

**(LEAVE BLANK FOR ENDFB.IN2) Complot**

**4 1-11 I11 RETRIEVAL MODE (0=MAT, 1=ZA) Complot**

**12-22 I11 GRID (SPEED) OPTION. Complot**

**= 0 - TICK MARKS ON BORDER Complot**

**= 1 - SOLID AT COARSE INTERVALS Complot**

**= 2 - DASHED AT COARSE INTERVALS Complot**

**= 3 - SOLID AT COARSE AND FINE INTERVALS Complot**

**= 4 - DASHED AT COARSE AND FINE INTERVALS Complot**

**= 5 - SOLID COARSE/DASHED FINE INTERVALS Complot**

**23-33 I11 SHOULD BORDER BE PLOTTED AROUND EACH PLOT Complot**

**= 0 - NO Complot**

**= 1 - YES Complot**

**34-44 I11 LINE THICKNESS Complot**

**= 0 TO 5 - LINES AND CHARACTERS Complot**

**=-1 TO -5 - ONLY LINES Complot**

**45-55 I11 OUTPUT MODE Complot**

**=-1 - ONLY COMPARISON LISTING. NO PLOTS. Complot**

**= 0 - CROSS SECTION OVER RATIO. Complot**

**= 1 - CROSS SECTION OVER CROSS SECTION. Complot**

**= 2 - TWO CROSS SECTIONS ON SAME PLOT. Complot**

**= 3 - CROSS SECTION OVER CROSS SECTION OVER Complot**

**RATIO. Complot**

**= 4 - TWO CROSS SECTIONS ON SAME PLOT OVER Complot**

**RATIO. Complot**

**56-66 I11 STARTING PLOT NUMBER Complot**

**= 0 - DO NOT NUMBER PLOTS Complot**

**= .GT.0 - NUMBER PLOTS IN LOWER LEFT HAND Complot**

**CORNER STARTING WITH INPUT NUMBER Complot**

**67-70 I41 BACKGROUND COLOR Complot**

**= 0 = BLACK Complot**

**= OTHERWISE = WHITE Complot**

**5 1-11 E11.4 ALLOWABLE FRACTIONAL DIFFERENCE. USED WHEN Complot**

**PLOTTING RATIOS. ANY REACTION WHERE THE Complot**

**TWO EVALUATIONS DIFFER BY MORE THAN THE Complot**

**ALLOWABLE DIFFERENCE WILL BE PLOTTED. IF Complot**

**ZERO IS INPUT THE STANDARD ALLOWABLE Complot**

**DIFFERENCE OF 0.001 (0.1 PER-CENT) WILL BE Complot**

**USED. Complot**

**12-22 E11.4 MAXIMUM ALLOWABLE RATIO. IF RATIOS ARE Complot**

**PLOTTED THEY WILL BE IN THE RANGE RATMAX Complot**

**TO 1/RATMAX. IF 0.0 IS INPUT THERE WILL Complot**

**BE NO LIMIT ON THE RANGE OF THE RATIOS. Complot**

**THIS OPTION MAY BE USED TO IGNORE LARGE Complot**

**DIFFERENCES OVER VERY NARROW ENERGY RANGES Complot**

**(WHICH MAY BE UNIMPORTANT) AND ALLOW ONE Complot**

**TO SEE IMPORTANT, BUT SMALLER DIFFERENCES, Complot**

**OVER EXTENDED ENERGY RANGES. Complot**

**6 1-40 40A1 IDENTIFICATION FOR UPPER EVALUATIONS Complot**

**7 1-40 40A1 IDENTIFICATION FOR LOWER EVALUATIONS Complot**

**(IDENTIFICATIONS SHOULD BE LEFT ADJUSTED Complot**

**TO START IN COLUMN 1). Complot**

**8-N 1- 6 I6 LOWER MAT OR ZA LIMIT (SEE SELECTION MODE, Complot**

**INPUT LINE 1, COLUMNS 1-11). Complot**

**7- 8 I2 LOWER MF LIMIT Complot**

**9-11 I3 LOWER MT LIMIT Complot**

**12-22 E11.4 LOWER ENERGY LIMIT Complot**

**23-28 I6 UPPER MAT OR ZA LIMIT (SEE SELECTION MODE, Complot**

**INPUT LINE 1, COLUMNS 1-11). Complot**

**29-30 I2 UPPER MF LIMIT Complot**

**31-33 I3 UPPER MT LIMIT Complot**

**34-44 E11.4 UPPER ENERGY LIMIT Complot**

**45-55 I11 IDENTIFY EVALUATED DATA POINTS OPTION. Complot**

**= 0 - DO NOT IDENTIFY DATA POINTS. Complot**

**= 1 - IDENTIFY DATA POINTS (BY DRAWING A Complot**

**SMALL BOX AROUND EACH POINT). Complot**

**56-66 I11 INTERACTIVE INPUT FLAG Complot**

**= 0 - NO INTERACTIVE INPUT ALLOWED Complot**

**= 1 - INTERACTIVE INPUT ALLOWED Complot**

**\*SETTING THIS OPTION =1 WILL TURN ON THE Complot**

**MOUSE AFTER EACH PLOT AND ALLOW YOU TO Complot**

**INTERACTIVELY SPECIFY PLOT LIMITS. Complot**

**\*IF YOU DO NOT WISH TO INTERACT WITH A PLOT Complot**

**OR IF YOU HAVE NO INTERACTIVE CAPABILITY Complot**

**THIS OPTION SHOULD BE SET = 0. Complot**

**Complot**

**\*WARNING...DATA POINTS IDENTIFIED OPTION IS Complot**

**NOT RECOMMENDED FOR PLOTS CONTAINING MANY Complot**

**(I.E. THOUSANDS) OF DATA POINTS SINCE IT Complot**

**WILL MERELY INCREASE THE RUNNING TIME OF Complot**

**THE PROGRAM AND STILL NOT ALLOW ONE TO Complot**

**ACCURATELY SEE DATA POINTS. Complot**

**Complot**

**\*UP TO 100 MAT OR ZA RANGES ARE ALLOWED. Complot**

**THE LIST IS TERMINATED BY A BLANK LINE. Complot**

**IF THE UPPER LIMIT IS LESS THAN THE LOWER Complot**

**LIMIT IT WILL BE SET EQUAL TO THE LOWER Complot**

**LIMIT. IF THE FIRST RANGE LINE IS BLANK Complot**

**ALL DATA WILL BE RETRIEVED. IF THE UPPER Complot**

**MT LIMIT IS ZERO IT WILL BE SET EQUAL TO Complot**

**999 (NO LIMIT). IF THE UPPER ENERGY LIMIT Complot**

**IS ZERO IT WILL BE INTREPRETED TO MEAN NO Complot**

**LIMIT. IF THE FIRST RANGE LINE SPECIFIES Complot**

**ZERO LOWER AND UPPER MAT OR ZA RANGE IT Complot**

**WILL TERMINATE THE LIST BE RANGE LINES Complot**

**(A SECOND BLANK LINE NEED NOT BE INPUT) Complot**

**AND THE ENTIRE RANGE OF MATS WILL BE Complot**

**COMPARED FOR THE SPECIFIED MT AND ENERGY Complot**

**RANGES. Complot**

**Complot**

**N+1-M EQUIVALENCES Complot**

**1- 6 I6 MASTER ZA. Complot**

**7- 8 I2 MASTER MF. Complot**

**9-11 I3 MASTER MT. Complot**

**12-17 I6 EQUIVALENT ZA FROM SECOND FILE. Complot**

**18-19 I2 EQUIVALENT MF FROM SECOND FILE. Complot**

**20-22 I3 EQUIVALENT MT FROM SECOND FILE. Complot**

**23-33 E11.4 MULTIPLICATION FACTOR. ANY EQUATED ZA,MF, Complot**

**MT DATA WILL BE MULTIPLIED BY THIS FACTOR. Complot**

**\*THIS OPTION MAY BE USED TO RE-NORMALIZE Complot**

**THE SECOND CROSS SECTION OR IF COMPARING Complot**

**ONE CONSTITUENT OF A MIXTURE TO THE MIXED Complot**

**CROSS SECTION THIS MAY BE USED TO CONVERT Complot**

**THE SECOND CROSS SECTION TO BARNS PER MIXED Complot**

**ATOM BY USING A MULTIPLICATION FACTOR WHICH Complot**

**IS EQUAL TO THE NUMBER OF ATOMS OF THE ONE Complot**

**CONSTITUENT PER ATOM OF THE MIXTURE. Complot**

**= 0.0 - ON INPUT WILL BE INTERPRETED AS 1.0 Complot**

**(WITH THIS CONVENTION THE USER NEED ONLY Complot**

**INPUT MULTIPLICATION FACTORS IF THEY ARE Complot**

**NOT 1.0). Complot**

**\*UP TO 100 MAT OR ZA EQUIVALENCES ARE Complot**

**ALLOWED. Complot**

**\*THE LIST IS TERMINATED BY A BLANK LINE. Complot**

**\*A ZERO INPUT FIELD IMPLIES ALL. TO EQUATE Complot**

**A GIVEN MT NUMBER TO ANOTHER MT NUMBER YOU Complot**

**NEED MERELY SPECIFY ZA=0 ON INPUT. Complot**

**\*NOTE, IN ALL CASES THE TITLE AT TOP OF PLOT Complot**

**WILL ONLY INDENTIFY MASTER (ZA,MF,MT). THE Complot**

**USER INPUT TITLES MUST BE USED TO IDENTIFY Complot**

**THE SECOND REACTION (SEE, EXAMPLE INPUT 4 Complot**

**BELOW). Complot**

**Complot**

**EXAMPLE DEFINITION OF PLOTTER Complot**

**----------------------------- Complot**

**2015 - WARNING - THE FOLLOWING DESCRIPTION IS OUT-OF-DATE. Complot**

**TODAY THE DIMENSIONS OF THE PLOTTER ARE IN INCHES. Complot**

**Complot**

**THE FIRST INPUT LINE DEFINES THE DIMENSIONS OF THE PLOTTER BEING Complot**

**USED IN ANY UNITS (INCHES, CENTIMETERS, MILLIMETERS, ANYTHING) Complot**

**WHICH APPLY TO THE PLOTTER. IN ADDITION THE FIRST LINE DEFINES Complot**

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

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

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

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

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

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

**Complot**

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

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

**LINE SHOULD BE, Complot**

**Complot**

**0.0 10.0 0.0 10.0 3 2 Complot**

**Complot**

**IF THE LOCAL PLOTTER USES DIMENSION OF MILLIMETERS THE SAME Complot**

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

**Complot**

**0.0 254.0 0.0 254.0 3 2 Complot**

**Complot**

**FOR SIMPLICITY THE FOLLOWING EXAMPLE INPUTS WILL NOT DISCUSS THE Complot**

**PHYSICAL DIMENSIONS OF THE PLOTTER AND THE FIRST INPUT LINE WILL Complot**

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

**FRAME. Complot**

**Complot**

**IN THE FOLLOWING EXAMPLES IN ALL CASES THESE OPTIONS WILL BE USED, Complot**

**1) DASHED GRID - COLUMNS 12-22 OF SECOND INPUT LINE = 1 Complot**

**2) NO BORDER - COLUMNS 23-33 OF SECOND INPUT LINE = 0 Complot**

**3) LINE THICKNESS - COLUMNS 34-44 OF SECOND INPUT LINE = -2 Complot**

**4) OUTPUT MODE - COLUMNS 45-55 OF SECOND INPUT LINE = 3 Complot**

**5) FIRST PLOT NUMBER - COLUMNS 56-66 OF SECOND INPUT LINE = 1 Complot**

**Complot**

**EXAMPLE INPUT 1 Complot**

**--------------- Complot**

**RETRIEVE MATS 1023, 1056 AND 1065 THROUGH 1072, MT = 1 AND 2 Complot**

**(TOTAL AND ELASTIC) FROM THE FIRST INPUT FILE AND COMPARE TO Complot**

**ANY SECTION FROM THE SECOND FILE THAT HAS THE SAME ZA/MF/MT. ONLY Complot**

**COMPARE DATA OVER THE ENERGY RANGE 0.1 EV TO 1 KEV. IDENTIFY Complot**

**THE TWO SETS OF DATA AS ENDF/B-V AND ENDF/B-IV, RESPECTIVELY. Complot**

**ONLY PLOT THOSE REACTIONS WHICH DIFFER AT ONE OR MORE ENERGIES Complot**

**BY MORE THAN 1 PER-CENT (NOTE, 1 PER-CENT = 0.01 AS INPUT Complot**

**FRACTION). NO EQUIVALENT REACTIONS ARE SPECIFIED. FILERNAMES Complot**

**ARE STANDARD (THSE CAN EITHER BE EXPLICITLY INCLUDED, OR SIMPLY Complot**

**LEFT BLANK). Complot**

**Complot**

**THE FOLLOWING 12 INPUT LINES ARE REQUIRED. Complot**

**Complot**

**0.0 10.0 0.0 10.0 3 2 Complot**

**ENDFB.IN1 Complot**

**ENDFB.IN2 Complot**

**0 1 0 -2 3 1 Complot**

**0.01 0.0 Complot**

**ENDF/B-V DATA (STANDARD) Complot**

**ENDF/B-IV DATA Complot**

**1023 3 1 0.1 3 2 1000.0 0 Complot**

**1056 3 1 0.1 3 2 1000.0 0 Complot**

**1065 3 1 0.1 1072 3 2 1000.0 0 Complot**

**(TERMINATES REQUEST LIST) Complot**

**(TERMINATES EQUIVALENCE LIST) Complot**

**Complot**

**EXAMPLE INPUT 2 Complot**

**--------------- Complot**

**TO USE ALL OF THE SAME OPTIONS AS SPECIFIED IN EXAMPLE INPUT 1, Complot**

**EXCEPT TO RETRIEVE U-235, U-238 AND PU-239 THROUGH PU-242 THE Complot**

**FOLLOWING 12 INPUT LINES ARE REQUIRED. Complot**

**Complot**

**0.0 10.0 0.0 10.0 3 2 Complot**

**ENDFB.IN1 Complot**

**ENDFB.IN2 Complot**

**1 1 0 -2 3 1 Complot**

**0.01 0.0 Complot**

**ENDF/B-V DATA (STANDARD) Complot**

**ENDF/B-IV DATA Complot**

**92235 3 1 0.1 3 2 1000.0 0 Complot**

**92238 3 1 0.1 3 2 1000.0 0 Complot**

**94239 3 1 0.1 94242 3 2 1000.0 0 Complot**

**(TERMINATES REQUEST LIST) Complot**

**(TERMINATES EQUIVALENCE LIST) Complot**

**EXAMPLE INPUT 3 Complot**

**--------------- Complot**

**TO USE ALL OF THE SAME OPTIONS AS SPECIFIED IN EXAMPLE INPUT 1, Complot**

**EXCEPT TO RETRIEVE AND COMPARE ALL MATS THE FOLLOWING 10 INPUT Complot**

**LINES ARE REQUIRED. Complot**

**Complot**

**0.0 10.0 0.0 10.0 3 2 Complot**

**ENDFB.IN1 Complot**

**ENDFB.IN2 Complot**

**0 1 0 -2 3 1 Complot**

**0.01 0.0 Complot**

**ENDF/B-V DATA (STANDARD) Complot**

**ENDF/B-IV DATA Complot**

**1 1 1 0.0 999999999 0.0 0 Complot**

**(TERMINATES REQUEST LIST) Complot**

**(TERMINATES EQUIVALENCE LIST) Complot**

**NOTE, ZERO LOWER AND UPPER Complot**

**MAT LIMITS INDICATES NO LIMIT. Complot**

**Complot**

**EXAMPLE INPUT 4 Complot**

**--------------- Complot**

**RETRIEVE U-235 AND EQUATE THE FISSION CROSS SECTION (MT=18) ON Complot**

**THE MASTER FILE TO CAPTURE (MT=102) ON THE SECOND FILE. PLOT Complot**

**THE CAPTURE, FISSION AND CAPTURE TO FISSION RATIO OVER THE ENERGY Complot**

**RANGE 0.0253 EV TO 1 KEV. THE FOLLOWING 11 INPUT LINES ARE Complot**

**REQUIRED. Complot**

**Complot**

**0.0 10.0 0.0 10.0 3 2 Complot**

**ENDFB.IN1 Complot**

**ENDFB.IN2 Complot**

**1 1 0 -2 3 1 Complot**

**0.01 0.0 Complot**

**FISSION Complot**

**CAPTURE Complot**

**92235 3 18 0.0253 92235 3 18 1000.0 0 Complot**

**(TERMINATES REQUEST LIST) Complot**

**92235 3 18 92235 3102 (MULTIPLICATION OF 1.0 INFERRED) Complot**

**(TERMINATES EQUIVALENCE LIST) Complot**

**Complot**

**EXAMPLE INPUT 5 Complot**

**--------------- Complot**

**IN DIFFERENT VERSIONS OF THE ENDF/B FORMAT DIFFERENT MT NUMBERS Complot**

**ARE ASSIGNED TO THE SAME REACTION. FOR EXAMPLE, IN ENDF/B-V AND Complot**

**EARLIER VERSIONS OF ENDF/B THE PHOTOELECTRIC CROSS SECTION IS Complot**

**MT=602, WHILE IN ENDF/B-VI IT IS MT=522. IN ORDER TO COMPARE Complot**

**ASSUMING THAT THE MASTER IS ENDF/B-VI AND THE OTHER ENDF/B FILE Complot**

**IS ENDF/B-V (OR EARLIER) YOU MAY EQUATE MT=522 TO 602. Complot**

**Complot**

**WHEN COMPARING PHOTOELECTRIC CROSS SECTIONS WE EXPECT THERE TO BE Complot**

**LARGE DIFFERENCES NEAR EDGES, SINCE IT IS UNLIKELY THAT TWO Complot**

**INDEPENDENT EVALUATIONS USE EXACTLY THE SAME EDGE ENERGIES. FROM Complot**

**A PRACTICAL VIEWPOINT THESE DIFFERENCES ARE NOT IMPORTANT IF THEY Complot**

**ONLY OCCUR OVER NARROW ENERGY RANGES NEAR ENERGIES. HOWEVER THESE Complot**

**LARGE DIFFERENCES MAY MAKE IT DIFFICULT TO SEE DIFFERENCES OVER Complot**

**OTHER ENERGY RANGES, WHICH MAY BE IMPORTANT. IN ORDER TO BE ABLE Complot**

**TO SEE IMPORTANT DIFFERENCES IN THE FOLLOWING COMPARISON WE WILL Complot**

**CONSTRAIN THE PLOTTED RATIO TO THE RANGE ABOUT 0.9 TO 1.1 IN Complot**

**ORDER TO BE ABLE TO SEE DIFFERENCES OF UP TO 10 PER-CENT. WE WILL Complot**

**DO THIS BY SPECIFYING A MAXIMUM RATIO OF 1.1, WHICH WILL IN TURN Complot**

**DEFINE A MINIMUM RATIO OF 1/1.1, OR ABOUT 0.9. Complot**

**Complot**

**IN ORDER TO COMPARE THE PHOTOELECTRIC CROSS SECTION FOR ALL Complot**

**MATERIALS THE FOLLOWING 11 INPUT LINES ARE REQUIRED. Complot**

**Complot**

**0.0 10.0 0.0 10.0 3 2 Complot**

**ENDFB.IN1 Complot**

**ENDFB.IN2 Complot**

**0 1 0 -2 3 1 Complot**

**0.01 1.1 Complot**

**ENDF/B-VI Complot**

**ENDF/B-V Complot**

**023522 999923522 0 Complot**

**(TERMINATES REQUEST LIST) Complot**

**023522 023602 (MULTIPLICATION OF 1.0 INFERRED) Complot**

**(TERMINATES EQUIVALENCE LIST) Complot**

**Complot**

**EXAMPLE INPUT 6 Complot**

**--------------- Complot**

**THE SAME EXAMPLE AS ABOVE, EXCEPT THAT DIFFERENT FILENAMES WILL Complot**

**BE USED TO READ THE DATA FROM A FILE TREE STRUCTURE. THE FOLLOWING Complot**

**11 INPUT LINES ARE REQUIRED. Complot**

**Complot**

**0.0 10.0 0.0 10.0 3 2 Complot**

**/Evaluated/ENDFB6/PHOTON.IN Complot**

**/Evaluated/ENDFB5/PHOTON.IN Complot**

**0 1 0 -2 3 1 Complot**

**0.01 1.1 Complot**

**ENDF/B-VI Complot**

**ENDF/B-V Complot**

**023522 999923522 0 Complot**

**(TERMINATES REQUEST LIST) Complot**

**023522 023602 (MULTIPLICATION OF 1.0 INFERRED) Complot**

**(TERMINATES EQUIVALENCE LIST) Complot**

**Complot**

**EXAMPLE INPUT 7 Complot**

**--------------- Complot**

**THE OUTPUT FOR ALL OF THE ABOVE EXAMPLES ARE ORIENTED WITH X Complot**

**HORIZONTAL AND Y VERTICAL. TO CHANGE THE ORIENTATION OF THE PLOTS Complot**

**YOU NEED MERELY SPECIFY A NEGATIVE UPPER X LIMIT OF THE SIZE OF Complot**

**THE PLOTS ON THE FIRST INPUT LINE. Complot**

**Complot**

**THE FOLLOWING EXAMPLE IS EXACTLY THE SAME AS THE ABOVE EXAMPLE, Complot**

**EXCEPT THAT THE ORIENTATION OF THE PLOTS HAS BEEN CHANGED. THE Complot**

**FOLLOWING 11 INPUT LINES ARE REQUIRED. Complot**

**Complot**

**0.0 -10.0 0.0 10.0 3 2 Complot**

**/Evaluated/ENDFB6/PHOTON.IN Complot**

**/Evaluated/ENDFB5/PHOTON.IN Complot**

**0 1 0 -2 3 1 Complot**

**0.01 1.1 Complot**

**ENDF/B-VI Complot**

**ENDF/B-V Complot**

**023522 999923522 0 Complot**

**(TERMINATES REQUEST LIST) Complot**

**023522 023602 (MULTIPLICATION OF 1.0 INFERRED) Complot**

**(TERMINATES EQUIVALENCE LIST) Complot**

**Complot**

**===== PLOTTER/GRAPHICS TERMINAL INTERFACE ============================= Complot**

**Complot**

**NON-INTERACTIVE Complot**

**------------------------------------------------------------------ Complot**

**THIS PROGRAM USES A SIMPLE CALCOMP LIKE INTERFACE INVOLVING Complot**

**ONLY 5 SUBROUTINES, Complot**

**Complot**

**STARPLOT - INITIALIZE PLOTTER Complot**

**NEXTPLOT - CLEAR SCREEN FOR NEXT PLOT Complot**

**ENDPLOTS - TERMINATE PLOTTING Complot**

**Complot**

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

**END OF CURRENT PLOT OR END OF PLOTTING. Complot**

**IPEN = 2 - DRAW Complot**

**= 3 - MOVE Complot**

**Complot**

**PEN(IPEN) - SELECT COLOR. Complot**

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

**Complot**

**BOXCOLOR(X,Y,IFILL,IBORDER) - FILL A RECTANGLE WITH COLOR Complot**

**X,Y = DEFINE THE CORNERS OF THE BOX Complot**

**IFILL = COLOR TO FILL BOX WITH Complot**

**IBORDER = COLOR OF BORDER OF BOX Complot**

**Complot**

**INTERACTIVE Complot**

**------------------------------------------------------------------ Complot**

**THIS PROGRAM INCLUDES AN INTERACTIVE INTERFACE FOR USE WITH A Complot**

**MOUSE. THE INTERFACE INVOLVES 2 SUBROUTINE, Complot**

**Complot**

**INTERACT(MYACTION) - WHETHER OR NOT INTERACTION Complot**

**MYACTION = 0 - NO (RETURNED BY INTERACT) Complot**

**= 1 - YES (RETURNED BY INTERACT) Complot**

**Complot**

**MOUSEY(IWAY,XI,YI,IWAY1,IWAY2) - READ POSITION OF MOUSE Complot**

**IWAY = 0 - NO INPUT Complot**

**= 1 - LEFT BUTTON Complot**

**= 2 - MIDDLE BUTTON Complot**

**= 3 - RIGHT BUTTON Complot**

**= 4 - KEYBOARD INPUT Complot**

**XI = X POSITION IN LOCAL UNITS Complot**

**YI = Y POSITION IN LOCAL UNITS Complot**

**IWAY1 = MINIMUM ALLOWABLE IWAY Complot**

**IWAY2 = MAXIMUM ALLOWABLE IWAY Complot**

**Complot**

**AS USED BY THIS PROGRAM IWAY1 = 1 Complot**

**IWAY2 = 4 Complot**

**KEYBOARD INPUT (IWAY=4) MEANS NO ZOOMED PLOT REQUESTED. Complot**

**MOUSE INPUT (IWAY=1 TO 3) MEANS A ZOOMED PLOT IS REQUESTED. Complot**

**MOUSEY WILL BE CALLED ONCE TO SEE IF A ZOOMED PLOT IS REQUESTED. Complot**

**IF IT IS XI WILL BE USED TO DEFINE ONE X (E.G., ENERGY) LIMIT OF Complot**

**THE ZOOMED PLOT. MOUSEY WILL THEN BE CALLED A SECOND TIME TO Complot**

**DEFINE A SECOND XI TO DEFINE THE OTHER X LIMIT OF THE ZOOMED Complot**

**PLOT. Complot**

**Complot**

**IF YOU DO NOT WANT INTERACTION YOU SHOULD INCLUDE THE FOLLOWING Complot**

**SUBROUTINES IN YOUR GRAPHIC INTERFACE, Complot**

**Complot**

**SUBROUTINE INTERACT(MYACTION) Complot**

**MYACTION=0 Complot**

**RETURN Complot**

**END Complot**

**SUBROUTINE MOUSEY(IWAY,XI,YI,IWAY1,IWAY2) Complot**

**IWAY=4 Complot**

**XI=0.0 Complot**

**YI=0.0 Complot**

**RETURN Complot**

**END Complot**

**Complot**

**ALTERNATIVE INTERACTIVE Complot**

**------------------------------------------------------------------ Complot**

**IF YOU DO NOT HAVE A MOUSE BUT WOULD STILL LIKE TO INTERACTIVE Complot**

**INPUT YOU CAN REPLACE SUBROUTINE ACTION IN THIS PROGRAM. Complot**

**Complot**

**AS DISTRIBUTED SUBROUTINE ACTION USES A MOUSE TO DEFINE LOWER Complot**

**AND UPPER ENERGY (OR X) LIMITS WHICH ARE USED TO PRODUCE THE Complot**

**NEXT PLOT. A CALL TO ACTION IS OF THE FORM, Complot**

**Complot**

**CALL ACTION(KACTV,XACT1,XACT2) Complot**

**Complot**

**KACTV = 0 - NO INTERACTIVE INPUT Complot**

**= 1 - INTERACTIVE INPUT Complot**

**XACT1 = LOWER ENERGY LIMIT Complot**

**XACT2 = UPPER ENERGY LIMIT Complot**

**Complot**

**IF THERE IS NO INTERACTIVE INPUT THE PROGRAM WILL PROCEED TO THE Complot**

**NEXT PLOT REQUESTED BY NON-INTERACTIVE INPUT. Complot**

**Complot**

**IF THERE IS INTERACTIVE INPUT THE PROGRAM WILL USE XACT1 AND Complot**

**XACT2 TO DEFINE THE ENERGY LIMITS OF THE NEXT PLOT USING THE Complot**

**SAME DATA AS APPEARED ON THE LAST PLOT. AS WITH NON-INTERACTIVE Complot**

**INPUT, IF YOU SELECT AN ENERGY RANGE WHERE THE MAXIMUM DIFFERENCE Complot**

**IS LESS THAN THAT SPECIFIED BY INPUT NO PLOT WILL BE PRODUCED Complot**

**AND THE CODE WILL PROCEED TO THE NEXT PLOT REQUESTED BY Complot**

**NON-INTERACTIVE INPUT. Complot**

**Complot**

**YOU CAN REPLACE SUBROUTINE ACTION FOLLOWING THE ABOVE CONVENTIONS Complot**

**TO ALLOW INTERACTION VIA DIRECT READ OF X LIMITS, LIGHTPEN OR Complot**

**WHATEVER FACILITIES YOU HAVE AVAILABLE. Complot**

**Complot**

**INTERFACING Complot**

**------------------------------------------------------------------ Complot**

**IN ORDER TO INTERFACE THIS PROGRAM FOR USE ON ANY PLOTTER WHICH Complot**

**DOES NOT USE THE ABOVE CONVENTIONS IT IS MERELY NECESSARY FOR THE Complot**

**THE USER TO WRITE 5 SUBROUTINES DESCRIBED ABOVE AND TO THEN CALL Complot**

**THE LOCAL EQUIVALENT ROUTINES. Complot**

**Complot**

**COLOR PLOTS Complot**

**------------------------------------------------------------------ Complot**

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

**TO SELECT ONE OF THE AVAILABLE COLORS. WHEN RUNNING ON A MAINFRAME Complot**

**USING AN IBM GRAPHICS TERMINAL OR ON AN IBM-PC USING A HEWLETT- Complot**

**PACKARD PLOTTER THE GRAPHICS INTERFACE (DESCRIBED ABOVE) WILL Complot**

**PRODUCE COLOR PLOTS. Complot**

**Complot**

**BLACK AND WHITE PLOTS Complot**

**------------------------------------------------------------------ Complot**

**WHEN PRODUCING BLACK AND WHITE HARDCOPY ON A MAINFRAME THE USER Complot**

**SHOULD ADD A DUMMY SUBROUTINE PEN TO THE END OF THE PROGRAM TO Complot**

**IGNORE ATTEMPTS TO CHANGE COLOR. ADD THE FOLLOWING SUBROUTINE, Complot**

**Complot**

**SUBROUTINE PEN(IPEN) Complot**

**RETURN Complot**

**END Complot**

**Complot**

**CHARACTER SET Complot**

**------------------------------------------------------------------ Complot**

**THIS PROGRAM USES COMPUTER AND PLOTTER DEVICE INDEPENDENT SOFTWARE Complot**

**CHARACTERS. THIS PROGRAM COMES WITH A FILE THAT DEFINES THE PEN Complot**

**STROKES REQUIRED TO DRAW ALL CHARACTERS ON AN IBM KEYBOARD (UPPER Complot**

**AND LOWER CASE CHARACTERS, NUMBERS, ETC.) PLUS AN ALTERNATE SET OF Complot**

**ALL UPPER AND LOWER CASE GREEK CHARACTERS AND ADDITIONAL SPECIAL Complot**

**SYMBOLS. Complot**

**Complot**

**THE SOFTWARE CHARACTER TABLE CONTAINS X AND Y AND PEN POSITIONS TO Complot**

**DRAW EACH CHARACTER. IF YOU WISH TO DRAW ANY ADDITIONAL CHARACTERS Complot**

**OR TO MODIFY THE FONT OF THE EXISTING CHARACTERS YOU NEED ONLY Complot**

**MODIFY THIS TABLE. Complot**

**Complot**

**CONTROL CHARACTERS Complot**

**------------------------------------------------------------------ Complot**

**IN THE SOFTWARE CHARACTER TABLE ALL CHARACTERS TO BE PLOTTED WILL Complot**

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

**CURRENTLY CONTAINS 4 CONTROL CHARACTERS, Complot**

**Complot**

**PEN POSITION = 0 Complot**

**---------------- Complot**

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

**ARE PRESENTLY INCLUDED IN THE SOFTWARE CHARACTER TABLE TO ALLOW Complot**

**SHIFTING. Complot**

**Complot**

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

**} = SHIFT DOWN (FOR SUBSCRIPTS..............X= 0.0, Y=-0.5) Complot**

**\ = SHIFT LEFT 1 CHARACTER (FOR BACKSPACE...X=-1.0, Y= 0.0) Complot**

**Complot**

**PEN POSITION =-1 Complot**

**---------------- Complot**

**SELECT THE NEXT PRINTED CHARACTER FROM THE ALTERNATE CHARACTER Complot**

**SET. AT PRESENT THIS CONTROL CHARACTER IS, Complot**

**Complot**

**] = SWITCH TO ALTERNATE CHARACTER SET Complot**

**Complot**

**THESE 4 CONTROL CHARACTERS ARE ONLY DEFINED BY THE VALUE OF THE Complot**

**PEN POSITION IN THE SOFTWARE CHARACTER TABLE (I.E., THEY ARE NOT Complot**

**HARD WIRED INTO THIS PROGRAM). AS SUCH BY MODIFYING THE SOFTWARE Complot**

**CHARACTER TABLE THE USER HAS THE OPTION OF DEFINING ANY CONTROL Complot**

**CHARACTERS TO MEET SPECIFIC NEEDS. Complot**

**Complot**

**THESE CHARACTERS MAY BE USED IN CHARACTER STRINGS TO PRODUCE Complot**

**SPECIAL EFFECTS. FOR EXAMPLE, TO PLOT SUBSCRIPT 5, B, SUPERSCRIPT Complot**

**10 USE THE STRING, Complot**

**Complot**

**}5B{1{0 Complot**

**Complot**

**TO PLOT B, SUBSCRIPT 5 AND SUPERSCRIPT 10 WITH THE 5 DIRECTLY Complot**

**BELOW THE 1 OF THE 10 WE CAN USE THE BACKSPACE CHARACTER TO Complot**

**POSITION THE 1 DIRECTLY ABOVE THE 5 USING THE STRING, Complot**

**Complot**

**B}5\{1{0 Complot**

**Complot**

**TO PLOT UPPER CASE GREEK GAMMA FOLLOWED BY THE WORD TOTAL (I.E., Complot**

**RESONANCE TOTAL WIDTH) USE THE STRING. Complot**

**Complot**

**]G TOTAL Complot**

**Complot**

**NOTE, WHEN THESE CONTROL CHARACTERS ARE USED THEY ONLY EFFECT THE Complot**

**NEXT 1 PRINTED CHARACTER (SEE, ABOVE EXAMPLE OF PLOTTING SUPER- Complot**

**SCRIPT 10 WHERE THE SHIFT UP CONTROL CHARACTER WAS USED BEFORE THE Complot**

**1 AND THEN AGAIN BEFORE THE 0 AND THE BACKSPACE AND SHIFT UP Complot**

**CONTROL CHARACTERS WERE USED IN COMBINATION). Complot**

**Complot**

**IF THESE 4 CONTROL CHARACTERS ARE NOT AVAILABLE ON YOUR COMPUTER Complot**

**YOU CAN MODIFY THE SOFTWARE CHARACTER TABLE TO USE ANY OTHER 4 Complot**

**CHARACTERS THAT YOU DO NOT NORMALLY USE IN CHARACTER STRINGS (FOR Complot**

**DETAILS SEE THE SOFTWARE CHARACTER TABLE). Complot**

**Complot**

**STANDARD/ALTERNATE CHARACTER SETS Complot**

**------------------------------------------------------------------ Complot**

**THE SOFTWARE CHARACTER TABLE CONTAINS 2 SETS OF CHARACTERS WHICH Complot**

**ARE A STANDARD SET (ALL CHARACTERS ON AN IBM KEYBOARD) AND AN Complot**

**ALTERNATE SET (UPPER AND LOWER CASE GREEK CHARACTERS AND SPECIAL Complot**

**CHARACTERS). TO DRAW A CHARACTER FROM THE ALTERNATE CHARACTER SET Complot**

**PUT A RIGHT BRACKET CHARACTER (]) BEFORE A CHARACTER (SEE THE Complot**

**ABOVE EXAMPLE AND THE SOFTWARE CHARACTER TABLE FOR DETAILS). THIS Complot**

**CONTROL CHARACTER WILL ONLY EFFECT THE NEXT 1 PLOTTED CHARACTER. Complot**

**Complot**

**SUB AND SUPER SCRIPTS Complot**

**------------------------------------------------------------------ Complot**

**TO DRAW SUBSCRIPT PRECEED A CHARACTER BY }. TO DRAW SUPERSCRIPT Complot**

**PRECEED A CHARACTER BY { (SEE THE ABOVE EXAMPLE AND THE SOFTWARE Complot**

**CHARACTER TABLE FOR DETAILS). THESE CONTROL CHARACTER WILL ONLY Complot**

**EFFECT THE NEXT 1 PLOTTED CHARACTER. Complot**

**Complot**

**BACKSPACING Complot**

**------------------------------------------------------------------ Complot**

**TO BACKSPACE ONE CHARACTER PRECEED A CHARACTER BY \ (SEE, THE Complot**

**ABOVE EXAMPLE AND THE SOFTWARE CHARACTER TABLE FOR DETAILS). THIS Complot**

**CONTROL CHARACTER WILL PERFORM A TRUE BACKSPACE AND WILL EFFECT Complot**

**ALL FOLLOWING CHARACTERS IN THE SAME CHARACTER STRING. Complot**

**Complot**

**PLOT DIMENSIONS Complot**

**--------------- Complot**

**ARE DEFINED BY USER INPUT. INTERNALLY THE PROGRAM WILL CREATE A Complot**

**PLOT IN APPROXIMATELY A4 OR 8-1/2 BY 11 INCH FORMAT. DURING Complot**

**OUTPUT THE PLOT IS TRANSFORMED TO THE UNITS (INCHES, CENTIMETERS, Complot**

**MILLIMETERS, WHATEVER) OF THE PLOTTER BEING USED AND OUTPUT. Complot**

**Complot**

**===== PLOTTER/GRAPHICS TERMINAL INTERFACE ============================= Complot**

**======================================================================= Complot**