**======================================================================= Endf2c**

 **Endf2c**

 **Program ENDF2C Endf2c**

 **============== Endf2c**

 **Convert ENDF Data to Standard FORTRAN, C and C++ Format. Endf2c**

 **Endf2c**

 **Version 2014-1 Feb. 2014 \* Initial version. Endf2c**

 **2014-2 Oct. 2014 \* Changed from D to E exponential form Endf2c**

 **to improve compatibility between Endf2c**

 **computer languages. Endf2c**

 **2015-1 Jan. 2015 \* General updates for release with Endf2c**

 **PREPRO2015. Endf2c**

 **\* Changed ENDF data filenames from ENDF2C Endf2c**

 **to ENDFB, to agree with PREPRO default Endf2c**

 **definitions. Endf2c**

 **\* Added code name (to be compatible Endf2c**

 **with PREPRO output), but NOT TIME (to Endf2c**

 **keep this code as computer independent Endf2c**

 **as possible). Endf2c**

 **2017-1 May 2017 \* Updated based on user feedbsck Endf2c**

 **2018-1 Jan. 2018 \* Added on-line output for ALL ENDERROR Endf2c**

 **2019-1 June 2019 \* Added /UNITS/ to allow correct output Endf2c**

 **at end = output either o.k. or error. Endf2c**

 **Endf2c**

 **Purpose Endf2c**

 **================================================================== Endf2c**

 **This code is designed for, Endf2c**

 **1) ENDF Data in any ENDF format = ENDF-1 through ENDF-6. Endf2c**

 **2) On any type of computer = 32 or 64 bit system/compiler Endf2c**

 **Endf2c**

 **This code tries to keep things as simple as possible Endf2c**

 **1) There are NO INPUT PARAMETERS. Endf2c**

 **2) It reads an ENDF formatted file named ENDFB.IN Endf2c**

 **3) It writes an ENDF formatted file named ENDFB.OUT Endf2c**

 **4) It writes a report file named ENDF2C.LST Endf2c**

 **Endf2c**

 **Author's Message Endf2c**

 **---------------- Endf2c**

 **I consider insuring that ENDF data is in a standard, officially Endf2c**

 **approved format for FORTRAN, C and C++ is SO IMPORTANT this code Endf2c**

 **does only one thing - and only one thing - and it does it in the Endf2c**

 **simplest possible manner - efficiency is NOT a consideration - Endf2c**

 **ONLY accuracy and general utility of the ENDF data is considered. Endf2c**

 **Endf2c**

 **Method Endf2c**

 **------ Endf2c**

 **Other codes that attempt to do the same thing - including codes Endf2c**

 **written be me decades ago - are very complicated, and therefore Endf2c**

 **ERROR PRONE because they try to deal with each and every variant Endf2c**

 **in which data can be coded in the ENDF format. Needless to say Endf2c**

 **this means that every time the ENDF formats and procedures change Endf2c**

 **these codes MUSE also be changed. Endf2c**

 **Endf2c**

 **In contrast, ENDF2C uses my almost 50 years of experience dealing Endf2c**

 **with the ENDF format to realize that except for the comments at Endf2c**

 **the beginning for each evaluation (MF/MT=1/451), every line of Endf2c**

 **ENDF data is IDENTICAL - in every version of the ENDF format, from Endf2c**

 **the original ENDF to today's ENDF-6. So to translate ENDF data Endf2c**

 **into an official format I do not have to consider differences in Endf2c**

 **each section (MF/MT) of data. Endf2c**

 **Endf2c**

 **Every line of ENDF is divided into 6 fields, each 11 columns wide. Endf2c**

 **Each of the 6 fields is either, blank, integer or floating point. Endf2c**

 **Floating point fields ALL include a decimal point (.). So that ALL Endf2c**

 **this code does is convert every floating point field to standard Endf2c**

 **format. Endf2c**

 **Endf2c**

 **In order to insure that this PRESERVES the accuracy of the data Endf2c**

 **this is done by reading and writing each ENDF line as characters. Endf2c**

 **Blank and integer fields are copied exactly as read. ALL floating Endf2c**

 **point number that are read are converted internally from character Endf2c**

 **to floating point - they are then converted back into characters Endf2c**

 **in a standard, officially approved format, for output. Endf2c**

 **Endf2c**

 **As a last step to insure the accuracy of results the characters Endf2c**

 **to be output are again converted from characters to floating Endf2c**

 **point, and the numerical value that is output is compared to the Endf2c**

 **numerical value originally read, and if there is ANY DIFFERENCE Endf2c**

 **the characters strings read and written are listed in the output: Endf2c**

 **the characters strings read and written as well as the difference Endf2c**

 **is listed in the output report (ENDF2C.LST) and on the screen. Endf2c**

 **Endf2c**

 **Running Time Endf2c**

 **------------ Endf2c**

 **It takes only seconds to translate an ENDF formatted evaluation, Endf2c**

 **so running time need not be a consideration. Concentrate on Endf2c**

 **keeping it simple and reliable - that should be your focus. Endf2c**

 **Endf2c**

 **Documentation Endf2c**

 **------------- Endf2c**

 **ALL of my codes that process ENDF data and change it in ANY WAY Endf2c**

 **document what they have done by adding comment lines at the end Endf2c**

 **of the comment section (MF/MT=1/451) of each evaluation. This Endf2c**

 **allows data users to determine the pedigree of the data they are Endf2c**

 **using, by reading these comments. This code documents what is has Endf2c**

 **done by adding the following 2 comment lines. Endf2c**

 **Endf2c**

 **\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Program ENDF2C (Version 2019-1) \*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Endf2c**

 **Convert ENDF Data to Standard FORTRAN, C and C++ Format Endf2c**

 **Endf2c**

 **WARNING - This documentation is IMPORTANT to data users and it Endf2c**

 **should not be deleted. Endf2c**

 **Endf2c**

 **Written by Endf2c**

 **------------------------------------ Endf2c**

 **Dermott E. Cullen Endf2c**

 **University of California (retired) Endf2c**

 **-----Present Home Address---------------------------------------------- Endf2c**

 **Dermott E. Cullen Endf2c**

 **1466 Hudson Way Endf2c**

 **Livermore, CA 94550 Endf2c**

 **U.S.A. Endf2c**

 **Telephone 925-443-1911 Endf2c**

 **E. Mail RedCullen1@Comcast.net Endf2c**

 **Website RedCullen1.net/HOMEPAGE.NEW Endf2c**

 **Endf2c**

 **======================================================================= Endf2c**