**=======================================================================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 ENDF2CENDF2C**

 **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**

 **2020-1 Feb. 2020 \* Identical to 2019-1. ENDF2C**

 **2021-1 Jan. 2021 \* Updated for FOTRAN 2018 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**

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 **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**

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 **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, fromENDF2C**

 **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 ALLENDF2C**

 **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 characterENDF2C**

 **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 2021-1) \*\*\*\*\*\*\*\*\*\*\*\*\*\*\* 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**

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 **Written by ENDF2C**

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