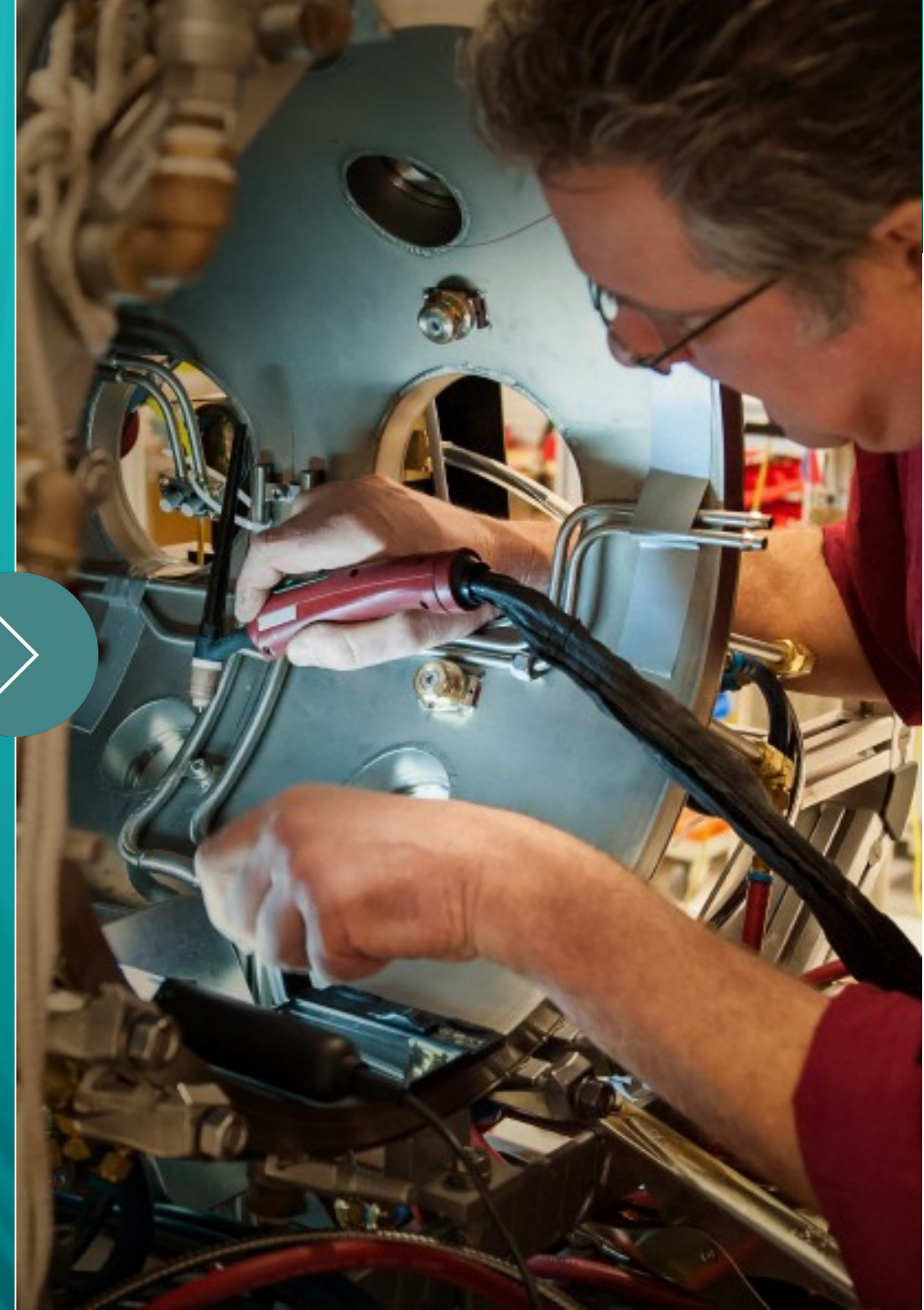# Topic B: IMASification and data structures

TSVV-5 Code Camp

J. Gonzalez; 24-11-2022

DIFFER

NWO

Restructure of MODCLF and MODCOL

MODCLF and MODCOL

- MODCLF and MODCOL are two complex arrays in Eirene:
  - Difficult to understand in the code.
  - Obscure function.

- These arrays have multiple function (Petra identified them all):
  - Indicate the type of variables to use during fitting: MODCLF
  - Link between local index and global index (MODCOL(ICT,1,irxx))
  - Additional information about cross and energy rate (MODCOL(ICT,2,irxx) and MODCOL(ICT,4,irxx))

Solution

- It has been decided to put the relevant information in MODCLF and MODCOL in REACDAT.

- New arrays to relate local to global index reactions.

- Progressive changes testing functionality.

    - Make sure all branching is covered.

    - Specific pipeline of CI cases to test changes. (General improvement to CI in JFZ repository)

    - Short-cycle meeting between ACH, PB, YM and DB.

- Resulting code much clear to understand and expand.

- JG will start to define the new data structures (before the eirene_unified) (Before Jan 2023) (involve PB, YM)

IMASification

Progress towards Eirene IMASisifcation

- Eirene should be able to work with IMAS either standalone or coupled with plasma codes.

  – Take into account different IMAS versions during compilation.

- Excellent progress this year by IPPLM.

  – Validation in Gateway.

- First version to write Grid and Input Tallies.

- Discussion about how to proceed further to store output and surface tallies.

- Future work to implement the routines directly in Eirene.

- TYPE for geometry to be used to Eirene General Grid Element (extension to n vertices).

Thank you for your attention

J. Gonzalez | TSVV-5 Code Camp 2022

DIFFER

Text

- Text