DMP Implementation Status of IPP

2025-04-16

IMAS versions updated on the TOK and Citrix systems

DD	AL	TOK cluster	Citrix system
3.38.1	4.11.4		2023-06-08
3.39.0	4.11.5	2023-07-26	2023-07-31
3.39.0	5.0.0	2023-10-10	
3.41.0	4.11.10	2024-04-17	
3.41.0	2024.07-foss-2023b		2024-08-11
3.42.0	2024.08-foss-2023b		2024-08-13
3.42.0	2024.08.1-foss-2023b	2024-08-23	2024-08-22
3.42.0	2024.08.1-intel-2023b	2024-08-23	2024-08-22
3.42.0	4.11.10		2024-10-09
3.42.0	2024.09-foss-2023b	2024-10-21	2024-10-21
3.42.0	2024.09-intel-2023b	2024-10-21	2024-10-21
4.0.0	2024.12-foss-2023b	2025-01-22	2025-01-22
4.0.0	2024.12-intel-2023b	2025-01-22	2025-01-22

• No change

Simdb1 still broken (imho)

- Still need to separate run files from IMAS IDS files
 - Are we going to tell everybody to change their working style to workaround choices made by the simdb developers?

- And I am currently getting
 - "Error: HTTP error 401 returned from endpoint https://simdb1.eufus.eu/simdb/v1.2/validation_schema"

- Based on "imas:hdf5?user=g2dpc;pulse=68340;run=2;database=tcv;version=3"
 - Initial version had some extraneous information for the second NBI source
 - Fixed
 - New problems
 - Implemented a fix in actors/init_rabbit_wf.py
 - # check and fix some problems
 - for u in nbi.unit:
 - if len(u.power_launched.data) == 0:
 - u.power_launched.data = np.zeros(1)
 - u.power_launched.time = np.zeros(1)
 - if len(u.energy.data) == 0:
 - u.energy.data = np.zeros(1)
 - u.energy.time = np.zeros(1)
 - if len(u.beam_current_fraction.data) == 0:
 - u.beam_current_fraction.data = np.array([[1.0], [0.0], [0.0]])
 - u.beam_current_fraction.time = np.zeros(1)
 - if not imas.imasdef.isFieldValid(nbi.unit[-1].beamlets_group[0].position.r):
 - nbi.unit.resize(len(nbi.unit)-1, keep=True)
 - First part fixes to 2nd injector to make RABBIT happy
 - Second part removes the diagnostic neutral beam which doesn't have position information (expected by RABBIT)
 - Needed to run equilibrium code (CHEASE) since the equilibrium from SPC lacked area

TCV NBI

• Consider a time slice at 1.4 s



Running rabbit on TCV input using eqinput



- Using the default CHEASE choice (p, j) failed
 - Eqinput ended up changing the j in equilibrium because the values in core_profiles were wrong
 - Also change lp
- Tested a version of the workflow which effectively bypassed eqinput
 - CHEASE was OK and so was RABBIT
- Went back to the workflow with eqinput
 - Tried (p', ff')
 - CHEASE failed
 - At Rui's suggestion, tried (p, ff')
 - CHEASE succeeded and RABBIT was fine

Running rabbit on TCV input using (bypassed) eqinput



Running rabbit on TCV input using (bypassed) eqinput



Status of 2025-04-11

Running rabbit on TCV input using (bypassed) eqinput



Status of 2025-04-10



Comparing RABBIT running case with (wrong) positive [left] current and (correct) negative current [right]

Possible COCOS violation:

- If I run p/ff' on the equilibrium from TCV I get a plasma current sign flip
- If I run p/ff' on the equilibrium from TCV but tell it the data is in COCOS17, I get the expected sign of plasma current

In principle, ready to perform TCV interpretative runs

- Will need to port the hacks across from actors/init_rabbit_wf.py
 - Still to be done

Some thoughts about running interpretative cases

- Every case (so far) has required some hacking on the input data
 - Multiple changes to trview for AUG
 - Some fixes for TCV data (both at TCV and how I augment/modify the data)
 - ITER data (from DINA) also required some fixing
 - Don't know about JET data since I don't have any suitable data
 - I haven't tried WEST at all
 - Possible next step?
- Is this the way we want to go?

Data access times



Date on which uda.py was run

Data access times



speed seconds for the command to finish