

TSVV-5 task “Neutral gas module”, 6th regular VC in 2021 (general scope) agenda

Time&date: 28th of May 2021, Fri, 10:45-12:15 CET

Remote connection:

ZOOM: <https://us02web.zoom.us/j/9668661218>

Dmitriy Borodin's Personal Meeting Room

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Agenda:

- 1) *Greetings, wiki updates, agenda approval (3-5 min)*
- 2) **News (10 min)**
 - a. IAEA GNAMPP
[AMD Unit: GNAMPP Research Group: EUROfusion TSVV-5 \(Theory, Simulation, Validation and Verification\) task "Neutral Gas Dynamics in the Edge" \(iaea.org\)](#)
 - b. TSVV-5 at INDICO now: <https://indico.euro-fusion.org/category/278/>
 - c. Dedicated meetings: CRPs in EIRENE, figures of merit for FKH
 - d. TSVV-05 -- Neutral Gas Dynamics in the Edge · Indico (euro-fusion.org)
 - e. ?..
- 3) **Discussion on FKH “test bed” case for assessment of performance and accuracy (15 min)**
- 4) **Preparation for the code leaning code camp (10 min)**
 - a. Do we wish OOP?.. What will be the OOP concept of the code? Strategy for transition?
 - b. Keep FORTRAN or move to C++?
 - c. Selection of basic application case(s) for development
 - d. Unit tests for particular modules?..
 - e. Convert part of the pre/post processing routines to flexible script high-level languages to avoid direct interaction of users with the core.
 - f. **Where and how to draw the line between the starter and the core?..**
 - i. **Precisely define the goals. Link the means and the goals.**
 - g. Naming conventions and other style issues
 - h. Future extensions e.g. multiple particles? BGK?.. Note to keep the structure flexible enough.
- 5) **Formal timeline (based on proposal, but adopted for formal requirements and less detailed) (10 min)**
- 6) **Upcoming topical meetings (5 min)**

Ideas:

- *S.Wiesen “Photon tracing in EIRENE – history and perspectives”*
- *ITER/DEMO requirements for EIRENE simulations*
- *ACH presentations*
 - o *VTT on EUDAT, metadata, etc.*
 - o *ACH IM (GS (WD), EW (JG), ... DB)*
- *Links to other TSVVs*
 - o *TSVV3 – sources and terms from EIRENE to gyrofluid models (M.Wiesenberger?); Time-dependent aspects (P.Tamain?..)*

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7) **Publication plans, IAEA paper (3 min)**
a. Note the endorsement procedure!..

8) **Code development issues and ideas** (more reported?.. 5 min)

- ITER request on CX reaction scaling (species-specific): can we do some testing?..
- Interaction with ACHs?..

9) **AOBs (3min)**

Action	Responsible	Date
Organise systematic catalogued saving of EIRENE (and EIRENE-CFD) runs <ul style="list-style-type: none"> - Communicate with Juelich SimLab (P.Gibbon) - Start testing EUDAT tools - Collect similar info about SimDB - What we can do with IMAS - Support from the ACH D (incl. EUDAT) 	All DB DH EW	Update on the progress, Next VC
Use experience with new DIFFER postdoc starting soon to work with EIRENE to document the technical details <ul style="list-style-type: none"> - Wiki "How to run EIRENE" with options for various relevant environments - Clarify using Phortran (Eclipse) including free-format Fortran issue - Document using of GIT repository including issue card system 	PB/JG/EW	Next VC - update
Investigate the situation with standard MC solvers available in the World <ul style="list-style-type: none"> - Military department "Tripoly" code - Commercial and open source solvers 	YM DB, GS	?..
Improve publication section at the wiki Compile a list of publications both already released as well as ones in preparation or just planned	DB RU CPs (YM, WD, EW, DB)	Good progress, but more can be done
Unification of source repositories SOLPS-ITER main focus for now	DB/WD/YM	?..

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| <ul style="list-style-type: none">- DH: JET/ITER repos. E-Edge2D is on the way of reunification with FZJ “developer” branch for E (CS bundling was the issue)- PB/YM – CI case for OpenMP version- Support from the ACH? | | |
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