



TSVV-J Regular Meeting 4

📅 lunes 13 jul 2026, 11:00 → 11:40 Europe/Berlin

📍 <https://us02web.zoom.us/j/88388003932?pwd=RFxfhwMoAS45gf2FORf0aZ5xGGaeML.1> (Zoom)

11:00 → 11:10 **TSVV-J updates**

Ponente: Jose Manuel Garcia Regana (CIEMAT)

🕒 10m



11:10 → 11:40 **Update on quasilinear modeling in W7-X and H-J**

Ponente: Lorenz Brössner (DIFFER)

🕒 30m



Update on the CPU/GPU usage



New PITAGORA project FUPA2_STELTURB (CPU) and FUPB2_STELTURB (GPU) are running

	CPUHours Requested (Mh)	CPUHours Granted (%)	CPUHours Granted (Mh)	CPUHours Spent (Mh)	CPUHours Spent (%)
stella	69.68	29.56%	60.55	19.52	32.25%
EUTERPE	86.41	36.66%	75.08	4.36	5.81%
GENE3D	54.61	23.17%	47.45	0.00	0.00%
GENE	25.00	10.61%	21.72	31.82	146.47%
Total	235.70	100%	204.80	55.70	27.20%

	GPUHours Requested (th)	GPUHours Granted (%)	GPUHours Granted (Mh)	GPUHours Spent (Mh)	GPUHours Spent (%)
GX	42.67	12.87%	2.73	0.00	0.00%
GENE	288.89	87.13%	18.49	3.13	16.91%
DESC	0.01	0.00%	0.00	0.00	0.00%
Total	331.57	100%	21.22	3.13	14.73%

To keep track you own **CPU** or **GPU** usage:

```
>saldo -r --dcgp -s 202603 -e 202603 -a FUPA2_STELTURB
>saldo -b -dcgp
```

```
>saldo -r -s 202603 -e 202603 -a FUPB2_STELTURB
>saldo -b
```

Where do we stand?



- D and M progress update on Sept. 14 and Oct. 19

J. M. García-Regaña: D.FAST-TURBTRANSP + RM-ZFLOWS

E. Sánchez, J. Riemann: D.EM-GLOBALTURB

A. Zocco: D.RM-EM-ELEC

A. Bañón-Navarro: D.W7X-PART-TRANSP, M.RM-W7XEXP

H. Thienpondt: M-STELLA-RELEASE, M.ITG-WITH-Z, M.IMAS-TURB-DB

M. Barnes: M.EM-GLOBALTURB

M.J. Pueschel: D.RM-ESTURB, M.RM-DISP-REL

J. Ball: D.TURB-SELFINTER*

Description of deliverables	
To be accomplished in 2026	
D.FAST-TURBTRANSP Rapid turbulence diagnostic tool based on an initial electrostatic turbulent transport database (see related milestone M.IMAS-TURB-DB). Part: JGR*, HT, CS, ES, ACH support staff, W7-X team.	
D.RM-ZFLOWS Derive linear-simulation quantities that maximize ultra-low-frequency, large-amplitude zonal oscillations in optimized stellarators by correlating nonlinear and linear spectra across configurations from TSVV-I/TSVV. Participants: CS*, JGR, ES, HT.	
D.EM-GLOBALTURB Study of electromagnetic turbulence through global simulations with EUTERPE for specific discharges and experimental profiles from W7-X and TJ-II. Participants: ES*, JGR, JLV, HT, CS, JR, RK.	
D.RM-EM-ELEC Development of reduced electromagnetic electron models to accelerate turbulence optimization by formulating velocity-space spectral representations of the electron distribution function to predict key instabilities—electromagnetic trapped-electron modes and microtearing modes. Participants: AZ*, KA, GA, LP.	
D.W7X-MTM Investigation of the role of Microtearing Modes (MTMs) during high-performance operational phases in W7-X (M) validate or refute the local approximation by comparing local GENE and global GENE-3D simulations. Participants: ABN*, DF, HCC.	
D.W7X-PART-TRANSP Quantify impurity and main ion transport during high-performance phases in W7-X GENE simulations alone and with GENE-KNOSOS-Tango framework. Participants: ABN*, HCC, DF.	
D.RM-ESTURB Study of electrostatic turbulence in arbitrary 3D magnetic geometry by means of reduced models (see milestones M.RM-DISP-REL and M.RM-QL-FLUXES Participants: MM, MJ, AZ, JP.	

Milestones (The superindex “*” denotes the responsible person(s) of each milestone)

No	Title	Description	Expected date
1	M.STELLA-RELEASE	Integration of the different versions of the code into a single one, along with documentation of the source code and its diagnostics and data management suite (GA*, HT*, MB)	June. 26
2	M.FFS-EM-STELLA	Numerical implementation of electromagnetic fluctuations for flux annulus simulations in stella (MB*, DK, GA, HT).	Dec. 26
3	M.IMAS-TURB-DB	Stellarator core turbulence database for W7-X with flux-tube simulations (HT*, JGR*, CS, ACH Support).	Dec. 26
4	M.ITG-WITH-Z	Model and tool for the fast evaluation of the effect or impurities on toroidal ITG stability for arbitrary geometry (HT*, IC, JGR).	Dec. 26
5	M.RM-DISP-REL	Fast geometry-sensitive dispersion relation solver for ITG and TEM leveraging model reduction (MJ*, MM, JP).	Dec. 26

3 | Scientific Proposal

CFP-FSD-AWP26-TM-07 / TSVV-J: Stellarator Core Turbulence

6	M.RM-W7XEXP	Reduced models and scaling laws for heat and particle fluxes in W7-X using existing validated databases validated against experiments (ABN*, DF, HCC).	Dec. 26
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*2027 deliverable.

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J. M. García-Regaña: D.FAST-TURBTRANSP + RM-ZFLOWS

E. Sánchez, J. Riemann: D.EM-GLOBALTURB

A. Zocco: D.RM-EM-ELEC

A. Bañón-Navarro: D.W7X-PART-TRANSP, M.RM-W7XEXP

H. Thienpondt: M-STELLA-RELEASE, M.ITG-WITH-Z, M.IMAS-TURB-DB

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- I will circulate a poll so that you can indicate your preference between the two meeting days.
- Feel free to include any relevant work not originally foreseen in the proposal.
- Please also report any deviations from the original work plan.

X GENE simulations alone and with GENE-KNOSOS-Tango framework. Participants: ABN*, HCC, DF.

D.RM-ESTURB Study of electrostatic turbulence in arbitrary 3D magnetic geometry by means of reduced models (see milestones M.RM-DISP-REL and M.RM-QL-FLUXES Participants: MM, MJ, AZ, JP.

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Next meetings

September 14, October 19