



MPG activities in 2022 on WEST and W7-X samples (MPG)

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Determine deposition / erosion pattern on WEST PFUs



- Analyses on entire and segments of PFUs

- Specially designed erosion marker tiles (additional W/Mo marker coating on the W/Mo-coated graphite PFU)
- Mounted before start-up of WEST project and dismantled after different campaigns: C3, C4 and C5
 - Analyses with SEM and IBA of entire marker PFUs on top surface and on tiles sides

- ITER-like PFUs composed of 35 W monoblocks (MBs) exposed to some campaigns
 - Analyses with SEM and IBA of segment of ITER-like PFU on the top surface as well as in toroidal (between MBs) and in poloidal gaps (sides on MBs) regarding deposition and damaging, e.g. cracking

- Cutting in smaller specimens for further analyses
 - many associations involved

PFU = plasma-facing unit

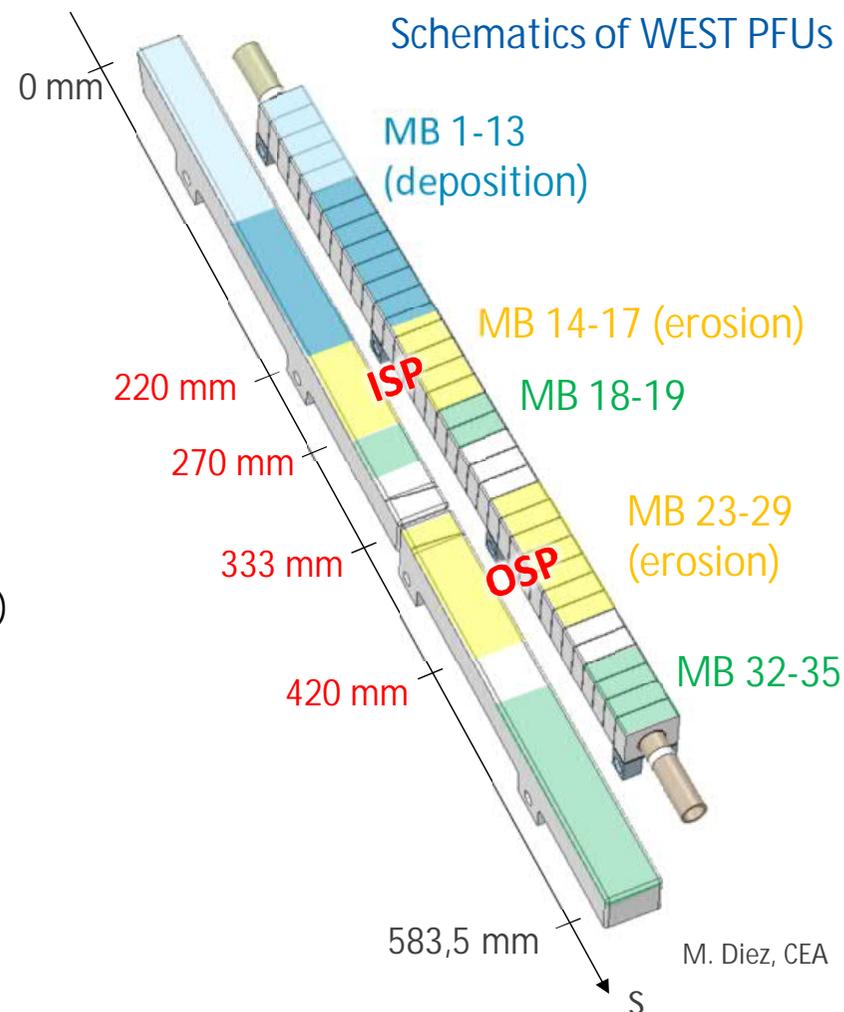
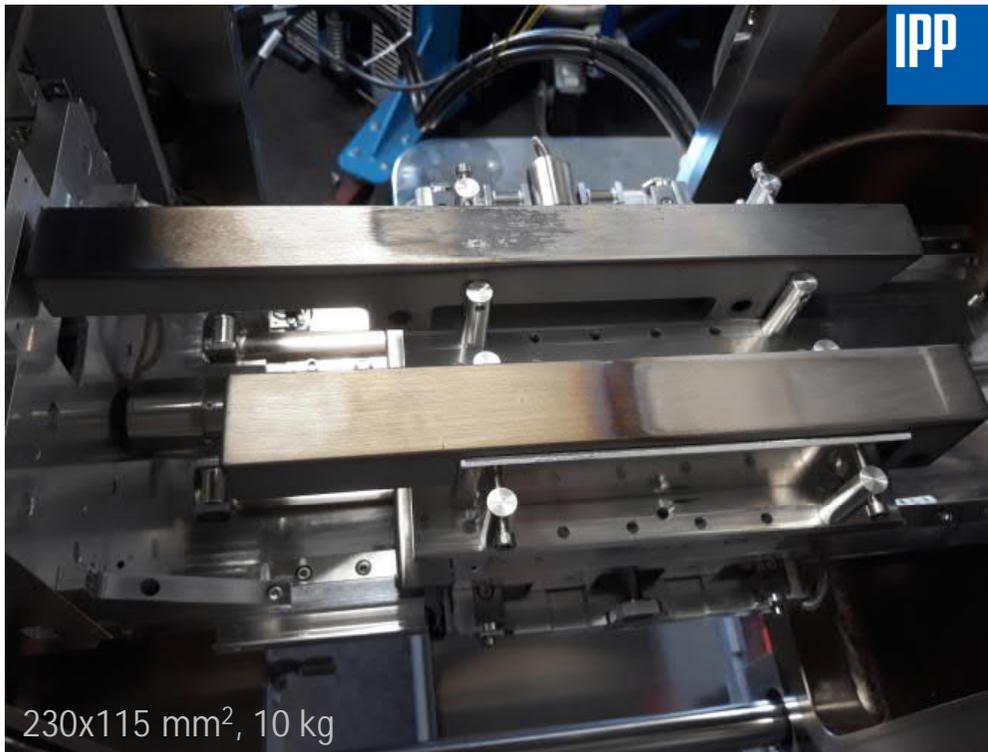


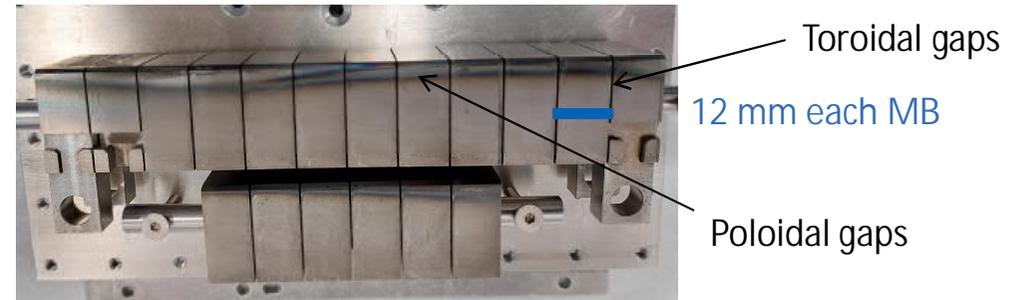
Illustration: WEST PFUs



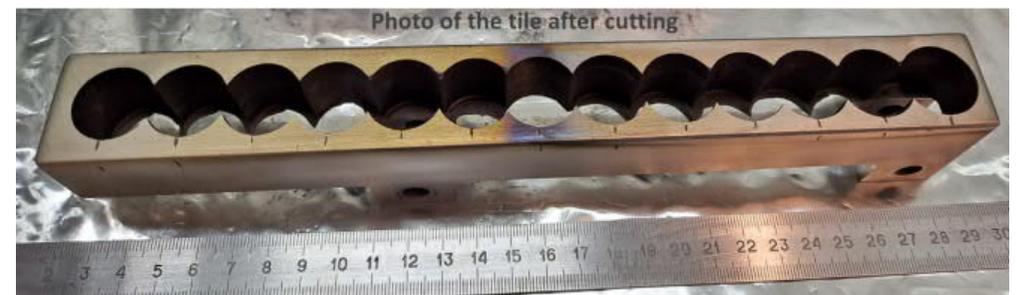
WEST marker PFUs mounted on AURIGA heavy-load stage



ITER-like PFU segments mounted for analyses



WEST marker PFU after core drilling
still usable for analyses of sides (poloidal gaps)



WEST: Overview of sub-tasks



	Sub-task	Microscopy (SEM / CLSM)	RBS / NRA	Evaluation	Other institutions	Status	Publication
Task 2021: finished	1 C3-marker top surface	done	done	done	yes	finished	finished
	2 C4-marker top surface	done	done	finished	yes	finished	finished
Started in 2021	3 C3-marker gaps	done	done	ongoing	no	ongoing	PSI 2022
	4 C4-marker gaps	done	done	pending	no	ongoing	pending
New urgent sub-task	5 C4-ITER-like UPF top surface	done	done	ongoing	yes	ongoing	pending
	6 C4-ITER-like PFU gaps	done	done	ongoing	no	ongoing	ongoing
Postponed after 5 & 6	7 C5-marker top surface	ongoing	pending	pending	yes	ongoing	pending
	8 C5-marker gaps	pending	pending	pending	no	pending	pending

Published [M. Balden et al., 2021, Phys. Sci. 96 124020]

Ready to ship back to CEA for cutting

Erosion/deposition pattern overview: Published

Fig. 2

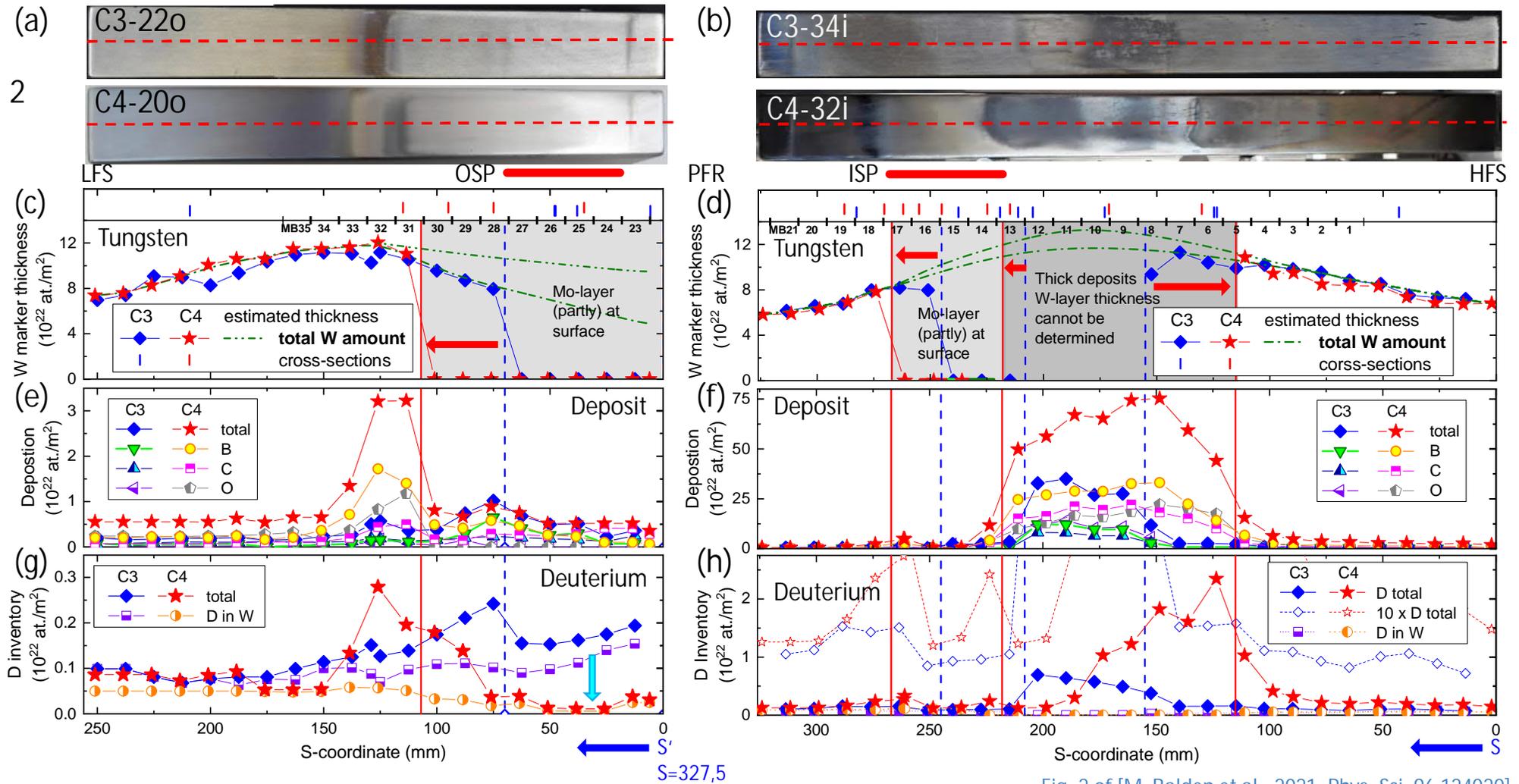


Fig. 2 of [M. Balden et al., 2021, Phys. Sci. 96 124020]