

EURIZON Annual Meeting 2023

WP6 - "Technology development for future high-power laser facilities"

Parallel session summary

Lead beneficiary : CEA

Catalin MIRON, CEA-LIDYL

10 February 2023, Darmstadt, Germany



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WP6 : Transition from CREMLINPlus to EURIZON

CREMLINPlus (01/02/2020 – 23/02/2022)	Lead beneficiary	EURIZON (24/02/2022 – 31/01/2024)	Lead beneficiary
Task 6.1A – Using relativistic plasma mirrors as ‘light condensers’	CEA (FR)	Task 6.1 – Intensity enhancement of high-power ultrashort laser beams using optically controlled curved plasma mirrors	CEA (FR)
Task 6.1B - Temporal contrast improvement CafCA - completed	IAP (RU)		
Task 6.1C - Two-stage nonlinear compression of fs laser pulses – only simulations	IAP (RU)		
Task 6.2A – Advanced metrology of ultrashort laser beams (Experiment@IAP)	CEA (FR)	Task 6.2 – Advanced metrology of ultrashort laser beams (SC@SourceLab)	CEA (FR)
Task 6.2A – Non-linear devices for E-field reconstruction – intended for the last 24M	IAP (RU)		
Task 6.3 – Training and scientific exchange involving ELI-DC AISBL (BE)	LLE AISBL (BE)	Task 6.3 – Training and scientific exchange involving ELI ERIC (CZ)	LLE AISBL (BE)



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WP6 : Work progress

Task 6.1 – Intensity enhancement of high-power ultrashort laser beams using optically controlled curved plasma mirrors – **completed**

Task 6.2 – Advanced metrology of ultrashort laser beams – **ongoing (40%)**

- SourceLab SME subcontracted in June 2022
- numerical studies, control software & hardware provisioned
- prototype assembly and tests will be finalized by the end of 2023

Task 6.3 – Training and scientific exchange – **ongoing (66%)**

- 2 out of the 3 knowledge sharing and training sessions organized
- complementary training session to be organized in 2023



WP6 : EURIZON Deliverables and Milestones

Deliverable / Milestone	Lead beneficiary	Status	Delivery date
D6.1 Training event on beam delivery and propagation at extreme intensities (M15)	LLE AISBL	Postponed to M30 by amendment due to COVID-19 travel restrictions	10.08.2022
D6.3 Training event on pulse metrology, techniques and challenges (M28)	LLE AISBL	Postponed to M34 by amendment due to COVID-19 travel restrictions	25.11.2022
MS32 Workshop : improving spatio-temporal metrology of high- power fs lasers (M36)	CEA	Workshop held on 12/05/2022	04.02.2023
D6.4 Conceptual design towards extreme intensities using plasma mirrors (M36)	CEA	Delivered	04.02.2023
D6.6 Training event on pulse metrology, techniques and challenges (M42)	LLE AISBL	Pending	-
D6.8 Prototype for spatio-temporal metrology of high-power fs lasers (M48)	CEA	Pending	-

The activities have been refocused to benefit the whole European high-power laser community



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