

HASPIDE



***Hydrogenated Amorphous Silicon Pixel Detectors
for ionizing radiation***

L. Servoli on behalf of HASPIDE Group



Summary



- 1) *Status of the experiment (Leonello)*
- 2) *Status of WPs and future work (all) (keep this informative, no detailed presentations)*
- 3) *Fixing of dates for 2024 General Meetings; (all)*
- 4) *Discussion about location for General Meeting in presence. (all)*
- 5) *Conference policy (money....) (Leonello + all)*
- 6) *Editorial Board report (Conferences + paper status and paper planning)*
- 7) *Discussion about IBA contacts (Nicholas + Cinzia)*
- 8) *AoB*



HASPIDE Status

1) Total money assigned to the project by INFN up to now:

2022 = 201.5 k€ + 48 k€ (2 AdR)

2023 = 121.0 k€ + 96 k€ (4 AdR)

2024 = 263.0 k€

Total = 729.5 k€

Total HASPIDE project should not exceed 1.0 M€.



HASPIDE Status

2) AdR saga: 6+1 this year (Milano for WP2)

All selections have been done, some more than once...
Last one is the AdR dedicated to WP5 (FI-Urbino)
To be reopened due to missing candidates

3) 11 2024 Milestones

3 for WP1, 3 for WP2, 1 for WP3
2 for WP4, 1 for WP5, 1 for WP6



2024 HASPIDE Milestones: (1)



31-12-2024	WP1: qualificazione della produzione dispositivi presso Sezione RM1 con tecnica PECVD. 	0
31-12-2024	WP1: Produzione sensori ottimizzati per i WP applicativi da parte di EPFL 	0
31-12-2024	WP1: Misura completa di caratterizzazione spettroscopica di substrati prodotti nelle varie sedi dell'esperimento (EPFL, LE, Roma1) utilizzando il sistema messo in funzione a Perugia. 	0
31-12-2024	WP2: Sottomissione ASIC CLEOPATRA 	0
31-12-2024	WP2: Scelta sistema per lettura in pulse mode di sensori HASPIDE 	0



2024 HASPIDE Milestones: (2)



Milestones Concordate		
Data	Descrizione	Completamento
30-08-2024	WP2: Test completo di acquisizione miniASIC CLEOPATRA con sensori su fascio. 	0
15-11-2024	WP3: Simulazione TCAD per analisi tempo-variante del silicio amorfo idrogenato per studio della efficienza di raccolta di carica. 	0
30-11-2024	WP4: Dosimetria piccoli campi con rivelatori HASPIDE e confronto con dosimetria standard 	0
30-11-2024	WP6: Test dei dispositivi per la rivelazione dei neutroni termici. 	0
15-12-2024	WP5: Definizione del dimostratore dello strumento per misurare le SEPs nello spazio. 	0
15-12-2024	WP4: Dosimetria in vivo su fantoccio antropomorfo. 	0



2024 Activities: Trento



We obtained a beam test time between end of april - beginning of may at proton accelerator in Trento.

→ *Goal of the test: WP1 + WP4 + WP5*

WP1: response to protons of different energies, find sensitivity.

WP4: proton flux measurement + proton beam dosimetry?

WP5: low flux proton measurement as an input to design of demonstrator of SEP measurement in space.



2024 Activities: CNAO



We have applied also for beam test period at CNAO for both carbon ions and protons.

Again both at clinical fluxes and low flux.

WP1, WP4, WP5 are interested in this beam test, same as Trento beam test.



2024 Activities: Perugia

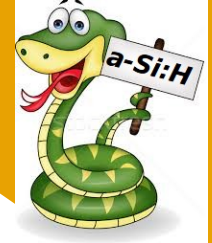


There will be the presence of a FLASH electron accelerator in Perugia Hospital for 1 year starting probably next july.

We are discussing with the Leader of this project (Prof. Cynthia Aristei, Medicine Department, Univ. Perugia) to have access to the accelerator to perform tests with our devices.



2024 Activities: *Contacts with IBA*



There have been some contacts from IBA concerning possible use of a-Si:H devices for flux or dosimetry measurements.

Both Cinzia and Nicolas have been contacted in different meetings.

We are starting to define what would be our ideas about that.



2025 HASPIDE:

I think a further 1-year extension for HASPIDE could be presented to INFN.

- delays in the planned timeline in most of WPs (expected)*
- new developments and ideas*
- need to test devices and readout chip developed in 2024*
- need to finalize data analysis*
- presentation of results at conferences and paper writing*
- preparation for possible follow-up of HASPIDE.*



2025 HASPIDE:

I think a further 1-year extension for HASPIDE could be presented to INFN.

Internal HASPIDE discussion in spring 2024.

We will have a limited amount of money that could be requested, mainly:

- travel money*
- consumables*
- beam tests money*
- no instrumentation, exception for repair or substitution of broken items.*