

WG4 April Meeting

Agenda

- Agenda <https://agenda.infn.it/event/35772/>
- 1) Updates from COST action, WGs etc.
- 2) Updates on WG4 Report
(<https://it.overleaf.com/project/63d9343a636703cce78fecc5>)
- 3) Talk by Ciaran on his package <https://cajohare.github.io/AxionLimits/>
and new ideas for data combination etc.
- 4) Preparation of the agenda for the next meetings: Talks on Experiments, R&D, Research infrastructures, Theory models, etc.

COST Events

- Registration to the 1st Training School of the COST Action CA21106 are open on the webpage https://agenda.infn.it/e/CA21106_Training_School

The deadline for application is 31st May.

The School will take place in Lecce (IT) from 11-14 September 2023.

We plan to provide financial support up to 30 participants interested in attending the School. In order to apply for this grant, you have to check the eligibility conditions and follow the procedure indicated on the webpage.

You will receive confirmation of the financial support just after the deadline. Since Lecce is a touristic city it is recommended to book your hotel in advance.

Please notice that the School will take place just after the 1st General Meeting in Bari (5-8 September) <https://agenda.infn.it/event/34125/> which is very close to Lecce. So it would be a good idea to combine both the events.

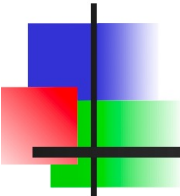
COST School - Referees

- Dear WG Leaders,

another task. Please try to find 3-4 people in each WG who are available to process the applications for the training School. They should be active especially in the period 1-10 June.

Let's try to have some names by 20th April.

Best regards,
Alessandro



Synergies Between Muon Collider and other Physics Opportunities



<https://indico.cern.ch/event/1260921/>

IJCLab is located on the Université d'Orsay Paris-Sud Campus, 25 kilometers southwest of Paris

June 22-23

Synergy with WISPS “Axion searches using RF equipment and large aperture solenoids” and “Exotic particle production using the proton driver”

Talk on “Current status of axion searches with cavities and future prospects” “Beam dump experiment with proton driver”

News from contact persons

WG1	Mario Reig
WG2	Jose Cembranos
WG3	Maurizio Giannotti
WG3	Federico Urban
WG5	Serkant Cetin
WG5	Loredana Gastaldo
PBC Tech	Pierre Pugat
PBC Tech	Giovanni Cantatore

CosmicWispers WG4 Report: WISPs direct searches

Claudio Gatti¹, Marin Karuza², ...

¹INFN

Abstract.

This year plan: “State of Art on EU WISP searches”

0) Collect 1 or 2 pages for each EU experiment on WISPs

1) Collect 1 or 2 pages for EU each infrastructure related to WISPs

2) Collect 1 or 2 pages on ongoing R&D in EU related to WISPs

3) Produce first plots with only EU experiments from AxionLimits

1. Introduction

2. Theory

3. EU Experiments

- ALPS arXiv:2009.14294
- AURIGA Phys. Rev. Lett. 118, 021302 – Published 12 January 2017
- BASE
- BRASS
- CADEx
- CASPEr
- CAST [1] something and [2]
- CROWS
- DALI
- DAMIC
- DAMNED
- DarkSide
- EDELWEISS
- FLASH
- FUNK
- GEO600
- GNOME
- GrAHal
- IAXO
- JEDI
- LOFAR
- MADMAX
- MAGIC
- nEDM
- OSQAR
- PVLAS
- QUAX arXiv:2304.07505v1
- RADES
- SHIPS
- SHUKET
- VMB@CERN
- WISPDMMX
- WISPLC

3.1. ALPS Experiment

3.2. AURIGA Experiment

4. Summary Plots

5. Ongoing EU R&D

5.1. Resonators

5.2. Magnets

5.3. Sensors

6. EU WISP Infrastructures

7. Discussion

8. Conclusion

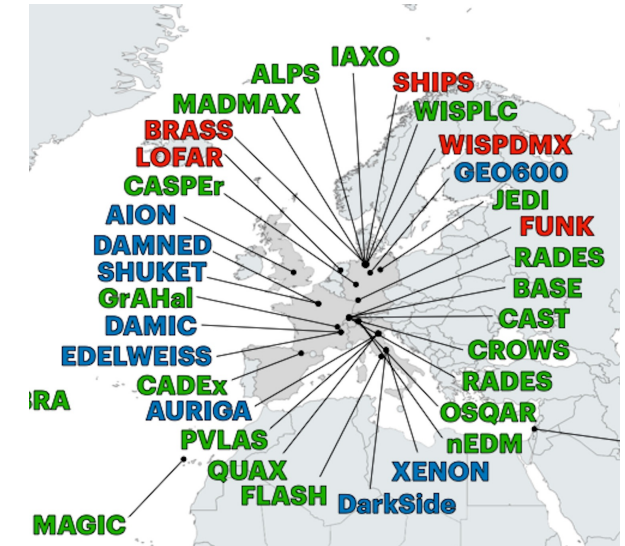
Acknowledgments

COST action Cosmic Wisperes.

References

- [1] C. M. Adair et al. Search for Dark Matter Axions with CAST-CAPP. *Nature Commun.*, 13(1):6180, 2022.
- [2] Albert Einstein. Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]. *Annalen der Physik*, 322(10):891–921, 1905.

<https://it.overleaf.com/project/63d9343a636703cce78fecc5>



<https://cajohare.github.io/AxionLimits/>

Forthcoming talks in the next meetings

- Kristian Zarb Adami “prospects for SKA wisps searches”
- Jessica Golm “YBCO cavities” (July or later)
- Hugo Tercas “Axion in Plasma”
- Le Hoang Nguyen “BRASS” (thu 25 or fri 26 May)
- Marios Maroudas “WISPF1” (June mon 26)
- Marin Karuza/Giovanni Cantatore “Search for Chameleons”

Outcomes&Discussions

- Share Ciaran slides/proposal with other WG leaders
- Provide SME inputs for dissemination plan
- Provide access to Report on overleaf
- Doodle 25-26 May for next meeting
- Models inputs from WG1-2: spin 2 (<https://arxiv.org/abs/1706.07818>), Chameleons
- Einstein Rings paper: <https://www.nature.com/articles/s41550-023-01943-9>
- HFGW Grahal: <https://arxiv.org/pdf/2303.06006.pdf>
- PBC Technology meeting 11 May