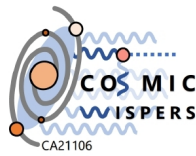


# 2nd General Meeting of COST Action COSMIC WISPerS (CA21106)



ISU | ISTINYE  
UNIVERSITY  
I S T A N B U L



 **cost**  
EUROPEAN COOPERATION  
IN SCIENCE & TECHNOLOGY



Funded by the  
European Union

## Report of Contributions

Contribution ID: 1

Type: **not specified**

# Welcome

**Session Classification:** Management Committee

Contribution ID: 2

Type: **not specified**

## **Status and Perspectives on Axion searches**

*Tuesday, 3 September 2024 09:20 (40 minutes)*

**Presenter:** GIANNOTTI, Maurizio (Universidad de Zaragoza)

**Session Classification:** WG4 (Experiments)

Contribution ID: 3

Type: **not specified**

## **Axion string phenomenology**

*Wednesday, 4 September 2024 10:10 (40 minutes)*

**Presenter:** LEEDOM, Jacob

**Session Classification:** WG1 (Theory and Model Building)

Contribution ID: 4

Type: **not specified**

## **Status and Perspectives on Axion searches**

Brief Overview of axion searches.

**Presenter:** GIANNOTTI, Maurizio (Universidad de Zaragoza)

**Session Classification:** WG4 (Experiments)

Contribution ID: 5

Type: **not specified**

## **Detection Prospects of Gravitational Waves in Axion Cavity Experiments**

*Tuesday, 3 September 2024 11:40 (40 minutes)*

**Presenter:** GARCIA CELY, Camilo

**Session Classification:** WG4 (Experiments)

Contribution ID: 6

Type: **not specified**

## Report on WG4 Activities

*Tuesday, 3 September 2024 14:30 (30 minutes)*

**Primary author:** GATTI, Claudio (Istituto Nazionale di Fisica Nucleare)

**Presenters:** GATTI, Claudio (Istituto Nazionale di Fisica Nucleare); KARUZA, Marin (Istituto Nazionale di Fisica Nucleare)

**Session Classification:** Round Table

Contribution ID: 7

Type: **not specified**

## Discussion

*Tuesday, 3 September 2024 15:00 (30 minutes)*

**Session Classification:** Round Table



Contribution ID: 8

Type: **not specified**

## **The CADEX Experiment: A new haloscope axion search in the 330-460 micro-eV mass range at the Canfranc Underground Laboratory (LSC)**

*Tuesday, 3 September 2024 15:30 (20 minutes)*

**Presenter:** MIRALDA ESCUDÉ, Jordi

**Session Classification:** WG4 (Experiments)

Contribution ID: 9

Type: **not specified**

## **Axion Search go Deep underground**

*Tuesday, 3 September 2024 15:50 (20 minutes)*

**Presenter:** TONI, Claudio (Istituto Nazionale di Fisica Nucleare)

**Session Classification:** WG4 (Experiments)

Contribution ID: **10**

Type: **not specified**

## **Search for axion-like particles with hyperpolarized 129Xe nuclear magnetic resonance**

*Tuesday, 3 September 2024 16:30 (20 minutes)*

**Presenter:** DOGAN, Arian

**Session Classification:** WG4 (Experiments)

Contribution ID: 11

Type: **not specified**

## **Search of axion wind with atomic sensors**

*Tuesday, 3 September 2024 16:10 (20 minutes)*

**Presenter:** GAVILÁN, Daniel

**Session Classification:** WG4 (Experiments)

Contribution ID: 12

Type: **not specified**

## **Can the QCD axion feed a dark energy component?**

*Tuesday, 3 September 2024 15:30 (20 minutes)*

**Presenter:** MUURSEPP, Kristjan

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 14

Type: **not specified**

## **Constraints on conformal ultralight dark matter couplings from the European Pulsar Timing Array**

*Tuesday, 3 September 2024 16:10 (20 minutes)*

**Presenter:** SMARRA, Clemente

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 15

Type: **not specified**

## **Searching for Ultra Light Dark Matter soliton through GWs**

*Tuesday, 3 September 2024 16:30 (20 minutes)*

**Presenter:** GASPAROTTO, Silvia

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 16

Type: **not specified**

## **Axion string phenomenology**

**Presenter:** LEEDOM, Jacob

**Session Classification:** WG1 (Theory and Model Building)



Contribution ID: 17

Type: **not specified**

## **Status and prospects of the search for hadronic axions in the 1-8 GHz frequency range at IBS-CAPP in South Korea**

*Tuesday, 3 September 2024 10:00 (40 minutes)*

**Presenter:** SEMERTZIDIS, Yannis Kyriakos (Center for Axion and Precision Physics, IBS)

**Session Classification:** WG4 (Experiments)

Contribution ID: **18**

Type: **not specified**

## **Dark photon phenomenology**

*Friday, 6 September 2024 10:20 (40 minutes)*

**Presenter:** RAIDAL, Martti

**Session Classification:** WG1 (Theory and Model Building)

Contribution ID: 19

Type: **not specified**

## **Cosmological Scalars: theory and tests**

*Wednesday, 4 September 2024 12:00 (40 minutes)*

**Presenter:** DAVIS, Anne

**Session Classification:** WG1 (Theory and Model Building)

Contribution ID: 20

Type: **not specified**

## **Generalized axion electrodynamics and the Witten effect**

*Wednesday, 4 September 2024 15:30 (20 minutes)*

**Presenter:** SOKOLOV, Anton

**Session Classification:** WG1 (Theory and Model Building)

Contribution ID: 21

Type: **not specified**

## **On (de Sitter) vacua in heterotic string theories**

*Wednesday, 4 September 2024 15:50 (20 minutes)*

**Presenter:** RIGHI, Nicole

**Session Classification:** WG1 (Theory and Model Building)

Contribution ID: 22

Type: **not specified**

## **Back to the origins of brane-antibrane inflation**

*Wednesday, 4 September 2024 16:10 (20 minutes)*

**Presenter:** VILLA, Gonzalo

**Session Classification:** WG1 (Theory and Model Building)

Contribution ID: 23

Type: **not specified**

## Report on WG1 Activities

*Wednesday, 4 September 2024 14:30 (30 minutes)*

**Presenter:** CICOLI, Michele (Istituto Nazionale di Fisica Nucleare)

**Session Classification:** Round Table

Contribution ID: 24

Type: **not specified**

## Discussion

*Wednesday, 4 September 2024 15:00 (30 minutes)*

**Session Classification:** Round Table



Contribution ID: 25

Type: **not specified**

## **Natural coordinates and consistency conditions for two-field models of inflation in fundamental theories of gravity and matter**

**Presenter:** Prof. LAZAROIU, Calin (National Institute of Physics and Nuclear Engineering, Bucharest)

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 26

Type: **not specified**

## **Inflationary Schwinger dark matter production**

**Presenter:** Dr BASTERO-GIL, Mar (Granada Univ.)

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 27

Type: **not specified**

## **Dark photon dark matter from inflation**

**Presenter:** UBALDI, Lorenzo

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 28

Type: **not specified**

## **Detection of scalar and vector particles from the Sun**

*Wednesday, 4 September 2024 15:30 (20 minutes)*

**Presenter:** O'SHEA, Tomas

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 29

Type: **not specified**

## **WISPs, WIMPs, and Gammas: Searches for New Physics with the Fermi Large Area Telescope**

*Wednesday, 4 September 2024 15:50 (20 minutes)*

**Presenter:** CRNOGORCEVIC, Milena

**Session Classification:** WG3 (Astrophysics)

Contribution ID: **30**

Type: **not specified**

## **Anomaly Induced Supernovae Cooling: New Contribution from Axions**

*Wednesday, 4 September 2024 16:10 (20 minutes)*

**Presenter:** VANVLASSELAER, Miguel

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 31

Type: **not specified**

## **Natural coordinates and consistency conditions for two-field models of inflation in fundamental theories of gravity and matter**

**Presenter:** LAZAROIU, Clain (UNED-Madrid and IFIN-HH Bucharest)

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 32

Type: **not specified**

## **Inflationary Schwinger dark matter production**

**Presenter:** BASTERO-GIL, Mar (Granada Univ.)

**Session Classification:** WG2 (Dark matter & Cosmology)



Contribution ID: 33

Type: **not specified**

## **Dark photon dark matter from inflation**

**Presenter:** UBALDI, Lorenzo

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 34

Type: **not specified**

## **Axion Interferometers**

**Presenter:** EJILLI, Aldo

**Session Classification:** WG4 (Experiments)

Contribution ID: 35

Type: **not specified**

## Thermal Axions: What's Next?

*Thursday, 5 September 2024 09:30 (40 minutes)*

**Presenter:** D'ERAMO, Francesco (Istituto Nazionale di Fisica Nucleare)

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 36

Type: **not specified**

## **Axion dark energy**

*Thursday, 5 September 2024 10:10 (40 minutes)*

**Presenter:** PEDRO, Francisco

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 37

Type: **not specified**

# Hunting Dark Matter Lines in the Infrared Background with the James Webb Space Telescope

*Thursday, 5 September 2024 11:20 (40 minutes)*

**Presenter:** PINETTI, Elena (Fermilab)

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: **38**

Type: **not specified**

## **Axion stars from strings**

*Thursday, 5 September 2024 12:00 (40 minutes)*

**Presenter:** HARDY, Edward

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 39

Type: **not specified**

## Report on WG2 Activities

*Thursday, 5 September 2024 14:30 (30 minutes)*

**Presenters:** VITAGLIANO, Edoardo (Istituto Nazionale di Fisica Nucleare); GORGHETTO, Marco (Weizmann Institute)

**Session Classification:** Round Table

Contribution ID: 40

Type: **not specified**

## Discussion

*Thursday, 5 September 2024 15:00 (30 minutes)*

**Session Classification:** Round Table



Contribution ID: 42

Type: **not specified**

## **High energy resolution x-ray detectors for IAXO: advantages in pre- and post-discovery phases**

**Presenter:** GASTALDO, Loredana (Kirchhoff Institute for Physics, Heidelberg University)

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 43

Type: **not specified**

## **Probing the Dark Sector with NA64 and POKER at CERN SPS**

**Presenter:** MARSICANO, Luca (Istituto Nazionale di Fisica Nucleare)

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 44

Type: **not specified**

## **Transition edge sensors for axion searches in ALPS II and beyond**

*Friday, 6 September 2024 09:00 (40 minutes)*

**Presenter:** MEYER, Manuel

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 45

Type: **not specified**

## **Axion conversion in the solar magnetic field**

*Friday, 6 September 2024 09:40 (40 minutes)*

**Presenter:** TODARELLO, Elisa

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 46

Type: **not specified**

## **Direct and indirect detection of the QCD axion**

*Wednesday, 4 September 2024 11:20 (40 minutes)*

**Presenter:** VISINELLI, Luca (Shanghai Jiao Tong University)

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 47

Type: **not specified**

## **Ultralight Bosons and Black Holes**

*Friday, 6 September 2024 11:20 (40 minutes)*

**Presenter:** BOSKOVIC, Mateja

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 48

Type: **not specified**

## **Report on WG3 activities**

*Friday, 6 September 2024 12:00 (20 minutes)*

**Presenter:** GIANNOTTI, Maurizio

**Session Classification:** Round Table

Contribution ID: 49

Type: **not specified**

## Discussion

*Friday, 6 September 2024 12:20 (20 minutes)*

**Session Classification:** Round Table



Contribution ID: 50

Type: **not specified**

## Conclusions

**Presenter:** MIRIZZI, Alessandro (Istituto Nazionale di Fisica Nucleare)

**Session Classification:** Summary Session

Contribution ID: 51

Type: **not specified**

## Conclusions

*Friday, 6 September 2024 13:10 (20 minutes)*

**Presenter:** MIRIZZI, Alessandro (Istituto Nazionale di Fisica Nucleare)

**Session Classification:** Conclusions

Contribution ID: 52

Type: **not specified**

## **Public Talk (In Turkish) - Duyamadığımız Kozmik Fısıltılar: Evrenin Karanlık Yüzü**

*Thursday, 5 September 2024 18:00 (1 hour)*

**Primary author:** ÇETIN, Serkant Ali

**Presenter:** ÇETIN, Serkant Ali

**Session Classification:** WG5 (Dissemination and Outreach)

Contribution ID: 53

Type: **not specified**

## **Polarimetry Techniques for Vacuum Magnetic Birefringence**

*Tuesday, 3 September 2024 17:10 (20 minutes)*

**Presenter:** ROBERTS, Laura

**Session Classification:** WG4 (Experiments)

Contribution ID: 54

Type: **not specified**

## **Status of the RADES-MPP activities in haloscope experiments**

*Tuesday, 3 September 2024 17:30 (20 minutes)*

**Presenter:** BARCELÓ, Jose Maria García

**Session Classification:** WG4 (Experiments)

Contribution ID: 55

Type: **not specified**

## **Search for WISPs with gravitational-wave detectors**

**Presenter:** PIERINI, Lorenzo (INFN Roma)

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 56

Type: **not specified**

## **WG 1 report**

*Friday, 6 September 2024 15:20 (20 minutes)*

**Presenter:** CICOLI, Michele (Istituto Nazionale di Fisica Nucleare)

**Session Classification:** Management Committee Meeting

Contribution ID: 57

Type: **not specified**

## **WG2 report**

*Friday, 6 September 2024 15:40 (20 minutes)*

**Presenter:** VITAGLIANO, Edoardo

**Session Classification:** Management Committee Meeting



Contribution ID: 58

Type: **not specified**

## **WG3 report**

*Friday, 6 September 2024 16:20 (20 minutes)*

**Presenter:** GIANNOTTI, Maurizio (Universidad de Zaragoza)

**Session Classification:** Management Committee Meeting

Contribution ID: 59

Type: **not specified**

## **WG 4 report**

*Friday, 6 September 2024 16:00 (20 minutes)*

**Presenter:** GATTI, Claudio (Istituto Nazionale di Fisica Nucleare)

**Session Classification:** Management Committee Meeting

Contribution ID: **60**

Type: **not specified**

## **WG5 report**

*Friday, 6 September 2024 16:40 (20 minutes)*

**Presenter:** GASTALDO, Loredana (Kirchhoff Institute for Physics, Heidelberg University)

**Session Classification:** Management Committee Meeting

Contribution ID: **61**

Type: **not specified**

## **ECI Committee Report**

*Friday, 6 September 2024 17:35 (15 minutes)*

**Presenter:** DE GIORGI, Arturo (UAM/IFT)

**Session Classification:** Management Committee Meeting

Contribution ID: **62**

Type: **not specified**

## **CA21106 Introduction**

*Friday, 6 September 2024 15:00 (20 minutes)*

**Presenter:** MIRIZZI, Alessandro (Istituto Nazionale di Fisica Nucleare)

**Session Classification:** Management Committee Meeting

Contribution ID: 63

Type: **not specified**

## **Grant Awarding Coordinator report**

*Friday, 6 September 2024 17:20 (15 minutes)*

**Presenter:** KOZHUHAROV, Venelin

**Session Classification:** Management Committee Meeting

Contribution ID: 64

Type: **not specified**

## **Report from Gender and Diversity Advisor**

*Friday, 6 September 2024 17:50 (20 minutes)*

**Presenter:** Prof. SUNAR CERCI, Deniz

**Session Classification:** Management Committee Meeting

Contribution ID: 65

Type: **not specified**

## **Draft of W&B Plan 2024**

*Friday, 6 September 2024 18:10 (1 hour)*

**Presenter:** MIRIZZI, Alessandro (Istituto Nazionale di Fisica Nucleare)

**Session Classification:** Management Committee Meeting



Contribution ID: **66**

Type: **not specified**

## **Report on WG5 activities and discussion**

*Thursday, 5 September 2024 17:00 (45 minutes)*

**Presenter:** GASTALDO, Loredana

**Session Classification:** WG5 (Dissemination and Outreach)

Contribution ID: 67

Type: **not specified**

## **Spectator-Verse Echoes from String Theory**

*Wednesday, 4 September 2024 09:30 (40 minutes)*

**Presenter:** WESTPHAL, Alexander

**Session Classification:** WG1 (Theory and Model Building)

Contribution ID: **68**

Type: **not specified**

## **Axion search possibilities with storage rings**

**Presenter:** HACIOMEROGLU, Selcuk

**Session Classification:** WG4 (Experiments)

Contribution ID: 69

Type: **not specified**

## **Utilizing daily modulations in axion dark matter searches**

**Presenter:** ÖZBOZDUMAN, Kaan (CERN)

**Session Classification:** WG4 (Experiments)

2nd General Mee ... / Report of Contributions

tt

Contribution ID: 70

Type: **not specified**

**tt**

**Session Classification:** WG4 (Experiments)

Contribution ID: 71

Type: **not specified**

## **Spectrum of global string networks and the axion dark matter mass**

**Presenter:** REDONDO, Javier (Universidad de Zaragoza)

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 72

Type: **not specified**

## **Spectrum of global string networks and the axion dark matter mass**

*Tuesday, 3 September 2024 17:10 (20 minutes)*

**Primary author:** KALTSCHMIDT, Mathieu (CAPA, Universidad de Zaragoza)

**Presenter:** KALTSCHMIDT, Mathieu (CAPA, Universidad de Zaragoza)

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 73

Type: **not specified**

**TBA**

**Presenter:** LENOCI, Alessandro

**Session Classification:** WG2 (Dark matter & Cosmology)



Contribution ID: 74

Type: **not specified**

**TBA**

**Presenter:** LENOCI, Alessandro

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 75

Type: **not specified**

**TBA**

**Presenter:** GHOSH, Oindrila

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 76

Type: **not specified**

## **Self-gravity of boson clouds from superradiant clouds**

*Wednesday, 4 September 2024 17:00 (20 minutes)*

**Presenter:** LENOCI, Alessandro

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 77

Type: **not specified**

## **Axions from Very-high Energy Phenomena**

*Wednesday, 4 September 2024 17:20 (20 minutes)*

**Presenter:** GHOSH, Oindrila

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 78

Type: **not specified**

## Natural Metric-Affine Inflation

*Wednesday, 4 September 2024 17:00 (20 minutes)*

**Presenter:** Dr RACIOPPI, Antonio

**Session Classification:** WG1 (Theory and Model Building)

Contribution ID: 79

Type: **not specified**

## **Loop Blow-Up Inflation: a novel way to inflate with the Kaehler moduli**

*Wednesday, 4 September 2024 17:20 (20 minutes)*

**Presenter:** BRUNELLI, Luca

**Session Classification:** WG1 (Theory and Model Building)

Contribution ID: **80**

Type: **not specified**

## **A Fuzzy Axiverse from String Theory**

*Wednesday, 4 September 2024 17:40 (20 minutes)*

**Presenter:** SCHACHNER, Andreas

**Session Classification:** WG1 (Theory and Model Building)

Contribution ID: **81**

Type: **not specified**

# **Axion-like-particle dark matter beyond the standard paradigm**

*Thursday, 5 September 2024 15:30 (20 minutes)*

**Presenter:** ERONCEL, Cem

**Session Classification:** WG1 (Theory and Model Building)



Contribution ID: 82

Type: **not specified**

## **Application of polarimeter for detection of scalar (pseudoscalar) dark matter**

**Presenter:** ROKN, Qazal

**Session Classification:** WG4 (Experiments)

Contribution ID: 83

Type: **not specified**

## **Strings In and Out of Equilibrium & Dark Radiation**

*Thursday, 5 September 2024 15:50 (20 minutes)*

**Presenter:** MAHARANA, Anshuman

**Session Classification:** WG1 (Theory and Model Building)

Contribution ID: 84

Type: **not specified**

# **Geometric Z' Boson: Implications for Dark Matter and Black Holes**

*Thursday, 5 September 2024 16:10 (20 minutes)*

**Presenter:** PULICE, Beyhan

**Session Classification:** WG1 (Theory and Model Building)

Contribution ID: **85**

Type: **not specified**

## **Axion searches with magnetometers**

*Thursday, 5 September 2024 15:30 (20 minutes)*

**Presenter:** AYBAS, Deniz

**Session Classification:** WG4 (Experiments)

Contribution ID: **86**

Type: **not specified**

## **Axion search possibilities with storage rings**

*Thursday, 5 September 2024 15:50 (20 minutes)*

**Presenter:** HACIOMEROGLU, Selcuk

**Session Classification:** WG4 (Experiments)

Contribution ID: 87

Type: **not specified**

## Utilizing daily modulations in axion dark matter searches

*Thursday, 5 September 2024 16:10 (20 minutes)*

**Presenter:** ÖZBOZDUMAN, Kaan (CERN)

**Session Classification:** WG4 (Experiments)

Contribution ID: **88**

Type: **not specified**

## **Dark Matter Signatures**

*Tuesday, 3 September 2024 11:00 (40 minutes)*

**Presenter:** ZIOUTAS, Konstantin (University of Patras , PATRAS GREECE)

**Session Classification:** WG4 (Experiments)

Contribution ID: 89

Type: **not specified**

## **Ultralight dark matter detection with gravitational-wave interferometers**

*Tuesday, 3 September 2024 12:20 (40 minutes)*

**Co-author:** MILLER, Andrew (Nikhef / Utrecht University)

**Presenters:** EJILLI, Aldo; MILLER, Andrew (Nikhef / Utrecht University)

**Session Classification:** WG4 (Experiments)



Contribution ID: **90**

Type: **not specified**

## **The capabilities of the Theseus space mission for probing dark matter**

*Wednesday, 4 September 2024 17:40 (20 minutes)*

**Presenter:** HAMOLLI, Lindita

**Session Classification:** WG3 (Astrophysics)

Contribution ID: 92

Type: **not specified**

## **Axion-like particle constraints from preSN in future experiments**

*Tuesday, 3 September 2024 15:50 (20 minutes)*

**Presenter:** GIACCHINO, Federica

**Session Classification:** WG2 (Dark matter & Cosmology)

Contribution ID: 93

Type: **not specified**

## Public Talk (in Turkish)

3 Eylül 2024, Salı günü saat 19:00'da başlayacak olan ve CosmicWISPer's Yönetim Kurulu Türkiye temsilcisi ve İSÜ Temel Bilimler Bölüm Başkanı Prof. Dr. Serkant Ali Çetin'in "Duyamadığımız Kozmik Fısıltılar: Evrenin Karanlık Yüzü" başlıklı sunumunun yer alacağı etkinlik herkese açıktır ve katılım ücretsizdir.

Etkinlik kayıt sayfası için: <https://indico.cern.ch/e/KozmikFisiltilar>

**Primary author:** ÇETIN, Serkant Ali

**Presenter:** ÇETIN, Serkant Ali

Contribution ID: 94

Type: **not specified**

## **Axion minicluster streams in the Solar neighbourhood**

*Tuesday, 3 September 2024 17:30 (20 minutes)*

**Primary author:** PIEROBON, Giovanni

**Presenter:** PIEROBON, Giovanni

**Session Classification:** WG2 (Dark matter & Cosmology)