# ATHEXIS - Athens Symposium on Exploring the Universe

### **Report of Contributions**

Contribution ID: 33 Type: not specified

#### The cosmological axion domain wall problem

Monday 10 June 2024 09:30 (30 minutes)

**Presenter:** SARKAR, Subir (University of Oxford)

Session Classification: Plenary talks

Contribution ID: 34 Type: not specified

# Coherent and incoherent dynamics of Fuzzy Dark Matter .

Monday 10 June 2024 10:00 (30 minutes)

Presenter: RIGOPOULOS, Gerasimos (Newcastle University)

Session Classification: Plenary talks

Contribution ID: 35 Type: not specified

# Pre-merger & post-merger phenomena in compact binary mergers

Monday 10 June 2024 10:30 (30 minutes)

**Presenter:** KOKKOTAS, Kostas

**Session Classification:** Plenary talks

Contribution ID: 36 Type: not specified

#### **Pulsar Polarization Array**

Monday 10 June 2024 11:30 (30 minutes)

**Presenter:** LIU, Tao (The Hong Kong University of Science and Technology (HK))

Session Classification: Plenary talks

Contribution ID: 37 Type: not specified

#### **Diffuse Axion Background**

Monday 10 June 2024 12:00 (30 minutes)

Presenter: EBY, Joshua

Session Classification: Plenary talks

Contribution ID: 38 Type: not specified

#### Hunting for dark matter with its high-energy fluxes

Monday 10 June 2024 12:30 (30 minutes)

**Presenter:** SALA, Filippo

Session Classification: Plenary talks

Contribution ID: 39 Type: not specified

#### Tensions and anomalies in cosmology

Monday 10 June 2024 15:00 (30 minutes)

**Presenter:** DE CRUZ PÉREZ, Javier (Universidad Complutense de Madrid)

Session Classification: Plenary talks

Contribution ID: 40 Type: not specified

#### Finite volume effects in QFT and cosmic bounce

Monday 10 June 2024 15:30 (30 minutes)

**Presenter:** ALEXANDRE, Jean

Session Classification: Plenary talks

Contribution ID: 41 Type: not specified

#### **Investigating Dark Matter: Insights from Stars**

Monday 10 June 2024 16:00 (30 minutes)

Presenter: LOPES, Ilidio

Session Classification: Plenary talks

Contribution ID: 42 Type: not specified

#### Relic Background boosted in cosmic reservoirs

Monday 10 June 2024 17:00 (15 minutes)

Presenter: DE MARCHI, Andrea Giovanni

Session Classification: Short talks

Contribution ID: 43 Type: not specified

#### Cosmology from SKA observatory precursors

Monday 10 June 2024 17:15 (15 minutes)

**Presenter:** ASOREY BARREIRO, Jacobo (Universidad Complutense de Madrid and IPARCOS)

Session Classification: Short talks

Contribution ID: 44 Type: **not specified** 

#### **Explaining the broken power-law in JWST counts**

Monday 10 June 2024 17:30 (15 minutes)

Presenter: Dr MANZONI, Giorgio

Session Classification: Short talks

Contribution ID: 45 Type: **not specified** 

#### Non-adiabatic inflation

Tuesday 11 June 2024 09:30 (30 minutes)

Presenter: WANDS, David

Session Classification: Plenary talks

Contribution ID: 46 Type: not specified

# The impact of modifications to gravity on inhomogeneous cosmologies

Tuesday 11 June 2024 10:00 (30 minutes)

Presenter: CLOUGH, Katy

 $\textbf{Session Classification:} \ \ \textbf{Plenary talks}$ 

Contribution ID: 47 Type: **not specified** 

#### Non-perturbative physics of inflation

Tuesday 11 June 2024 10:30 (30 minutes)

Presenter: RENAUX-PETEL, Sébastien

Session Classification: Plenary talks

Contribution ID: 48 Type: not specified

# LIGO - Virgo - KAGRA stochastic searches and results.

Tuesday 11 June 2024 11:30 (30 minutes)

Presenter: SURESH, Jishnu (Université catholique de Louvain)

Session Classification: Plenary talks

Contribution ID: 49 Type: not specified

# Mechanisms for primordial black hole formation from single field inflation

Tuesday 11 June 2024 12:00 (30 minutes)

Presenter: BALLESTEROS, Guillermo (IFT UAM-CSIC)

Session Classification: Plenary talks

Contribution ID: 50 Type: not specified

# Non-Gaussianity of the curvature peturbation and its impact on the primordial black hole formation

Tuesday 11 June 2024 12:30 (30 minutes)

Presenter: PI, Shi (Institute of Theoretical Physics, Chinese Academy of Sciences)

Session Classification: Plenary talks

Contribution ID: 51 Type: not specified

#### Entanglement in an expanding universe

Tuesday 11 June 2024 15:00 (30 minutes)

Presenter: TETRADIS, Nikolaos (National and Kapodistrian University of Athens (GR))

Session Classification: Plenary talks

Contribution ID: **52** Type: **not specified** 

# Like a bridge over troubled water: NEDE and the Hubble tension

Tuesday 11 June 2024 15:30 (30 minutes)

**Presenter:** SLOTH, Martin Snoager

Session Classification: Plenary talks

Contribution ID: 53 Type: not specified

# On how BAO shape the late-time solutions to the H0 tension, and the wXCDM

Tuesday 11 June 2024 16:00 (30 minutes)

Presenter: GÓMEZ-VALENT, Adrià

Session Classification: Plenary talks

Contribution ID: 54 Type: not specified

# Gravitational particle production and freeze-in at stronger coupling

Tuesday 11 June 2024 17:00 (30 minutes)

**Presenter:** LEBEDEV, Oleg

Session Classification: Plenary talks

Contribution ID: 55 Type: not specified

#### **Minimal & Nonminimal Dark Matter**

Tuesday 11 June 2024 17:30 (30 minutes)

**Presenter:** SOCHA, Anna (LPENS)

Session Classification: Plenary talks

Contribution ID: 56 Type: not specified

# Cosmological correlators with double massive exchanges

Tuesday 11 June 2024 18:00 (20 minutes)

Presenter: AOKI, Shuntaro (IBS CTPU)

Session Classification: Short talks

Contribution ID: 57 Type: not specified

# **Explaining nonlinearities in black hole ringdowns** from symmetries

Wednesday 12 June 2024 09:30 (30 minutes)

Presenter: RIOTTO, Antonio Walter (Universite de Geneve (CH))

Session Classification: Plenary talks

Contribution ID: 58 Type: not specified

# A stretched horizon effective field theory understanding of black hole echoes

Wednesday 12 June 2024 10:00 (30 minutes)

Presenter: PATIL, Subodh

Session Classification: Plenary talks

Contribution ID: 59 Type: not specified

#### What's inside a black hole?

Wednesday 12 June 2024 10:30 (30 minutes)

**Presenter:** BRUSTEIN, Ramy (Ben-Gurion University of the Negev (IL))

Session Classification: Plenary talks

Contribution ID: **60** Type: **not specified** 

# Dynamical friction, dark matter and gravitational wave signals

Wednesday 12 June 2024 11:30 (30 minutes)

Presenter: DESJACQUES, Vincent (Technion)

**Session Classification:** Plenary talks

Contribution ID: 61 Type: not specified

# The Black Hole Formation – Null Geodesic Correspondence

Wednesday 12 June 2024 12:00 (30 minutes)

Presenter: PERRONE, Davide (Universite de Geneve (CH))

Session Classification: Plenary talks

Contribution ID: 62 Type: not specified

#### Testing dark environments with gravitational waves

**Presenter:** PEREZ-GARCIA, M. Angeles

Session Classification: Plenary talks

Contribution ID: 63 Type: not specified

# Connecting the baryons to the dark matter of the Universe

Thursday 13 June 2024 09:30 (30 minutes)

Presenter: IBARRA, Alejandro (Technical University of Munich)

Session Classification: Plenary talks

Contribution ID: 64 Type: not specified

#### Status of the LUXZEPLIN dark matter experiment

Thursday 13 June 2024 10:00 (30 minutes)

**Presenter:** AL MUSALHI, Aiham (UCL)

Session Classification: Plenary talks

Contribution ID: 65 Type: not specified

#### Searching for Dark Matter in Gamma Rays

Thursday 13 June 2024 10:30 (30 minutes)

**Presenter:** CHOLIS, Ilias (Oakland University)

Session Classification: Plenary talks

Contribution ID: 66 Type: not specified

# Exploring the early universe via high energy nuclear collisions on the Earth

Thursday 13 June 2024 11:30 (30 minutes)

**Presenter:** JALILIAN-MARIAN, Jamal (Baruch College (US))

Session Classification: Plenary talks

Contribution ID: 67 Type: not specified

#### Minimal sterile neutrino dark matter

Thursday 13 June 2024 12:00 (30 minutes)

**Presenter:** BRINGMANN, Torsten (University of Oslo (NO))

Session Classification: Plenary talks

Contribution ID: 68 Type: not specified

#### Cosmology with broken diffeomorphisms

Thursday 13 June 2024 12:30 (30 minutes)

Presenter: LOPEZ MAROTO, ANTONIO

Session Classification: Plenary talks

Contribution ID: 69 Type: not specified

### Constraining primordial black holes of asteroid masses by observation of stars in dwarf galaxies

Thursday 13 June 2024 15:00 (30 minutes)

Presenter: TINYAKOV, Peter (Universite Libre de Bruxelles)

Session Classification: Plenary talks

Contribution ID: **70** Type: **not specified** 

#### On the early dressing of primordial black holes by particle dark matter in the radiation era

Thursday 13 June 2024 15:30 (30 minutes)

Presenter: LAVALLE, Julien (LUPM (CNRS / Univ. Montpellier))

**Session Classification:** Plenary talks

Contribution ID: 71 Type: not specified

### Unitarity in the non-relativistic regime and implications for dark matter

Thursday 13 June 2024 16:00 (30 minutes)

**Presenter:** FLORES, Marcos (LPENS)

Session Classification: Plenary talks

Contribution ID: 72 Type: not specified

#### Condensed dark matter with a Yukawa interaction

Thursday 13 June 2024 17:00 (30 minutes)

**Presenter:** VANDECASTEELE, Jerome

Session Classification: Plenary talks

Contribution ID: 73 Type: not specified

#### Excited bound states and their role in dark matter production

Thursday 13 June 2024 17:30 (30 minutes)

Presenter: LEDERER, Stefan

Session Classification: Plenary talks

Contribution ID: 74 Type: **not specified** 

#### **Supersymmetric Dark Matter**

**Presenter:** SPANOS, Vassilis (Department of Physics National and Kapodistrian University of Athens)

Session Classification: Plenary talks

Contribution ID: 75 Type: not specified

#### **Applications of the Tunneling Potential Formalism**

Friday 14 June 2024 09:30 (30 minutes)

**Presenter:** ESPINOSA SEDANO, Jose Ramon (ICREA / IFAE Barcelona (ES))

Session Classification: Plenary talks

Contribution ID: 76 Type: not specified

#### On the Effective Field Theory of Large Scale Structure

Friday 14 June 2024 10:30 (30 minutes)

Presenter: SENATORE, Leonardo

**Session Classification:** Plenary talks

Contribution ID: 77 Type: **not specified** 

# Peering Beyond the Standard Model at the LHC: The Odyssey For Anomalously Ionizing Messengers of New Physics with MoEDAL-MAPP

Friday 14 June 2024 11:30 (30 minutes)

Presenter: STAELENS, Michael Anthony (Instituto de Física Corpuscular (IFIC), Universitat de Valèn-

cia-CSIC)

Session Classification: Plenary talks

Contribution ID: 78 Type: not specified

#### A parity-violating Universe? Cosmic Birefringence (and more).

Friday 14 June 2024 10:00 (30 minutes)

Presenter: BARTOLO, Nicola

Session Classification: Plenary talks

Contribution ID: 79 Type: not specified

### Search for cosmological phase transitions through their gravitational wave signals

Friday 14 June 2024 12:00 (30 minutes)

Presenter: LEWICKI, Marek (University of Warsaw)

**Session Classification:** Plenary talks

Contribution ID: **80** Type: **not specified** 

### Fundamental fields, scalar charges and Extreme Mass Ratio Inspirals

Friday 14 June 2024 12:30 (30 minutes)

Presenter: MASELLI, Andrea

Session Classification: Plenary talks

Contribution ID: 81 Type: not specified

#### Gravitational Wave Discoveries Enabled by Machine Learning

Friday 14 June 2024 15:00 (30 minutes)

Presenter: STERGIOULAS, Nikolaos (Aristotle University of Thessaloniki)

Session Classification: Plenary talks

Contribution ID: 82 Type: not specified

#### Probing massive black holes with gravitational waves

Friday 14 June 2024 15:30 (30 minutes)

Presenter: KRITOS, Konstantinos

Session Classification: Plenary talks

Contribution ID: 83 Type: not specified

#### Realising dark matter via dark branes

Friday 14 June 2024 16:00 (30 minutes)

Presenter: KOUTROULIS, Fotios (Warsaw University)

Session Classification: Plenary talks

Contribution ID: 84 Type: not specified

#### Radiation backreaction during dark-matter freeze-out via metastable bound states

Friday 14 June 2024 17:00 (20 minutes)

Presenter: VASILAKI, Christiana

Session Classification: Short talks

Contribution ID: 85 Type: not specified

### Imprints of energy injection by compact dark stars during reionization

Friday 14 June 2024 17:20 (20 minutes)

**Presenter:** BETANCOURT KAMENETSKAIA, Boris (Technical University of Munich)

Session Classification: Short talks

Contribution ID: 86 Type: not specified

## Gravitational Wave Detection in O3 LIGO-Virgo data with the AresGW Deep Learning Code

Friday 14 June 2024 17:40 (20 minutes)

**Presenter:** KOLONIARI, Alexandra Eleni (Aristotle University of Thessaloniki)

Session Classification: Short talks