Session Program

23–28 Aug 2021

The XXVIII International Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY 2021)

Gravitational Waves as Probes for New Physics

Monday 23 August

10:35

Gravitational Waves as Probes for New Physics

Session | **Location:** ZR5 | **Convener:** Yungui Gong

10:35–10:55 **Primordial gravitational waves and primordial black holes**

Speaker
Wu Puxun

10:55–11:15
Detecting primordial black hole as dark matter by induced gravitational waves

Speaker
Shi Pi

11:15–11:35 **Primordial black holes and gravitational waves**

Speaker
Sai Wang

11:35

13:30

Gravitational Waves as Probes for New Physics

Session | **Location:** ZR3 | **Convener:** Sugumi Kanno

13:30–13:50
From the merger rate of Primordial Black Hole Binaries to the Primordial Power Spectrum of curvature perturbation on small scales

Speaker
Prof. Zhang Ying-li

13:50–14:10 **Fast Gravitational Wave Burst from Axion Clumps**

Speaker
Dr Yun-Long Zhang

14:10–14:30
Search for ultralight dark matter and cosmological phase transition using pulsar timing arrays

Speaker
Prof. Qiang Yuan

14:30–14:50 **Testing the dispersion of gravitational waves using b-EMRI systems**

Speaker
Xian Chen

14:50–15:10
Towards the precise prediction of the phase transition gravitational wave

Speaker
Prof. Fa Huang Huang

15:10–15:30 **Probing GHz gravitational waves with magnons**

Speaker
Asuka Ito

15:30

16:00

Gravitational Waves as Probes for New Physics

Session | **Location:** ZR5 | **Convener:** Yungui Gong

16:00–16:40

Gravity and cosmology beyond general relativity and gravitational waves

Speaker
Shinji Mukohyama

16:40–17:00

Testing gravitational theories with broken Lorentz symmetry by gravitational wave observations

Speaker
Dr Chao Zhang

17:00–17:15

Probing beyond standard model physics from gravitational waves

Speaker
Tanmay Kumar Poddar

17:15–17:30

Primordial gravitational waves revealed by a spinning axion

Speaker
Peera Simakachorn

17:30–17:45

Renormalization group analysis of the self-interacting axion cloud

Speaker
Hidetoshi Omiya

17:45–18:00

Universal 10^{20} Hz stochastic gravitational waves from photon spheres of black holes

Speaker
Kaishu Saito

18:00

22:35

Gravitational Waves as Probes for New Physics

Session | **Location:** ZR6 | **Convener:** Anzhong Wang

22:35–23:15

Stochastic Gravitational Waves from String Cosmology

Speaker
Prof. Robert Brandenberger

23:15–23:35

Gravitational Wave Production right after a Primordial Black Hole Evaporation

Speaker
Keisuke Inomata

23:35

Tuesday 24 August

16:00

Gravitational Waves as Probes for New Physics

Session | **Location:** ZR6 | **Convener:** Sugumi Kanno

16:00–16:20 **Stochastic GWs from cosmological phase transitions**

Speaker
Thomas Markus Konstandin

16:20–16:40
Gravitational waves from bubble collisions in first order phase transitions

Speaker
Marek Lewicki

16:40–17:00
Gravitational waves from first-order phase transitions: A hybrid simulation, and signal enhancement from density perturbations

Speaker
Dr Ryusuke Jinno

17:00–17:20 **Finding sound shells in LISA mock data using likelihood sampling**

Speaker
Jorinde van de Vis

17:20–17:40
Baryogenesis and gravity waves from a UV-completed electroweak phase transition

Speaker
Kimmo Juhani Kainulainen

17:40–18:00 **Gravitational Wave Echo of Relaxion Trapping**

Speaker
Dr Eric Madge

18:00

22:30

Gravitational Waves as Probes for New Physics

Session | **Location:** ZR6 | **Convener:** Yungui Gong

22:30–23:10 **What are gravitational waves telling us about fundamental physics?**

Speaker
Prof. Nicolas Yunes

23:10–23:30
Gravitational waves produced by astrophysical sources and propagation through cosmic distances in inhomogeneous universe

Speaker
Dr Jared Fier

23:30

Wednesday 25 August

10:10

Gravitational Waves as Probes for New Physics

Session | **Location:** ZR2 | **Convener:** Sugumi Kanno

10:10–10:50 **Exploring fundamental physics with gravitational wave observations**

Speaker
Bangalore Sathyaprakash

10:50–11:10 **Effective picture of cosmic bubble expansion**

Speaker
Shao-Jiang Wang

11:30

16:00

Gravitational Waves as Probes for New Physics

Session | **Location:** ZR6 | **Convener:** Yungui Gong

16:00–16:20 **Constrain extra dimensions with shortcuts**

Speaker
Zi-Chao Lin

16:20–16:40 **Gravitational Imprints from Heavy Kaluza-Klein Resonances**

Speaker
Mariano Quiros Carcelen

16:40–17:00 **Imprints of black hole area quantization in gravitational waves.**

Speaker
Adrian del Rio Vega

18:00

22:35

Gravitational Waves as Probes for New Physics

Session | **Location:** ZR3 | **Convener:** Anzhong Wang

22:35–23:15
On the origin of the LIGO "mystery" noise and the high energy particle physics desert

Speaker
Niayesh Afshordi

23:15–23:35 **Tentative evidence for echoes from GW190521**

Speaker
Jahed Abedi

23:35

Thursday 26 August

22:35

Gravitational Waves as Probes for New Physics

Session | **Location:** ZR5 | **Convener:** Yungui Gong

22:35–22:50

Gravitational wave propagation beyond general relativity: waveform distortions and decoherence

Speaker
Mr Meng-Xiang Lin

22:50–23:05

Gravitational Wave Gastronomy

Speaker
David Dunsky

23:05–23:20

Probing the existence of ultralight bosons with black hole superradiance

Speaker
Mr Nils Siemonsen

23:20–23:35

Collider and GW complementarity in the 2HDM

Speaker
AJAY Kaladharan

23:35

Friday 27 August

16:00

Gravitational Waves as Probes for New Physics

Session | **Location:** ZR5 | **Convener:** Yungui Gong

16:00–16:40 **Stabilities of black hole solutions in vector-tensor theories**

Speaker
Prof. Shinji Tsujikawa

16:40–17:00 **Stochastic gravitational wave background in quantum gravity**

Speaker
Sachiko Kuroyanagi

17:00–17:20 **Probing spacetime geometry with gravitational waves**

Speaker
Gianluca Calcagni

17:20–17:40
Local constraints on the dark sector by future missions to Uranus and Neptune

Speaker
Deniz Soyuer

18:00

22:35

Gravitational Waves as Probes for New Physics

Session | **Location:** ZR3 | **Convener:** Anzhong Wang

22:35–23:15 **Probing String-inspired Quadratic Gravity with Gravitational Waves**

Speaker
Kent Yagi

23:15–23:35
Bridging the microhertz gap with asteroids: opportunities and challenges for gravitational wave detection

Speaker
Dr Michael A. Fedderke

23:35–23:55
Observation of a multimode quasi-normal spectrum from a perturbed black hole

Speaker
Alex Nielsen

23:55