



XII International Conference on New Frontiers in Physics (ICNFP 2023)

10-21 July 2023, OAC, Kolymbari, Crete

Closing of ICNFP 2023



112 participants 114 oral presentations 4 poster presentations



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We would like to thank

All participants of ICNFP 2023!

The OAC staff

The ICNFP 2023 Sponsors

The Organising Committee

The International Advisory Committee

The Convenors of Special Workshops and Sessions



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Scientific program

- 3 Lectures, 114 oral presentations, 4 poster presentations,
- 1 Public Talk

Some of the events

Several Excursions

(Knossos, Falasarna, Monasteries, Chania)

Cretan night and Conference Dinner

1 Opera gala

1 Public talk in English



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 12th International Conference
on New Frontiers in Physics
10-23 July 2023 Kolymbari, Crete, Greece

The Origin of $1/f$ fluctuations in Music and Physics

20.07.2023
19:00 – 20:00 OAC Amphitheatre

Masahiro Morikawa
Professor of Ochanomizu University, Japan, is an Astrophysicist.
He is particularly interested in the basic mechanisms
that show up on multiple scales.

People often mention that classical music exhibits $1/f$ fluctuations. Let's check it. The sound signal itself does not show a $1/f$ spectrum. However, curiously, the square of the signal clearly shows $1/f$ fluctuations, the rectified signal as well. These $1/f$ fluctuations are encoded as amplitude modulation (AM) in the music sound waves, and squaring the signal demodulates it (DM). Beyond music, this AM/DM mechanism appears everywhere, yielding $1/f$ fluctuations: from microscopic electric devices to astrophysical objects. We explore this fluctuation physics.

Scientific program

Public Talk

By Masahiro Marikawa



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Workshops and Sessions

Workshop on Physics of Exotic Nuclei

Workshop on New physics paradigms after Higgs and gravitational wave discoveries

Workshop on Higgs Physics

Workshop on Physics at FAIR-NICA-SPS-BES/RHIC

Workshop on Heavy Ion Physics

Mini-workshop on Correlations and Fluctuations in Relativistic Heavy Ion Collisions

Mini Workshop on Instruments and Methods in HEP

Workshop on Future of Fundamental Physics

Workshop on Heavy Neutral Leptons

Mini-workshop on Machine Learning for Particle Physics

Workshop on Astro-Cosmo-Gravity

Workshop on Laser Fusion, a spin-off from heavy-ion collisions

Workshop on QCD



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Best poster award

Sponsored by

MDPI Symmetry and Universe Journal, Basel, Switzerland

Committee members:

Andrej Arbuzov

Tatjana Miletic

Yury Suvorov

Selected

Ping Ge (Shanghai Normal University)

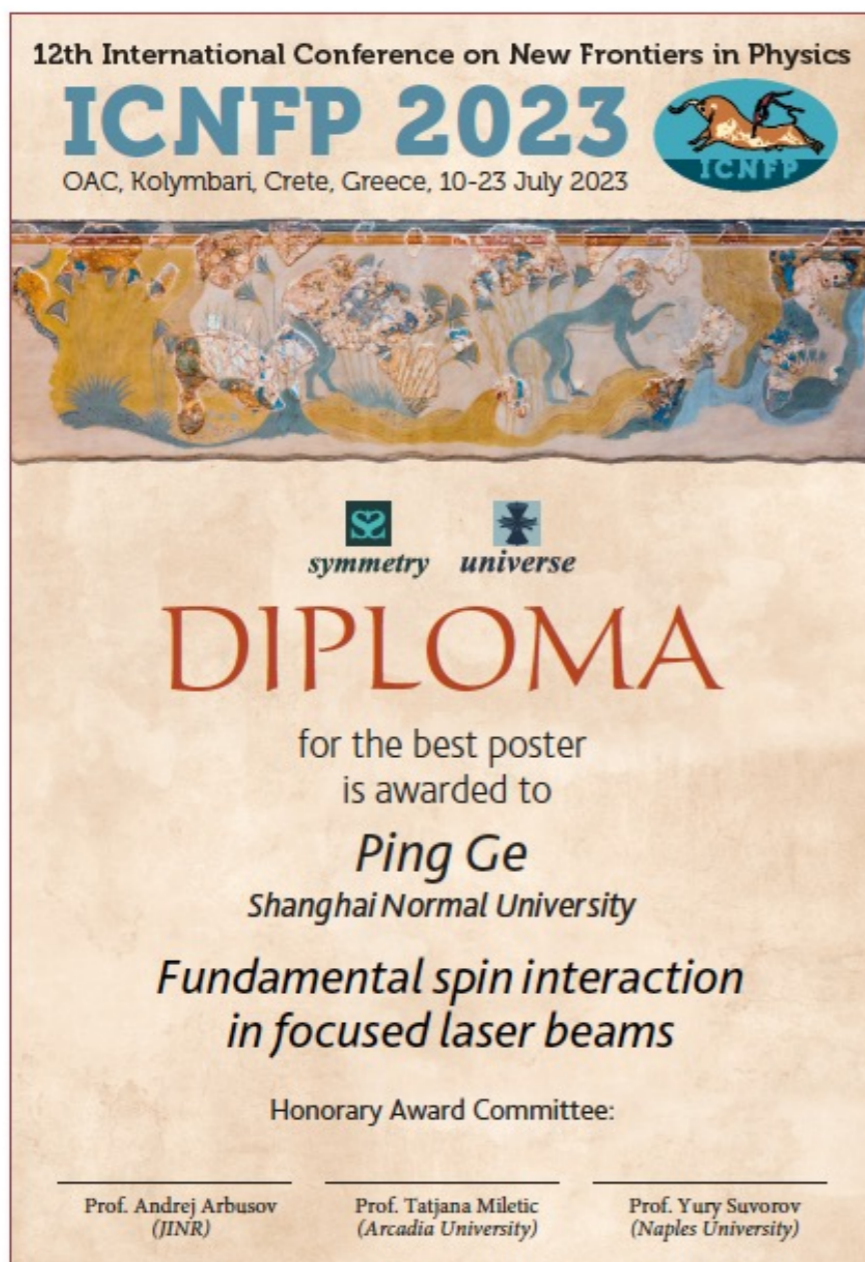
For the Poster

Fundamental spin interaction in focused laser beams



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Best poster award

was given to

Ping Ge (Shanghai Normal University)

For the Poster

**Fundamental spin interaction
in focused laser beams**



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Extended ICNFP 2023 session

in October 2023

only per internet

**If you have not given a talk till now, you
should send an email to give it in extended
session**



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Next conference ICNFP 2024

26 August- 5 September 2024

<https://indico.cern.ch/e/icnfp2024>

12th International Conference on New Frontiers in Physics

New Frontiers in Physics ICNFP 2023

10-23 July 2023
Kolymbari, Crete, Greece

<https://indico.cern.ch/e/icnfp2023>

Main topics of the Conference

High Energy Particle Physics

Heavy Ion Physics,
Critical phenomena

Quantum Physics,
Quantum Optics,
Quantum Information

Cosmology, Astrophysics, Gravity,
Mathematical physics

International Advisory Committee

Charalampos Anastasou	Rachid Nouicer
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THANK YOU

VERY MUCH



Some of the present and previous sponsors and organizing institutes:



Further list of sponsors and organizing institutes: <https://indico.cern.ch/e/icnfp2023>