

Reimei Workshop

“Polarization phenomena and Lorentz symmetry violation in dense matter”

Welcome

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Reimei Research Program

- The Reimei (黎明, “dawn” in Japanese) Research Program has been set out with an aim to cultivate forefront and frontier researches in the diverse fields of atomic energy and its related sciences throughout the world, and to promote research collaboration with Advanced Science Research Center (ASRC) at Japan Atomic Energy Agency (JAEA).
- ASRC seeks for research themes which are to explore novel principles and phenomena in the field of atomic energy and its related sciences. The themes are expected to keep a possibility to change the paradigm of existing science and technology, and to develop a future atomic energy innovation. Inventive, expansible, and challenging ideas are welcome.
- This Reimei Workshop is supported by one of the Reimei Research Programs.

Reimei research program (2021-2023)

"Collaborative research to evaluate QCD vacuum properties at high density from φ meson decay inside the nucleus"

PI: S. H. Lee (Yonsei U.), H. Sako, P. Gubler (JAEA representative)

Goals: Determining the in-medium mass shift and decay width of φ meson by comparing the experimentally measured spectra of its decays into dilepton and kaon in nuclei with theoretical models

- J-PARC E16: $\varphi \rightarrow e^+e^-$ measurements
- J-PARC P88: $\varphi \rightarrow K^+K^-$ measurements (in preparation)
- Theoretical studies: Development of a transport model for $\varphi \rightarrow K^+K^-$ and $\varphi \rightarrow e^+e^-$, φ spectral changes in nucleus

Reimei workshop

“Polarization phenomena and Lorentz symmetry violation in dense matter”

- The workshop will focus on hadronic polarization observables in a hot and/or dense environment, modifications of hadrons and their dispersion relations in nuclear matter, the relation of these phenomena to QCD and chiral symmetry, related experimental measurements at facilities around the world.
- The goal of the workshop is to stimulate discussions between theorists and experimentalists in order to exchange new ideas and to provide an overview of the current status of the field.
- Topics to be discussed:
 - Hadronic polarization observables in nuclear matter and heavy-ion collisions
 - In-medium effects of Lorentz symmetry breaking
 - Modified hadronic dispersion relations in nuclear matter
 - Hadronic final state measurements
 - Dilepton measurements
 - Related topics

For speakers:
If you don't mind, please either upload your talks to
the indico page:

<https://indico.knu.ac.kr/event/594/>

or, send them to
reimei.jparc@gmail.com