

XVth Quark Confinement and the Hadron Spectrum



Contribution ID: 104

Type: Oral

Delineation of cold and dense two-color QCD with linear sigma model

Thursday 22 August 2024 11:40 (20 minutes)

Two-color ($N_c = 2$) QCD world is one of the useful testing grounds to delineate cold and dense QCD matter, since the lattice QCD simulation is straightforwardly applicable thanks to the disappearance of the sign problem. Motivated by recent numerical results from the lattice QCD activities, I am being investigating properties of dense two-color QCD by constructing the linear sigma model (LSM). In this talk, I summarize my recent works based on my LSM, such as the modifications of hadron mass spectrum, topological susceptibility, and the sound-velocity peak in cold and dense two-color QCD.

References:

- [1] D. Suenaga, K. Murakami, E. Itou and K. Iida, Phys.Rev.D 107 (2023) 5, 054001,
- [2] M. Kawaguchi and D. Suenaga, JHEP 08 (2023) 189,
- [3] D. Suenaga, K. Murakami, E. Itou, K. Iida, 2312.17017 [hep-ph] (to appear in Phys.Rev.D),
- [4] M. Kawaguchi and D. Suenaga, 2402.00430 [hep-ph].

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Session Classification: Nuclear and Astro-particle Physics

Track Classification: F: Nuclear and Astro-Particle Physics