



Contribution ID: 113

Type: 4th week (Nuclear matter under extreme conditions)

## Two-color QCD as a laboratory of cold and dense matter

*Thursday, November 7, 2024 4:00 PM (1 hour)*

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, Phys.Rev.D 109 (2024) 7, 074031,
- [4] M. Kawaguchi and D. Suenaga, Phys.Rev.D 109 (2024) 9, 9.

**Primary author:** SUENAGA, Daiki (KMI, Nagoya University)**Presenter:** SUENAGA, Daiki (KMI, Nagoya University)**Session Classification:** 1-day workshop (4th week)