

# XVth Quark Confinement and the Hadron Spectrum



Contribution ID: 208

Type: Plenary

## Femtосcopy for exotic hadrons and nuclei

*Tuesday 20 August 2024 11:30 (30 minutes)*

In high energy collision experiments with multiple hadron productions, the momentum distribution of the measured hadron pair shows a correlation due to the hadron interactions and the quantum statistics. In the past, this femtосcopy technique has been developed to extract the information of the emission source from the momentum correlation functions. Recently, correlation function measurement is utilized also as a new method to determine the hadron interactions. In fact, the ALICE collaboration at LHC measures the correlation functions with various hadron pairs, for which the standard scattering experiment is difficult, providing remarkable progress in the study of the hadron scattering. In this talk, we introduce the basics of theoretical method to calculate the momentum correlation function [1], and present recent applications to antikaon-nucleon systems [2] and hypernuclei [3], including future prospects at J-PARC.

[1] S. Cho et al., ExHIC collaboration, Prog. Part. Nucl. Phys. 95, 279 (2017).

[2] Y. Kamiya, T. Hyodo, K. Morita, A. Ohnishi, W. Weise, Phys. Rev. Lett. 124, 132501 (2020).

[3] A. Jinno, Y. Kamiya, T. Hyodo, A. Ohnishi, arXiv:2403.09126 [nucl-th].

**Author:** HYODO, Tetsuo (Tokyo Metropolitan University)

**Presenter:** HYODO, Tetsuo (Tokyo Metropolitan University)

**Session Classification:** Plenary