

Basic mathematical studies on dressed photon phenomena

Date: February 13th and 14th, 2020

Venue: IMI conference room (W1-D-414), Institute of Mathematics for Industry, Kyushu University

The first day [February 13th]

12:50 ~ 13:00

Opening remarks H. Sakuma (Research Origin for Dressed Photon)

Session I: Keynote talks on the experimental [I] and theoretical studies [II] of dressed photon phenomena and a cutting-edge application study utilizing near-field optical techniques [III]

13:00~13:45

M. Ohtsu (talk I), Research Origin for Dressed Photon

Dressed photon phenomena that demand off-shell scientific theories

Abstract

13:45~14:30

N. Tate (talk III), ISEE, Kyushu University

Correlation analysis of the size-resonanced near-field optical signals for advanced physical security

Abstract

14:30~15:15

I. Ojima (talk II), Research Origin for Dressed Photon

Dynamics of Micro-Macro Duality

Abstract

15:15~15:45

Coffee break

Session II: On photon (quantum field) localization problem and its approach taken from the viewpoint of operator algebra

15:45~16:30

F. Hiroshima, Graduate school of mathematics, Kyushu University

Localization in quantum field theory

Abstract

16:30~17:15

H. Ando, Department of Mathematics and Informatics, Chiba University

Dressed photons and Electromagnetic fields from operator algebraic viewpoint

Abstract

17:15~18:00

T. Yabuki, Hokusei Gakuen University

A theoretical analysis of the localization of a spontaneously emitted photon

Abstract

The second day [February 14th]

Session III: Approach from quantum walk (QW) modeling and measurement theory

10:00~10:45

H. Saigo, (Invited talk on QW) Nagahama Institute of Bio-Science and Technology

Dressed Photon and Quantum Walk

Abstract

10:45~11:30

S. Sangu, Ricoh Institute of Technology, Ricoh Company, Limited

Dynamics of dressed-photon population from the perspective of convergence to steady state

Abstract

11:30~12:15

K. Okamura,

Measurement of Dressed Photon

Abstract

12:15~13:30

Lunch break

Session IV: Parallel between (supersonic vs. subsonic) and (superluminal vs. subluminal), symmetry and symmetry-breaking in dressed photon dynamics

13:30~14:15

Y. Fukumoto (IMI, Kyushu University) & T. Thai (Hanoi University of Natural Resources and Environment)

Stability of an interface of tangential-velocity discontinuity in a shallow-water flow of different depth

Abstract

14:15~15:00

H. Sakuma, (Research Origin for Dressed Photon)

Review on Clebsch dual field and on the parallel between dynamical behavior of dressed photon and dark matter.

Abstract

15:00~15:45

H. Ochiai, IMI, Kyushu University

On symmetry of Dressed Photon

Abstract

15:45~16:30

I. Banno, Interdisciplinary and engineering researches, Yamanashi University

Non-relativistic Nature in Material Systems and the Dressed Photons

Abstract

16:30~

Wrap up discussion