

706th ASRC Seminar

Date: 13:30 ~ 14:30 Thursday, January 18

Location: 103 Meeting Room, ASRC Bldg.

Speaker: Assoc. Prof. Jun Suzuki
(The University of Electro-Communications)

Title: Advances in Quantum Estimation Theory:
Invitation to Quantum Information Science

Abstract: Recent advances in quantum information science have opened up a new research field for the next generation technologies, known as quantum information technologies. The primary purpose of this seminar is to give an overview of the current status in the research on quantum information science together with future perspectives of this field.

The first part of this talk provides a brief introduction to quantum information theory, quantum communication, and quantum computation. The second part of this talk focuses on renewed interests in the quantum estimation theory and its applications to high precision measurements, such as the quantum metrology and quantum sensing. We present our studies on how to estimate unknown quantum states in the presence of unavoidable quantum noises.

Possible future directions in quantum information science research are given in the last part of this talk.

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