

Encounter between theoretical physics and information theory

Teacher: Prof. Hiroaki Matsueda (022-795-7959, hiroaki.matsueda.c8@tohoku.ac.jp)

Max. number of students: 3

1st lecture: 16:20PM, 3 October (This course will open through 2nd semester)

Place: Prof. Matsueda's office (room 313, 1st building of)

Close relationship with
general relativity

Principle of D-Wave machine

Quantum annealing

Quantum/classical
correspondence

Quantum spin system
(prototypical quantum many-body system
& good example of quantum bits)

Numerical exact
diagonalization

Conventional technique

Tensor network methods

Research theme in K-computer



Prof. Matsueda's
Textbook
(You can buy it at
Seikyo)

Learn that theoretical physics and information theory are closely related,
and acquire a cross-disciplinary perspective !