

Quantum mechanics I Fall 2020

Syllabus:

Week1 Class introduction

Week2 Fundamental concepts: uncertainty and superposition(I)

Week3 Fundamental concepts: uncertainty and superposition (II)

Week4 Fundamental concepts: uncertainty and superposition (III)

Week5 Hilbert space and operators (I)

Week6 Hilbert space and operators (II)

Week7 Hilbert space and operators (III)

Week8 Python class/Discussions

Week9 Midterm exam/project mid-term report

Week10 Two level systems (I)

Week11 Two level systems (II)

Week12 Two level systems (III)

Week13 Two level systems (IV)

Week14 Equation of motion (I)

Week15 Equation of motion (II)

Week16 Equation of motion (III)

Week17 Discussions

Week18 Final exam

Textbook: K. Gottfried and T-M. Yan, Quantum mechanics: fundamentals,
(2ed., GTCP, Springer, 2003)(ISBN 0387955763)

Ref: J.J. Sakurai, Modern Quantum Mechanics, (2ed., Addison:Wesley 2011)

Grading: Midterm Exam/project on quantum computation, Final Exam,
Homework

Lecturer: Watson Kuo(Room 517)

Teaching Assistant: Mr. Y. H. Chang 張譽瀚, PhD student (Room 313)

Mr. Raveendharan Sundaram, PhD student (Room 313)

Office hours: Wed 13:00~15:00. Appointment in advance is required.