

# 固態物理導論(I) (Solid State Physics)

## Contents

- Chapter 1: Crystal Structure
- Chapter 2: Wave Diffraction and the Reciprocal Lattice
- Chapter 3: Crystal Binding and Elastic Constants
- Chapter 4: Phonons I, Crystal Vibrations
- Chapter 5: Phonon II, Thermal Properties
- Chapter 6: Free Electron Fermi Gas
- Chapter 7: Energy Bands
- Chapter 8: Semiconductor Crystals
- Chapter 9: Fermi Surfaces and Metals

### Textbook:

Charles Kittel, *Solid State Physics*, Eighth Edition, 2005, Wiley.

### References:

Lev Kantorovich, *Quantum theory of the Solid State: An Introduction*.  
2004, Springer.

N. W. Ashcroft and N. D. Mermin, *Solid State Physics*, Harcourt Brace College  
Publishers, 1976.

J. D. Patterson and B. C. Bailey, *Solid-State Physics, Introduction to the Theory*,  
2007, Springer.

H. Ibach and H. Lüth, *Solid-State Physics*, 3<sup>rd</sup> edition, 2003, Springer.