

General Physics

part b: Electricity & magnetism



Shuai Dong

School of Physics
Southeast University

reface

About this course

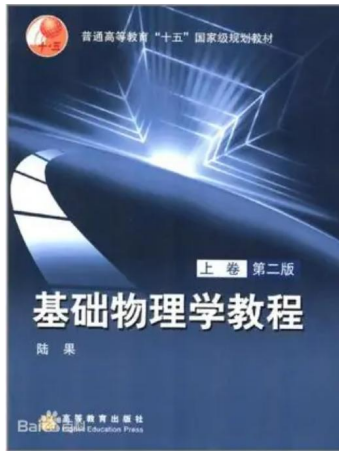
- ❖ A **bilingual** course. The official language is English/Chinese.
- ❖ 2.5 credits: 48 lectures.
- ❖ Class: Class 3-5, Tuesday & Friday
- ❖ From the 9th week to the 16th week

About this course

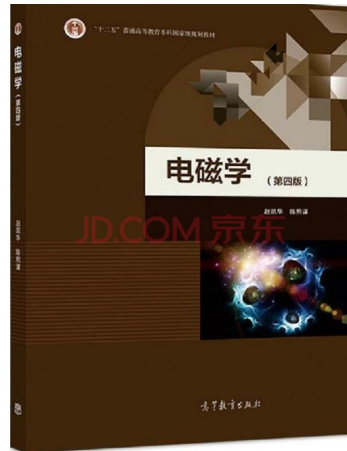
- ❖ Attend the class (5%)
- ❖ Homework (5%)
- ❖ Final (40%): a closed-book exam
- ❖ Teaching Assistant: Mr. Zhong Sheng

About this course

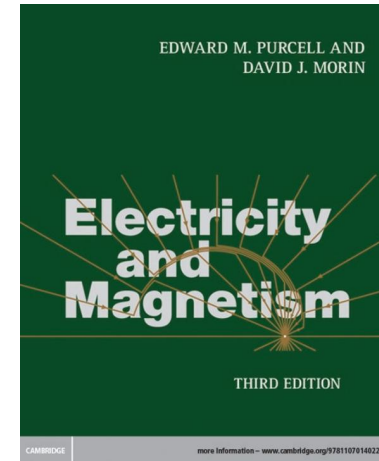
❖ Reference books:



陆果
基础物理学教程
(第二版、上卷)
Higher education
press



赵凯华、陈熙谋
电磁学(第四版)
Higher education
press



Edward M. Purcell
& David J. Morin
Electricity &
magnetism (3rd ed)
Cambridge Univ
press

Some suggestions

- ❖ Prepare before class
- ❖ Read, think, & prove
- ❖ Do homework by yourself!



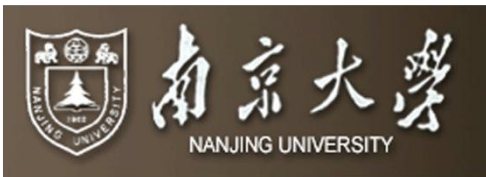
Learn by yourself!

Personal contact

- ❖ Office: N215, Tianjiabing Building
- ❖ Appointment in advance is preferred!
- ❖ Walk-in may be also available sometime!
- ❖ Phone (O): 52090601-8215
- ❖ Email: sdong@seu.edu.cn (preferred)

About me

- ❖ Shuai Dong (董帅)
Chair Professor
NSFC Distinguished Youth Scholar
MOE Changjiang Youth Scholar
Associate Chair of School of Physics
- ❖ B.S. 2004 /PhD from NJU, 2009
- ❖ Professor of SEU since 2009
- ❖ Studied & worked in Univ. Tennessee & Oak Ridge National Lab., USA, for 3 years.



Internationalization

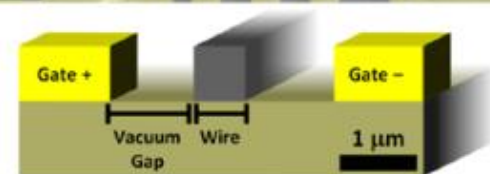
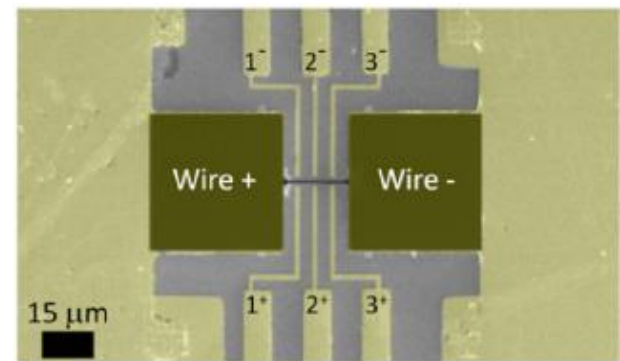
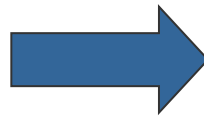
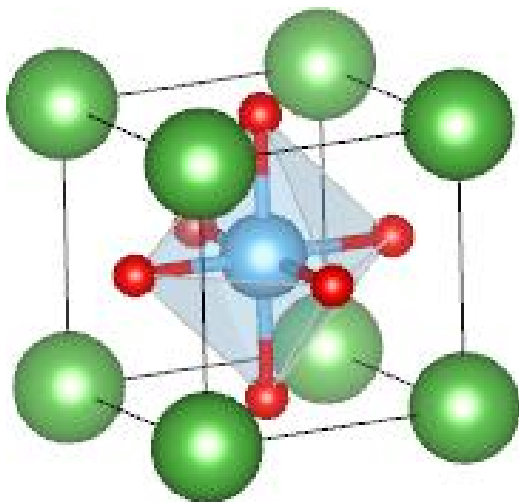


- 1 year Res. Assist. Prof. in **Univ. Tennessee, Knox./Oak Ridge Natl. Lab.**
- Visiting Prof. (1-3 months): **RIKEN, Nanyang Tech. Univ., CNR Univ. Stuttgart, Univ. Nebraska Lincoln**

About my research

Research interests:

- ❖ -Physics
- ❖ --Condensed matter physics
- ❖ --- **Quantum Materials**
- ❖ from **physics** to **devices**



Rule of life



Gene

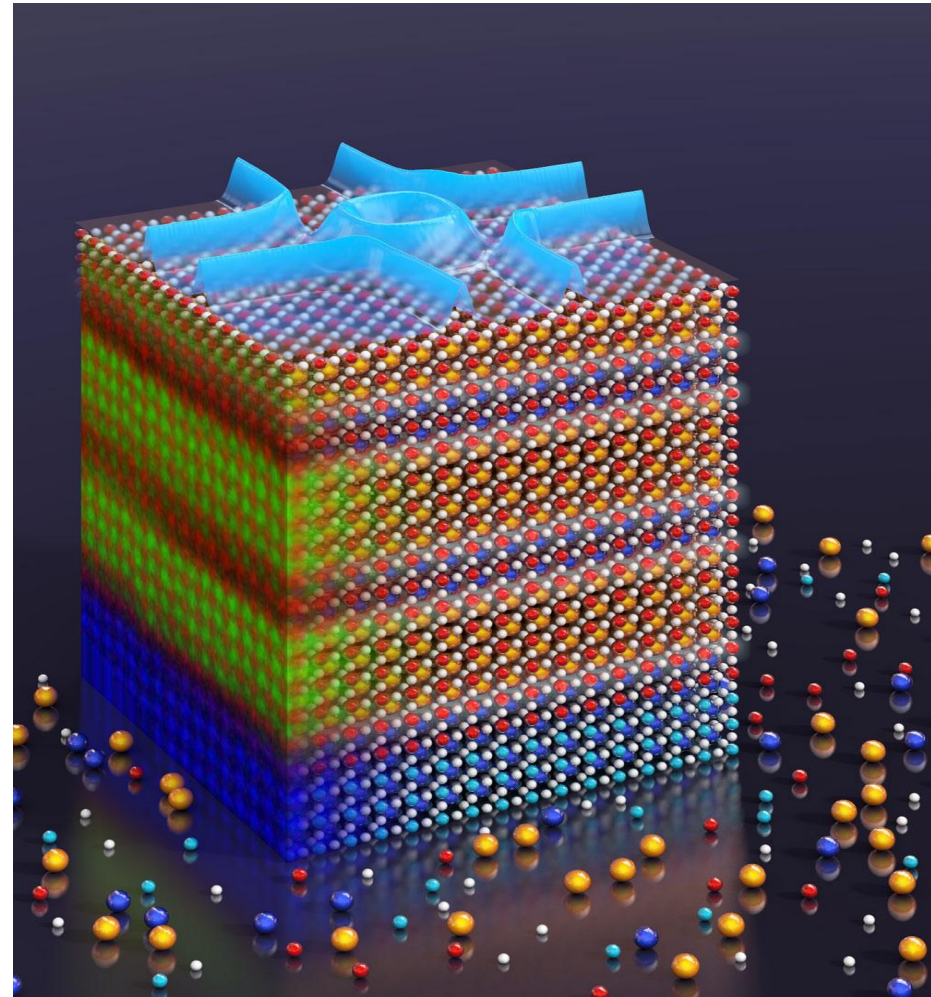
Code of gene: A-T-C-G-U



human genome project
since 1990

Rule of matters

Lattice-Charge-Spin-Orbital



Materials Genome Initiative
since 2011

Our aims

- ❖ Use our **bright brains & powerful computers** to
 - 1) discover the **physical rules** in condensed matters and materials
 - 2) **search** and **design** new materials and devices based on **physical knowledge**.

To potential students

Requirements:

- ✓ highly self-motivated!
- ✓ wish to pursuit higher degree(s) under my supervision
- ✓ Intelligent & hard working

Benefit

- ❖ **A very nice advisor**
- ❖ Cutting-edge research
- ❖ Plenty financial support
- ❖ Promising oppotunity to exchange abroad in world-leading insitute/group



Physics of Quantum Materials

<http://physics.seu.edu.cn/sdong>

- ❖ Keep in your mind today!
- ❖ Welcome to join in our team in future!
- ❖ I'm looking for the next star!