

Radiative Transfer

PHYS 721, Fall 2015

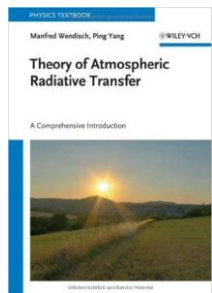
Dates and Location: Tuesday & Thursday, 2:30AM- 3:45AM

INSTRUCTOR: Dr. Zhibo Zhang
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Ph.: 410-455-6315 (office)

OFFICE HOURS: PHYS418: Wednesday 1:30~3:30PM or Through Email

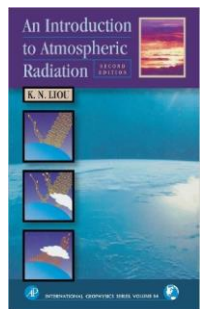
TEXTS:

Theory of Atmospheric Radiative Transfer
by [Manfred Wendisch](#) , [Ping Yang](#) ISBN-10: 3527408363



REFERENCE TEXTS:

- 1) **An Introduction to Atmospheric Radiation** By Kuo-Nan Liou
- 2) **First course in atmospheric radiation** by G. Petty
- 3) **Absorption and Scattering of Light by Small Particles** by C.F. Bohren, D. R. Huffman



GRADING:

Homework (30%), Projects (60%), Participation/Discussion (10%)

COURSE OUTLINE:

1. **Basic Definitions and Principles** (2 weeks)
2. **Interaction of Light with Single Particles** (2 weeks)
3. **Bulk Scattering by Particle Ensembles** (1 week)
4. **Radiative Transfer Equation** (1 week)
5. **Methods for Solving RTE** (3 weeks)
6. **Absorption and Emission by Earth's Atmosphere** (2 weeks)
7. **Applications of Radiative Transfer** (3 weeks)

Academic Honesty Policy

By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community, in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the UMBC Student Handbook, the Faculty Handbook, or the UMBC Policies section of the UMBC Directory. [Statement adopted by UMBC's Undergraduate Council and Provost's Office.]