

AT721:

Outline

Part I: Forward methods of atmospheric Radiative transfer

1. Elementary Concepts
2. The Radiative Transfer Equation
3. The Integral Solution
4. Expansions, Quadrature and the Matrix Equation of Transfer
5. The Interaction Principle
6. Orders of scatter and Monte Carlo Methods
7. Approximate Methods
8. Characteristic Solutions I; Isotropic scattering
9. Characteristic Solutions II; Anisotropic scattering
10. Jacobians
11. Advanced Topics I: Polarization
12. Advanced Topics II: Multi-dimensional transport

Part II: Inverse methods of Radiative transfer

13. Introduction to Inverse Radiation Problems
14. Introduction to Bayes theorem and general Linear inverse
15. Error Analyses and Characterization
16. Information Content