

Review for Mid-term Exam 2:

1. Principles of remote sensing of ozone in the UV region.
Lecture 10
2. Principles of remote sensing using emission in the IR and microwave regions.
Lecture 11, Eqs.[11.1-11.3], [11.7], [11.10-11.11], [11.15-11.16], [11.19], [11.20]
3. Measurements of path-integrated quantities: precipitable water vapor and cloud liquid water.
Lecture 11, Eqs.[11.23-11.25]
4. Remote sensing of SST. Split-window technique. Microwave vs. IR retrievals of SST.
Lecture 12, Eqs.[12.1], [12.14-12.15]
5. Principles of sounding by emission. Concept of the weighting function. Principles of sounding of the temperature profile and trace gases.
Lectures 11 and 12, Eqs.[11.17-11.18], [12.20-12.21], [12.25-12.28], [12.31]
6. Passive remote sensing of precipitation: IR and microwave techniques.
Lecture 13, Eqs.[13.4-13.5]
7. Principles of retrievals of cloud properties from passive remote sensing.
Lecture 13
8. Principles of active remote sensing. Radar basics. Radar equation.
Lecture 14, Eqs.[14.1-14.2], [14.14-14.23], [14.26]
9. Radar sensing of precipitation.
Lecture 14, Eqs.[14.30-14.33], [14.34-14.38]
10. Lidar basics. Mie lidar equation.
Lectures 15, Eqs.[15.1-15.2]