**MR3522: Remote Sensing of the Atmosphere and Ocean**

Note-Taking Questions for Lecture Series 2

1. What is the difference between spectral, spatial, and temporal resolution?
2. Why is the instantaneous geometric field of views (or spatial resolutions) different between different GOES ABI bands/channels?
3. Which GOES bands detect scattered radiation? Which ones detected emitted radiation?
4. Why are the three different “water vapor” infrared channels able to roughly detect water vapor at various heights? What would the weighting functions look like for these three channels if there were absolutely no water vapor along the path length of emitted radiation?
5. What is the purpose of an infrared sounder? How does it work?
6. If a weighting function contains a single narrow, high magnitude peak in the upper troposphere or lower stratosphere, what is the direct transmittance at the ground?
7. Which visible wavelength detected by ABI is most sensitive to scattering by air molecules? Why?
8. For the longwave bands, why is the “ozone” band (Ch. 12) called such? Why is the “CO2” band (Ch. 16) called such? Why are the “water vapor” bands (Ch. 8–10) referred to as such?
9. What makes Ch. 7 on ABI different than any other channel? (See Question 3 above.)