ASEN 6365. Lidar Remote Sensing
HW #6 –Wind Lidar Technologies

In the HW report, please address the following aspects:

1. Please summarize the lidar technologies for measuring atmospheric winds from ground to the upper atmosphere. Also give the measurement principles, requirements on instrumentation, and compare different technologies for their advantages and disadvantages.

2. What are the major differences between CDL and DDL? How do homodyne CDL and heterodyne CDL techniques work? Please explain with the assistance of equations.

3. What are the major differences between resonance and non-resonance DDL? What is the common point in various non-resonance DDLs?

Note: CDL stands for Coherent-Detection Doppler lidar, and DDL stands for Direct-Detection Doppler Lidar.

HW #6 is due on April 4, 2016 in class.