

**SSEC/CIMSS
Seminar**

QIN XU

NOAA's Storm Prediction Center

**Simple adjoint method for
retrieving vector wind field from
radar imagery movement**

The simple adjoint (SA) method retrieves vector wind field from radar imagery pattern movement by minimization the difference between the predicted and radar-observed imagery pattern movements. A simple advection equation is used for the prediction. The unknown vector wind in the advection term, unknown diffusivity coefficient and source term (averaged over the retrieval time period) in this advection equation are the control variables for the minimization. The minimization can be done by using the adjoint of the advection equation or direct least-squares fitting. The basic idea and related formulations will be reviewed briefly in comparison with other retrieval techniques. Examples of retrieved wind fields (from FAA TDWR radars, NWS KTLX radar, and NSSL phased array radar) will be presented.

Thursday, 7 May 2008

1:00 p.m.

Room AOSS 1039