

# Remote sensing of aerosols

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## **Atmospheric Dispersion Comparative Study Between A Typical And A Disturbed Pbl Using A Doppler Lidar**

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An atmospheric dispersion study was conducted for 2 different synoptical conditions for a hypothetical nuclear accident: the first is a pre-frontal condition with a typical Planetary Boundary Layer (PBL) and the second is a disturbed PBL due to a synoptic trough. The site is a complex terrain area (Iperó - Brazil), where the topography modulates the circulation and the Low Level Jet (LLJ) is a common feature of the PBL. For one year a doppler lidar retrieved the wind vertical profile at Iperó, allowing to evaluate datasets that can be used as input data for the Atmospheric Transport and Dispersion Models (ATDM). Of the 3 datasets evaluated, only GDAS reproduced the LLJ and was chosen for running the HYSPLIT4 ATDM experiments.