

Nocturnal Jet Observational Study over Sao Paulo City With Wind Lidar

(Send abstract to 9th.wlmla@gmail.com)

Cassia Maria Leme Beu

Instituto Nacional de Pesquisas Energéticas e Nucleares
2242, Lineu Prestes Avenue, Sao Paulo, SP, Brazil, ZIP Code 05508000
cassia.beu@gmail.com

Marcia Talita Amorim Marques

Instituto Nacional de Pesquisas Energéticas e Nucleares
2242, Lineu Prestes Avenue, Sao Paulo, SP, Brazil, ZIP Code 05508000

Eduardo Landulfo

Instituto Nacional de Pesquisas Energéticas e Nucleares
2242, Lineu Prestes Avenue, Sao Paulo, SP, Brazil, ZIP Code 05508000

Abstract: Sao Paulo is the biggest city of a dense Metropolitan Region with more 38 municipalities. The statistic government agency (IBGE) estimates that more than 20 million of inhabitants live in the Metropolitan Area. Just for Sao Paulo City, the population is more than 11 million of inhabitants and 7 million vehicles, in according to Detran (the traffic agency). Such density is a challenge for managing the quality air control and several studies have been carried out to understand the pollution dispersion over Sao Paulo Metropolitan Region (SPMR). Lapat (a Sao Paulo University team that studies pollution) have been developed important researches in this topic and some results are available in its site (<http://www.lapat.iag.usp.br/index.html>). One important result is that car emissions have high impact over the atmospheric pollution. Although that and others initiatives, many questions remain unanswered and the observational aspects represents a huge barrier as have been highlighted in several works. The data absence in the PBL (Planetary Boundary Layer) over SPMR was emphasized in a recent work dealing with LES modelling of the Nocturnal Jet (NJ). Therefore, the PBL observational features are an important contribution to research development of SPMR pollution dispersion field. In this sense, this work presents some aspects of the NJ observed over Sao Paulo City with a wind lidar for three months period (December-2015, January-2016 and February-2016) and expect to contribute to SPMR dispersion researches.

Keywords: Nocturnal Jet; wind lidar; Planetary Boundary Layer.

IXWLMLA Topic: Lidar Applications on Environmental Sciences (list of topics at <http://gescon.ipen.br/wlmla/>).