

Monitoring of Pollutants and Environmental Impact Dispersion in Santos Estuary by the Technique LIDARMaria Helena Gonçalves de Andrade Salani¹, Eduardo Landulfo¹¹Instituto de Pesquisas Energéticas e Nucleares Avenida Prof. Lineu Prestes 2242, 05508-000, São Paulo, Brazil

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Abstract: The atmosphere is a medium that deforms easily through its movements carrying the gaseous compounds and particles away from places where they were generated. In big cities, due to its complex structure, it is very difficult to identify and quantify their polluting sources, which impacts directly on questions regarding the reduction of pollutants' emission, that are aimed to improve the health of the population. Estuaries may suffer indirect contamination through atmospheric deposition, which can be one of the main forms of contamination of the aquatic environment. This study seeks to identify and to quantify the presence of suspended particulate material in the port of Santos area, which receives pollution of emission of vehicles, ships, industrial operations. The chosen area for monitoring, in order to quantify and to measure this particulate material, was the estuary of the Port of Santos, located in the state of São Paulo, in the city of Santos, Lat. 23°59'24''S e Long. 46°20'12''W. The methodology used is the remote sensing technique known as laser lidar to monitor, in near real time, atmospheric emissions of particulate matter and trace gases, from the estuary of the Port of Santos-SP. The lidar operates a commercial pulsed-laser transmission system, and its configuration offers complete overlap between the system's field of vision and the laser beam at an altitude of approximately 180m. It is intended to find a methodology capable of monitoring the emissions of particulate material in the air, based on the processing of data from the measurement performed by the Lidar's system. It allows the identification of the sources and characteristics (size and type) of the particulate material; as well as the pattern of its dispersion can be identified and studied.

Keywords: Lidar system, Particulate material, Monitoring of pollutants.

IXWLMLA Topic: _____ (list of topics at <http://gescon.ipen.br/wlmla/>).