

P85

RARE EARTH ELEMENTS, U AND Th IN TUNNEL DUSTS OF SÃO PAULO CITY, BRAZILR.M. Nory^a and A.M.G. Figueiredo^a remenry@usp.br

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São Paulo is one of the most populated cities in the world, with about 20 million inhabitants in its metropolitan area, more than 7 million motor vehicles and intense industrial activity. Given its importance as a major urban center in South America and the lack of information concerning urban dust composition, the present study aimed to determine rare earth elements (REEs), U and Th mass fractions in tunnel dust, collected in the Jânio Quadros Tunnel, and to assess their possible sources. The study of REEs distribution in urban environments has become of interest over the last decades, due to the increasing industrial use of these elements. The REEs, that are as common as the most familiar metals, are found in metallurgical additives, fluid cracking catalysts and automobile converter catalysts, among other applications. In this study, which employed Instrumental Neutron Activation Analysis (INAA) as analytical technique, the mass fractions of eight REEs were determined and normalized to the chondrite concentration values. The results showed that major concentrations were found for light REEs, following the sequence Ce > La > Nd > Sm > Yb > Eu > Tb > Lu. The pattern of the results pointed to a natural origin for these elements. Regarding U and Th concentrations, the results varied between 1.0 – 9.4 $\mu\text{g g}^{-1}$ and 3.3 – 35.9 $\mu\text{g g}^{-1}$, respectively. Since there is almost no information about the concentration of these elements in this kind of matrix in São Paulo city, these data are important to support further investigations

This work will be presented at the International Nuclear Atomic Conference INAC 2017 (poster)

P86

A STUDY ON TRACE ELEMENT CONTAMINATION IN THE METROPOLITAN REGION OF SÃO PAULO (SÃO PAULO, BRAZIL), USING THE LIVERS OF GREAT EGRET (ARDEA ALBA) AS A BIONDICATORR.C.A. Silva^{a,1}, M. Saiki¹, E.G. Moreira¹, P.T. Meira² and S. Oliveira²^a rcasilva@gmail.com¹Nuclear and Energy Research Institute, São Paulo, Brazil²São Carlos School of Engineering of the University of São Paulo, Brazil

Hérons and egrets are considered bioindicators suitable for the assessment of environmental contamination, since they occupy the top of the food chain, and tend to accumulate high concentrations of toxic elements in their tissues. So, in this study the livers of the great egret (*Ardea alba*) were used as a bioindicators of changes in trace element concentrations between 2006 and 2011 (6 years) in the aquatic environments of the Metropolitan Region of São Paulo (SPMR). The levels