

## Estimation of the origin of heavy metal elements in the SPM collected in Japan and Korea

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### Abstract

Suspended particulate matter (SPM) was collected at the three cities (Akita, Fukui and Hyogo) of Japan and Tegu, Korea. The concentration of the heavy metal elements in SPM were analyzed by PIXE (in the Nishina Memorial Cyclotron Center, Japan Radioisotope Association at Iwate) analysis. The origin and transportation course of the heavy metal elements were mainly discussed for  $PM_{2.5}$  ( $PM_{fine}$ ). For the all heavy metal elements in the  $PM_{fine}$  except for Mo and Hg, the highest concentration in the four cities was observed at Tegu. It could be thought to due to the fact that the emitting origin was in the continent and the PM could diffuse in every direction and deposit on the ground or sea during transporting to Japan. By the back trajectory analysis, it was found that the air mass for high concentration of heavy metal elements passed over the industrial zones at China and/or Russia.