

## **Evaluation of emission source for particulate matter (PM) in air at Hachimantai**

R. Kikuchi, K. Yoshimura, M. Takada, T. Sugawara, T. Kimoto<sup>1)</sup>  
T. Ozeki<sup>2)</sup>, M. Kajikawa, K. Sera<sup>3)</sup> and N. Ogawa

Faculty of Engineering and Resource Science, Akita University  
1-1, Tegata Gakuencho, Akita 010-8502, Japan

<sup>1)</sup> Kimoto Electric Co. Ltd.,  
3-1, Funahashicho Tennojiku, Osaka 543-0024, Japan

<sup>2)</sup> Hyogo University of Teacher Education  
942-1, Shimokume, Yashiro-cho, Kato-gun, Hyogo 673-1494, Japan

<sup>3)</sup> Cyclotron Research Center, Iwate Medical University  
348-58 Tomegamori, Takizawa, Iwate 020-0173, Japan

### **Abstract**

Particulate matter (PM) samples were collected hill side at Hachimantai Mountain range in northern Japan. The element content of PM were determined by PIXE method. Concentration of S was highest in each element in PM fine. From the analysis of S/K ratio, it was suggested that the main origin of S in PM fine was fossil fuel combustion. More over, from EF value analysis, influences of fossil fuel combustion were higher in trace elements than in major elements. Because the air mass containing PM was transported mainly from Chinese Continent and the Korean Peninsula by the 72-h back trajectory analysis, it is thought that emission source of fossil fuel combustion is in Chinese Continent and the Korean Peninsula.