

Measurement of fluorescent particles in Fukue Island

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Among various optical techniques applied for the atmospheric particle detection, fluorescence is useful for detecting certain types of organic particles, especially those of biological origin. In this study, we employed a single-particle fluorescence sensor, WIBS-4, for the detection of fluorescent particles, to demonstrate the capability of the classification of organic particles in the ambient air.

We conducted ambient air measurements from Sep 16 to Dec 14, 2011 using the WIBS-4 instrument at Fukue Island (32.75N, 128.68E) in Japan. We detected 36,000,000 particles during the observation period, and the ratio of the fluorescent particles to the total varied in the range of 2 - 65%. In Oct.6, high number concentrations were observed, suggesting transportation from the continent by the trajectory analysis. During this period, the ratio of the fluorescent particles to the total was about 50%, suggesting that transported particles include fluorescent material. In the presentation, we will discuss the comparison of fluorescence pattern from individual particles.

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