

Study on the chemical characteristics according to the trajectories of fine dust transported to Korean peninsula

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Fine dust is very small, less than 10 μ m in diameter, so it cannot be filtered out of the lungs and absorbed into the body. This causes respiratory diseases, even International Agency for Research on Cancer classifies fine dust as carcinogenic agent group 1. The constituents of the fine dust may vary depending on the area where the fine dust is generated, the season, weather conditions, and the like. Generally, it consists of lumps (sulfate, nitrate, etc.) formed by the reaction of air pollutants in the air, carbon and soot generated in the process of burning fossil fuels such as coal and petroleum, and minerals such as earth dust. This study analyzed the inflow path of fine dust to the Korea Science Academy and the properties of aerosols accordingly such as absorbed metal ion. The final goal of this research is to create the database of characteristics by inflow trajectories, and therefore we will be able to decide the dangerousness of aerosol which inflows to Korea. Recently, amount of fine dust entering the Korean Peninsula has become dangerous high. Therefore, the importance of predicting fine dust in Korea is increasing. Fine dust not only harms the human body, but also disturbs the Earth's heat system and affects the climate change. Therefore, we concentrated the fine dust, which has these characteristics. Our team conducted a study on metals that adhered to fine dust entering the Korean Peninsula. We form the framework of the study method for the metal components adhered to the fine dust. We also analyzed lead substances that were adhered into fine dust in autumn and winter. Quantitative changes in lead compounds depending on the path of fine dust reached Korea in this study could contribute to the prediction of fine dust.