

Ⅲ . 學術研究發表 要旨

Effect of Anion Generating Cleaner on the Components of ETS in a Closed Room

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ABSTRACT : This study was conducted to evaluate the ability of anion generating air cleaner to remove gases, vapor and particles from closed room contaminated with environmental tobacco smoke(ETS). The measurements covered particle sizes of 13.8-542.5 nm, particle concentration, surface area, volume. UVPM, FPM, solanesol, and following gases and vapor : carbon dioxide, carbon monoxide, nicotine, and 3-ethenyl pyridine. Tobacco smoke was generated and mixed in a closed room in which the airflow rates were in the range of 0.00-0.03 m/s. The anion generating air cleaner was started, and the decay rates for the gases, vapor and particles were measured. When the use of anion generating air cleaner, solid components of ETS, such as respirable suspended particle(RSP), UVPM, FPM and solanesol was sharply decreased, and vapor phase components of ETS, such as nicotine, 3-ethenyl pyridine was modelately decreased by time elapse. Even the use of anion generation air cleaner, the decreasing rate of carbon dioxide concentration was similar with control, the decreasing rate of carbon monoxide was slower than that of control. Our results indicate that the use of anion generating air cleaner is effect on reduce of particulate and vapor component from ETS. But there is no effect on gaseous components of ETS.