

# Characteristics of Particle Size Distribution in the Ambient Air of Ping-Tung Industrial Park

C.Y. Chung\*、C.G. Lee\*、S.W. Liao\*、P.L. Chung\*

\*Department of Environmental Engineering and Health  
Tajen Junior College of Pharmacy

## Abstract

In order to understand the profile of the particulate matter in the ambient air of Ping-Tung Industrial Park, this study was conducted to acquire a database about the particle size distribution. Ten samples were taken from January till May of 1998 at one location in the industrial park. Five of them are the daytime samples. The other five are nighttime samples. The durations are 07:00-19:00 and 19:00-07:00 of the next day for daytime and nighttime respectively. A MOUDI sampler with eight cascade impactor stages was used to collect the suspended particulate matter in the ambient air. The diameter of the particles ranges from  $0.18 \mu\text{m}$  to  $18 \mu\text{m}$ .

The results show that the concentrations of the particulate matter are higher during the winter than during the spring. This is caused mainly by the meteorological conditions. Since the particulate matter is difficult to be dispersed through the atmosphere during the nighttime, the concentrations seem to be higher during night than during the day. According to the statistical results of the particle size distribution, the daytime samples were dominated by the coarse particle fraction. It is obviously due to the motor-vehicle-generated dust during the working hours.

**Key word:** suspended particulate matter, particle size distribution