

The Concentration Distribution of Particles and Pollutants Emitted From Motorcycles

C.Y. Chung、P.L. Chung、C.G. Lee、Y.S. Yang、T.W. Chang、W.C. Chung

Department of Environmental Engineering and Health, Tajen Institute of Technology

Abstract

The motorcycle density is very high in Taiwan. There are almost fifty motorcycles per one hundred persons in Taiwan. It means that there is one motorcycle every two person. The pollutants emitted from motorcycles are hurtful to human health and the environment. It causes the air quality worse which around our environment. So, the problem of how to control the pollutants emitted from motorcycles is an important issue that need to clear up.

The aim of this study was to understand the concentration distribution of pollutants generated by motorcycle emission. An experimental study is conducted on the pollutants distribution of motorcycles.

The results show that the particle distribution between $0.56 \mu\text{m}$ and $1.8 \mu\text{m}$ for four-cycle motorcycles. The particles size are almost less than $1 \mu\text{m}$ for two-cycle motorcycles. It is serious of CO concentration emission from two-cycle motorcycles. It is almost 79% for all emission, and the HC emission percentage is 98%. For CO_2 , the concentration is 2.46% of two-cycle motorcycles and is 4.41% for four-cycle motorcycles.

Keywords: air pollutants, suspended particle, two-cycle motorcycle, four-cycle motorcycle