Air sensor application in Marathon route air quality monitoring

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ABSTRACT:

Traditionally, urban air quality is monitored by regulatory air monitoring stations that provide accurate pollution levels. However, due to the high installation and operational cost, they are only sparsely deployed within cities, and their coverage is not sufficient to characterize the air pollution most urban population is exposed to [1]. Advances in sensor technology and communication have accelerated the application of sensors in air quality monitoring to supplement traditional regulatory stations in recent years [2]. Plenty of studies have be conducted based on the employment of sensor systems in different countries[3][4].

To understand and evaluate the air pollution problem of Hong Kong, specific sensor systems have been designed to meet different study purposes. Data quality control protocol has been well established for data validity. A sensor network was formed to report Air Quality Health Index during a Hong Kong Marathon event as a health indicator[5]. Reliable data and remarkable observation were obtained beyond the working ability of the air quality monitoring stations.

KEYWORDS: Sensor network, marathon, human exposure,

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