ABSTRACT

Indonesia is experiencing an increasingly serious air pollution problem. Vehicle exhaust emissions are the main cause of air pollution, and several chemical components contained in exhaust fumes have the potential to harm human health. The research is expected to facilitate the categorization of motorized vehicles as suitable for use or not. In this study, a monitoring system was designed for monitoring the concentration of hydrocarbon gases (HC), carbon monoxide (CO), and nitrogen oxides (NOx) and the classification of motor vehicles using sensors MQ135, MQ9, and MQ2 and a data processor in the form of ESP32. The simple linear regression approach was used in this study, with the results Y = -183.708X + 2.019 for CO emissions, Y = 24,103.571X - 241.571 for NOx emissions, and Y = 144.479X -1.429 for HC emissions. The results of this study indicate that there is a unidirectional relationship between variable X, or the value of accuracy, and variable Y, or the value of gas emissions. The Y variable will increase as the X variable increases.

Keywords : *Air Pollution, Exhaust Emissions. Motor Vehicles Simple, Simple Linear Regression, Hydrocarbons, Carbon Monoxide, Nitrogen Oxides*