# *Design Of Turbidity Meter Tools Portable Fuel Based On Arduino Uno (Case study on motorcycle fuel).*

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## ABSTRACT

*Fuel is a part of the vehicle that needs to be considered by the vehicle owner. Due to dirty fuel conditions can cause blockages in the fuel lines. This study aims to determine the turbidity meter that can measure the turbidity value of the fuel that has been mixed with rust and determine the accuracy value of the turbidity meter designed. This research was conducted at the Jember State Polytechnic Automotive Engineering Laboratory. To help overcome this problem, an instrumentation tool was designed in the form of a turbidity detection tool based on the Arduino UNO microcontroller using a TSD-10 turbidity sensor and displaying the measurement results on the LCD (liquid crystal display). From the measurement results of turbidity values in pertalite, Pertamax, and Pertamax plus fuels have increased with the weight of the carat mixture with the fuel. turbidity level of each fuel is almost the same from every variation in carat weight mixed into the fuel. The pertalite fuel obtained 683.83 NTU in the 500mg carat mixture, 1238.5 NTU at 1000mg, 1780.33 NTU at 1500mg, 2522.33 NTU at 2000mg and 2928.5 NTU at 2500mg. From the results of the research that has been carried out, it can be concluded if the turbidity meter can measure the turbidity value and can work well.*

***Key words*** : *carat mixture, fuel, arduino UNO, sensor TSD – 10*