Physical Identification in Motor Vehicle Machine Oil Viscosity on the Function of Temperature using Laser Helium Neon

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Abstract

Research with the aim to understand the characteristic of motor vehicle machine oil viscosity by using Helium Neon laser had been done. The equipment and materials that used in this research are Helium Neon laser, test tubes, detector, thermometer, heater and oil. There are three kind of oil with different characteristics that used, they are SAE oil 20, SAE oil 30 and SAE oil 40. Then, the equipment and materials were well arranged. Obtained from experiment the value of pure intensity (without oil) and final intensity when oil were given with different temperature. The relation between laser intensity and temperature is linear, the higher the temperature, the intensity also becomes higher. In sequence, from the highest intensity are SAE oil 20, SAE oil 30 and SAE oil 40. Viscosity can be measured using laser Helium Neon in fisis.

Keywords: Helium Neon laser, SAE, Viscosity