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Vibration analysis of a diesel engine fuelled with sunflower and canola biodiesels

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Biodiesel is one of the most popular alternative fuels. The usage of biodiesel is increasing day by day. Therefore, all effects of biodiesel on internal combustion engines must be known. In this study, vibration effect of Canola (rapeseed), Sunflower biodiesel and their blends with low sulphur diesel fuel was investigated. Fuels were tested in a four cylinder four stroke diesel engine at 1300, 1600, 1900, 2200, 2500 and 2800 rpm engine speed. The results showed that with the use of biodiesel blend with low sulphur diesel fuel in up to 40% proportions, vibration values get significantly lower at all engine speeds. The least vibration value for most of the fuel was observed with the use of 60% biodiesel blend. The results were also individually interpreted in longitude, vertical and lateral axes.

Biography

Erinç Uludamar is a PhD student and has been working as a Research Assistant at the Mechanical Engineering Department of Çukurova University since 2010.

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