

柴油机燃用小桐子油燃烧与排放研究 Investigations of Combustion and Exhaust Emissions of a Diesel Engine Using Jatropha curcasl Oil

罗福强 王子玉 梁昱 郭健

江苏大学

关键词: 柴油机 小桐子油 燃烧 排放

摘要: 分析了小桐子油的主要成分及理化性质。以ZH1115型直喷柴油机作为试验样机,用不同比例的油料作为燃料,测量了气缸压力及NO_x、HC、CO和烟度等废气排放,分析其负荷特性。燃用小桐子油与燃用柴油时相比,发动机气缸压力和压力升高率,NO_x、HC排放和排温均较低,烟度相当,只有CO排放略高。供油提前角提前时,燃用小桐子油的发动机气缸压力和压力升高率增大,NO_x排放量增加,排气温度略有降低,CO排放量变化不大,HC排放量减少。The main components and properties of physics and chemistry of Jatropha curcasl oil were analyzed. The characteristics of performances, combustion and exhaust emissions of a ZH1115 diesel engine using different fuels were measured. It is found that when the engine using Jatropha curcasl oil, the cylinder pressure, the pressure rise rate, emissions of NO_x and HC, and the exhaust temperature were all lower than using diesel, the smoke was at equivalent level; however, the CO emissions was higher. The cylinder pressure and pressure rise rate and its NO_x emission increased, but when the advance angle of fuel supply increased, the exhaust temperature decreased a little, the CO emission had little change, and HC emission reduced.

[查看全文\(请使用Adobe Acrobat 6.0版本浏览\)](#) [返回首页](#) [引用本文](#)