

进气温度对甲醇均质压燃燃烧特性的影响

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摘要 在一台快速压缩机上模拟甲醇HCCI的燃烧过程, 通过缸压曲线和活塞位移曲线等数据进行计算分析, 研究了进气温度对甲醇均质压燃燃烧特性的影响规律。结果表明, 当其他边界条件一定时, 随着甲醇混合气进气温度的增加, 甲醇HCCI的燃烧始点提前, 缸内压力升高率峰值增加, 放热率峰值增加, 燃烧持续期缩短。

关键词 [动力机械工程](#) [甲醇](#) [均质充气压缩点燃](#) [燃烧特性](#) [进气温度; 快速压缩机](#)

分类号

Influence of charge temperature on methanol homogeneous charge compression ignition combustion characteristics

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Abstract With the emerging of the alternative fuel and the new combustion mode of the internal combustion engine, it is necessary to study its combustion mechanism and characteristics. The process of methanol homogeneous charge compression ignition(HCCI) combustion was simulated experimentally using a rapid compression machine(RCM). The influence of the intake charge temperature on methanol HCCI combustion characteristics was investigated by analyzing the histories of the in cylinder pressure and the piston displacement in the RCM. The results show that with the increase of the charge temperature, the ignition of methanol occurs earlier and earlier, the pressure rise rate and the peak heat release rate increase, and the combustion duration decreases correspondingly.

Key words [power and machinery engineering](#) [methanol](#) [homogeneous charge compression ignition \(HCCI\)](#) [combustion characteristics](#) [intake temperature; rapid compression machine\(RCM\)](#)

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