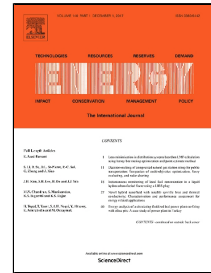


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Experimental and numerical investigation on H₂/CO formation and their effects on combustion characteristics in a natural gas SI engine



Changpeng Liu, Zhi Wang, Heping Song, Yunliang Qi, Yanfei Li, Fubai Li, Wang Zhang, Xin He

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Highlights

1. Formation of H₂/CO through fuel-rich combustion was quantitatively characterized;
2. H₂/CO addition significantly increased indicated thermal efficiency and the tolerance of EGR;
3. H₂/CO addition decreased total unburned HC with the acceptable increase in NO_x and CO emissions;
4. Key reactions promoting combustion were identified by reaction path and sensitivity analysis.

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