

COLLISIONAL EXCITATION OF AUTOMOTIVE FUEL COMPONENTS (ETHANOL AND ISOCTANE)

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It is possible to excite fuel components indirectly via a 10.6 μm CO₂ laser. A 9CO₂ laser excitation of pure ethanol caused little or no change in absorption in the C-H stretch region. However, the ethanol/isopropanol mixture did show a response proportional to laser excitation. Further studies indicate that excitation of isooctane/isopropanol mixture is also possible via collisional energy transfer between the laser excited isopropanol and isooctane.