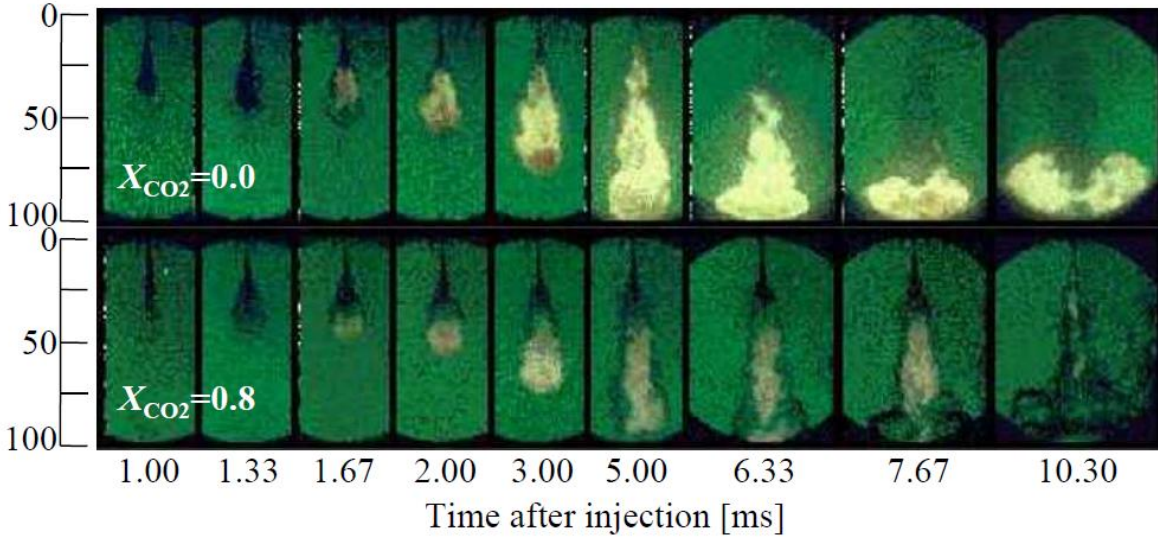


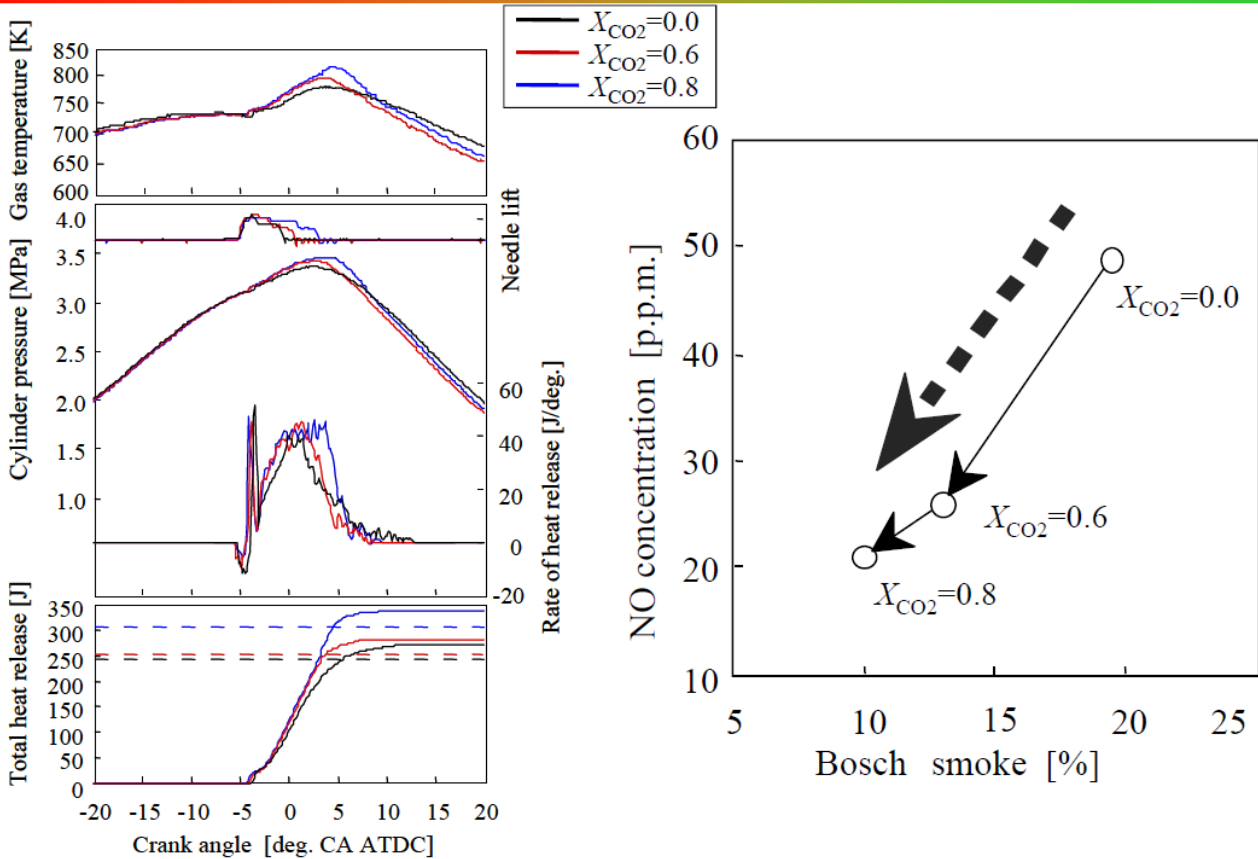
## 液化CO<sub>2</sub>-軽油混合燃料

- 低圧噴射方式の採用      →      熱効率の維持・向上
- CO<sub>2</sub>の混合に伴う減圧沸騰噴霧の形成      →      噴霧の微粒化・蒸気化の促進
- CO<sub>2</sub>噴霧内部EGR      →      NO低減 (火炎温度低下)



同志社大学エネルギー変換研究センター Energy Conversion Research Center - Doshisha Univ.

## 液化CO<sub>2</sub>-軽油混合燃料



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# ガス・ガソリン-軽油混合燃料

- ・ 燃料による低エミッション・高熱効率燃焼法の構築
- ・ 燃料の物理的・化学的特性を生かした噴霧・燃焼過程の時空間制御

## Formation of two-phase region

➡ Possibility of flash boiling spray

## Improvement of fuel transport properties

➡ Optimization of specific heat, viscosity, etc.

## Effective liquefaction of gaseous and solid fuels

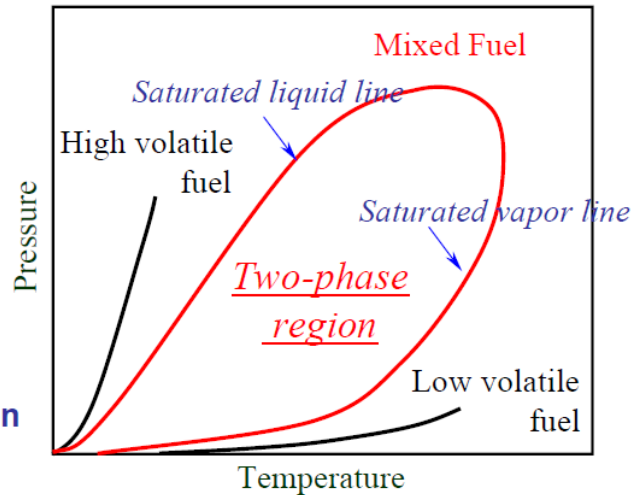
➡ Useful utilization of fuels for engine systems

## Capability of combustion control

➡ Control of combustion process by changing the mixing ratio

## Control of the ignitability and HC emission

➡ High Octane number fuel → Ignition Control  
High Cetane number fuel → Lower HC emission

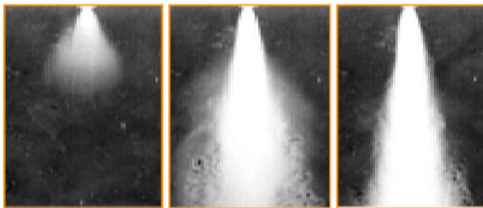


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# 減圧沸騰噴霧とエンジン性能

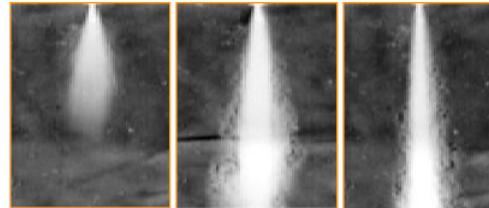
## Characteristic of Flashing Spray

### 減圧沸騰噴霧

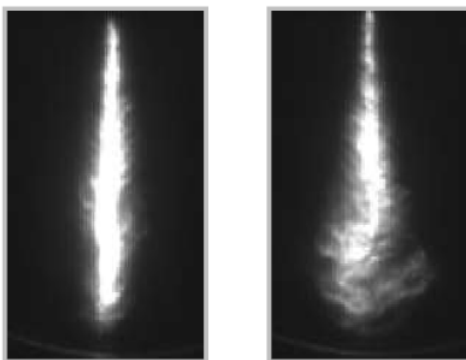


in addition

### 混合燃料噴霧

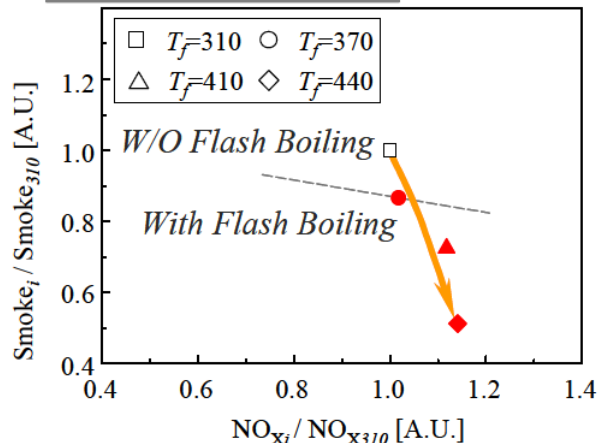


## Inner Structure of Flashing Spray



W/O Flash Boiling With Flash Boiling

## Engine Experiment



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