
(西安交通大学 (中国)) 研修報告書
(研修テーマ) 燃料噴霧の微粒化過程に関する研究

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1. はじめに

2017 8 19 9 17

2. 共同研究課題の決定

8 19
8 21 9 15
9 17

CO

Image Analysis)

PDIA(Particle Droplet

1 PDIA

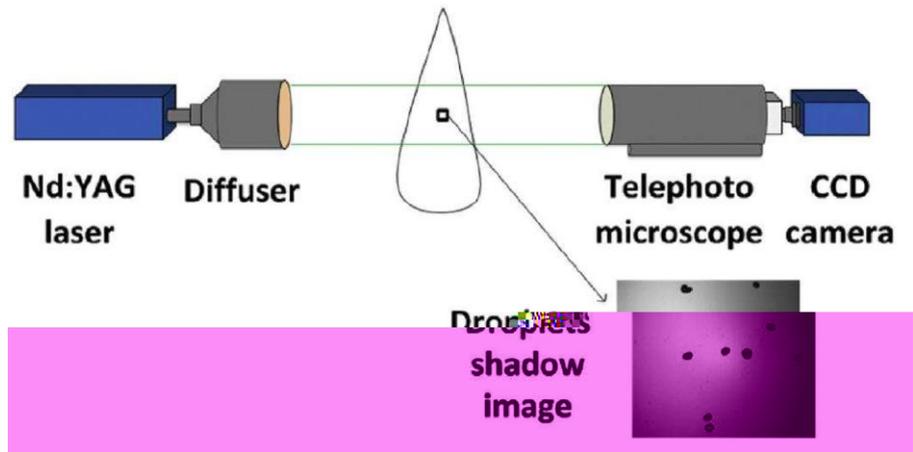


Fig.1 The Sketch of the PDIA System

Table.1 Experimental Conditions

Nozzle Specifications	
Actuator Type	Solenoid Actuator
Hole Diameter [mm]	0.18
Hole Length [mm]	1
Hole Number	1
Injection Conditions	
Injection Pressure [bar]	100 160
Injection Quantity [mm ³]	18
Ambient Conditions	
Ambient Gas Component	N ₂
Ambient Temperature [K]	300
Ambient Pressure [bar]	15
Ambient Density [kg/m ³]	16.8

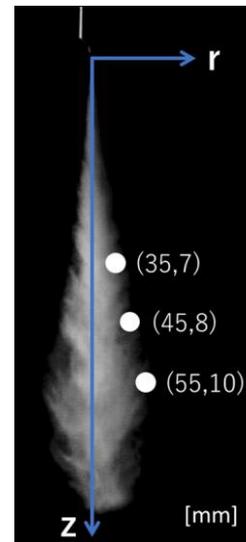


Fig.2 Measurement Points

2

3

160MPa

2

45mm

55mm

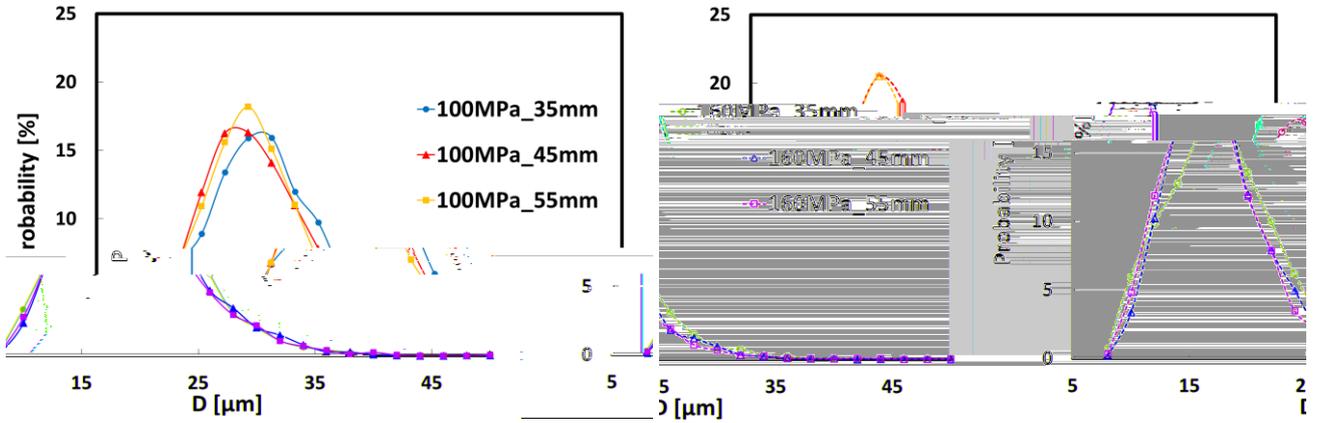
35mm

45mm 55mm

4

Table.2 Sauter Mean Diameter

Injection Pressure [MPa]	100			160		
Measurement Points [mm]	35	45	55	35	45	55
Sauter Mean Diameter [μm]	22.39	22.22	22.06	20.72	19.75	19.63



(a) $P_{inj} = 100\text{MPa}$

(b) $P_{inj} = 160\text{MPa}$

Fig.3 Probability Density of Droplets Size

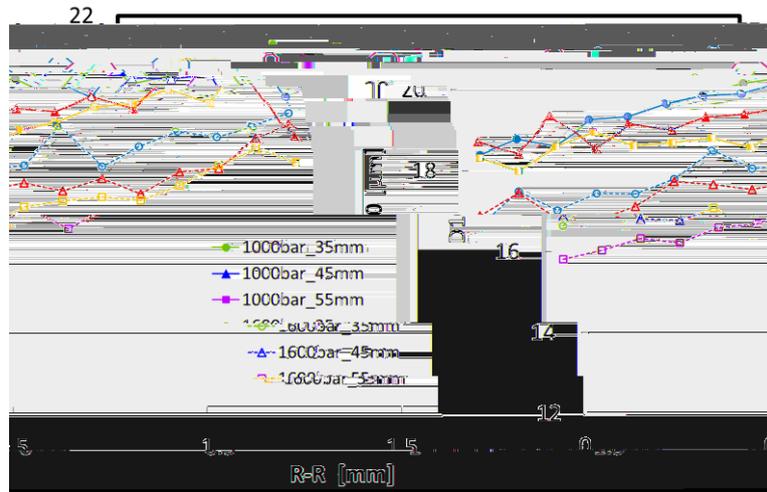


Fig.4 Droplets Size Distribution along the Radial Direction