32 3
JOURNAL OF WUYI UNIVERSITY Natural Science Edition

[A12]:
9.5

.

[1-4].

.

[A13]:
10
18

.

.

. .

.

.

.

. Bruschi [5]

. 0.9 8.4 m/s

.

C.Liu [6]

8

. [6] .

0.91 39 m/s

39 m/s .

.

. 12 .

.

.

.

[A14]:
13

12

. .

[A15]:
10

1 .

[redacted]

P_3^-

1 . M191D

±3 kPa 68 m/s.

2 .

$$\theta_0 = -7.5 \cdot \frac{P_1 - P_3}{P_2 - \frac{P_1 + P_3}{2}} \qquad 7$$

$D = P_1 - P_3$ $S = P_2 - \left(P_1 + P_3\right)/2$

$$P_0 = P_2 + \frac{7.5D^2}{120S}. \qquad 8$$

v

$$v = \sqrt{\frac{2P_0}{\rho}} \qquad 9$$

ρ $\rho = 1.205\ \text{kg/m}^3$.

.

5° 360° ±15°

P_2 12 30° 360°

3 12 . 40 m/s 12

3 7 8 9

S 1 .

θ	$P_1(\theta)$/Pa	$P_2(\theta)$/Pa	$P_3(\theta)$/Pa	/ °)	/Pa	/(m·s^{-1})
15°	532.2	800.9	829.7	15.7	978.7	40.3
10°	378.9	901.5	676.4	10.5	994.0	40.6
5°	87.2	968.0	468.1	5.4	992.8	40.6
0°	206.4	995.7	209.1	0.0	995.7	40.7
5°	473.9	959.0	88.2	5.5	984.8	40.4
10°	670.4	895.1	376.4	10.5	986.6	40.5
15°	823.9	798.3	531.2	15.6	974.3	40.2

1

0.7° 1.75%.

Cobra 270

. 0.8 m×1.0 m

3.4 m 60 m/s

5 m/s .

0.5% 0.8° 0.8%.

4

. 0.1 m/s .

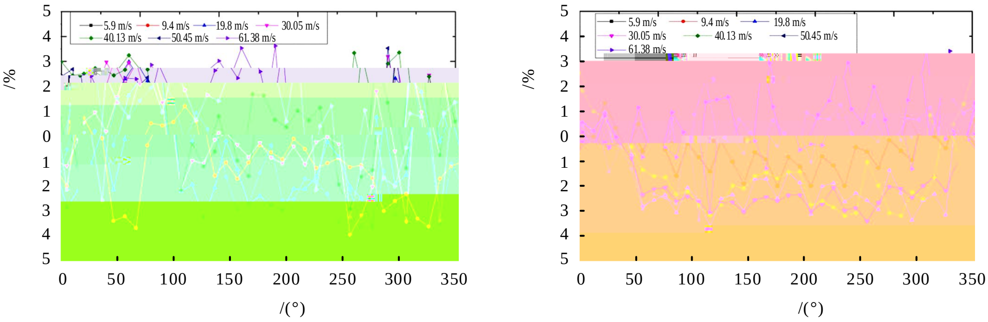
.

5 ~ 60 m/s 5 m/s 10°

.

4% 5 . 4°

6 .



.

.

10 cm

5 60 m/s . 4% 4°.

±15° . 3-a ±20° D

θ 9 .

.

[1] . [J]. 2006, 34(4): 9-11.

[2] . [J]. 2009, 31(8): 32-34.

[3] . [J]. 2009(6): 90-92.

[4] . [J]. 2012, 43(2): 756-762.

[5] BRUSCHI P, DEI M, PIOTTO M. A low-power 2-D wind sensor based on integrated flow meters[J]. IEEE Sensors Journal, 2009, 12: 1688-1696.

[6] LIU Cheng, DU Lidiong, ZHAO Zhao. A directional anemometer based on MEMS differential pressure sensors [C]// IEEE International Conference on Nano/micro Engineered & Molecular Systems, Wakiki: IEEE, 2014: 517-520.

[A23]:
10

[A24]:
15

[A25]:
10