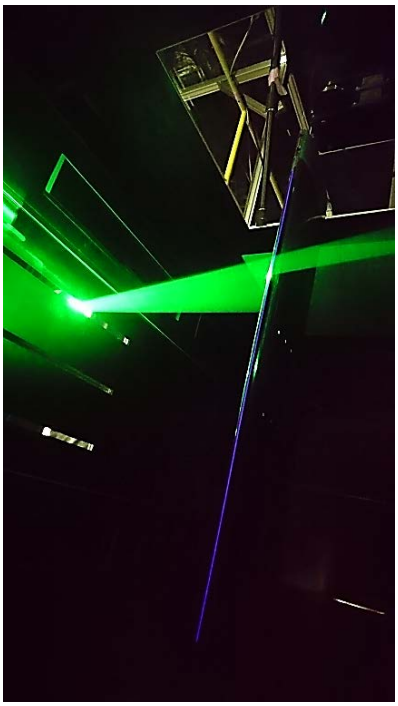
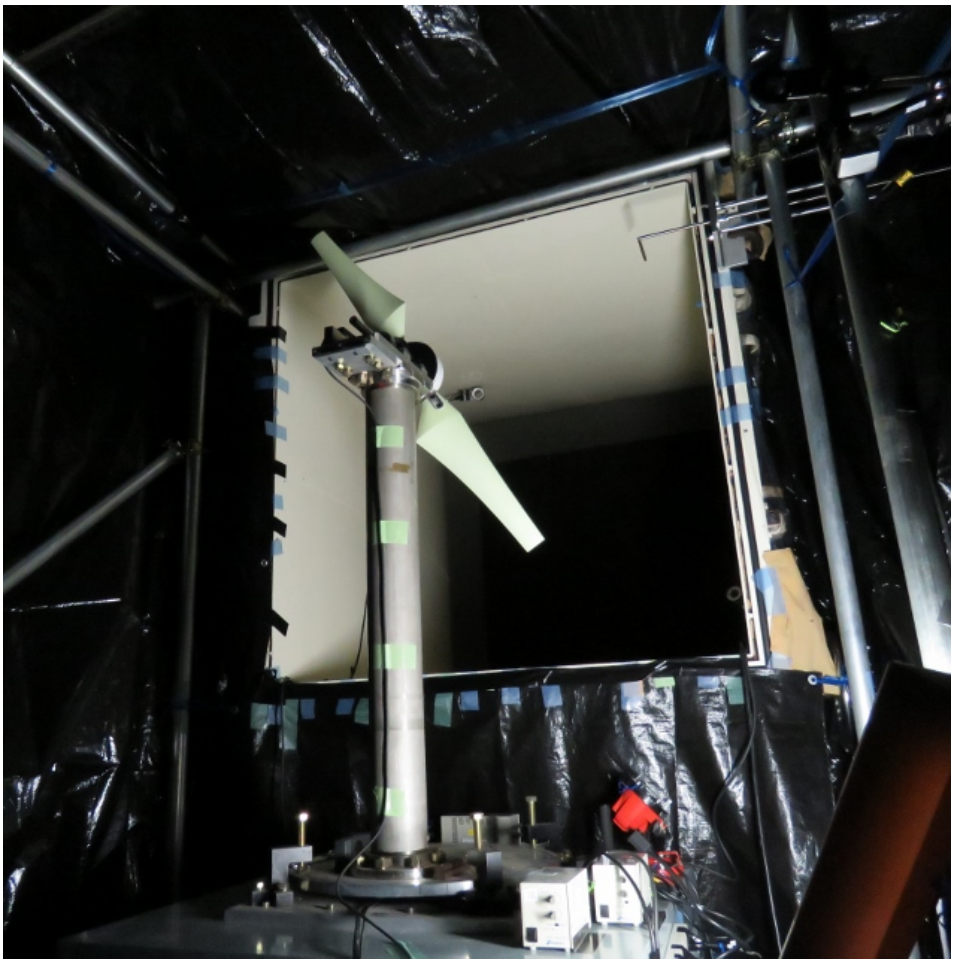
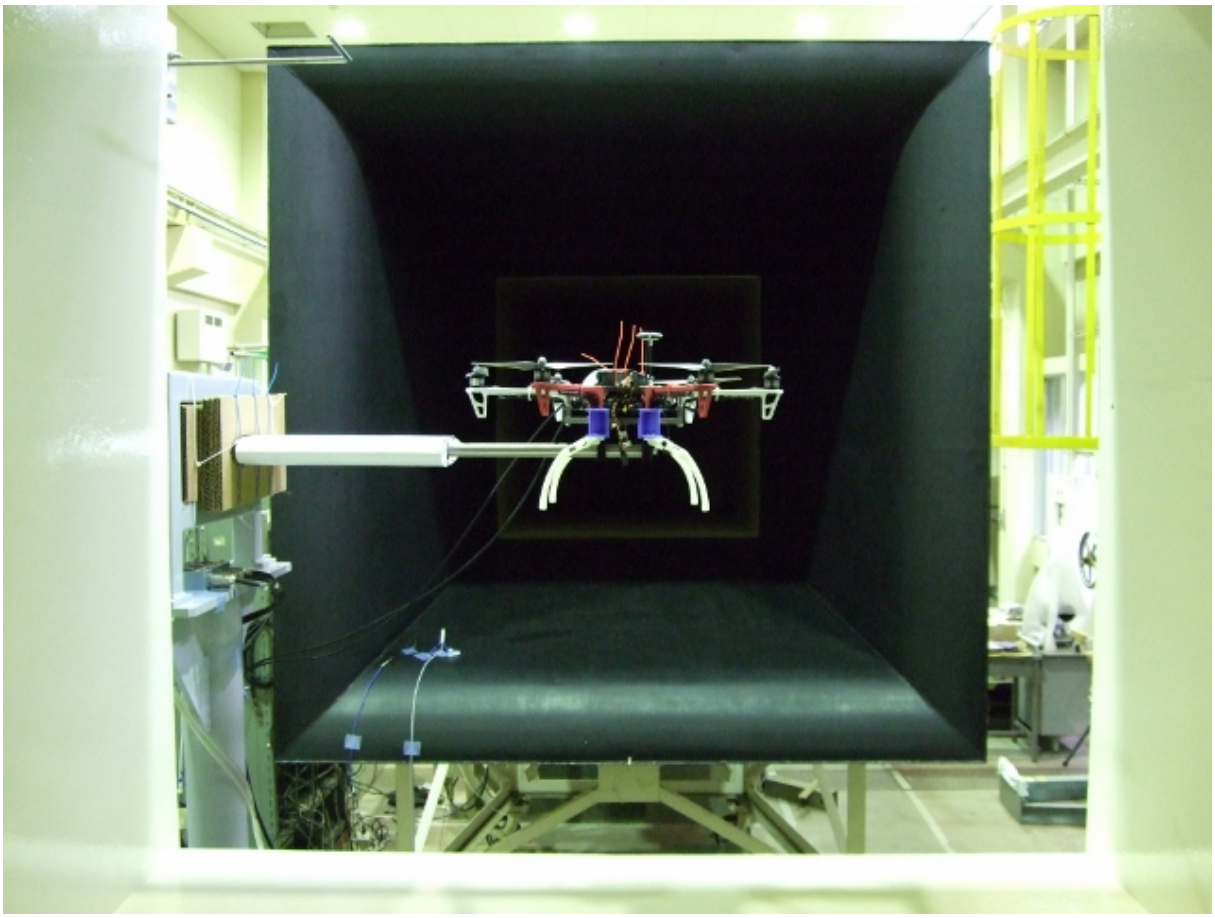
WindLab at the National Institute of Advanced Industrial Science and Technology (AIST), Japan

Description of facility

Pictures:







General description

Type:	Göttingen type wind tunnel
Size of test section:	close: 1.4m x 1.4m x 4m (width x height x length)
	open: 1.4m x 1.4m x 1.8m without additional nozzle
	open: 1.4m x 1.4m x 1.4m with additional nozzle
Configuration:	open and closed test section
Velocity range:	up to 48m/s in closed test section
	more than 50m/s in open test section with additional nozzle
	up to 45m/s in open test section
Background Ti:	below 0.5%
Cooling:	yes
Additional features:	turntable in closed test section
	optical access from three sides in closed test section

Measurement equipment:

Pressure:	Pitot static tubes with semiconductor pressure sensor (10Hz and 0 to 2kPa / 10Hz and 0 to 10kPa)
	Scanivalve ZOC33 64 channel Miniature Pressure sensor (single: 1 unit and duplexed: 1 unit, i.e. total 192 channel)
	95 port Wake rake
Forces:	6 component force balance with turntable (NISSHO ELECTRIC WORKS, up to 1000N and 500Nm)
Velocity:	2 channel hot-wire anemometry (KANOMAX JAPAN Inc. Model 7000Ser.),
	stereo PIV system (up to 15Hz, TSI Inc.),
	stereo PIV system (up to 2kHz, TSI Inc., scheduled to be introduced at 3/31/2020).
Temperature:	Vaisala temperature and humidity probe (HMT330Ser.)
	1 channel K-type thermocouples
Traverse:	2-axis traverse system in open test section

Additional equipment:

Passive vane:	12 of parallel NACA0012 blade for stratified flow
Active vane:	Active vane with 12 of parallel NACA0012 blade up to 2Hz, 15 deg.
Plasma system	Base frequency up to 99kHz
	Applied voltage up to 60kV$_{pp}$
	Capacitance up to 1nF

Website: https://www.aist.go.jp/fukushima/en/

Contact:

Name: Dr. Tetsuya Kogaki
Email: kogaki.t@aist.go.jp
Phone: +81 (29) 861-7251