Faculty of Engineering
Tokushima University

Unmanned Aerial Vehicle Control System

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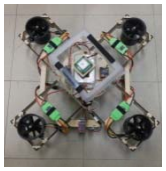
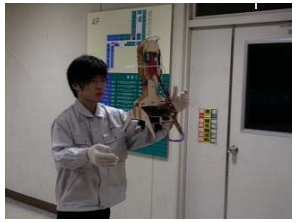
Flying Cargo System Based on Multicopter



Quad Ducted-fan Helicopter

Multicopter Operation
by Humanoid Robot



Inverted Flying Object

Content:

The performance of UAV (unmanned aerial vehicle) is improving by the performance gain of MEMS sensors, magnet, and battery technology. UAV takes the place of the real aircraft in proportion to improve the flight control technology. Because, the operation cost of the R/C single helicopter is lower than the actual one. In addition, required heliport size is smaller than that of actual one.

However, there is a possibility of accidents such as contact and crashed due to maneuver or operation error. Moreover, rotor and propeller as thrust device are dangerous in such case. So we have been conducting research and development on technology to operate UAV safely.

Currently, we present ducted fan helicopter, air cargo system with hand operation method, and Inverted Flying Object using thrust vectoring to improve UAV safety

Additionally, we study about the operation of multicopter by the movement center of gravity of the humanoid robot on it in order to develop a new personal mobility based on multicopter technology.

Keywords : <UAV, Thrust vectoring, External control>

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