

Editorial Notes

For the last decades, unmanned systems has become major means for human kind to venture to various inaccessible places, saving lives and preserving environment, benefiting civilization from natural resources, or gaining new knowledge. The nuclear disaster containment effort in Fukushima Japan is a sound example for unmanned systems' achievement in saving lives and environment. In the meantime, some have gone as far as proposing to exploit rare minerals in deep space [1], while the twin NASA's Voyager 1 and 2 have become the most distant human-made object –and still continue returning data from the edge of our solar system– in space since 1998 [2]. Even with such progress, studies on unmanned systems technology still leave spacious room to be explored. The first issue of the Journal of Unmanned System Technology presents select papers about latest works in the development unmanned system technology.

The review by Haley et.al addresses the strategic decision faced by Japan –a state renowned for its most advanced development in robotics– to maintain its lead in competition against China, Korea, Germany, and USA. The paper also focuses on identifying ideal market segments in service robots.

Chong Wu et.al presents their work developing an autonomous system for an unmanned helicopter capable of landing on a moving platform autonomously.

Wahyudie et.al presents their work on quadrotor attitude stabilization using robust PID control. Robust control problem is synthesized to deal with parameter uncertainties that can occur due to inaccuracy in quadrotor model. Genetic algorithm is used to solve optimization problem that is derived from the robust control problem.

Wee Ching Pang et.al presents the work on extending the functionality of RoboSim, a ground vehicle simulator, to simulate UAVs operating in urban environment. The extended simulator can be used to identify appropriate sensors and design parameters needed for the behavior of a wide range robotic platforms: ground vehicles, unmanned fixed-wing vehicles, and unmanned rotary-wing vehicles.

Satoshi Suzuki et.al presents the modeling of an unmanned fixed-pitch coaxial rotor helicopter. The helicopter consists of two bodies connected by a universal joint. The helicopter achieves motion control by tilting and shifting the relative position between the two bodies through a tilting mechanism and a shifting mechanism.

Finally, on behalf of JUST editorial board, it is our express wish that all readers find this issue interesting and useful reading.

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References

- [1] Paul Rincon, *New venture 'to mine asteroids'*, Science and Environment, BBC News, January 2013.
- [2] <http://voyager.jpl.nasa.gov/mission/timeline.html>