

NRL's XFC UAS achieves flight endurance milestone

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(PhysOrg.com) -- The Naval Research Laboratory (NRL) has completed a successful flight test of the fuel cell powered XFC (eXperimental Fuel Cell) unmanned aerial system (UAS). During the June 2 flight test, the XFC UAS was airborne for more than six hours. NRL's Chemistry and Tactical Electronic Warfare Divisions are developing the XFC UAS as an expendable, long endurance platform for Intelligence, Surveillance and Reconnaissance (ISR).

Compared to [internal combustion](#) powered vehicles, battery powered UAS are inherently stealthy in that they are relatively free of noise and

thermal signature, and are easy to start, operate and maintain. However, they have poor payload capacity and endurance. The electrically powered UAS could have more tactical utility and be a platform for ISR if endurance could be increased.



NRL and its fuel cell development and manufacturing partner, Protonex Technology Corporation (Southborough, MA) have addressed these issues by developing a hydrogen [fuel cell](#) power plant system that greatly extends endurance and permits increased payload capacity. The technology has been successfully integrated into the XFC UAS, a folding wing, expendable UAS that has a small footprint with a standard lightweight rail launcher.

The non-hybridized power plant supports this fully autonomous aircraft and an EO/IR payload for a flight endurance that enables relatively low cost, low altitude, ISR missions of up to seven-plus hours in its current configuration. In its final form, the XFC will be capable of self-launching from a folded configuration with loiter speed of 30 knots and a dash speed of 52 knots.

Source: Naval Research Laboratory ([news](#) : [web](#))

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