NRL demonstrates fuel cell-powered unmanned aerial system

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The Naval Research Laboratory, in collaboration with industrial partners, demonstrated an unmanned aerial system (UAS) flight solely powered by fuel cell technology. The flight of the 5.6-pound 'Spider-Lion" lasted 3 hours, 19 minutes and consumed 15-grams of compressed hydrogen gas.

The project is a joint venture between NRL's Chemistry and Tactical Electronic Warfare Divisions and Protonex Technology Corporation. The flight was conducted with L-3 - BAI Aerosystems at their Ragged Island facility on Maryland's Eastern Shore under weather conditions of 65 degrees F, moderate winds, and light rain at takeoff.

The 100-watt fuel cell system was designed and constructed at NRL largely using commercially available hardware and a fuel cell stack and components developed by Protonex. The "Spider-Lion" UAS was developed by NRL as a high-impact research platform for testing fuel cell technology. Research and development continues aimed at developing a fuel cell system capable of powering small military platforms currently in the field or in advanced development stages requiring extended operation that is not achievable using current battery technology.

Source: Naval Research Laboratory