

Intelligent Gas Detection Drone Technology Development and Field Testing

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Abstract

Unmanned Aircraft Systems (UAS) offer great potential for taking atmospheric measurements, whether over a large area or well pad, while accomplishing the task quicker and with fewer personnel than previously possible. The Unmanned Systems Research Institute at Oklahoma State University has worked with the Department of Energy to develop UAS for CO₂ and CH₄ detection over carbon sequestration sites to isolate leaks from both equipment and geological sources. This is coupled with additional geophysical measurements from EO/IR for a full field evaluation. This talk will discuss the system design and lessons learned from field testing including the development of intelligent flight systems.