Multimodal Detection Experiment

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Short Title: Multimodal Detection

Objectives: Collect hyperspectral, multispectral, and lidar data over multiple 3D and flat panels with similar reflectance characteristics in open and under canopy. Data will be used to test fusion of multiple modalities to distinguish between 3D objects and flat objects, of the same and of different materials.

Deployments: Boxes of reasonable size (~1m x 1m x 1m) together with flat panels of same area (1m x 1m) with different combinations of top surface material. Could be green fabric (cloth and nylon) on top of box and on ground. Minimum of two deployment sets desired: one in the open and one under 50% canopy, but both in the same collected imagery.

Flight Lines: Area near the main experiment will be fine. Need a minimum of two passes with objects/panels being moved in between to allow for use as blind test. SpecTIR HSI, WASP, and Lidar all needed of same configuration before moving, and then all three modalities again of second configuration.

Flight Constraints:
No specific constraints.

Ground Truth Required:
Spectral reflectance measurements of the surface of the objects. Can be done prior to experiment (days). Photos of deployment configuration and nearby environment. GPS accurate to 1 m.

Equipment:
Camera and GPS.