

Context

Even in the 21st century, camouflage and signature management are inevitable for the survivability of military platforms. Currently there are many camouflage-related activities, but these are strongly oriented on materials and not on sensors.

This project aims at the development of new systems for detection of camouflaged targets. This will be done through evaluation of existing camouflage technologies and thereafter identifying possible mitigations of this camouflage.

Objective

- Provide an overview of camouflage technologies
- Build a spectral signature library of relevant targets
- Identify mitigations for this camouflage using:
 - detectors / sensors, and ah-hoc passive and/or active imaging technology
 - image analysis using with machine learning and artificial intelligence, including multi-/hyper-spectral approach
- Specifying and realizing a technology demonstrator

EDA - DECAT

New systems and techniques for DEtection of CAMouflage Targets

Methodology

A dataset will be gathered across different environments, operational conditions, and weather scenarios to prototype camouflage detection methodologies.

Based on validation through field trials and studies of existing camouflage materials, these methodologies will be extended for e.g. object tracking or classification using spectral signatures. To increase SWaP-C efficiency, band selection methodologies will also be investigated.

Finally, a demonstrator will be realized to show real-time application of the proposed approach both in Air to Ground (A2G) and Ground to Ground (G2G) scenarios in the land domain.

Partners



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