



M2 - TSI

UE34 LABORATORY REPORT

Image & Signal Processing

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1 Introduction - Image Processing for Earth Observation

Image processing and the analysis of image data plays an important role especially for Earth Observations, but also in other fields related to space applications that make use of images, e.g. optical navigation or optical attitude control systems. In this report, we present a thorough overview of examples for image processing techniques, especially applying examples in Matlab. We focus on colour spaces for images, fourier transforms of basic figures, erosion and delatation and classification.

1.1 Space Imagery

1.2 Computer Vision

1.3 Filtering

1.4 Image Processing & Analysis

1.5 Pattern Recognition

1.6 Geometry

2 Computer Vision & Morphology

2.1 Erosion & Dilatation

2.2 Morphological Filtering

2.3 Morphological Skeletonization & Segmentation

3 Data Processing

3.1 Classification

3.2 Supervised Classification

3.3 Unsupervised Classification

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