**Classification Performance vs. Sensor Parameters in PolSAR Classification**

Polarimetric Synthetic Aperture Radar (PolSAR) is an advanced imaging technique, that uses a moving active sensor to acquire weather and daylight independent images of the earth's surface.

The amount and quality of image data acquired by satellites is steadily increasing. Modern Synthetic Aperture Radar (SAR) sensors like TerraSAR-X (DLR) provide high-resolution images of the surface of the earth. However, the automatic and accurate interpretation of these data is still a huge challenge and states an open research problem.

On reason is that the appearance of objects in PolSAR images depends to a large degree on sensor parameters such as incident angle and relative orientation to the object.

The goal of this thesis is to investigate the relationship between classification performance of state-of-the-art systems and sensor orientation.

**Keywords:** PolSAR, classification, object detection, double bounce

**Involved tasks:**
- Literature research
- Evaluation of classification systems with respect to accuracy depending on sensor parameters

**(Recommended) requirements:**
- Basic knowledge about image analysis (e.g. attendance in Automatic Image Analysis)
- Good programming skills (e.g. C/C++)

**Language:** German / English