LCLUC-related projects at Tartu Observatory

LCLUC Tartu meeting, August 25, 2010
Overview

- Tartu Observatory
  located in Tõravere, 20 km south of Tartu
- Main areas of research
  - Astronomy
  - Cosmology
  - Remote sensing and Atmospheric physics
    - Actinometry, UV radiation, climatology, remote sensing of vegetation and water bodies: theories, models, validation, instrument development
  - (One of) the largest space-related research center
Staff and projects

- About 10 researchers working on remote sensing-related projects
  - Some part-time
- 6 PhD students
- Of 25 active projects, 15 related to remote sensing
Staff and projects

- Not all LC or LUC related
  - Remote sensing of water bodies
  - Atmospheric correction
  - Space-related activities
  - Funding sources
    - Estonian government directly or via Estonian Science foundation, Enterprise Estonia, EU FP7, other contracts

www.aai.ee, www.etis.ee
Fields of RS projects at TO

• Vegetation (Forest) reflectance
  • Theory
  • Models
  • Measurements
  • Scaling
  • Affecting factors (amount, structure, functioning)
• Instrument development, maintenance, calibration
• Land use monitoring (covered by Dr. Urmas Peterson)
• Atmospheric measurements & water RS
Forest reflectance modeling

• Models
  • FRT, various homogeneous codes
  • Model validation in RAMI

• Validation
  • Spectroscopic measurements
  • Structural data
  • Airborne & UAV measurements
  • Satellite measurements
Other projects

- Space technology
- Infrastructure projects
  - Improving research facilities
  - Human resources
  - Infrastructure for technology development
- Social impacts of RS & space research
  - Dissemination of results
  - Finding potential users
Scope of RS projects at TO

- Point measurements
  - Reflectance of samples (leaves to stands)
- Regional (a scene of a medium resolution sensor)
- National (Estonia and immediate surroundings)
- Universal (theoretical studies, physical basis of RS)
Thank you!

- Coffee is available in the lobby / foyer