Forest Cover Mapping using PALSAR Intensities and Coherence – Hands on

PD Dr. Christian Thiel

Friedrich-Schiller-University Jena, Germany

Objective

Generate a Forest Cover Map for an appropriate subset of the PALSAR data

Steps:

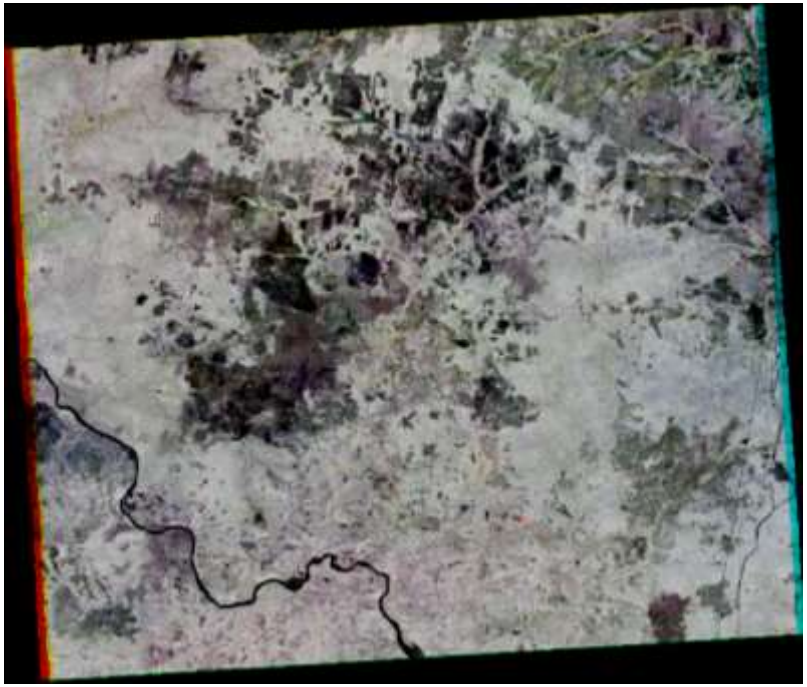
1. Visualising and interpretation of the SAR data
2. Examination of the reference data
3. Choosing an appropriate temporal subset out of the PALSAR data set
4. Collecting signatures for the classes forest dense / forest sparse / clear-cut / water / no data
5. Accomplish Classification using Maximum Likelihood Approach

The SAR Data

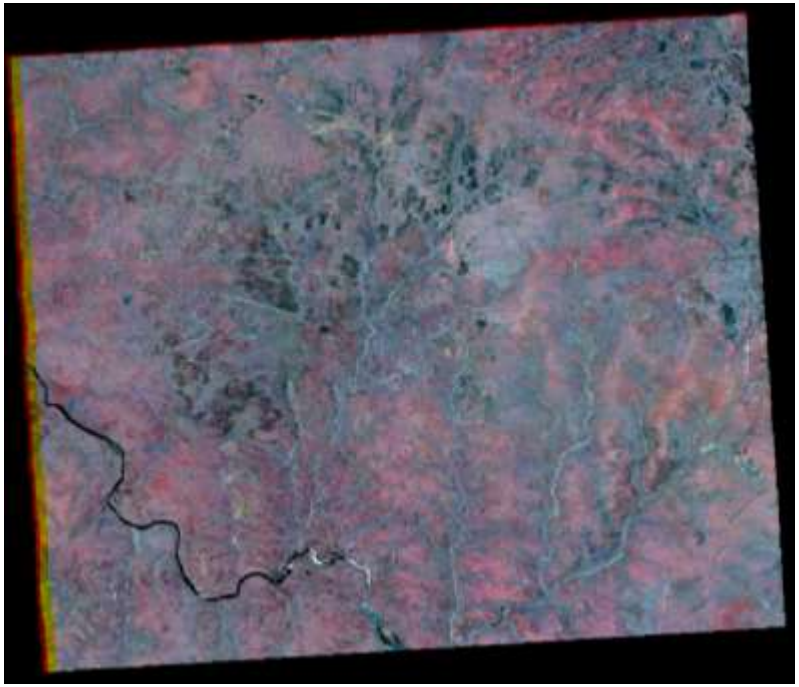
Backscatter data (gamma zero, topographic normalised, dB)

palsar_fbd_hh_hv_int_t0475_f1150_20jun07_05aug07_20sep07.img (6 layers: HH/HV/HH/HV/HH/HV)

palsar_fbs_hh_int_t0475_f1150_05nov07_21dec07_05feb08_22mar08.img (4 layers: all HH)



20jun07_05aug07_20sep07 (HV)



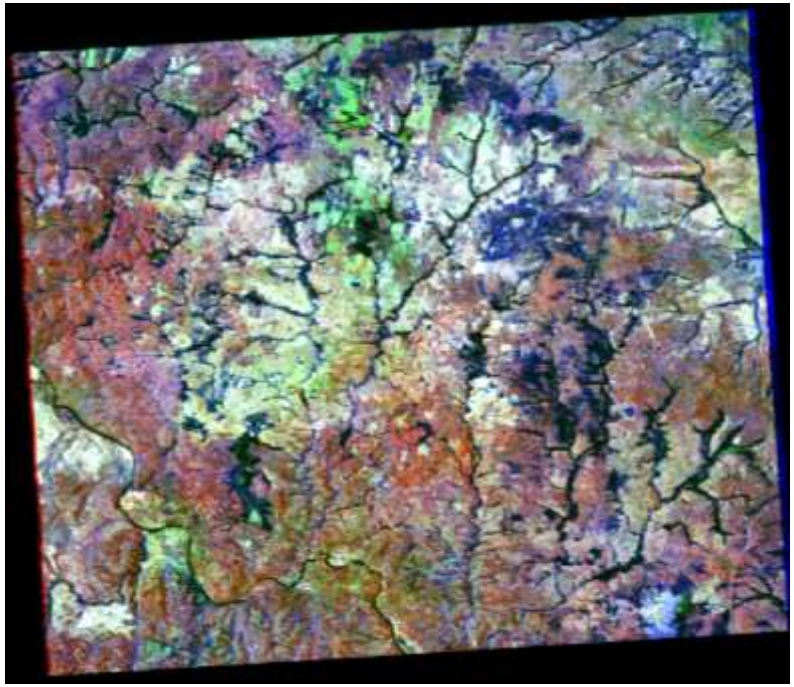
05nov07_21dec07_05feb08 (HH)

The SAR Data

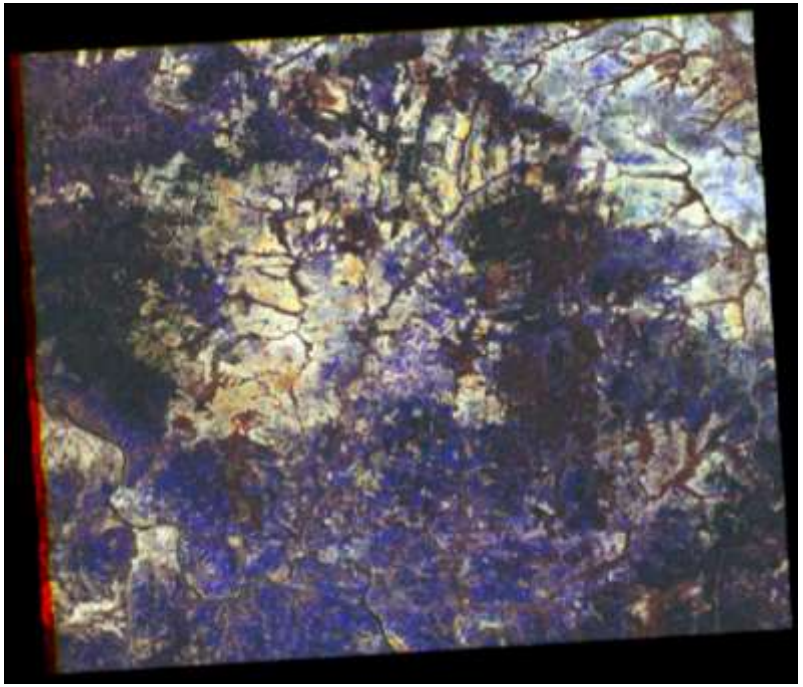
Coherence data (slope adapt. common band filtering, adapt. est. window)

palsar_fbd_hh_hv_coh_t0475_f1150_20jun07_05aug07_20sep07_1-2_1-3_2-3.img (6 layers: HH/HH/HH/HV/HV/HV)

palsar_fbs_hh_coh_t0475_f1150_05nov07_21dec07_05feb08_22mar08_1-2_1-3_1-4_2-3_2-4_3-4.img (6 layers: all HH)



20jun07_05aug07_20sep07 1-2_1-3_2-3 (HH)



05nov07_21dec07_05feb08 (HH)

The Reference Data Chunsky North

Stand ID

Stem Volume

Rel. Stocking

Step by Step

Generate a Forest Cover Map for an appropriate subset of the PALSAR data

1. Create Subset
2. Visualising and interpretation of the SAR data
3. Examination of the reference data
4. Choosing an appropriate temporal subset out of the PALSAR data set
5. Collecting signatures for the classes forest dense / forest sparse / clear-cut / water / no data
6. Accomplish Classification using Maximum Likelihood Approach

Thank you!