

# Applications of SAR Polarimetry on Land: Agriculture, Urban, Archeology

Session summary

# Agriculture

- 3 presentations:
  - Time series with compact-pol data
  - Phenology retrieval at C-band for for rice
  - Incidence angle influence on polarimetric response of wheat and bare surfaces
- Comments during the round table:
  - There is no competition between time series and polarimetry, but complementariness. One can serve to solve the ambiguities of the others.
  - Recommendation: to continue on this line (time+polarimetry) for agriculture applications.
  - Rice monitoring: tests with ScanSAR dual-pol data (wide swath) of Radarsat-2 are convenient. It is an important application, attending to food security reasons.

# Urban

- 3 presentations:
  - Comparison of many different methods for urban classification
  - Use of polarimetry at X-band for both classification and 3D rendering
  - Hybrid PolInSAR for urban studies
- Comments during the round table:
  - Additional effort in e.m. modelling is needed to understand complex scenarios
  - Polarimetry vs resolution: application dependent, but
    - POLSAR can provide wide scale maps
    - High resolution provides information on changes and small details within a city
  - Fusion with other data and sensors should be studied.

# Archaeology

- 2 presentations (new application domain):
  - Sudan: known archaeological area with difficult access
  - Iraq: remains of an old city
- Polarimetry can contribute in the detection or identification of linear/long features much better than other techniques.
- Added value for end-users: to be assessed.