SMOS SMAP Synergisms

• Facts
  – Baseline schedule ➔ SMOS Aquarius SMAP
  – Should have an overlap period between these 3 missions
  – Most of the science has many common points
  – Most of the challenges are similar
  – US representatives associated to SMOS team since the early days
Science → same problems

• Research work
  – No equivalent data exist (…yet)

• Algorithms
  – Retrievals surface, root zone SM, vegetation Water content, dis-aggregation
  – Joint use of the two data sets (ground, simulations, sat)

• Issues
  – RFI, sun glint, sky map

• Possibilities
  – Simulate SMAP L band data
Cal-Val

- Same site requirements
- Common approaches
- Pooling of measurements into a common data base (so called match-ups)
- Use same match ups
- Cold sky calibration
- Same long term monitoring targets
- Sensor intercalibration
- Test beds
Mechanisms

- Joint science teams
- Joint field experiments
- Interactions at the project level
- Commonly managed “reference site” or pooling of them all into one
- Direct access to “other” mission data set in the ground segment
- Common level 4 products for multiple sensor algorithm
- Provide simulated data?
Comparison with AMSR-E

- Normalised mean soil moisture 50X50km²
- Normalised mean soil moisture AMSR-E
- Normalised mean polarisation ratio 6.7 GHz AMSR-E
- LAI Modis

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Simulations – L1C
Hence

- Both low level and high level interactions
- Oil for the system ($ - €)
- US funded by NASA for SMOS and European by ESA for SMAP
- SMAP teams on SMOS sites and vice versa
- Optimise ressources (site distribution and characteristics, common standards)
- Common work on algo
- What SMOS data do you want?