



ESA - MOST Dragon 2 Programme

2011 DRAGON 2 SYMPOSIUM

中国科技部-欧洲空间局合作“龙计划”二期

“龙计划”二期2011年学术研讨会

Project Summary (ID.5279)

Improving methods of crop monitoring with ENVISAT data

<May, 2010 – June, 2011>

Main Results

- Field survey and observation
- Developed a new yield estimation method based on biomass and harvest index with ENVISAT data
- Crop acreage estimation using time series MODIS and ENVISAT MERIS data
- Classification of winter wheat and cotton and wheat acreage estimation by using AWiFS, HJ-1 A CCD as well as combining with ENVISAT ASAR
- Classification integrating ASAR and TerraSAR data

Issues and Recommendations

- Data acquirement
 - no ALOS PolSAR data available
- Recommendations
 - Providing more third part remote sensing data, such as ALOS PolSAR
 - Much more APP mode data available
- Expectation
 - Looking very much forward to SENTINEL missions

List of Publications

- Monitoring crop phenology with MERIS data-A case study of winter wheat in North China Plain, Progress In Electromagnetics Research Symposium, Beijing, China, March 2009.
- A Method to Estimated Winter Wheat Yield with the MERIS Data, Progress In Electromagnetics Research Symposium, Beijing, China, March 2009.
- Improvement of classification accuracy integrating C- and X-band synthetic aperture radar data, Progress in IEEE International Symposium on Microwave, Antenna, Propagation and EMC Technologies For Wireless Communications, Beijing, China, October, 2009
- Crop classification based on fusion of Envisat ASAR and HJ CCD data, Proceedings of Dragon 2 Programme Middle Results 2008-2010, ESA, SP-684
- Crop classification using multi-configuration SAR data in the North China Plain, International Journal of Remote Sensing, (accepted)

Project Planning – 2011 and 2012

- Using ASAR and TerraSAR data to monitoring crop and soil parameters
- For the crop acreage assessment, we focused much on the classification approaches using different sensors, classifiers, but we underestimated somehow the importance of training datasets and ground truth data collection (classifications were good but the crop area estimations were not good)
- Strengthen the field data sampling aspect, develop some cost-efficient field sampling approach.
- Collaboration with the new FP7 project on crop monitoring for which VITO assumes the coordination

Thanks for attention!
谢谢