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

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Main Results

- European-Sino cooperation improve the AC remote sensing in China. ESA-MOST Dragon, EU FP AMFIC, etc is the good example. The activities cover the retrieval algorithm, product validation and data utilization related with AC remote sensing.

- The payloads onboard on FY-3A and FY-3B provide the capability to monitoring atmospheric aerosol, total ozone amount and ozone profile. These products have the similar accuracy to the ones derived from similar instruments amounted on EOS, Envisat and Metop.

- A new technique has been developed for top-down emission estimates of NOx from satellite observations.

Issues and Recommendations

- Data exchange (ground observations) remains of key importance for the validation of our results.
- Student exchange program might improve the cooperation within the projects.

List of Publications

1. Weihe Wang, Xingying Zhang*, Xingqin An et al., **2010**, Analysis for retrieval and validation results of FY-3 Total Ozone Unit(TOU), Chinese Science Bulletin，2010 Vol. 55 (26): 3037-3043
2. Weihe Wang, Xingying Zhang*, Yongmei Wang et al., 2010, Introduction to the FY-3A Total Ozone Unit (FY-3A TOU): Instrument, Performance, and Results, International Journal of remote sensing
3. Wenguang Bai, Xingying Zhang*, Peng Zhang, **2010**, Characterization of carbon dioxide over China based on Satellite measurement, Chinese Science Bulletin，Vol.55 No.31: 3612–3618
4. Huang fuxiang, et al , **2010**, Vertical Ozone profiles deduced from measurements of SBUS on FY-3 satellite, Chinese Science Bulletin, 55(10): 943-948
5. De Smedt, I., T. Stavrakou, J.F. Muller, R.J. van der A and M. Van Roozendael, *Trend detection in satellite observations of formaldehyde tropospheric columns* Geophys. Res. Lett., **2010**, 37 Zhang, X., Guoshun Zhuang，Kenneth A Rahn, Hui Yuan, Zifa Wang，**2009,** The aerosol particles from dried salt-lakes and saline soils in dust storm in Beijing, Terrestrial, Atmospheric & Oceanic Sciences, Vol. 20, No. 4，619-628.
6. Mijling, B., R.J. van der A, K.F. Boersma, M. Van Roozendael, I. De Smedt and H.M. Kelder, *Reduction of NO2 detected from space during the 2008 Beijing Olympic Games* Geophys. Res. Lett., **2009**, 36.
7. Van de Vel, K., C. Mensink, K. De Ridder, F. Deutsch, J. Maes, J. Vliegen, A. Aloyan, A. Yermakov, V. Arutyunyan, T. Khodzher and B. Mijling, *Air-quality modelling in the Lake Baikal region* Environmental Monitoring and Assessment, **2009** .

Project Planning – 2011 and 2012

- Emission estimates of NOx over East-China
  - Validation of the results with ground data from our Chinese partners.
  - Case studies of air quality measures of mega-events
    - Beijing Olympic Games, Shanghai World Expo, Guangzhou Asian Games
  - Operational air quality forecast service at *www.amfic.eu* based on most recent emissions.
- Intercomparison of FY-3 total ozone with the Multi-Sensor Reanalysis (MSR) of total ozone.