

**Report on the  
4<sup>th</sup> General Assembly of ASAPE  
the Alphasat Aldo Paraboni Propagation Experimenters (ASAPE)  
23<sup>rd</sup> Ka and Broadband Communications Conference  
October 18<sup>th</sup>, 2017, Trieste (Italy)**

**Introduction**

The collaborative **Group of the AlphaSat Aldo Paraboni propagation Experimenters (ASAPE)** is an open forum of researchers performing propagation campaigns with the Aldo Paraboni payload and other satellite payloads at Ka band. Topics include: instruments, design and execution of campaigns, data analysis, use of remote sensing and meteorological data and use of numerical weather products. The group intends also to be a reference on the use of measurements for the development of models and theoretical advances and to actively pursue transfer of results to industry and into radio regulations.

The group held its 4<sup>th</sup> General Assembly on October the 18<sup>th</sup> 2017, during the 23<sup>rd</sup> Ka and Broadband Communications Conference in Trieste (Italy). People who could not attend the meeting in person also followed the meeting via ESA WEBEX teleconference session.

The main objective of this meeting was to present and discuss the progress of the campaign, to report and discuss the main results of the Working Groups activities and to plan ASAPE activities for the following period. In particular it addressed:

- Status of the campaign
- Presentations from Experimenters
- ASAPE WGs activities and plans of work
- Planning for ASAPE activities in 2017 and 2018.

The meeting was organised and chaired by:

Prof. Carlo Riva (Politecnico di Milano, Italy)

Dr. Antonio Martellucci (ESA/ESTEC, Noordwijk, The Netherlands)

## Agenda

### 1. Opening

- Welcome (C. Riva and A. Martellucci)
- Introduction and list of Participants (C. Riva)
- Approval of the Agenda (C. Riva)

### 2. Report on the ASAPE campaign

- Status of the experiment at the end of the fourth year of campaigns (C. Riva and A. Martellucci)

### 3. Presentations of ASAPE Experimenters:

- Status of the experiment in Madrid (J.M. Riera)
- Alphasat signal level measurement in both 19 and 39 GHz frequency bands in Prague (O. Fiser)
- Status of the experiment in Aveiro (A. Rocha, WEBEX)
- Slovenian propagation activities (A. Vilhar)
- Status of the experiment in France (B. Benammar)

### 4. ASAPE WGs: Scientific contributions, discussion and planning

- WG3: Scintillation Analysis (M. Rytir, WEBEX)
- WG5: Data Calibration without Radiometers (L. Luini, WEBEX)
- WG2: Data Processing (D. Vanhoenacker-Janvier, WEBEX)
- WG4: Beacon Receivers, Antenna Tracking Systems, Accuracy and Performances (A. Rocha, WEBEX)
- WG7: Planning for a Test-Bed of a European Network of Terminals (S. Ventouras, WEBEX)
- WG8: Synergies with other Experiments and other National/International (L. Castanet)

### 5. Planning of ASAPE activities

- Planning for ASAPE activities in 2017 and 2018 (C. Riva and A. Martellucci)
- Status of Special Issue on Alphasat propagation experiment in IJSCN (C. Riva)
- Round the table discussion (all, 15 min)

### 6. Conclusions/AoB

## List of Participants

- ESA
- Politecnico di Milano (Italy)
- Joanneum Research (Austria)
- Jožef Stefan Institute (Slovenia)
- Technical University of Graz (Austria)
- IAP (Czech Republic)
- FFI (Norway)
- National technical University of Athens (Greece)
- UCL (Belgium)
- ONERA (France)
- CNES (France)
- University of Aveiro (Portugal)
- University of Rome La Sapienza (Italy)
- UPM (Spain)
- ViaSat (USA)
- CPI Antenna Systems (USA)
- RAL/STFC (UK)
- BUTE (Hungary)
- IAP (Czech Republic)

More than 28 participants attended the meeting, some of who followed the meeting by ESA WEBEX videoconference: <https://esa-meeting.webex.com/>

The documents ASAPE are made available to group members on the ESA DAPTIV platform (accessible upon registration with ESA): <https://ppm.daptiv.nl/>

## Summary

C. Riva presented the status of the experiment at the end of the fourth year of campaigns.

In general the campaign has progressed significantly since the 3<sup>rd</sup> GA of ASAPE, on October 2016, with a significant increase of the collected data and statistics in several propagation stations.

A. Martellucci presented the activities performed by ESA to support operations and campaign, following the extension of the operation of the Alphasat Aldo Paraboni payload to 2019.

Presentations by experiments showed the good progress of the measurements campaign.

ASAPE Working Groups and responsible are:

- WG1 Data Format (A. Graziani)
- WG2 Data processing (D. Vanhoenacker-Janvier)
- WG3 Scintillation analysis (M. Rytir)
- WG4 Design of Propagation Terminals (A. Rocha)
- WG5 Data calibration without radiometers (L. Luini)
- WG6 Submission of experimental tables to SG3 (A. Martellucci)
- WG7 Planning for a test-bed of a European network of terminals (S. Ventouras)
- WG8 Synergies with other experiments and other national/international projects Ka band experiments, LEO/MEO (L. Castanet)

The activities of the working groups are providing a significant support for the scientific and technical harmonisation of the experiment. Main results will be published as papers for Journal and International conferences, ITU-R SG3 reports and Working Parties fascicles and databases. One of the main objectives of the activities in 2018 will be to perform a cooperative trial for concurrent measurement of spatial and temporal correlation of the radio channel all over Europe.

The ASAPE group will hold an intermediate meeting on January 26<sup>th</sup> 2018 (with January 19<sup>th</sup>, as backup date), by WEBEX Teleconference, to report and progress on the work of the WGs. It is also planned to have 2nd ASAPE Intermediate teleconference meeting in July 2018 (TBD by January 2018).

Plans for ESA Propagation Workshop 2018 at ESTEC on 4-7 September 2018 are presented.

The 5<sup>th</sup> GA will be probably held in Niagara Falls (Canada) in the period 15-18 October 2018 in conjunction with the 24<sup>th</sup> Ka and Broadband Conference.

The participants to the ASAPE 4<sup>th</sup> GA expressed their gratitude to the organisers of the Ka and Broadband Communications Conference for their support to the activities of this group and, in particular, to Mrs. Clotilde Fertini for her extraordinary work and assistance.