ATLID L1 – Conclusions and recommendations (I)

Highlights:

- **Ground and Space based ATBs can not be directly compared. In order to validate the L1 ATBs it will be necessary to use terrestrial based L2 products as a basis for "simulating" the corresponding ATLID ATB profiles (the Ground/Aircraft-L1 ➔L2➔Space-L1 approach).**
- **Monitoring of ATLID L1 signals by the Met centers (e.g. ECMWF) will be useful.**
  - **This w**ill build on efforts now coming on-line for Aeolus.
- **Fast feedback will be necessary esp. in the early stages of the mission. For Aeolus, the Cal/Val Wiki was found to be essential for facilitating rapid communication/feedback.**

Recommendations:

- **L1 ATBD as well as L1 (and L2) test data should be provided to the Cal/Val community as soon as this year.**
- **Predicted L1 ATLID ATBSs should be reported in the Cal/Val data base as well as the terrestrial based signals and inversion products.**
- **The Simulation of L1 ATLID signals using terrestrial (ground/air) lidar data should be done in a coordinated manner.**
  - **Maybe it is up to the networks to deal with (as well as setting sensible quality-control standards which can even be adopted by operators not in the networks)?**
    - **It is recommended that ESA support the networks in this aspect**
      - **At the very least, a "How-to/best-practices" document including all required ATLID info should be formulated !**
- **Measurements at 355nm will be prioritized. However, data at other wavelengths can be useful.**
  - **Green + IR data can be very useful for validating ATLID sensitivities as they are good for detecting thin cloud and aerosol boundaries (less Rayleigh Scattering than at 355nm)**
  - **Green ➔ UV mapping using multi-wavelength systems (+photometers), aerosol typing and e.g. LIVIS data base info may be useful.**

ATLID L1 – Conclusions and recommendations (II)

- **Further Improvements and needs:**
  - Coordination between the networks and ESA inc. Cal/Val data center likely needs to be made more concrete.
  - The recommendations specified in the previous section should be followed. In particular:
    - The Simulation of L1 ATLID signals should be done in a coordinated manner.
      - Maybe it is up to the networks to deal with (as well as setting sensible quality-control standards which can even be adopted by operators not in the networks)?
        - It is recommended that ESA support the networks in this aspect
          - At the very least, a “How-to/best-practices” document including all required ATLID info should be formulated and supplied to the Cal/Val community!