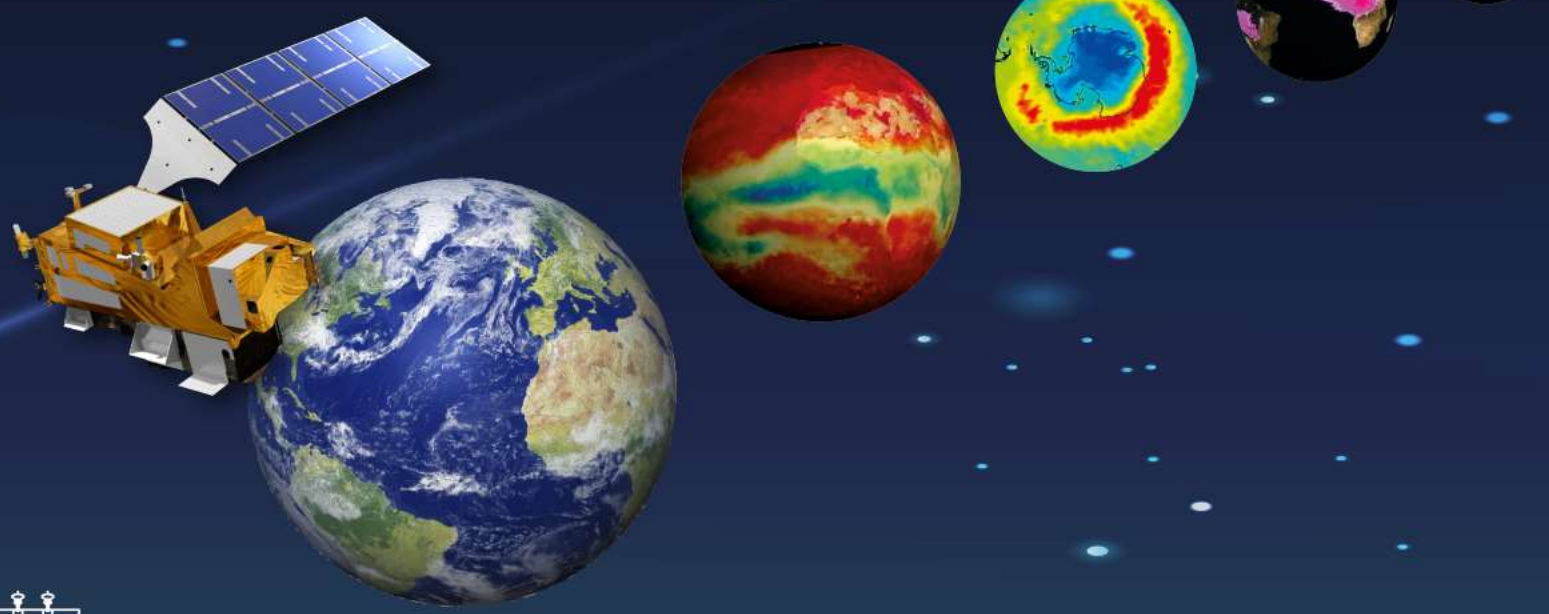
IASI 2024

December 02>06 2024

CONFERENCE



Nancy, France

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EUMETSAT

Discussion session 2
Tuesday 3rd December

Discussion sessions

- Every evening, usually after the poster session
- 30mn discussion (or more!)

Purpose?

- To identify lessons learned and needs, gaps, opportunities, etc. in data availability or usage
- What is missing in terms of scientific questions / validation / exploitation ?
- To provide recommendations to agencies
  - Specific needs
  - Requests for data/document access, data use, information
  - Recommendations for data processing, availability, etc. for both IASI and IASI-NG
  - Specific ITTs?
- To shape scientific collaborations, especially regarding mission synergies and obs-model coupling

Means

- Based on the sessions of the day (but do not hesitate to bring things up)
- Session co-chairs are in charge of drafting a list of bullet points for discussion

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- **Retrieval approaches / new products:**
  - Possibility to retrieve **clear air vertical velocities** (convective winds) from hyperspectral IR radiances; tested on IASI-A and –B with success. Application to MTG-IRS appears to be very promising.
  - Possibility to develop retrieval approaches based on the **use of interferograms** rather than on the radiances. Could help the exploitation of very large data volume (i.e. IRS).
  - More products from the routine processing, including novel quantities (greenhouse gases); reshaping some of the tools to meet NRT processing based **on machine learning**. Development of the L1D (**principal components** with hybrid method)

- **L2 validation:**
  - Robust daily monitoring of T, H, O and others using a variety of networks. Daily reports made available to users; monitoring on long-term to identify jumps in the time series.
  - **Combining ground and space**-based measurements for air quality monitoring (NH3; O3)
  - **Machine learning** retrievals superseding OEM for ozone
  - Increasing availability of **aircore measurements** from 2020**;** unique means to validate profiles for GHG

- **IASI-NG**
  - Budgets at instrument and system levels are available and within specification (except for some parts of the spectrum)
  - Known contributors are understood, mastered and well quantified.
  - The first 40 weeks in IASI-NG in orbit will allow detailed verification and cal/val. Early dissemination after 25 weeks.
  - Extensive plans for monitoring have been set.

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- **Use of PCs**.
  - Can they benefit your applications? Are there specific needs/questions on their use (e.g. wrt to noise)?
  - Is everyone ready to use PCs for IRS?
  - Archiving of badly reconstructed spectra: status and potential needs

- **Fast approach to retrievals** (machine learning ; interferograms)
  - Are we progressively moving away from classical retrievals?
  - Should fast retrievals be regularly benchmarked against “physical” retrievals in addition to validation?

- **Level2 products**
  - Are there further needs?
  - Specific request for monitoring?
  - CDRs are increasingly important. Needs? How do we tackle problem related to instrument degradations?

- **Validation**
  - Validation session… Question on supersites? Coordinated campaigns …