

Validación del archivo de Gaia

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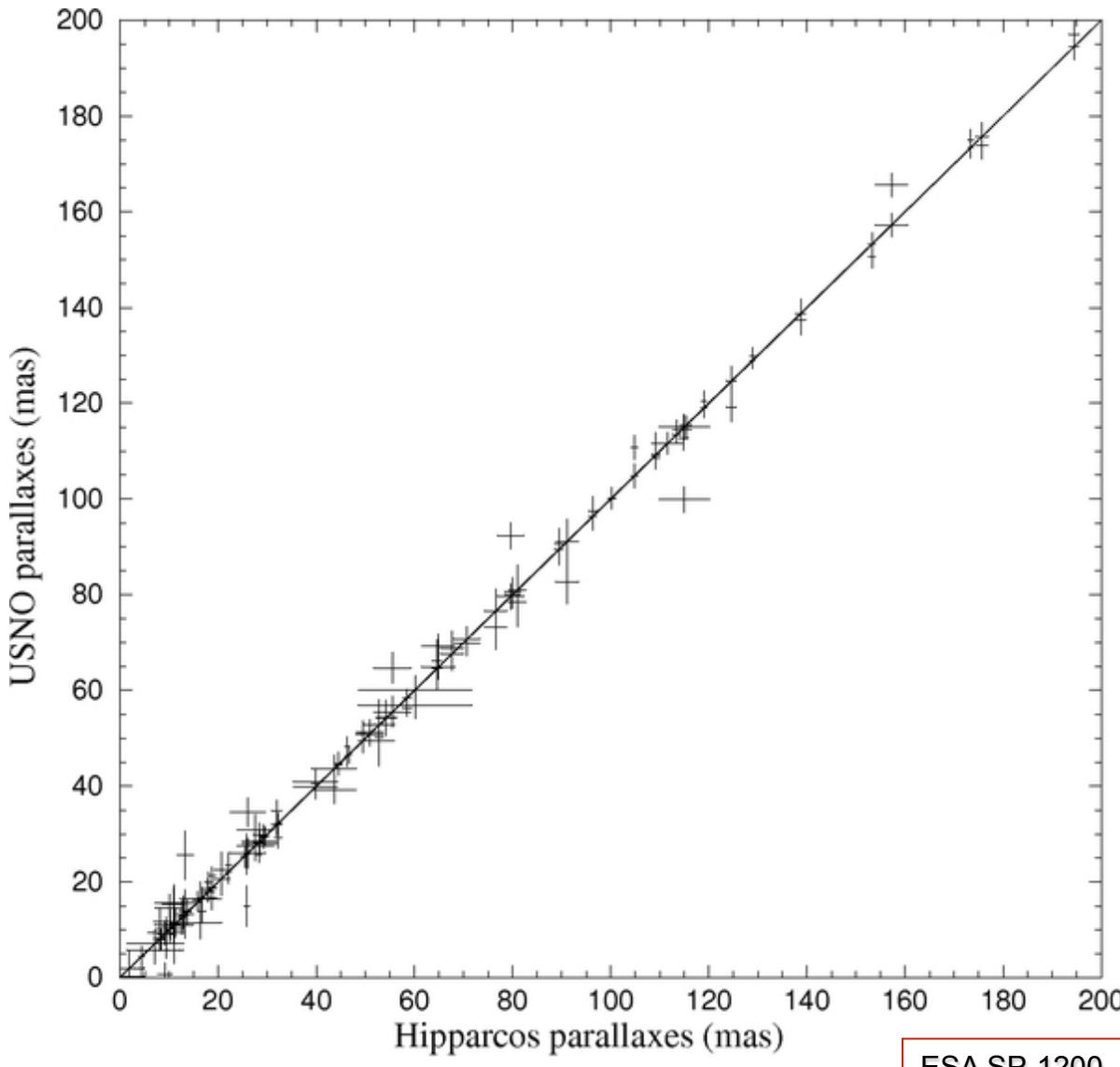
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Validation of the Gaia Archive

- General properties of the archive
 - Internal consistency; completeness; angular resolution; ...
- Check that values are neither better nor worse than we claim
- Statistical tests
 - Star counts; distributions; cross correlations; ...
- Comparisons with external catalogues
 - Selected areas
 - Selected types of sources
- Keep an eye on systematic errors
 - Identify weak points in the data processing chain
 - Design tests to check for problems
 - Feedback from data release users is welcome
- Comparisons with Galaxy models
- Produce nice – or not so nice – reports
 - Realistic expectations

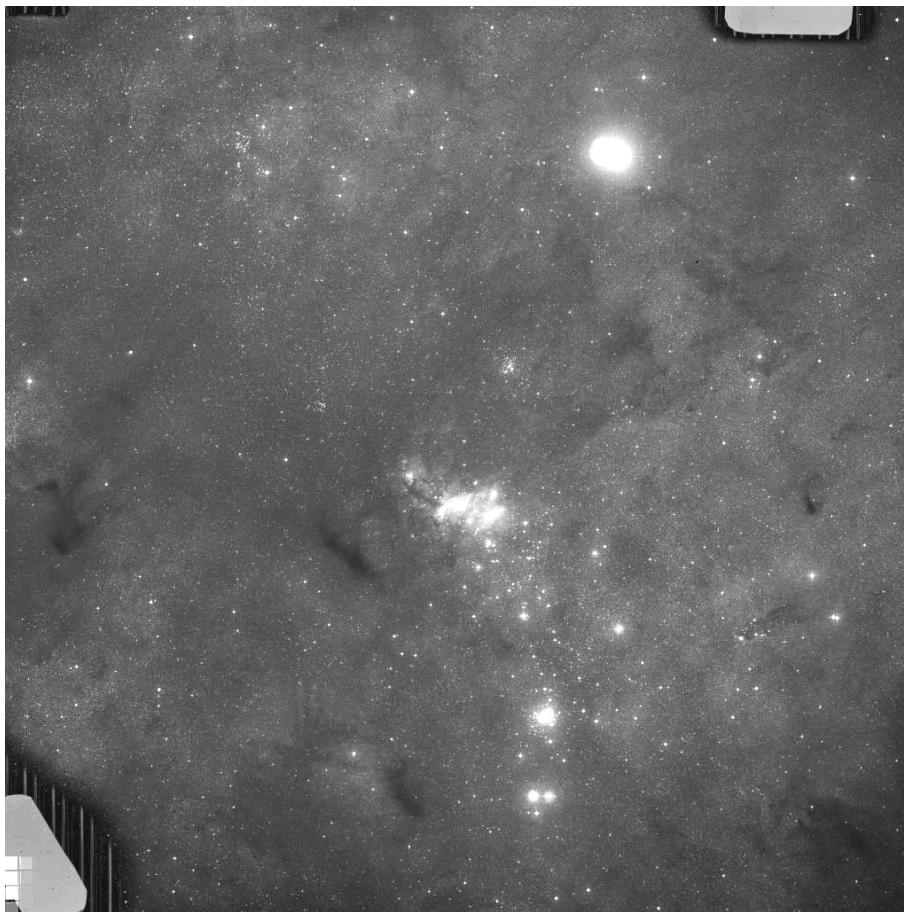
An example: Hipparcos parallaxes



Comparison with
ground based data

ESA SP-1200

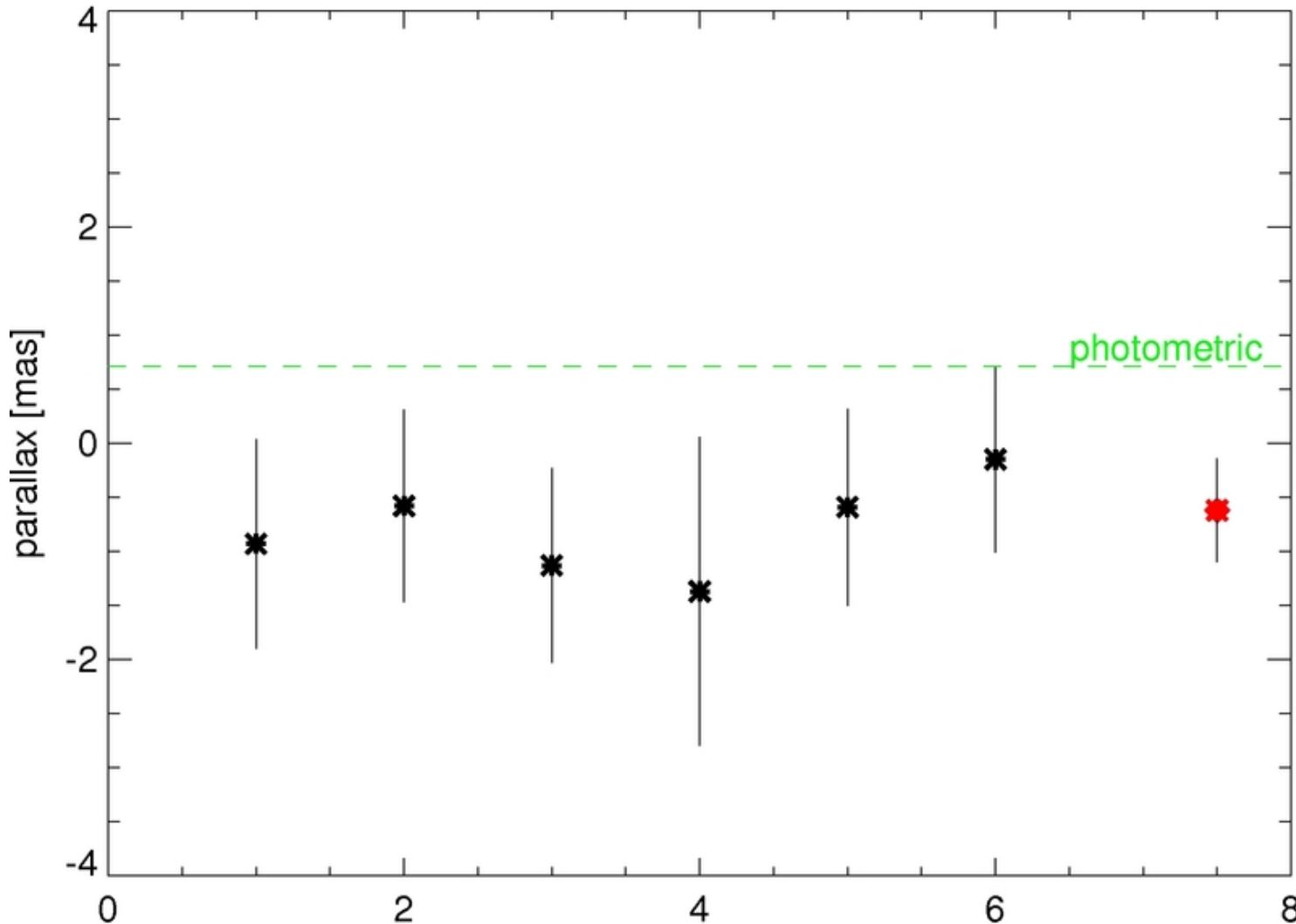
Parallax of NGC 6231



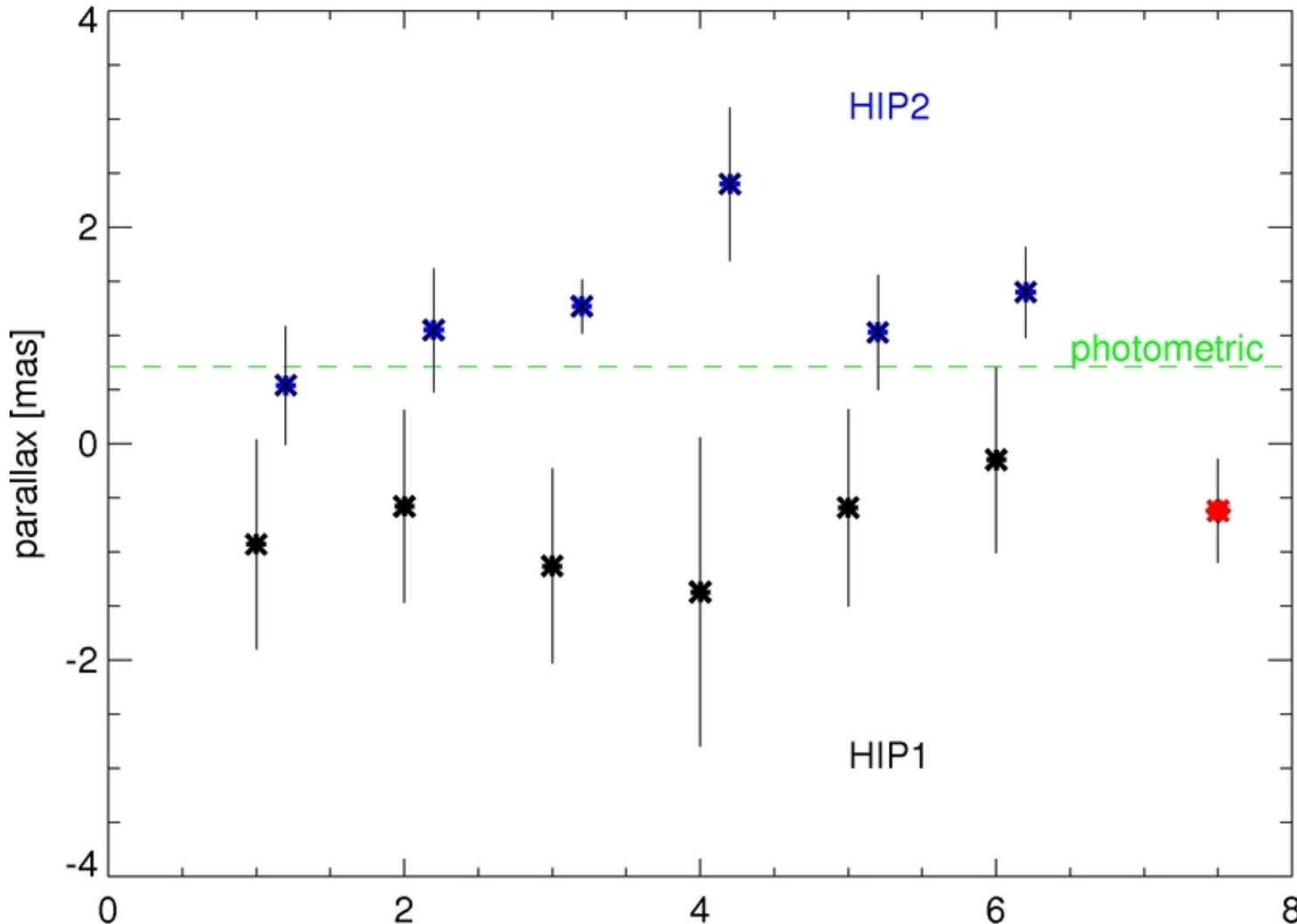
Arenou & Luri (1999):

- Hipparcos: **-0.62 ± 0.48 mas**
- Dambis (1998): **$+0.71 \pm 0.02$**

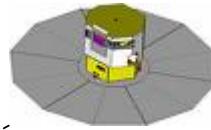
NGC 6231 in Hipparcos



NGC 6231 in Hipparcos

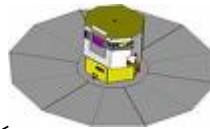


Gaia data flow

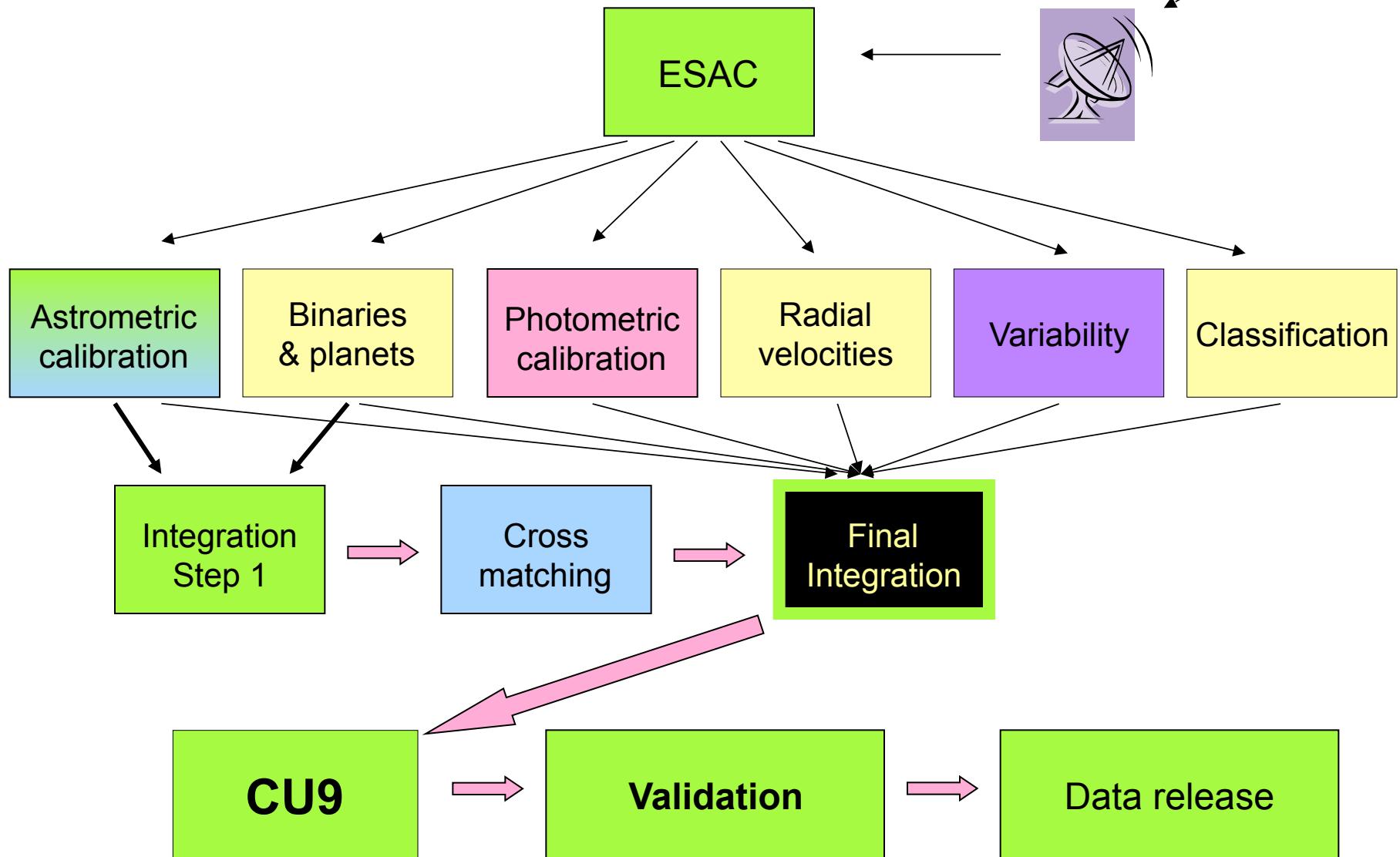


DPAC





Gaia data flow



Too much validation?

- DPAC has many separate tasks
 - each with their own validation
- CU9 can
 - focus on the data being delivered
 - take a more transversal view
 - address consistency between tasks
 - check if the overall scheme works
- Much complexity is hidden in **The Integrator**
 - Checking of complicated cases needed

Work packages for validation

- 941 Management (Paris)
- 942 Scenarios (**Barcelona**, Paris, Groningen, Côte d'Azur)
- 943 Models (Besançon, Paris, **Barcelona**, ASDC-INAF, Côte d'Azur)
- 944 External Archives (Paris, ASDC-INAF, Côte d'Azur, **INTA**, CDS)
- 945 Statistical Tools (**A Coruña**, Groningen, Paris, **Barcelona**, ASDC-INAF)
- 946 Time series and variability (Geneva, Brussels)

Constraints on CU9 validation

- Validation is validation only
 - The scope must be broad
 - No friendly favours
- No scientific tourism (picking a few flowers)
 - Data rights do not allow that
 - Not what CU9 is paid to do