

# PLATO/GAIA

## Identification of red giants

Carine Babusiaux



# Gaia → Plato :

---

- **Gaia simulations :**

- Expected performances summary

<http://www.cosmos.esa.int/web/gaia/science-performance>

- GUMS (Gaia Universe Model Simulation)

True source parameters

Vizier + [GACS soon...]

Robin et al. 2012, A&A 543A,100

- GOG (Gaia Object Generator)

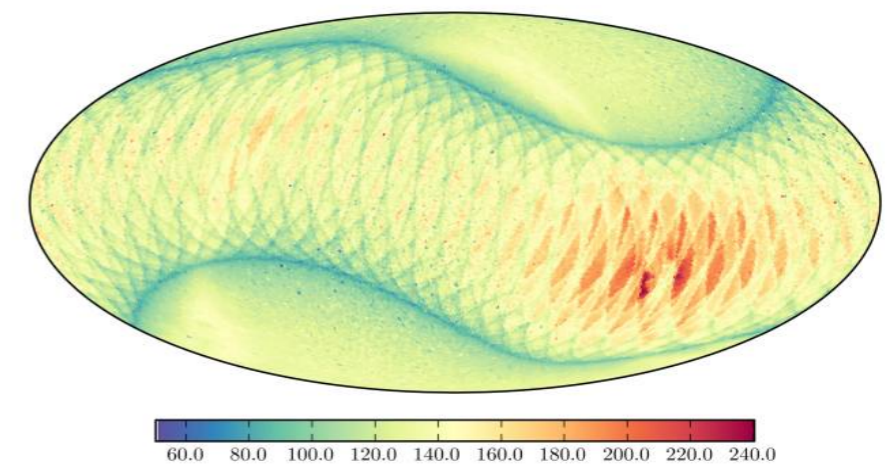
Gaia end-of-mission products

[GACS soon...]

Luri et al. 2014, A&A 566A,119

- **If more input needed**

official DPACE contact : C. Babusiaux



**Fig. 3.** Sky map (healpix) of mean parallax error for all single stars in equatorial coordinates. Colour scale is mean parallax error in  $\mu\text{as}$ . The red area is the location of the bulge.

# Using Gaia to identify Red Giants

---

- Spectrophotometry + Parallaxes + Spectroscopy
  - Astrophysical Parameters (provided by CU8, see Ulrike's talk)
- Specific issue: the extinction
  - Needed for  $(G, \pi) \rightarrow M_G$  and  $T_{\text{eff}}$  estimate
  - Individual measures:
    - Correlated with  $T_{\text{eff}}$  (Spectrophotometry)
    - additional uncorrelated input from the RVS DIB  
(for the brightest stars and the strongest extinctions)
  - 2D integrated map will be provided by CU8
  - External 3D maps, based on Gaia data, will most certainly be needed as a complement at least for the interpretation phase.

# Gaia astrometric accuracy for a Red Clump star

→ For the brightest stars with low extinction, the giants can be selected directly on the HR diagram

