



# GaiaNIR: Discussion

David Hobbs & Antonella Vallenari

## ■ Science case

- Exoplanets : need for simulations are needed to assess the GaiaNIR performances?
- In all science cases: how deep do we need to go?  $K=22$ ?
- A science case for RVS
  - Only radial velocities or also chemical abundances?
- Technical issues: crowding
- Critical for all the science cases, magnitude limit definition, disperse photometry
- Detailed simulations are missing
  - Galaxy model in the NIR
  - Observational data in crowded regions
  - Technical specification on the telescope/ detectors
- Can we apply our experience on LSST?

- Photometric filter bands vs disperse photometry need to be studied
- Ability to match Gaia & GaiaNIR
- To improve astrometry
- Narrow filters or disperse photometry? Or both depending on the crowding?
- Which passbands?
- Do we need simulations?

## ■ An RV spectrograph

- How useful are high resolution spectra in NIR?  $R=5000$  or  $10,000$ ?
- Which spectral line can be used in NIR for RV?
- APOGEE: 1.5 and 1.7 microns (in the infrared *H*-band),  $R=22,000$ ,  $H=12$
- How deep can we go?

## ■ Actions

- Collecting science cases for the preparation of an updated White Paper by the end of 2024

- Possibly including specifications about magn. limit ( $K=22?$ ), spectral resolution

- Dead-line: June 15, 2024?

## ■ Coordinators

- Young stellar Objects: Loredana

- Variables: Marcella?

- Exoplanets: Alessandro S.

- The MW: disc, bulge, chemical abundances: Antonella

- Synergies with other missions/facilities : Gisella

- RVS: study of line list, spectral ranges

- Interested people: Laura Magrini, Germano, Livia Origlia, Sofia Randich, Valentina D'Orazi

- Photometric simulations Michele/Paolo?

- Crowding study: David, any volunteer?