

GaiaNIR – Discussion points

Areas needing more work

- **Detector assessment underway Q1/24 to Q2/25**
 - Range of follow-up studies then required
- Best size of pixels for APD detectors → limiting magnitudes
 - Trading light grasp and cost against spatial resolution
- Number and width of photometry filter/ grism bands:
 - Trading simplicity against ability to match Gaia, GaiaNIR stars
 - Crowding for spectra
 - Science cases?
- High resolution spectra – radial velocities only?
 - Science cases?
- Blue cutoff – 800nm or 400nm?
 - Science cases?

Next Steps and Timelines

<https://www.astro.lu.se/GaiaNIR>

- 2023 to end 2024 – detector studies
 - Confirmation that TDI like mode is possible with IR detectors
- Oct 2023: MW-Gaia COST Action GaiaNIR report
- Q3-Q4 2023: GaiaNIR interest call + work team themes
- End 2024 to mid 2025: ESA reprofile baseline GaiaNIR
 - Opens up options to design in additional payload instrumentation
 - Go deeper (e.g., larger mirrors)
 - Spectrophotometry and/ or radial velocities and/or chemistry
- 2024-2025 / update science cases
 - Input from MW-Gaia DN science case studies (2023-2027)
 - Exoplanet atmosphere/ Galactic ecosystem outcomes
- 2025-2026 / gain National Agency support
- 2026-2028 / GaiaNIR conceptual design
 - Includes role of national contributions
- 2029 / GaiaNIR adoption