

GRAVITY calibrator needs

Pierre Kervella



Instrumental requirements

- K band results in limited angular resolution of ~ 3.5 mas on large quadruplet : 1 mas gives $Vis = 90\%$
- Fringe tracking possible on $mK \sim 8.5$ with ATs, $mK \sim 10.5$ with UTs > not a limit for calibrator selection
- No evidence for non-linear behavior as a function of source brightness > brighter calibrators more efficient
- Closure phases are essential for most programs > binarity is more a problem than for V2 science

Calibrator properties

- UD size between 0.6 and 1.0 mas seems a good compromise between brightness and angular size.
- Very small UD not needed: complications with reddening correction and binarity
- Rigorous selection to avoid binarity
- Ideally spectrophotometric standards with observed K band spectra
- GRAVITY mostly insensitive to calibrator color: favor astrophysical stability: avoid high mass, prefer nearby, dwarfs and giants,...
- Restrict the number of results provided by SearchCal

Dual field calibrators

- Binary calibrators are needed in special cases to calibrate the internal zero point of the metrology
- These are relatively rare binaries, due to the constraints in terms of component brightness and separation
- These calibrators concern only the astrometric and phase referenced imaging observations
- The WDS catalogue is the principal reference for their selection: should a subset be included in SearchCal ?