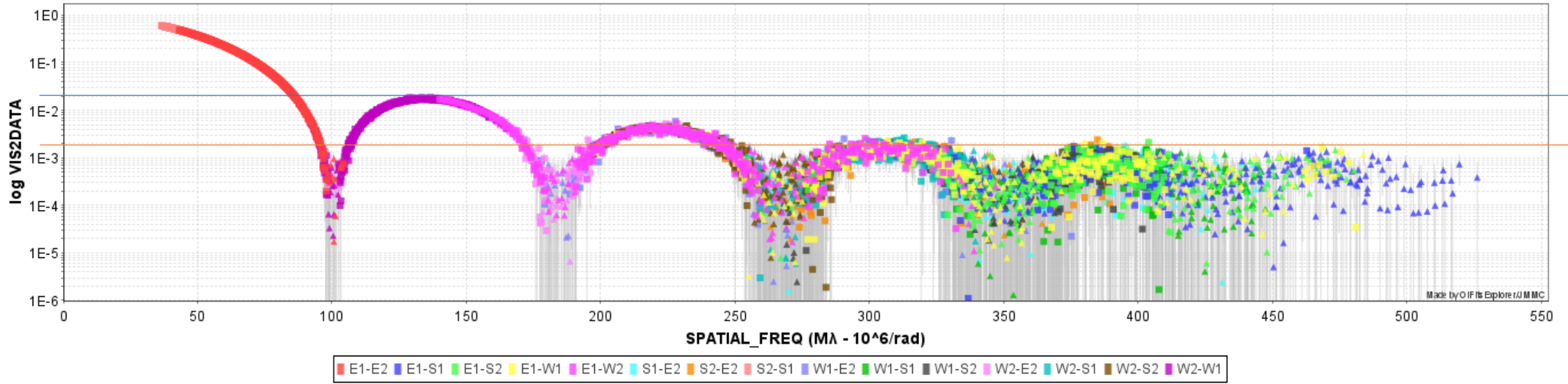# Organisation of the operations

General points
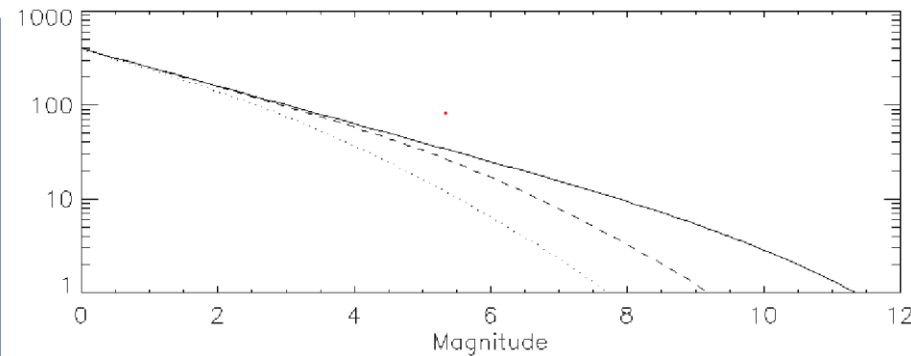
- Training phase for the operation of SPICA + FT (MIRC-X or SPICA-FT) and MYSTIC. It means from the night preparation (NSS, cals…) to the night operation.

- Learning phase for the interest of using all three instruments. This is almost for free in terms of time! But is it always interesting? To be evaluated on representative targets of the ISSP programs.

- Learning phase in terms of performance but some simple calculations are possible.
    - Use ASPRO2 in CHARA future with simple toy model to estimate the visibility
    - Check the SNR graphs on the SPICA web site on the first page:

        https://lagrange.oca.eu/fr/spica-project-overview

Study of CHARA/SPICA performance: SPICA-Perf-2021.pdf

A 2.5mas, mV=4 star seen by SPICA/CHARA

CHARA - SPICA [0.6142 μm - 0.8999 μm] - S1-S2-E1-E2-W1-W2
Day: 2023-06-01 - Source: Vega

Legend: E1-E2 E1-S1 E1-S2 E1-W1 E1-W2 S1-E2 S2-E2 S2-S1 W1-E2 W1-S1 W1-S2 W2-E2 W2-S1 W2-S2 W2-W1

SNR on V² for one spectral channel: V²=0.02, 10mn of integration, R=140

SNR on V² for one spectral channel: V²=0.002, 10mn of integration, R=140
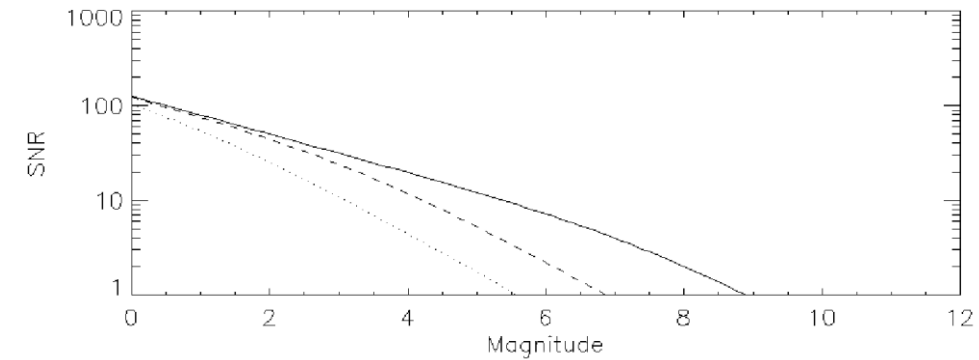
SNR=10, 10mn of integration
  V²=0.02 mV=5.5
  V²=0.002 mV=3.2

If FT 200ms
  V²=0.02 mV=6.7
  V²=0.002 mV=4.5

General points

- Planning "one week" of observation every months, what is the best method? Also, it could be more in the future if we go to more time on the survey (depending on the efficiency) and to assistance for guest observers.

- Maintaining and distributing this knowledge is also very important (documentation, recipes…)

- French opportunity (?) through the 'Actions Nationales d'Observation'

A French opportunity? USOI
User Support in Optical Interferometry

- Current situation:
  - ANO3 SUV (Support aux Utilisateurs du VLTI) managed by Alexis Matter (OCA) with a network on Grenoble, Paris and Lyon. SUV is one of the European nodes of the networks of Expertise Centers for VLTI.
  - ANO2 CHARA (for the support of FLUOR and VEGA operations in the past) managed by DM (OCA) with a network with Grenoble, Paris, and Lyon. Still considered up to end of 2023 for the transition from VEGA to SPICA (FLUOR no longer supported)

- Decision beginning of 2023 to merge the two approaches for simplification and mutual benefit.

- Decision for CNRS authorities this summer for a start on 1 Dec 2023. Evaluation in progress

USOI

- coordinator Alexis Matter, co-coordinator for CHARA DM (transition phase)
- Karine Perraut for Grenoble, Eric Thiebaut for Lyon, Frédéric Vincent for Paris
- 9 tasks
  1. Assistance for time request (ASPRO2 and noise simulators)
  2. Preparation of observations (including NSS tools)
  3. Observations themselves (specifically for CHARA/SPICA)
  4. Data processing and archiving
  5. Support to basic data analysis
  6. User's feedbacks and improvement of tools
  7. Training
  8. Curation of archived data (VLTI)
  9. General management and networking
- Opportunities for us:
  - Sharing of experience in interferometric tools, image reconstruction
  - Use of the (already existing) SUV networking tools
  - Direct and organized feedbacks on the JMMC tools
  - Increasing the networking between the "CHARA" tools and the JMMC tools
- Threads
  - Increased complexity, reporting
  - Managing open time programs outside the French community (not really an issue)
  - Managing open time programs and our ISSP time

Final remarks

- Overall, good preparation of the programs – Clarifications are needed on priorities (versus SNR), and on calibrators.

- Very interesting preparation for the data analysis – continue to develop the synergy among tools/methods.

- Prepare the way of doing the feedback for the instrument, pipeline… during the analysis phase.

- Think to the 'data management' at large and progress in the complementary data

- In terms of operation, it is critical to stabilize the longitudinal dispersion and the AO. And the fringe tracker.

- Continue to simplify the tools and procedures.

- More training sessions to be organized.

- Almost ready (update in ASPRO2, noise model) for a larger opening. Very interesting opportunities and probably more to come.

Clear skies!