

# Geodetic data analysis of VGOS experiments

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- Observing technique: Very Long Baseline Interferometry (VLBI)
- Observing what: quasars
- Observing how: simultaneously at the stations separated by thousands of kilometers
- Observables: the time delays of arriving radio wave front
  
- The standard observed frequencies set to the dual band mode (S and X band, i.e. 2 GHz and 8 GHz)
- VLBI Global Observing System (VGOS) allows for the observations in a broadband (2 - 14 GHz)
- The European VGOS Project (EU-VGOS)

# The next generation VGOS experiments: broadband observations



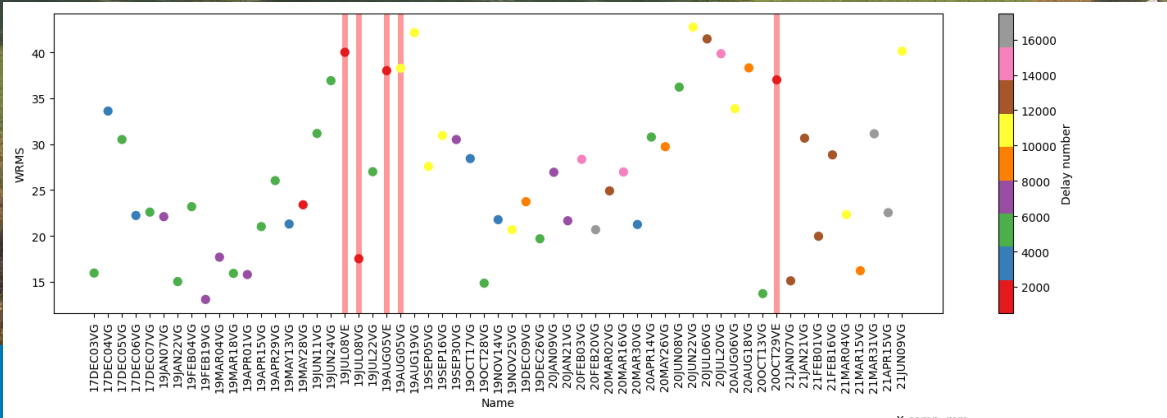
## VGOS sessions:

- ❑ 8 stations: GGAO12M, ISHIOKA, KOKEE12M, ONSA13NE, ONSA13SW, RAEGYEB, WESTFORD and WETTZ13S
- ❑ broadband delays calculated by the MIT Haystack Correlator are set to 6 GHz (standard X band is 8 GHz)
- ❑ Observations are conducted during 24 hours (the standard VLBI mode)
- ❑ The geodetic parameters can be evaluated in the same geodetic analysis workflow as the standard VLBI observations besides the ambiguity resolution (which is in this case a part of the correlation processing)

## EU-VGOS sessions:

- 4 stations: ONSA13NE, ONSA13SW, RAEGYEB and WETTZ13S
- Observations are correlated independently in the IVS Correlator in Bonn
- The correlation mode is varied: observations are correlated to 4 bands (3 GHz, 5.2 GHz, 6.3 GHz and 10.2 GHz) and one-band (6 GHz), in particular, the polarization setup is investigated
- The geodetic parameters are limited due to the observing network and sessions duration (4-6 hours)

# The next generation VGOS experiments: geodetic analysis results of EU-VGOS (EU) and VGOS (VG) observations



URSI GASS 2021 Commission J: Th-FIP-J04-16

