

Italy-Japan VLBI experiments

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Outline

- We aim to conduct global VLBI experiments by linking 3 telescopes in Italy with VERA.
- Including the KVN, we can construct “EATING-VLBI array”.
- The largest separation (SRT-VERA(Ogasawara)) is \sim 11,200km.



Earlier experiments

- Fringe test: 2013. May
- VERA and Noto participated
- Band: Q-band
- 1Gbp/s recording (16MHz x 16ch)
- Data transfer via ftp
- Fringe-search made using
 - Softcos at NAOJ
 - No fringes obtained
 - most of the data unreadable at NAOJ



Next fringe experiments

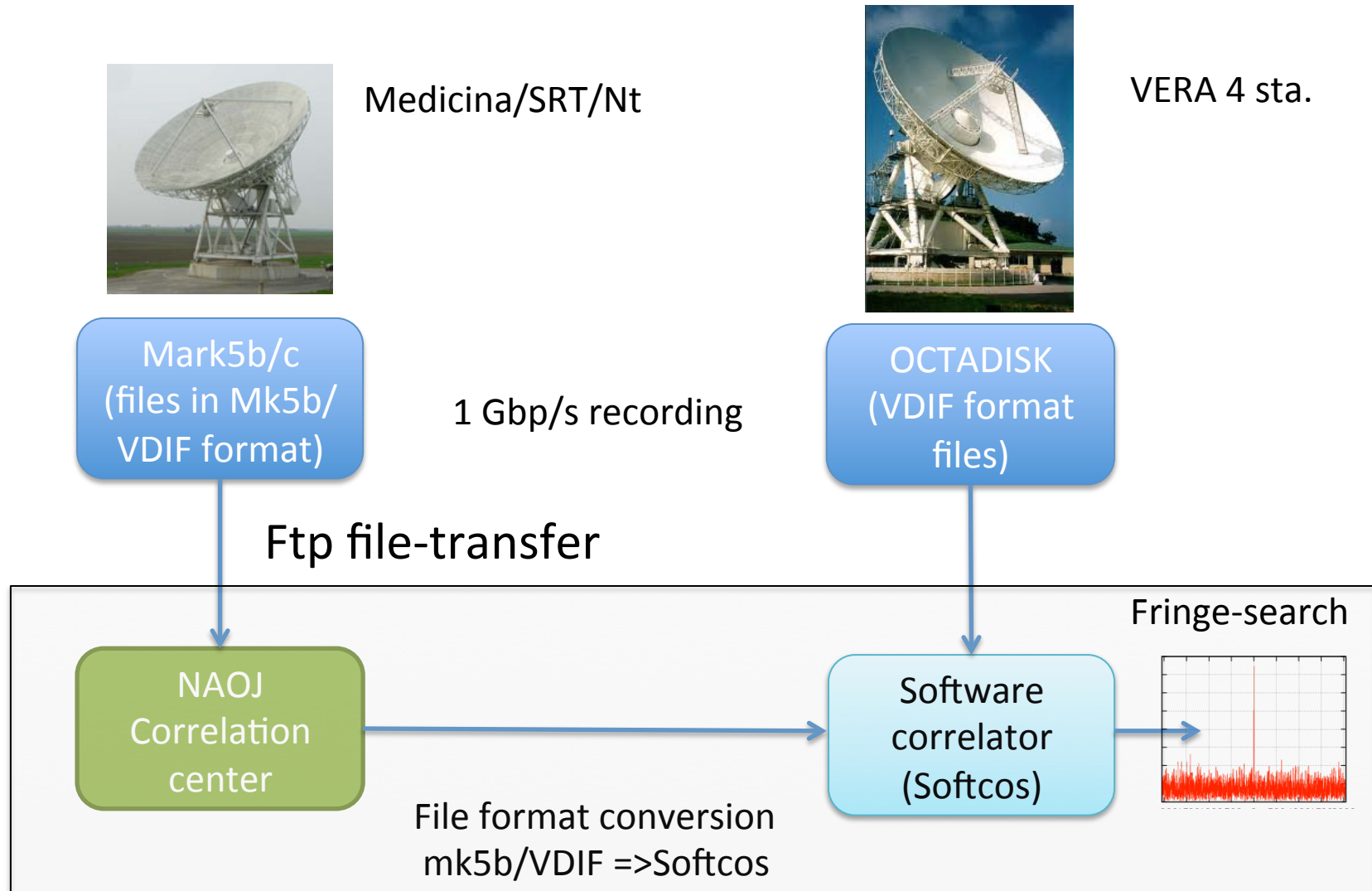
To revenge the earlier experiments, we aim fringe detection

- VERA - Medicina/Noto/SRT
- K-band
- Mark5b@SRT64, Medicina, Noto
- Data format test (Stagni, Suzuki, Oyama)
 - Raw data files in MK5B format
provided by M.Stagni via ftp
 - Software correlation by the Softcos at NAOJ
=> Fringes detected (September 2014)

Fringe test setups

Telescopes	VERA(NAOJ), Mc/SRT/Nt(IRA)
Dates	2014 winter (TBD)
Rec. Terminal	OCTADISK(VERA), Mark5B (IRA)
Rec. Rate, mode	1Gbp/s, 16MHz x 16 ch, 2bit
Band	K-band
Targets	Orion-KL/W49N (Maser), 3C273/3C345/BLLAC (continuum)
Correlation	Software correlator (Softcos) @NAOJ-Mitaka

Observation, recording, data-transfer, and correlation



Summary

- We aim to construct global-VLBI between Italy and east Asia using VERA, 3 telescopes in Italy, and KVN.
- Fringe tests to link VERA with telescopes in Italy being planned.
- Science cases for “I-J-K VLBI” should be prepared for scientific observations in near future