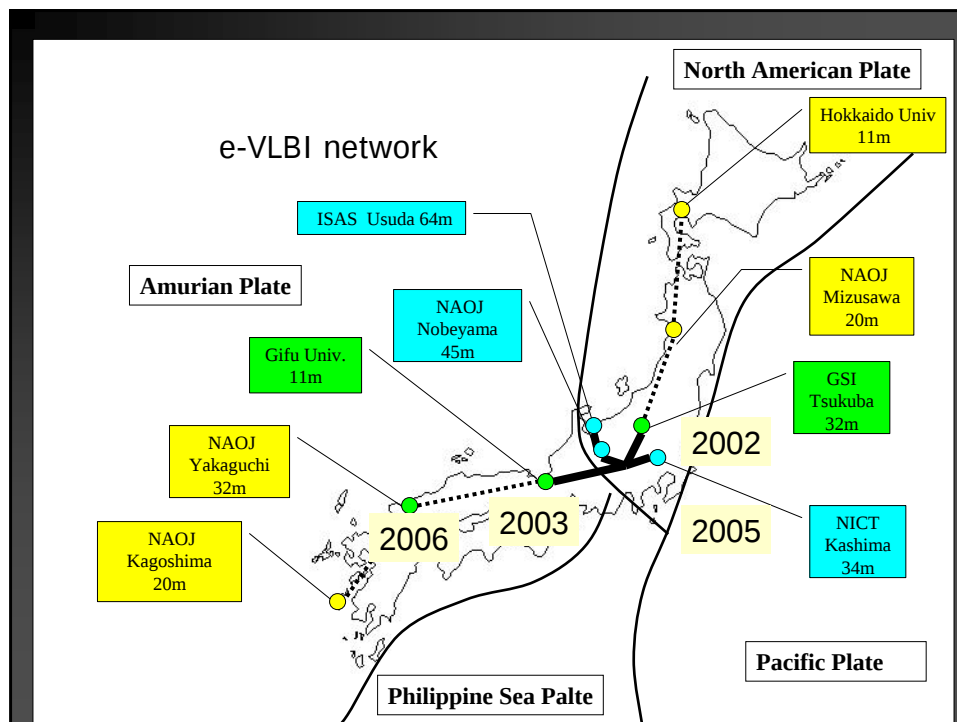
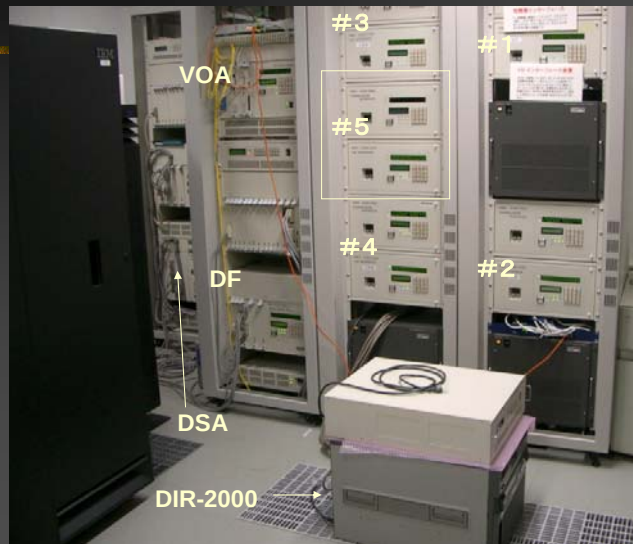


Optical Fiber connected Array and VERA

N. Kawaguchi



VERA Recording System @ Mitaka



VOA:
Vlbi Optical Adapter
ネットワーク接続装置

DF:
Digital Filter
デジタルフィルタ

DSA:
Digital Spectrum
Analyzer
デジタル分光計

Mitaka DIR-2000

1. 024Gbps Recording
For Tsukuba 32m, Kashima 34m
and Nobeyama 45m

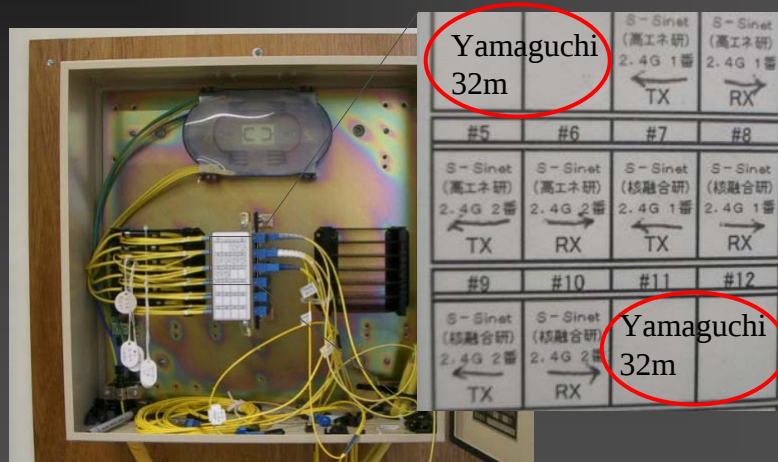


Mitaka DIR-1000M



#8 Recorder
Under used
(128M)
for
University
Sessions

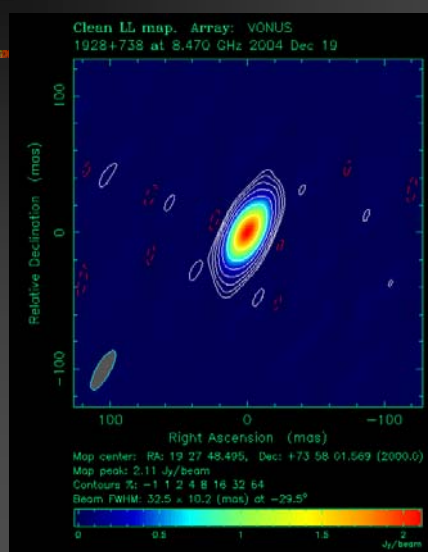
New connection to Yamaguchi 32m



Real time Observing System

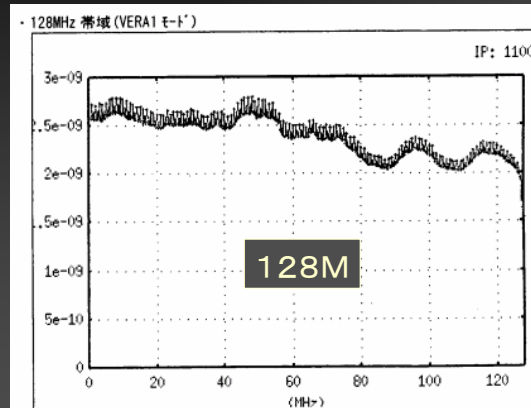


Trial Imaging



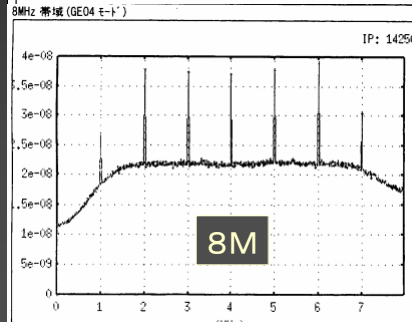
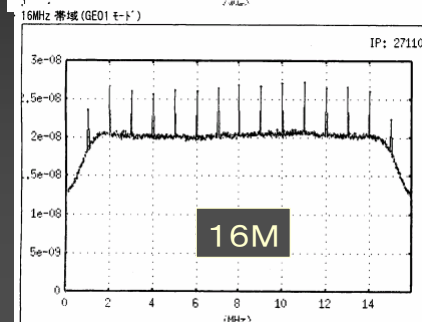
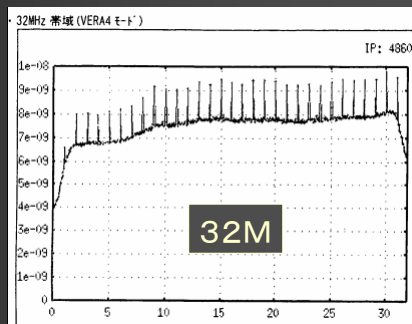
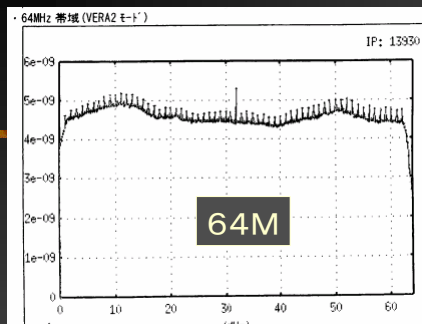
December 9, 2004
University Session
1928+738
8192-8704MHz
Usuda 64m
Tsukuba 32m
Gifu 11m
PI:Suda

Real time monitoring of T32m @MTK

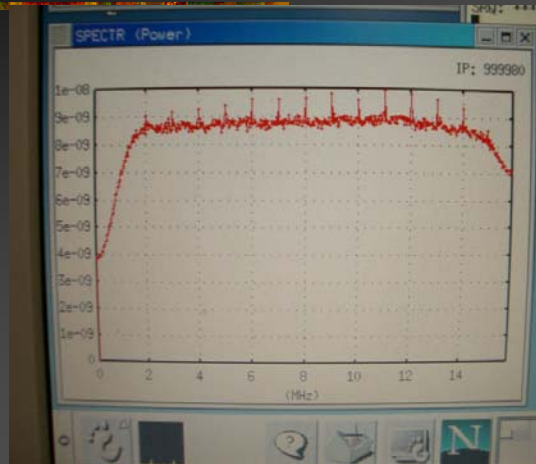


つくば32mの観測データを
光結合回線で三鷹に伝送し、
三鷹の#5観測系のデジタル
フィルタ及び分光計で処理した。

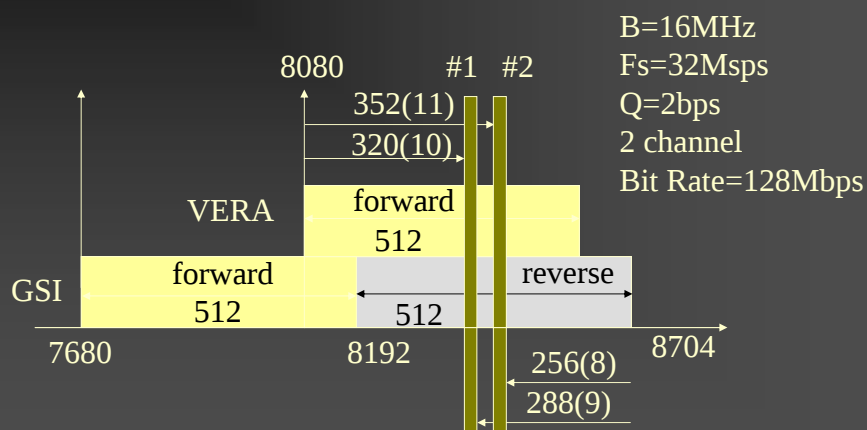
受信機の帯域特性とそれに
重畳された位相校正信号が
見られる。



Digital Spectrometer Output

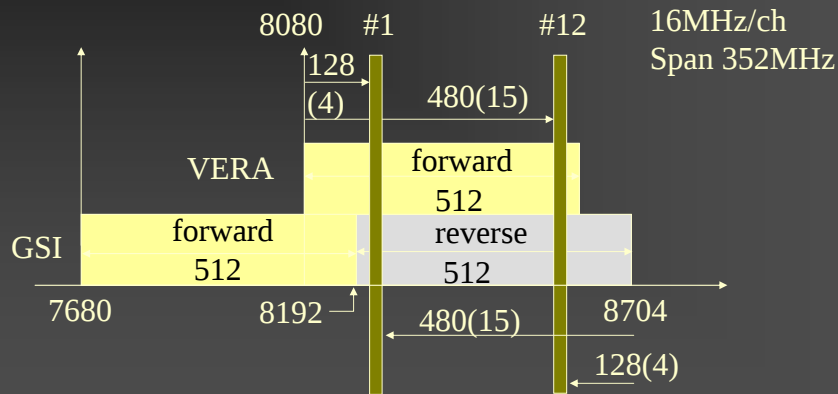


Compatibility for Geodesy Station (X-band University Sessions)



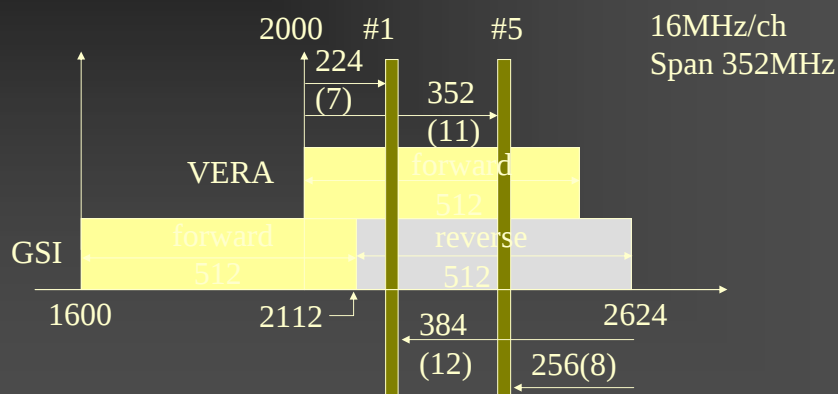
VERAとGSIのLO周波数差が400MHzなので、周波数逆順で相関可能

Compatibility for Geodesy Station (VERA Geodesy in X-band)



4次高次モードから15次高次モードまで12の周波数スロットが利用可能

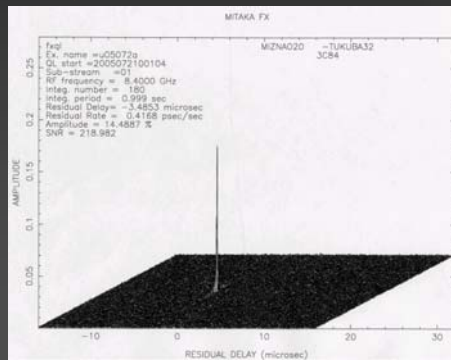
Compatibility for Geodesy Station (VERA Geodesy in S-band)



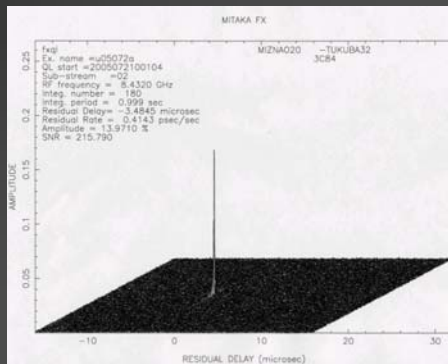
7次(8次)高次モードから11次(12次)高次モードまで5周波数スロット

First Fringe of 'Mitaka' Virtual Observatory

ストリーム#1 (8400MHz)

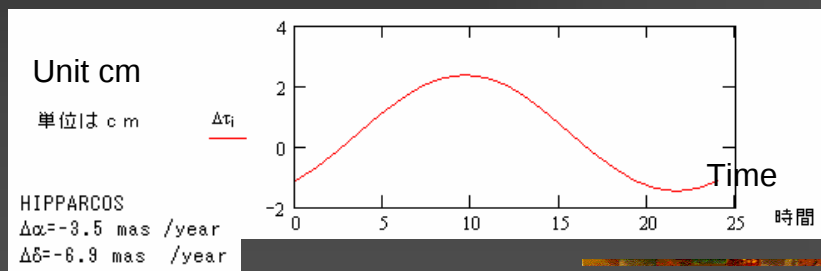


ストリーム#2 (8432MHz)



Working Share between VERA and eVLBI

- VERA: Maser Astrometry
- eVLBI: Star Astrometry
- P-Cygni ($\pi = 0.52 \text{ mas}$) Proper motion Yamaguchi-Tsukuba (804 km)



Concluding Remarks

- Mitaka Virtual Observatory starts operations
 - First Trial on Feb. 20, First Fringe on Mar. 13
 - University Session
 - DIR-1000M recording (128M)
- Geodesy Session on VERA and Tsukuba 32m
- Future Expansion
 - Mitaka #6, #7, #8, . . .
 - Nobeyama 45m, Kashima 34m, Yamaguchi 32m