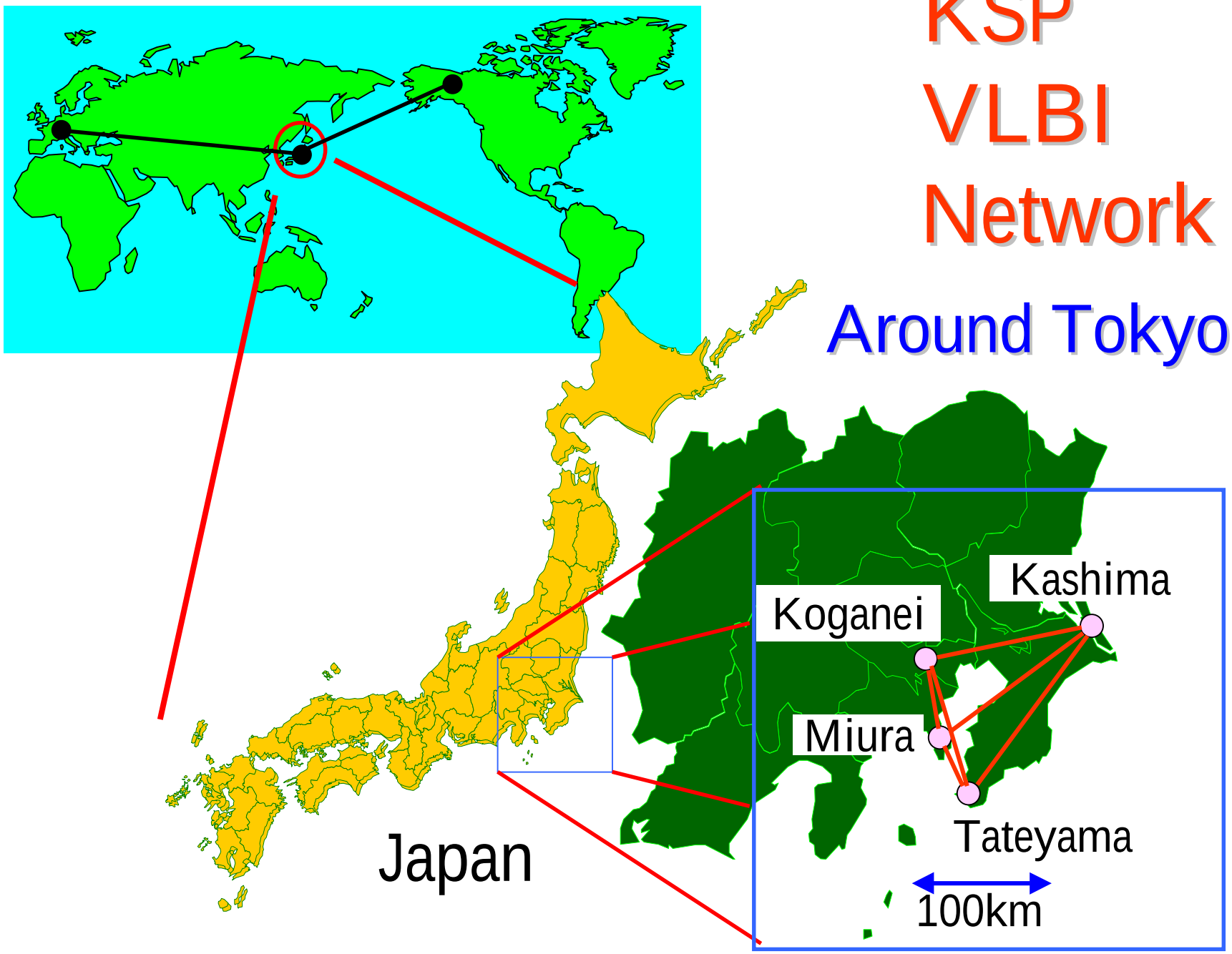
Recent VLBI Activities at the Communications Research Laboratory, Japan

T.Kondo and CRL VLBI Group
Communications Research Laboratory
Japan

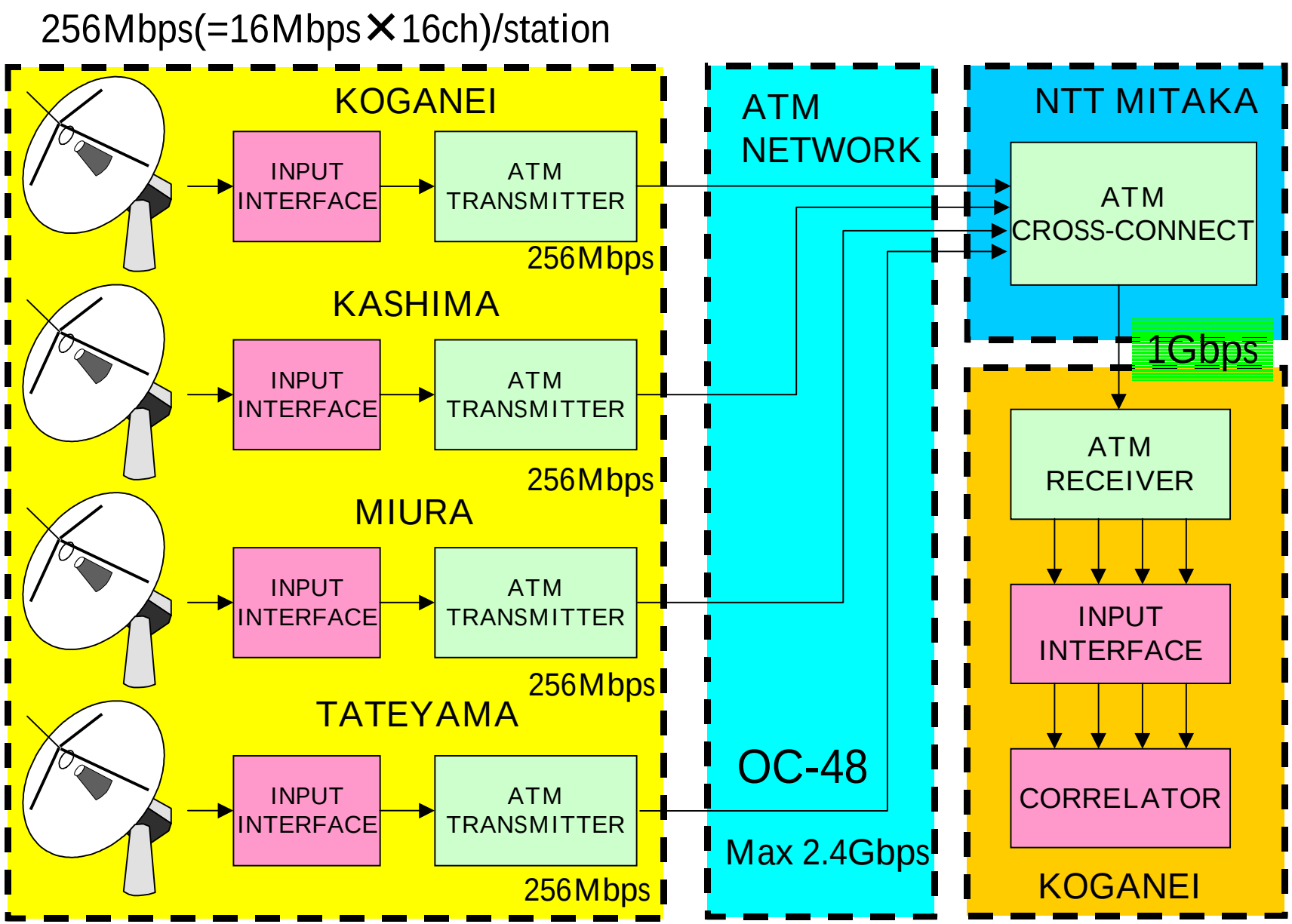
Recent VLBI Activities

- Regular real-time KSP-VLBI network operation (every 2 days)
- Large virtual radio telescope
- First fringes from Giga-bit VLBI system
- Optical-linked RF interferometer
- GPS frequency standard for VLBI use
- etc.

KSP VLBI Network

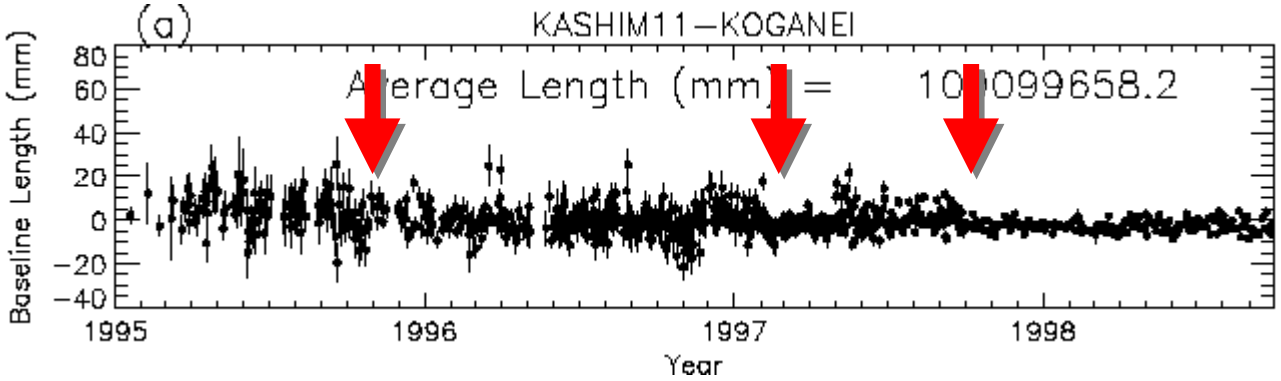


Real-Time VLBI System

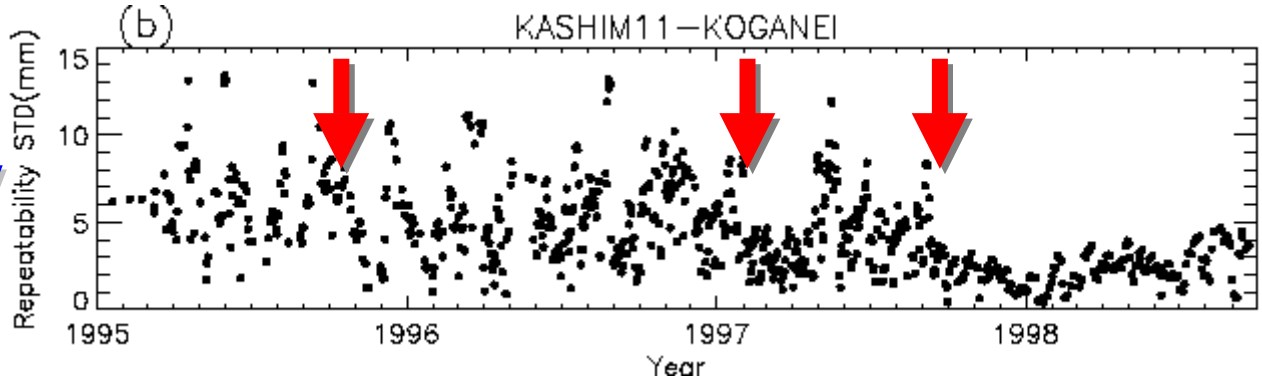


Evolution of Measurement Accuracy

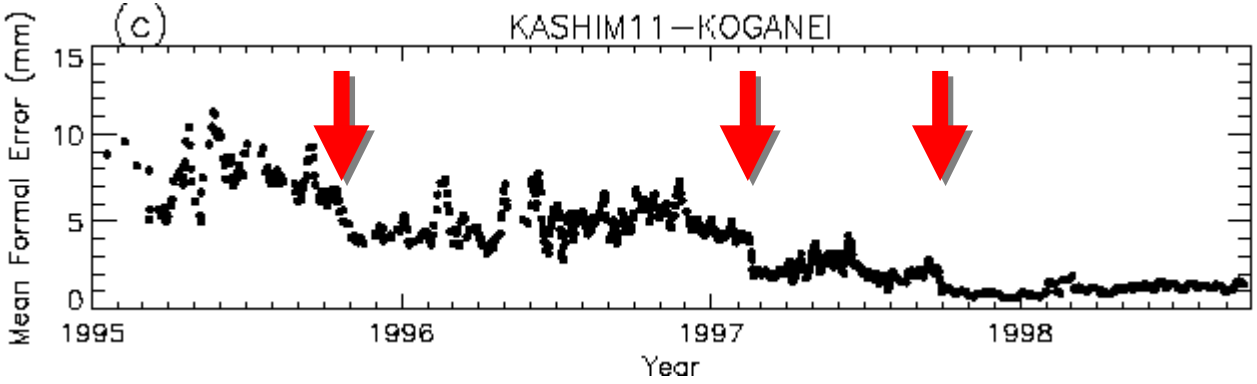
Baseline Length



Repeatability

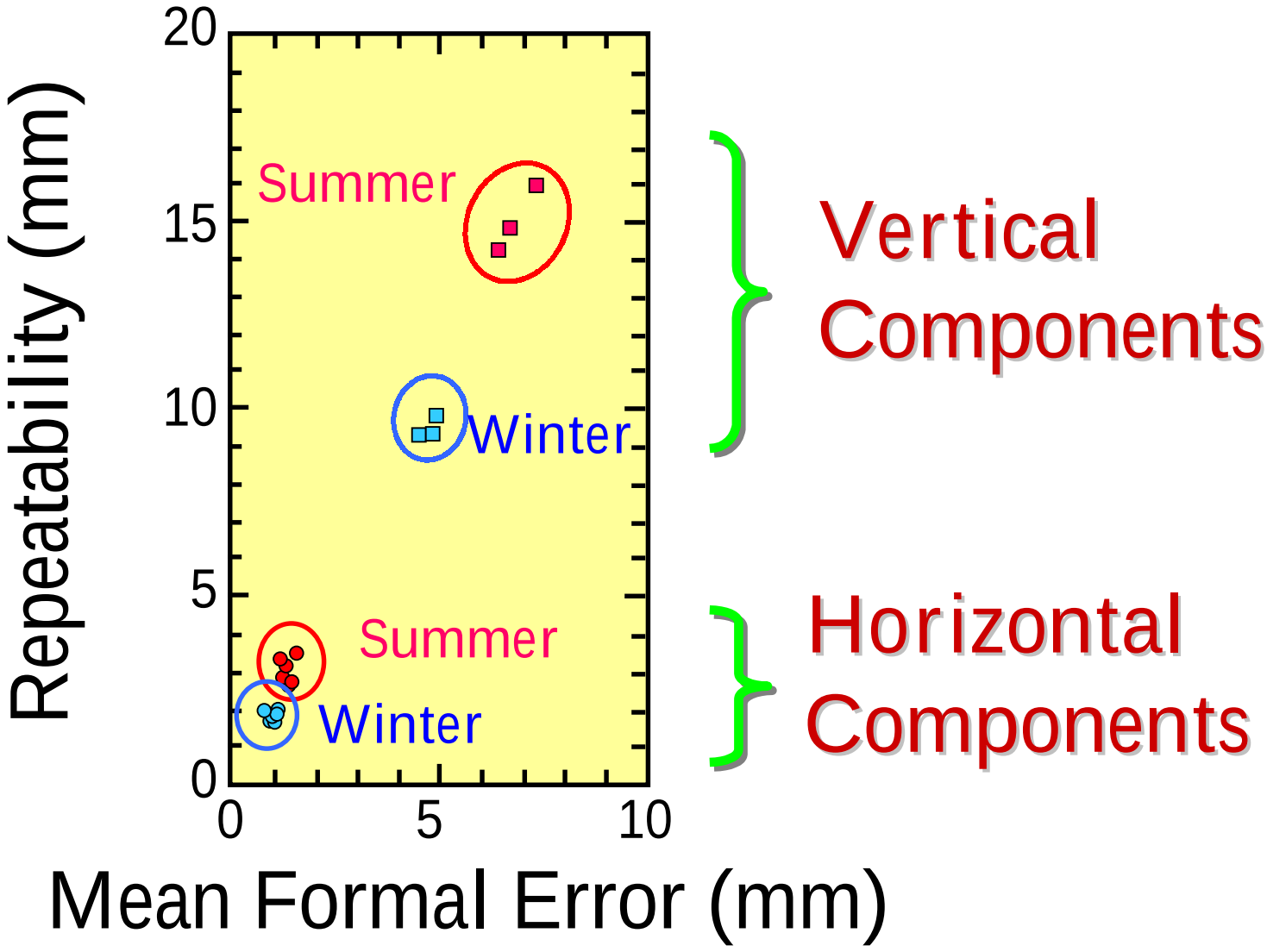


Formal Error

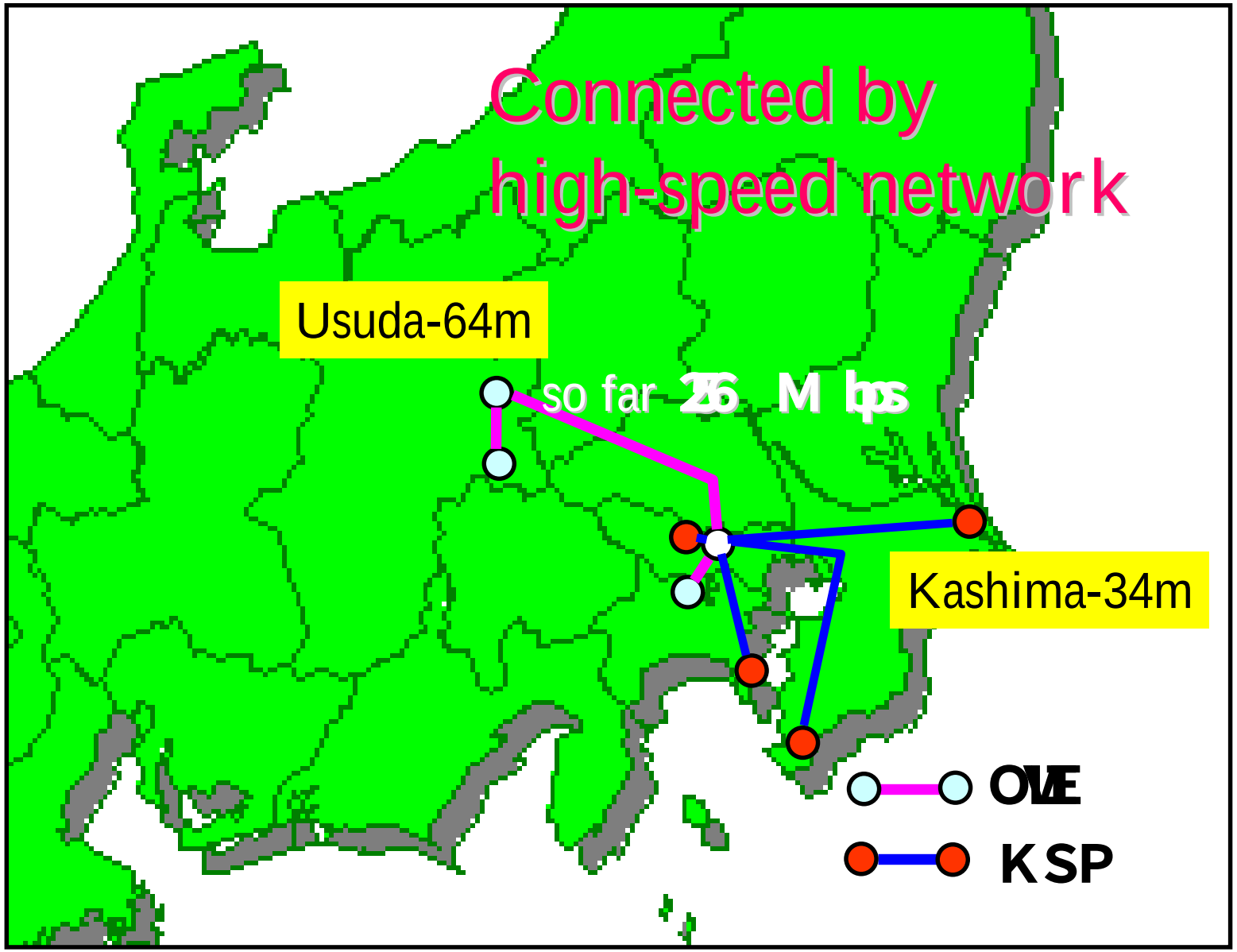


Measurement Accuracy of KSP VLBI

Station Position

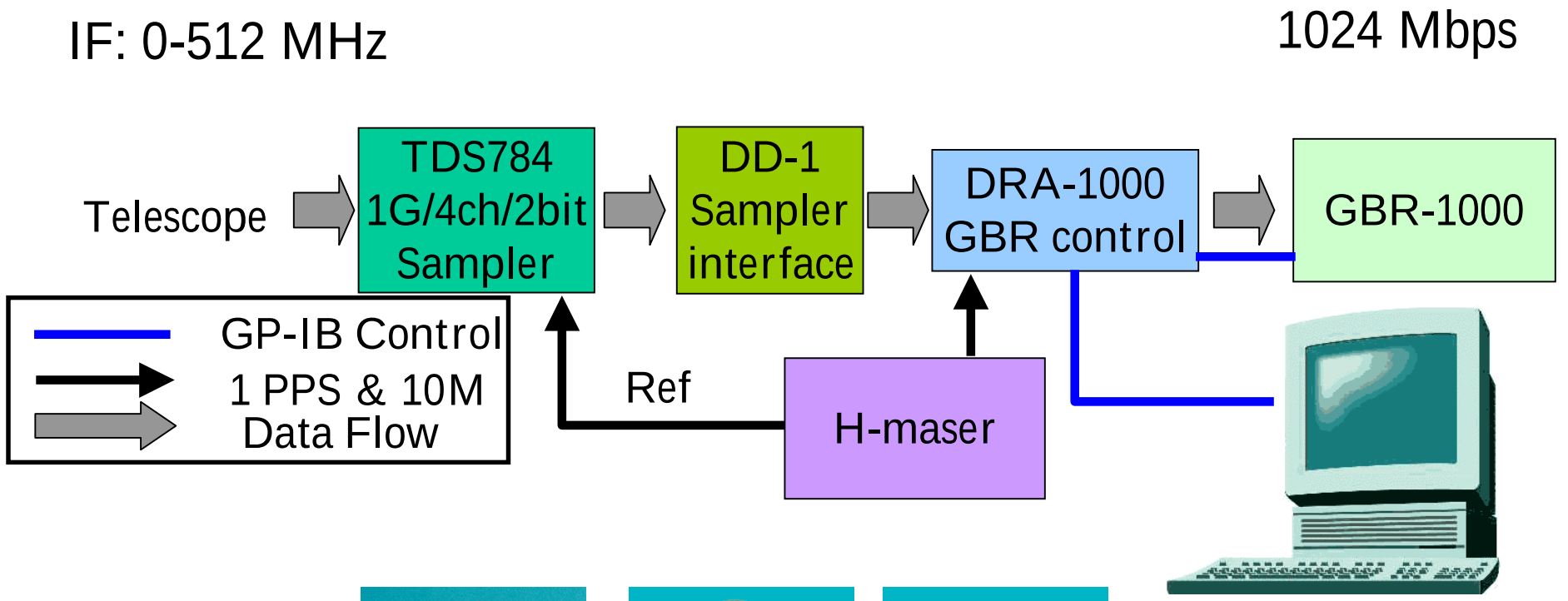


Large Virtual Big Telescope



TOSHIBA Giga-Bit Recorder

Giga-bit VLBI System

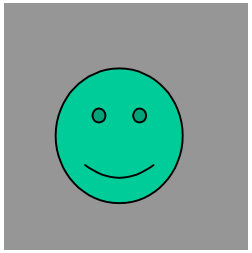


promoted by


J.Nakajima

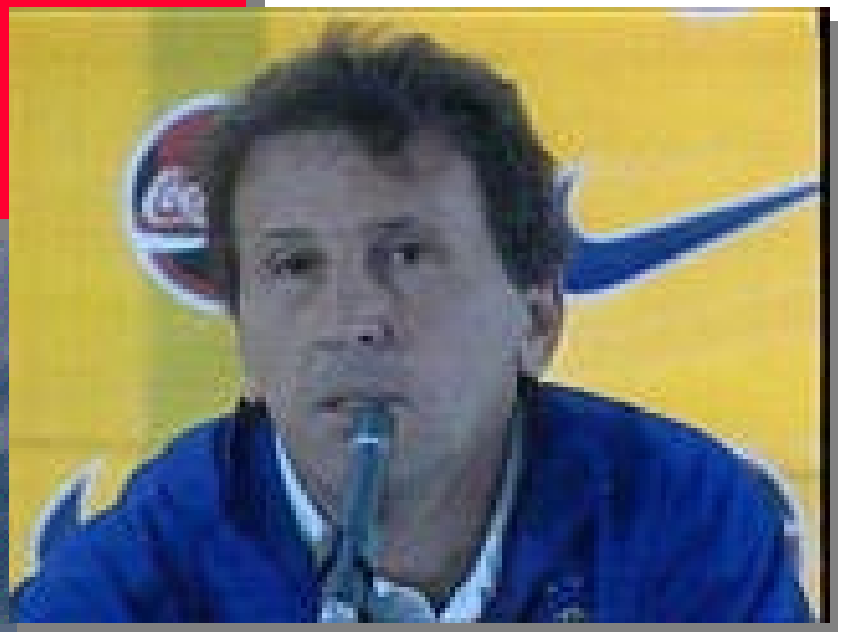

Y.Koyama


M.Sekido


M.Kiumura(Tokyo U)

KASHIMA Antlers

SOCCER BALL ON THE 34-m ANTENNA
(1996)



ZICO

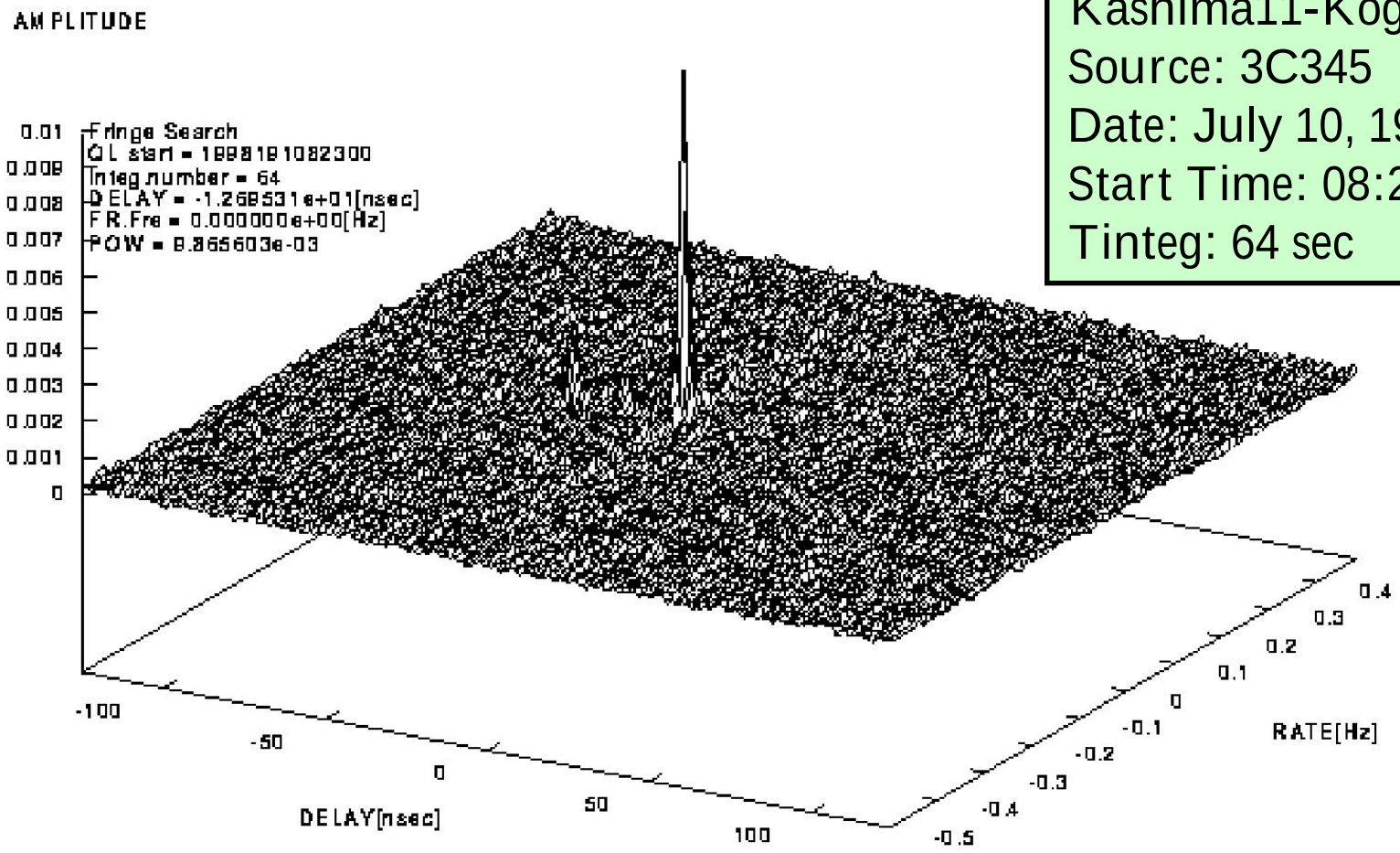
Technical
Director

GICO : Giga-bit Correlator

zi:ko

KASHIM1-KOGANEI 3C345

The First Fringes

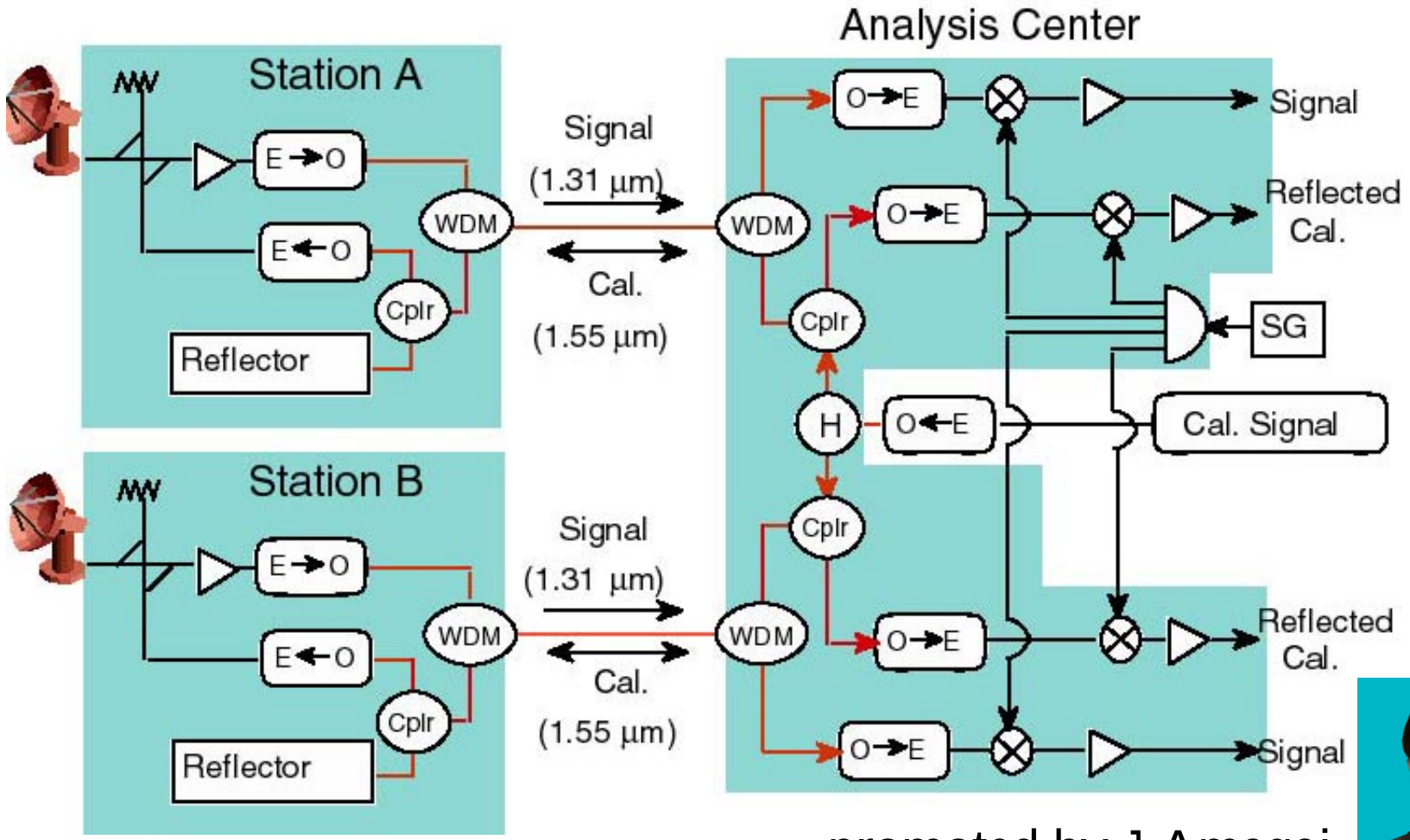


Kashima11-Koganei
Source: 3C345
Date: July 10, 1998
Start Time: 08:20:00
Tinteg: 64 sec

Optical-linked RF Interferometer

System Configuration

- Common Local Oscillator
- 2 wave length round trip Delay Compensation

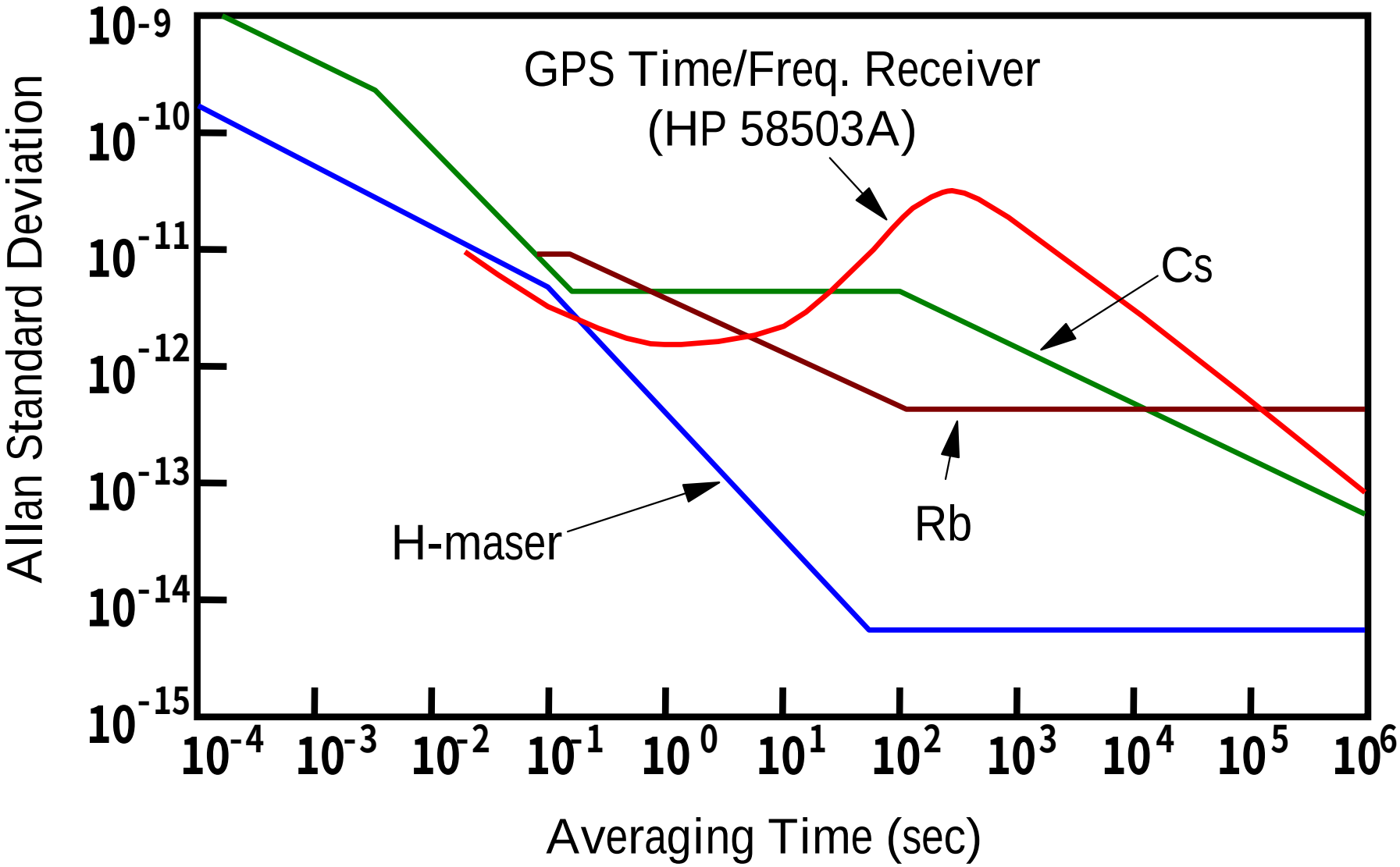


promoted by J.Amagai

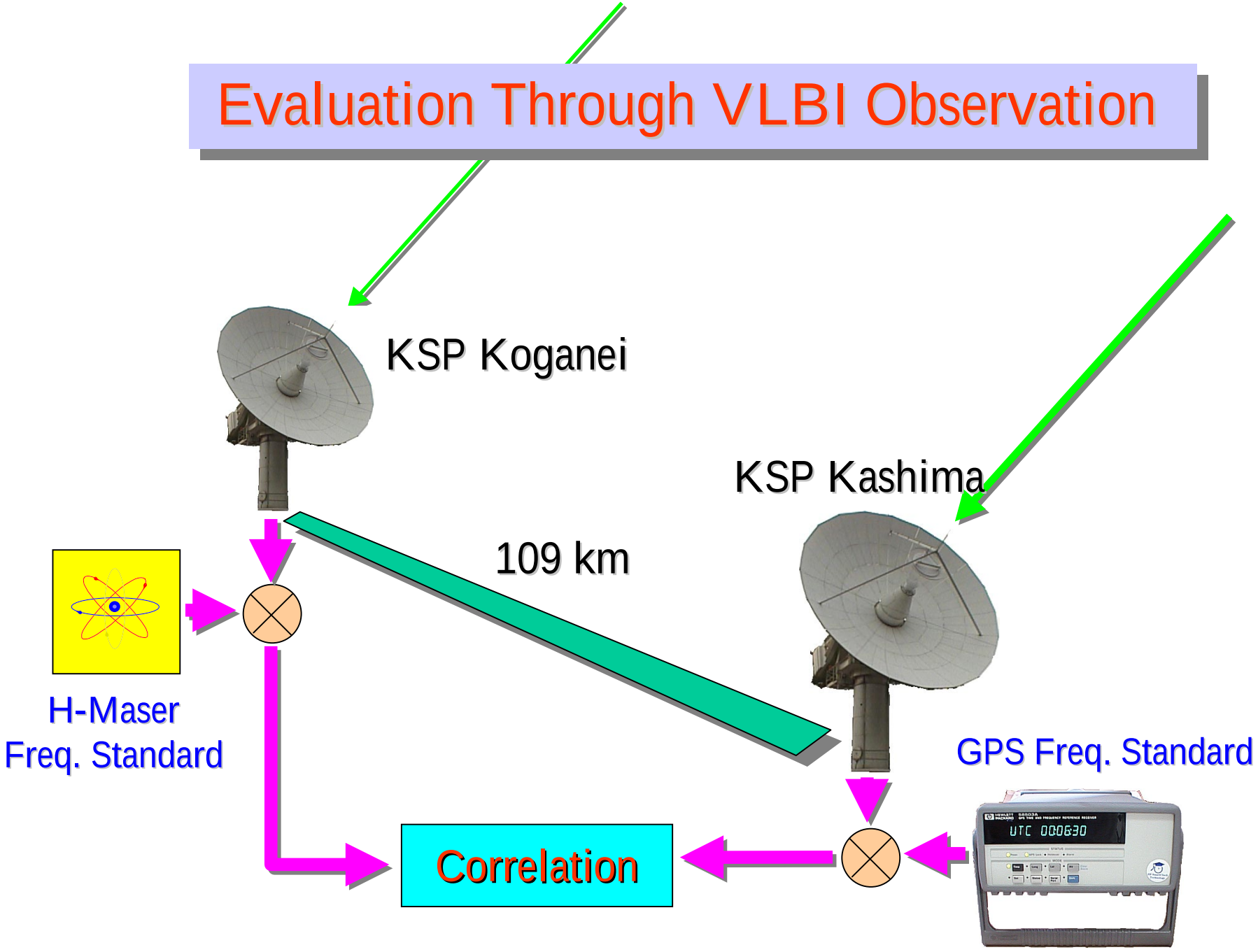
GPS Antenna

GPS Time and Frequency Reference Receiver (HP58503A)

Stability of Various Frequency Standard



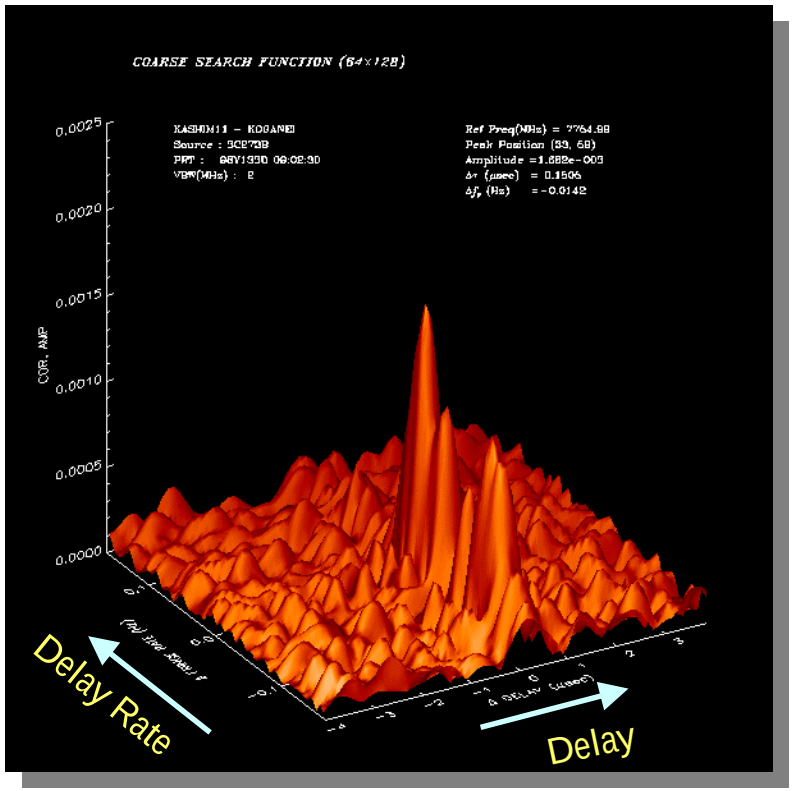
Evaluation Through VLBI Observation



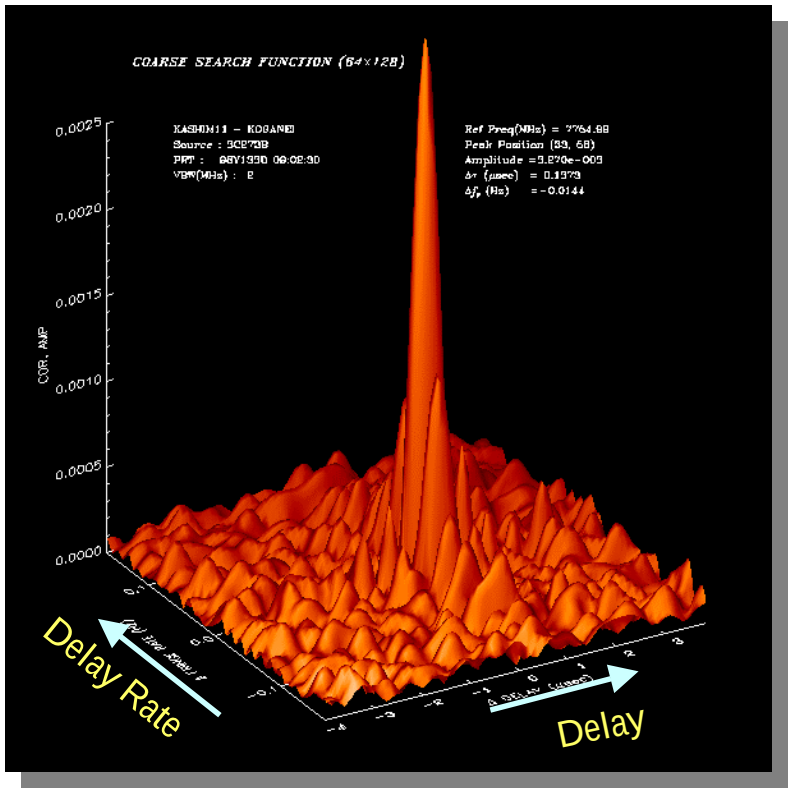
Comparison using Coarse Search Function

Source: 3C273B Integration Period: 90 sec

Fringe Search (with first order)



Fringe Search (up to third order)



Comparison of Correlation Amplitude between Different Frequency Standards

Source: 3C273B Third-order Fringe Search was adopted for GPS