East Asian VLBI Activities

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Outline

- Background
- Activities in each country
  - In China
  - In Japan
  - In Korea
- EA VLBI Network & Consortium
- Concluding remarks

Background

- Prominent VLBI activities in the East Asia region
  - China: Two 25-m telescopes for geodesy, astrometry, astronomy, etc., joining to APSG, EVN, and now building new telescopes
  - Japan: Key Stone Project (4 x 10-m system) for geodesy, VERA (4 x 20-m system) used for astrometry, Space VLBI; VSOP and VSOP-2 for astronomy
  - Korea: Korean VLBI Network (3 x 21-m system) and correlator under construction
- Requirements for coordination / promotion of these activities

Geography of Asia

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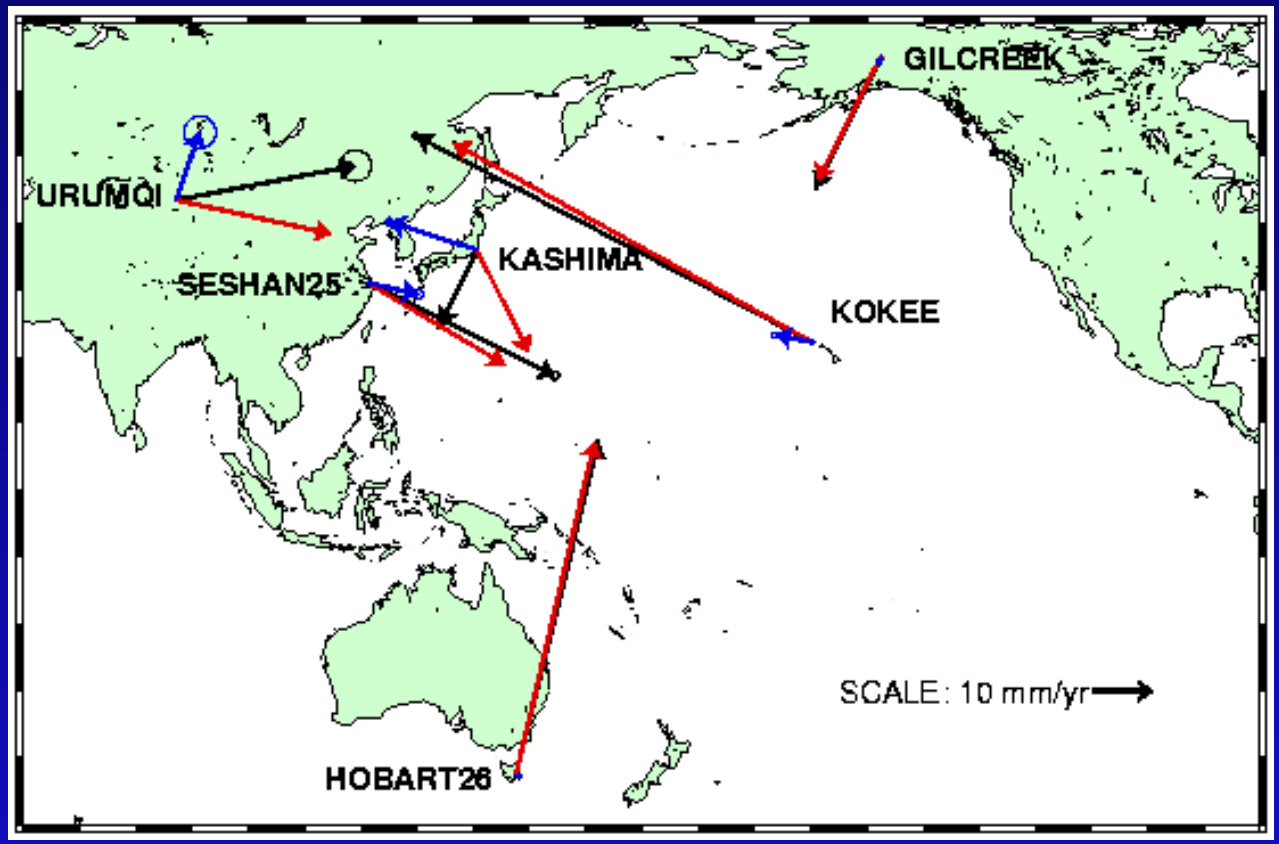
Horizontal Velocities of APSG VLBI Stations



Predictions by NUVEL1A model
Measurements by VLBI
Differences between predictions and measurements

New telescopes

- A 14-m mm-telescope in Delingha, 2000 km West of TRAO, 3000 km West of Nobeyama
- A 50-m antenna in Miyun, and a 40-m in Kunming of Yunnan Obs., for a Lunar mission
- A prototype of FAST in Guizhou

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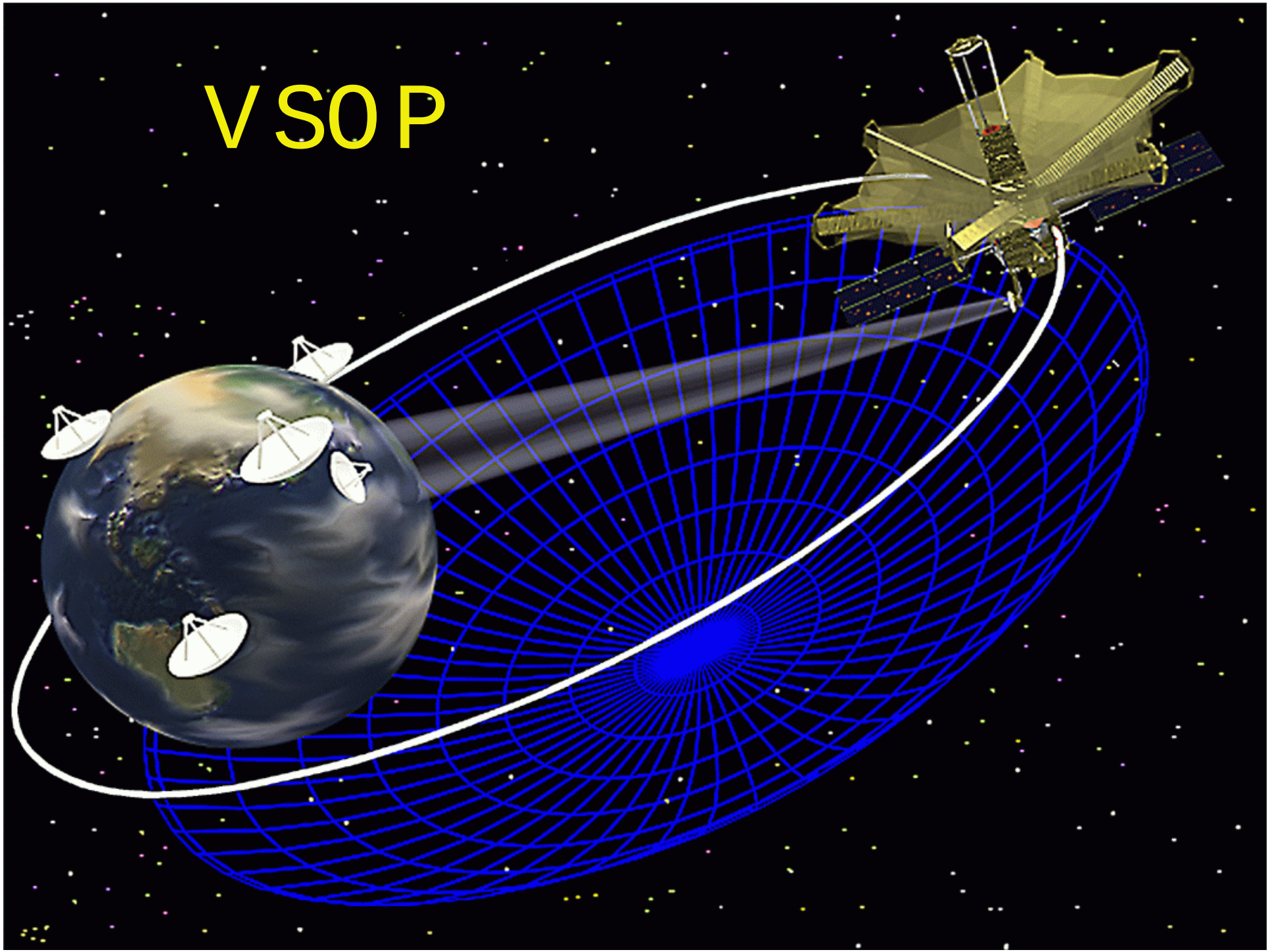
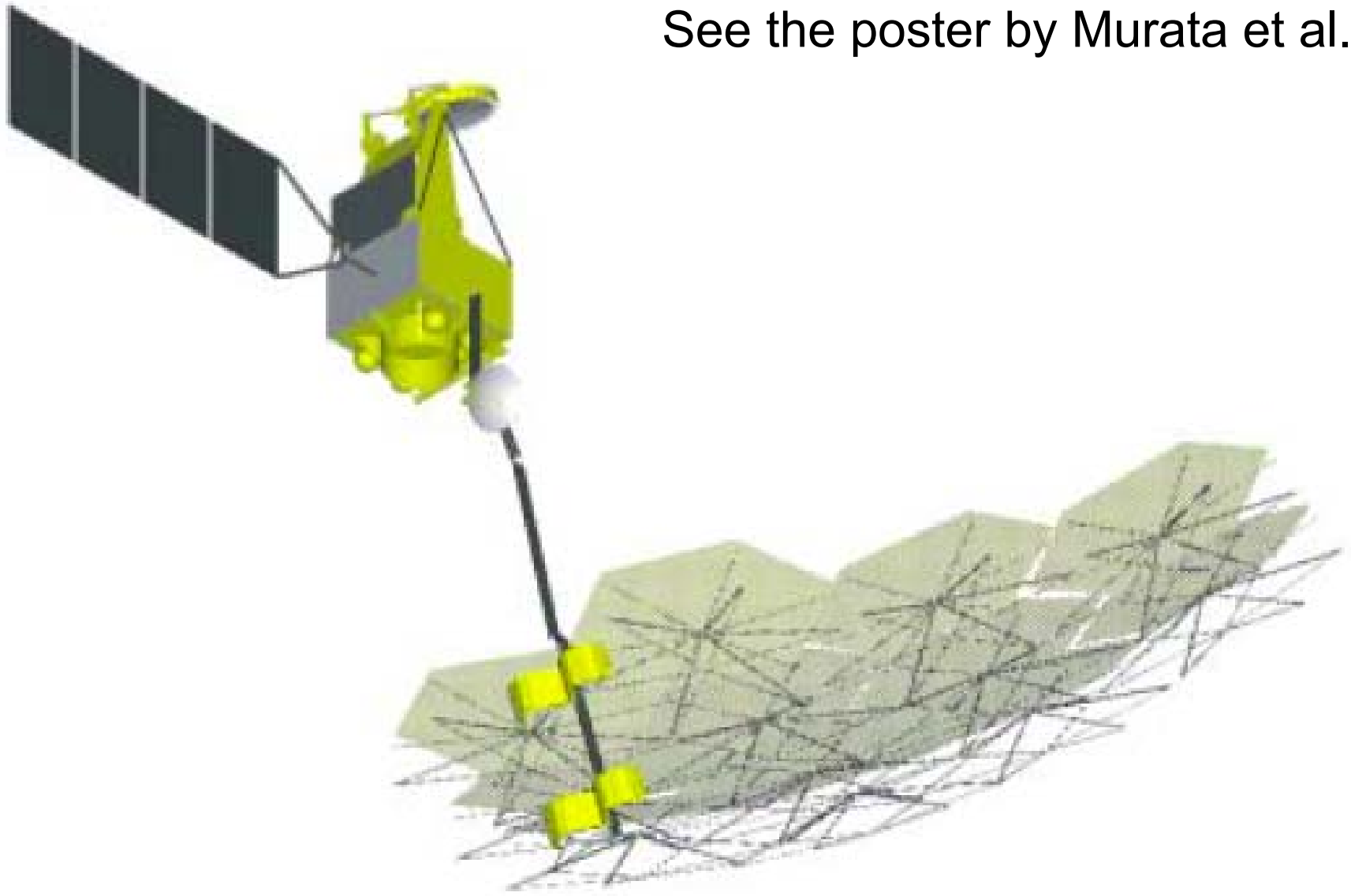
VERA観測局配置図
Location of VERA
水沢局
Mizusawa
鹿児島局
Kagoshima
石垣島局
父島局
Chichijima
VERA・・・

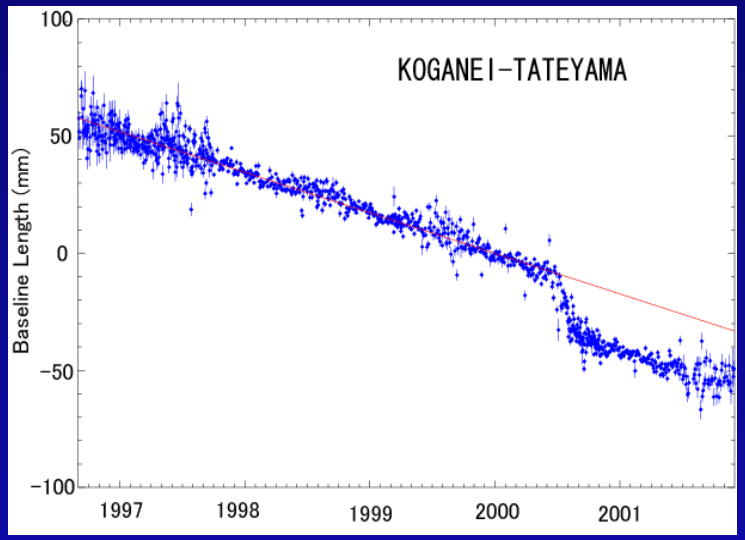

VSOP

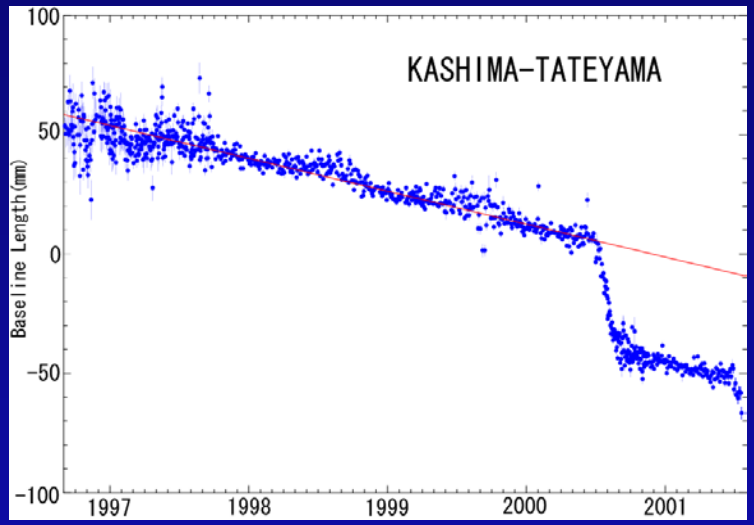
VSOP-2

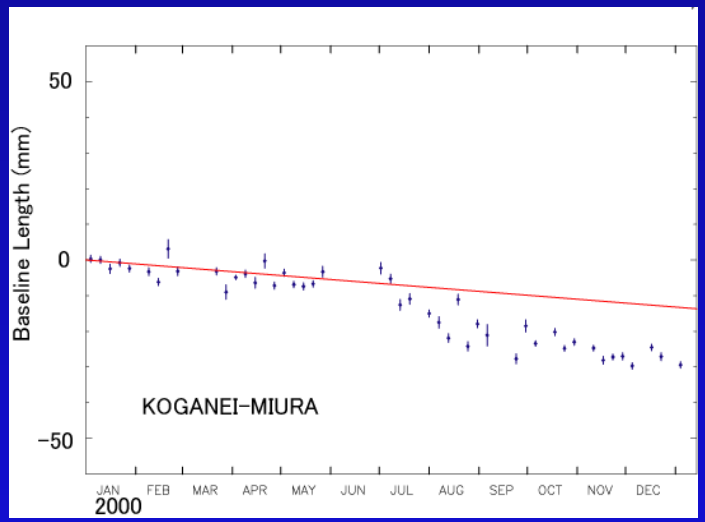
See the poster by Murata et al.

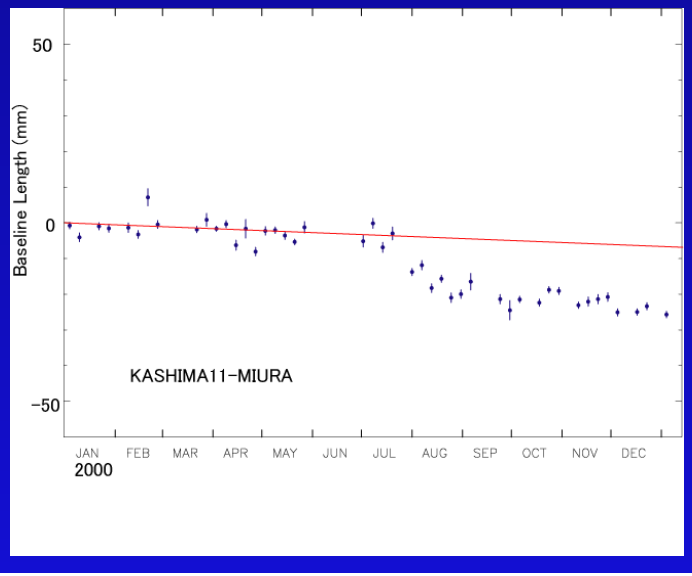


Keystone Project and its last results

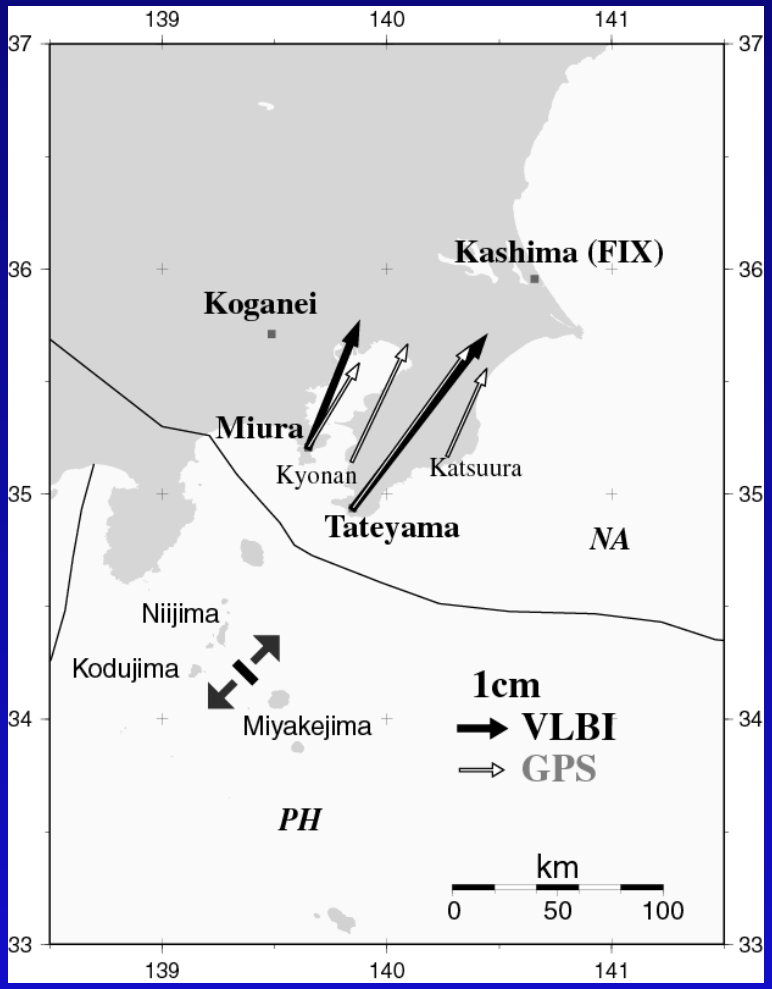








Keystone Project and its last results



Epicenter moved around islands, and ejected magma.

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KVN

- Three-station VLBI network in Korea
- S/X bands, 22, 43 GHz, 86, and 129 GHz
- Multi frequency receiver system
- Building a correlator

See the poster by Kim et al.

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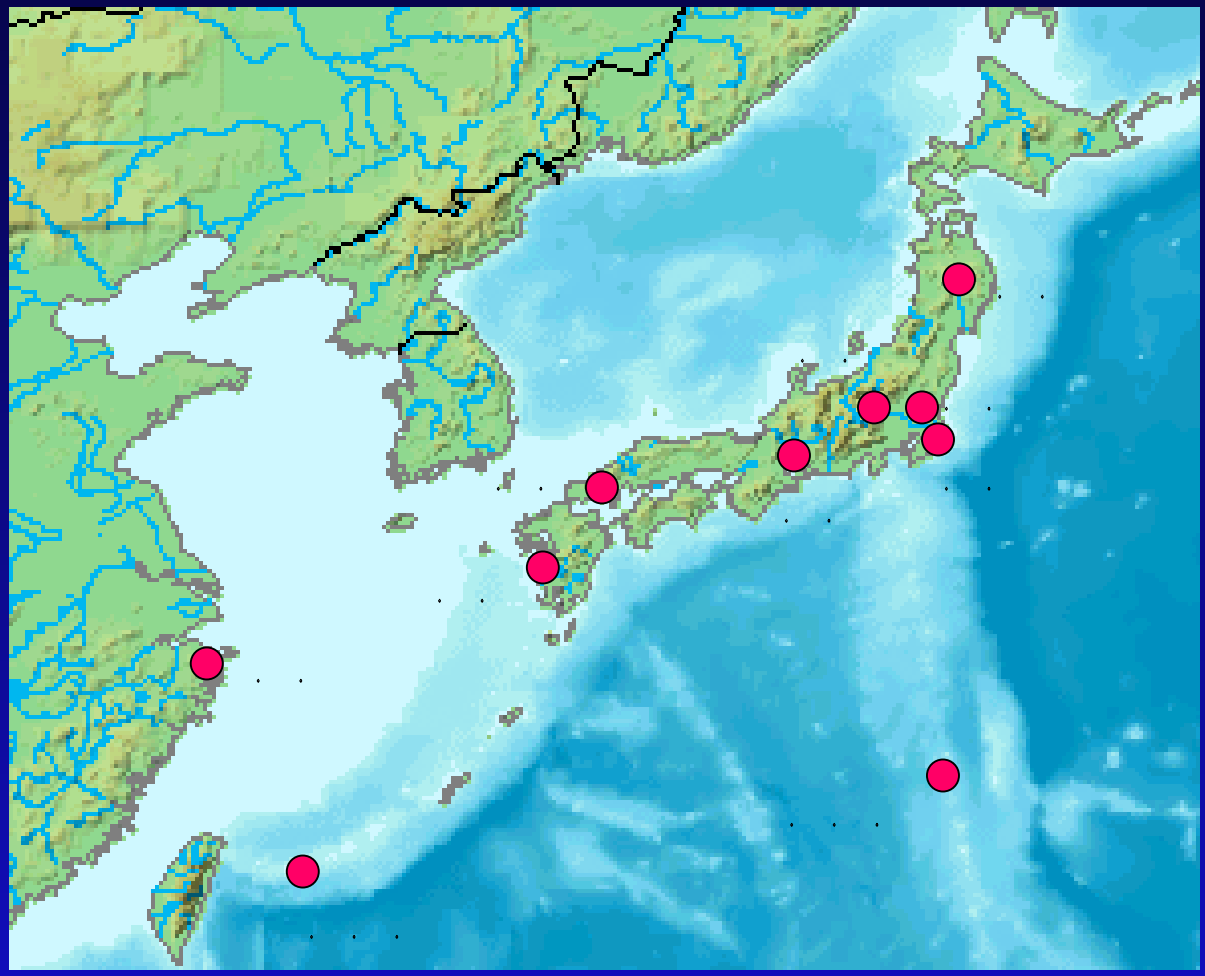
Telescopes/Networks

EA VLBI Network

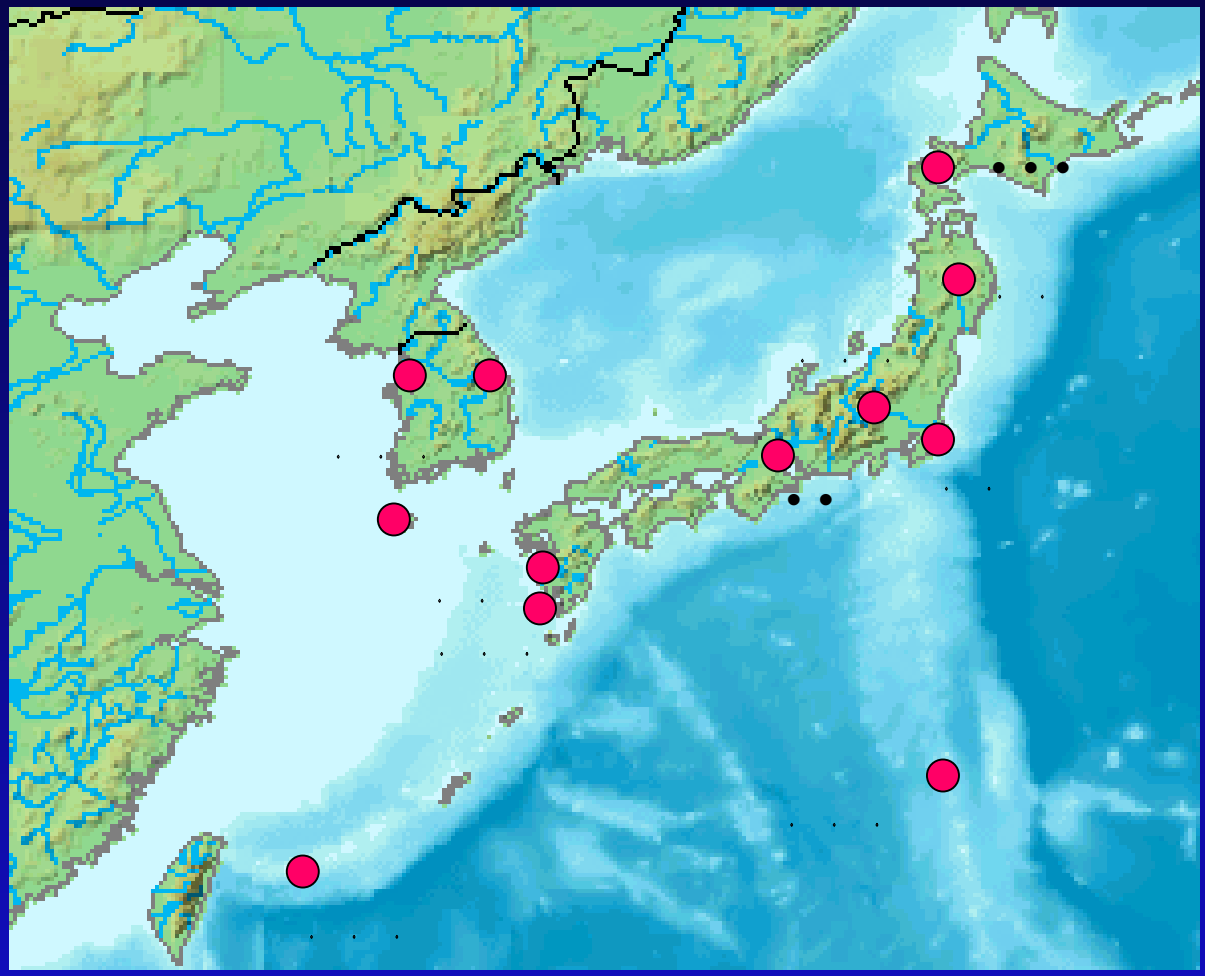
CHINA
- Urumqi
- Delingha
- Yunnan
- Miyun
- Guizhou

AUSTRALIA: ATCA

Stations at • GHz



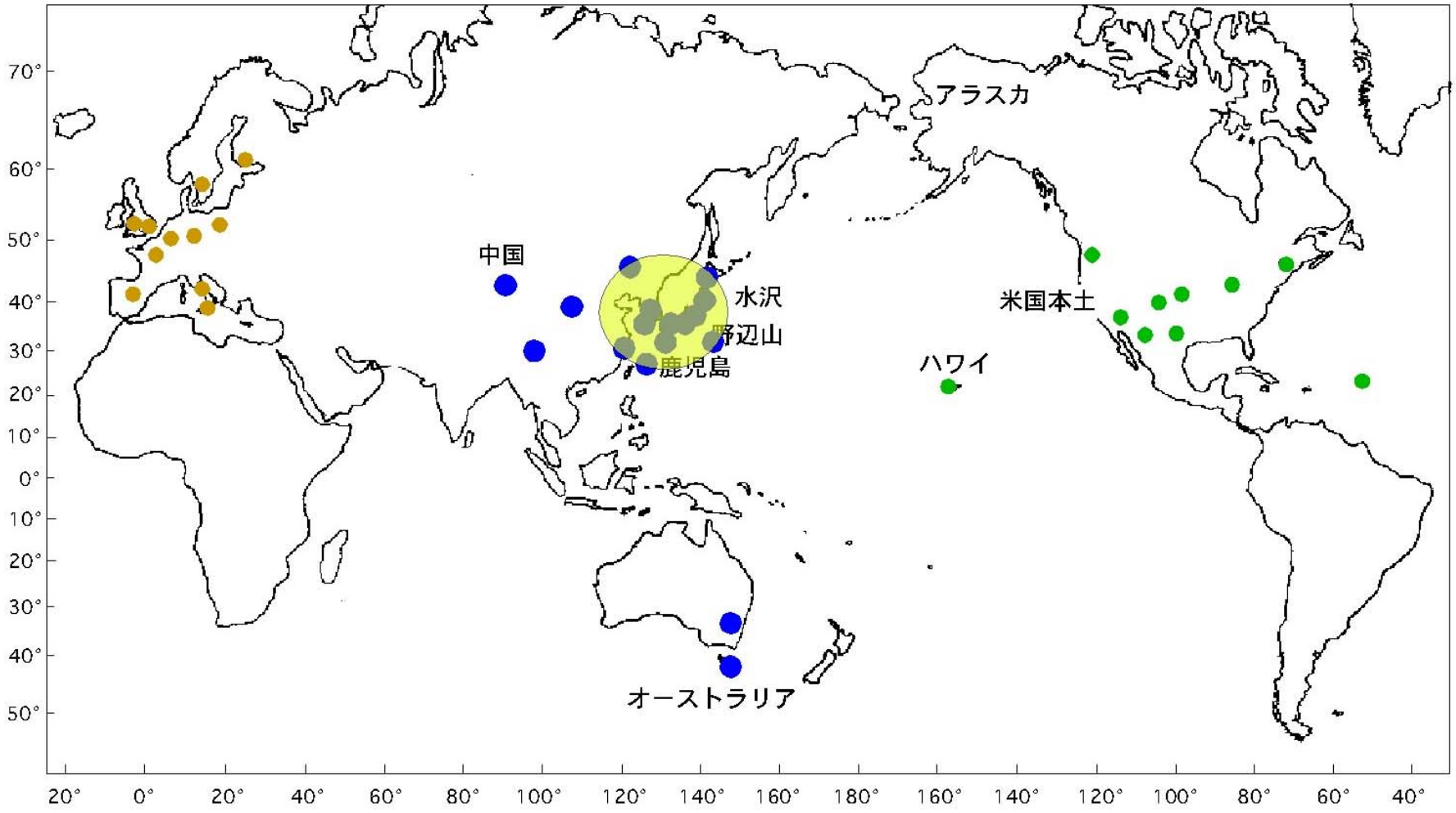
Stations at 43 GHz in 2007



Characteristics

- Densely distributed telescopes
- High frequency oriented
- Unique features
  - Dual beam system of VERA
  - Multi frequency receiver system of KVN
- A counterpart of VSOP-2
- Possible extension to the south

国際ＶＬＢＩ網


70°
60°
50°
40°
30°
20°
10°
0°
10°
20°
30°
40°
50°
20°
0°
20°
40°
60°
80°
100°
120°
140°
160°
180°
160°
140°
120°
100°
80°
60°
40°
アラスカ
中国
水沢
野辺山
鹿児島
米国本土
ハワイ
オーストラリア

East Asia VLBI Network

To realize the collaboration, the EA VLBI consortium and its standing committee are being established.

To establish the Committee

Discussion about the Committee at the AP-RASC04.

And …

- The Committee will have the first face-to-face meeting during the EAMA meeting on October 18-22 in Seoul.

Concluding remarks

- New telescopes and networks have been built in the East Asia region
- Consortium is being established in the East Asia region.
- The standing Committee is about to start.