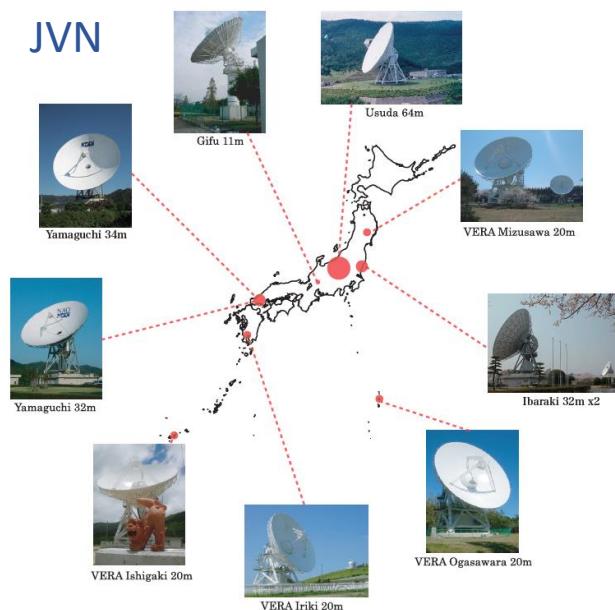
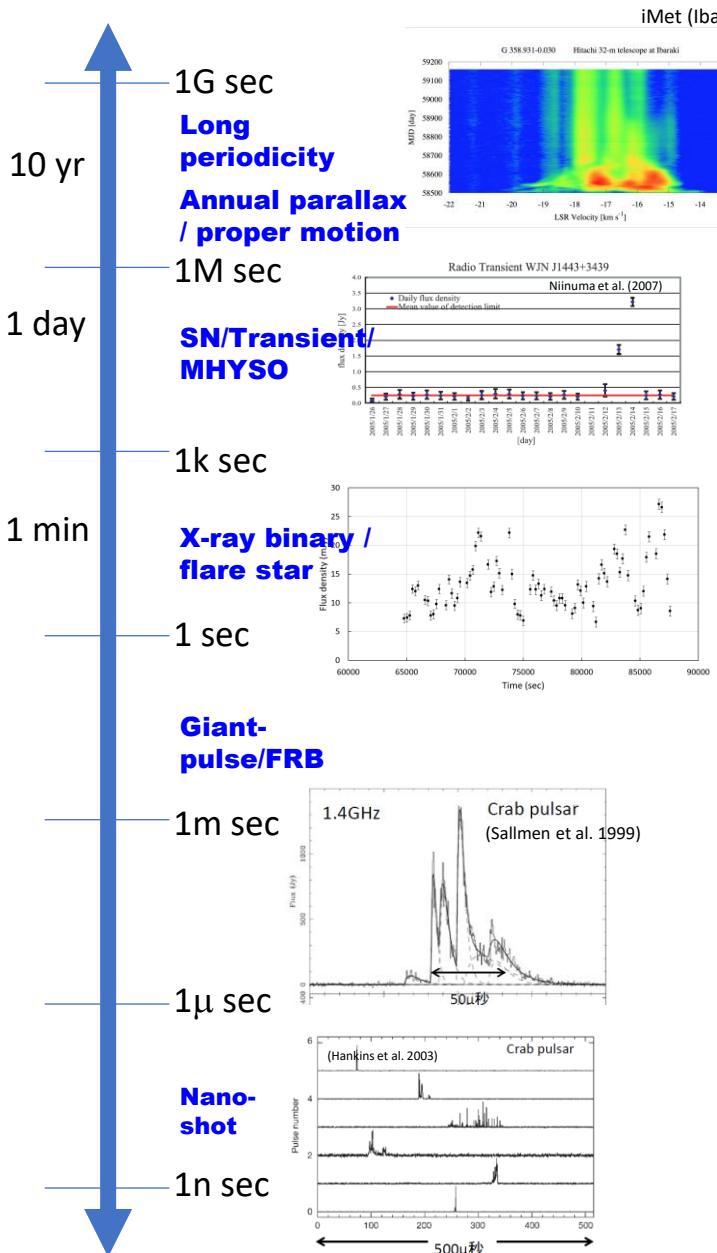


Exploring the Time-Varying Universe: From Nanoseconds to Gigaseconds with JVN

Kenta Fujisawa (Yamaguchi University)



- Collaboration of 6 Universities and Research Institutes
 - NAOJ (VERA), Ibaraki, Tsukuba, Gifu, OMU, Yamaguchi, Kagoshima University
 - Network
 - 9 telescopes (11m ~ 64m)
 - Baseline 50 - 2500 km
 - Frequency 6/8/22 GHz
 - Sensitivity 3 mJy (6/8 GHz, Ibaraki-Yamaguchi)
 - Key features
 - Including Non-imaging VLBI
 - Ibaraki-Yamaguchi VLBI
 - Yamaguchi Interferometer (YI)
 - EAVN observation (Ibaraki & Yamaguchi)
 - Takahagi 32m @ 22 GHz (2020~)
 - Hitachi 32m & Yamaguchi 32m @ 6 GHz (2021~)
 - Education
 - Graduate students lead more than half of the JVN observation, and play an important role in development of the observing system.
 - Single-dish
 - The single-dish observation time of the Ibaraki station exceeds 4000 hours / year.

Timeline of JVN

The timeline diagram illustrates the progression of the VLBI network over ten years, from 2023 to 2032. The horizontal axis represents time, and the vertical axis lists various scientific goals and telescope plans.

- Year:** The first column shows the year from 2023(R5) to 2032(R14).
- Goals:** The second column contains five numbered items representing different scientific goals:
 - ① Pulsar/Transient
 - ② AGN/X-ray binary
 - ③ High-Mass SF
 - ④ Evolved Star
 - ⑤ Cosmic-ray
- Telescope Plans:** The third column contains three items representing telescope plans:
 - VERA 2-beam
 - H₂O maser search / Gifu, VERA, Nobeyama
 - H₂O maser annual parallax/proper motion
- New Telescope Plan:** The fourth column contains three items representing new telescope plans:
 - ①Conceptual
 - ②Design
 - ③Construction

Annotations above the timeline indicate specific locations or networks:

- Yamaguchi, Ibaraki, Usuda (for Pulsar/Transient)
- Yamaguchi Interferometer, Ibaraki-Yamaguchi VLBI, East Asian VLBI Network (for AGN/X-ray binary)
- Ibaraki (for High-Mass SF, Evolved Star, and Cosmic-ray)

Large black arrows highlight the progression of the telescope plans and the conceptual design phase across the timeline.