

IVS Chair's Report

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During the years 2023 and 2024, after the end of the pandemic, the IVS was getting back to more normal operations. IVS meetings could finally be held in person again.

In June 2023, the 25th EVGA Working Meeting was held in Bad Kötzting, Germany. Beyond the three days of interesting scientific presentations and discussions, EVGA2023 also included a visit to the Geodetic Observatory Wettzell with guided tours of the observatory's abundant space-geodetic instrumentation. In connection with EVGA2023, also the 3rd IVS Retreat was organized at Wettzell.

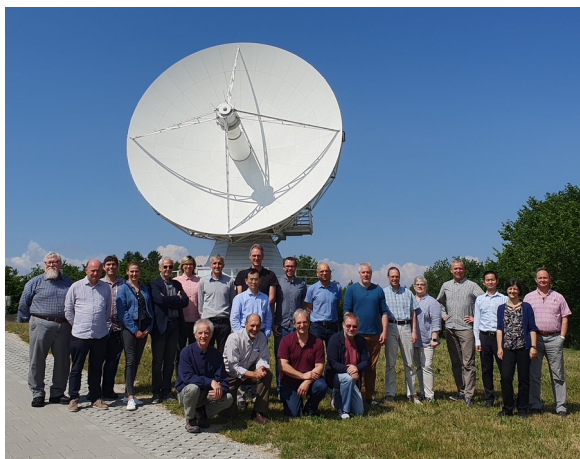


Fig. 1 The participants of the 3rd IVS Retreat, held in June 2023 at the Geodetic Observatory Wettzell, Germany.

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The retreat participants (see Figure 1) discussed under the theme “Quo vadis IVS?” the challenges of the IVS and strategies for the way forward. A summary of the outcome of the retreat is in preparation.

In March 2024, the 13th IVS General Meeting was held in Tsukuba, Japan. It was the second time that an IVS GM was held in Japan, highlighting the importance of Japan for the IVS. Figure 2 shows the nice banner that a group of students from Tsukuba prepared during the IVS GM2024 icebreaker reception. During the meeting, a large number of interesting scientific contributions were presented and discussed. In connection with the IVS GM2024 the 25th Anniversary of the IVS was also celebrated. The celebrations included greetings from the IVS parent and sister organizations, an overview of the IVS history, festive presentations, IVS honor awards, and a very nice banquet with excellent food, drinks, and entertainment.



Fig. 2 The banner created by Tsukuba students during the icebreaker reception of the IVS GM2024 in Tsukuba, Japan.

In October 2024, the 10th International VLBI Technology Workshop (IVTW) was held at MIT Haystack

Observatory, USA. During this interesting technical meeting it was also possible to visit the Westford radio telescope (see Figure 3), which is the currently largest telescope actively participating in VGOS observations.



Fig. 3 The Westford radio telescope, the currently largest telescope actively participating in operational VGOS observations.

VGOS operations during 2023 and 2024 still struggled with capacity restrictions concerning data transfer and data correlation. Because the turnaround times for VGOS sessions were still higher than expected and desired, 24-hour VGOS sessions were observed two or three times per month only, leading to 28 and 36 VGOS 24-hour sessions in 2023 and 2024, respectively. In 2023 the 24-hour VGOS sessions started at 18 UT, while in 2024 the starting time was moved to 12 UT.

The VGOS station network grew during the last two years: Katherine, Australia (KATH12M, Ke) joined in 2023, and Urumqi, China (URUMQI13, Um), Shanghai, China (SESHAN13, S6), and Hartebeesthoek, South Africa (HARTVGS, Hv) joined in 2024.

Three of the four IVS Directing Board Meetings during 2023 and 2024 could be held in person: IVS DB Meeting #48 at Wettzell Observatory, in connection with the EVGA2023 and the 3rd IVS Retreat; IVS DB Meeting #50 at Tsukuba, in connection with the IVS GM2024; and IVS DB Meeting #51 at MIT Haystack

Observatory, in connection with IVTW2024. Only IVS DB Meeting #49 was held as a virtual meeting.

Two IVS Working Groups were started or re-started in 2024. These are IVS WG 7 on Satellite Observations with VLBI, which was re-started after some years of inactivity, and IVS WG 9 on the VLBI Scale. Restarting IVS WG 7 was triggered to a large extent by the two recent initiatives by NASA and ESA to launch satellites that will allow an improved combination of VLBI with satellite techniques. These are the GRITSS mission by NASA and the Genesis mission by ESA. ESA also started a Genesis Science Exploitation Team (GSET) that involves a dedicated working group on VLBI. The launch of IVS WG 9 was motivated by the apparent drift of the VLBI scale previously detected in the production of the ITRF2020. WG 9 is investigating possible reasons for the scale drift.

The IVS technical development work focused primarily on the VGOS observing frequencies. On the one hand, test observations were performed to find optimum VGOS frequencies. The hope is to identify a suitable frequency setup that makes use of the full broadband capability of the VGOS systems, while avoiding interfering signals from active ground-based and space-borne transmitters. On the other hand, work has concentrated on achieving some kind of coordination or protection for the VGOS frequencies. This involves interaction with organizations such as the International Telecommunications Union (ITU) and the International Union for Geodesy and Geophysics (IUGG). An important point here is to raise awareness for VGOS, which is broadband and needs undisturbed access to cosmological signals. One step forward to raising awareness for VGOS was “IUGG Resolution 1: Improving Protection of Geodetic Observatories from Active Radio Services,” issued in July 2023.

For the upcoming years, the hope is to find suitable and undisturbed frequency sequences that can be coordinated internationally and will allow VGOS to develop further and flourish. The VGOS network is growing steadily, and we expect to welcome more VGOS stations to join operations in the near future. There is also the prospect that the turnaround time between performing observations and the availability of databases for postprocessing analysis can be reduced, so that more VGOS sessions can be observed.

In summary, I dare say that the IVS is doing well with good prospects to improve its operations and performance in the upcoming years.