

## **COMMISSION B4 “Radio Astronomy”**

Working Group “Global VLBI Alliance”

Chair: Dr. Zsolt Paragi, Joint Institute for VLBI ERIC, the Netherlands

### REPORT 2022

Very long baseline interferometry (VLBI) combines a number of distant radio telescopes to provide high-spatial-resolution images in the radio band. The highest resolution and sensitivity results are achieved by coordinated observations between various networks of radio telescopes, referred to as global VLBI. The goal of the Global VLBI Alliance (GVA) is to facilitate the flow of information between the various networks to harmonize technical developments, and to promote a global user community. The ultimate goal is maximizing the science impact of VLBI.

During the year 2022 the structure of the GVA Science Forum (GVAS) has been consolidated: it attracted new members, ready to play an active role in the working group. The role of the GVAS is to evaluate and foster the unique and complementary contribution of VLBI to astrophysical research. Its members are active scientists, not necessarily linked to any of the VLBI networks. There is a broad range of science topics that can be addressed with the VLBI technique. It has been decided to form a few thematic subgroups:

Pikky Atri (ASTRON) will coordinate actions for transients (galactic/extragalactic; "slow"/"fast") and compact objects (pulsars, magnetars, stellar black holes).

Francesca Panessa (INAF-Rome) will lead the discussion on galaxies and active galactic nuclei (AGN).

Tomoya Hirota (NAOJ) will oversee activities in stellar/astrometry VLBI, including masers.

Jimi Green (CSIRO) will lead VLBI techniques and instrumentation-oriented discussions on how certain science objectives could be reached and what developments are necessary (including astronomical and geodetic VLBI, as well as VLBI with the SKA1 telescopes).

With this structure we aim to initiate a community-wide discussion and we will feed back the results to various forums. These are primarily the GVA Directors Forum (GVAD), and the already existing technical forums (IVS TOW and the EVN TOG for example). We will keep the GVAS open to all IAU astronomers, and we will initiate consultations with the broader community as well.

At the end of 2022, Paco Colomer left JIVE and the Global VLBI Alliance. We are grateful for his work in kick-starting the Commission B4 GVA Working Group. As from 2023, the new lead to the GVAS and the new chair of the GVA Working Group is Zsolt Paragi (JIVE).