

Practical Radio astronomy techniques and Technology: a tool for astronomy education in Ghana.

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Introduction

In recent years, there has been a growing interest in radio astronomy as a tool for astronomy education in Ghana. Radio astronomy is a unique and powerful tool for studying the universe, as it allows us to observe objects and phenomena that are not visible in other spectrum. This is particularly useful in Ghana since currently a 32-meter satellite dish has been converted into a radio telescope. The study aims to report practical ways radio astronomy techniques and technology have been used to enhance astronomy education in Ghana. The report focuses on the use of small dish antennas, virtual interferometers, simulated data, etc. The use of these hands-on learning experiences has been used to promote scientific literacy and interest in science, technology, engineering, and mathematics (STEM) during community engagements and outreaches

Challenges

- Lack of Infrastructure
- Limited Access to Technology
- Lack of Trained Personnel
- Limited Funding:

Methodology

- Practical applications of radio astronomy techniques and technology in the context of astronomy education in Ghana.
- Give students access to available tools for data analysis

Use of small dish antennas



Figure 1: Using the Table Top Radio Telescope to Train Lecturers



Figure 2: Using the AVN Scaled Skills Transfer Telescope for training

Use of the Kuntunse 32 Meter Dish



Figure 3: Training on various components of the 32-meter dish

Use of Virtual Interferometric Tools

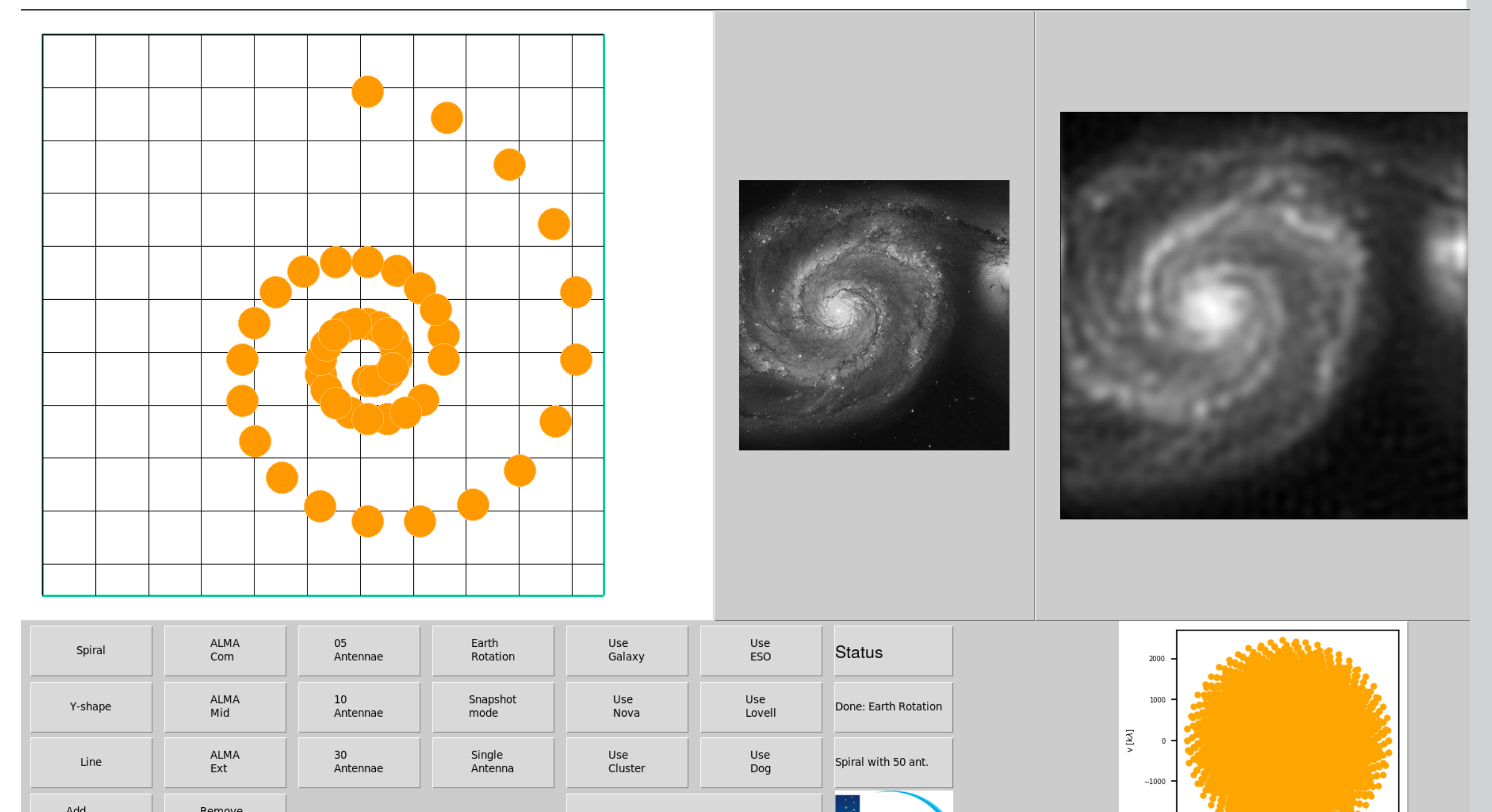
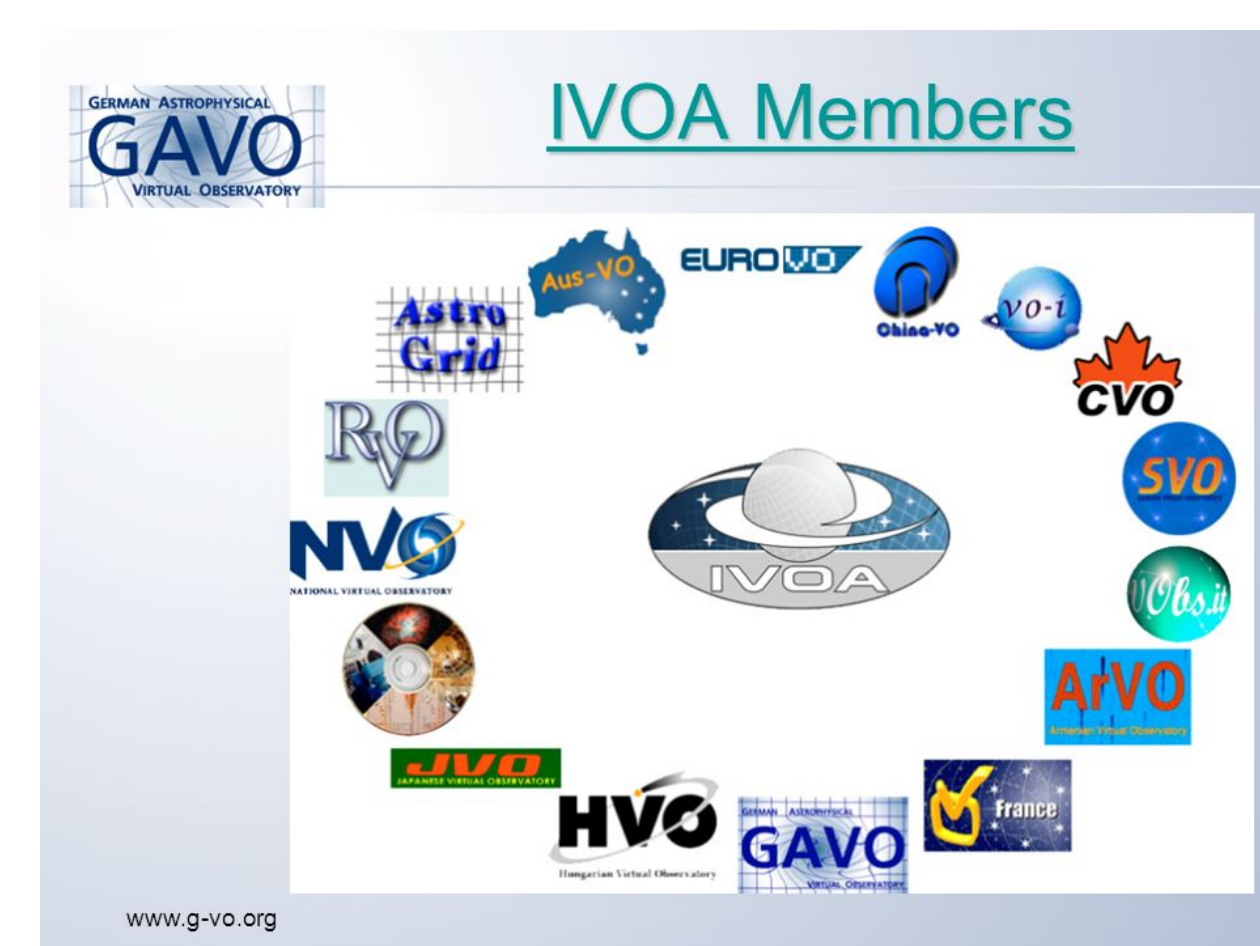


Figure 4: Using various Virtual Interferometers as an astronomy training tool

Use of Simulated Data and Virtual Observatories



List of virtual observatories from which instructors get data access

Conclusion

The study demonstrates the potential use of these instruments and techniques as powerful tools for enhancing astronomy education in Ghana. This provides a unique and engaging way to explore the universe and encourage the development of STEM education in Ghana.