

Radio JOVE Meeting Overview

Jim Thieman, et al.

July 2, 2014

Abstract:

At the start of the Radio Jove meeting there will be an introduction to the nature of the Radio Jove project and the purpose of the meeting as well as the flow of the presentations to be made. This includes what will be intended for the benefit of the audience as well as what the Radio Jove staff hope to learn by interactions with the attendees. There will be a brief journey through the history of Jove project together with some highlights through the years. Finally, some of the challenging questions for the future of Jove will be mentioned with the intent of discussion at the end of the meeting.

OUTLINE

- Purpose of the Meeting
- Overview of the Agenda
- University of Florida Radio Astronomy History
- Radio JOVE History
- Where We Are Today
- Future Questions

- General summary of the agenda and basic subjects for the mornings, afternoons, and evenings

- Purpose is to provide information to the audience about Radio Jove – how the technology has developed; what benefit we provide to education and science; where we stand presently: where we hope to go in the future

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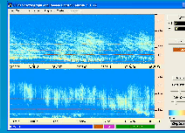
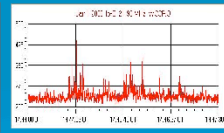
PURPOSE OF THE MEETING

DISCUSS:

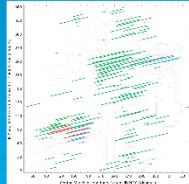
- Where we were:



- Where we are:



- Where we want to be:



The meeting will be used to discuss the past, present, and future of the Radio Jove project, but most of the time will be spent on the present and future plans.

AGENDA HIGHLIGHTS

Tuesday, July 1

Afternoon

Radio Jove Summary

Evening

Demonstrations of Equipment – Outside Observer's Dorm

Wednesday, July 2

Morning

Basics of Radio Jove Participation (Hardware, Software, Data Taking, Basic Underlying Science)

Afternoon

Advanced Hardware and Software

Evening

Demonstrations of Equipment – Outside Observer's Dorm

Discussion of the Project – Drake Lounge –
Software Questions and Answers with Jim Sky

Thursday, July 3

Morning

Specific Topics of Interest
(Spectrographs, Advanced Jupiter Science, Agawa Observatory, N-Events, Virtual Observatory Long Wavelength Array)

Afternoon

Additional Topics of Interest (Comet SL-9 Jupiter Impact, Solar Science, Spacecraft at Jupiter)

Discussion of the Future of Radio Jove

Evening

Demonstrations of Equipment – Outside Observer's Dorm

Discussion of the Project – Drake Lounge

Friday, July 4

Morning

Continental Breakfast in the Drake Lounge

I will summarize the general topics for the morning, afternoon, and evening sessions of the Radio Jove conference for the next couple of days and also mention the talk that had been given the day before by Chuck Higgins.

RADIO JOVE HISTORY



From the beginning there have been a number of dedicated volunteers.

Left to right: Jim Thieman, Wes Greenman, Dick Flagg, Jim Sky, Jim Gass, Bill Pine, Jim Green, Len Garcia, Chuck Higgins

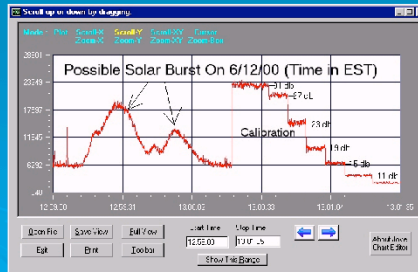
The first three and the last two knew each other from the radio astronomy program at the University of Florida.

IN MEMORIAM – BILL TAYLOR



Bill Taylor was one of the founders of Radio Jove as well. He and Bill Pine had started the INSPIRE Project years before Radio Jove and we benefitted greatly from their experience with INSPIRE as well as their contribution of resources.

IN MEMORIAM – RON PARISE



Ron Parise was also a University of Florida alumnus as well as a NASA astronaut and an avid radio amateur. He helped Radio Jove get started by providing the first chart recorder emulation software.

GOALS OF RADIO JOVE

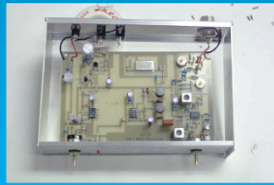
In 1998 the initial Radio Jove staff wanted to:

- Get amateurs involved in radio astronomy



- Aim for the middle/high school student level

- Enable scientific method hands-on experience



- Create a starter kit for \$100 or less

The history begins with the intentions that were in the minds of those who founded Radio Jove.

MILESTONES

- **Funded by NASA Director's Discretionary Fund**
- **Half-price beta testing by 10 Volunteers**
- **Hundredth kit distributed**
- **Radio SkyPipe and Radio Jupiter Pro software included**
- **NASA Teleconferencing enables Coordinated Observing**
- **Observation Archive and Jove Bulletin created**
- **Educational CD added**
- **Thousandth kit distributed**
- **Spectrographs and spectrograph software expand data view**

There have been many milestones through the years. Here are a few highlights. We are indebted to many volunteers who have contributed to the effort.

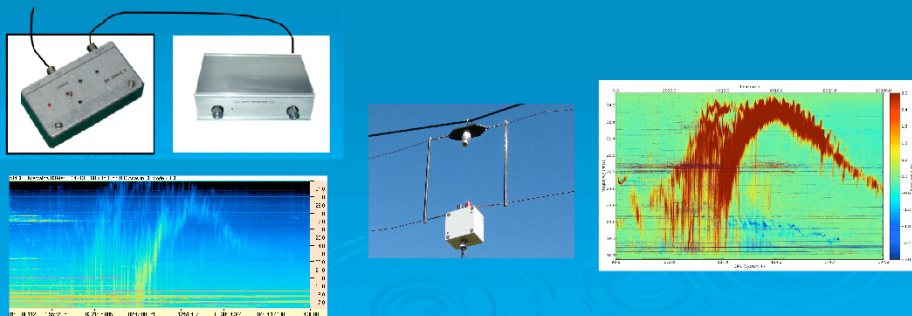
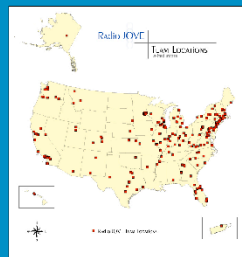
SARA Grants – Thank You



A major milestone was the generosity of SARA to offer grants to those in need of monetary assistance to participate in Radio Jove.

WHERE WE ARE

- Nearing 2000 kits distributed
- Encouraging calibrated observations
- Observing with many spectrographs
- Testing alternative antenna designs
- Cooperating with professional observers



There are a number of interesting directions for Radio Jove at the present time. We are approaching the point where we will be distributing our 2000th kit.

We are now trying to encourage the use of a calibrator with the Radio Jove kit and make it as easy as possible to use the calibrator to make measurements in scientifically meaningful units.

Spectrograph monitoring software is freely available for observing the results of a number of multi-frequency observatories.

Tests are being made on alternative types of antennas that might be used for observations. A close-up of a Twisted Folded Dipole (TFD) feed is pictured.

Members of the Radio Jove staff are working with Long Wavelength Array (LWA) radio astronomers to see how the two projects might benefit each other.



Presently there are at least 70 countries that have received one or more Radio Jove kits. Many have received far more than one kit.

FUTURE QUESTIONS

- Where does Radio Jove go from here?
- Have the educational purposes of Radio Jove been achieved?
- How do we get more students and younger participants involved?
- Are there simpler ways of being involved in Radio Jove?
- How much should NASA be a part of the project?
- Can we make a contribution to professional radio astronomy?
- Is the future in using spectrographs?
- Is additional funding essential for progress and, if so, how do we get it?

These questions are intended for a discussion at the end of the meeting. By displaying them at the beginning we hope that this will help to stimulate ideas as the meeting progresses.