



Bill Lord
SARA President

Melinda Lord
Editor

Whitham D. Reeve
Contributing Editor

Christian Monstein
Contributing Editor

Stan Nelson
Contributing Editor

Radio Astronomy is published bimonthly as the official journal of the Society of Amateur Radio Astronomers. Duplication of uncopyrighted material for educational purposes is permitted but credit shall be given to SARA and to the specific author. Copyrighted materials may not be copied without written permission from the copyright owner.

Radio Astronomy is available for download only by SARA members from the SARA web site and may not be posted anywhere else.

It is the mission of the Society of Amateur Radio Astronomers (SARA) to: Facilitate the flow of information pertinent to the field of Radio Astronomy among our members; Promote members to mentor newcomers to our hobby and share the excitement of radio astronomy with other interested persons and organizations; Promote individual and multi station observing programs; Encourage programs that enhance the technical abilities of our members to monitor cosmic radio signals, as well as to share and analyze such signals; Encourage educational programs within SARA and educational outreach initiatives. Founded in 1981, the Society of Amateur Radio Astronomers, Inc. is a membership supported, non-profit [501(c) (3)], educational and scientific corporation.

Copyright © 2013 by the Society of Amateur Radio Astronomers, Inc. All rights reserved

On the Cover- The **Stockert Radio Telescope** is a historical radio telescope on a 435 m high hill in [Bad Münstereifel](#), west of [Bonn, Germany](#). Germany's first radio telescope, with a diameter of 25 m, was inaugurated on 17 September 1956 on the Stockert.

Radio Waves

President's Page	3
Editors' Notes	4

News

SARA Western Conference Information	5
SARA Western Conference- Call for Papers	7
SARA Western Conference- Schedule	7
SARA Western Conference- Abstracts	8
Mark Your Calendar	10
Call for Nominations	10
News	11

Observations

Earth receives triple hit on 8 December 2013	12
Radio observations of atmospheric gravity waves with Callisto	13

Feature Articles

Cohoe Radio Observatory, Alaska ~ Part 2, Guyed Tower Foundation Construction- Whitham D. Reeve	17
Beta-Gamma-Delta (21 Oct 2013 - 27 Oct 2013)- Jan Janssens	24
A new Callisto solar radio burst station has been set into operation In Germany- Christian Monstein	29
Applying and Measuring Ferrite Beads, Part III ~ Measurements Kurt Poulsen, Tom Hagen and Whitham D. Reeve	35
The most volcanically active place is out-of-this-world!- Dr. Ethan Siegel	46
SID Monitoring with a RF-Space's SDR-IQ & SARA's SuperSID- Stan Nelson	48
Laser interferometer compared to a radio interferometer- Kenneth Kornstett	54
The Sun – Our Closest Star - By Jon Wallace	61
Quantum Tunneling: a Quick Discussion – by Jon Wallace	67
RASDR update- Paul Oxley, Bogdan Vacaliuc, David Fields, Carl Lyster, Stan Kurtz, and Zydrunas Tamosevicius	69
Book Review "Radio Science for the Radio Amateur" - Whit Reeve	72
Book Review "Understanding Your Antenna Analyzer, A Radio Amateur's Guide to Measuring Antenna Systems"- Whit Reeve	74
Great Projects to Get Started in Radio Astronomy	77

Membership

New Members	78
Membership Dues & Promotion	78

Administrative

Officers, directors and additional SARA contacts	80
--	----

Resources

New Web Links	81
Education Links and Resources	82
Online Resources	83
For Sale, Trade and Wanted	84