

MOUNTAIN SPARK GAPS



**NPARC—The Radio Club for the
Watchung Mountain Area**

**Website: <http://www.nparc.org>
Club Calls: N2XJ, W2FMI**

VOLUME 49 NO. 10 October, 2014

UPCOMING EVENTS

Regular Meetings

11/10 & 11/24

Mon. 7:30

NP Senior Citizens Center

Annual Holiday Luncheon

Saturday 12/6

Chimney Rock Inn

342 Valley Road

Gillette

Kid's Day

Sunday 1/4/15

Details to Follow

Meeting Schedule

Regular Meeting: 7:30—9:00 PM
2nd Monday of each month at the
NP Senior & Adult Center
15 East Forth Street
New Providence

Informal Project Meeting: 7:30—9:00 PM
4th Monday of each month
Same location

Everyone is Welcome
If a normal meeting night is a holiday,
we usually meet the following night.
Call one of the contacts below
or check the web site

Club Officers for 2014

President: K2MUN David Berkley
908-500-9740
Vice President: KC2WUF David Bean
973-747-6116
Secretary: KD2EKN Tim Farrell
908-244-6202
Treasurer: K2YG Dave Barr
908-277-4283
Activities: W2PTP Paul Wolfmeyer
201-404-6914

On the Air Activities

Club Operating Frequency
145.750 MHz FM Simplex

Sunday Night Phone Net
Murray Hill Repeater (W2LI) at 9:00 PM
Transmit on 147.855 MHz
With PL tone of 141.3 Hz
Receive on 147.255 MHz
Net Control K2AL

Digital Net
First & Third Mondays 9 PM
Details as announced.

Club Internet Address

Website: <http://www.nparc.org>
Webmaster K2MUN David Berkley
Reflector: nparc@mailman.qth.net
Contact K2UI, Jim

MOUNTAIN SPARK GAPS

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WB2QQQ Rick Anderson
WB2EDO Jim Brown

Climatological Data for New Providence for
September 2014

The following information is provided by
Rick, WB2QQQ, who has been recording daily
weather events at his station for the past
33 years.

TEMPERATURE -

Maximum temperature this September, 91 deg.
F (September 2,6)

Last September (2013) maximum was 93 deg.
F.

Average Maximum temperature this September,
76.7 deg. F

Minimum temperature this September, 44 deg.
F (September 23)

Last September (2013) minimum was 41 deg. F.
Average Minimum temperature this September,
56.7 deg. F

Minimum diurnal temperature range, 7 deg.
(62-55 deg.) 9/25

Maximum diurnal temperature range, 27 deg.
(87-60 deg.) 9/4

Average temperature this September, 66.7
deg. F

Average temperature last September, 64.0
deg. F

PRECIPITATION -

Total precipitation this September - 1.55"
rain.

Total precipitation last September - 1.81"
rain.

Maximum one day precip. event this Septem-
ber; September 16, 0.69" rain.

Measurable rain fell on 9 days this Septem-
ber, 7 days last September.

This September there were 3 days of 90 de-
gree or higher temperatures.

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Rick Anderson
10/6/14

243 Mountain Ave.
New Providence, NJ
(908)464-8912

rick243@comcast.net

Lat = 40 degrees, 41.7 minutes North

Long = 74 degrees, 23.4 minutes West

Elevation: 380 ft.

CoCoRaHS Network Station #NJ-UN-10



PRESIDENTS COLUMN

By K2MUN

October, 2014

The EZNEC tutorial, Part II, took place at the October 13th meeting. It was directed at a review of Part I and a more detailed look at some of the basic functions of EZNEC. This time Barry, K2JV, was at the controls and I was able to roam among the members who were working on PC's following along with the discussion. If you missed it, but are interested in the subject, I want to remind you that the built in tutorial is quite good and can be done using the free EZNEC software from W7EL that can be loaded onto any laptop very quickly. If you wish, you can download it yourself, before the next session. Just go to: <http://www.eznec.com/demoinfo.htm>. The free version doesn't expire. Modeling is limited to 20 segments which can model many simple antennas.

Barry's tutorial approach was quite different than using the help files in EZNEC itself. He reviewed the basic operations and then showed in more depth how the controls work starting with a dipole in free space and building up to a more realistic version of the antenna. He also introduced a discussion of how 'real' the simulations actually are by reviewing the results of simulating his own successful quad design.

The intent was to end with detailed design of a horizontal Loop antenna, but Barry only got to the initial introduction of the Loop. A detailed discussion of the Loop forms the heart of EZNEC Tutorial, Part III to be presented at the meeting on Monday October 27, which we hope has already taken place successfully (although after this column was written).

Barry's outline for Part II and Part III is:

I. INTRODUCTION

Review of functions in Main Control Panel

Setting defaults for Units, Frequency, etc.

Types of Grounds

Types of pattern projections (Elevation vs. Azimuth).

Far Field patterns

SWR Calculations

II. A 40 METER DOUBLET

Setting up the Antenna Structure

The x-y-z description

Antenna origin vs. height above ground

Setting up the WIRES table (lengths vs. end coordinates).

Number of Segments

Inserting a Source

Calculating patterns and SWR in Free Space

Set Ground to Free Space

Calculate Elevation Pattern (pick out Major Lobe).

Select Azimuth Pattern

Set Elevation Angle to Major Lobe

Calculate Azimuth Pattern

Calculate SWR over Frequency Range.

Point out: cosine structure, gain in dbi, beam width

Calculating patterns and SWR over real ground

Set Ground to Real

Calculate Elevation Pattern (pick out Major Lobe).

Select Azimuth Pattern

Set Elevation Angle to Major Lobe

Calculate Azimuth Pattern

Calculate SWR over Frequency Range.

Point out: cosine structure, gain in dbi, beam width

III. A 300 foot HORIZONTAL LOOP

Setting up the Antenna Structure

The x-y-z description

Antenna origin vs. height above ground

Set up a Horizontal Loop (inputs to WIRES table).

Number of Segments

Inserting a Source

Calculating patterns and SWR in Free Space

Set Ground to Free Space

Calculate Elevation Pattern (pick out Major Lobe).

Select Azimuth Pattern

Set Elevation Angle to Major Lobe

Calculate Azimuth Pattern

Calculate SWR over Frequency Range.

Point out: cosine structure, gain in dbi, beam width

Calculating patterns and SWR over real ground

Set Ground to Real

Calculate Elevation Pattern (pick out Major Lobe).

Set up Azimuth Pattern

Set Elevation Angle to Major Lobe

Calculate Azimuth Pattern

Calculate SWR over Frequency Range.

Point out: cosine structure, gain in dbi, beam width

IV. CONCLUSION

Things we have NOT done:

Naming and documenting files

Applying common sense to results

Scaling to adjust to desired frequency

Adjusting antenna height

I hope you had a chance to participate in the tutorial sessions. If not, and you are interested in antenna simulation, remember that there's also a lot to be learned by just playing with the program. Also, even if you did participate, it's worth taking the time to follow at least some parts of the online help since there is a lot we did not have a chance to cover in these sessions.

I also want to remind you of several upcoming events:

The November 24 meeting is our annual election meeting. Please plan to attend.

The NPARC Holiday Party will be at Chimney Rock Inn in Gillette on Saturday, December 6. Menu choices will be available soon!

Please plan to bring your 'significant other' and enjoy good cheer, the introduction of 2015 Officers and a great array of awards.

Kid's Day is just after New Year's on January 4th. This year we will probably try a new, much more comfortable, venue. Details to be announced shortly.

I look forward to seeing you all soon in person and on the air!

SCIENTIFIC TIDBITS

Our Sun's Hotter Sister

Stars are not born alone. Rather, they emerge from clouds of gas and dust in groups of up to 10,000 and then slowly scatter through space. For the first time, astronomers have identified a star that came from the same solar nursery as our sun, some 4.5 billion years ago. This stellar relative, located 110 light-years away in the constellation Hercules, is hotter and about 15 percent larger than our sun, and has no observable planets orbiting it. Finding and mapping these solar siblings could offer insights into the Milky Way's evolution and provide clues to why our solar system is hospitable to life. Because every star-forming cloud has a different chemical composition, astronomers look for stars with the same makeup as a way to group families. In this case, they studied 30 stars previously identified as possible solar kin, then reconstructed their paths through space. Only one matched. Says astronomer Ivan Ramirez of the University of Texas at Austin, "If you track their orbits back in time and find where they intersect, we can finally see in what part of the galaxy our sun was born." Only 110 light-years away, it is practically next door. Why did it take the astronomers so long to discover a star that size and that close? Ummm.

Antarctic Thaw Now Unstoppable

The continued melting of the West Antarctic ice sheet is progressing faster than expected, and the resulting rise in sea levels will have a global impact. The stark new findings point to a potential sea-level rise of up to 10 feet or more in the coming centuries. This increase in the global sea-level will threaten many major cities, including New York, London, Calcutta, Venice et al. Observational evidence shows that a large sector of the West Antarctic ice sheet has gone into irreversible retreat. The cause is stronger winds, possibly resulting from global warming, that are altering Antarctic Ocean currents and pushing warmer water under the coastal glaciers that form the boundary of the ice sheet. Untethered from the seabed, the glaciers melt more rapidly, allowing chunks of the 60,000-square-mile ice sheet to fall into the sea, adding millions of gallons of freshwater to the world's oceans. Studying satellite images and other data from the past 40 years, scientists were able to document the melting of six coastal glaciers. Says Thomas P. Wagner, who oversaw part of the research for NASA, "This is really happening, there's nothing to stop it now." If this is so, then the Lost City of Atlantis is going to have a lot of company in the next millennium.