



PEAKS & NULLS



MORRIS RADIO CLUB

Volume I, Issue IX
September 15, 2011

NO-CODE TECHNICIAN CLASS

The 2011 “No-code Technician Class” has begun. The class started Tuesday night September 13 at 7PM. The course is held at our usual meeting spot the Normandy Park School on Normandy Parkway. The class will meet once a week and will end on the Tuesday before Thanksgiving. As usual there is no cost for taking the course. It is suggested that you download a copy of “No-Nonsense Technician-Class Study Guide” by Dan Romanchik, KB6NU. The guide is available from KB6NU’s Ham radio

Blog <http://kb6nu.com/tech-manual/> in PDF , Kindle or Nook versions. The PDF version is free, the Kindle and Nook versions cost \$7.99. There is also a print copy available for \$11.99. The only other cost is the \$15 fee to the ARRL VEC who will administer the test during the last class session. It’s not too late to help your friends and relatives join the class. If you have any questions call Noel NO2EL at 973-887-2908.

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PROPAGATION NUMBERS

We all know that a high sunspot number is good for low band propagation and with real high sunspot numbers even six meters can go international, but what do all these various propagation numbers mean? This month we’ll start with the Sunspot Number.

The earliest record of sunspot observations dates from 364 BC by the Chinese astronomer Gan De. By 28 BC Chinese astronomers were recording Sunspot observations. The first recorded Sunspot observation in western literature was by the Benedictine monk Adelmus on 17 March 807. Up through the 12th century these and many other observations were misinterpreted as planetary transits until Galileo came up with the correct explanation in 1612.

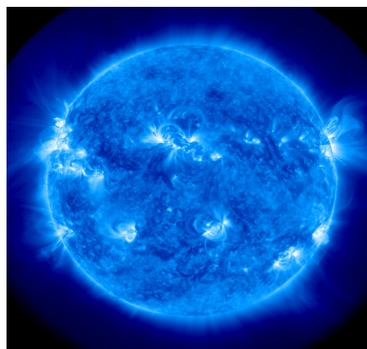
Although Galileo is usually credited with discovering sunspots using a telescope the first observations of Sunspots using a telescope were by Thomas Harriot in December 1610 followed by others in the same time frame. Galileo didn’t start showing Sunspots to astronomers in Rome using his telescope until the middle of 1611.

There weren’t many sightings of Sunspots in the late 17th century. It’s not that they weren’t looking, it’s just that they weren’t there. From 1645 to 1715 there were very few Sunspots. This period is also the time of the “Little Ice Age”. Edward Maunder theorized that the Sun had changed from a period in

which sunspots all but disappeared to a renewal of sunspot cycles starting in about 1700. This period of low solar activity is now known as the Maunder Minimum.

A sunspot is a cool area visible on the surface of the sun. In reality it is an area where magnetic loops come through the suns surface. Counting these sunspots is not an exact science. Looking

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The Sun taken with the SOHO 17.1 nm satellite showing the sunspot groups in two bands above and below the equator.



UPCOMING MEETINGS

October 17, 2011	Regular business meeting
November 21, 2011	Regular business meeting
November 22, 2011	ARRL VEC
December 19, 2011	Holiday Get-Together

SELECTED UPCOMING CONTESTS

TARA PSK Rumble Contest	0000Z—2359Z, Oct 1
California QSO Party	1600Z, Oct 1 to 2200Z, Oct 2
Oceania DX Context CW	0800Z, Oct 8 to 0800Z, Oct 9
Arizona QSO Party	1600Z, Oct 8 to 0600Z, Oct 9 and 1400Z– 2359, Oct 9
Pennsylvania QSO Party	1600Z, Oct 8 to 0500Z, Oct 9 and 1300Z-2200Z, Oct 9
North American Sprint RTTY	0000Z—0400Z, Oct 9
RSGB 80m Club Sprint, CW	1900Z—2030Z, Oct 12
10-10 Int. Fall Contest, CW	0001Z, Oct 15 to 2359Z, Oct 16
New York QSO Party	1400Z, Oct 15 to 0200Z, Oct 16
CQ Worldwide DX Contest, SSB	0000Z, Oct 29 to 2400Z, Oct 30

EQUIPMENT AVAILABLE

Henry K2DEU has a TS830 (needs a tube), Open Feed Line, Dipole, Masts and other items in very good condition that need new homes. For details contact Henry.



PREDICTED SUNSPOT NUMBER AND RADIO FLUX FOR OCTOBER 2011

*****SUNSPOT NUMBER*****

PREDICTED	HIGH	LOW
70.0	80.0	60.0

*****10.7 RADIO FLUX*****

PREDICTED	HIGH	LOW
123.0	132.0	114.0

MEETING MINUTES

There was no August 2011 meeting of the Morris Radio Club. As is our custom we had a get-together at Atlanta Bread in Morris Plains for anyone who would like to attend. We had ten members and one spouse in attendance

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through filtered binoculars you might be able to see some of the bigger spots, but nowhere close to how many a high powered telescope could see. A telescope in space could see even more. There are two official sunspot numbers in use. The daily "Boulder Sunspot Number", is computed by the NOAA Space Environment Center using the Wolf Number $R=k(10g+s)$ where R equals the sunspot number, g is the number of sunspot groups on the solar disk, s is the total number of individual spots in all the groups and k is a variable scaling factor that accounts for observing conditions and the type of telescope. The Wolf Number (also known as the International Sunspot Number, Relative Sunspot Number or Zurich number) was originated by Rudolf Wolf in 1849 in Zurich Switzerland and bears his name (or place). This system is used because it compensates for variations in observing small sunspots (most groups have 10 sunspots) but, this is where a lot of confusion takes place. If you look at the formula you multiply the number of sunspot groups by 10 and then add the number of individual spots. So if we have no sunspots then the number is zero but if we have only one sunspot then the number is 11. One group with one spot. Ten times one plus one. So just by looking at the Sunspot Number you can't tell how many individual Sunspots there are. We only know that the higher the number the better because that means a more active Sun and better propagation. The second index, the "International Sunspot Number" is reported daily by the Solar Influences Data Center in Belgium. Both the indexes are calculated from the Wolf formula, but they use data from different observatories. Generally if you divide either

of the sunspot numbers by 15 you'll get the number of sunspots that you can see with a small telescope.

From looking at the monthly averages of sunspots over the years we can see that the number of sunspots varies with an approximate 11 year cycle. After observing the Sun for 17 years Samuel Heinrich Schwabe discovered the solar cycle in 1843. Our old friend Rudolf Wolf took these and other observations and followed cycles back to 1745 and eventually back to the earliest observations of sunspots by Galileo and his contemporaries. It was thought that there were 28 cycles between 1699 and 2008 with an average length of 11.04 years but, recent review has showed that the longest cycle (1784-99) was actually two cycles so the average length is only 10.66 years. The shortest was 9 years long and the longest 14 years. Wolf established the numbering scheme using the 1755-1766 cycle as number 1.

The sunspots do not appear at random on the sun but are concentrated in two latitude bands one on either side of the equator. These bands first form at mid-latitudes, widen and then move toward the equator as each cycle progresses. So how do we know when a new cycle has started? Well it turns out that the magnetic polarity of the sunspots change with each cycle. So when they see the first high latitude sunspot group with a reversed magnetic polarity compared to the present cycle, then we're off and running on a new cycle.

Next month the Solar Flux along with the A and K indexes.

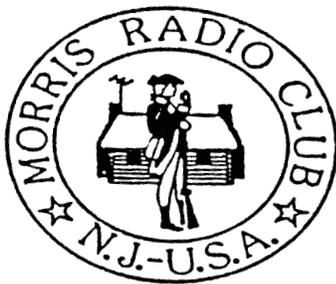


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THE MORRIS RADIO CLUB IS AN ORGANIZATION OF AMATEUR RADIO OPERATORS WHICH HAS BEEN IN EXISTENCE FOR OVER SIXTY FIVE YEARS. AS A HOBBY, AMATEUR RADIO SERVES AS A PUBLIC RESOURCE FOR COMMUNICATIONS AS WELL AS AN EDUCATIONAL EXPERIENCE.

ALTHOUGH MANY WHO BECOME INTERESTED IN AMATEUR RADIO ARE INVOLVED IN AN ELECTRONICS RELATED FIELD, THE HOBBY APPEALS TO A WIDE VARIETY OF INDIVIDUALS.

THE MEMBERSHIP OF THE MORRIS RADIO CLUB IS A DIVERSE GROUP MADE UP OF MEDICAL, BUSINESS, EDUCATION, AND LAW ENFORCEMENT PROFESSIONALS, AMONG OTHERS, WHOSE COMMON INTERESTS ARE COMMUNICATION, EDUCATION, AND PUBLIC SERVICE.

HAMFEST CALENDAR

October 1

Washington Township (Bergen County), NJ Bergen Amateur Radio Association (BARA)

Westwood Regional High School, 701 Ridgewood Road, Washington Township, NJ 07676

Rt. 17 North or South Exit the highway at Linwood Avenue East. Follow Linwood Avenue to the end. Make a left onto Pascack Road. At the first traffic light you will see The Bacari Restaurant diagonally to your left. Make a right on to Ridgewood road and continue 1/4 mile to the high school, on your right.

<http://www.bara.org>

Cost \$6; Vendors \$15 per space

Opens 8AM