THE AERO AERIAL

The newsletter of the Aero Amateur Radio Club
Middle River, Md
Volume 7 Issue 4
April 2010

Editor Frank Stone AC3P

ABOUT THE AERO AMATUER RADIO CLUB

Meetings: First and Third Wednesdays at 7:30 pm at Coffman's Diner
(Middle River and Orem's Rd.)

Nets: See Local Area Net Schedule

Repeaters: W3PGA (147.24 MHz - / 449.575 MHz -)

WEBSITE: www.aeroarc.us

LOCAL AREA NETS

Day	Time	Frequency (MHz)	NET NAME
Daily	9 – 10 am	147.03	ORIOLE Net
Daily	5:30– 6 pm	3.820	Maryland Emergency Phone Net
Daily	6:30 – 7 pm	146.670	Baltimore Traffic Net
Daily	7 pm and 10 pm	3.643	Maryland/DC/Delaware Traffic Net
1st Tues	7:30 pm	145.330	Baltimore ARES Net
2nd Tues	7:30 pm	146.670	Baltimore County RACES Net
2nd Wed.	8 pm	28.445	AERO ARC Net
4th Wed	8 pm	147.240	AERO ARC Net
5th Wed.	8 pm	449.575	AERO ARC Net

Net Reports

2 Meter Net: WB3FMT(NCS) AC3P KA3SNY KB3JDE KM4ZRW
10 Meters: WB3FMT(NCS) K3ROJ AC3P KA3SNY

Station Activities

W3VRD checked into the 2 meter repeater from Florida via the internet. Congrats to **AC3F** on 38 years of hamming. Aero pro-contester, **ND3D**, worked 3 count 'em 3shifts in an 18 hour stretch at **W4RM** in Va during the ARRL DX contest. Only 15 days and **KB3PGN** will be free from the Madness in Annapolis.

Geomagnetic Propagation

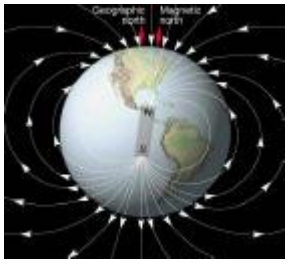
by Juste Pour Rideaux F1OOL
translated by AC3P

Most amateurs are familiar with sky-wave propagation and how the different layers of the ionosphere will enhance the distance a signal travels depending on the frequency and time of day. We also know that the higher HF frequencies are dependent upon the sunspot cycle. It is the dearth of sunspots over the last few years that lead this write to investigate alternative means by which to send a radio signal.

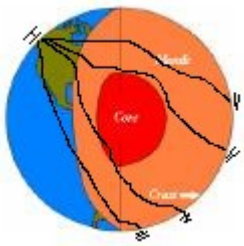
As a child I recalled having a small crystal radio set. It did not have any means of connecting an outdoor antenna. All one had to do was connect a wire to a radiator pipe and voila the sounds of radio stations came flowing through the earpiece.

The memory of that experience got me thinking. That connection to the radiator pipe ran into the earth at some point. Perhaps it would be possible to use the Earth as a means of propagation. After all the Earth has a strong magnetic field due to the rotation of its molten core at the center of the planet. One could point an antenna at the ground, feed the antenna with a signal. The magnetic field would then guide the signal around the molten core to an antenna, also pointed at the ground to pick up this signal at the other end.

There are several advantages to using the Earth's magnetic field for propagation. First the magnetic field is always there regardless of time of day, month or year. Second, it is relatively constant. There is no 11 year cycle. Finally with antennas pointed earthward, there is no need for large towers.



Earth Magnetic Field



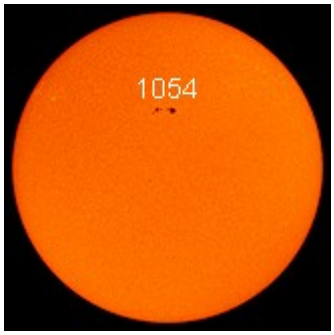
Signals from transmitter are bent around the core by the magnetic field.

The amount of refraction of the transmitted signal by the magnetic field can be determined from the following equation:

$$\oint_c \boldsymbol{\varepsilon} \cdot d\mathbf{l} = -\int_s \frac{\partial \boldsymbol{\mathcal{B}}}{\partial t} \cdot d\mathbf{s}$$

My preliminary tests shown a very quiet noise level on all the bands due to the elimination of atmospheric noise. What is needed are additional stations to set up ground-directed antennas to perform a two-way communications test. Interested parties my contact me via email to f100l@frrl.net.fr

Ole Sol Awakening



Could this be it? We thought so before but were disappointed. We have stared at a blank Sun for several years now. But things may be turning around this time.

According to the spaceweather.com website, since 2004 there have been 722 days of blank sun. Last year claimed 260 of them. Since the beginning of this year, there have been only 2 days of no spots. At this writing the sunspot count is at 39.

The bands have been showing some improvement too with openings on 15, 10 and 6 meters reported.

Hopefully that bright ball of glowing gas in the sky isn't playing an April Fool joke on us.

Looking for Help

Martin Airport Special Event

This year marks the 80th Anniversary of Martin State Airport. In 1929 Glenn L. Martin purchased the land in Middle River to locate his aircraft company and with it an airfield to test the company's prototypes.

The original airfield in 1930 was a landing strip that ran parallel to Eastern Boulevard. With the expansion of the Martin Co. plant the alignment of the airstrip was changed and the present control tower was built. The airfield was the largest privately owned airport in the world.

During its time as a company testing strip, such aircraft as the B-26 Maurauder, B57D Canberra, and Martin 202 Airliner were seen on the tarmac. Departing also from this airfield was the "Pregnant Guppy" Air Force cargo plane with Gemini-Titan rockets bound for Cape Canaveral.

As time passed the airport was sold to the State of Maryland and now is used for General Aviation, Lockheed-Martin Corporate flights, Maryland State Police Medivac, Baltimore City and County Police choppers, local TV helicopters and is home to the Maryland National Air Guard.

In celebration of the airport's great history, the Aero Amateur Radio Club will hold a special event on the weekend of May 1-2. The club has obtained permission to use the callsign W2W for this weekend event. Operators are needed to help keep the call on the air. Contact Frank AC3P either at a meeting or by email to ac3p21220@yahoo.com.

From the Skies over Mt. Essex

SKY Events for April 2010

April 5th Last Quarter

April 8th Mercury greatest Eastern elongation 19° from the Sun.

April 14th New Moon

April 15th Moon passes 1.5° N of Mercury at 7pm EDT.

April 21st First Quarter Moon

April 22 Lyrid Meteor Shower peaks before dawn. About 20 meteors per hour. 1 am EDT look just West of Vega in Lyra.

April 28th Full Moon Aka "Pink Moon"

Planet Lookout

Mercury – Low in the West at sunset. Mercury is to the right of Venus maximum elongation on the 8th.

Venus - In the West after Sunset (very bright).

Mars – High in the South at Sunset.

Jupiter- Low in the East at Dawm.

Saturn- High in the Southeast after Dusk.

Full Moon Names and Their Meanings from Farmers Almanac's©

Full Moon names date back to Native Americans, of what is now the northern and eastern United States. The tribes kept track of the seasons by giving distinctive names to each recurring full Moon. Their names were applied to the entire month in which each occurred. There was some variation in the Moon names, but in general, the same ones were current throughout the Algonquin tribes from New England to Lake Superior. European settlers followed that custom and created some of their own names. Since the lunar month is only 29 days long on the average, the full Moon dates shift from year to year. Here is the Farmers Almanac's list of the full Moon names.

Full Wolf Moon – January
Full Snow Moon – February
Full Worm Moon – March

Full Pink Moon – April

Full Flower Moon – May
Full Strawberry Moon – June
The Full Buck Moon – July
Full Sturgeon Moon – August
Full Corn Moon – September
Full Harvest Moon – October
Full Beaver Moon – November
The Full Cold Moon; or the Full Long Nights Moon - December

The 2010 Chesapeake Bay

ms challenge walk

May 22 and 23, 2010

Communications Support

Request for Amateur Radio operator assistance for annual Public Service Event:

March 12, 2010

To any and all licensed amateur radio operators who can help,

Many of you may be aware that in over the past few years, I have recruited and coordinated ham radio operators to help provide communications support for the Maryland Chapter of the National MS Society's annual Chesapeake Challenge Walk.

Again this year, the MS Society will be holding the Chesapeake Challenge Walk in conjunction with their Bike MS Chestertown Challenge Bike Tour. The Bike Tour is another annual MS fundraising event for which I have helped to provide communications for a number of years. I have again been asked to help coordinate Amateur Radio Communications in support of the Challenge Walk portion of this year's event.

The overall purpose of these events is to raise awareness of and to raise funds for research that will help to treat and hopefully find a cure for Multiple Sclerosis. As an EMT and through working public service events for the MS Society as a ham radio operator over the years, I have seen some of the effects of this devastating disease and I firmly believe that this is a truly worthwhile cause. For more information about the walk and or bike tour itself, feel free to visit the MD Chapter of the MS Society's website at:
http://www.nationalmssociety.org/chapters/MDM/index.aspx

This year's Challenge Walk will again be a 2 day 50 Kilometer event scheduled to be held Saturday, May 22nd on Kent Island, MD which has a number of good walking and biking trails to provide a safe area for walkers and conclude Sunday, May 23rd in the Chestertown, MD area. For those who helped in 2009, the route and stops for Day 1 will be nearly identical to last year's route.

You can help! Because of the remote operation on Kent Island on Saturday we will need to have additional operators working separately from the Bike Tour in and around Chestertown. I am looking for hams to help out with either fixed positions at rest stops or bicycle mobile and a few mobiles along the course for Saturday. I will need at least 2 somewhat more experienced operators for the Net Control station. I would also like to use a few Shadows for key event staff. I am also planning for the use of APRS this year to track various logistics and key figures as well as mobile operators.

I will need operators for both days of the event again this year!

Any licensed operator, with or without experience in working public service events, is welcome to come put in as much or a little time as available. To ensure that we will have enough people to cover all positions needed, we could use as many hams as we can get. Each radio operator that comes out to help will get a T-shirt and meals are provided.

There will be a dinner and festivities held Saturday evening as well as the lunch and closing ceremony on Sunday at Washington College in Chestertown and all volunteers are invited to join in. The MS Society people always put together a great event with a lot of good times and good food and camaraderie. The hams always seem to have a good time as well, I know I always have.

If you are interested in helping out with either or both days of this fun and exciting Public Service Activity or if you have any questions, please contact me at: kb3cjt@arrl.net or drollhauser@verizon.net or call me at 443-889-6799 or Ian Millett, N3CVA the overall communications coordinator for the event n3cva@hotmail.com or publicservice@bratsatv.org, or call him at 410-303-1412.

Please pass this message on to anyone you think might be interested in helping even if you are unable to do so yourself. A printable copy of this e-mail is attached as an MS Word 2007 file and a PDF version to print and share with clubs and other operators.

I thank you all in advance for your help with this event and sharing this request.

73's de,

Dave Rollhauser KB3CJT

April 2010

				Aero Electronics Customer Appreciation Day Free ICOM 7200 1	2	3
4	5	6	Meeting Coffman's 7:30 pm 7	8	9	York Hamfest Spring Grove Pa www.yorkhamfest.org 10
11	12	13	10 Meter Net 28.445 Mhz 8 pm 14	15	16	Delmarva Hamfest www.radioelectronicsexpo.com 17
18	19	20	Meeting Coffman's 7:30 pm 21	22	23	24
25	26	27	2 Meter Net 147.24 Mhz 8 pm 28	29	30	