CQ CHATTER

APRIL 2016 VOLUME B16 •ISSUE 2

WOOD COUNTY AMATEUR RADIO CLUB

Over the Horizon Radars on HF Bands

from ARRL Letter

The International Amateur Radio Union Region 1 (Europe/Africa) Monitoring System (IARUMS) has reported a spate of over the horizon (OTH) radar signals on various Amateur Radio HF bands -- exclusive and shared. Many of these signals are being heard outside of the Region 1 confines.

A 50 kHz wide Russian OTH radar has been heard in the evening on 80 meters, often in the CW part of the band. An "often long-lasting" Russian OTH signal about 13 kHz wide is being heard on the 7000-7100 kHz segment of 40 meters, while some digital traffic (FSK or PSK), and a "Codar-like radar from the Far East" are being heard in the 7000-7200 kHz segment as well as non-amateur CW transmissions.

The same OTH radar being heard on 40 meters also is appearing on

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Program for April Meeting

The April business meeting will feature a presentation by Bill Linebaugh, who was employe as an engineer at Heathkit Company, back in the heyday of kit building.

Bill will share a number of his experiences while working at Heathkit. Attendees are encouraged to bring in any or all of the Heathkit equipment that they may have constructed.

The April meeting will be held at the Sheriff's Training Room on Monday, April 11th, at 7:30 pm. ■

Our Sun Could Get Angrier than We Think

from www.gizmag.com

Fresh research has revealed that powerful solar storms known as "superflares" are generated via the same process as common solar flares produced by our Sun. These superflares are capable of posing a signifi-

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NET CHECK INS

Mar 8 Traffic: 0

N1RB (NCS)
K8OVO
K8BBK
K8JU
KD8RNO
WD8JWJ
N8VNT
KC8EKT
KD8VWU
KD8NJW
WB8NQW
KE8CUZ
KE8CVA
KD8WZK/P
WD8LEI
KC8NKC (16)

Mar 15 Traffic: 1

K8OVO (NCS)
KD8NJW
WD8LEI
KD8RNO
WD8JWJ
KE8CVA
WB8NQW
KD8VWU
K8JU
KE8CUZ
N8YAE (11)

BRAIN TEASERS

1. Where should the radial wires of a ground-mounted vertical antenna be placed?

a.) as high as possible above the ground

b.) parallel to the antenna element

c.) on the surface of the Earth or buried a few inches below the ground

d.) at the center of the antenna

2. What standing wave ration will result when connecting a 50 ohm feed line to a non-reactive load of 10 ohms?

a.) 2:1

b.) 1:1

c.) 50:50

d.) 5:1

3. What is the total bandwidth of an FM phone transmission having 5 kHz deviation and 3 kHz modulating frequency?

a.) 3 kHz

b.) 5 kHz

c.) 8 kHz

d.) 16 kHz

April Contests

The contest lineup for the month of April is given below. Please note that the WARC bands (60, 30, 17 and 12 m) are never open to contesting.

Apr 2-3	*1400 to 0200 Z*	80 m to 10 m
Mississippi QSO Party		**all modes**
Apr 2-3	*1400 to 2000 Z*	160 m to 10 m
Missouri QSO Party		**all modes**
Apr 2-3	*1500 to 1500 Z*	160 m to 10 m
SP (Poland) DX 'test		**CW-SSB**
Apr 9-10	*1200 to 1200 Z*	160 m to 10 m
OK/OM (Czech/Slovakia) DX 'test		**SSB**
Apr 9-10	*1400 to 0200 Z*	160 m to 10 m
New Mexico QSO Party		**all modes**
Apr 9-10	*1800 to 2359 Z*	160 m to 10 m
Georgia QSO Party		**all modes**
Apr 16-17	*0600 to 0559 Z*	80 m to 10 m
Worked All Provinces (China)		**CW-SSB**
Apr 16-17	*1400 to 2300 Z*	160 m to 10 m
Nebraska QSO Party		**all modes**
Apr 16-17	*1600 to 0400 Z*	80 m to 10 m
Michigan QSO Party		**all modes**
Apr 16-17	*1800 to 1800 Z*	160 m to 10 m
Ontario QSO Party		**all modes**
Apr 16-17	*1800 to 1800 Z*	160 m to 10 m
North Dakota QSO Party		**all modes**
Apr 16-17	*2100 to 1700 Z*	160 m to 10 m
YU (Serbia) DX 'test		**CW**

April Contests-continued

Apr 23-24	*1300 to 1259 Z*	160 m to 10 m
Helvetia 'test		**all modes**
Apr 23-24	*1200 to 1200 Z*	80 m to 10 m
SP (Poland) RTTY 'test		**RTTY**
Apr 30 -May 1	*1600 to 2159 Z*	40 m to 10 m
Florida QSO Party		**all modes**

radar---from p.1

20 meters, along with digital traffic in FSK or PSK and on CW and broadband OTH radar signals from China. Some monitoring reports are intriguing, such as this one on 14.280 MHz from IARU Region 1 Monitoring System Coordinator Wolf Hadel, DK2OM: "Female voice with encrypted msgs -- figures -- 'SZRU' = Foreign Intelligence Service of Ukraine in Rivne -- every Wednesday at 1005 UTC."Broadband OTH radars from China, Australia, Cyprus, and Turkey have been monitored in 15 meters. On 10 meters, radars from Iran with FM CW and different sweep rates have been monitored, as well as fishery buoys on CW, and taxi operations on voice from Russia.

Voice traffic from fishing operations has been heard on all or most HF bands, as have a variety of broadcasters, including the third harmonic of Radio Tajik (4765 kHz) on 14.295 MHz, Radio Taiwan and Myanmar Radio, both on 7.200 MHz, and Radio Hargeysa in Somalia on 7.120 MHz.

The February 2016 IARU Region 1 Monitoring System newsletter offers more details. There is an online archive of past issues. -- *Thanks to the IARU Region 1 Monitoring System*

Interested in Satellites?

If so, you should learn more about AMSAT. The *Radio Amateur Satellite Corporation* (as AMSAT is officially known) was first formed in the District of Columbia in 1969 as an educational organization. Its goal was to foster Amateur Radio's participation in space research and communication. AMSAT was founded to continue the efforts, begun in 1961, by Project OSCAR, a west coast USA-based group which built and launched the very first Amateur Radio satellite, OSCAR, on December 12, 1961, barely four years after the launch of Russia's first Sputnik.

Today, the "home-brew" flavor of these early Amateur Radio satellites

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WCARC Weekly Net

Tuesdays at

2100 EDST/EST

147.18 MHz 67 Hz PL

Net Control Roster

Mar 29	KD8NJW
Apr 5	KD8VWU
Apr 12	N1RB
Apr 19	K8OVO
Apr 26	W8PSK
May 3	WB8NQW

NEXT MEETING

Business Meeting

Monday, April 11

TIME: 7:30pm/7:00 EB

PLACE: Sheriff's Training Room

S. Dunbridge & E. Gypsy Lane Rds.

Bowling Green, OH

DON'T FORGET!

10 meter informal net meets Sunday @ 2030 EST/EDST on 28.335 MHz

It's time to renew- dues for 2016 payable to: WCARC P.O. Box 534

NET CHECK INS

Mar 22 Traffic: 0

WB8NQW (NCS)
K8BBK
KD8NJW
KD8RNO
KG8FH
N8VNT
WD8LEI
KC8EKT
KE8CUZ
KD8VWU
NM8W
K8JU
KE8CVA
WD8JWJ
N1RB
K8OVO
N8YAE (17)

Mar 29 Traffic: 0

KD8NJW (NCS)
KD8RNO
K8BBK
WD8LEI
N8VNT
WD8JWJ
KC8EKT
WB8NQW
N1RB
KE8CUZ
KD8VWU
KE8CVA
KC8NKC
N8HML
K8JU
WD8PIC (16)

sun---from p.1

cant threat to our advanced technology, and seriously harming Earth's protective ozone layer.

Earth's atmosphere is bombarded by charged particles from the Sun on a constant basis. Periodically, our star throws off what is known as a solar flare. Most of the time the only visible effect of these solar storms are stunning aurora that manifest around Earth's higher latitudes. However, one event in mankind's recorded history highlighted the significance of the threat posed by powerful solar activity.

On Sept. 2, 1859, Earth's magnetic field was struck with the first particles cast out by a titanic solar storm that had exploded from our Sun the previous day. The interference caused by the event threw the worldwide telegraph network into disarray, and based on ice core samples retrieved from Greenland, caused significant damage to Earth's protective ozone layer. The powerful storm is now referred to as the Carrington Event.

Should such an eruption occur today, its ability to interfere with our electronics and power supplies would cause a far greater amount of damage owing to our complete reliance on technology in almost every facet of our lives.

Four years ago the Kepler Space Telescope discovered an entirely new breed of solar activity – a class of solar storms known as superflares, that are believed to be on average 10,000 times more powerful than the Carrington Event of 1859.

The vast majority of the 100,000 stars observed to experience the flare events as part of the study boast a magnetic field significantly stronger than our Sun. However, around 10 percent were on a par, or even hosted a magnetic field weaker than that of our star.

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sun---from p.6

The international team of astronomers made use of the Guo Shou Jing telescope located in the Hebei Province, China, in order to ascertain whether the powerful solar storms were generated via the same method as standard solar flares.

Common solar flares manifest themselves when a magnetic field on the surface of a star collapses, releasing vast amounts of magnetic energy and stellar material that goes on to interact with satellite bodies such as our home planet.

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satellites---from p.4

lives on, as most of the hardware and software now flying on even the most advanced AMSAT satellites is still largely the product of volunteer effort and donated resources. Though AMSAT is fond of traditions their designs and technology continue to push the outside of the envelope.

For over 44 years AMSAT groups in North America and elsewhere have played a key role in significantly advancing the state of the art in space science, space education, and space technology. Undoubtedly, the work now being done by AMSAT volunteers throughout the world will continue to have far-reaching, positive effects on the very future of both Amateur Radio, as well as other governmental, scientific and commercial activities in the final frontier. Rarely have a group of "amateur" volunteers managed to do so much…for so many…with so little. ■

Brain Teaser answers: (G) 1-c, 2-d, 3-d

Seneca County Skywarn Training

District 1 along with meteorologist Ryan Wickman will be holding a severe weather seminar on April 9, 2016 at the Seneca County EMA training room starting at 12:30pm. The seminar should last between 1 and 2 hours. Directions to the Seneca County EMA are listed on page 8. If there are any questions you can direct them to me. Thanks.

Brent Stover, WD8PNZ
DEC-OH District 1

sun---from p.7

The Guo Shou Jing telescope was able to harvest short ultraviolet light emissions from the 100,000 stars involved in the study, in the space of a few weeks. This particular light wavelength allowed the team to observe the changes in the stars' magnetic fields as the superflares occurred. An analysis of the Guo Shou Jing data revealed that the phenomena appeared to be created in via the same process as standard solar flares.

Back on Earth, the team discovered evidence of minor superflare events impacting our planet through an analysis of ancient tree rings. Tree rings dated around the year AD 775 displayed evidence of the radioactive isotope carbon-14 present in our atmosphere. According to the researchers, this isotope formed as a result of cosmic ray particles or protons hitting out atmosphere, emanating from a minor superflare, around 10 – 100 times larger than any solar flare in recorded history.

Based on observations from the Guo Shou Jing telescope, and the terrestrial tree ring study, the team estimates that our Sun would experience one superflare incident per millennium. ■

Image of a solar prominence captured by NASA's Solar Dynamics Observatory in 2012 (Credit: NASA/SDO/AIA/Goddard Space Flight

SENECA COUNTY EMERGENCY MANAGEMENT

EMA

DIRECTIONS TO THE SENECA COUNTY PUBLIC SAFETY BUILDING

FROM THE NORTH (SR 53): STATE ROUTE (SR) 53 TO TIFFIN, CONTINUE SOUTH ON SR 53 (SANDUSKY STREET) CROSS SR 18 TWICE (W BOUND ONE WAY & E BOUND ONE WAY) TO NEXT TRAFFIC LIGHT. INTERSECTION OF SANDUSKY ST AND EUCLID/ELLA ST. TURN RIGHT OR WEST ON EUCLID TO 3-WAY STOP. THRU STOP SLIGHT RIGHT TURN, YOU'RE NOW ON HOPEWELL GO TO FAIRGROUNDS MAIN ENTRANCE. TURN LEFT OR WEST. PUBLIC SAFETY 2ND BUILDING ON THE RIGHT OR NORTH (LOOK FOR RADIO TOWERS).

FROM THE SOUTH (SR 53): STATE ROUTE (SR) 53 TO TIFFIN, CROSS US 224 CONTINUE NORTH ON SR 53 (SANDUSKY STREET) TO NEXT TRAFFIC LIGHT. INTERSECTION OF SANDUSKY ST AND EUCLID/ELLA ST. TURN LEFT OR WEST ON EUCLID TO 3-WAY STOP. THRU STOP SLIGHT RIGHT TURN, YOU'RE NOW ON HOPEWELL GO TO FAIRGROUNDS MAIN ENTRANCE. TURN LEFT OR WEST. PUBLIC SAFETY 2ND BUILDING ON THE RIGHT OR NORTH (LOOK FOR RADIO TOWERS).

FROM THE SOUTH (SR 100): STATE ROUTE (SR) 100 TO US 224, TURN LEFT OR WEST, CONTINUE ON US 224 TO SR 53. TURN RIGHT OR NORTH ON SR 53, CONTINUE NORTH ON SR 53 (SANDUSKY STREET) TO NEXT TRAFFIC LIGHT. INTERSECTION OF SANDUSKY ST AND EUCLID/ELLA ST. TURN LEFT OR WEST ON EUCLID TO 3-WAY STOP. THRU STOP SLIGHT RIGHT TURN, YOU'RE NOW ON HOPEWELL GO TO FAIRGROUNDS MAIN ENTRANCE. TURN LEFT OR WEST. PUBLIC SAFETY 2ND BUILDING ON THE RIGHT OR NORTH (LOOK FOR RADIO TOWERS).

FROM THE EAST (US 224): US 224 TO STATE ROUTE (SR) 53. TURN RIGHT OR NORTH ON SR 53, CONTINUE NORTH ON SR 53 (SANDUSKY STREET) TO NEXT TRAFFIC LIGHT. INTERSECTION OF SANDUSKY ST AND EUCLID/ELLA ST. TURN LEFT OR WEST ON EUCLID TO 3-WAY STOP. THRU STOP SLIGHT RIGHT TURN, YOU'RE NOW ON HOPEWELL GO TO FAIRGROUNDS MAIN ENTRANCE. TURN LEFT OR WEST. PUBLIC SAFETY 2ND BUILDING ON THE RIGHT OR NORTH (LOOK FOR RADIO TOWERS).

FROM THE EAST (SR 18 / SR 101): EITHER SR TO TIFFIN, CONTINUE THRU TIFFIN WEST BOUND ON SR 18 GO TO SR 53, TURN LEFT OR SOUTH ON SR 53 CROSS SR 18 E BOUND ONE WAY TO NEXT TRAFFIC LIGHT. INTERSECTION OF SANDUSKY ST AND EUCLID/ELLA ST. TURN RIGHT OR WEST ON EUCLID TO 3-WAY STOP. THRU STOP SLIGHT RIGHT TURN, YOU'RE NOW ON HOPEWELL GO TO FAIRGROUNDS MAIN ENTRANCE. TURN LEFT OR WEST. PUBLIC SAFETY 2ND BUILDING ON THE RIGHT OR NORTH (LOOK FOR RADIO TOWERS).

FROM THE WEST (US 224 / SR 18): EITHER ROUTE TO TIFFIN, AT THE INTERSECTION OF 224 & 18 GET ON SR 18 EAST BOUND, CONTINUE TO TIFFIN. CONTINUE PAST SHOPPING AREA TO HOPEWELL (HOPEWELL IS THE STREET BETWEEN WENDY'S AND 5/3 BANK, TURN RIGHT OR SOUTH ON HOPEWELL GO TO FAIRGROUNDS MAIN ENTRANCE. TURN RIGHT OR WEST. PUBLIC SAFETY 2ND BUILDING ON THE RIGHT OR NORTH (LOOK FOR RADIO TOWERS).

11-2014

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Emergency Management ■ 9-1-1 ■ Public Safety Communications

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