CQ CHATTER

VOLUME B13 • Issue #3 WOOD COUNTY AMATEUR RADIO CLUB APRIL 2012
P.O. BOX 534, Bowling Green, OH http://wcarc.bgsu.edu

Letter from the President

April 2012

Well,it's been another fun month in which we've been able to enjoy unseasonably warm temperatures. I was awoken last night with quite the lightning show, and that got me thinking about spring severe weather that is sure to come. With that, I thought about Wood County ARES, and the fine job they do with Skywarn activities for our county. As their 2m repeater is down right now, the K8TIH club machine is on standby for their backup repeater. Please be sure to yield the repeater for Skywarn nets and emergency traffic, and if you can help ARES, all the better. Thank you to our fellow club member, and the Wood County ARES EC, W8NYY (Bob) for the fine job he does in this position.

We had a great club breakfast at Big Boy's in March, with a nice turnout. If you haven't made one yet, I highly encourage you to come join us and get to know some of the hams here in Wood County. It's a friendly bunch that enjoys spending time together. (Folks in Wood Co. ARES, you're more than welcome to join us...we'd love to get to know you better!)

I want to make a shameless plug for an upcoming contest: the ARRL Rookie Roundup. I'm not much of a contester, but THIS contest is a fun one designed JUST for new hams! This year, the ARRL is putting in a

continued on p. 5

WCARC Weekly Net:
Tuesdays at 2130 EDST
(0130 Z year-round)
147.18 MHz 67 Hz PL

Business Meeting

Monday, April 9th
TIME: 7:30 pm/eyeball 7:00
PLACE: Sheriff's Training Room
E. Gypsy Ln. and Dunbridge Rd.
Bowling Green, OH

Net Check Ins

February 28

NM8W	*(NC)*
K8BBK	
WD8JWJ	
K8OVO	
WB8NQW	
KD8PCQ	
N1RB	
N8YAE	
N8PYA	
KC8EKT	
KD8QYM	*(11)*

March 13

N8QMV	*(NC)*
K8BBK	
WB8NQW	
WD8JWJ	
N1RB	
N8YAE	
NM8W	
WD8ICP	*(8)*

March 20

WB8NQW	*(NC)*
K8BBK	
WD8JWJ	
K8OVO	
N8YAE	
KD8PCQ	
N1RB	*(7)*

WCARC

2 m Net Control Roster

Net meets every Tuesday at 2130 EDST/0130 Z

Mar	**27**	**N1RB**
Apr	**3**	**NM8W**
Apr	**10**	**K8OVO**
Apr	**17**	**N8YAE**
Apr	**24**	**WB8NQW**
May	**1**	**N1RB**
May	**8**	**NM8W**

Brain Teasers

1. By careful selection of core material, over what frequencies can toroidal cores produce useful inductors?

a.) few kHz to no more than several MHz
b.) dc to at least 1000 MHz
c.) dc to no more than 3000 kHz
d.) few hundred MHz to at least 1000 GHz

2. What is the effective radiated power of a repeater with a 200 W transmitter, 4 dB feed line loss, 3.2 dB duplexer loss, 0.8 dB circulator loss and 10 dBd antenna gain?

a.) 317 W b.) 2000 W
c.) 126 W d.) 300 W

3. What frequency range would you tune to fine EME stations in the 2 meter band?

a.) 144.000-144.001 MHz b.) 144.000-144.100 MHz
c.) 144.100-144.300 MHz d.) 145.000-145.100 MHz

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.

Mar 31-Apr 1	*1800 to 0500; 1800 to 2359 Z*	160 m to 10 m
Missouri QSO Party		**all modes**
Apr 7-8	*0000 to 0000 Z*	160 m to10 m
Montana QSO Party		**all modes**
Apr 7-8	*1500 to 1500 Z*	160 m to 10 m
SP (Poland) DX 'test		**all modes**
Apr 7-8	*1600 to 1600 Z*	80 m to10 m
EA (Spain) RTTY 'test		**RTTY**
Apr 14-15	*1400 to 0200 Z*	160 m to 10 m
New Mexico QSO Party		**all modes**
Apr 14-15	*1800 to 0359; 1400 to 2359 Z*	160 m to 10 m
Georgia QSO Party		**all modes**
Apr 15-16	*0700 to 1300 Z*	160 m to 10 m
Japan Int'l DX 'test		**CW**
Apr 15	*1800 to 2359 Z*	80 m to 10 m
ARRL Rookie Roundup		**SSB**
Apr 21-22	*1600 to 0400 Z*	80 m to 10 m
Michigan QSO Party		**all modes**
Apr 21-22	*1700 to 1700 Z*	160 m to 10 m
South Dakota QSO Party		**all modes**
Apr 21-22	*1800 to 0500; 1200 to 1800 Z*	160 m to 10 m
Ontario QSO Party		**all modes**

April Contests-continued

Apr 21-22	*2100 to 1800 Z*	160 m to 10 m
YU (Serbia) DX 'test		**CW**
Apr 28-29	*1100 to 1700 Z*	160 m to10 m
Nebraska QSO Party		**all modes**
Apr 28-29	*1200 to 1200 Z*	80 m to 10 m
SP (Poland) DX RTTY 'test		**RTTY**
Apr 28-29	*1300 to 1259 Z*	160 m to10 m
Helvetia (Switzerland) 'test		**all modes**
Apr 28-29	*1600 to 0159; 1200 to 2159 Z*	40 m to 10 m
Florida QSO Party		**all modes**

April Hamfests

Apr 14 **Milford ARC.** Hamfest at Milford High School, Milford, MI. Contact Robert, K8RGM, (248) 685-8903.

e-mail: k8rgm@comcast.net **web:** http://www.qsl.net/w8ydk

Apr 14 **Cuyahoga Falls ARC.** Annual Hamfest at Emidio and Sons Party Center, Milford, MI. Contact Ted, W8TTS, (330) 688-2013.

e-mail: k8rgm@comcast.net **web:** http://www.qsl.net/w8ydk

DON'T FORGET!

10 meter informal net meets Sunday

at 2030 EST on 28.335 MHz

President from p. 1

"multi-operator" category. If anyone would be interested in operating with me as a team for the Rookie Roundup, please let me know by emailing me at: NM8W@arrl.net. (Yes, I'm still a rookie.) To be a "rookie", you must have been licensed in the current year, or the previous two years. ('12, '11, or '10.) I think this would be a great club activity for any of the newer hams we have. You OMs...you're encouraged to try and work as many rookies as possible and help them get comfortable on the air. Check it out at http://www.arrl.org/rookie-roundup

Don't forget that our next club business meeting is Monday, April 9th. Eyeball QSO begins at 7pm, and the meeting with start at 7:30pm at the Wood County Sheriff's Office Training Room. We'll nail down details on the club ARRL Affiliation Potluck for June, and Field Day activities as well.

Until next month, 73!

Findlay Radio Club Open House

Bill, N8ET, has announced that there will be an open house at the Findlay Radio Club on Saturday March 31. The location is the Findlay Radio Club, 1333 West Sandusky St. in Findlay, OH. The times are from 8 AM until 8 PM ---Bill invites us all to drop by any time and meet club members, see the club house and equipment, antennas, etc. ■

K7RA Solar Update

from ARRL Letter 3/23/2012

Solar activity declined this week: The average daily sunspot numbers were off by more than 13 points to 75.1, while the average daily solar flux dropped over 32 points to 102.1. The solar flux dropped barely below 100, but rounded up to 100. The next short-term peak in solar flux is expected at the 135 level for April 3-6. The predicted solar flux for March 23-25 is 100, 105 on March 26, 110 on March 27, 115 on March 28-29, 120 on March 30, and 130 on March 31 through April 2, then 135 on April 3-6, and 130, 120, 115 and 105 on April 7-10, 100 on April 11-15, 105 and 110 on April 16-17, and 100 on April 18-22.

Sunspot numbers for March 15-21 were 85, 104, 89, 54, 58, 74 and 62, with a mean of 75.1. The 10.7 cm flux was 110.6, 98.5, 102.4, 102, 101.8, 99.6 and 99.9, with a mean

Brain Teaser answers: 1-b, 2-a, 3-b

continued on p. 7

It's Time to Renew!

Club Dues for 2012---Payable to WCARC

P. O. Box 534, Bowling Green, OH 43402

N8QMV Exits as Net Control Operator

The Editor wishes to offer special thanks to Esther, N8QMV, for her yeowoman service in the rotation as a control operator for the WCARC 2 meter Net. The net was begun some 20 years ago as an effort to promote more fellowship among Club members. Esther was a charter member of the control operator group, and has served all these years without fail.

On behalf of the other members of WCARC, I would like to thank Esther for her many years of contributing to the benefit of our Club. Best wishes for the future, Esther. ■

High Energy Hams

from ARRL Letter

Many of us who have an interest in Amateur Radio are also attracted to technology-based professions. It is therefore not surprising to find 17 hams working at the Spallation Neutron Source (SNS). The SNS is a particle accelerator-based neutron source located at Oak Ridge National Laboratory in Oak Ridge, Tennessee.

A partnership of six national laboratories, sponsored by the US Department of Energy Office of Basic Energy Sciences, developed this facility. Studies of the atomic structure of materials are the focus of SNS research. It is a user facility available to corporate, university and governmental researchers from around the world.

Spall What?

Spallation is a technical term for knocking pieces off something with something else. Remember that time you were swinging your baseball bat in the house and accidentally hit that statue Aunt Jenny gave your mom? Remember how the head went flying across the floor? Well, that's spallation.

At SNS, the process is a little more sophisticated. To create a neutron beam using spallation involves several steps. It starts with an ion source that produces negatively charged hydrogen ions consisting of a proton orbited by two electrons. The ions are injected into a linear accelerator, which raises them to very high energies. They then leave the accelerator and pass through a foil, which strips off each ion's two electrons, converting it to a proton.

These protons pass into a ring where they accumulate in bunches. (The protons are the bat.) Each bunch of protons is released from the ring as a pulse (the swing). The high-energy proton pulses strike a heavy-metal target, which is a container of liquid mercury (the statue). The proton pulses slam into the mercury atoms and knock off neutrons (the head).

These spalled neutrons are moving pretty fast and need to be slowed down. To slow them, they are sent into a moderator like liquid hydro-

continued on p. 7

high energy from p. 6

gen or methane. Once slowed down, the neutrons are guided to areas containing special instruments such as neutron detectors. Once there, neutrons of different energies are used in a wide variety of experiments.

Radio Research

There is a significant radio component to the Spallation Neutron Source. In the linear accelerator RF energy is applied to cavities, which are basically metal tubes, to grab and accelerate the ions. A series of these tubes cause the ion pulses to increase in velocity and energy as they travel down the accelerator. Ninety-one large klystron vacuum tubes generate the RF energy. Seven of these produce up to 2.5 MW each at 402.5 MHz. Another four klystrons provide up to 5 MW each at 805 MHz. The remaining 81 klystrons deliver up to 550 kW each to the cavities they drive. All these add up to a capability to deliver over 80 MW of RF power. That's 47 db above a full gallon!

What Does It Do? The beam of neutrons is used to study the structure of different materials. This has applications in physics, chemistry, engineering, medicine and biology. A few examples of neutron studies are: Engineering: the changes in the crystal structure of spinning turbine blades as they heat. Chemistry: the development of synthetic fibers for clothing. Physics: high-temperature superconducting materials. Medicine: the structure of synthetic molecules that may lead to drugs that can target diseased areas of the body. Biology: Research on the molecular structure of proteins, which aids the understanding of neurological and genetic diseases. The hams on staff at the SNS work in a variety of technical disciplines, including control systems engineering, RF engineering, beam diagnostics, survey and alignment, software engineering and cryogenics engineering. All of them agree that either their interest in ham radio helped steer them to a technical profession or their interest in things technical lead them to ham radio. ■

Like to have these finals in your shack? Each is a 550 kW klystron.

solar from p. 5

of 102.1. The estimated planetary A indices were 30, 20, 20, 10, 10, 4 and 4, with a mean of 14. The estimated mid-latitude A indices were 24, 17, 15, 11, 8, 4 and 4, with a mean of 11.9. ■

WCARC Membership as of 3/25/2012

1	James	Barnhouse	REG	KD8NJW	A	1919 Hamilton Dr.	Perrysburg	OH	43551
2	Bob-Linda	Boughton	FAM	N1RB-N1LB	E/E	930 Champagne Ave.	Bowling Green	OH	43402
3	Lee	Boulis	REG			12960 Bloomdale Rd.	Portage	OH	
4	Esther-Cap	Creps	FAM	N8QMV	G	P. O. Box 83	Tontogany	OH	43565-0083
5	Phil	Cribbs	SEN	KG8FL	A	16763 N. River Rd.	Pemberville	OH	43450
6	Jim	Davis	LIFE	K8JU	E	10990 Newton Rd.	Bowling Green	OH	43402
7	John	Dvorack	REG	KD8BIN	E	2142 Sherwood Ave.	Toledo	OH	43614
8	Hoot	Gibson	REG	WB8VUL	A	144 Stonegate Blvd.	Bowling Green	OH	43402
9	Lou	Graue	LIFE	K8TT	E	1501 Blue Lake Circle	Punta Gorda	FL	33983
10	John S.-John W.	Gruber	FAM	N8MSU-KC8RBT	E/T	920 Melrose	Bowling Green	OH	43402
11	Jeff	Halsey	REG	KG8FH	A	514 Rosewood Dr.	Bowling Green	OH	43402
12	Larry-Ruth	Hasselman	LIFE	N8VNT-KC8EKT	T/T	8656 Kramer Rd.	Bowling Green	OH	43402
13	Bob	Johnson	REG	K3RC	E	P.O. Box 248	Stony Ridge	OH	43463
14	Stan	Klakamp	REG	K8LL	E	415 1/2 N Prospect St	Bowling Green	OH	43402
15	Jeff	Kopcak	LIFE	K8JTK	E	1497 Canterbury Rd.	Westlake	OH	44145-2440
16	Joel	Lautzenheiser	-	KI4DKX	G	119 E. Evers Ave.	Bowling Green	OH	43402
17	Craig	Magrum	LIFE	NM8W	G	1100 Christopher St.	Bowling Green	OH	43402
18	Chris	McCormick	REG	W8CLM	E	1720 Cherrylawn Dr.	Toledo	OH	43614
19	Steve	McEwen	SEN	K8BBK	E	1053 Pinewood Ct.	Bowling Green	OH	43402
20	Alvin	Murray	REG	KD8QYL	T	P.O. Box 173	Haskins	OH	43525
21	Alvin	Murray	SEN	KD8QYL	T	P.O. Box 173	Haskins	OH	43525
22	Loren	Phillips	SEN	W8PSK	E	324 S. Grove St.	Bowling Green	OH	43402
23	Wil	Roudebush	REG	KC8IFW	E	1374 Clough St.	Bowling Green	OH	43402
24	Jim	Ryan	SEN	WA8SCT	A	751 Main St., P. O. Box 52	Jerry City	OH	43437-0052
25	Leanna	Shaberly	REG	KB8RT	A	18077 Tuller Rd.	Bowling Green	OH	
26	George	Stossel	REG	W8GGS	G	19758 Sand Ridge Rd.	Weston	OH	43569
27	Roger	Swinney	REG	W8CNJ	G	27484 Oregon Rd. Lot 271	Perrysburg	OH	43551
28	Bill	Wilkins	REG	WD8JWJ	E	11065 Lynwood Rd.	Bowling Green	OH	43402
29	Bill	Wilkins	REG	WD8JWJ	E	11065 Lynwood Rd.	Bowling Green	OH	43402
30	Bob	Willman	REG	WB8NQW	A	14118 Bishop Rd.	Bowling Green	OH	43402
31	Eric	Willman	REG	WD8LEI	T	545 W. Poe Rd.	Bowling Green	OH	43402

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