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The monthly Newsletter of the Monongalia Wireless Association Morgantown, West Virginia

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Corrections

Please change the article that has the information about Solid Copy by e-mail to my e-mail. You can use N8TJM@arrl.net

Norene N8TJD



K8LG & N8TJM the new president and secretary at the January meeting.

THE THINNEST

SUPERCONDUCTING WIRES

ever made, only 10 nm wide, have been used in an experiment showing how the superconducting state gets extinguished as the wire narrows. Just as traffic becomes more problematic as you reduce flow on an interstate from four lanes down to three and then down to two and finally to one lane, so electron pairs (or Cooper pairs, which constitute the supercurrent) moving through very thin passages are sensitive to quantum effects not noticeable in larger wires. A quantum phase slip (QPS) is one such effect. It is a quantum fluctuation

in which the superconducting wave function spontaneously tunnels from one state into another, a process which results in a momentary voltage, and therefore a nonzero electrical resistance, even if the temperature could somehow be reduced to absolute zero. Armed with thin wires (10-20 nm) consisting of molybdenum-germanium deposited onto carbon nanotubes, Michael Tinkham (Tinkham@RSJ.Harvard.edu) and his colleagues at Harvard have conducted the most thorough study yet made of this phenomenon and have definitely shown that resistance goes up as the wire gets thinner. The quantum resistance effect only becomes noticeable for wires below about 30 nm in size, far smaller than most wires used in today's computers, so there is no bottleneck yet. Future advanced superconducting computers, however, might have trouble; by going to lower temperatures you can eliminate resistivity arising from thermal fluctuations, but not from quantum fluctuations.

(Lau, et al., Physical Review Letters, 19 November 2001)

Next Meeting

MWA Club meetings for January 15, February 19, March 19, and April 16 will be in Room G-39 of the WVU Engineering Sciences Building.

Solid Copy via Email

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Antenna Bill Introduced into West Virginia House of Delegates

SPENCER, SHARON M, KC8KVF introduced an Antenna bill into the West Virginia House of Delegates.

The house bill number. HB 4335, sponsors are Spencer, Kiss & Stemple.

The bill will go to Political Subdivision & then Judicial. If you know members of these committees do what you can to get their support.

H. B. 4335

Here is a copy of the bill.

(By Mr. Speaker, Mr. Kiss, and Delegates Spencer, Staton and Stemple)

Introduced January 31, 2002; referred to the Committee on Political Subdivisions then the Judiciary.

A BILL to amend article one, chapter seven of the code of West Virginia, one thousand nine hundred thirty-one, as amended, by adding thereto a new section, designated section thirteen, relating to requiring that any municipal or county ordinance or order regulating the placing, screening or height of amateur radio antennas meet certain requirements and comply with Federal Communications Commission rules and regulations.

Be it enacted by the Legislature of West Virginia: That article one, chapter seven of the code of West Virginia, one thousand nine hundred thirty-one, as amended, be amended by adding thereto a new section, designated section thirteen, to read as follows:

ARTICLE 1. COUNTY COMMISSIONS GENERALLY.

§7-1-13. Regulation of amateur radio antennas. A municipality or county may not enact or enforce an ordinance or order that does not comply with the ruling of the Federal Communications Commission in "Amateur Radio Preemption, 101 FCC 2nd 952 (1985)" or a regulation related to amateur radio service adopted under 47 C.F.R. Part 97.

If a municipality or a county adopts an ordinance or order

involving the placement, screening or height of an amateur radio antenna based on health, safety or aesthetic conditions, the ordinance or order must:

*(a) Reasonably accommodate amateur communications; and
(b) Represent the minimal practicable regulation to accomplish the municipality's or county's legitimate purpose. This section does not prohibit a municipality or county from taking any action to protect or preserve a historic, historical or architectural district that is established by the municipality or county or under state or federal law.*

NOTE: The purpose of this bill is to require that any municipal or county ordinance or order regulating the placing, screening or height of amateur radio antennas include reasonable accommodation of amateur communications, be practicable under the circumstances and comply with FCC rules and regulations.

VE Session Held

At the VE session on Thursday January 31, one person became a General Class licensee based on the "grandfather" clause in the rules. He submitted proof of having a Technician license prior to 1986, when Morse Code of 5 WPM was required and when the Technician test included the equivalent of today's Element 3, General Class written technical examination. In effect, the Technician license was a 5 WPM General Class license back then.

Another person passed the regular Technician Class test (no code).

Following the test, he informed us that his study material consisted entirely of an old license manual and interaction with current test material on the internet.

Thanks Jan, KX2A@arrl.net

A Quick History of MWA VE Testing

The Monongalia Wireless Association has offered Amateur Radio Examinations several times a year for over a decade. Administration of these tests came to the club directly about six years ago, following a joint administration between our club and MARA in Fairmont. Fairmont now conducts its own tests independently. Both clubs perform as VE points under the auspices of ARRL\VEC.

We use ARRL\VEC official test forms, which include questions drawn from the official pool of questions, balanced according to the procedure adopted by the joint VECs.

At this time, the charge to take an examination is \$10. This charge covers all elements that a person wants to try during a single test session, so it is possible to go from no license to Extra Class for \$10, if you can do it all at once.

We also serve as verifiers of documentation that qualify a person for a higher grade of license based on prior possession of a Novice license, which certifies that the person passed the 5 WPM code test. Similarly, proof that the person had a pre-1986 Technician license, which required the equivalent of those elements that are now the General license, qualifies a person for a current General Class license.

Once you pass a test or submit forms to our MWA VE organization, you are issued a CSCE. This CSCE can be used immediately as proof of a higher class license. In other words, if you take the Extra examination, pass it, and receive the CSCE, you can launch an earth-orbiting satellite that has a repeater with your callsign that very night, and it is covered by your Extra Class license. Make sure that you keep the telephone number of NASA Houston by your bedside.

The ARRL-FCC connection is now so smooth that you can get internet verification from the FCC of your new license, or your new callsign, within five to ten days of taking the exam. A new licensee whose intent is to use a handy-talky to communicate with an emergency rescue group, or to provide emergency communication while traveling in a wilderness area, can immediately shop for this item after receiving the CSCE at the test session. As soon as the recipient knows his or her callsign, he or she may begin operation.

VE sessions cannot be used to submit renewals or vanity callsign requests. These must be done directly with the FCC.

When you take an examination or submit material for an administrative upgrade, be sure to bring a copy of your current license, and a copy of any proof of grandfather

or grandmother status. The copy machine in the Engineering Sciences Building has been known to fail during our sessions. Also, bring two forms of ID and \$10 (for 2002).

If you reach Extra Class status, remember that it is a brand-new MWA tradition, dating back over the centuries to 1999, that you study to become an ARRL VE at this time.

Thanks Jan, KX2A@arrl.net

President Bush speaks to amateurs in Florida

President George W. Bush spoke to amateurs on a Florida ARES net. He was at a Fire Station that had a station listening to the net and was invited to speak by Joette Barnett, KG4HPN. The president spoke for about 30 seconds.

An Alternate to High Technology

When NASA first started sending up astronauts, they quickly discovered that ballpoint pens would not work in zero gravity.

To combat this problem, NASA scientists spent a decade and \$12 billion developing a pen that writes in zero gravity, upside down, underwater, on almost any surface including glass, and at temperatures ranging from below freezing to over 300C.

The Russians used a pencil.

Thanks Norton, WD8AFJ nsmith@hsc.wvu.edu

Field Day Rule Change

The Arrl has announced a change to the field day rules. They have added a new "Get-On-The-Air" station category. The station may make 400 QSO's and does not count as a transmitter. The intention of the new station position is to provide an operating space for unlicensed people to have fun at field day.

Code Class??

If any person is interested in a MWA morse code class, one may be forming. Talk to Bob, WA8YCD.

It would be open to the public but the primary interest is members with Tech licenses who want to upgrade.

Thanks Bob, WA8YCD wa8ycd@arrl.net