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SPELEONICS 18

Volume V, Number 2 July, 1992

SPELEONICS is published quarterly (sometimes irregularly) by the Communication and Electronics Section of the National Speleological Society (NSS). Primary interests include cave radio, underground communication and instrumentation, cave-rescue communications, cave lighting, and cave-related applications of amateur radio. NSS membership is not required for newsletter subscription. Section membership, which includes four issues of SPELEONICS, is \$6.00 in USA/Canada/Mexico, \$8 overseas. Send subscriptions to section treasurer Joe Giddens at the address below (make checks payable to SPELEONICS.) If you have a ham-radio callsign or NSS membership number, please include them when subscribing.

Foreign subscriptions can be paid in U.S. "paper" dollars in the mail; an international money-order may cost as much as the subscription itself. Many members have sent cash without problems. (No foreign currency, please.)

Editorship rotates among the officers. Volunteers are encouraged to guest-edit or produce an issue. A technical session, followed by election of officers, is held annually during the NSS Convention.

Complimentary copies of SPELEONICS go to NSS offices and sections, the U.S. Bureau of Mines, U.S. Geological Survey, and the Longwave Club of America.

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COVER

This version of the familiar cave-radio depth graph was plotted by Dr. Robert F. Blakely of the Indiana Geological Survey, using a Hewlett-Packard desktop computer. It relates depth to vertical angle of the transmitter's magnetic field at different horizontal distances from its epicenter ("ground zero"). Any distance units may be used. Bill Mixon and Dick Blenz originally published the curves in 1964.

Also efficacious are fluorescent lanterns for fixed work. We were digging leads in a (very!) small cave in the Sandia Mountains a couple of summers ago, and an Eveready(tm) fluorescent lantern made work much easier-- when the lantern was extinguished, it was instantly missed, even though the diggers were using headlamps. I plan to try them at Big Manhole Cave if that operation resumes.

LETTER

Note that this work all has been done in environmentally fairly benign New Mexico caves. I can get away with using off-the-shelf fluorescent lamps with retrofitted clips and brackets. This work may not generalize to extremely wet and muddy caves. Not yet, at least.

Ian Drummond's notes on fluorescent lights in SPELEONICS 17 caught my attention. I've lately been experimenting with a belly-mounted fluorescent lamp for limited use in walking passages only. Helmet-mounted fluorescent lamps don't hold great interest for me at this point in their development, since 1) they tend to be relatively fragile and I bump my head, 2) the diffuse light is only good for near-field viewing, and 3) I want a spotlight on my head for distance viewing.

There'll be more information after the next series of experiments.

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Announcement:

TUNNEL DETECTION SYMPOSIUM

The fluorescent light is much better as a belly or chest light, since you don't have to worry about aiming it. The advantage here is the visibility of shadows in walking passage -- the head-mounted lamp tends to obscure shadows on the floor very badly; the belly-mounted lamp brings them right out. This a function of having the lamp above or below the plane of vision. Try it with a flashlight; it's simple enough to demonstrate.

The fourth tunnel detection symposium on subsurface exploration technology will be held April 26-29, 1993 in Golden, Colorado. It is sponsored by the Combat Engineering Directorate, U.S. Army Belvoir Research, Development and Engineering Center, in cooperation with the Colorado School of Mines. Contributor **Bruce Bevan** says that these symposia grew out of an interest in detecting North Korean tunnels beneath the DMZ. For more information contact:

Such a lamp, I believe, should be considered as an addition to the headlamp rather than a replacement for it.

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Experiments in March at Ft. Stanton Cave (NM) convinced me that such a system is useful in certain parts of certain caves. CRF is going back there this July 4 weekend, and I'm planning to experiment further.

