



S.W.O.T. BULLETIN



OFFICIAL NEWSLETTER OF THE SIDEWINDERS ON TWO AMATEUR RADIO CLUB
SSB, CW AND DIGITAL OPERATIONS ON 144MHZ AND UP

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S.W.O.T. GENERAL INFORMATION

- Send renewals and new applications for membership to Howard Hallman WD5DJT. Please make all checks payable to SIDEWINDERS ON TWO. And all I need is your SWOT # for your renewals if you want save your bulletin!!! (See address above)
- Send your SWOT “members worked” from your log to, SWOT Awards manager, Wade Massey, 1016 Weiss Ave, Princeton, TX., 75407 \$1.00 fee for certificate and your certificate number would be appreciated, also SASE.
- Send all applications for County Awards and County Awards correspondence to the SWOT VUCA Awards Manager, Len Parsons W5AL, 11361 Tascosa Rd. FM 1061., Amarillo, TX. 79124
- E-Mail all articles and reports to the Editors’ Web addresses listed above or you can mail them to KA5DWI, 6516 Simmons Rd, NRH, TX 76180.
- Decals and listings available for \$1.00 each for shipping and handling from the Secretary/Treasurer.
- SWOT PATCHES ARE AVAILABLE AT PRICE OF \$4.00 EACH + \$.50 FOR MAILING.

ON THE WORLDWIDE WEB

Be sure to join and chat with other S.W.O.T. members at: <http://groups.yahoo.com/group/sidewindersontwo>

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The Chairman's Corner

By John Petersen "KM5ES"

Since the attack's on the United States we have seen sorrow in the lost of lives in NYC and Washington D.C. But we have also seen a unity of people around the USA, flying the flag, ribbon's worn, and the outpouring of donation's from across the USA for the victim's and their families, and people working together as they have in past wars.

Everyone needs to try to go back to a normal state if possible. I have even noticed a lack of people on the radio since the attacks. Check-ins on our nets have been down somewhat since September 11th. Bands have been pretty flat. It has been the quietest I have seen on 2 meters in quite a while.

Now with America involved in a war against Terrorism we need to continue with our daily lives, but keep a vigil in the pursuit of these people that have attacked the world, not only the United States. I have also noticed that ham radio has made a big contribution in the efforts at Ground Zero and at the Pentagon working with communications.

We must carry on and not let the events of this past month cause us to falter. Please support your local SWOT Nets. Assist with the NCS stations whenever possible.

Also one other quick note time to check all your feedlines and antenna connections, for winter is not to far off. It's been nice outside in most areas and not to hot or too cold.

73 All and God Bless America

John Petersen KM5ES

SWOT Chairman #3331

Meet the Officers and Directors of SWOT

Each month we will profile one of the Officers or Directors of SWOT. This month we profile **John Petersen, KM5ES**: the current Chairman for SWOT from Oklahoma.



John has the task of keeping our organization together as its Chairman. John accepted the responsibility May this year at the Eufaula meeting.

John is an extremely active individual and I wonder if this fellow ever sleeps. John is a young 43, is married to Judy with one daughter Amy 15, stepson Ryan 20 and

stepdaughter Lisa 21. John lives in a farming community named Stidham, population 48. Stidham is located about 10 miles northwest of Eufaula in the middle of eastern Oklahoma.

John first became a Ham in 1977 with the callsign, WD5JYD. Suffering from the typical teenage syndromes at age 17, John let his license expire. He didn't renew the ticket until 1988. He re-tested this time taking both Novice and Technician license tests and became N5MPY. He held this call until November of 1996 when he got his Advanced License and became KM5ES. In December 1996, he became an Extra class license holder.

Slowly, but surely he has become extremely active and involved in weak signal operation. John holds SWOT number 3331. Most us have now heard him conducting the 2100CST Monday night SE Oklahoma SWOT Net. John is extremely active on all propagation modes on 2 Meters. Has was one of the first users of WSJT (FSK441), the new computer assisted meteor scatter operation.

John operates a Kenwood TS-711A and RF Concepts 170 Watt amplifier. He uses Advanced Receiver Research pre-amps and drives 2 Cushcraft 215 Wideband Boomers stacked at 60 feet, fed with Andrews Heliac. On meteorscatter John uses a Kenwood TR-751. For a computer interface he uses is a Rigblaster.

John maintains a homepage:

"The KM5ES Weak Signal Homepage"

<http://www.lakewebs.net/km5es/>

This page has great links to many VHF propagation information based sites, as well as to the SWOT Yahoo Group page and SWOT information.

John has mainly been in the health care field and was an owner of a home health business along with his wife and her 2 sisters for 5 years. He presently works for *Volunteers of America*, a company that works with physically and mentally handicapped individuals. I recall John works many night shifts.

Now you see why I think he never sleeps. Be sure the next time you see, talk, QSO or Email John, pass him your thanks for his hard work for SWOT.

Leonids - Are We Due for Meteor Storm?

**Info from John Petersen KM5ES
Edited by Art Jackson KA5DWI**

The predictions for the 2001 return of the Leonids are an interesting group ranging from unchanged models from 1999 to revisions published just a month or so before the Leonid maximum. The one thing all of the models have in common is that they include predictions indicating at least one and probably two peaks in excess of 1000 meteors per hour.

Asher and McNaught remain steadfast in their predictions as to the times the peaks will occur in 2001. They predict three maxima will occur on November 18, one at 10:01 UT, another at 17:31 UT, and the last at 18:19 UT. They indicate a possible rate of 2500 per hour during the first peak, 9000 per hour during the second, and 15000 per hour during the last.

Lyytinen published a revision of his 1999 paper around the middle of 2001. With co-authors Markku Nissinen and Tom Van Flandern, they concluded all three peaks occur on November 18 UT, with times of 10:28, 18:03, and 18:20. His predicted rates are 2000 per hour at 10:28, 2600 per hour at 18:03, and 5000 per hour at 18:20. The activity that peaks at 18:20 UT actually begins before the activity that peaks at 18:03, so the two would combine to produce possible rates of over 7000 per hour.

Peter Brown and B. Cooke published a prediction for the 2001 display in the September 2001 issue of the Monthly Notices of the Royal Astronomical Society. They predicted that a "broad and relatively strong" maximum will occur with a peak of possibly more than 1200 meteors per hour falling between 10 and 12UT. A much broader secondary maximum could occur around 17:30 UT with rates near 500 per hour.

Peter Jenniskens submitted a paper to the Journal of the International Meteor Organization in mid-September that is unpublished as of this writing. Jenniskens actually predicts 7 trails will be encountered this year. Some will be relatively minor, but there could be four trails that will produce 500 to several thousand an hour. The three greatest peaks will occur 10:09 UT, 17:08 UT, and 17:55 UT. The expected rates are 4200, 1800, and 2700 per hour, respectively. The last two peaks will also be joined at 17:01 UT and 17:21 UT by trail

encounters producing 170 and 510 meteors per hour, respectively. Jenniskens' model predicts the other two enhancements will occur at 12:07 UT and 13:57 UT, but these will only amount to 40 and 14 meteors per hour, respectively.

Conclusions

The years 1999 and 2000 generally confirmed the mathematics behind predicting the times of strong meteor displays, while this year will help determine which model best predicts the actual hourly rates of the display.

The year 2001 may be the last chance to get a clear understanding of the activity levels as Earth encounters the various Leonid dust trails. The year 2002 has the potential of producing a larger display than in 2001, but a nearly full moon will wipe out the fainter meteors and prevent a clean interpretation of the activity levels. After 2002, encounters with the newer Leonid dust trails will decline. The various models predict a break of three years may follow with "normal" Leonid rates of 10 to 15 per hour. The models then indicate another peak of over 100 per hour in 2006 and a possible similar peak in 2007. Thereafter, it appears that the 33-year cycle of intense displays will end for nearly 100 years, as Jupiter once again deflects the whole system of trails just enough to prevent the encounters with Earth. In other words, there will be no enhanced displays in the years surrounding 2033 and 2066.

2001 LEONIDS - WHEN AND WHERE WILL THE LEONIDS STORM?

Daniel Fischer has recently summarized the questions about the 2001 Leonids in the lead story of <http://www.geocities.com/skyweek/mirror/227.html>.

The November 2001 issue of Sky and Telescope has an article by Joe Rao that also covers this (pp 109-115). It should be on your newsstands by now, and is well worth your reading. It also provides some information for 2002, the last year a storm (huge for North America???) is expected in our generation.

Here is a brief summary: (Asian/Pacific operators - note the UTC dates) All models are based on the famous dust trails that worked well in 1999 and

2000. Among the four major groups or individual theorists working on predictions for 2001, several similar but somewhat different results have emerged:

1. The "classical result" has two strong peaks on Nov. 18, 2001 (UTC) – one around 10 UTC with about 2000 meteors/hour, and the bigger one around 18 UTC with 6000 to 15,000 meteors per hour.

2. Another model sees two peaks at the same times, but with the intensities the other way around. This researcher expects a whopping 32,000 meteors/hr at the 'American' 10 UTC peak and only some 2000/hr at the 'Asian' 18 UTC peak.

3. A very different result comes to the conclusion that there will be only one very broad and shallow maximum, peaking at a "mere" 1300 meteors/hour around 13 UTC.

4. Yet another prediction has the peaks at about the same times (1000 and 1800) and at a storm intensity, though less than in 1966. However, they predict the peak calculated to occur near 1819 UT to have more high-altitude meteors than the other peaks. If so, this might allow some very long-distant contacts by western North American operators as well as those in the Pacific and East Asia areas.

(Note - one of the research teams has requested a report of any unusual long-distant contacts made during the Leonids shower).

Why the slightly different results? The problem is that there has never been a situation like 2001 (or 2002) when the Earth is coming rather close to certain dust trails, but several years after the parent comet Tempel-Tuttle came by. Thus there is no way of telling beforehand how much dust there is in the trails so far behind the comet. There are also several very poorly understood mechanisms that can shift the trails away from the Sun or towards it. While the observations of the Leonids activity from 1998 to 2000 are excellent, the data for the previous decades and centuries are often poor or contradictory; and the 3D shape and location of the trails are just not constrained enough.

It is suggested that you read Fischer's whole article (see the reference above) and especially the November Sky and Telescope article by Joe Rao.

Also check:

<http://leonid.arc.nasa.gov/>

<http://www-space.arc.nasa.gov/~leonid/1998.html> (with a great diagram), and some of the many other Leonid pages (at the bottom of this page); also, see the Astronomical Society of Australia's Web site. (For something different, how about a picture of the 1997 Leonids from orbit?)

Another note - Dr. Noah Brosch and his team from Israel have finally been able to release their paper on the radar observation of Leonid trains at ~240 km altitude! Was this real, or an artifact of the equipment? At this time it is not possible to tell. A summary of his paper, with comments and links to other sites, can be found at:

<http://www.qsl.net/w8wn/prop/brosch.html>.

All MS operators should take the time to read it, and to also read the Mardoc SKiYMET comments (linked from there).

What does this mean for us? Three of the four sets of predictions are for approximately the same times, and two of the three are predicting a major storm for some part of the earth. Even though there are some differences, remember that the Leonids have by far the best predictions of any major shower!

It means that you need to be on the air at the 1000-1028 and 1720-1820 UTC times (November 18) if the Leonid radiant is above your horizon! The 1000 UTC peak would be a nearly perfect time for North America, as would the possible 1300 peak. The 1800 UTC peak would favor the Pacific area and East Asia; but if it should contain many very-high-altitude burns, western North American operators might be able to do some interesting work.

The Leonid radiant is above your horizon approximately 0100-1230 LOCAL time. While ~45° is the optimum radiant elevation and few pings and bursts are normally experienced if the radiant is below 10°, operation should be attempted even when the radiant is near the horizon. This is because the high velocity can cause the Leonid meteors to burn at a slightly higher altitude, and because Dr. Brosch believes he detected a large number of Leonids at approximately twice the expected maximum height. Even a negative result could still be a valuable piece of information. Try to be on the air during the expected peak times.

Summary for this year:

--November 18, between 10:00 and 10:30 UT: This favors North America, especially the western half. Predicted rates range from 1000 to 4000 per hour.

--November 18, around 18:00 UT: This favors Australia and eastern Asia. Predicted rates range from 8000 to 15000 per hour.

Editors Conclusion:

Just about everybody thinks a major event will occur.

Rest Up Saturday !!! November 17.

Take a long daytime nap.

Stay up all night and pray for clear weather.

Have WSJT ready, although voice might be real easy.

North-South paths are best.

08-12UT & 15-18UT peak signals.

If nothing happens don't blame me. *DWI*

WSJT Link:

<http://pulsar.princeton.edu/~joe/K1JT/>

It's Tropo Time!!

By Art Jackson KA5DWI

Well another summer "E" season is over. Although "Es" are probably the most pure exciting propagation mode, don't fret. Tropospheric Ducting propagation can be just as exciting. Many times these conditions are ignored because many of us don't recognize the early signs. Countless times we have had these openings and nothing was accomplished because everyone was at work or didn't have their rig on. What I will attempt to do is give you a few pointers on what to look for so that you can take advantage and be prepared for this propagation mode. "Tropo", as it is called can be easily predicted. A few key observations will have you ready to work some more new grids.

How good is tropo? In November of 1986, a Tropo opening lasted over a three-day period. On one day, it opened soon after the sun set and stayed open until nearly noon the following day. 1500 mile QSO's were made with little effort and all the VHF, UHF and microwave bands were wide open. Sometimes signals can be unbelievably strong. You can key a repeater 300 miles away with a handie-talkie, work 500 miles SSB with 3 watts or 1500 miles with 150 watts on a Squalo.

Tropo occurs from one simple atmospheric condition, *temperature inversion* at high altitudes. The physics of Tropo and temperate inversion are too involved to explain, but it bends VHF/UHF signals.

In most atmospheres, as the earth generates heat from the sun, the air temperature lowers as you increase height. With a temperature inversion, a cap exists in the atmosphere. As height increases at the point of the cap, the air temperature will suddenly increase. There are several *localized* inversions that can occur. Warm bodies of water (Gulf, Great Lakes, Atlantic/Pacific), fog, decaying thunderstorms, a cool front passage can produce these *localized* conditions. You can get a nice 200-500 mile QSO with little effort, but it is very short lived. An hour later it's gone.

What produces the big openings? One factor only. A dominating high-pressure system in the upper atmosphere with a wide area of weather stability on the ground.

Examples of dominant upper air high pressure systems are the Bermuda High that steers the hurricanes in the late summer and early fall and every major heatwave that affects us each summer. Tropo openings occur all year. The meteorological conditions to create the **super openings** tend to favor the fall. There is enough weather activity to put it all together.

What do you look for? An example:

1. The upper air Bermuda High is strong, at 36000 & 18000 feet (300 & 500 Mb) and is ridged from Bermuda all the way into Southeastern quarter of the US.
2. The western Jet Stream has been diverted by the Bermuda high from the central plains into Eastern Canada. All low-pressure storm systems follow that path.
3. A *Canadian* based cold front and associated surface high pressure has pushed itself from the central plains across into the southeastern US.
4. Once the cold front enters the Gulf of Mexico and the eastern seaboard, it stalls! No new weather systems are approaching from the west or the north. The weather in the eastern half of the US is very pleasant and stable.
5. The surface high-pressure center moderates from a cold to a warmer core. Surface temperate warms southwest, west, and northwest from the

center of the high. Nighttime temperate cools from 15-30 degrees. No clouds!!

- 6. The upper air high-pressure system (Bermuda) caps the heat radiation of the surface. A large temperate inversion develops at 18000+ feet. From Texas, to Kansas, to Ohio, to Tennessee and to Louisiana, all the VHF/UHF DX'ers are in heaven.

In simple terms, a cold weather system moved out of Canada, ran into warm surface and water conditions. With no steering mechanisms to move it onward, the stable upper atmosphere provided a cap for the earth's radiation of heat. Nothing was up there to disturb it. A large inversion developed.

When you get conditions as this, you should see the results as early as 9:00 p.m. local. Look at your open UHF and higher VHF TV channels for DX signals. Also the FM broadcast band is a good indicator. My favorite indicator is monitoring local National Weather Service radar on the Internet or if your cable system gets a feed. Look for extremely strong echoes when you darn well know there isn't any weather systems around. Better known as "false echoes". *Do not waste your time looking at your favorite TV station's radar, they filter false echoes out!* When you see false echoes, you are observing the reflection of UHF signals due to temperature inversion. The worse it looks, the better the conditions. The radar return can be extremely colorful in major tropo openings.

Good luck this season. Hopefully we will get a chance this fall. Be ready in any case. 73's and Good DX

Lunar, Solar and Astronomical Events

Lunar: Perigee 10/14, Apogee 10/26

Solar: Overhead 10/16 9.05° S, 11/15 18.45° 15° 11/3, S.Hemisphere Sporadic E Threshold

USAF Predicted Solar Flux Average 10/16-11/15: 209

Meteors:

5 Minor Showers from 10/15 till 11/15

Major Showers: Orionids 10/15-29 Peak 10/21 3UT Leonids Begin 11/14 Peaks 11/18

SWOT NET REPORTS

Here are the net reports for August and September. The first figure listed for each date is the number of check-ins and the second is the number of grids.

Monday Eastern Oklahoma:

Sep 17: 37/12, Sep 24: 37/13, Oct 01: 34/10 Oct 08: 39/? (WD5GVP-NCS)

Sunday Northern Cal: Month of September 119/14 (Four Nets)

Tuesday Central Louisiana: Sep 18: 6/6, Sep 25: 12/10, Oct 02: 12/8

Tuesday Northern Missouri: Sep 18: 19/9, Oct 02: 26/12

Wednesday North Texas: Sep 19: 30/13, Sep 26: 43/14, Oct 03: 40/13

Thursday Southwest Oklahoma: Sep 20: 17/9, Sep 27: 17/6,

Saturday East Texas: Sep 15: 13/6, Sep 22: 19/9, Sep 29: 17/9, Oct 13: 6/3

SIDEWINDERS ON TWO" ENROLLMENT OR RENEWAL FORM

NOTE: Though your membership and number are good for life you must renew annually to receive the newsletter and stay on the active list..

Enclosed find check/MO. to: New member.....\$10.00_____ Renewal.....\$10.00_____

Howard Hallman WD5DJT, Sec.Treas.

3230 Springfield Lancaster, Tx. 75134-1214

New Member. I have worked the following members:

Call: _____ SWOT No. _____ Call: _____ SWOT No. _____

Renewing: My SWOT No. is _____

Name: _____ Call _____ Grid Square _____

Street address _____

City _____ State _____ Zip Code _____

Telephone Nos. _____ E-mail _____

Get Your SWOT Badges

ORDER YOUR BABGES FROM THE SIGN MAN OF BATON ROUGE

RICK POURCIAU NV5A

879 CASTLE KIRK DRIVE

BATON ROUGE, LA. 70808-6020 PHONE # 504 766-9387

PRICING INFORMATION(ALL PRICES INCLUDE POSTAGE)

BADGE W SAFETY LOCKING PIN:	\$7.50
OVER POCKET /SAFETY LOCKING PIN	\$8.75
WITH MILITARY POSTS	\$8.25
WITH ALLIGATOR CLIP	\$8.25
PIN AND ALLIGATOR ADAPTOR	\$9.50

BAGE INFORMATION _____

BADGE CORNER STYLE: ROUND ____ OR SQUARE ____

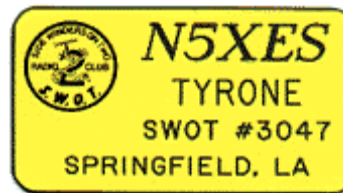
CALL SIGN _____ LINE 1

FIRST NAME (TO APPEAR ON BADGE) _____ LINE 2

SWOT MEMBER # _____ LINE 3

CITY , STATE _____ LINE 4

<http://www.thesignman.com/menu.html>



SWOT NETS

Day	Local Time	Area	Net	Frequency	Net Control Station
SUN	8:30A	TUCSON AZ	ARIZONA	144.250	N7SQN AL
SUN	9:30P	HOLLAND MI	MI SWAM	144.155	K8NFT
MON	7:30P	NEW MEXICO	NEW MEXICO	144.250	
MON	8:00P	WOODLAND PK	COLORADO	144.220	W2CRS WBODOM
MON	9:00P	MUSKOGEE	E.OKLAHOMA	144.250	KM5ES JOHN
MON	8:00P	SANDUSKY	E. MICHIGAN	144.250	W8IDT BART
TUE	8:00P	CA.NO CTYS	NORCAL	144.250	KF6BXH BILL
TUE	8:00P	EM31 LA.	CENTRAL LA	144.250	K5MQ DAVE
TUE	9:00P	N. CENTRAL MO.	N. CENTRAL MO.	144.250	N0PB PHIL
WED	8:00P	IA-MO-IL	TRI STATE	144.250	WZ9D N9CXO
WED	9:00P	NO TEXAS	HEADQUARTERS	144.250	W5FKN BOB
THU	8:00P	CA SO CTYS	NORCAL	144.250	KC6CHJ
THU	7:30P	LAWTON EM04	SW OK. SWOT NET	144.250	NL7CO DON
THU	9:00P	TENNESSE	UPPER CUMBERLAND	144.225	N2BR BOBBY
SAT	7:00A	TEXAS	NO TEXAS HDQRTRS	144.250	K5LOW DON