Atlas of HRM spectra (volume 1)

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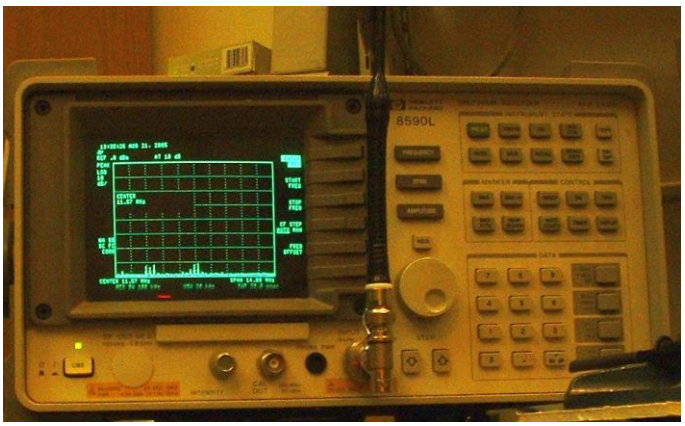
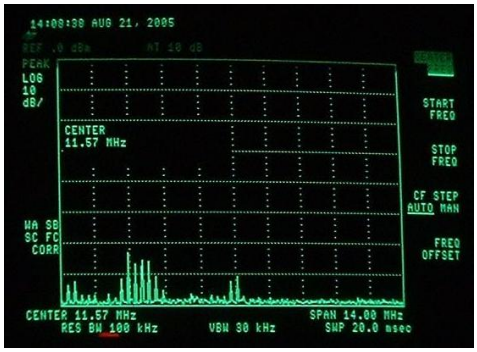
Abstract:
The Heterodyne Resonance Mechanism (HRM) is predicted in the Basic Structures of Matter – Supergravitation Unified Theory (BSM-SG). The HRM effect takes place in a transient process of plasma. Neutral plasma in self-oscillation mode with optical signature of glow discharge emits spectrum in MHz range. The spectrum is different from the atomic and molecular spectra. According to the BSM-SG models, the spectrum is caused by synchronised spin-flip of the electrons involved in ion-electron pairs. Most of the recorded spectra are from hydrogen and air at partial vacuum from 10 to 15 mbars and air at normal pressure. They were recorded at different periods from 2005 to 2007 in a laboratory of York University, Toronto, Canada. The details of experimental setup are given in the article "Heterodyne Resonance Mechanism in a transient process in plasma. Experimental study and spectra" (vixra.org).

Keywords: *neutral plasma, glow discharge, HRM spectra*

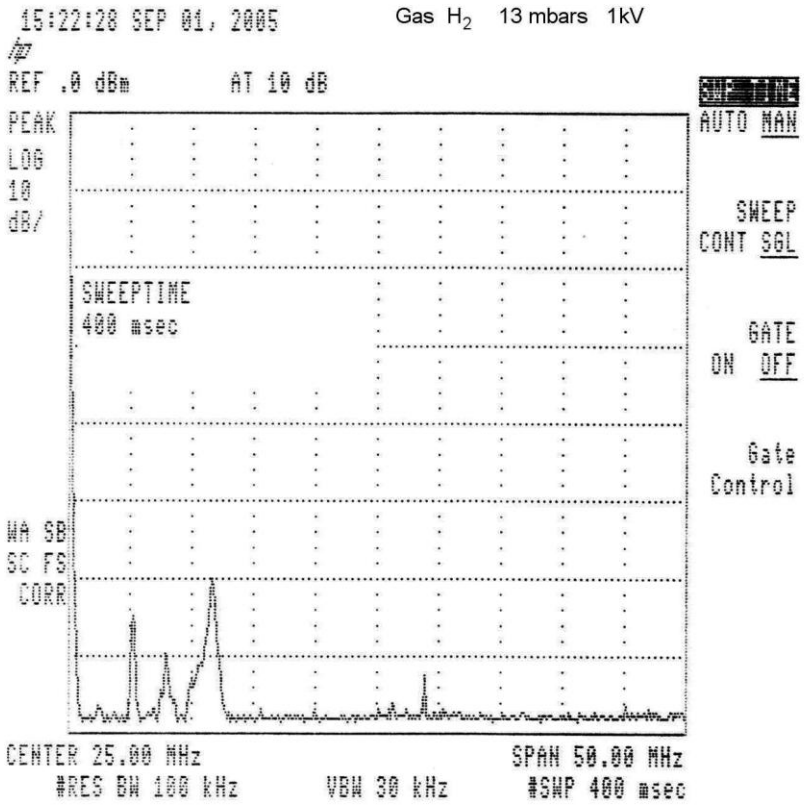


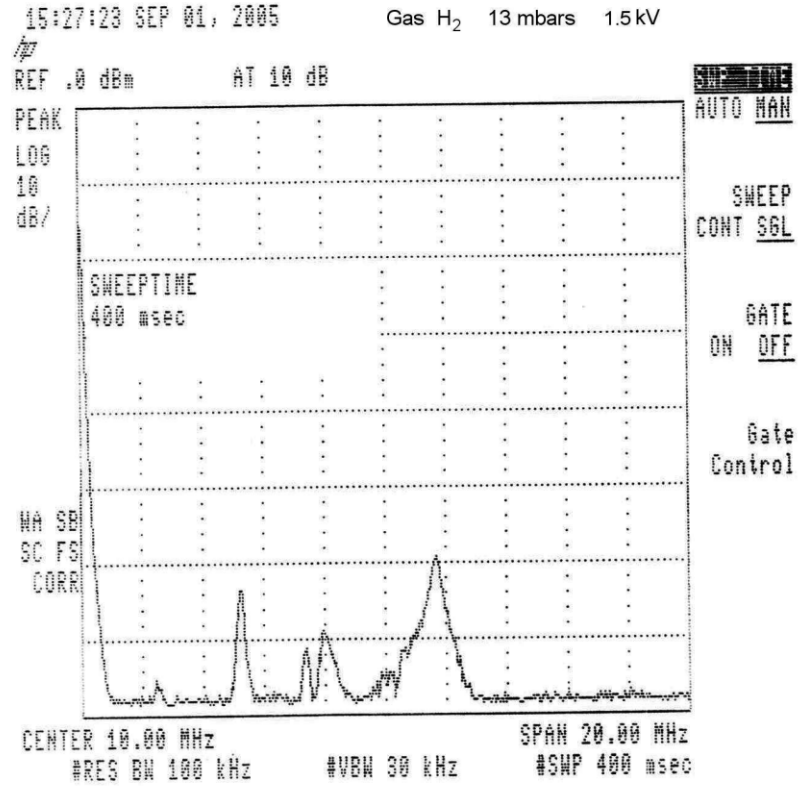
Spectrum analyser HP 8590L

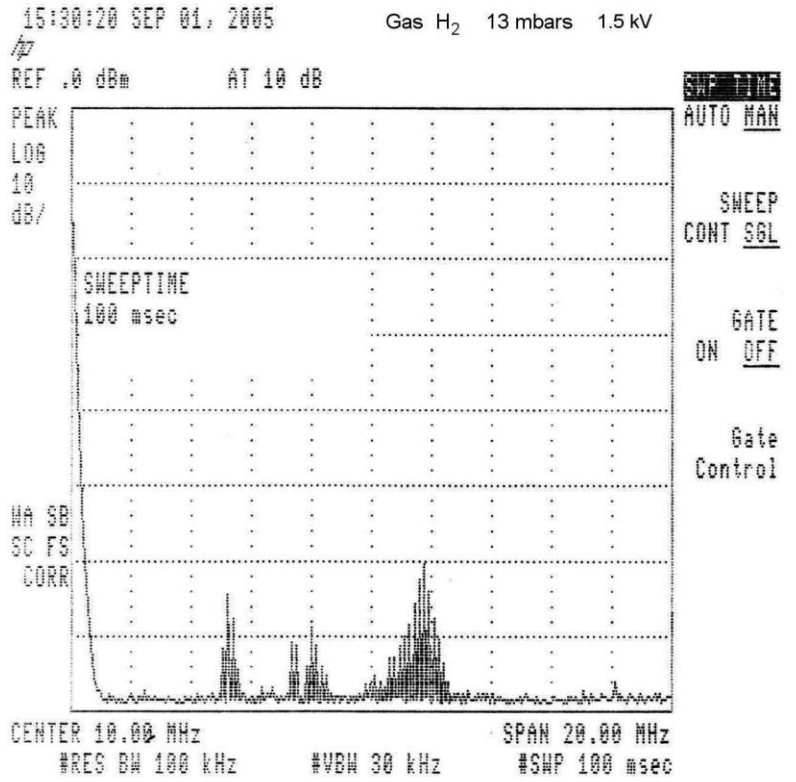


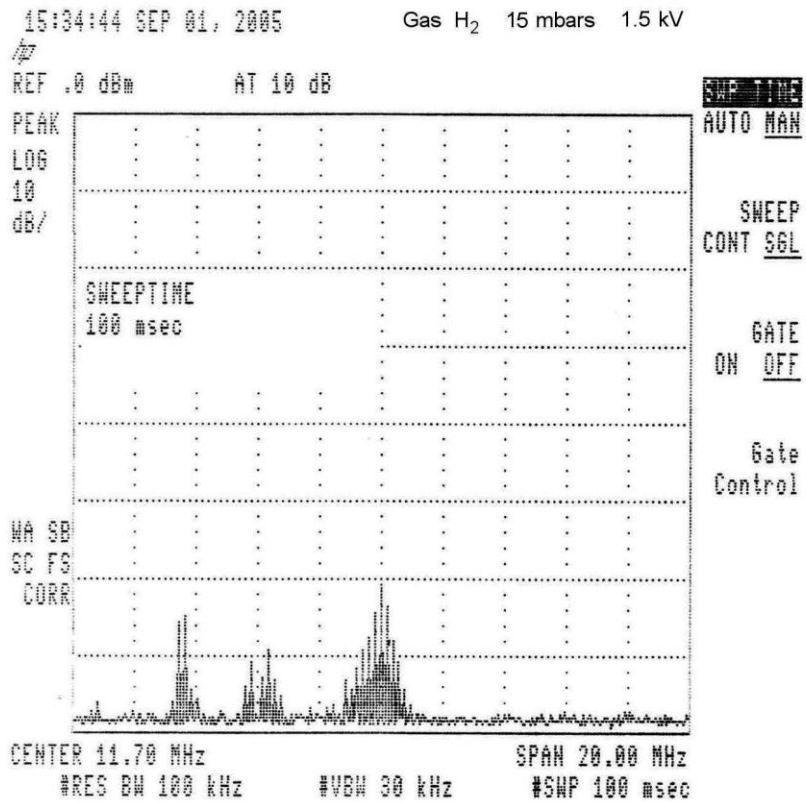
HP 8590L screen shot in dark

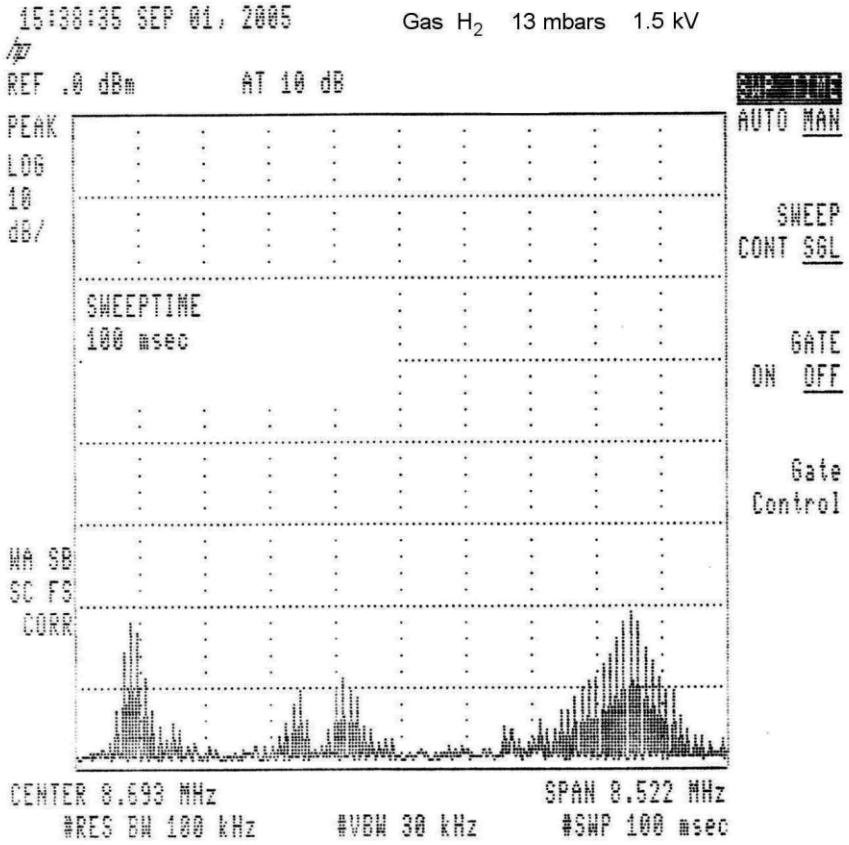
The spectra in all next pages are printed directly from the spectrum analyser

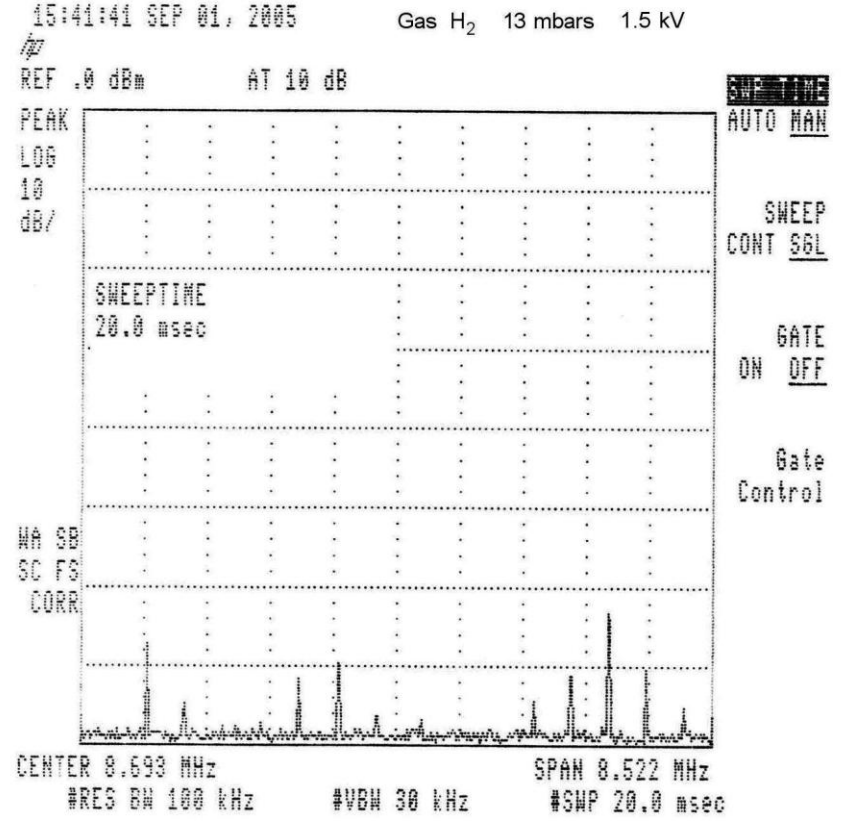

15:22:28 SEP 01, 2005
Gas H_2 13 mbars 1kV
REF .0 dBm
AT 10 dB
SWP TIME
AUTO MAN
PEAK
LOG
10
dB/
SWEEP
CONT SGL
SWEEPTIME
400 msec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 25.00 MHz
SPAN 50.00 MHz
#RES BW 100 kHz
VBW 30 kHz
#SWP 400 msec

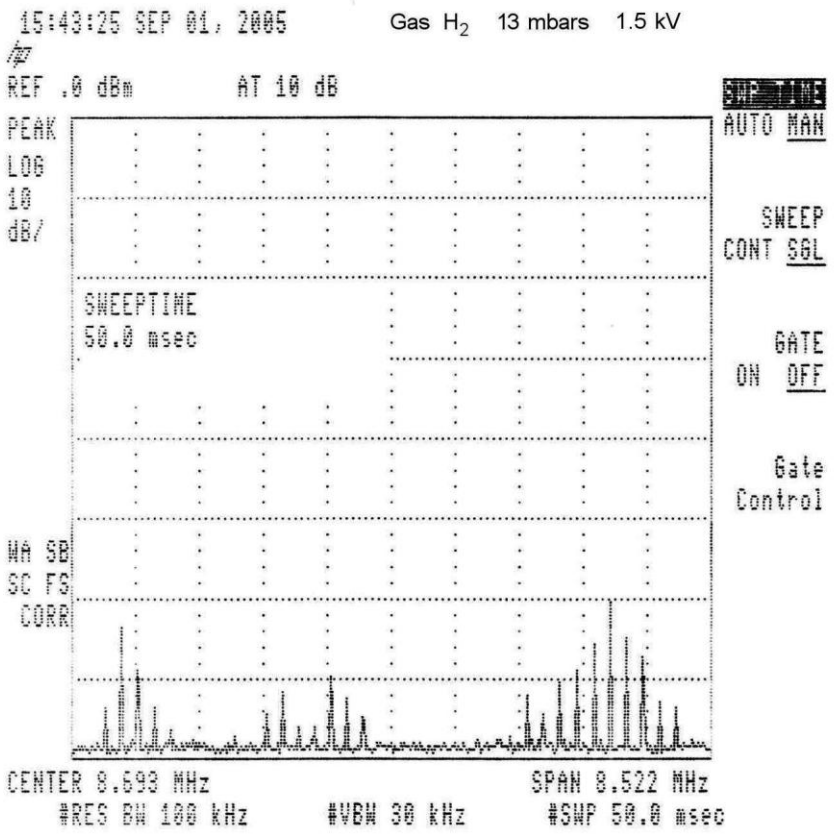

15:27:23 SEP 01, 2005
Gas H_2 13 mbars 1.5 kV
REF .0 dBm
AT 10 dB
SWP TIME
AUTO MAN
PEAK
LOG
10
dB/
SWEEP
CONT SGL
SWEEPTIME
400 msec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 10.00 MHz
SPAN 20.00 MHz
#RES BW 100 kHz
#VBW 30 kHz
#SWP 400 msec

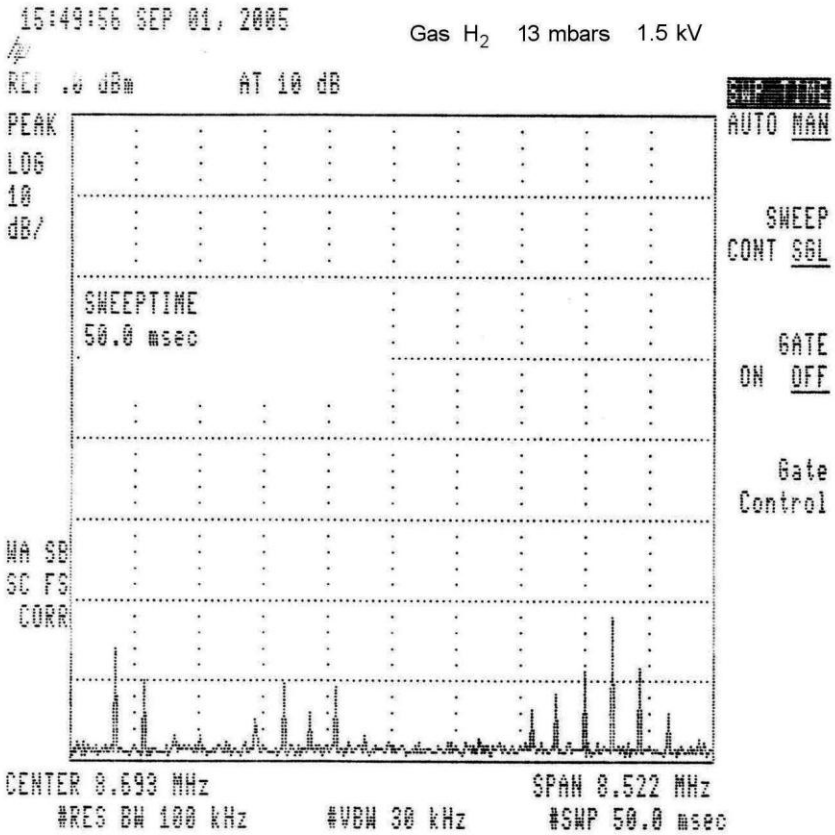

15:30:20 SEP 01, 2005
Gas H_2 13 mbars 1.5 kV
REF .0 dBm
AT 10 dB
SWP TIME
AUTO MAN
PEAK
LOG
10
dB/
SWEEP
CONT SGL
SWEEPTIME
100 msec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 10.00 MHz
SPAN 20.00 MHz
#RES BW 100 kHz
#VBW 30 kHz
#SWP 100 msec

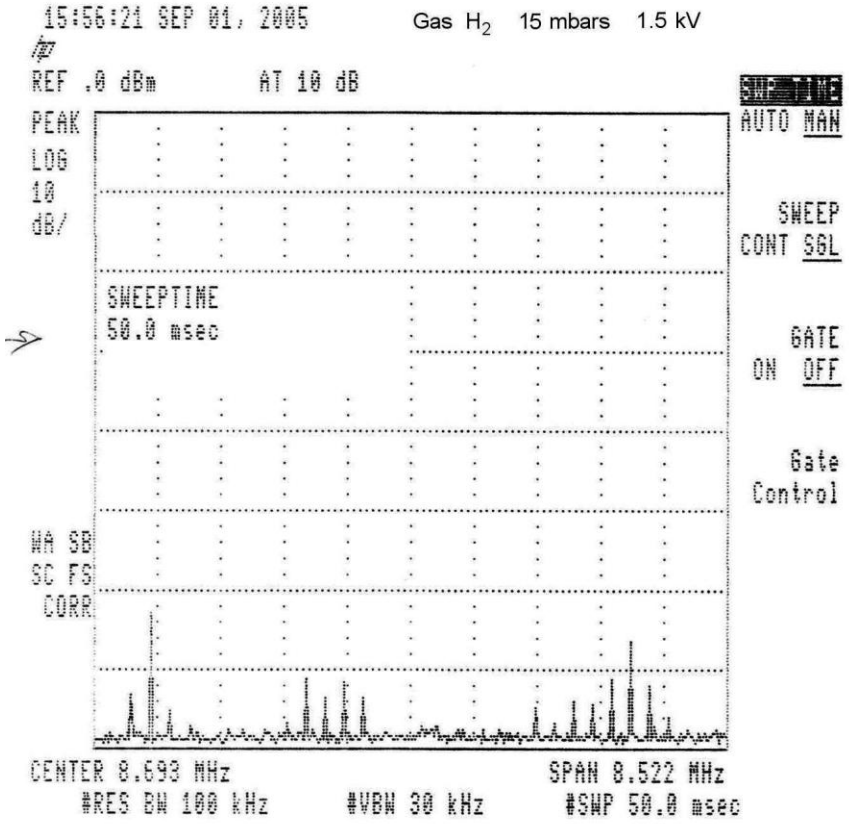

15:34:44 SEP 01, 2005
Gas H_2 15 mbars 1.5 kV
REF .0 dBm
AT 10 dB
SWP TIME
AUTO MAN
PEAK
LOG
10
dB/
SWEEP
CONT SGL
SWEEPTIME
100 msec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 11.70 MHz
SPAN 20.00 MHz
#RES BW 100 kHz
#VBW 30 kHz
#SWP 100 msec

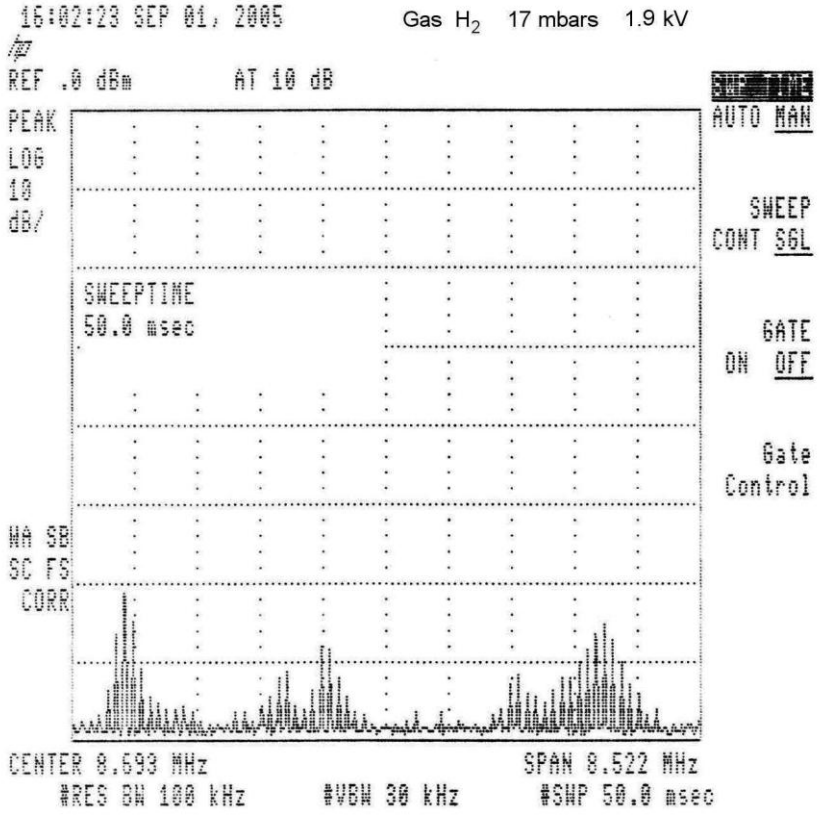

15:38:35 SEP 01, 2005
Gas H_2 13 mbars 1.5 kV
REF .0 dBm
AT 10 dB
SWP TIME
AUTO MAN
PEAK
LOG
10
dB/
SWEEP
CONT SGL
SWEEPTIME
100 msec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 8.693 MHz
SPAN 8.522 MHz
#RES BW 100 kHz
#VBW 30 kHz
#SWP 100 msec

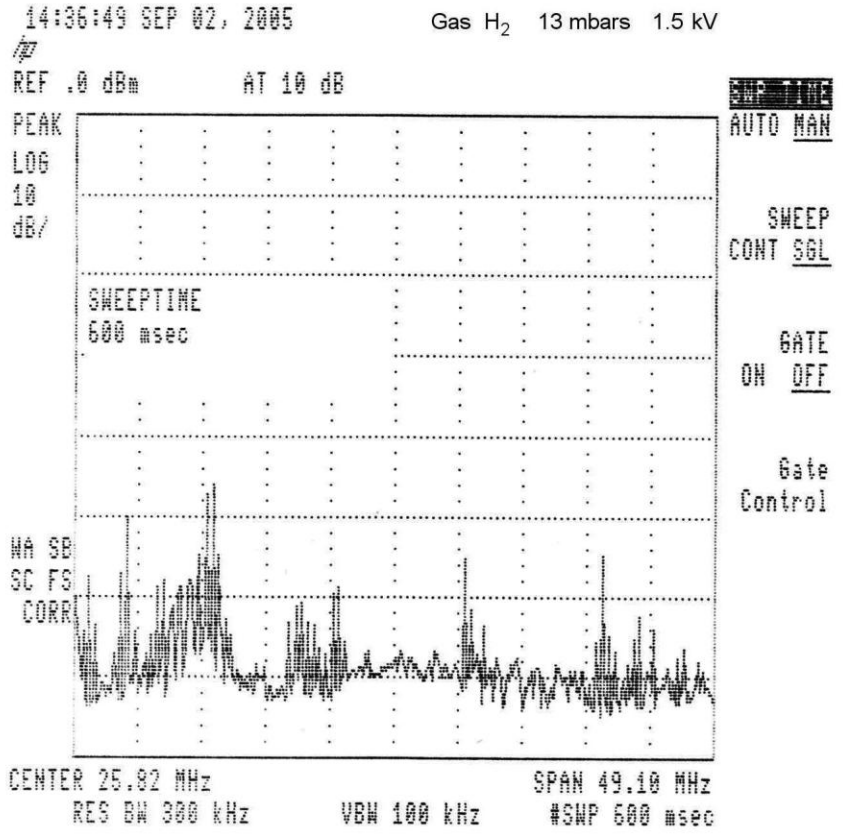

15:41:41 SEP 01, 2005
Gas H_2 13 mbars 1.5 kV
REF .0 dBm
AT 10 dB
SWP TIME
AUTO MAN
PEAK
LOG
10
dB/
SWEEP
CONT SGL
SWEEPTIME
20.0 msec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 8.693 MHz
SPAN 8.522 MHz
#RES BW 100 kHz
#VBW 30 kHz
#SWP 20.0 msec

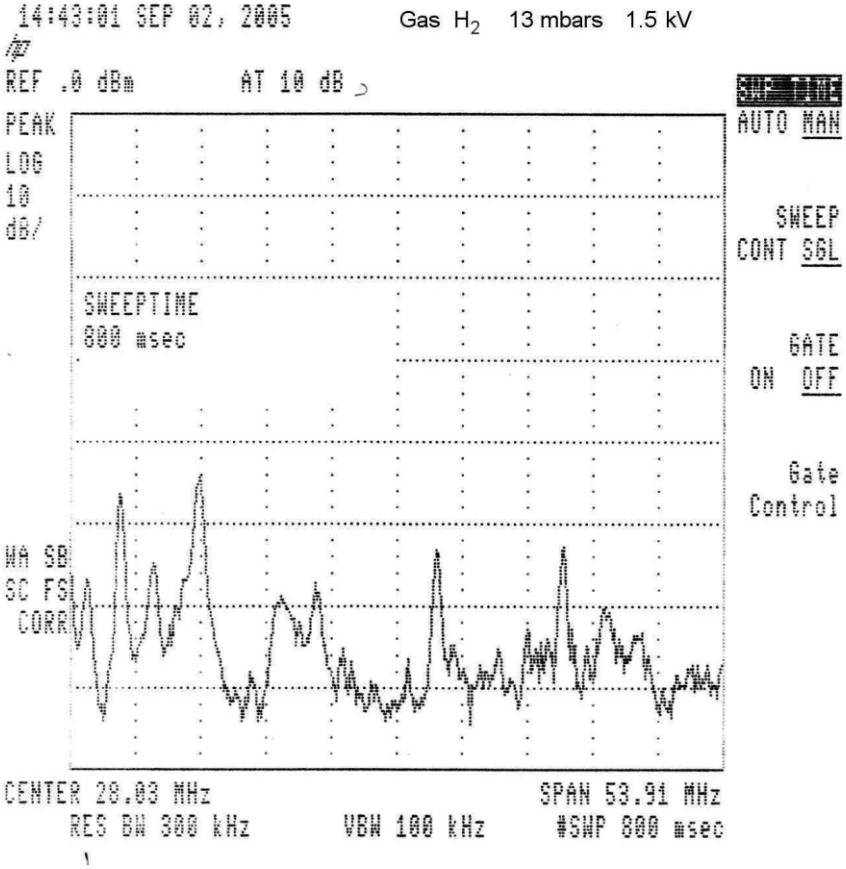

15:43:25 SEP 01, 2005
Gas H_2 13 mbars 1.5 kV
REF .0 dBm
AT 10 dB
SWP TIME
AUTO MAN
PEAK
LOG
10
dB/
SWEEP
CONT SGL
SWEEPTIME
50.0 msec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 8.693 MHz
SPAN 8.522 MHz
#RES BW 100 kHz
#VBW 30 kHz
#SWP 50.0 msec

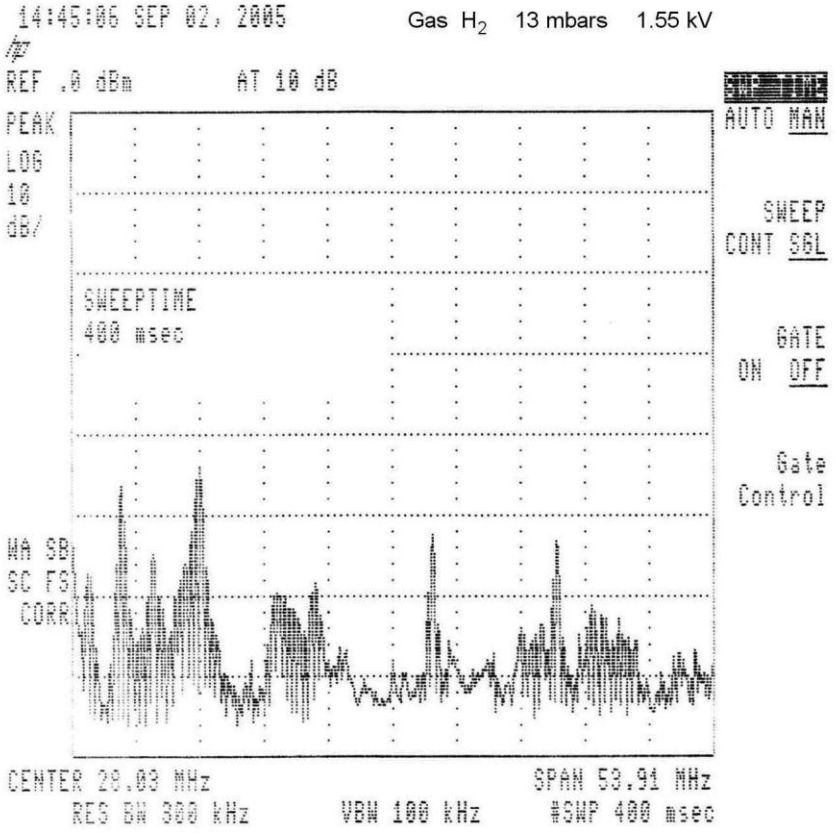

15:49:56 SEP 01, 2005
Gas H_2 13 mbars 1.5 kV
REF .0 dBm
AT 10 dB
SWP TIME
AUTO MAN
PEAK
LOG
10
dB/
SWEEP
CONT SGL
SWEEPTIME
50.0 msec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 8.693 MHz
SPAN 8.522 MHz
#RES BW 100 kHz
#VBW 30 kHz
#SWP 50.0 msec

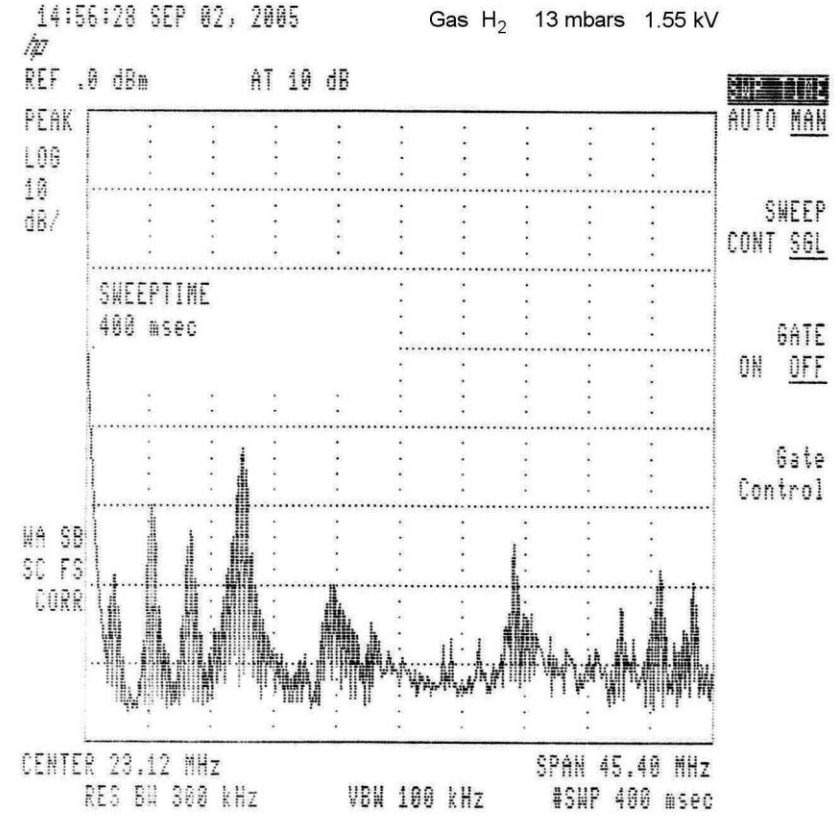

15:56:21 SEP 01, 2005
Gas H_2 15 mbars 1.5 kV
REF .0 dBm
AT 10 dB
PEAK
LOG
10
dB/
SWEEPTIME
50.0 msec
SWP TIME
AUTO MAN
SWEEP
CONT SGL
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 8.693 MHz
SPAN 8.522 MHz
#RES BW 100 kHz
#VBW 30 kHz
#SWP 50.0 msec

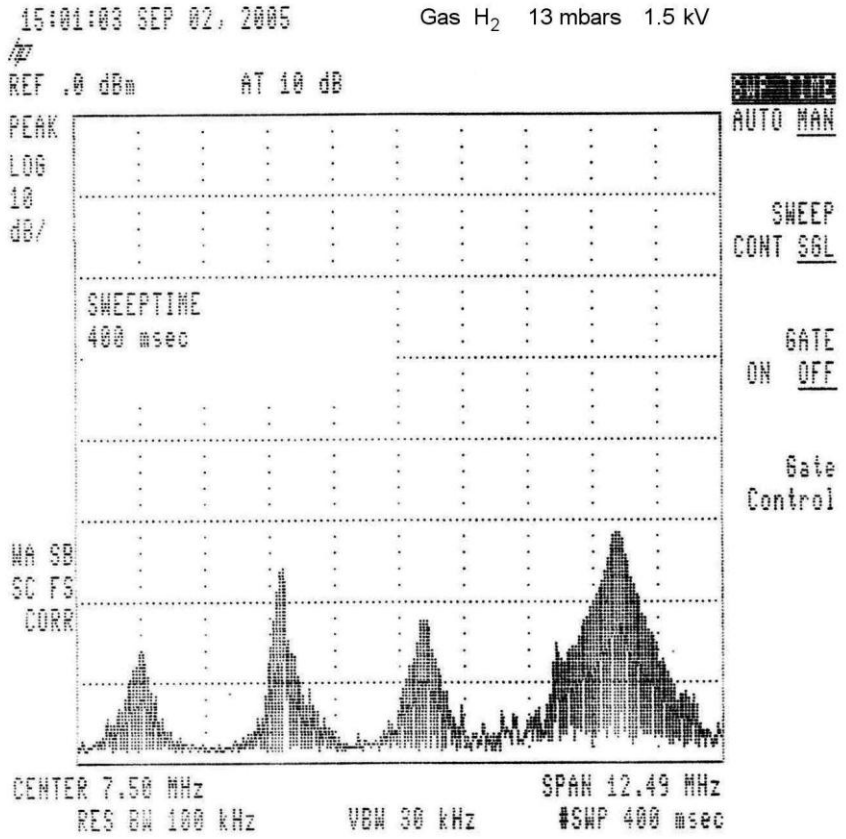

16:02:23 SEP 01, 2005
Gas H_2 17 mbars 1.9 kV
REF .0 dBm
AT 10 dB
PEAK
LOG
10
dB/
SWEEPTIME
50.0 msec
SWP TIME
AUTO MAN
SWEEP
CONT SGL
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 8.693 MHz
SPAN 8.522 MHz
#RES BW 100 kHz
#VBW 30 kHz
#SWP 50.0 msec

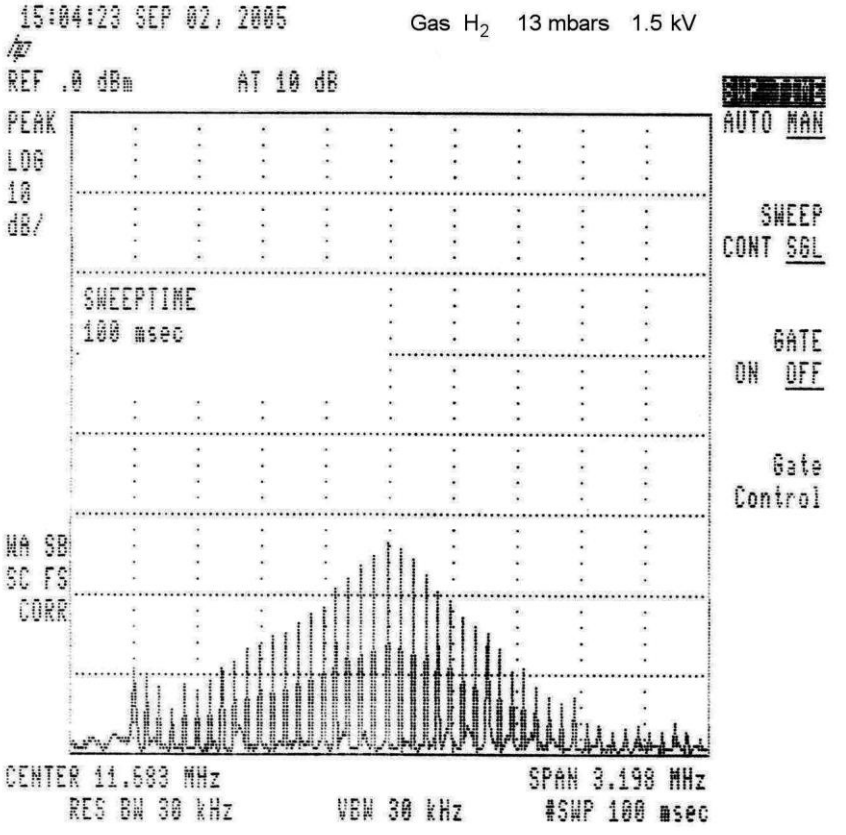

14:36:49 SEP 02, 2005
Gas H_2 13 mbars 1.5 kV
REF .0 dBm
AT 10 dB
SWP TIME
AUTO MAN
PEAK
LOG
10
dB/
SWEEP
CONT SGL
SWEEPTIME
600 msec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 25.82 MHz
SPAN 49.10 MHz
RES BW 300 kHz
VBW 100 kHz
#SWP 600 msec

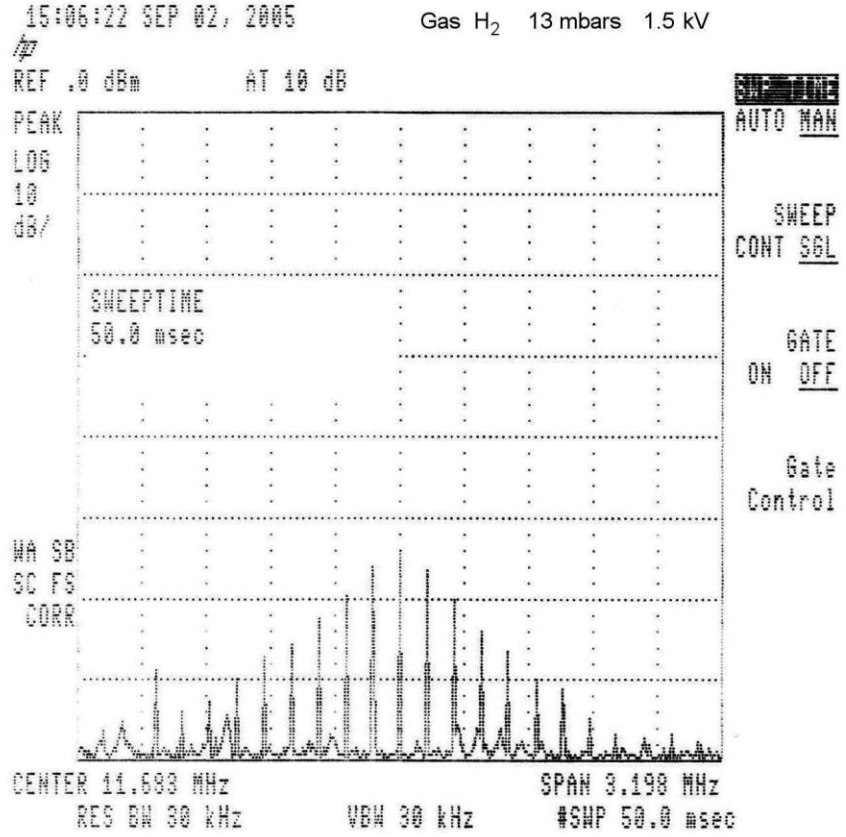

14:43:01 SEP 02, 2005
Gas H_2 13 mbars 1.5 kV
REF .0 dBm
AT 10 dB
SWP TIME
AUTO MAN
PEAK
LOG
10
dB/
SWEEP
CONT SGL
SWEEPTIME
800 msec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 28.03 MHz
SPAN 53.91 MHz
RES BW 300 kHz
VBW 100 kHz
#SWP 800 msec

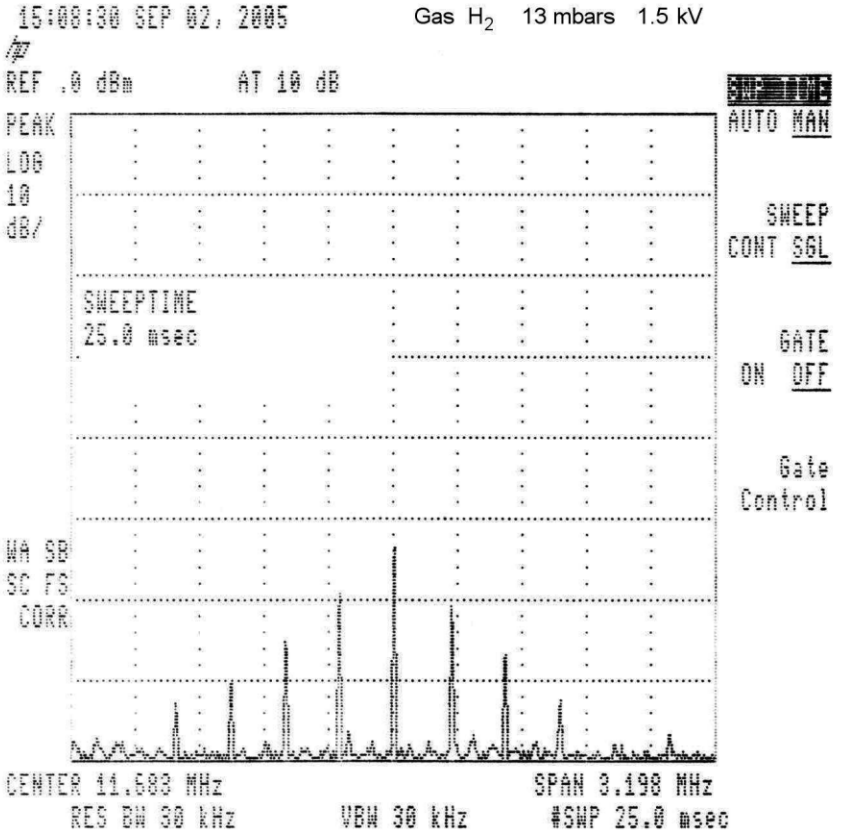

14:45:06 SEP 02, 2005
Gas H_2 13 mbars 1.55 kV
REF .0 dBm
AT 10 dB
PEAK
LOG
10
dB/
SWEEPTIME
400 msec
SWP TIME
AUTO MAN
SWEEP
CONT SGL
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 28.03 MHz
SPAN 53.91 MHz
RES BW 300 kHz
VBW 100 kHz
#SWP 400 msec

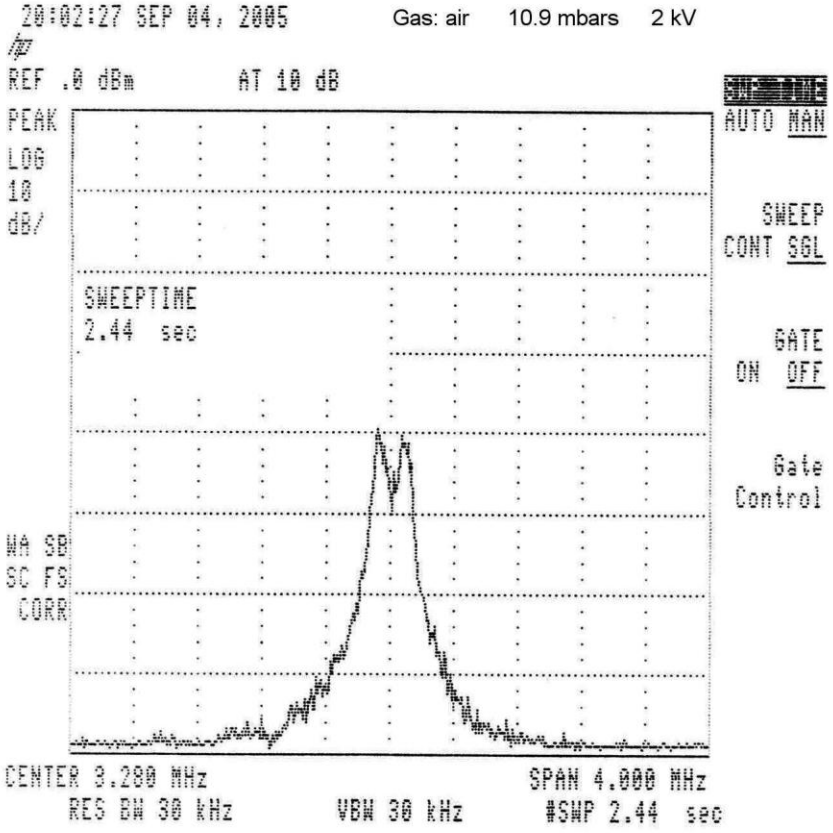

14:56:28 SEP 02, 2005
Gas H_2 13 mbars 1.55 kV
REF .0 dBm
AT 10 dB
PEAK
LOG
10
dB/
SWEEPTIME
400 msec
SWP TIME
AUTO MAN
SWEEP
CONT SGL
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 23.12 MHz
SPAN 45.40 MHz
RES BW 300 kHz
VBW 100 kHz
#SWP 400 msec

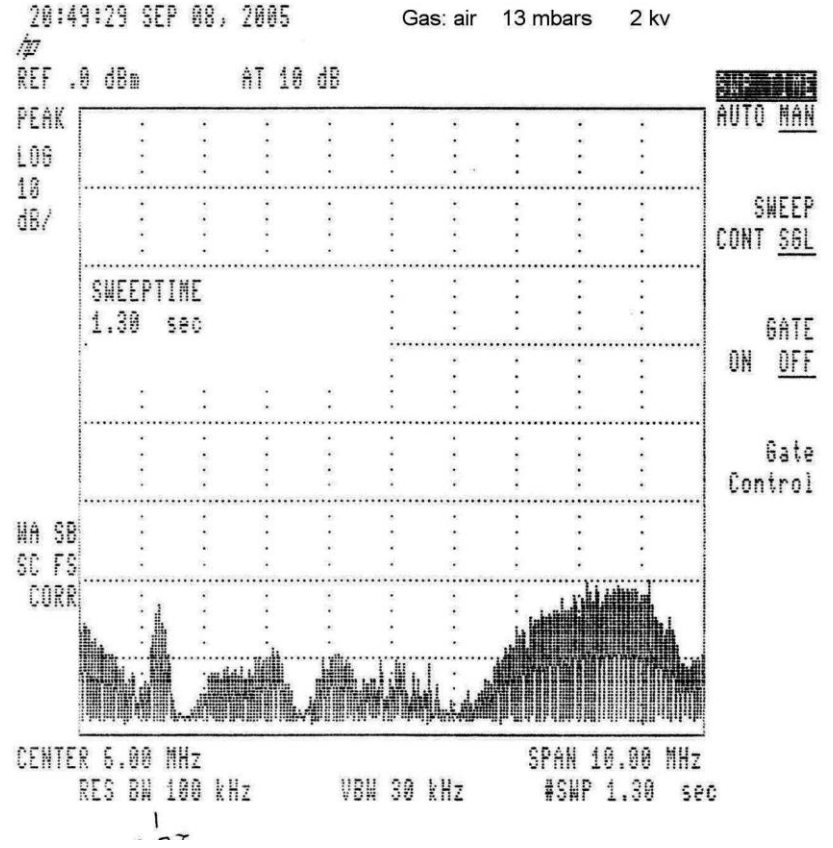

15:01:03 SEP 02, 2005
Gas H_2 13 mbars 1.5 kV
REF .0 dBm
AT 10 dB
SWP TIME
AUTO MAN
PEAK
LOG
10
dB/
SWEEP
CONT SGL
SWEEPTIME
400 msec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 7.50 MHz
SPAN 12.49 MHz
RES BW 100 kHz
VBW 30 kHz
#SWP 400 msec

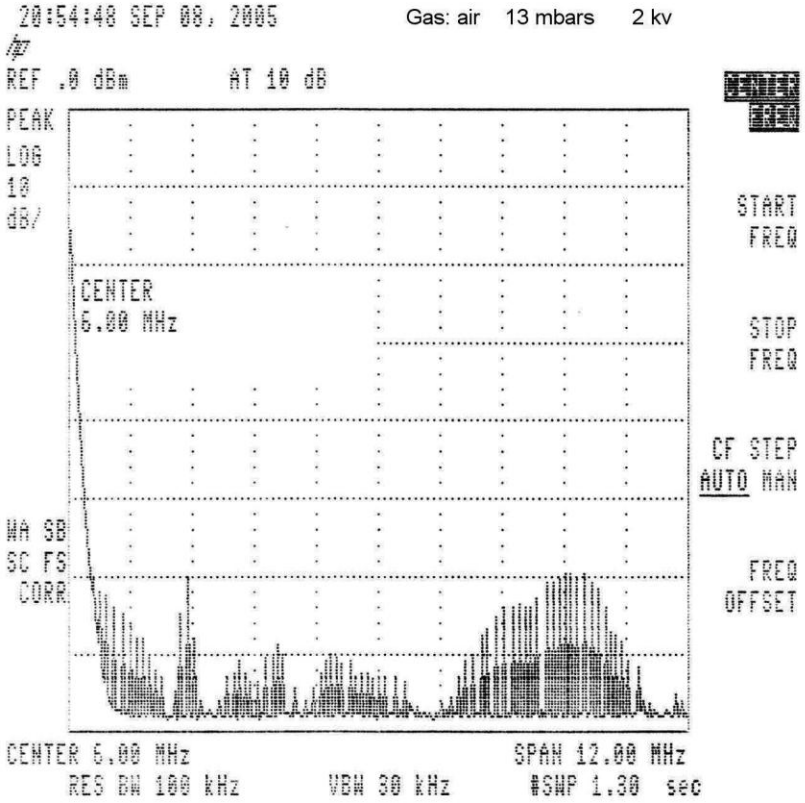

15:04:23 SEP 02, 2005
Gas H_2 13 mbars 1.5 kV
REF .0 dBm
AT 10 dB
SWP TIME
AUTO MAN
PEAK
LOG
10
dB/
SWEEP
CONT SGL
SWEEPTIME
100 msec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 11.583 MHz
SPAN 3.190 MHz
RES BW 30 kHz
VBW 30 kHz
#SWP 100 msec

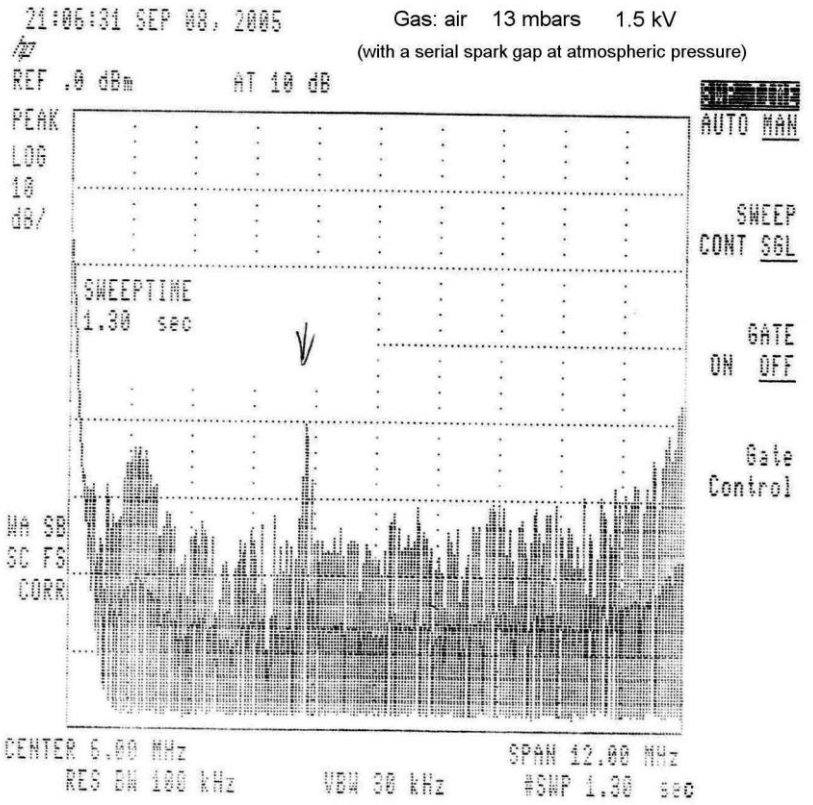

15:06:22 SEP 02, 2005
Gas H_2 13 mbars 1.5 kV
REF .0 dBm
AT 10 dB
PEAK
LOG
10
dB/
SWEEPTIME
50.0 msec
SWP TIME
AUTO MAN
SWEEP
CONT SGL
GATE
ON OFF
Gate
Control
WA SB
SC FS
CORR
CENTER 11.683 MHz
SPAN 3.198 MHz
RES BW 30 kHz
VBW 30 kHz
#SWP 50.0 msec

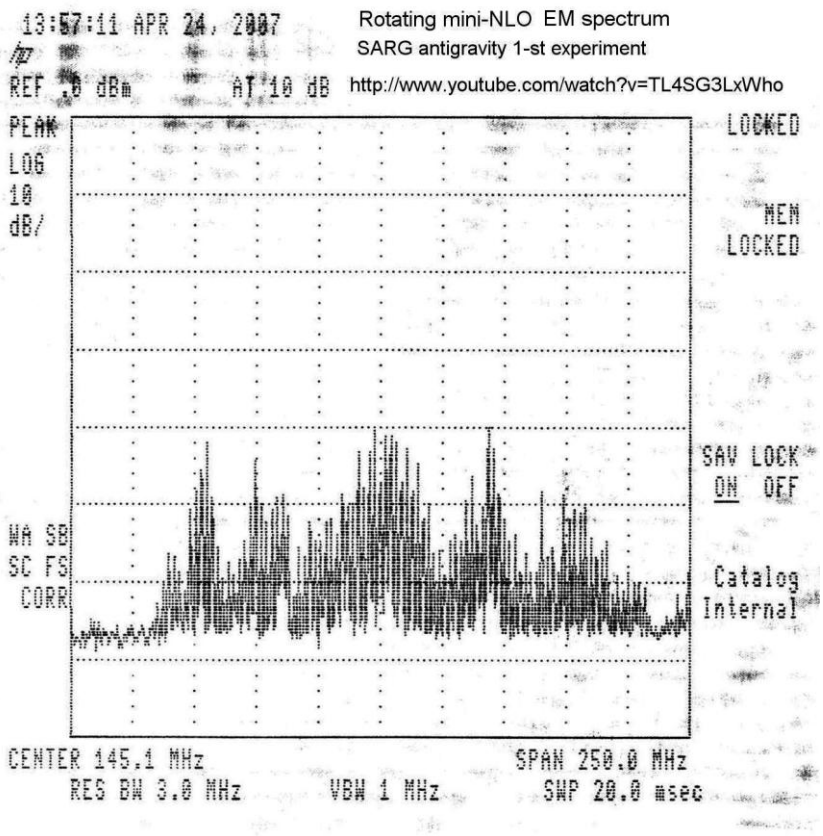

15:08:30 SEP 02, 2005
Gas H_2 13 mbars 1.5 kV
REF .0 dBm
AT 10 dB
PEAK
LOG
10
dB/
SWEEPTIME
25.0 msec
SWP TIME
AUTO MAN
SWEEP
CONT SGL
GATE
ON OFF
Gate
Control
WA SB
SC FS
CORR
CENTER 11.683 MHz
SPAN 3.198 MHz
RES BW 30 kHz
VBW 30 kHz
#SWP 25.0 msec

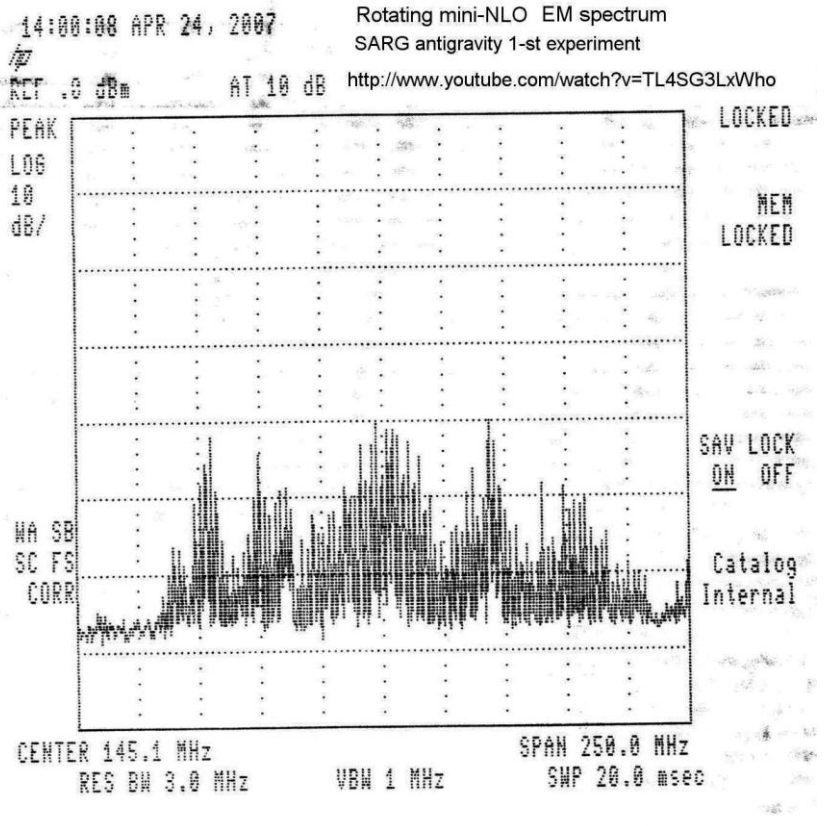

20:02:27 SEP 04, 2005
Gas: air 10.9 mbars 2 kV
REF .0 dBm
AT 10 dB
PEAK
LOG
10
dB/
SWP TIME
AUTO MAN
SWEEP
CONT SGL
SWEEPTIME
2.44 sec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 3.280 MHz
SPAN 4.000 MHz
RES BW 30 kHz
VBW 30 kHz
#SWP 2.44 sec


20:49:29 SEP 08, 2005
Gas: air 13 mbars 2 kv
REF .0 dBm
AT 10 dB
PEAK
LOG
10
dB/
SWP TIME
AUTO MAN
SWEEP
CONT SGL
SWEEPTIME
1.30 sec
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 5.00 MHz
SPAN 10.00 MHz
RES BW 100 kHz
VBW 30 kHz
#SWP 1.30 sec


20:54:48 SEP 08, 2005
Gas: air 13 mbars 2 kv
REF .0 dBm
AT 10 dB
PEAK
LOG
10
dB/
CENTER
6.00 MHz
CENTER
FREQ
START
FREQ
STOP
FREQ
CF STEP
AUTO MAN
FREQ
OFFSET
MA SB
SC FS
CORR
CENTER 6.00 MHz
SPAN 12.00 MHz
RES BW 100 kHz
VBW 30 kHz
#SWP 1.30 sec


21:06:31 SEP 08, 2005
Gas: air 13 mbars 1.5 kV
(with a serial spark gap at atmospheric pressure)
REF .0 dBm
AT 10 dB
PEAK
LOG
10
dB/
SWEEPTIME
1.30 sec
SWP TIME
AUTO MAN
SWEEP
CONT SGL
GATE
ON OFF
Gate
Control
MA SB
SC FS
CORR
CENTER 6.00 MHz
SPAN 12.00 MHz
RES BW 100 kHz
VBW 30 kHz
#SWP 1.30 sec


13:57:11 APR 24, 2007
Rotating mini-NLO EM spectrum
SARG antigravity 1-st experiment
http://www.youtube.com/watch?v=TL4SG3LxWho
REF .0 dBm
AT 10 dB
PEAK
LOG
10
dB/
LOCKED
MEM
LOCKED
SAV LOCK
ON OFF
WA SB
SC FS
CORR
Catalog
Internal
CENTER 145.1 MHz
SPAN 250.0 MHz
RES BW 3.0 MHz
VBW 1 MHz
SWP 20.0 msec


14:00:08 APR 24, 2007
Rotating mini-NLO EM spectrum
SARG antigravity 1-st experiment
http://www.youtube.com/watch?v=TL4SG3LxWho
REF .0 dBm
AT 10 dB
PEAK
LOG
10
dB/
LOCKED
MEM
LOCKED
SAV LOCK
ON OFF
WA SB
SC FS
CORR
Catalog
Internal
CENTER 145.1 MHz
SPAN 250.0 MHz
RES BW 3.0 MHz
VBW 1 MHz
SWP 20.0 msec

EM spectrum of Wimshirst machine.
Signal - picked by antenna.