**The first 4 hour SEEFIAs experimental time by Fu is 15-19UT, 5-9LT, July 3, Wednesday with full power, O-mode, magnetic zenith case, frequency sweeping.**

Run **List A4-1 table** for the **fourth** harmonic for one hour (**5-6 Local time, 15-16 UT**)

Repeat **List A4-2 table**  for the **fourth** harmonics for the second hour (6-7 Local time)

Run **List B3-1 table** for the **third** harmonic for the third hour (7-8 Local time)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **List A4-1 (4th, 5.422 MHz)**  **(5-6 LT)** | **Time (Day 1)**  **(15-19UT, 5-9LT, 2012 July 3)** | **Frequency**  **(5.30-5.58 MHz, 280KHz with 20kHz)** | **Heater on** | **Heater off** | **Power**  **(O-mode)** | **Zenith**  **angle** |
| 1 | 5:00:00-5:04:00 | 5.30 MHz | 2min | 2min | Full power  (O-mode) | Magnetic zenith (12o) |
| 2 | 5:04:00-5:08:00 | 5.32 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| 3 | 5:08:00-5:12:00 | 5.34 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| 4 | 5:12:00-5:16:00 | 5.36 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| 5 | 5:16:00-5:20:00 | 5.38 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| 6 | 5:20:00-5:24:00 | 5.40 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| 7 | 5:24:00-5:28:00 | 5.42MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| 8 | 5:28:00-5:32:00 | 5.44 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| 9 | 5:32:00-5:36:00 | 5.46 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| 10 | 5:36:00-5:40:00 | 5.48 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| 11 | 5:40:00-5:44:00 | 5.50 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| 12 | 5:44:00-5:48:00 | 5.52 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| 13 | 5:48:00-5:52:00 | 5.54 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| 14 | 5:52:00-5:56:00 | 5.56 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| 15 | 5:56:00-5:60:00 | 5.58 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **Total time** | **1 hour** |  |  |  |  |  |

Repeat **List B3-2 table** for the **third** harmonics for the third hour (8-9 Local time)

Hour 2 (Up and down sweep)

With heater cycle 1 minute on, 1 minute off. The beam angle is for magnetic zenith case. Frequency covers 5.3 MHz-5.58 MHz with frequency band 280 KHz in step of 20 kHz.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **List A4-2 (4th, 5.422 MHz)**  **(6-7 LT)** | **Time (Day 1)**  **(15-19UT, 5-9LT, 2012 July 3)** | **Frequency** | **Heater on**  **(1 minute)**  **Heater off**  **(1 minute)** | **Number** | **Time** | **Frequency** |
| 1 | 6:00:00-02:00 | 5.30 MHz | 1min | 16 | 30-32 | 5.58 MHz |
| 2 | 2-4 | 5.32 MHz | 1min | 17 | 32-34 | 5.56 MHz |
| 3 | 4-6 | 5.34 MHz | 1min | 18 | 34-36 | 5.54 MHz |
| 4 | 6-8 | 5.36 MHz | 1min | 19 | 36-38 | 5.52 MHz |
| 5 | 8-10 | 5.38 MHz | 1min | 20 | 38-40 | 5.50 MHz |
| 6 | 10-12 | 5.40 MHz | 1min | 21 | 40-42 | 5.48 MHz |
| 7 | 12-14 | 5.42MHz | 1min | 22 | 42-44 | 5.46 MHz |
| 8 | 14-16 | 5.44 MHz | 1min | 23 | 44-46 | 5.44 MHz |
| 9 | 16-18 | 5.46 MHz | 1min | 24 | 46-48 | 5.42 MHz |
| 10 | 18-20 | 5.48 MHz | 1min | 25 | 48-50 | 5.40 MHz |
| 11 | 20-22 | 5.50 MHz | 1min | 26 | 50-52 | 5.38 MHz |
| 12 | 22-24 | 5.52 MHz | 1min | 27 | 52-54 | 5.36 MHz |
| 13 | 24-26 | 5.54 MHz | 1min | 28 | 54-56 | 5.34 MHz |
| 14 | 26-28 | 5.56 MHz | 1min | 29 | 56-58 | 5.32 MHz |
| 15 | 28-30 | 5.58 MHz | 1min | 30 | 58-60 | 5.30 MHz |
| **Total time** | **30 min** |  |  | **Total time** | **30min** |  |

Hour 3 (Up only)

With heater cycle 2 minute on, 2 minute off. The beam angle is for magnetic zenith case. Frequency 3.9 MHz-4.18 MHz with frequency band 280 KHz in step of 20 kHz.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **List B3-1**  **(3rd, 4.042MHz,**  **7-8 LT)** | **Time (Day 1)(15-19UT, 5-9LT, 2012 July 3)** | **Frequency**  **(3.90-4.18 MHz, 280KHz with 20kHz)** | **Heater on**  **(2 minute)** | **Heater off**  **(2 minute)** | **Power**  **(O mode)** | **Zenith**  **angle** |
| **1** | 7:00:00-7:04:00 | 3.9 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **2** | 7:04:00-7:08:00 | 3.92 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **3** | 7:08:00-7:12:00 | 3.94 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **4** | 7:12:00-7:16:00 | 3.96 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **5** | 7:16:00-7:20:00 | 3.98 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **6** | 7:20:00-7:24:00 | 4.0 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **7** | 7:24:00-7:28:00 | 4.02 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **8** | 7:28:00-7:32:00 | 4.04 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **9** | 7:32:00-7:36:00 | 4.06 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **10** | 7:36:00-7:40:00 | 4.08 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **11** | 7:40:00-7:44:00 | 4.1 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **12** | 7:44:00-7:48:00 | 4.12 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **13** | 7:48:00-5:52:00 | 4.14 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **14** | 7:52:00-7:56:00 | 4.16 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **15** | 7:56:00-8:00:00 | 4.18 MHz | 2min | 2min | Full power | Magnetic zenith (12o) |
| **Total time** | **1 hour** |  |  |  |  |  |

Hour 4 (Up and down)

With heater cycle 1 minute on, 1 minute off. The beam angle is for magnetic zenith case. Frequency 3.9 MHz-4.18 MHz with frequency band 280 KHz in step of 20 kHz.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **List B3-2 (3rd, 4.042MHz,**  **8-9 LT)** | **Time (Day 1)**  **(15-19UT, 5-9LT, 2012 July 3)** | **Frequency** | **Heater on**  **(1 minute)**  **Heater off**  **(1 minute)** | **Number** | **Time** | **Frequency** |
| 1 | 6:00:00-02:00 | 3.9 MHz | 1min | 16 | 30-32 | 4.18 MHz |
| 2 | 2-4 | 3.92 MHz | 1min | 17 | 32-34 | 4.16 MHz |
| 3 | 4-6 | 3.94 MHz | 1min | 18 | 34-36 | 4.14 MHz |
| 4 | 6-8 | 3.96 MHz | 1min | 19 | 36-38 | 4.12 MHz |
| 5 | 8-10 | 3.98 MHz | 1min | 20 | 38-40 | 4.10 MHz |
| 6 | 10-12 | 4.0 MHz | 1min | 21 | 40-42 | 4.08 MHz |
| 7 | 12-14 | 4.02MHz | 1min | 22 | 42-44 | 4.06 MHz |
| 8 | 14-16 | 4.04MHz | 1min | 23 | 44-46 | 4.04 MHz |
| 9 | 16-18 | 4.06 MHz | 1min | 24 | 46-48 | 4.02 MHz |
| 10 | 18-20 | 4.08 MHz | 1min | 25 | 48-50 | 4.00 MHz |
| 11 | 20-22 | 4.10 MHz | 1min | 26 | 50-52 | 3.98 MHz |
| 12 | 22-24 | 4.12 MHz | 1min | 27 | 52-54 | 3.96 MHz |
| 13 | 24-26 | 4.14 MHz | 1min | 28 | 54-56 | 3.94 MHz |
| 14 | 26-28 | 4.16 MHz | 1min | 29 | 56-58 | 3.92 MHz |
| 15 | 28-30 | 4.18 MHz | 1min | 30 | 58-60 | 3.90 MHz |
| **Total time** | **30 min** |  |  | **Total time** | **30min** |  |

**UHF Radar Mode for the first 4 hour SEEFIAs experimental time by Fu is 15-19UT, 5-9LT, July 3, Wednesday with full power, O-mode, magnetic zenith case, frequency sweeping.**

**Run it with**

runexperiment /kst/exp/beata/beata lma cp1 pp

Enable recording, 50-700 km range, 3 km resolution

**UHF radar scanning scheme for the Second day experiment with beam sweeping (will be changed later depending on schedual):**

Edit it on the Tromso server at /kst/exp/scans/kst/pp/fu\_pattern.elan

Run it with

runexperiment /kst/exp/beata/beata 15:00 pp/fu PP

BLOCK fu { Expname height} {

DISP "[TimeStamp now] -- $Expname running Scan Fu"

changersite TROMSO

set AZ 184.7

set dwell 600

DO -1 {

pointrheight $AZ 90 $height

setpolariser

DISP " [TimeStamp now -noyear] Scan Fu 0 deg"

SYNC $dwell

pointrheight $AZ 84 $height

setpolariser

DISP " [TimeStamp now -noyear] Scan Fu 6 deg"

SYNC $dwell

pointrheight $AZ 78 $height

setpolariser

DISP " [TimeStamp now -noyear] Scan Fu 12 deg"

SYNC $dwell

pointrheight $AZ 72 $height

setpolariser

DISP " [TimeStamp now -noyear] Scan Fu 18 deg"

SYNC $dwell

pointrheight $AZ 66 $height

setpolariser

DISP " [TimeStamp now -noyear] Scan Fu 24 deg"

SYNC $dwell

}

}

**# VT eiscat heating experiment scheduling crime for SUPERDARN radar**

2012 7 3 15 0 /home/radar/usr/bin/stereoscan /data/scd/HEATmono-jul-12.finland

HEATmono-jul-12.finland

-offset 400 -intt 3

-frA 480 -frB 480

-rgA 15 -rgB 15

-lbA 5 -hbA 5

-lbB 5 -hbB 5

-b0A 2 -b1A 6 -b2A 9

-b0B 2 -cpidB -26999

HEATmono-jul-12.iceland

-offset 400 -intt 3

-frA 1470 -frB 1470

-rgA 15 -rgB 15

-lbA 15 -hbA 15

-lbB 15 -hbB 15

-b0A 23 -b1A 26 -b2A 29

-b0B 23 -cpidB -26999