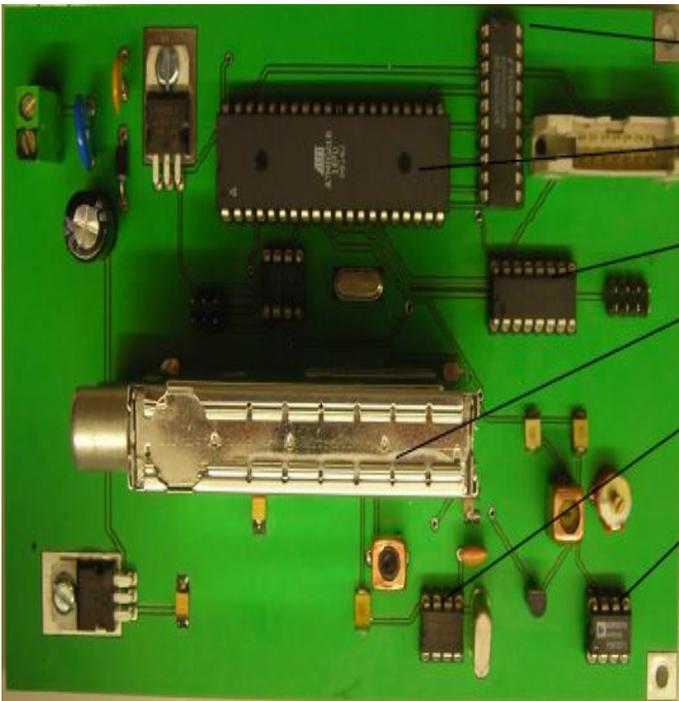




University, Egypt.



## ***Antenna specification***

- ***Boom: 25mm square tube.***
- ***Material: Aluminum (Al).***
- ***Element : 12 mm rod(solid)***
- ***Number of elements:19 per each side***



***Dimension from 1-19 elements in centimeters:-***

<b>1- 275.5</b>	<b>8- 122.5</b>	<b>15- 55</b>
<b>2- 245</b>	<b>9- 109</b>	<b>16- 49</b>
<b>3- 218.5</b>	<b>10- 97</b>	<b>17- 44</b>
<b>4- 194.5</b>	<b>11- 87</b>	<b>18- 39</b>
<b>5- 173.5</b>	<b>12- 77</b>	<b>19- 35</b>
<b>6- 154.5</b>	<b>13- 68.5</b>	
<b>7- 137.5</b>	<b>14- 62</b>	

## ***Spacing between the elements.***

From the bottom of the boom to the 1<sup>st</sup> elements is 109cm(don't forget to add 2 or 3 cm to the original length for fixing inside the boom).

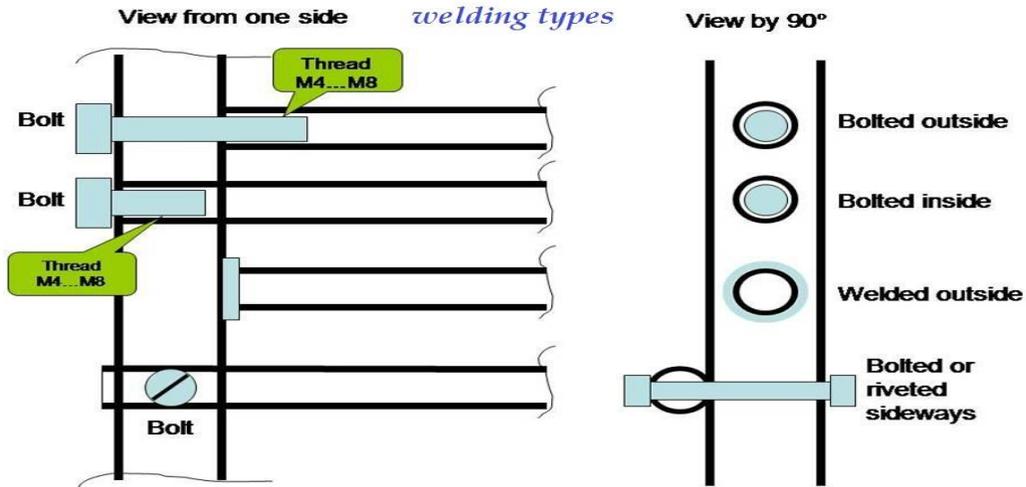
• *1 <sup>st</sup> element to 2 <sup>nd</sup> is 54.8cm.	• *2 <sup>nd</sup> element to 3 <sup>rd</sup> is 48.7cm.	• *3 <sup>rd</sup> element to 4 <sup>th</sup> is 43.4 cm.
• *4 <sup>th</sup> element to 5 <sup>th</sup> is 38.6 cm.	• *5 <sup>th</sup> element to 6 <sup>th</sup> is 34.4 cm.	• *6 <sup>th</sup> element to 7 <sup>th</sup> is 30.6 cm.
• *7 <sup>th</sup> element to 8 <sup>th</sup> is 27.2 cm.	• *8 <sup>th</sup> element to 9 <sup>th</sup> is 24.2 cm.	• *9 <sup>th</sup> element to 10 <sup>th</sup> is 21.6 cm.
• *10 <sup>th</sup> element to 11 <sup>th</sup> is 19.2 cm.	• *11 <sup>th</sup> element to 12 <sup>th</sup> is 17.1 cm.	• *12 <sup>th</sup> element to 13 <sup>th</sup> is 15.2 cm.
• *13 <sup>th</sup> element to 14 <sup>th</sup> is 13.8 cm.	• *14 <sup>th</sup> element to 15 <sup>th</sup> is 12 cm.	• *15 <sup>th</sup> element to 16 <sup>th</sup> is 10.7 cm.
• *16 <sup>th</sup> element to 17 <sup>th</sup> is 9.5 cm.	• *17 <sup>th</sup> element to 18 <sup>th</sup> is 8.5 cm.	• *18 <sup>th</sup> element to 19 <sup>th</sup> is 7.6 cm.

\*19<sup>th</sup> to the top is 6.7 cm.

- **Note: do not forget to add 2-plastic tubes diameter 4 Or 5 cm. for the first 7- elements attached to the boom as they are too long and too heavy for the boom so the need to be supplied .**
- **donot forget to add other 2- plastic tubes 5 cm diameter 295 cm long on both sides.**



# Welding



Methods of mounting dipoles on a antenna boom Chr. Monstein, 2011-09-20

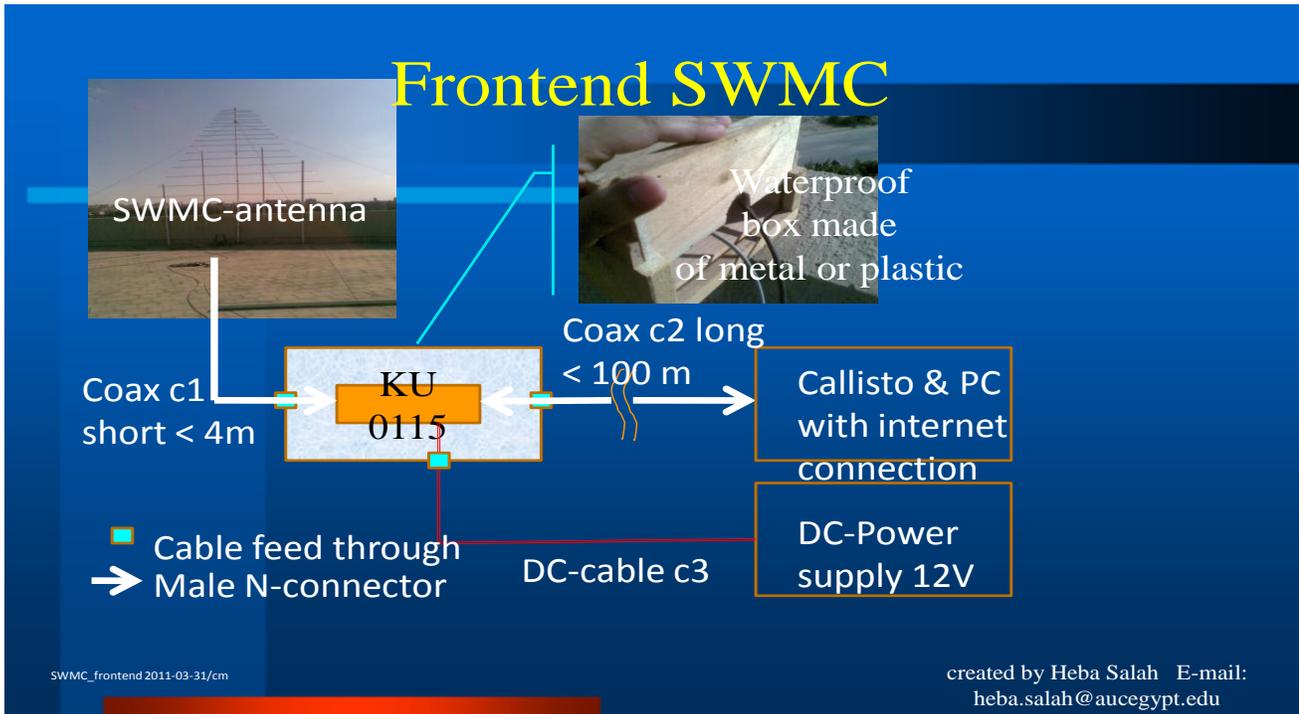


## *Construction and collection*

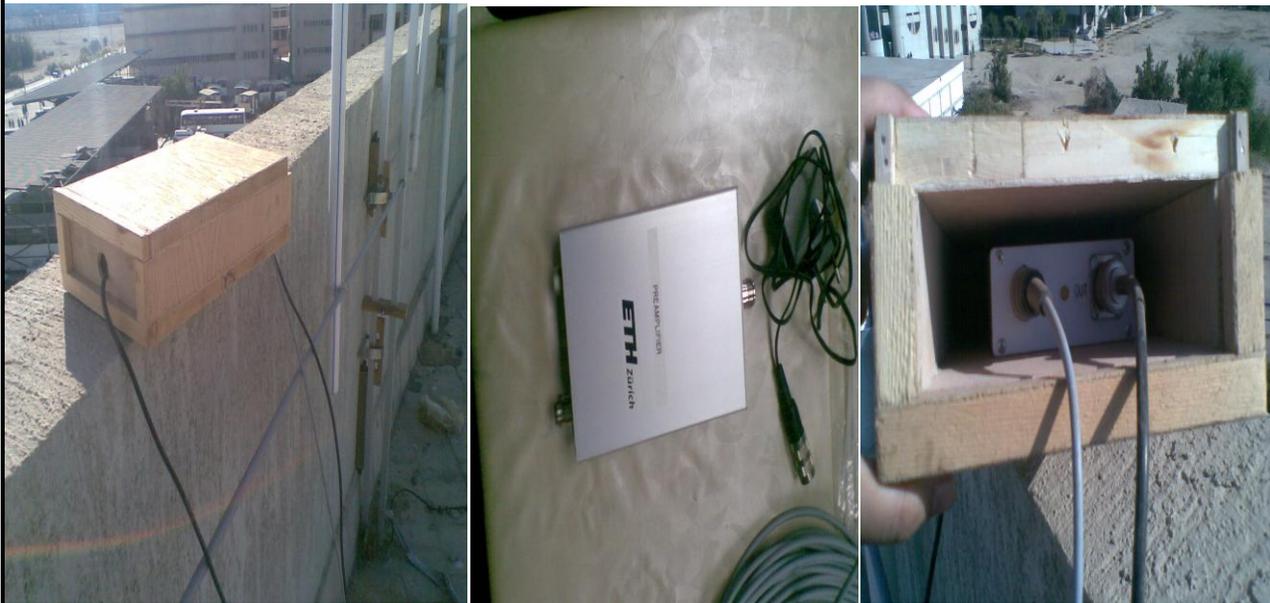
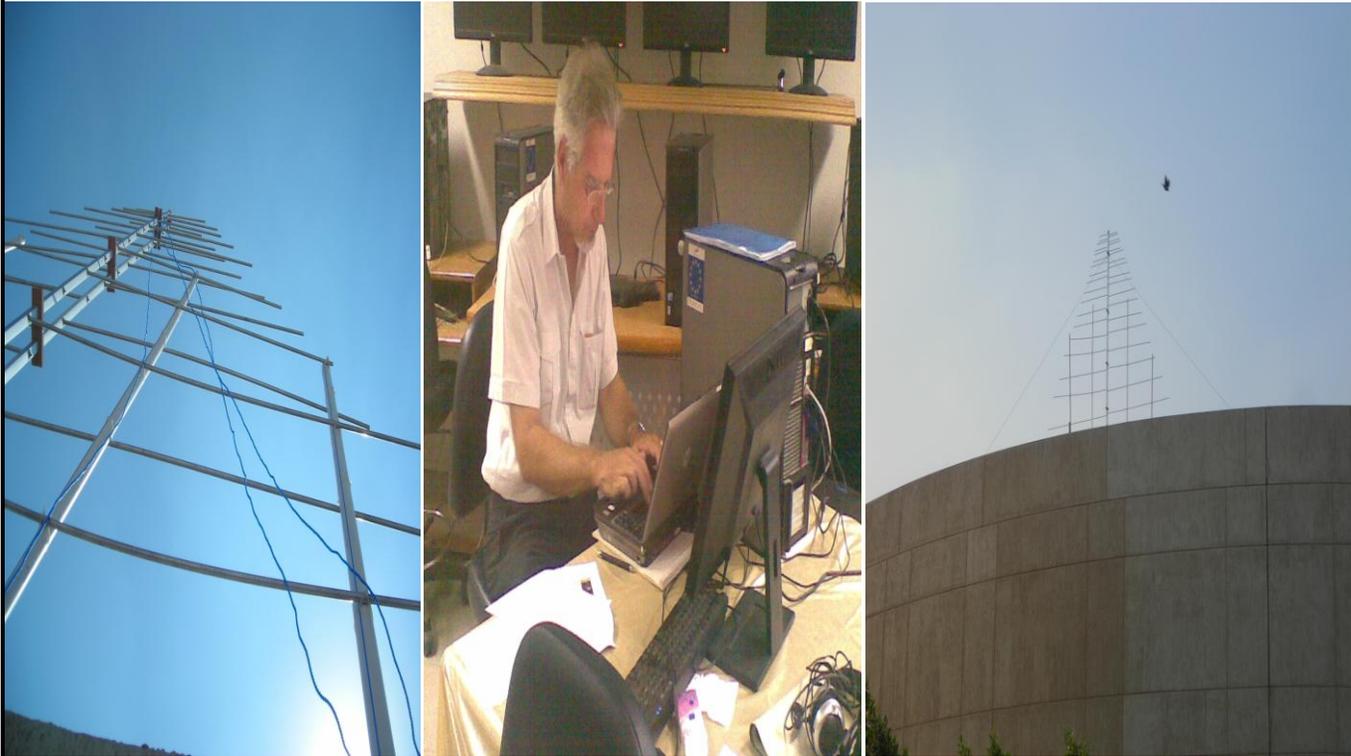




*We should connect the the wires inside each boom in order not destroy form sun and weather conditions.*



## *Preparing for installing*



*The pre-amplifier inside wooden box in-order to protect it from weather conditions and dust which could effect the signals, making an opening for getting the wires out , one*

*for connecting to the antenna & the others to the callisto spectrometer which is placed next to the PC.*



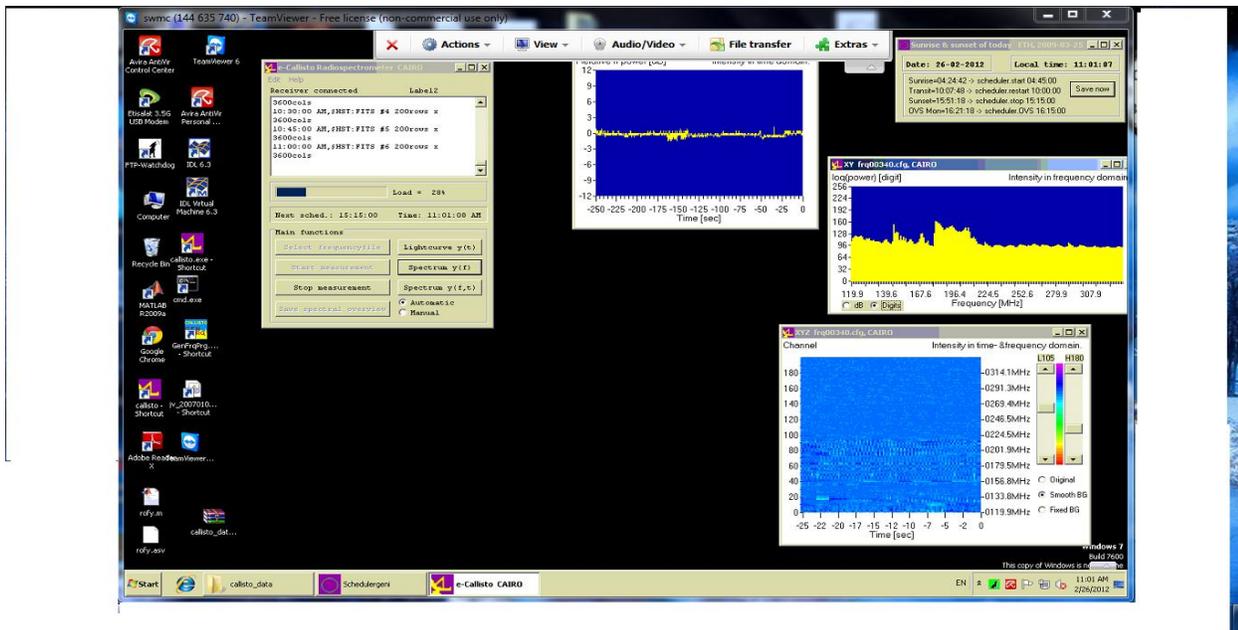
*We fixed the plastic tubes & the al. bars in the roof, as to be fixed, also we applied 3-roped from different positions in order to fix it from everywhere so it will resist the wind*

.

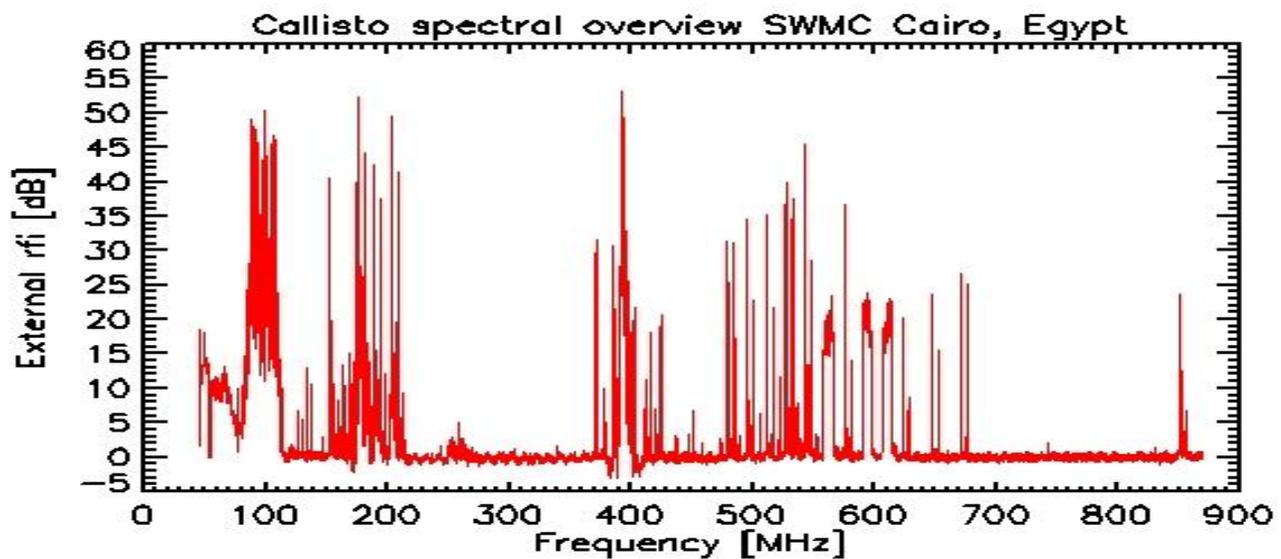
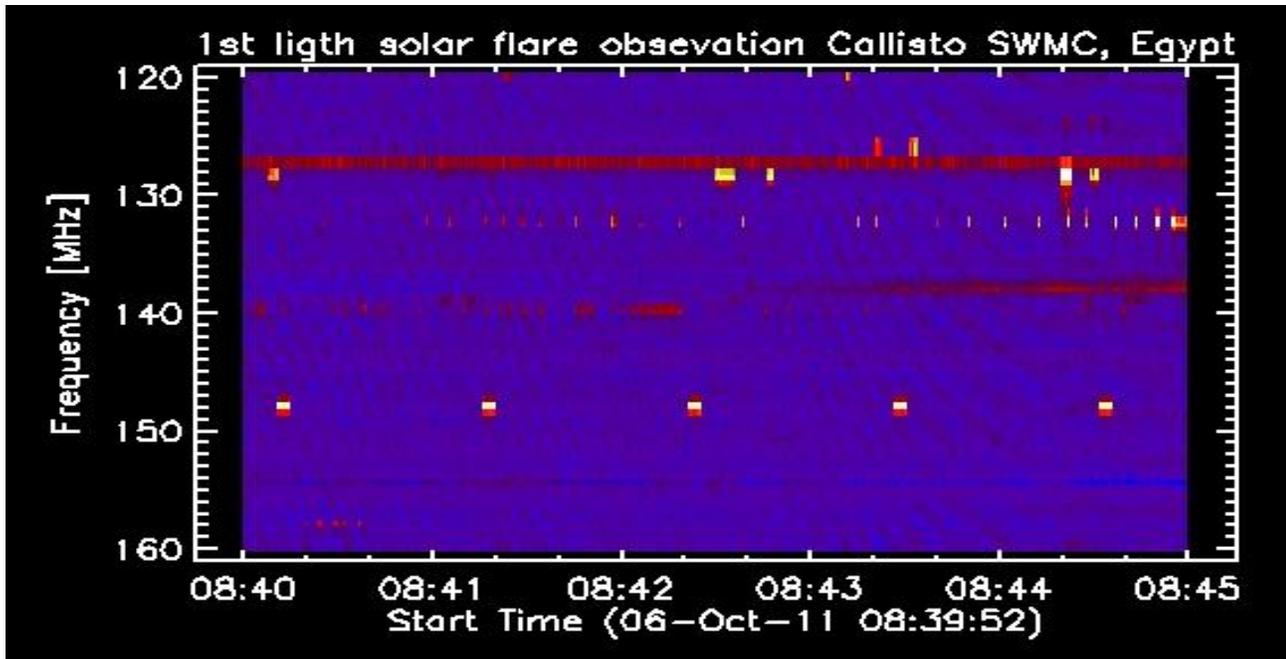
## Installing the Antenna on the Roof



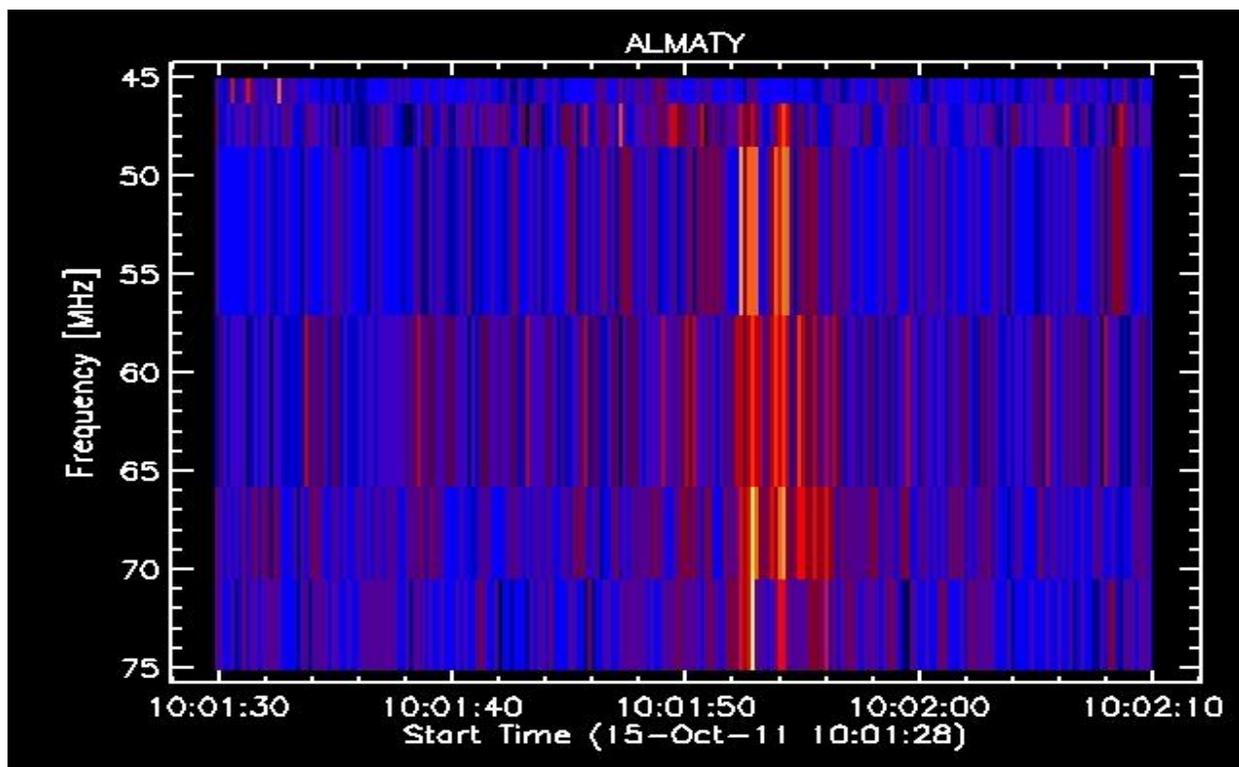
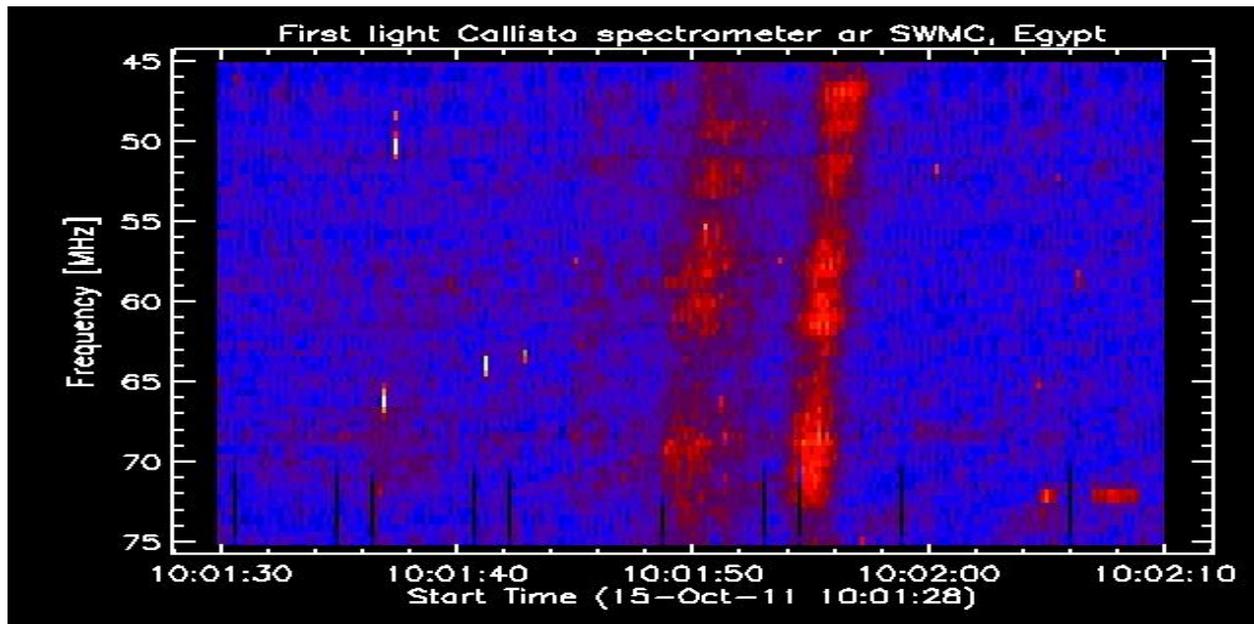
Photo from callisto Pc ,experimental run for 2- days

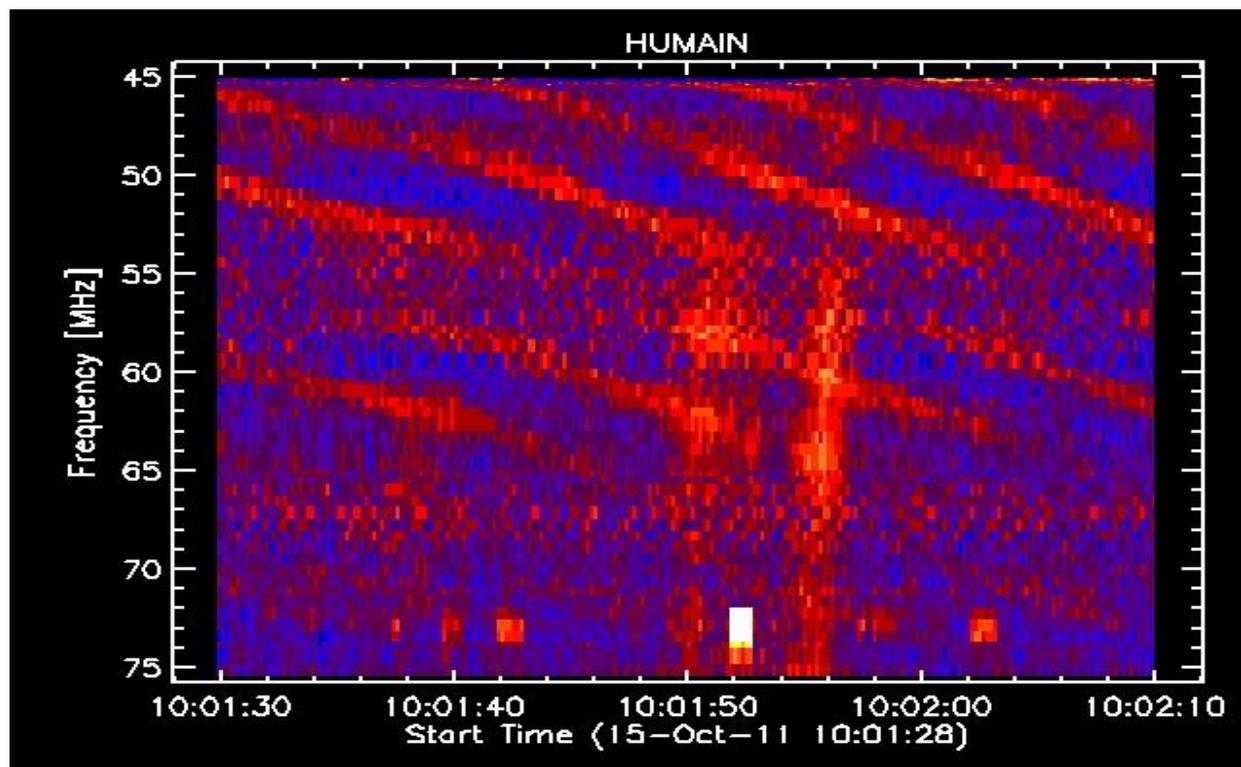
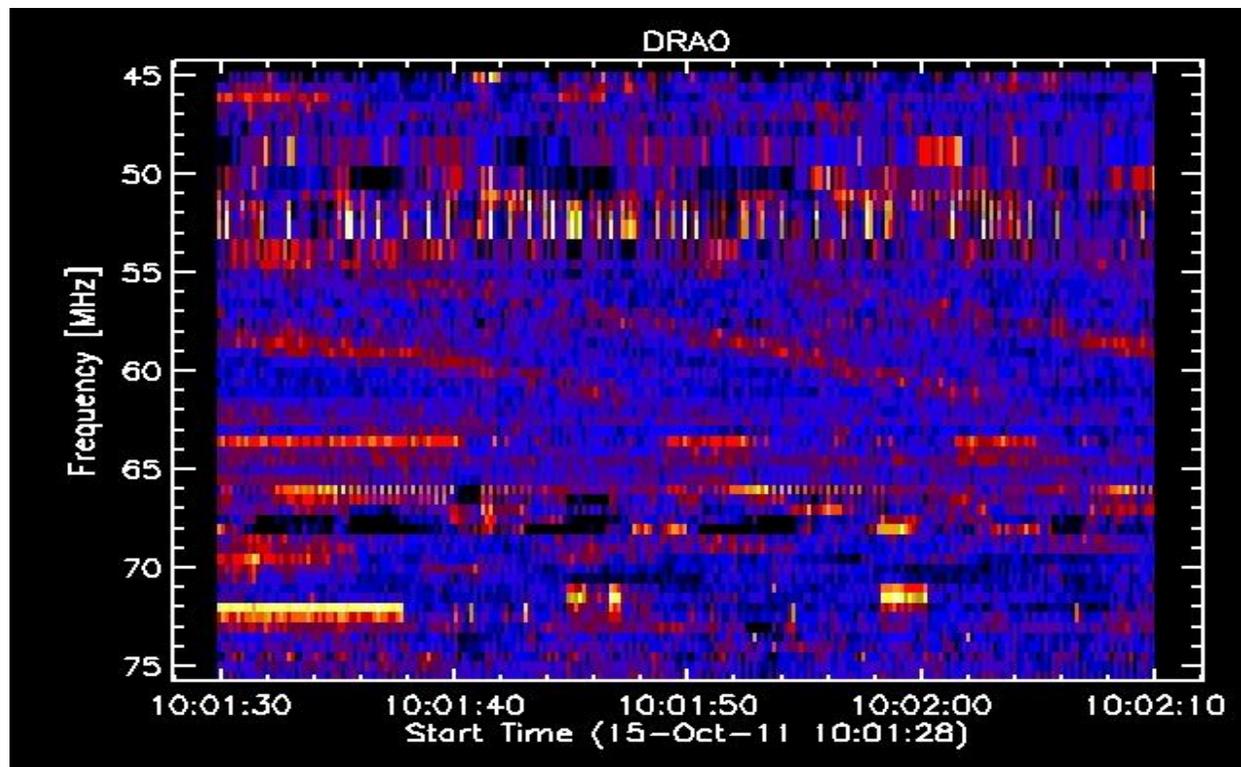


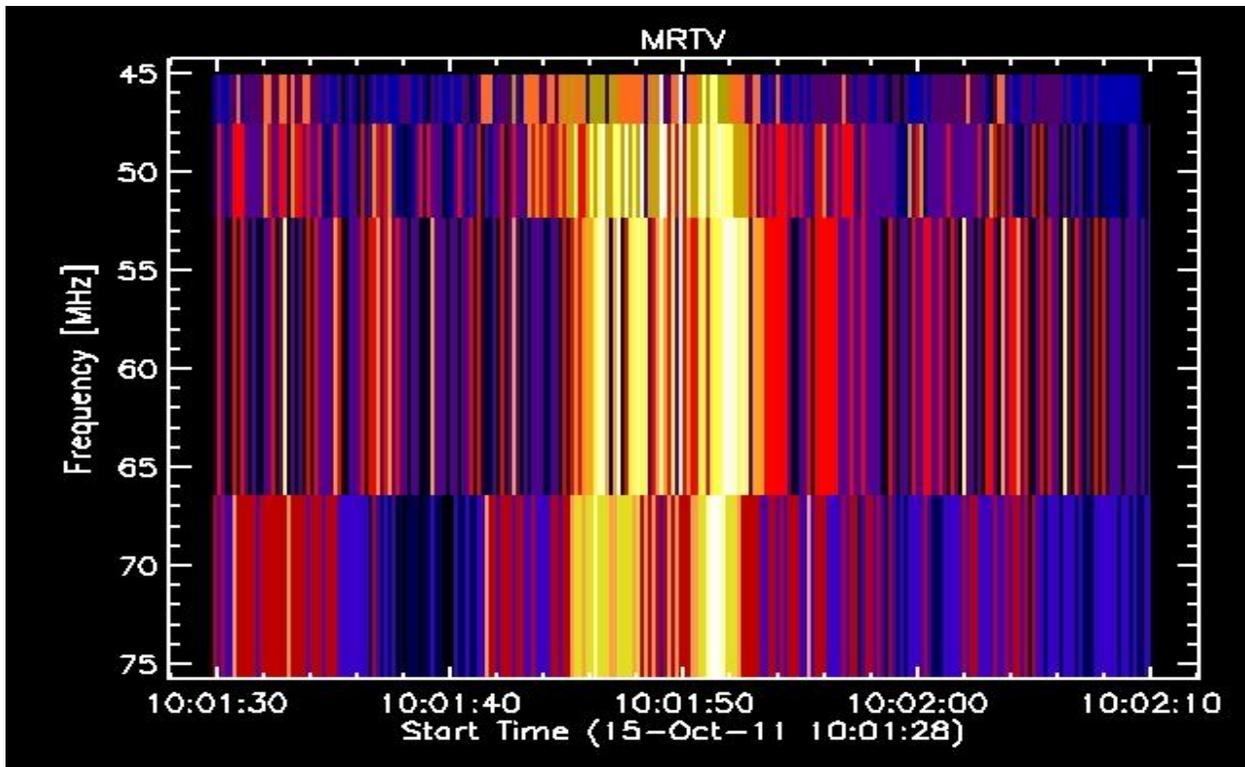
# The First Results



*Comparing between the 1<sup>st</sup> result and others station view*







*Our station is ready to be member in e-callisto family.*

## ***Photo at SWMC***



**On the left Dr .Ayman Mhrous the director of SWMC ,Prof Eng Salah Ahmed (my father) responsible for installing the Antenna, Ms .Heba Ahmed master student responsible for callisto station in Egypt& Teacher Assistant in American university in Cairo(AUC), photo by Prof. Christian Monstien (senior radio engineer ,Zurich University).**



**On the left Mohamed Nedal (undergraduate student),Ahmed nabil(undergraduate student),Dr,Ayman Mahrous(Director of SWMC),Prof. Christian Monstien(senior Radio Eng.), Ms Heba Ahmed(Teacher assistant at American university in cairo,responsible of callisto project at Egypt),Kaled Aly(Undergraduate student),Antwan (undergraduate student), Amr fahmy(undergraduate .student in computer science).**

**This photo was taken in front of the Space Weather Monitoring Center at Helwan University , Egypt.**