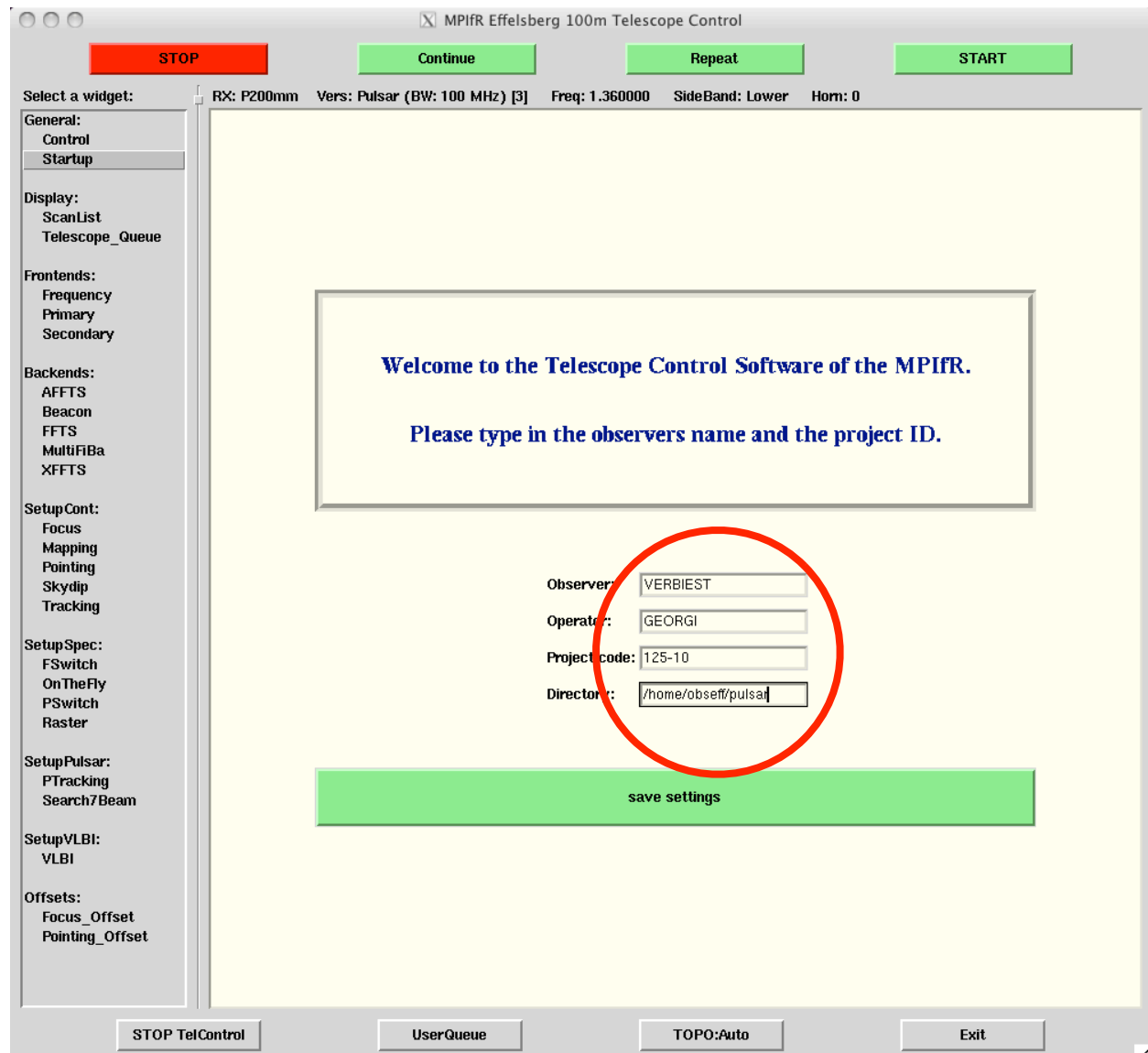# 125-10 Observing guidelines

1. Set-up (obsinp)

* First complete the "Startup" widget in obsinp; and press "Save Settings"
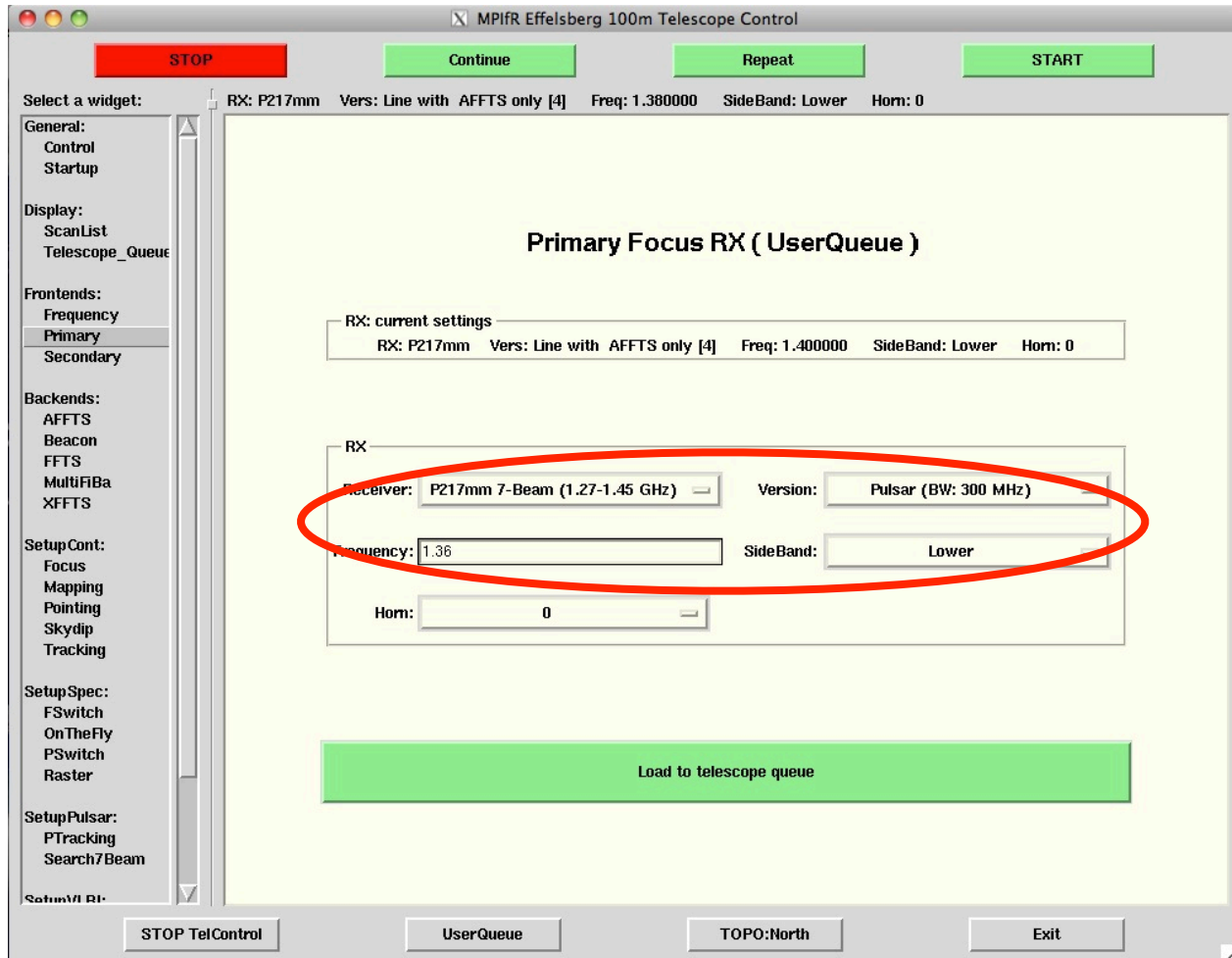
* Next select in the "Primary" widget:

      Receiver: **7-Beam**

      Version: **Pulsar (BW: 300 MHz)**

      Frequency: **1.36**

If the 7-beam receiver is not available, use the single-pixel 18/20cm receiver (4-Box) with Version "Pulsar (BW 100 MHz)".
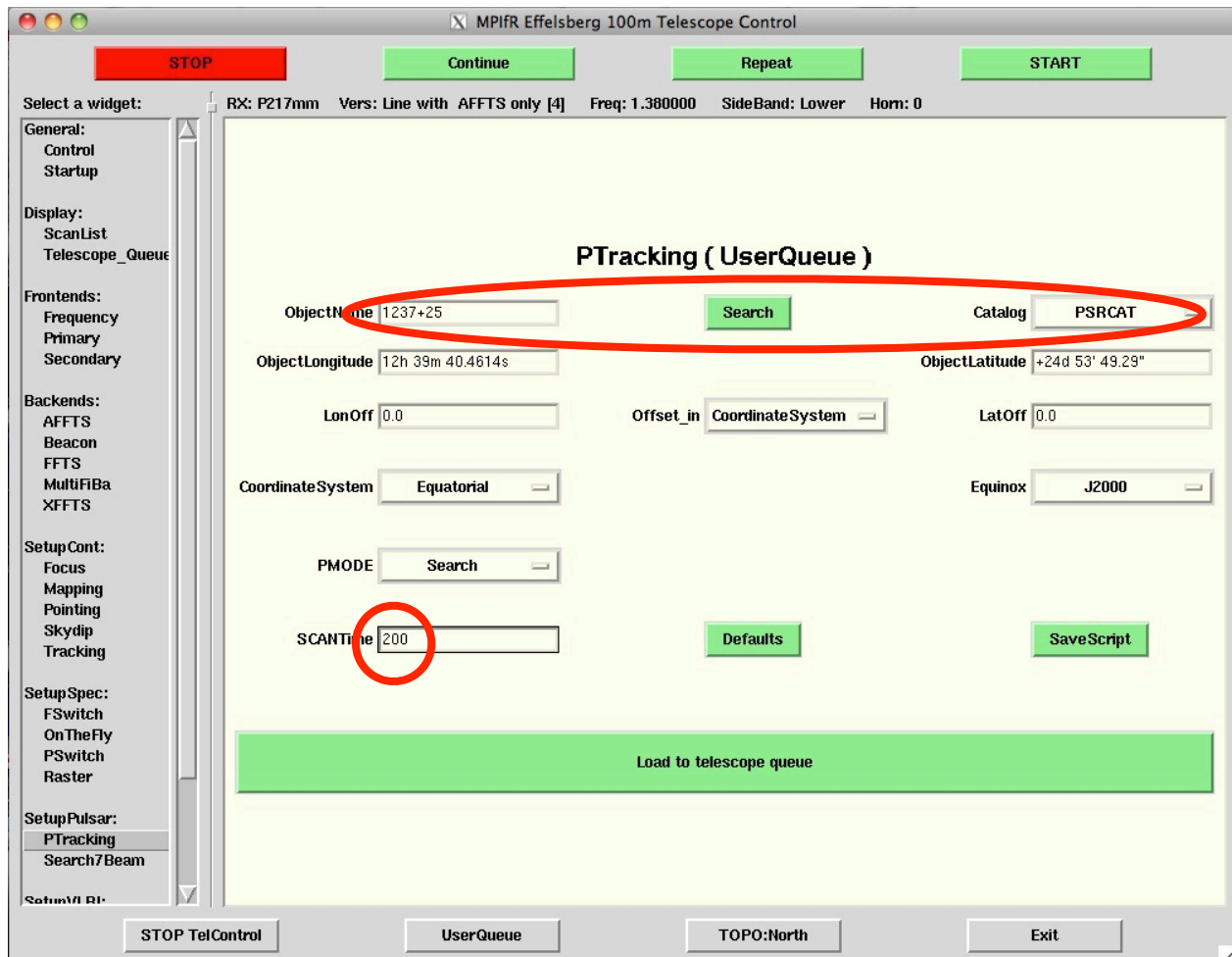
* Now observe one of the known test pulsars in "PTracking":

        * **0329+54**   * **1929+10**
        * **0355+54**   * **2021+51**
        * **1133+16**   * **2351+61**
        * **1237+25**

Enter the pulsar name in the "ObjectName" box; select Catalog "PSRCAT" and press "Search".

Put SCANTime to **200**.

2. EBPP

At the EBPP prompt, type:
on
and press enter when asked.
Check UTC and correct if needed, following the instructions on the screen. When correct, press "**Esc**" and "**Y**" to continue.

now type:
f1360
to specify the observing frequency. (Note: the frequency is 1360, NOT 1410!)

Now select the pulsar, for example:
psr 1237+25
and hit enter as required.

When the telescope is on source, enter:
observe 1 148

The EBPP is now observing.

3. Roach (Asterix) system

Open the vncsession 134.104.64.64:3, for example by typing in a terminal window:
vncviewer 134.104.64.64:3
the password is **roachobs**

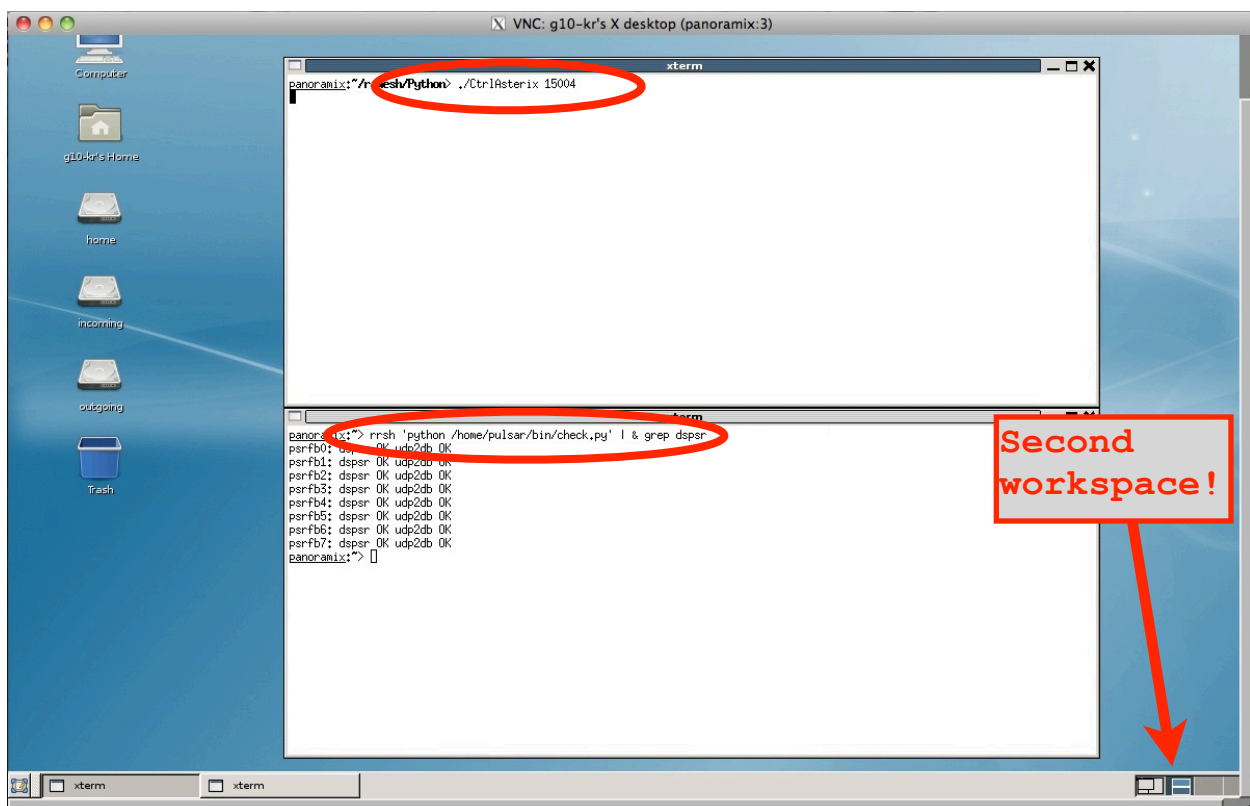Go to the second workspace and in the top window, run:
./CtrlAsterix 15004
(Uparrow will recall this command.)

Once the observations start, you can run in the second (bottom) window:
rrsh 'python /home/pulsar/bin/check.py' l& grep dspsr
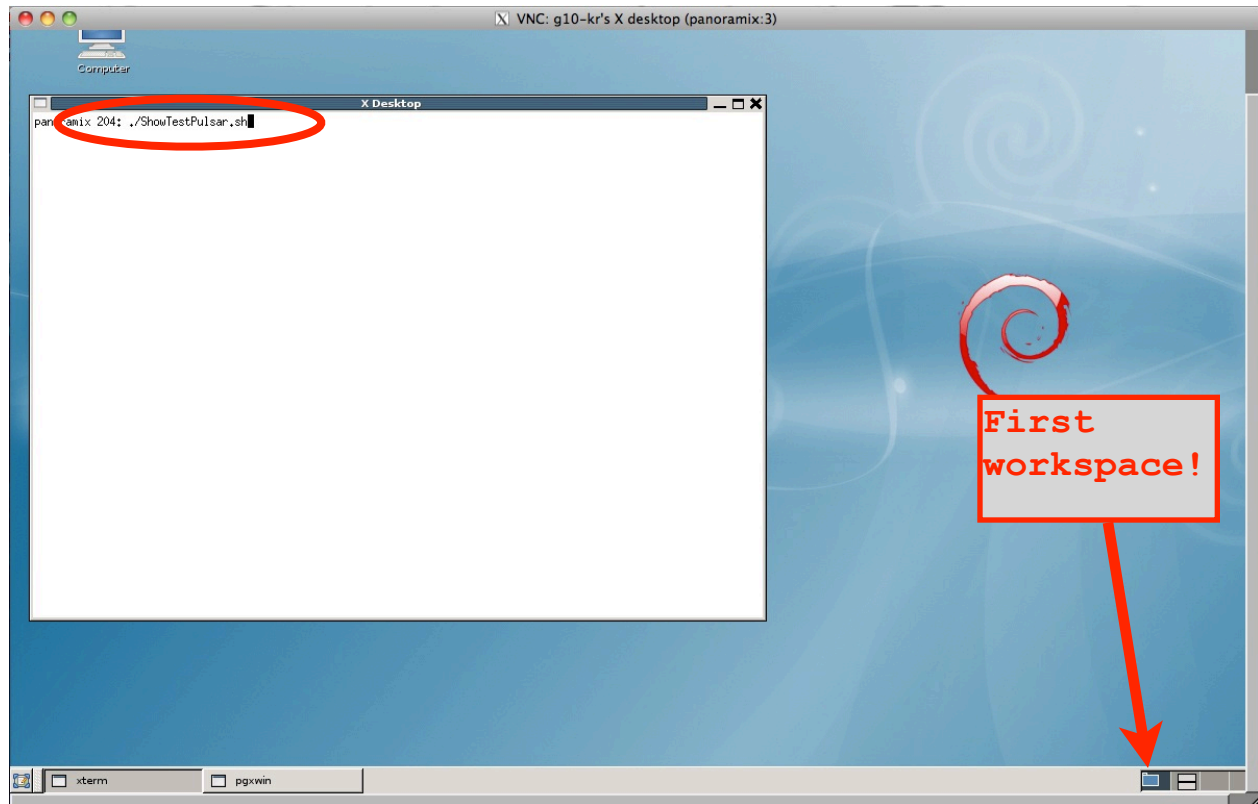to check if all systems are "OK".

4. System test

When the test pulsar observation is finished, go back to the Roach VNC session and select the first workspace.
In the terminal window, type:
./ShowTestPulsar.sh

and after a while, a plot should pop up, showing the Roach data on the test pulsar. Note that the terminal window also prints out when this observation was taken, to make sure you are not looking at an old observation.
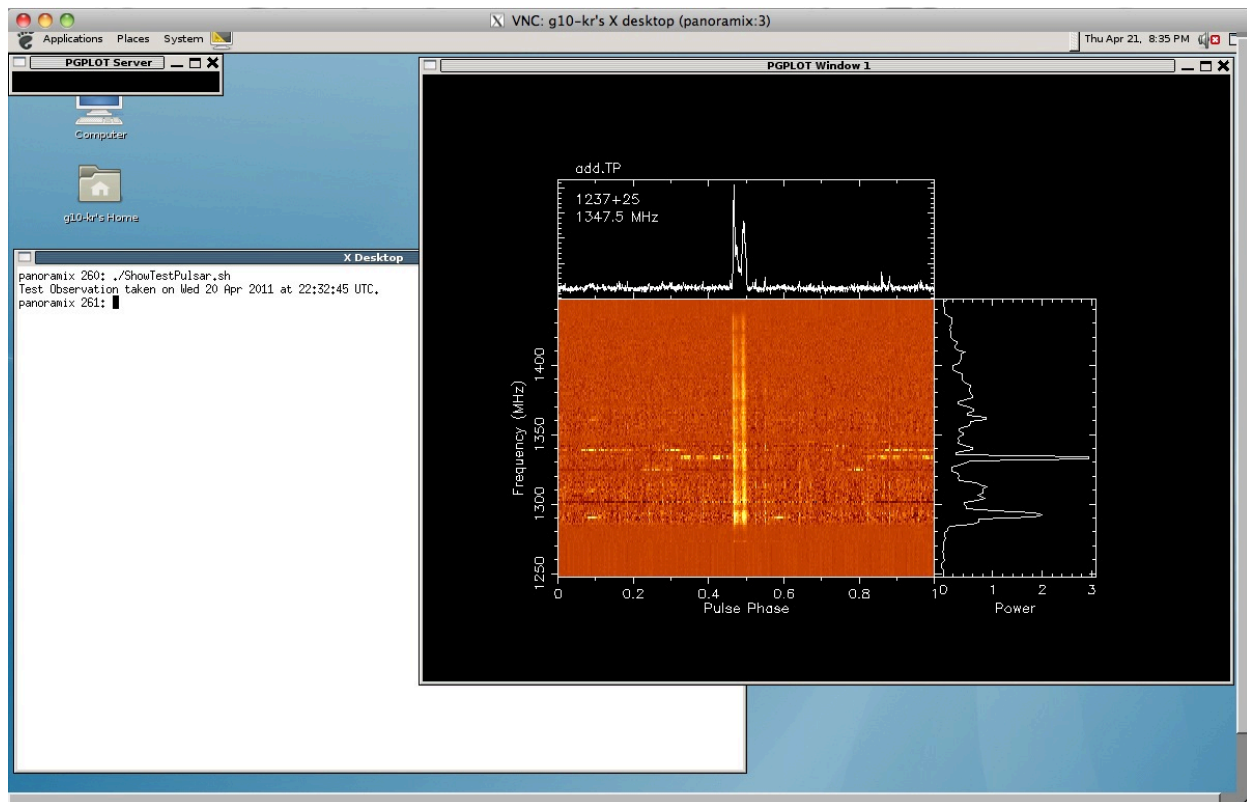
5. Actual pulsar observation: PSR J1640+2224

If everything went well, we can now observe the actual pulsar, PSR J1640+2224. To do so, go back to the PTracking widget on obsinp and enter
J1640+2224
as pulsar name. Again, hit "Search" after selecting the "PSRCAT" Catalogue.
In SCANTime, put:
3000
(or up to how many seconds are left for this project).

In the EBPP, enter:
psr 1640+22
and hit enter as required. Once the telescope is on source, use:
observe 24 120
and hit enter to start observing.

The Roach/Asterix system *Needs no further input*. In order to *check* in case of doubt, you can run in the second workspace, on the bottom window:
rrsh 'python /home/pulsar/bin/check.py' l& grep dspsr
to verify data is being taken. However, this is only to check, and is not strictly needed.

6. Ending an observing run
At the end of the observing run, type the following on the EBPP prompt:
off

for the Roach boards, go to workspace 2 and press in the top window: **Ctrl+c**. (This means: press the control key and hold it. Then press the c key and finally release both keys simultaneously.) This should stop CtrlAsterix and return back to the prompt.

<u>Please make sure CtrlAsterix is stopped.</u> In the VNC session, in the second workspace, top window, you should see:

KeyboardInterrupt
<u>panoramix</u>:**~/ramesh/Python**>

if this is not the case, try pressing Ctrl+c again.

7. Check-list

Item	Value/Test					
Receiver and BW in Primary widget	7beam; 300MHz OR 18/21cm; 100MHz					
PTracking with Catalog PSRCAT						
Pulsar found in Catalogue	Check coordinates					
EBPP ran at f1360	uparrow to recall command					
Roach "OK" *during* observations	2nd workspace, bottom window					
Test pulsar seen	ShowTestPulsar.sh on 1st workspace, top window					

7. In case of Trouble
If anything goes wrong, you've double-checked the check-list, but need help from an observer, you should try to contact, in this order::

the observer's call-out phone at: +49 152 0219 6184

Joris Verbiest's office phone at: 6000 246
Joris' mobile phone at: +49 151 4013 7295