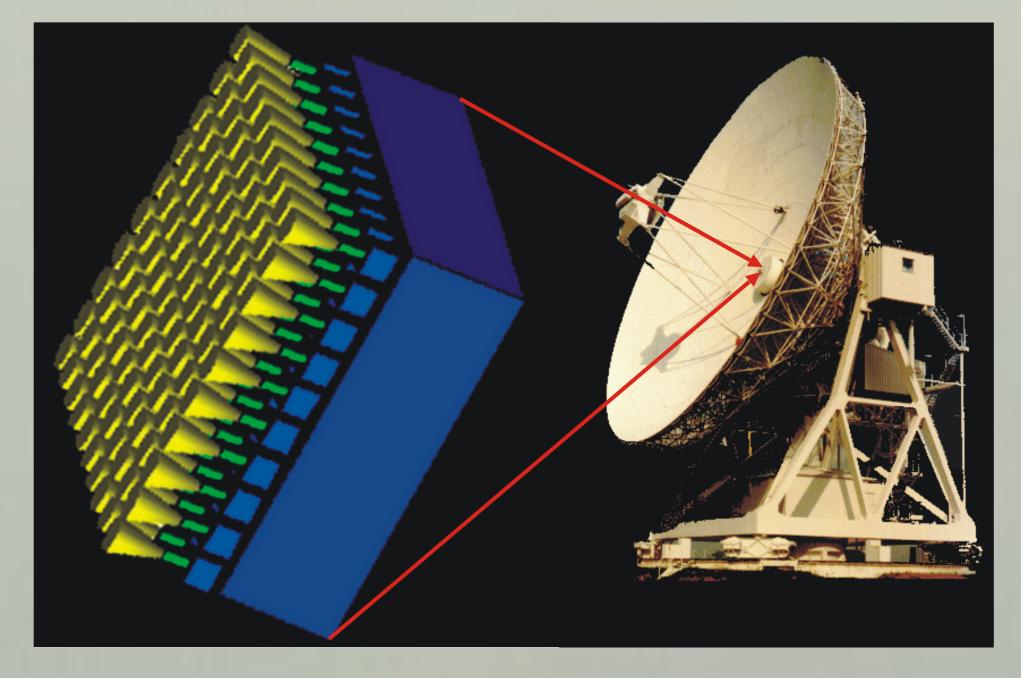
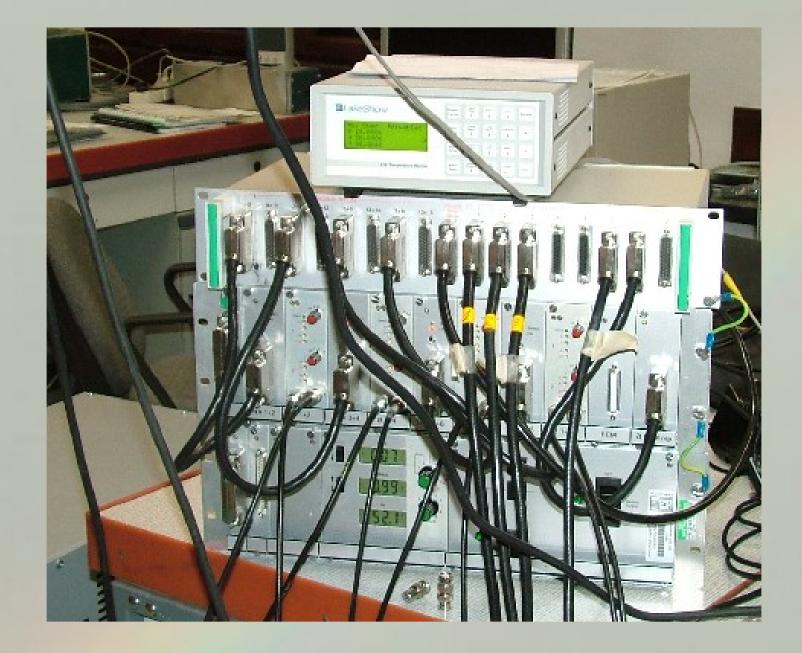
Implementation of the OCRA-f receiver on the Torun 32m antenna

R.Feiler, M. P. Gawronski, A. J. Kus, B. Pazderska, E. Pazderski - Torun Centre for Astronomy, I. W. A. Browne, R. Davis, D. Kettle, S.R. Lowe, M.Peel, P. N. Wilkinson - Jodrell Bank Centre for Astrophysics, A. Alareedh, M.Birkinshaw, K. Lancaster - University of Bristol



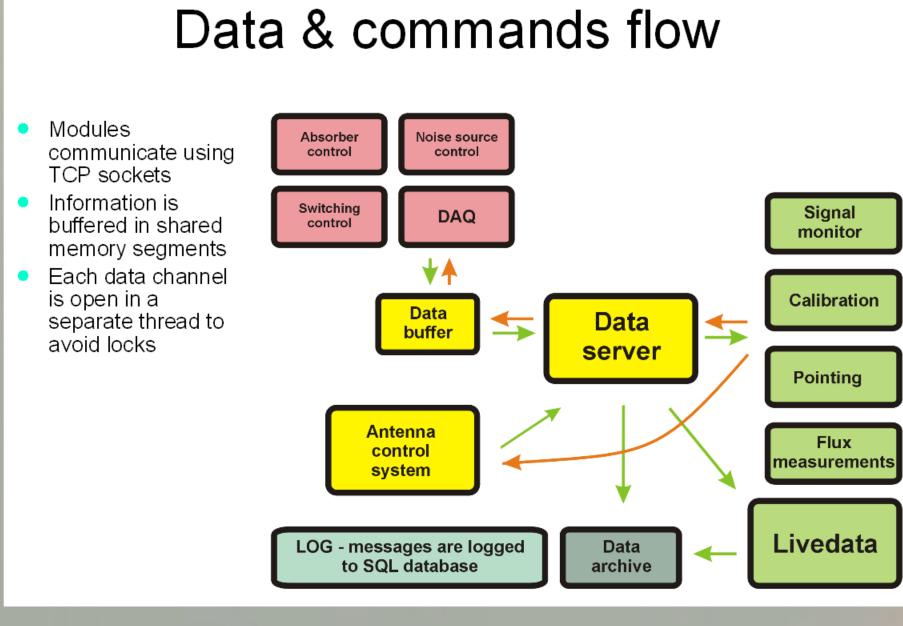
OCRA - One Centimetre Radio Array. The idea is shown on the above picture. It is a





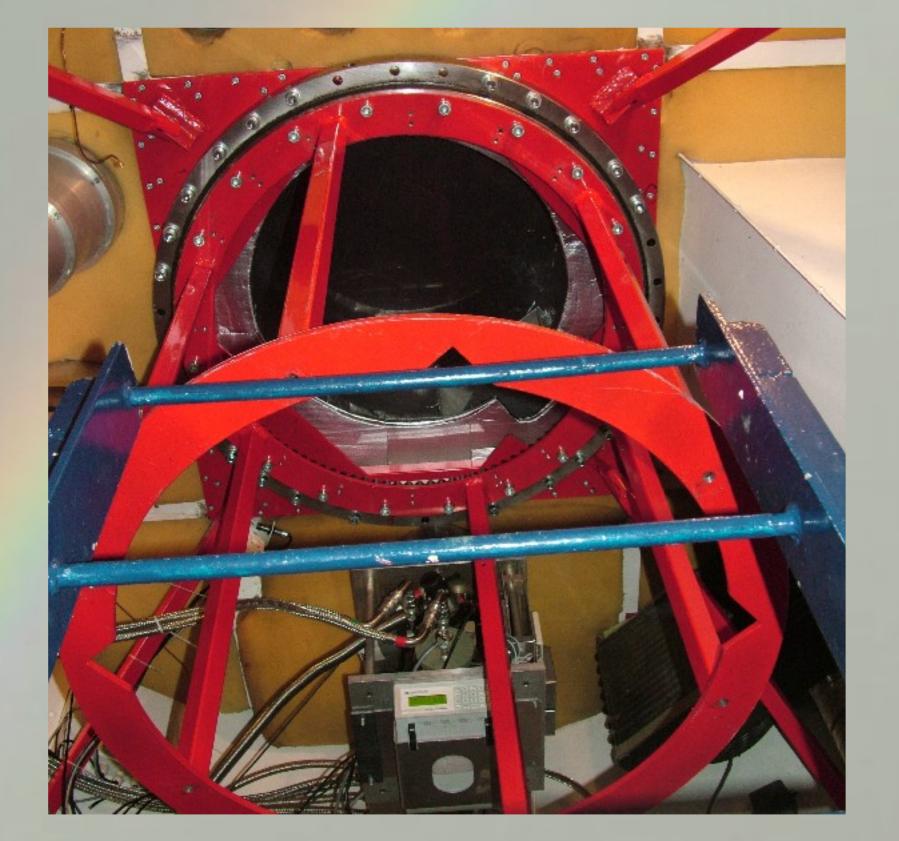
Temperature monitor, power supply and bias monitoring system

matrix of NxM receivers, where N=1 and M=2 for prototype OCRA-p, N=4 and M=4 for OCRA-f actually implemented, N=10 and M=10 for (we hope) final OCRA. Receivers are grouped in pairs ("foxtrot" design). The overall bandwidth: 26 to 36 GHz (27 to 33 GHz for OCRA-p). Typical system temperature is 40 K.



The software is currently in use for OCRA-p observations. Extensions for OCRA-f are

OCRA-f receiver has 16 feeds - 8 receiver channels are active now. Picture shows lab tests for checking the quality of the front window.



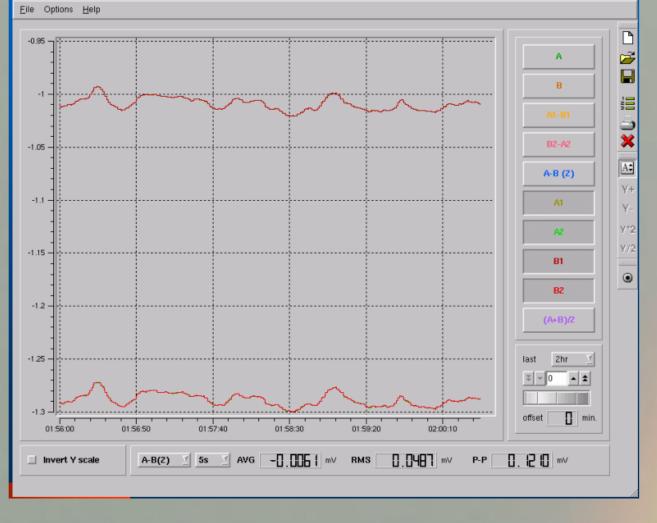
for OCRA-f



Data Acquisition System and pressure meters



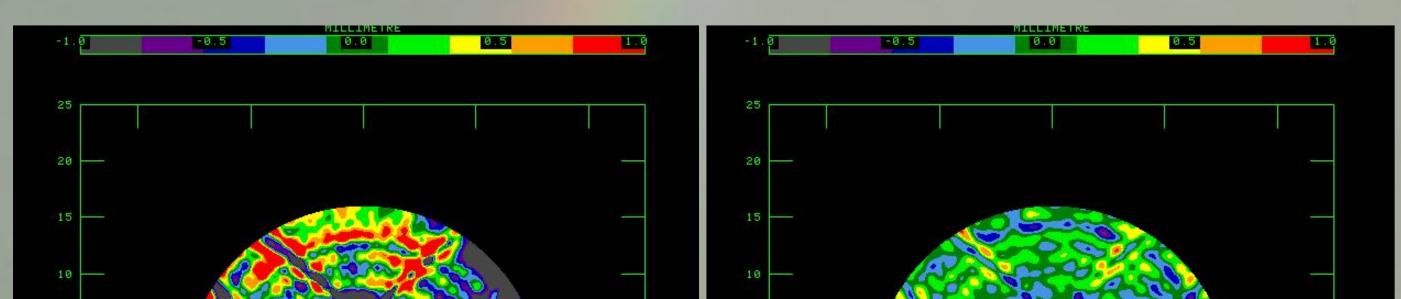
under development.



Signal monitoring window

map	Flux data	SQL query							
	-1	50	-100	-50		0	50	100	150
80 -	1755+578 1015+614 10 1853+655 1807+698942106101	\bullet — — — —	1900+48	1828++87 1832+474 +488 1842+455 4	1806+456 1500+136L 1011+30 1042++12 1826/349/4965 1758+38 229-340	1748+470738+476	1739+522 1739+522 16153554505 16153554505 1636 1636 1636 1637 1637 1637	1610-1491 1670-276	+69796596555 +69796596555
- 60 -	18259564758796647 92847 354784 20174945 4569726897279780 41844763 21362832	23 2054+611 23 2054+611	NSC7027	1910+575	843+356 		19394998224+4¶5 1859⇒303 ∳	1+59+400 1+59+400 1505+420 14121524543 14121546	1524-22000-0000-000 1526-0220-000 1526-022 1526-02 1526-02 1526-02 1526-02 1526-02 1526-02 1526-02 1526-02 1526-02 1526-02
40 -	548844 0016470 034644087535544 040449840877525 0404-247 04244670 04244670	9 2352-34 2352-34 2251-24 0040+557 0040+557 0040-557 0040-557 0040-557 005105444.000000000000000000000000000000	1199005 +307 385 70					1412272 (0000000000000000000000000000000000	1177-1134-012 1177-1134-012424300 1272-1242-0002-12424300 1272-1242-0002-1242-0002-12424 1242-0002-1242-0002-00-000 1212-0002-1242-00-00-00 1212-0002-00-00-00-00 1212-00-00-00-00-00-00 1212-00-00-00-00-00-00 1212-00-00-00-00-00-00 1212-00-00-00-00-00-00 1212-00-00-00-00-00-00 1212-00-00-00-00-00-00 1212-00-00-00-00-00-00 1212-00-00-00-00-00-00 1212-00-00-00-00-00-00 1212-00-00-00-00-00-00-00 1212-00-00-00-00-00-00-00 1212-00-00-00-00-00-00-00 1212-00-00-00-00-00-00-00 1212-00-00-00-00-00-00-00 1212-00-00-00-00-00-00-00 1212-00-00-00-00-00-00-00 1212-00-00-00-00-00-00-00-00 1212-00-00-00-00-00-00-00-00 1212-00-00-00-00-00-00-00-00-00 1212-00-00-00-00-00-00-00-00-00-00 1212-00-00-00-00-00-00-00-00-00-00 1212-00-00-00-00-00-00-00-00-00-00-00 1212-00-00-00-00-00-00-00-00-00-00-00-00-00
20 -	37+531 38+493 072 034493 0344440 0442440 04424400	01514474 0000009994 01201004308 02204428-00094351 02204428-00094351 0410000000000000000000000000000000000						• 1997 	
0		50	-100			1 , , , , , , , , , , , , , , , , , , ,	50	100	150 cr PF3
electe	d source (CAL)): A2218 16h35m4	9.1s +66d12m29.9	s AZ: +152.2de	g EL: 74.0deg			MOVE	ANTENNA LABELS are ON
4			ALL Z<50	-1 hr	2005-06-27 2		hr		3 4. 00.00

Source & survey database



Field rotator for OCRA-f mounted on the 32m antenna

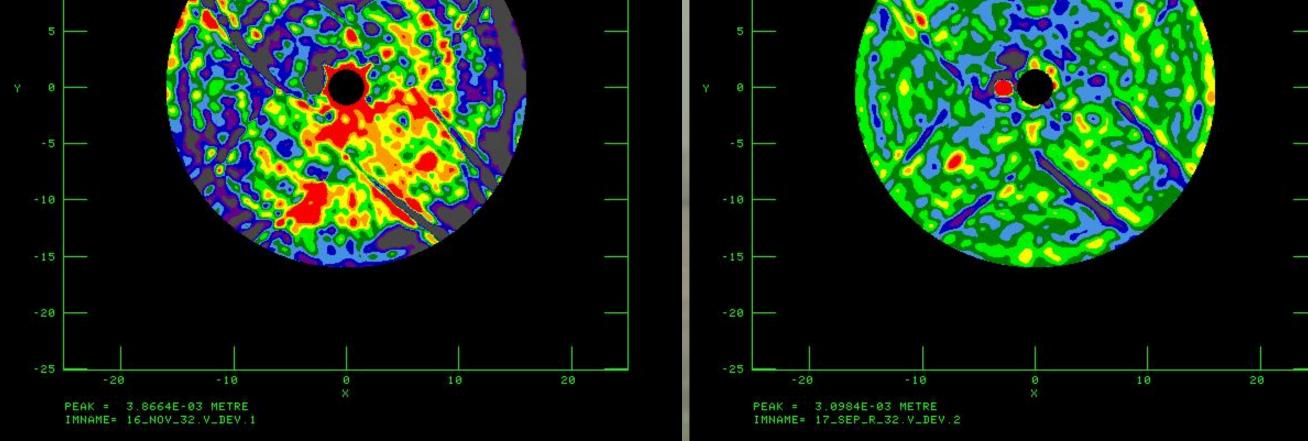
	A1:	A2:	B1:	B2:	N
BACK1	-0.6698	-0.7466	-0.6854	-0.7305	20
CAL	-0.7 19 1	-0.8013	-0.7385	-0.7938	20
BACK2	-0.6839	-0.7640	-06992	-0.7470	
ABS	-44522	-5.5346	-45279	-53779	20
ВАСКЗ	-0.6097	-06733	-0.624 (-0.6588	20
ST	ART		Integration time:	20s	•
7 measure Tcal			Tsky:	▼ ¥ ¥ 10	<u>- ± ≩</u> K
	RESET			QUIT	
sys A1:	Ч.В. к	× 42.	К В1:	ЧВ. к в2:	42. ĸ
fcal A1:	Э. к	^{ve:}] .	К В1:	д к в2:] . ĸ

Tsys measurement window

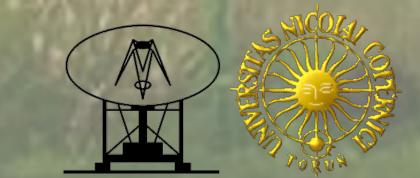
 Lenze drive and motor for field notation

 otator

	47692 2004-11-10 03:38:43 (3 47693 2004-11-10 03:38:43 (2	DETAILED OCPANEL:	Response: dump
I			Sending command: `dump` to ocradump. Pernomee: dump
I	47688 2004-11-10 03:38:42 (3) 47689 2004-11-10 03:38:42 (2) 47690 2004-11-10 03:38:43 (3)	DETAILED OCPANEL: REPORT OCPANEL: DETAILED OCPANEL:	Response: Source name set to `TESTSRC`. Sending command: `directory .` to ocradump. Response: Archive directory set to `.` now.
I	47685 2004-11-10 03:38:06 (2) 47685 2004-11-10 03:38:42 (3) 47687 2004-11-10 03:38:42 (2)	REPORT OCPANEL: DETAILED OCPANEL:	Network error - exiting Setting initial state of OCRADUMP Sending command: `sourcename TESTSRC` to ocradump.
	47682 2004-11-03 05:23:19 (2) 47683 2004-11-10 03:38:06 (3) 47684 2004-11-10 03:38:06 (2)	REPORT PMON: DETAILED OCPANEL:	Peacefully finished as `./poll6' on host `trao4.astro.uni.torun.pl`. Setting initial state of OCRADUMP Sending command: `sourcename TESTSRC` to ocradump.
I	47678 2004-11-02 21:46:38 (2) 47679 2004-11-03 00:03:15 (2) 47680 2004-11-03 00:08:33 (2) 47681 2004-11-03 00:08:33 (2)	REPORT PMON: REPORT PMON:	Successfully started as `./pol16` on host `trao4.astro.uni.torun.pl`. Peacefully finished as `./pol16` on host `trao4.astro.uni.torun.pl`. Starting as `./pol16` on host `trao4.astro.uni.torun.pl`. Successfully started as `./pol16` on host `trao4.astro.uni.torun.pl`.
	47675 2004-11-02 21:24:39 (2) 47676 2004-11-02 21:34:58 (2) 47677 2004-11-02 21:46:36 (2)	REPORT PMON: REPORT PMON: REPORT PMON: REPORT PMON:	Successfully started as `./pol16` on host `trao4.astro.uni.torun.pl`. Peacefully finished as `./pol16` on host `trao4.astro.uni.torun.pl`. Starting as `./pol16` on host `trao4.astro.uni.torun.pl`.
I	47671 2004-11-02 21:12:07 (2) 47672 2004-11-02 21:12:07 (2) 47673 2004-11-02 21:21:31 (2) 47674 2004-11-02 21:24:39 (2)	REPORT PMON: REPORT PMON:	<pre>Starting as `./pol16` on host `trao4.astro.uni.torun.pl`. Successfully started as `./pol16` on host `trao4.astro.uni.torun.pl`. Peacefully finished as `./pol16` on host `trao4.astro.uni.torun.pl`. Starting as `./pol16` on host `trao4.astro.uni.torun.pl`.</pre>
I	47670 2004-11-02 18:41:21 (2)		Successfully started as `./pol16` on host `trao4.astro.uni.torun.pl`.



The telescope aperture efficiency was significantly improved using holographic measurements. Tracking and pointing will be greatly influenced by installing new 28-bit encoder seen on the right picture. Work on the new control system is in progress.





Log viewer

