ML005

ML005 Correlation Report

General information

- A part of C181C
- Targets: M87, 3C273, 3C279
- Session info: http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/
- Station feedback: http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/sessions/apr18/feedback_apr18.asc
- GBT calibration info (Tsys files for download) and other related information for this session can be found here: https://safe.nrao.edu/wiki/bin/view/GB/Observing/WbandVLBACal/C181
- *Special processing* was applied to all data in order to correlate mismatching frequency setups of ALMA and other GMVA stations. See details here.

Current Status

Correlation finished, data **released** on 10/12/2018.

A **second** data release, with a problem, spotted in the original release, corrected, was made on 31/01/2019.

A **third** data release, rerunning PolConvert with the latest (25.06.2019) ALMA QA2 release, was made on 26/09/2019.

Fringes

Station	Code	Fringes	Plots	Com
Ef	B	**yes**	Fringe overview of all baselines (all of C181C) including Ef in LL (left for each baseline) and RR (right for each baseline). Legend: white - scheduled, but no data, blue - no fringe, red-green - fringes of different quality. D -- fourfit error, in this case due to mixing upper and lower subbands in the KVN compatibility mode, no real problem with the data. Scans 30, 33, 77-78, 80, 82-83, 92 are missing from all diagnostic plots due to a difx2mark4 error. They are present in the final correlation products. c181c_FRINGE_RfAnt_Ef_LLRR_AllSrc.pdf	in the pl "missing baseline ALMA, KVN. T to a four the basel missing some of diagnost but are p the final

Station	Code	Fringes	Plots	Com
			Examples of fourfit fringe plots: c181c_No0075_3C279_AB_LL.pdf, c181c_No0075_3C279_AB_LR.pdf, c181c_No0075_3C279_AB_RL.pdf, c181c_No0075_3C279_AB_RR.pdf Same for all antennas below unless otherwise noted.	correlati products
On	X	**yes**	c181c_FRINGE_RfAnt_On_LLRR_AllSrc.pdf c181c_No0075_3C279_AX_LL.pdf, c181c_No0075_3C279_AX_LR.pdf, c181c_No0075_3C279_AX_RL.pdf, c181c_No0075_3C279_AX_RR.pdf	in the pl "missing baseline ALMA, KVN. T to a four the basel missing some of diagnost but are p the final correlati products
Ys	Y	**yes**	c181c_FRINGE_RfAnt_Ys_LLRR_AllSrc.pdf c181c_No0075_3C279_AY_LL.pdf, c181c_No0075_3C279_AY_LR.pdf, c181c_No0075_3C279_AY_RL.pdf, c181c_No0075_3C279_AY_RR.pdf	As usual observed only, but also reco fake RC why ther common "right" t antenna's fringes. in the pl "missing baseline ALMA, KVN. T to a four the basel missing

Station	Code	Fringes	Plots	Com
				some of diagnost but are p the final correlati products
Mh	Z	yes	c181c_FRINGE_RfAnt_Mh_LLRR_AllSrc.pdf c181c_No0071_3C273_AZ_LL.pdf, c181c_No0071_3C273_AZ_LR.pdf, c181c_No0071_3C273_AZ_RL.pdf, c181c_No0071_3C273_AZ_RR.pdf	in the pl "missing baseline ALMA, KVN. Tl to a four the basel missing some of diagnost but are p the final correlati products
Pv	P	yes	c181c_FRINGE_RfAnt_Pv_LLRR_AllSrc.pdf c181c_No0084_3C273_AP_LL.pdf, c181c_No0084_3C273_AP_LR.pdf, c181c_No0084_3C273_AP_RL.pdf, c181c_No0084_3C273_AP_RR.pdf c181c_No0084_3C273_gP_LL.pdf, c181c_No0084_3C273_gP_LR.pdf, c181c_No0084_3C273_gP_RL.pdf, c181c_No0084_3C273_gP_RR.pdf	in the pl "missing baseline ALMA, KVN. Tl to a four the basel missing some of diagnost but are p the final correlati products
VLBA: Br	b	yes	c181c_FRINGE_RfAnt_Br_LLRR_AllSrc.pdf c181c_No0075_3C279_Af_LL.pdf, c181c_No0075_3C279_Af_LR.pdf, c181c_No0075_3C279_Af_RL.pdf, c181c_No0075_3C279_Af_RR.pdf	Baseline stations "missing fourfit e are prese

Station	Code	Fringes	Plots	Com
			c181c_No0084_3C273_Ab_LL.pdf, c181c_No0084_3C273_Ab_LR.pdf, c181c_No0084_3C273_Ab_RL.pdf, c181c_No0084_3C273_Ab_RR.pdf	final cor products
VLBA: Fd	f	yes	c181c_FRINGE_RfAnt_Fd_LLRR_AllSrc.pdf c181c_No0075_3C279_Af_LL.pdf, c181c_No0075_3C279_Af_LR.pdf, c181c_No0075_3C279_Af_RL.pdf, c181c_No0075_3C279_Af_RR.pdf	Baseline stations "missing fourfit er are prese final cor products
VLBA: Kp	k	yes	c181c_FRINGE_RfAnt_Kp_LLRR_AllSrc.pdf c181c_No0075_3C279_Ak_LL.pdf, c181c_No0075_3C279_Ak_LR.pdf, c181c_No0075_3C279_Ak_RL.pdf, c181c_No0075_3C279_Ak_RR.pdf	Baseline stations "missing fourfit er are prese final cor products
VLBA: La	l	yes	c181c_FRINGE_RfAnt_La_LLRR_AllSrc.pdf c181c_No0075_3C279_Al_LL.pdf, c181c_No0075_3C279_Al_LR.pdf, c181c_No0075_3C279_Al_RL.pdf, c181c_No0075_3C279_Al_RR.pdf	Baseline stations "missing fourfit er are prese final cor products
VLBA: Mk	m	yes	c181c_FRINGE_RfAnt_Mk_LLRR_AllSrc.pdf c181c_No0103_3C279_Am_LL.pdf, c181c_No0103_3C279_Am_LR.pdf, c181c_No0103_3C279_Am_RL.pdf, c181c_No0103_3C279_Am_RR.pdf	Baseline stations "missing fourfit er are prese final cor products Taken ou several s because observin
VLBA: Nl	n	yes	c181c_FRINGE_RfAnt_Nl_LLRR_AllSrc.pdf	Baseline stations "missing

Station	Code	Fringes	Plots	Com
			c181c_No0075_3C279_An_LL.pdf, c181c_No0075_3C279_An_LR.pdf, c181c_No0075_3C279_An_RL.pdf, c181c_No0075_3C279_An_RR.pdf	fourfit er are prese final cor products
VLBA: Ov	o	yes	c181c_FRINGE_RfAnt_Ov_LLRR_AllSrc.pdf c181c_No0103_3C279_Ao_LL.pdf, c181c_No0103_3C279_Ao_LR.pdf, c181c_No0103_3C279_Ao_RL.pdf, c181c_No0103_3C279_Ao_RR.pdf	Baseline stations "missing fourfit er are prese final cor products
VLBA: Pt	p	yes	c181c_FRINGE_RfAnt_Pt_LLRR_AllSrc.pdf c181c_No0075_3C279_Ap_LL.pdf, c181c_No0075_3C279_Ap_LR.pdf, c181c_No0075_3C279_Ap_RL.pdf, c181c_No0075_3C279_Ap_RR.pdf	Baseline stations "missing fourfit er are prese final cor products Taken ou several s because observin
GBT: Gb	G	yes	c181c_FRINGE_RfAnt_Gb_LLRR_AllSrc.pdf c181c_No0075_3C279_AG_LL.pdf, c181c_No0075_3C279_AG_LR.pdf, c181c_No0075_3C279_AG_RL.pdf, c181c_No0075_3C279_AG_RR.pdf	Baseline stations "missing fourfit er are prese final cor products
GLT: Gl	g	yes	c181c_FRINGE_RfAnt_Gl_LLRR_AllSrc.pdf c181c_No0071_3C273_Ag_LL.pdf, c181c_No0071_3C273_Ag_LR.pdf, c181c_No0071_3C273_Ag_RL.pdf, c181c_No0071_3C273_Ag_RR.pdf c181c_No0084_3C273_gP_LL.pdf, c181c_No0084_3C273_gP_LR.pdf, c181c_No0084_3C273_gP_RL.pdf, c181c_No0084_3C273_gP_RR.pdf	Data ana shown th recorded unknown polarizat instead c (most pr unknown

Station	Code	Fringes	Plots	Com
				At this n **SHOUL BE USE ANY POLAR** and in ge dealt wit carefully
ALMA: Aa	A	**yes**	c181c_FRINGE_RfAnt_Aa_LLRR_AllSrc.pdf c181c_No0071_3C273_Ag_LL.pdf, c181c_No0071_3C273_Ag_LR.pdf, c181c_No0071_3C273_Ag_RL.pdf, c181c_No0071_3C273_Ag_RR.pdf c181c_No0071_3C273_AZ_LL.pdf, c181c_No0071_3C273_AZ_LR.pdf, c181c_No0071_3C273_AZ_RL.pdf, c181c_No0071_3C273_AZ_RR.pdf c181c_No0075_3C279_AB_LL.pdf, c181c_No0075_3C279_AB_LR.pdf, c181c_No0075_3C279_AB_RL.pdf, c181c_No0075_3C279_AB_RR.pdf c181c_No0075_3C279_Af_LL.pdf, c181c_No0075_3C279_Af_LR.pdf, c181c_No0075_3C279_Af_RL.pdf, c181c_No0075_3C279_Af_RR.pdf c181c_No0075_3C279_AG_LL.pdf, c181c_No0075_3C279_AG_LR.pdf, c181c_No0075_3C279_AG_RL.pdf, c181c_No0075_3C279_AG_RR.pdf c181c_No0075_3C279_Ak_LL.pdf, c181c_No0075_3C279_Ak_LR.pdf, c181c_No0075_3C279_Ak_RL.pdf, c181c_No0075_3C279_Ak_RR.pdf c181c_No0075_3C279_Al_LL.pdf, c181c_No0075_3C279_Al_LR.pdf, c181c_No0075_3C279_Al_RL.pdf, c181c_No0075_3C279_Al_RR.pdf c181c_No0075_3C279_An_LL.pdf, c181c_No0075_3C279_An_LR.pdf, c181c_No0075_3C279_An_RL.pdf, c181c_No0075_3C279_An_RR.pdf c181c_No0075_3C279_Ap_LL.pdf, c181c_No0075_3C279_Ap_LR.pdf, c181c_No0075_3C279_Ap_RL.pdf, c181c_No0075_3C279_Ap_RR.pdf c181c_No0075_3C279_AX_LL.pdf, c181c_No0075_3C279_AX_LR.pdf, c181c_No0075_3C279_AX_RL.pdf, c181c_No0075_3C279_AX_RR.pdf	Observe polarizat converte circular polarizat post-cor uning Po For techn reasons t atmosph correctio applied t both in c ALMA c during th correlati Althoug procedu develope compens this, we its appli leads to difficulti particula abnorma fringe ra so in the producti double atmosph correctio as is.

Station	Code	Fringes	Plots	Com
			c181c_No0075_3C279_AY_LL.pdf, c181c_No0075_3C279_AY_LR.pdf, c181c_No0075_3C279_AY_RL.pdf, c181c_No0075_3C279_AY_RR.pdf c181c_No0084_3C273_Ab_LL.pdf, c181c_No0084_3C273_Ab_LR.pdf, c181c_No0084_3C273_Ab_RL.pdf, c181c_No0084_3C273_Ab_RR.pdf c181c_No0103_3C279_Am_LL.pdf, c181c_No0103_3C279_Am_LR.pdf, c181c_No0103_3C279_Am_RL.pdf, c181c_No0103_3C279_Am_RR.pdf c181c_No0103_3C279_Ao_LL.pdf, c181c_No0103_3C279_Ao_LR.pdf, c181c_No0103_3C279_Ao_RL.pdf, c181c_No0103_3C279_Ao_RR.pdf c181c_No0084_3C273_AP_LL.pdf, c181c_No0084_3C273_AP_LR.pdf, c181c_No0084_3C273_AP_RL.pdf, c181c_No0084_3C273_AP_RR.pdf	
KVN: Kt	t	**n/a**	c181c_FRINGE_RfAnt_Kt_LLRR_AllSrc.pdf	no KVN participa this part
KVN: Ku	u	**n/a**	c181c_FRINGE_RfAnt_Ku_LLRR_AllSrc.pdf	no KVN participa this part
KVN: Ky	y	**n/a**	c181c_FRINGE_RfAnt_Ky_LLRR_AllSrc.pdf	no KVN participa this part

Notes

There were problems with some diagnostic plots of this experiment due to yet poorly understood errors of fourfit and other HOPS components. But this does not change the quality of the final correlation products. *(These issues were **fixed** in the second data release of 31/01/2019)*

GLT participated in this session for the first time as a test, and serious problems were detected when analysing its data. Be very carerful when using them.

Post-Correlation checks

Residuals


plotRes_A.png


plotRes_G.png

plotRes_b.png

plotRes_o.png

FITS completeness (pclist)

legend:

o -- station scheduled and fully accounted for in the fits file
42 (or another number) -- station scheduled, but data found
only for 42% of the scheduled interval
x -- station scheduled, but corresponding entry not found in the fits file
. -- station not scheduled

mm013b_setup1.fits:

			EF	ON	PV	YS	MH	NL	FD	PT	LA	OV	KP	BR	GL	MK	AA	AA	GB	KY	KU	KT
c181c_035D2D	No0035	3C273 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c181c_036D2D	No0036	M87 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	o	.	.	.	.	.	.	.
c181c_038D2D	No0038	3C279 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c181c_039D2D	No0039	M87 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c181c_041D2D	No0041	3C273 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c181c_042D2D	No0042	M87 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	o	.	.	.	.	.	.	.
c181c_044D2D	No0044	3C273 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c181c_045D2D	No0045	M87 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	o	.	.	.	.	.	.	.
c181c_048D2D	No0048	3C279 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c181c_049D2D	No0049	M87 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	o	.	.	.	.	.	.	.
c181c_051D2D	No0051	3C273 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	o	.	o	o	.	.	.	.
c181c_052D2D	No0052	M87 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	o	.	94	94	.	.	.	.
c181c_054D2D	No0054	3C279 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	.	.	o	o	.	.	.	.
c181c_055D2D	No0055	M87 3mm_RDBE	o	o	o	o	o	.	.	.	.	.	.	.	o	.	o	o	.	.	.	.
c181c_058D2D	No0058	3C273 3mm_RDBE	o	o	o	o	o	o	.	.	.	.	.	.	o	.	o	o	.	.	.	.
c181c_059D2D	No0059	M87 3mm_RDBE	o	o	o	o	o	o	.	.	.	.	.	.	o	.	o	o	.	.	.	.
c181c_061D2D	No0061	3C279 3mm_RDBE	o	o	o	o	o	o	.	.	.	.	.	.	.	.	o	o	.	.	.	.
c181c_062D2D	No0062	M87 3mm_RDBE	o	o	o	o	o	o	.	.	.	.	.	.	o	.	94	94	.	.	.	.
c181c_064D2D	No0064	3C273 3mm_RDBE	o	o	o	o	o	o	o	.	.	.	.	.	o	.	x	x	.	.	.	.
c181c_065D2D	No0065	M87 3mm_RDBE	o	o	o	o	o	o	o	.	.	.	.	.	o	.	o	o	.	.	.	.
c181c_068D2D	No0068	3C273 3mm_RDBE	o	o	o	o	o	o	o	o	o	.	.	.	o	.	o	o	.	.	.	.
c181c_069D2D	No0069	M87 3mm_RDBE	o	o	o	o	o	o	o	o	o	.	.	.	o	.	o	o	.	.	.	.
c181c_070D2D	No0071	3C273 3mm_RDBE	o	o	o	o	o	o	o	o	o	.	o	.	o	.	o	o	o	.	.	.
c181c_071D2D	No0072	M87 3mm_RDBE	o	o	o	o	o	o	o	o	o	.	o	.	o	.	94	94	o	.	.	.
c181c_072D2D	No0073	M87 3mm_RDBE	.	o	.	.	o	o	o	o	o	.	o	.	o	.	.	.	.	.	.	.
c181c_073D2D	No0075	3C279 3mm_RDBE	o	o	o	o	.	o	o	o	o	.	o	.	.	.	o	o	o	.	.	.
c181c_074D2D	No0076	M87 3mm_RDBE	o	o	o	o	.	o	o	o	o	.	o	.	o	.	o	o	o	.	.	.
c181c_075D2D	No0077	3C273 3mm_RDBE	o	o	o	o	o	o	o	o	o	o	o	o	o	.	o	o	o	.	.	.
c181c_076D2D	No0078	M87 3mm_RDBE	o	o	o	o	o	o	o	o	o	o	o	o	o	.	o	o	o	.	.	.
c181c_077D2D	No0079	3C279 3mm_RDBE	o	o	o	o	.	o	o	o	o	o	o	o	.	.	o	o	o	.	.	.
c181c_078D2D	No0080	M87 3mm_RDBE	o	o	o	o	.	o	o	o	o	o	o	o	o	.	o	o	o	.	.	.
c181c_079D2D	No0082	3C273 3mm_RDBE	o	o	o	o	.	o	o	x	o	o	o	o	o	.	o	o	o	.	.	.
c181c_080D2D	No0083	M87 3mm_RDBE	o	o	o	o	.	o	o	x	o	o	o	o	o	.	o	o	o	.	.	.
c181c_081D2D	No0084	3C273 3mm_RDBE	o	.	o	o	.	o	o	x	o	o	o	o	o	.	o	o	o	.	.	.
c181c_082D2D	No0085	M87 3mm_RDBE	o	.	o	o	.	o	o	x	o	o	o	o	o	.	o	o	o	.	.	.
c181c_083D2D	No0086	M87 3mm_RDBE	.	.	.	o	.	o	o	x	o	o	o	o	o	.	o	o	.	.	.	.

```
c181c_084D2D_No0088    3C279 3mm_RDBE .  .  o  o  .  o  o  x  o  o  o  o  .  .  o  o  o  .  .  .
c181c_085D2D_No0089      M87 3mm_RDBE .  .  o  o  .  o  o  x  o  o  o  o  o  .  o  o  o  .  .  .
c181c_086D2D_No0091    3C273 3mm_RDBE .  .  o  o  .  o  o  x  o  o  o  o  o  o  x  91 91 o  .  .  .
c181c_087D2D_No0092      M87 3mm_RDBE .  .  o  o  .  o  o  x  o  o  o  o  o  o  x  x  x  o  .  .  .
c181c_088D2D_No0093    3C273 3mm_RDBE .  .  o  o  .  o  o  x  o  o  o  o  o  o  x  o  o  o  .  .  .
c181c_089D2D_No0094      M87 3mm_RDBE .  .  o  o  .  o  o  16 o  o  o  o  o  o  16 o  o  o  .  .  .
c181c_090D2D_No0095    3C279 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  o  o  o  .  .  .
c181c_091D2D_No0096      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  93 93 o  .  .  .
c181c_093D2D_No0099    3C273 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  91 91 o  .  .  .
c181c_094D2D_No0100      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  o  o  o  .  .  .
c181c_097D2D_No0103    3C279 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  o  o  o  .  .  .
c181c_098D2D_No0104      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  o  o  o  .  .  .
c181c_100D2D_No0107    3C273 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  o  o  o  .  .  .
c181c_101D2D_No0108      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  o  o  o  .  .  .
c181c_103D2D_No0111    3C279 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  o  o  o  .  .  .
c181c_104D2D_No0112      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  o  o  o  .  .  .
c181c_107D2D_No0115    3C273 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  o  o  o  .  .  .
c181c_108D2D_No0116      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  o  o  o  .  .  .
c181c_110D2D_No0118    3C279 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  o  o  o  .  .  .
c181c_111D2D_No0119      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  94 94 o  .  .  .
c181c_113D2D_No0122    3C273 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  o  o  .  .  .
c181c_114D2D_No0123      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  94 94 o  .  .  .
c181c_117D2D_No0126    3C279 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  o  o  o  .  .  .
c181c_118D2D_No0127      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  o  o  o  .  .  .
c181c_120D2D_No0130    3C273 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  o  .  .  .
c181c_121D2D_No0131      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  .  .  o  .  .  .
c181c_123D2D_No0134    3C279 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  o  .  .  .
c181c_124D2D_No0135      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  .  .  o  .  .  .
c181c_127D2D_No0138    3C273 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  o  .  .  .
c181c_129D2D_No0139      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  .  .  o  .  .  .
c181c_131D2D_No0142    3C279 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  o  .  .  .
c181c_132D2D_No0143      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  .  .  o  .  .  .
c181c_134D2D_No0145    3C273 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  o  .  .  .
c181c_135D2D_No0146      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  o  o  .  .  o  .  .  .
c181c_138D2D_No0149    3C279 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  o  .  .  .
c181c_139D2D_No0150      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  .  .  .  .
c181c_141D2D_No0152    3C273 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  .  .  .  .
c181c_142D2D_No0153      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  .  .  .  .
c181c_143D2D_No0154      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  .  .  .  .
c181c_145D2D_No0156    3C279 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  .  .  .  .
c181c_146D2D_No0157      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  .  .  .  .
c181c_147D2D_No0158      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  .  .  .  .
c181c_150D2D_No0161    3C273 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  .  .  .  .
c181c_151D2D_No0162      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  .  .  .  .
c181c_152D2D_No0163      M87 3mm_RDBE .  .  .  .  .  o  o  o  o  o  o  o  o  .  o  .  .  .  .  .  .
```