

# C222A Correlation Report

## General information

- Session info: <http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/>
- Station feedback: [https://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/sessions/oct22/feedback\\_oct22.asc](https://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/sessions/oct22/feedback_oct22.asc)

## Status

what	date
Clock search started	17 Jan 2023
Correlation of 7mm started and finished	19 Jan 2023
Clock search 3mm started	20 Jan 2023
Correlation of 3mm started	24 Jan 2023
Packaging of 7mm and 3mm finished	07 Feb 2023
Released to PIs	08 Feb 2023

## Fringes

Station	Code	Fringes	Plots	Comments
VLBA 7mm		yes		
VLBA 3mm		yes		
NOEMA		partly		RCP fringes okay LCP no fringes, un-synced, unknown offset >2.56 msec
EU		yes		
KVN		yes		
EU-VLBA		yes	Br-Pv No0082, Nl-Pv No0097	
KVN-VLBA		yes	Br-Ku No0035	

## Notes

- NOEMA LCP has no fringes, also not within +- 256 usec of NOEMA RCP fringes. Info from R. Garcia is that LCP related PolyFix was likely not synchronized correctly in C222A amid GPS receiver issues.

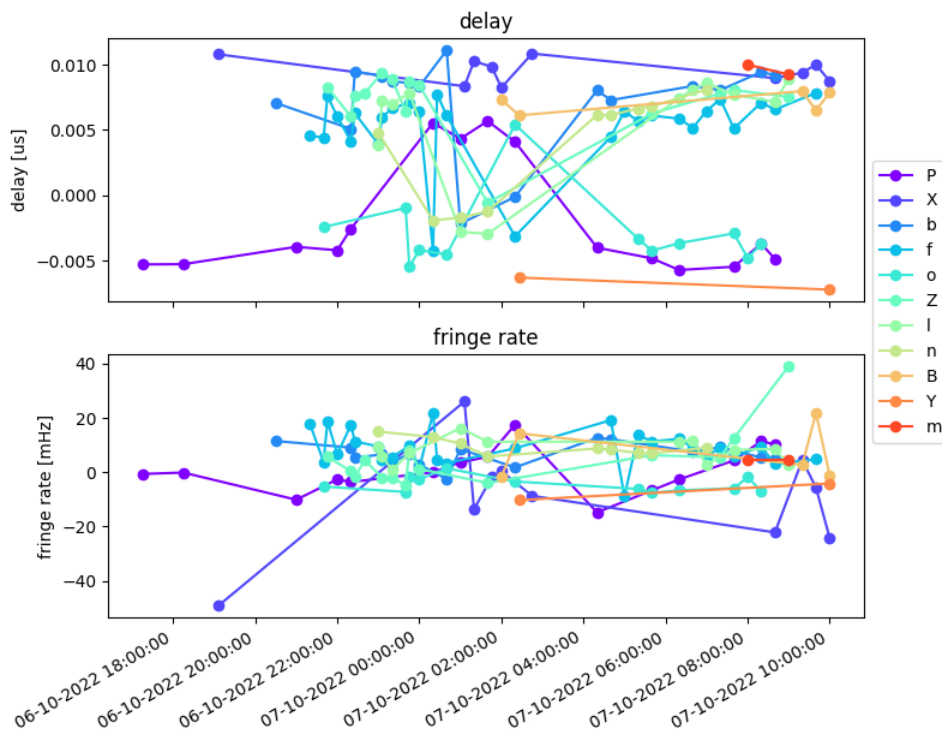
There should be a fringe at an unknown large offset. Did a wider search in cross-pol autocorrelations till +2560 usec, no fringes within that offset range. Already too large to correct in DiFX easily.

- VLBA BR has issues in LCP according to log
- VLBA had outages and this track was not observed at PT, KP, SC
- GBT not scheduled
- Pico polswapped in C222A but not in C222C
- Source K3-50A was scheduled in VEX/key for Ef-(Ys)-Nn-Pv for 15 sec pointings only, not to be included in project data exports

**Post-Correlation checks**

**Residuals 3mm**

Reference station NOEMA



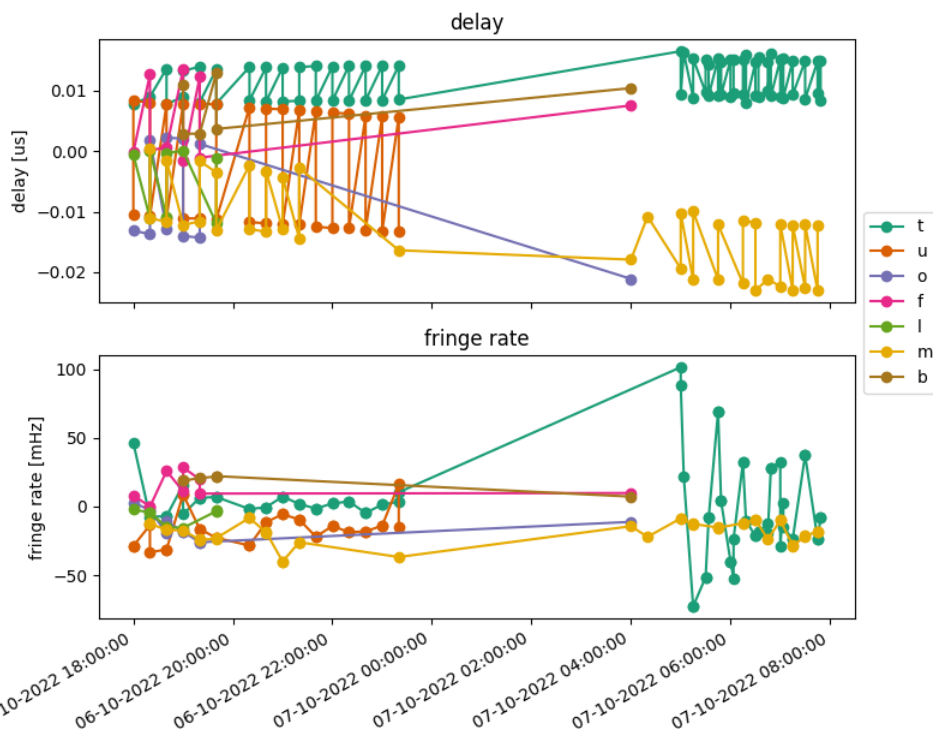
Delays statistics			
st	#pts	mean	std. dev
P	15	-0.0020	0.004263
X	10	+0.0095	0.000905
b	16	+0.0072	0.003422
f	27	+0.0053	0.002768
o	12	-0.0029	0.002751
Z	14	+0.0072	0.002352
l	12	+0.0057	0.004005
n	09	+0.0038	0.003890
B	05	+0.0072	0.000732
Y	02	-0.0068	0.000461
m	02	+0.0096	0.000378

Fringe rate statistics			
st	#pts	mean	std. dev
P	15	+0.7767	8.137038
X	10	-9.4414	18.957216
b	16	+6.5957	3.915633
f	27	+8.8844	6.460267
o	12	-4.4807	2.714920
Z	14	+4.9049	10.638138
l	12	+8.0153	4.244820
n	09	+9.3925	2.808581
B	05	+7.2575	9.274323
Y	02	-7.2054	3.063138
m	02	+4.5509	0.081919

Reference station: N

Pol: LL,RR

Reference KVN Yonsei



Delays statistics

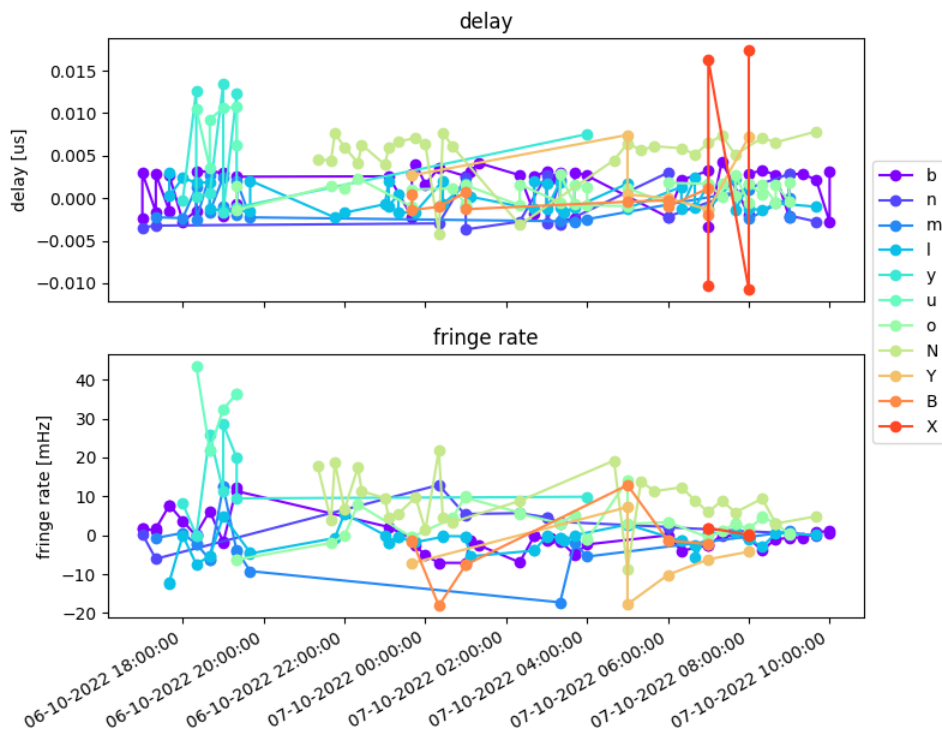
st	#pts	mean	std. dev
t	71	+0.0117	0.003050
u	32	-0.0025	0.009508
o	10	-0.0082	0.008465
f	09	+0.0049	0.006154
l	08	-0.0045	0.005299
m	39	-0.0128	0.006782
b	06	+0.0073	0.004222

Fringe rate statistics

st	#pts	mean	std. dev
t	71	-0.3713	30.732842
u	32	-15.9093	11.486317
o	10	-13.2024	9.560779
f	09	+12.5531	9.678011
l	08	-7.7379	5.760959
m	39	-18.6659	8.333499
b	06	+18.3310	5.106871

Reference station: y Pol: LL,RR

Reference VLBA\_FD



Delays statistics

st	#pts	mean	std. dev
b	48	+0.0012	0.002453
n	15	-0.0011	0.002641
m	18	-0.0009	0.001908
l	45	+0.0001	0.001577
y	09	+0.0049	0.006154
u	06	+0.0085	0.002685
o	35	+0.0007	0.001192
N	27	+0.0053	0.002768
Y	06	+0.0027	0.003450
B	10	-0.0005	0.000960
X	04	+0.0031	0.013696

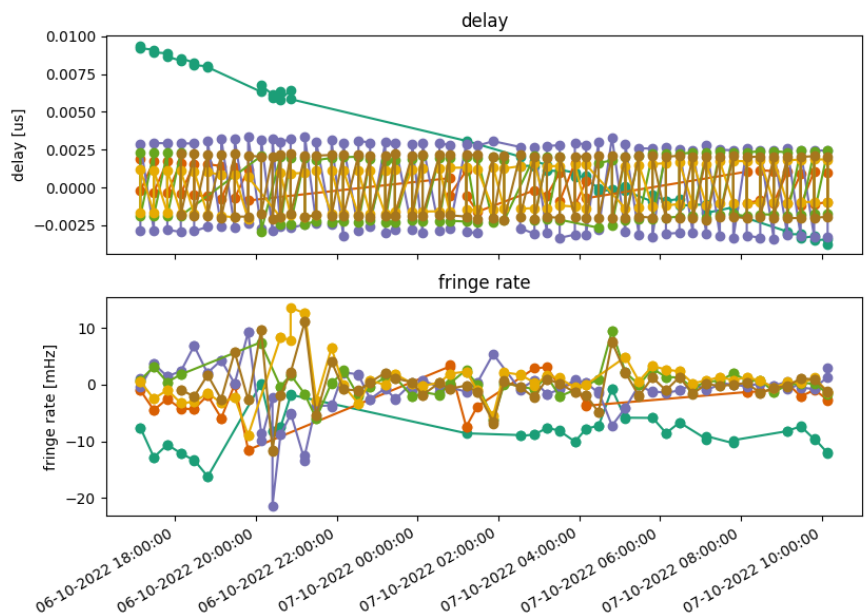
Fringe rate statistics

st	#pts	mean	std. dev
b	48	-0.2580	4.010664
n	15	+2.9633	3.952079
m	18	-1.8216	6.637414
l	45	-1.6260	3.452251
y	09	+12.5531	9.678011
u	06	+32.0505	7.898714
o	35	+2.6571	4.051885
N	27	+8.8844	6.460267
Y	06	-6.3771	7.460735
B	10	-3.0639	7.302188
X	04	+0.9230	0.849681

Reference station: f Pol: LL,RR

### Residuals 7mm

Reference FD



Delays statistics

st	#pts	mean	std. dev
h	57	+0.0023	0.004244
m	45	+0.0002	0.001063
b	102	+0.0000	0.002903
n	88	-0.0000	0.002129
o	98	-0.0001	0.001443
l	100	+0.0001	0.002028

Fringe rate statistics

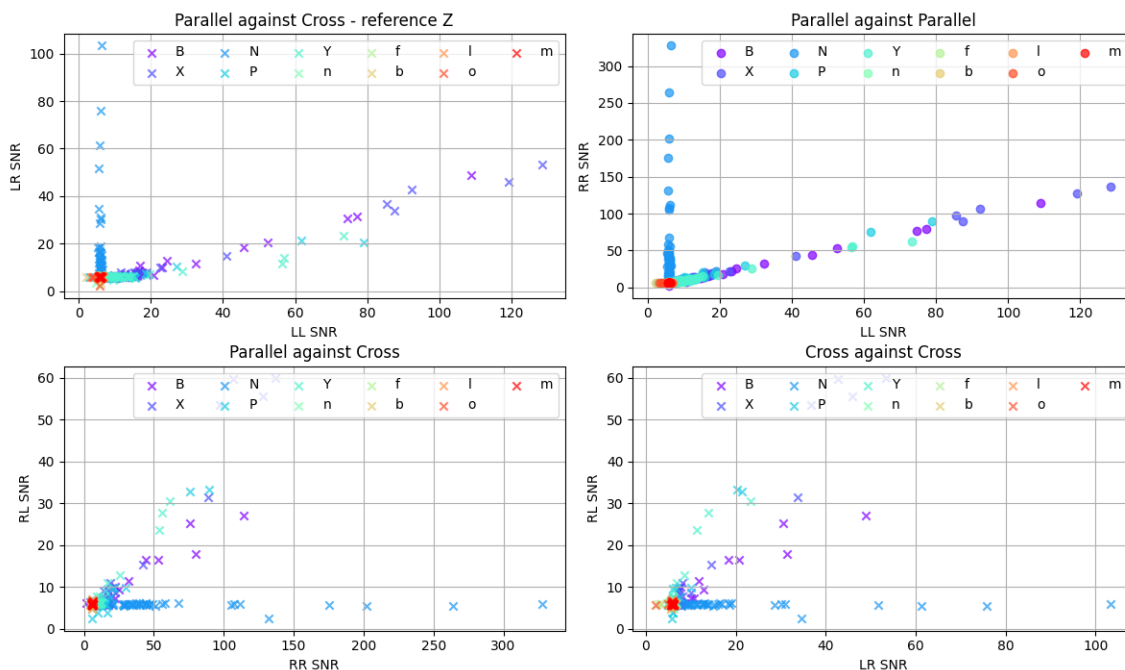
st	#pts	mean	std. dev
h	57	-8.3448	3.450479
m	45	-2.3143	3.192798
b	102	-0.8014	4.110582
n	88	+0.4338	2.579283
o	98	+0.6449	3.577417
l	100	-0.0917	3.559523

Reference station: f

Pol: LL,RR

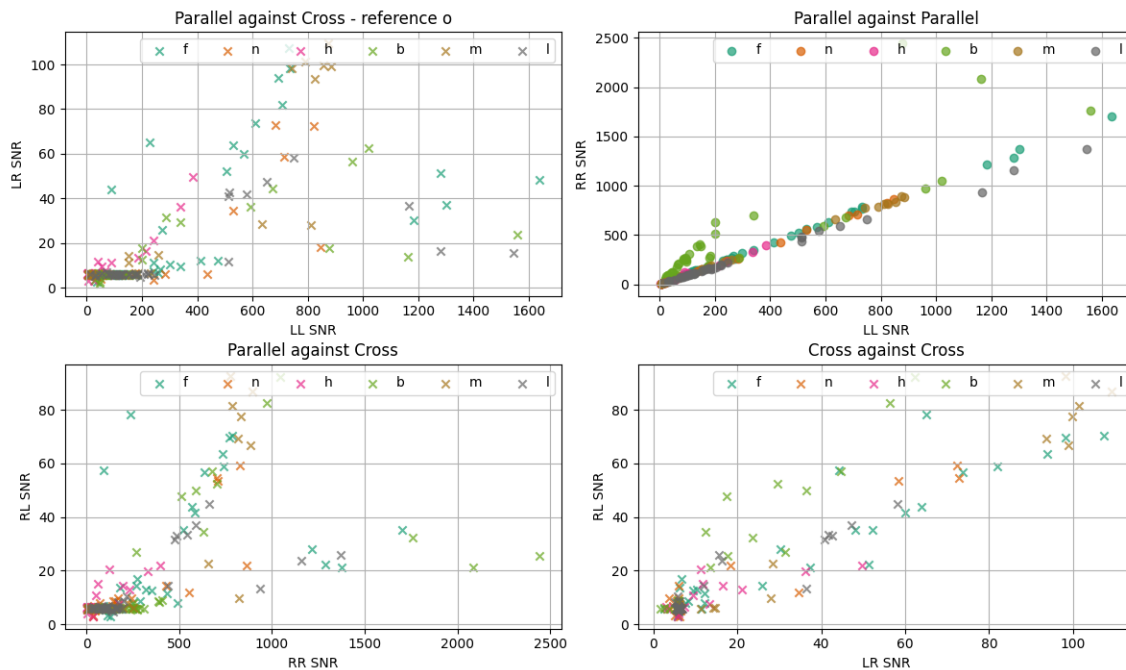
### Polarization 3mm

NOEMA LCP has no fringes in entire C222A. This is due to an undetermined and too large clock offset in their LCP data.



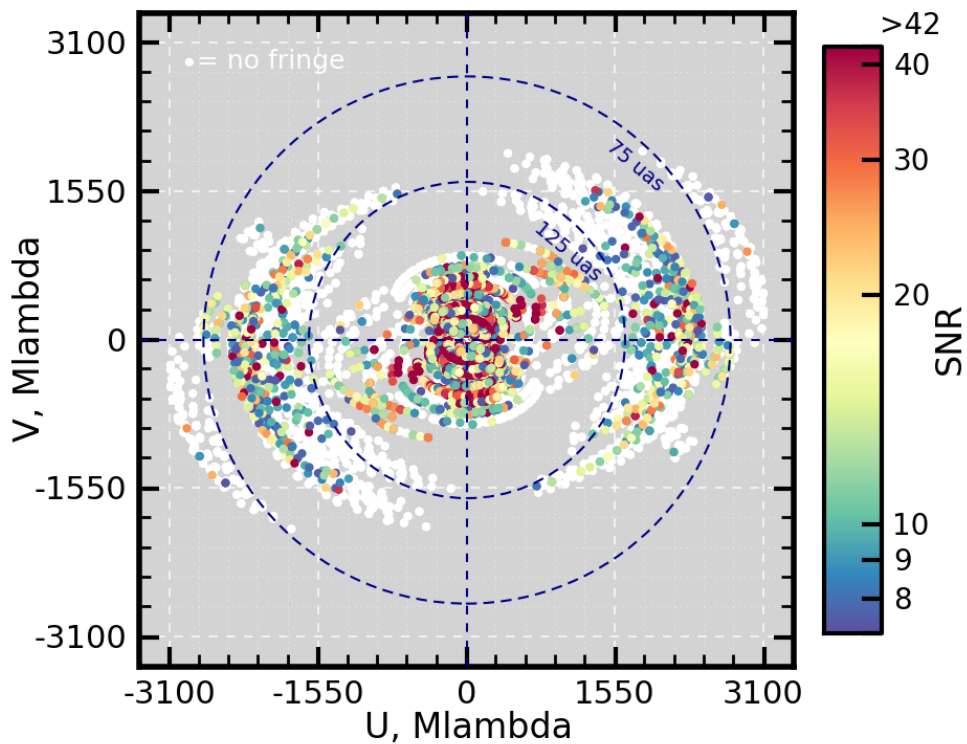
### Polarization 7mm

VLBA BR has reduced SNR in LCP



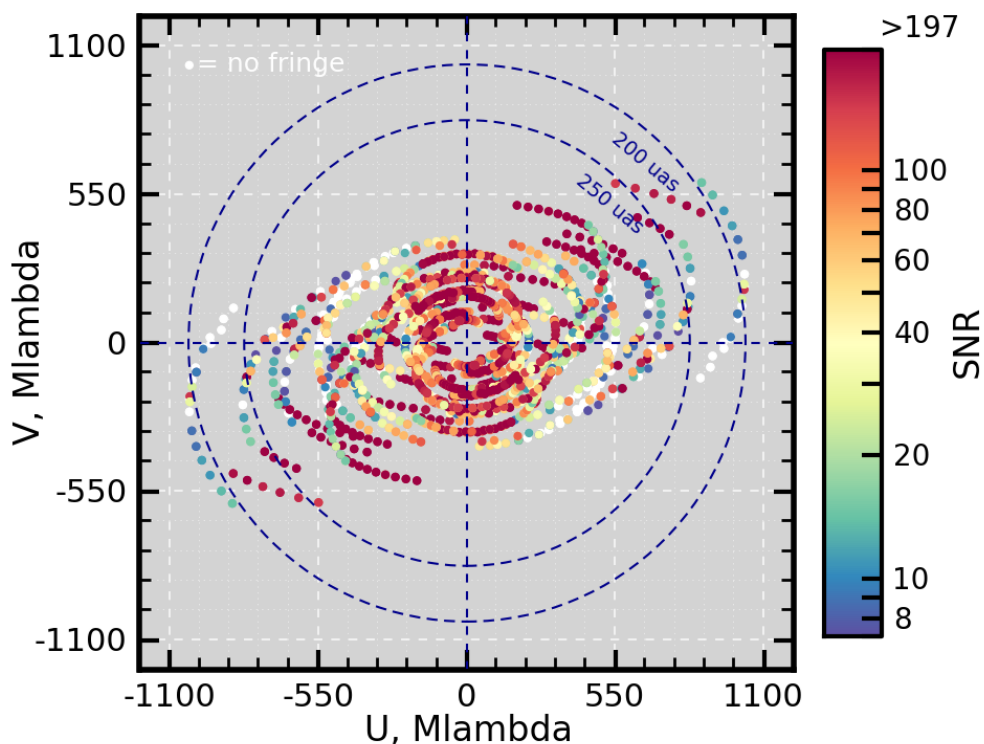
Detections 3mm

UV cov.: all sources, all antennas, all pols.



Detections 7mm

UV cov.: all sources, all antennas, all pols.



FITS completeness (pclist)

3mm

				EF	ON	YS	PV	NN	MH	NL	FD	PT	LA	OV	KP	BR
MK	KY	KU	KT													
c222a_1000	No0001	BLLAC	86ghz	o	o	o	o	o	o	.	.	.	.	.	.	.
.	.	.	.													
c222a_1001	No0002	CYG_A	86ghz	o	o	o	o	o	o	.	.	.	.	.	.	.
.	.	.	.													
c222a_1002	No0003	OJ287	86ghz	.	.	.	.	.	.	o	o	x	x	o	x	o
o	.	.	.													
c222a_1003	No0005	CYG_A	86ghz	o	o	o	o	o	o	.	.	.	.	.	.	.
.	.	.	.													
c222a_1004	No0006	OJ287	86ghz	.	.	.	.	.	.	o	o	x	x	o	x	o
o	.	.	.													
c222a_1005	No0008	BLLAC	86ghz	o	o	o	o	o	o	.	.	.	.	.	.	.
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c222a_1006	No0009	CYG_A	86ghz	o	o	o	o	o	o	.	.	.	.	.	.	.
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c222a_1007	No0010	OJ287	86ghz	.	.	.	.	.	.	o	o	x	12	o	x	o
o	.	.	.													
c222a_1008	No0012	CYG_A	86ghz	o	o	o	o	o	o	.	.	.	.	.	.	.
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c222a_1009	No0013	BLLAC	86ghz	o	o	o	o	o	o	.	.	.	.	.	.	.
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c222a_1010	No0014	CYG_A	86ghz	o	o	o	o	o	o	.	.	.	.	.	.
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c222a_1011	No0015	OJ287	86ghz	.	.	.	.	.	.	o	o	x	o	o	x
o	o	o	o	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1012	No0017	CYG_A	86ghz	o	o	o	o	o	o	.	.	.	.	.	.
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c222a_1013	No0018	OJ287	86ghz	.	.	.	.	.	.	o	o	x	o	o	x
o	o	o	o	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1014	No0021	CYG_A	86ghz	o	o	o	o	o	o	o	.	.	.	.	.
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c222a_1015	No0022	OJ287	86ghz	.	.	.	.	.	.	.	o	x	o	o	x
o	o	o	o	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1016	No0024	CYG_A	86ghz	o	o	o	.	o	o	o	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1017	No0025	2023+335	86ghz	o	o	o	o	o	o	o	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1018	No0026	CYG_A	86ghz	o	o	.	.	o	o	o	.	.	.	.	.
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c222a_1019	No0027	OJ287	86ghz	.	.	.	.	.	.	.	o	x	o	o	x
o	o	o	o	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1020	No0029	CYG_A	86ghz	o	o	.	.	o	o	o	.	.	.	.	.
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c222a_1021	No0030	OJ287	86ghz	.	.	.	.	.	.	.	o	x	o	o	x
o	o	o	o	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1022	No0032	2023+335	86ghz	o	o	o	.	o	o	o	.	.	.	.	.
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c222a_1023	No0033	CYG_A	86ghz	o	o	o	o	o	o	o	.	.	.	.	.
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c222a_1024	No0034	CYG_A	86ghz	o	o	o	o	o	o	o	.	.	.	.	.
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c222a_1025	No0035	OJ287	86ghz	.	.	.	.	.	.	.	o	x	o	o	x
o	37	o	o	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1026	No0037	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	.	.
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c222a_1027	No0039	OJ287	86ghz	.	.	.	.	.	.	.	.	.	.	o	x
o	x	o	o	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1028	No0041	CYG_A	86ghz	o	o	77	o	o	o	o	o	x	o	.	.
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c222a_1029	No0043	OJ287	86ghz	.	.	.	.	.	.	.	.	.	.	o	x
o	o	o	o	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1030	No0044	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1031	No0046	OJ287	86ghz	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1032	No0047	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1033	No0049	2023+335	86ghz	o	o	o	o	o	o	o	o	x	o	o	x
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c222a_1034	No0050	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

c222a_1035	No0052	OJ287	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o													
c222a_1036	No0053	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1037	No0055	OJ287	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o													
c222a_1038	No0056	2023+335	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1039	No0057	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1040	No0059	OJ287	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o													
c222a_1041	No0060	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1042	No0062	OJ287	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o													
c222a_1043	No0063	2023+335	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1044	No0064	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1045	No0066	OJ287	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o													
c222a_1046	No0067	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1047	No0069	OJ287	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o													
c222a_1048	No0070	2023+335	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1049	No0071	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1050	No0073	OJ287	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o													
c222a_1051	No0074	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1052	No0076	OJ287	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	91													
c222a_1053	No0077	2023+335	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o	.	.	.													
c222a_1054	No0078	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o	.	.	.													
c222a_1055	No0080	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o	.	.	.													
c222a_1056	No0082	CTA102	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1057	No0083	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o	.	.	.													
c222a_1058	No0085	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o	.	.	.													
c222a_1059	No0087	CTA102	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													



c222a_1060	No0088	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o . . .																
c222a_1061	No0090	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o . . .																
c222a_1062	No0092	CTA102	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
. . . .																
c222a_1063	No0093	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o . . .																
c222a_1064	No0095	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o . . .																
c222a_1065	No0097	CTA102	86ghz	o	o	o	o	o	.	o	o	x	o	o	x	o
o . . .																
c222a_1066	No0098	CYG_A	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o . . .																
c222a_1067	No0100	CTA102	86ghz	.	.	.	.	.	.	o	o	x	o	o	x	o
o . . .																
c222a_1068	No0101	CYG_A	86ghz	.	.	.	.	.	.	o	o	x	o	o	x	o
o . . .																
c222a_1069	No0103	3C111	86ghz	o	o	o	o	o	o	.	.	.	.	.	.	.
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c222a_1070	No0104	3C84	86ghz	o	o	o	o	o	o	.	.	.	.	.	.	.
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c222a_1071	No0105	CTA102	86ghz	.	.	.	.	.	.	o	o	x	o	o	x	o
o . . .																
c222a_1072	No0106	CYG_A	86ghz	.	.	.	.	.	.	o	o	x	o	o	x	o
o . . .																
c222a_1073	No0108	3C111	86ghz	o	o	o	.	o	o	.	.	.	.	.	.	.
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c222a_1074	No0109	CTA102	86ghz	.	.	.	.	.	.	o	o	x	o	o	x	o
o . . .																
c222a_1075	No0110	CYG_A	86ghz	.	.	.	.	.	.	o	o	x	o	o	x	o
o . . .																
c222a_1076	No0112	3C84	86ghz	o	o	o	o	o	o	.	.	.	.	.	.	.
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c222a_1077	No0113	3C111	86ghz	o	o	o	.	o	o	o	.	.	.	.	.	.
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c222a_1078	No0114	CTA102	86ghz	.	.	.	.	.	.	.	o	x	o	o	x	o
o . . .																
c222a_1079	No0115	CYG_A	86ghz	.	.	.	.	.	.	.	o	x	o	o	x	o
o o o x																
c222a_1080	No0117	3C84	86ghz	o	o	o	o	o	o	o	o	.	.	.	.	.
. . . .																
c222a_1081	No0118	2013+370	86ghz	.	.	.	.	.	.	.	o	x	o	o	x	o
o o o o																
c222a_1082	No0119	CYG_A	86ghz	.	.	.	.	.	.	.	o	x	o	o	x	o
o o o o																
c222a_1083	No0121	3C111	86ghz	o	o	o	o	o	o	o	o	x	o	.	.	o
. . . .																
c222a_1084	No0123	2013+370	86ghz	.	.	.	.	.	.	.	.	.	.	o	x	.
o o o o																



c222a_1110	No0156	CYG_A	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o													
c222a_1111	No0157	3C84	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1112	No0159	2013+370	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o													
c222a_1113	No0160	CYG_A	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o													
c222a_1114	No0161	3C111	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1115	No0163	2013+370	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o													
c222a_1116	No0164	CYG_A	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	x													
c222a_1117	No0165	2013+370	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	33													
c222a_1118	No0166	CYG_A	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	x													
c222a_1119	No0167	3C111	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
.	.	.	.													
c222a_1120	No0169	2013+370	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o													
c222a_1121	No0170	CYG_A	86ghz	.	.	.	.	.	.	.	.	.	.	.	.	.
o	o	o	o													
c222a_1122	No0171	3C84	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o	.	.	.													
c222a_1123	No0173	3C111	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o	.	.	.													
c222a_1124	No0175	3C111	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o	.	.	.													
c222a_1125	No0177	3C84	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o	.	.	.													
c222a_1126	No0179	3C111	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o	.	.	.													
c222a_1127	No0181	3C111	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o	.	.	.													
c222a_1128	No0183	3C111	86ghz	o	o	o	o	o	o	o	o	x	o	o	x	o
o	.	.	.													

Note: PT, KP, SC did not observe

**7mm**

				NL	FD	PT	LA	OV	KP	BR	MK	HN	SC
c222a_1000	No0004	OJ287	43ghz	o	o	x	x	o	x	o	o	o	x
c222a_1001	No0007	OJ287	43ghz	o	o	x	x	o	x	o	o	o	x
c222a_1002	No0011	OJ287	43ghz	o	o	x	x	o	x	o	o	o	x
c222a_1003	No0016	OJ287	43ghz	o	o	x	o	o	x	o	o	o	.
c222a_1004	No0019	OJ287	43ghz	.	o	x	o	o	x	o	o	o	.
c222a_1005	No0023	OJ287	43ghz	.	o	x	o	o	x	o	o	o	.
c222a_1006	No0028	OJ287	43ghz	.	o	x	o	o	x	o	o	.	.

c222a_1007	No0031	OJ287	43ghz	.	o	x	o	o	x	o	o	.	.
c222a_1008	No0036	OJ287	43ghz	.	o	x	o	o	x	o	o	.	.
c222a_1009	No0038	CYG_A	43ghz	o	o	x	o	.	.	o	.	o	x
c222a_1010	No0042	CYG_A	43ghz	o	o	x	o	.	.	o	.	o	x
c222a_1011	No0045	CYG_A	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1012	No0048	CYG_A	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1013	No0051	CYG_A	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1014	No0054	CYG_A	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1015	No0058	CYG_A	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1016	No0061	CYG_A	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1017	No0065	CYG_A	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1018	No0068	CYG_A	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1019	No0072	CYG_A	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1020	No0075	CYG_A	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1021	No0079	CYG_A	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1022	No0081	CYG_A	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1033	No0116	CYG_A	43ghz	.	o	x	o	o	x	o	o	o	x
c222a_1034	No0120	CYG_A	43ghz	.	o	x	o	o	x	o	o	o	x
c222a_1023	No0084	CYG_A	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1024	No0086	CYG_A	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1025	No0089	CYG_A	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1026	No0091	CYG_A	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1027	No0094	CYG_A	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1028	No0096	CYG_A	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1029	No0099	CYG_A	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1030	No0102	CYG_A	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1031	No0107	CYG_A	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1032	No0111	CYG_A	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1035	No0122	3C111	43ghz	o	o	x	o	.	.	o	.	o	x
c222a_1036	No0126	3C111	43ghz	o	o	x	o	.	.	o	.	o	x
c222a_1037	No0130	3C84	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1038	No0134	3C111	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1039	No0140	3C111	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1040	No0144	3C84	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1041	No0148	3C111	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1042	No0154	3C111	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1043	No0158	3C84	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1044	No0162	3C111	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1045	No0168	3C111	43ghz	o	o	x	o	o	x	o	.	o	x
c222a_1046	No0172	3C84	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1047	No0174	3C111	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1048	No0176	3C111	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1049	No0178	3C84	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1050	No0180	3C111	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1051	No0182	3C111	43ghz	o	o	x	o	o	x	o	o	o	x
c222a_1052	No0184	3C111	43ghz	83	83	x	83	o	x	o	o	o	x

Note: PT, KP, SC did not observe