

Table 1: Statistical results of pixel brightness values of FITS files of CASA-Meqtrees simulated dirty images of 2 1Jy point sources separated by 75' with and w/out visibilities corrupted by Cortes beam model (including with pointing error model), and difference between images with visibilities corrupted by Cortes beam model with pointing errors and visibilities corrupted with Cortes beam model w/out pointing errors (signified as 'diff1'). Also included are results for differenced images generated between an image with visibilities corrupted by Cortes beam model (w/out pointing errors) and an image with visibilities not corrupted by Cortes beam model (signified as 'diff2'). Note that pointing error model, signified by 'poi1', includes $l_{offset} = 0.00172179 \text{ rad} = 5.919'$, $m_{offset} = 0.00041211 \text{ rad} = 1.416'$. Statistical results (in columns 2-5) were obtained w/in a particular bounding box region between but not including the 2 sources; dynamic range estimate (D.R.) was obtained for **entire** image; pixel range is min. and max. pixel brightness value for **all** of image. CASA-Meqtrees SKA simulations: same as in previous progress reports.

N_a	mean	median	r.m.s.	σ	D.R. (all)	pixel range (all)
50	-1.42306e-06	4.07206e-06	0.00144768	0.0014477	691.338	-0.475156, 1.00084
50 (cortes)	3.34910e-07	1.59529e-06	0.000505216	0.000505227	989.725	-0.219612, 0.500025
50 (cortes,poi1)	3.51602e-07	2.41113e-06	0.000503330	0.000503340	989.837	-0.218816, 0.498214
50 (diff1)	1.669e-08	1.11758e-08	8.24857e-06	8.24873e-06	415.434	-0.00505518, 0.0034267
50 (diff2)	1.75797e-06	-1.35743e-05	0.0011601	0.0011601	422.889	-0.647514, 0.490594
75	1.1146e-05	5.78874e-06	0.000926000	0.000925953	840.981	-0.230988, 0.778749
75 (cortes)	4.92254e-06	2.46823e-07	0.000501860	0.000501847	996.296	-0.124897, 0.500002
75 (cortes,poi1)	4.92109e-06	-8.41526e-08	0.000501110	0.000501097	996.360	-0.12461, 0.499286
75 (diff1)	-1.45186e-09	1.4784e-08	5.19595e-06	5.19606e-06	260.140	-0.00210462, 0.0013516
75 (diff2)	-6.22421e-06	-6.61911e-06	0.000774828	0.000774819	268.275	-0.409090, 0.20786
100	-2.16327e-06	-4.35477e-06	0.00102543	0.00102545	975.332	-0.46253, 1.00014
100 (cortes)	-2.85182e-07	-2.924e-06	0.000323241	0.000323248	1546.8	-0.122883, 0.499998
100 (cortes,poi1)	-2.58316e-07	-2.63558e-06	0.00032188	0.000321890	1547.75	-0.122435, 0.498196
100 (diff1)	2.68662e-08	-9.89530e-10	5.83344e-06	5.83351e-06	499.225	-0.00514587, 0.00291220
100 (diff2)	1.87809e-06	8.73696e-08	0.000851987	0.000852003	561.082	-0.697748, 0.478034
150	-2.07268e-06	-3.51630e-07	0.000504113	0.000504119	1432.03	-0.159151, 0.721908
150 (cortes)	-1.25793e-06	-9.62185e-07	0.000250647	0.000250649	1994.82	-0.133167, 0.499998
150 (cortes,poi1)	-1.2654e-06	-5.43239e-07	0.00024954	0.000249544	1996.44	-0.132684, 0.498195
150 (diff1)	-7.47842e-09	2.46218e-08	4.64628e-06	4.6463e-06	382.831	-0.00527866, 0.00177874
150 (diff2)	-1.25793e-06	-2.90872e-06	0.000480375	0.000480385	244.277	-0.338330, 0.117344
175	-1.95979e-06	-1.1380e-06	0.000488034	0.000488041	1629.31	-0.165264, 0.795161
175 (cortes)	-7.17228e-07	-2.25116e-06	0.000223239	0.000223243	2239.80	-0.124684, 0.500014
175 (cortes,poi1)	-7.13530e-07	-2.6068e-06	0.000222281	0.000222285	2241.32	-0.124235, 0.498206
175 (diff1)	3.6981e-09	-1.57160e-08	4.47092e-06	4.47101e-06	396.397	-0.00535209, 0.00177226
175 (diff2)	1.24256e-06	2.86668e-06	0.000428886	0.000428893	345.81	-0.442003, 0.148314

Table 2: Statistical results of pixel brightness values for source 1 (at field center) and source 2 in FITS files of CASA-Meqtrees simulated dirty images of 2 1Jy point sources separated by 75' with and w/out visibilities corrupted by Cortes beam pattern model (including with pointing error model), and difference between images with visibilities corrupted by Cortes beam pattern model and pointing errors and visibilities corrupted with Cortes beam pattern model without pointing errors (signified as 'diff1'). Also included are results for differenced image generated between an image with visibilities corrupted by Cortes beam pattern model (without pointing errors) and an image with visibilities not corrupted by the Cortes beam model (signified as 'diff2'). Note that the pointing error model, signified by 'poil', includes $l_{offset} = 0.00172179 \text{ rad} = 5.919'$, $m_{offset} = 0.00041211 \text{ rad} = 1.416'$. Statistical results for the two sources were obtained within particular small bounding box regions drawn around each source. CASA-Meqtrees SKA simulations: same as in previous progress reports.

N_a	mean (src1,src2)	median(src1,src2)	r.m.s. (src1,src2)	σ (src1,src2)
50	1.65304e-06, 1.8582e-06	-5.37740e-06, -2.22025e-05	0.0138131, 0.0144856	0.0138133, 0.014485
50 (cortes)	1.14031e-06, -4.45598e-07	8.98684e-06, -5.57297e-06	0.006830, -4.45598e-07	0.0068309, 0.00109944
50 (cortes,poil)	1.14255e-06, -4.50500e-07	9.59343e-06, -6.71313e-06	0.00680612, -4.50500e-07	0.00680623, 0.00107226
50 (diff1)	2.23598e-09, -4.90207e-09	-5.30417e-08, -8.7311e-10	2.83526e-05, -4.90207e-09	2.83530e-05, 0.000107113
50 (diff2)	-5.1273e-07, -2.3038e-06	-3.8038e-06, 2.56780e-05	0.00711446, -2.3038e-06	0.0071145, 0.0144052
75	3.17898e-06, 9.52520e-06	1.51374e-05, -1.59159e-05	0.00885787, 0.00837421	0.00885801, 0.00837435
75 (cortes)	3.38431e-06, -5.6606e-06	-7.12388e-06, -5.6753e-06	0.00686870, 0.00100353	0.00686881, 0.00100353
75 (cortes,poil)	3.38661e-06, -5.67542e-06	-8.58495e-06, -5.58906e-06	0.00685851, 0.000992810	0.00685861, 0.000992811
75 (diff1)	2.30010e-09, -1.47659e-08	-9.02218e-09, 1.45751e-07	1.6070e-05, 6.35601e-05	1.60707e-05, 6.35612e-05
75 (diff2)	2.05337e-07, -1.51858e-05	8.53929e-06, -9.46596e-06	0.00352023, 0.00842339	0.00352029, 0.00842352
100	2.14658e-07, 1.5098e-06	-7.73381e-06, 2.94052e-06	0.00961461, 0.0100582	0.00961476, 0.0100583
100 (cortes)	-2.08588e-08, 2.91606e-07	-8.98482e-06, 7.36631e-07	0.00479786, 0.000374081	0.00479794, 0.000374087
100 (cortes,poil)	-1.88314e-08, 2.96061e-07	-8.02554e-06, 1.74163e-06	0.00478054, 0.000340831	0.00478062, 0.000340836
100 (diff1)	2.02732e-09, 4.45522e-09	2.33994e-08, 6.24568e-08	1.78968e-05, 7.02550e-05	1.78971e-05, 7.0256e-05
100 (diff2)	-2.3551e-07, -1.21822e-06	-2.15804e-06, -8.68266e-06	0.00483603, 0.0101065	0.00483611, 0.0101066
150	-8.51284e-07, -2.03471e-08	1.1307e-05, -1.10484e-06	0.0059595, 0.00469711	0.00595961, 0.00469720
150 (cortes)	-2.01778e-07, -4.34729e-08	1.88148e-06, 5.12510e-07	0.0044159, 0.00029297	0.0044159, 0.00029298
150 (cortes,poil)	-1.96755e-07, -4.903e-08	2.52593e-06, 9.31918e-07	0.00439999, 0.000257289	0.00440006, 0.000257294
150 (diff1)	5.02239e-09, -5.56508e-09	1.30967e-09, -2.02562e-08	1.62513e-05, 6.47303e-05	1.62516e-05, 6.47314e-05
150 (diff2)	6.49506e-07, -2.31265e-08	2.71154e-06, -3.3334e-06	0.00252716, 0.00473060	0.00252720, 0.0047306
175	2.38007e-06, 1.62191e-06	-1.64189e-05, 7.2293e-06	0.00636212, 0.00546310	0.00636222, 0.00546319
175 (cortes)	1.10117e-06, -3.77661e-07	-7.56609e-06, 3.94368e-07	0.00421182, 0.000254688	0.00421189, 0.000254692
175 (cortes,poil)	1.07323e-06, -3.88602e-07	-7.92024e-06, 8.36783e-07	0.0041966, 0.000217290	0.00419667, 0.000217294
175 (diff1)	-2.79417e-08, -1.09403e-08	9.02218e-10, 2.32919e-07	1.54359e-05, 6.03946e-05	1.54361e-05, 6.03956e-05
175 (diff2)	-1.27890e-06, -1.99957e-06	-3.29967e-06, -8.42788e-06	0.00245767, 0.00548175	0.0024577, 0.00548184