KIC 006535050

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_\star$ ($R_\odot$)	$T_\star$ (K)	R_p ($R_\oplus$)	S_p ($S_\oplus$)
006535050-01	OBS	No	414.555226	372.583997	1748.6	5.955	22.0	11.3	1.79	6054	7.51	3.36
006535050-02	OBS	No	410.850502	214.574800	1099.5	3.379	17.6	7.9	1.79	6054	6.17	3.40
006535050-03	OBS	No	291.826963	268.191724	1500.7	3.800	16.4	10.4	1.79	6054	7.10	5.37
006535050-04	OBS	No	507.486319	574.020053	2056.9	7.015	32.1	11.6	1.79	6054	8.15	2.57
006535050-05	OBS	No	459.353240	464.601861	431.2	5.000	14.5	-1.0	1.79	6054	3.73	2.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006535050-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006535050-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006535050-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—CENT_FEW_DIFFS
006535050-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006535050-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

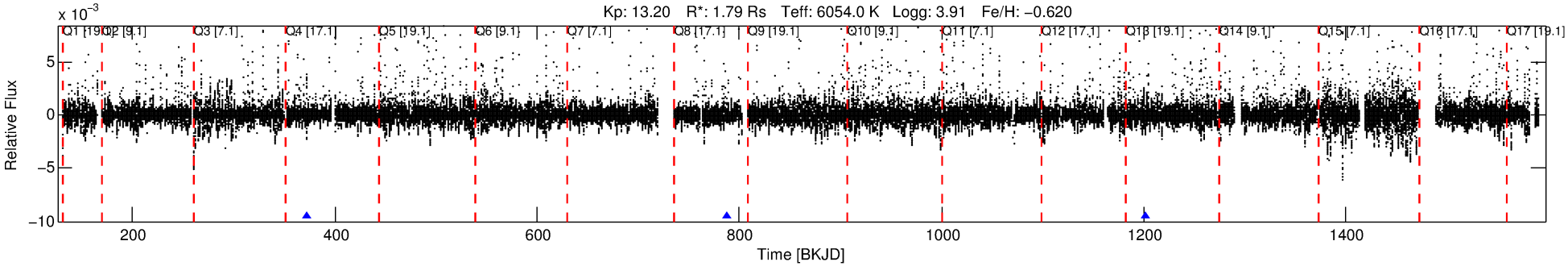
Ephemeris Match Information For 006535050-01

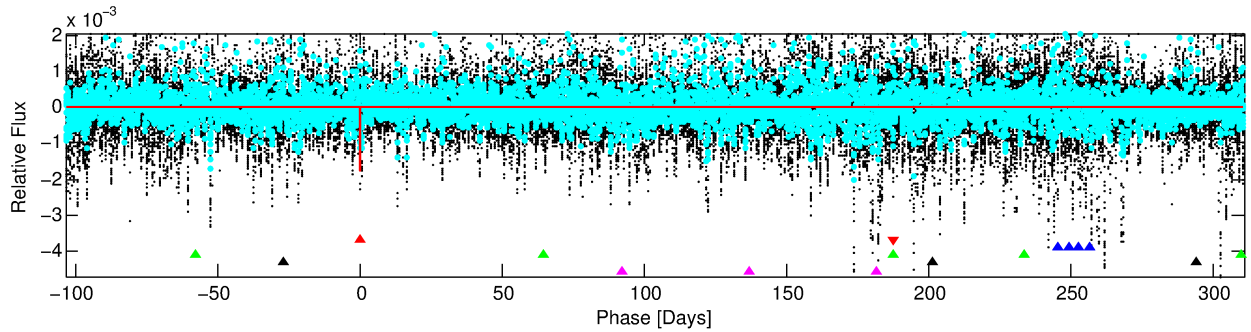
No Significant Match Found

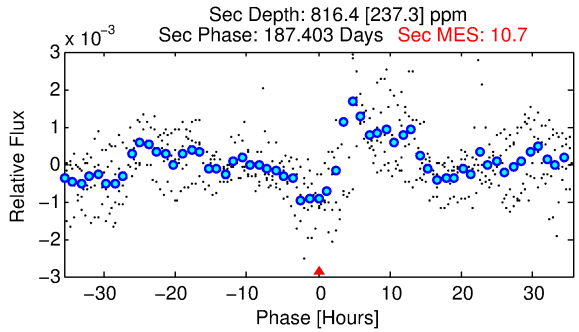
DV One-Page Summary

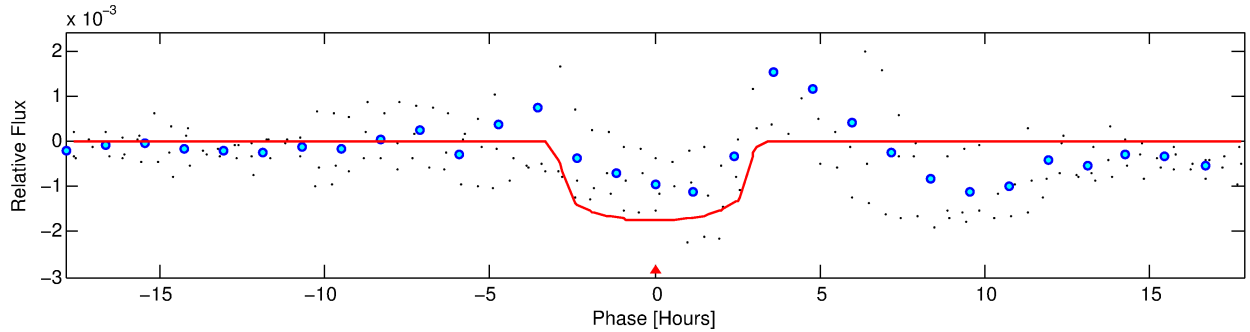
KIC: 6535050 Candidate: 1 of 5 Period: 414.555 d

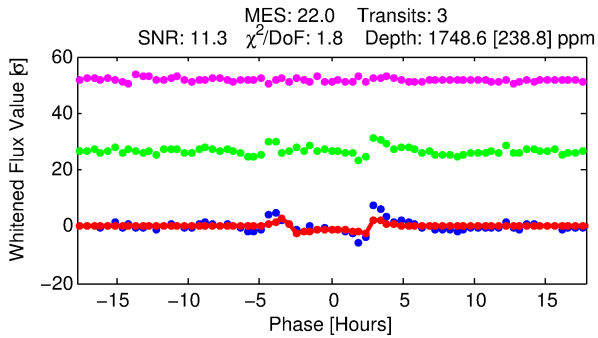
Kp: 13.20 R*: 1.79 Rs Teff: 6054.0 K Logg: 3.91 Fe/H: −0.620

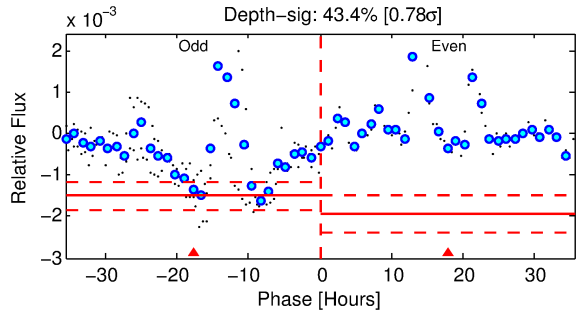


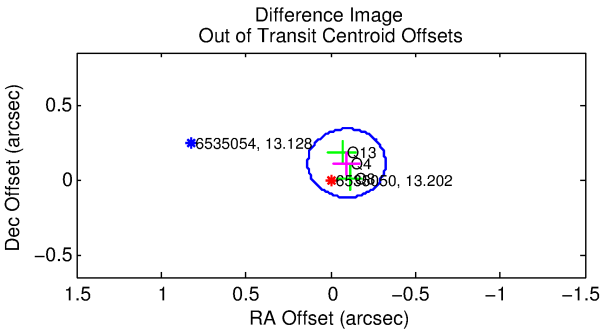












DV Fit Results:

Period = 414.55523 [0.00316] d
Epoch = 372.5840 [0.0034] BKJD
Rp/R* = 0.0384 [0.0241]
a/R* = 551.97 [1736.36]
b = 0.03 [104.23]

Seff = 3.36 [2.96]
Teq = 345 [76] K
Rp = 7.51 [6.03] Re
a = 1.0743 [0.5622] AU

Ag = 9181.03 [14286.12] [0.64σ]
Teffp = 5225 [1690] K [2.88σ]

DV Diagnostic Results:

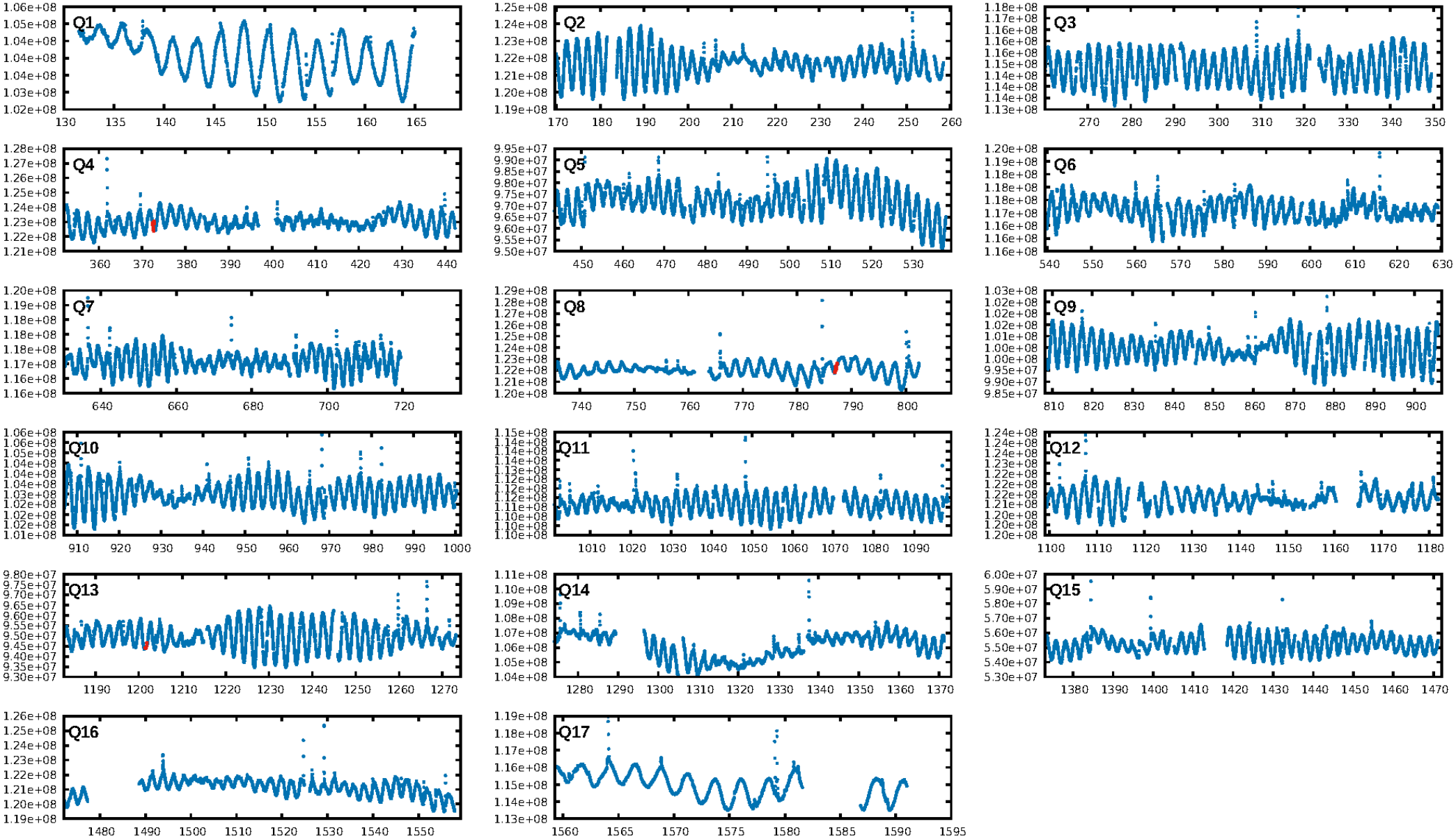
ShortPeriod−sig: 100.0% [12.99σ]
LongPeriod−sig: 100.0% [138.27σ]
ModelChiSquare2−sig: 88.8%
ModelChiSquareGof−sig: 87.6%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [3/3]
GhostDiagnostic−chr: −2.276

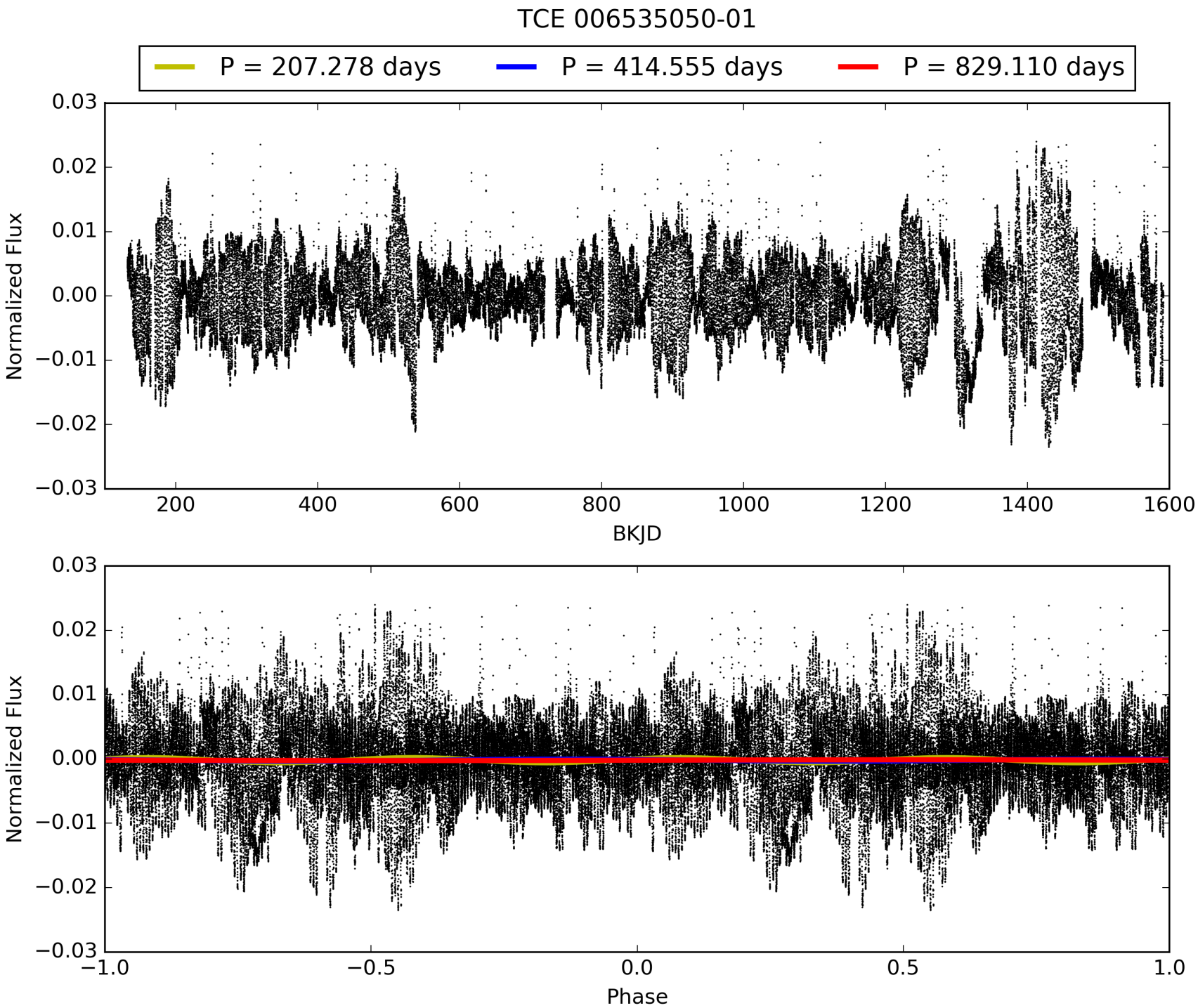
Centroid−sig: 8.4%
Centroid−so: 0.338 arcsec [1.46σ]
OotOffset−rm: 0.145 arcsec [1.90σ]
KicOffset−rm: 0.274 arcsec [1.74σ]
OotOffset−st: 0/0/2/1 [3]
KicOffset−st: 0/0/2/1 [3]
DiffImageQuality−fgm: 1.00 [3/3]
DiffImageOverlap−fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03−Feb−2016 08:39:41 Z

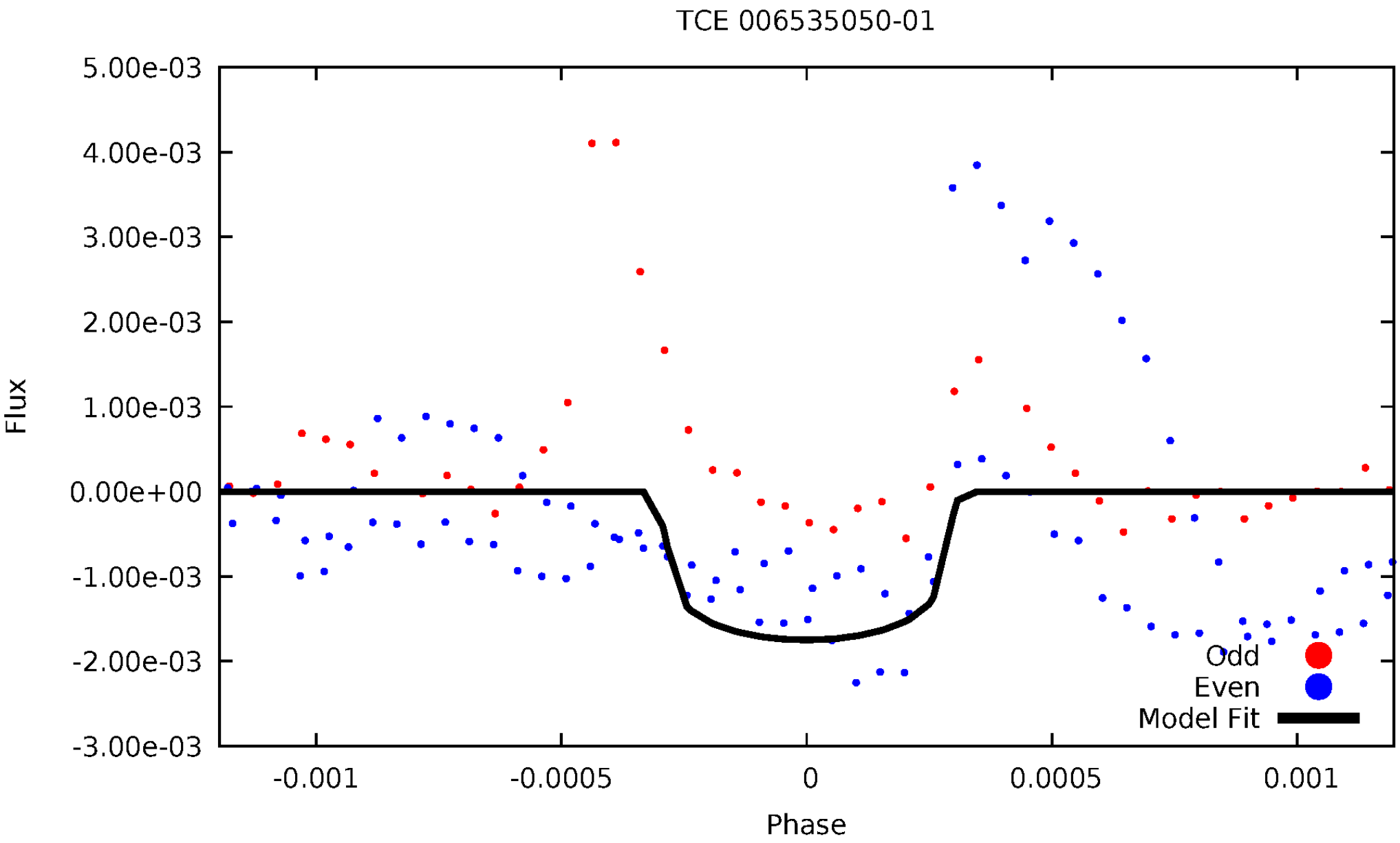
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006535050-01, PDC Light Curves

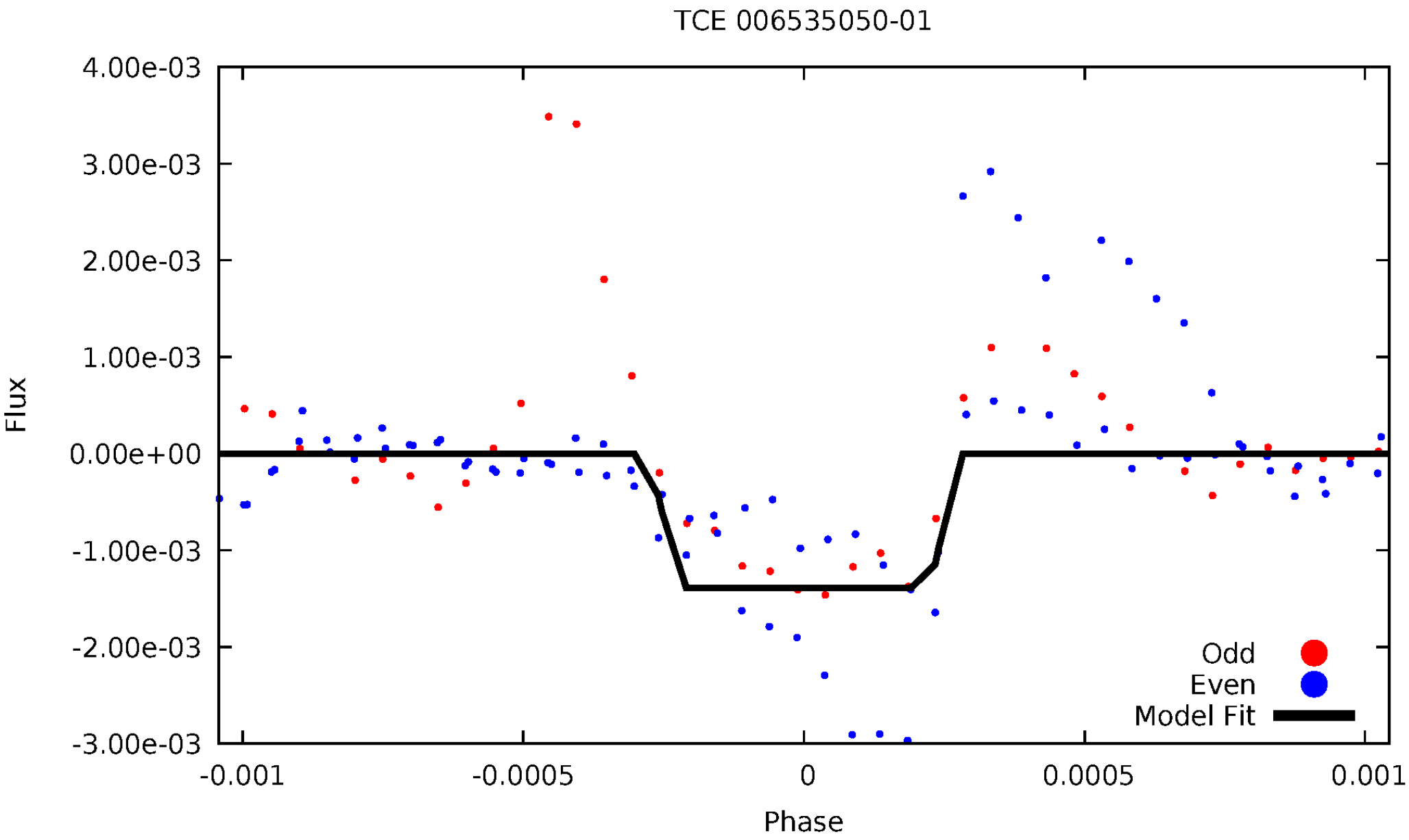



TCE 006535050-01
P = 207.278 days
P = 414.555 days
P = 829.110 days
Normalized Flux
BKJD
Normalized Flux
Phase

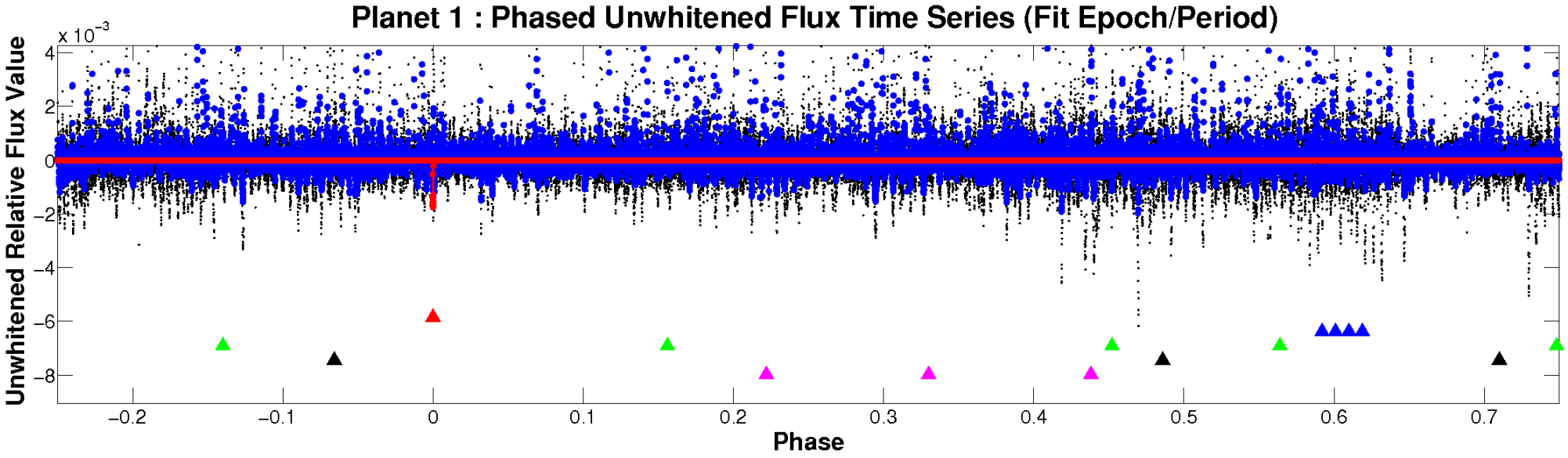
DV Odd/Even

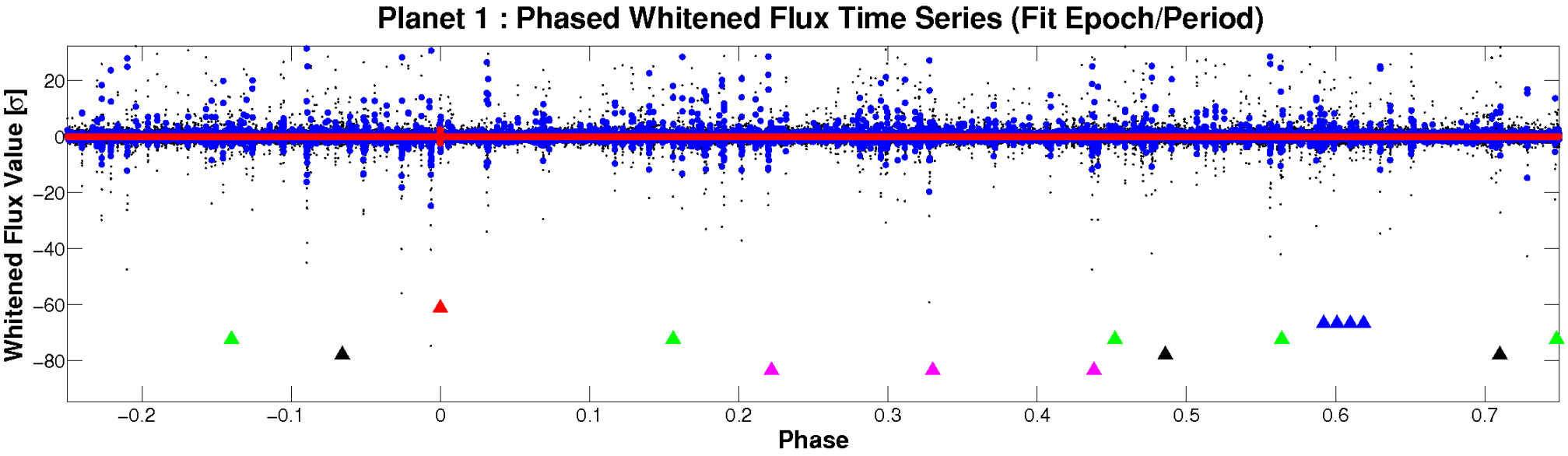

TCE 006535050-01
5.00e-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
Flux
-0.001
-0.0005
0
0.0005
0.001
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006535050-01
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
Flux
-0.001
-0.0005
0
0.0005
0.001
Phase
Odd
Even
Model Fit

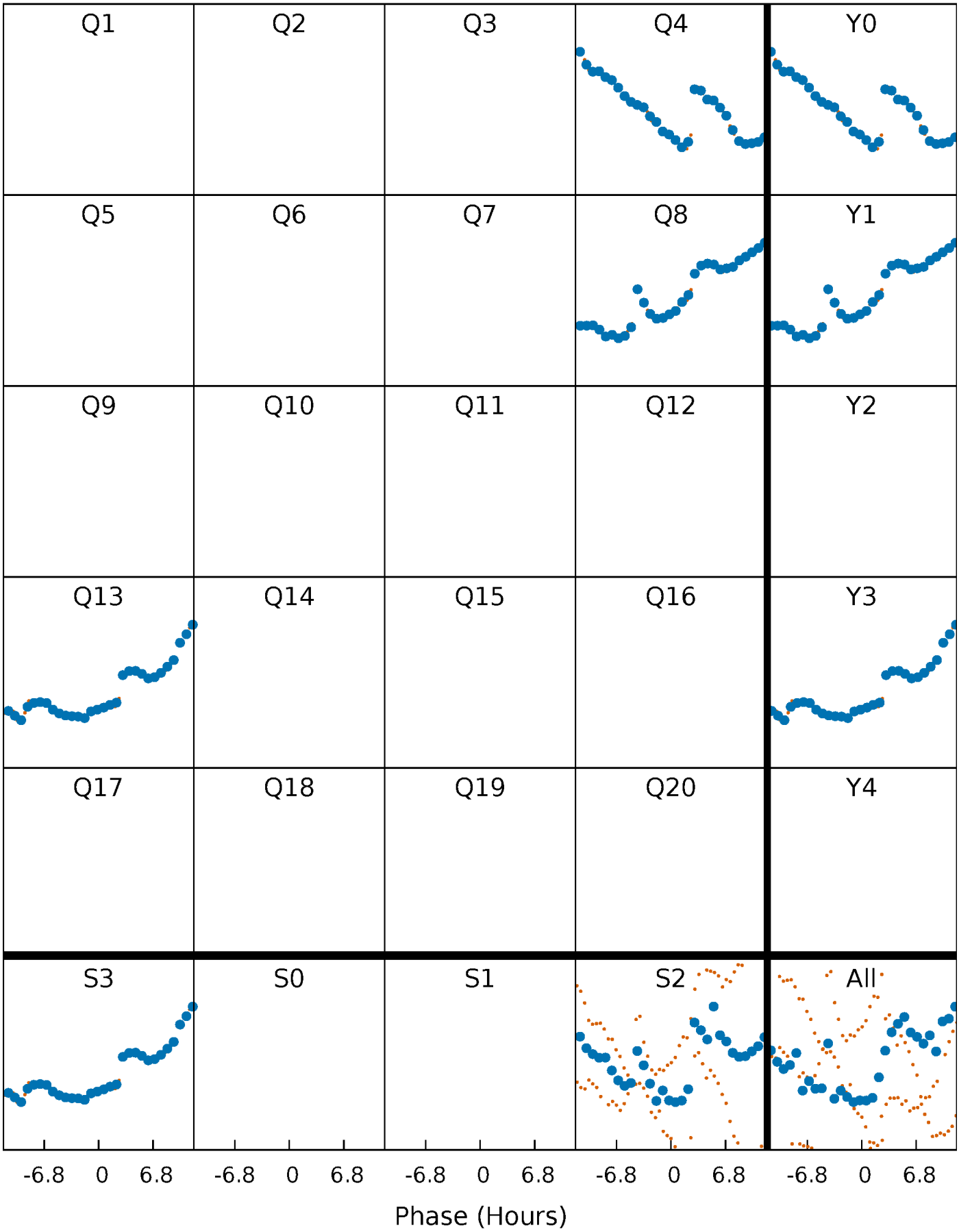
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 006535050-01 P=414.555226 Days T_0=372.583997 (BKJD)



DV Quarter-Phased Transit Curves

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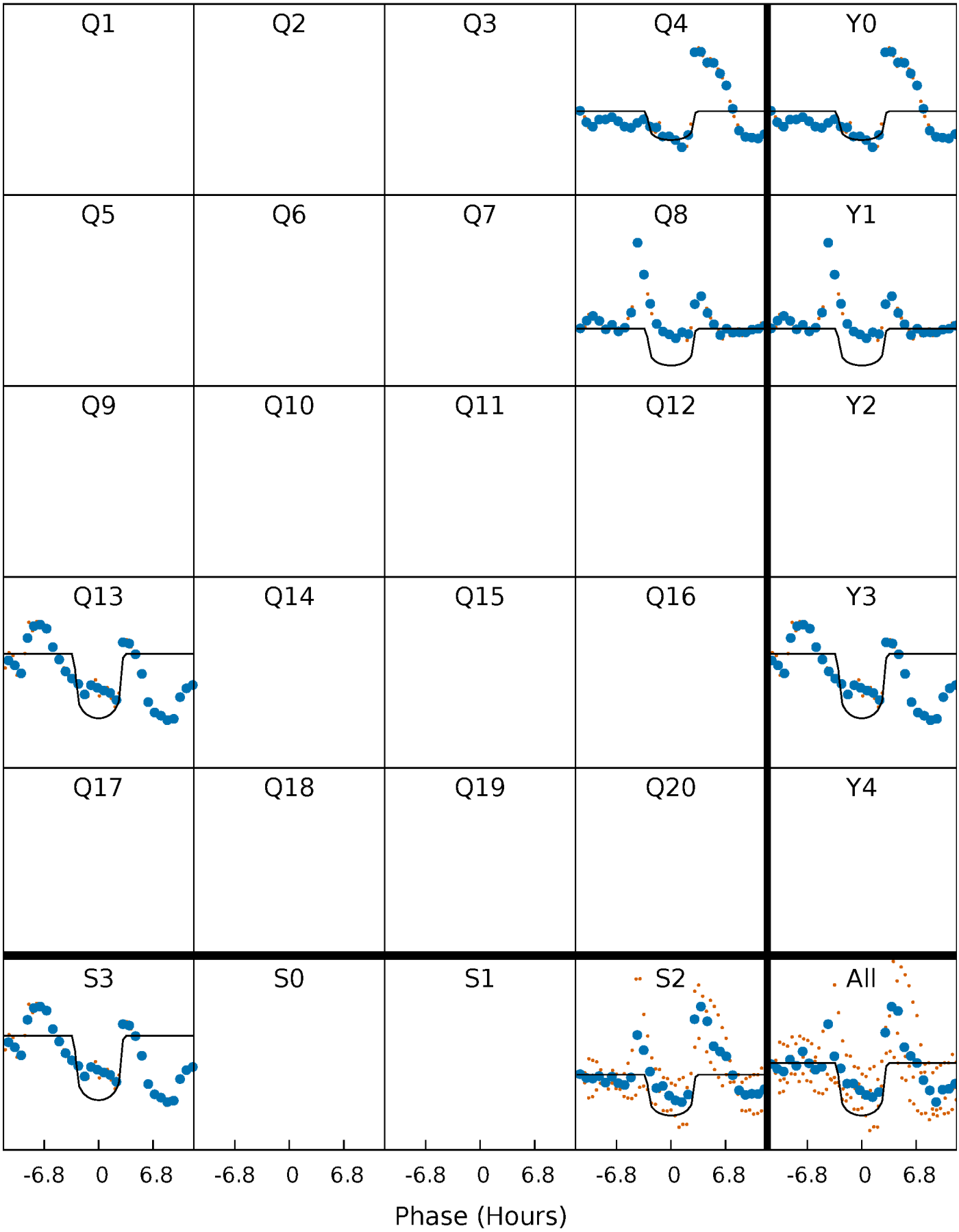
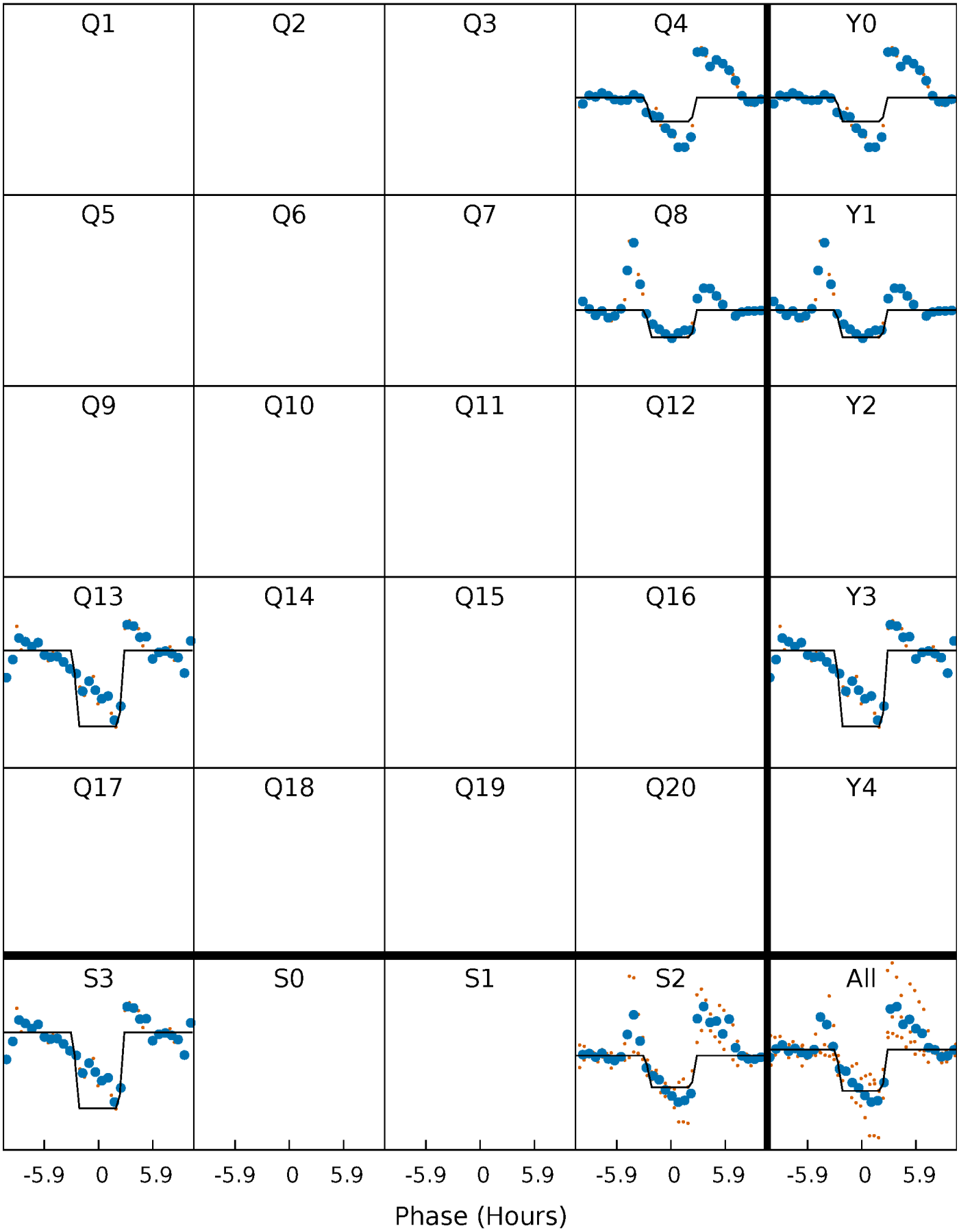


Alt. Detrend Quarter-Phased Transit Curves

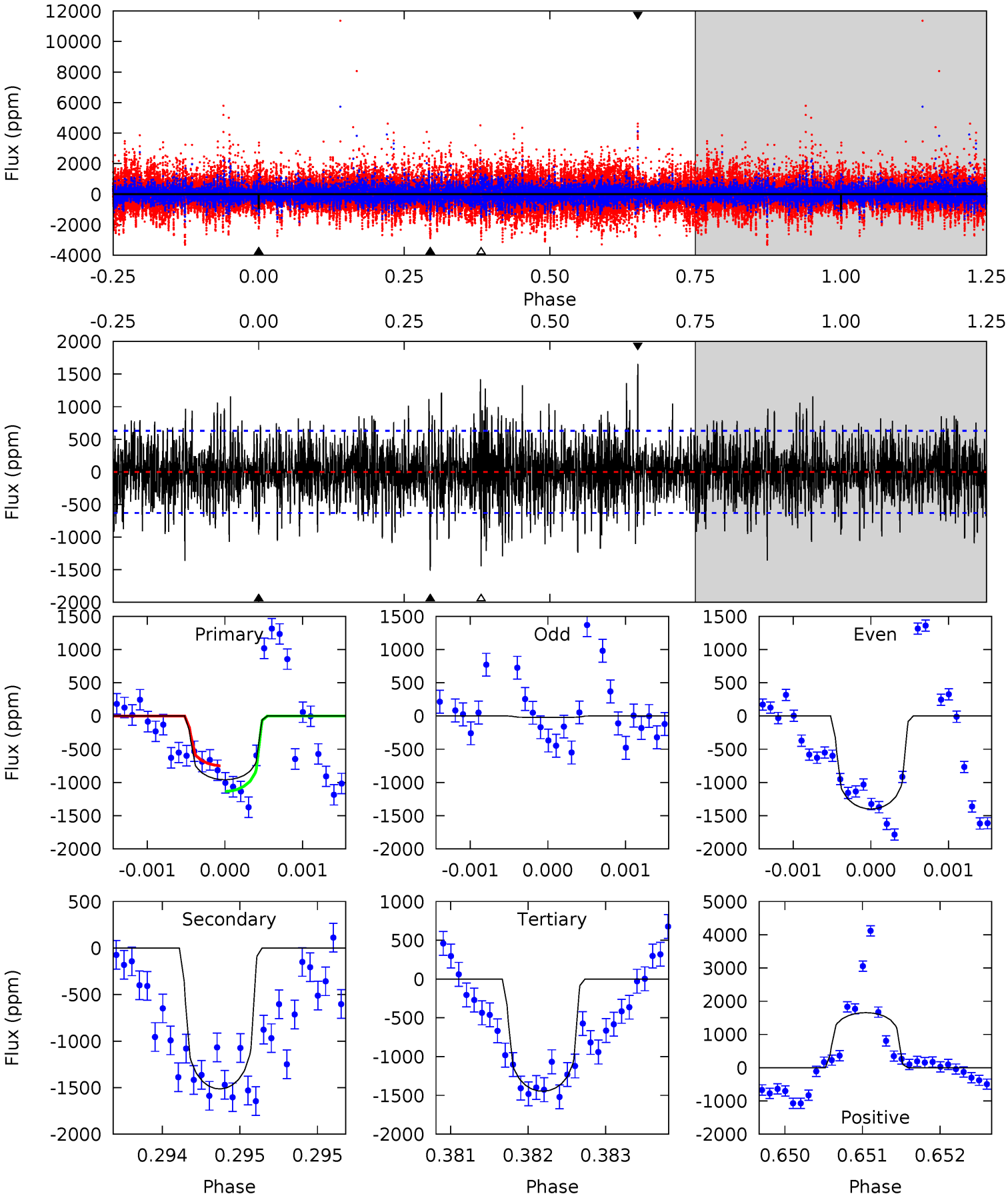
TCE 006535050-01 P=414.556065 Days T_0=372.590083 (BKJD)



DV Model-Shift Uniqueness Test

006535050-01, P = 414.555226 Days, E = 372.583997 Days

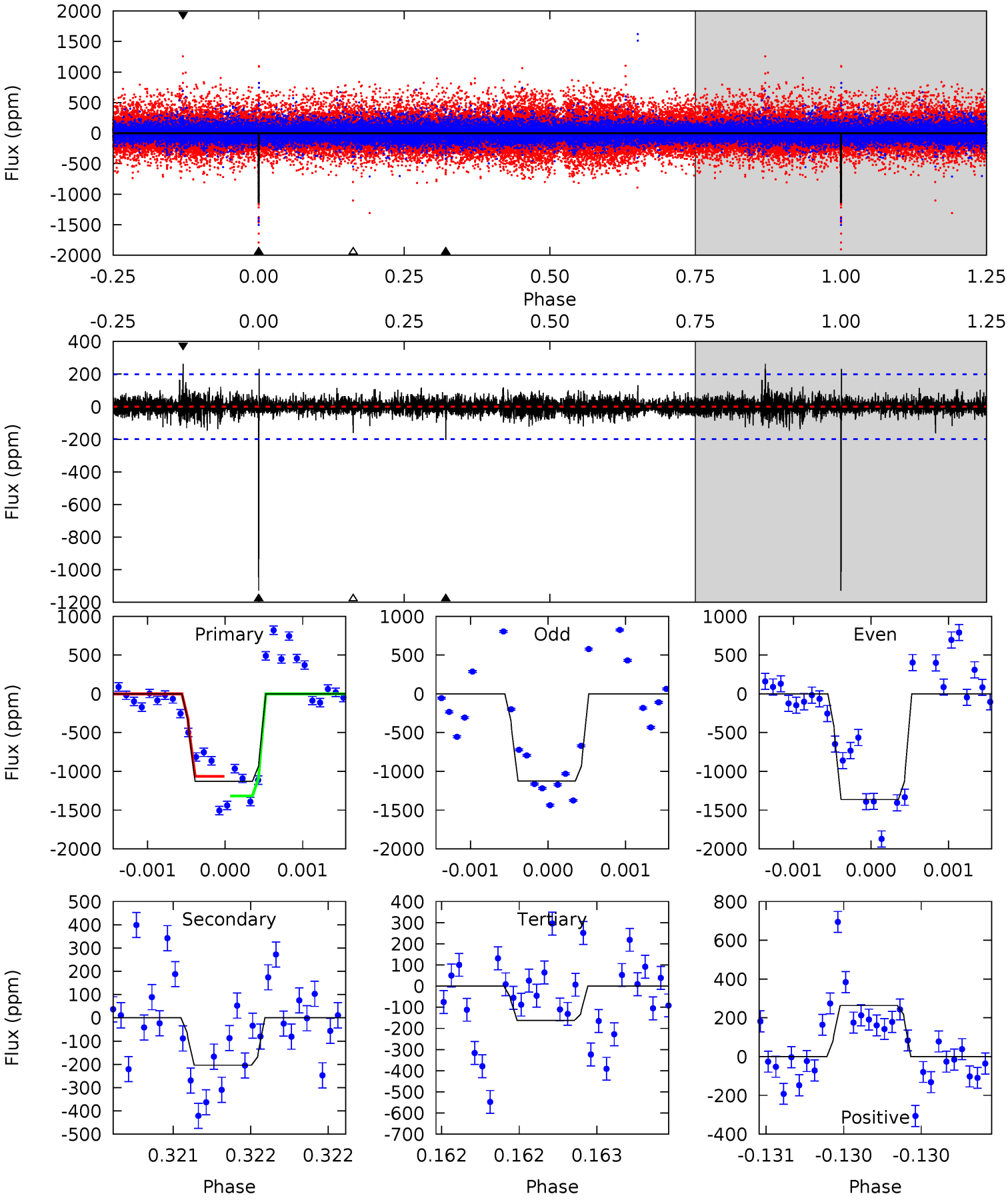
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.43	13.3	12.7	14.5	5.53	3.41	3.09	-4.28	-6.12	0.59	-1.25	4.24	0.82	0.52	1.70



Alt Model-Shift Uniqueness Test

006535050-01, P = 414.556065 Days, E = 372.590083 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.5	5.68	4.51	7.35	5.56	3.46	0.83	27.0	24.1	1.17	-1.67	3.09	1.20	0.19	3.58



Stellar Parameters For KIC 006535050

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6054^{+181}_{-181}	$3.913^{+0.525}_{-0.175}$	$-0.620^{+0.300}_{-0.250}$	$1.795^{+0.484}_{-0.899}$	$0.963^{+0.121}_{-0.135}$	$0.234^{+1.349}_{-0.113}$
	+3%/-3%	+13%/-4%	+48%/-40%	+27%/-50%	+13%/-14%	+576%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006535050-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1514±114	$7.31^{+5.08}_{-4.33}$	476^{+40}_{-57}	5933^{+3777}_{-1101}	18476^{+89914}_{-12131}
Alt.	-204±36	$7.08^{+4.78}_{-3.71}$	477^{+38}_{-64}	3957^{+1332}_{-575}	2596^{+8675}_{-1705}

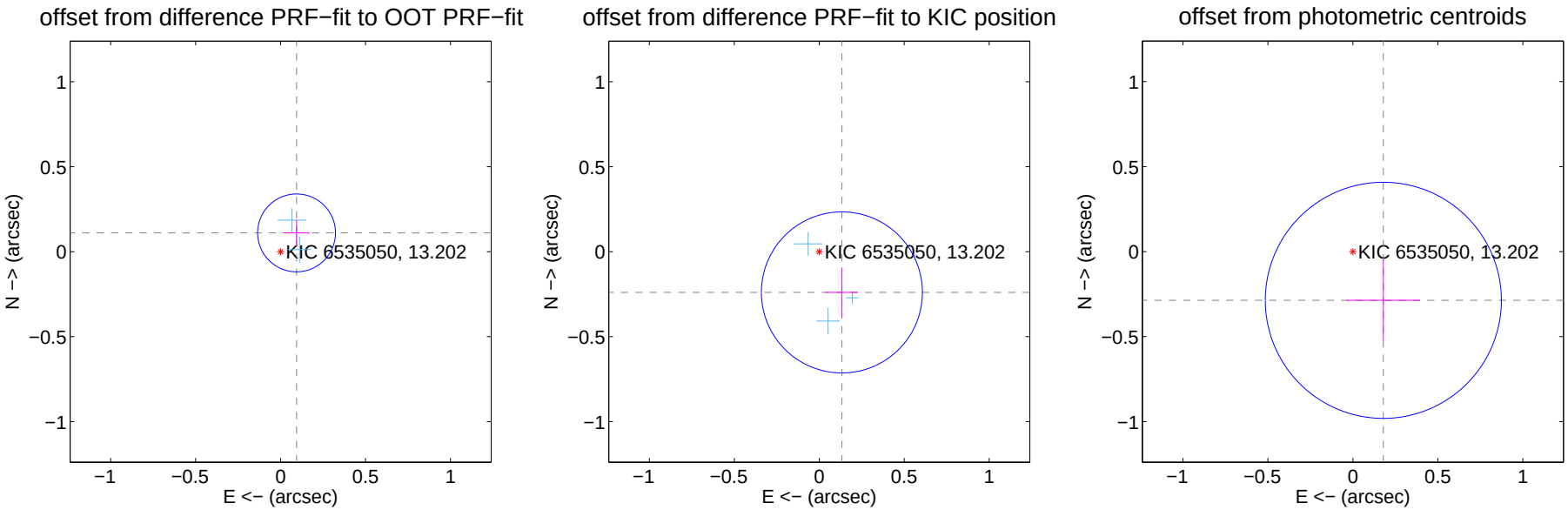
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

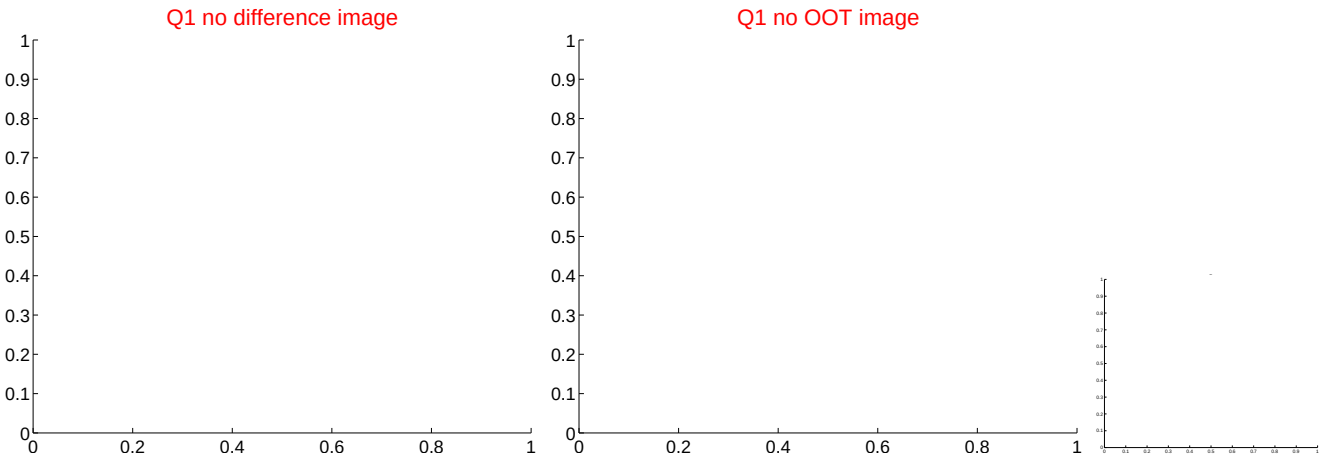
Supplemental centroid analysis for 006535050-01. Kepler magnitude: 13.20. Transit SNR 11.26
There are 3 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

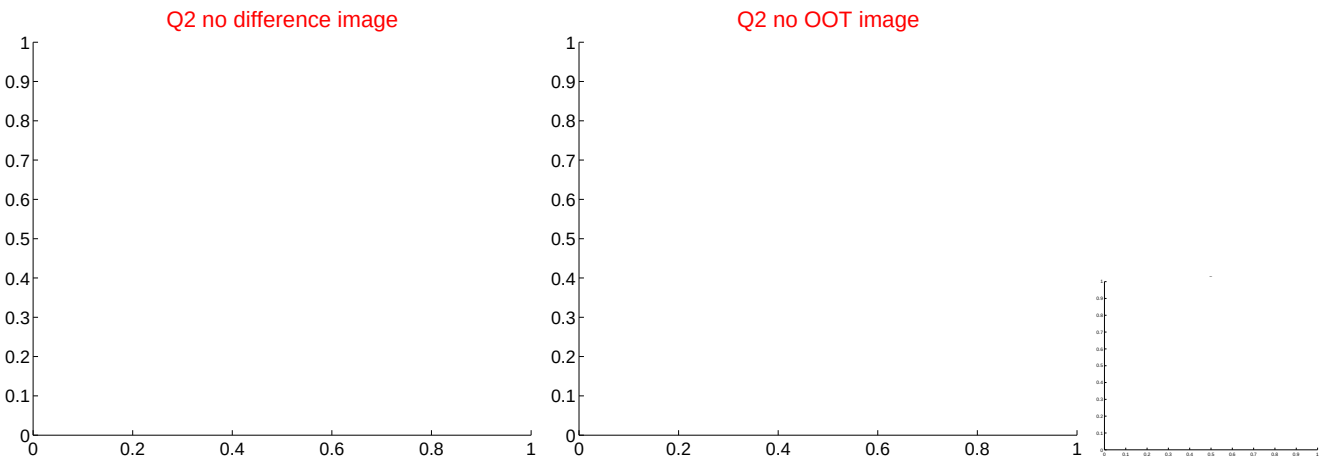
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.145 ± 0.076	1.90	-0.094 ± 0.077	0.111 ± 0.076
PRF-fit source offset from KIC position	0.274 ± 0.158	1.74	-0.133 ± 0.095	-0.240 ± 0.147
photometric centroid source offset	0.34 ± 0.23	1.46	-0.18 ± 0.22	-0.29 ± 0.24

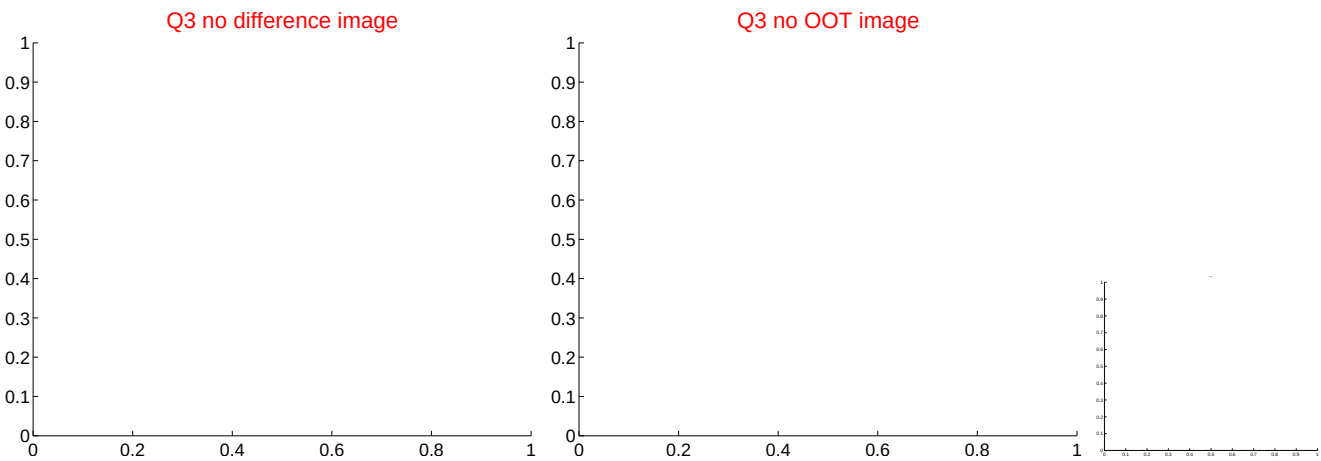


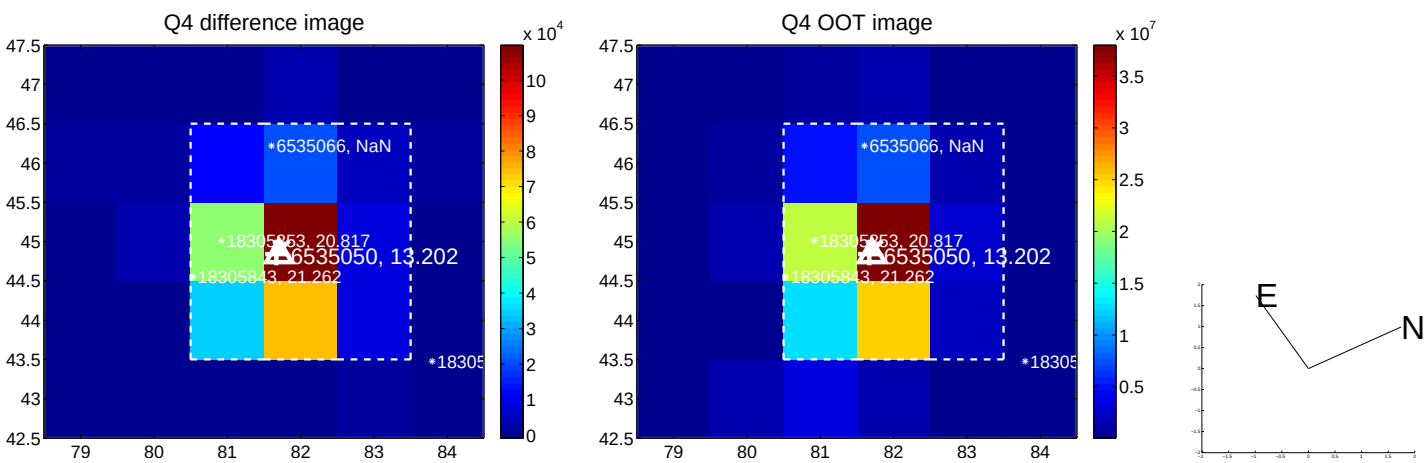
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs $> 15,000,000$ are from the UKIRT catalog.

white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.









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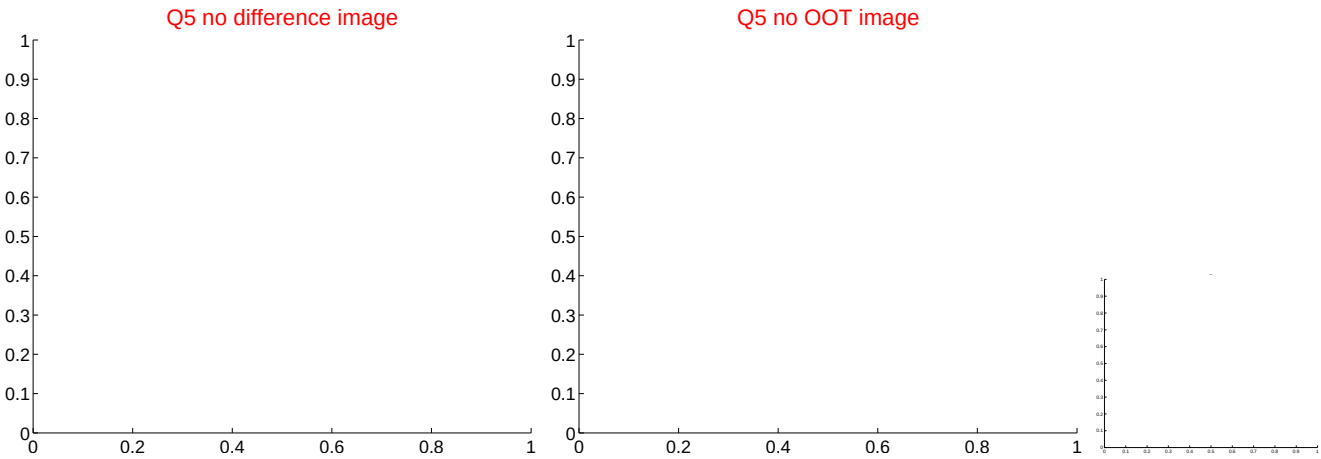
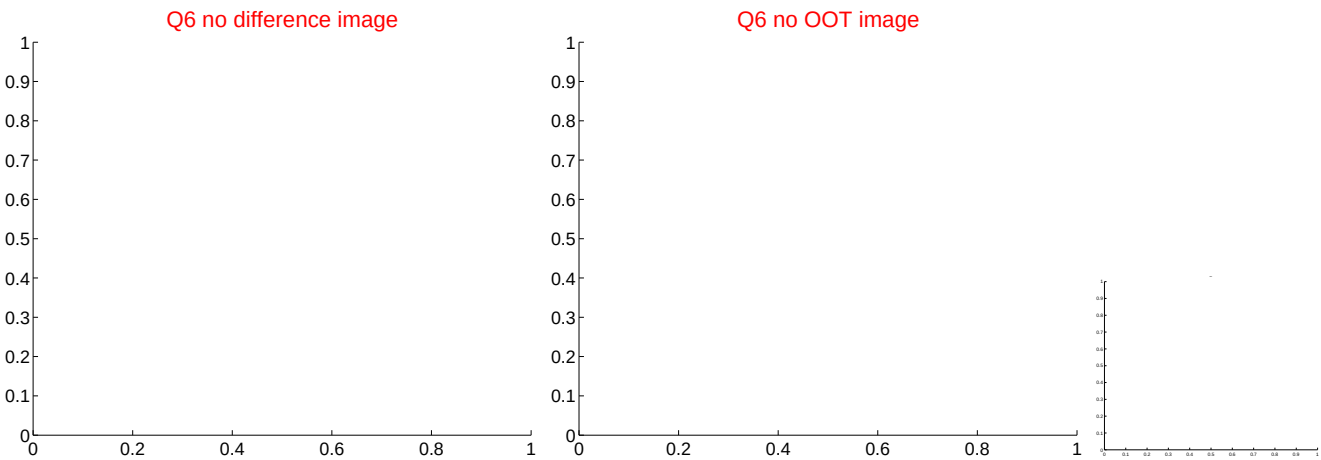
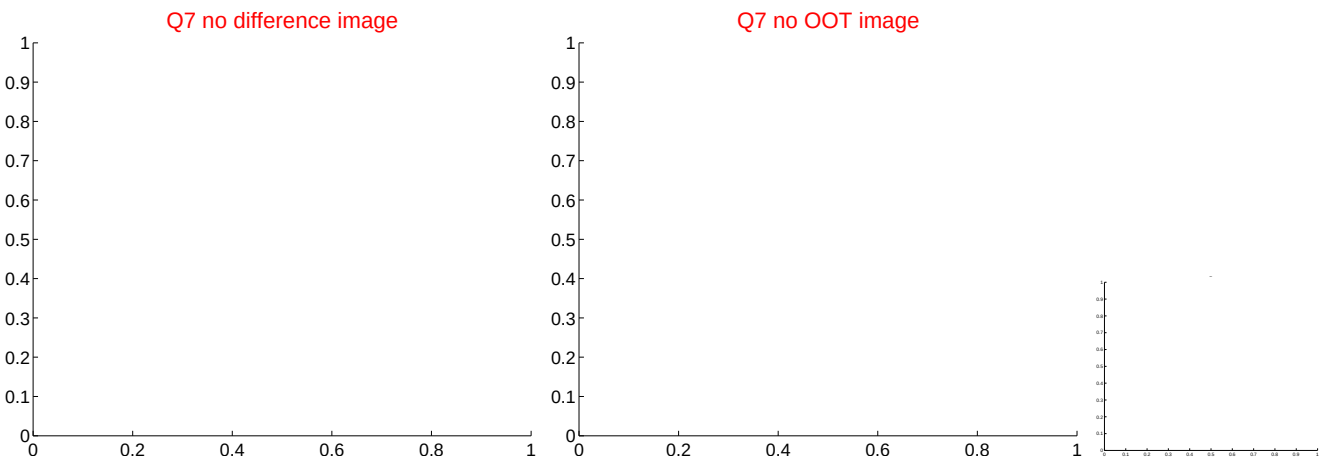
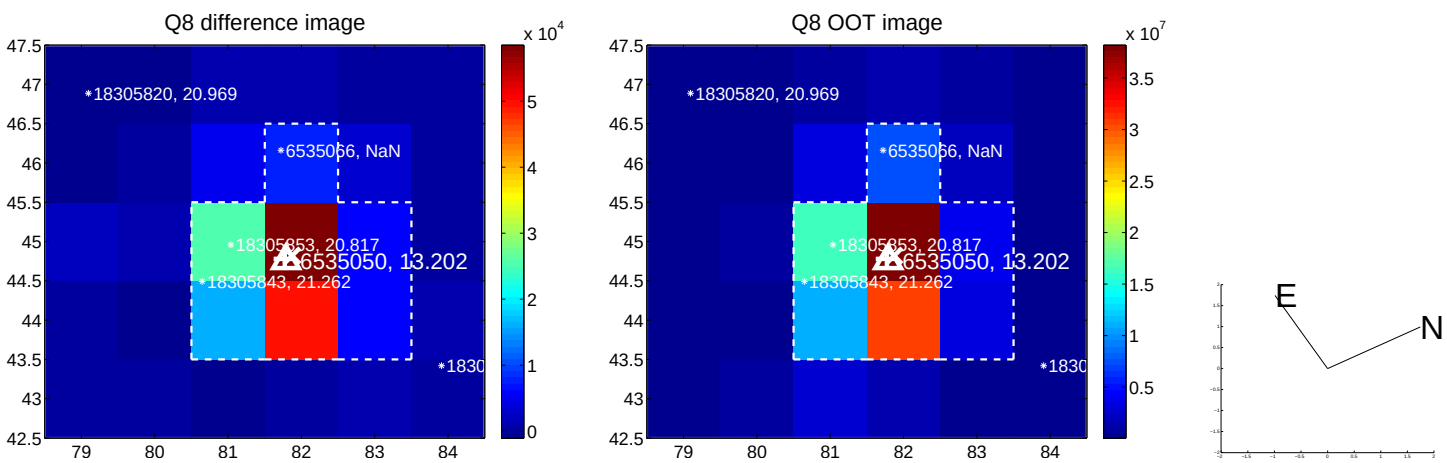
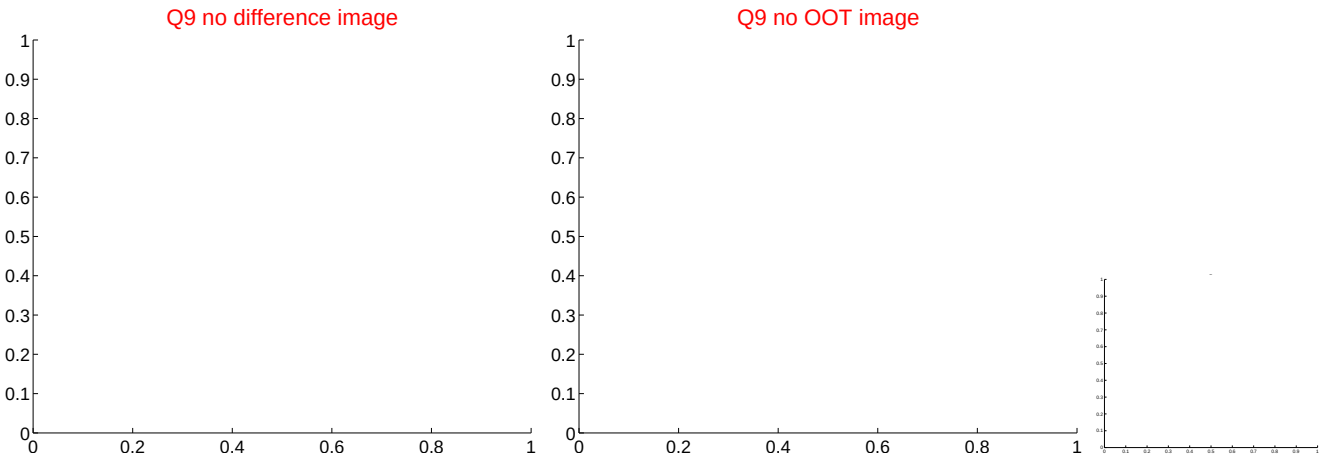


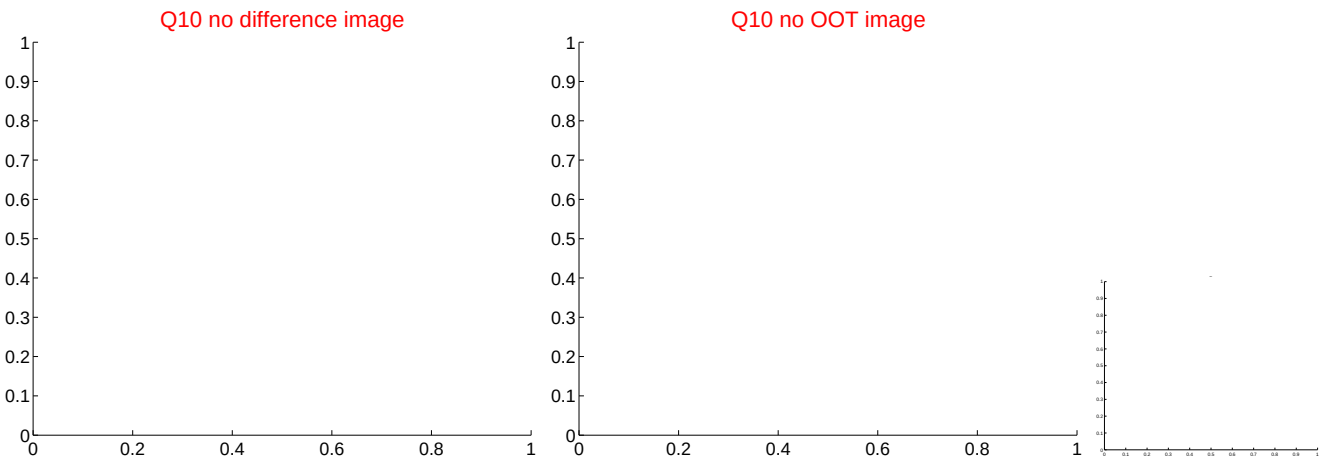


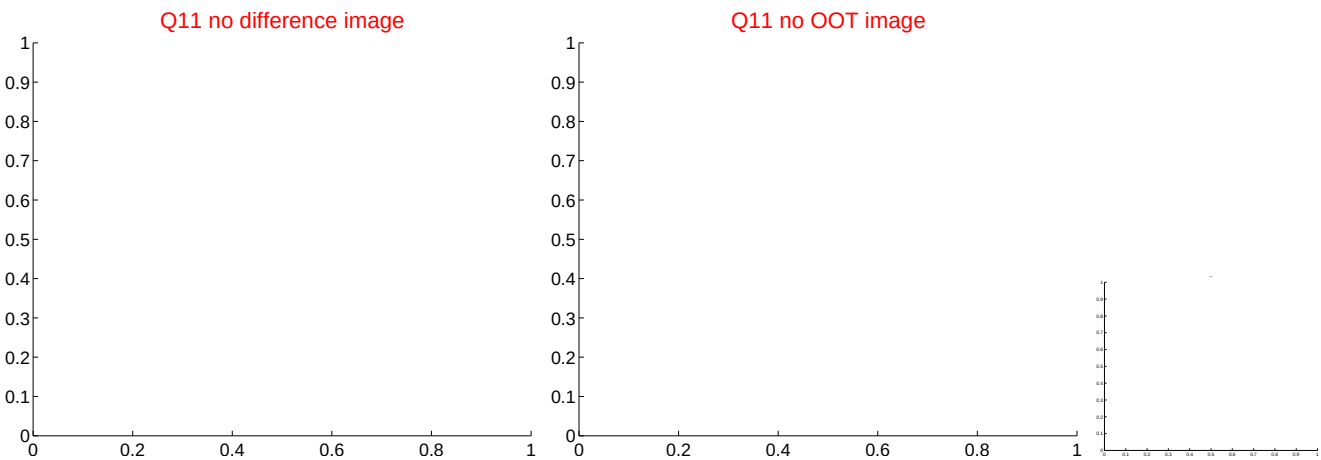


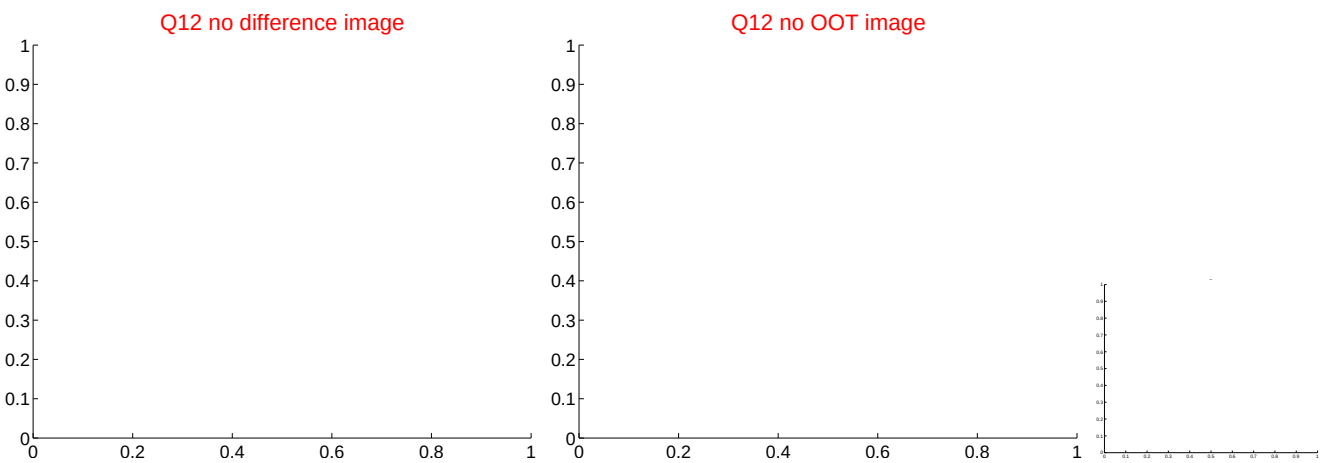


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

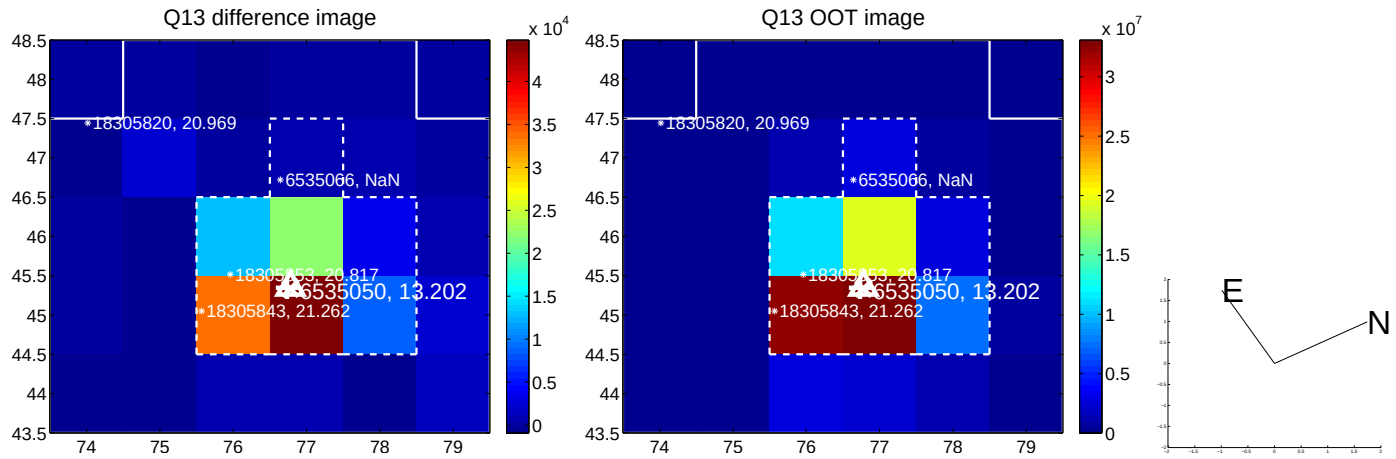


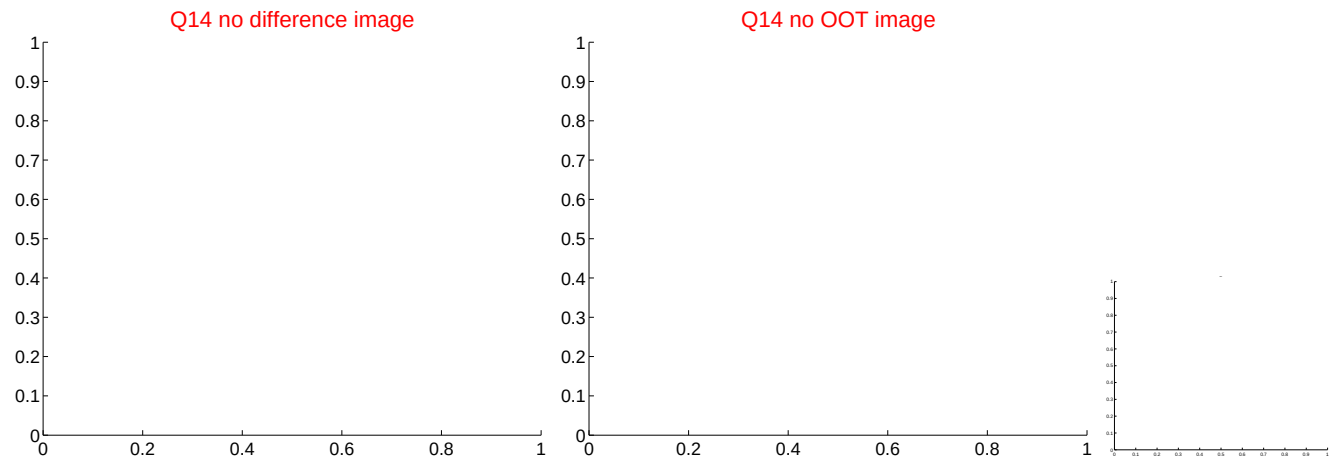


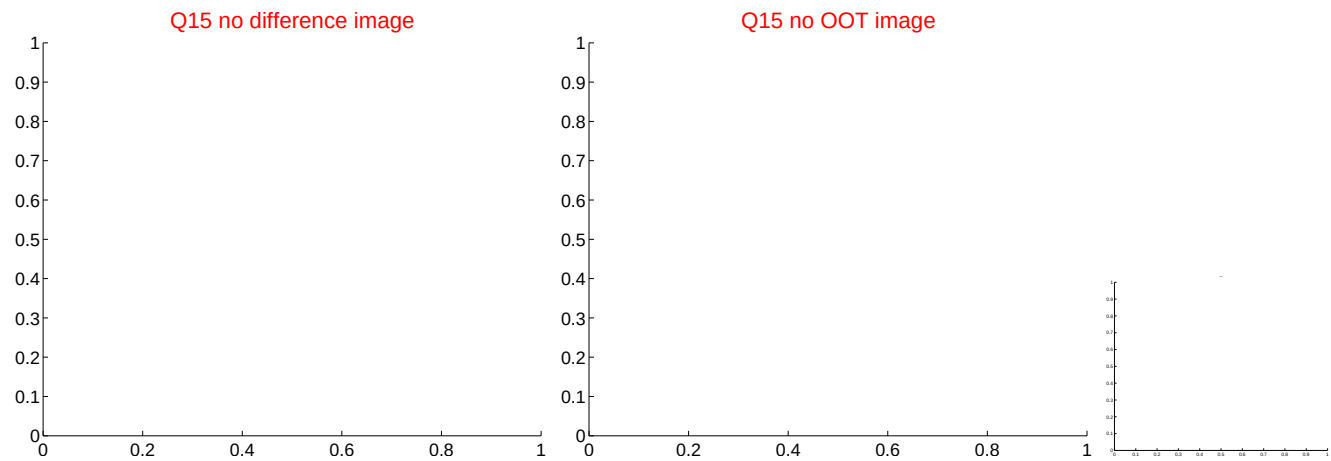


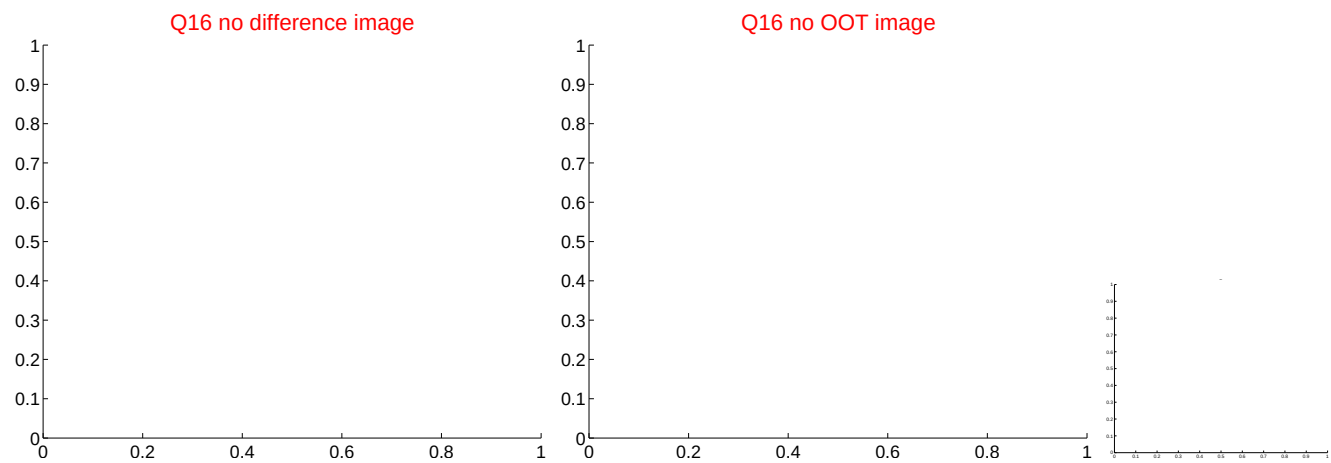


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

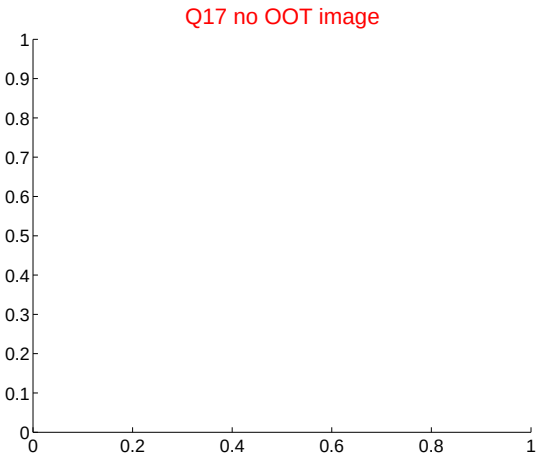


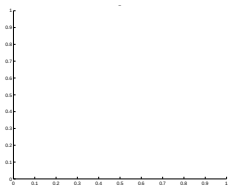


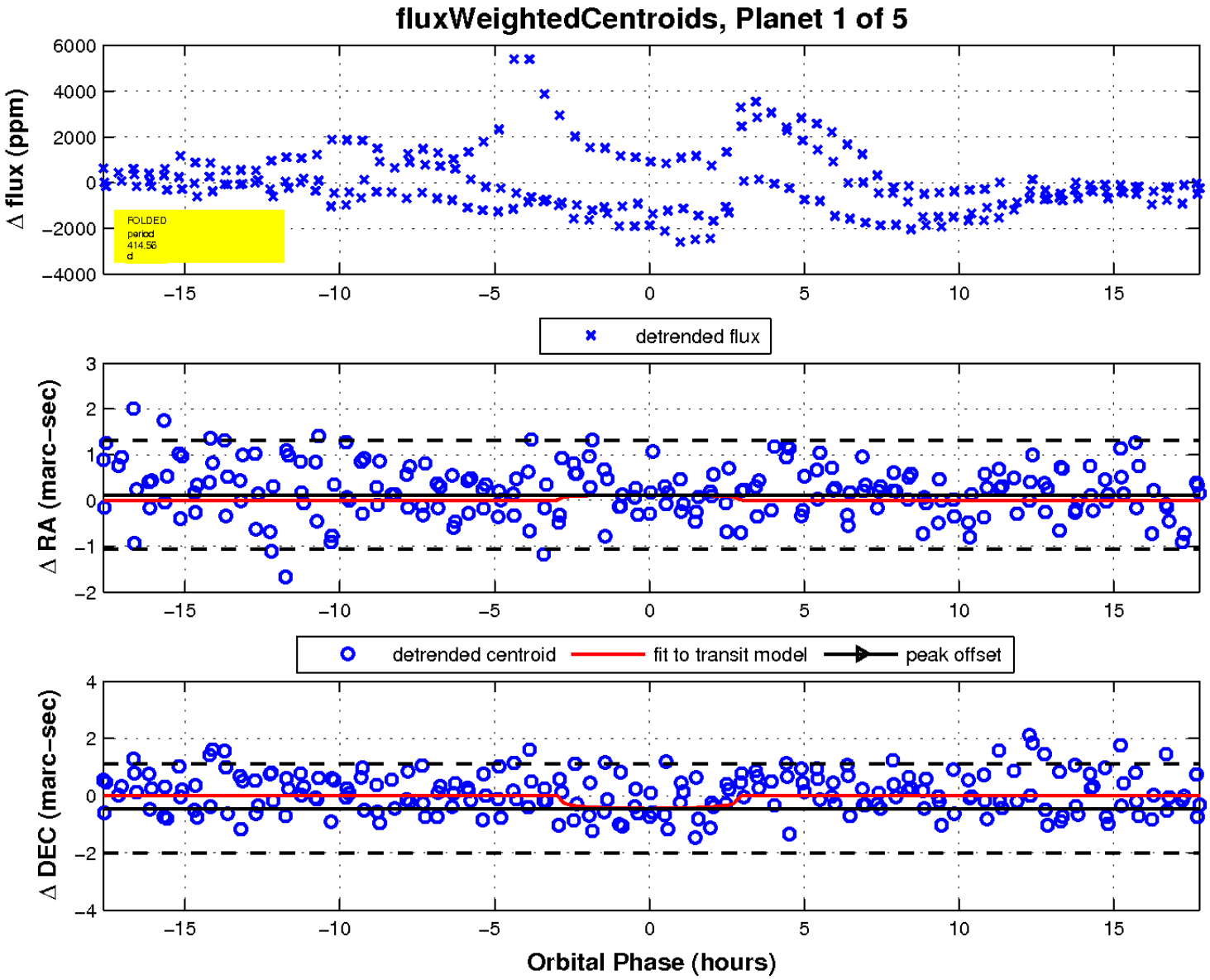




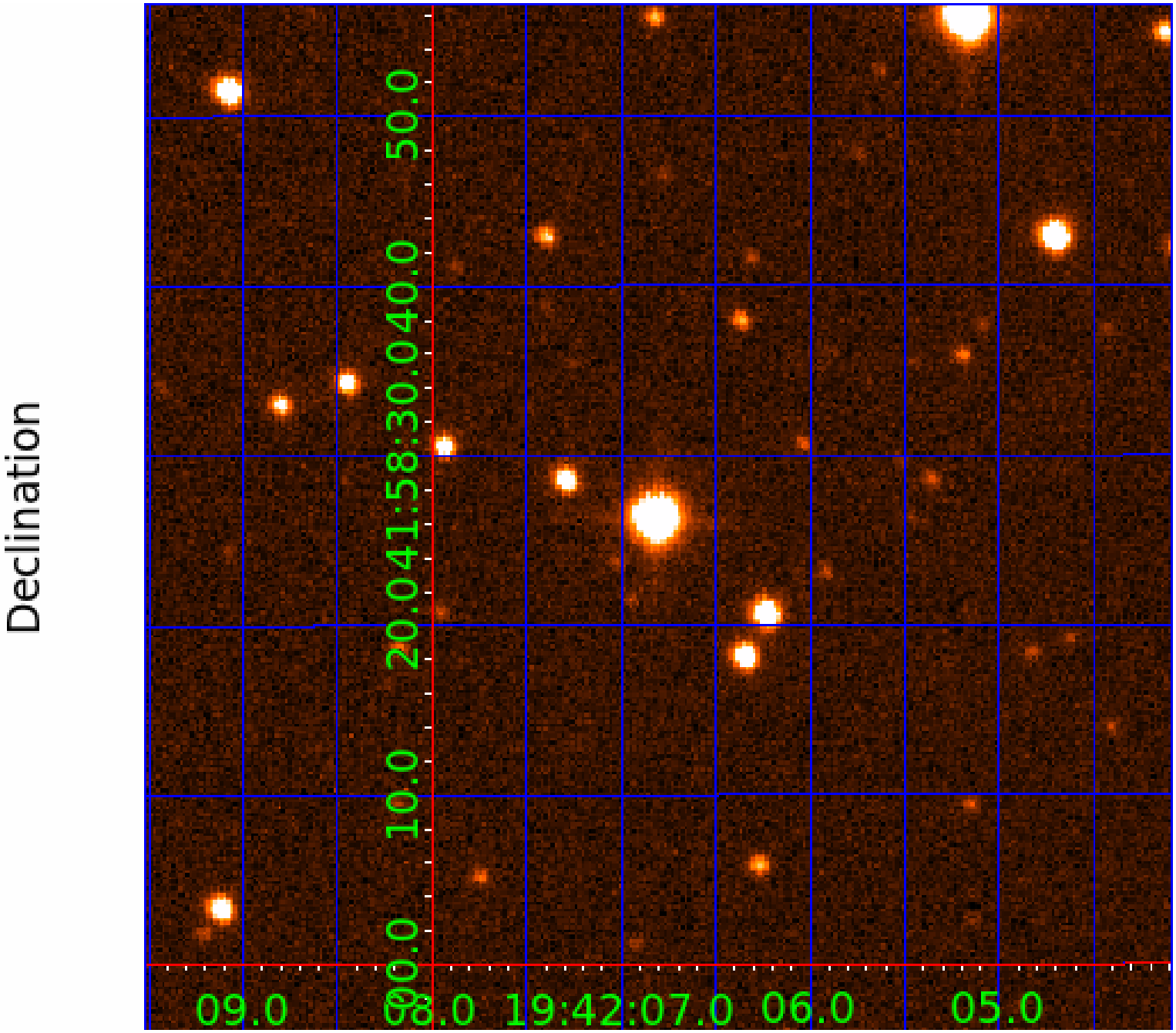
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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KIC 006535050

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_\star$ ($R_\odot$)	$T_\star$ (K)	R_p ($R_\oplus$)	S_p ($S_\oplus$)
006535050-01	OBS	No	414.555226	372.583997	1748.6	5.955	22.0	11.3	1.79	6054	7.51	3.36
006535050-02	OBS	No	410.850502	214.574800	1099.5	3.379	17.6	7.9	1.79	6054	6.17	3.40
006535050-03	OBS	No	291.826963	268.191724	1500.7	3.800	16.4	10.4	1.79	6054	7.10	5.37
006535050-04	OBS	No	507.486319	574.020053	2056.9	7.015	32.1	11.6	1.79	6054	8.15	2.57
006535050-05	OBS	No	459.353240	464.601861	431.2	5.000	14.5	-1.0	1.79	6054	3.73	2.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006535050-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006535050-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006535050-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—CENT_FEW_DIFFS
006535050-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006535050-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

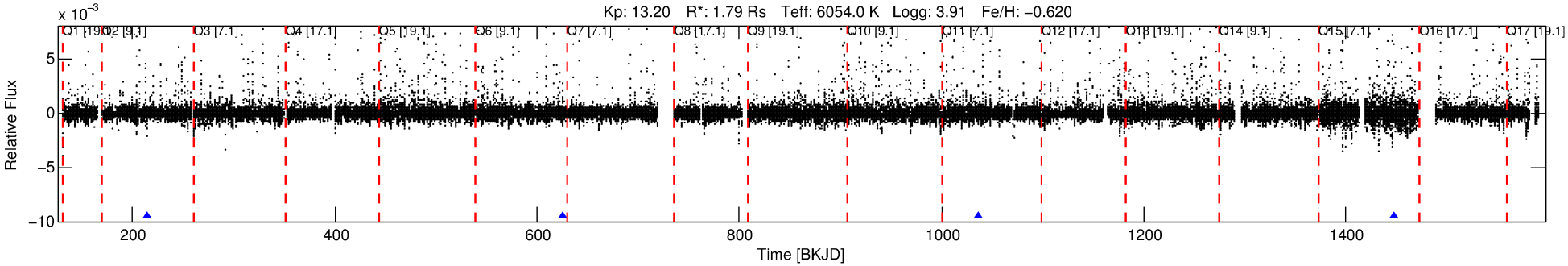
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

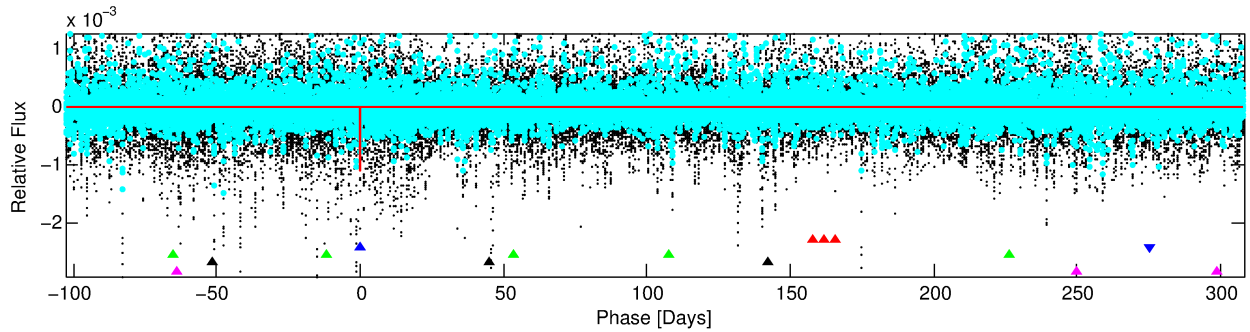
Ephemeris Match Information For 006535050-02

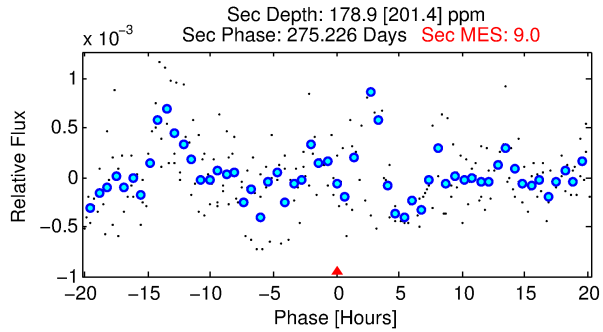
No Significant Match Found

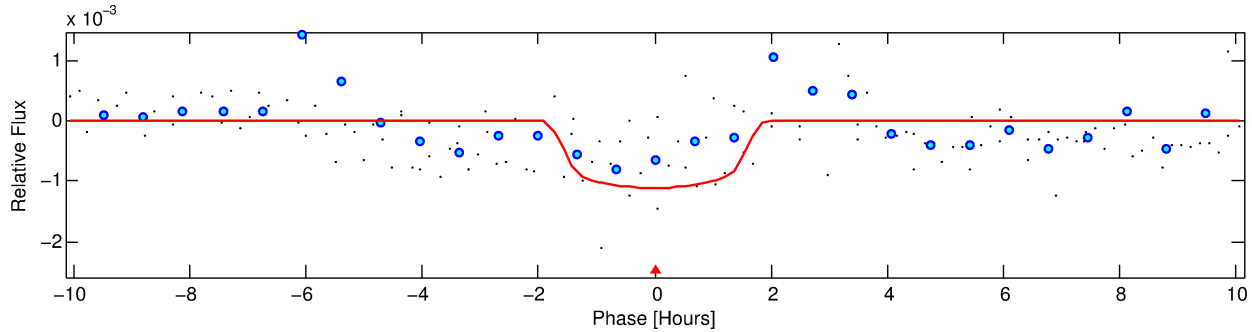
DV One-Page Summary

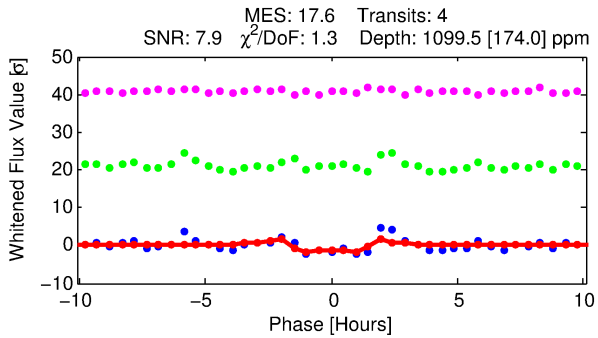
KIC: 6535050 Candidate: 2 of 5 Period: 410.851 d

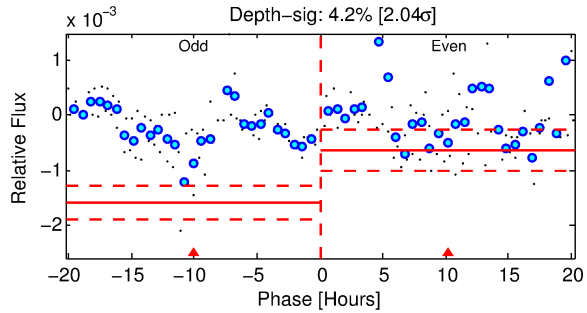


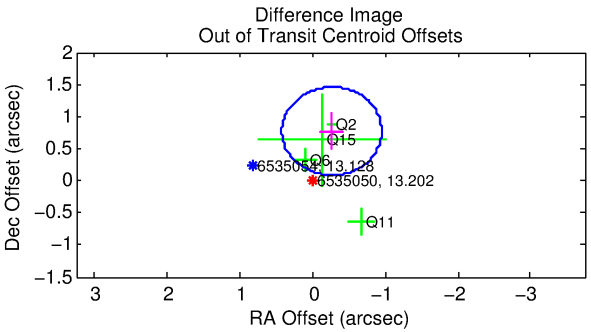












DV Fit Results:

Period = 410.85050 [0.00310] d
Epoch = 214.5748 [0.0044] BKJD
Rp/R* = 0.0315 [0.0230]
a/R* = 813.86 [2949.52]
b = 0.54 [4.70]

Seff = 3.40 [2.99]
Teq = 346 [76] K
Rp = 6.17 [5.46] Re
a = 1.0679 [0.5588] AU

Ag = 2944.51 [5999.87] [0.49σ]
Teffp = 3944 [1819] K [1.98σ]

DV Diagnostic Results:

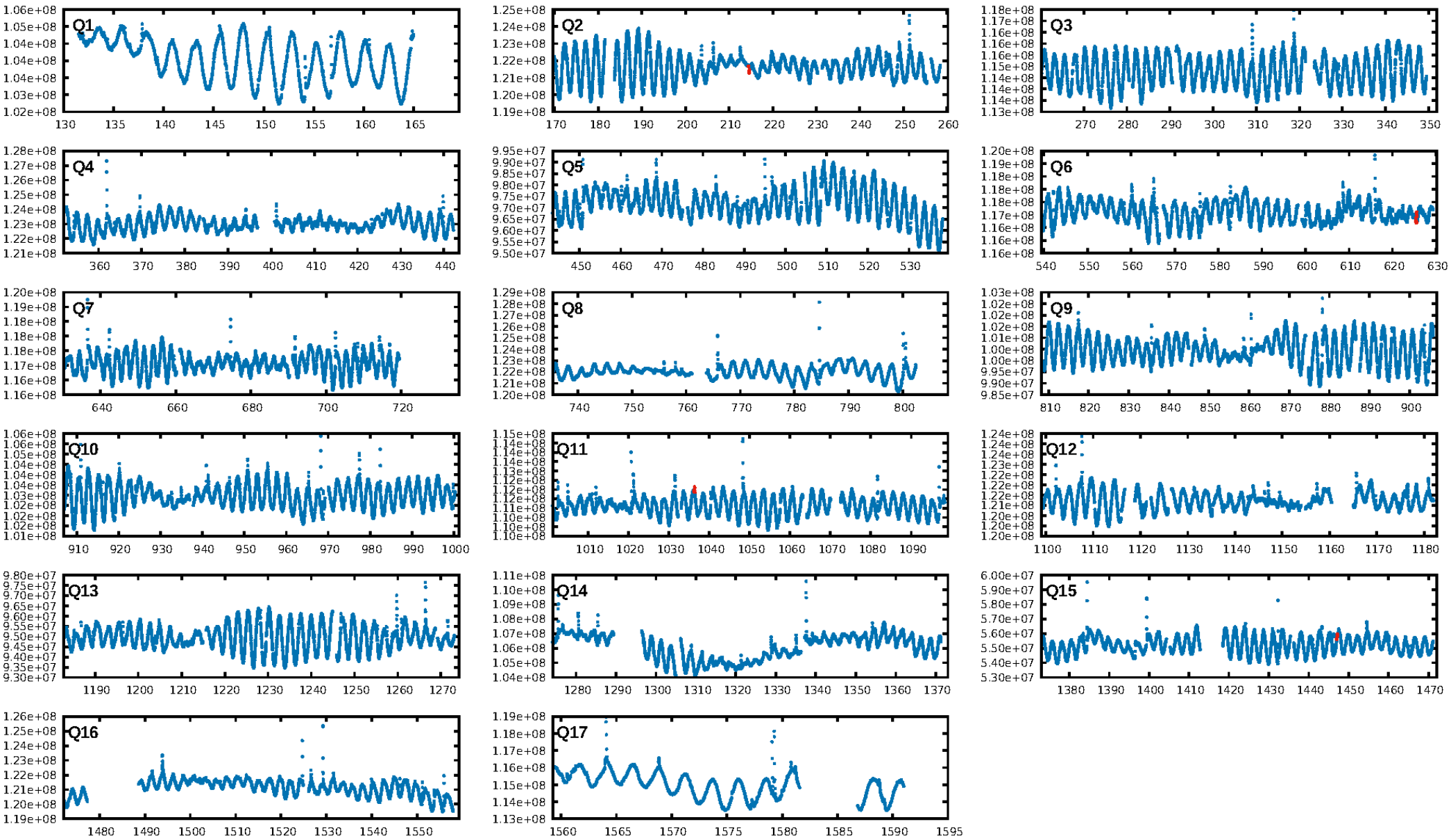
ShortPeriod−sig: 100.0% [561.83σ]
LongPeriod−sig: 100.0% [12.99σ]
ModelChiSquare2−sig: 0.4%
ModelChiSquareGof−sig: 52.3%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: 45.78

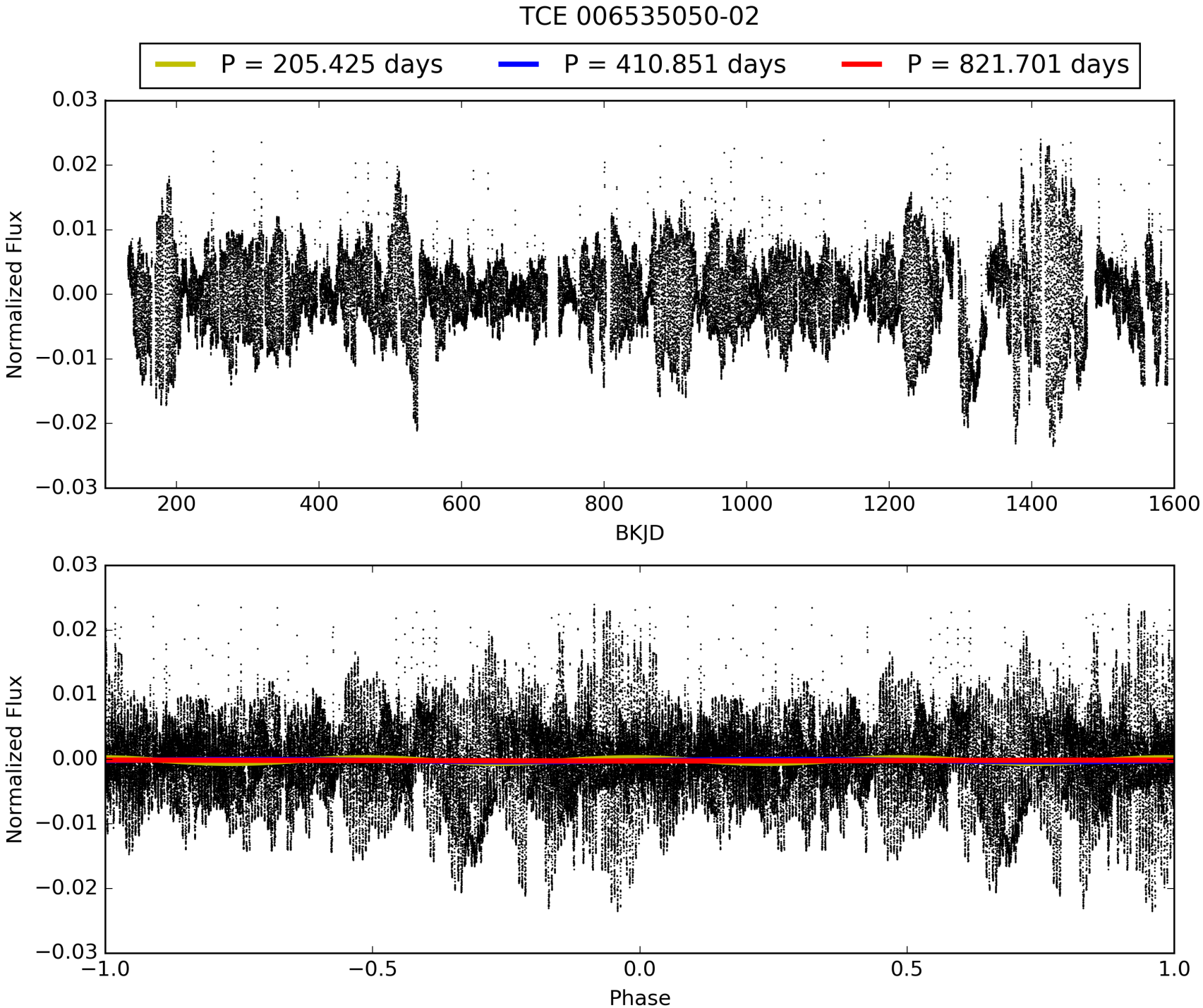
Centroid−sig: 32.7%
Centroid−so: 0.321 arcsec [0.72σ]
OotOffset−rm: 0.816 arcsec [3.56σ]
KicOffset−rm: 0.516 arcsec [2.13σ]
OotOffset−st: 2/2/0/0 [4]
KicOffset−st: 2/2/0/0 [4]
DiffImageQuality−fgm: 0.50 [2/4]
DiffImageOverlap−fno: 1.00 [4/4]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03−Feb−2016 08:40:00 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006535050-02, PDC Light Curves

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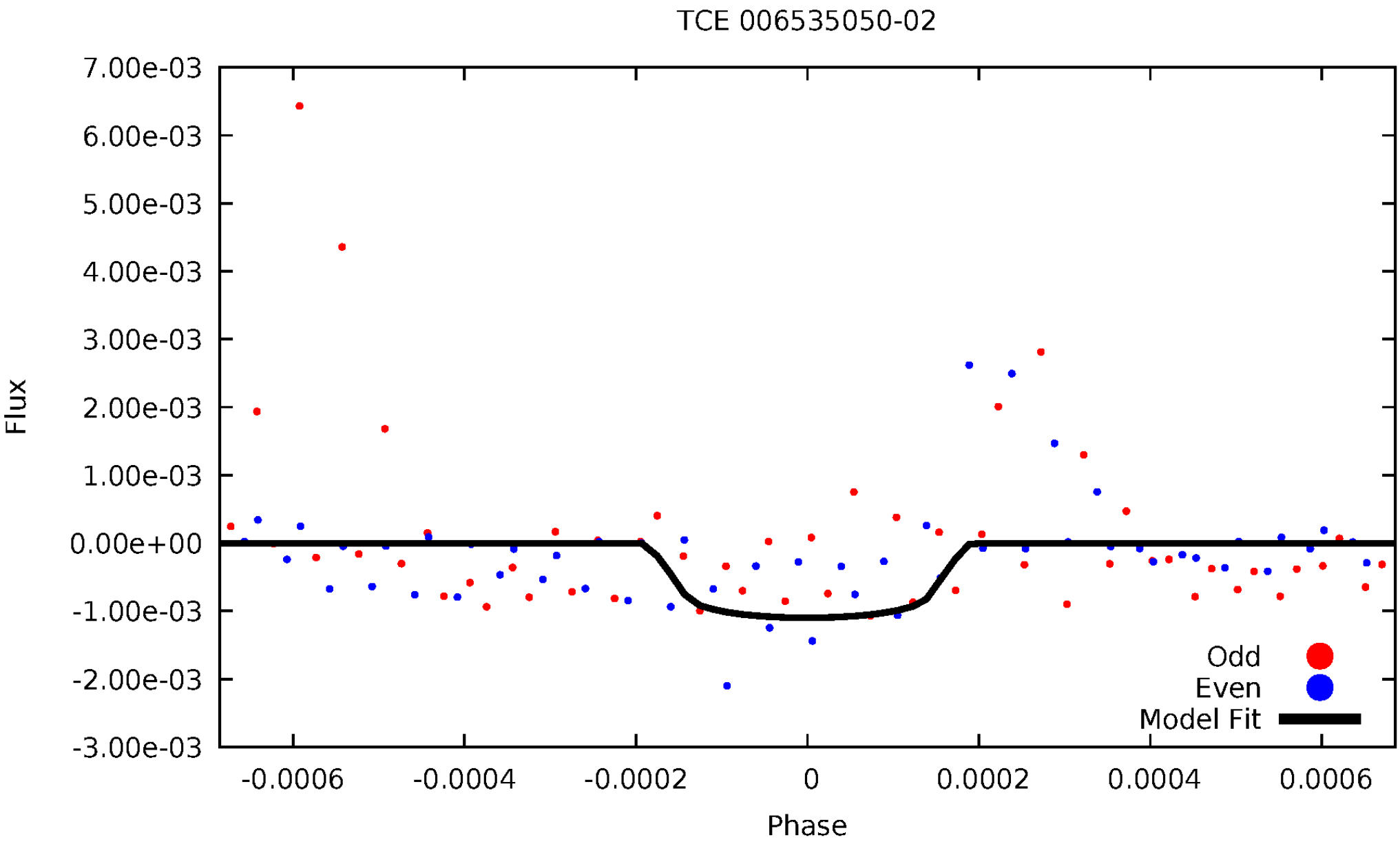
P = 205.425 days
P = 410.851 days
P = 821.701 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even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0.00e+00
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-2.00e-03
-3.00e-03
Flux
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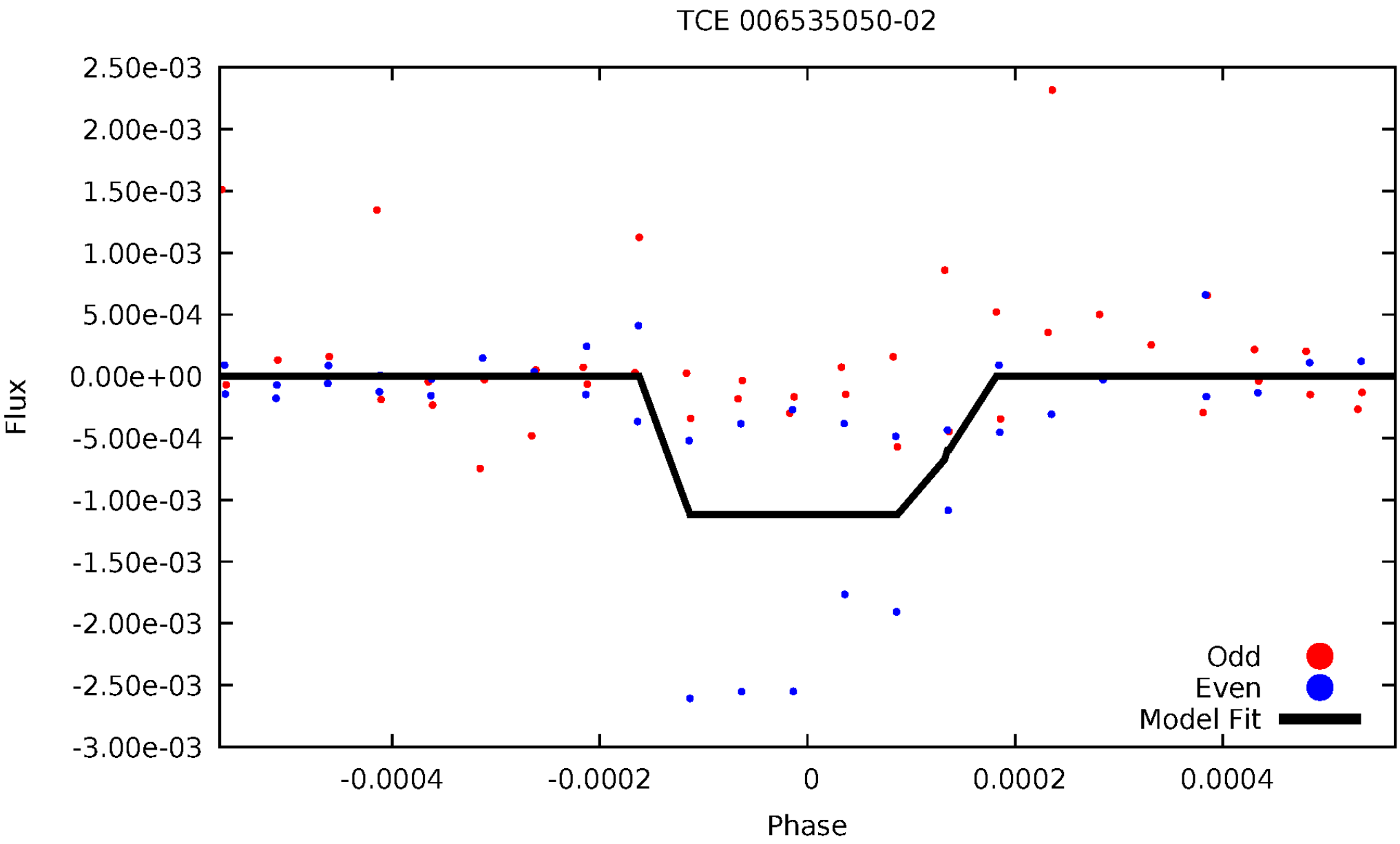
0.0006
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006535050-02
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Flux
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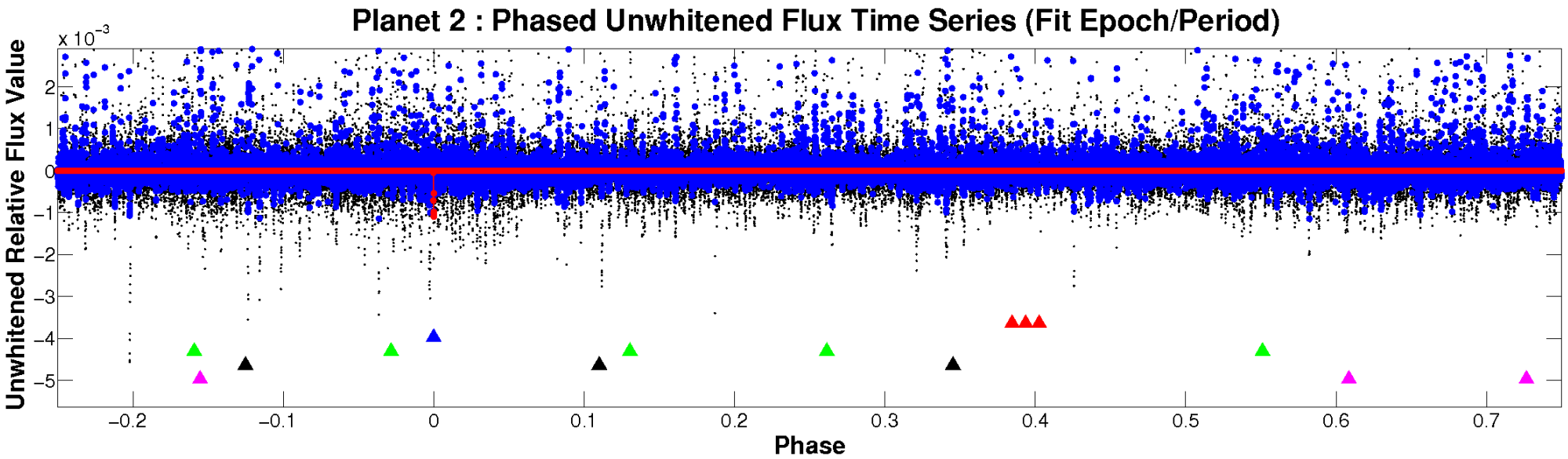
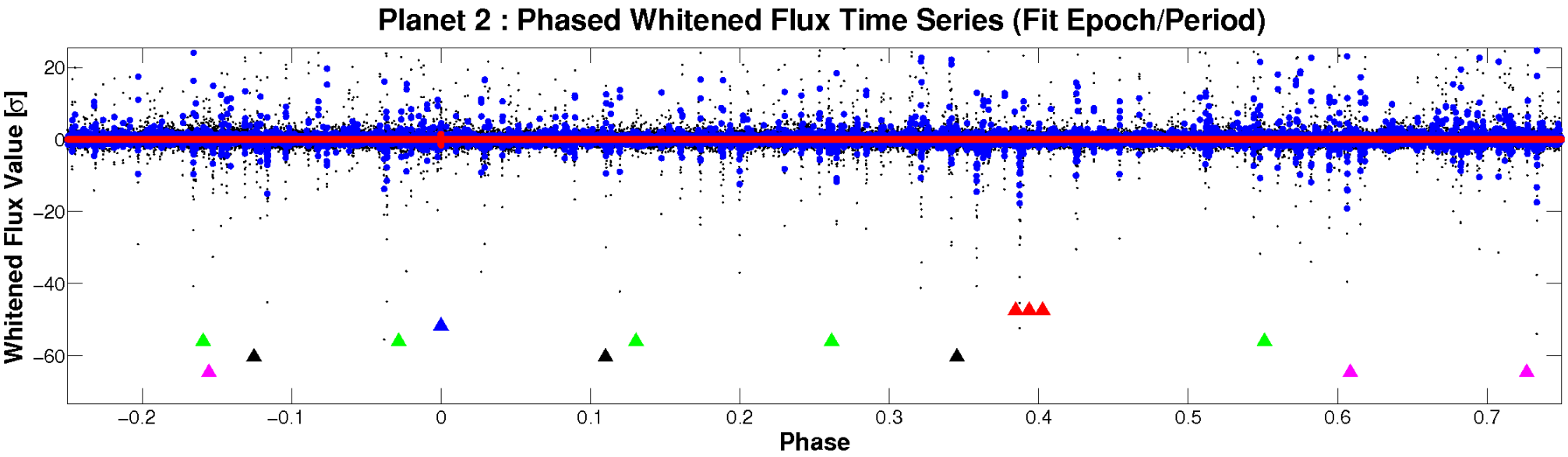
0.0004
Phase
Odd
Even
Model Fit

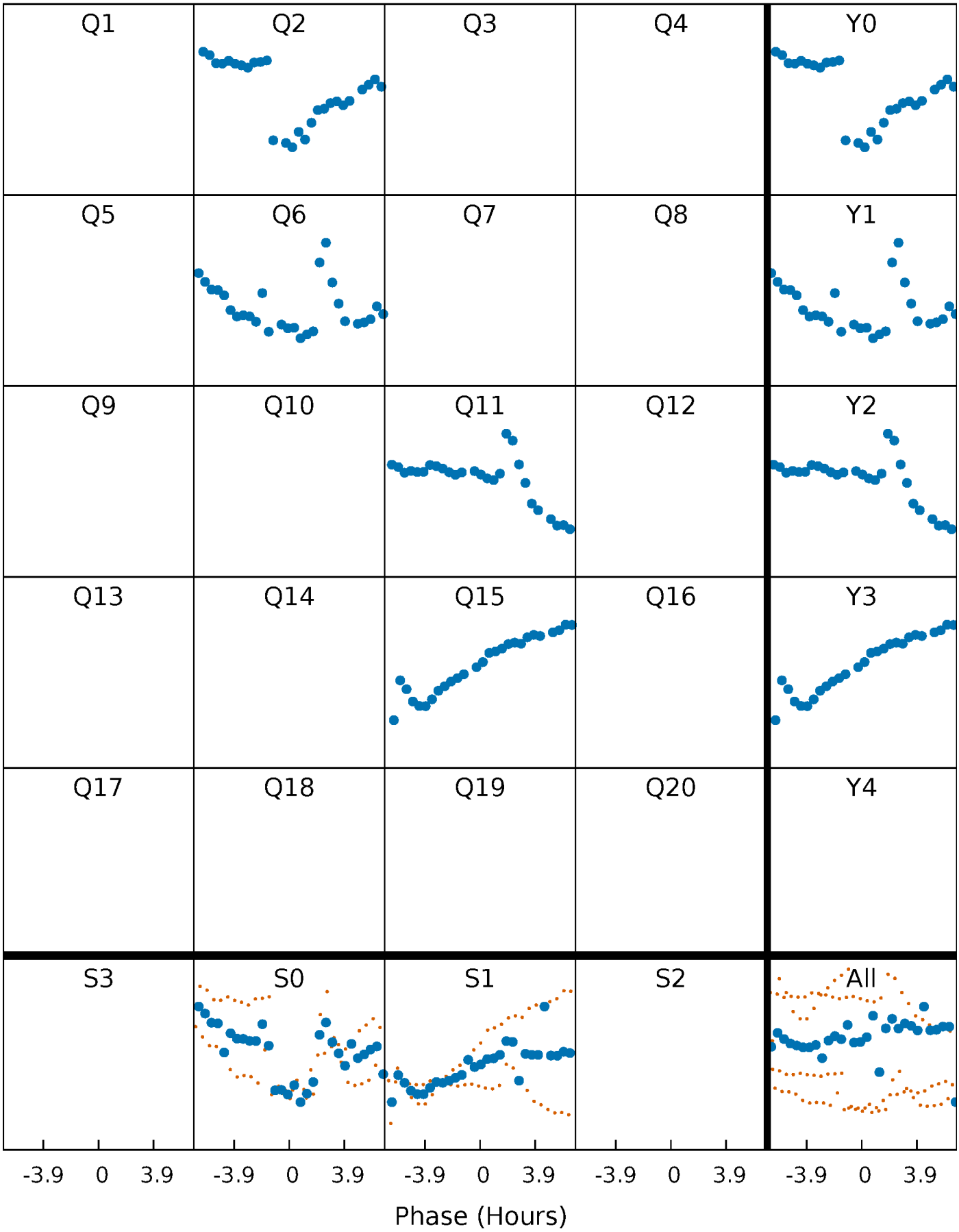
Non-Whitened Vs. Whitened Light Curve





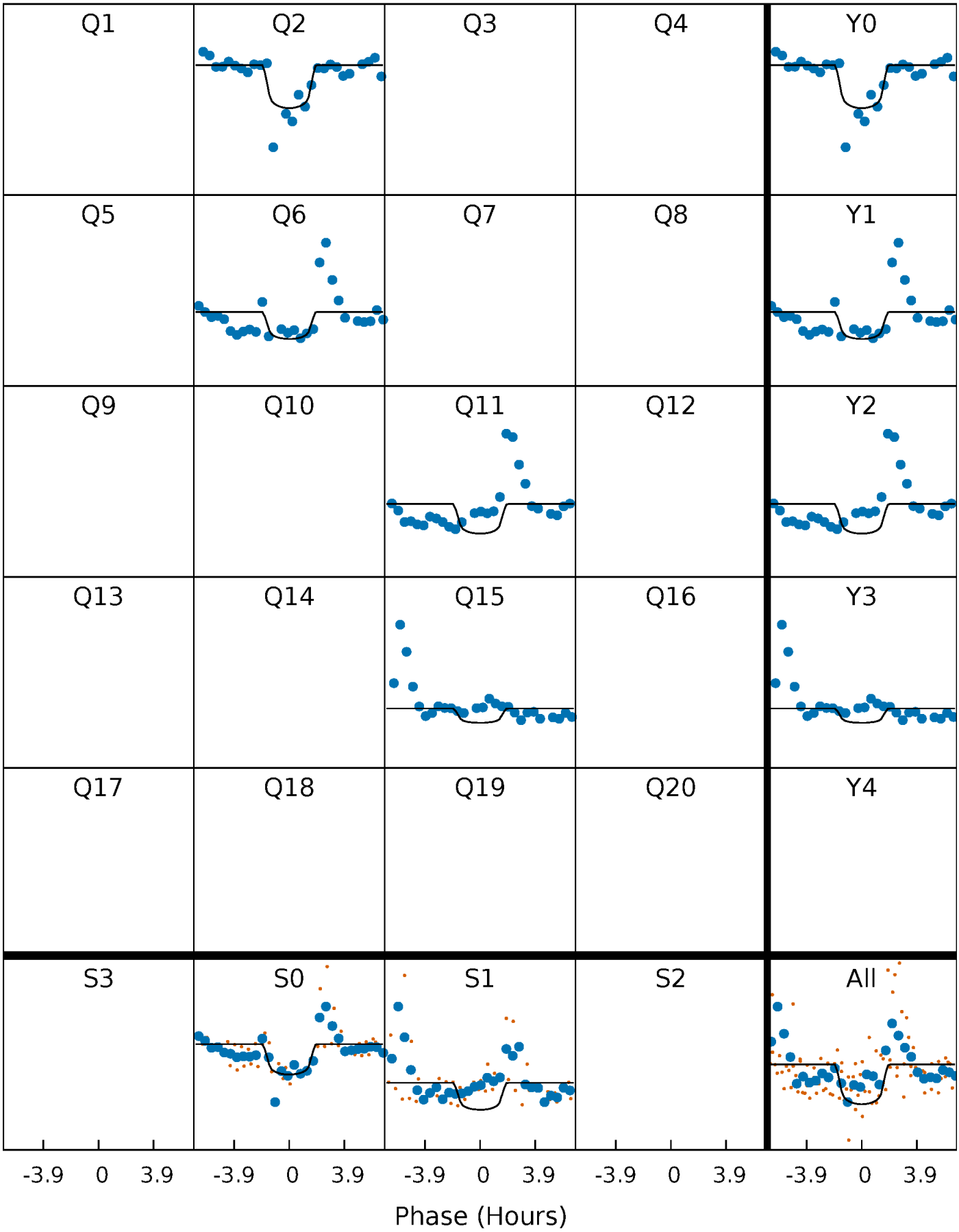
PDC Quarter-Phased Transit Curves

TCE 006535050-02 P=410.850502 Days T_0=214.574800 (BKJD)



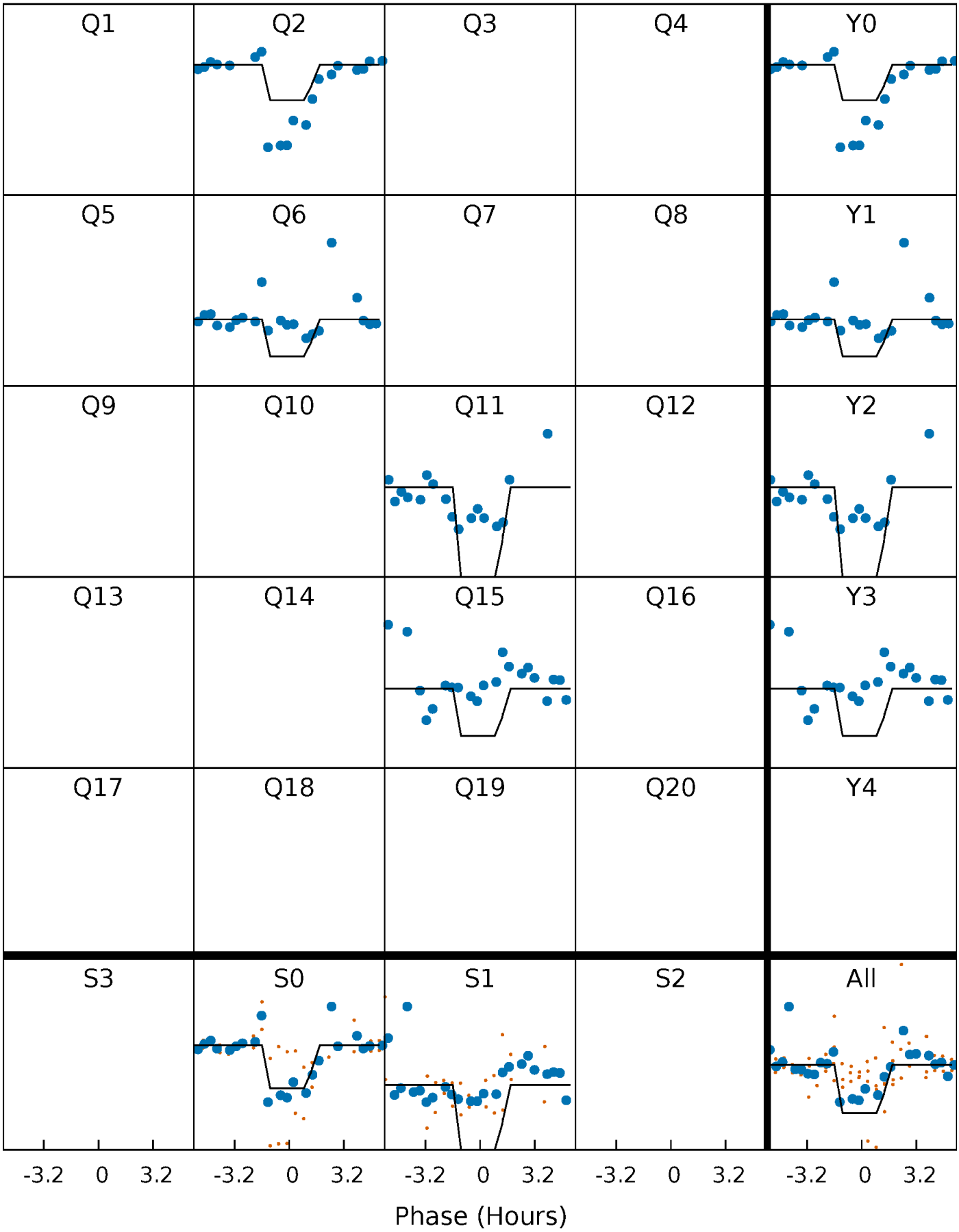
DV Quarter-Phased Transit Curves

TCE 006535050-02 P=410.850502 Days T_0=214.574800 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

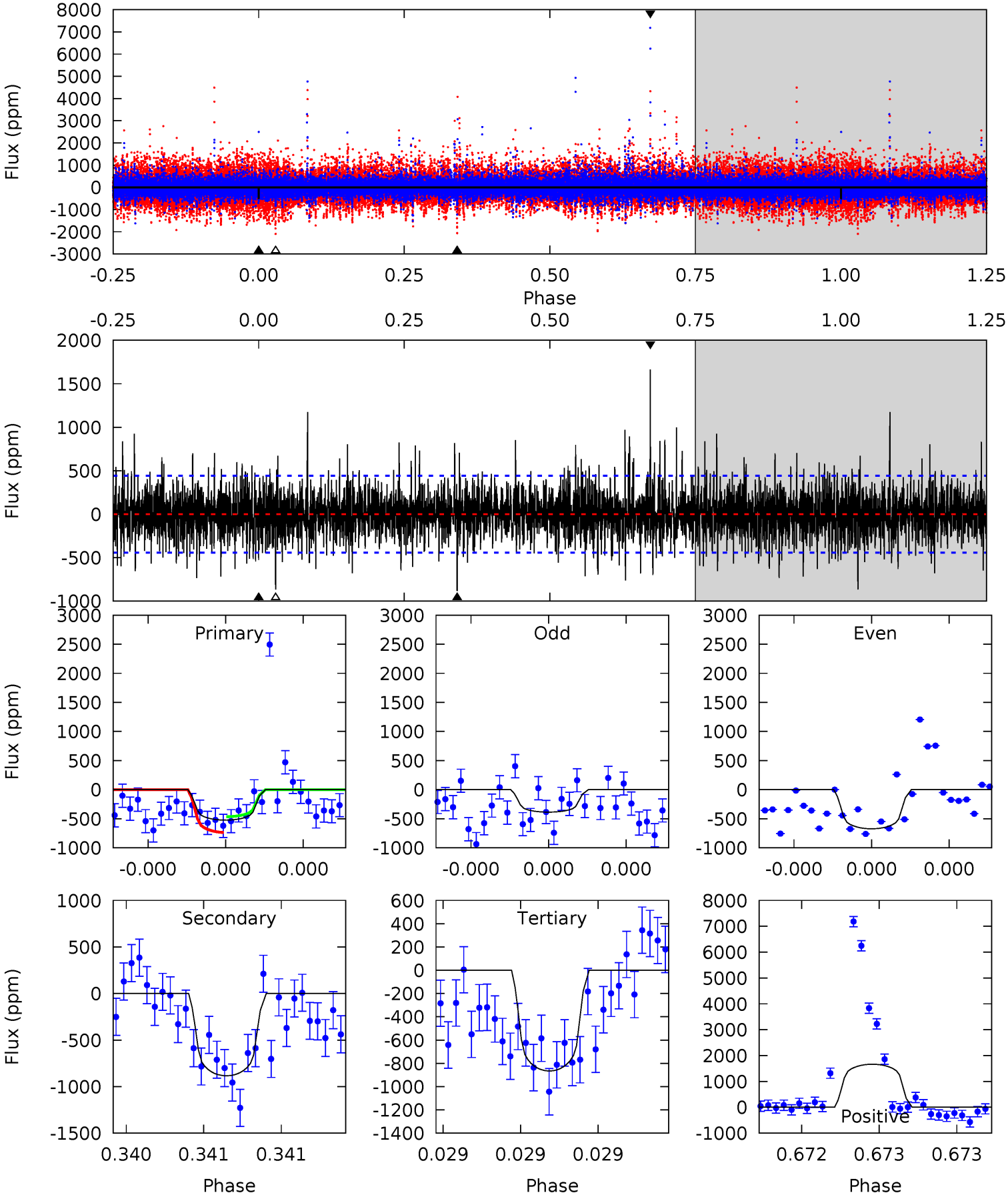
TCE 006535050-02 P=410.837157 Days T_0=214.582752 (BKJD)



DV Model-Shift Uniqueness Test

006535050-02, P = 410.850502 Days, E = 214.574800 Days

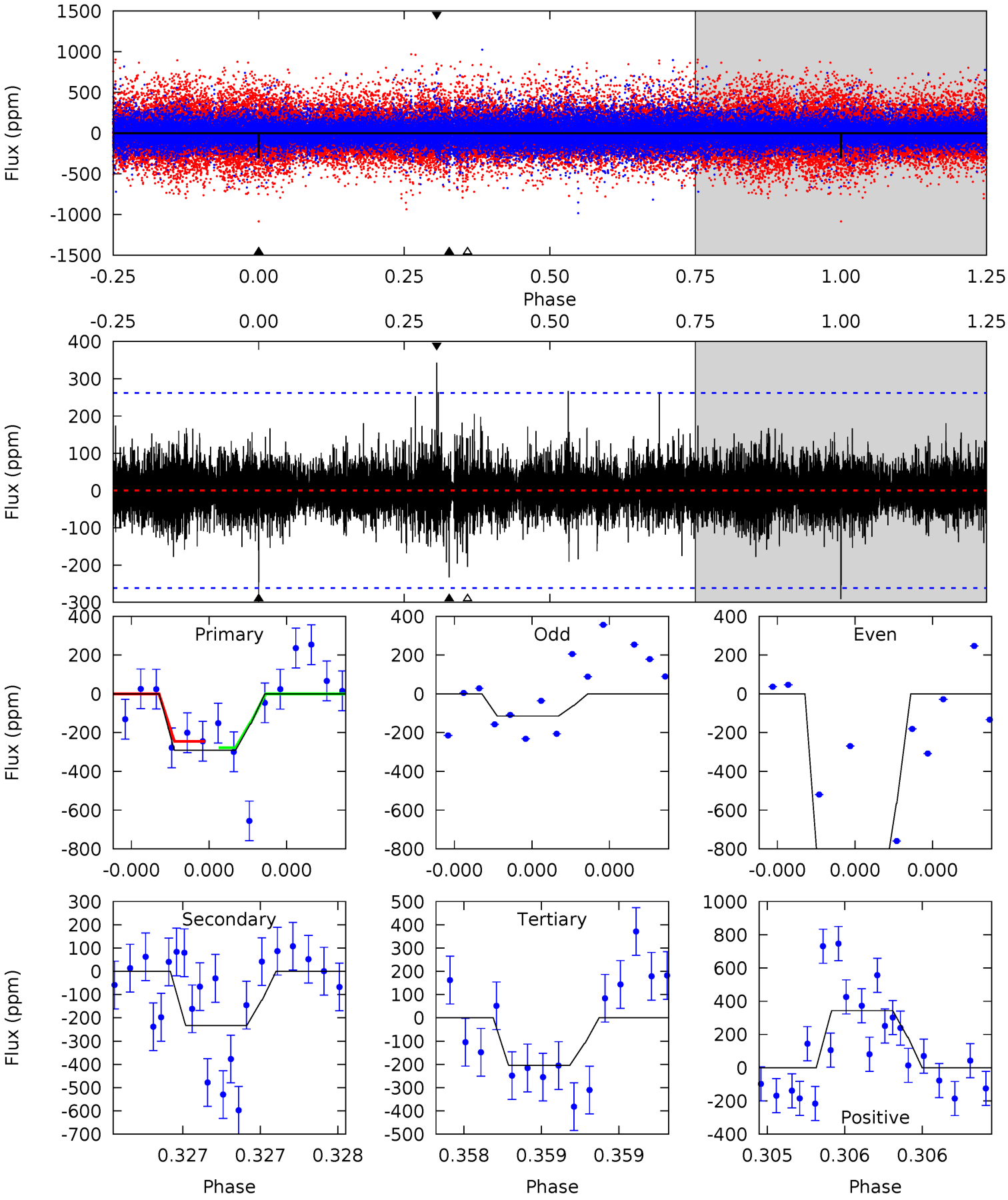
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.66	11.2	11.0	21.2	5.61	3.54	2.54	-4.34	-14.5	0.23	-9.92	1.21	0.91	0.65	1.75



Alt Model-Shift Uniqueness Test

006535050-02, P = 410.837157 Days, E = 214.582752 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.32	5.06	4.44	7.46	5.69	3.66	0.92	1.88	-1.13	0.62	-2.40	10.9	2.04	0.54	0.35



Stellar Parameters For KIC 006535050

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6054^{+181}_{-181}	$3.913^{+0.525}_{-0.175}$	$-0.620^{+0.300}_{-0.250}$	$1.795^{+0.484}_{-0.899}$	$0.963^{+0.121}_{-0.135}$	$0.234^{+1.349}_{-0.113}$
	+3%/-3%	+13%/-4%	+48%/-40%	+27%/-50%	+13%/-14%	+576%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006535050-02 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-884±79	$6.07^{+4.48}_{-3.86}$	473^{+43}_{-58}	5680^{+4109}_{-1118}	14951^{+97271}_{-9953}
Alt.	-233±46	$6.46^{+4.55}_{-3.70}$	475^{+43}_{-66}	4197^{+1522}_{-632}	3495^{+14914}_{-2350}

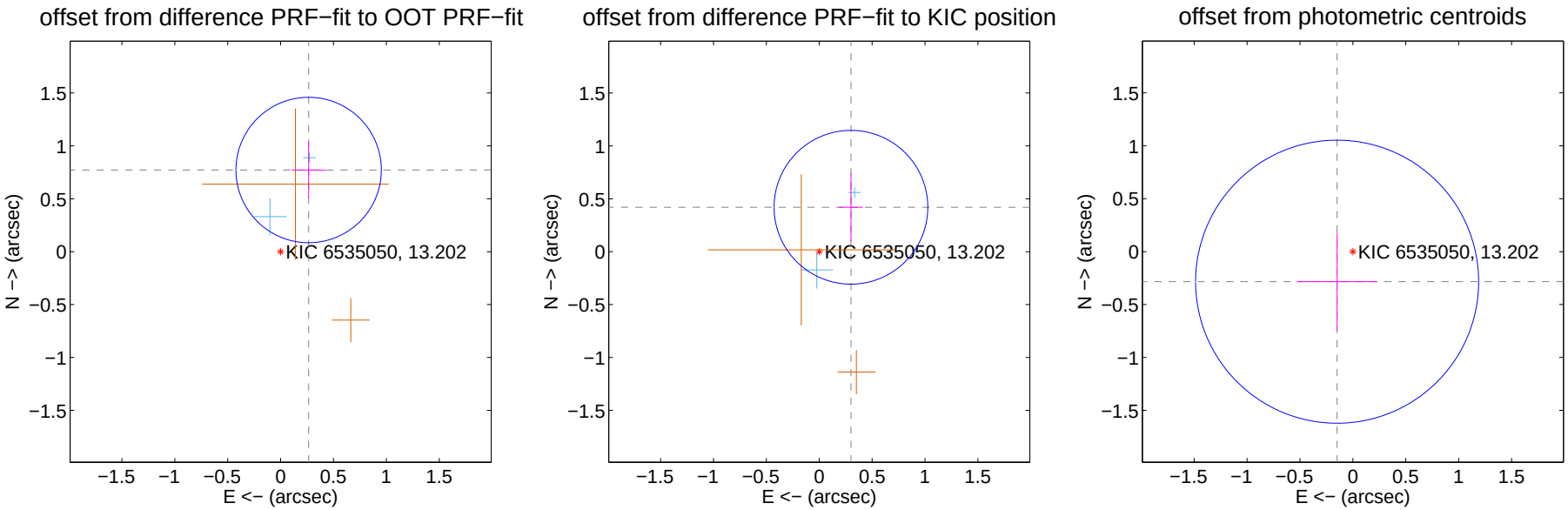
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

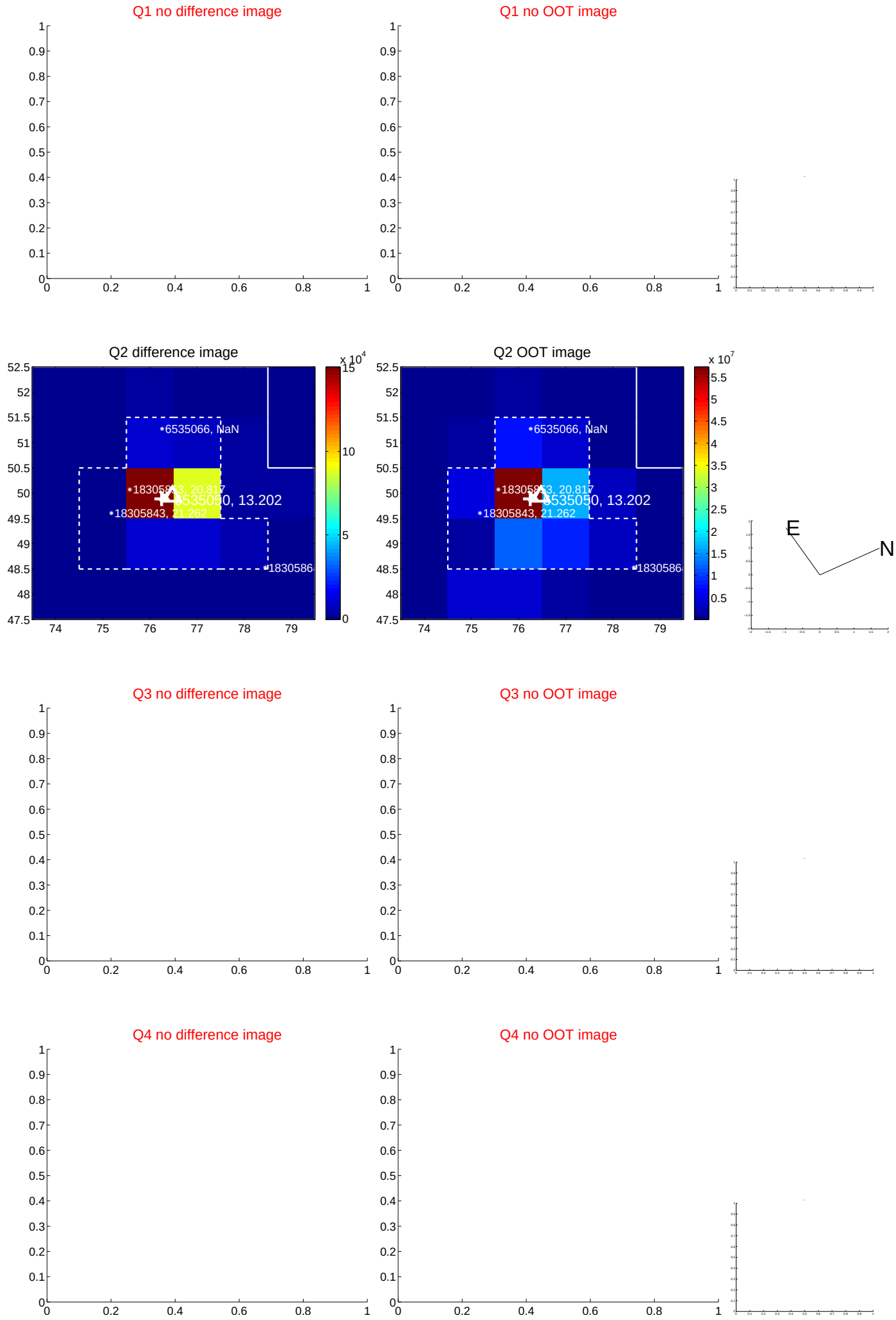
Supplemental centroid analysis for 006535050-02. Kepler magnitude: 13.20. Transit SNR 7.93
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.69 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.816 ± 0.229	3.56	-0.265 ± 0.162	0.772 ± 0.267
PRF-fit source offset from KIC position	0.516 ± 0.242	2.13	-0.300 ± 0.113	0.420 ± 0.322
photometric centroid source offset	0.32 ± 0.45	0.72	0.15 ± 0.38	-0.28 ± 0.46



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs $> 15,000,000$ are from the UKIRT catalog.

white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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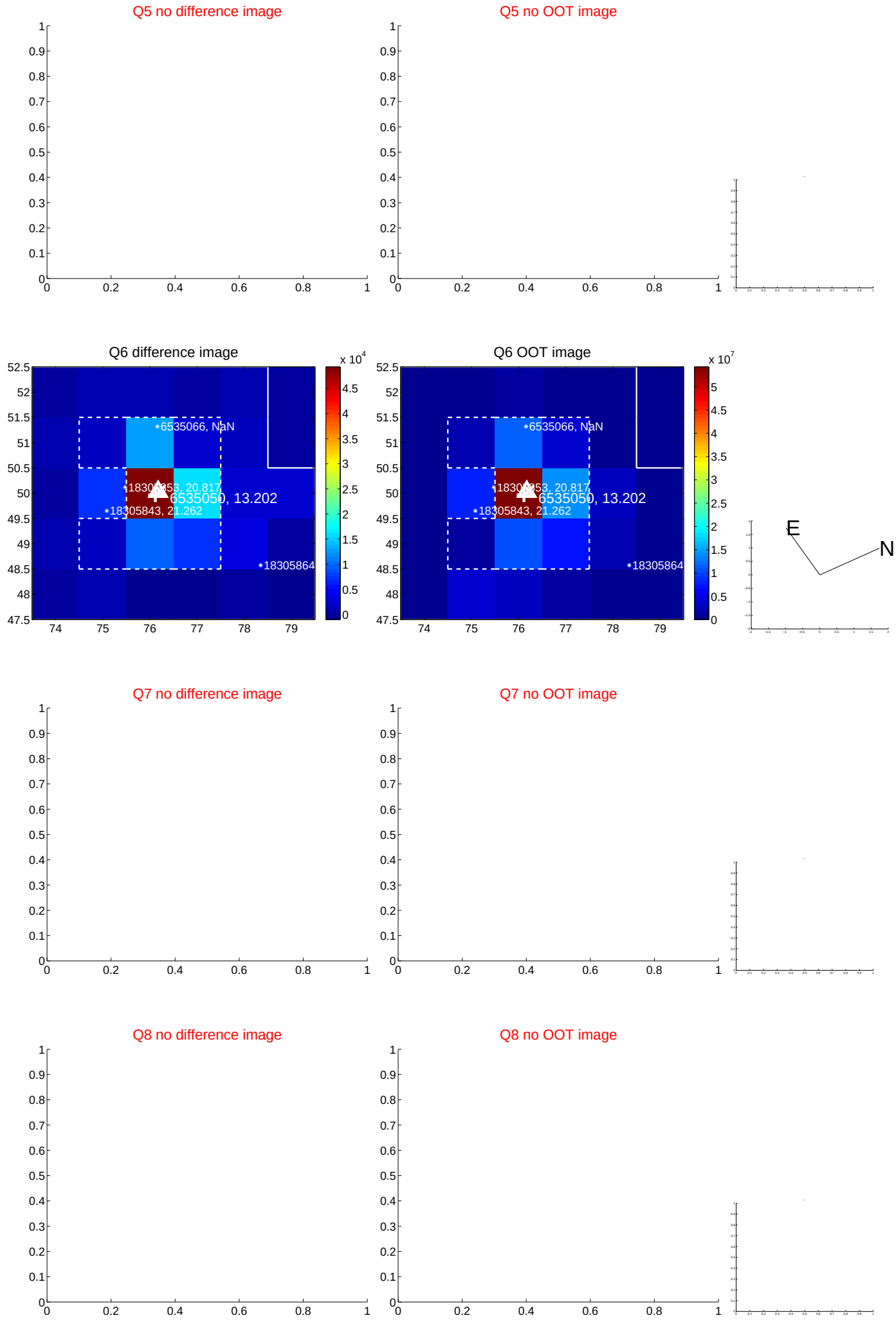
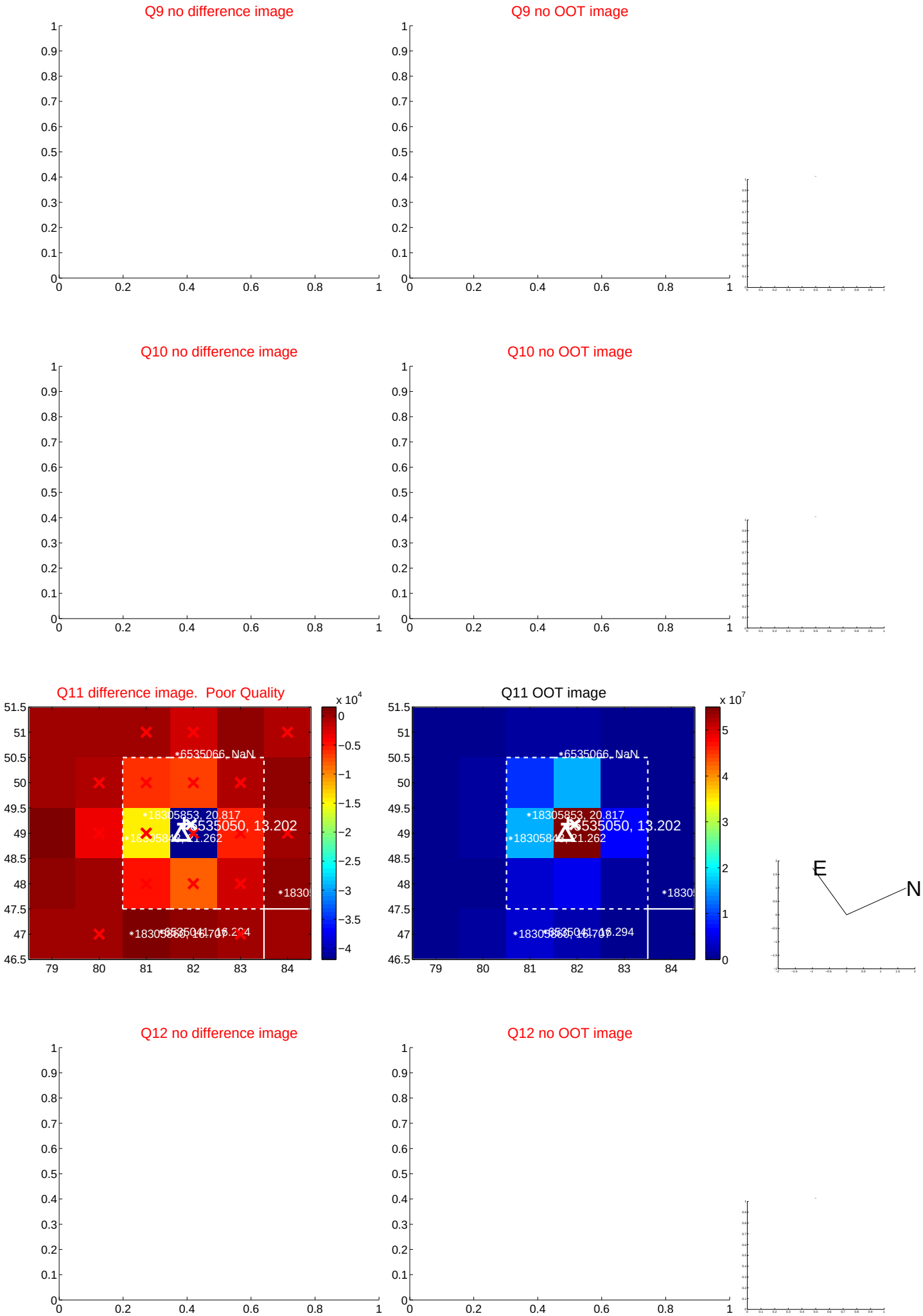
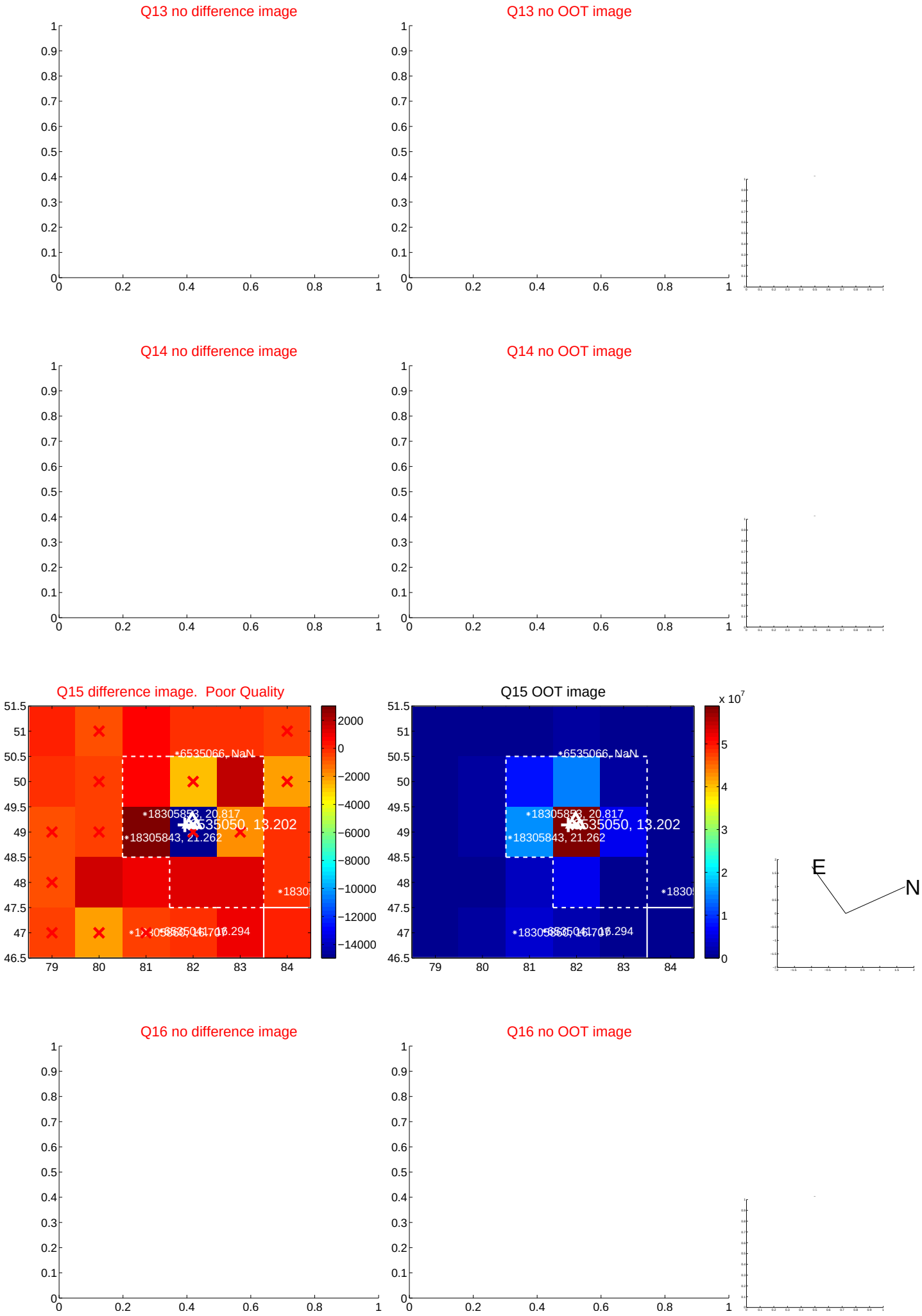


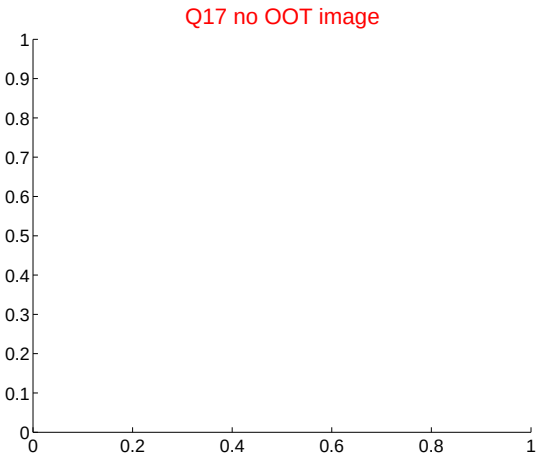
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

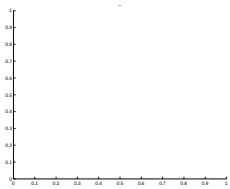


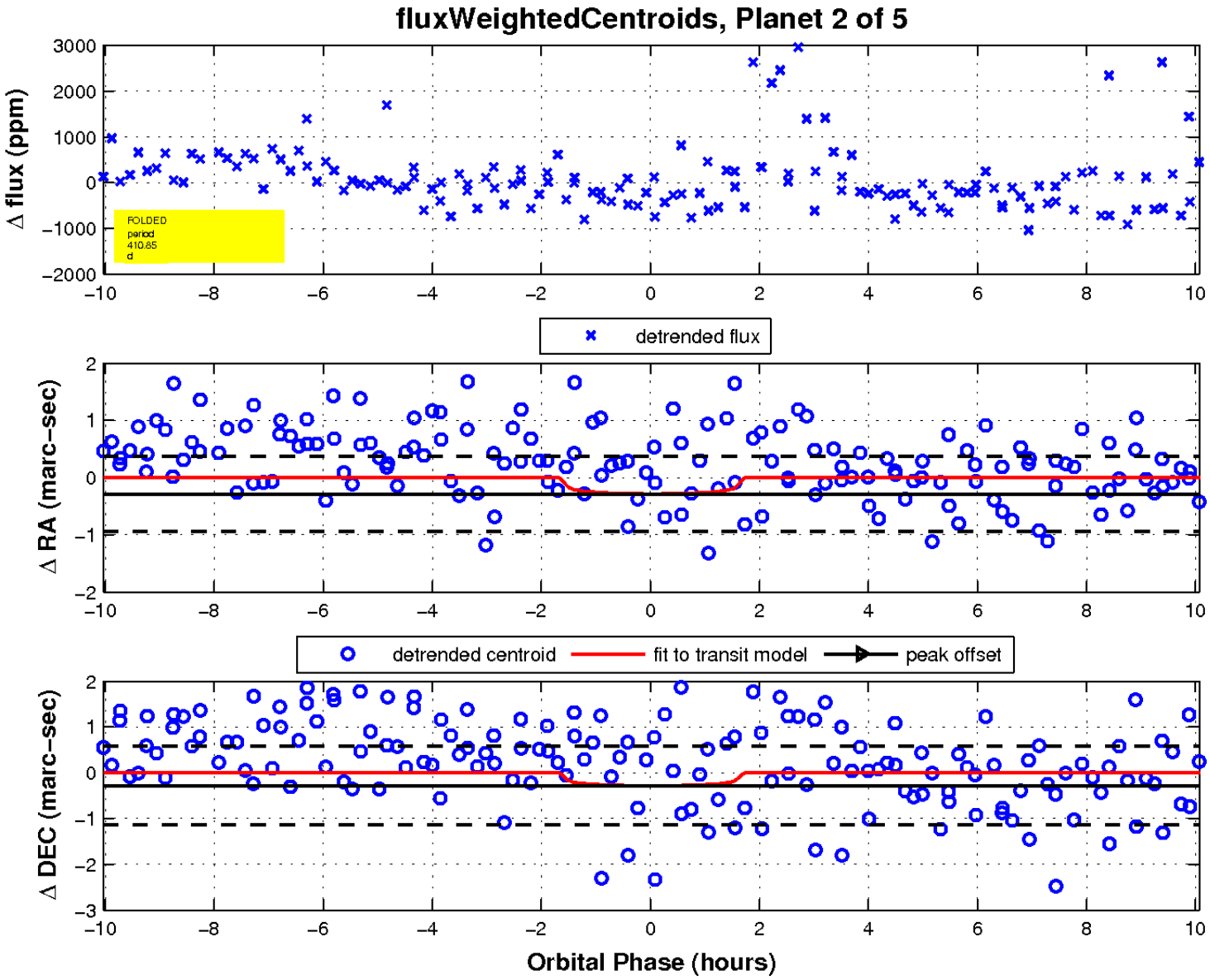
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



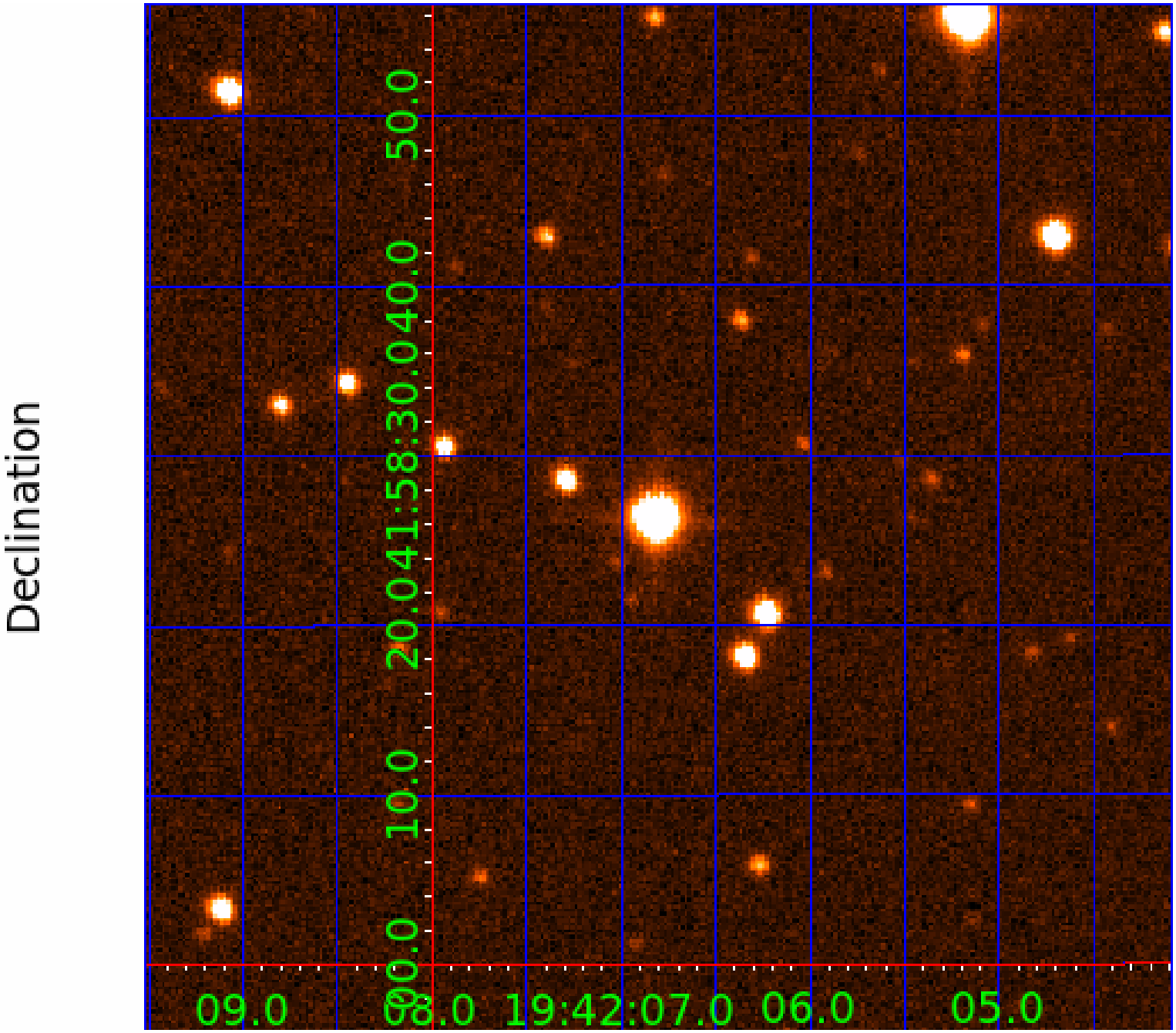
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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KIC 006535050

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_\star$ ($R_\odot$)	$T_\star$ (K)	R_p ($R_\oplus$)	S_p ($S_\oplus$)
006535050-01	OBS	No	414.555226	372.583997	1748.6	5.955	22.0	11.3	1.79	6054	7.51	3.36
006535050-02	OBS	No	410.850502	214.574800	1099.5	3.379	17.6	7.9	1.79	6054	6.17	3.40
006535050-03	OBS	No	291.826963	268.191724	1500.7	3.800	16.4	10.4	1.79	6054	7.10	5.37
006535050-04	OBS	No	507.486319	574.020053	2056.9	7.015	32.1	11.6	1.79	6054	8.15	2.57
006535050-05	OBS	No	459.353240	464.601861	431.2	5.000	14.5	-1.0	1.79	6054	3.73	2.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006535050-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006535050-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006535050-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—CENT_FEW_DIFFS
006535050-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006535050-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

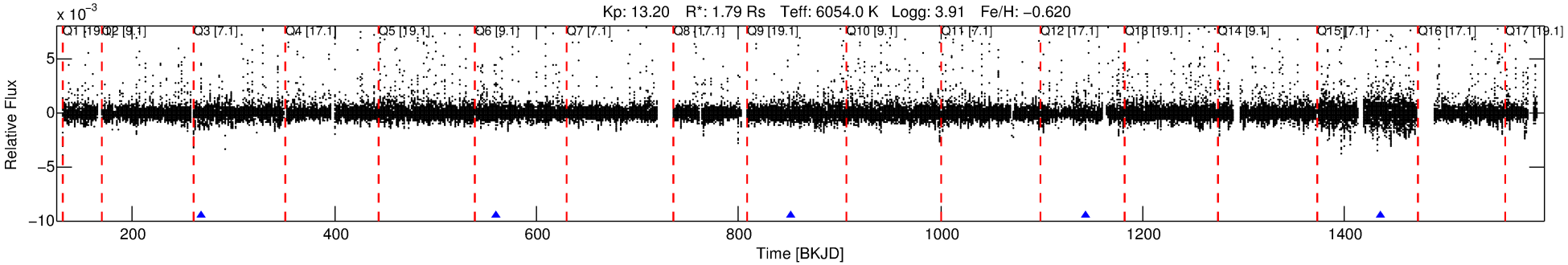
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

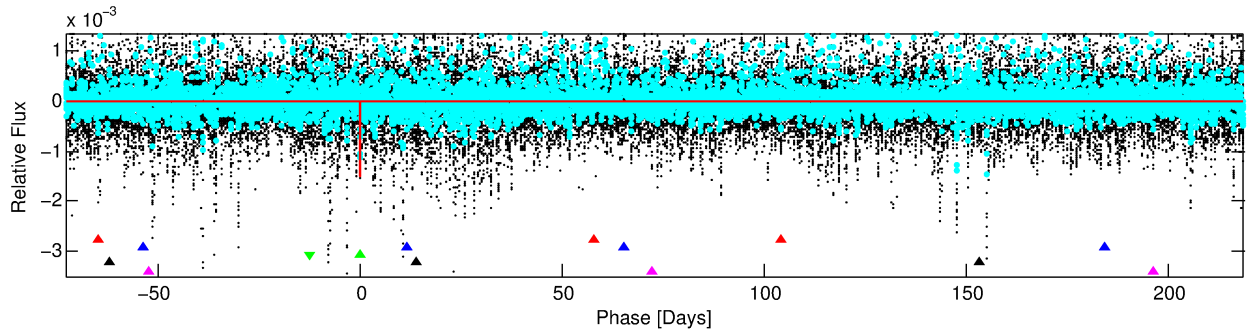
Ephemeris Match Information For 006535050-03

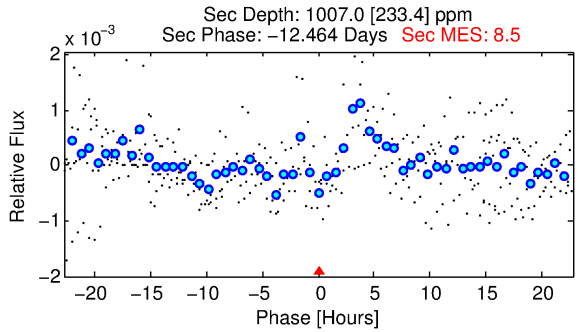
No Significant Match Found

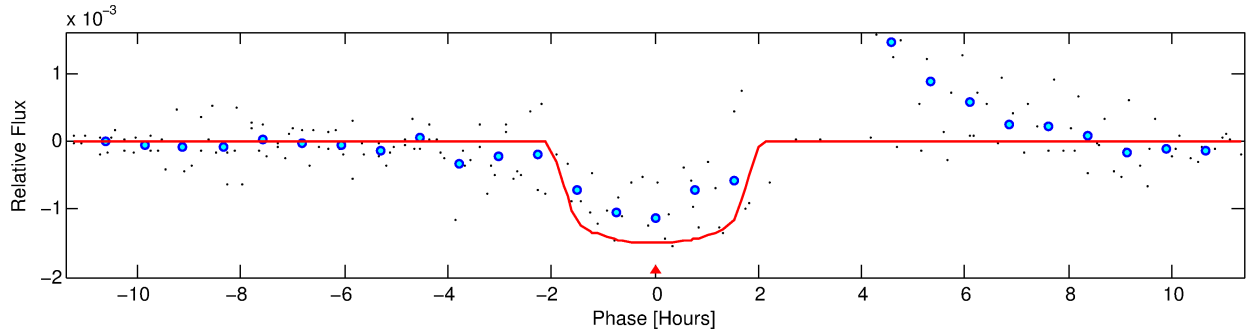
DV One-Page Summary

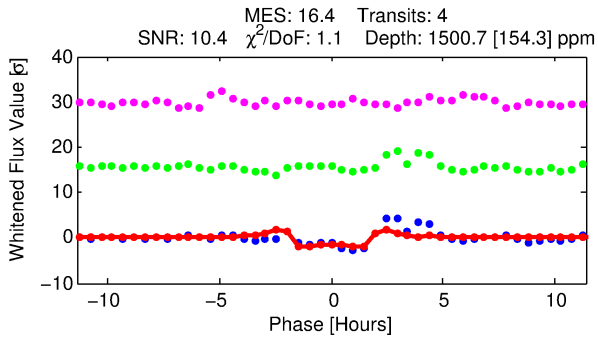
KIC: 6535050 Candidate: 3 of 5 Period: 291.827 d

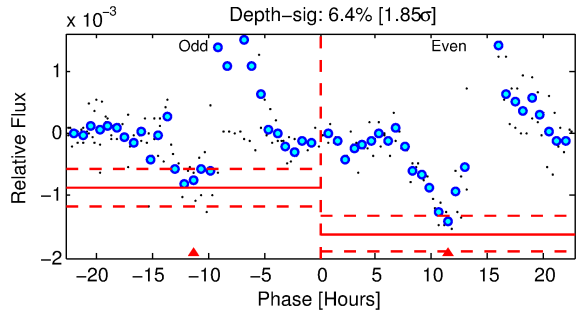


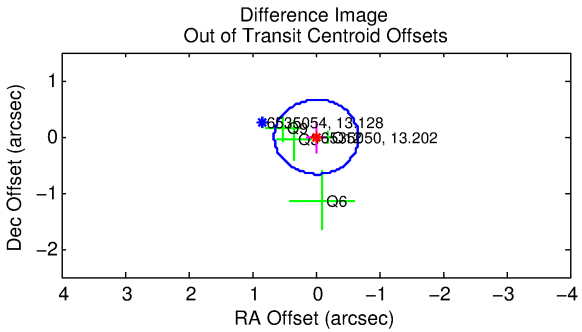












DV Fit Results:

Period = 291.82696 [0.00185] d
Epoch = 268.1917 [0.0037] BKJD
Rp/R* = 0.0363 [0.0208]
a/R* = 555.01 [1579.33]
b = 0.42 [5.55]

Seff = 5.37 [4.72]
Teq = 388 [85] K
Rp = 7.10 [5.41] Re
a = 0.8501 [0.4449] AU

Ag = 7934.54 [11590.25] [0.68σ]
Teffp = 5663 [1667] K [3.16σ]

DV Diagnostic Results:

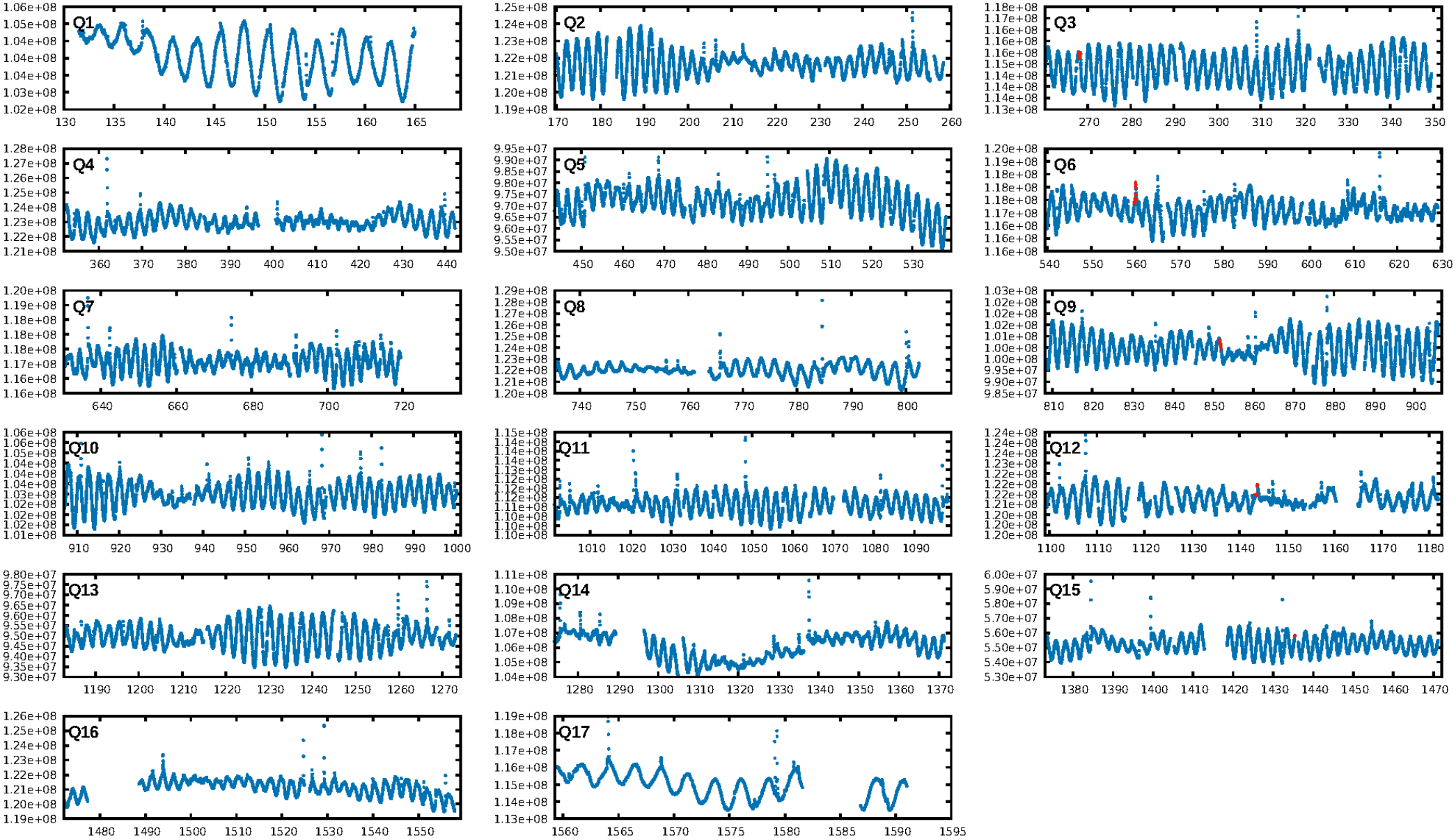
ShortPeriod−sig: N/A
LongPeriod−sig: 100.0% [561.83σ]
ModelChiSquare2−sig: 3.1%
ModelChiSquareGof−sig: 94.6%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: 0.8574

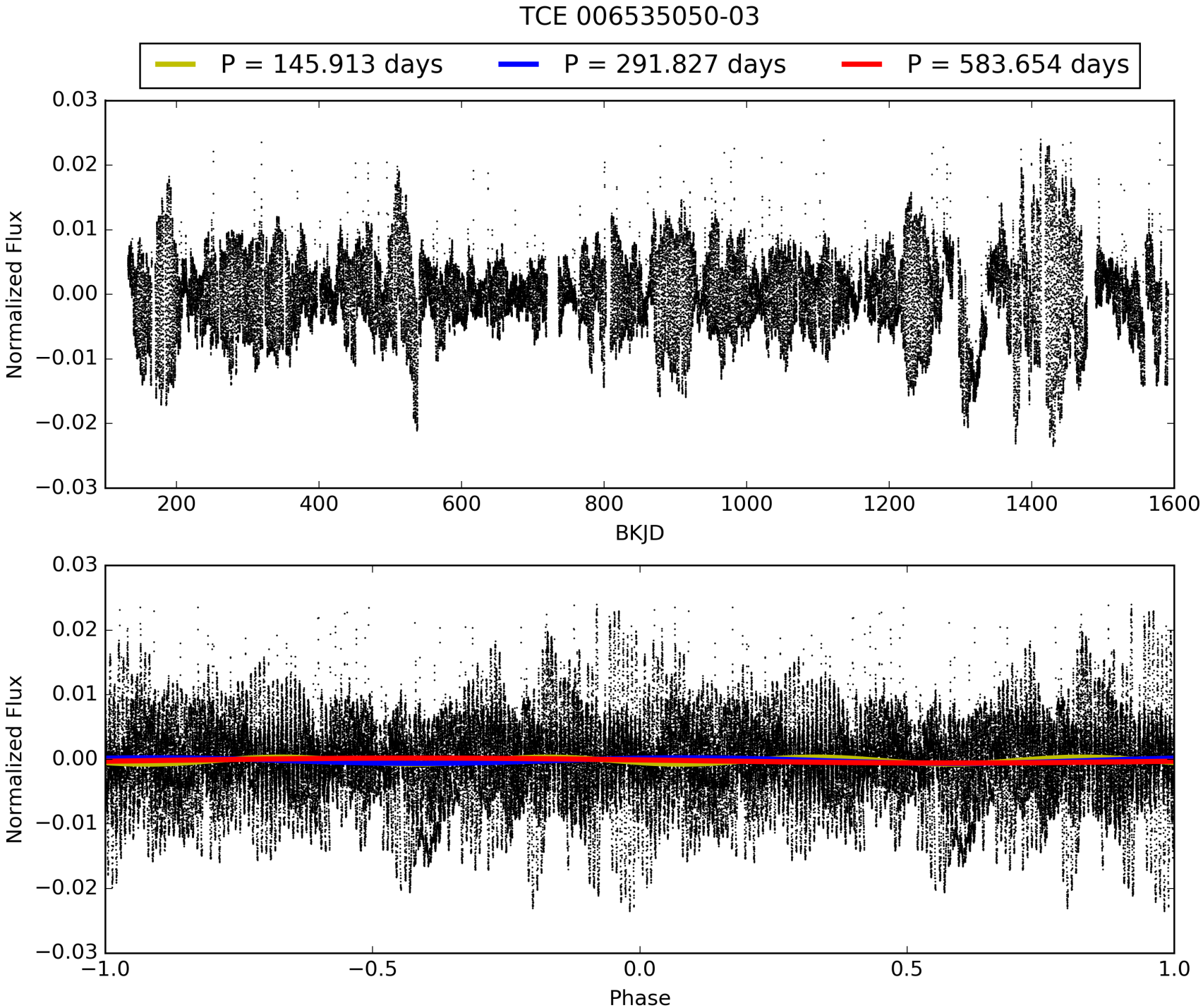
Centroid−sig: 3.6%
Centroid−so: 0.094 arcsec [0.30σ]
OotOffset−rm: 0.012 arcsec [0.06σ]
KicOffset−rm: 0.604 arcsec [2.26σ]
OotOffset−st: 1/1/1/1 [4]
KicOffset−st: 1/1/1/1 [4]
DiffImageQuality−fgm: 0.50 [2/4]
DiffImageOverlap−fno: 1.00 [4/4]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03−Feb−2016 08:40:13 Z

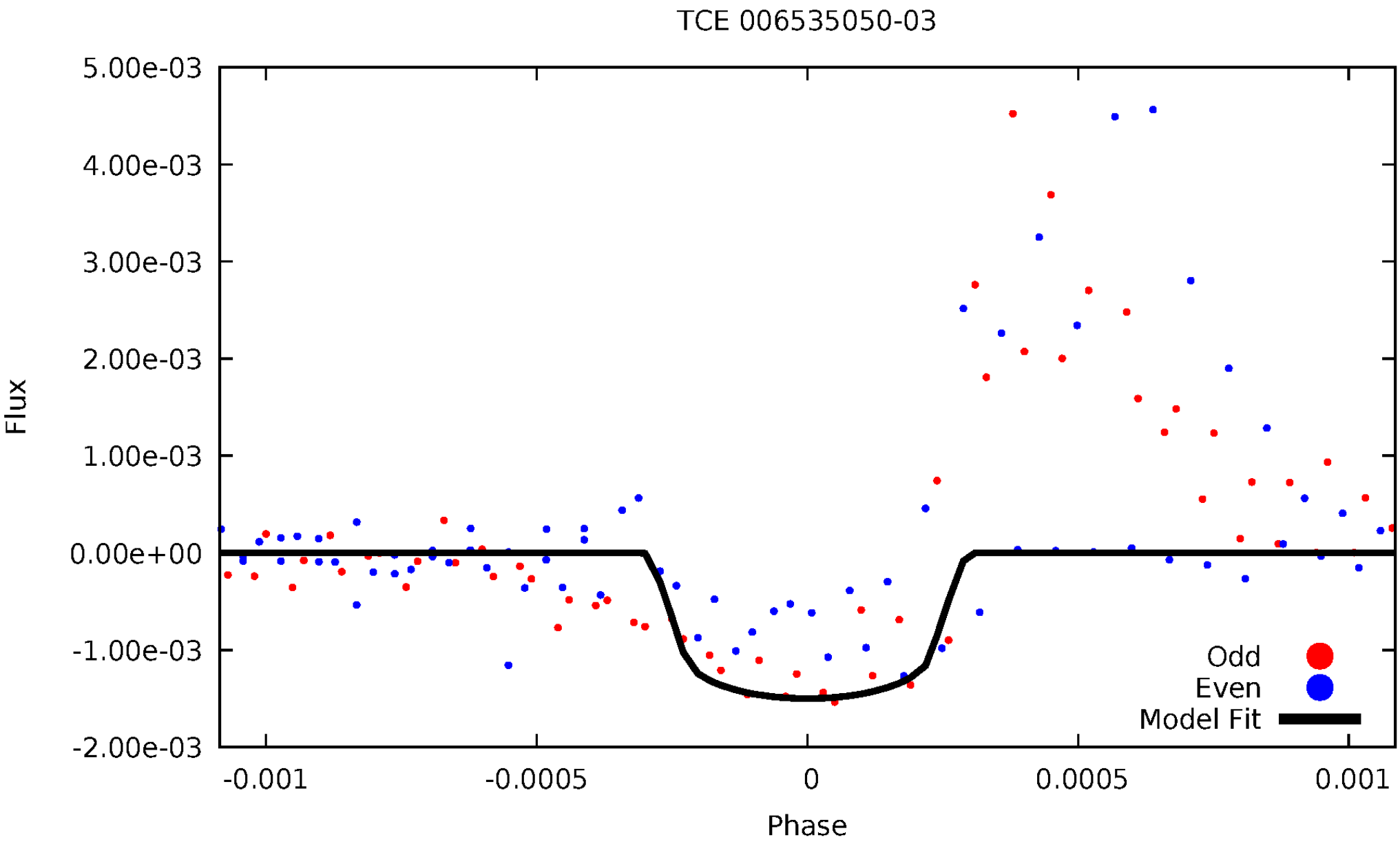
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006535050-03, PDC Light Curves

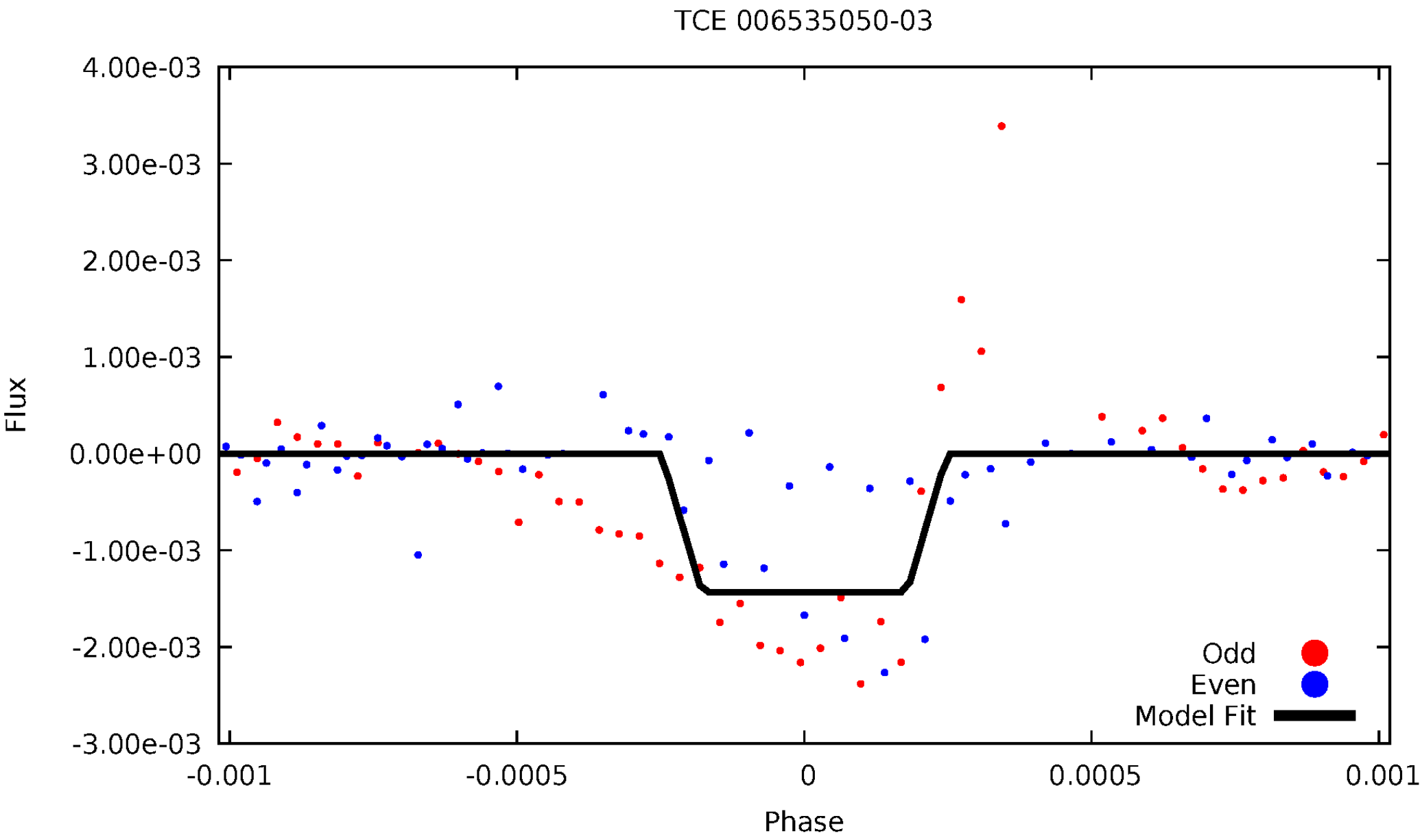



TCE 006535050-03
P = 145.913 days
P = 291.827 days
P = 583.654 days
Normalized Flux
BKJD
Normalized Flux
Phase

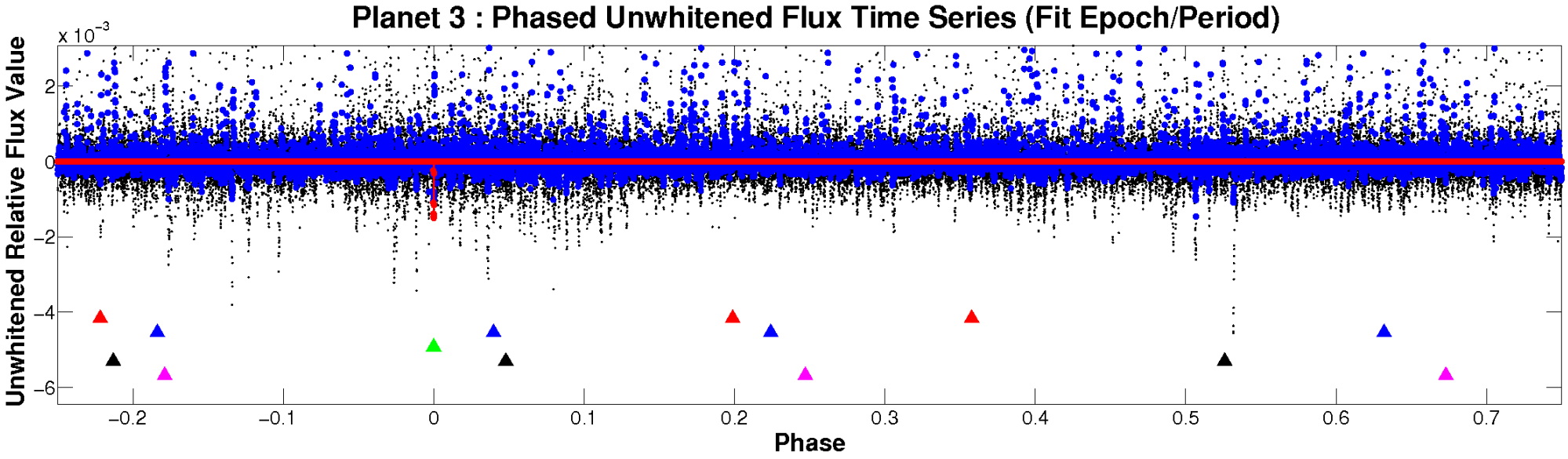
DV Odd/Even

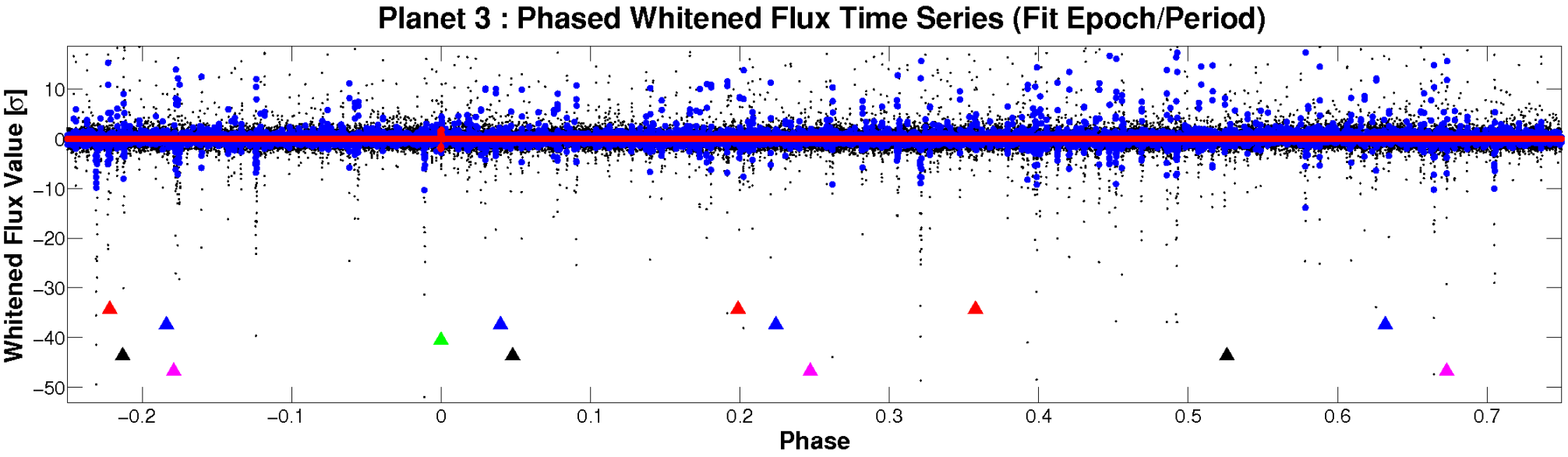

TCE 006535050-03
5.00e-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
Flux
-0.001
-0.0005
0
0.0005
0.001
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006535050-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
Flux
-0.001
-0.0005
0
0.0005
0.001
Phase
Odd
Even
Model Fit

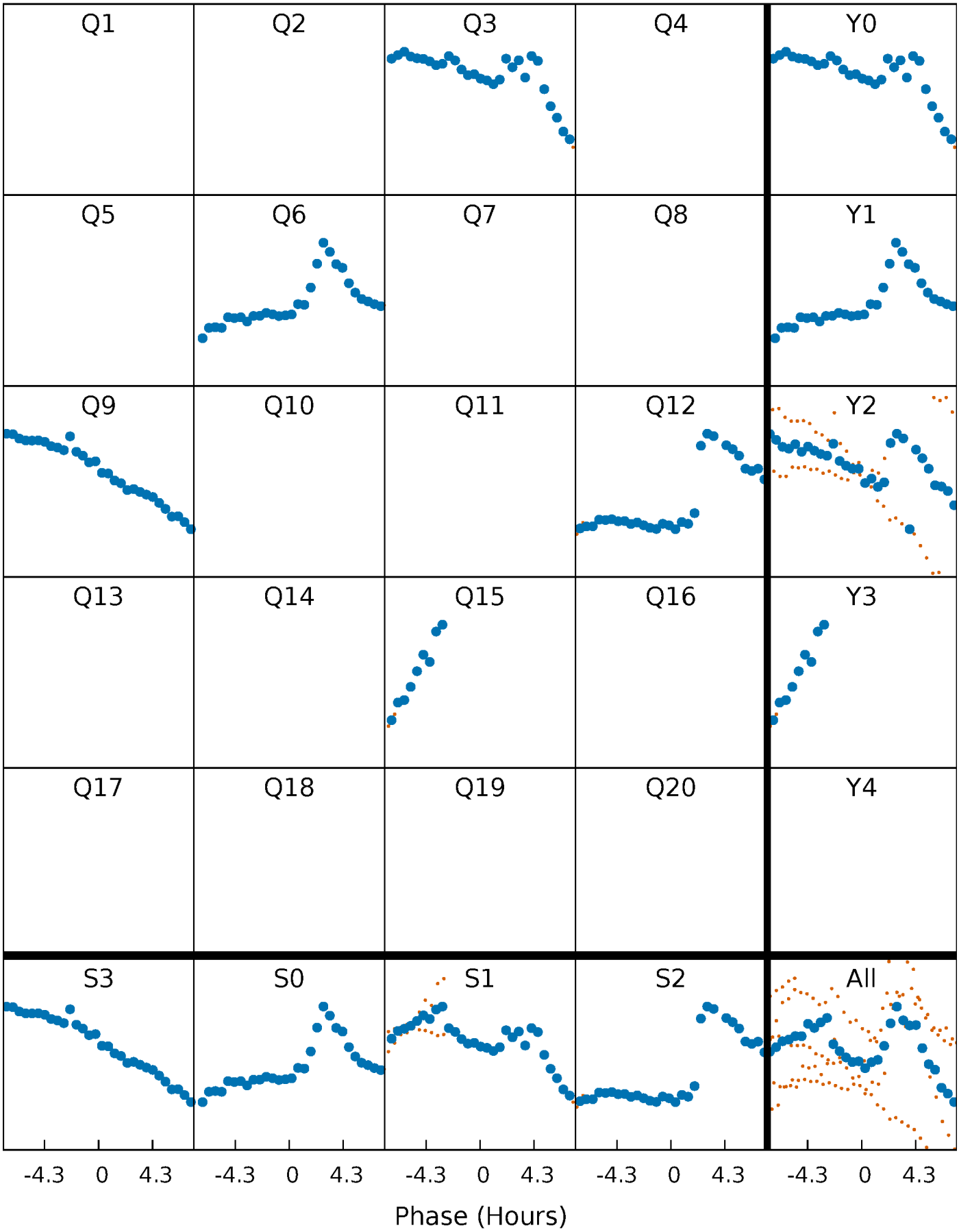
Non-Whitened Vs. Whitened Light Curve





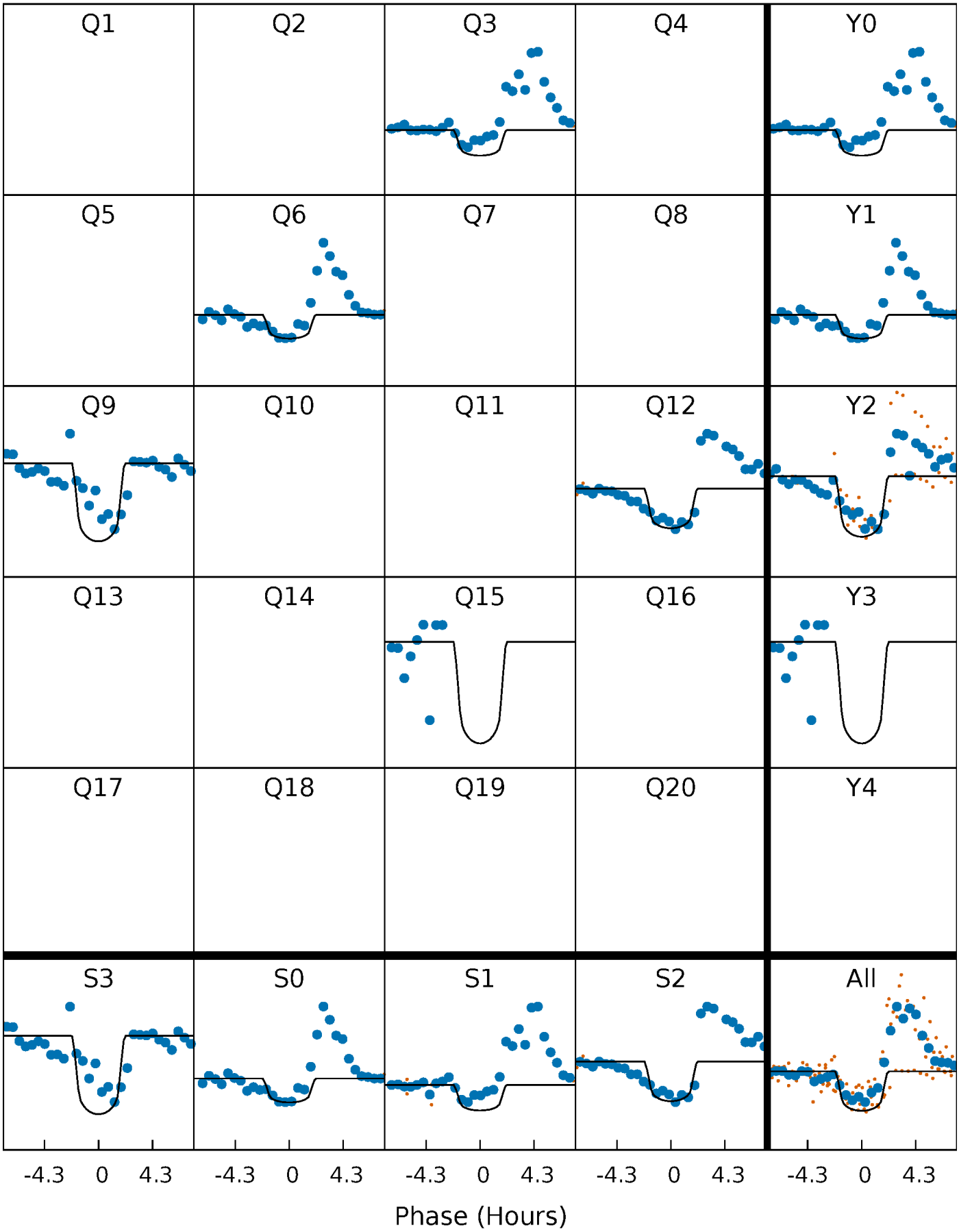
PDC Quarter-Phased Transit Curves

TCE 006535050-03 P=291.826963 Days T_0=268.191724 (BKJD)



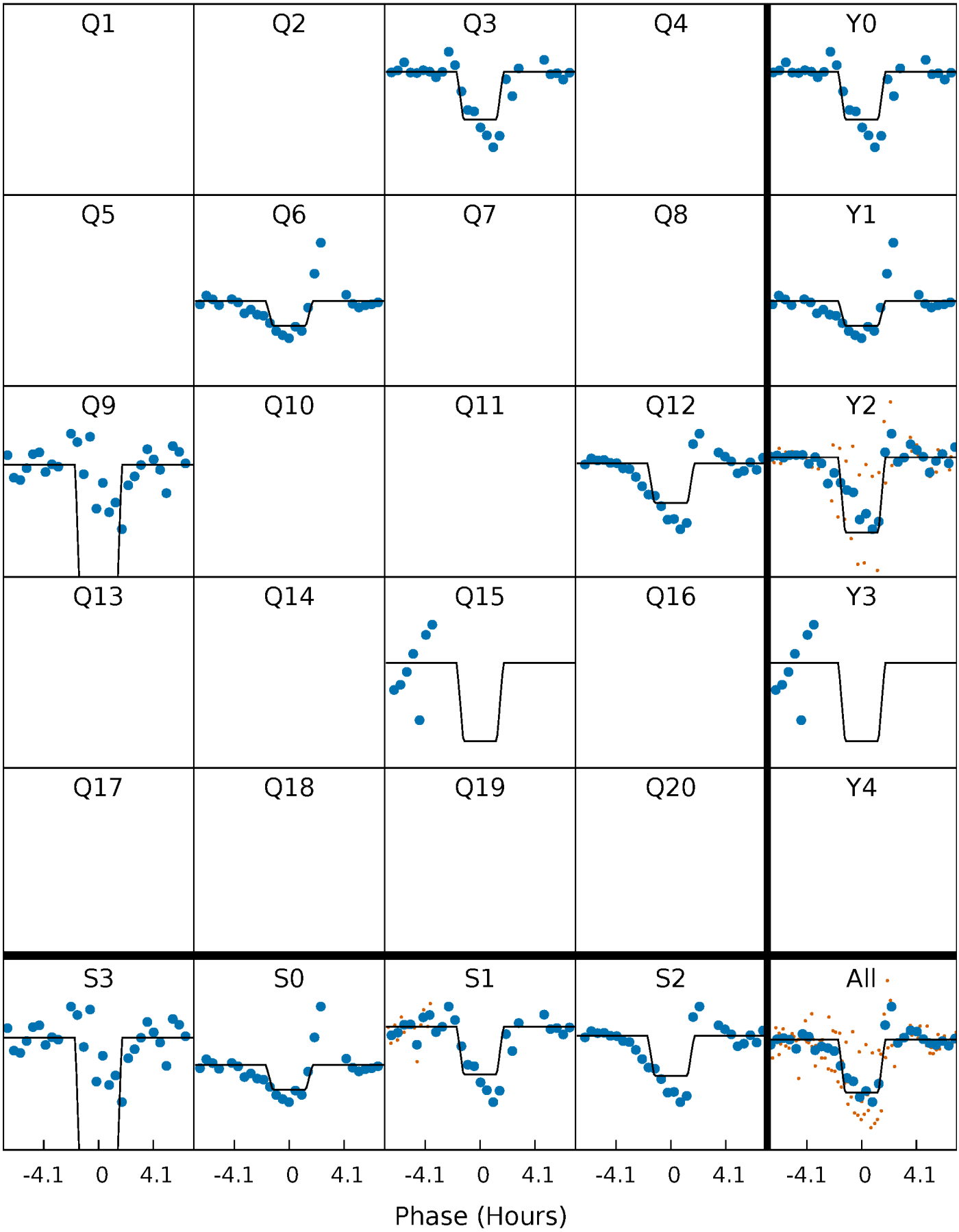
DV Quarter-Phased Transit Curves

TCE 006535050-03 P=291.826963 Days T_0=268.191724 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

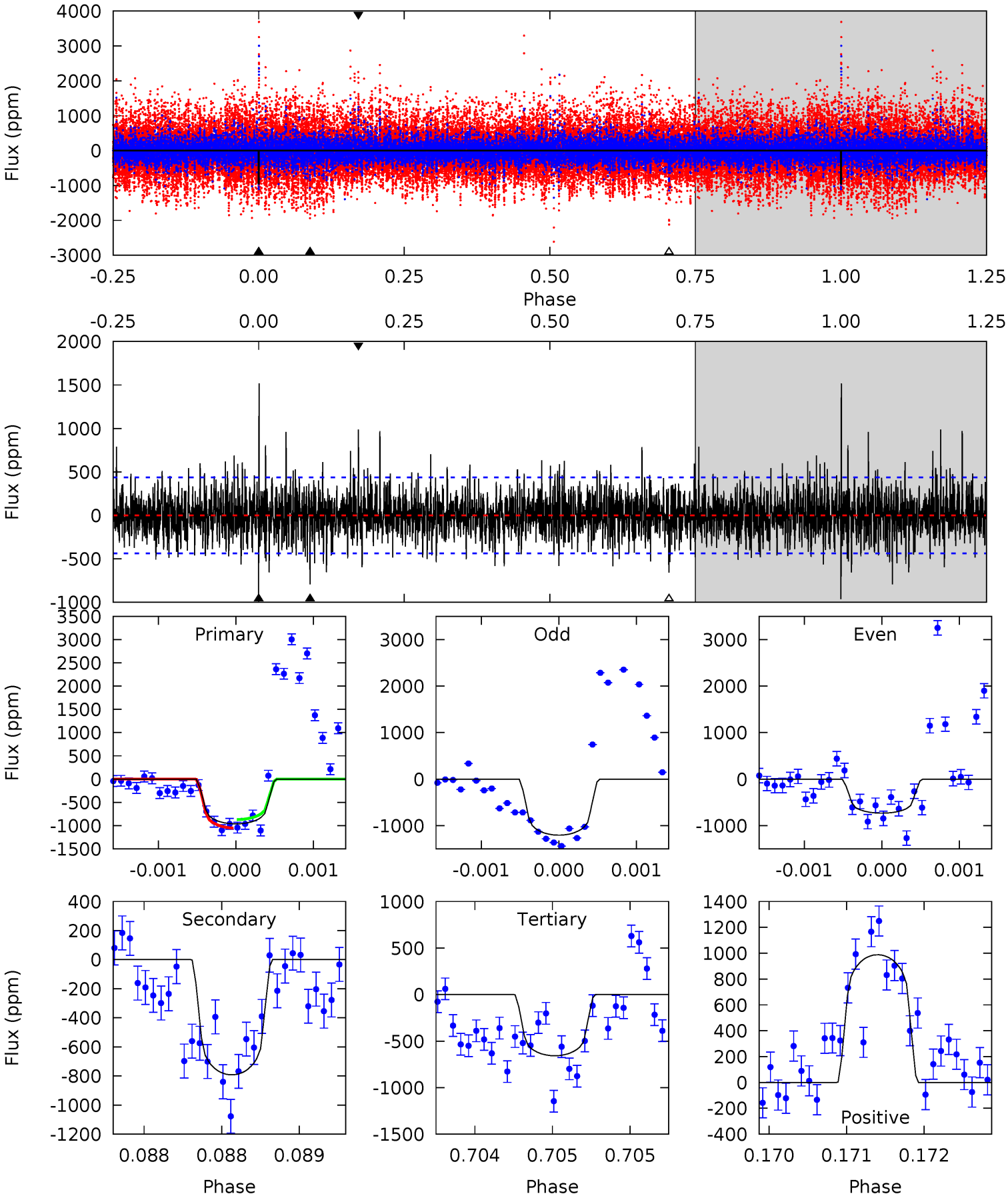
TCE 006535050-03 P=291.835174 Days T_0=268.194034 (BKJD)



DV Model-Shift Uniqueness Test

006535050-03, P = 291.826963 Days, E = 268.191724 Days

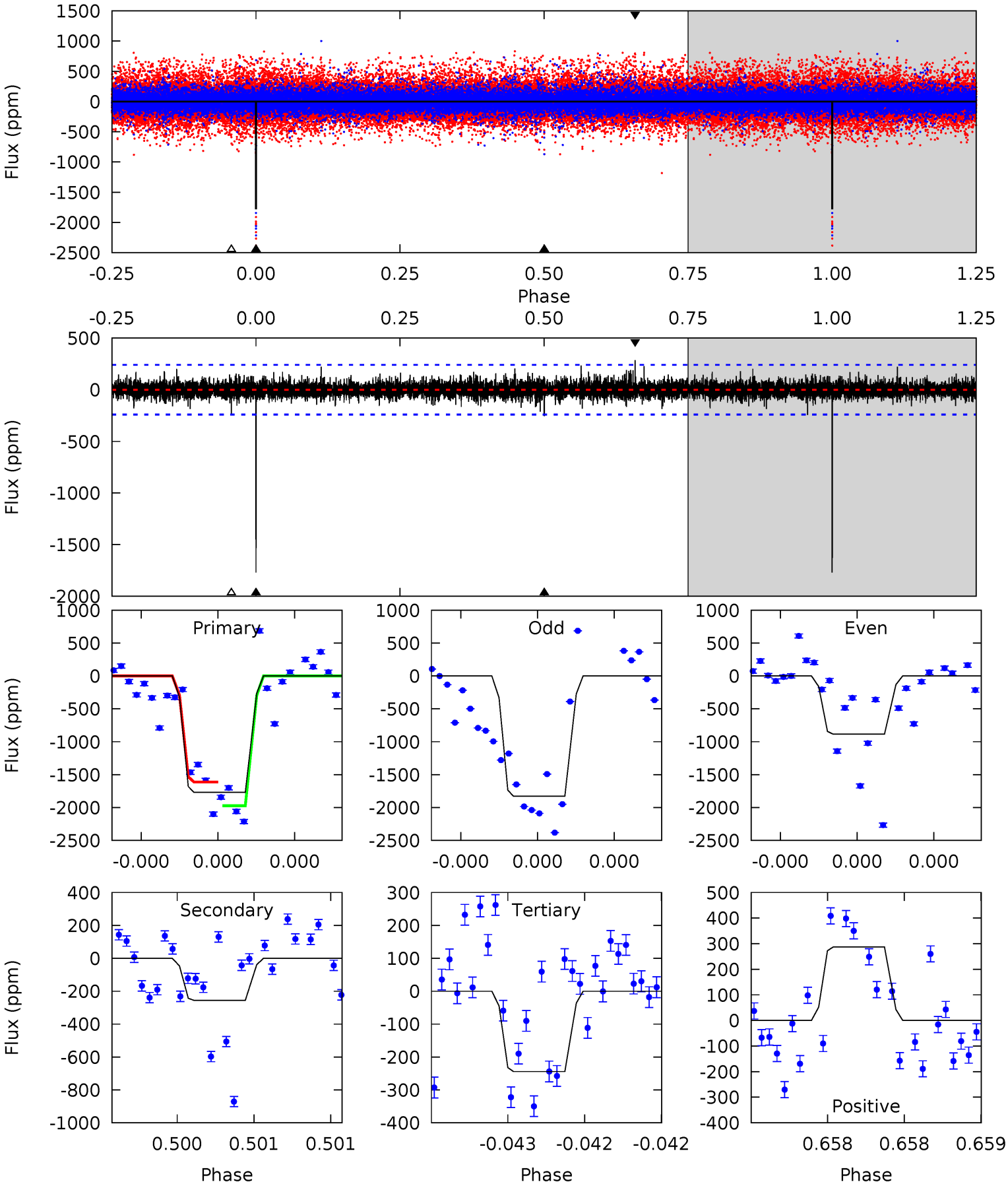
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	10.1	8.36	12.6	5.55	3.44	2.44	3.87	-0.33	1.71	-2.49	2.63	0.97	0.61	1.18



Alt Model-Shift Uniqueness Test

006535050-03, P = 291.835174 Days, E = 268.194034 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.1	5.94	5.67	6.66	5.58	3.50	1.06	35.4	34.4	0.27	-0.72	12.7	0.79	0.14	4.20



Stellar Parameters For KIC 006535050

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6054^{+181}_{-181}	$3.913^{+0.525}_{-0.175}$	$-0.620^{+0.300}_{-0.250}$	$1.795^{+0.484}_{-0.899}$	$0.963^{+0.121}_{-0.135}$	$0.234^{+1.349}_{-0.113}$
	+3%/-3%	+13%/-4%	+48%/-40%	+27%/-50%	+13%/-14%	+576%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006535050-03 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-792±79	$6.60^{+4.67}_{-3.71}$	535^{+46}_{-73}	5346^{+2460}_{-953}	7131^{+30625}_{-4629}
Alt.	-256±43	$7.17^{+4.49}_{-3.69}$	533^{+50}_{-77}	4141^{+1157}_{-575}	2014^{+6347}_{-1276}

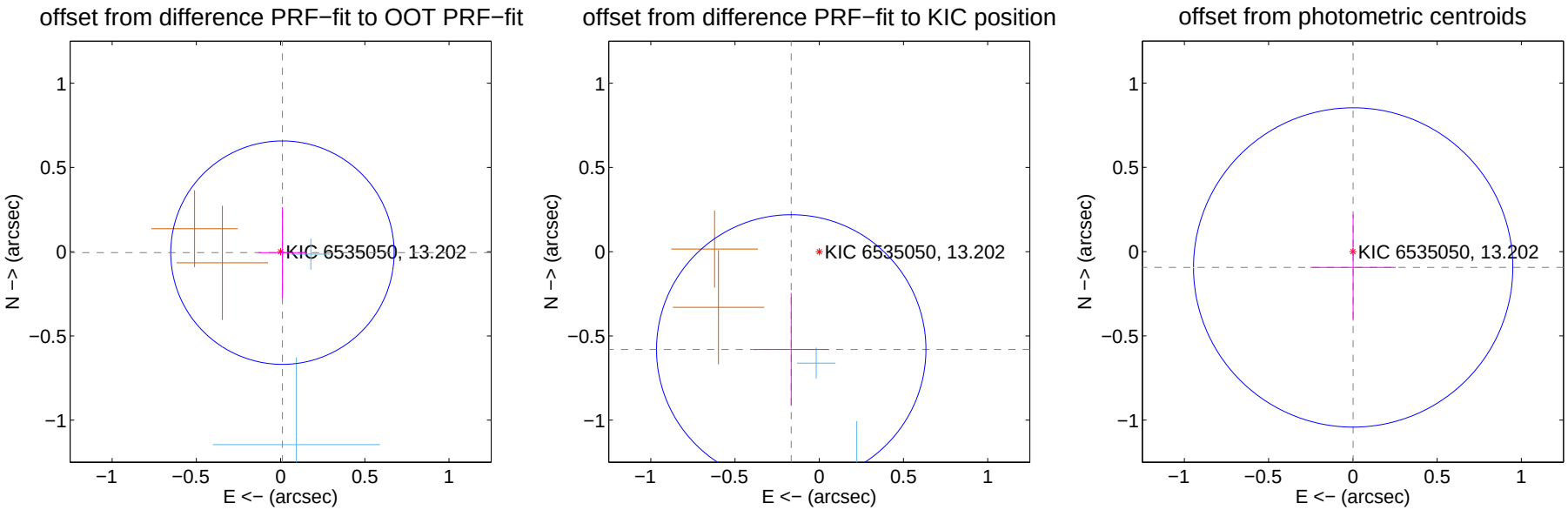
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

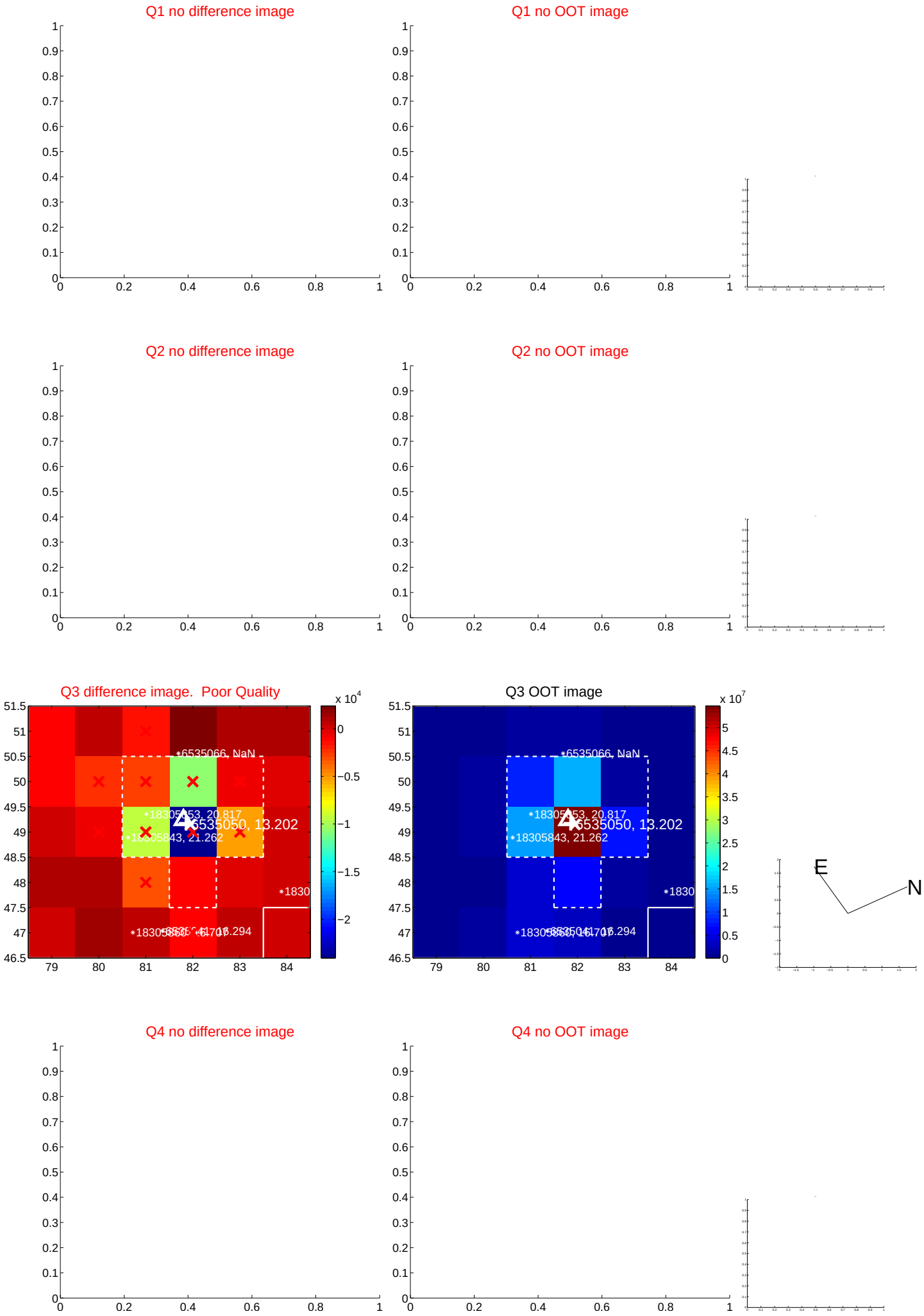
Supplemental centroid analysis for 006535050-03. Kepler magnitude: 13.20. Transit SNR 10.42
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.68 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.012 ± 0.221	0.06	-0.011 ± 0.144	-0.006 ± 0.269
PRF-fit source offset from KIC position	0.604 ± 0.266	2.26	0.166 ± 0.223	-0.580 ± 0.335
photometric centroid source offset	0.09 ± 0.32	0.30	-0.00 ± 0.25	-0.09 ± 0.32

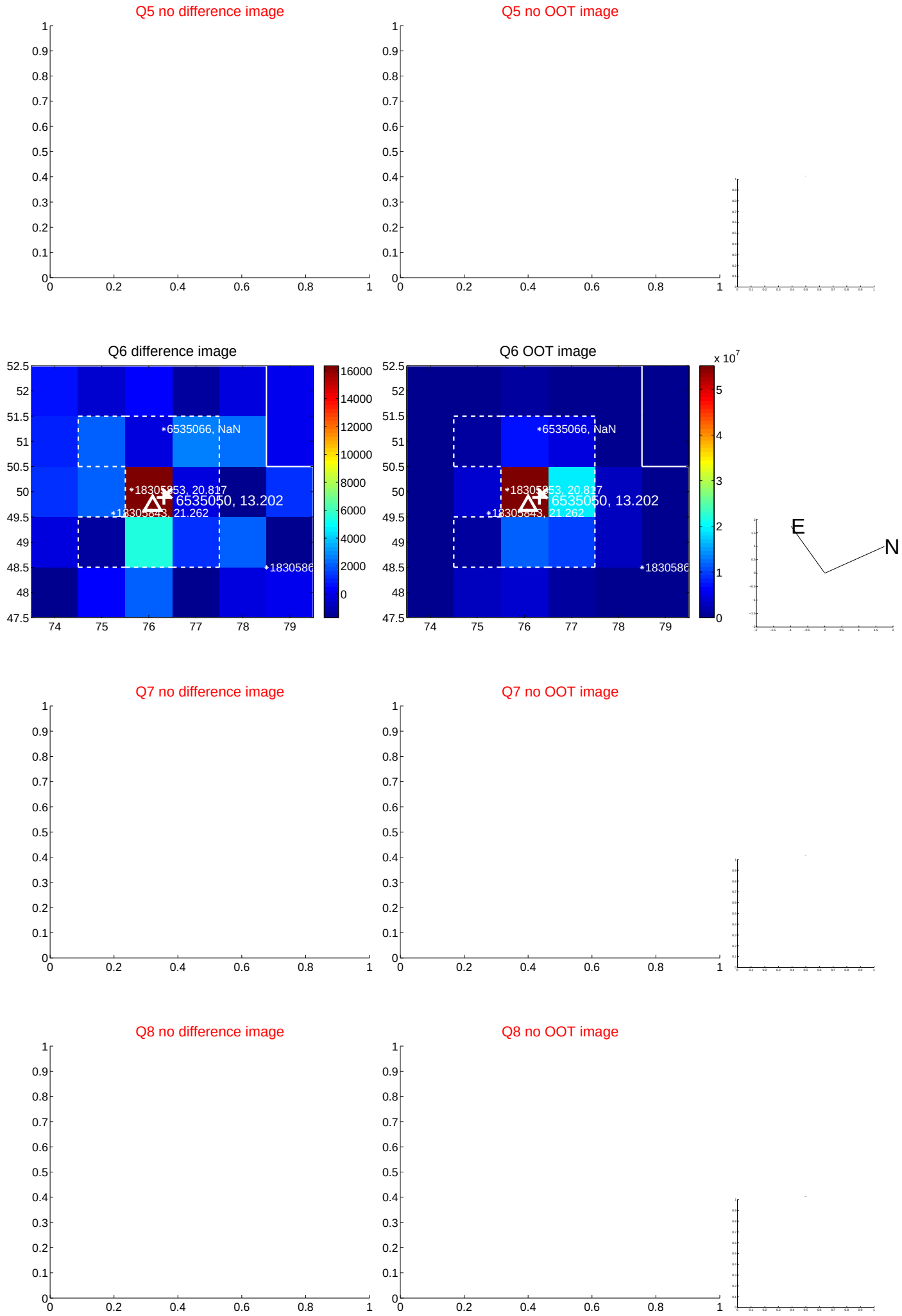


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs $> 15,000,000$ are from the UKIRT catalog.

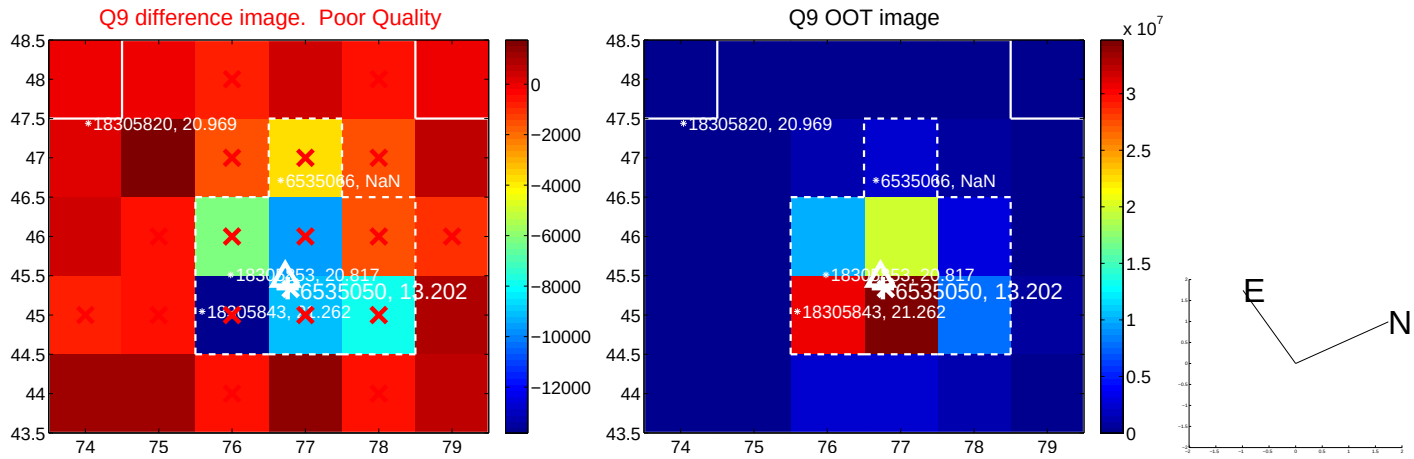
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

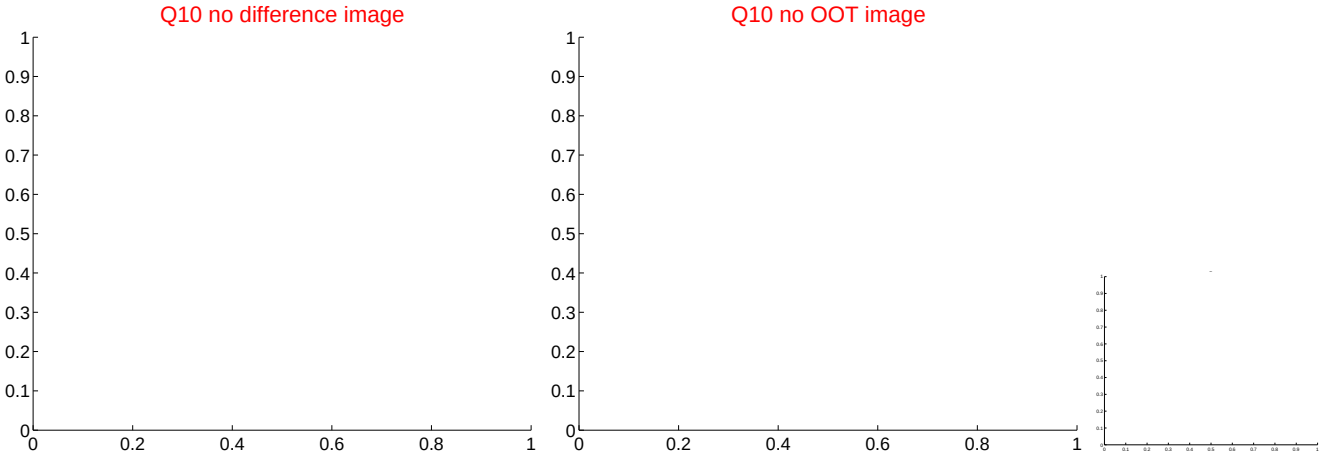


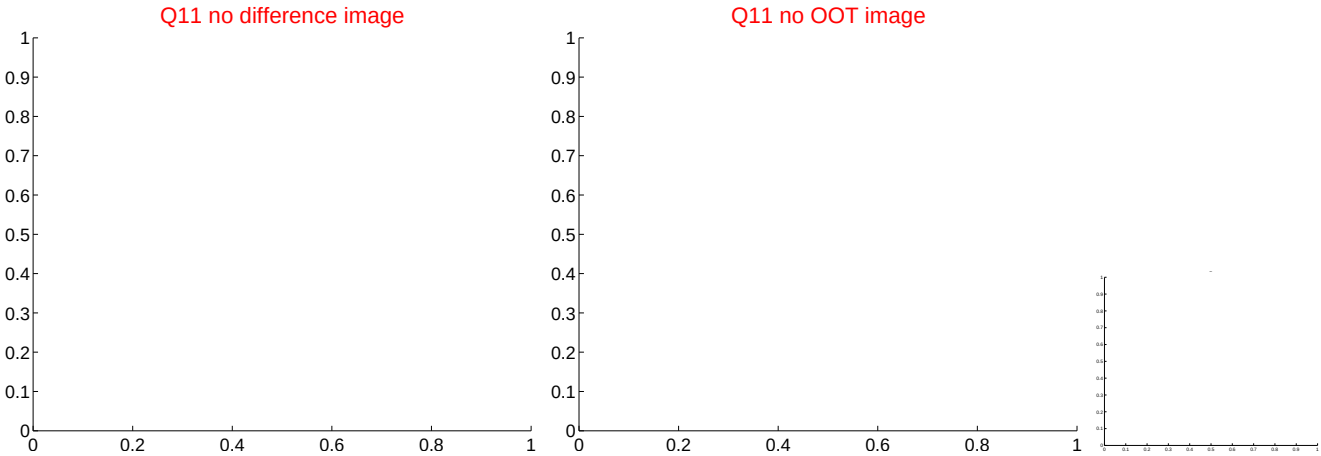
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

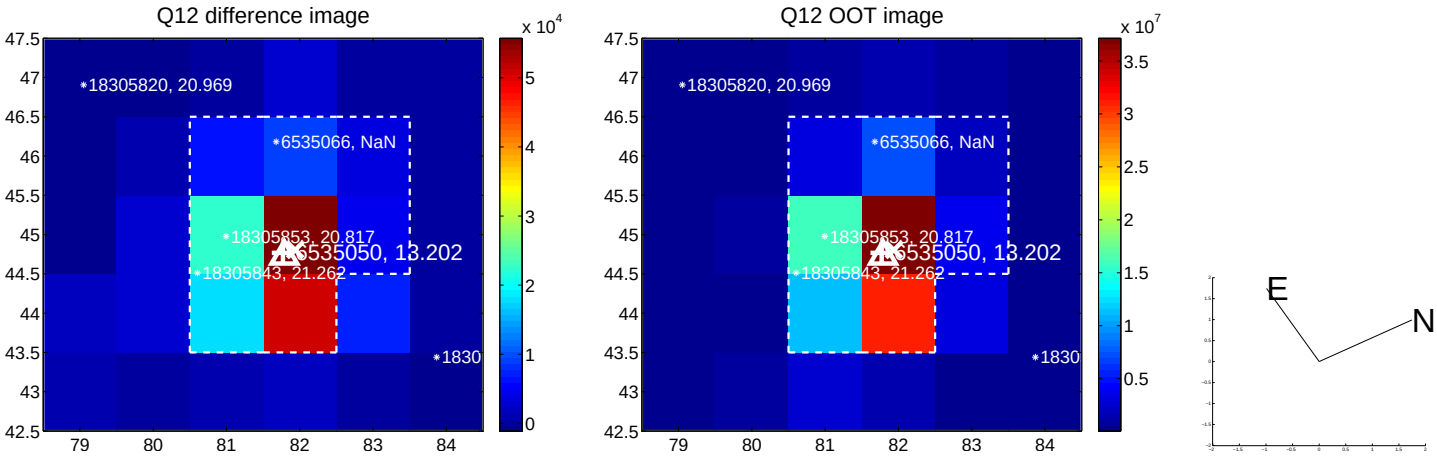


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

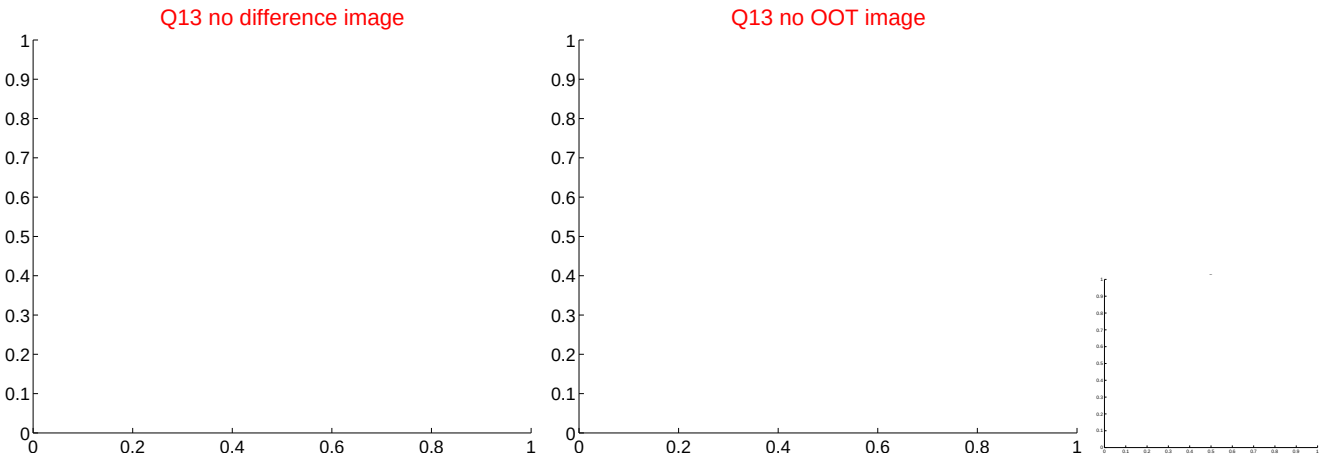


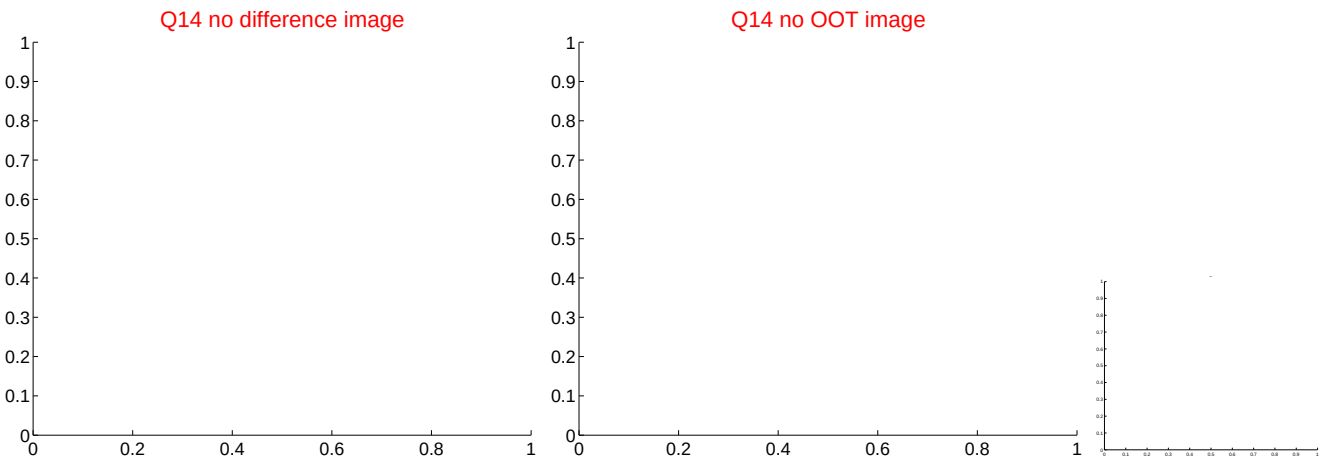


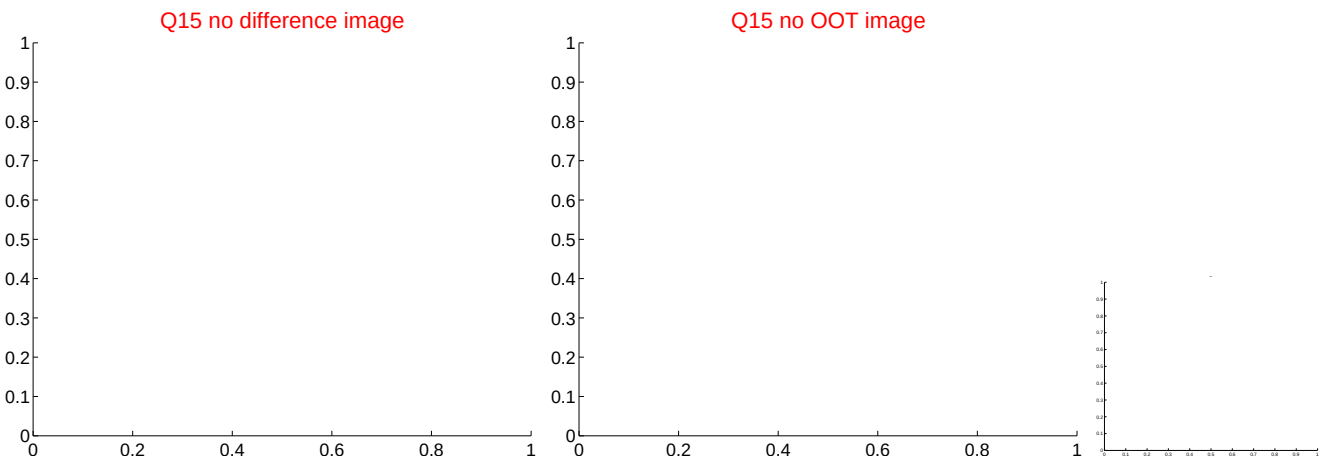


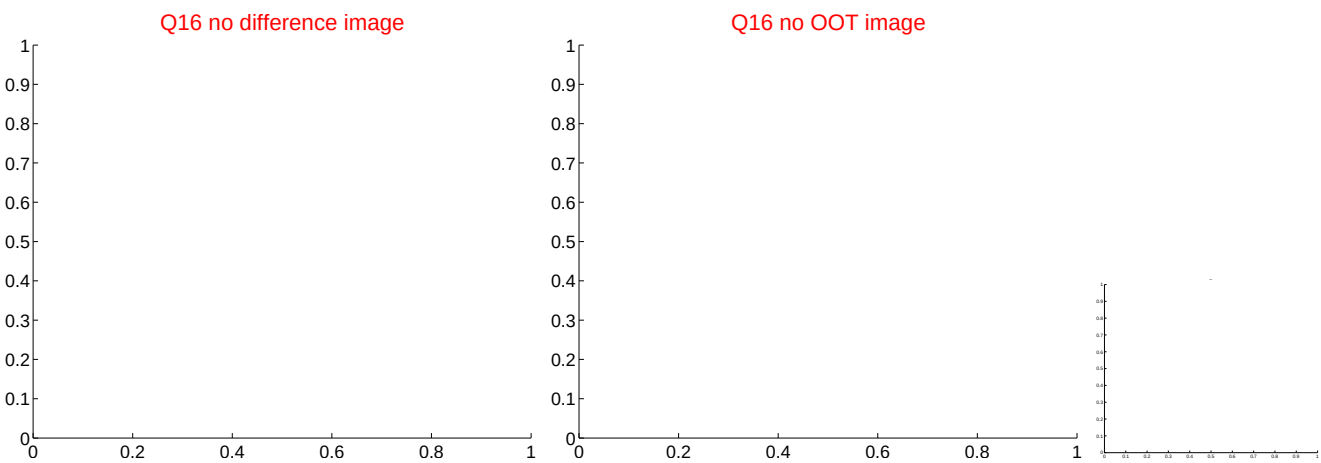


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

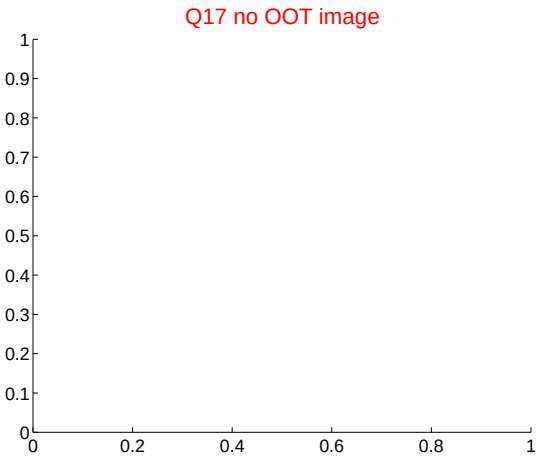


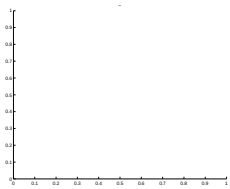


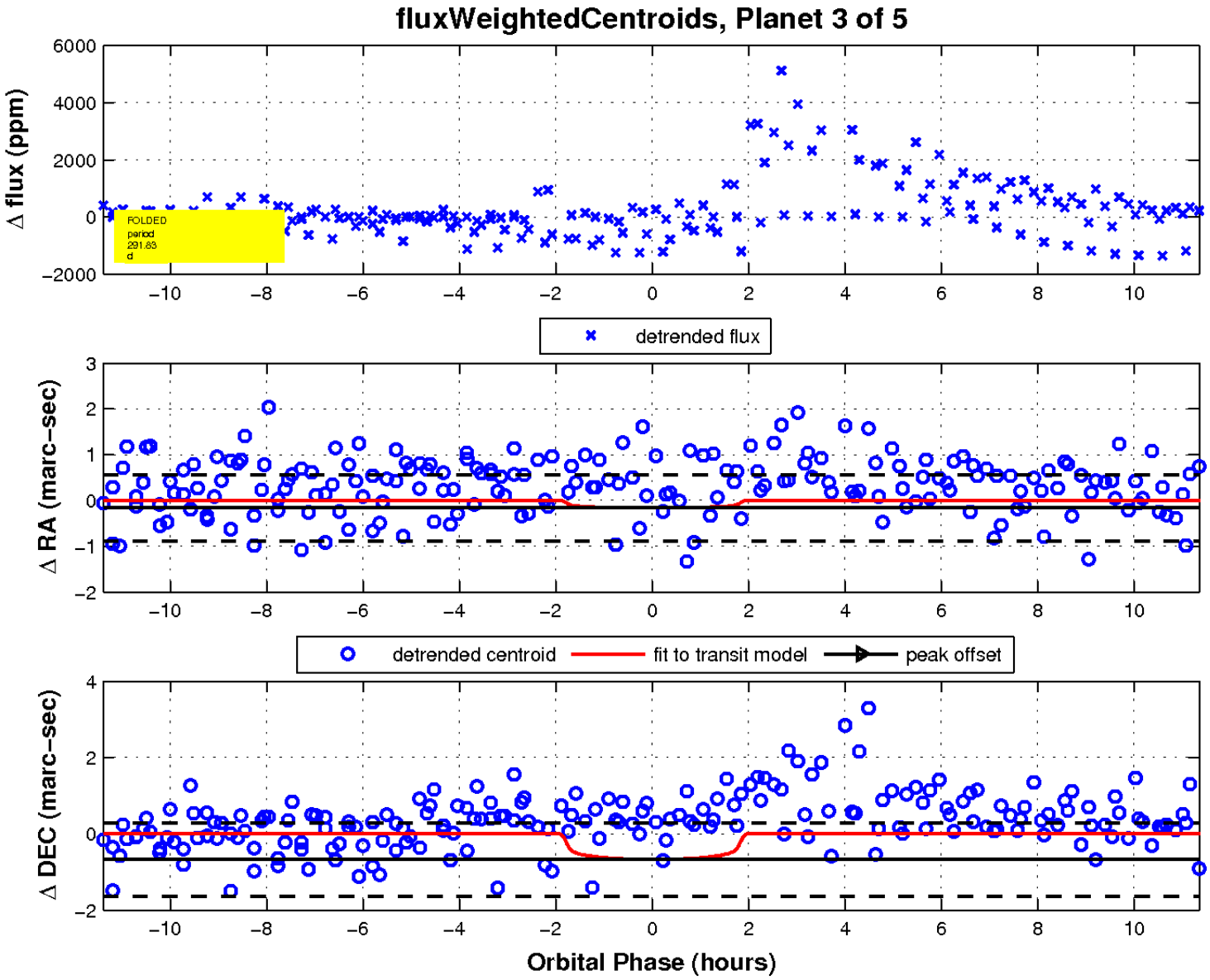




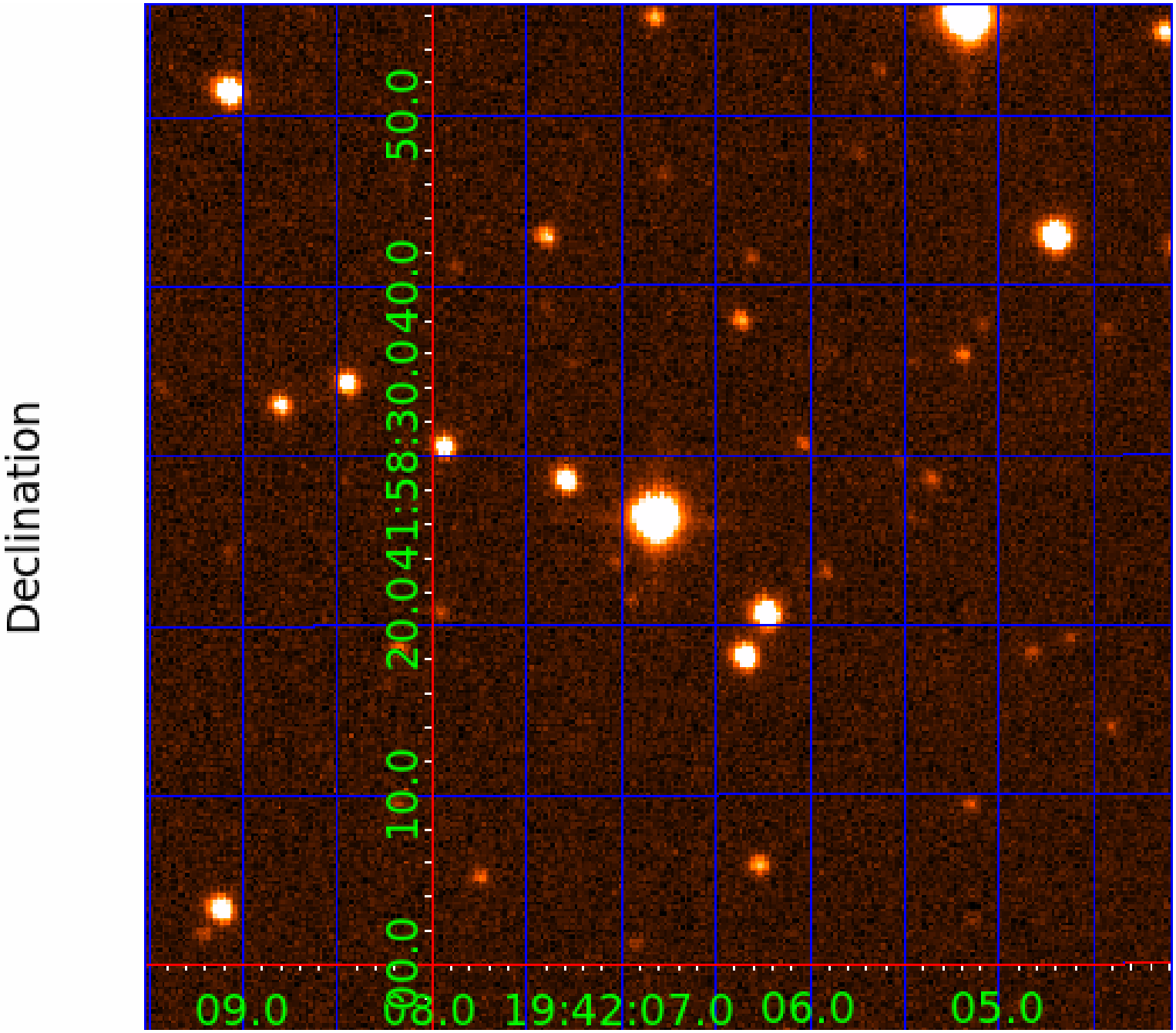
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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06.0
05.0

KIC 006535050

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_\star$ ($R_\odot$)	$T_\star$ (K)	R_p ($R_\oplus$)	S_p ($S_\oplus$)
006535050-01	OBS	No	414.555226	372.583997	1748.6	5.955	22.0	11.3	1.79	6054	7.51	3.36
006535050-02	OBS	No	410.850502	214.574800	1099.5	3.379	17.6	7.9	1.79	6054	6.17	3.40
006535050-03	OBS	No	291.826963	268.191724	1500.7	3.800	16.4	10.4	1.79	6054	7.10	5.37
006535050-04	OBS	No	507.486319	574.020053	2056.9	7.015	32.1	11.6	1.79	6054	8.15	2.57
006535050-05	OBS	No	459.353240	464.601861	431.2	5.000	14.5	-1.0	1.79	6054	3.73	2.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006535050-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006535050-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006535050-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—CENT_FEW_DIFFS
006535050-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006535050-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

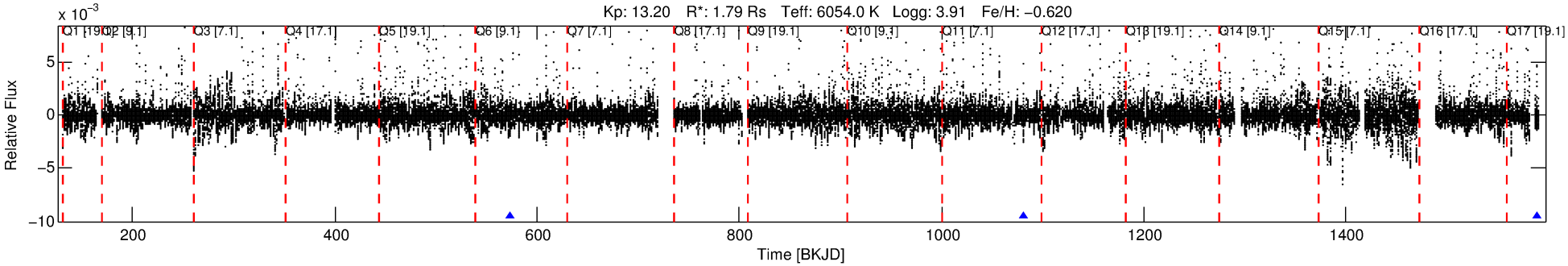
Ephemeris Match Information For 006535050-04

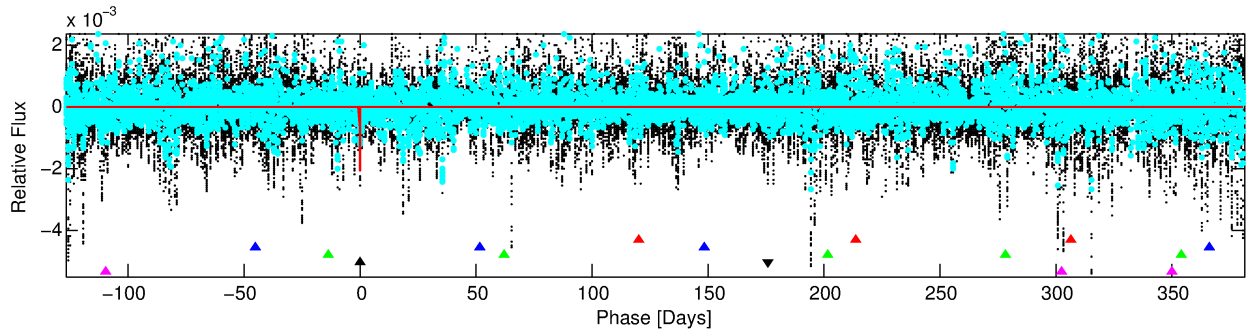
No Significant Match Found

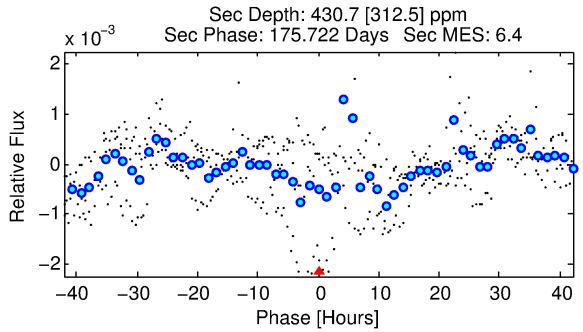
DV One-Page Summary

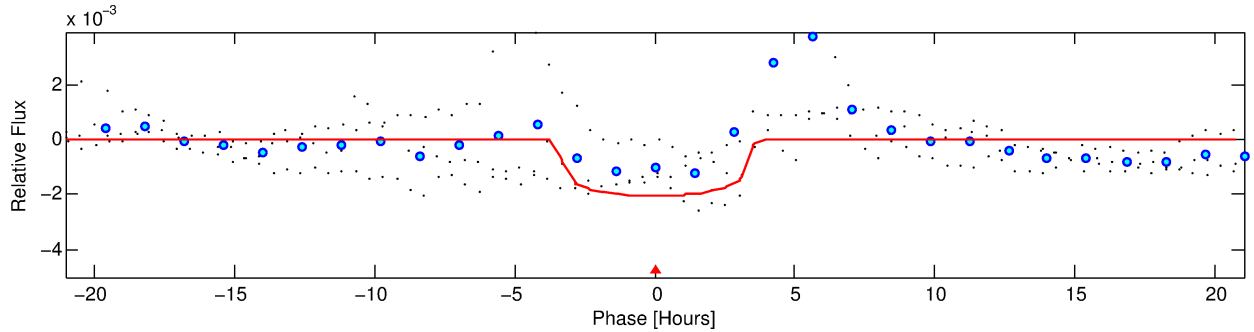
KIC: 6535050 Candidate: 4 of 5 Period: 507.486 d

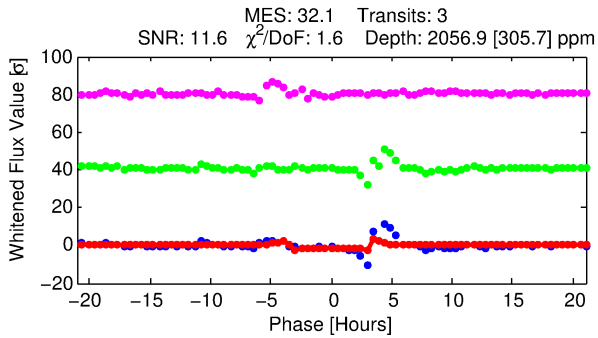
Kp: 13.20 R*: 1.79 Rs Teff: 6054.0 K Logg: 3.91 Fe/H: −0.620

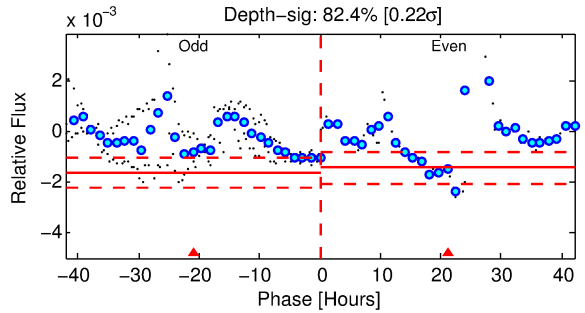


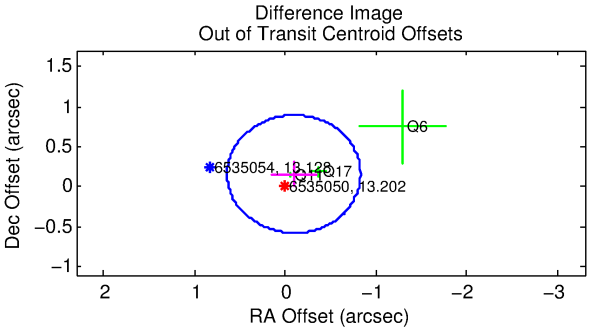












DV Fit Results:

Period = 507.48632 [0.00343] d
Epoch = 574.0201 [0.0046] BKJD
Rp/R* = 0.0416 [0.0141]
a/R* = 575.67 [902.97]
b = 0.00 [2536.35]

Seff = 2.57 [2.26]
Teq = 323 [71] K
Rp = 8.15 [4.93] Re
a = 1.2294 [0.6434] AU

Ag = 5392.93 [7132.11] [0.76σ]
Teffp = 4276 [1070] K [3.69σ]

DV Diagnostic Results:

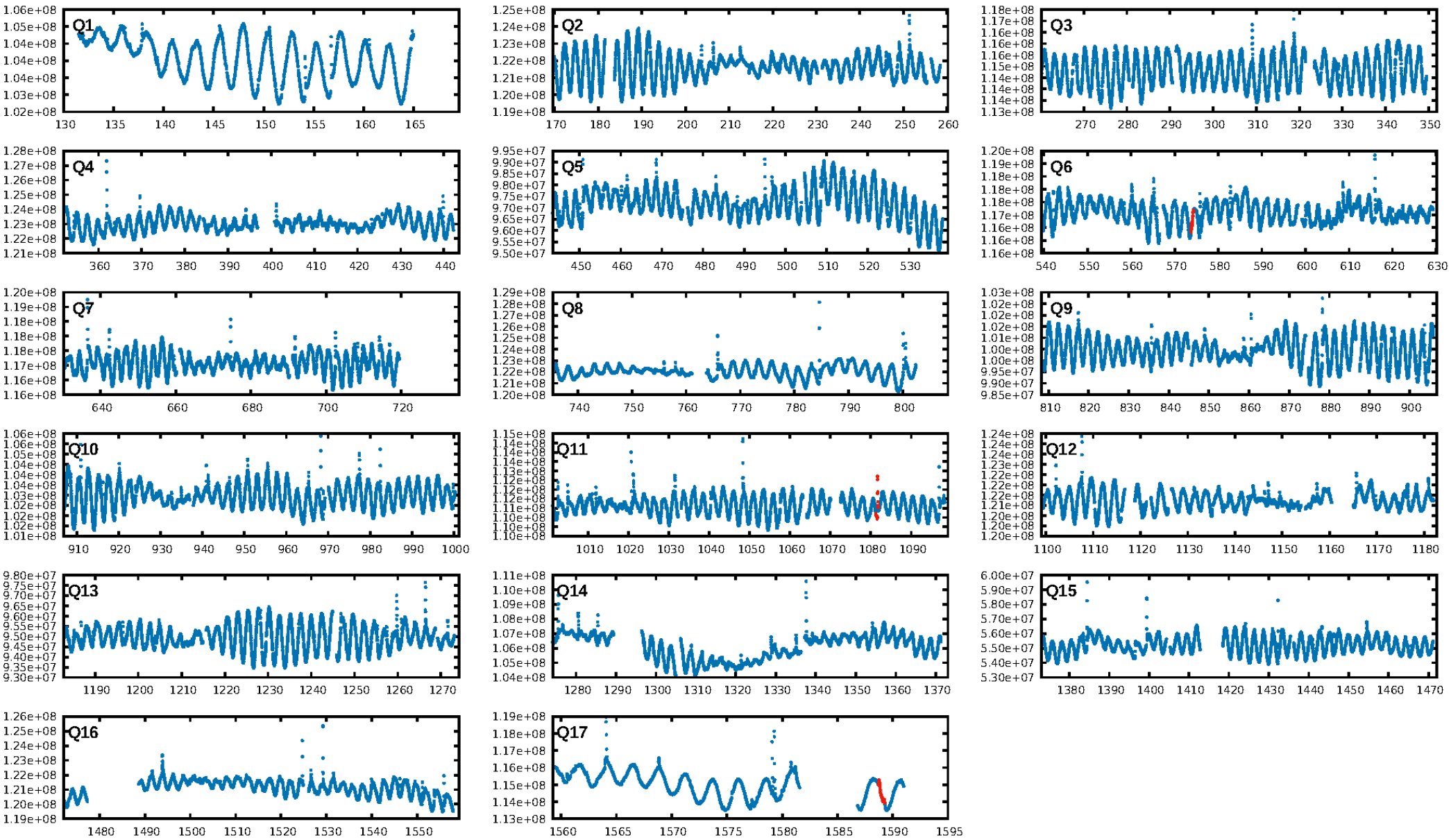
ShortPeriod−sig: 100.0% [134.10σ]
LongPeriod−sig: N/A
ModelChiSquare2−sig: 42.4%
ModelChiSquareGof−sig: 78.1%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [2/2]
GhostDiagnostic−chr: 9.175

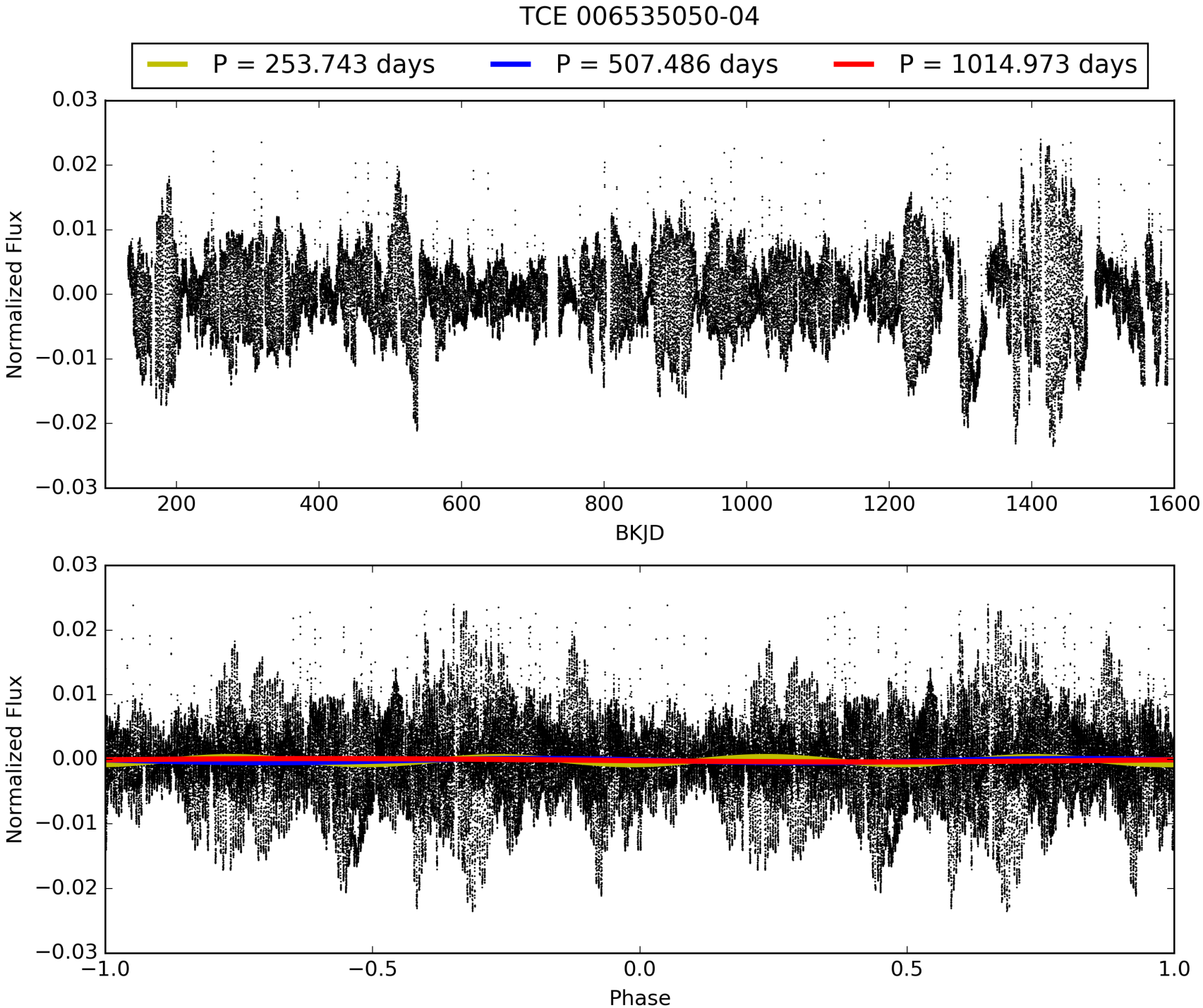
Centroid−sig: 0.0%
Centroid−so: 0.415 arcsec [2.06σ]
OotOffset−rm: 0.185 arcsec [0.75σ]
KicOffset−rm: 0.331 arcsec [2.01σ]
OotOffset−st: 1/1/0/1 [3]
KicOffset−st: 1/1/0/1 [3]
DiffImageQuality−fgm: 0.67 [2/3]
DiffImageOverlap−fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03−Feb−2016 08:40:26 Z

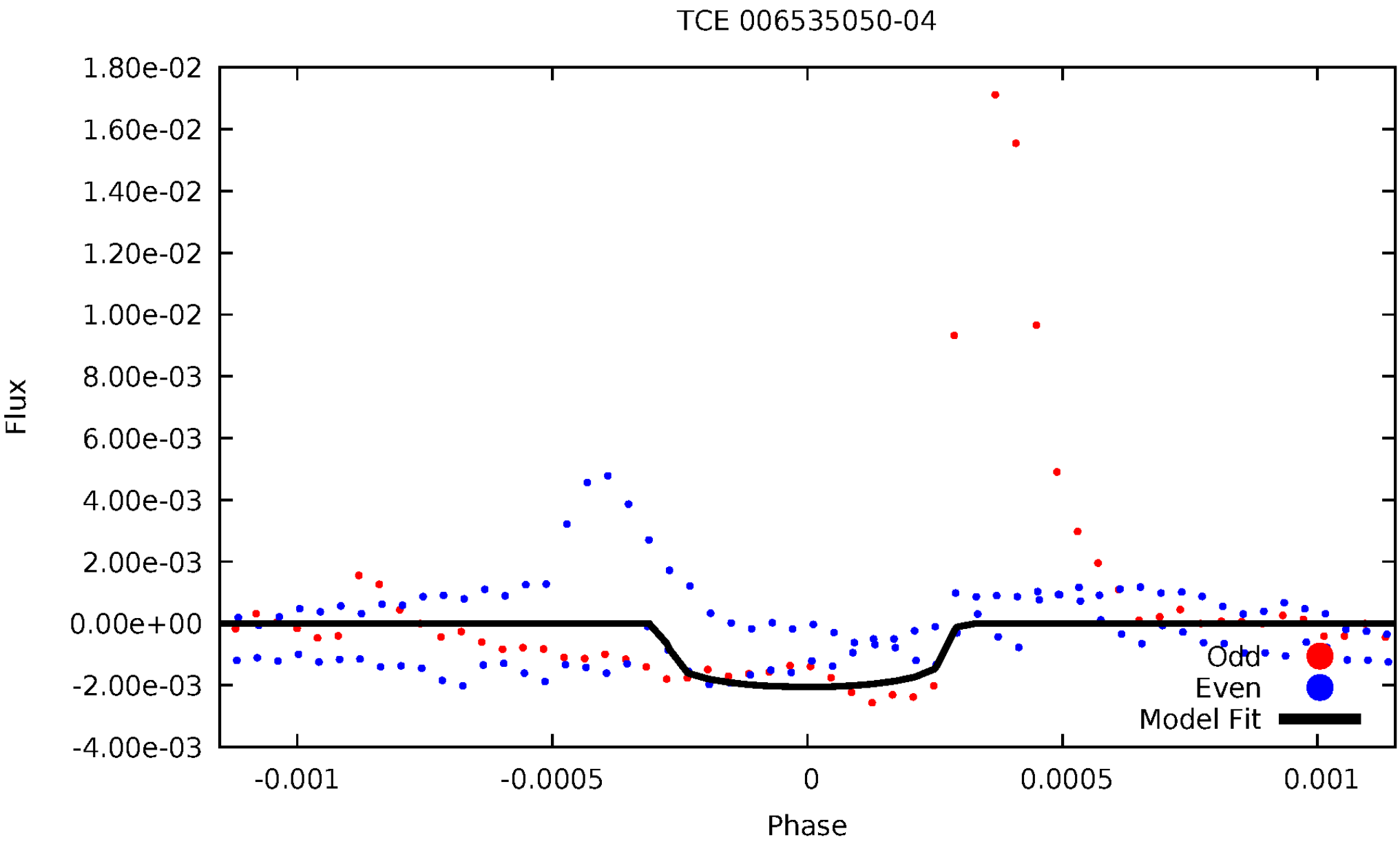
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006535050-04, PDC Light Curves




TCE 006535050-04
P = 253.743 days
P = 507.486 days
P = 1014.973 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even


TCE 006535050-04
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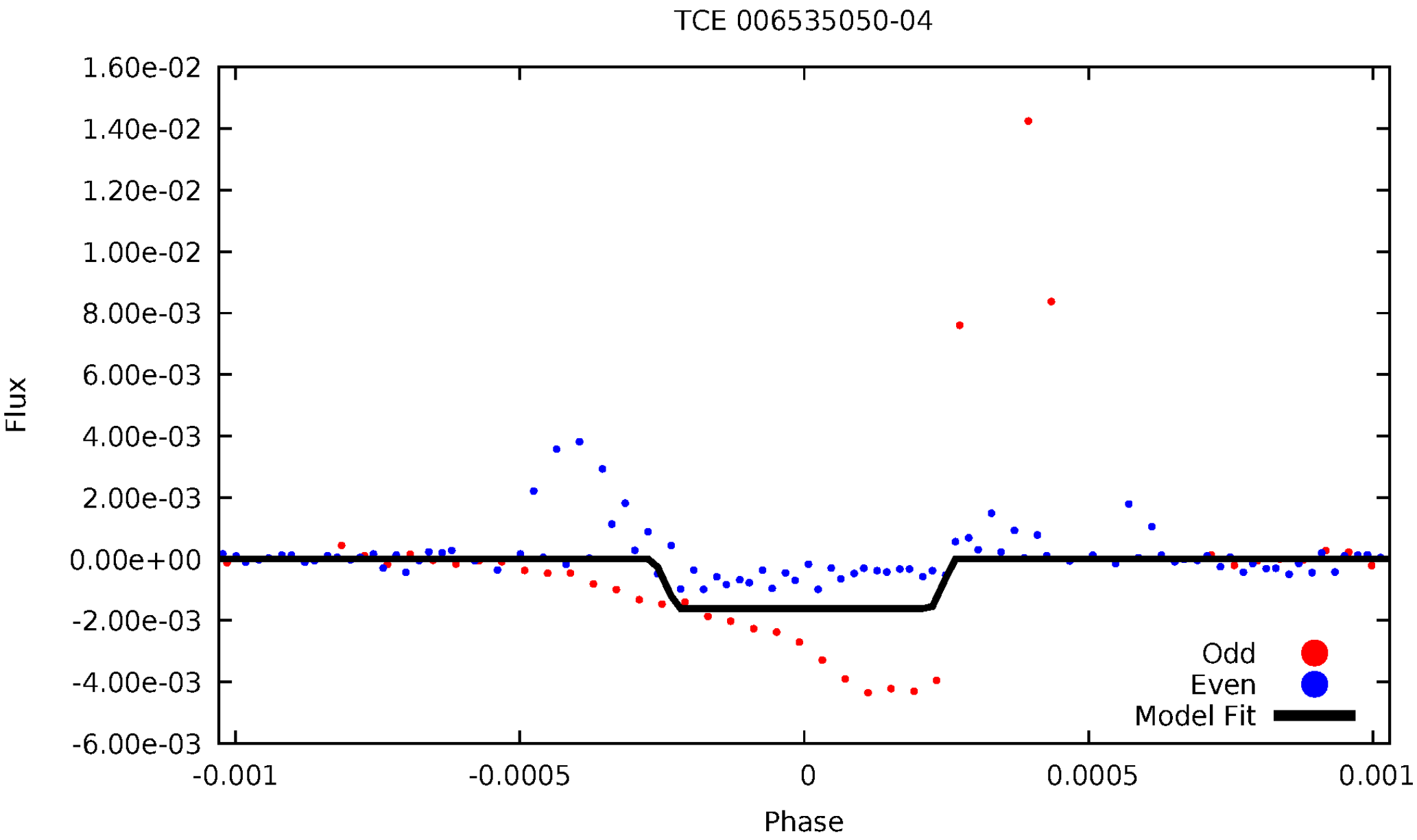
1.60e-02
1.40e-02
1.20e-02
1.00e-02
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
Flux
-0.001
-0.0005
0
0.0005
0.001
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006535050-04
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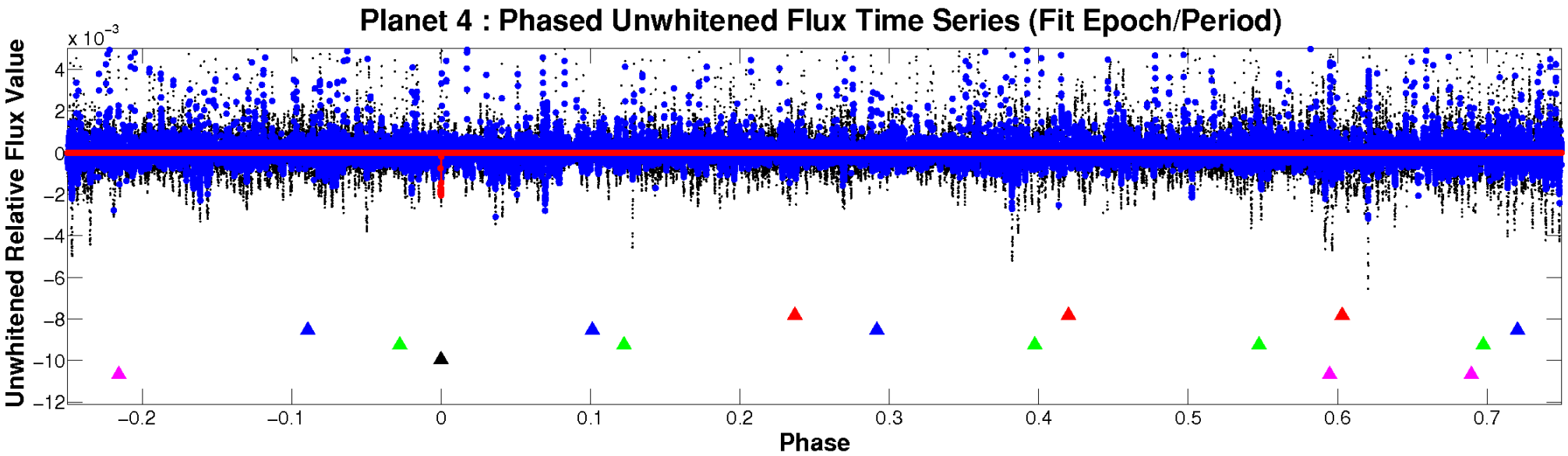
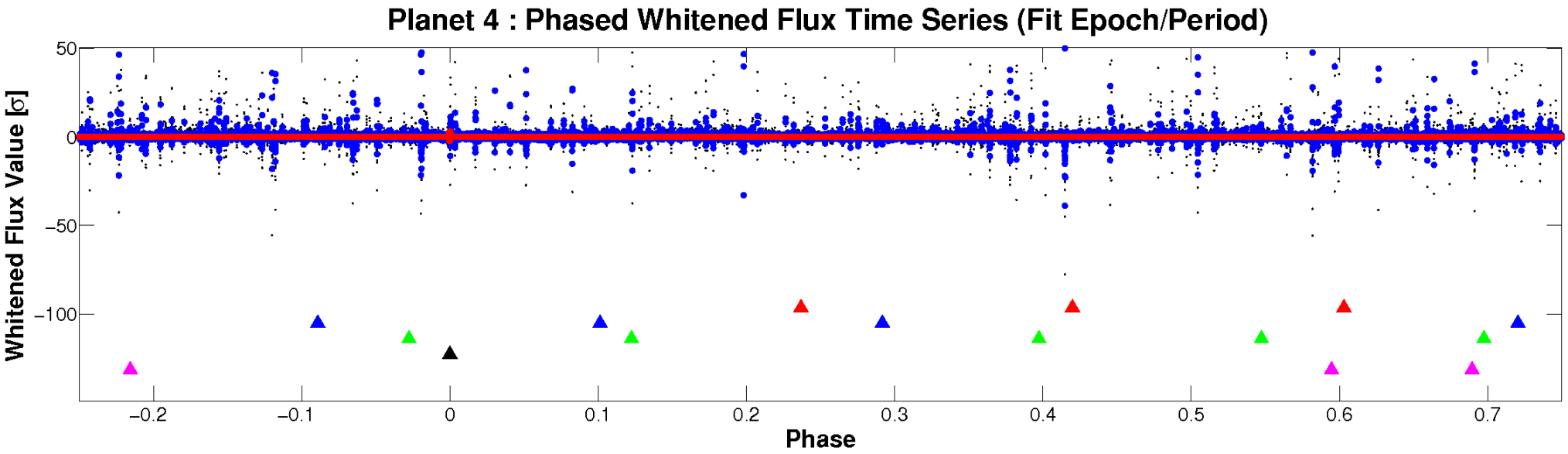
1.00e-02
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
Flux
-0.001
-0.0005
0
0.0005
0.001
Phase
Odd
Even
Model Fit

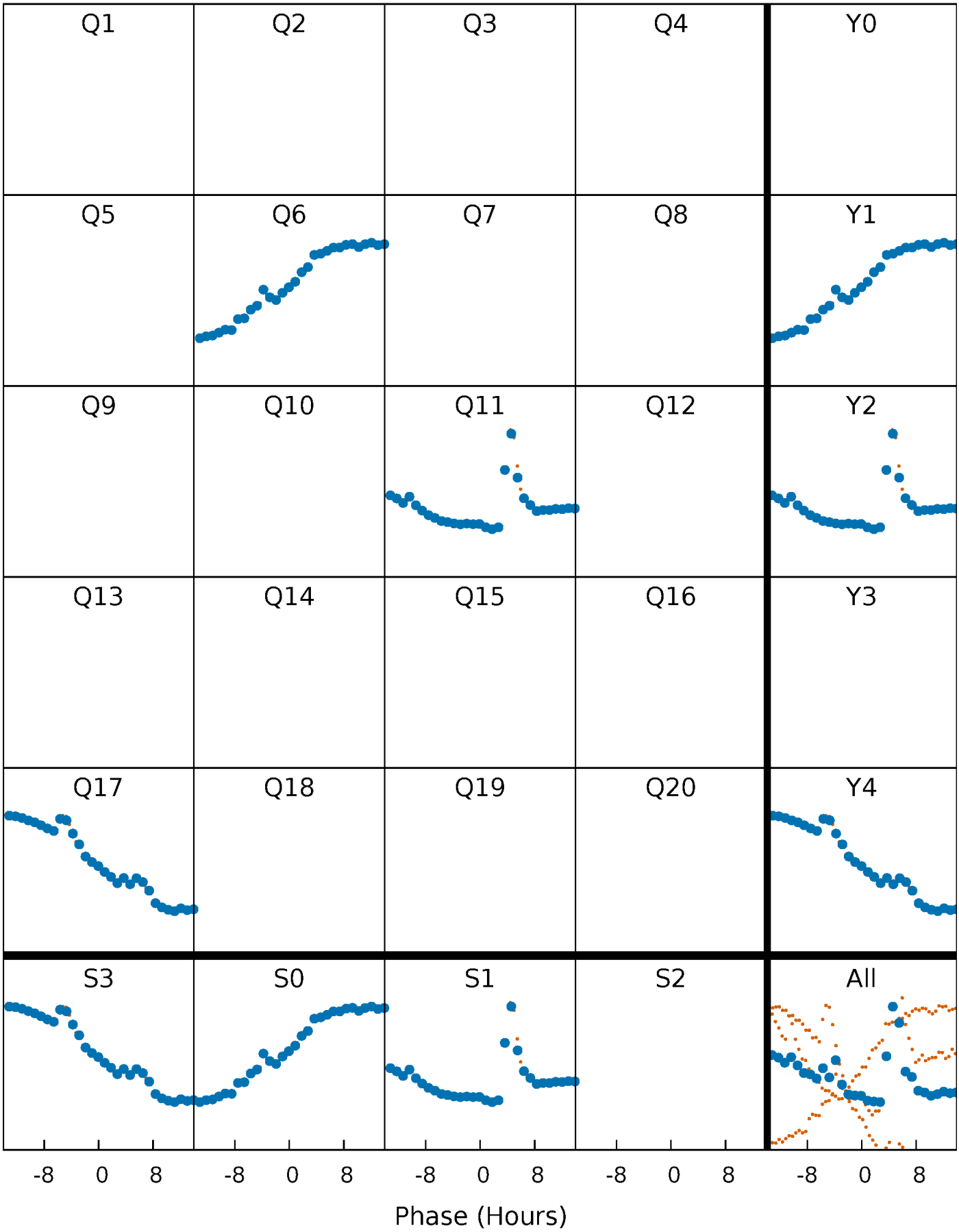
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 006535050-04 P=507.486319 Days T_0=574.020053 (BKJD)



DV Quarter-Phased Transit Curves

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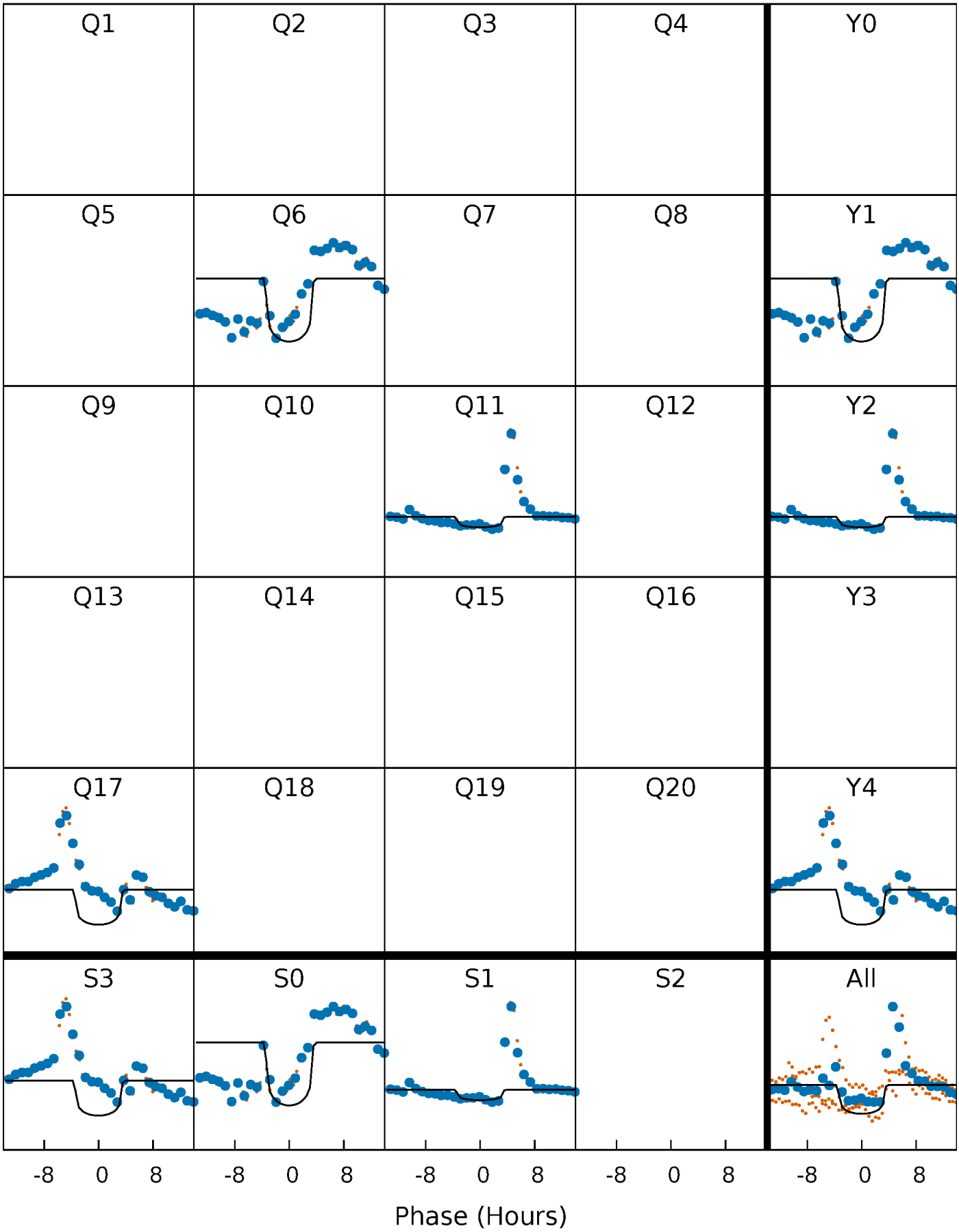
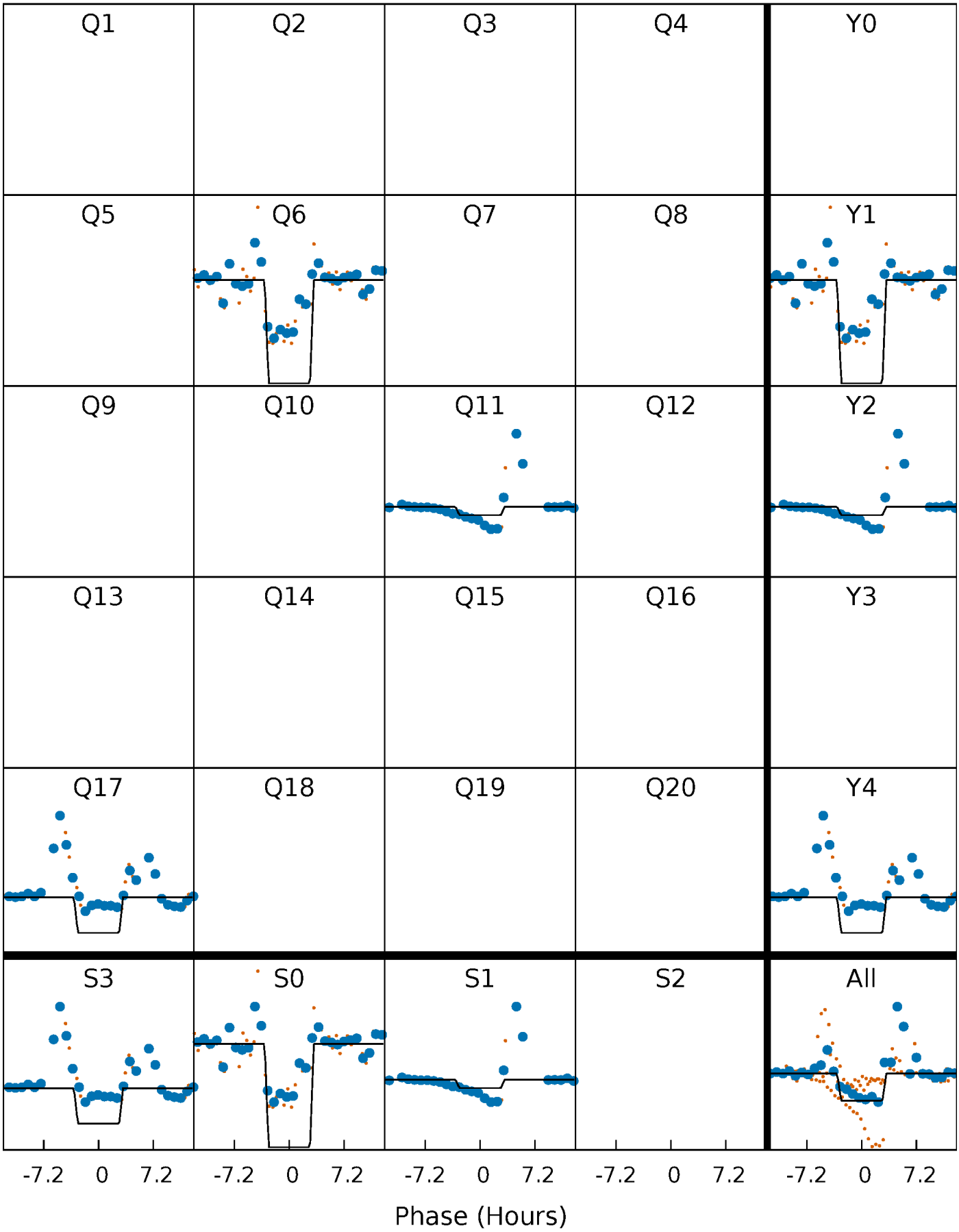


Alt. Detrend Quarter-Phased Transit Curves

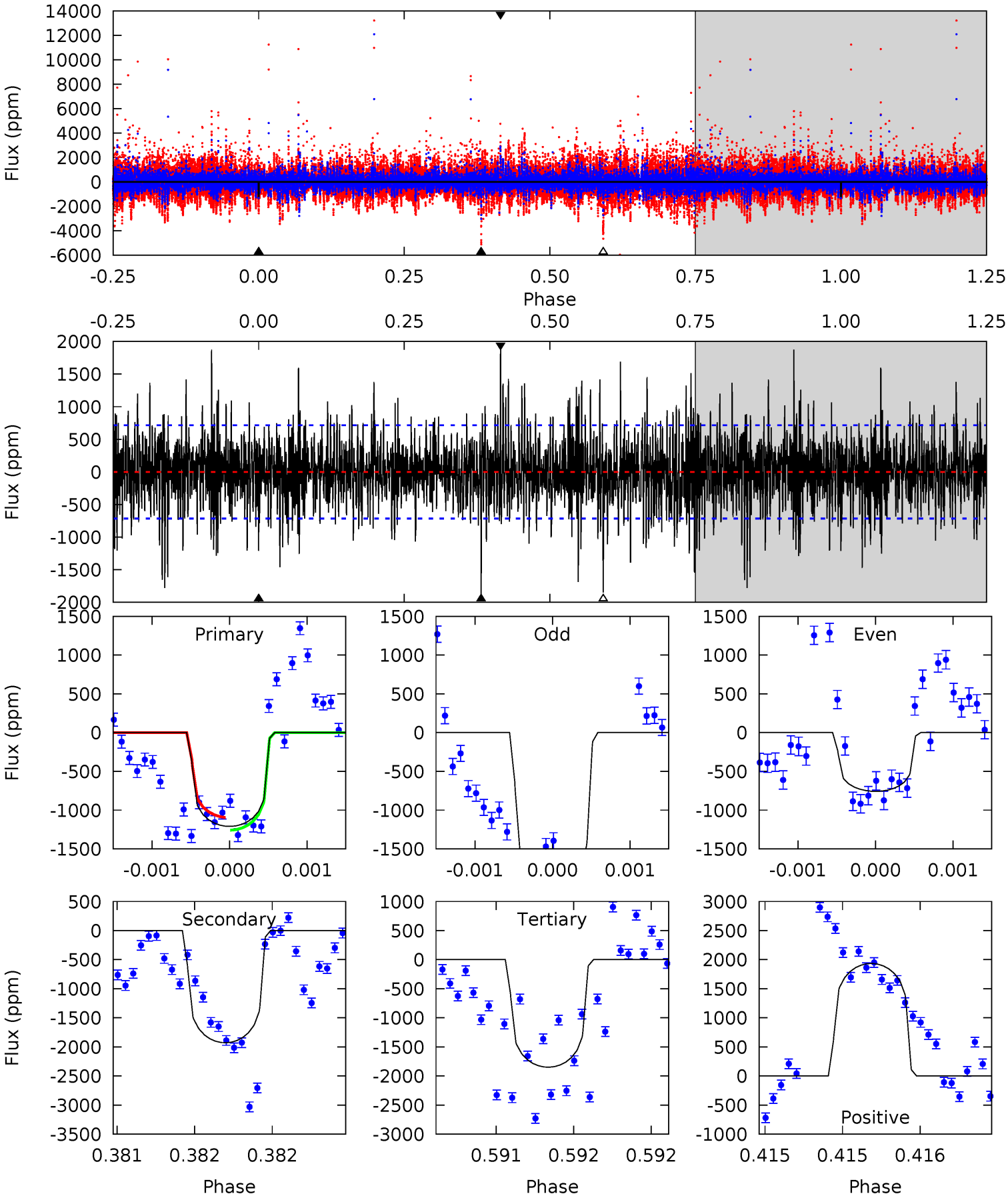
TCE 006535050-04 P=507.481085 Days T_0=574.032611 (BKJD)



DV Model-Shift Uniqueness Test

006535050-04, P = 507.486319 Days, E = 66.533734 Days

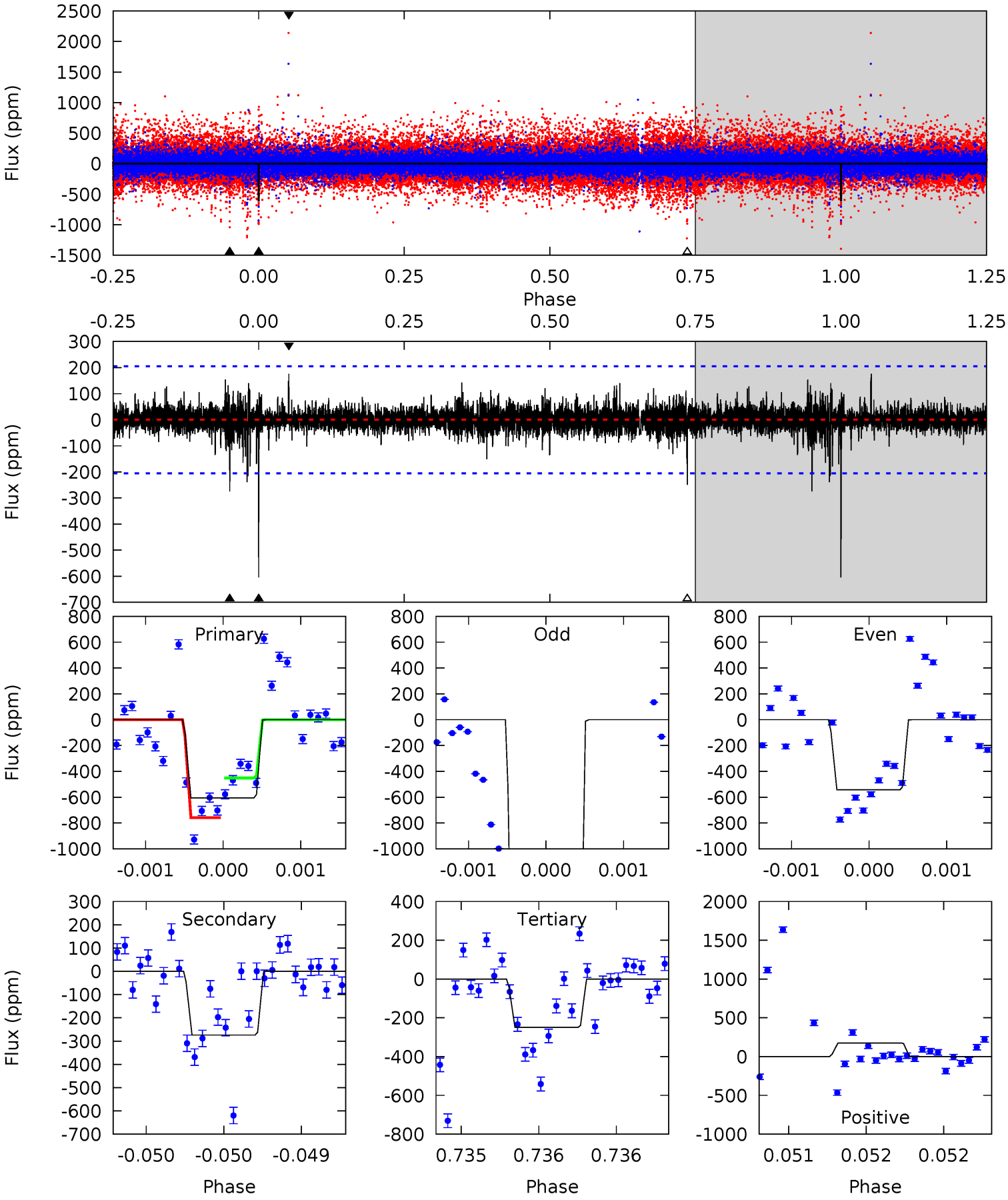
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.38	15.0	14.3	15.0	5.55	3.45	3.24	-4.96	-5.62	0.62	-0.05	3.58	0.89	0.50	0.63



Alt Model-Shift Uniqueness Test

006535050-04, P = 507.481085 Days, E = 66.551526 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	7.44	6.77	4.77	5.57	3.47	0.80	9.64	11.6	0.67	2.67	33.6	1.99	0.23	0



Stellar Parameters For KIC 006535050

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6054^{+181}_{-181}	$3.913^{+0.525}_{-0.175}$	$-0.620^{+0.300}_{-0.250}$	$1.795^{+0.484}_{-0.899}$	$0.963^{+0.121}_{-0.135}$	$0.234^{+1.349}_{-0.113}$
	+3%/-3%	+13%/-4%	+48%/-40%	+27%/-50%	+13%/-14%	+576%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006535050-04 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1928±129	$7.65^{+3.33}_{-3.05}$	443^{+40}_{-62}	6196^{+1560}_{-835}	27695^{+48085}_{-14434}
Alt.	-274±37	$7.16^{+3.18}_{-2.89}$	444^{+39}_{-61}	4196^{+747}_{-444}	4417^{+8048}_{-2356}

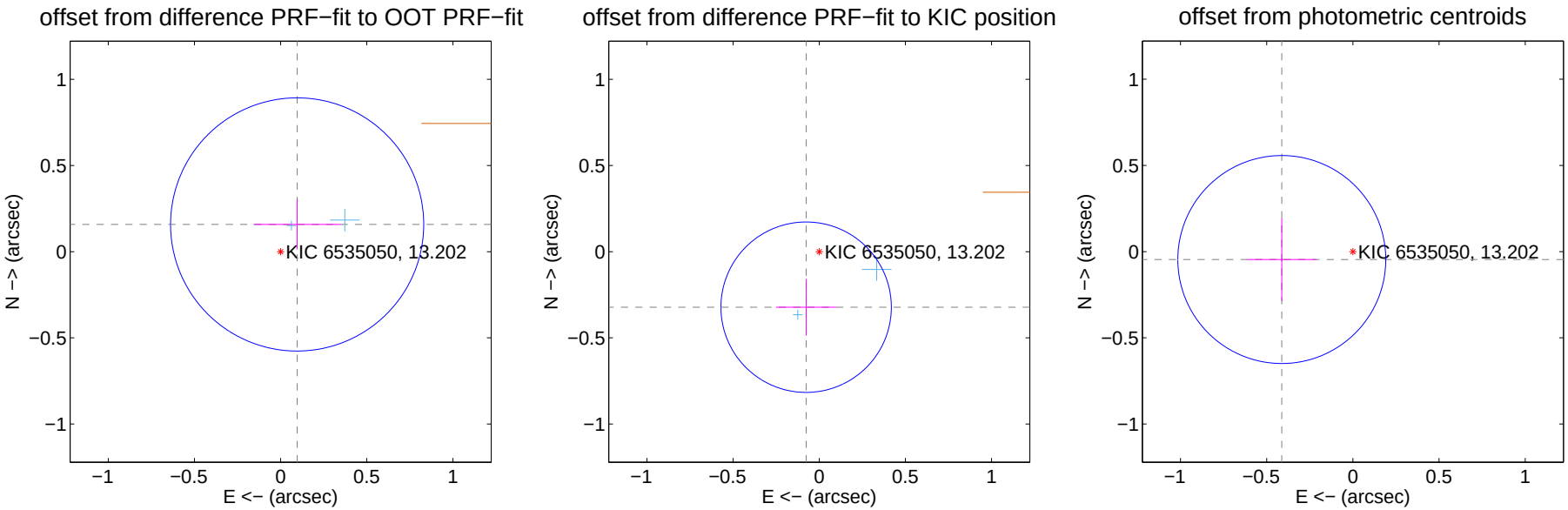
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

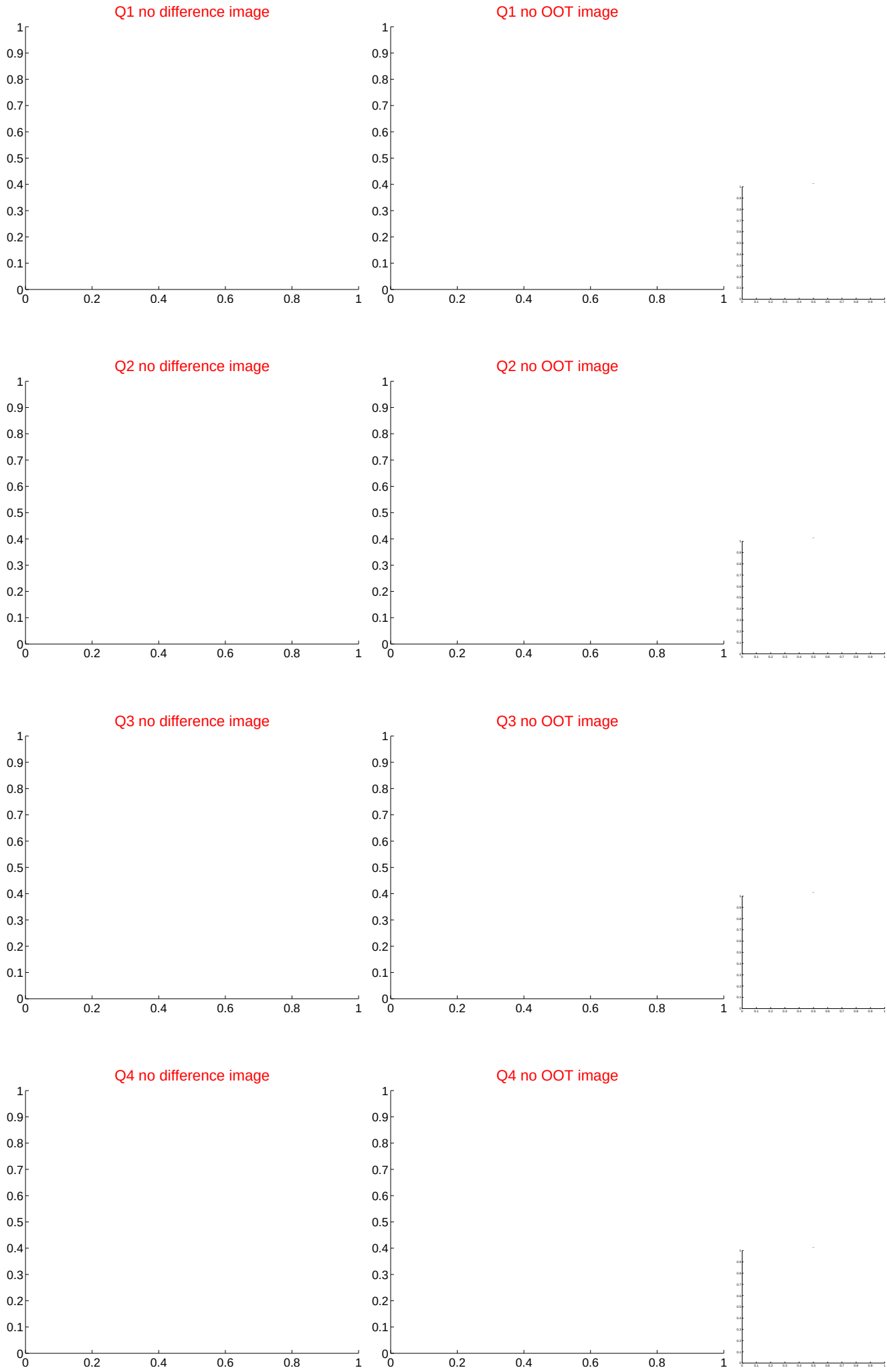
Supplemental centroid analysis for 006535050-04. Kepler magnitude: 13.20. Transit SNR 11.57
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.185 ± 0.245	0.75	-0.096 ± 0.253	0.158 ± 0.145
PRF-fit source offset from KIC position	0.331 ± 0.165	2.01	0.076 ± 0.174	-0.322 ± 0.164
photometric centroid source offset	0.41 ± 0.20	2.06	0.41 ± 0.20	-0.05 ± 0.24

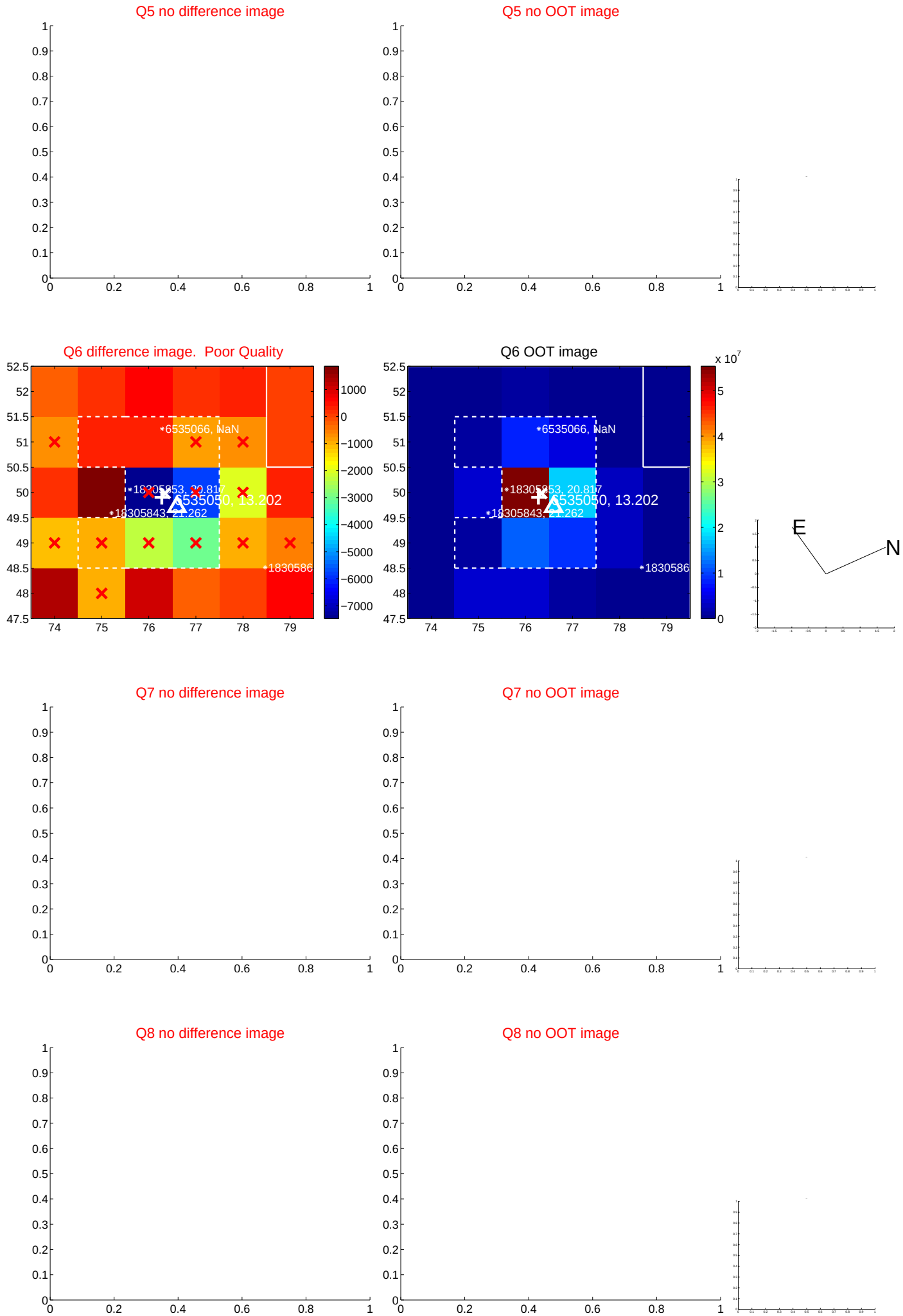


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs $> 15,000,000$ are from the UKIRT catalog.

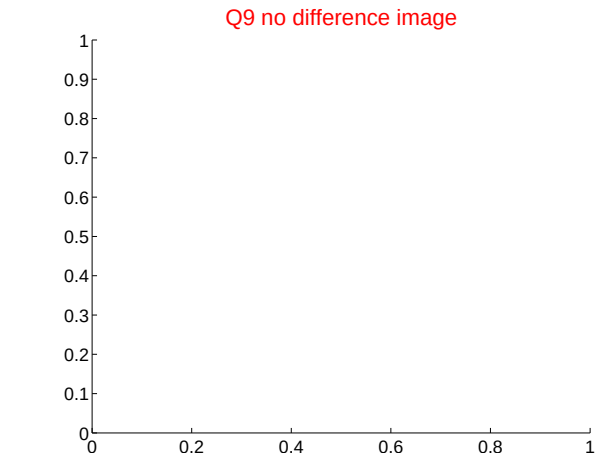
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

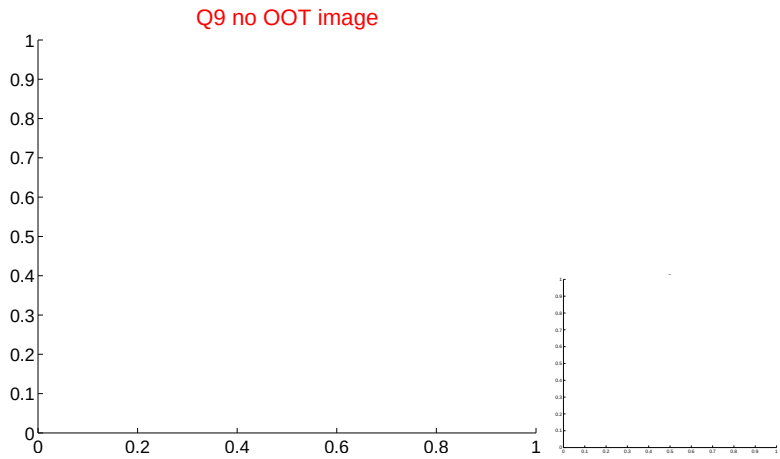


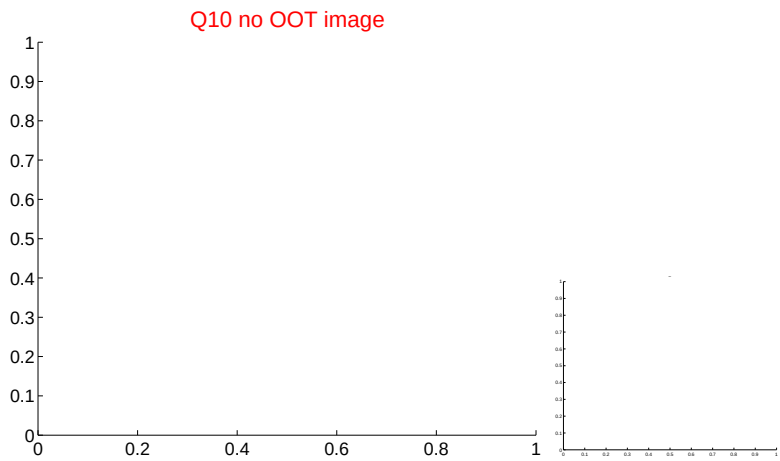
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

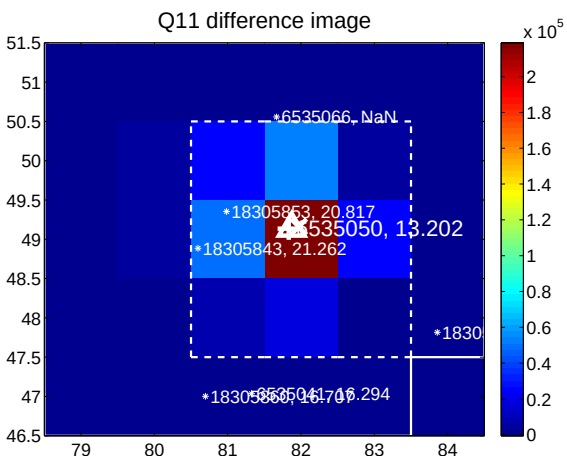


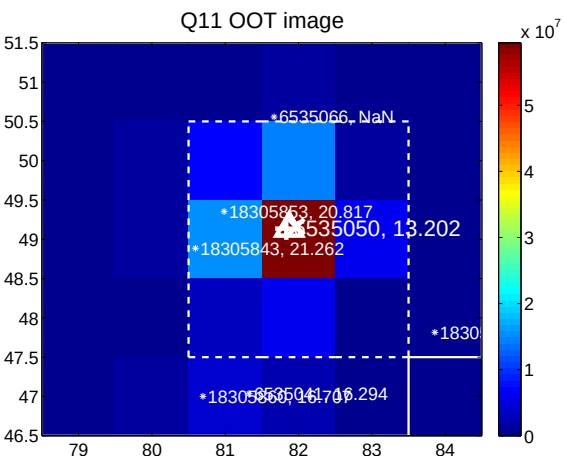
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

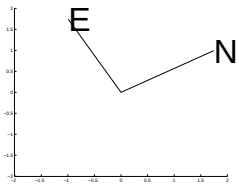


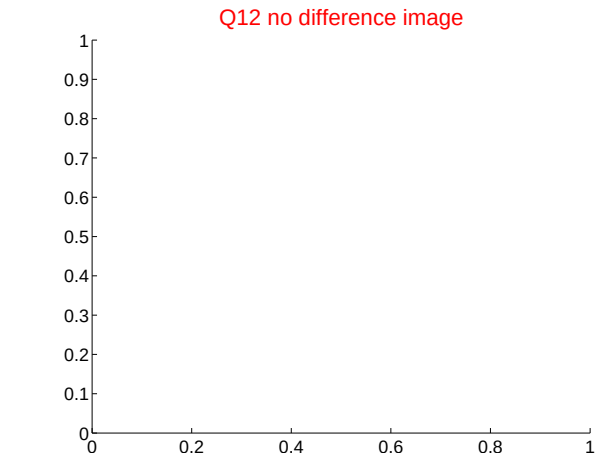


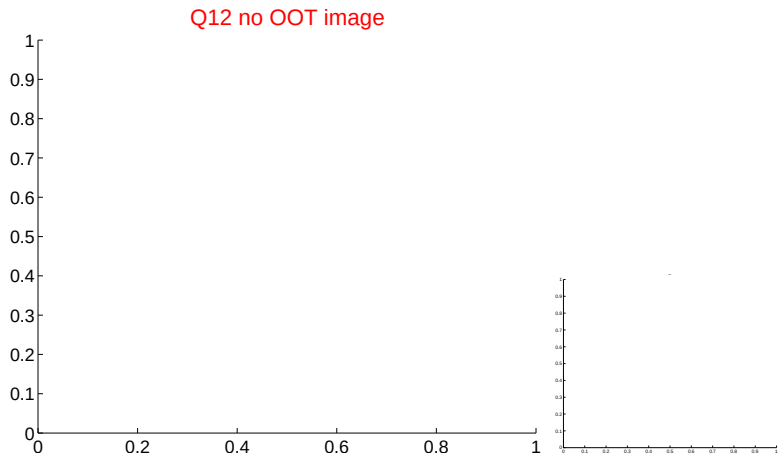




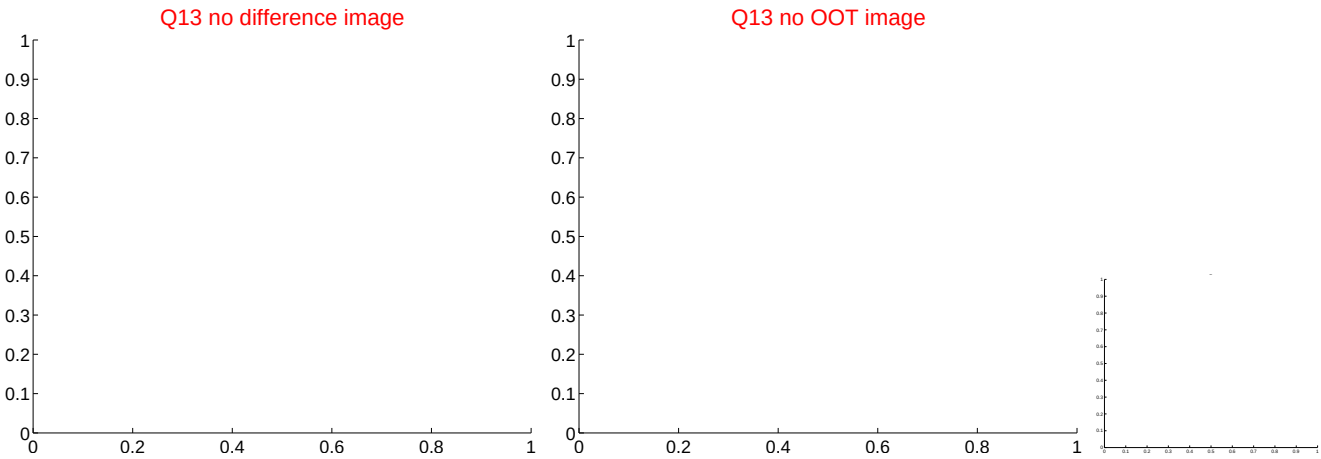


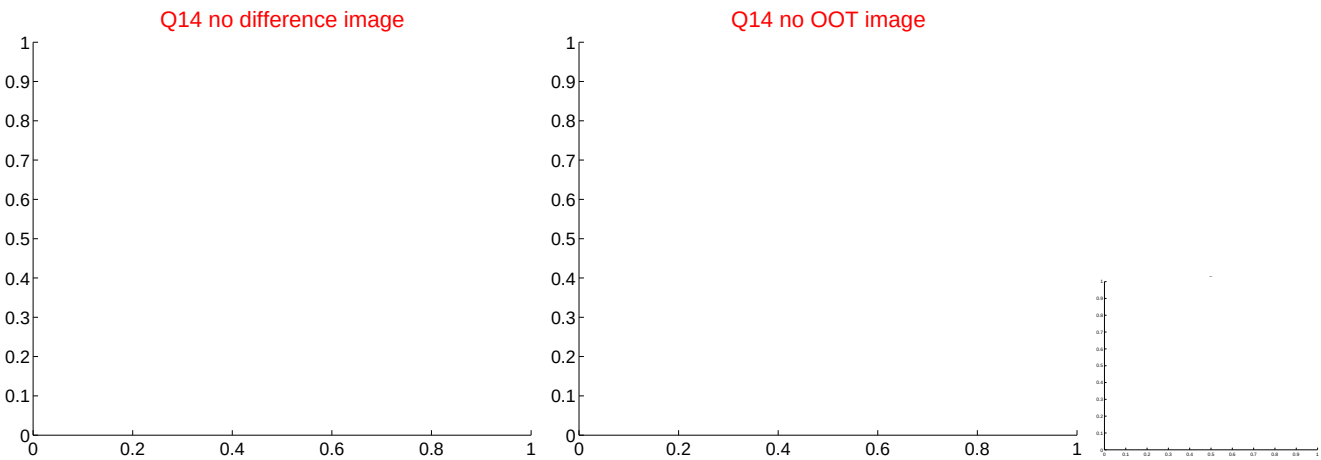


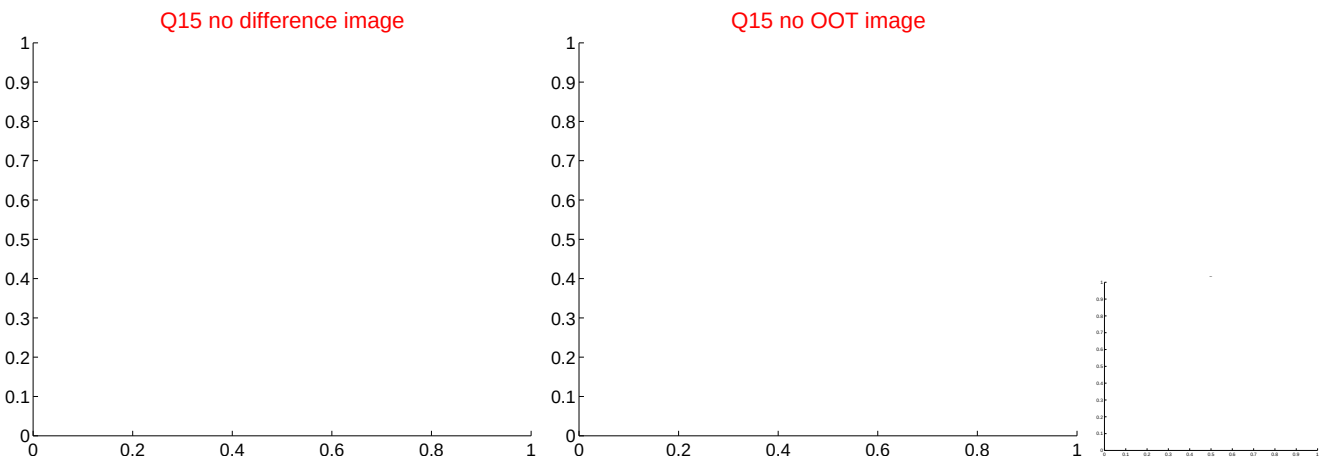


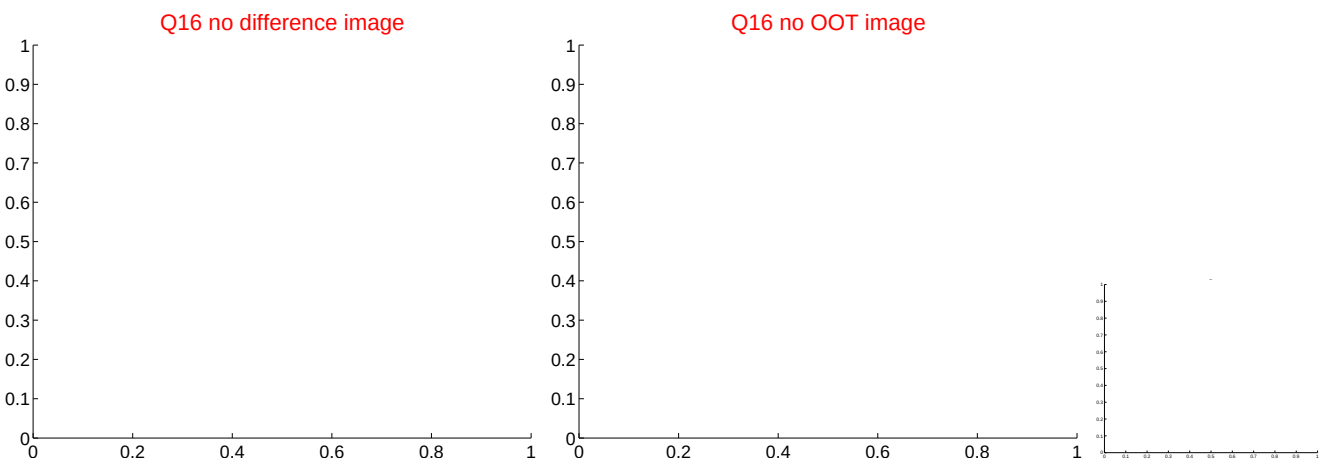


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

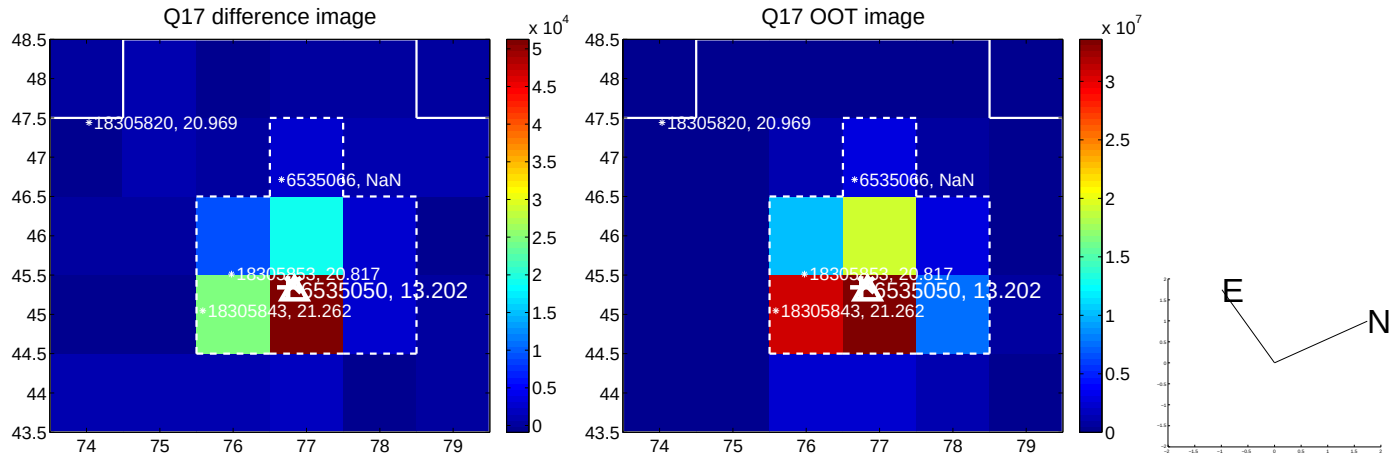


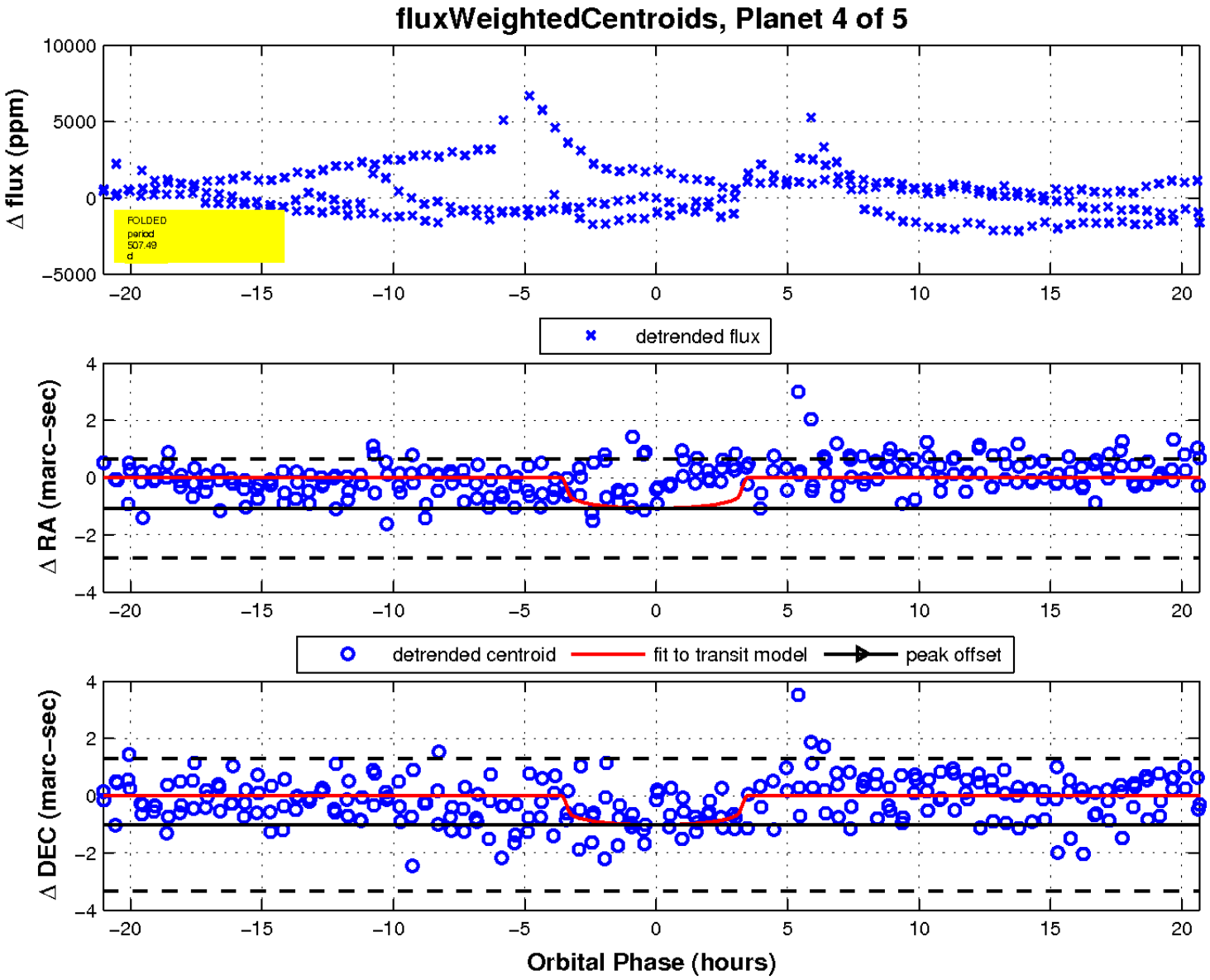




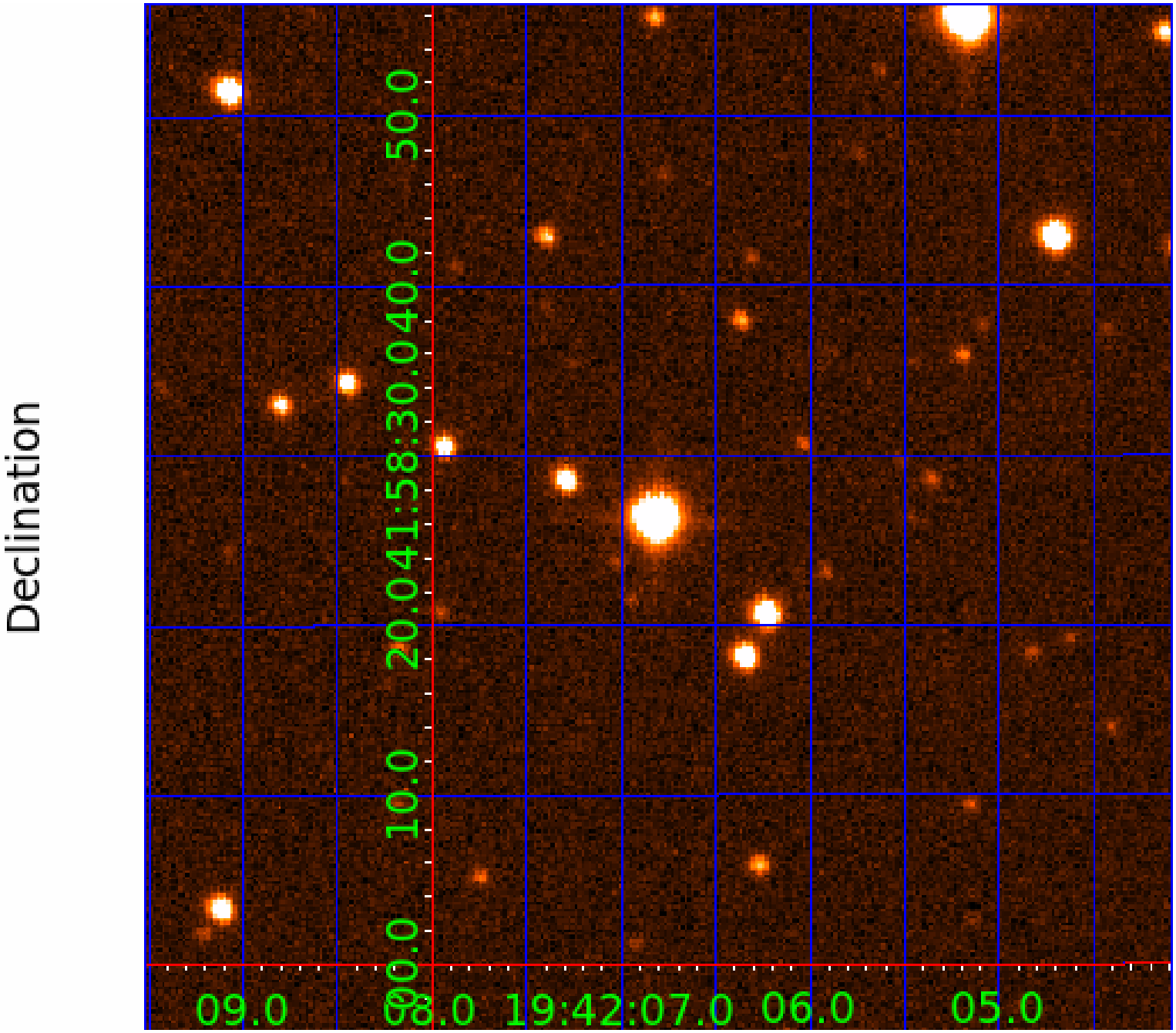


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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KIC 006535050

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_\star$ ($R_\odot$)	$T_\star$ (K)	R_p ($R_\oplus$)	S_p ($S_\oplus$)
006535050-01	OBS	No	414.555226	372.583997	1748.6	5.955	22.0	11.3	1.79	6054	7.51	3.36
006535050-02	OBS	No	410.850502	214.574800	1099.5	3.379	17.6	7.9	1.79	6054	6.17	3.40
006535050-03	OBS	No	291.826963	268.191724	1500.7	3.800	16.4	10.4	1.79	6054	7.10	5.37
006535050-04	OBS	No	507.486319	574.020053	2056.9	7.015	32.1	11.6	1.79	6054	8.15	2.57
006535050-05	OBS	No	459.353240	464.601861	431.2	5.000	14.5	-1.0	1.79	6054	3.73	2.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006535050-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006535050-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006535050-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—CENT_FEW_DIFFS
006535050-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006535050-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

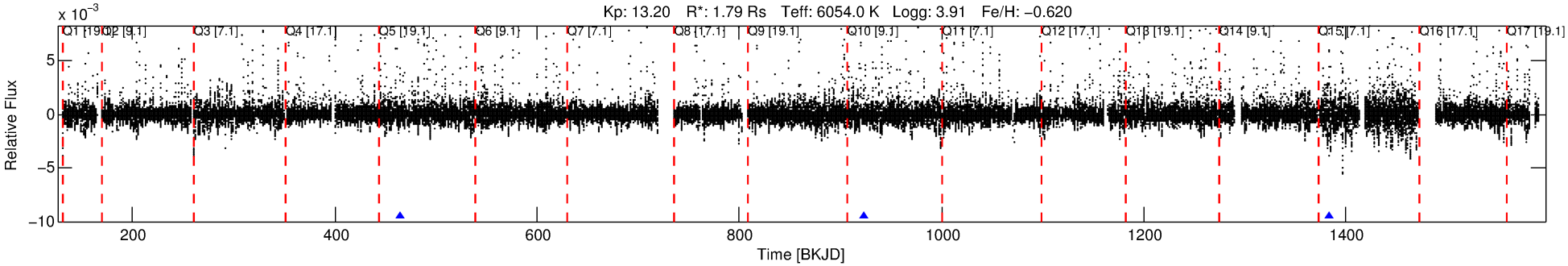
Ephemeris Match Information For 006535050-05

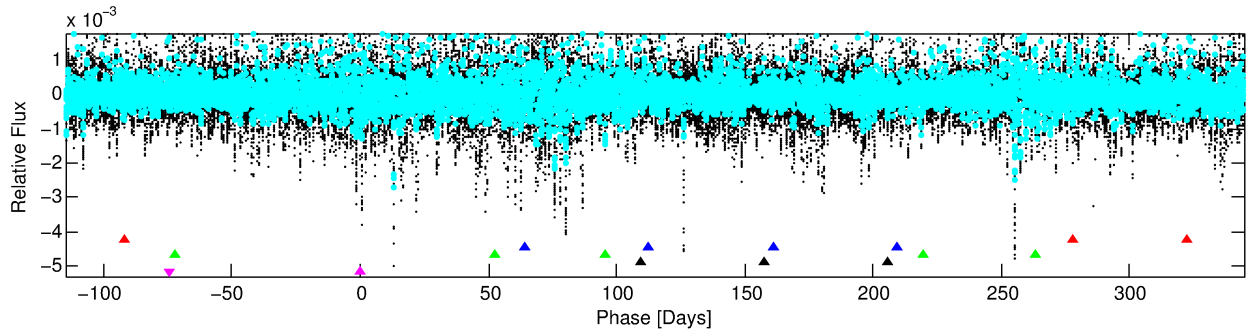
No Significant Match Found

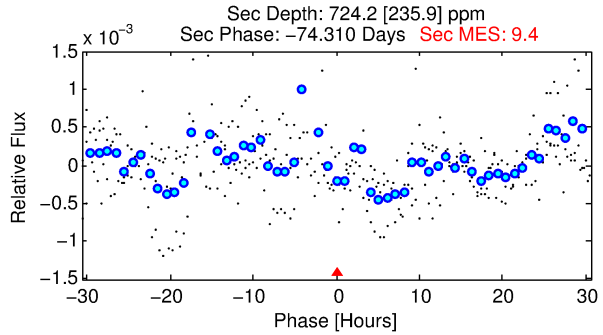
DV One-Page Summary

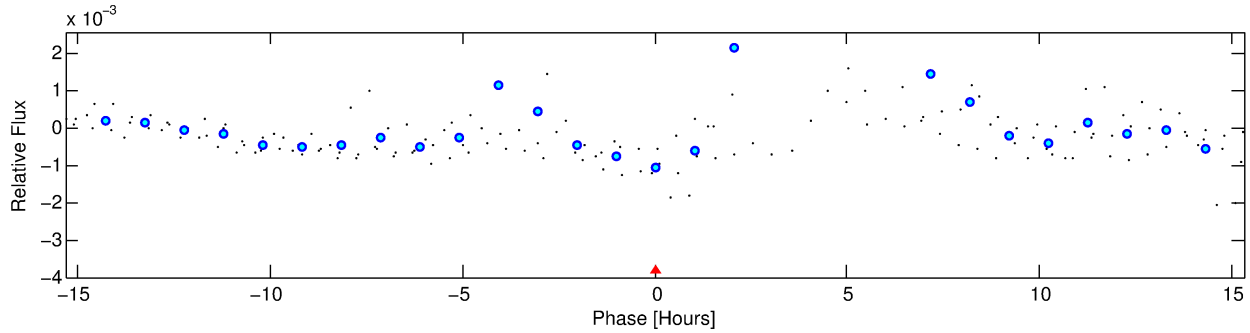
KIC: 6535050 Candidate: 5 of 5 Period: 459.353 d

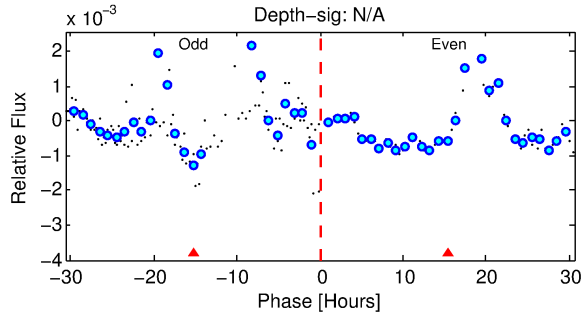
Kp: 13.20 R*: 1.79 Rs Teff: 6054.0 K Logg: 3.91 Fe/H: −0.620

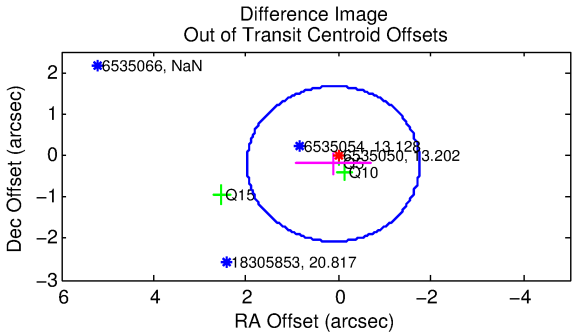












TPS TCE Results:

Period = 459.35324 d
Epoch = 464.6019 BKJD

DV fit results are unavailable

DV Diagnostic Results:

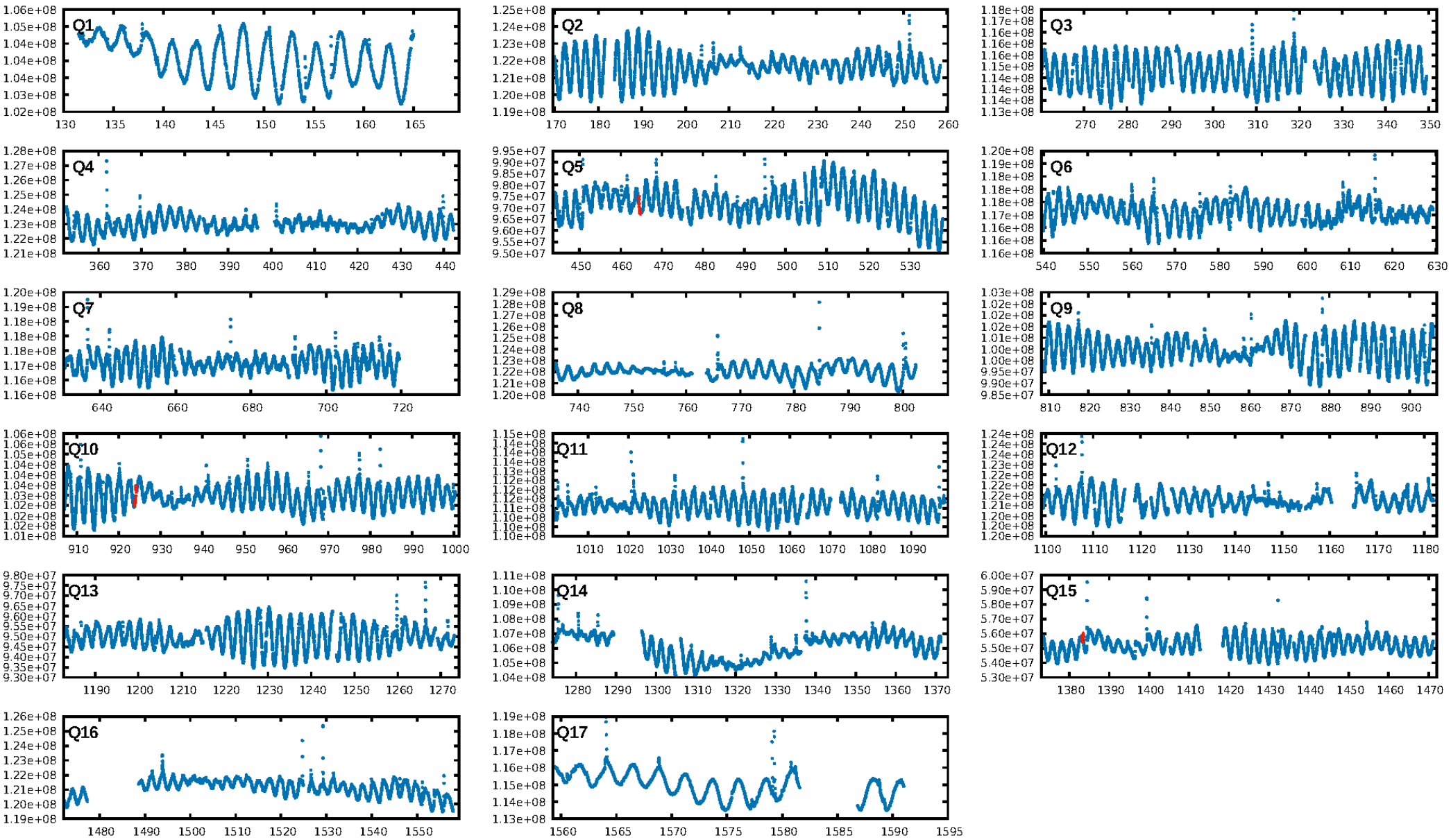
ShortPeriod−sig: 100.0% [138.27σ]
LongPeriod−sig: 100.0% [134.10σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [3/3]
GhostDiagnostic−chr: 0.8901

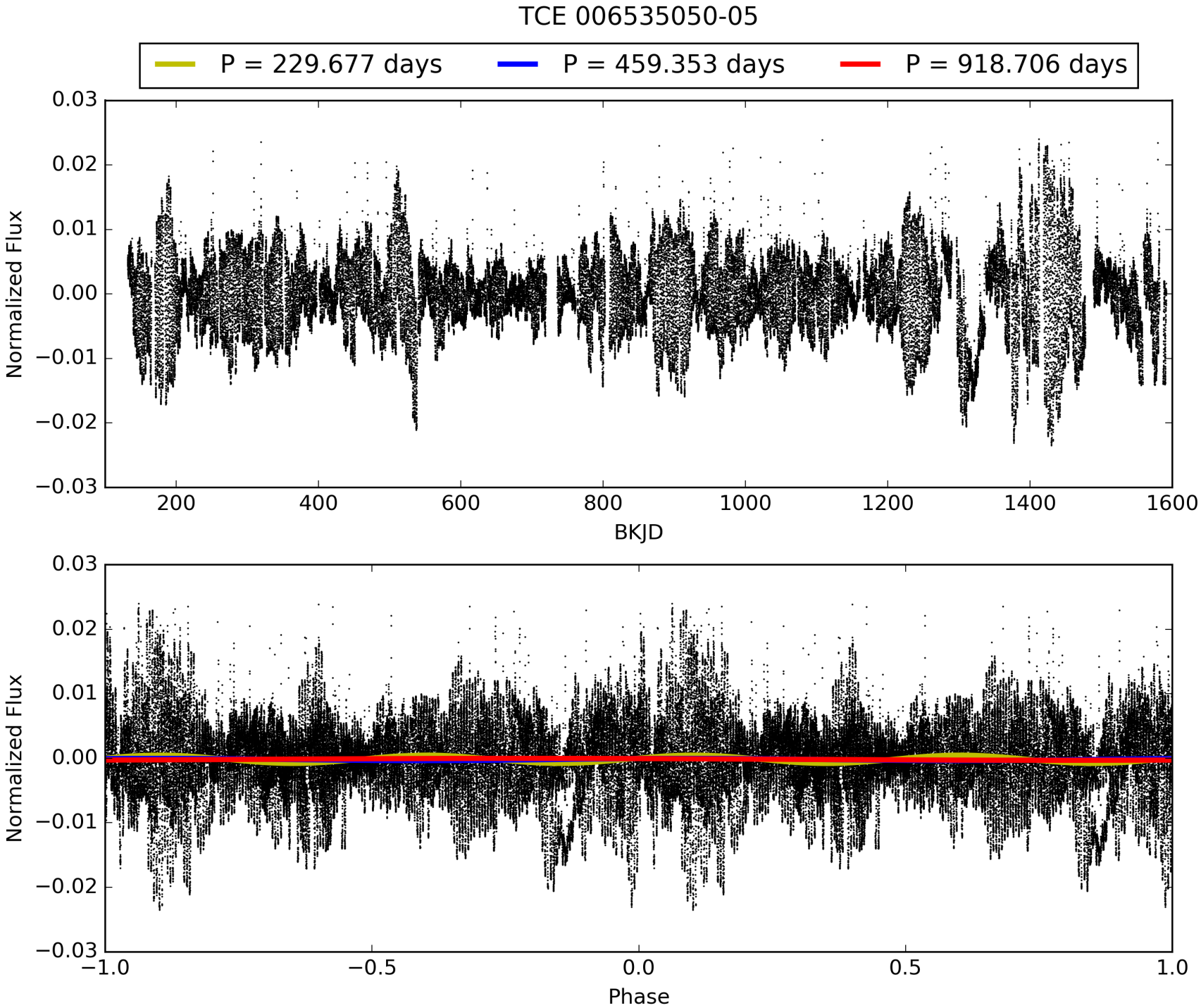
Centroid−sig: 33.2%
Centroid−so: 0.569 arcsec [3.50σ]
OotOffset−rm: 0.235 arcsec [0.38σ]
KicOffset−rm: 0.349 arcsec [0.54σ]
OotOffset−st: 1/1/0/1 [3]
KicOffset−st: 1/1/0/1 [3]
DiffImageQuality−fgm: 0.67 [2/3]
DiffImageOverlap−fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 03−Feb−2016 08:40:40 Z

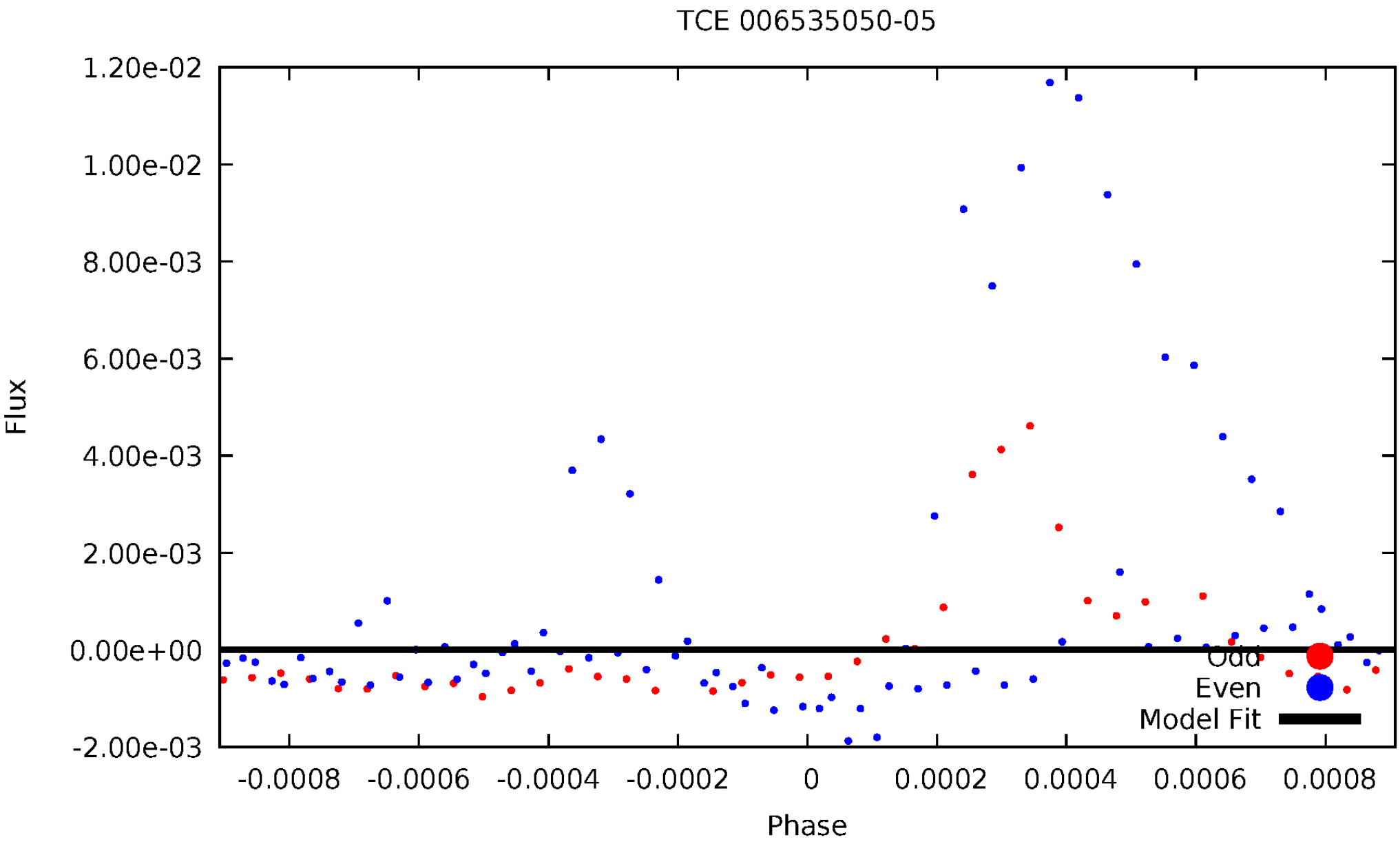
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006535050-05, PDC Light Curves




TCE 006535050-05
P = 229.677 days
P = 459.353 days
P = 918.706 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even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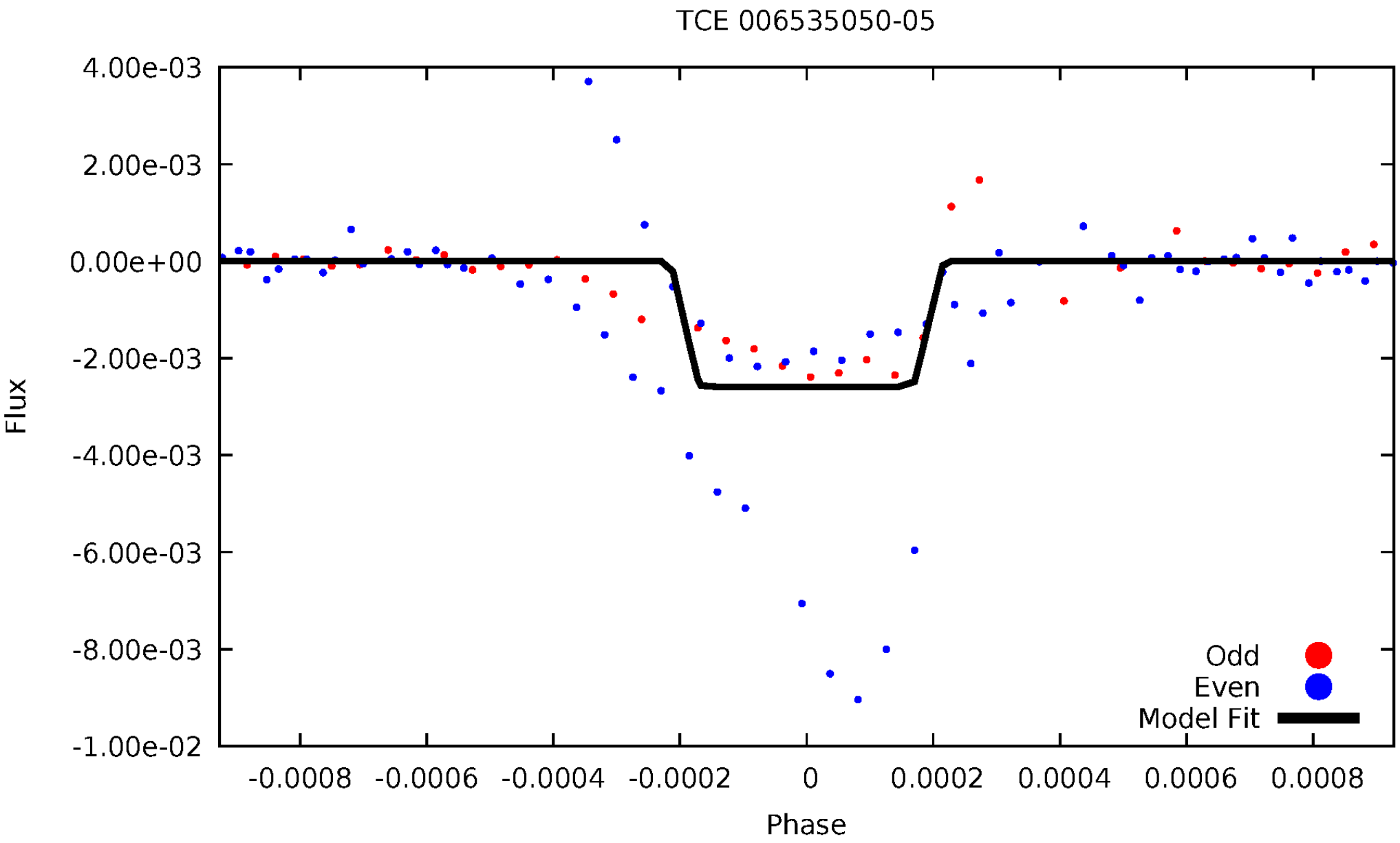
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
Flux
-0.0008
-0.0006
-0.0004
-0.0002
0
0.0002
0.0004
0.0006
0.0008
Phase
Odd
Even
Model Fit

ALT Odd/Even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-4.00e-03
-6.00e-03
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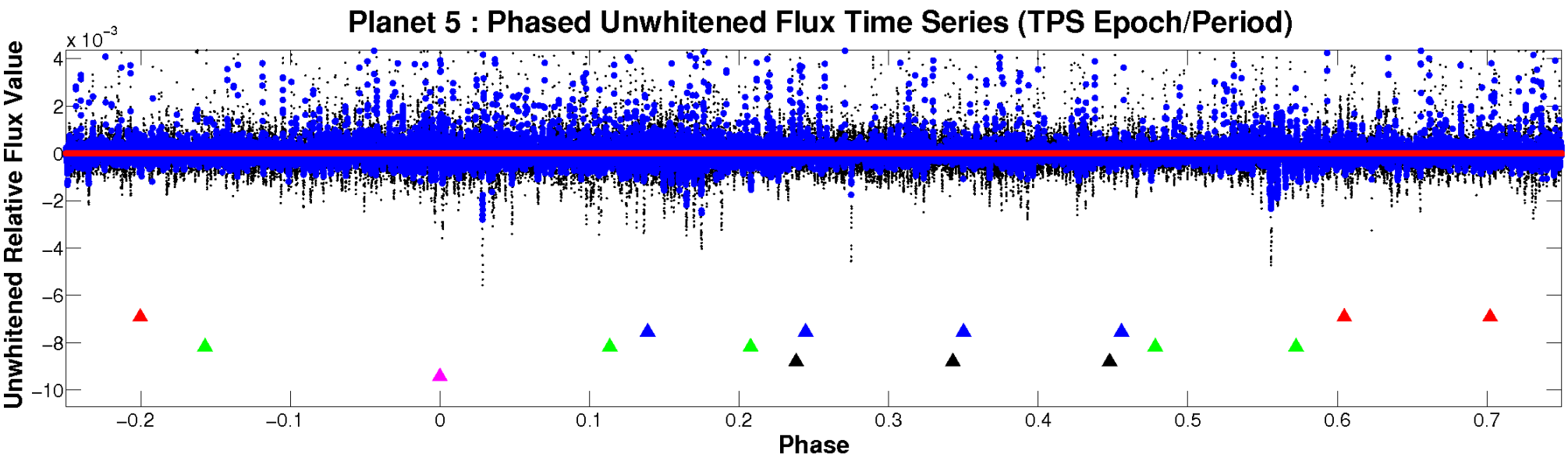
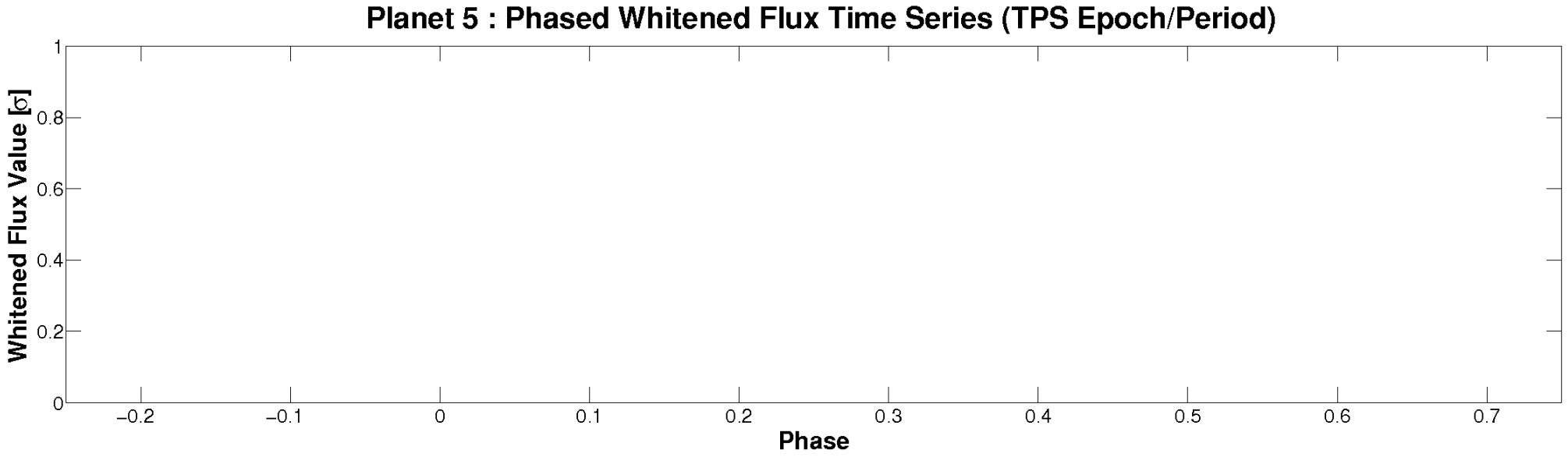
-1.00e-02
Flux
-0.0008
-0.0006
-0.0004
-0.0002
0
0.0002
0.0004
0.0006
0.0008
Phase
Odd
Even
Model Fit

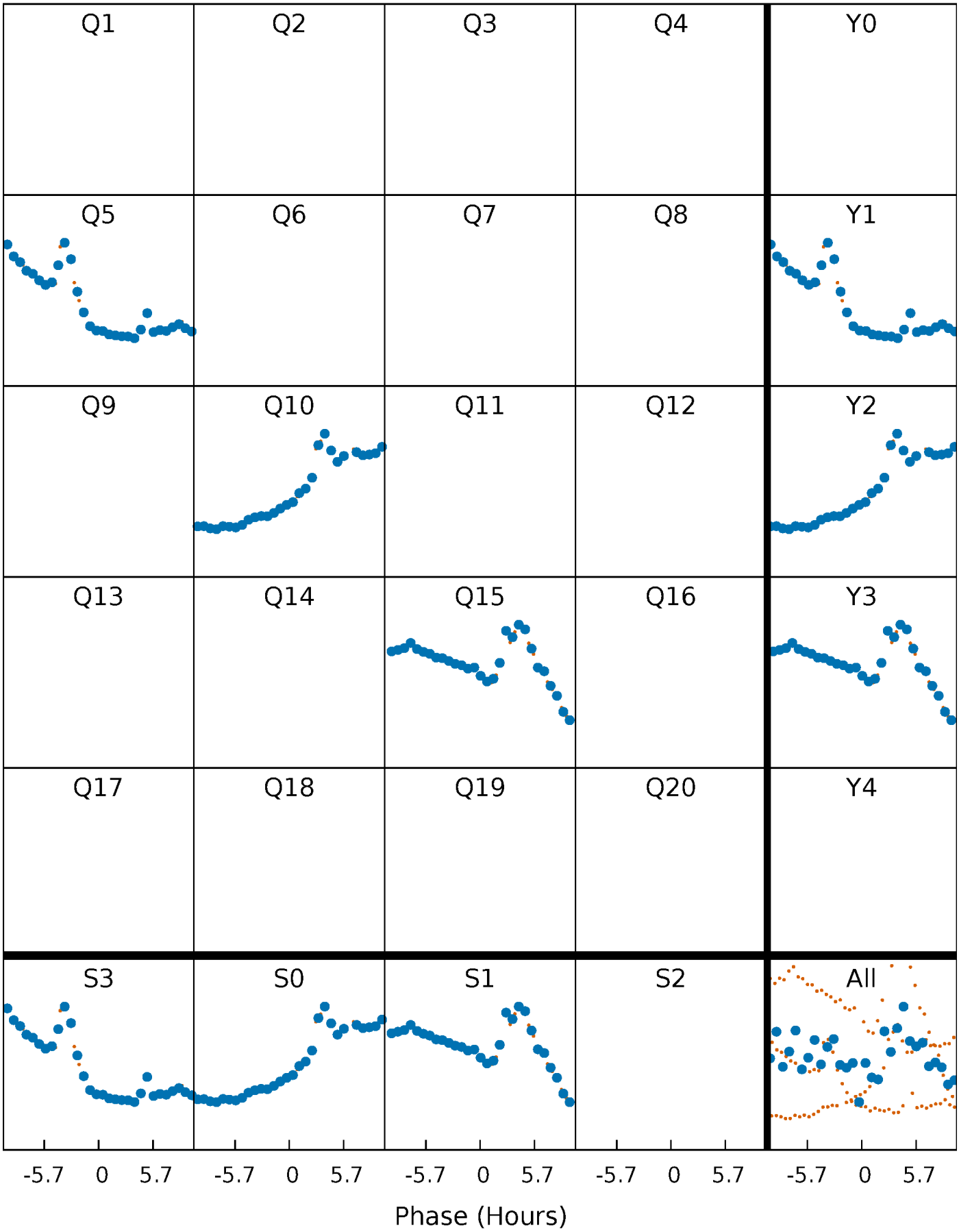
Non-Whitened Vs. Whitened Light Curve





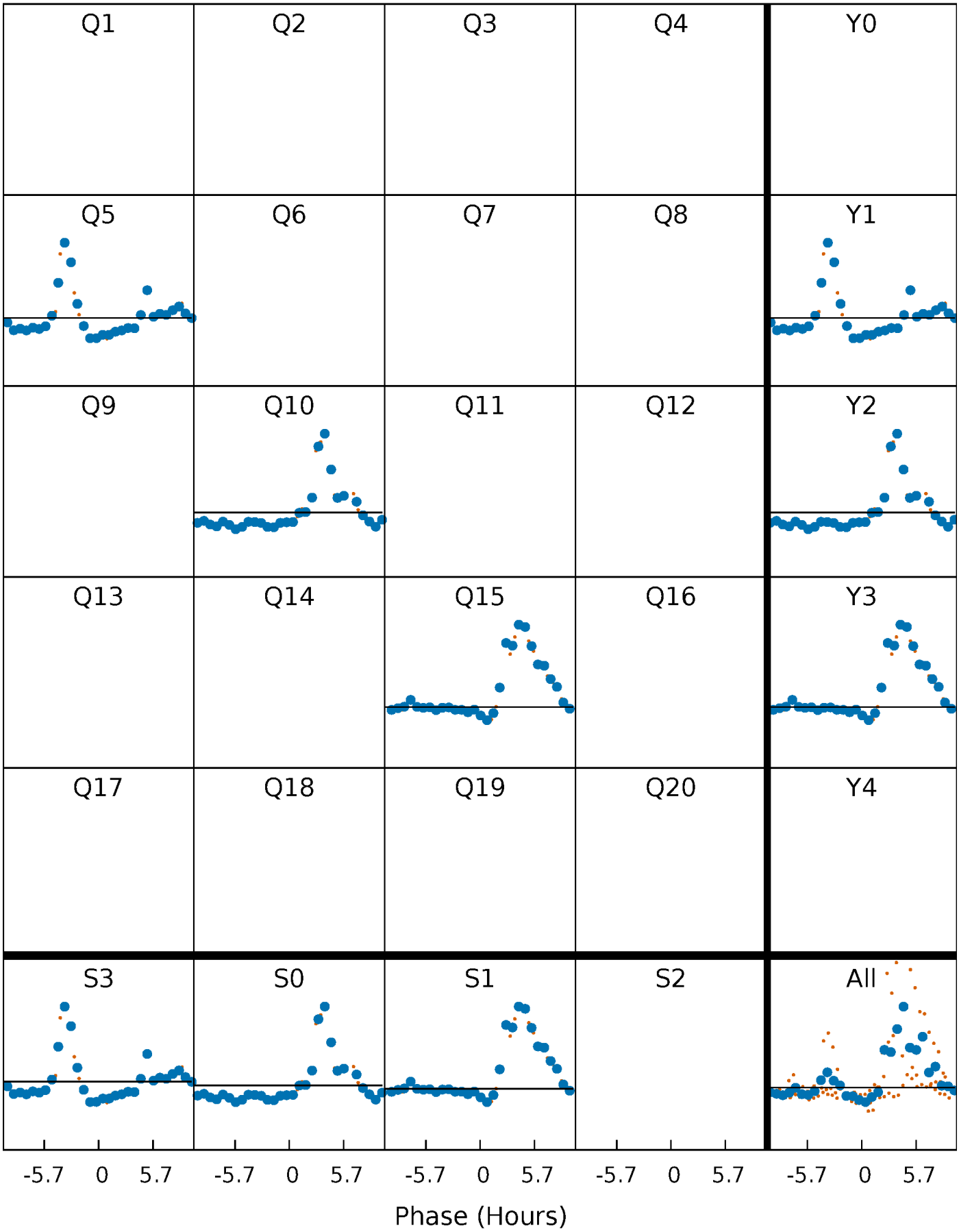
PDC Quarter-Phased Transit Curves

TCE 006535050-05 P=459.353240 Days T_0=464.601861 (BKJD)



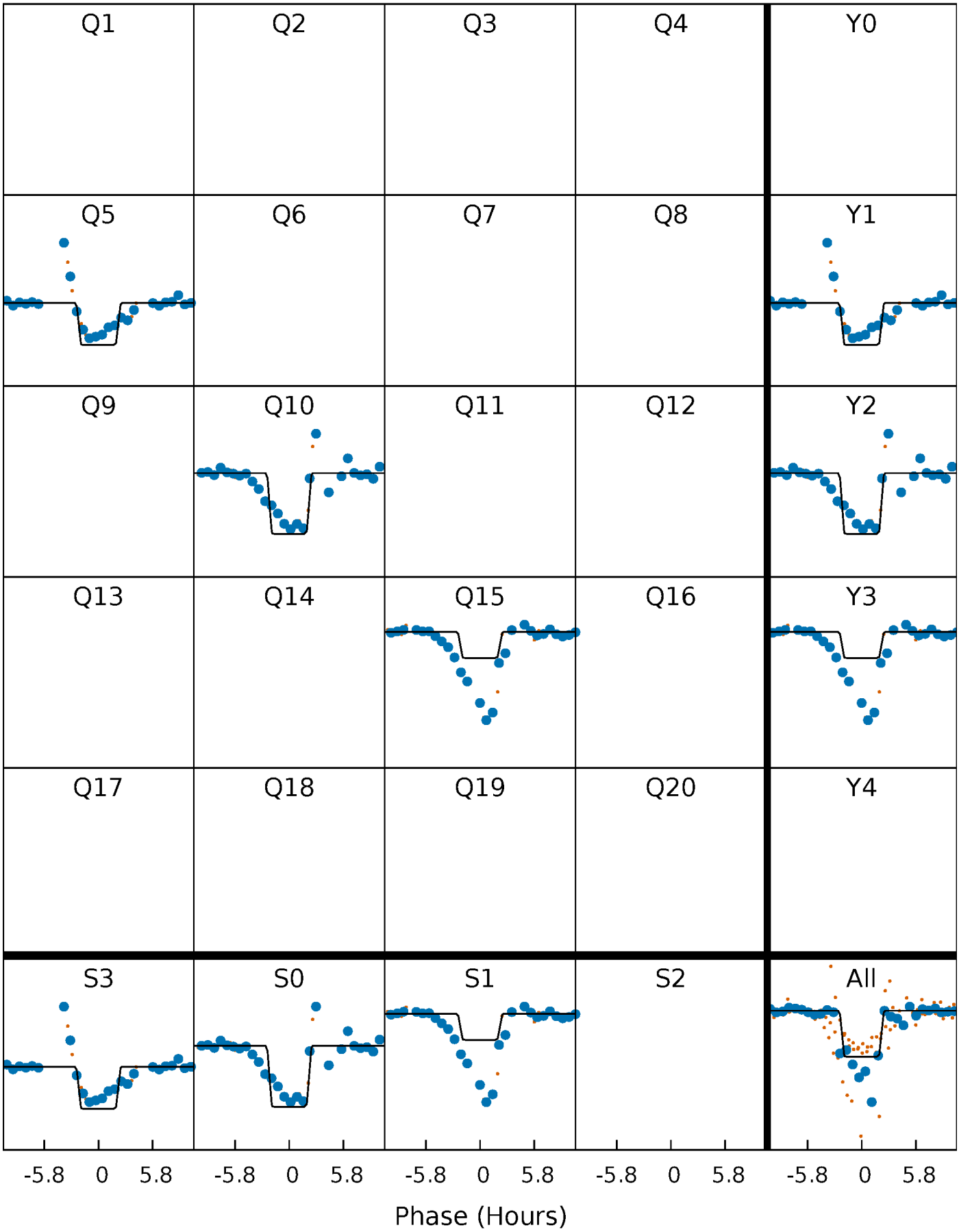
DV Quarter-Phased Transit Curves

TCE 006535050-05 P=459.353240 Days T_0=464.601861 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

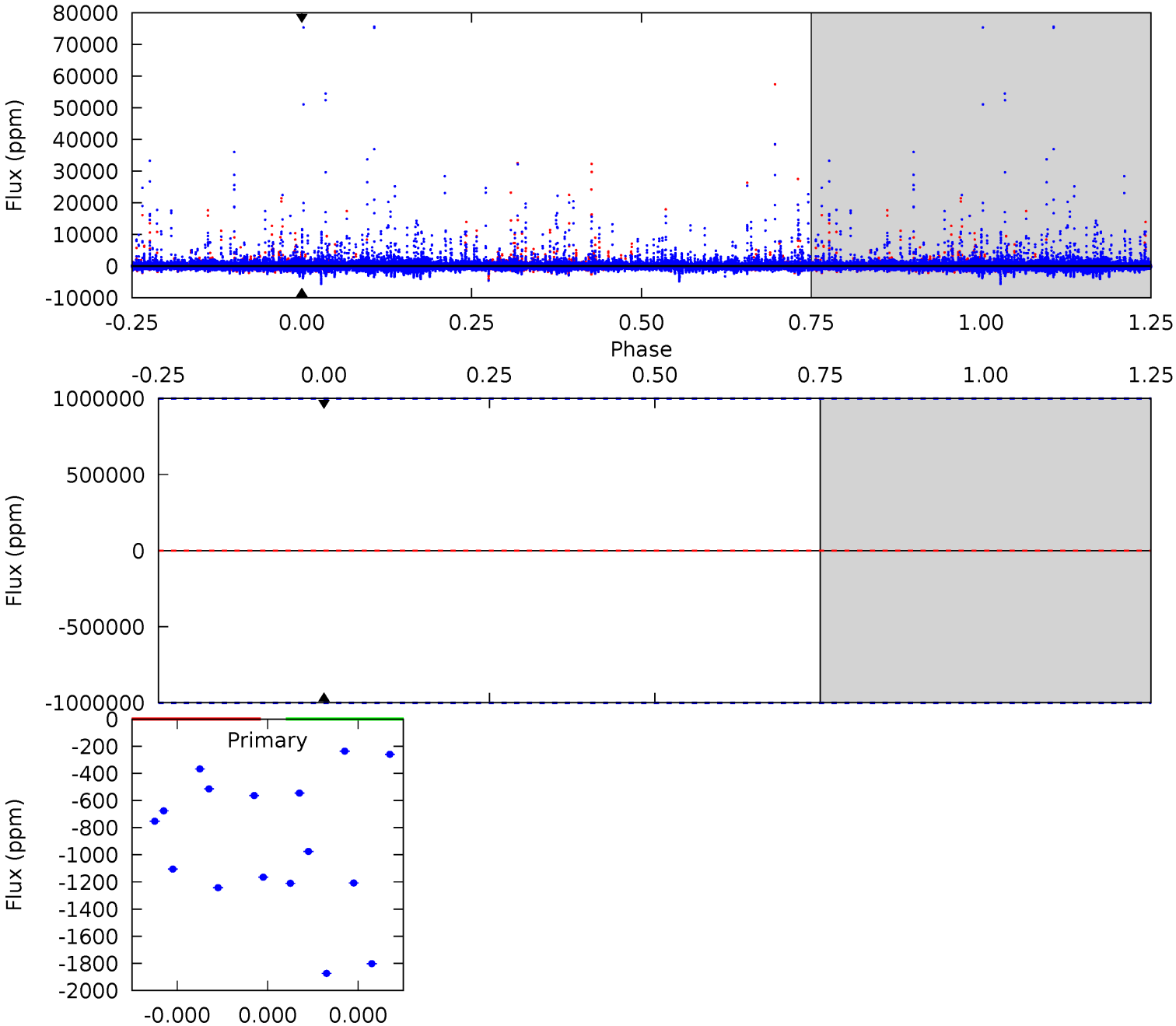
TCE 006535050-05 P=459.353240 Days T_0=464.613843 (BKJD)



DV Model-Shift Uniqueness Test

006535050-05, P = 459.353240 Days, E = 5.248621 Days

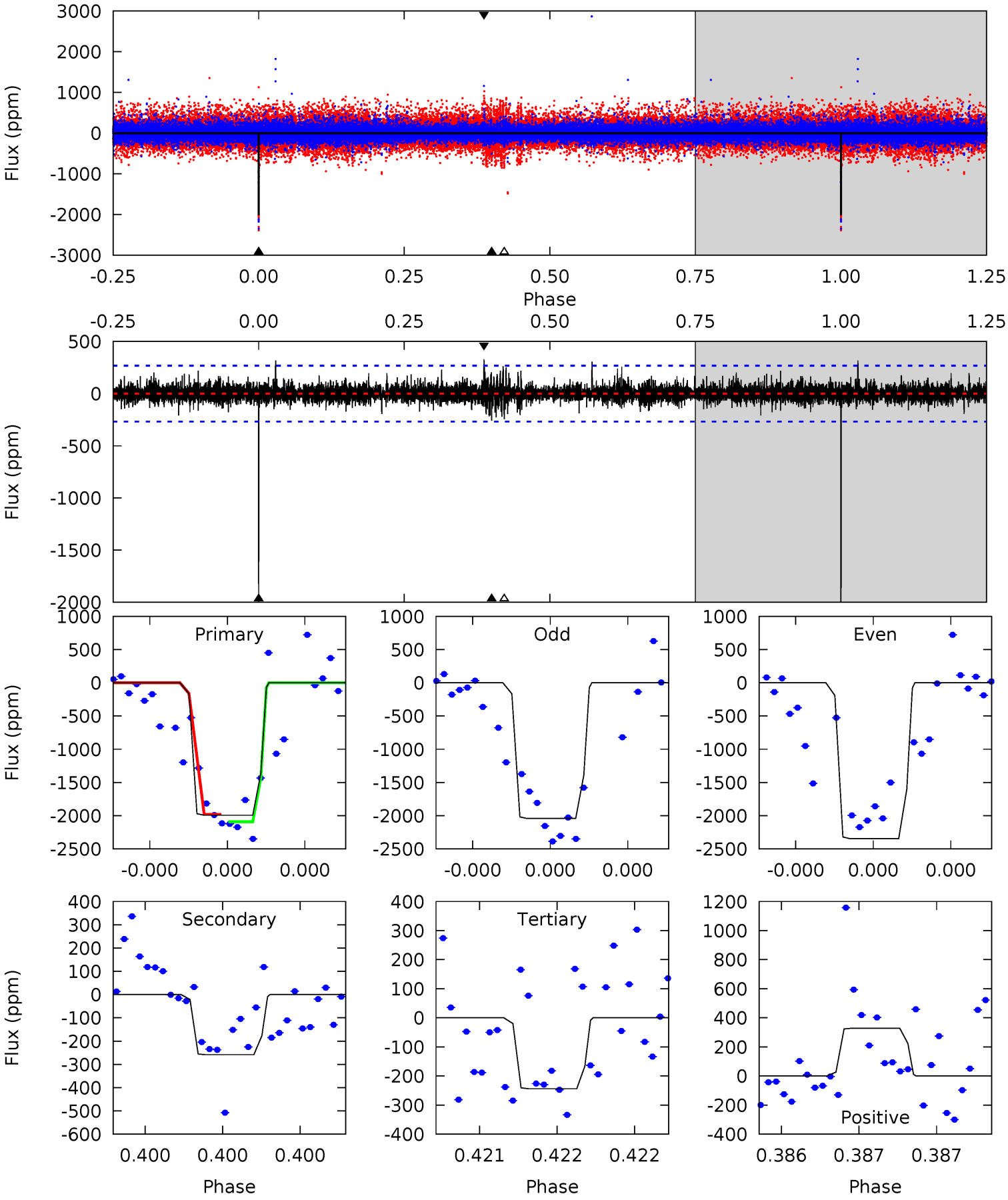
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006535050-05, P = 459.353240 Days, E = 5.260603 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.7	5.41	5.10	6.86	5.60	3.52	1.02	36.6	34.8	0.31	-1.45	2.82	1.76	0.14	0



Stellar Parameters For KIC 006535050

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6054^{+181}_{-181}	$3.913^{+0.525}_{-0.175}$	$-0.620^{+0.300}_{-0.250}$	$1.795^{+0.484}_{-0.899}$	$0.963^{+0.121}_{-0.135}$	$0.234^{+1.349}_{-0.113}$
	+3%/-3%	+13%/-4%	+48%/-40%	+27%/-50%	+13%/-14%	+576%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006535050-05 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0±1000000	$12.90^{+15.77}_{-8.91}$	456^{+43}_{-60}	5544^{+21758}_{-24431}	$16720^{+1132517}_{-486726}$
Alt.	-258±48	$15.40^{+16.99}_{-10.81}$	461^{+41}_{-61}	3212^{+1583}_{-572}	769^{+7717}_{-596}

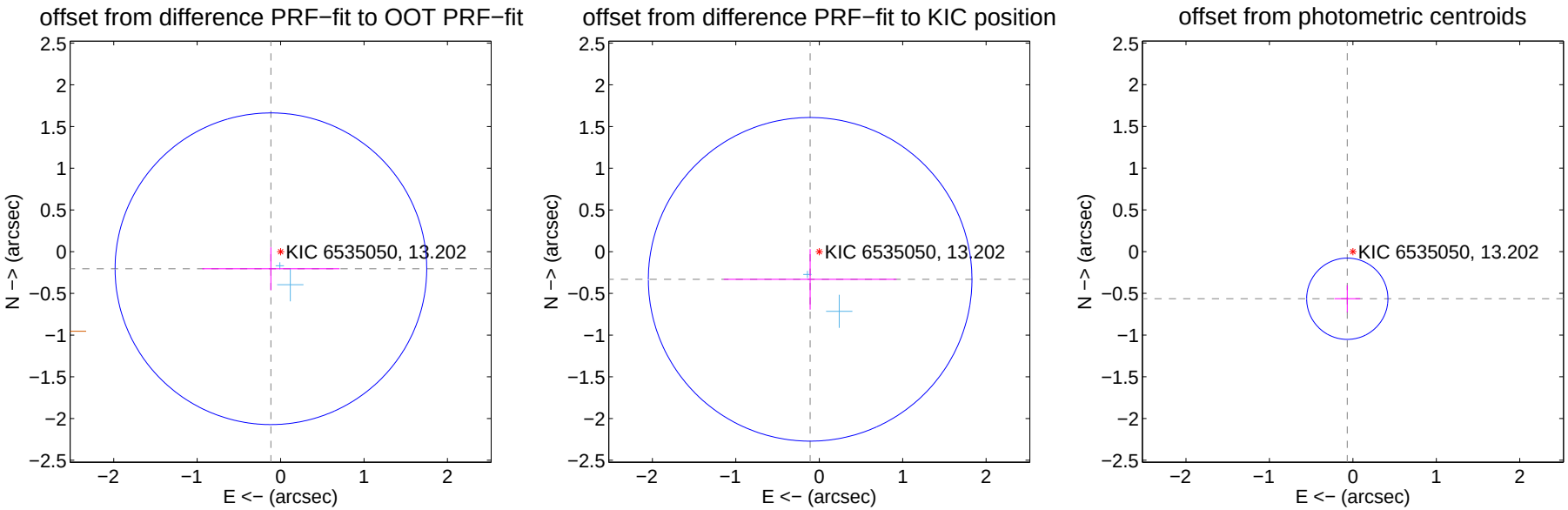
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

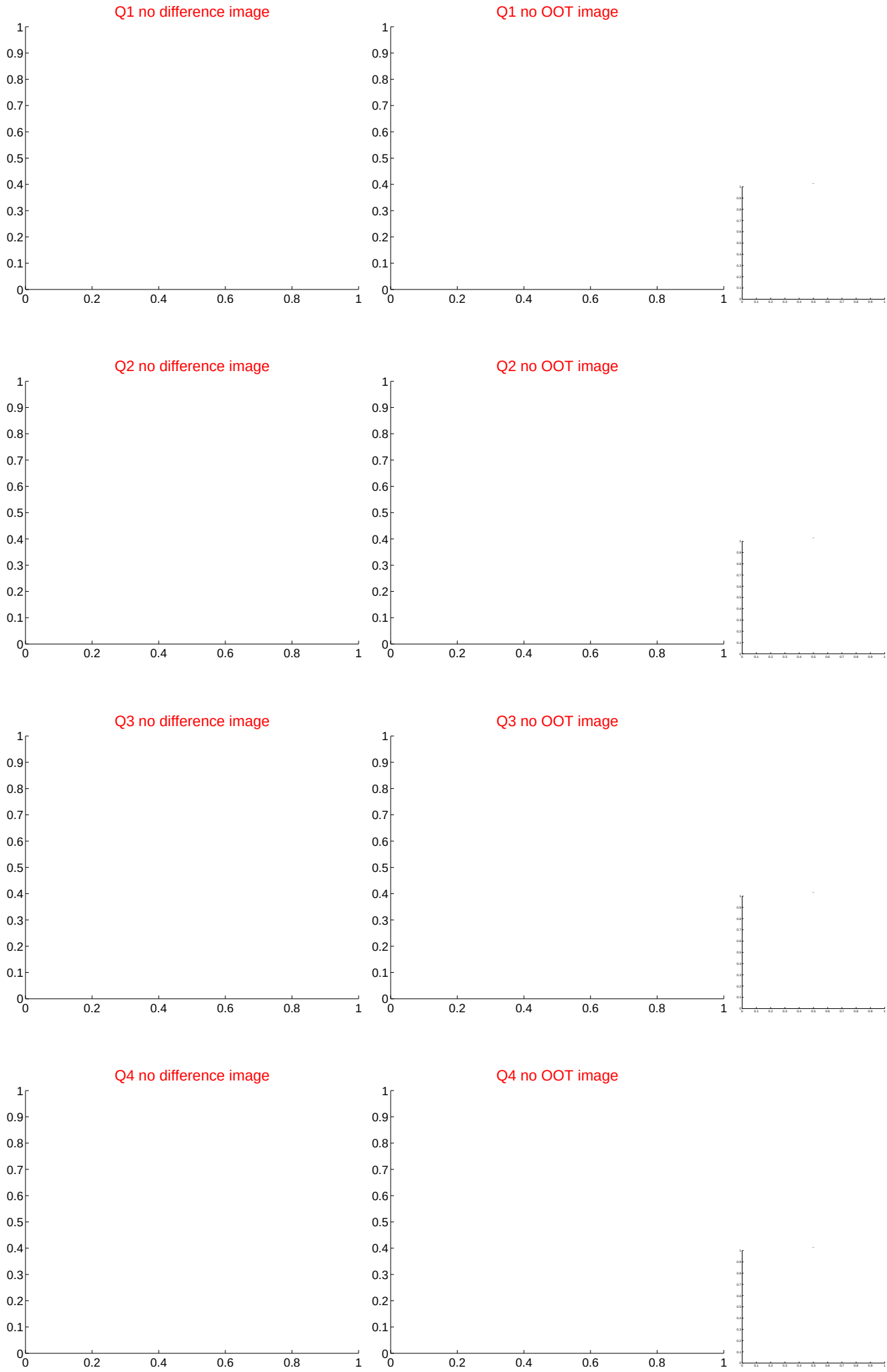
Supplemental centroid analysis for 006535050-05. Kepler magnitude: 13.20. Transit SNR -1.00
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.74 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.235 ± 0.623	0.38	0.116 ± 0.823	-0.205 ± 0.257
PRF-fit source offset from KIC position	0.349 ± 0.647	0.54	0.109 ± 1.036	-0.332 ± 0.362
photometric centroid source offset	0.57 ± 0.16	3.50	0.07 ± 0.15	-0.56 ± 0.16

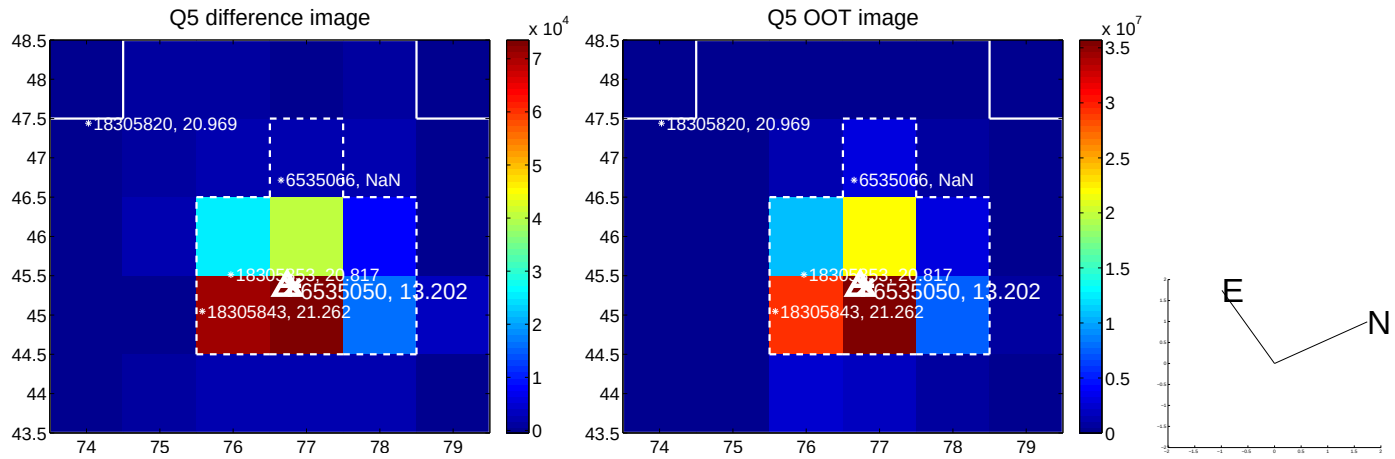


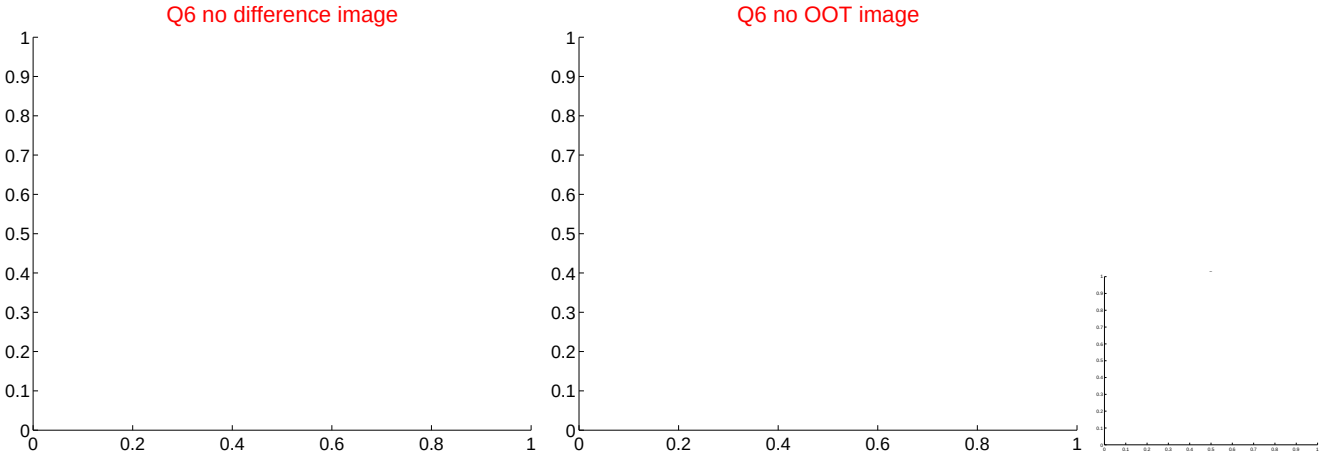
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs $> 15,000,000$ are from the UKIRT catalog.

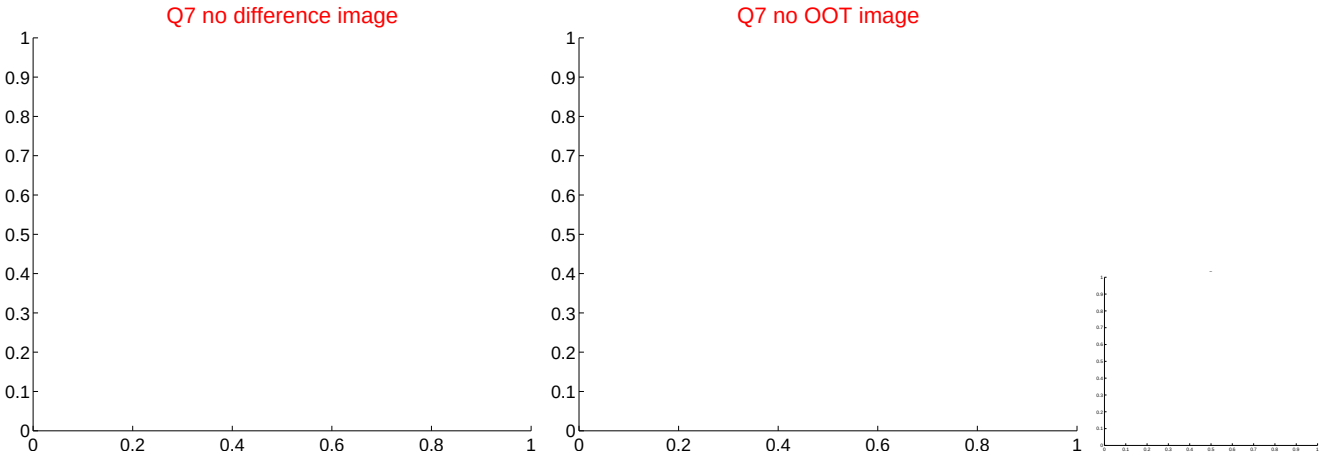
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

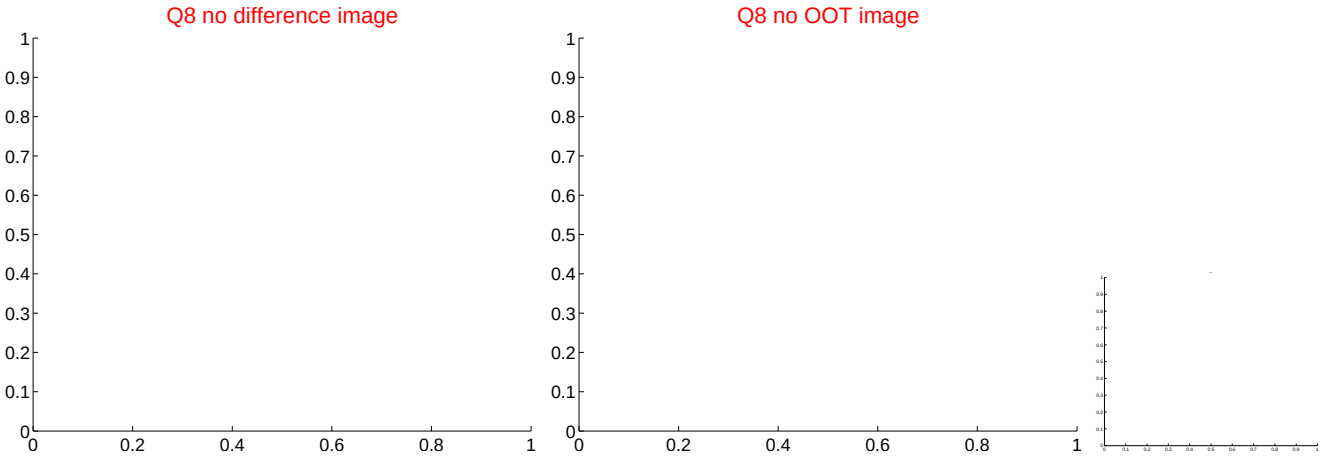


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

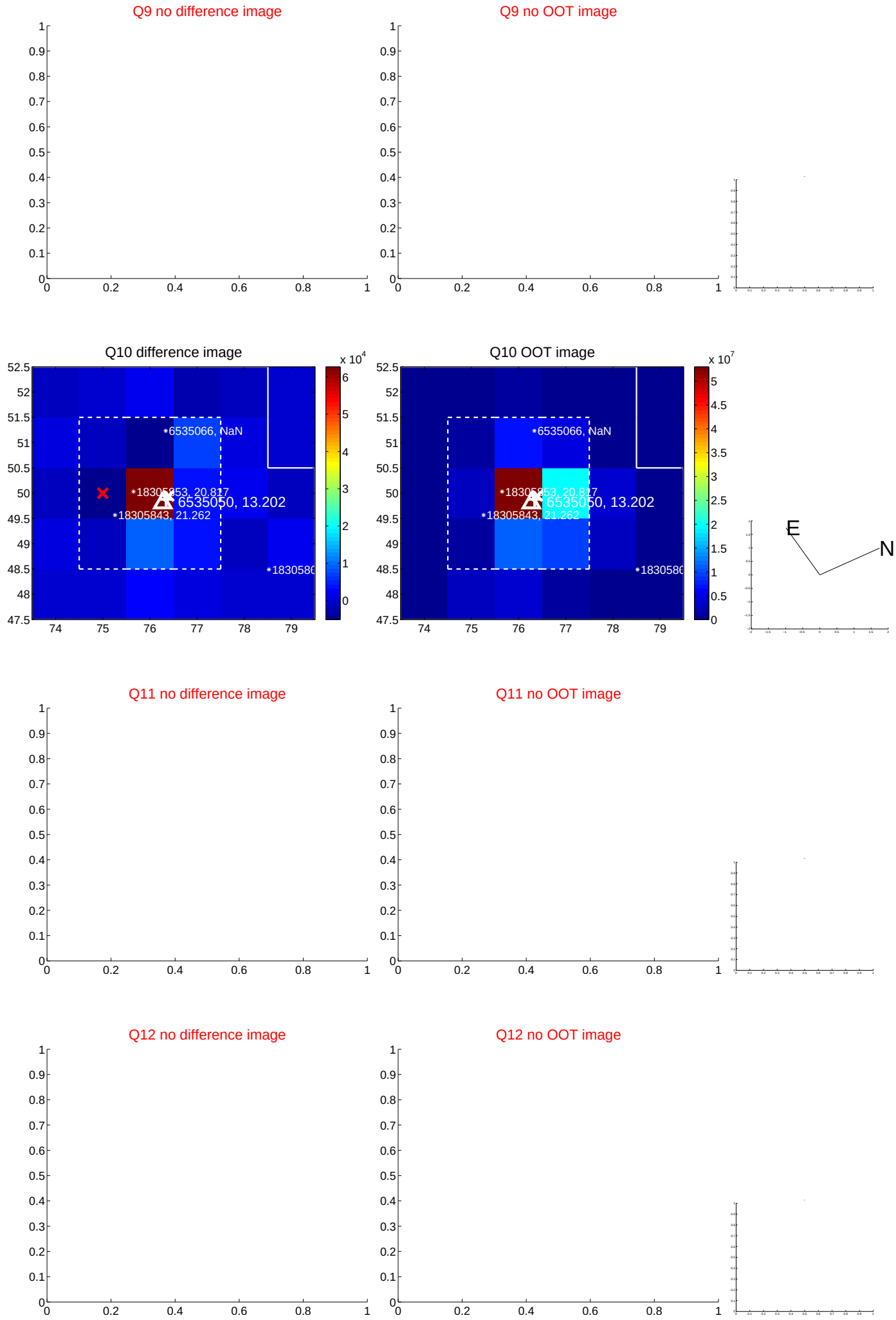




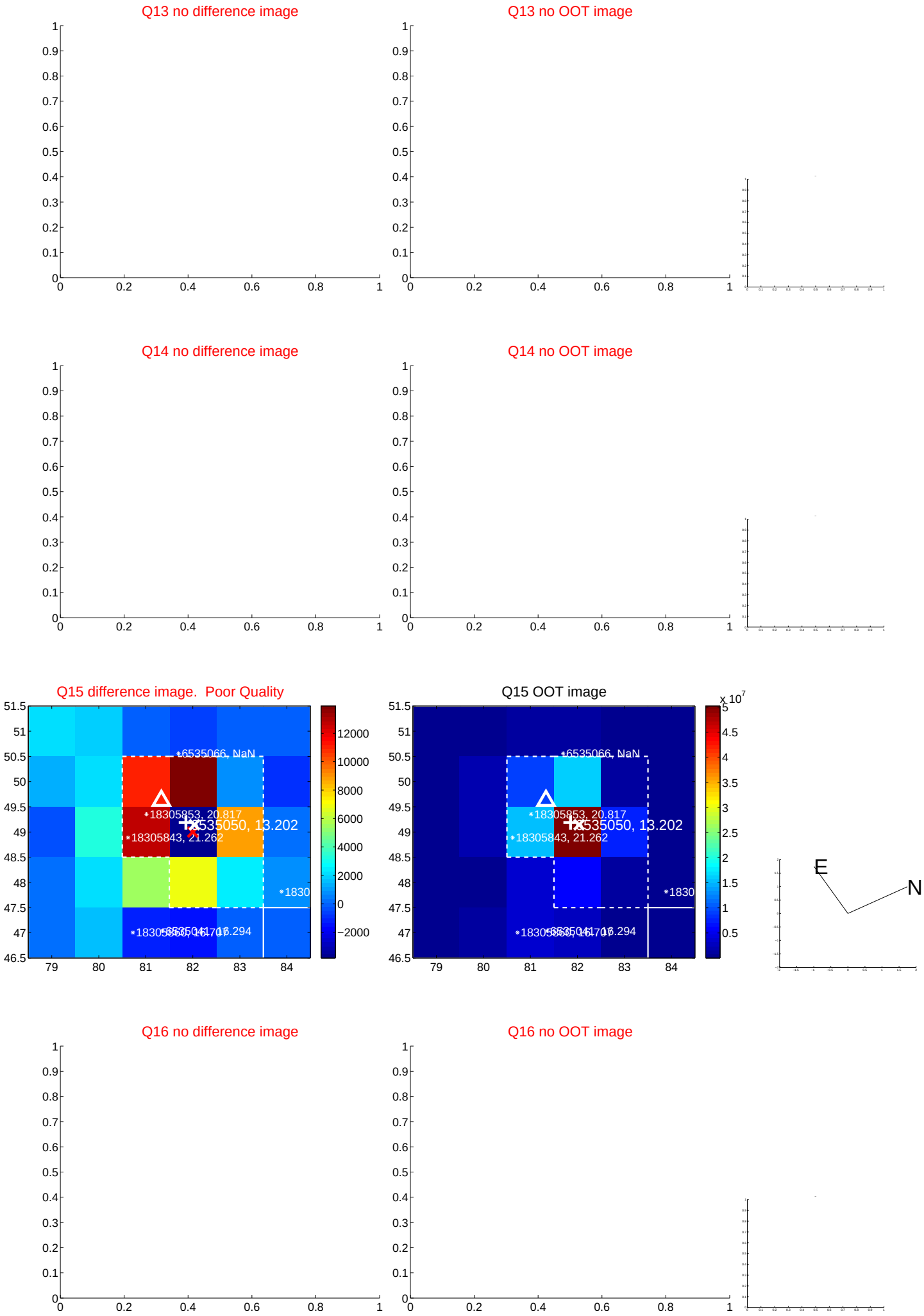




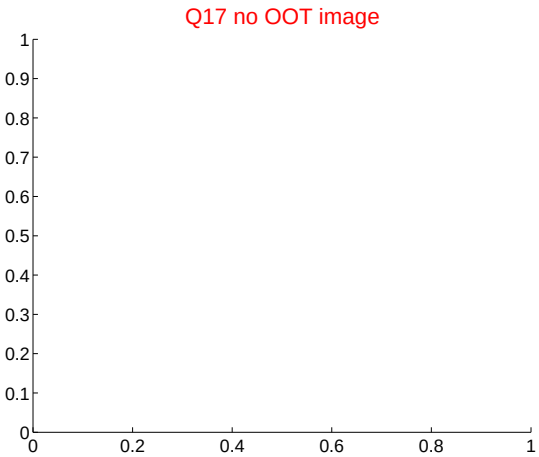
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

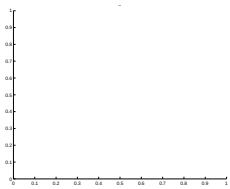


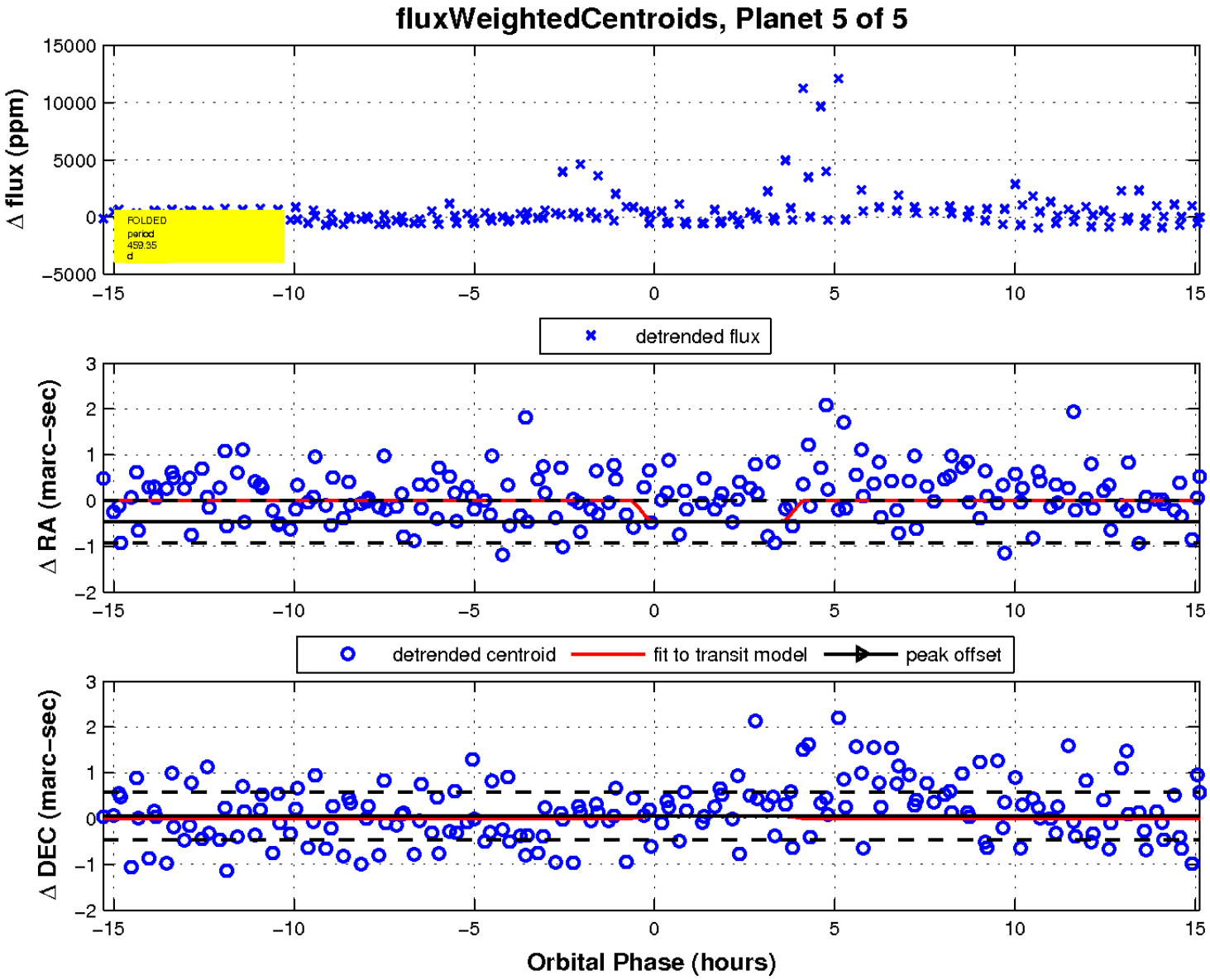
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



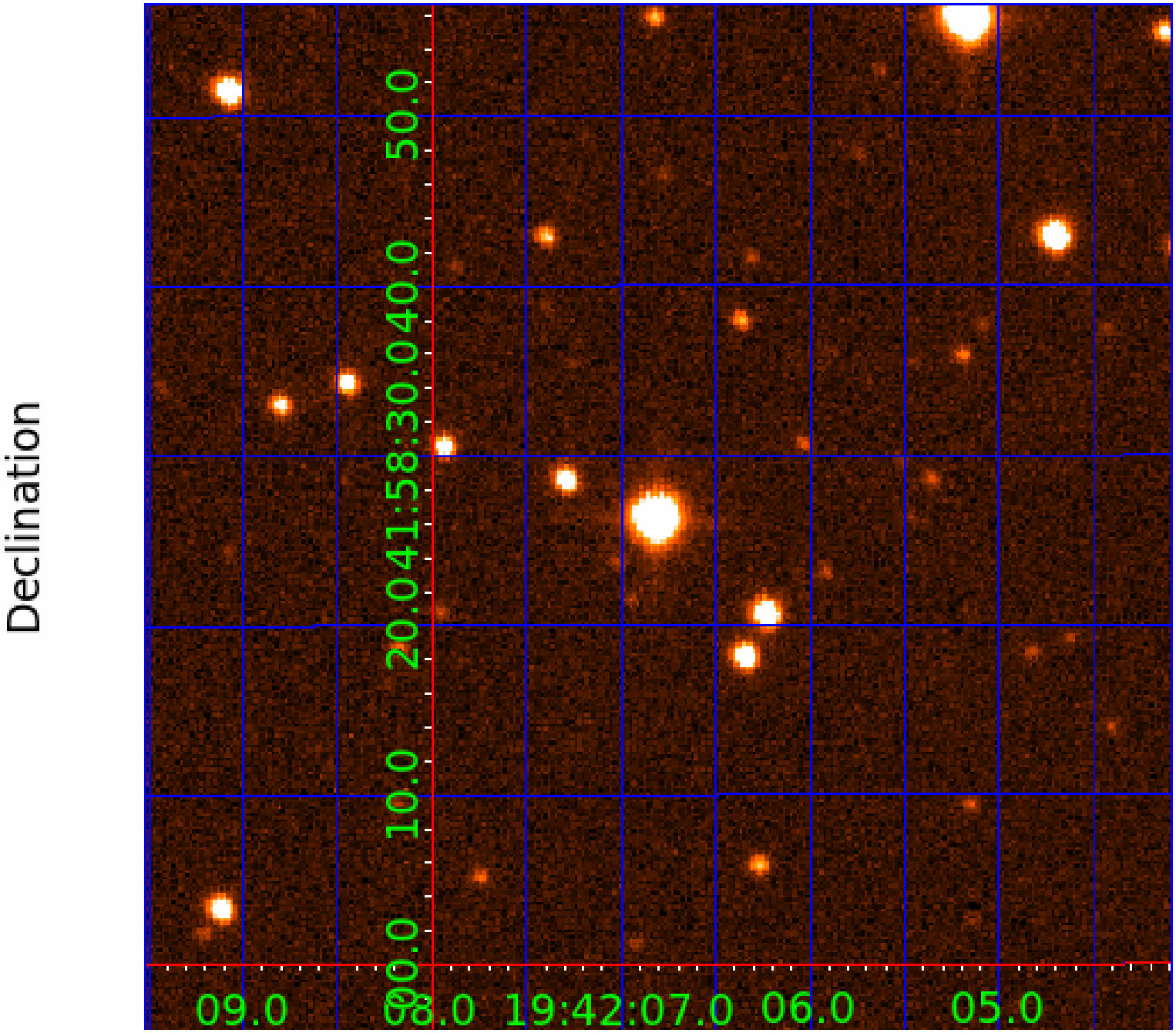
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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