

KIC 005966154

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})
005966154-01	OBS	0655.01	25.672152	140.752553	378.3	5.967	61.4	64.6	1.18	6034	2.66	51.57
005966154-02	OBS	0655.02	151.885068	176.413852	352.6	12.128	34.7	35.0	1.18	6034	2.46	4.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005966154-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005966154-02	OBS	PC	0.97	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

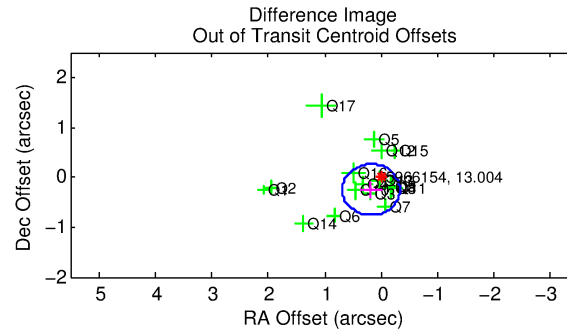
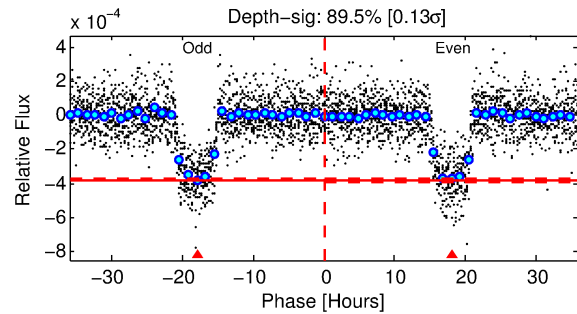
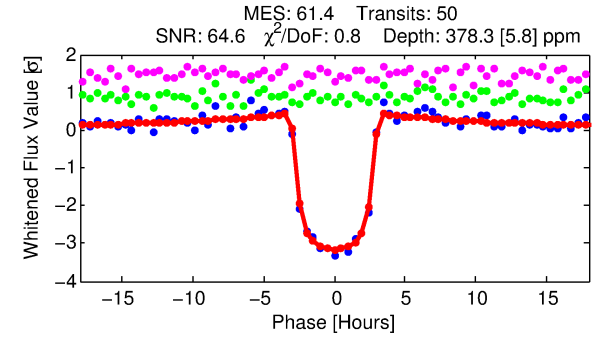
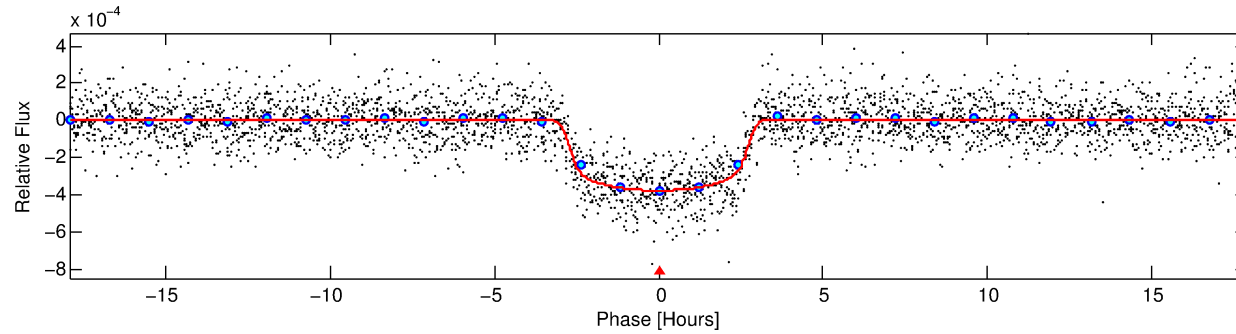
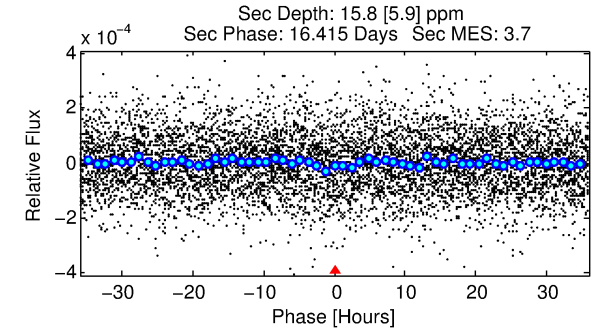
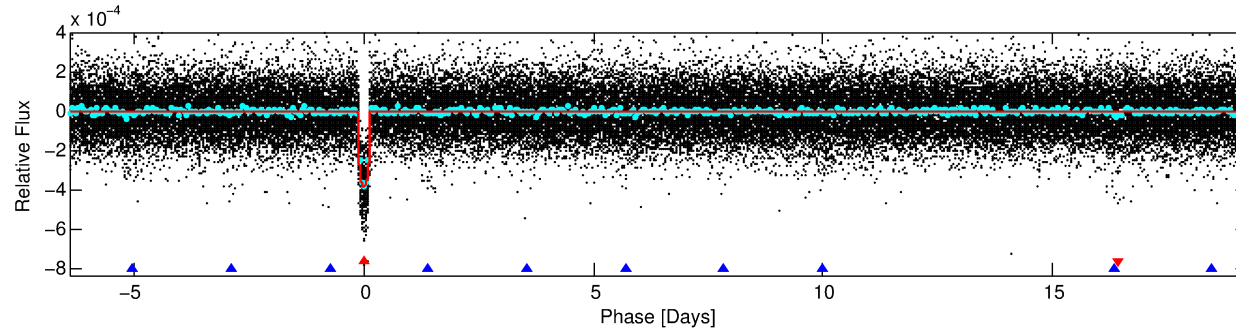
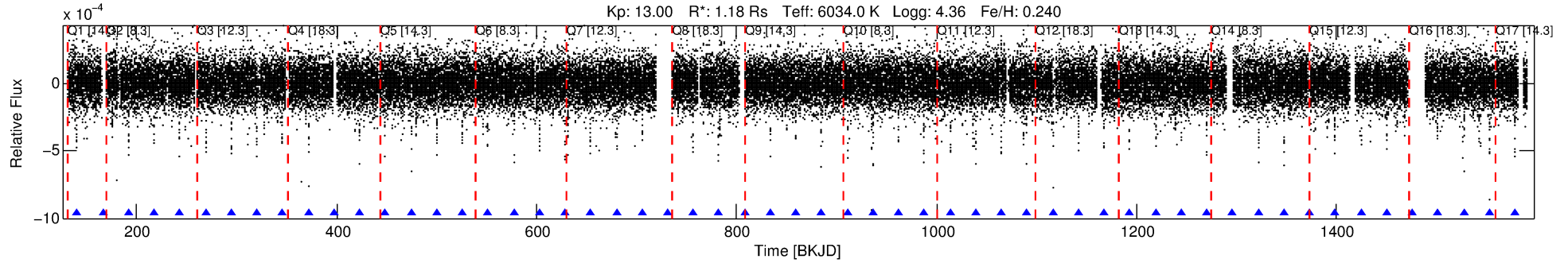
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005966154-01

No Significant Match Found

DV One-Page Summary

KIC: 5966154 Candidate: 1 of 2 Period: 25.672 d
KOI: K00655.01 Name: Kepler-201b Corr: 0.990



DV Fit Results:

Period = 25.67215 [0.00005] d
Epoch = 140.7526 [0.0017] BKJD
Rp/R* = 0.0207 [0.0008]
a/R* = 17.23 [3.11]
b = 0.88 [0.05]
Seff = 51.57 [11.67]
Teff = 683 [39] K
Rp = 2.66 [0.43] Re
a = 0.1789 [0.0248] AU
Ag = 39.35 [17.06] [2.25σ]
Teffp = 2646 [258] K [7.52σ]

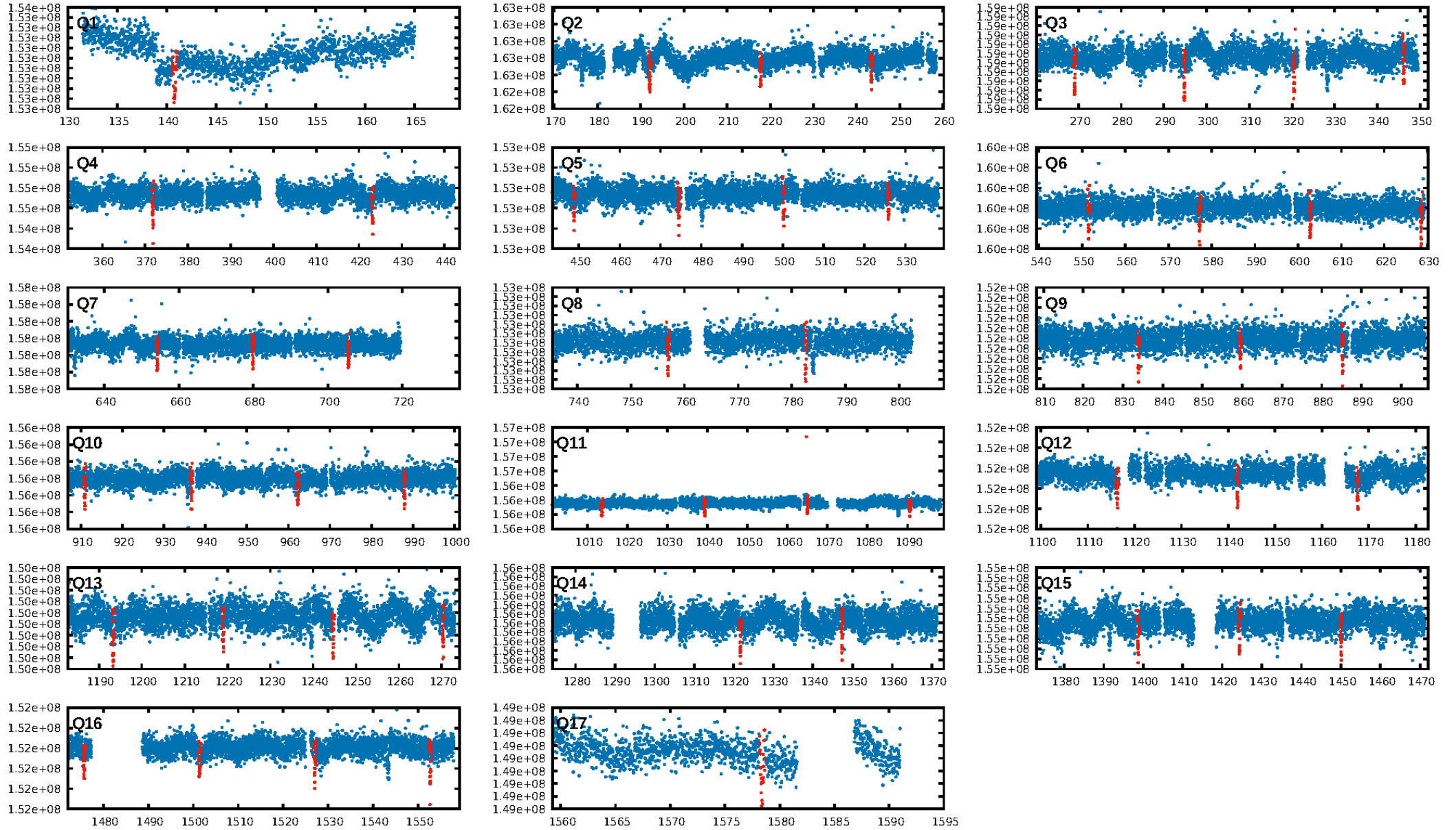
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [224.10σ]
ModelChiSquare2-sig: 92.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [48/48]
GhostDiagnostic-chr: 6.15
Centroid-sig: 6.5%
Centroid-so: 0.067 arcsec [0.39σ]
OotOffset-rm: 0.310 arcsec [1.83σ]
KicOffset-rm: 0.267 arcsec [1.38σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

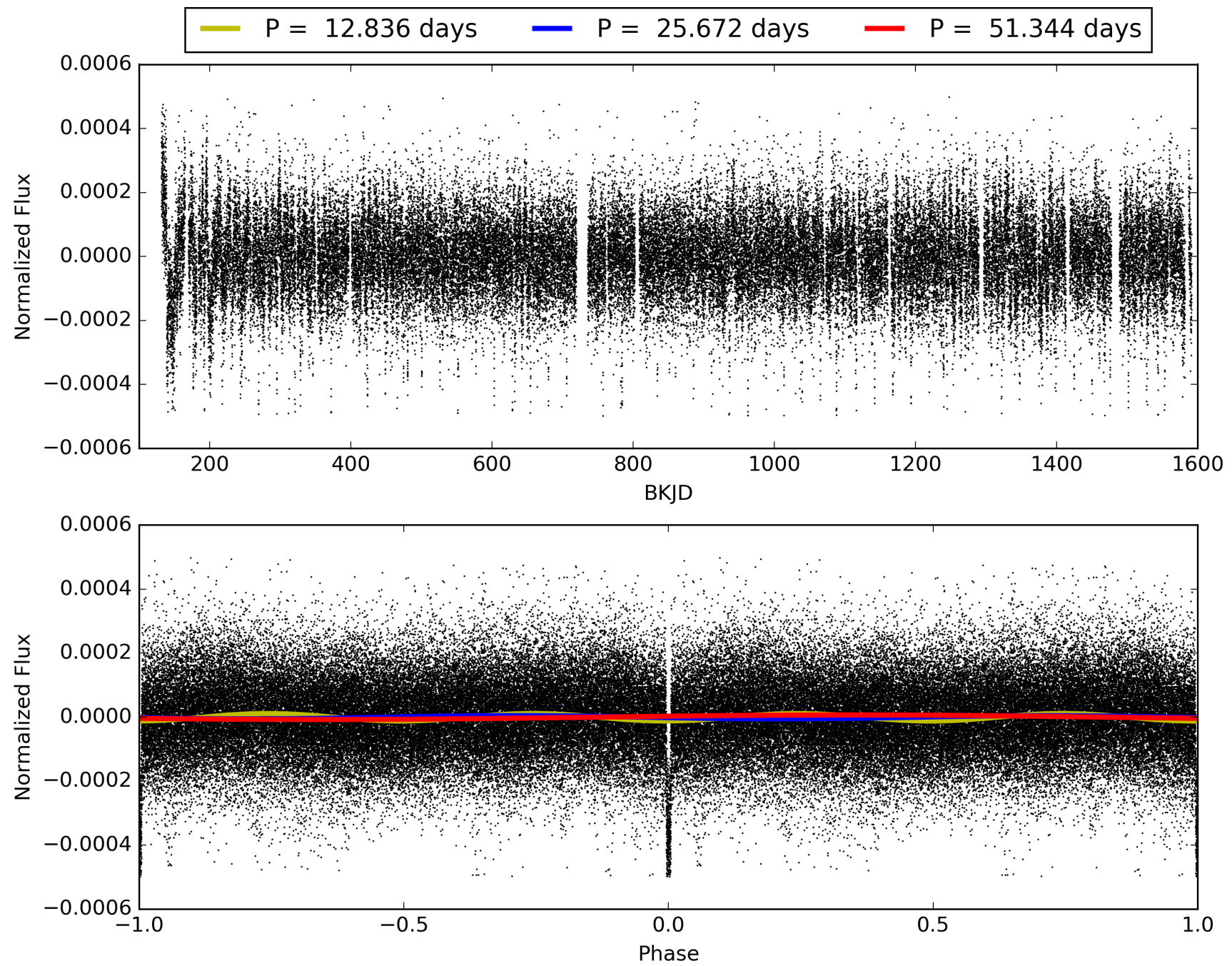
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:14:34 Z

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

TCE 005966154-01, PDC Light Curves

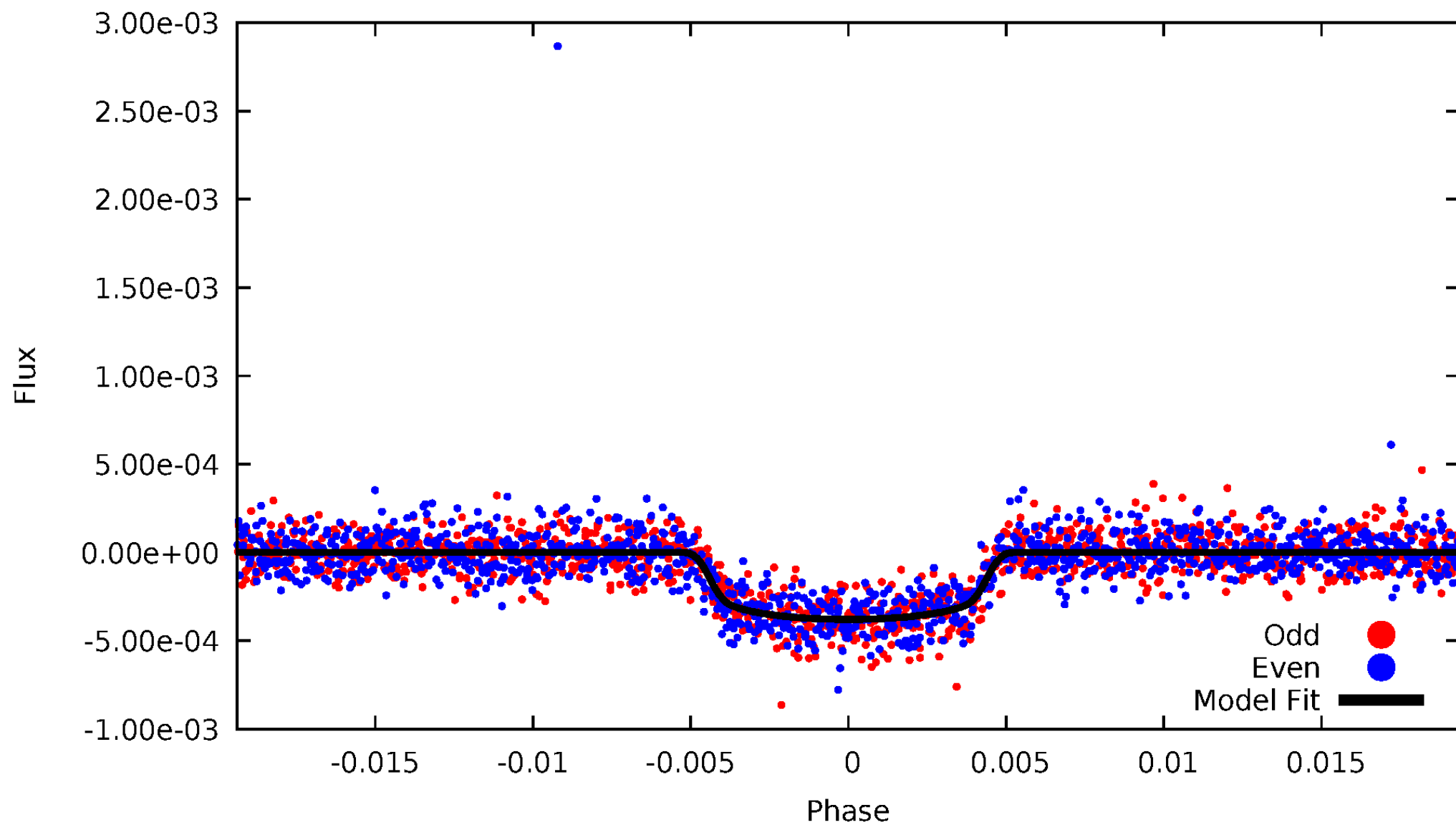


TCE 005966154-01



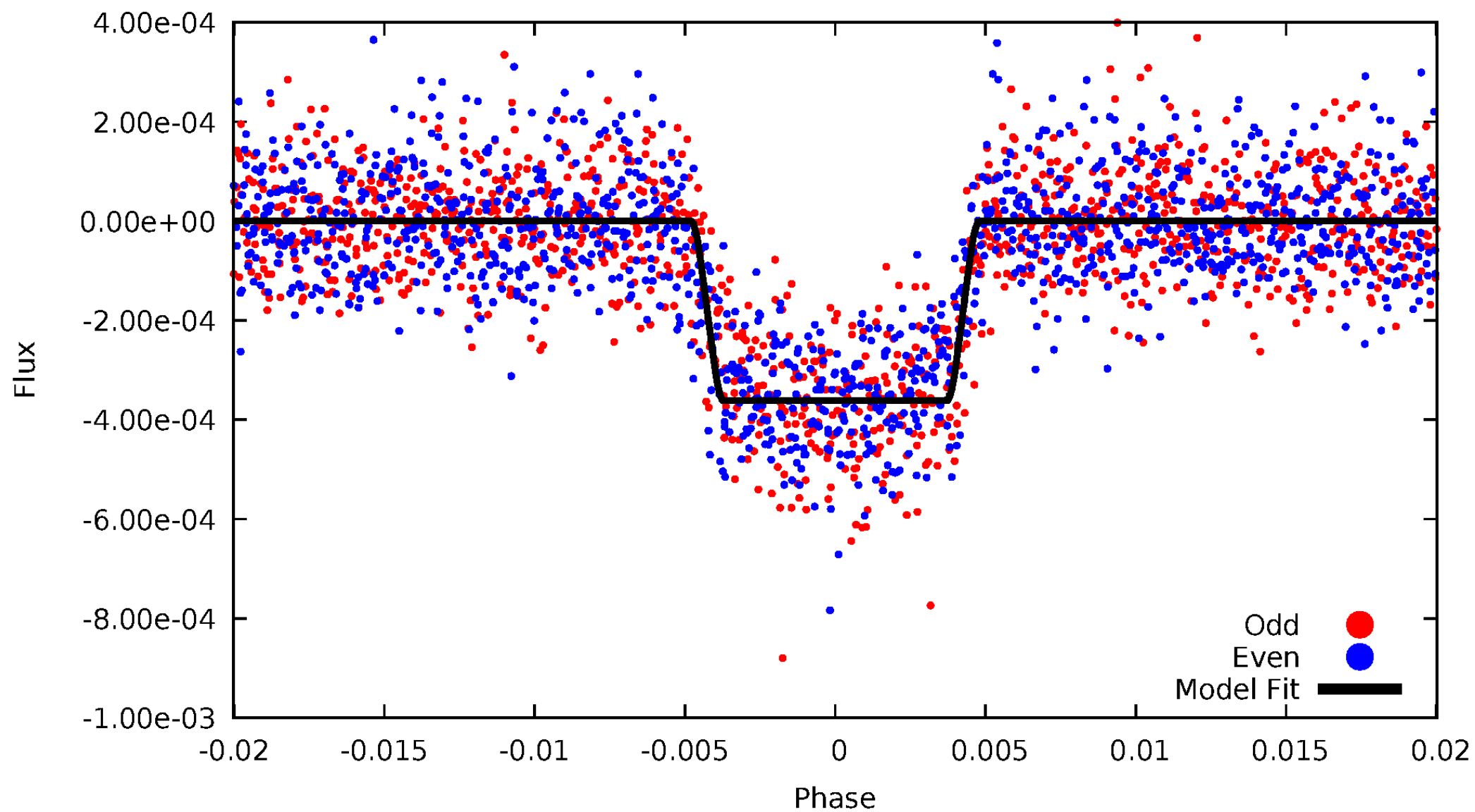
DV Odd/Even

TCE 005966154-01



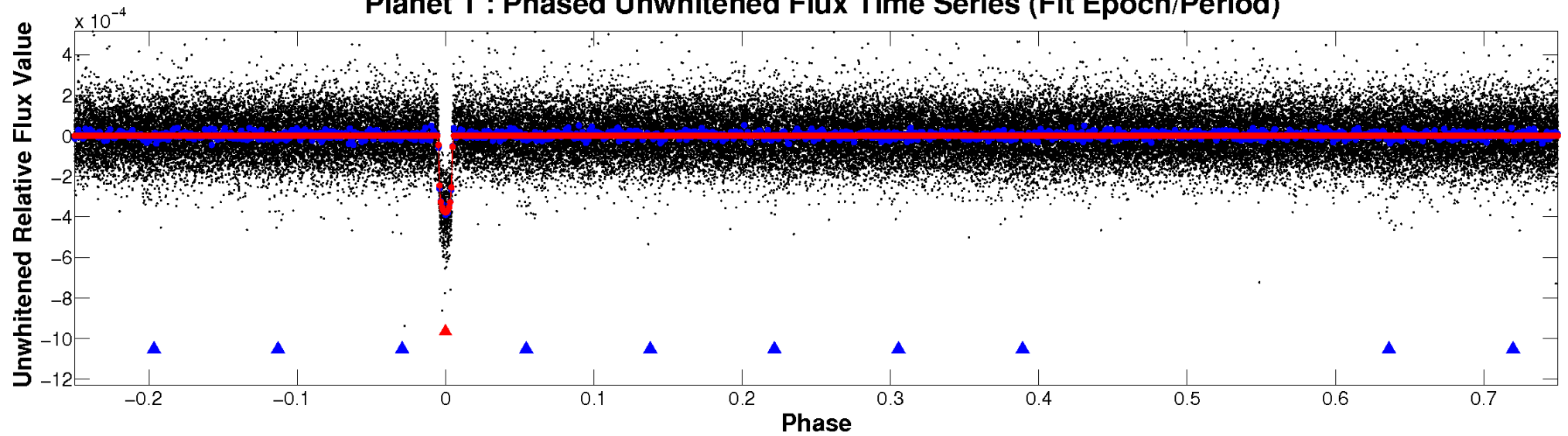
ALT Odd/Even

TCE 005966154-01

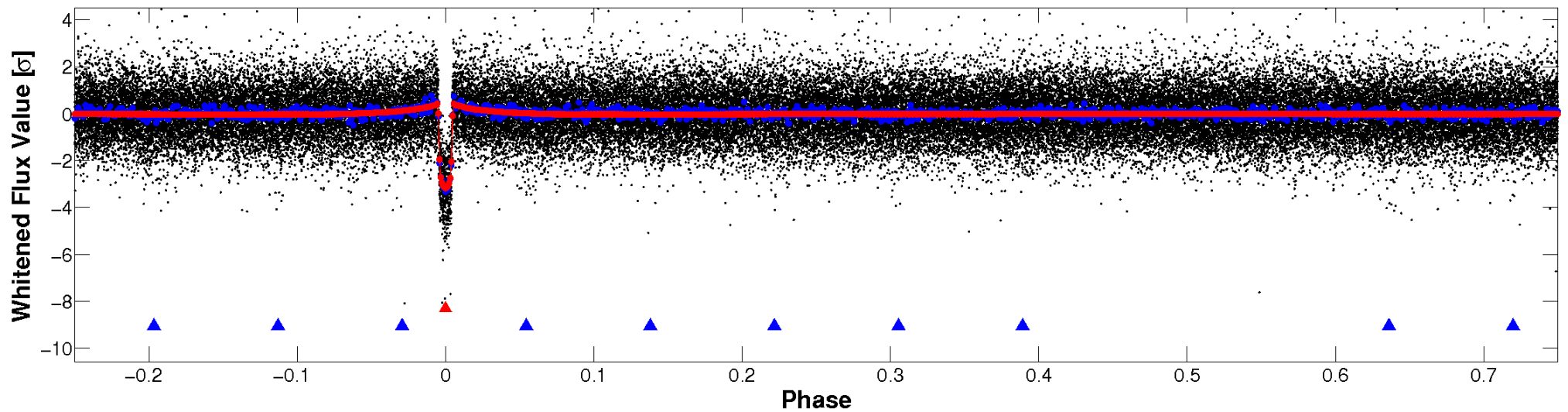


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

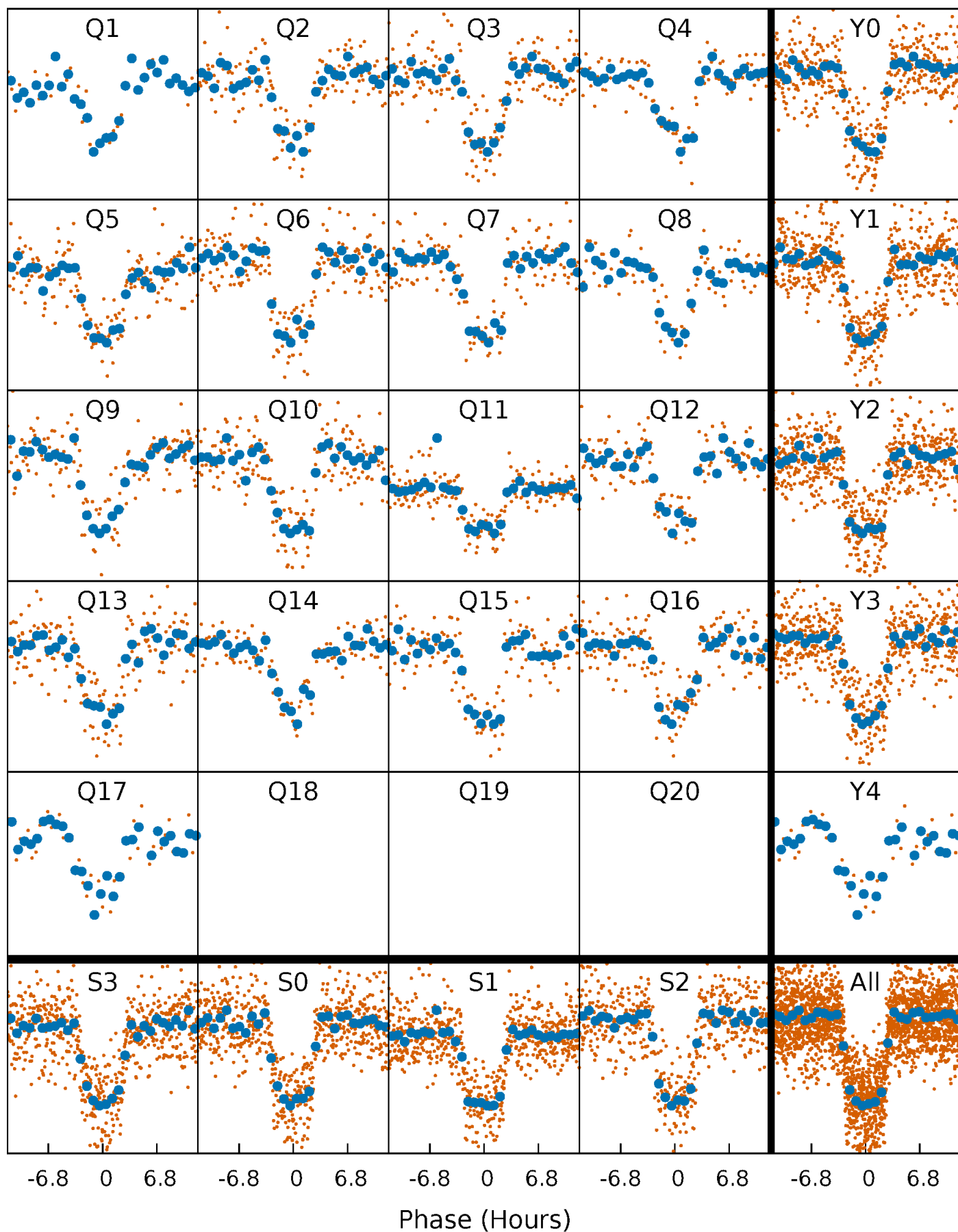


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



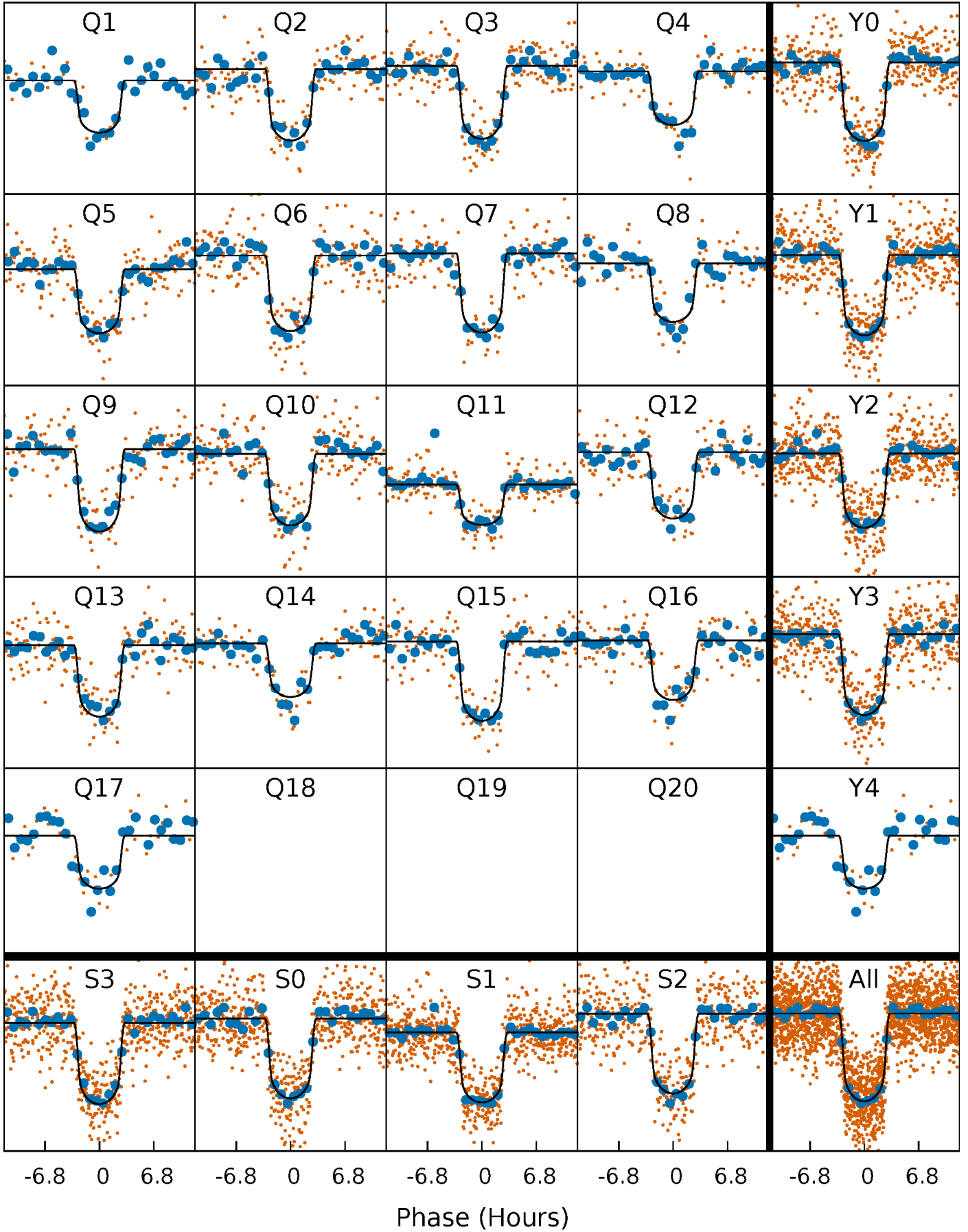
PDC Quarter-Phased Transit Curves

TCE 005966154-01 P= 25.672152 Days $T_0=140.752553$ (BKJD)



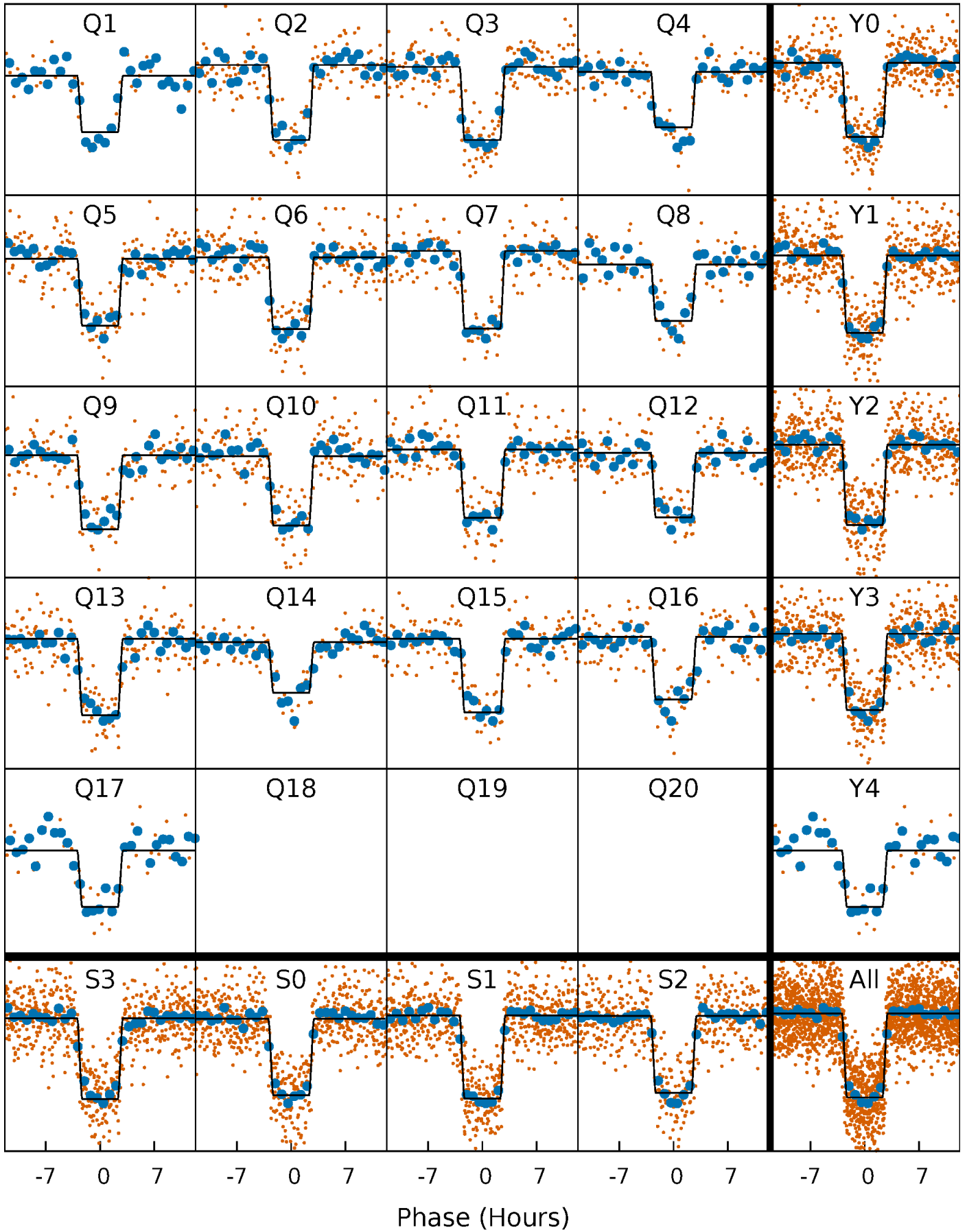
DV Quarter-Phased Transit Curves

TCE 005966154-01 P= 25.672152 Days $T_0=140.752553$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

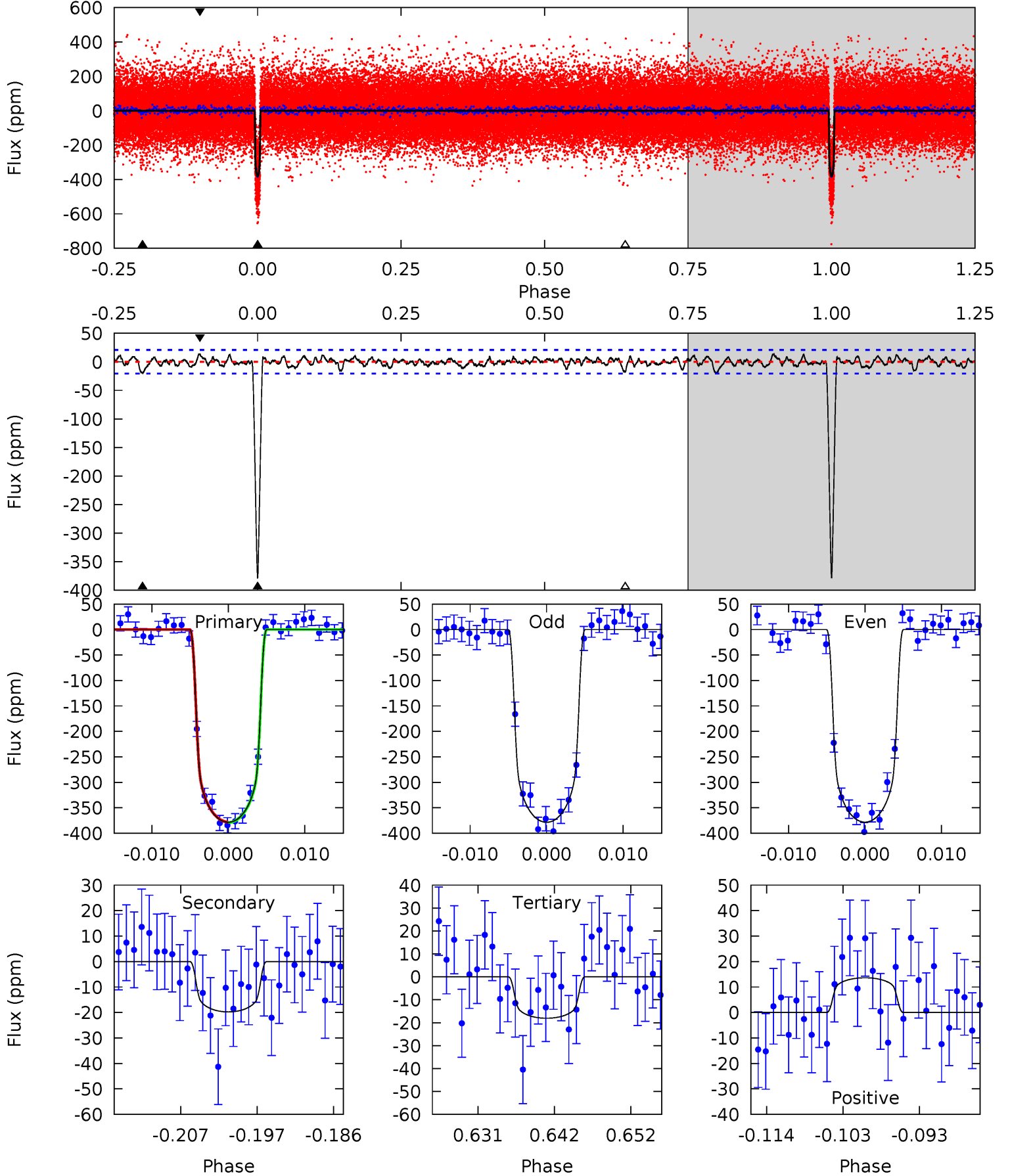
TCE 005966154-01 P= 25.671792 Days $T_0=140.762436$ (BKJD)



DV Model-Shift Uniqueness Test

005966154-01, $P = 25.672152$ Days, $E = 115.080401$ Days

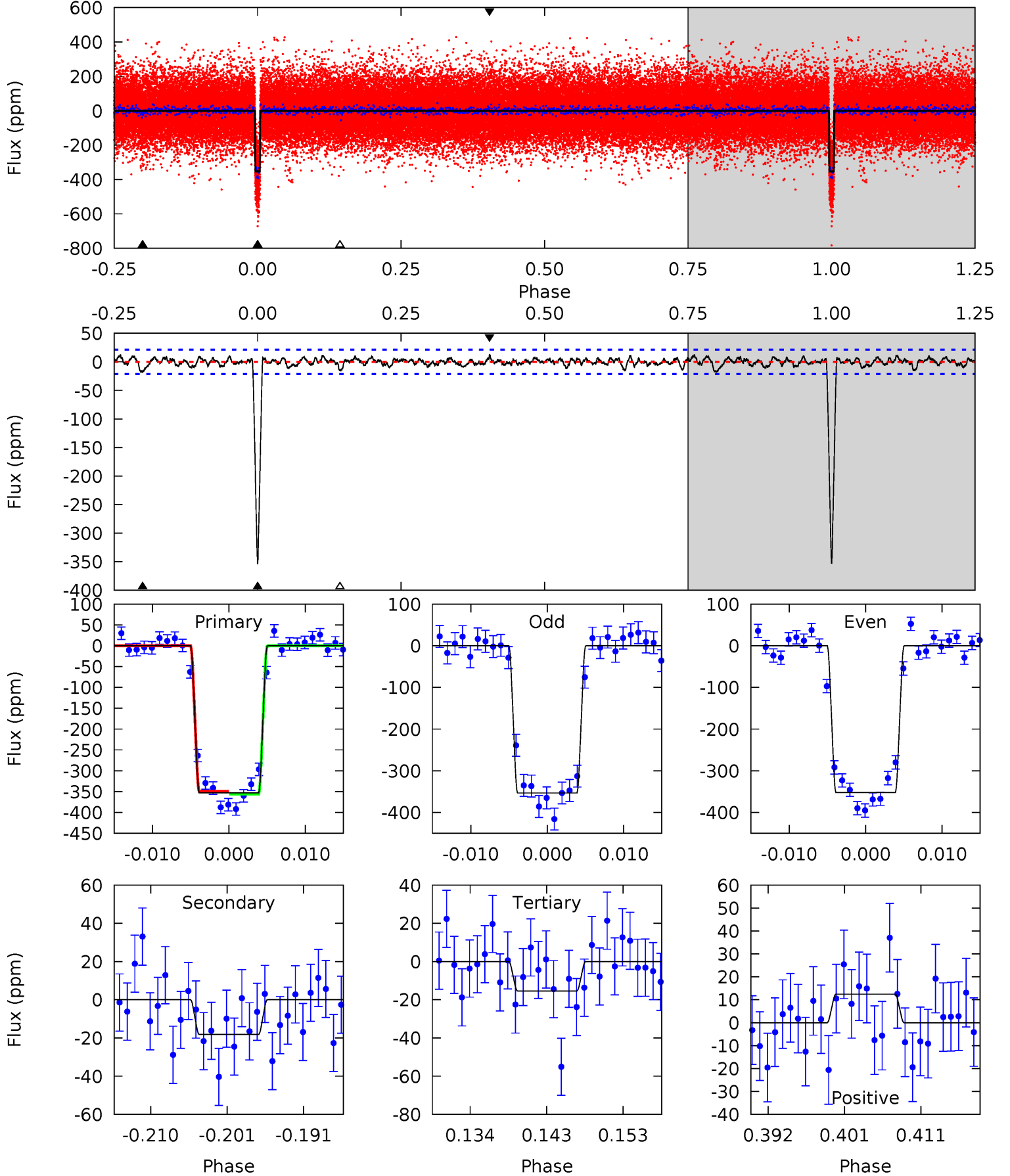
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
92.1	4.82	4.40	3.32	5.02	2.56	1.25	87.7	88.8	0.42	1.50	0.03	1.00	0.03	0.13



Alt Model-Shift Uniqueness Test

005966154-01, $P = 25.671792$ Days, $E = 115.090644$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
83.3	4.29	3.63	2.94	5.04	2.59	1.10	79.6	80.3	0.65	1.35	0.13	1.01	0.03	0.81



Stellar Parameters For KIC 005966154

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6034^{+109}_{-133}	$4.359^{+0.063}_{-0.117}$	$0.240^{+0.150}_{-0.150}$	$1.179^{+0.187}_{-0.109}$	$1.164^{+0.073}_{-0.089}$	$1.000^{+0.252}_{-0.341}$
	+2%/-2%	+1%/-3%	+62%/-62%	+16%/-9%	+6%/-8%	+25%/-34%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 005966154-01 / KOI 0655.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-20 ± 4	$2.71^{+0.26}_{-0.20}$	963^{+43}_{-34}	3329^{+122}_{-124}	46^{+13}_{-11}
Alt.	-18 ± 4	$2.48^{+0.23}_{-0.18}$	960^{+38}_{-34}	3376^{+136}_{-146}	51^{+15}_{-13}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

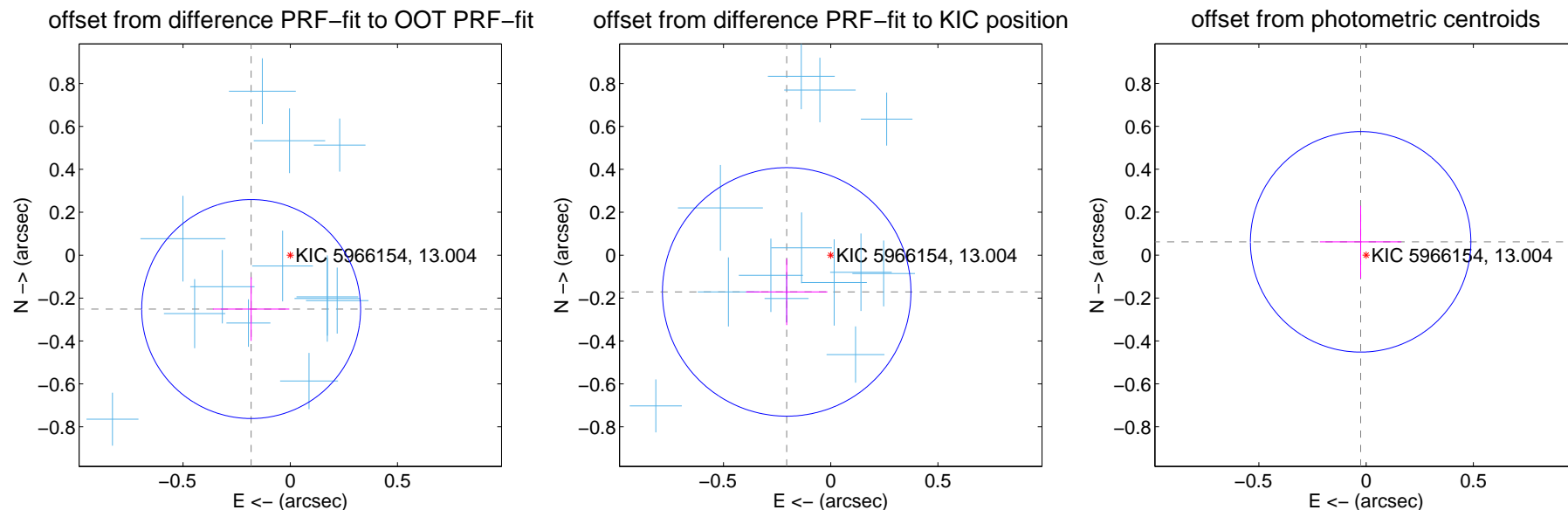
DV Centroid Data

Supplemental centroid analysis for 005966154-01. Kepler magnitude: 13.00. Transit SNR 64.59

There are 17 quarters with good PRF difference image offsets

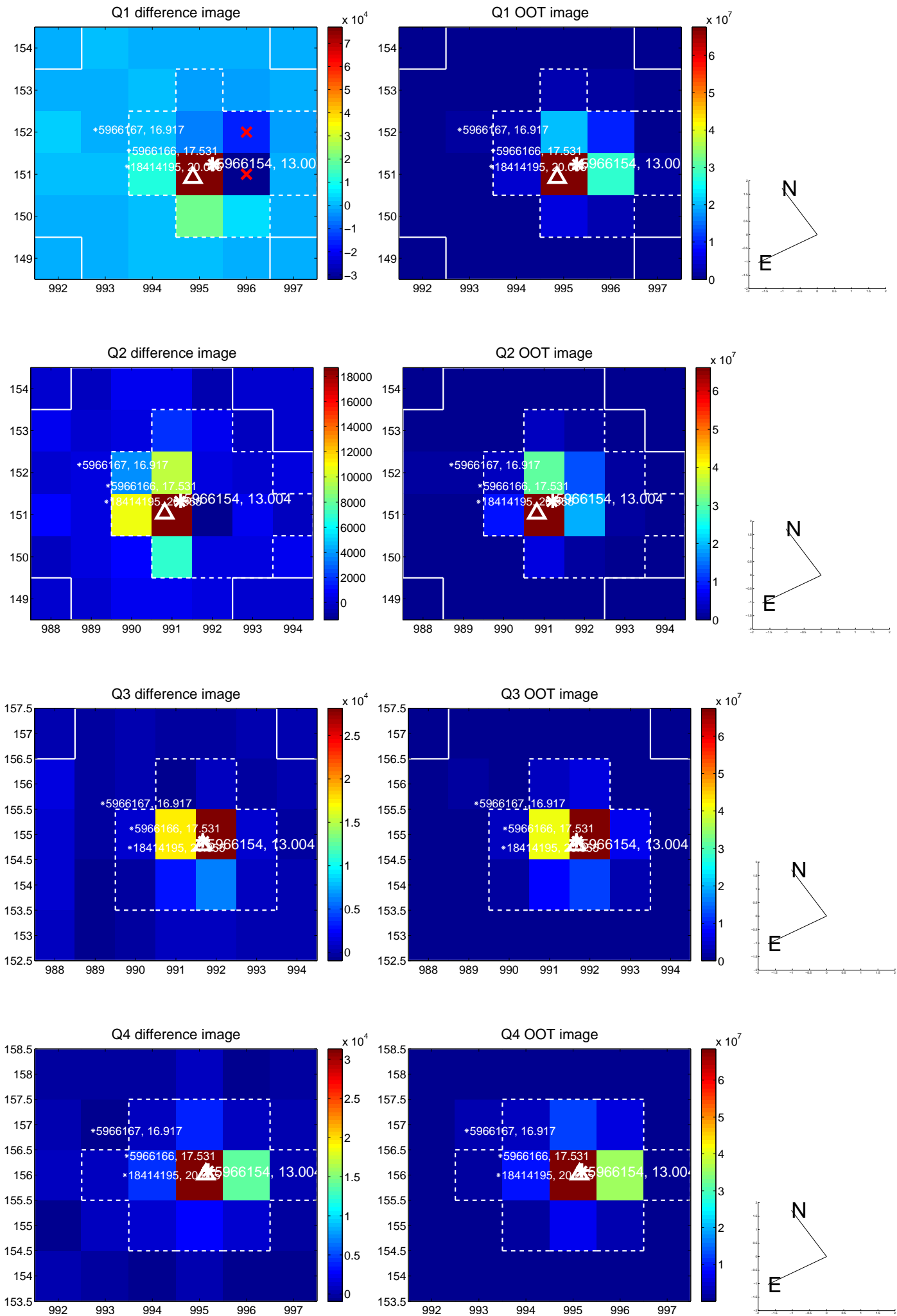
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.310 ± 0.170	1.83	0.182 ± 0.178	-0.251 ± 0.149
PRF-fit source offset from KIC position	0.267 ± 0.193	1.38	0.205 ± 0.190	-0.171 ± 0.155
photometric centroid source offset	0.07 ± 0.17	0.39	0.03 ± 0.19	0.06 ± 0.17

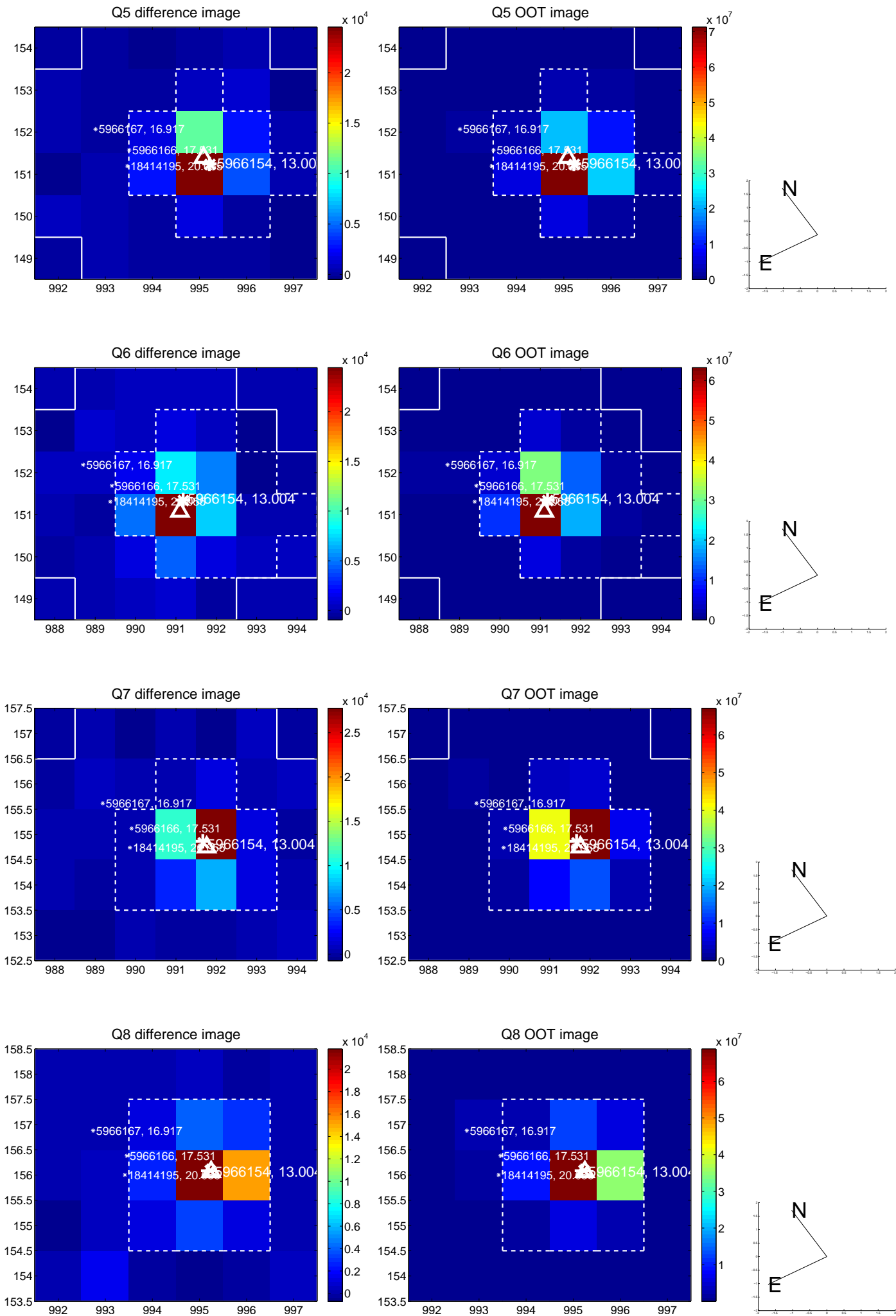


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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.

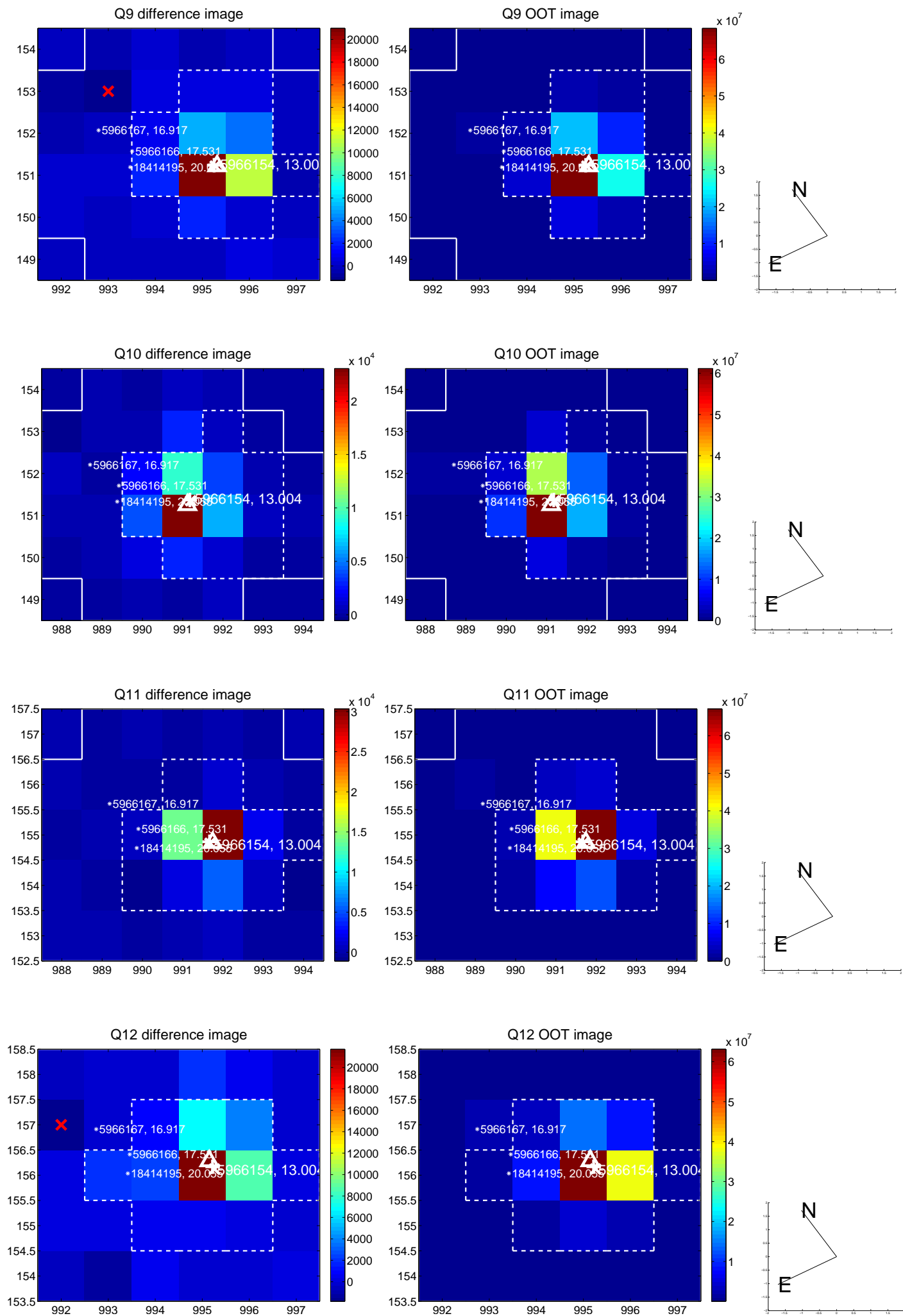
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



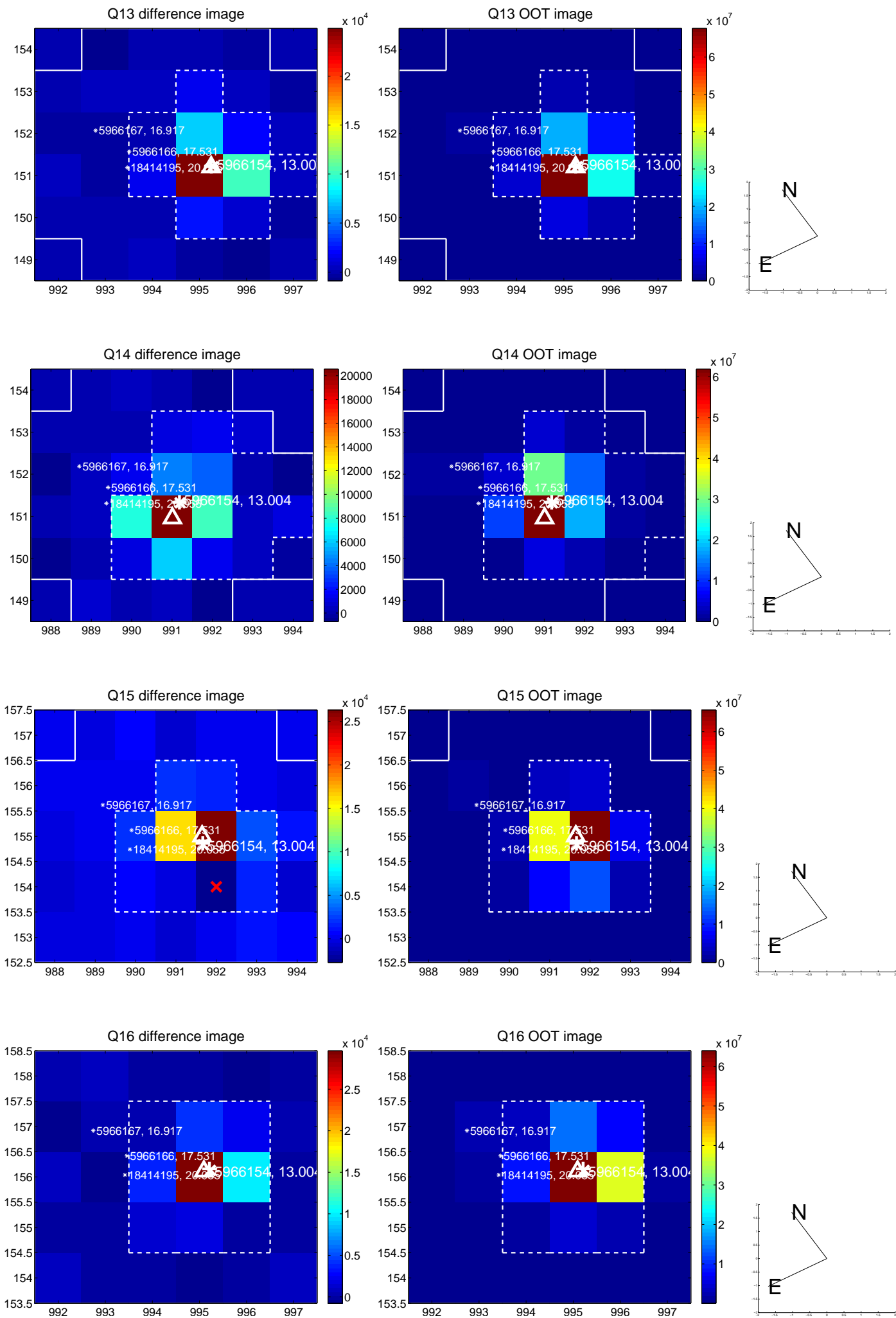
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



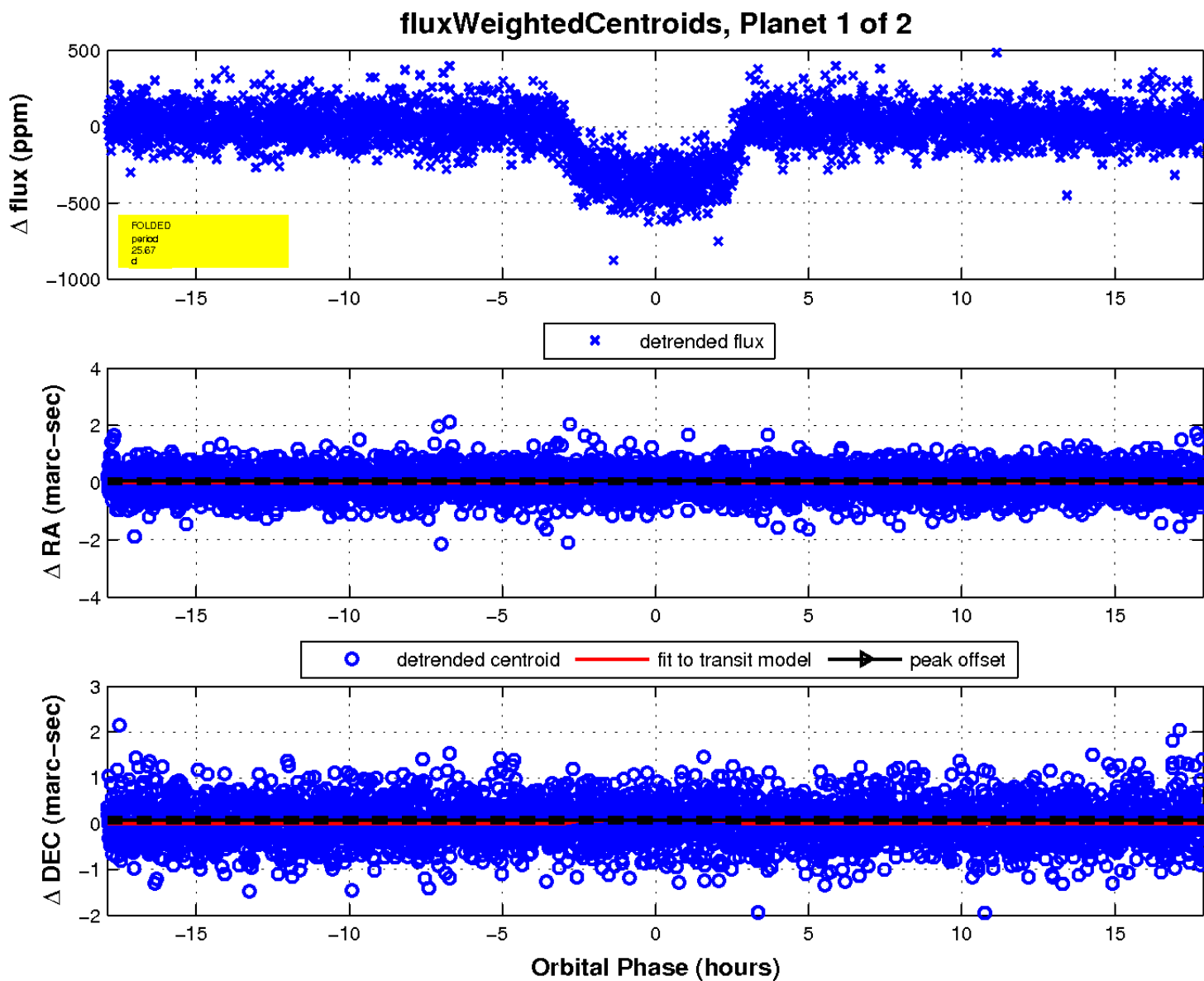
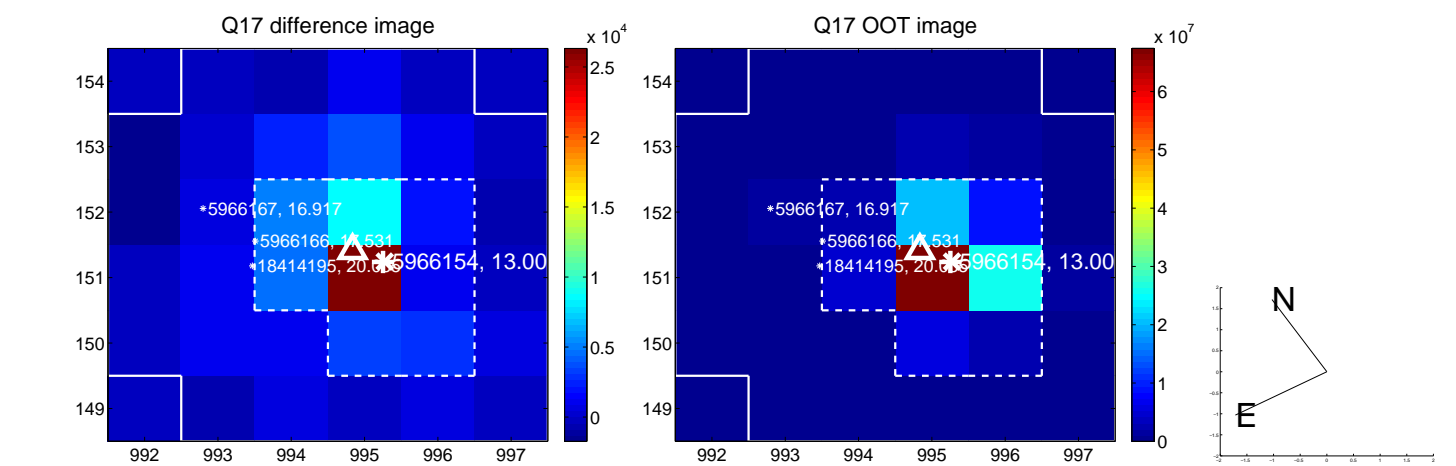
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

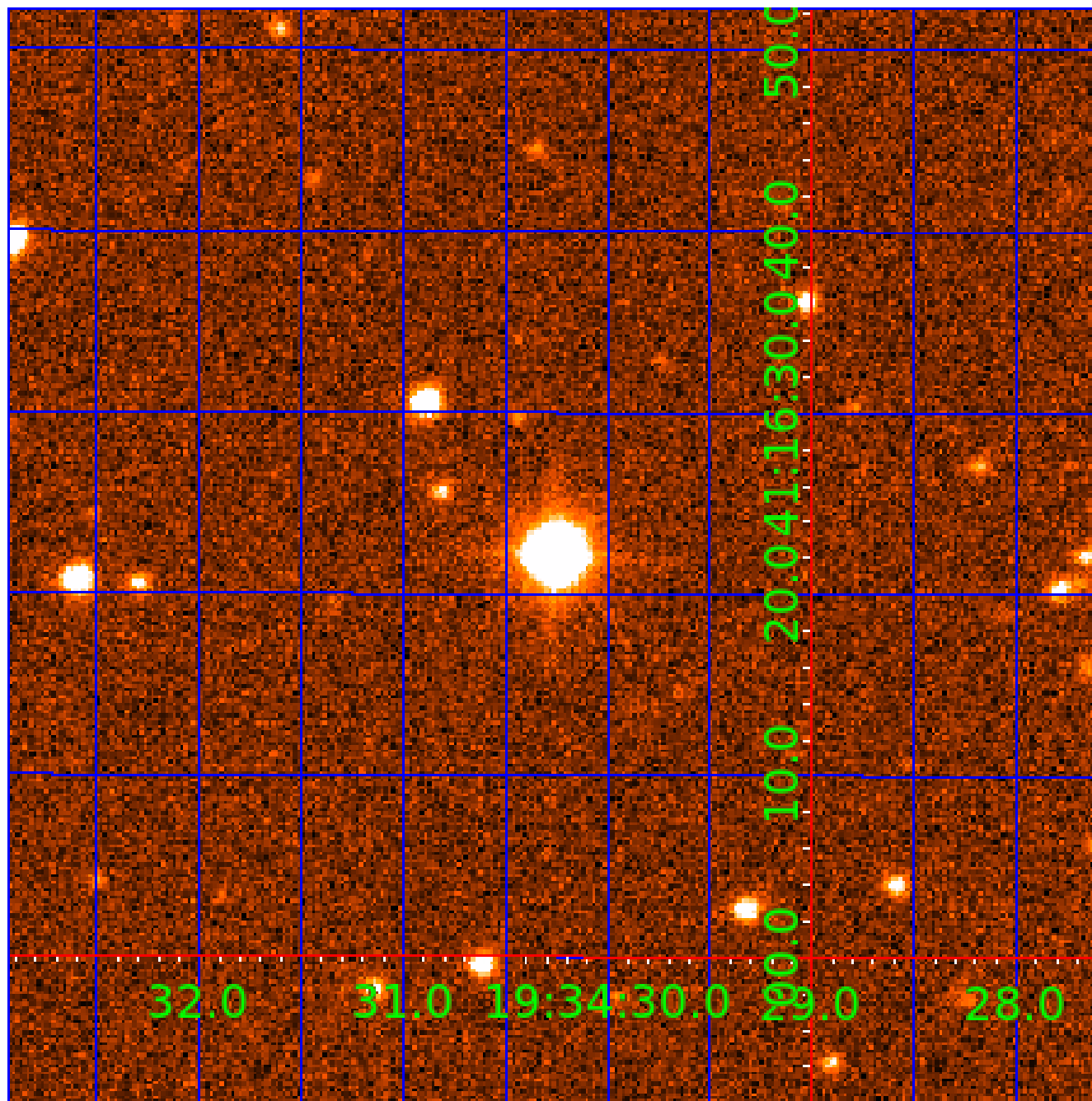


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005966154

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})
005966154-01	OBS	0655.01	25.672152	140.752553	378.3	5.967	61.4	64.6	1.18	6034	2.66	51.57
005966154-02	OBS	0655.02	151.885068	176.413852	352.6	12.128	34.7	35.0	1.18	6034	2.46	4.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005966154-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005966154-02	OBS	PC	0.97	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

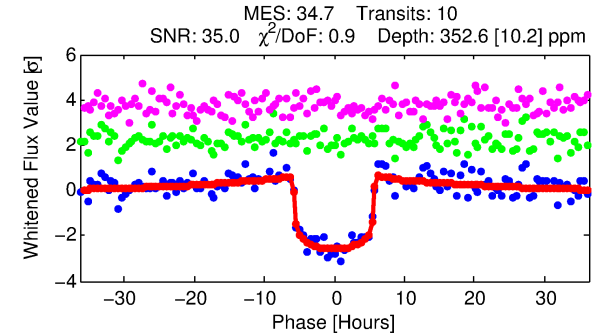
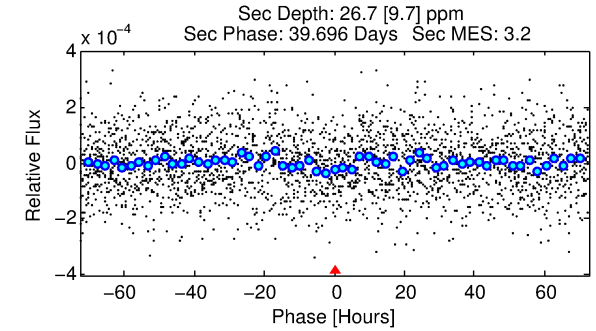
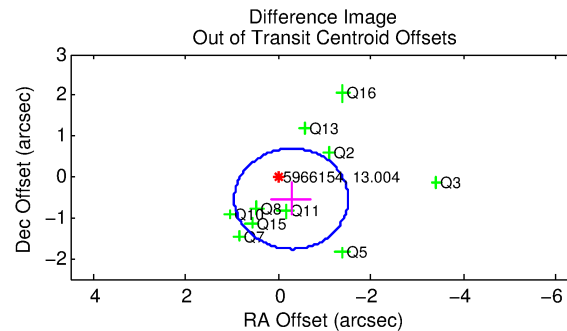
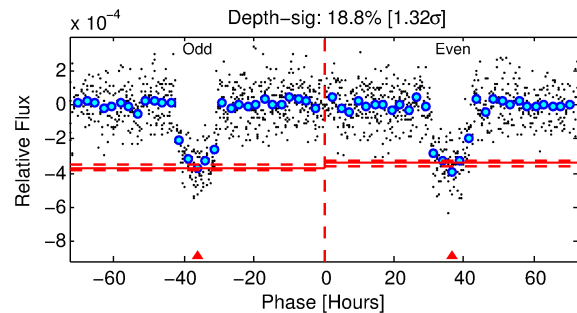
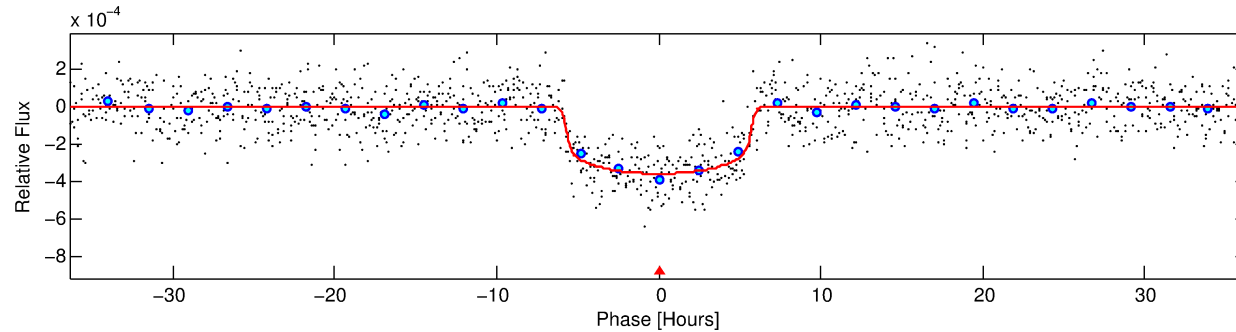
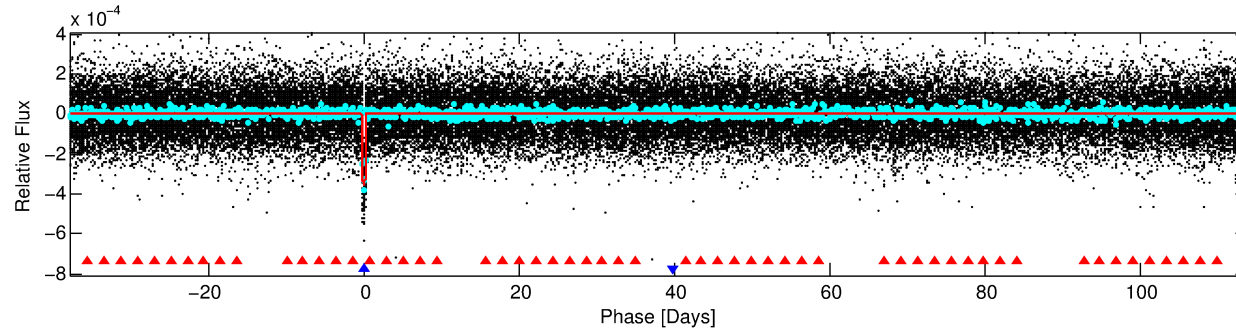
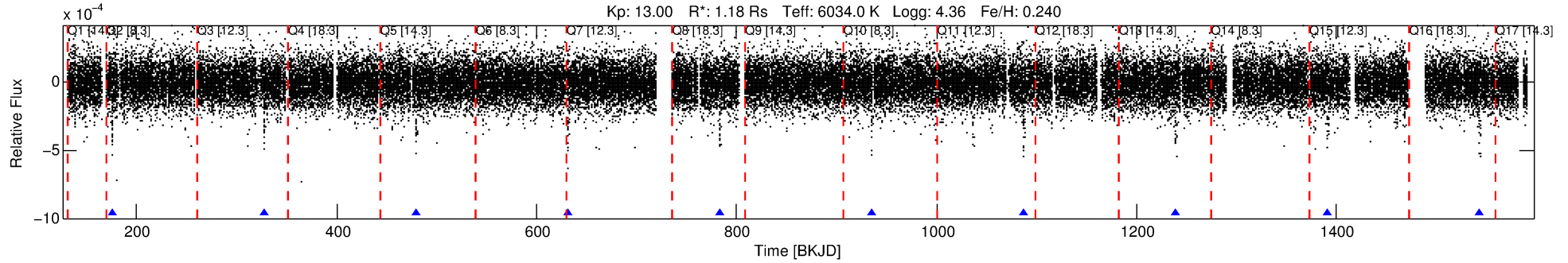
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005966154-02

No Significant Match Found

DV One-Page Summary

KIC: 5966154 Candidate: 2 of 2 Period: 151.885 d
KOI: K00655.02 Name: Kepler-201c Corr: 0.980



DV Fit Results:

Period = 151.88507 [0.00090] d
Epoch = 176.4139 [0.0048] BKJD
Rp/R* = 0.0191 [0.0013]
a/R* = 59.69 [18.85]
b = 0.81 [0.14]
Seff = 4.82 [1.09]
Teq = 378 [21] K
Rp = 2.46 [0.43] Re
a = 0.5853 [0.0812] AU
Ag = 830.16 [365.87] [2.27 σ]
Teffp = 3135 [312] K [8.81 σ]

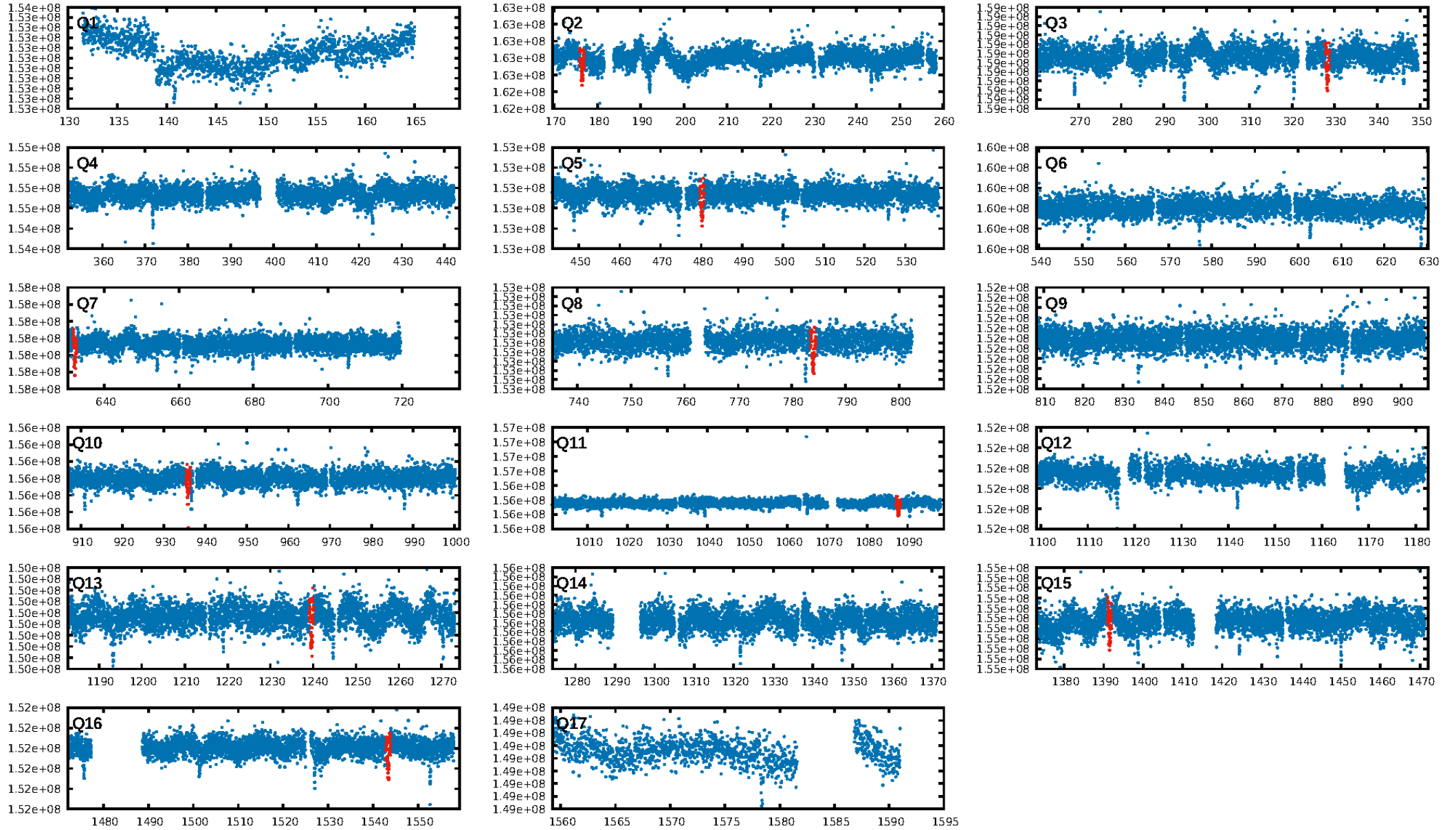
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [224.10 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 41.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.03e-225
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: 21.39
Centroid-sig: 9.5%
Centroid-so: 0.109 arcsec [0.33 σ]
OotOffset-rm: 0.605 arcsec [1.48 σ]
KicOffset-rm: 0.528 arcsec [1.28 σ]
OotOffset-st: 2/4/2/2 [10]
KicOffset-st: 2/4/2/2 [10]
DiffImageQuality-fgm: 0.80 [8/10]
DiffImageOverlap-fno: 0.90 [9/10]

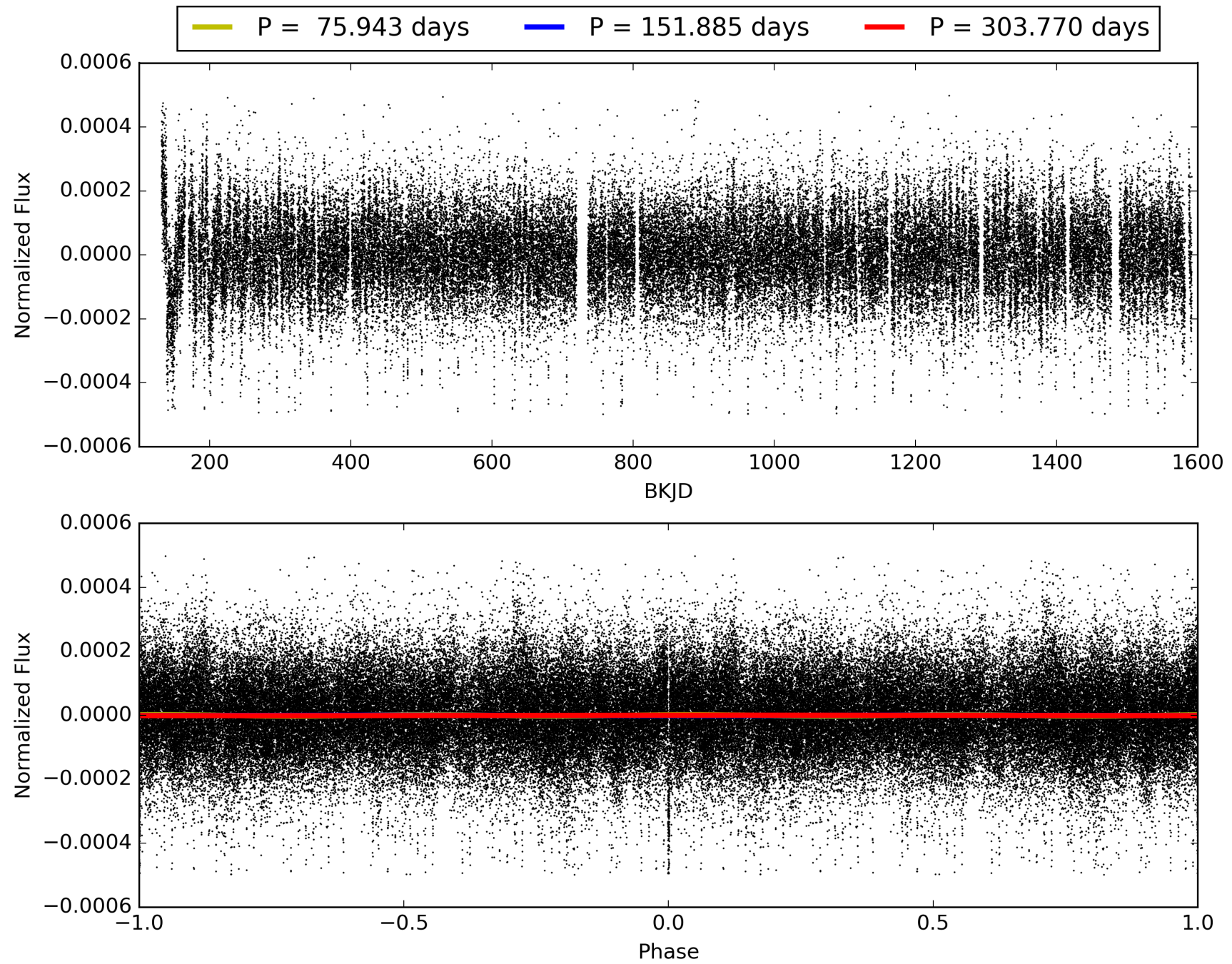
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:14:42 Z

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

TCE 005966154-02, PDC Light Curves

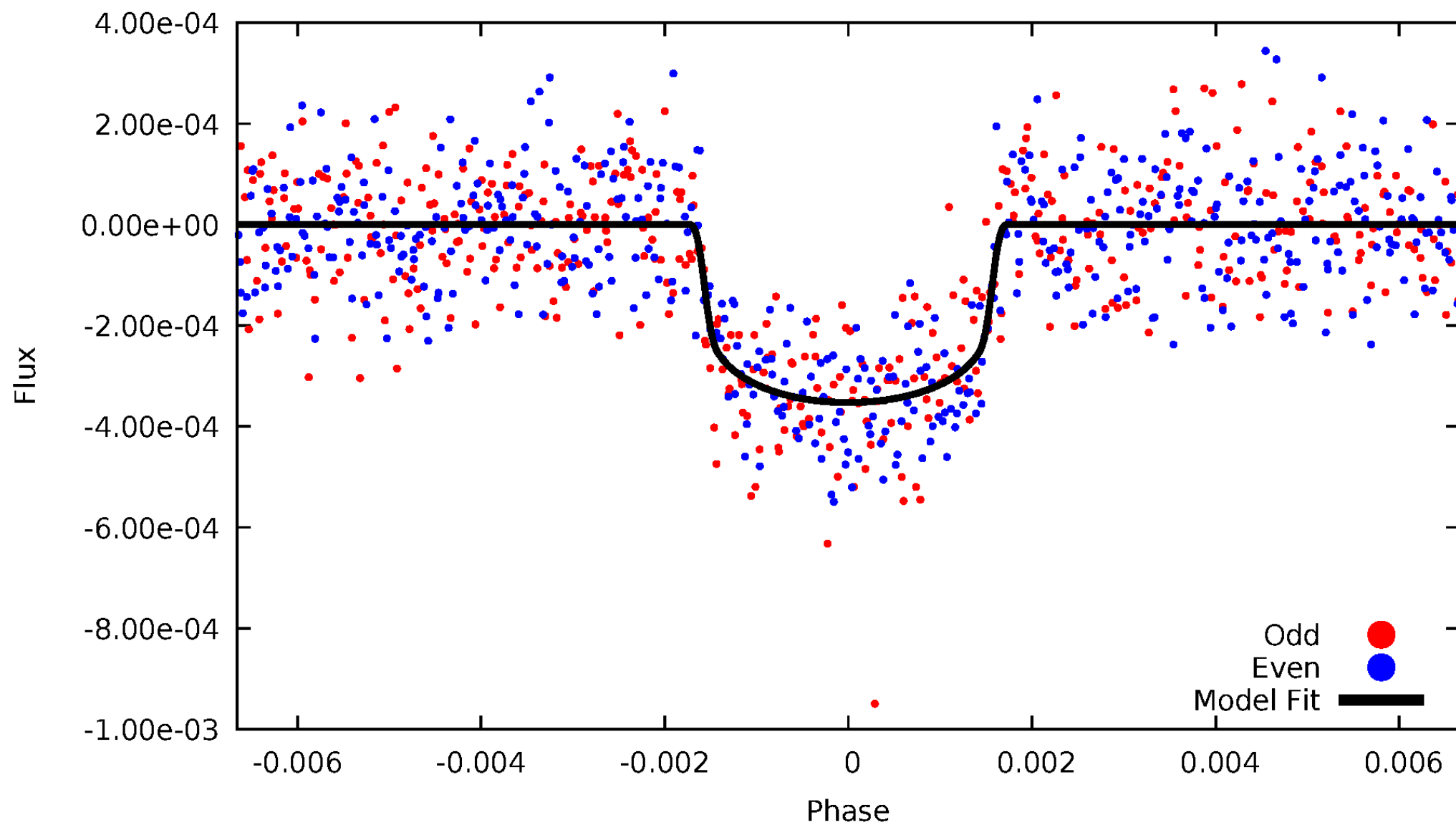


TCE 005966154-02



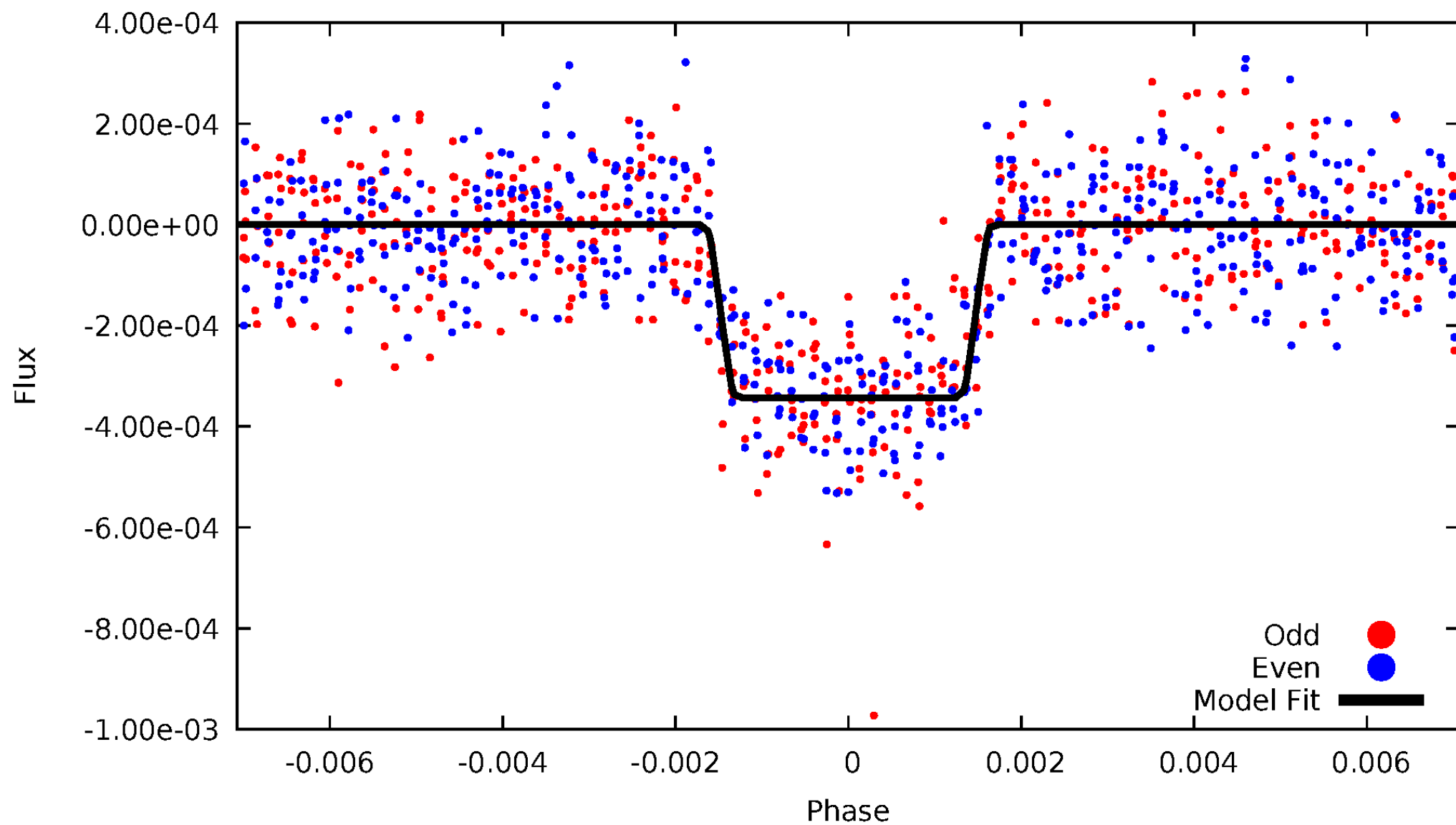
DV Odd/Even

TCE 005966154-02



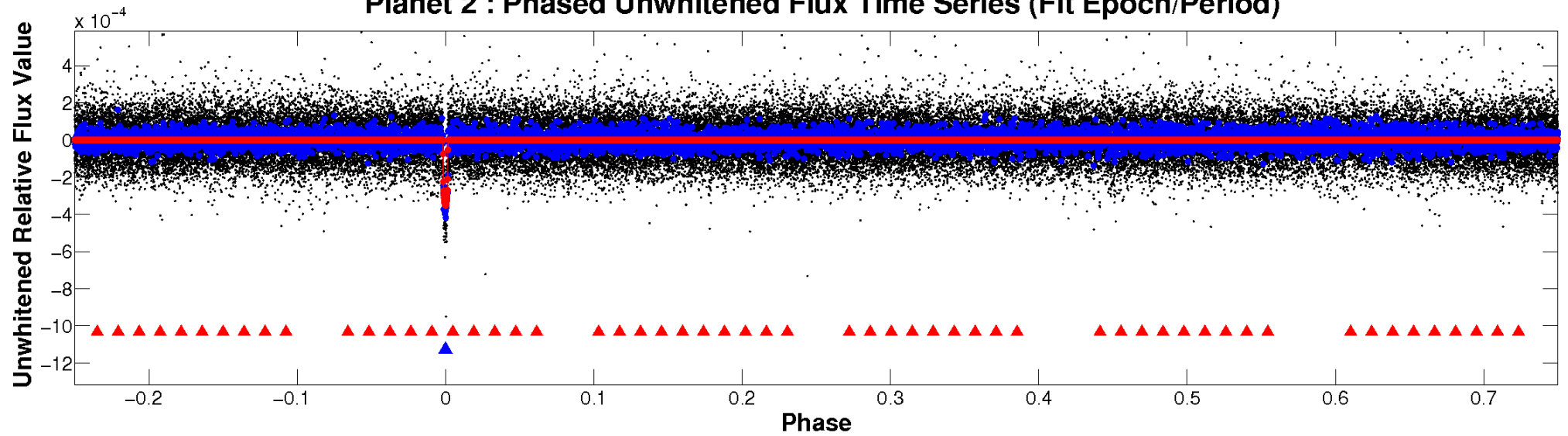
ALT Odd/Even

TCE 005966154-02

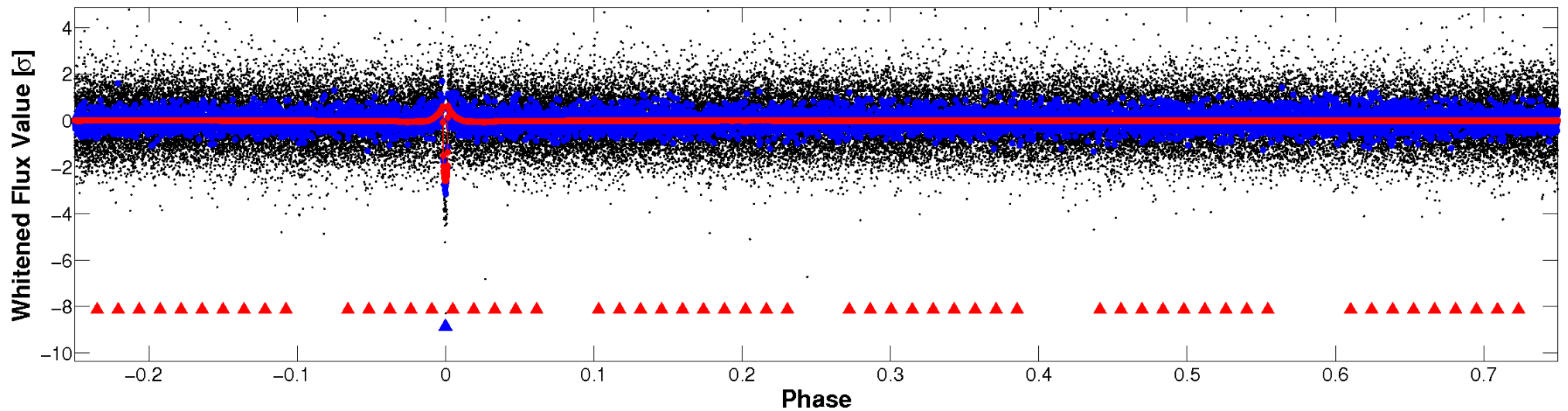


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

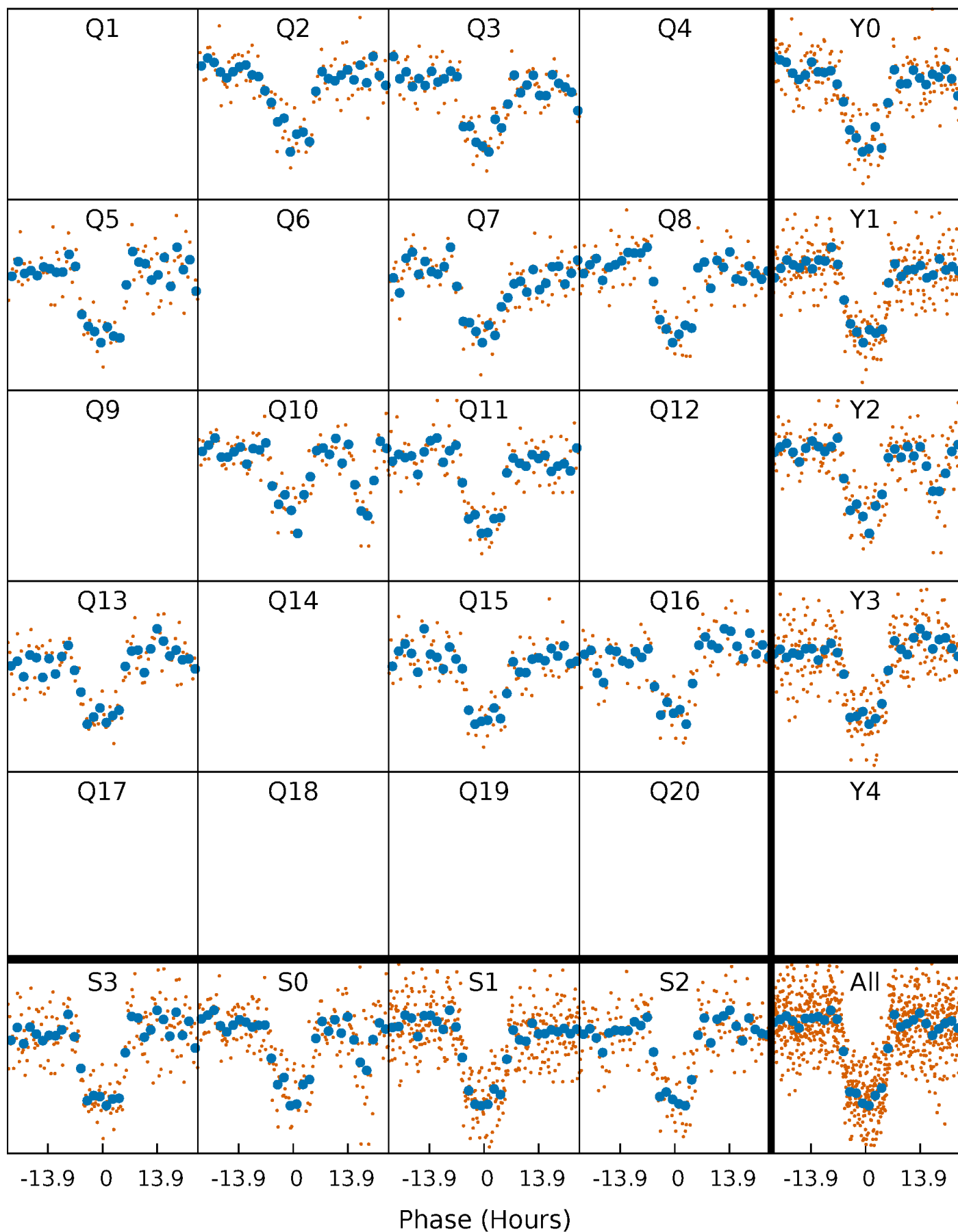


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



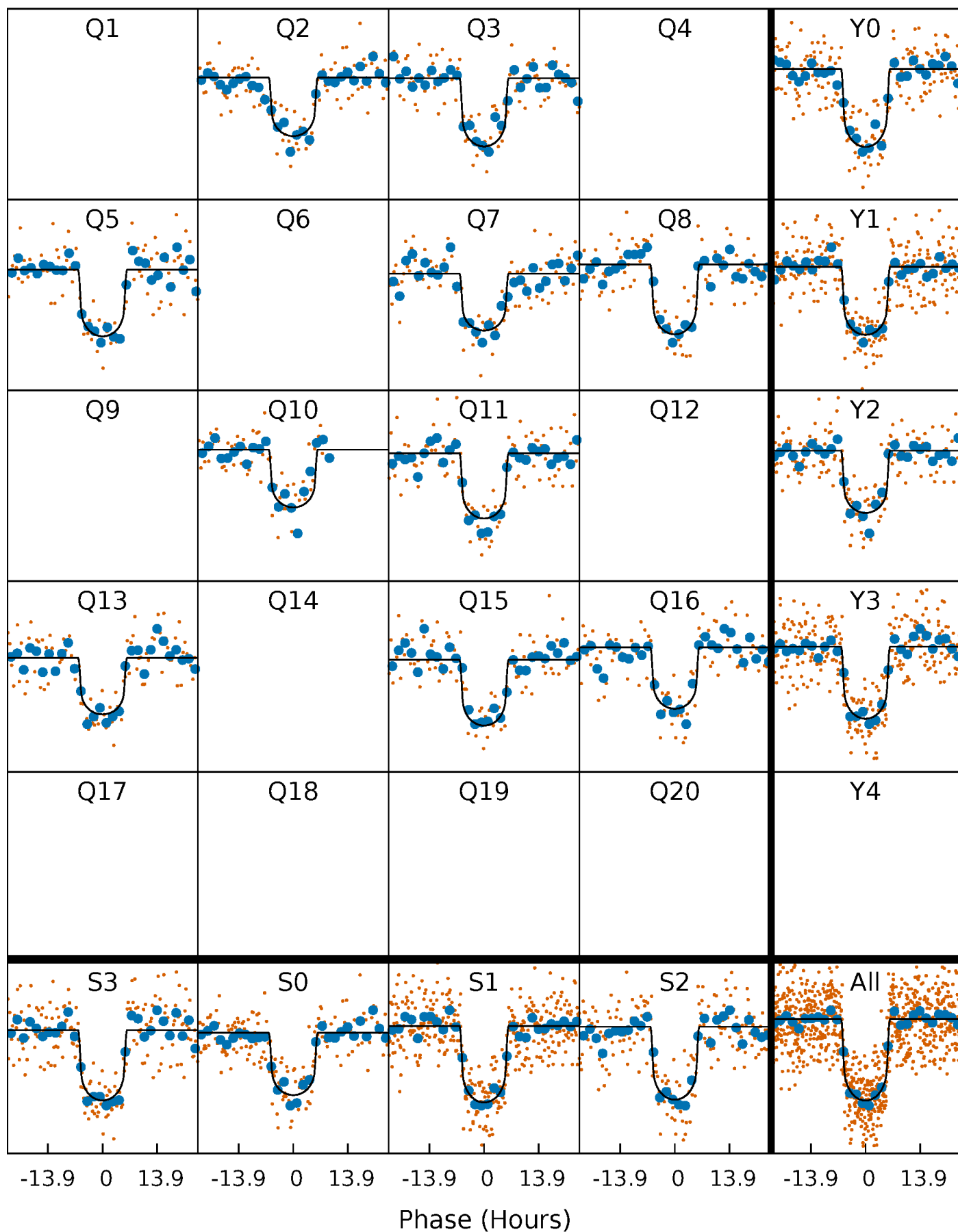
PDC Quarter-Phased Transit Curves

TCE 005966154-02 P=151.885068 Days $T_0=176.413852$ (BKJD)



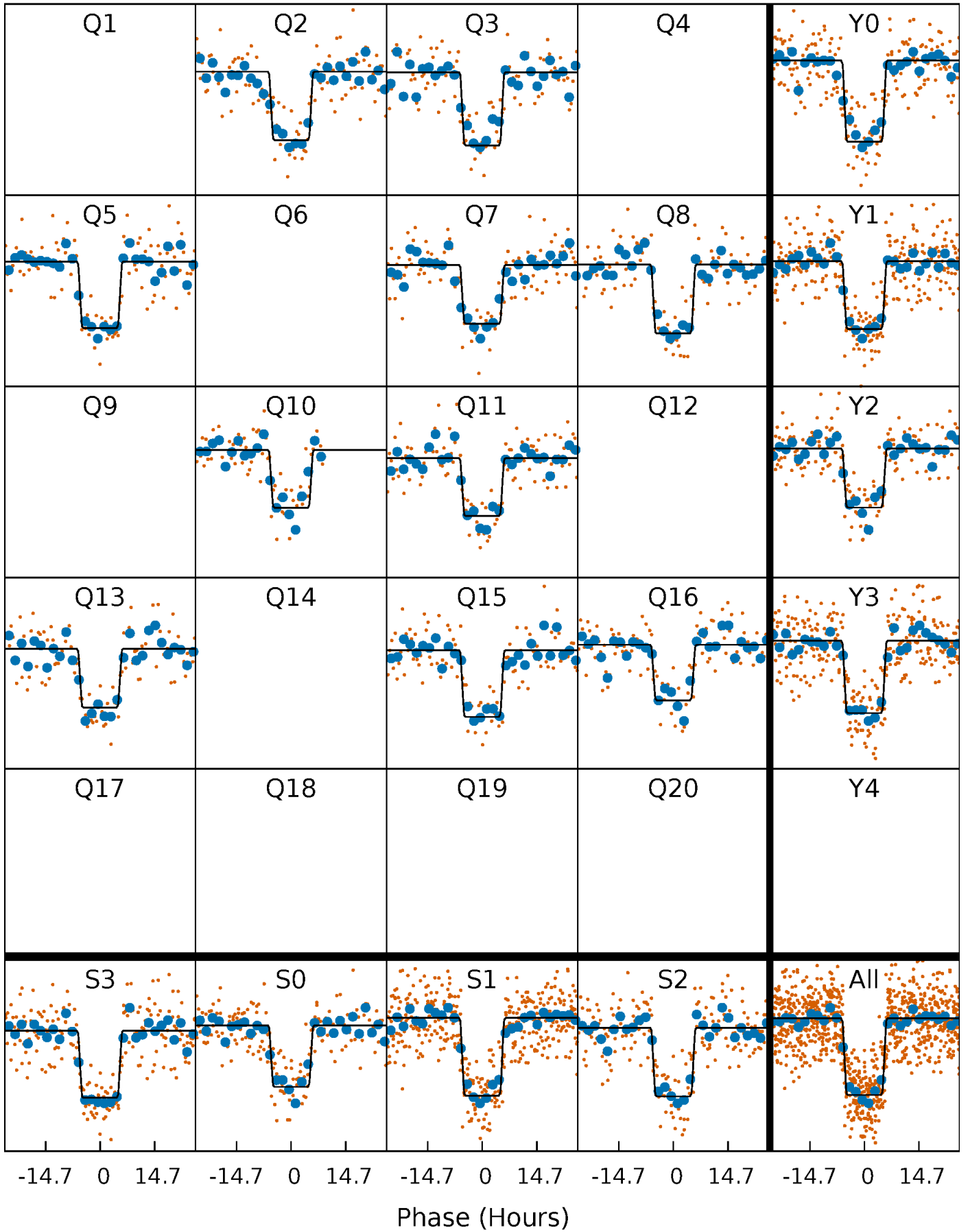
DV Quarter-Phased Transit Curves

TCE 005966154-02 P=151.885068 Days $T_0=176.413852$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

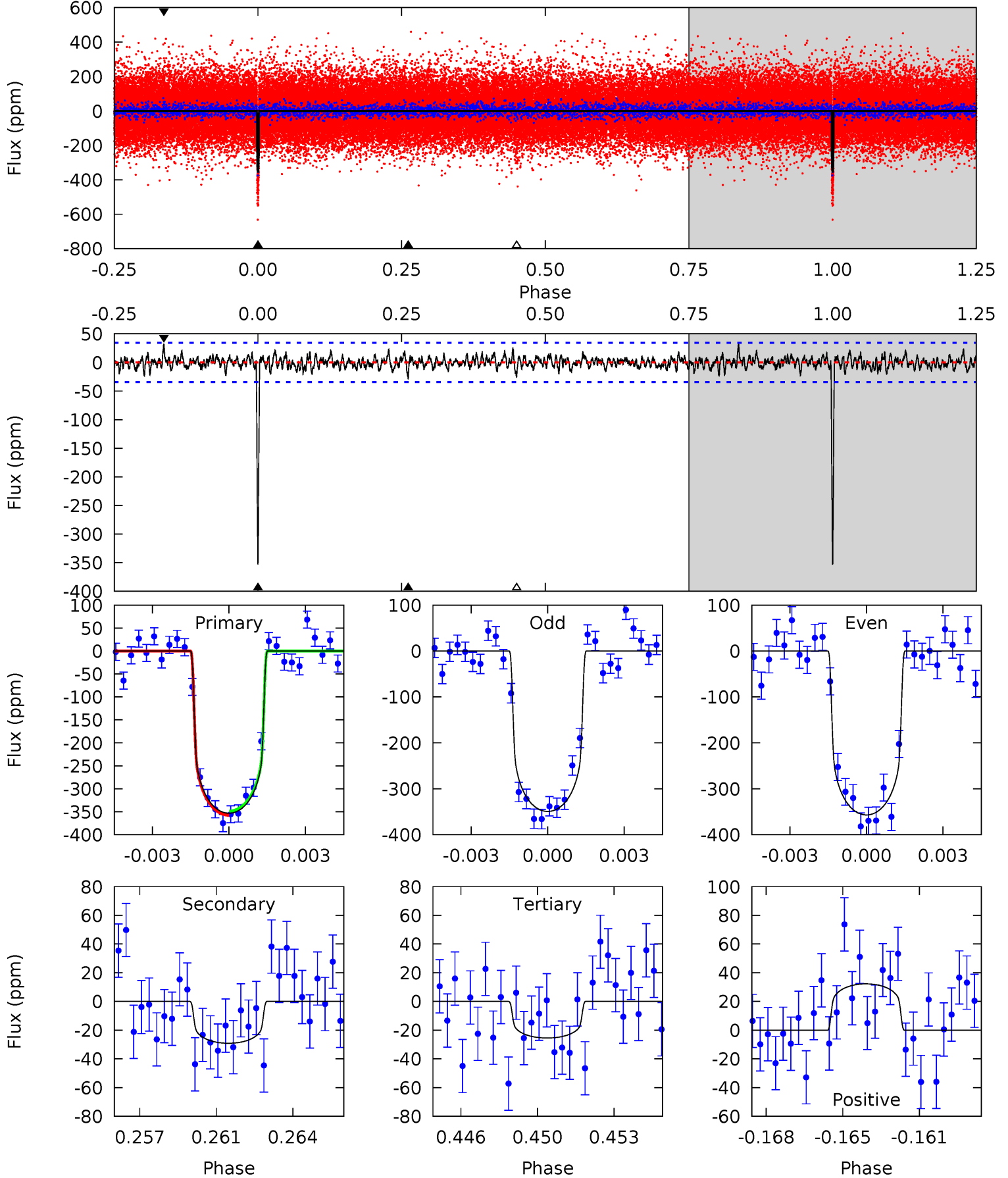
TCE 005966154-02 P=151.882652 Days $T_0=176.424811$ (BKJD)



DV Model-Shift Uniqueness Test

005966154-02, $P = 151.885068$ Days, $E = 24.528784$ Days

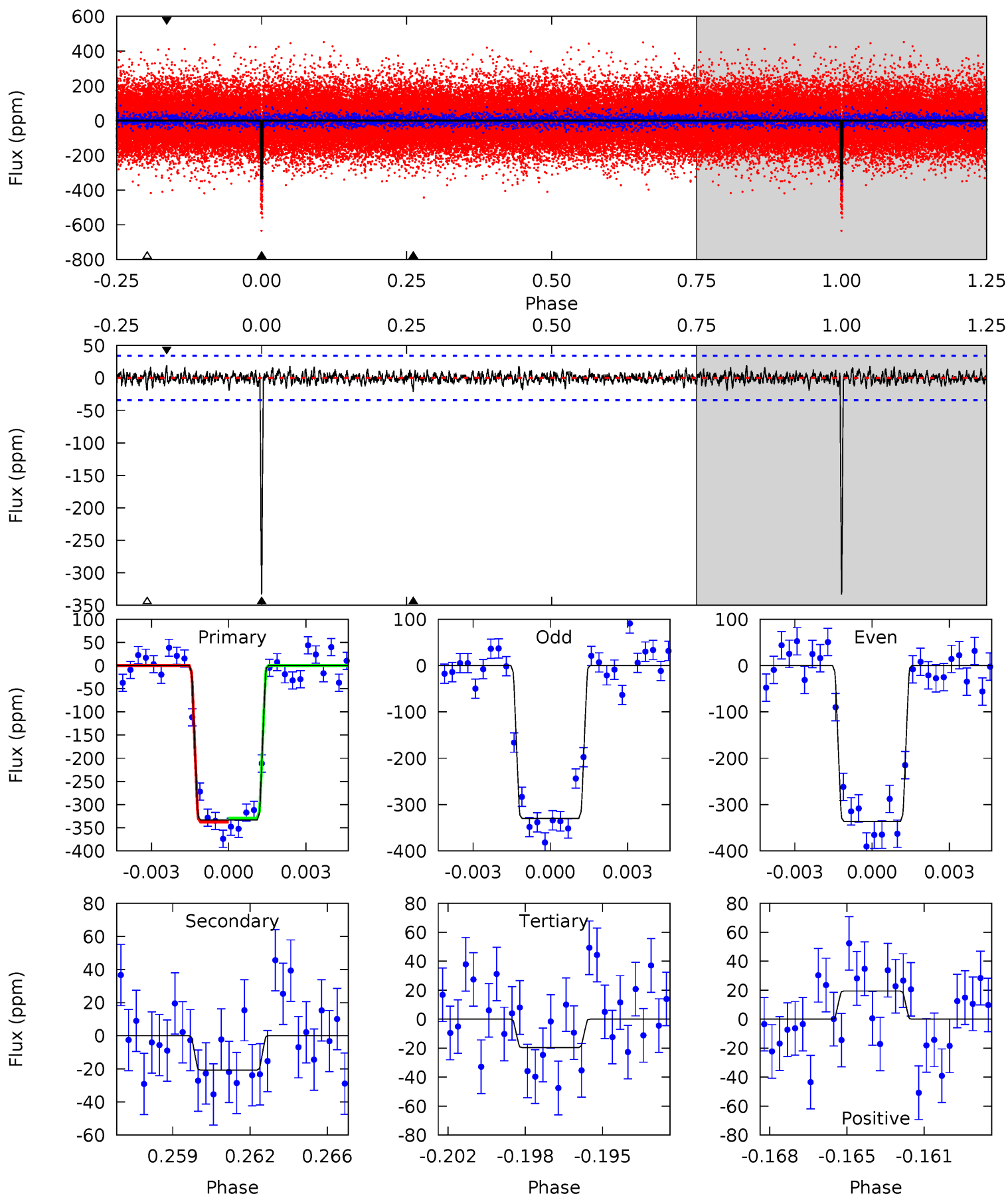
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.6	4.42	3.86	4.90	5.23	2.93	1.18	49.7	48.7	0.56	-0.48	0.58	0.99	0.08	0.70



Alt Model-Shift Uniqueness Test

005966154-02, $P = 151.882652$ Days, $E = 24.542159$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.8	3.16	2.98	2.97	5.23	2.93	0.83	47.8	47.9	0.18	0.20	0.48	1.03	0.06	0.64



Stellar Parameters For KIC 005966154

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6034^{+109}_{-133}	$4.359^{+0.063}_{-0.117}$	$0.240^{+0.150}_{-0.150}$	$1.179^{+0.187}_{-0.109}$	$1.164^{+0.073}_{-0.089}$	$1.000^{+0.252}_{-0.341}$
	+2%/-2%	+1%/-3%	+62%/-62%	+16%/-9%	+6%/-8%	+25%/-34%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 005966154-02 / KOI 0655.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-29 ± 7	$2.51^{+0.24}_{-0.24}$	531^{+22}_{-19}	3635^{+162}_{-179}	867^{+304}_{-232}
Alt.	-21 ± 7	$2.43^{+0.24}_{-0.23}$	532^{+23}_{-18}	3475^{+185}_{-205}	643^{+286}_{-221}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

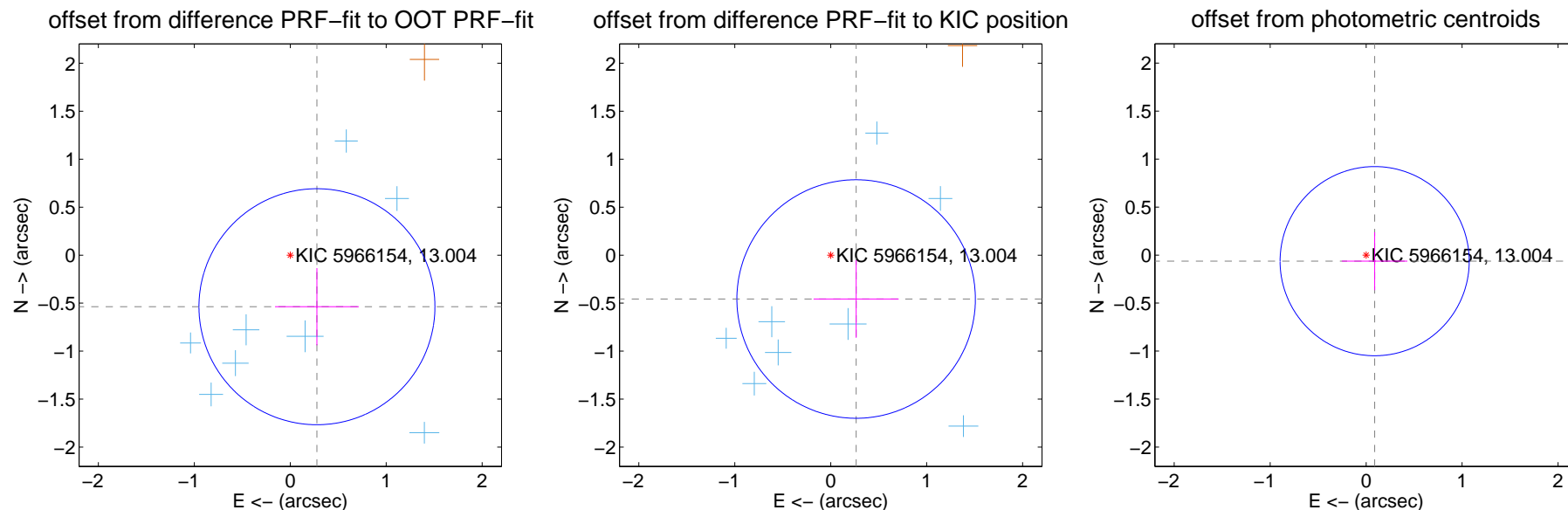
DV Centroid Data

Supplemental centroid analysis for 005966154-02. Kepler magnitude: 13.00. Transit SNR 35.02

There are 8 quarters with good PRF difference image offsets

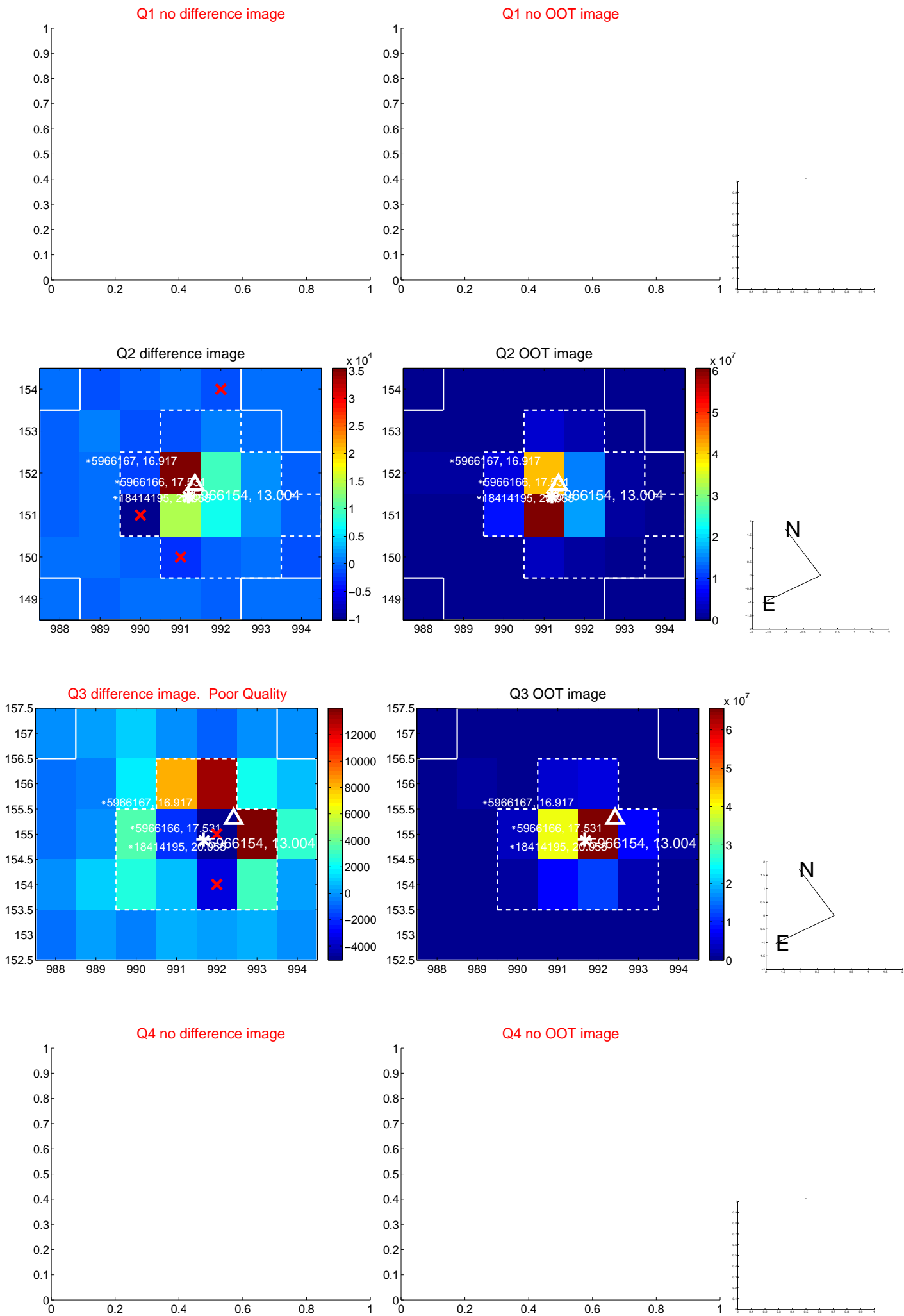
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.605 ± 0.410	1.48	-0.278 ± 0.437	-0.537 ± 0.403
PRF-fit source offset from KIC position	0.528 ± 0.414	1.28	-0.265 ± 0.443	-0.457 ± 0.404
photometric centroid source offset	0.11 ± 0.33	0.33	-0.09 ± 0.34	-0.06 ± 0.30

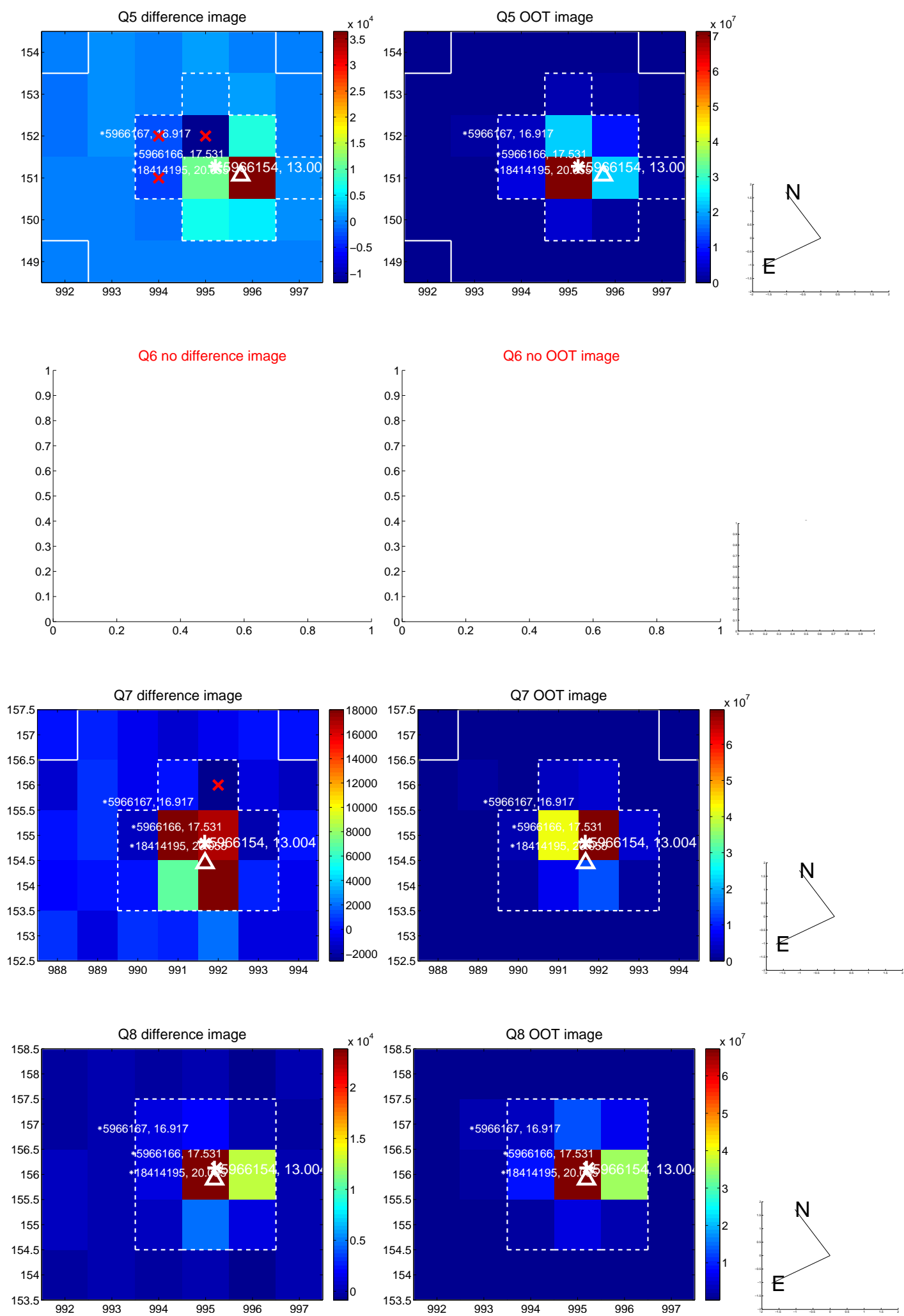


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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 \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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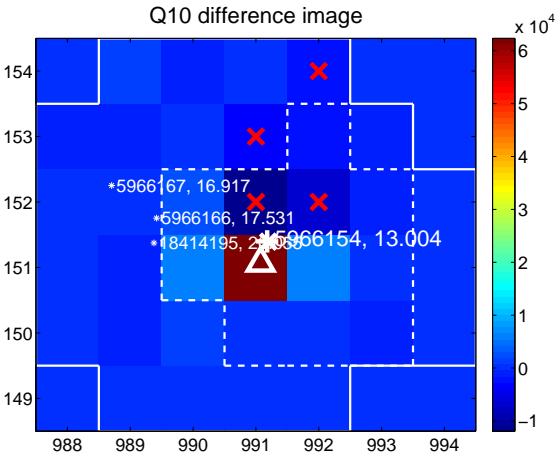
Q9 no difference image



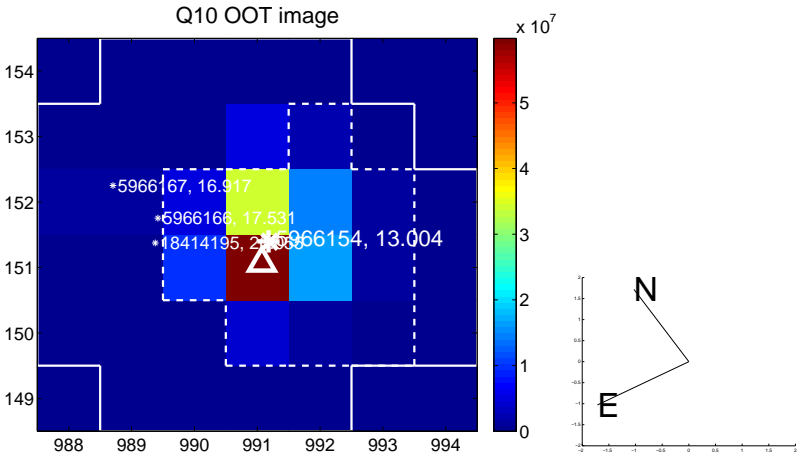
Q9 no OOT image



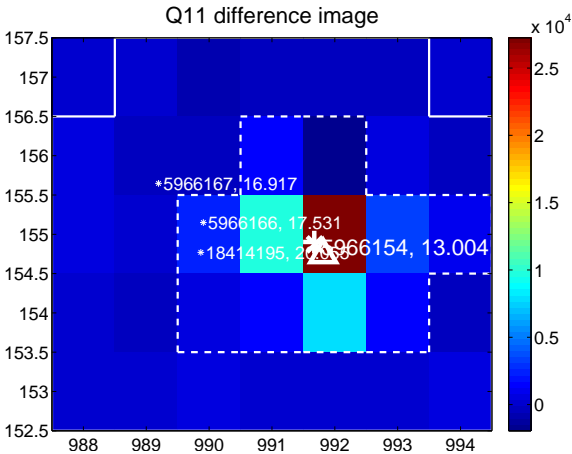
Q10 difference image



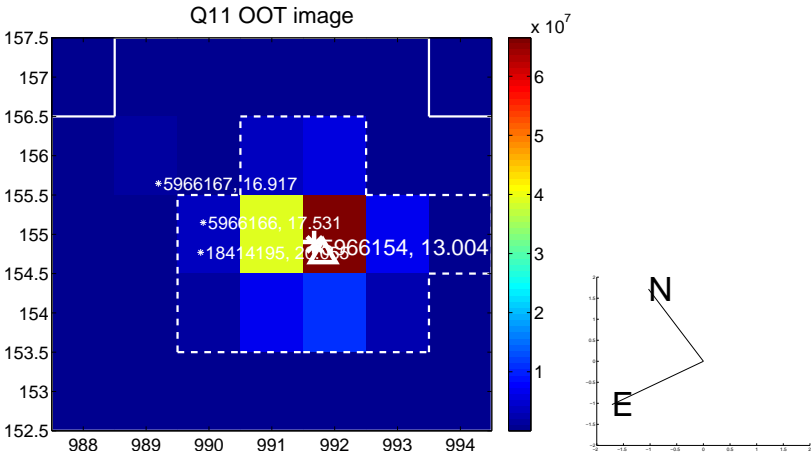
Q10 OOT image



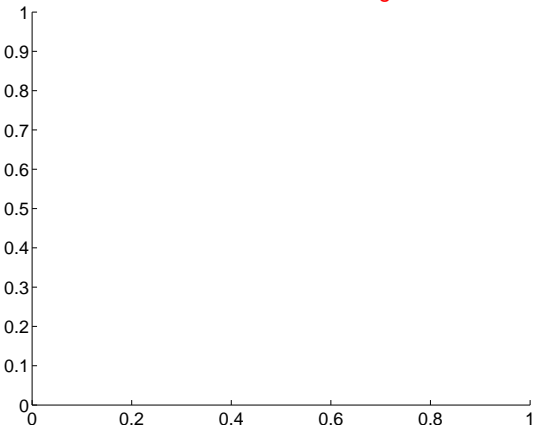
Q11 difference image



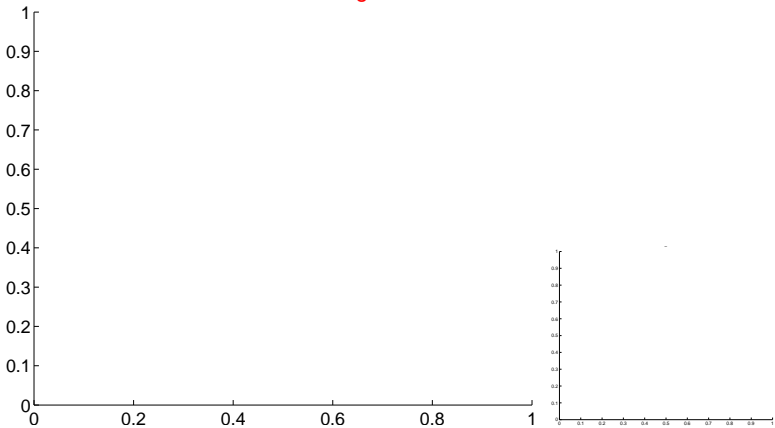
Q11 OOT image



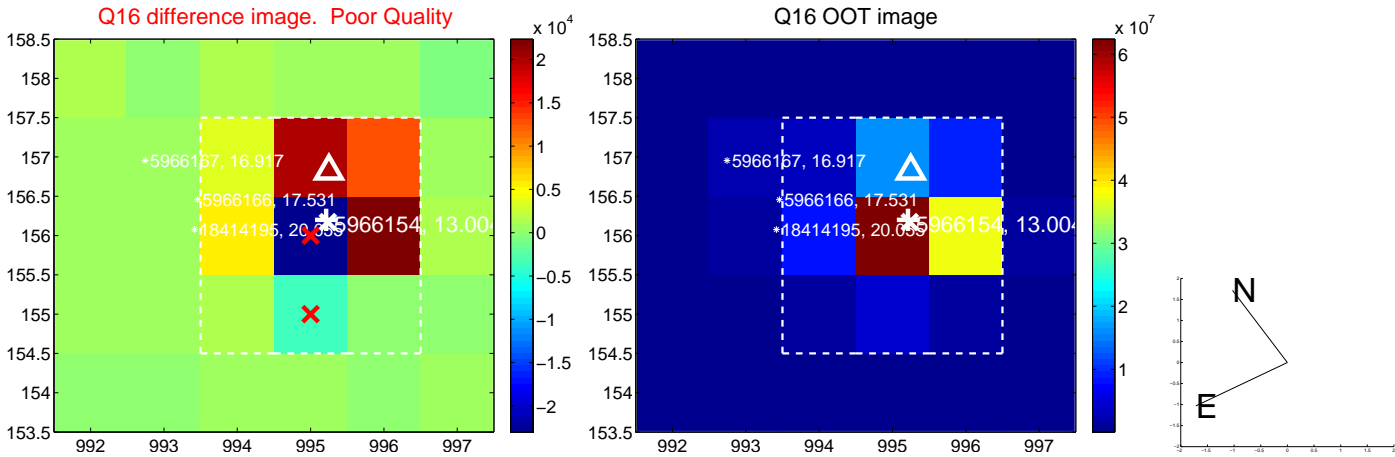
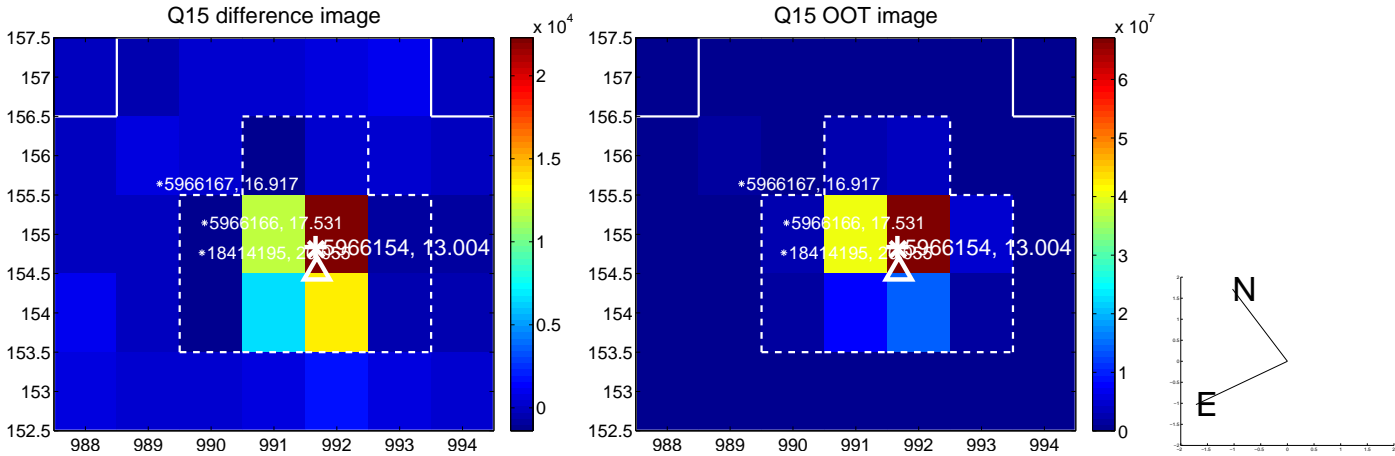
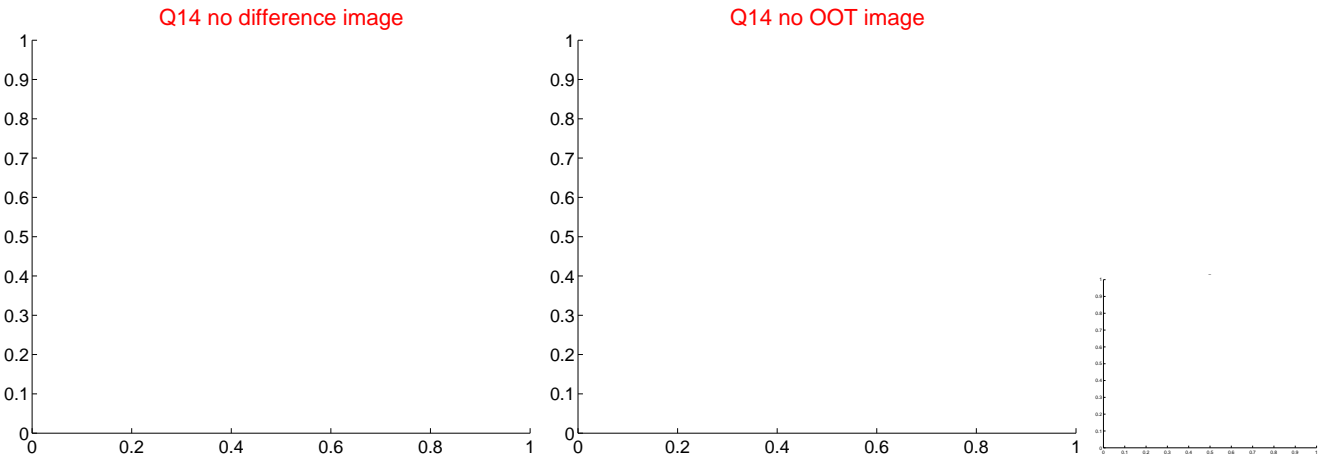
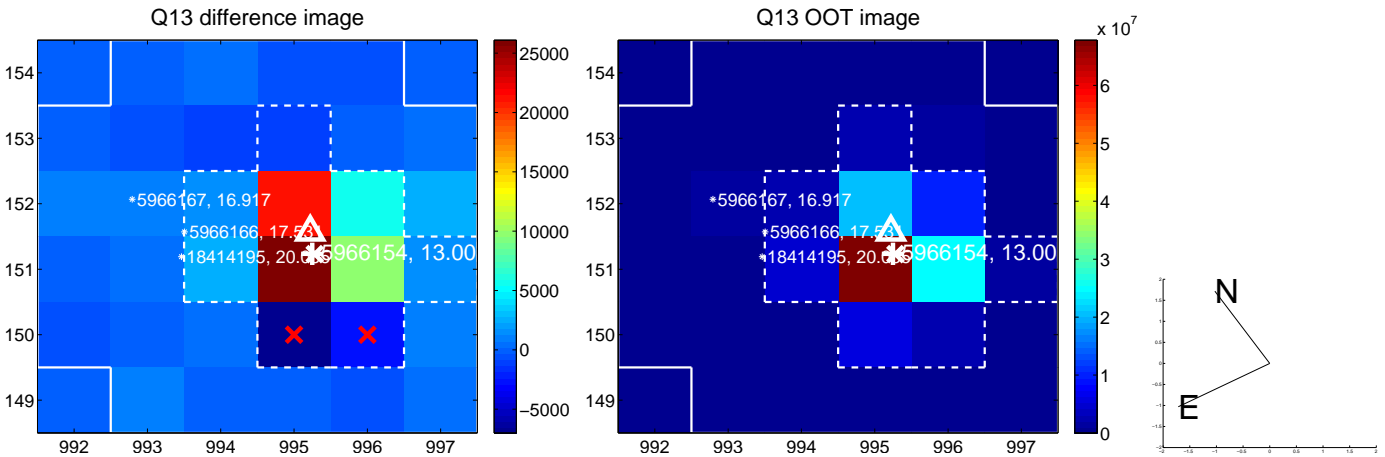
Q12 no difference image



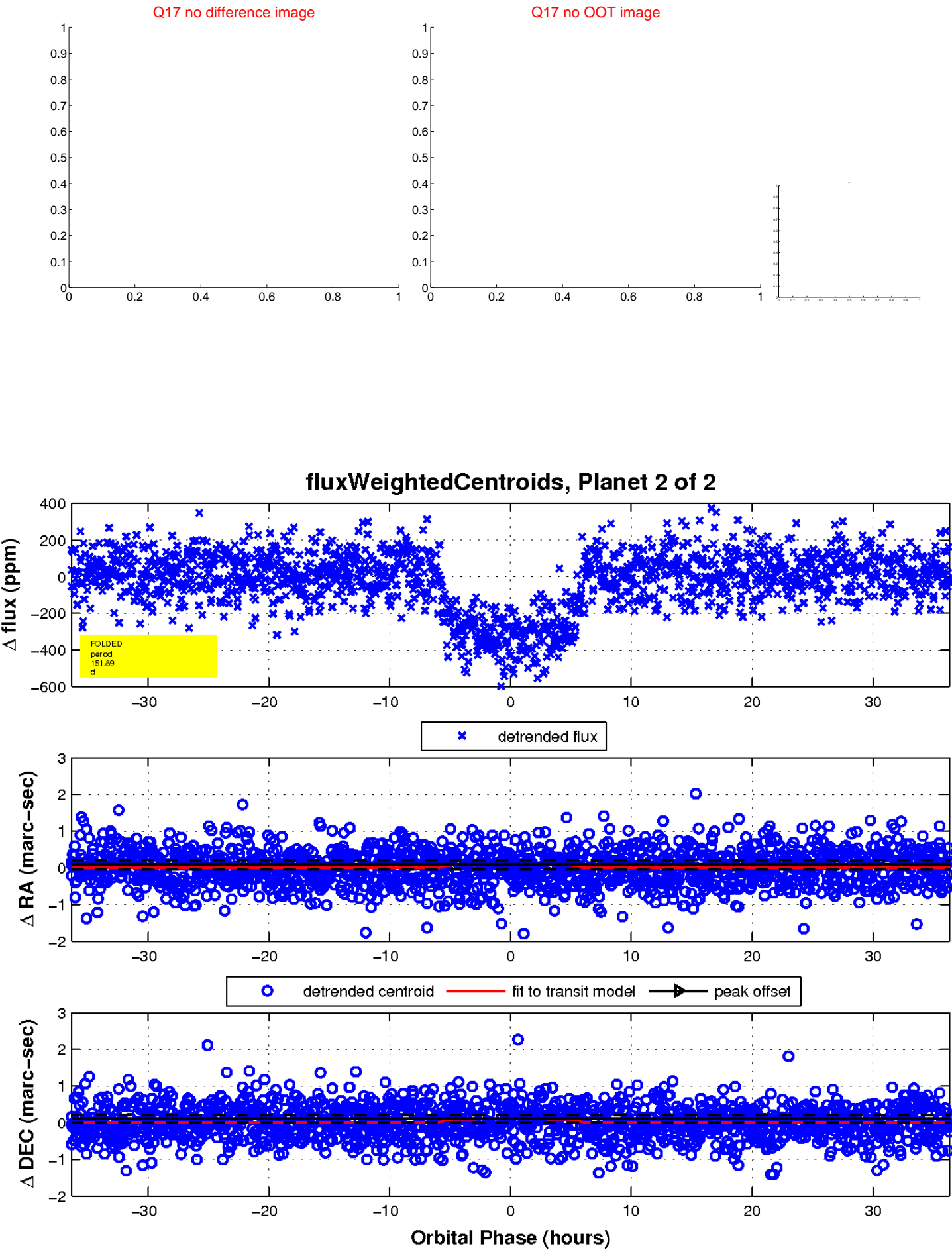
Q12 no OOT image



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UKIRT Image

Declination

