

KIC 010605155

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})
010605155-01	OBS	No	0.619918	132.010666	29.1	1.675	8.0	6.2	6.59	5217	4.29	0.00
010605155-02	OBS	No	301.424718	330.199855	742.4	3.705	8.4	7.9	6.59	5217	19.55	26.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010605155-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010605155-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

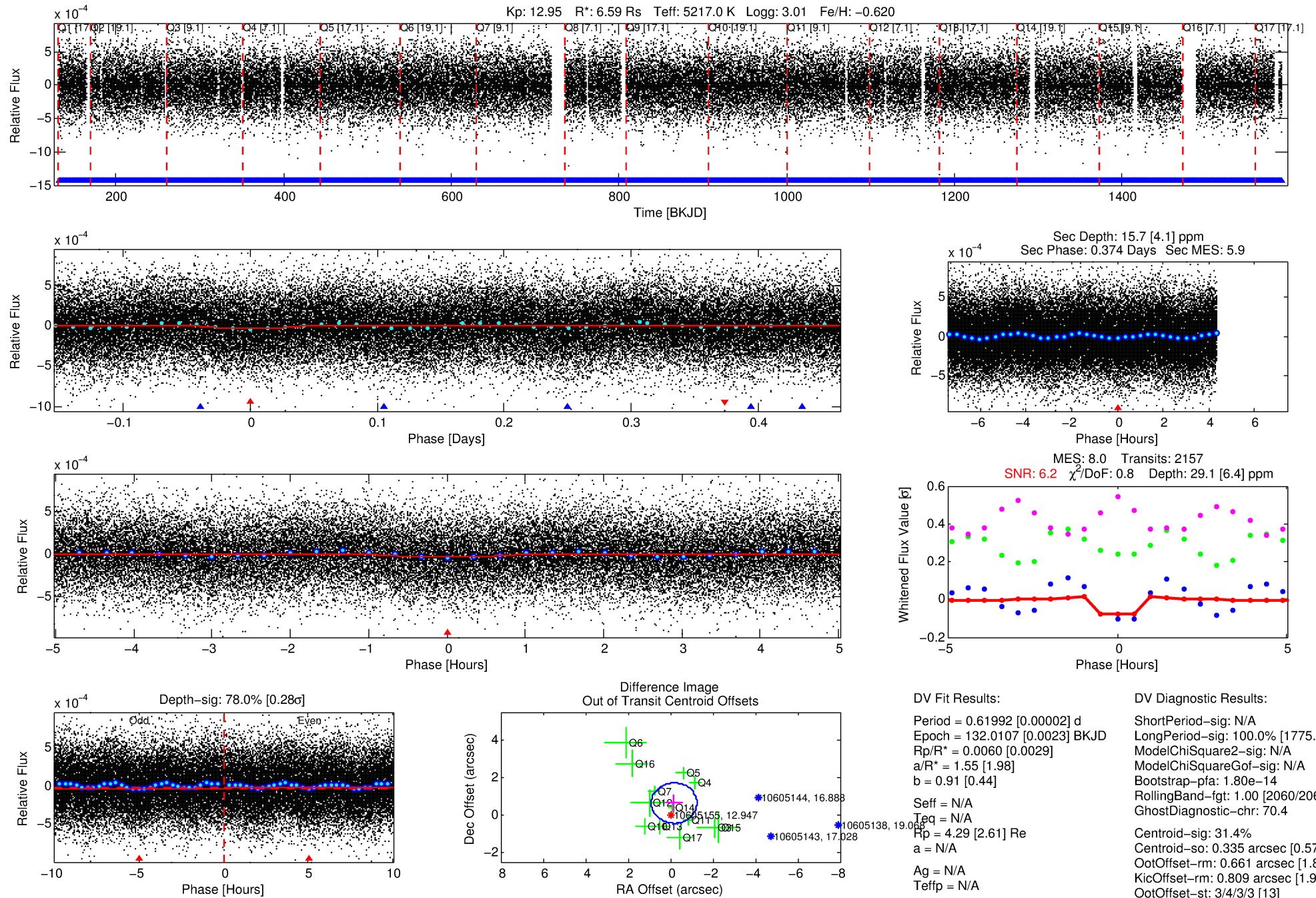
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010605155-01

No Significant Match Found

DV One-Page Summary

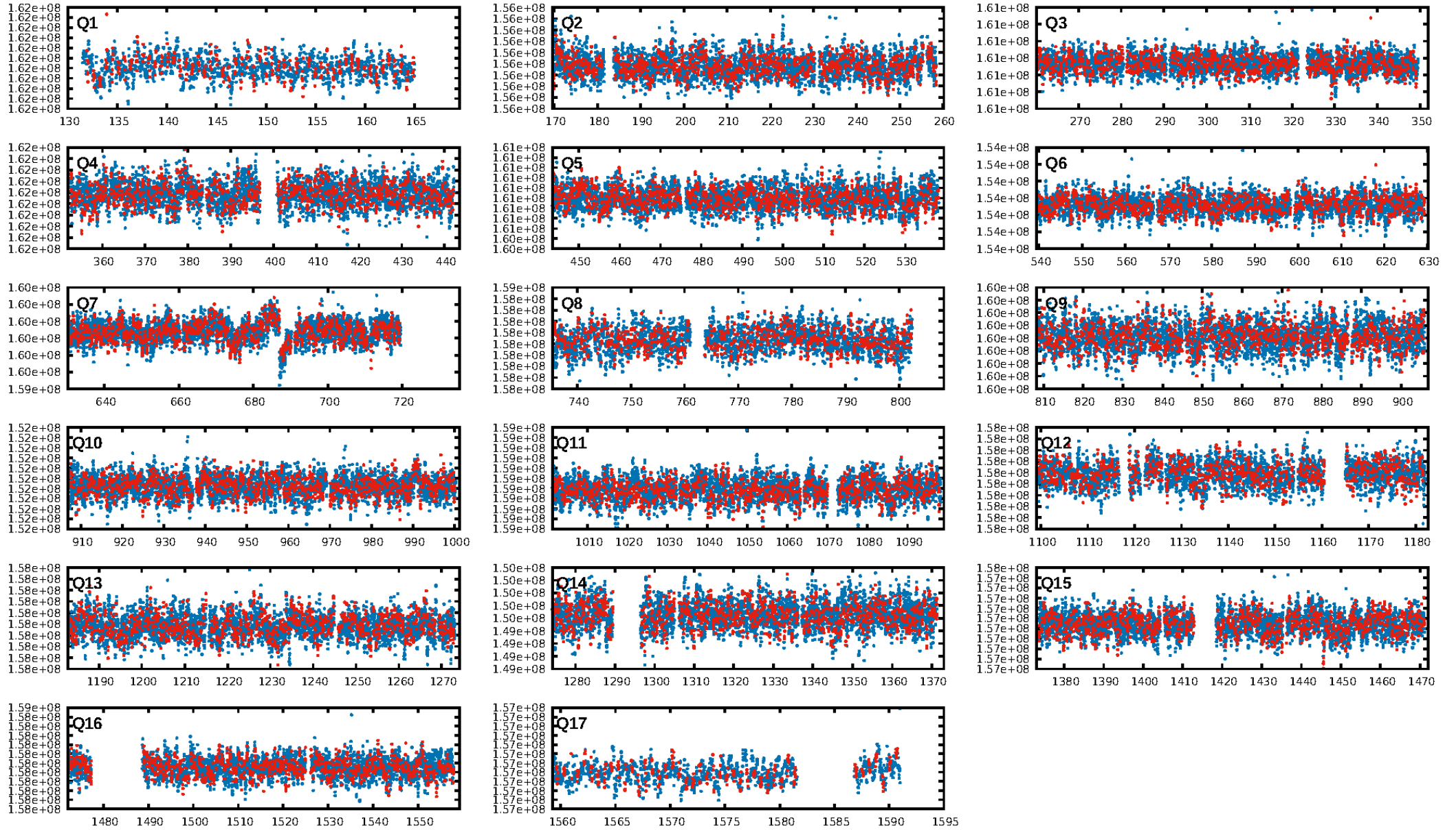
KIC: 10605155 Candidate: 1 of 2 Period: 0.620 d



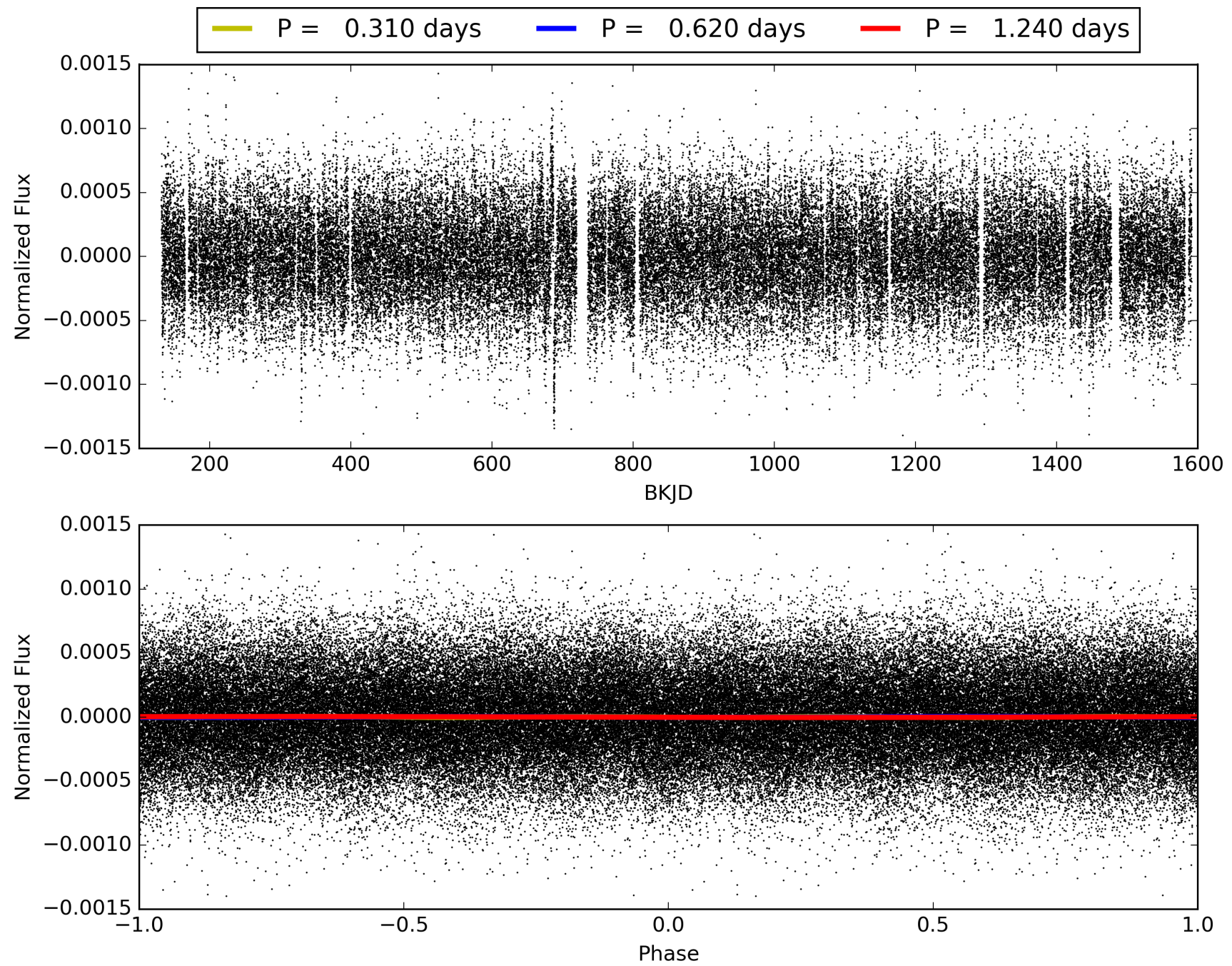
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:18:13 Z

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

TCE 010605155-01, PDC Light Curves

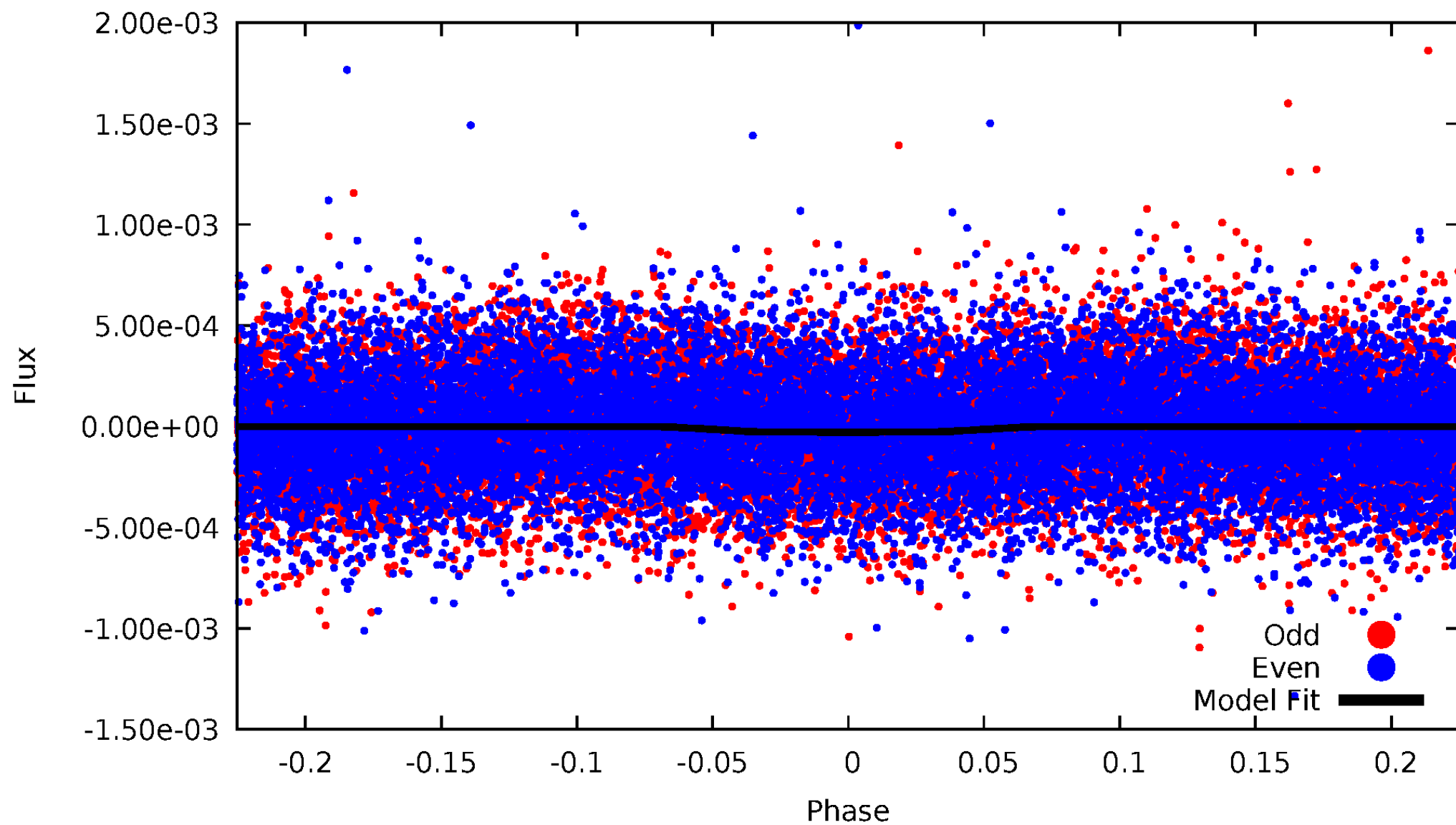


TCE 010605155-01



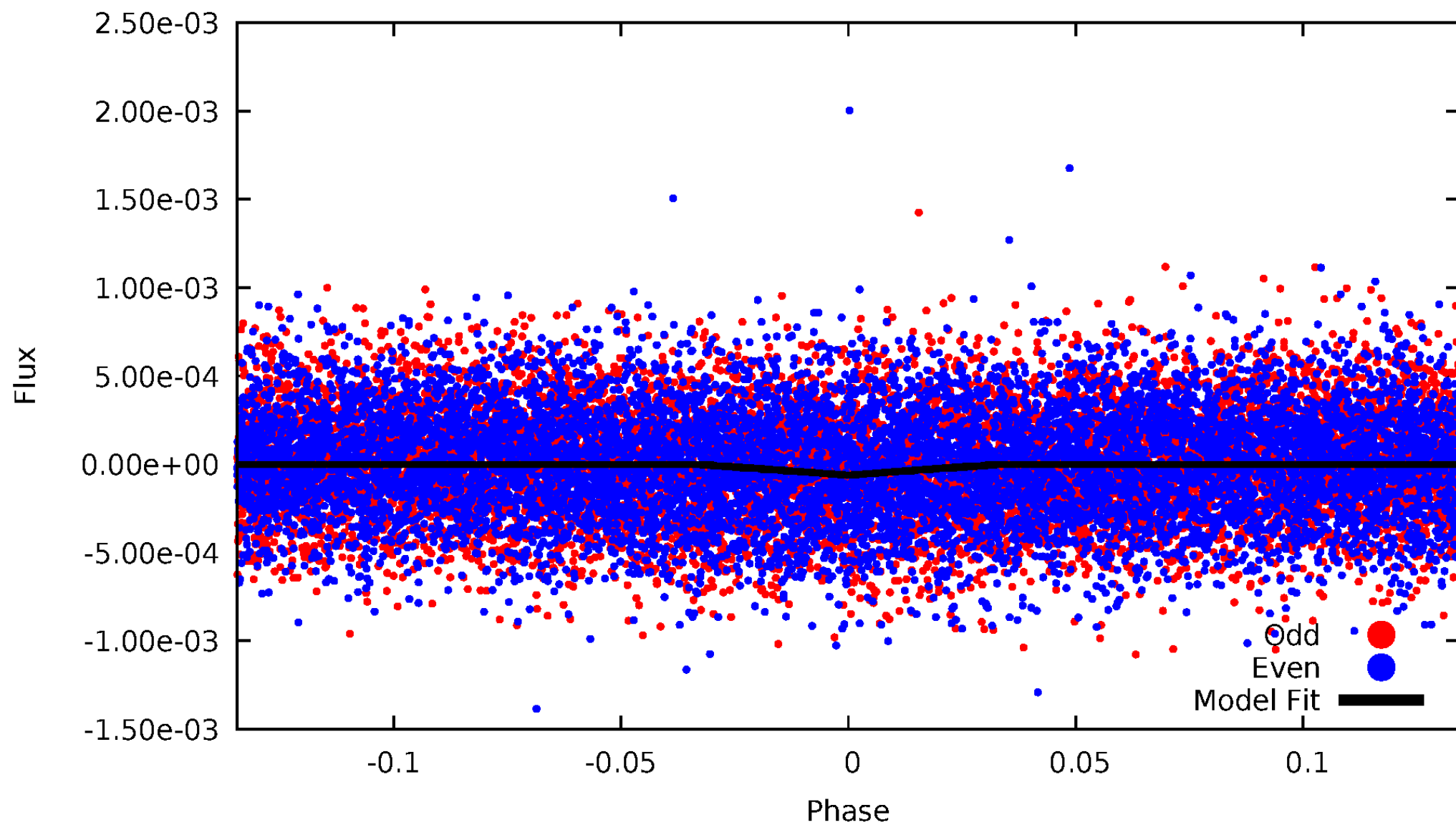
DV Odd/Even

TCE 010605155-01

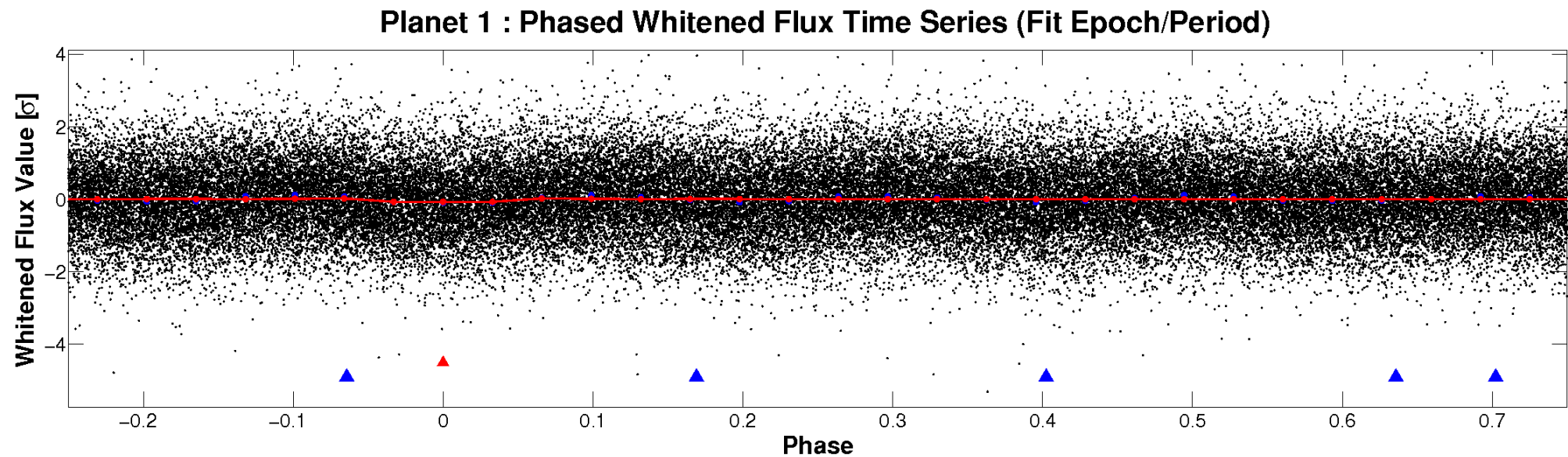
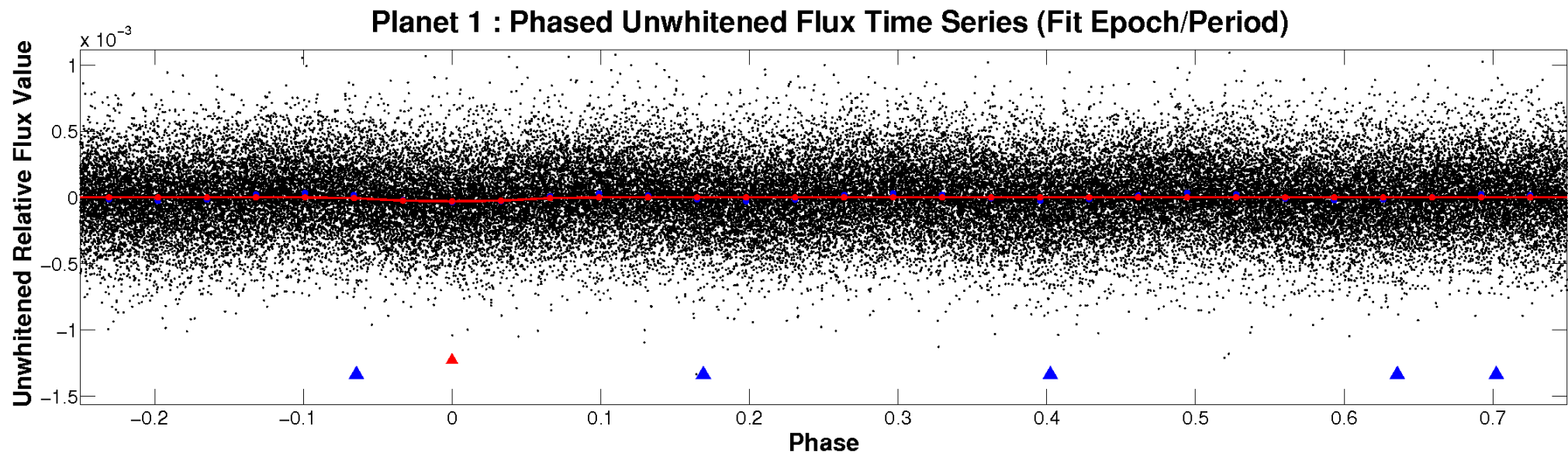


ALT Odd/Even

TCE 010605155-01

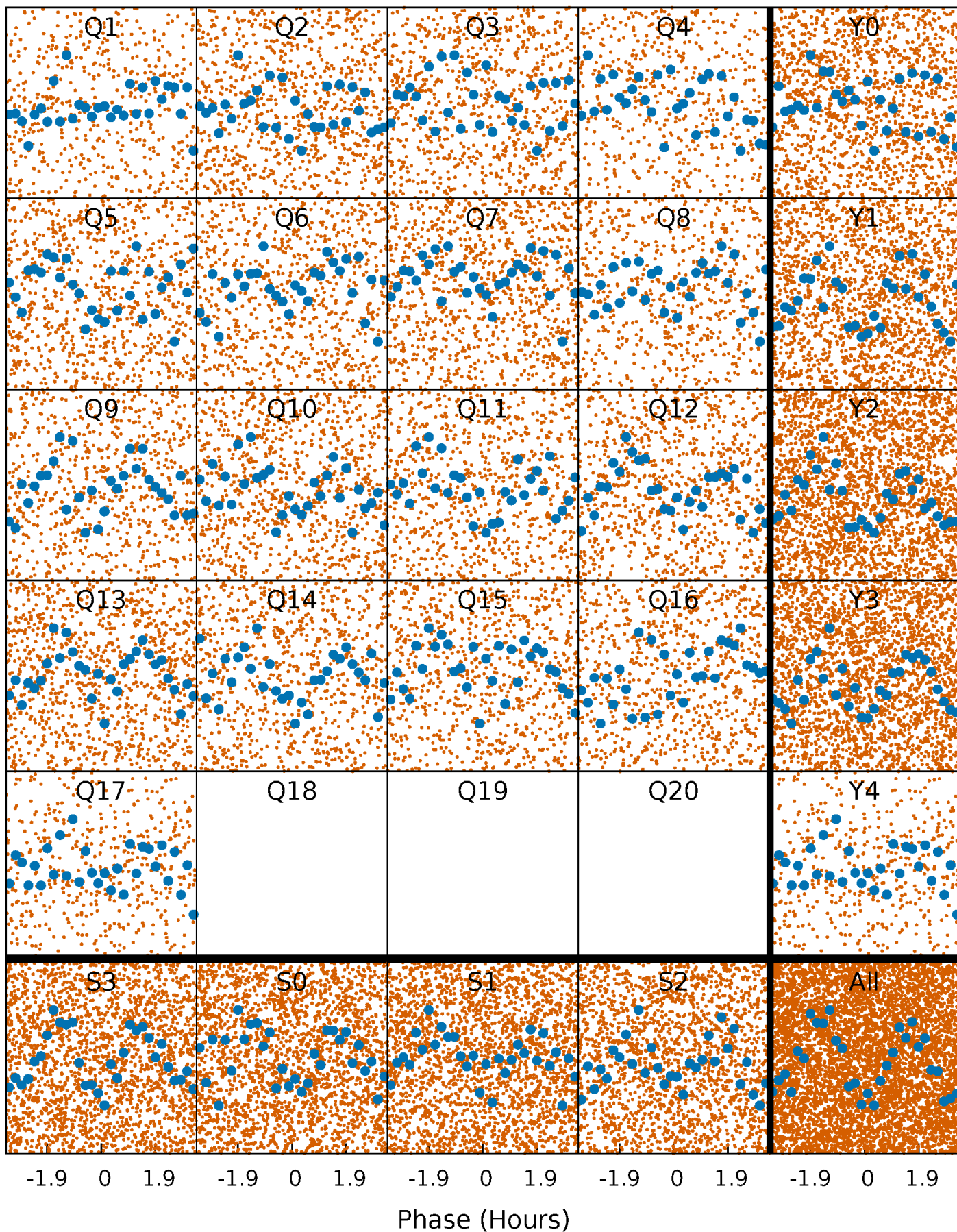


Non-Whitened Vs. Whitened Light Curve



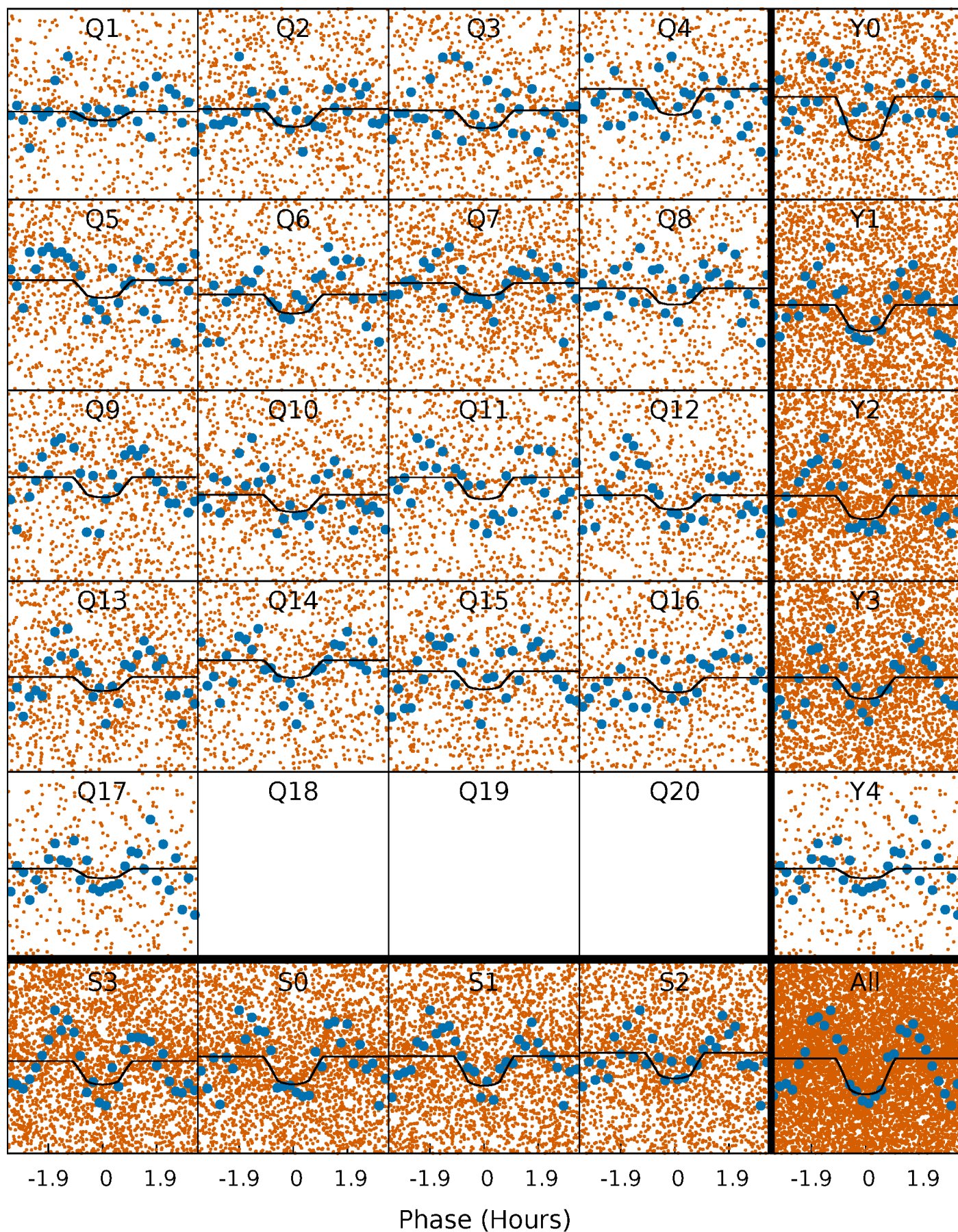
PDC Quarter-Phased Transit Curves

TCE 010605155-01 P= 0.619918 Days $T_0=132.010666$ (BKJD)



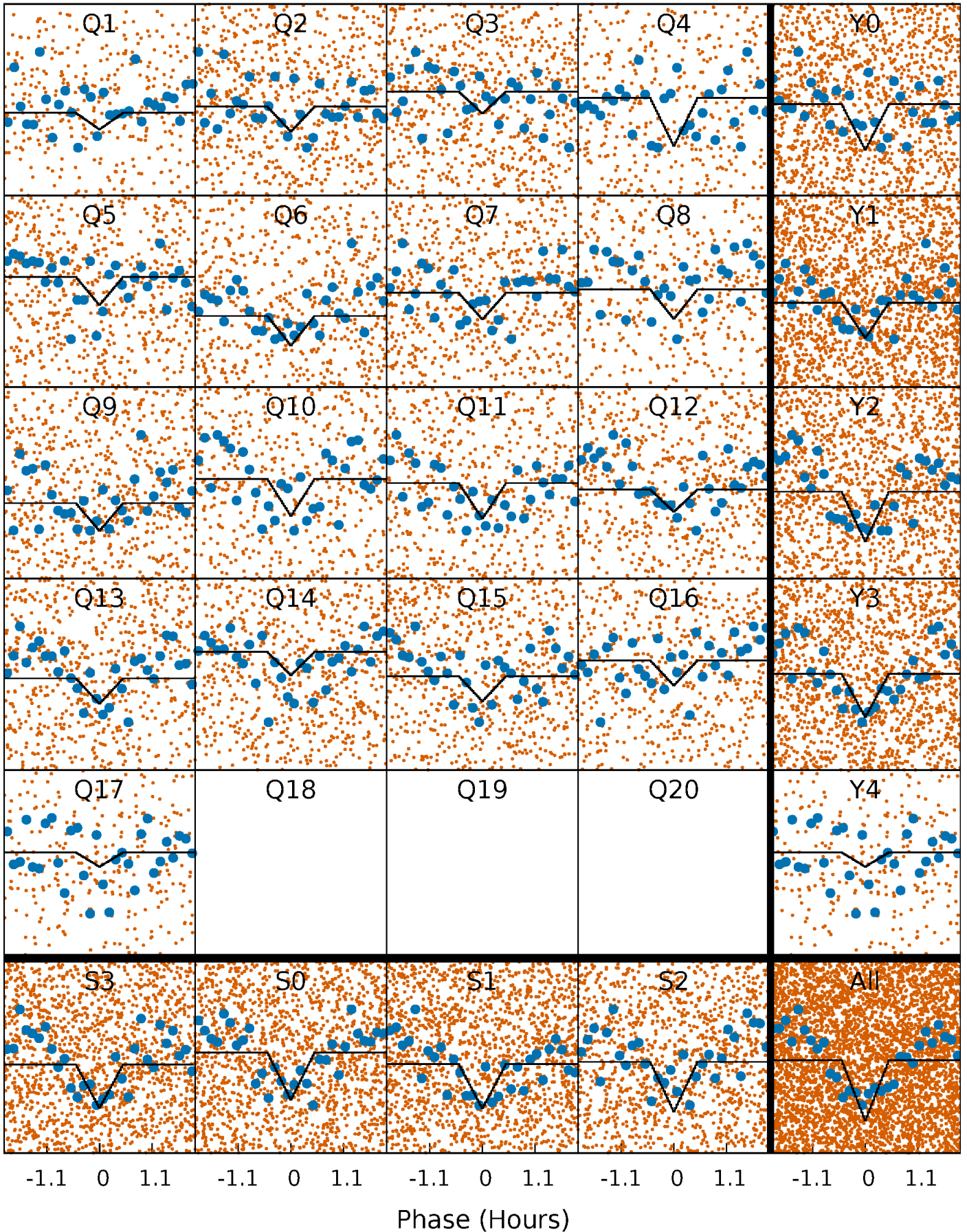
DV Quarter-Phased Transit Curves

TCE 010605155-01 P= 0.619918 Days $T_0=132.010666$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

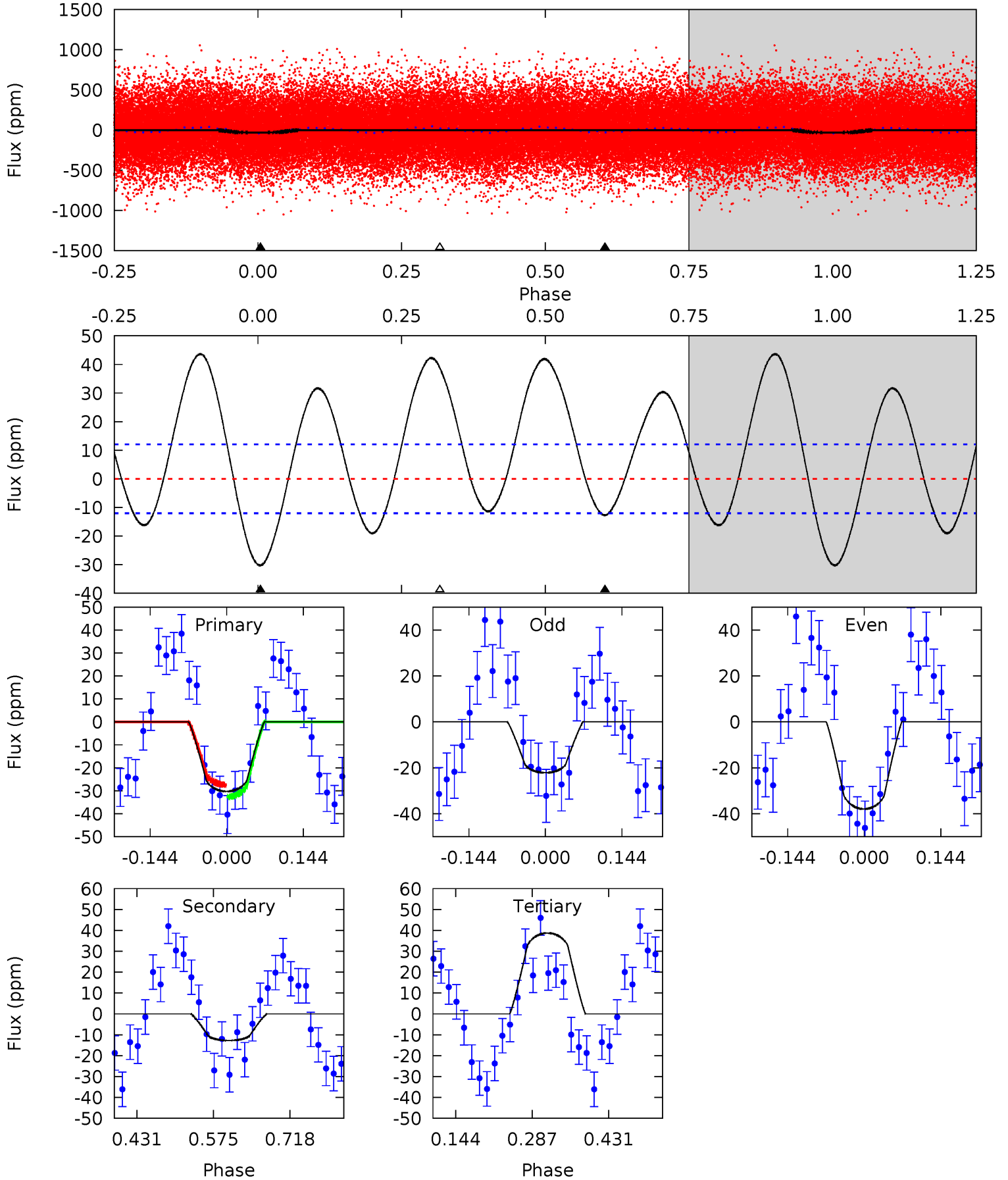
TCE 010605155-01 P= 0.619917 Days $T_0=132.012865$ (BKJD)



DV Model-Shift Uniqueness Test

010605155-01, P = 0.619918 Days, E = 131.390748 Days

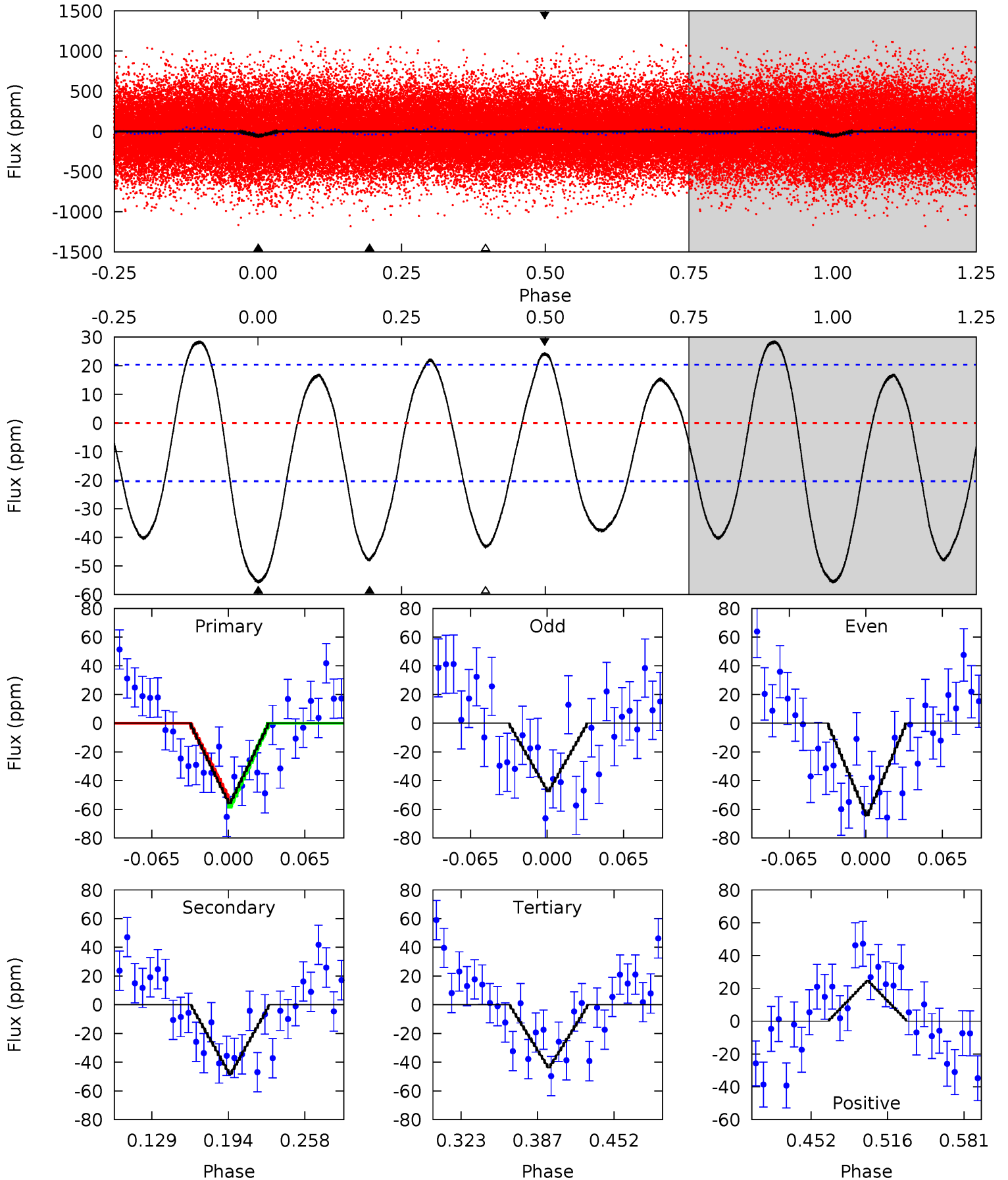
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	4.75	-14.4	0	4.49	1.46	6.73	25.7	11.3	19.2	4.75	2.97	0.90	0.59	1.01



Alt Model-Shift Uniqueness Test

010605155-01, P = 0.619917 Days, E = 131.392948 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	11.1	10.0	5.65	4.66	1.85	5.06	2.79	7.17	1.03	5.41	1.93	0.79	0.34	0.61



Stellar Parameters For KIC 010605155

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5217^{+90}_{-128}	$3.011^{+0.228}_{-0.152}$	$-0.620^{+0.200}_{-0.300}$	$6.591^{+1.216}_{-2.431}$	$1.626^{+0.201}_{-0.645}$	$0.008^{+0.013}_{-0.003}$
	+2%/-2%	+8%/-5%	+32%/-48%	+18%/-37%	+12%/-40%	+158%/-40%
Source	PHO1	FLK73	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 010605155-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 3	$4.29^{+2.15}_{-2.23}$	6382^{+397}_{-492}	-4689^{+8787}_{-487}	$0.105^{+0.299}_{-0.060}$
Alt.	-48 ± 4	$5.49^{+2.20}_{-2.21}$	6372^{+371}_{-522}	-3659^{+8857}_{-1055}	$0.246^{+0.415}_{-0.119}$

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 $A_{obs} \gg 1.0$

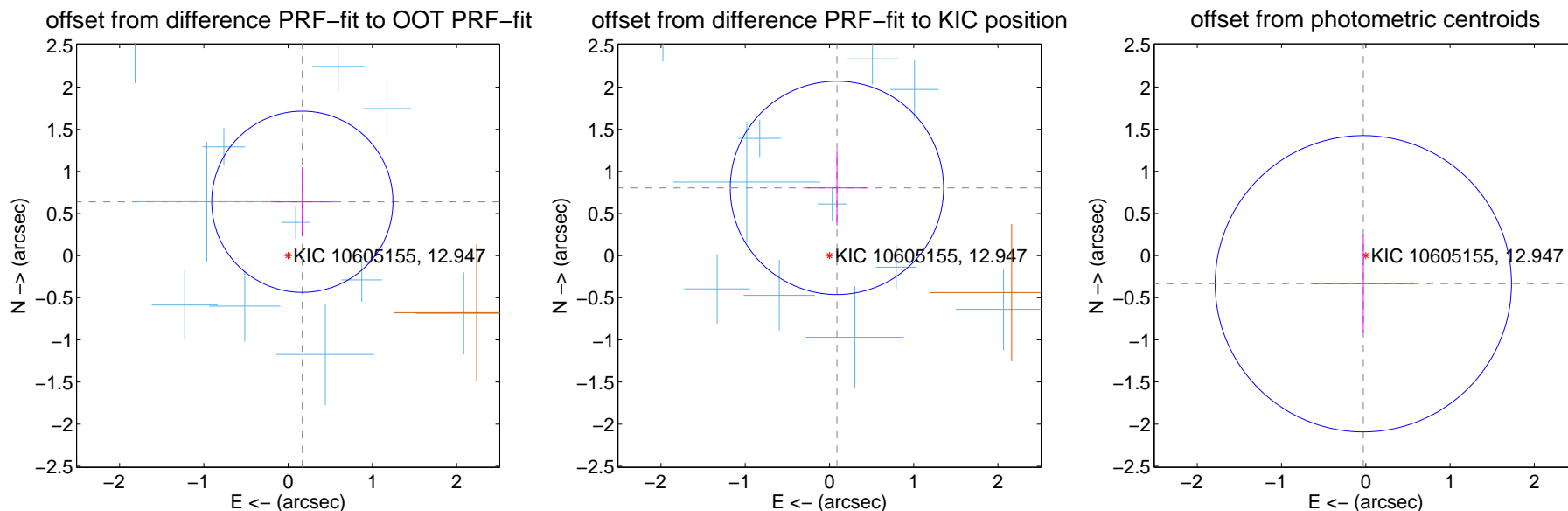
DV Centroid Data

Supplemental centroid analysis for 010605155-01. Kepler magnitude: 12.95. Transit SNR 6.22

There are 11 quarters with good PRF difference image offsets

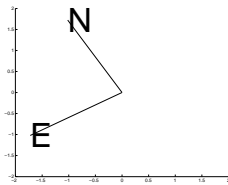
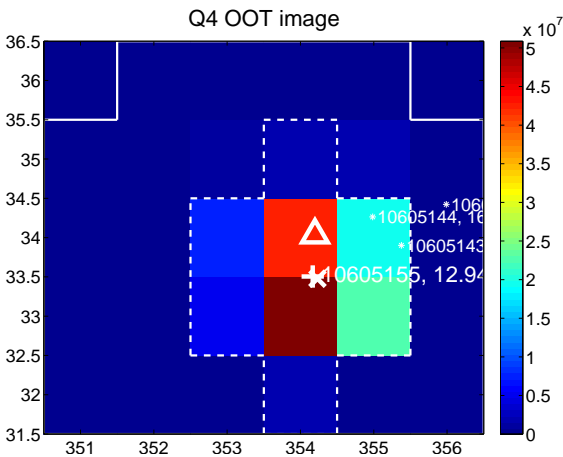
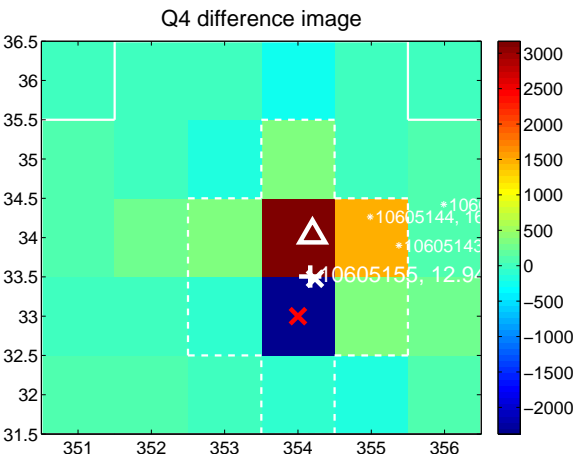
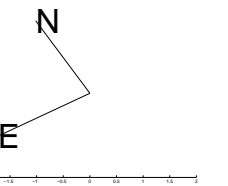
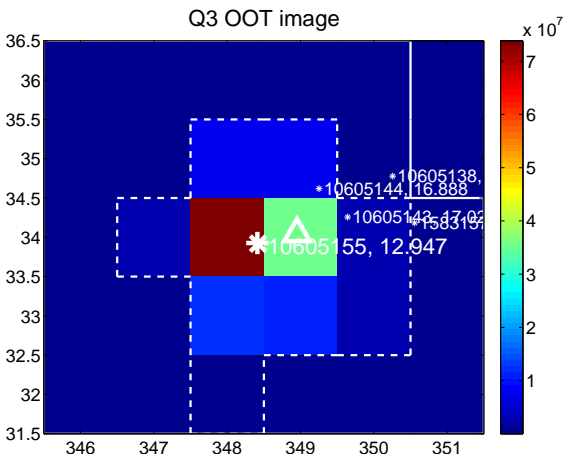
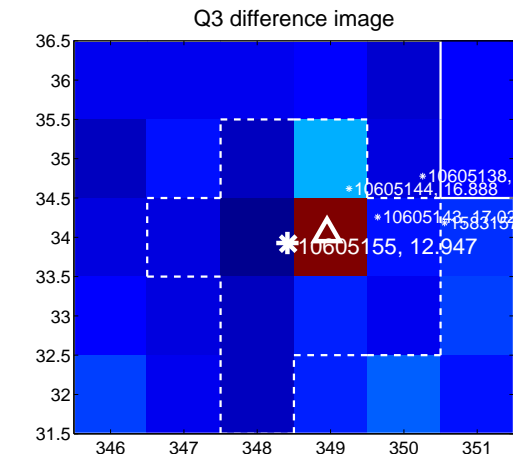
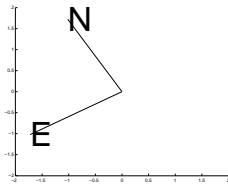
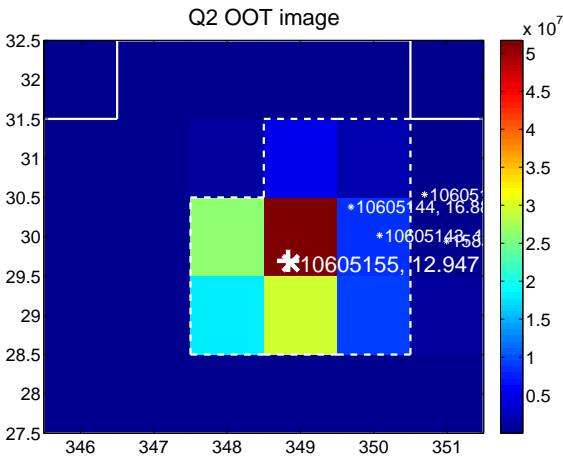
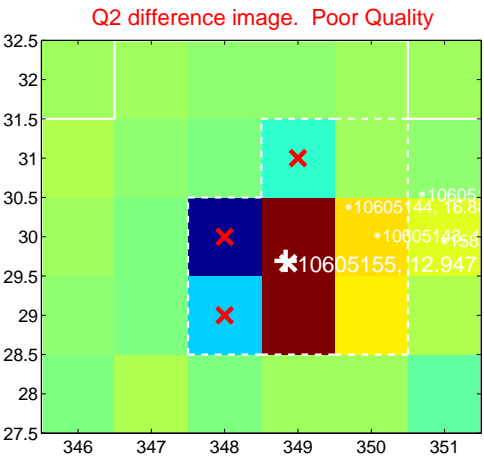
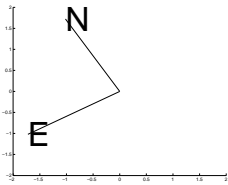
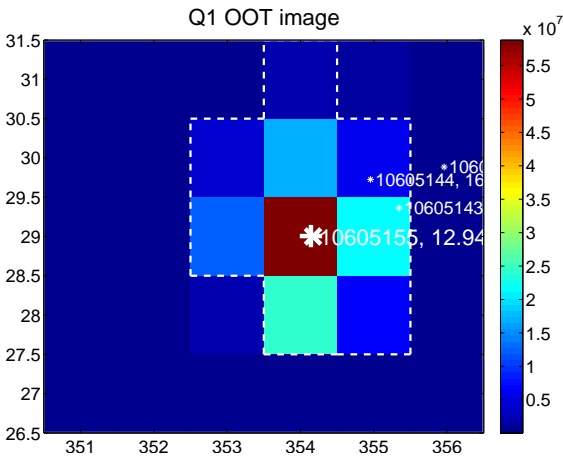
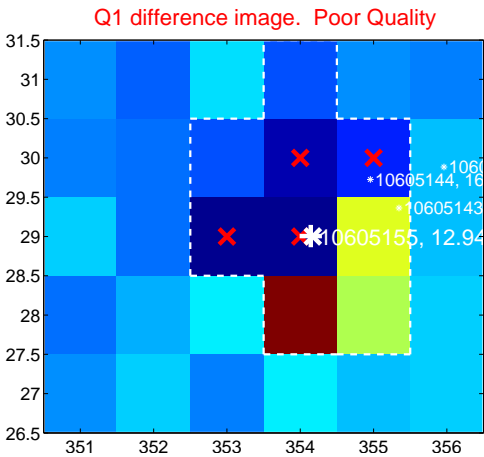
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.661 ± 0.359	1.84	-0.169 ± 0.374	0.640 ± 0.409
PRF-fit source offset from KIC position	0.809 ± 0.422	1.92	-0.088 ± 0.353	0.804 ± 0.444
photometric centroid source offset	0.34 ± 0.59	0.57	0.03 ± 0.60	-0.33 ± 0.59

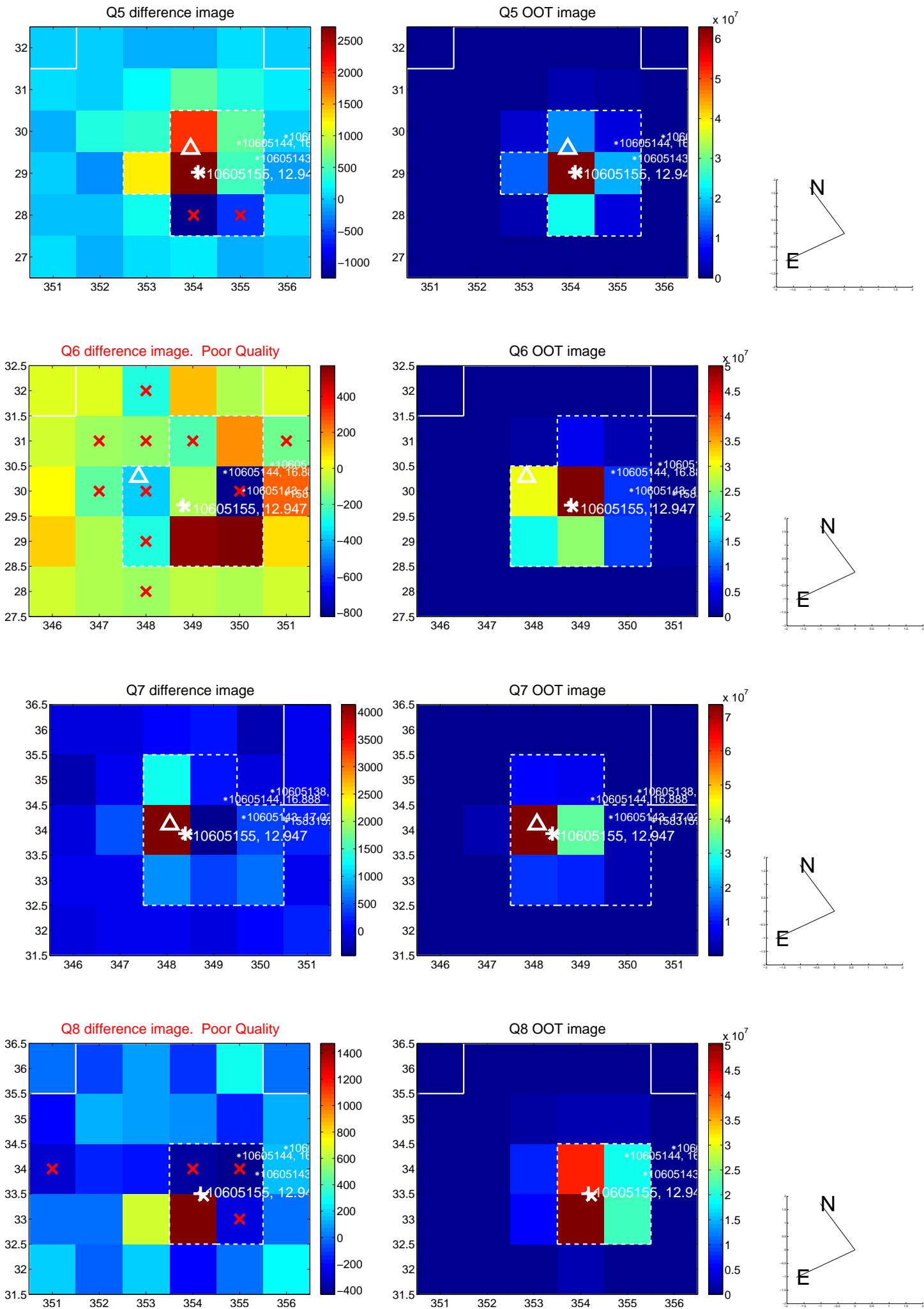


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

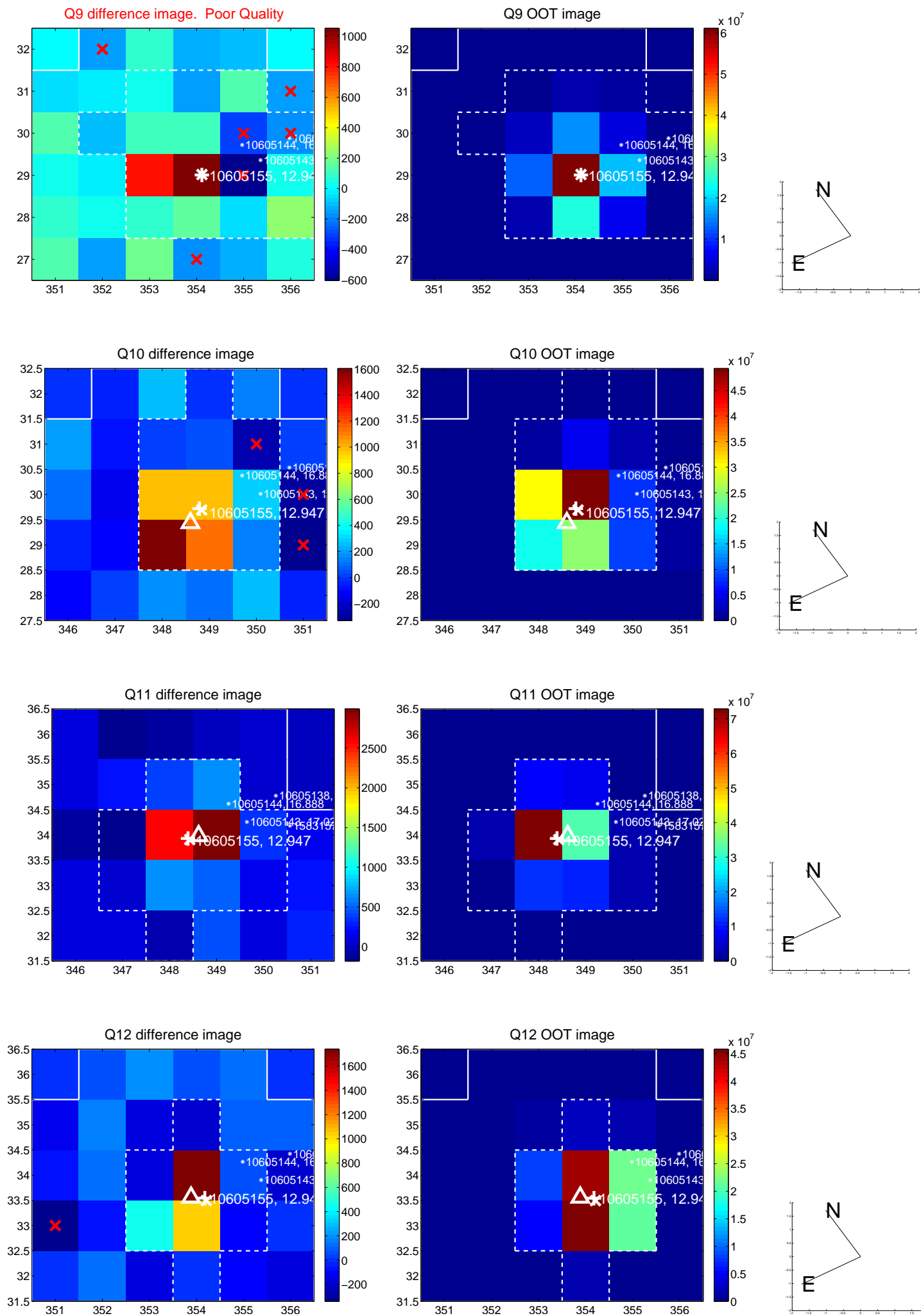
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



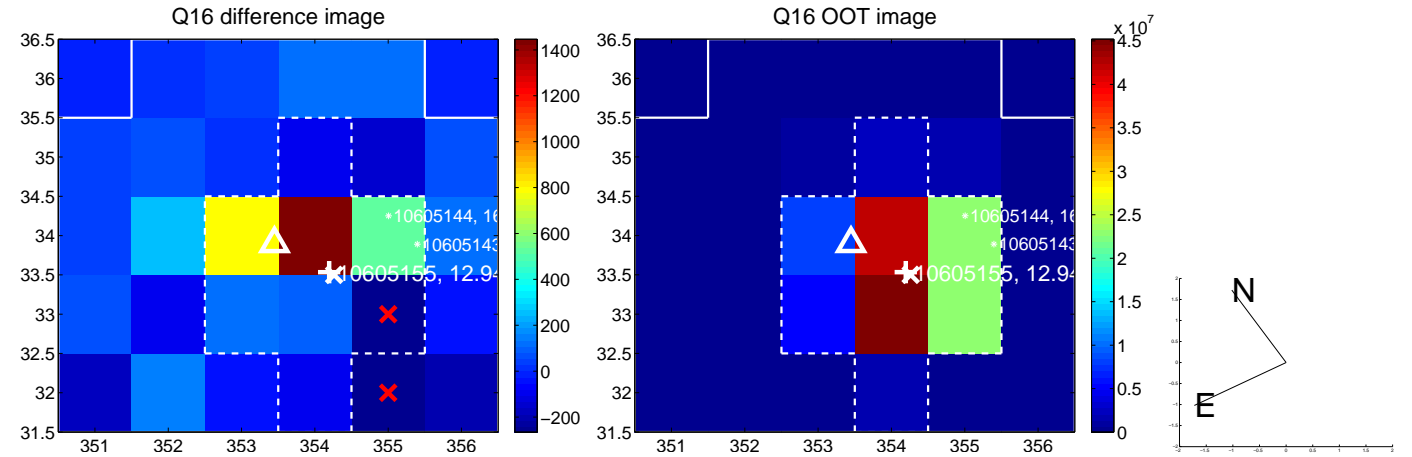
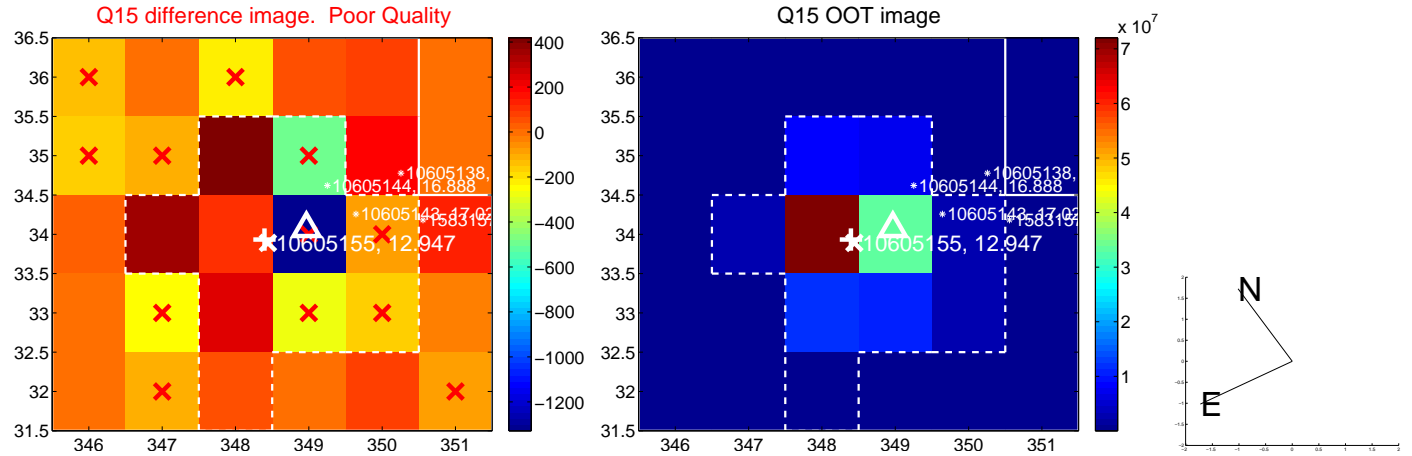
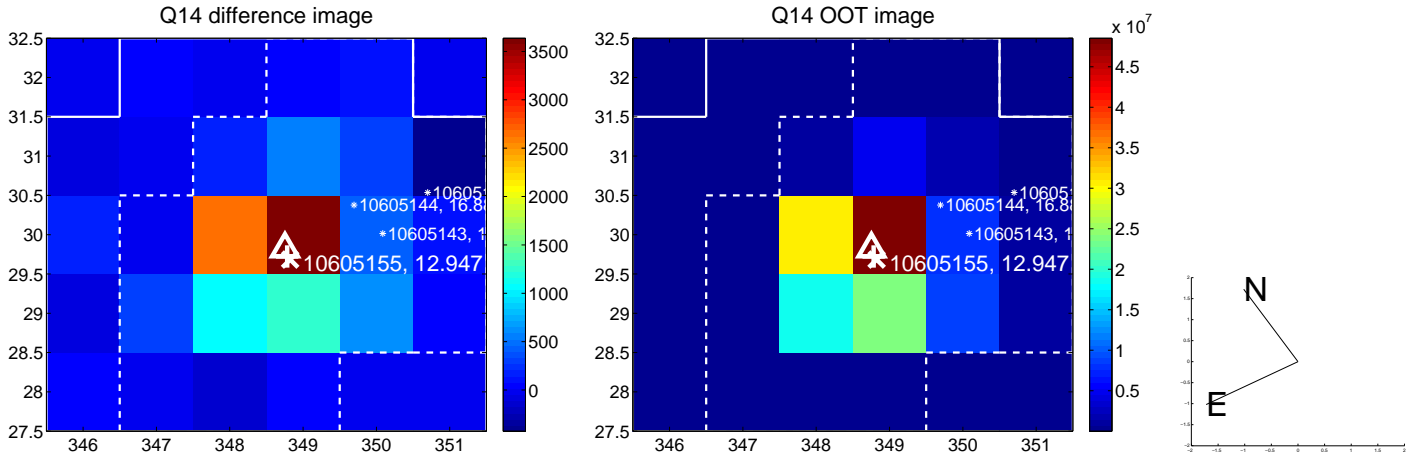
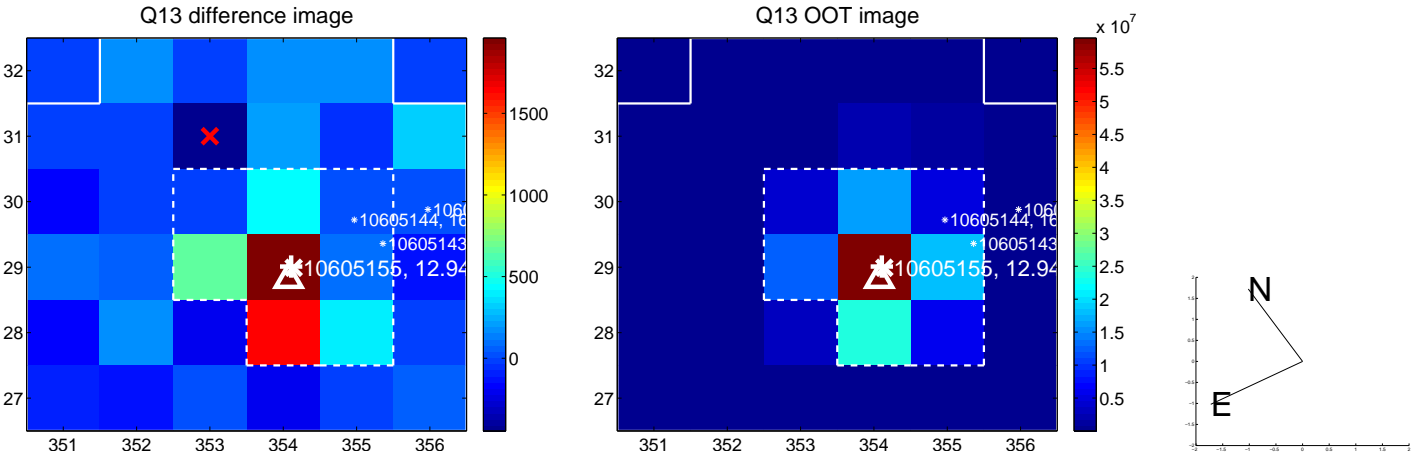
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



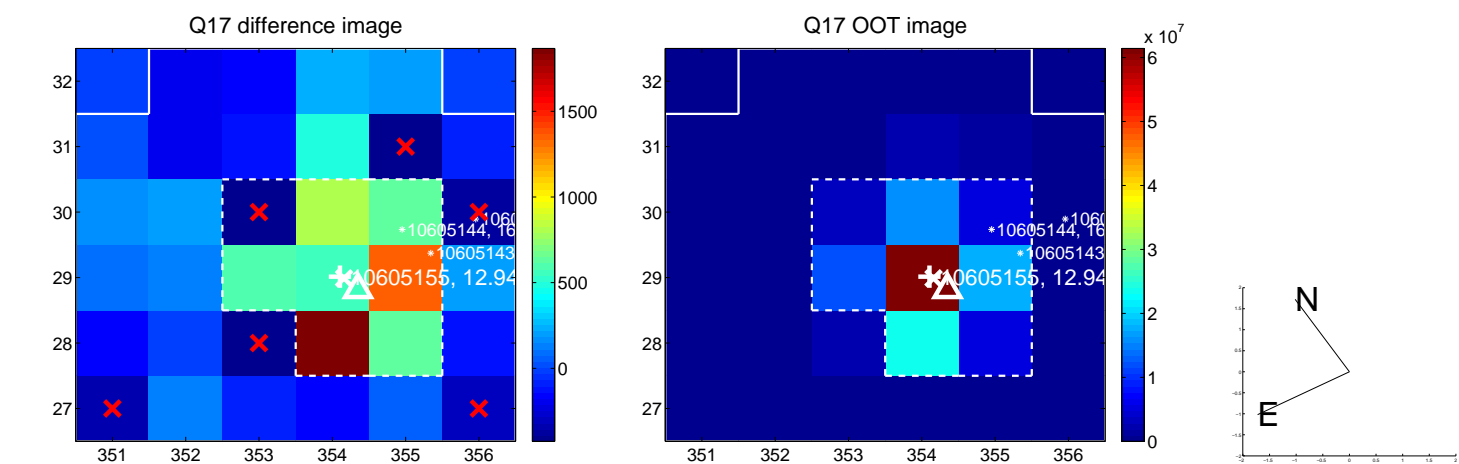
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



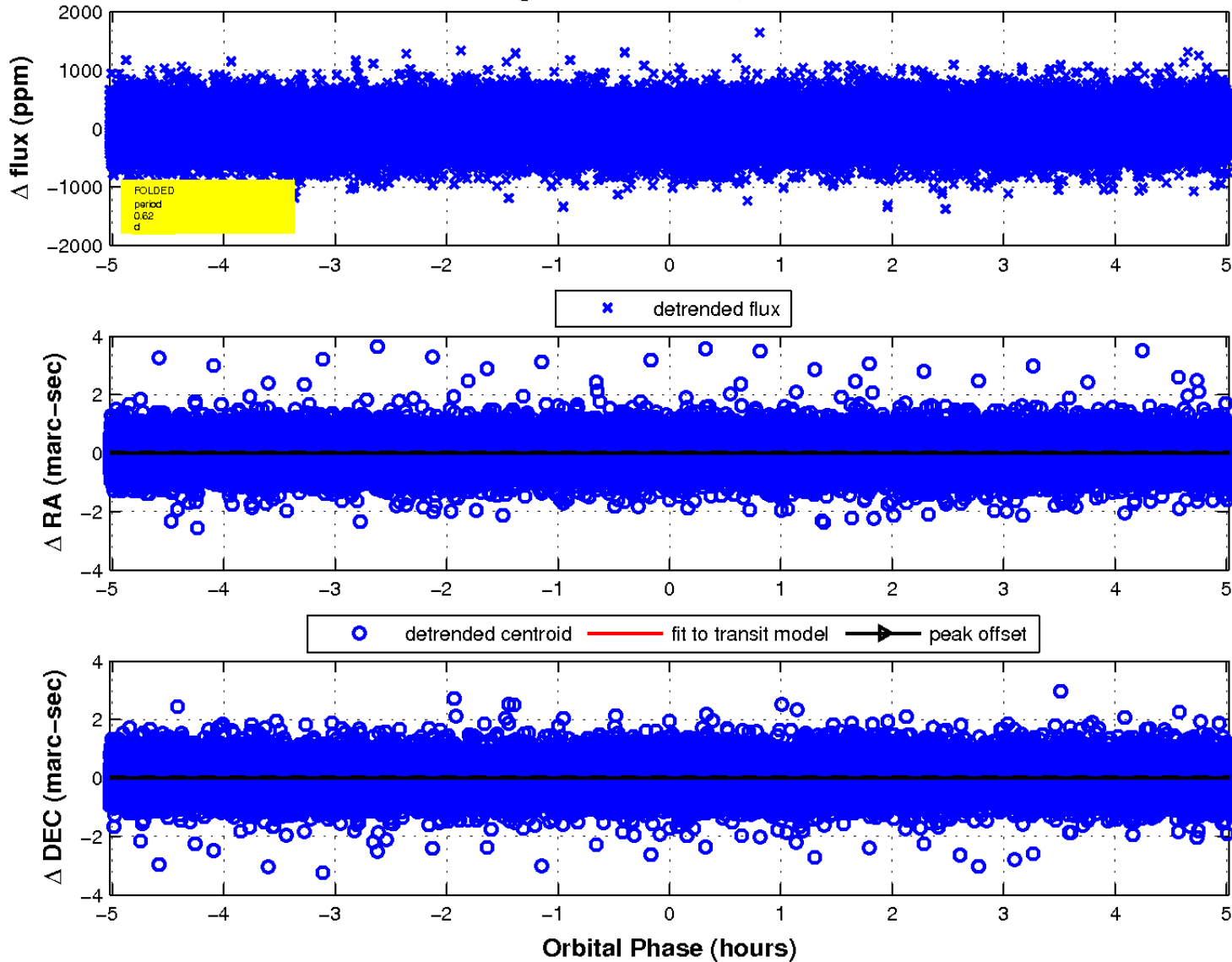
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

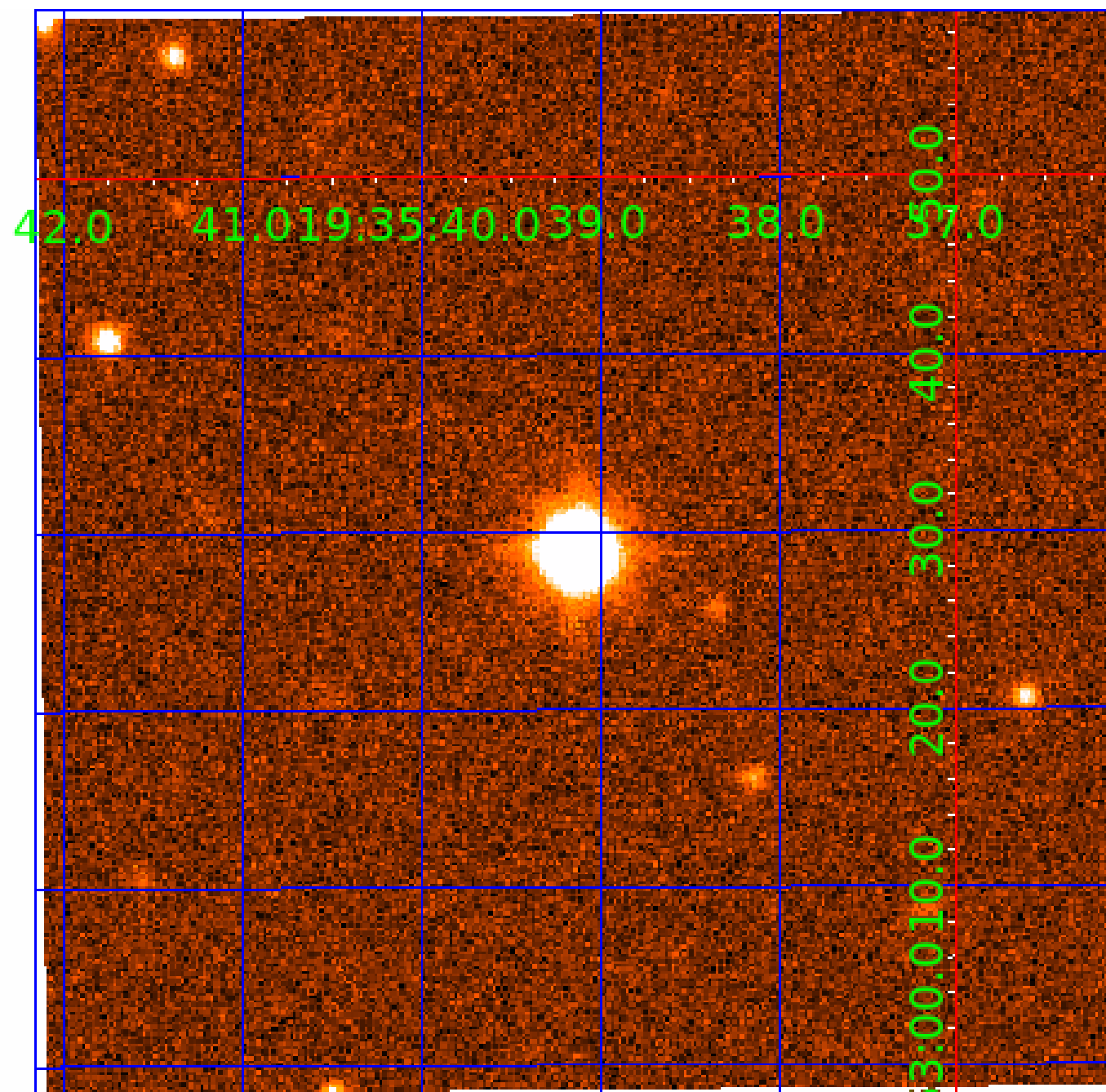


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 010605155

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})
010605155-01	OBS	No	0.619918	132.010666	29.1	1.675	8.0	6.2	6.59	5217	4.29	0.00
010605155-02	OBS	No	301.424718	330.199855	742.4	3.705	8.4	7.9	6.59	5217	19.55	26.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010605155-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010605155-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

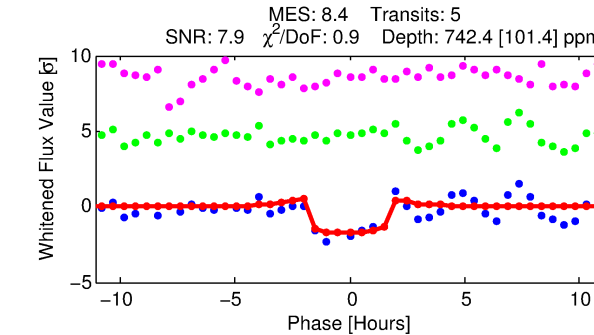
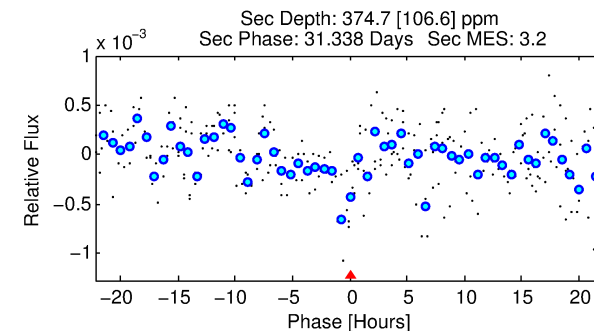
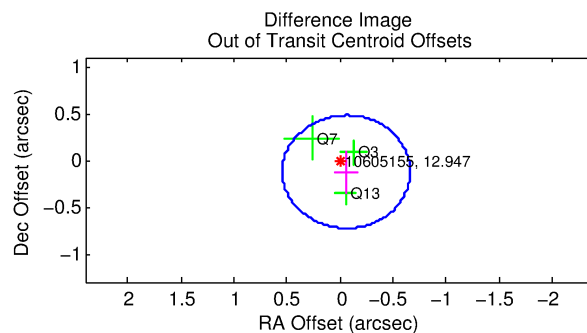
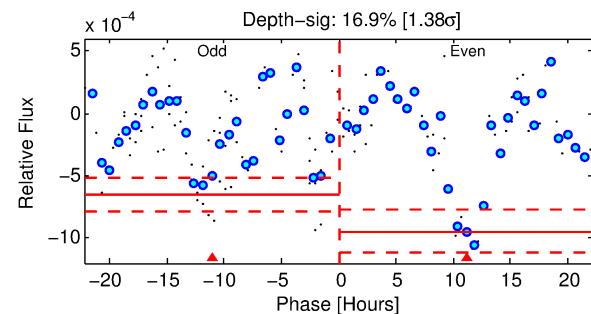
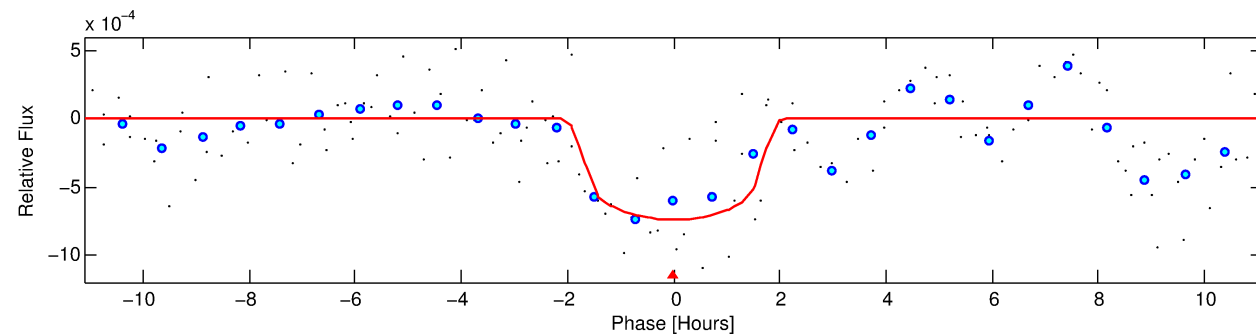
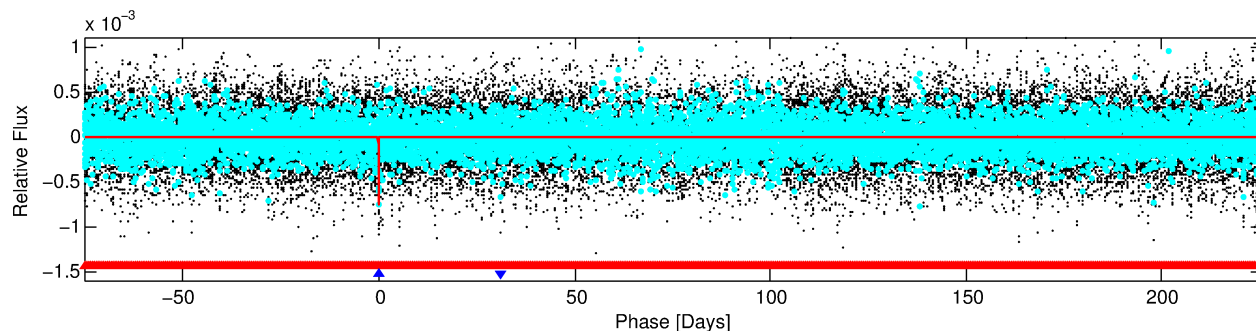
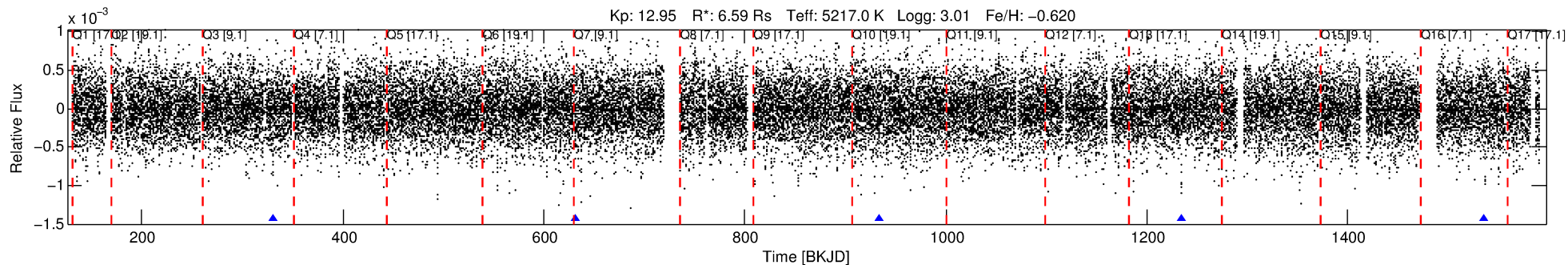
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010605155-02

No Significant Match Found

DV One-Page Summary

KIC: 10605155 Candidate: 2 of 2 Period: 301.425 d



DV Fit Results:

Period = 301.42472 [0.00186] d
Epoch = 330.1999 [0.0051] BKJD
Rp/R* = 0.0272 [0.0172]
a/R* = 434.74 [1130.29]
b = 0.75 [1.53]
Seff = 26.93 [11.82]
Teq = 581 [64] K
Rp = 19.55 [14.32] Re
a = 1.0346 [0.3123] AU
Ag = 577.59 [789.04] [0.73 σ]
Teffp = 4403 [1432] K [2.67 σ]

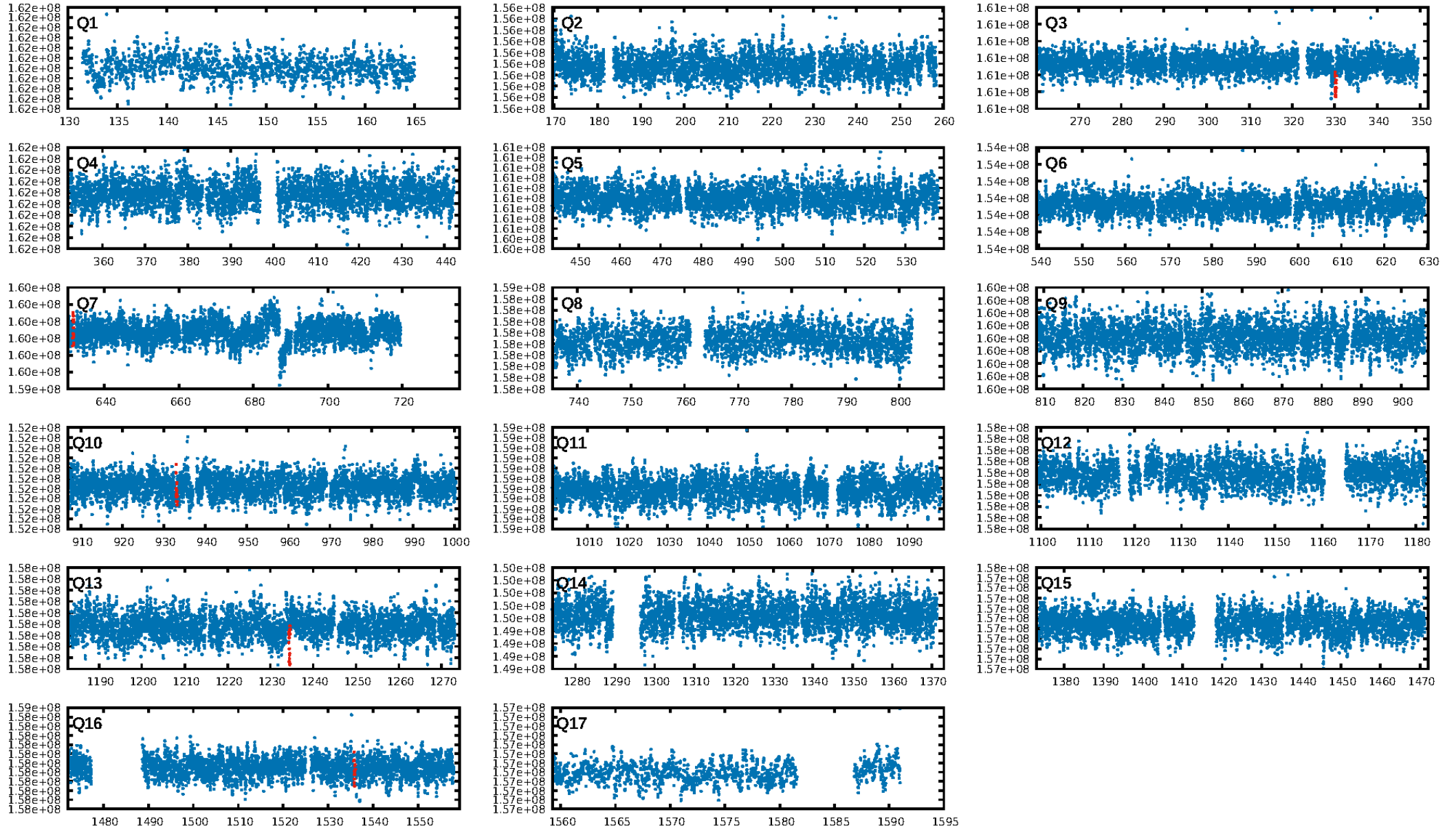
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1775.65 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.1%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.46e-13
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 2.609
Centroid-sig: 6.1%
Centroid-so: 0.619 arcsec [1.68 σ]
OotOffset-rm: 0.137 arcsec [0.68 σ]
KicOffset-rm: 0.025 arcsec [0.13 σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/5]

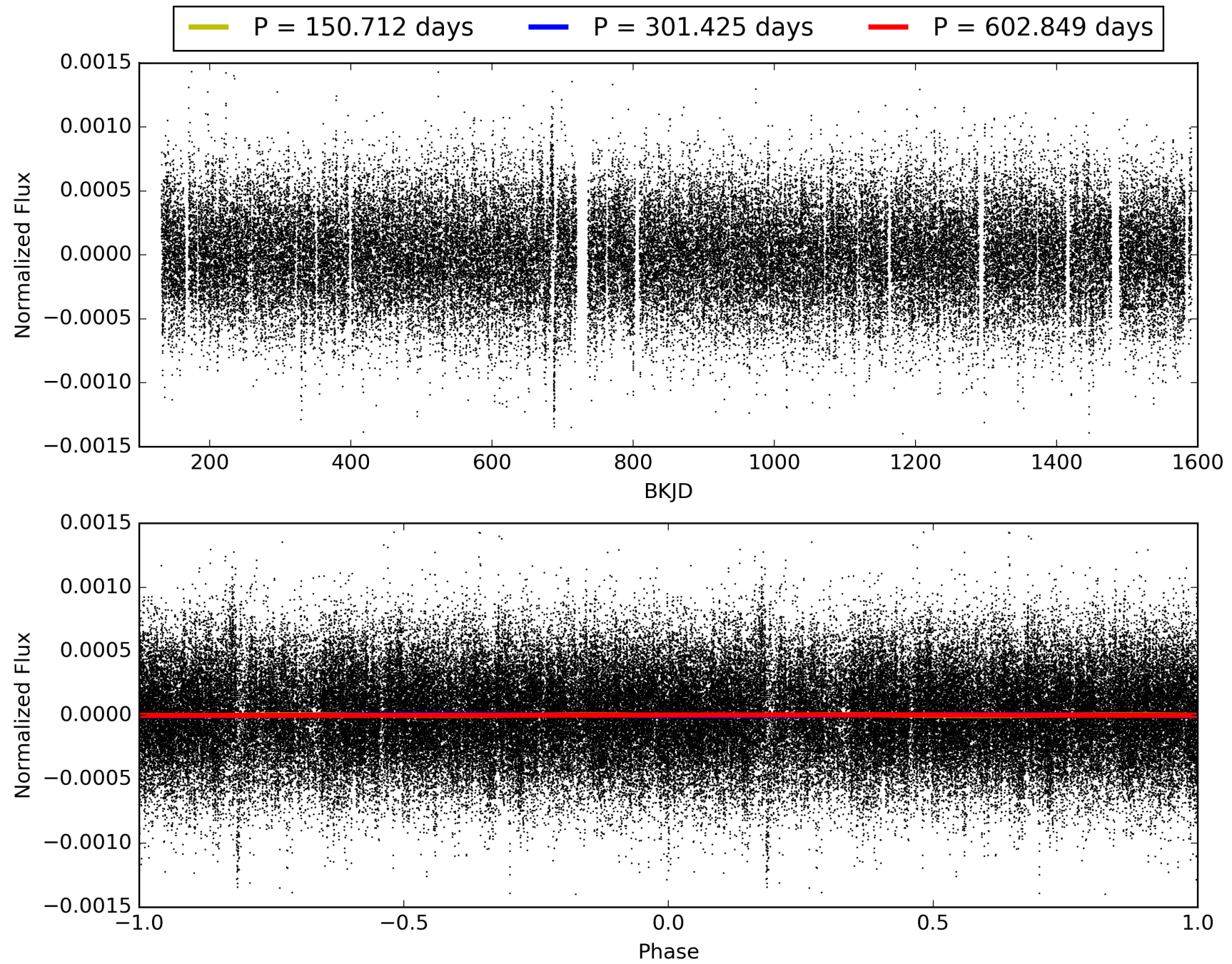
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:18:27 Z

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

TCE 010605155-02, PDC Light Curves

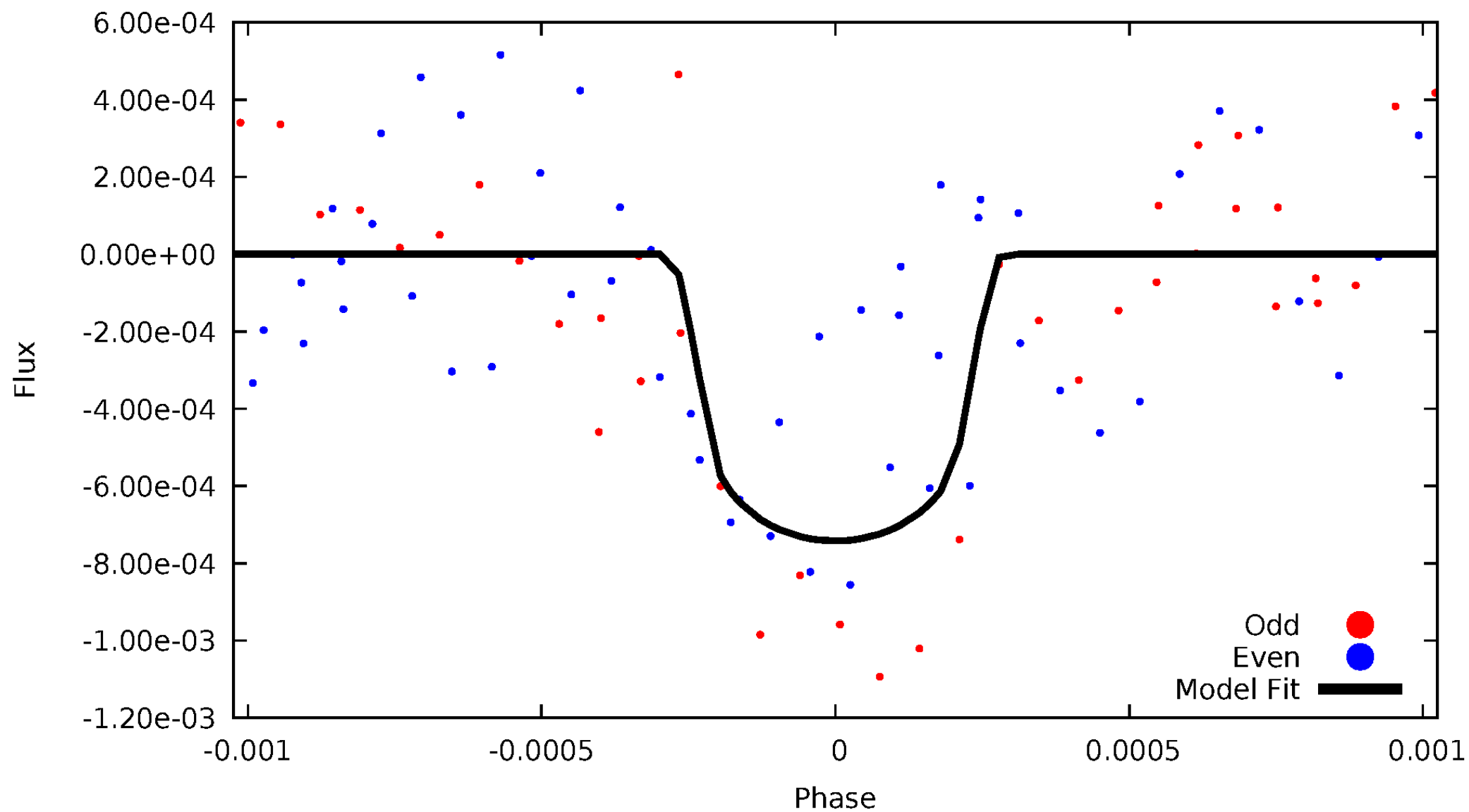


TCE 010605155-02



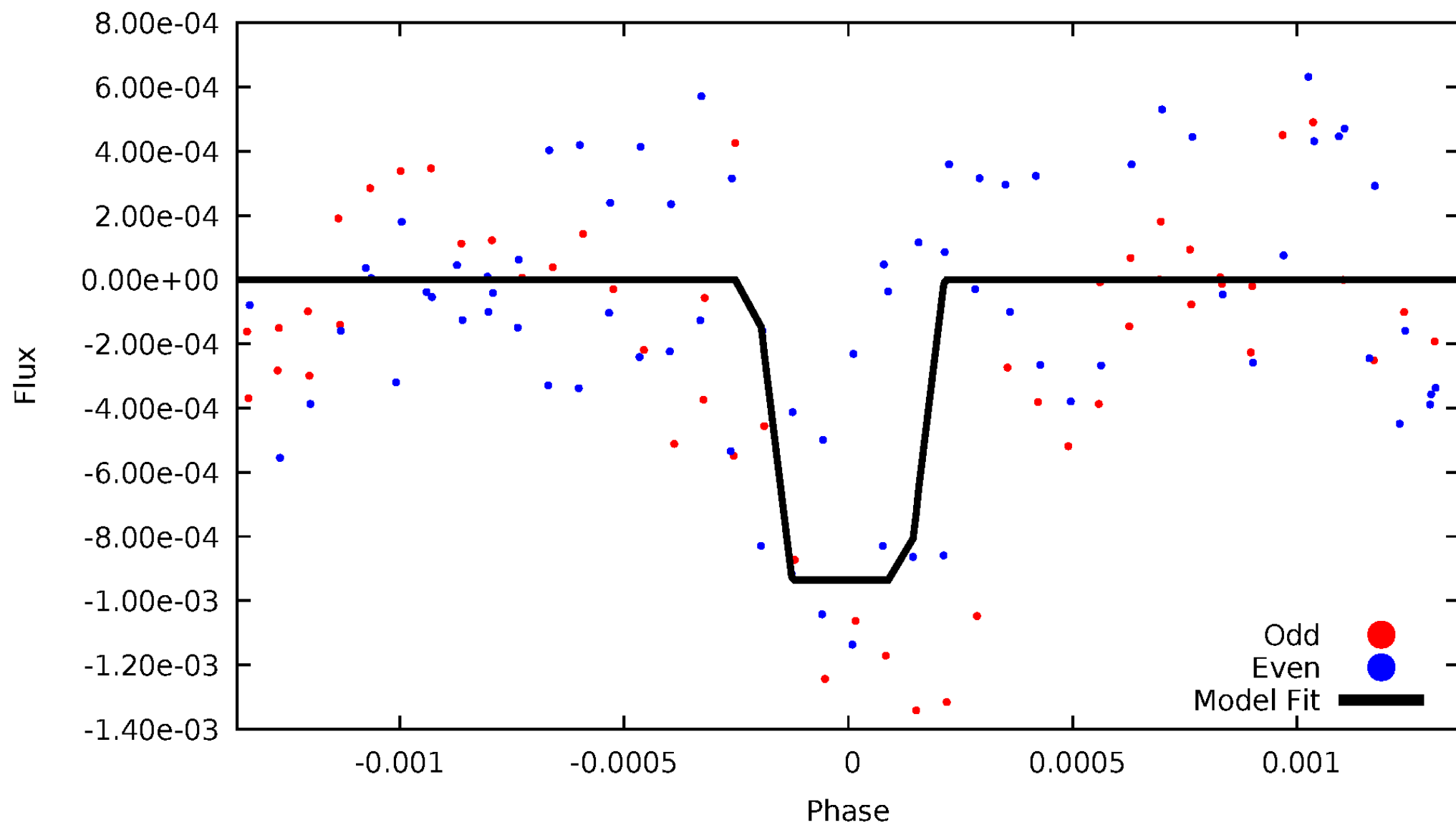
DV Odd/Even

TCE 010605155-02



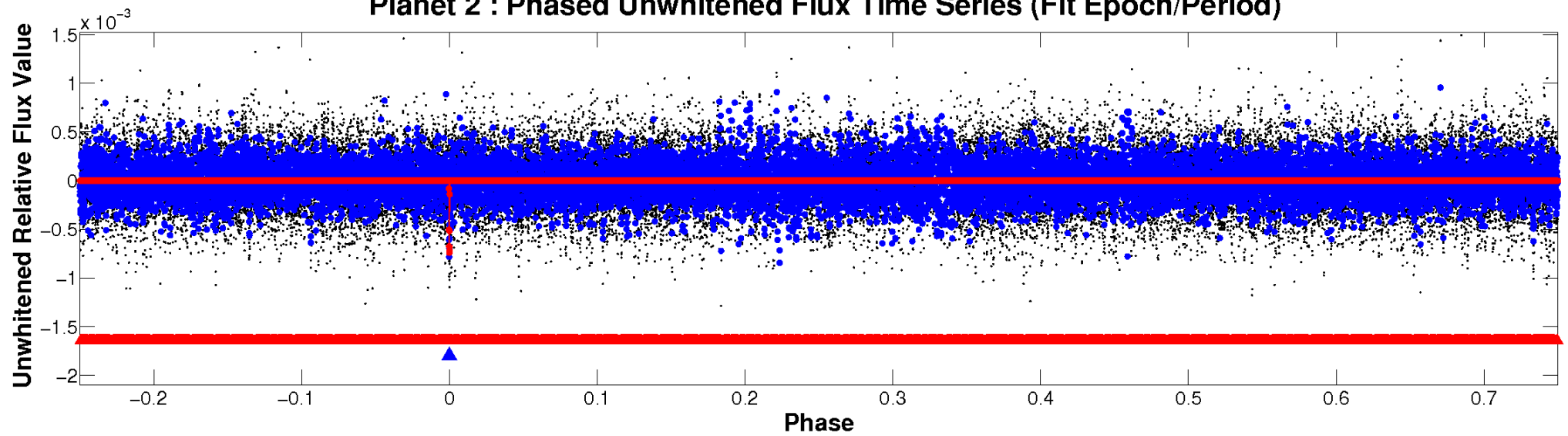
ALT Odd/Even

TCE 010605155-02

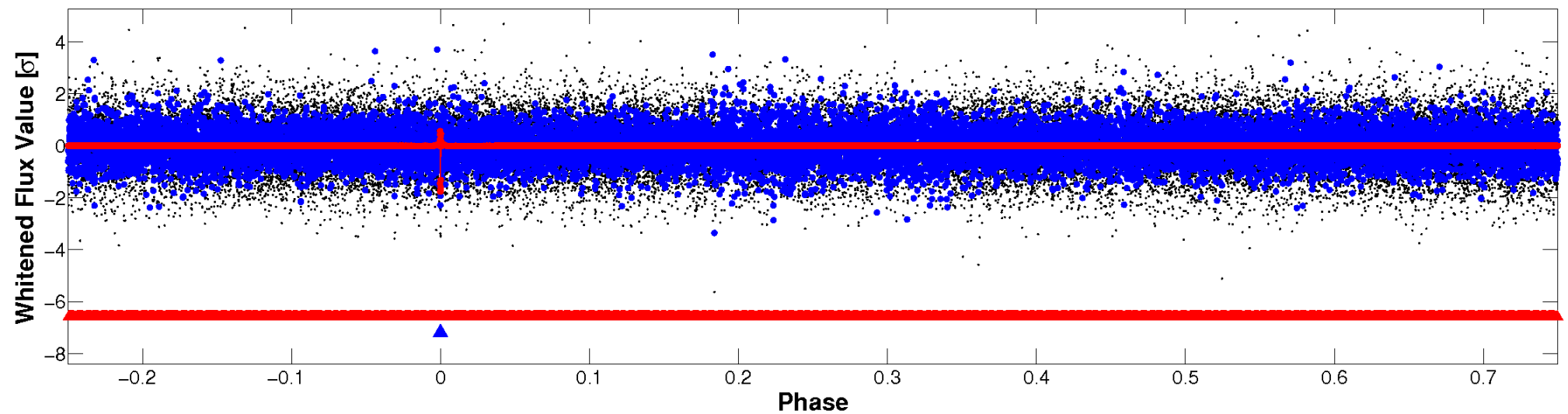


Non-Whitened Vs. Whitened Light Curve

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

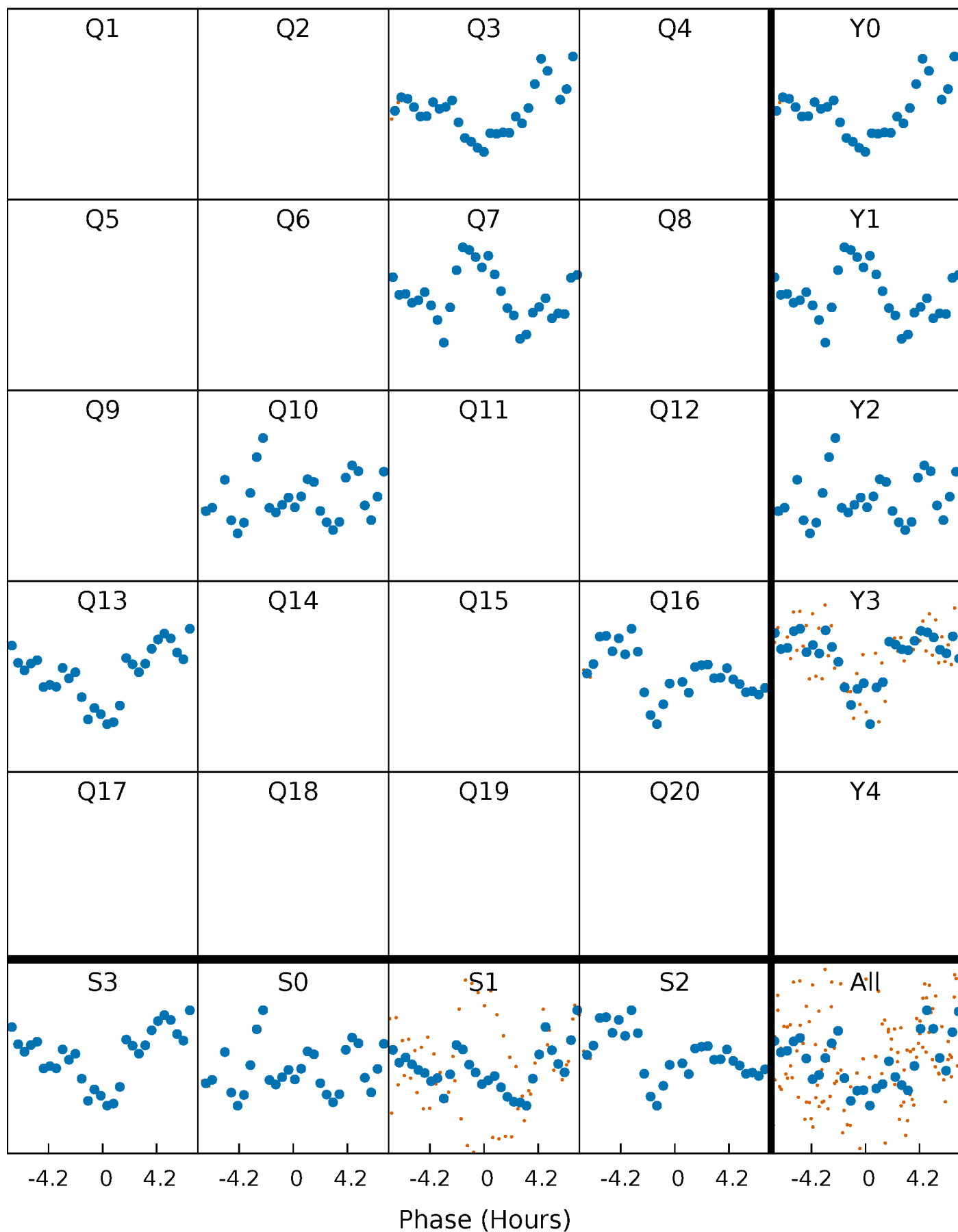


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



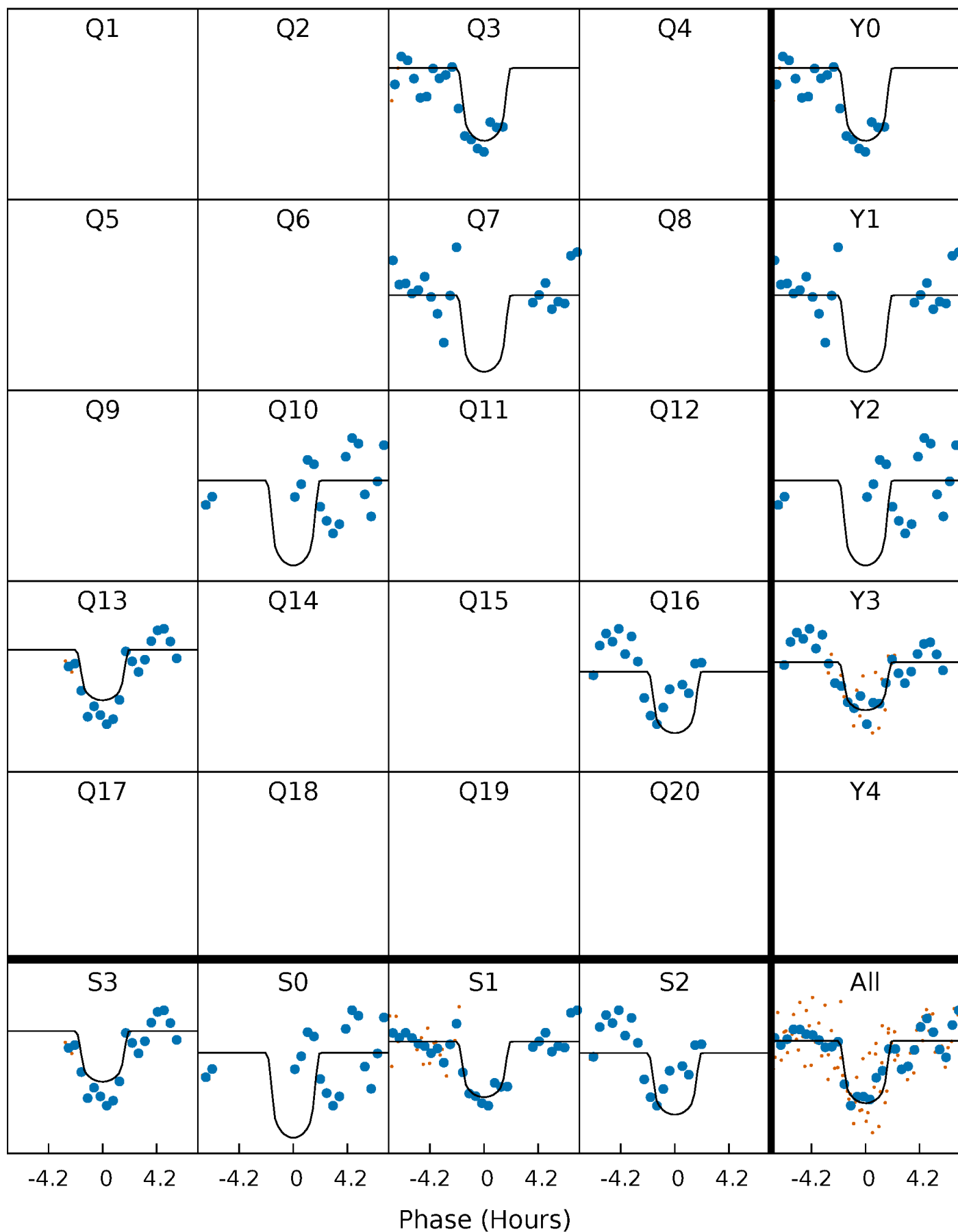
PDC Quarter-Phased Transit Curves

TCE 010605155-02 P=301.424718 Days $T_0=330.199855$ (BKJD)



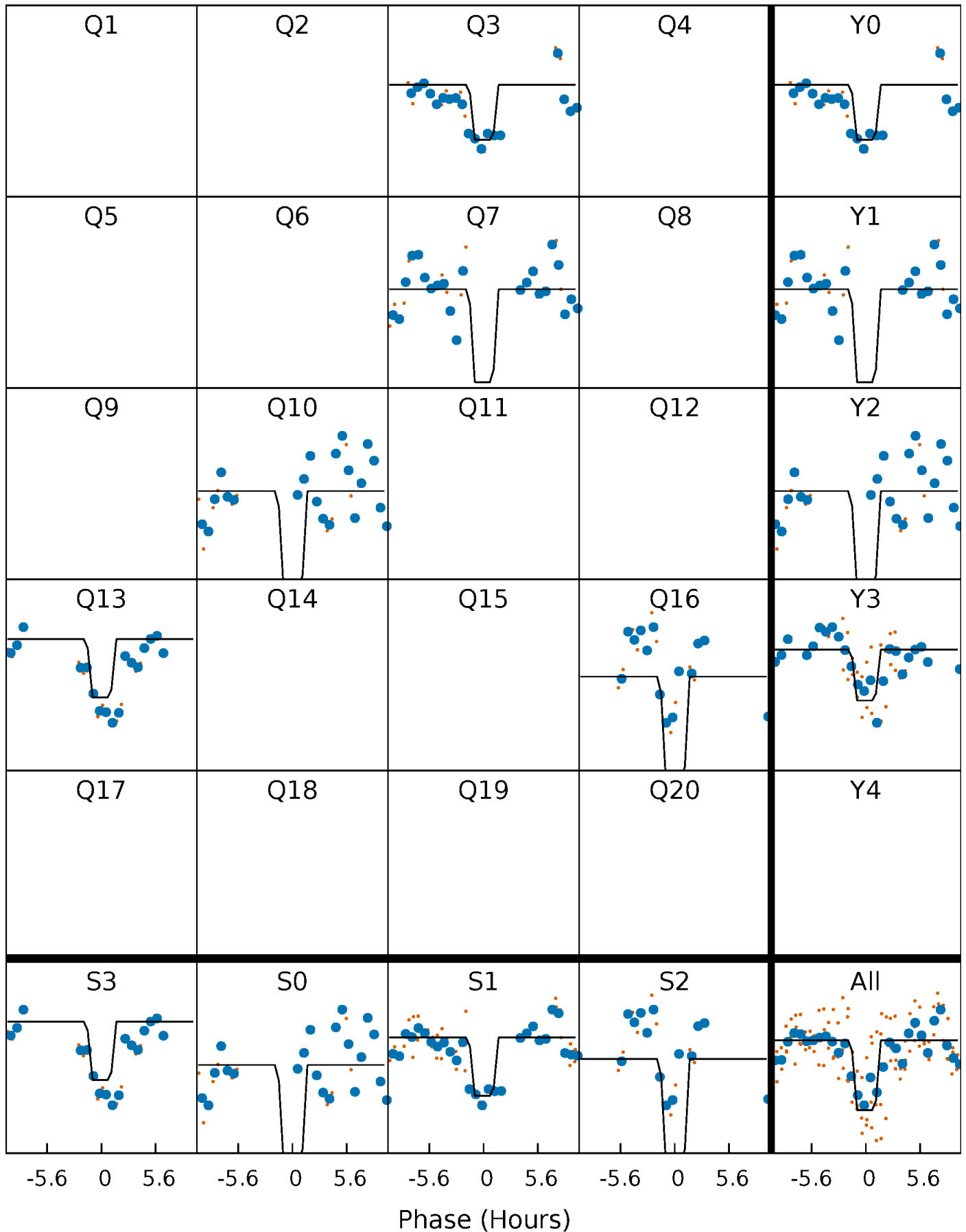
DV Quarter-Phased Transit Curves

TCE 010605155-02 $P=301.424718$ Days $T_0=330.199855$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

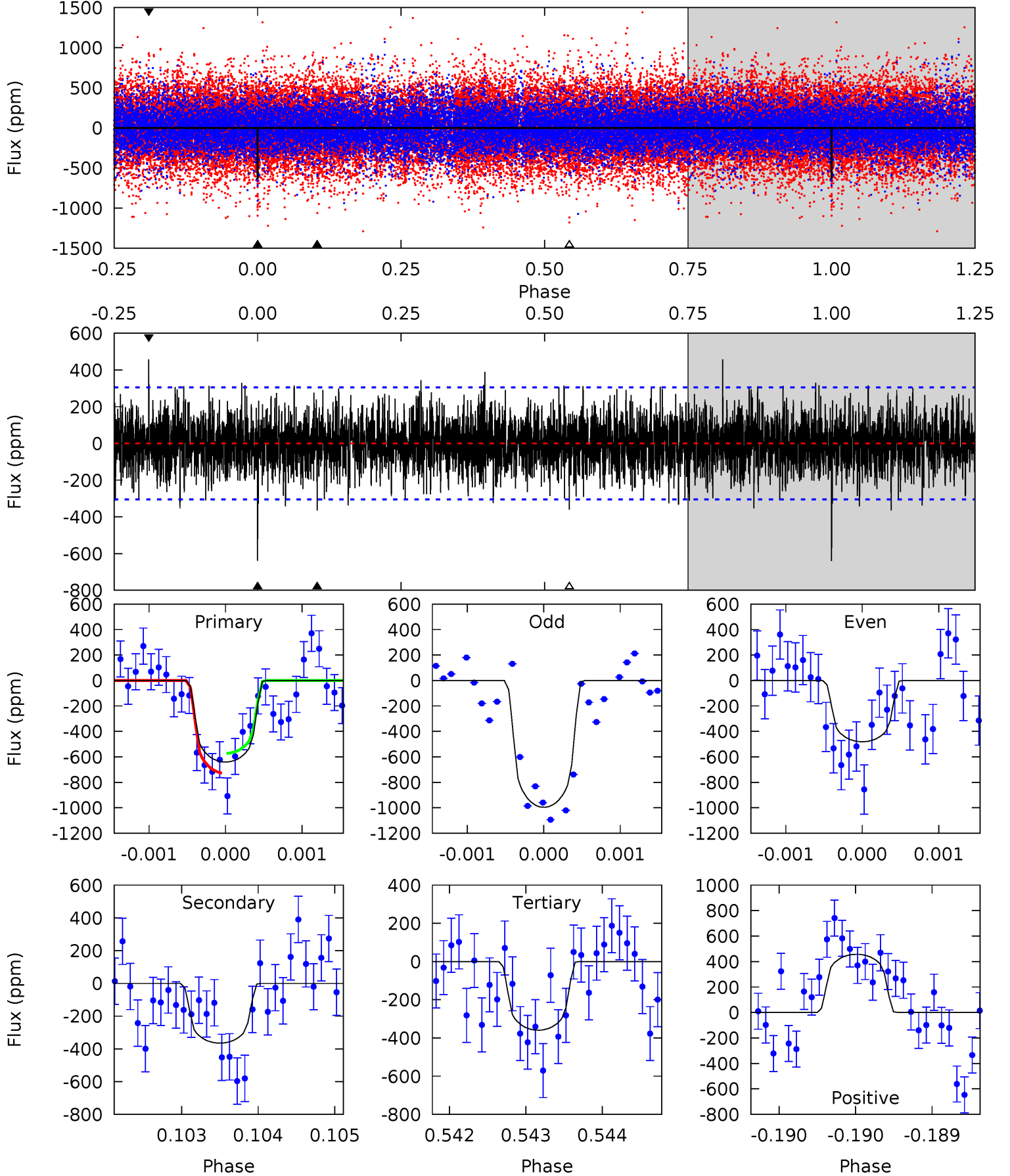
TCE 010605155-02 P=301.415443 Days $T_0=330.204768$ (BKJD)



DV Model-Shift Uniqueness Test

010605155-02, $P = 301.424718$ Days, $E = 28.775137$ Days

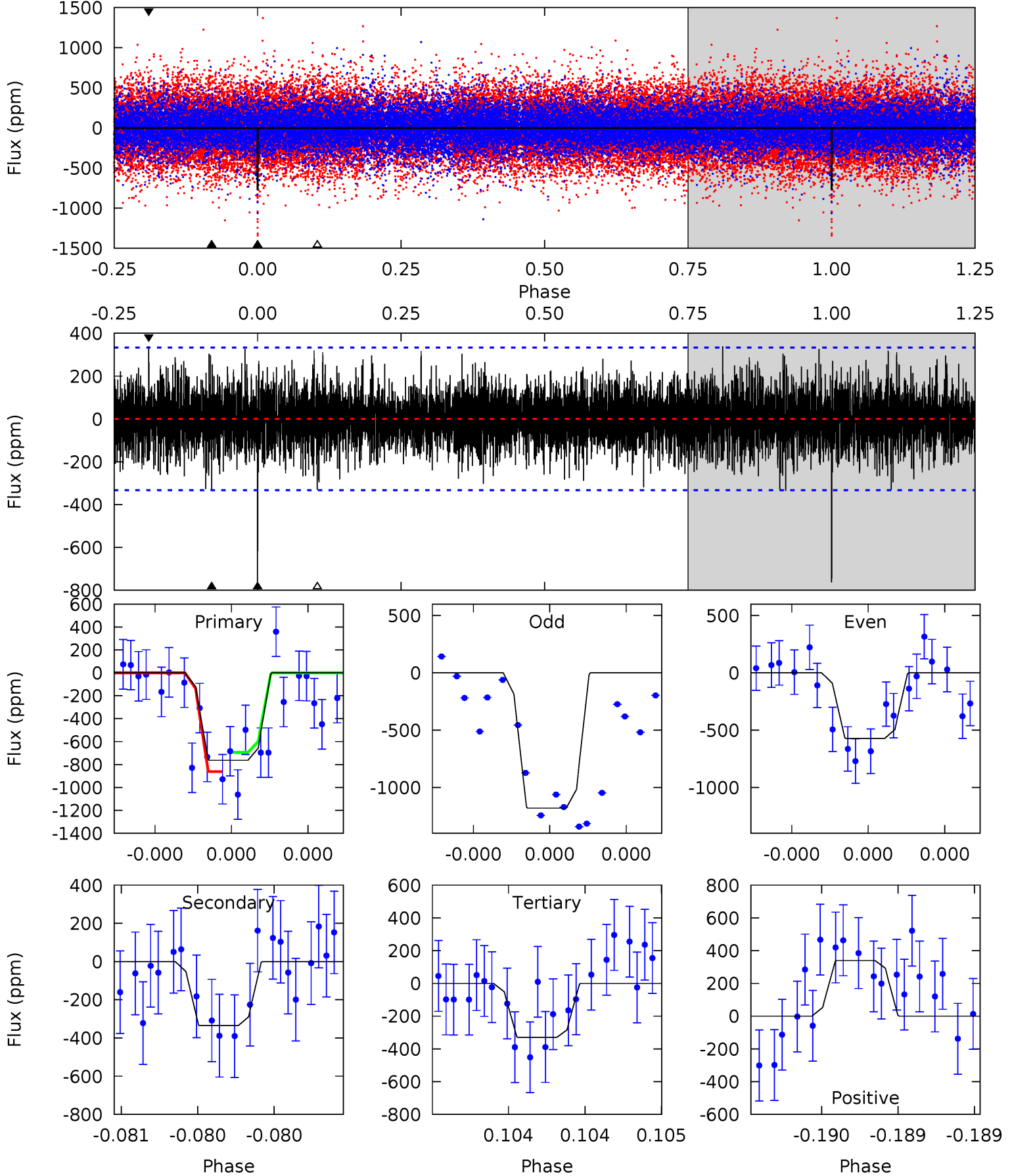
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	6.63	6.54	8.32	5.55	3.44	1.96	5.12	3.33	0.10	-1.69	4.35	0.92	0.42	1.40



Alt Model-Shift Uniqueness Test

010605155-02, $P = 301.415443$ Days, $E = 28.789325$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	5.64	5.56	5.71	5.61	3.53	1.54	7.29	7.14	0.09	-0.07	4.68	0.95	0.31	1.38



Stellar Parameters For KIC 010605155

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5217^{+90}_{-128}	$3.011^{+0.228}_{-0.152}$	$-0.620^{+0.200}_{-0.300}$	$6.591^{+1.216}_{-2.431}$	$1.626^{+0.201}_{-0.645}$	$0.008^{+0.013}_{-0.003}$
	+2%/-2%	+8%/-5%	+32%/-48%	+18%/-37%	+12%/-40%	+158%/-40%
Source	PHO1	FLK73	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 010605155-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-365 ± 55	$19.34^{+12.19}_{-10.75}$	809^{+49}_{-58}	4450^{+1945}_{-695}	549^{+2380}_{-341}
Alt.	-335 ± 59	$21.21^{+12.40}_{-11.00}$	812^{+48}_{-69}	4199^{+1437}_{-591}	413^{+1264}_{-245}

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 $A_{obs} \gg 1.0$

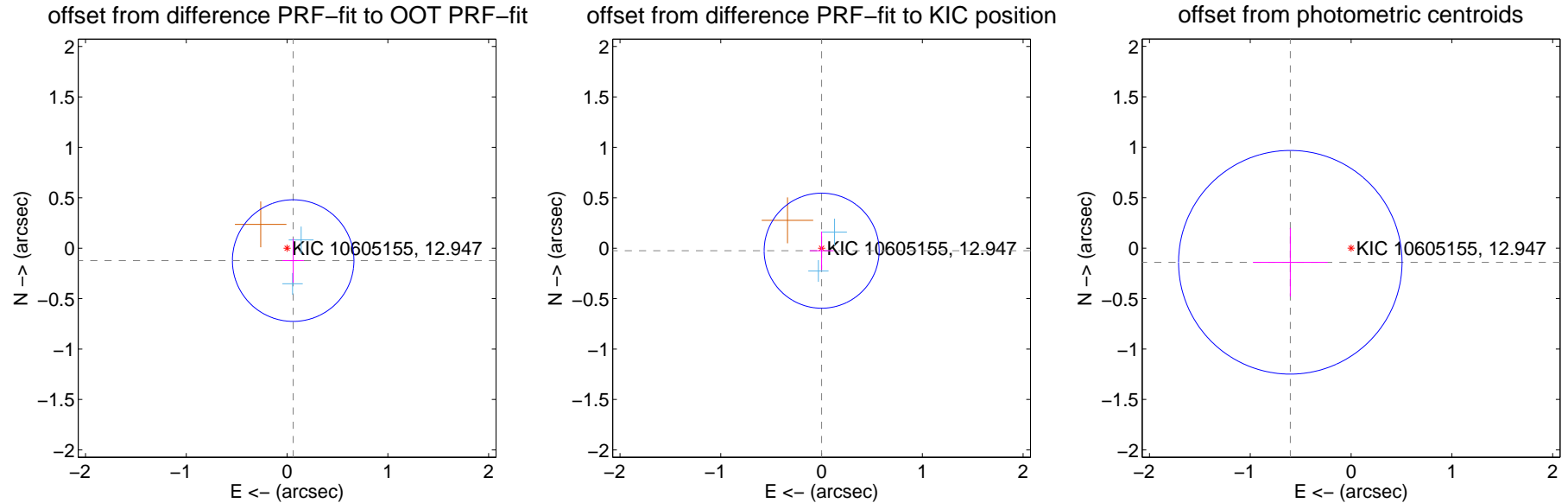
DV Centroid Data

Supplemental centroid analysis for 010605155-02. Kepler magnitude: 12.95. Transit SNR 7.91

There are 2 quarters with good PRF difference image offsets

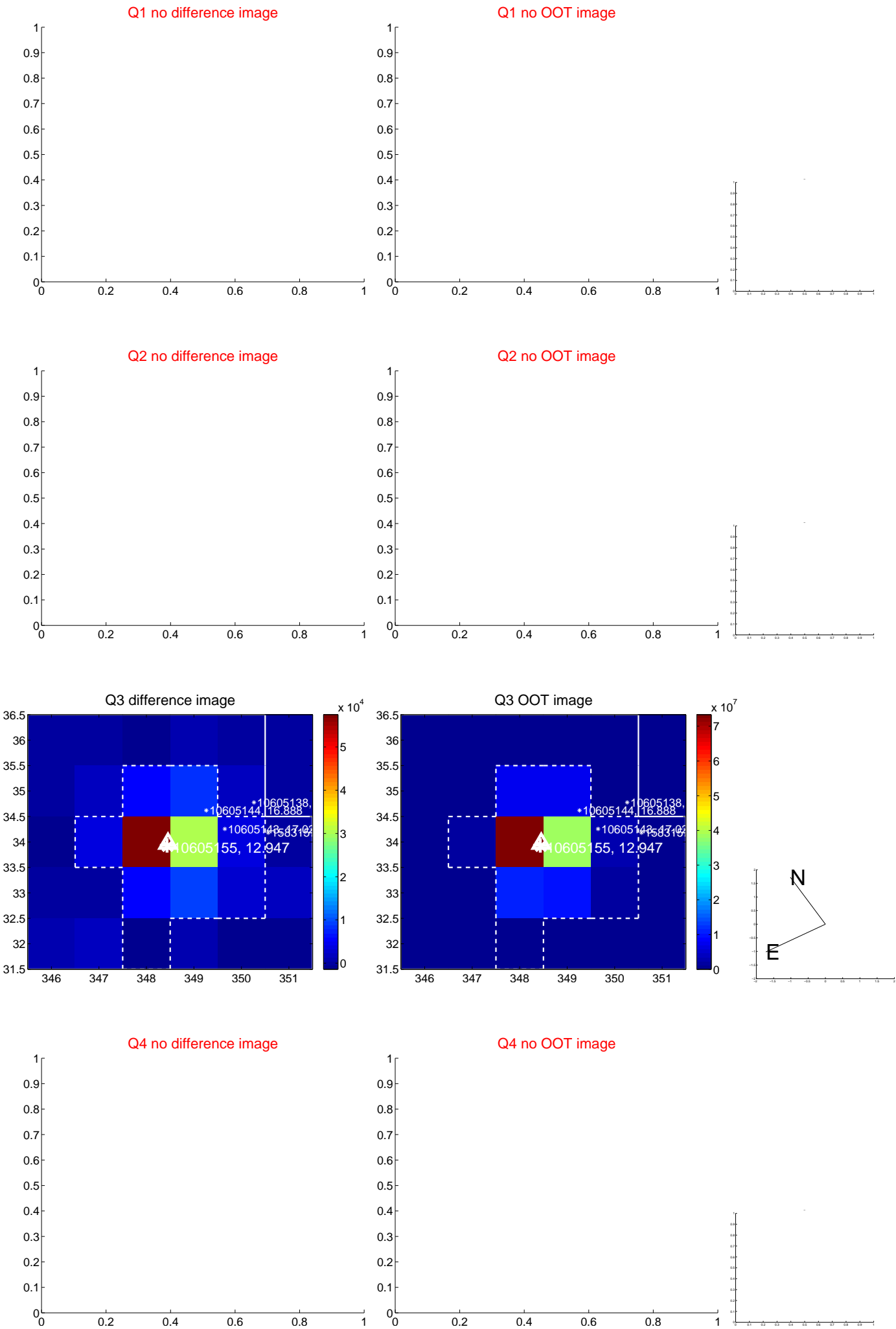
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.137 ± 0.201	0.68	-0.061 ± 0.107	-0.123 ± 0.218
PRF-fit source offset from KIC position	0.025 ± 0.190	0.13	-0.001 ± 0.119	-0.025 ± 0.190
photometric centroid source offset	0.62 ± 0.37	1.68	0.60 ± 0.37	-0.14 ± 0.34



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.

Q5 no difference image



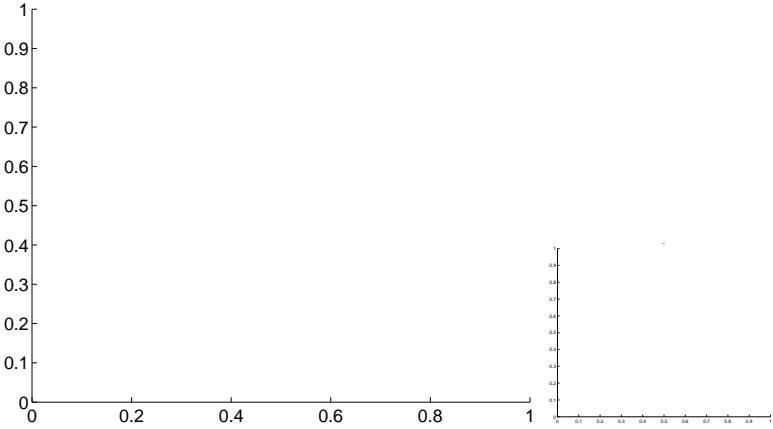
Q5 no OOT image



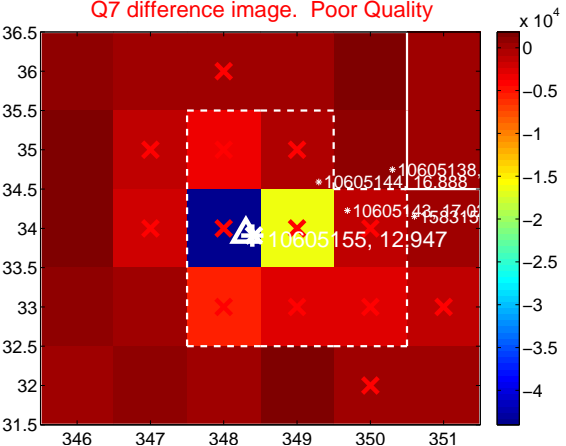
Q6 no difference image



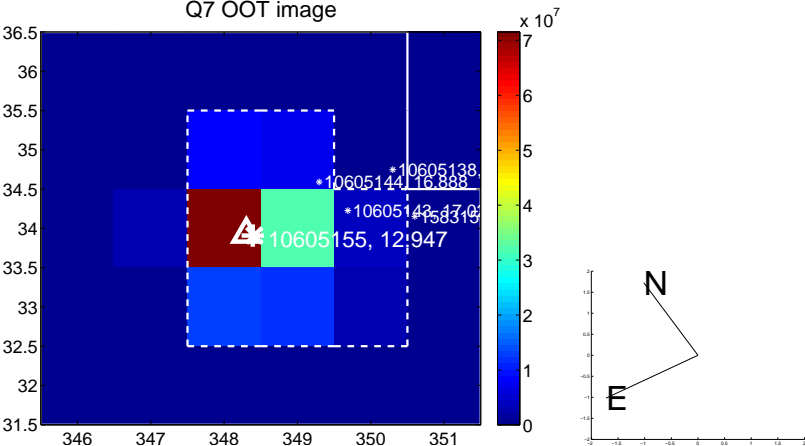
Q6 no OOT image



Q7 difference image. Poor Quality



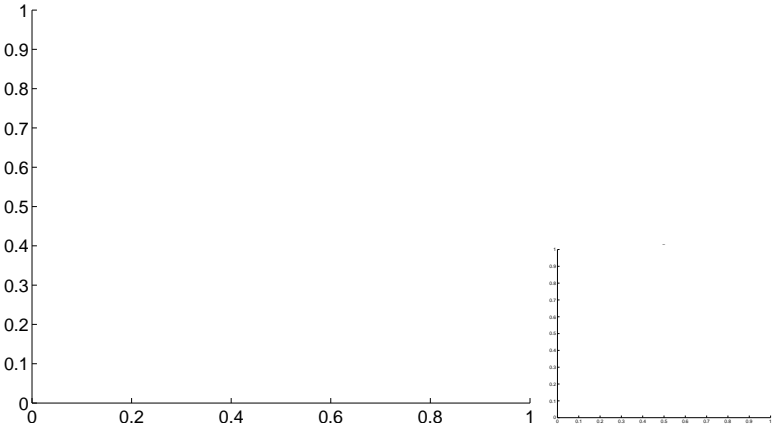
Q7 OOT image



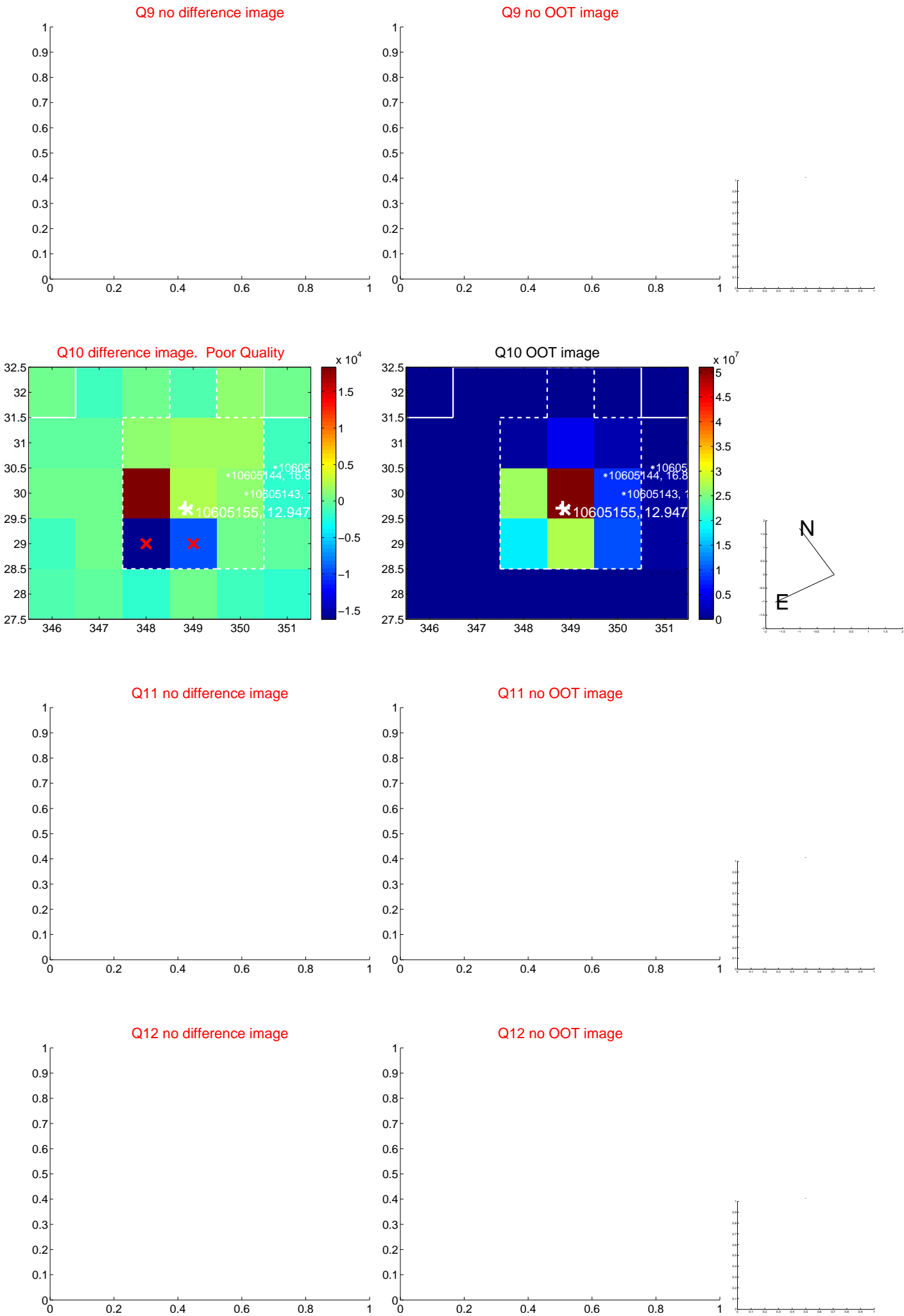
Q8 no difference image



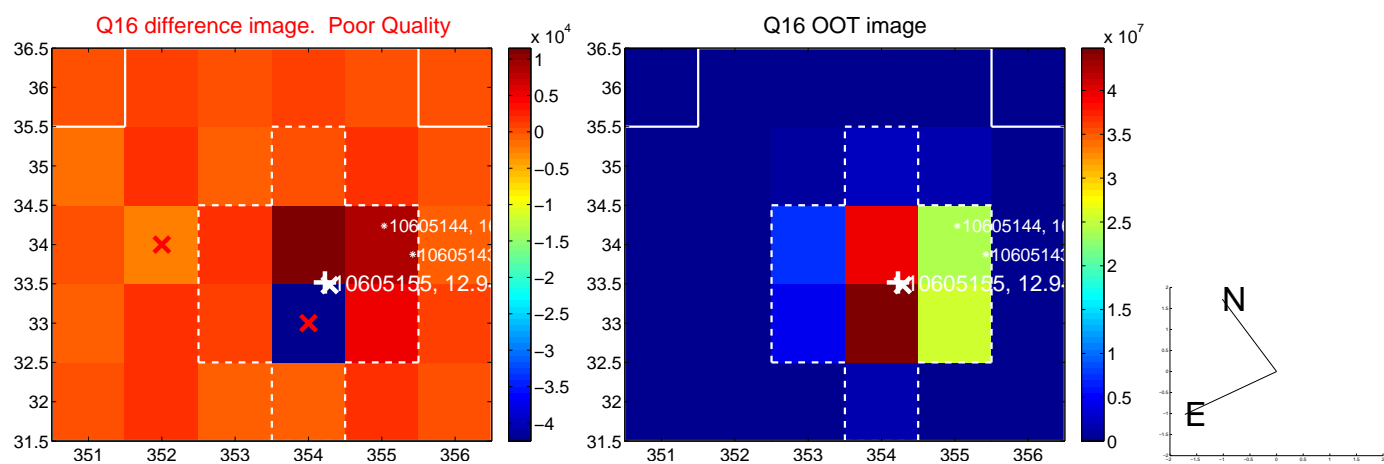
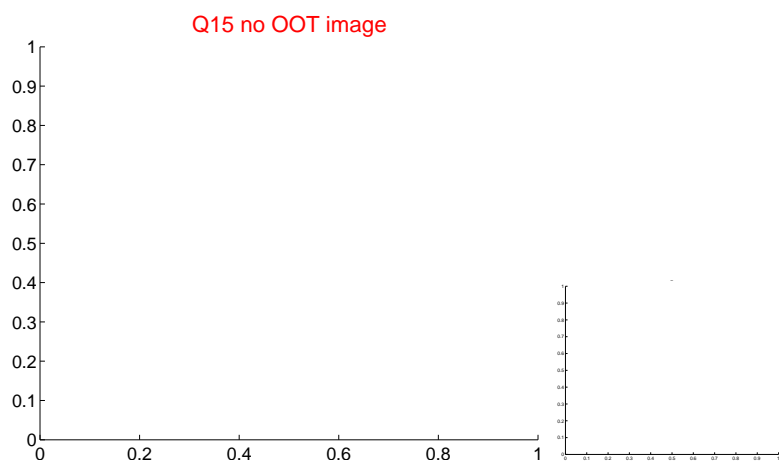
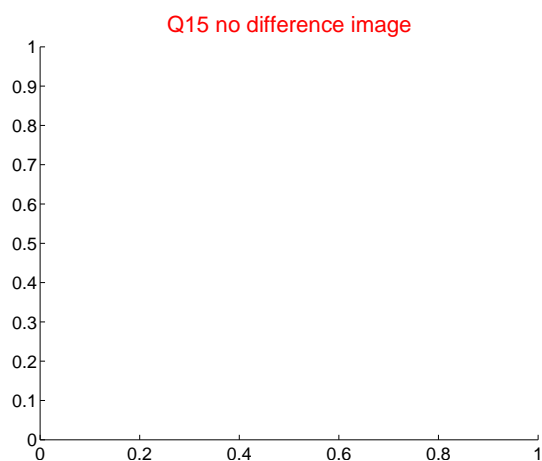
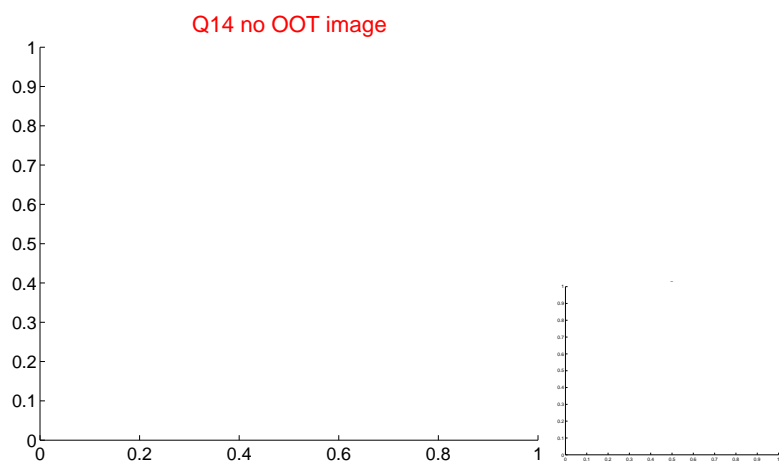
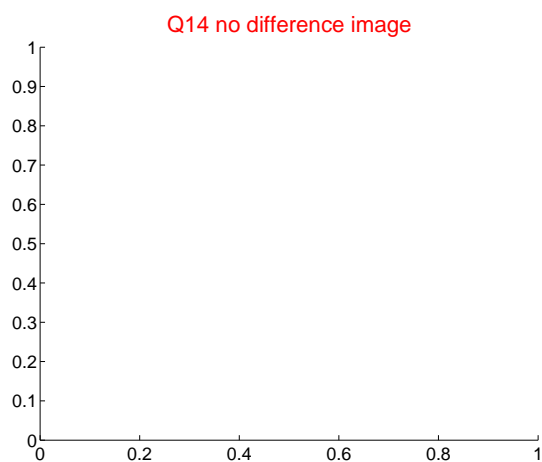
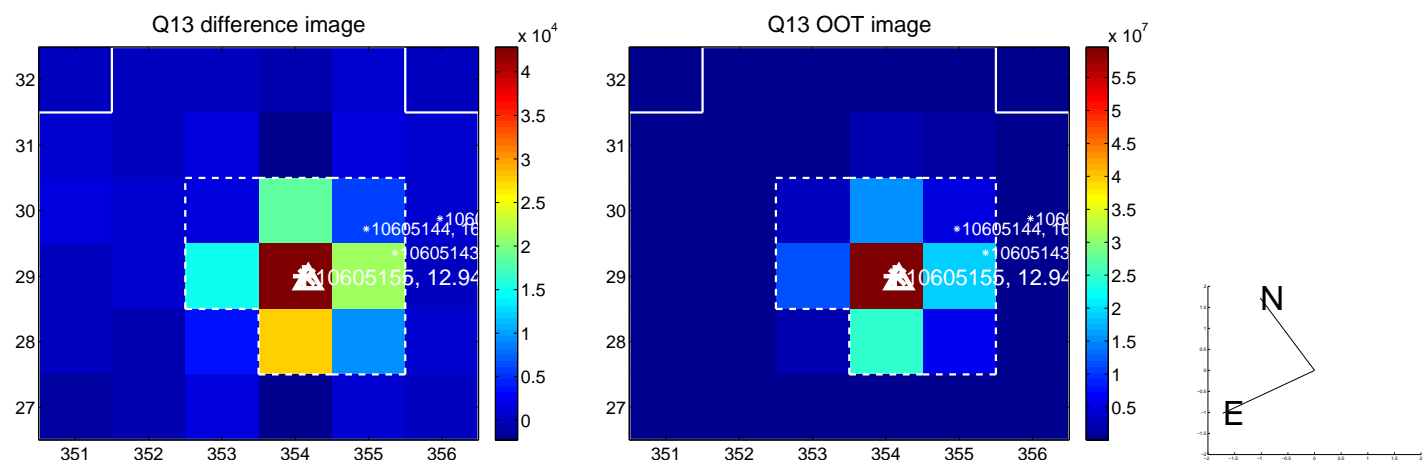
Q8 no OOT image



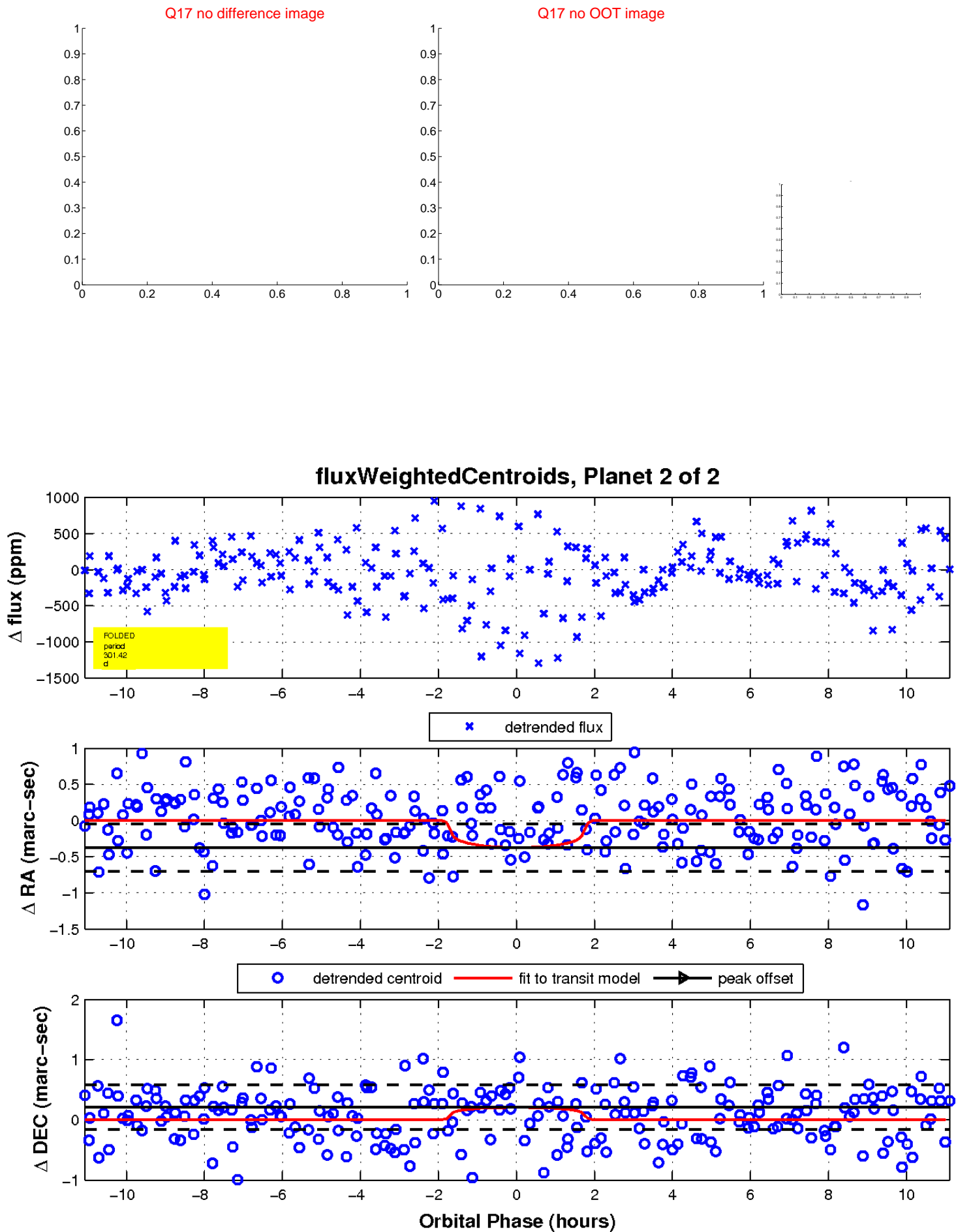
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

