

KIC 005364579

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})
005364579-01	OBS	No	0.571995	131.932163	39.0	2.103	8.6	8.5	1.31	5866	0.97	9780.66
005364579-02	OBS	No	141.394813	135.568199	400.9	22.565	8.6	4.4	1.31	5866	2.70	6.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005364579-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST
005364579-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_KIC_POS

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

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

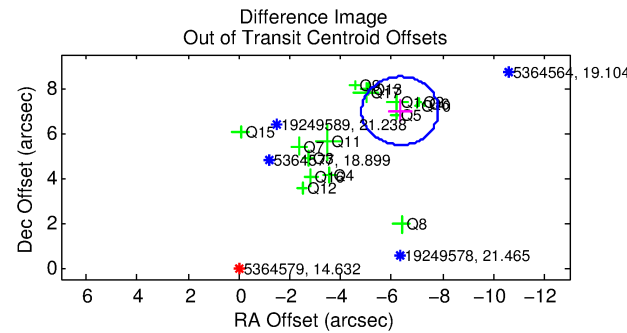
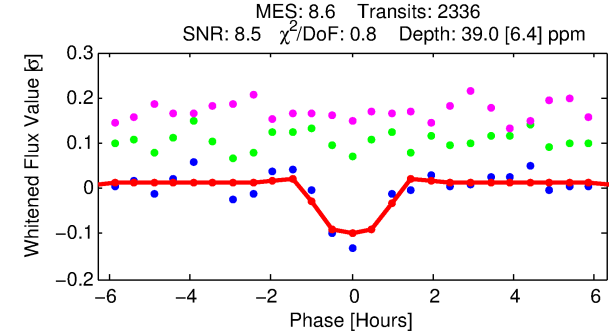
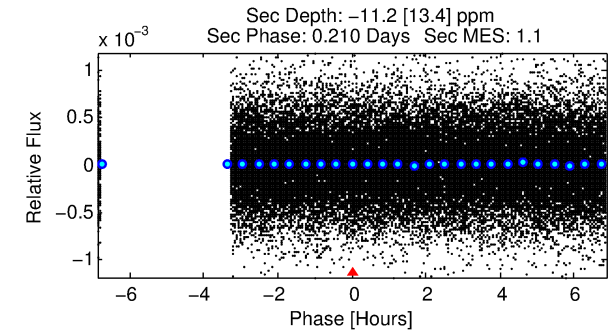
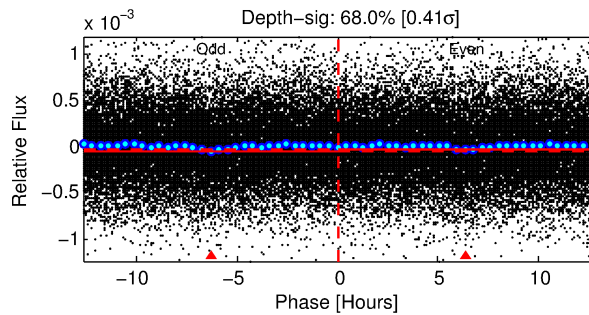
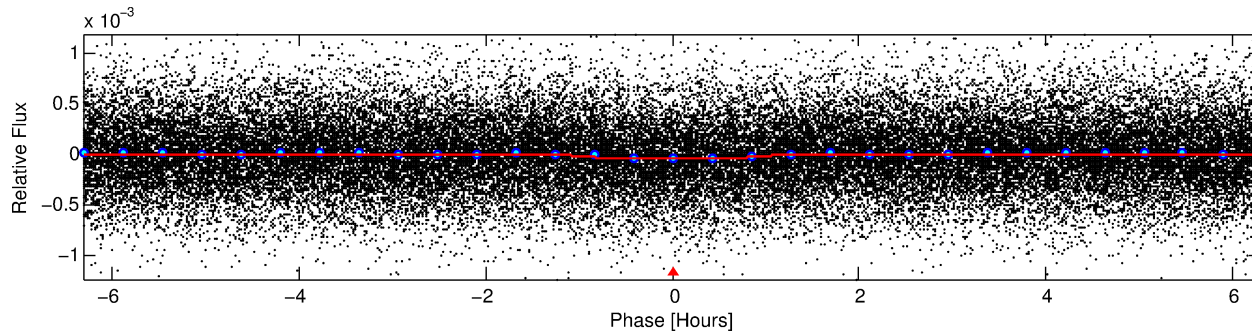
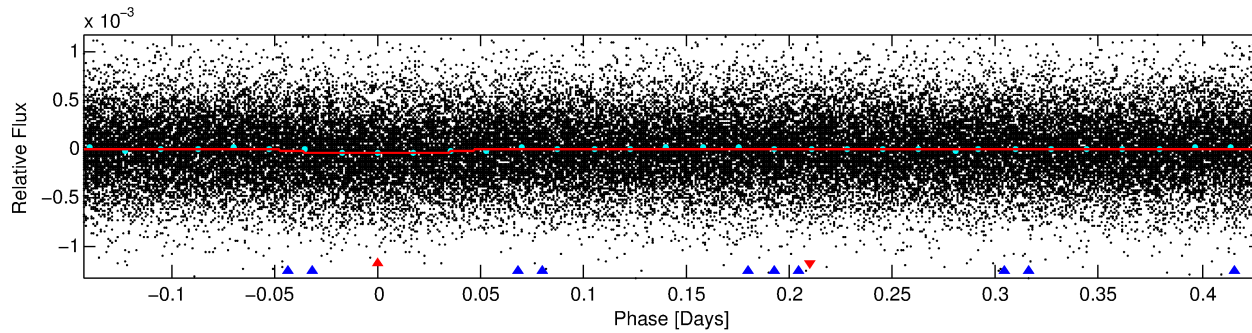
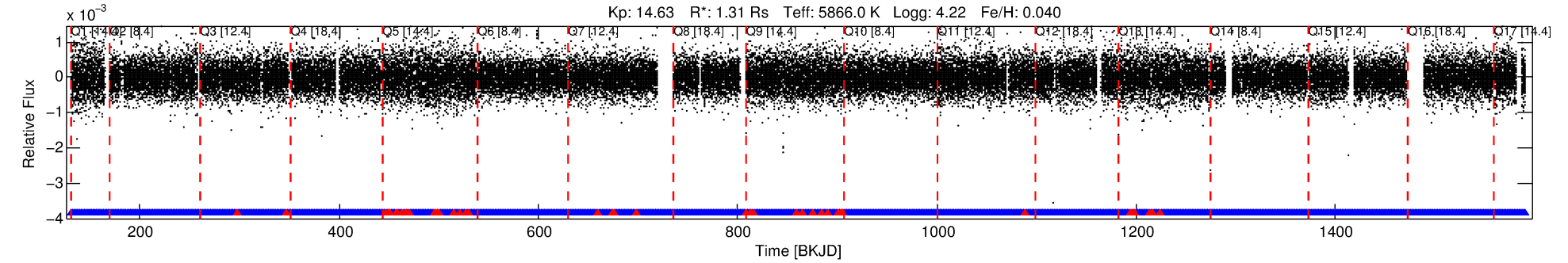
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005364579-01

No Significant Match Found

DV One-Page Summary

KIC: 5364579 Candidate: 1 of 2 Period: 0.572 d



DV Fit Results:

Period = 0.57200 [0.00001] d
Epoch = 131.9322 [0.0029] BKJD
Rp/R* = 0.0068 [0.0044]
a/R* = 1.32 [1.76]
b = 0.90 [0.66]
Seff = 9780.66 [2766.45]
Teq = 2536 [179] K
Rp = 0.97 [0.65] Re
a = 0.0136 [0.0024] AU
Ag = N/A
Teffp = N/A

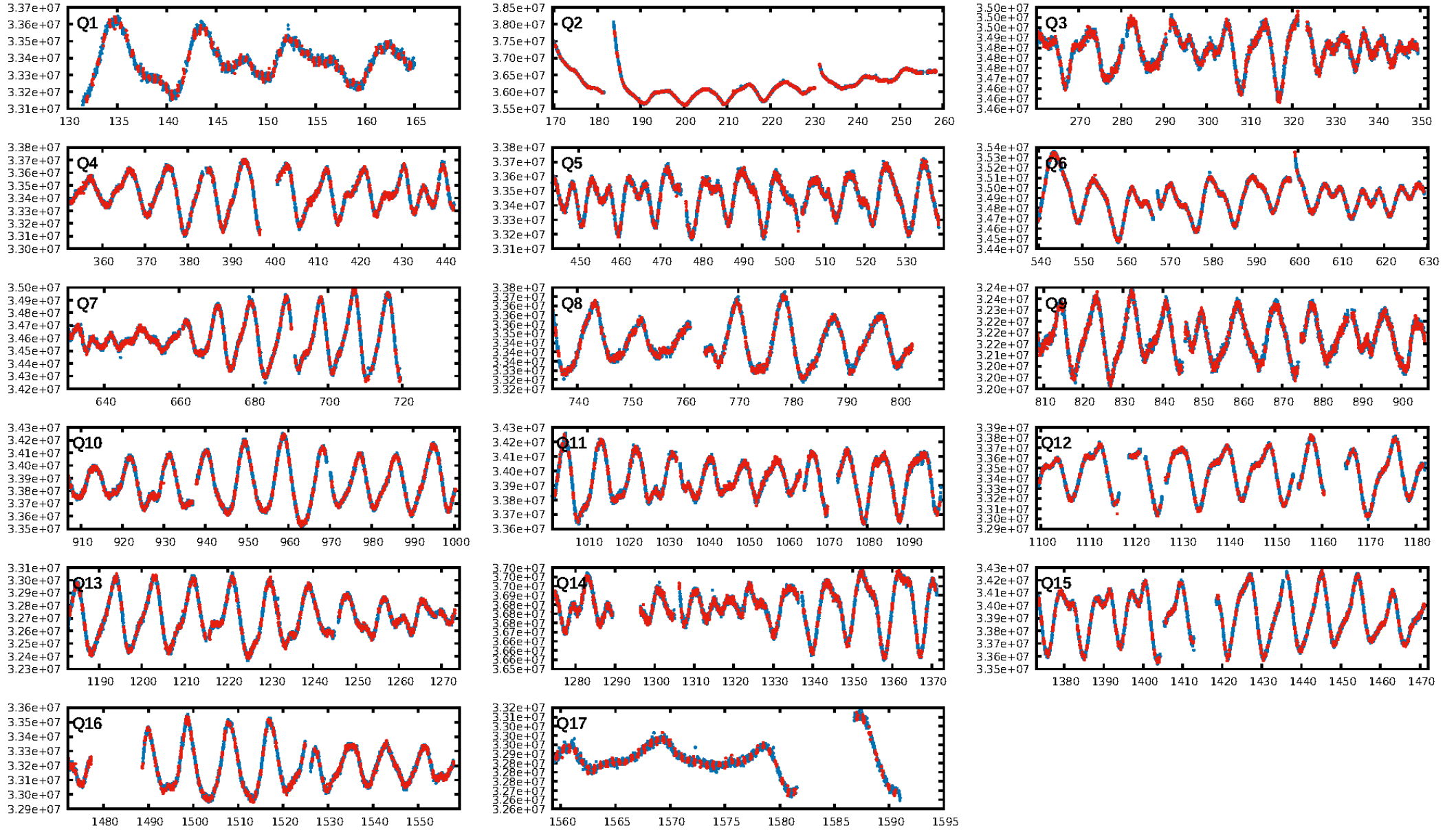
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [149.13 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.23e-17
RollingBand-fgt: 0.98 [2189/2232]
GhostDiagnostic-chr: -0.07206
Centroid-sig: 0.0%
Centroid-so: 6.003 arcsec [7.03 σ]
OotOffset-rm: 9.434 arcsec [18.67 σ]
KicOffset-rm: 8.549 arcsec [14.81 σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.69 [11/16]
DiffImageOverlap-fno: 1.00 [17/17]

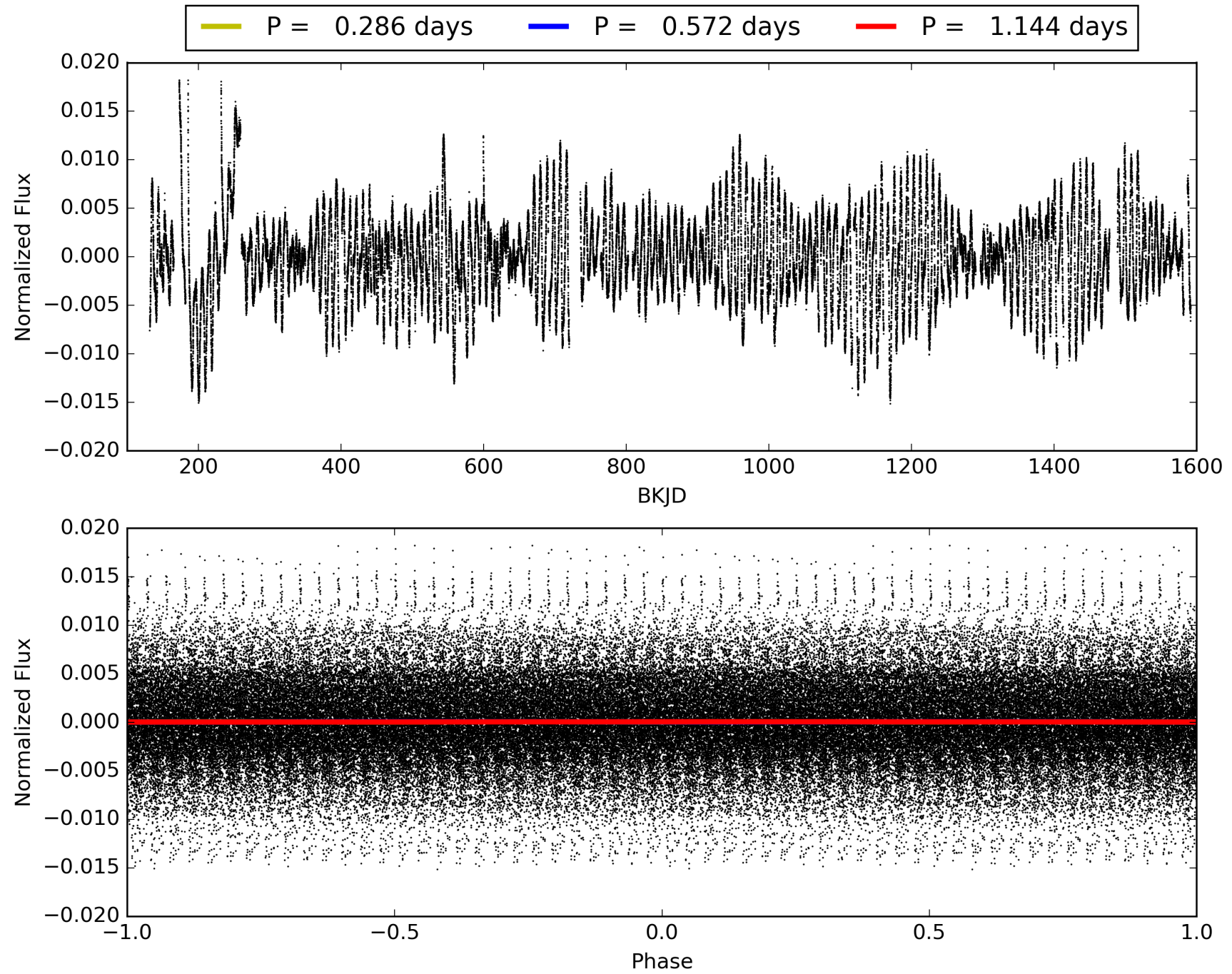
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005364579-01, PDC Light Curves

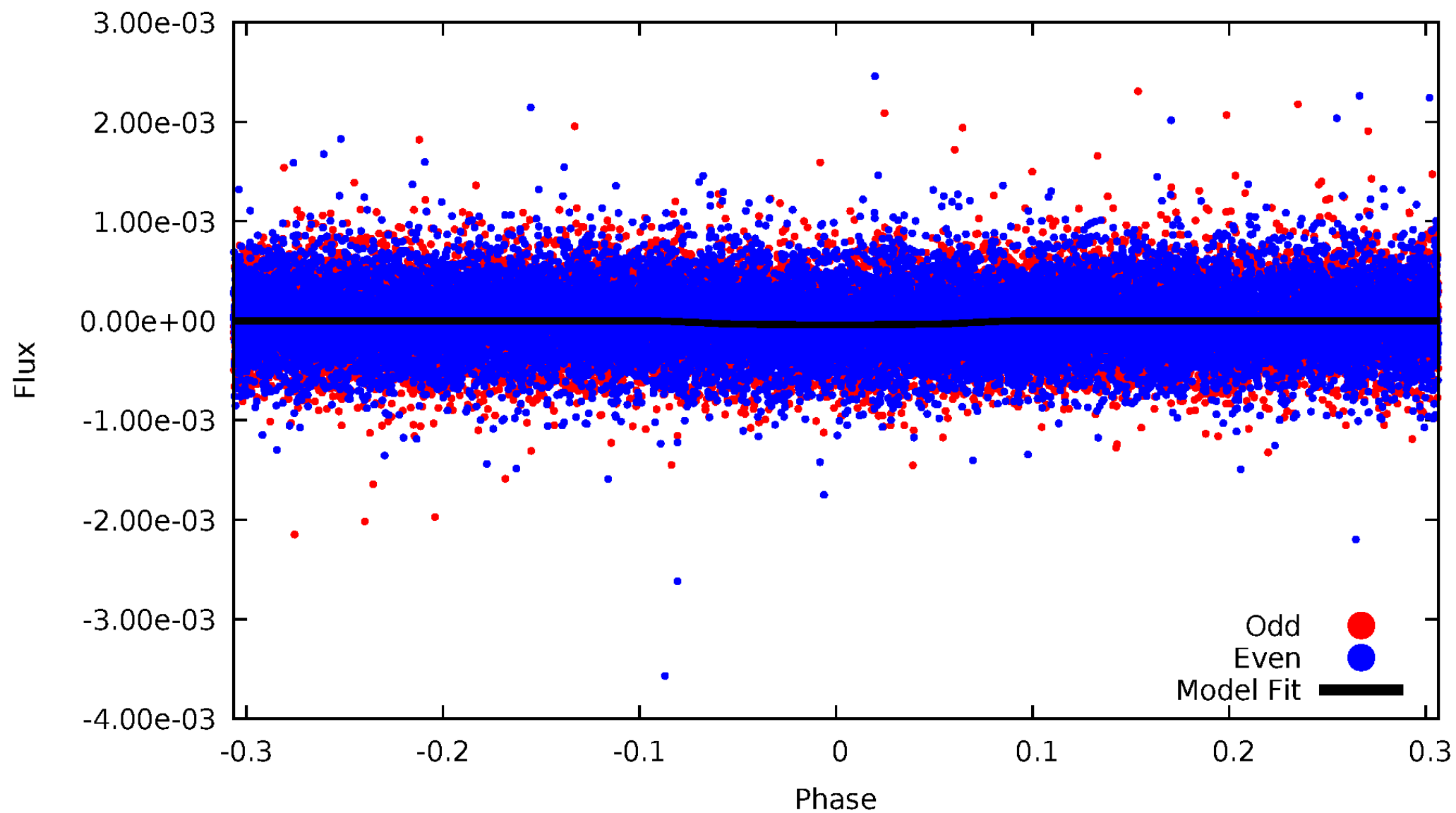


TCE 005364579-01



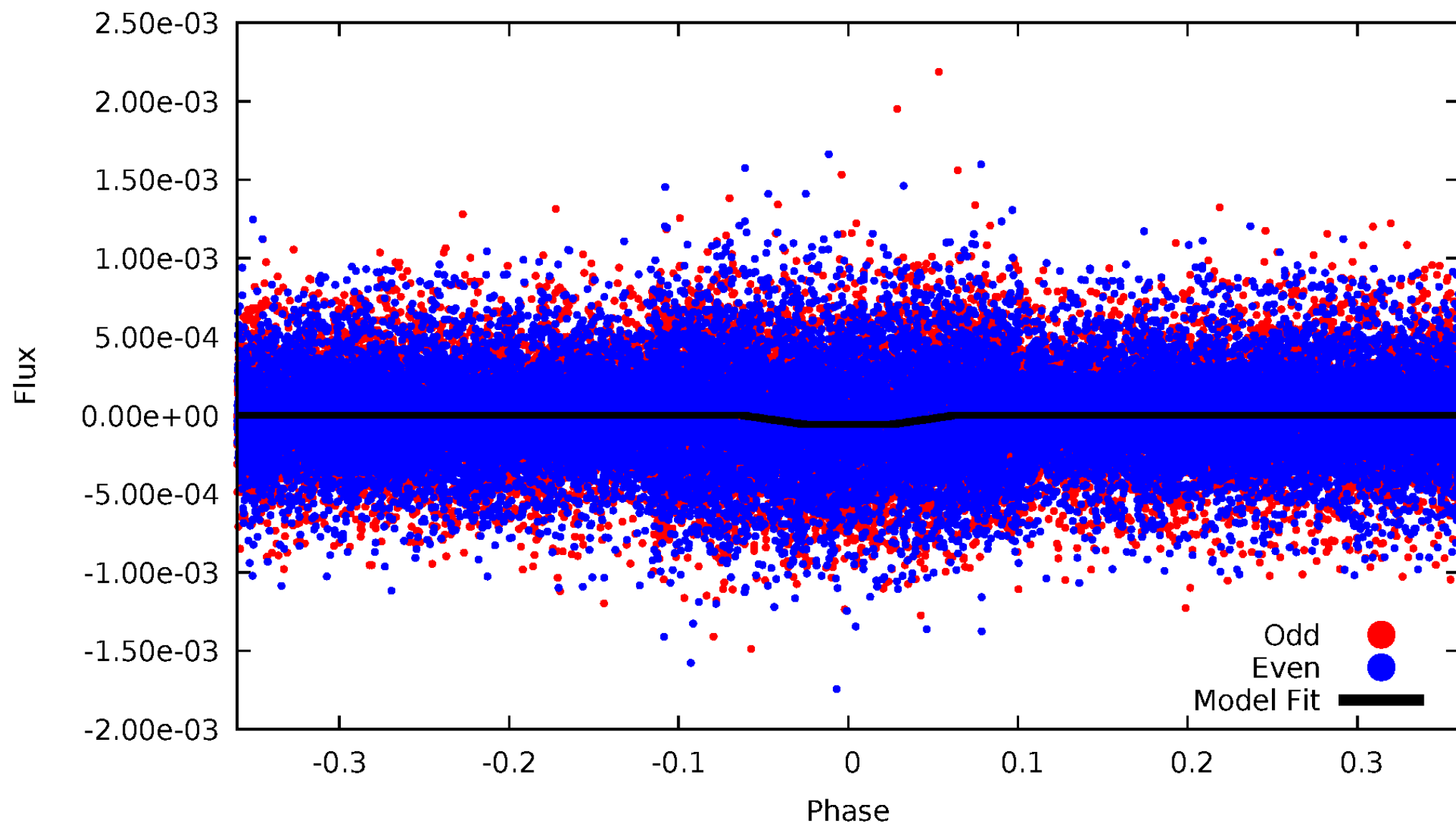
DV Odd/Even

TCE 005364579-01

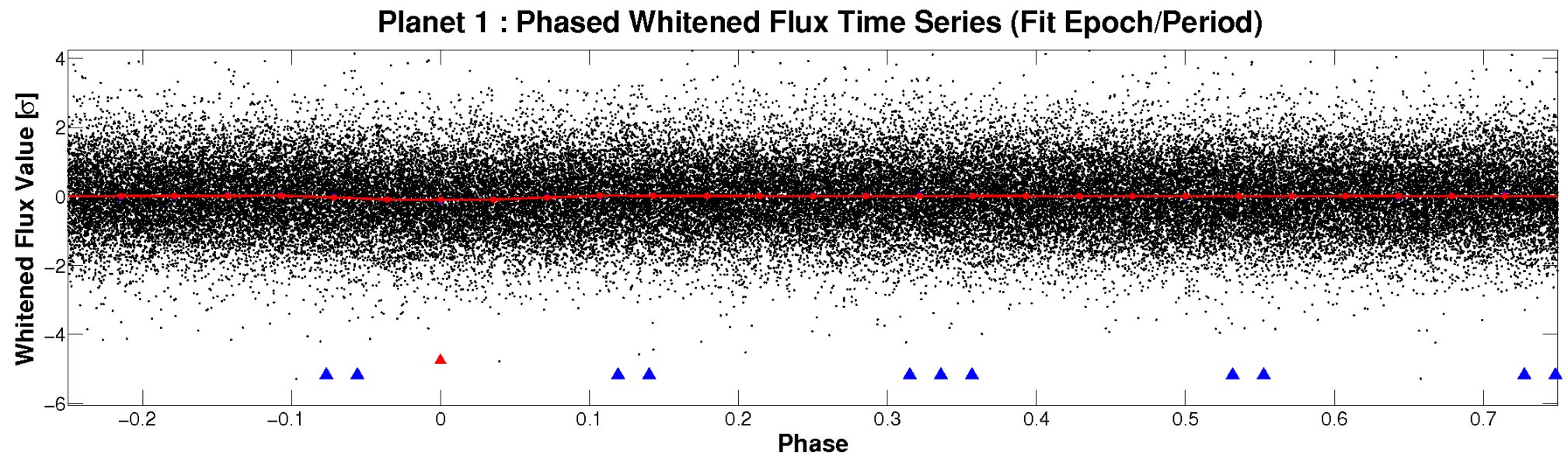
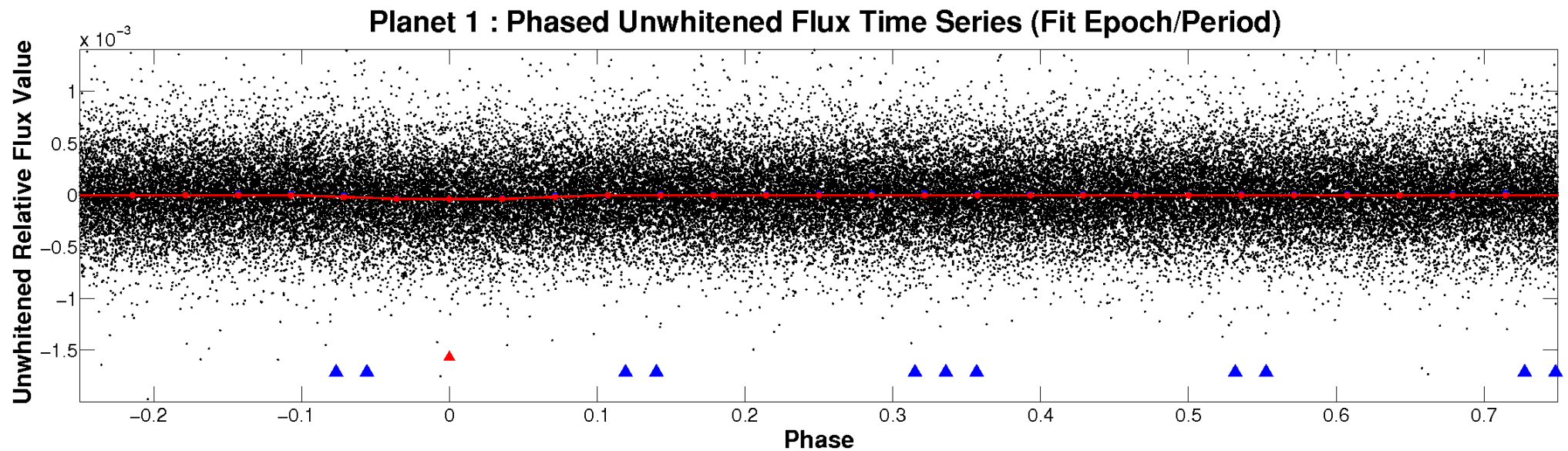


ALT Odd/Even

TCE 005364579-01

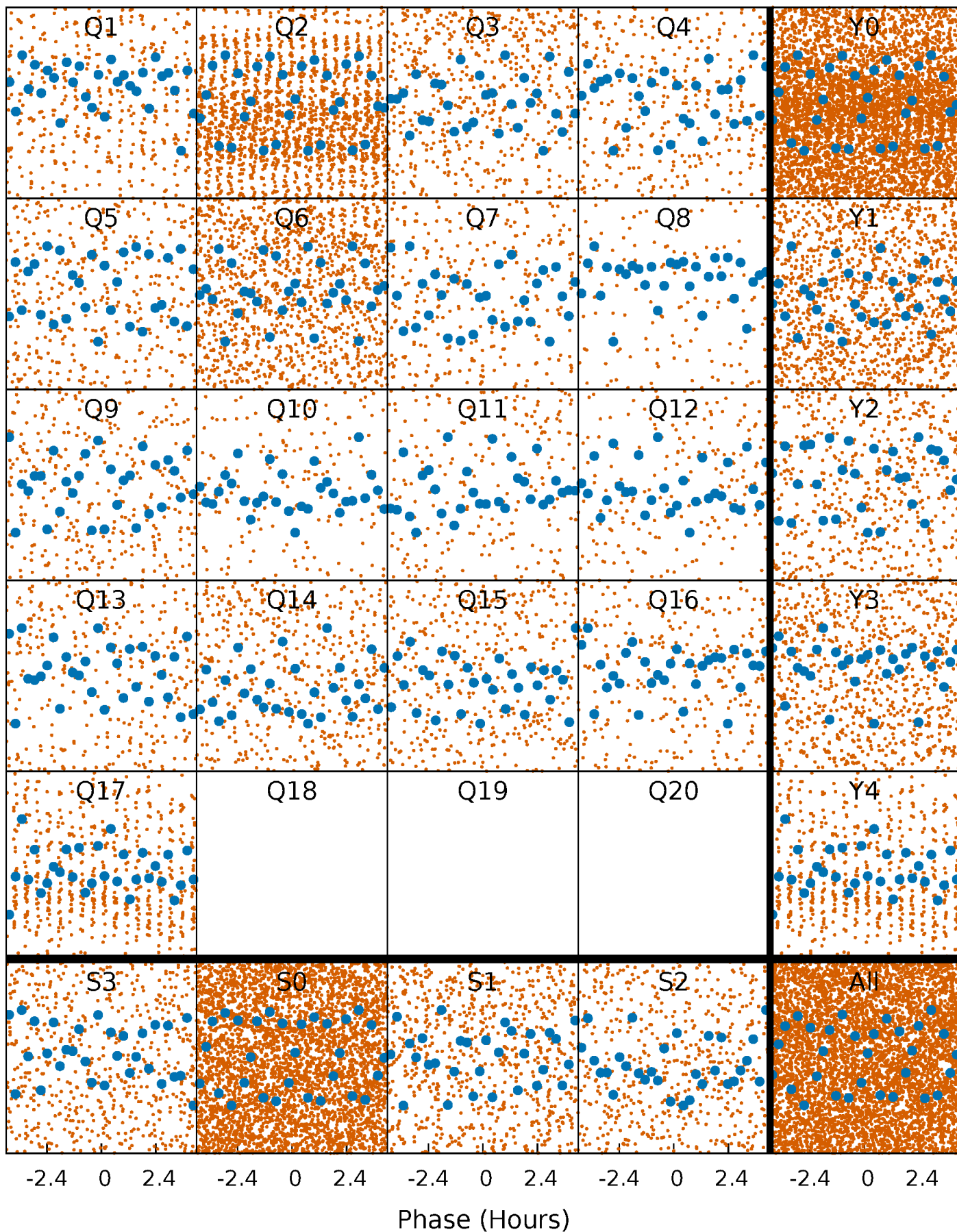


Non-Whitened Vs. Whitened Light Curve



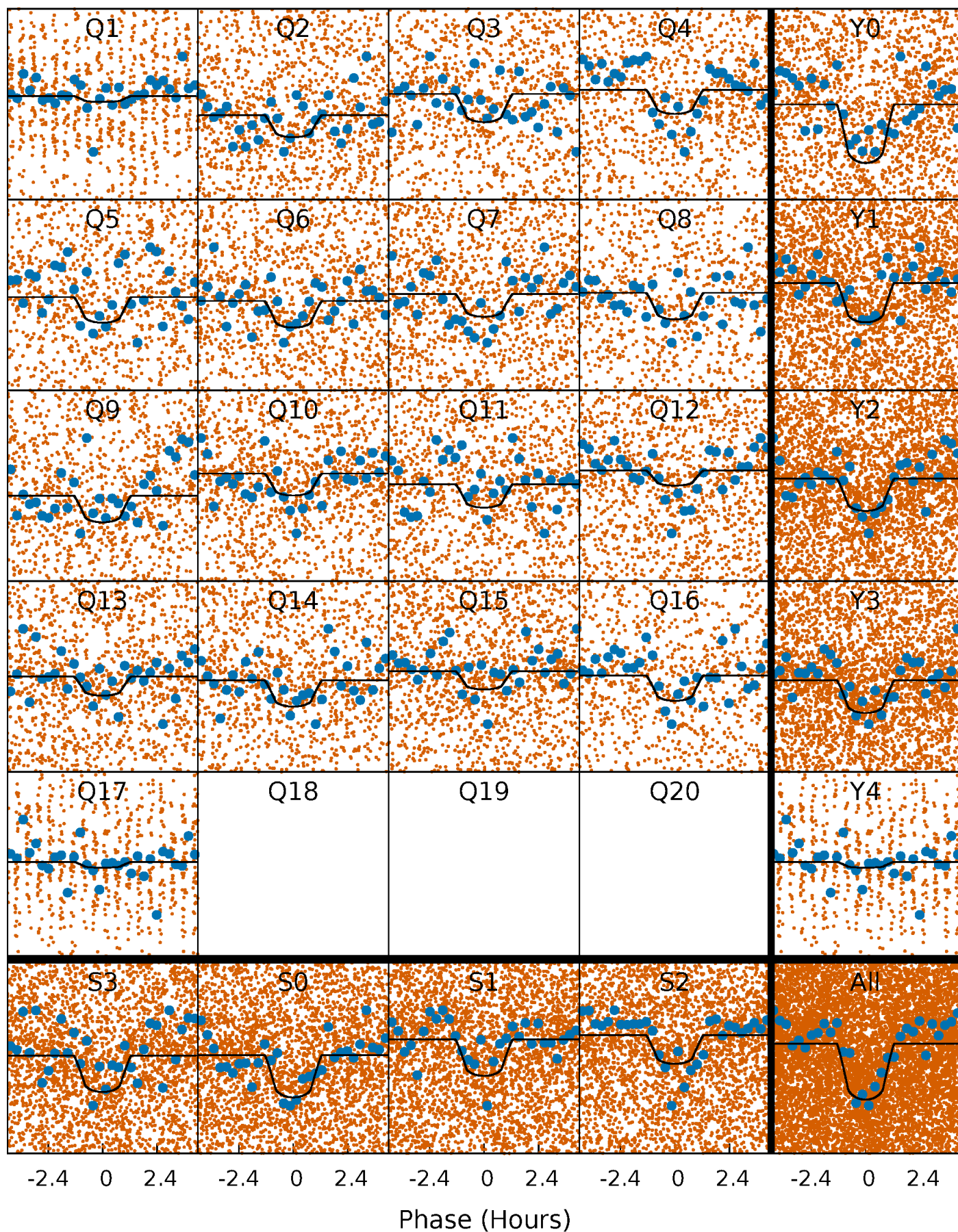
PDC Quarter-Phased Transit Curves

TCE 005364579-01 P= 0.571995 Days $T_0=131.932163$ (BKJD)



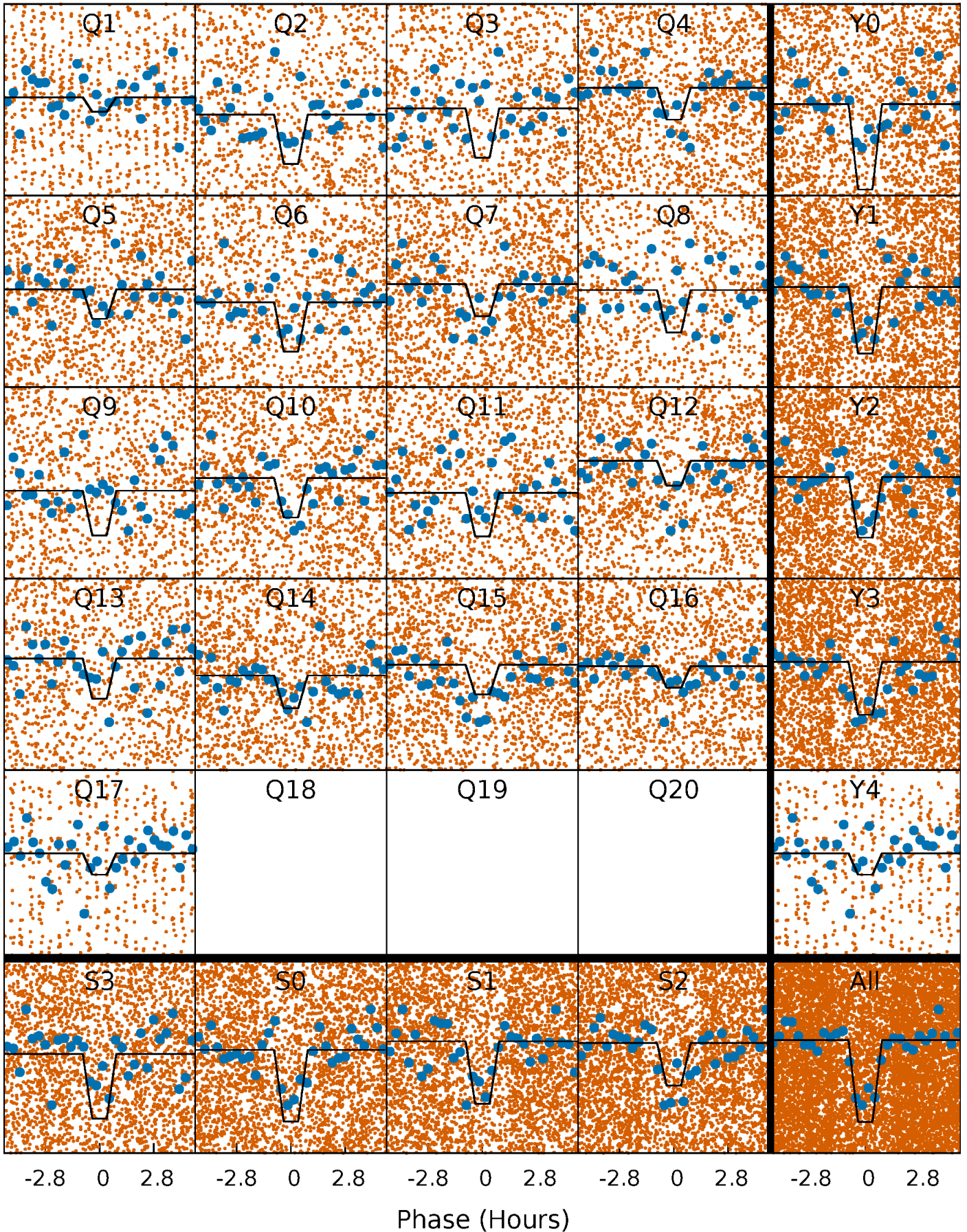
DV Quarter-Phased Transit Curves

TCE 005364579-01 P= 0.571995 Days $T_0=131.932163$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

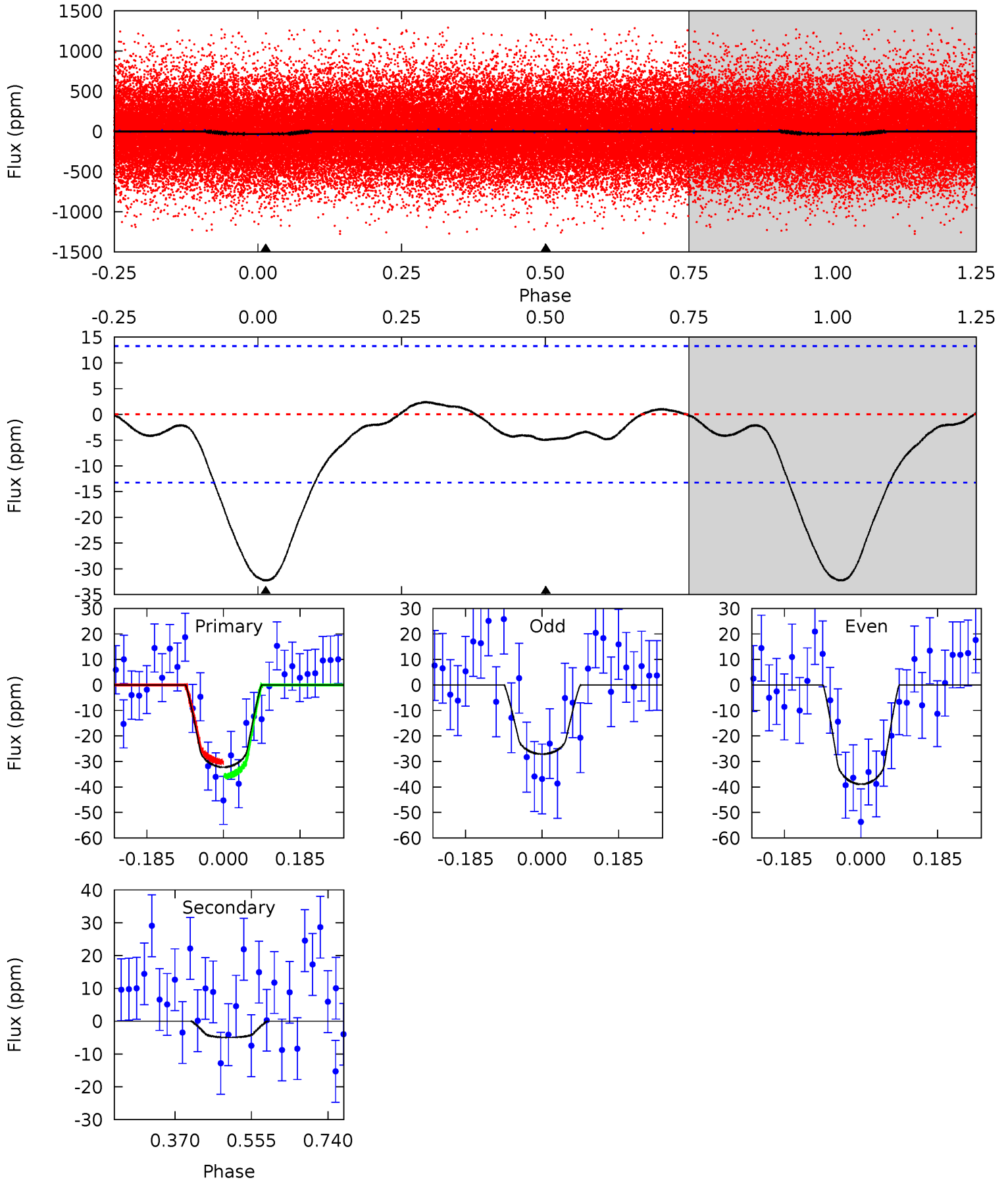
TCE 005364579-01 P= 0.572002 Days $T_0=131.925726$ (BKJD)



DV Model-Shift Uniqueness Test

005364579-01, P = 0.571995 Days, E = 131.360168 Days

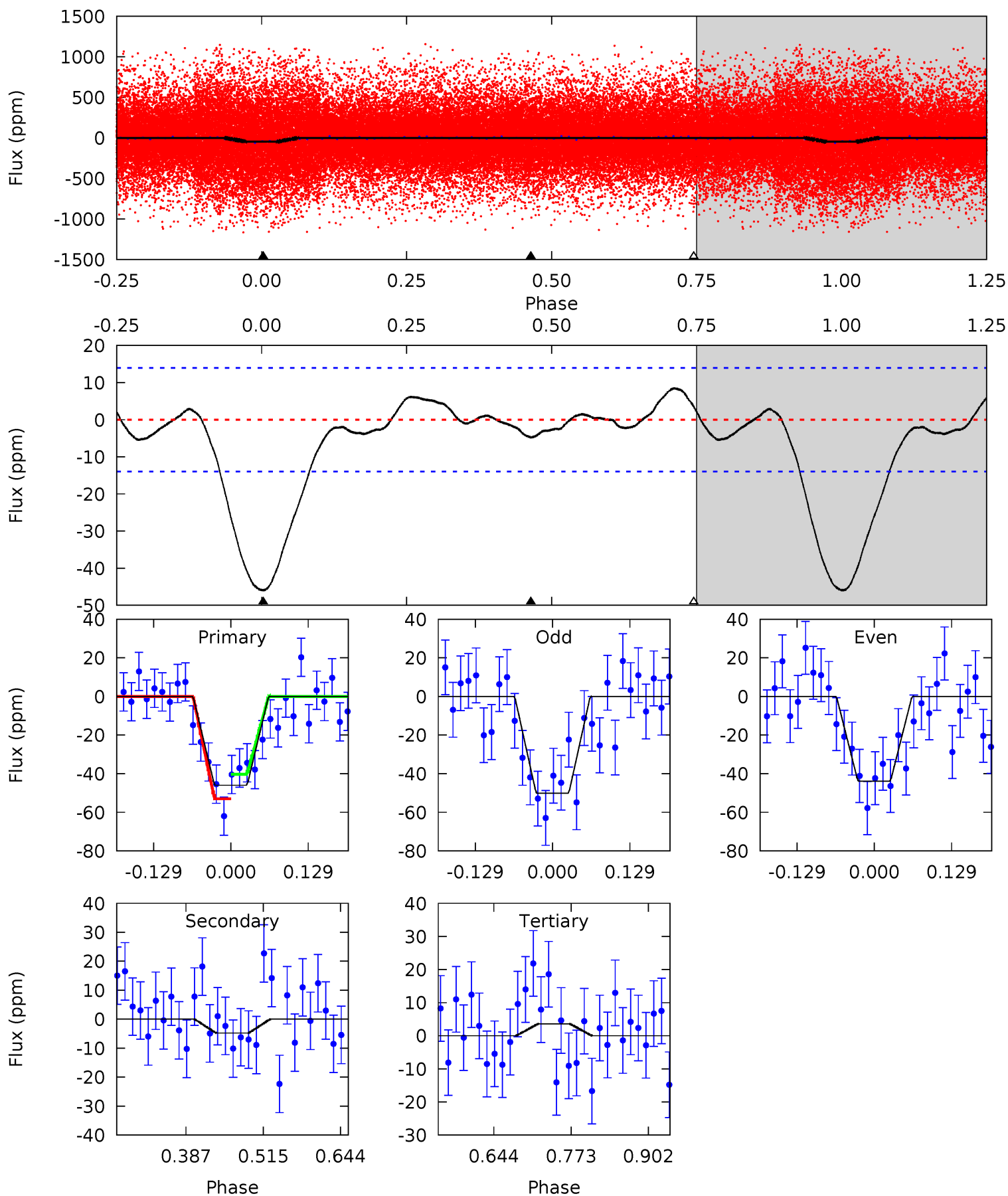
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	1.67	0	0	4.43	1.33	0.68	10.8	10.8	1.67	1.67	1.99	0.96	0.07	0.95



Alt Model-Shift Uniqueness Test

005364579-01, P = 0.572002 Days, E = 131.353724 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	1.54	-1.15	0	4.51	1.52	1.26	16.0	14.9	2.69	1.54	1.02	1.06	0.16	2.03



Stellar Parameters For KIC 005364579

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5866^{+79}_{-79}	$4.217^{+0.162}_{-0.108}$	$0.040^{+0.150}_{-0.150}$	$1.306^{+0.198}_{-0.242}$	$1.027^{+0.093}_{-0.062}$	$0.649^{+0.519}_{-0.212}$
	+1%/-1%	+4%/-3%	+375%/-375%	+15%/-19%	+9%/-6%	+80%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005364579-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5 ± 3	$1.03^{+0.60}_{-0.58}$	3527^{+154}_{-195}	3052^{+1730}_{-6215}	$0.449^{+1.935}_{-0.335}$
Alt.	-5 ± 3	$1.10^{+0.62}_{-0.56}$	3528^{+160}_{-170}	2842^{+1541}_{-6075}	$0.389^{+1.272}_{-0.304}$

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 $A_{obs} \gg 1.0$

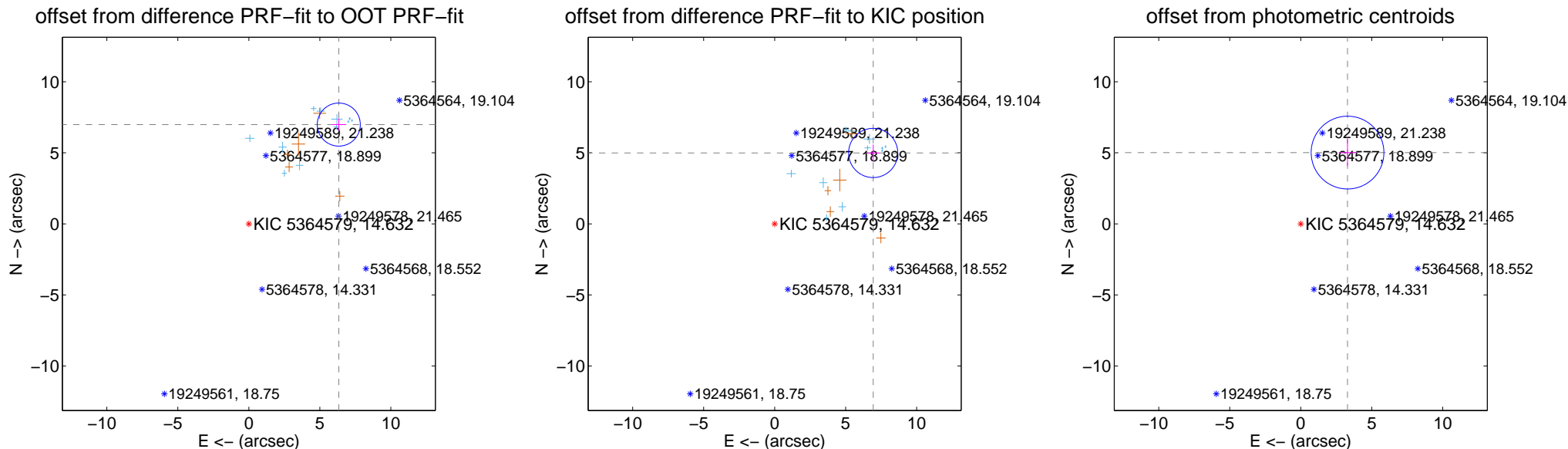
DV Centroid Data

Supplemental centroid analysis for 005364579-01. Kepler magnitude: 14.63. Transit SNR 8.51

There are 11 quarters with good PRF difference image offsets

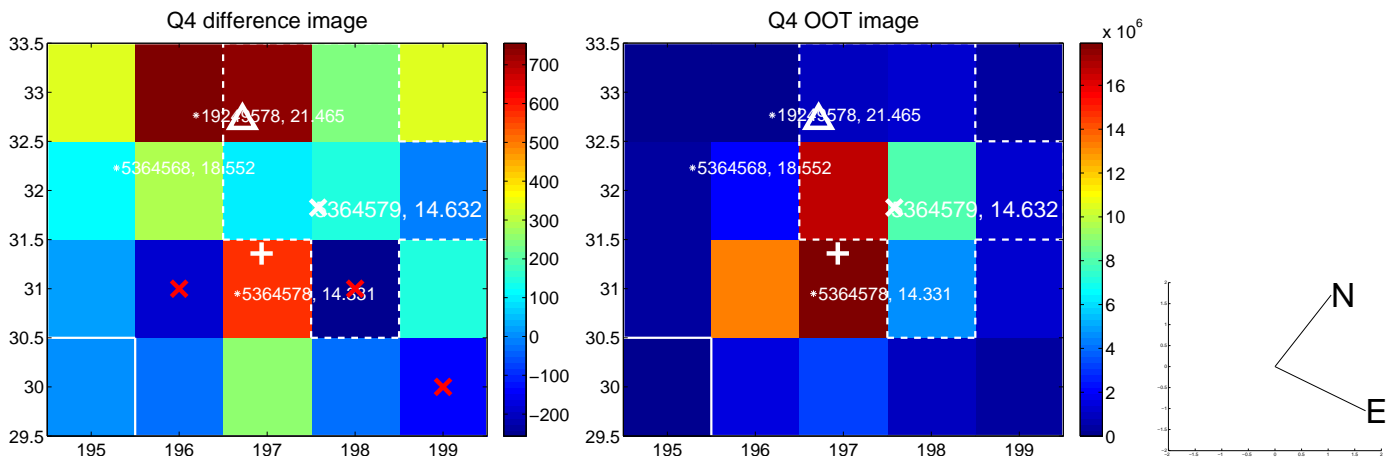
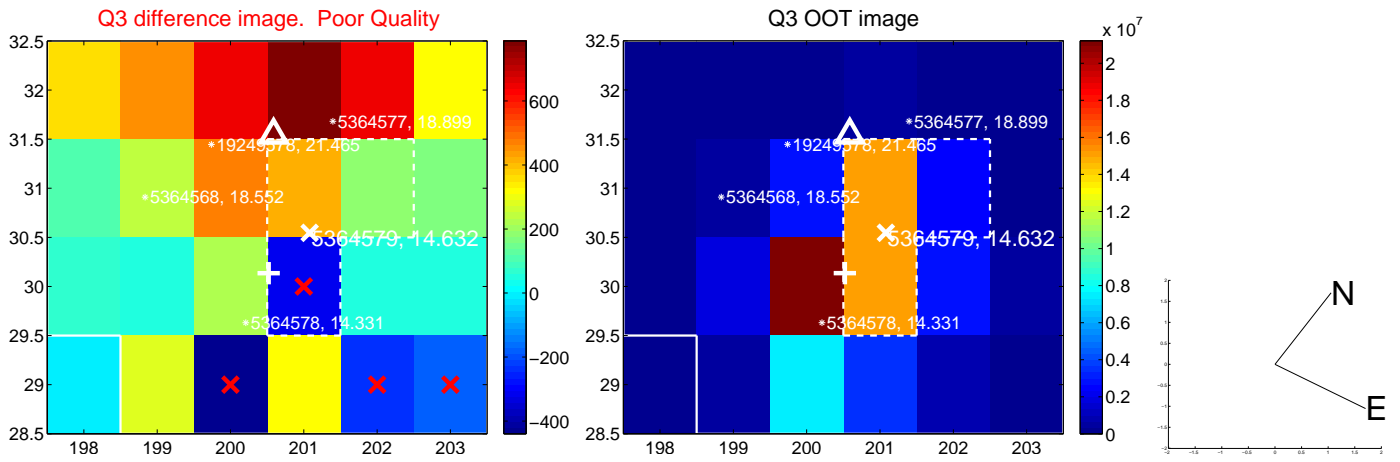
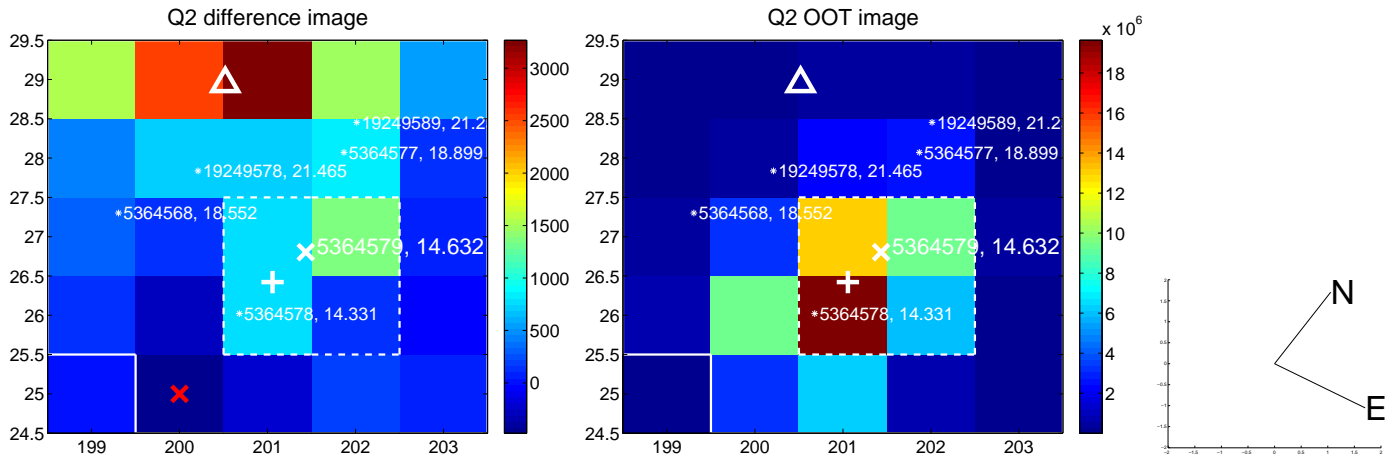
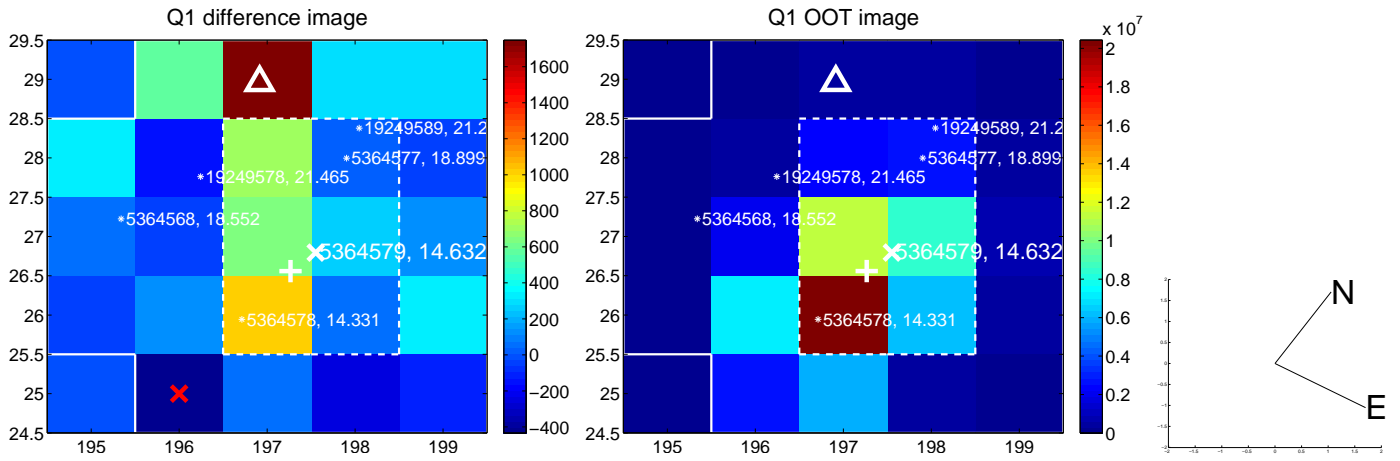
The direct PRF centroid is offset from the target star catalog position by about 1.50 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.434 ± 0.505	18.67	-6.337 ± 0.459	6.989 ± 0.430
PRF-fit source offset from KIC position	8.549 ± 0.577	14.81	-6.940 ± 0.447	4.992 ± 0.591
photometric centroid source offset	6.00 ± 0.85	7.03	-3.30 ± 0.61	5.02 ± 0.94

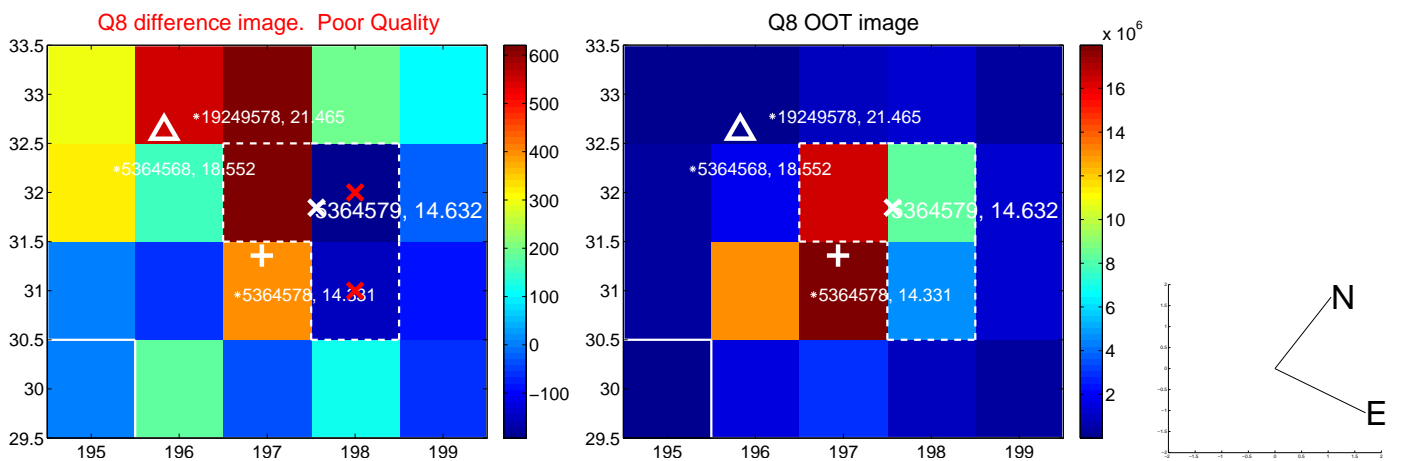
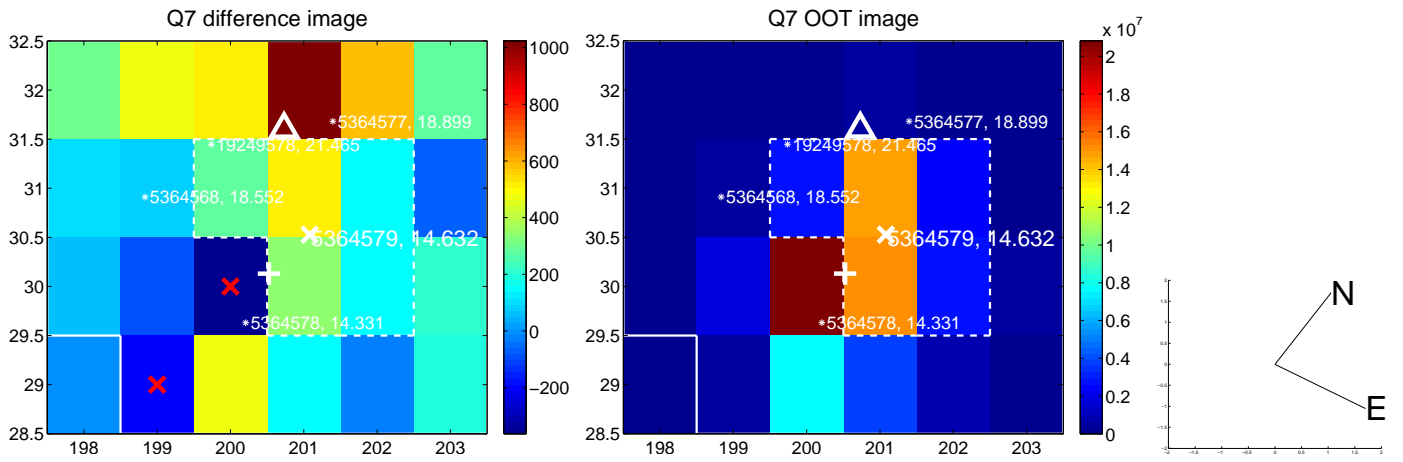
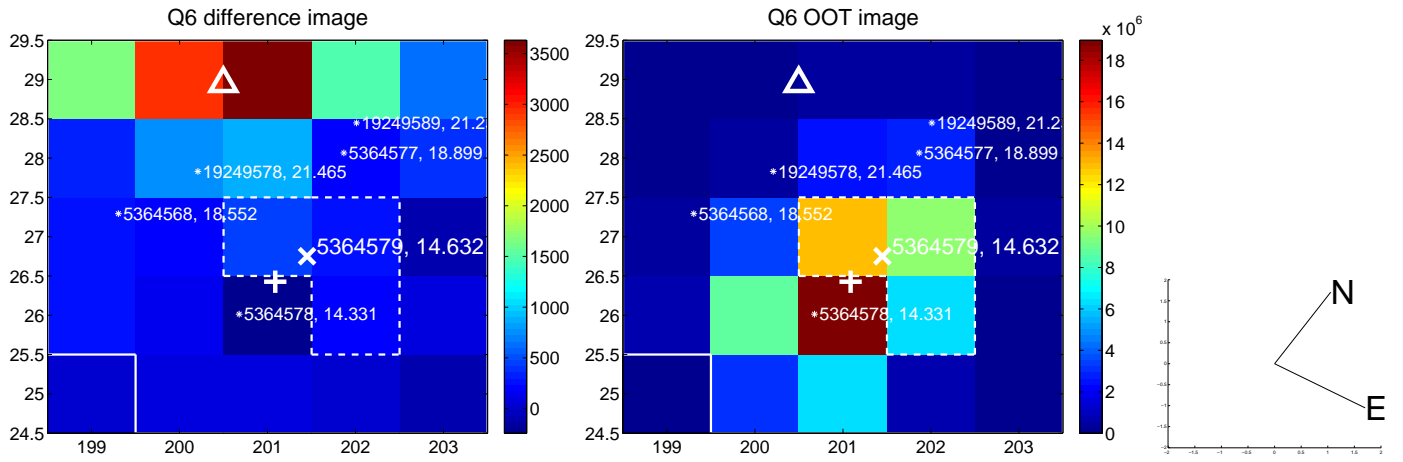
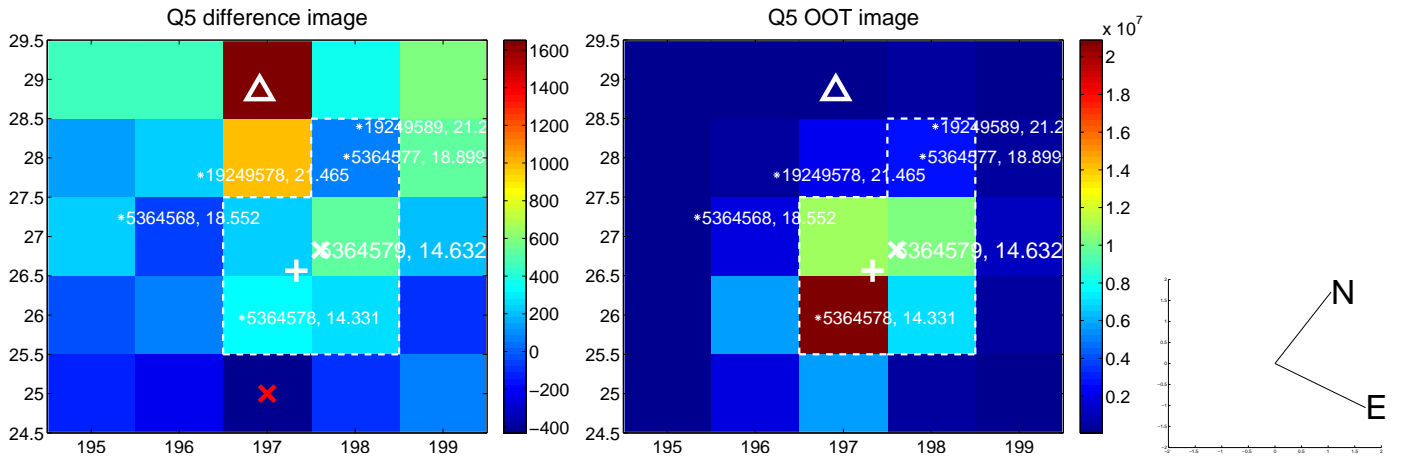


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

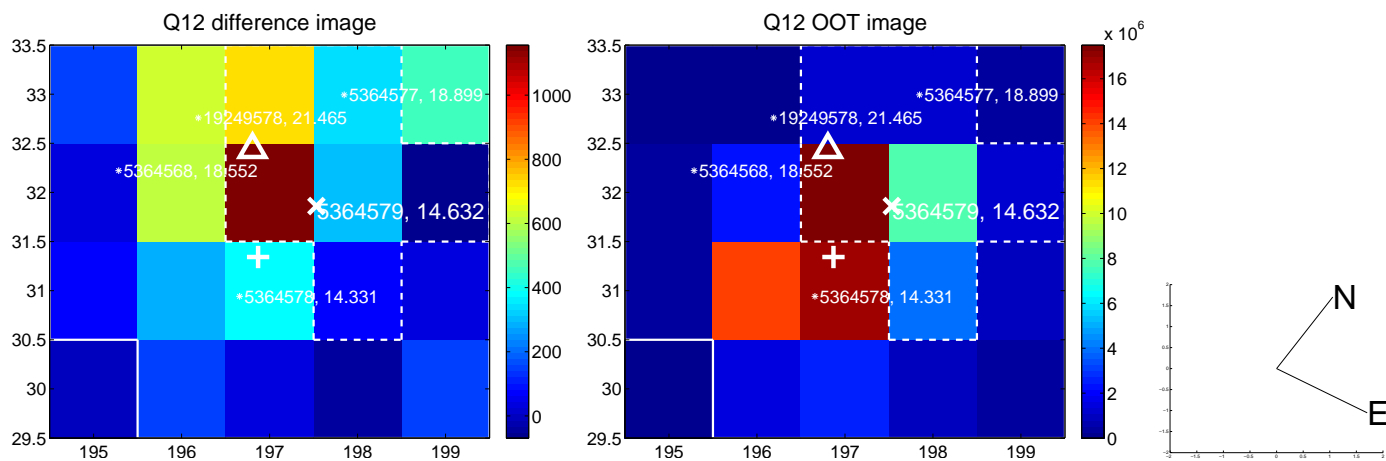
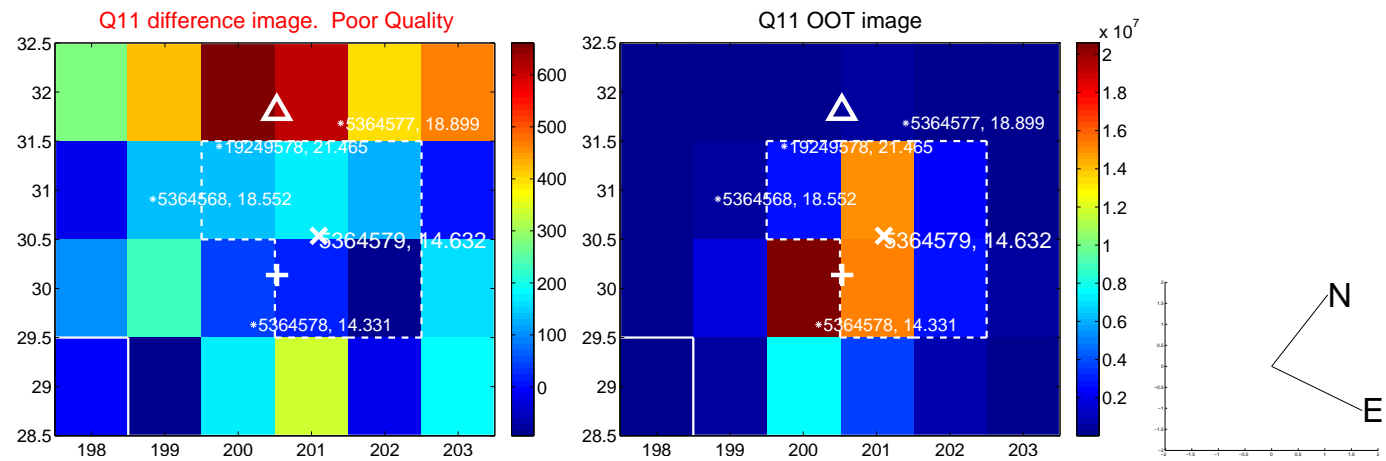
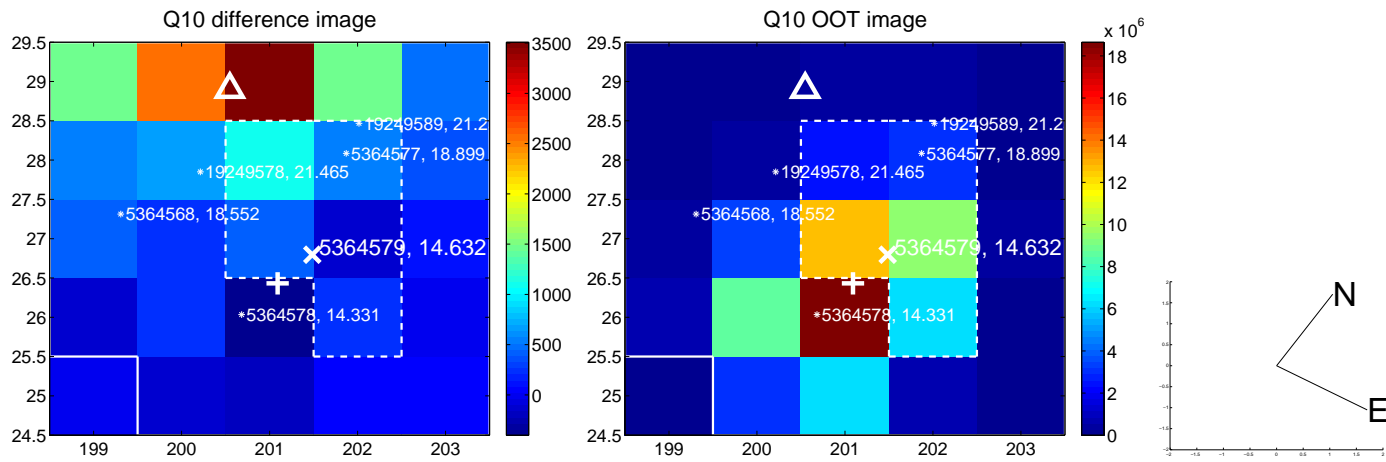
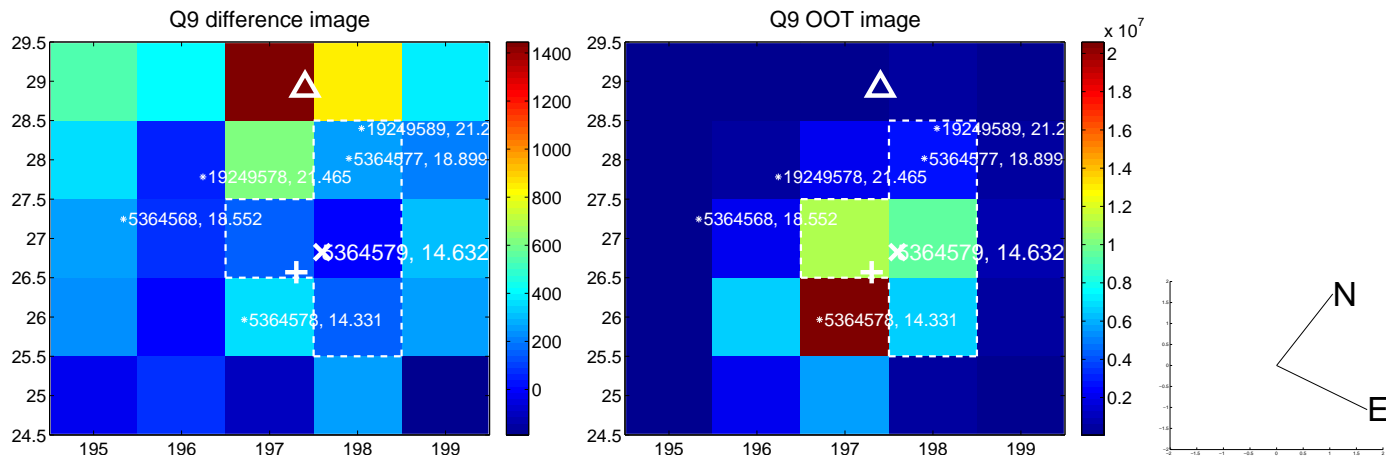
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



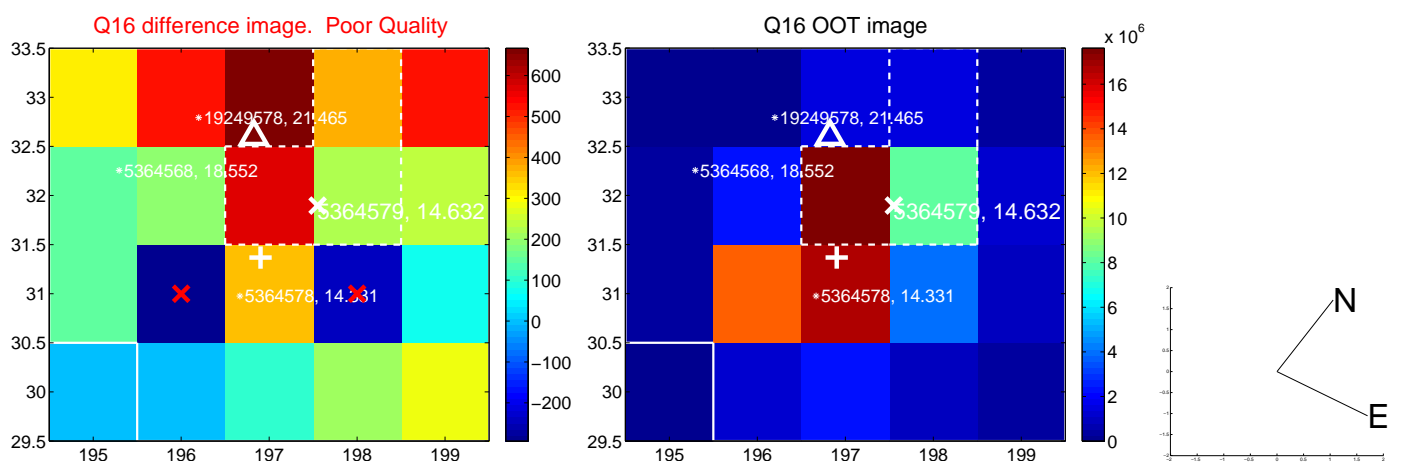
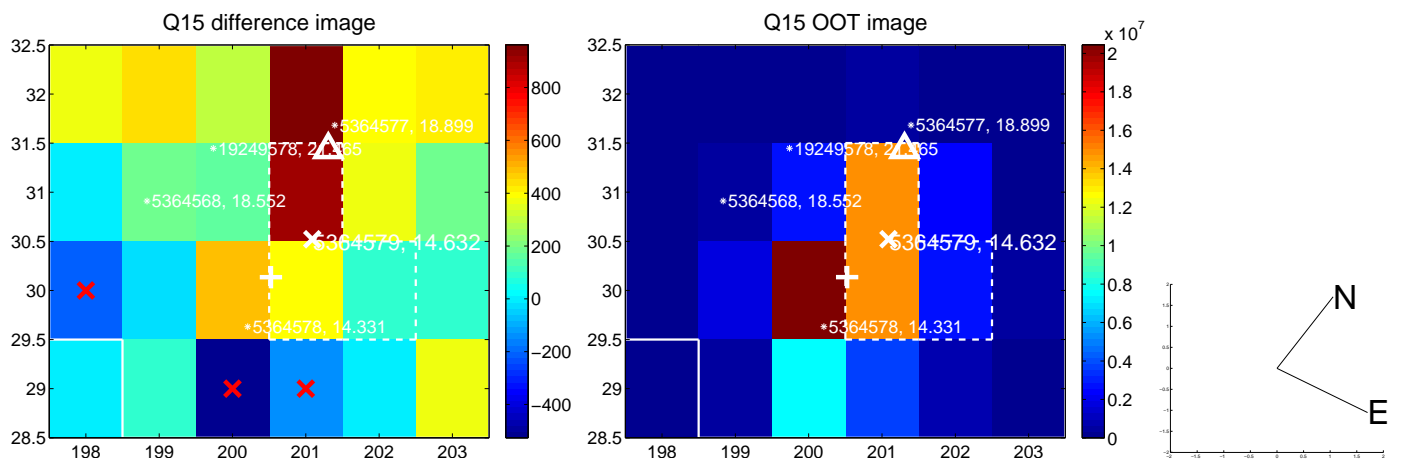
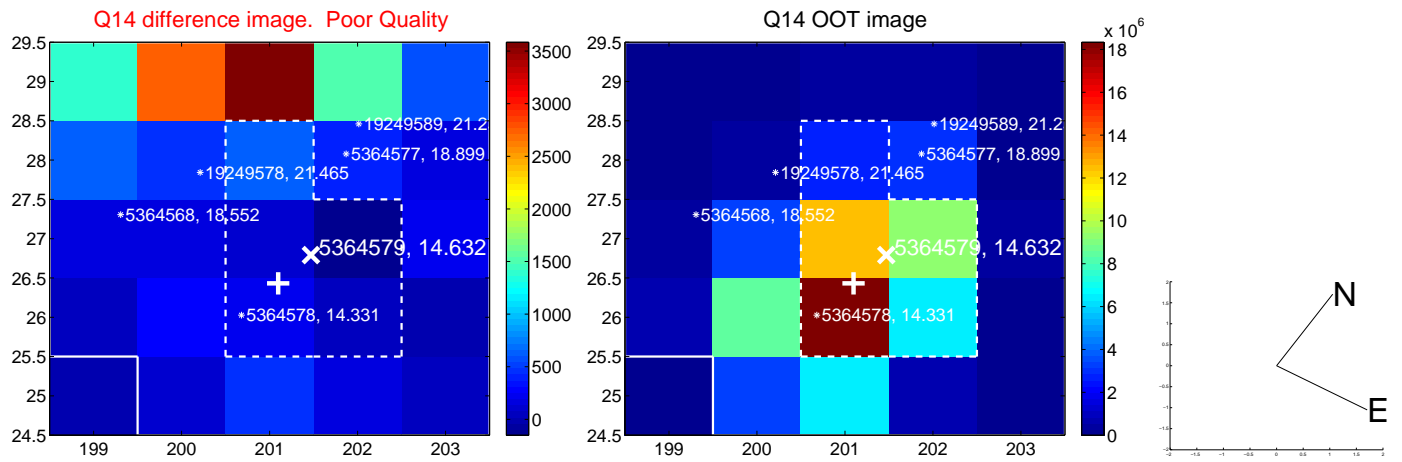
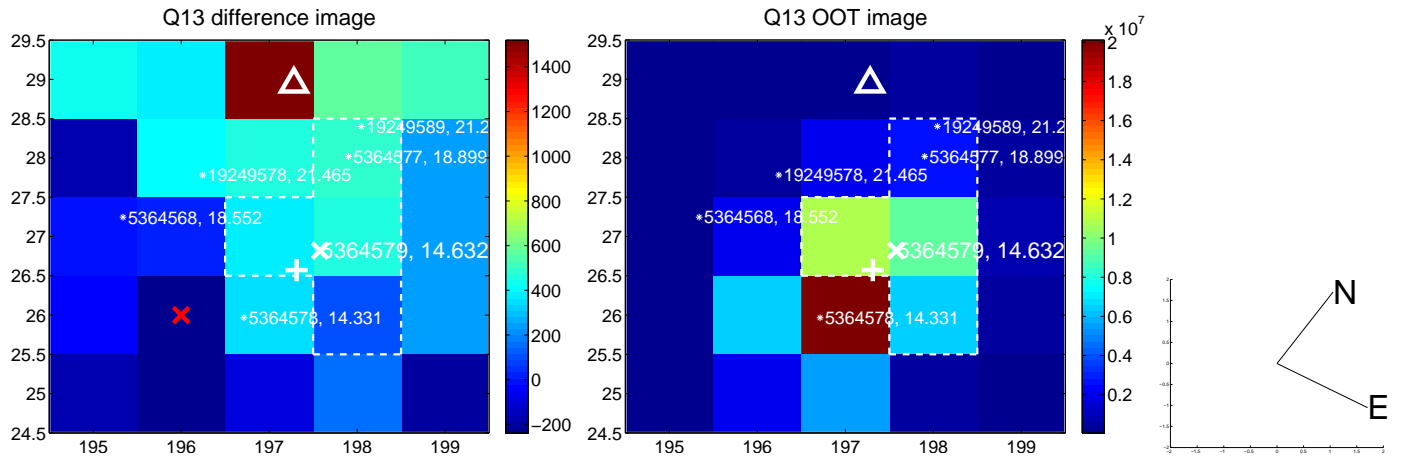
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



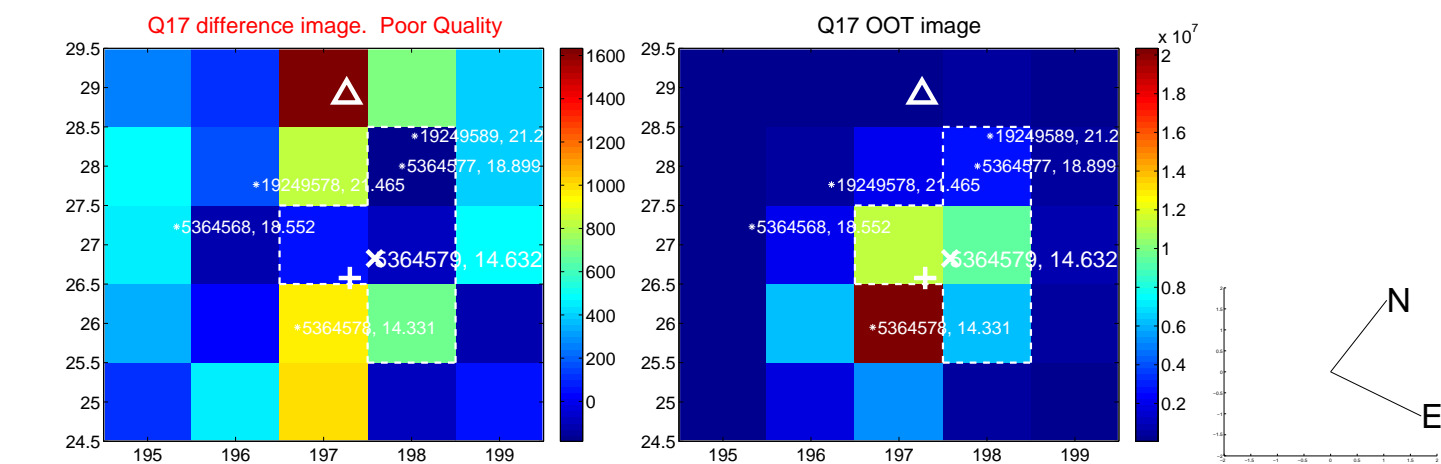
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



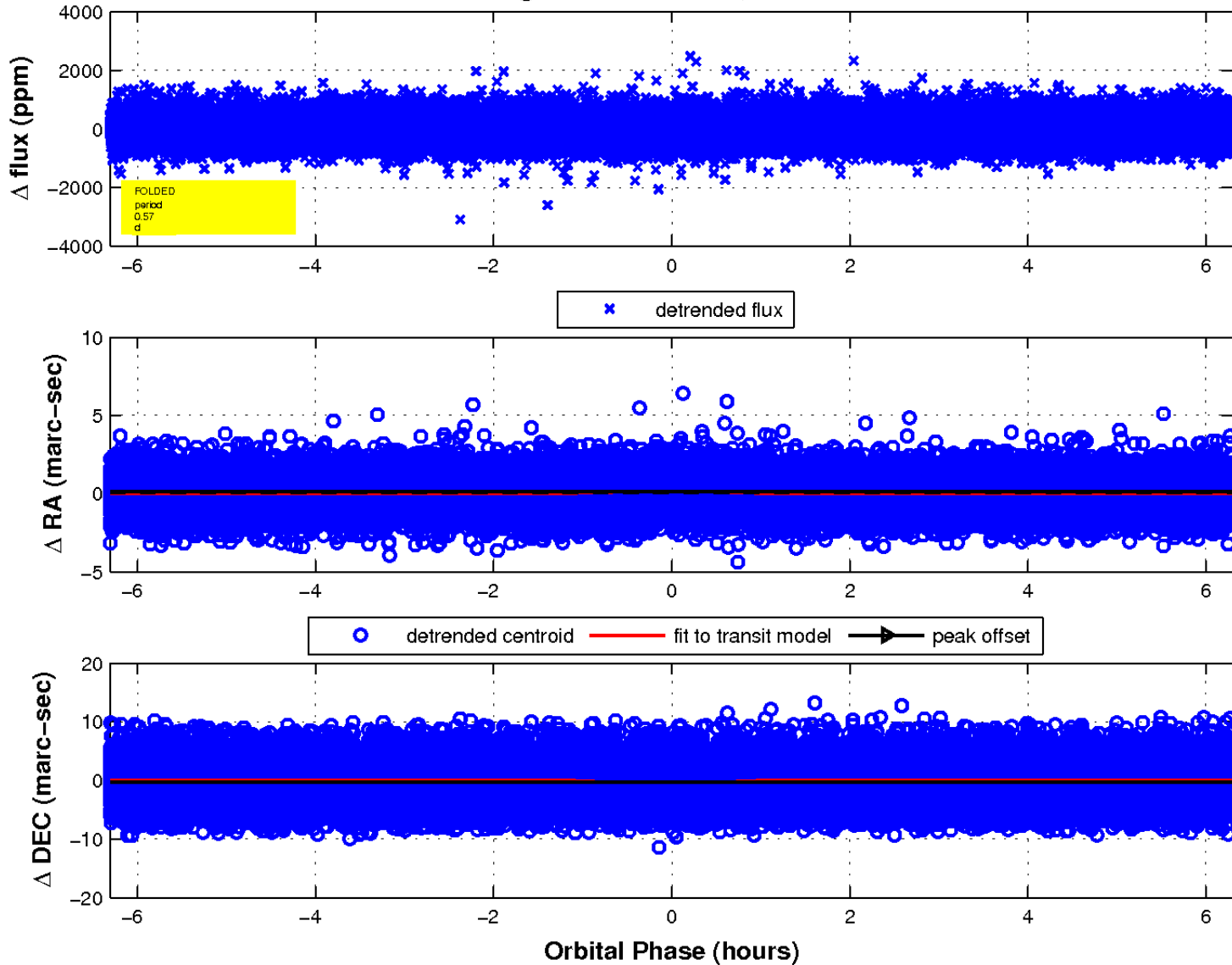
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

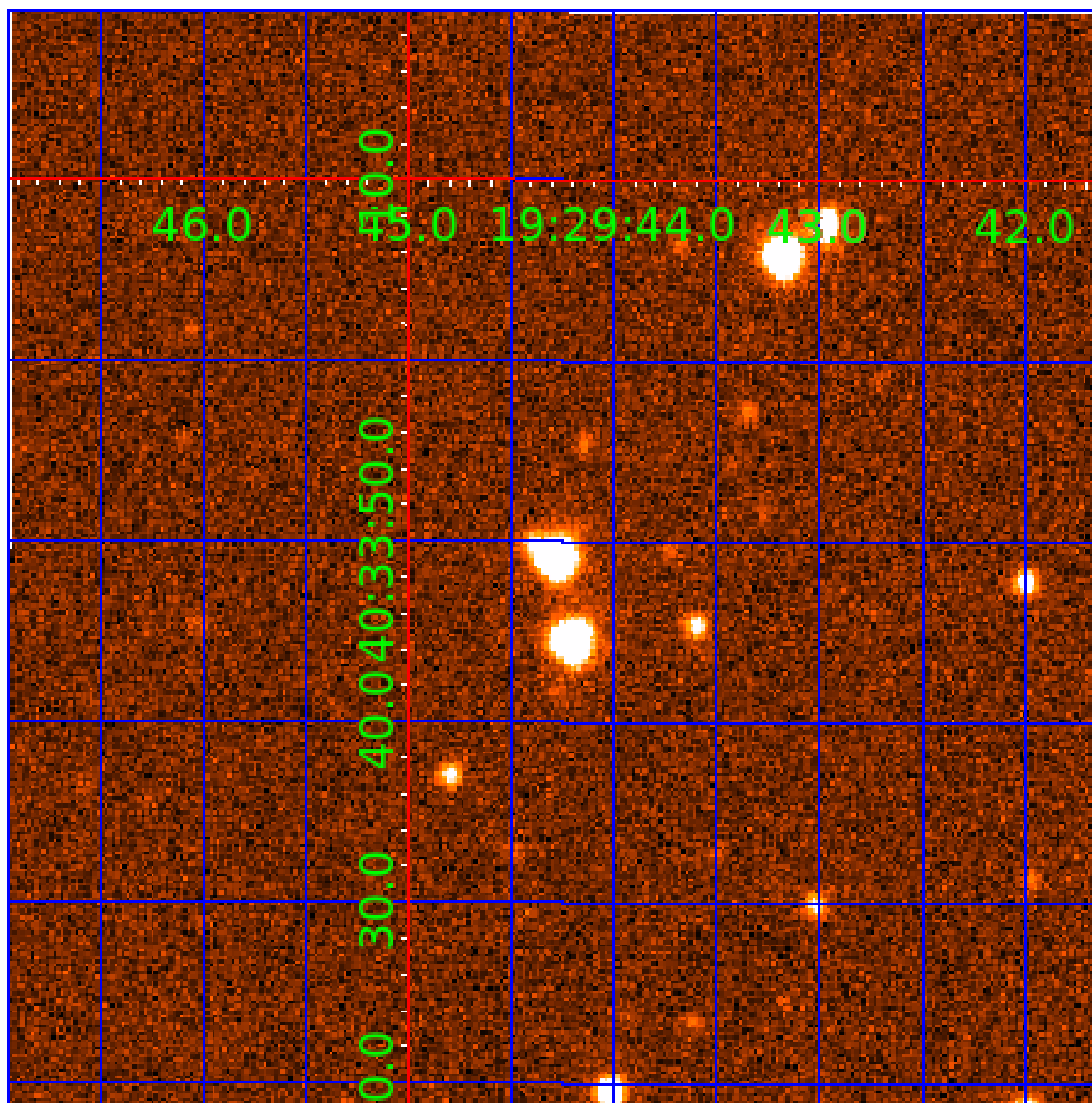


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 005364579

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})
005364579-01	OBS	No	0.571995	131.932163	39.0	2.103	8.6	8.5	1.31	5866	0.97	9780.66
005364579-02	OBS	No	141.394813	135.568199	400.9	22.565	8.6	4.4	1.31	5866	2.70	6.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005364579-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST
005364579-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_KIC_POS

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

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

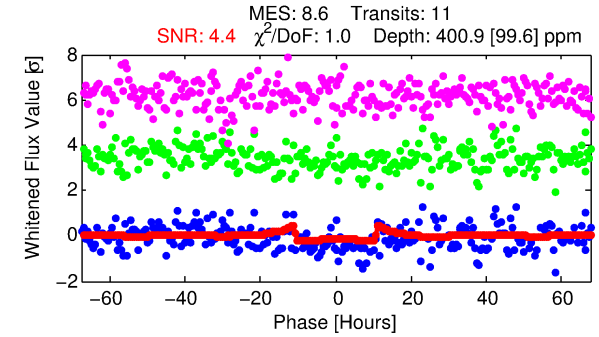
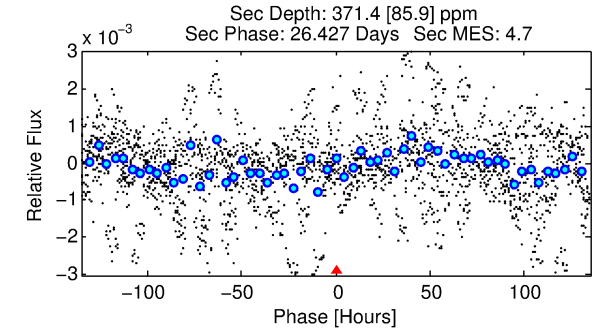
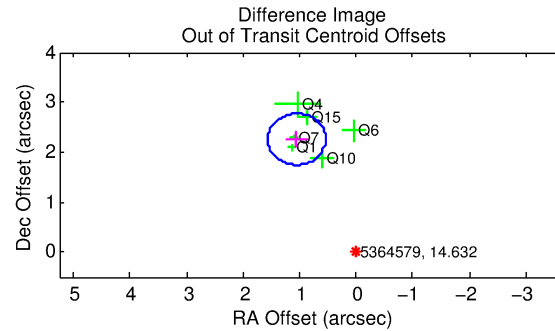
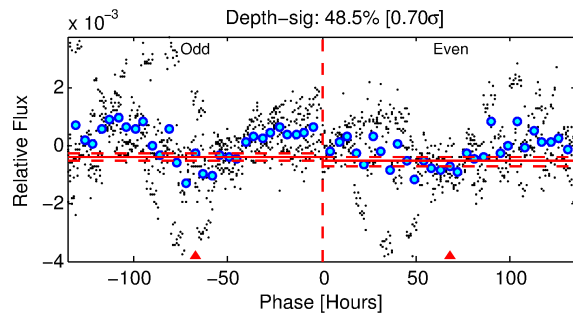
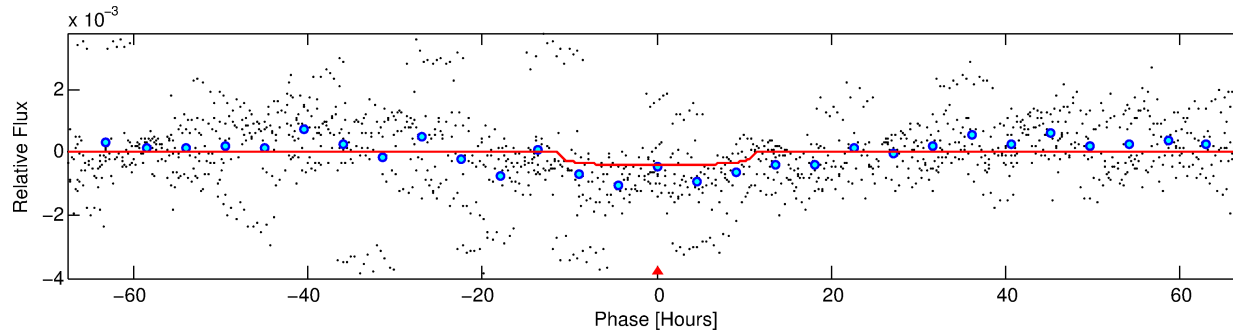
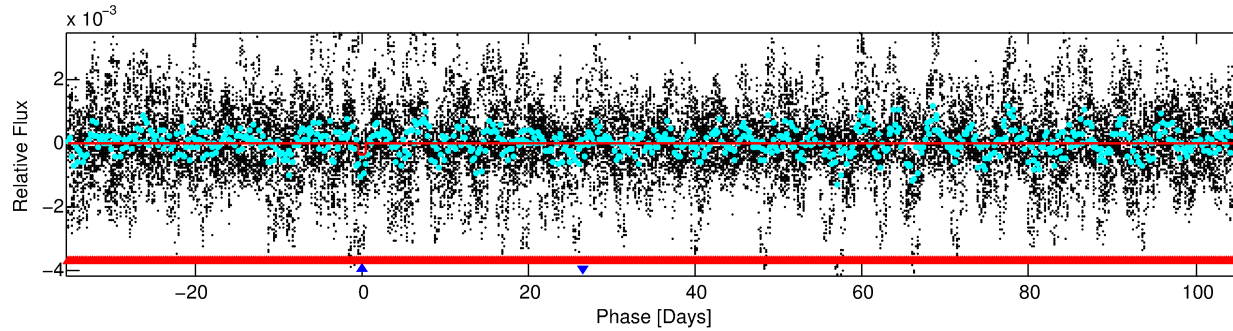
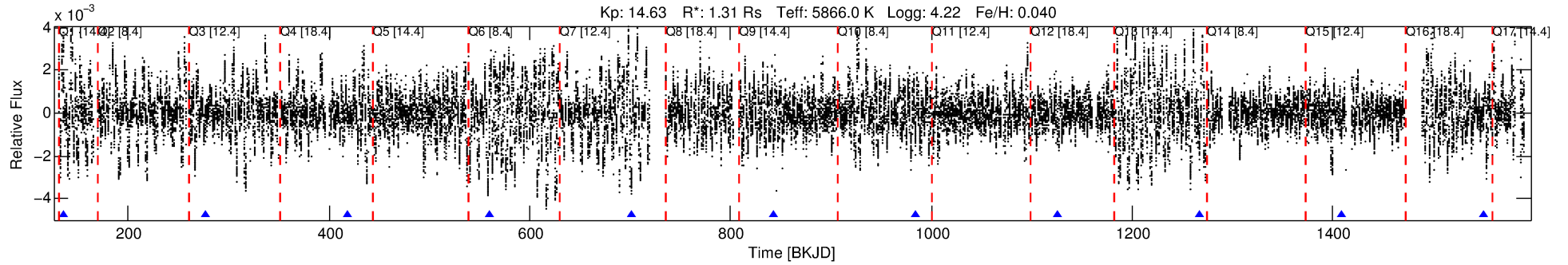
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005364579-02

No Significant Match Found

DV One-Page Summary

KIC: 5364579 Candidate: 2 of 2 Period: 141.395 d



DV Fit Results:

Period = 141.39481 [0.00421] d
Epoch = 135.5682 [0.0253] BKJD
Rp/R* = 0.0190 [0.0058]
a/R* = 40.76 [48.65]
b = 0.56 [1.47]
Seff = 6.30 [1.78]
Teq = 404 [29] K
Rp = 2.70 [0.97] Re
a = 0.5357 [0.0939] AU
Ag = 8037.21 [5740.25] [1.40 σ]
Teff = 5915 [976] K [5.64 σ]

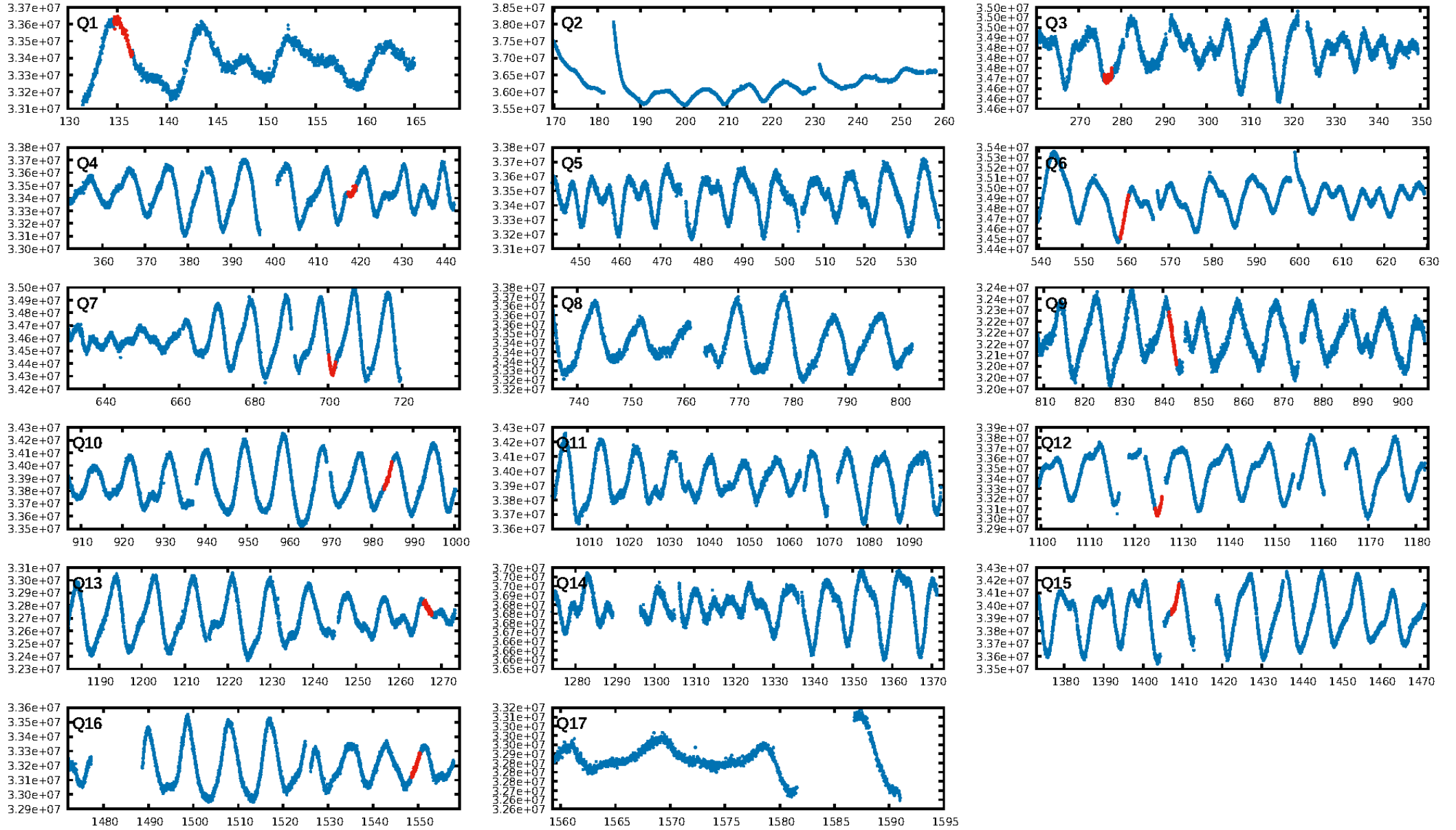
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [149.13 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 11.6%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 6.42e-12
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: -5.382
Centroid-sig: 62.2%
Centroid-so: 1.826 arcsec [1.40 σ]
OotOffset-rm: 2.493 arcsec [14.59 σ]
KicOffset-rm: 0.238 arcsec [1.79 σ]
OotOffset-st: 2/2/1/1 [6]
KicOffset-st: 2/2/1/1 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 0.00 [0/8]

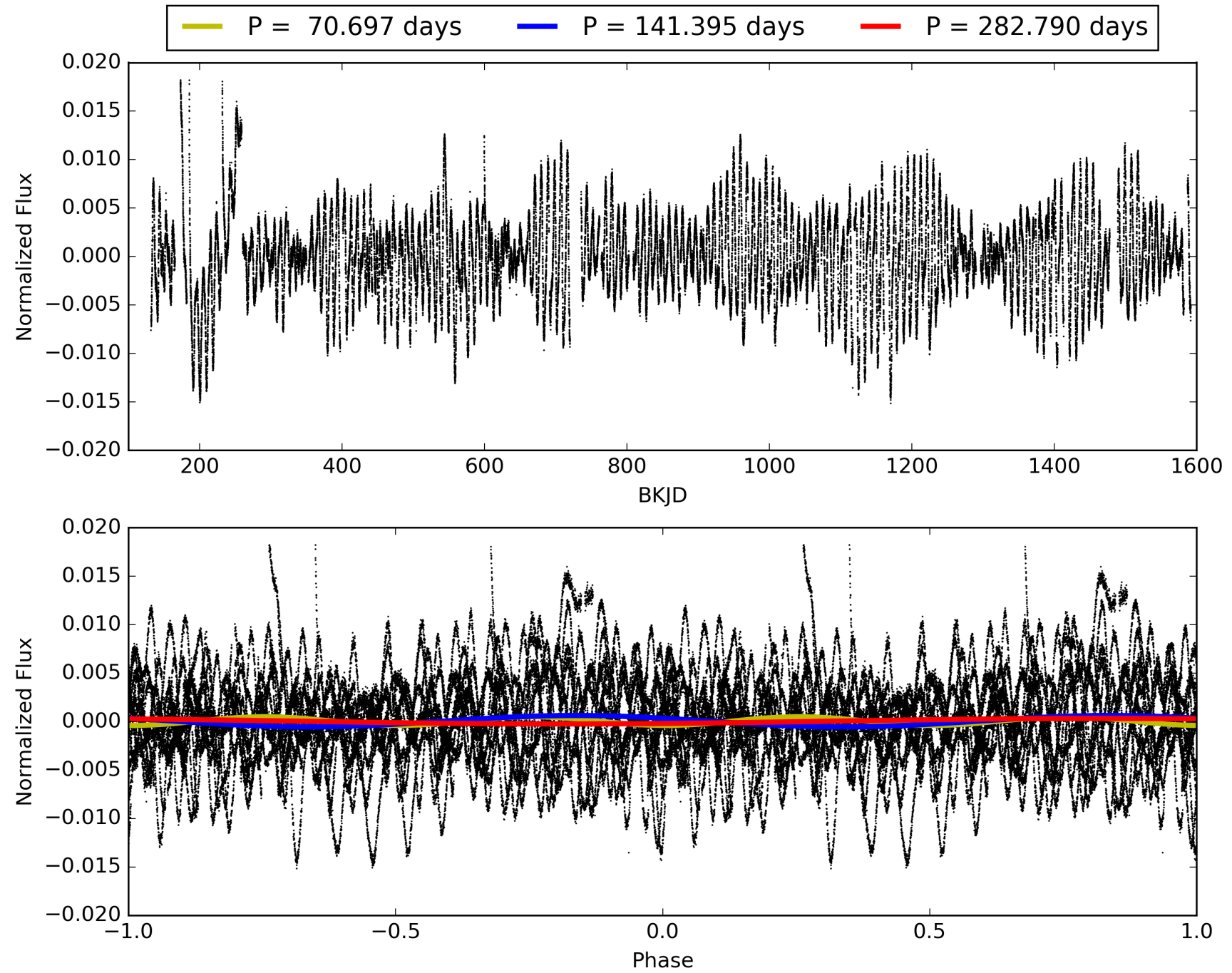
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:38:25 Z

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

TCE 005364579-02, PDC Light Curves

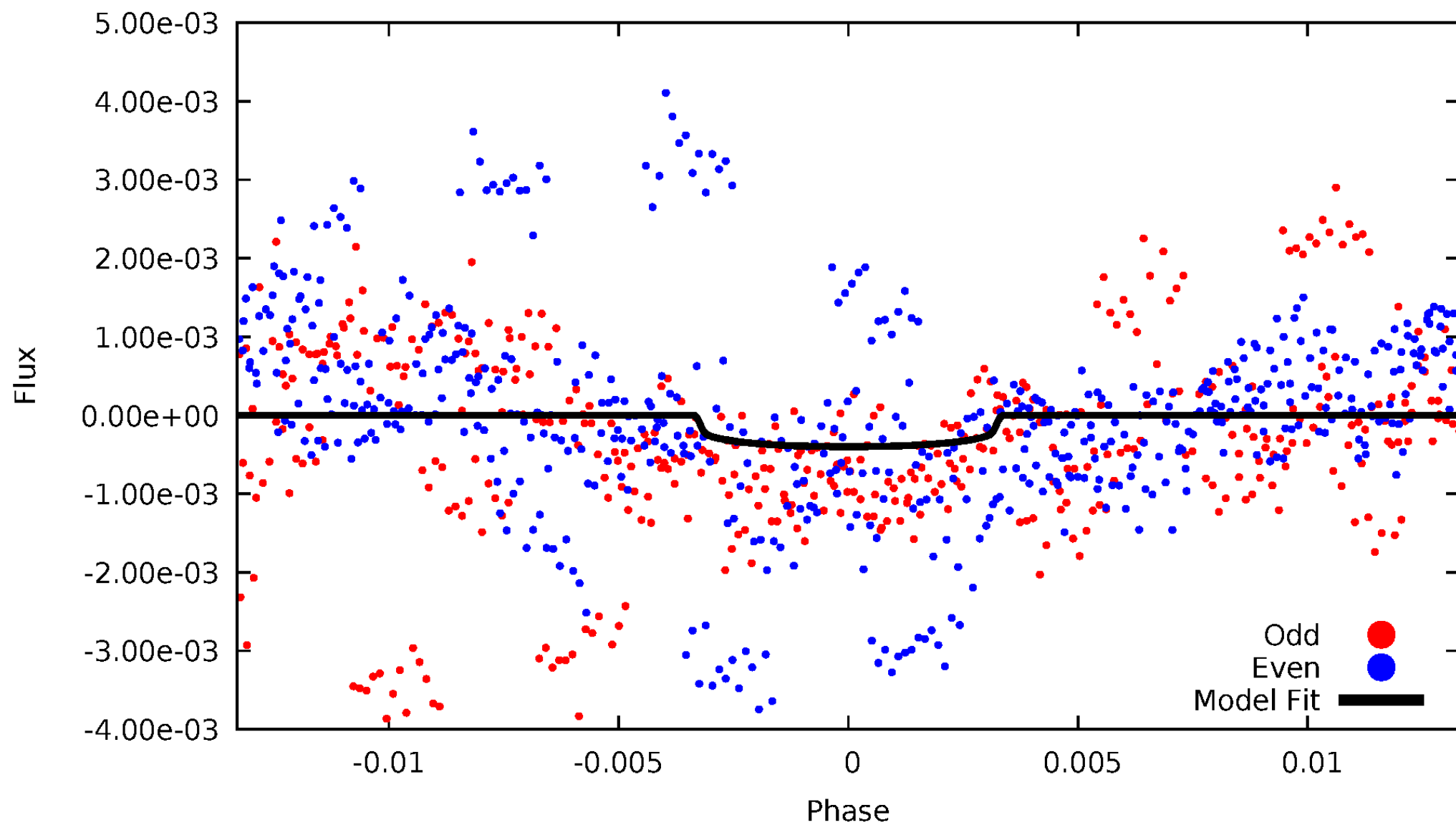


TCE 005364579-02



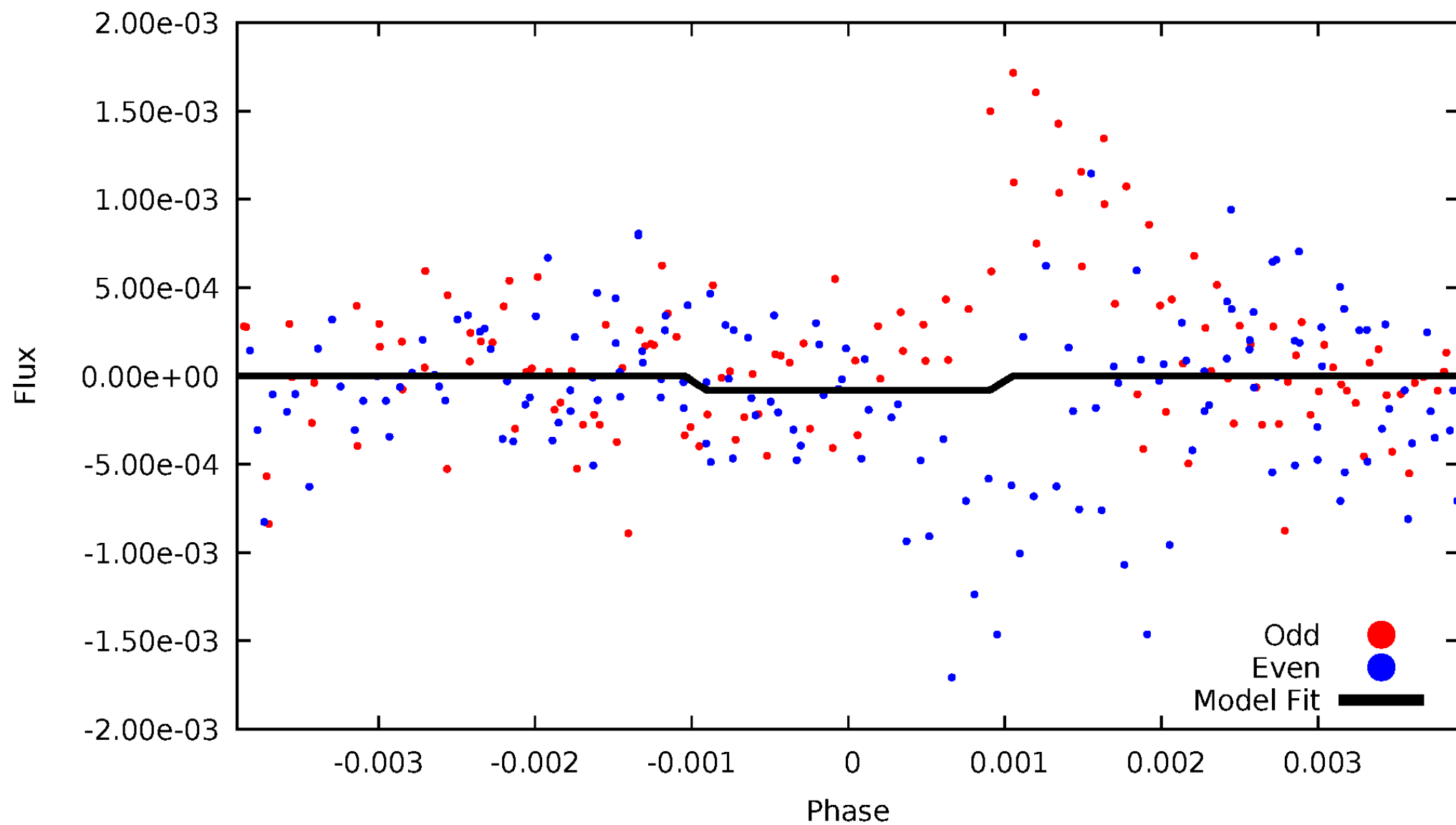
DV Odd/Even

TCE 005364579-02



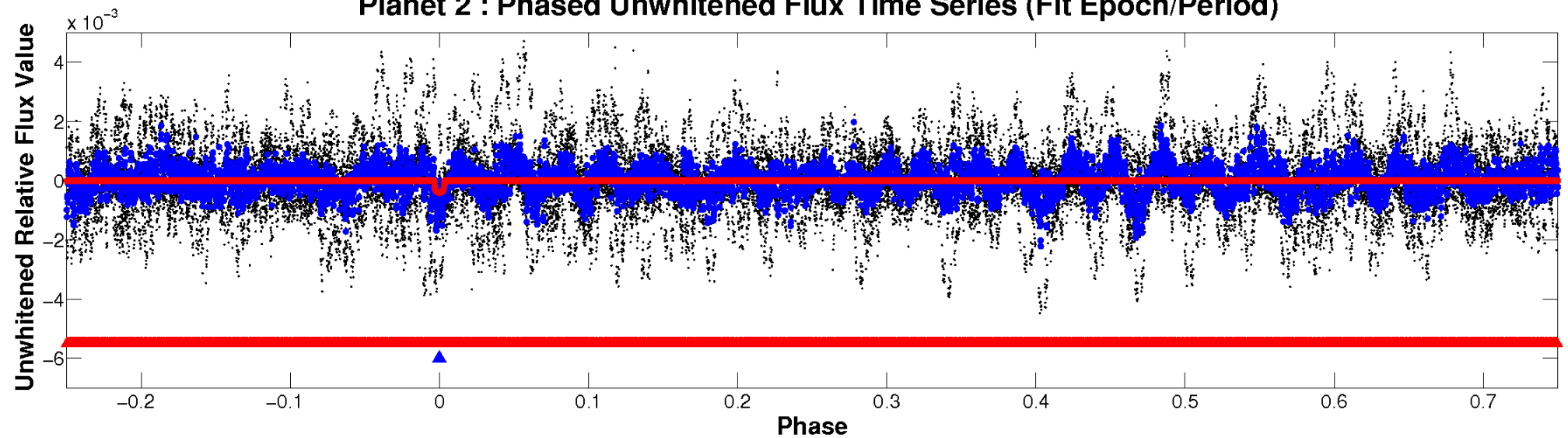
ALT Odd/Even

TCE 005364579-02

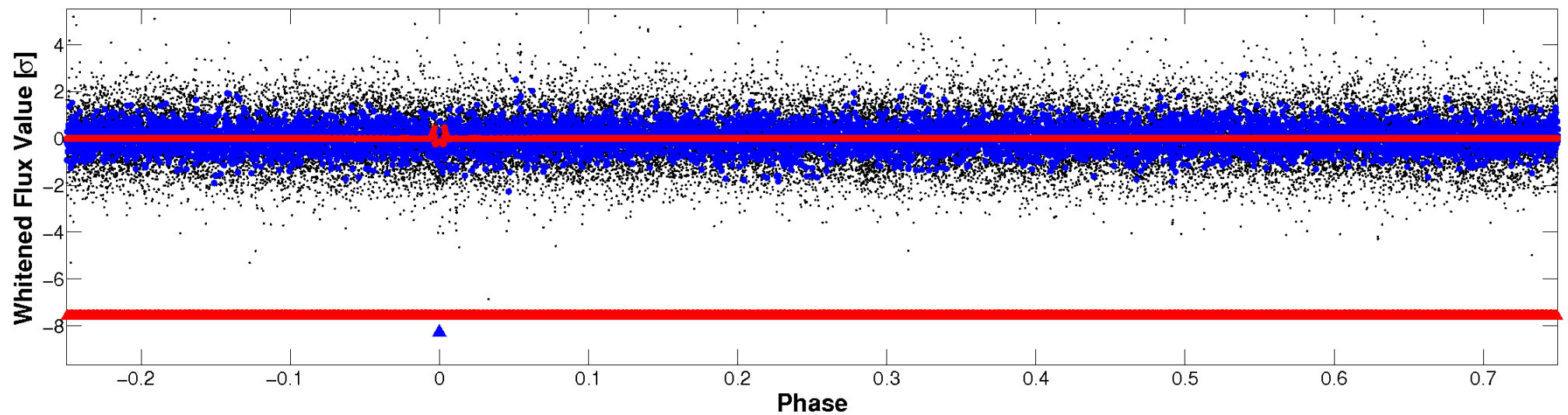


Non-Whitened Vs. Whitened Light Curve

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

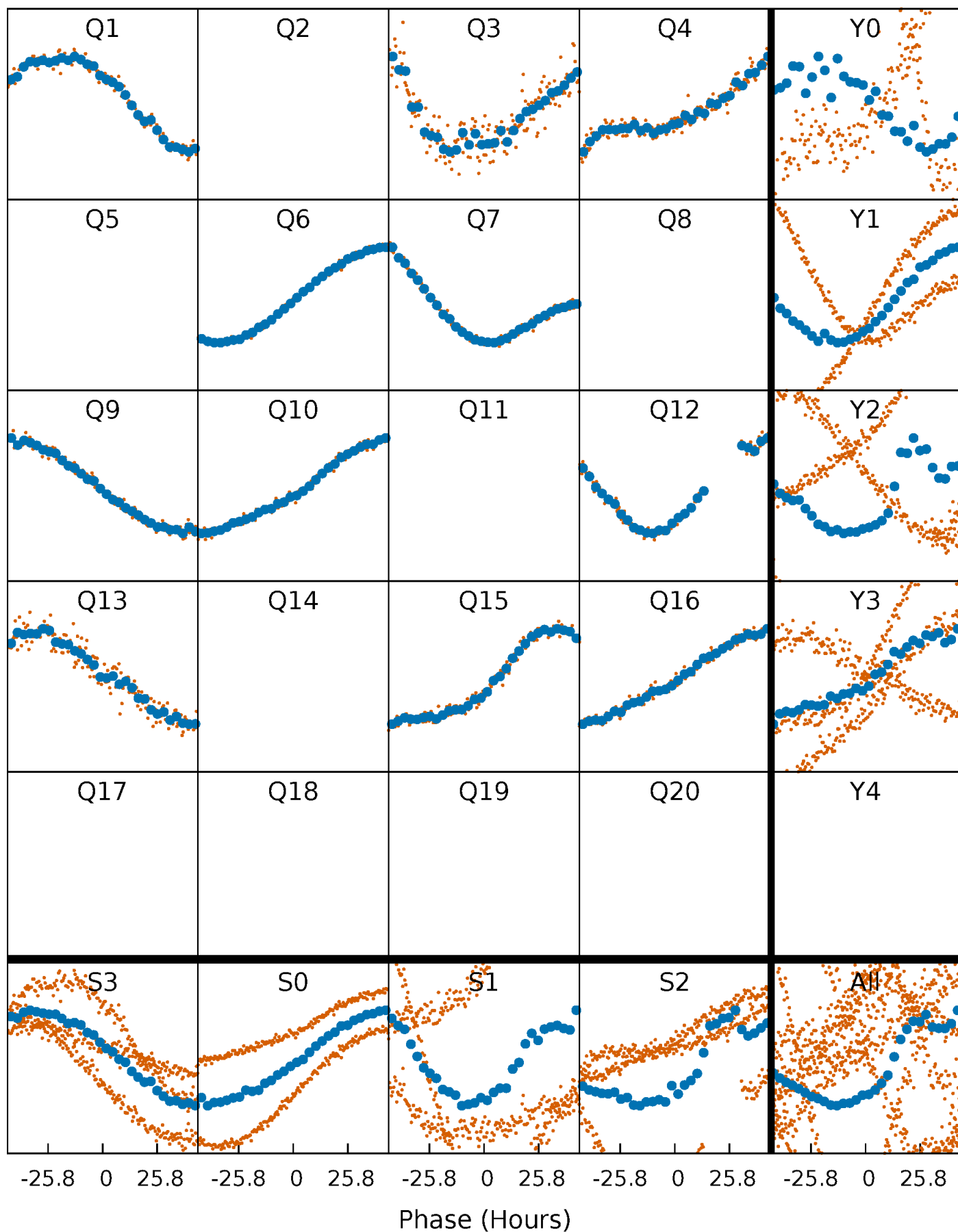


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



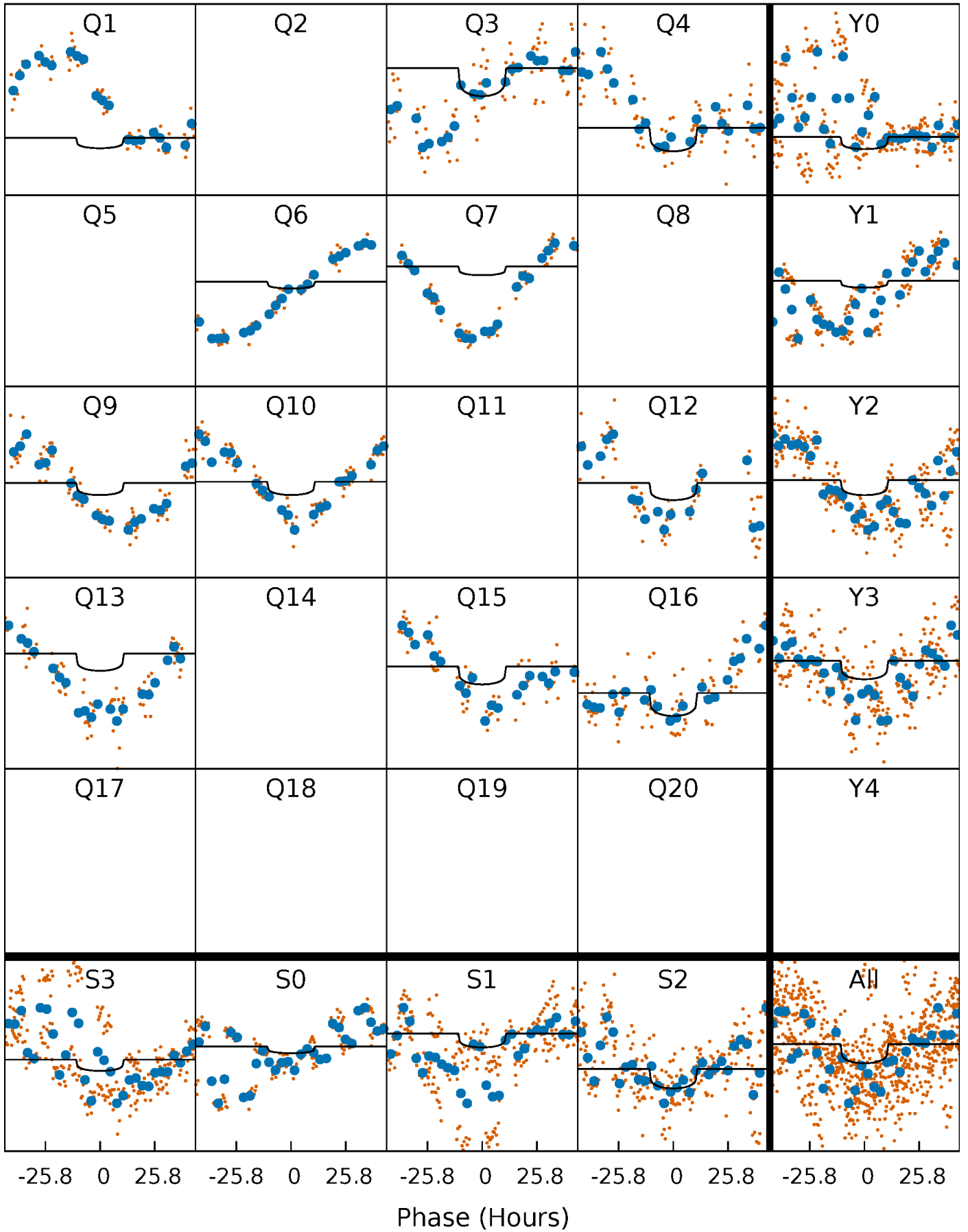
PDC Quarter-Phased Transit Curves

TCE 005364579-02 P=141.394813 Days $T_0=135.568199$ (BKJD)



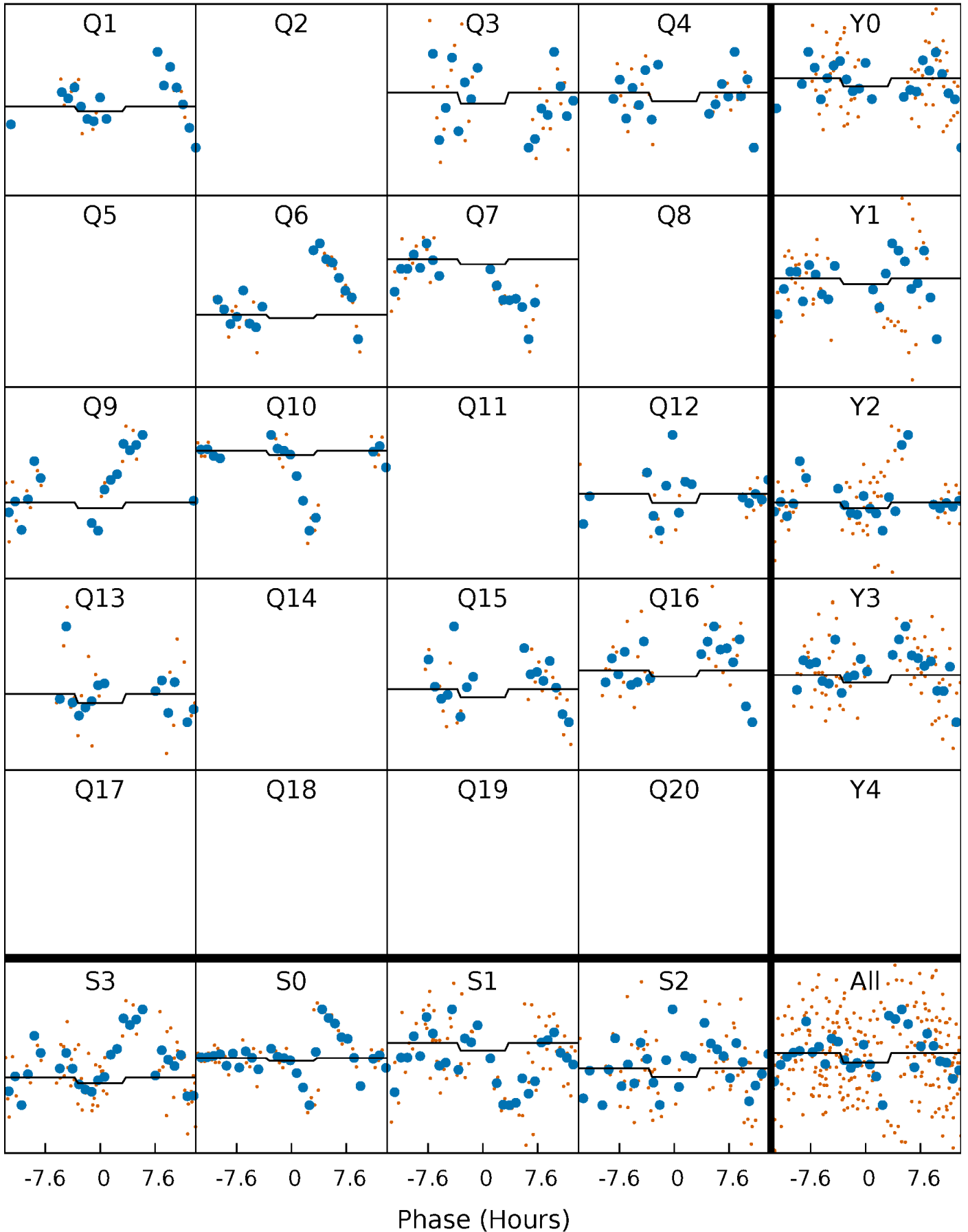
DV Quarter-Phased Transit Curves

TCE 005364579-02 P=141.394813 Days $T_0=135.568199$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

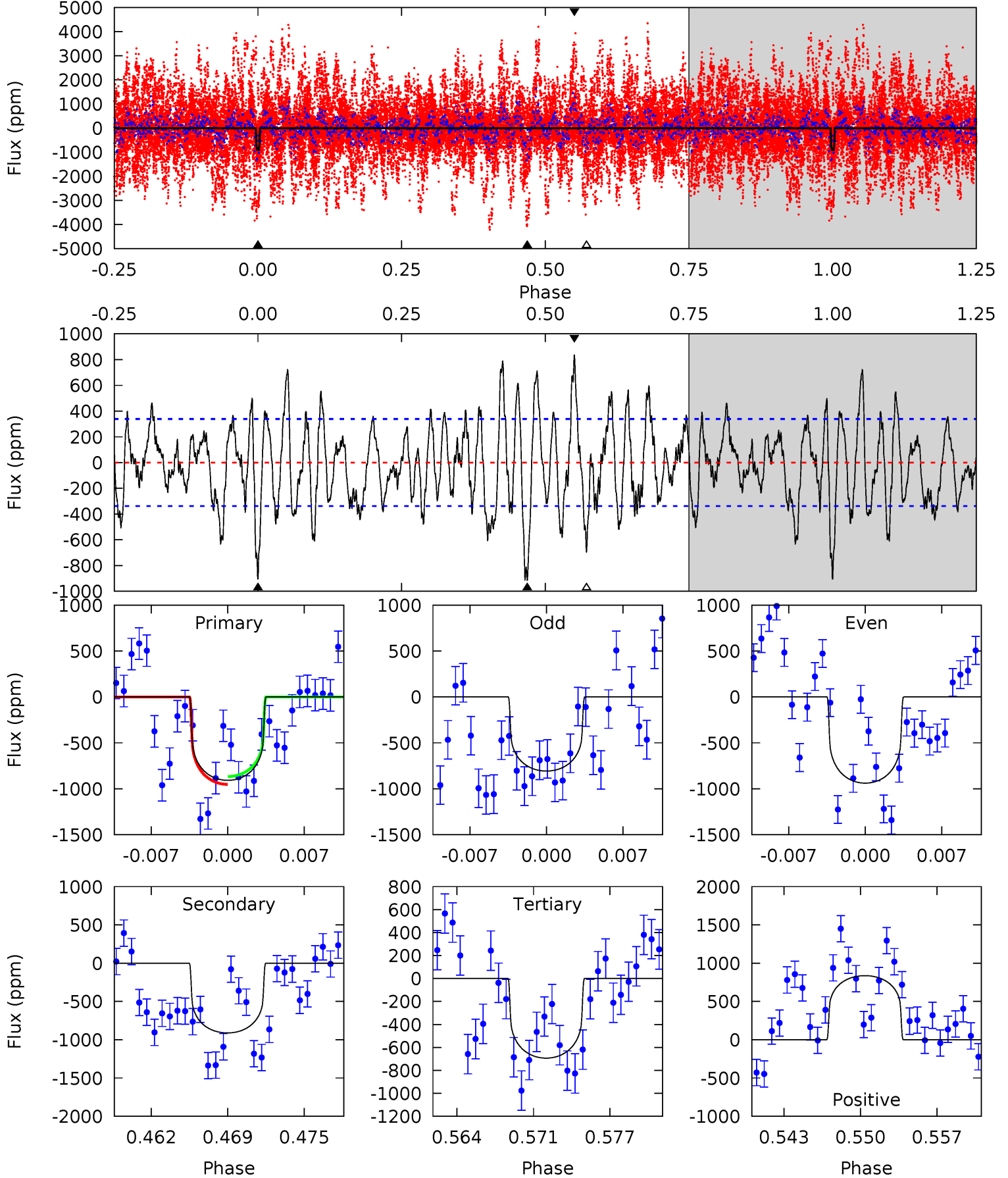
TCE 005364579-02 P=141.357630 Days $T_0=135.744424$ (BKJD)



DV Model-Shift Uniqueness Test

005364579-02, P = 141.394813 Days, E = 135.568199 Days

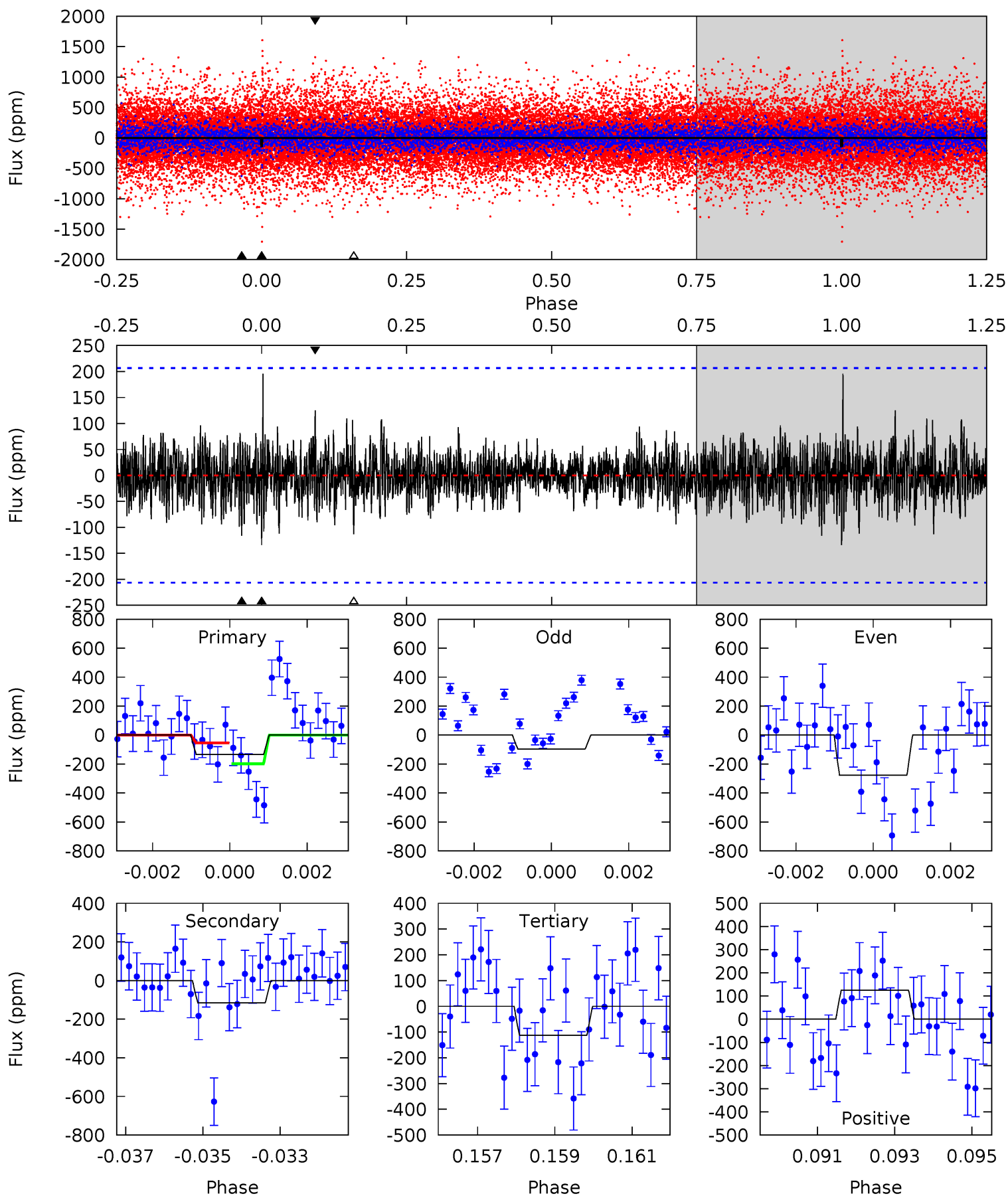
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	13.7	10.5	12.6	5.10	2.71	4.30	3.24	1.07	3.28	1.12	0.99	0.93	0.48	0.65



Alt Model-Shift Uniqueness Test

005364579-02, P = 141.357630 Days, E = 135.744424 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.45	2.98	2.91	3.22	5.32	3.08	0.82	0.54	0.23	0.07	-0.24	2.37	2.57	0.59	1.81



Stellar Parameters For KIC 005364579

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5866^{+79}_{-79}	$4.217^{+0.162}_{-0.108}$	$0.040^{+0.150}_{-0.150}$	$1.306^{+0.198}_{-0.242}$	$1.027^{+0.093}_{-0.062}$	$0.649^{+0.519}_{-0.212}$
	+1%/-1%	+4%/-3%	+375%/-375%	+15%/-19%	+9%/-6%	+80%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005364579-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-911 ± 66	$2.70^{+0.90}_{-0.94}$	564^{+23}_{-31}	7521^{+2274}_{-1067}	20282^{+27155}_{-8962}
Alt.	-116 ± 39	$1.33^{+0.83}_{-0.73}$	564^{+25}_{-27}	6258^{+3677}_{-1329}	10226^{+36889}_{-6632}

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 $A_{\text{obs}} \gg 1.0$

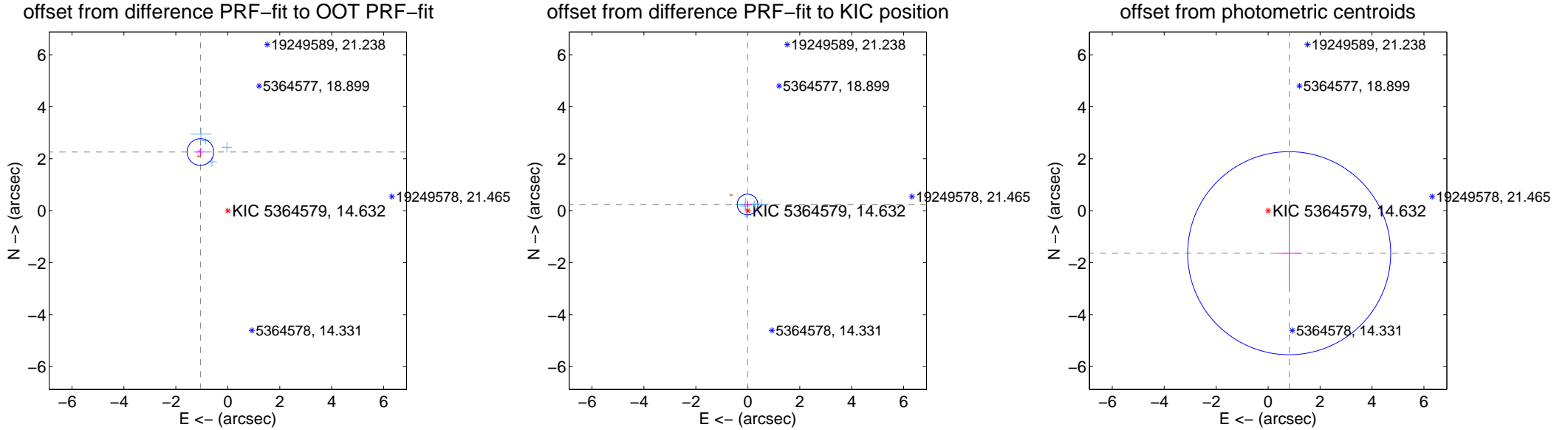
DV Centroid Data

Supplemental centroid analysis for 005364579-02. Kepler magnitude: 14.63. Transit SNR 4.38

There are 5 quarters with good PRF difference image offsets

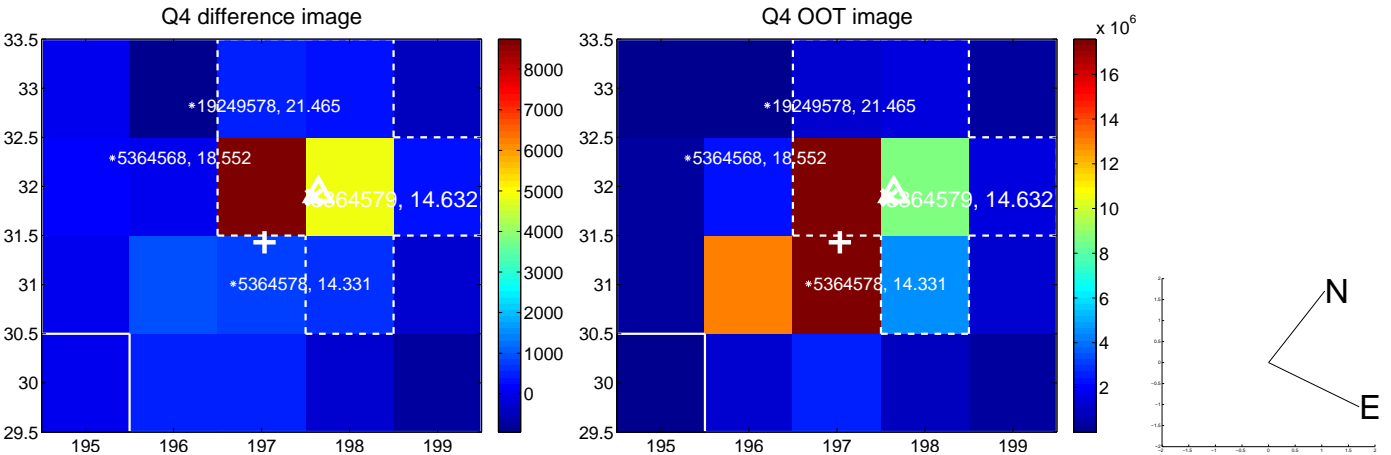
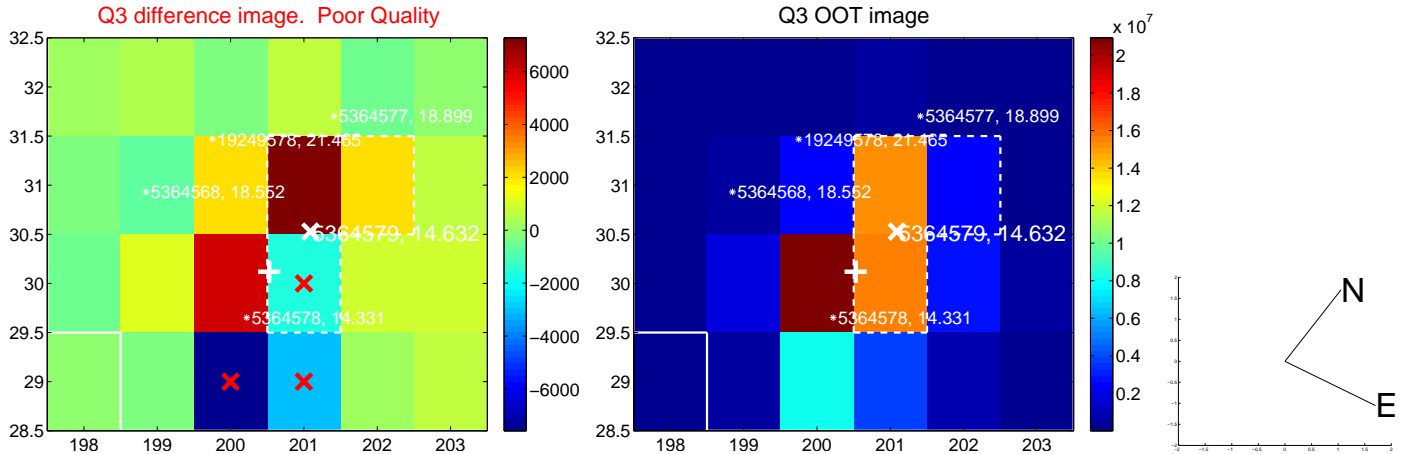
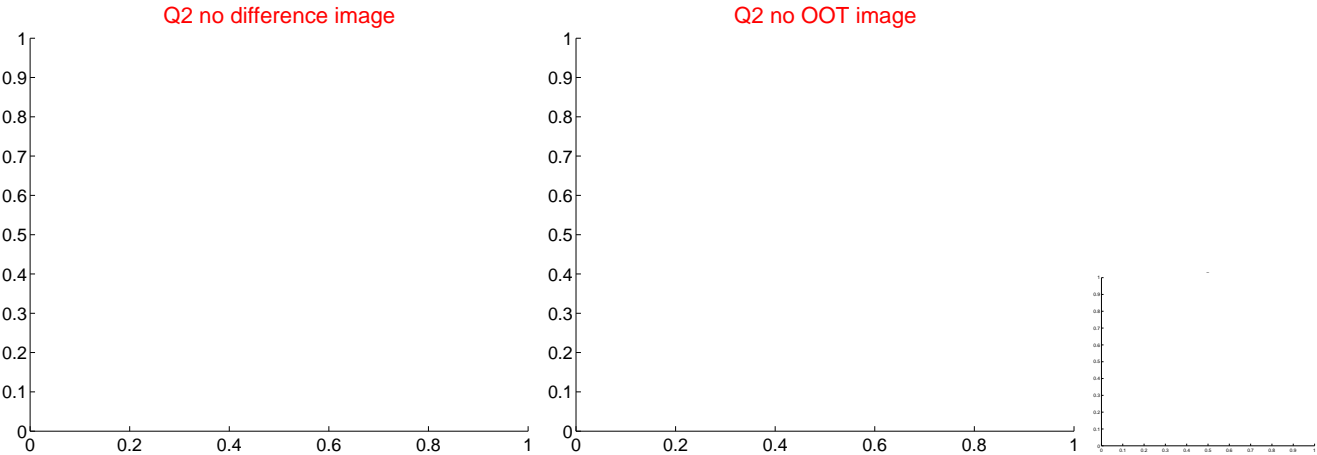
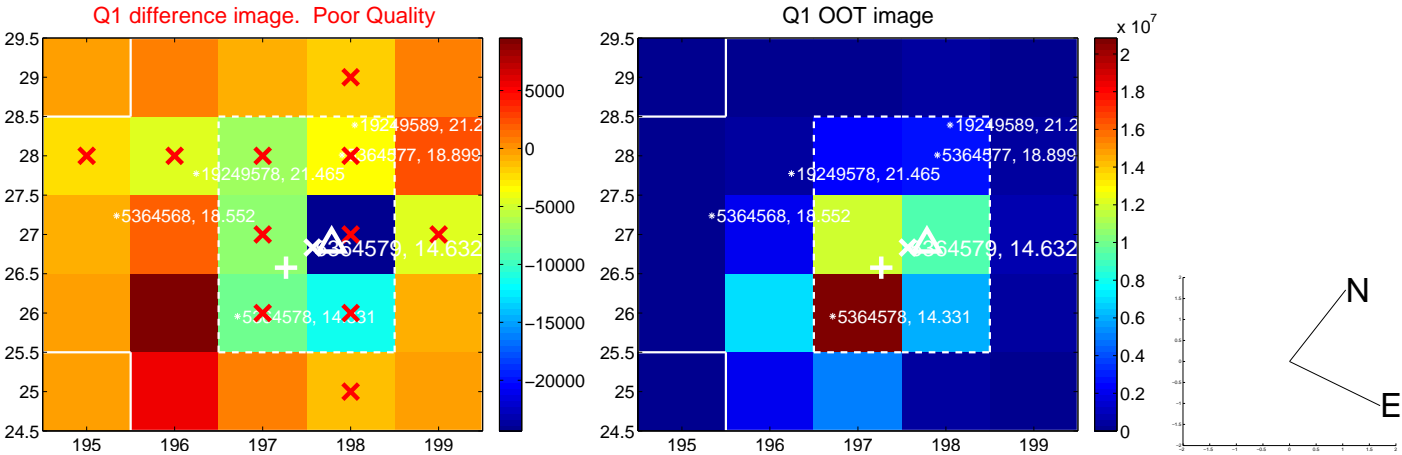
The OOT PRF centroid is offset from the target star catalog position by about 2.68 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.493 \pm 0.171	14.59	1.054 ± 0.185	2.259 ± 0.155
PRF-fit source offset from KIC position	0.238 ± 0.133	1.79	0.010 ± 0.167	0.238 ± 0.131
photometric centroid source offset	1.83 ± 1.30	1.40	-0.81 ± 0.49	-1.64 ± 1.43



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.

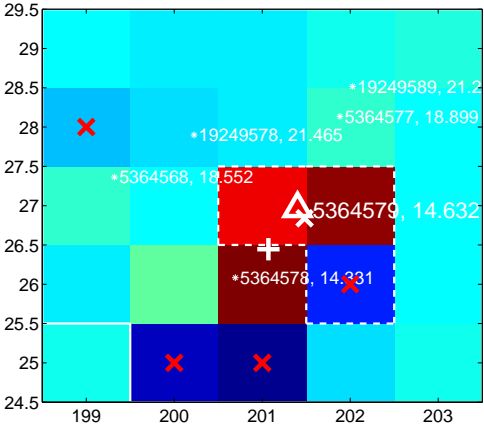
Q5 no difference image



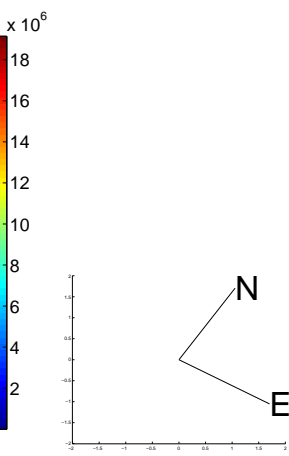
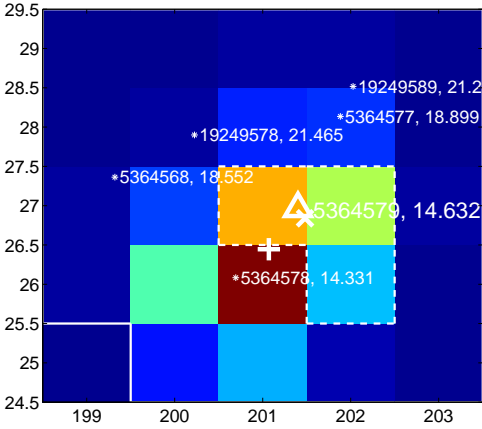
Q5 no OOT image



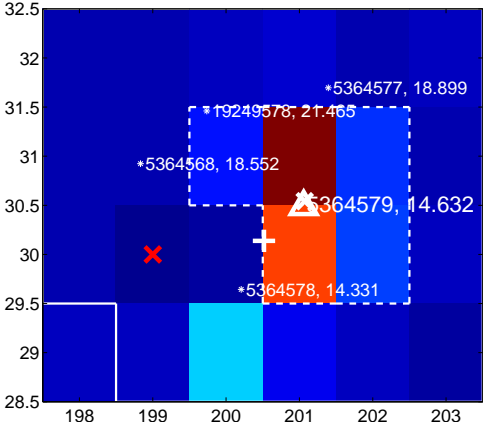
Q6 difference image



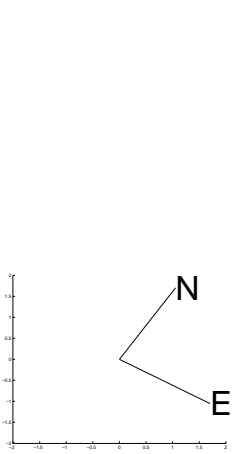
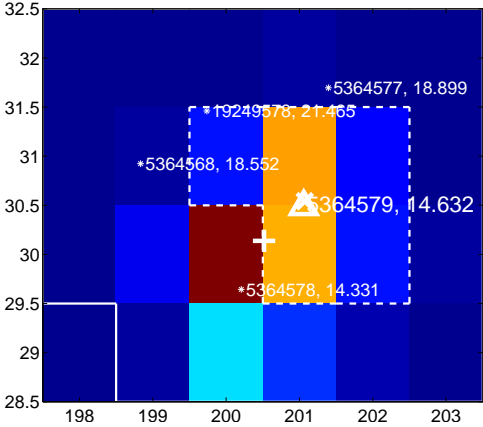
Q6 OOT image



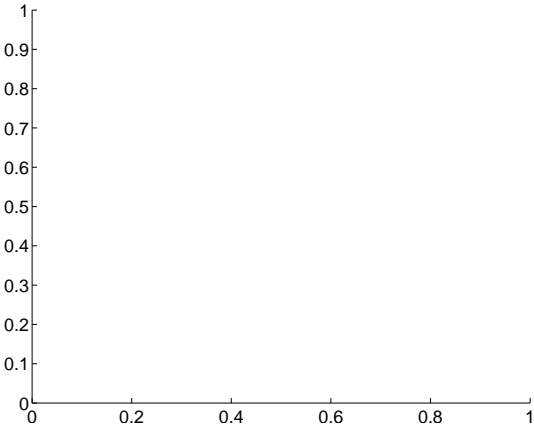
Q7 difference image



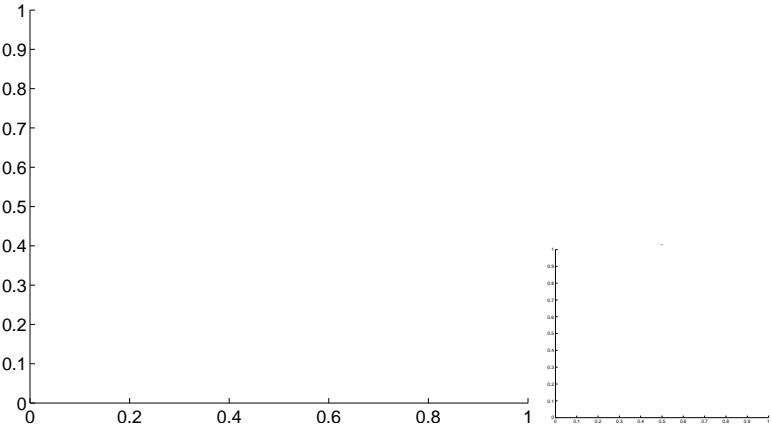
Q7 OOT image



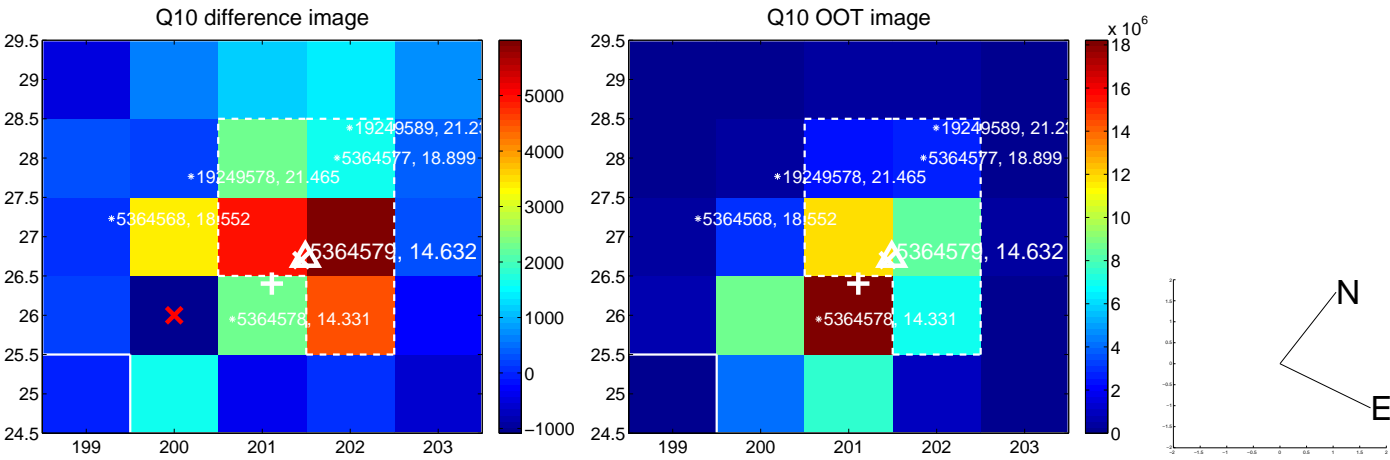
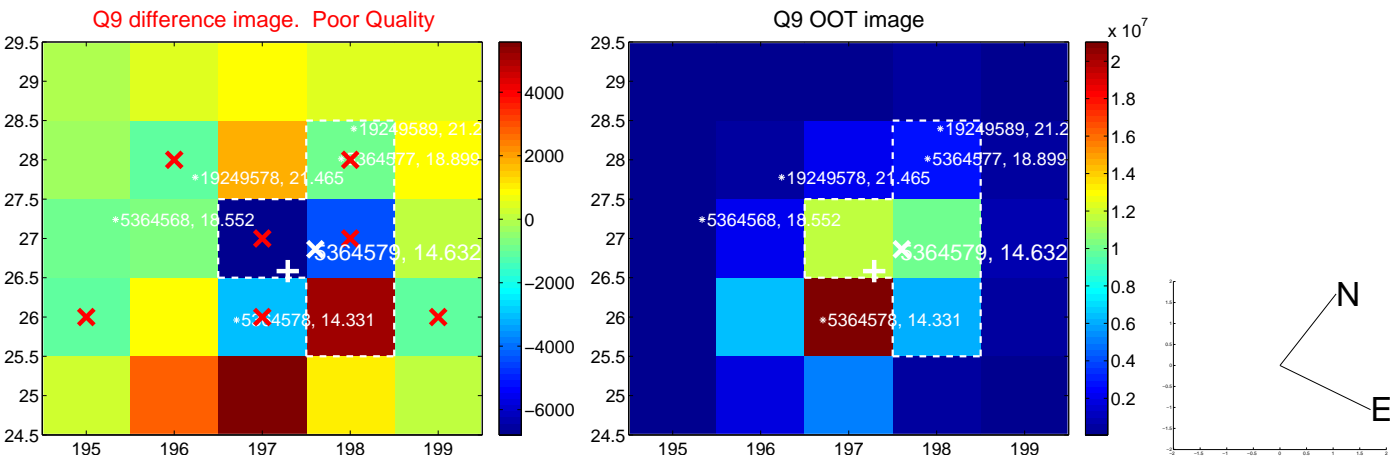
Q8 no difference image



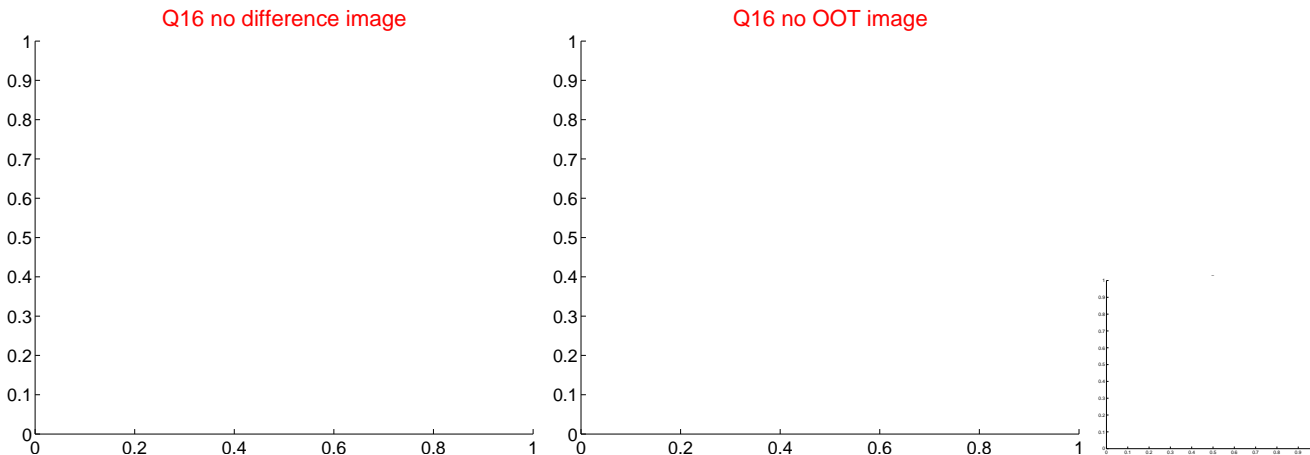
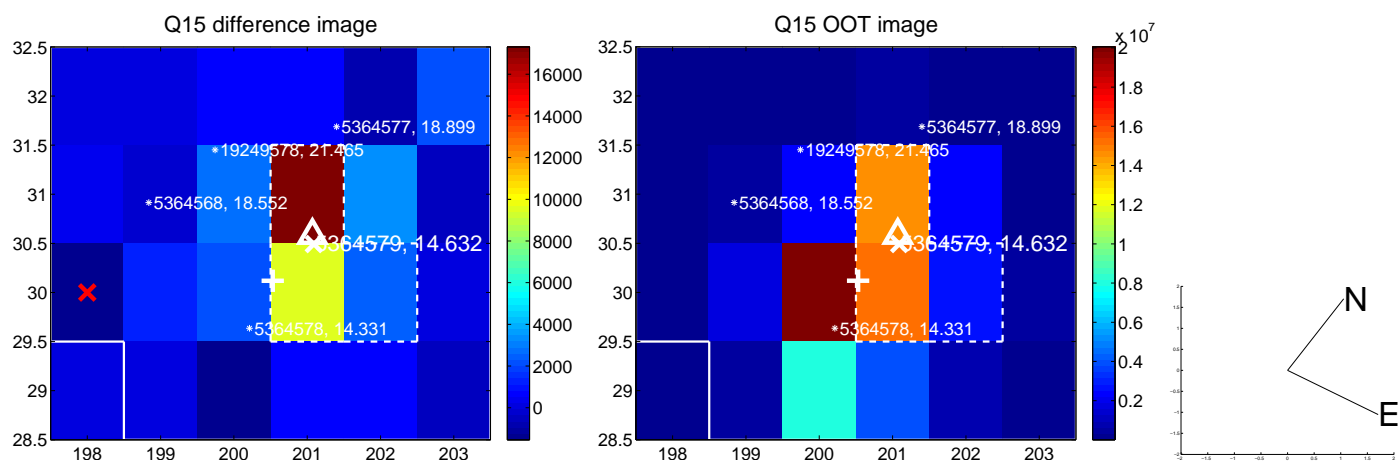
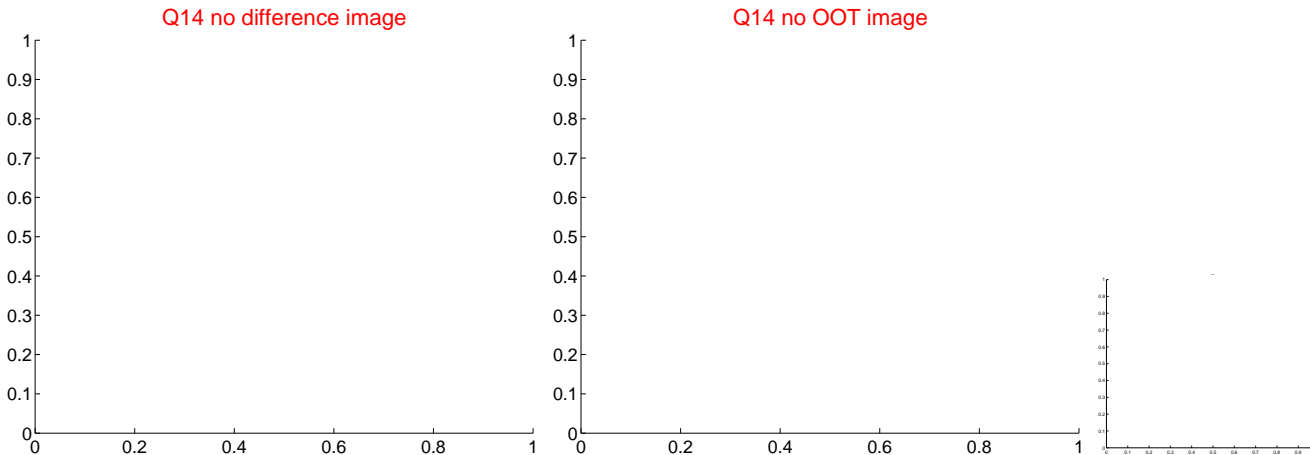
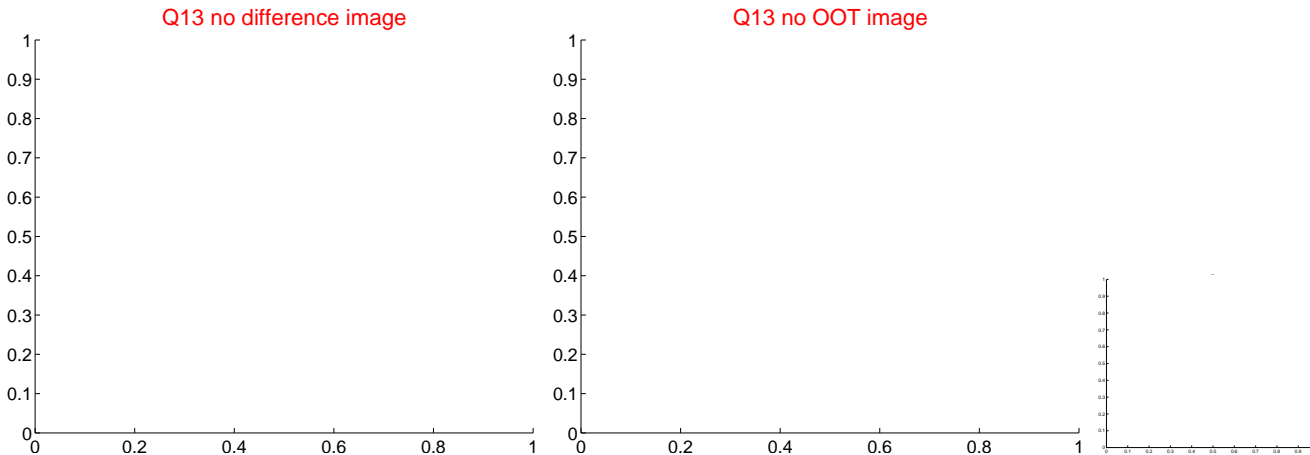
Q8 no OOT image



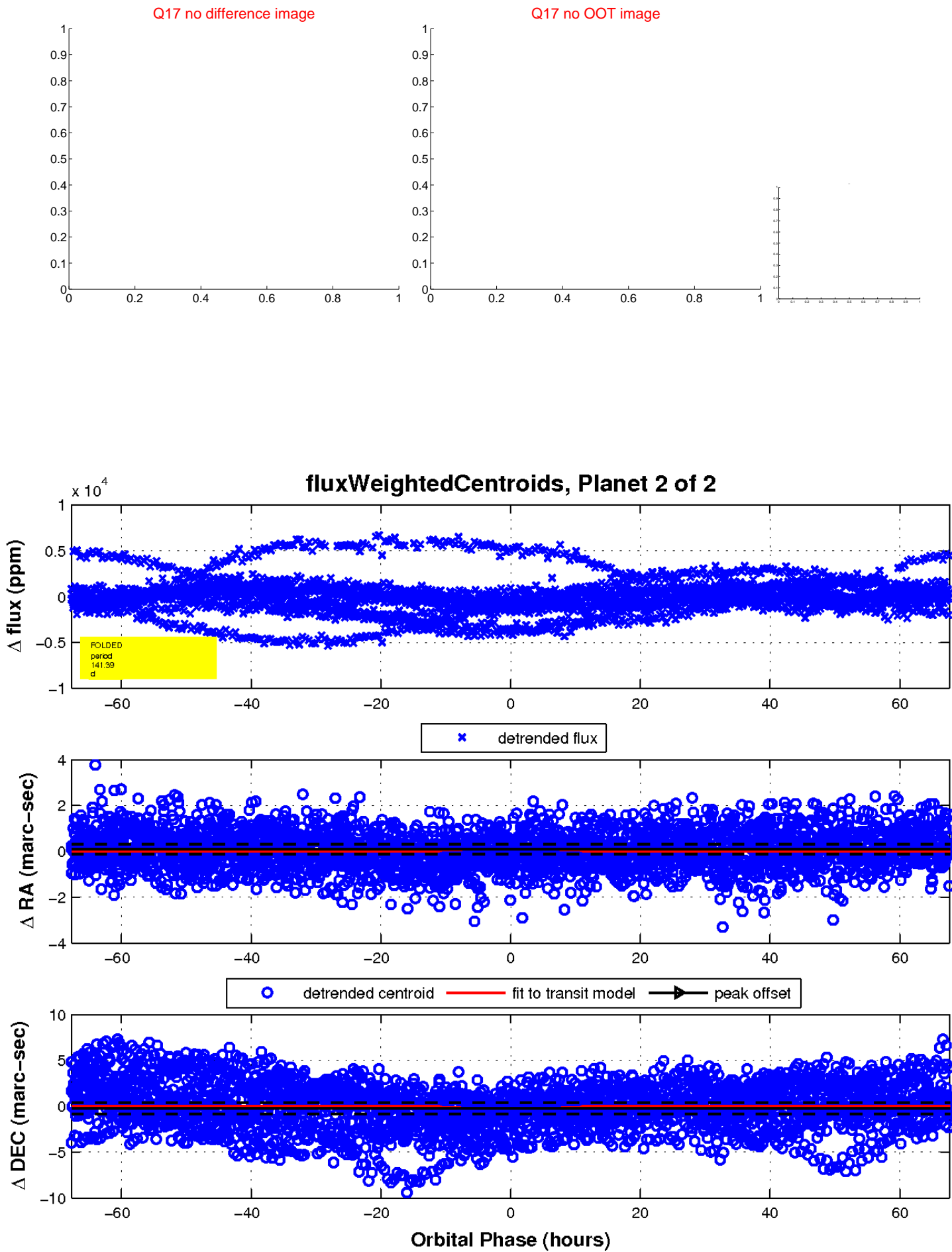
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

