

KIC 005566948

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})
005566948-01	OBS	No	2.347328	132.755427	9.2	7.656	7.5	3.9	3.34	6677	1.03	11767.72
005566948-02	OBS	No	182.790979	214.969686	204.2	6.666	7.3	7.2	3.34	6677	5.42	35.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005566948-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
005566948-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

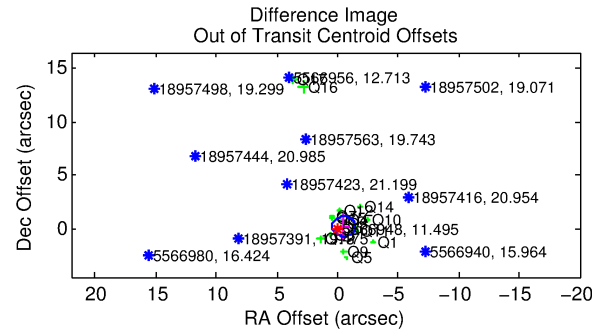
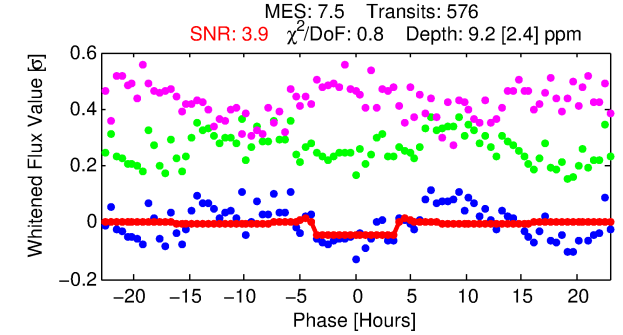
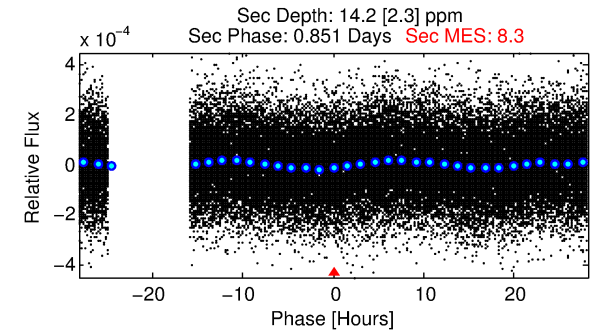
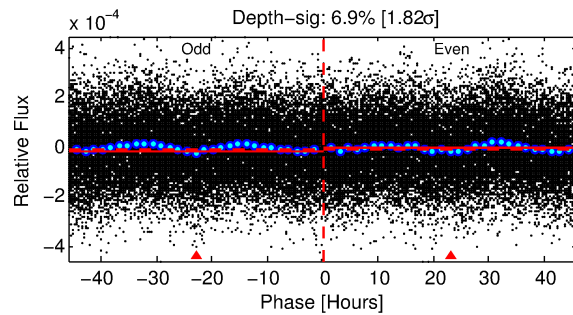
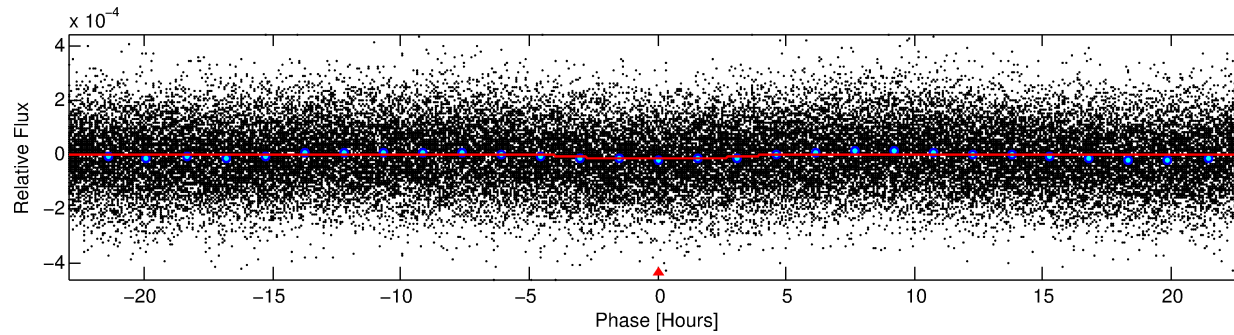
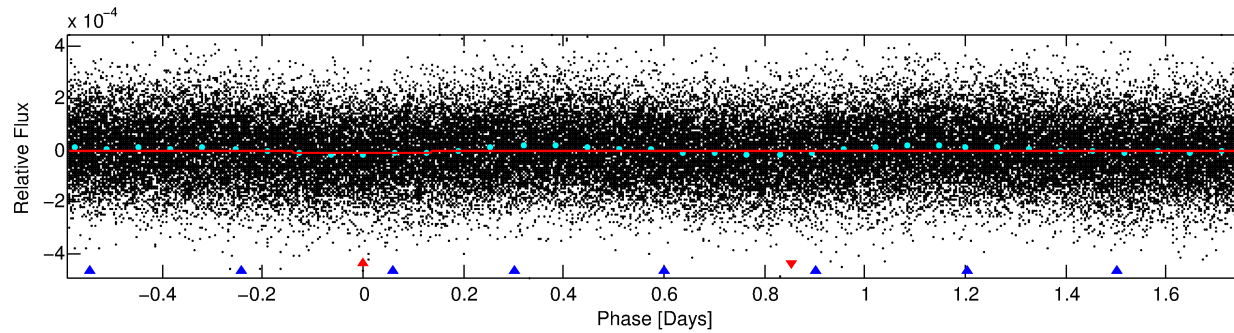
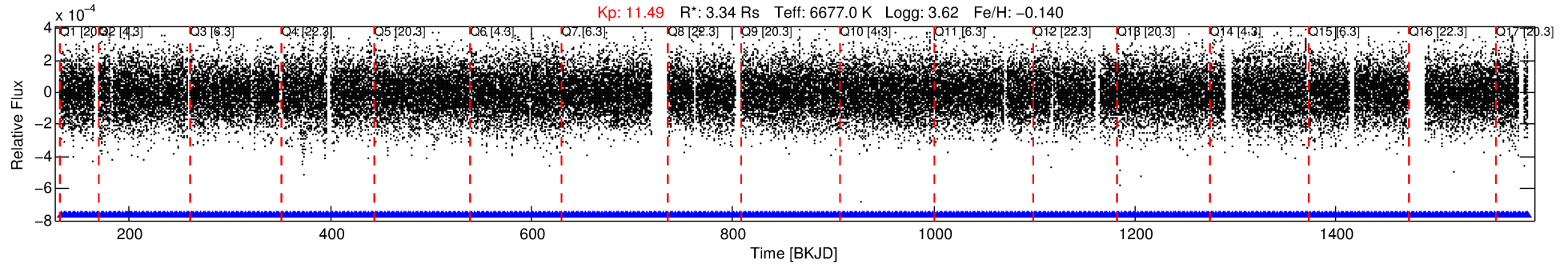
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005566948-01

No Significant Match Found

DV One-Page Summary

KIC: 5566948 Candidate: 1 of 2 Period: 2.347 d



DV Fit Results:

Period = 2.34733 [0.00005] d
Epoch = 132.7554 [0.0107] BKJD
Rp/R* = 0.0028 [0.0021]
a/R* = 2.35 [7.70]
b = 0.26 [14.49]
Seff = 11767.72 [6634.54]
Teq = 2656 [374] K
Rp = 1.03 [0.84] Re
a = 0.0411 [0.0142] AU
Ag = 12.49 [19.77] [0.58 σ]
Teffp = 7720 [2873] K [1.75 σ]

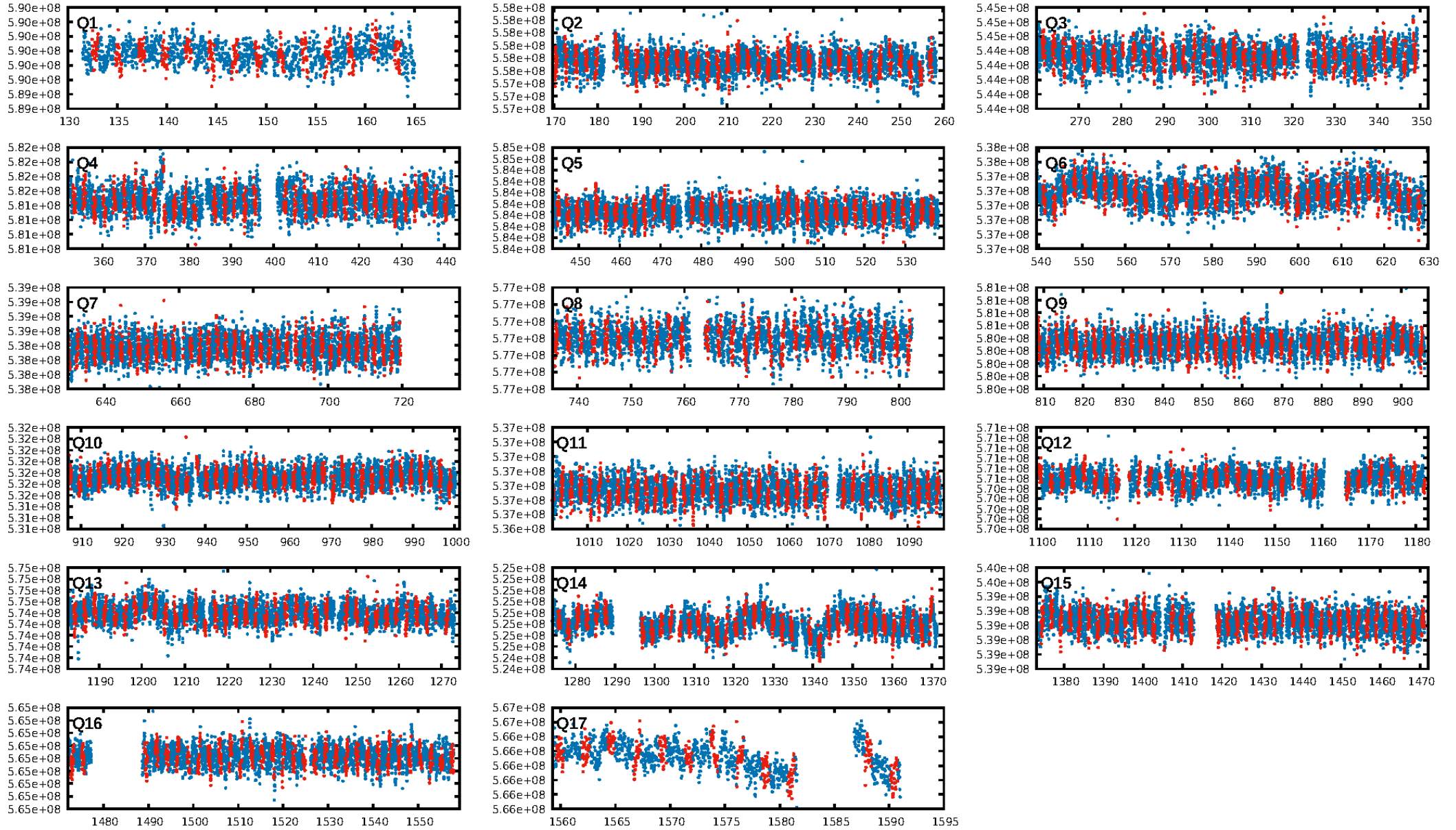
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [426.62 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.35e-10
RollingBand-fgt: 1.00 [550/550]
GhostDiagnostic-chr: -15.2
Centroid-sig: 88.5%
Centroid-so: 1.020 arcsec [0.47 σ]
OotOffset-rm: 0.512 arcsec [1.64 σ]
KicOffset-rm: 0.636 arcsec [1.98 σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [17/17]

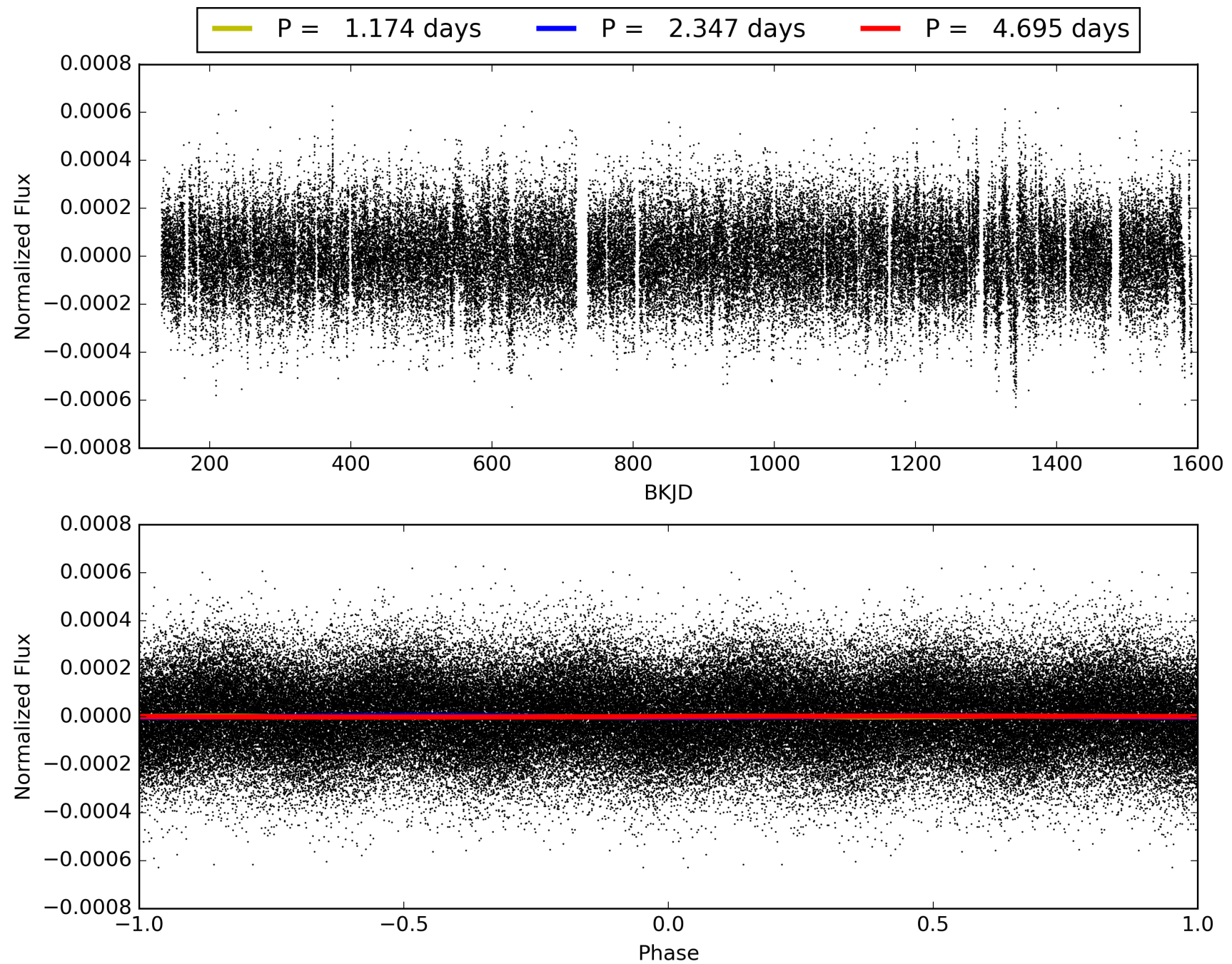
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:02:23 Z

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

TCE 005566948-01, PDC Light Curves

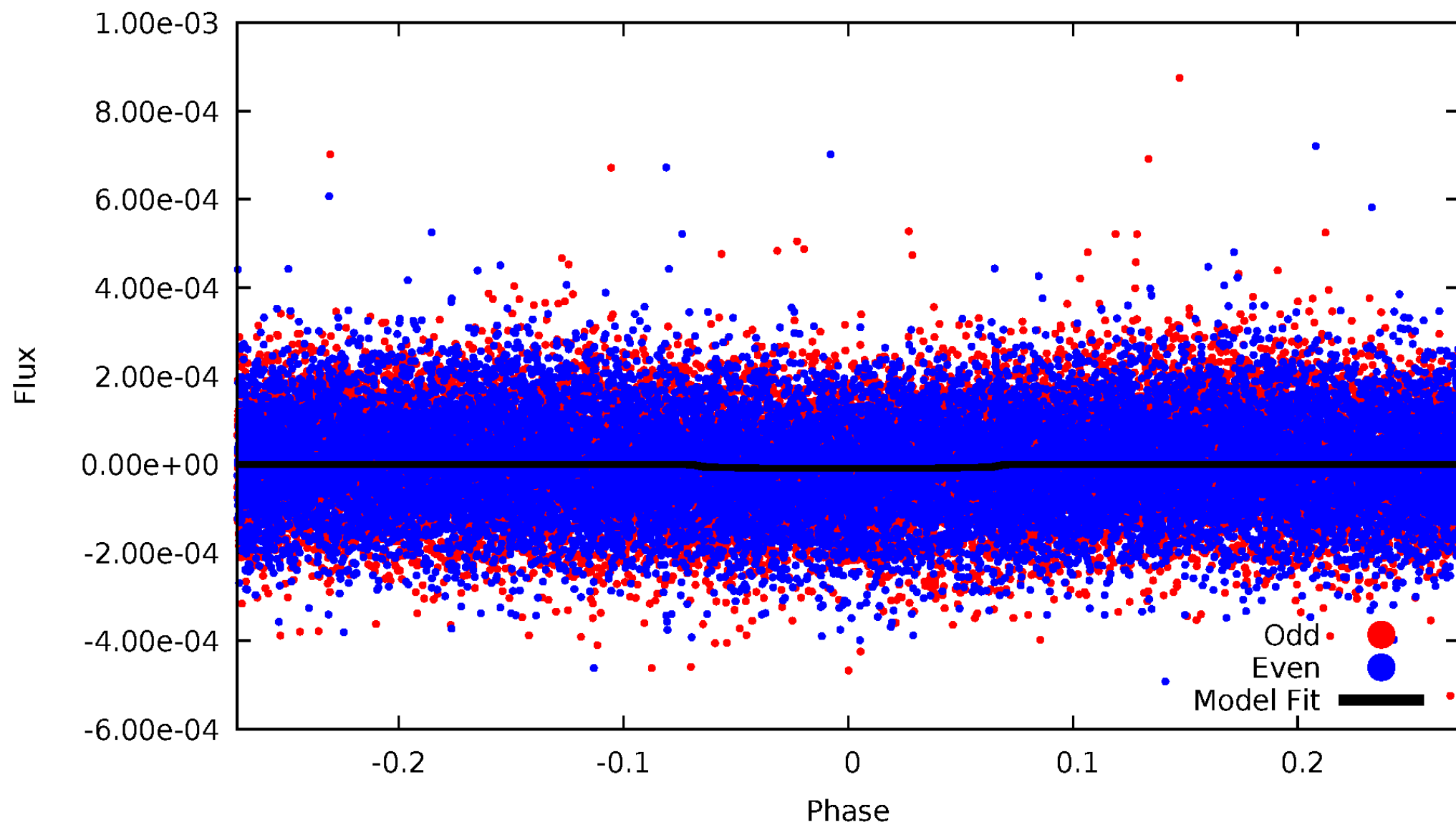


TCE 005566948-01



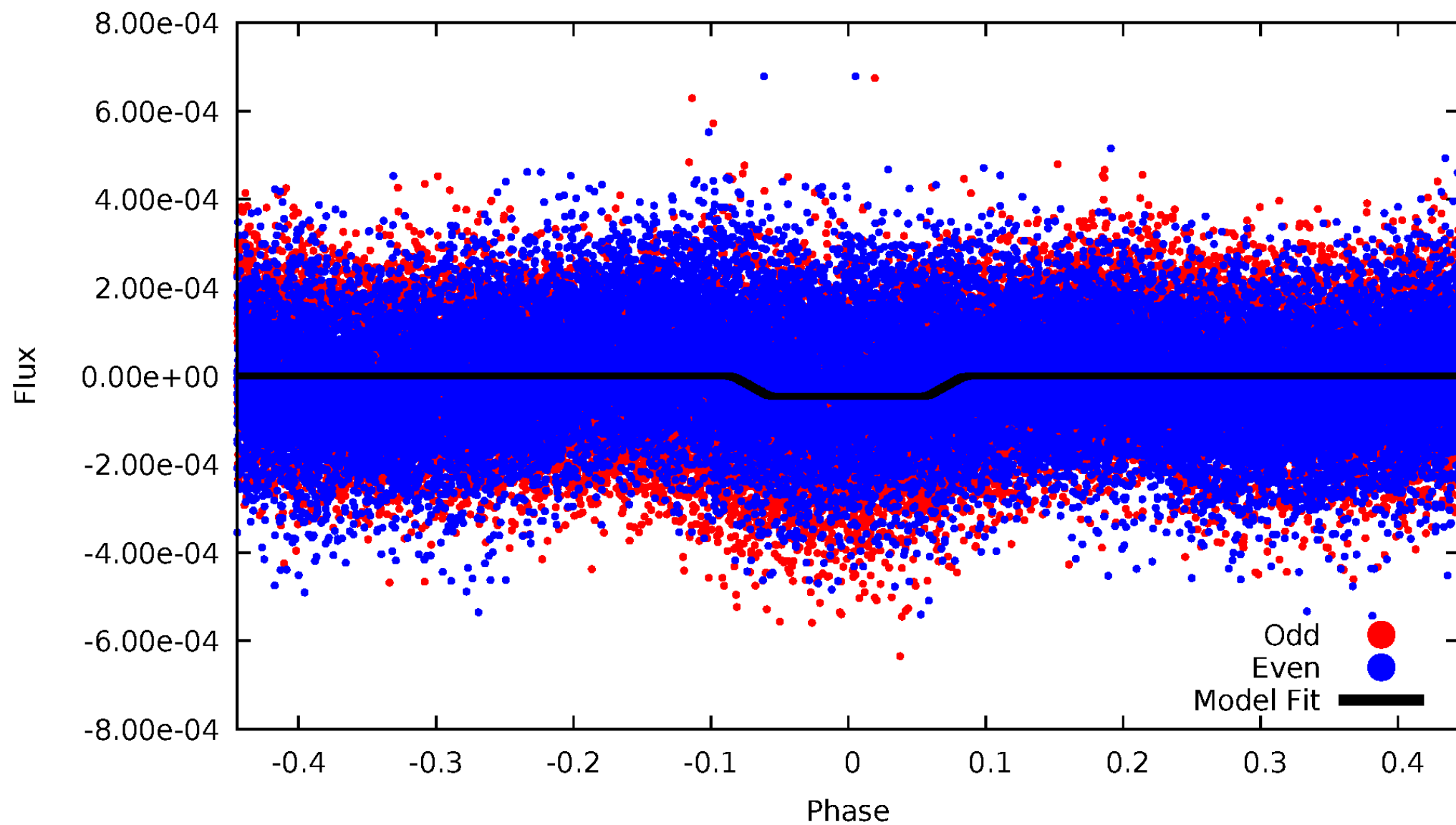
DV Odd/Even

TCE 005566948-01



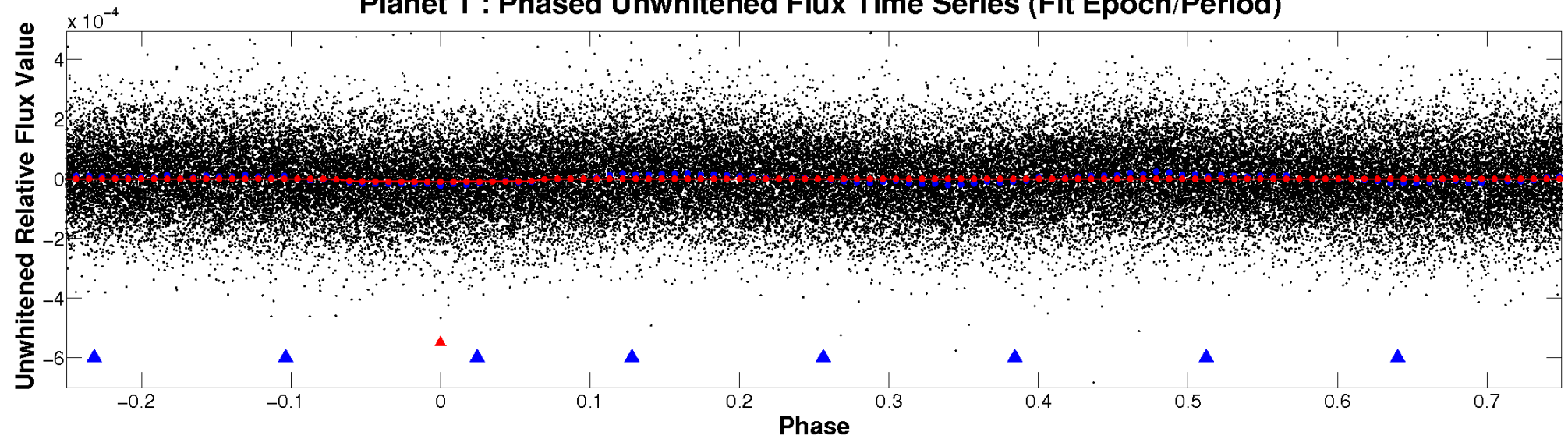
ALT Odd/Even

TCE 005566948-01

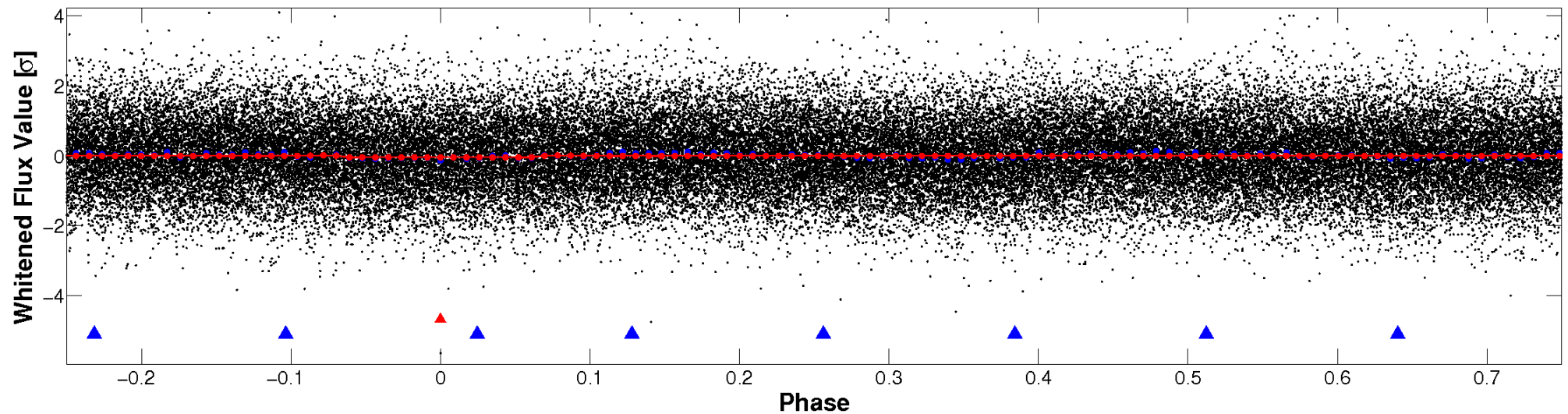


Non-Whitened Vs. Whitened Light Curve

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

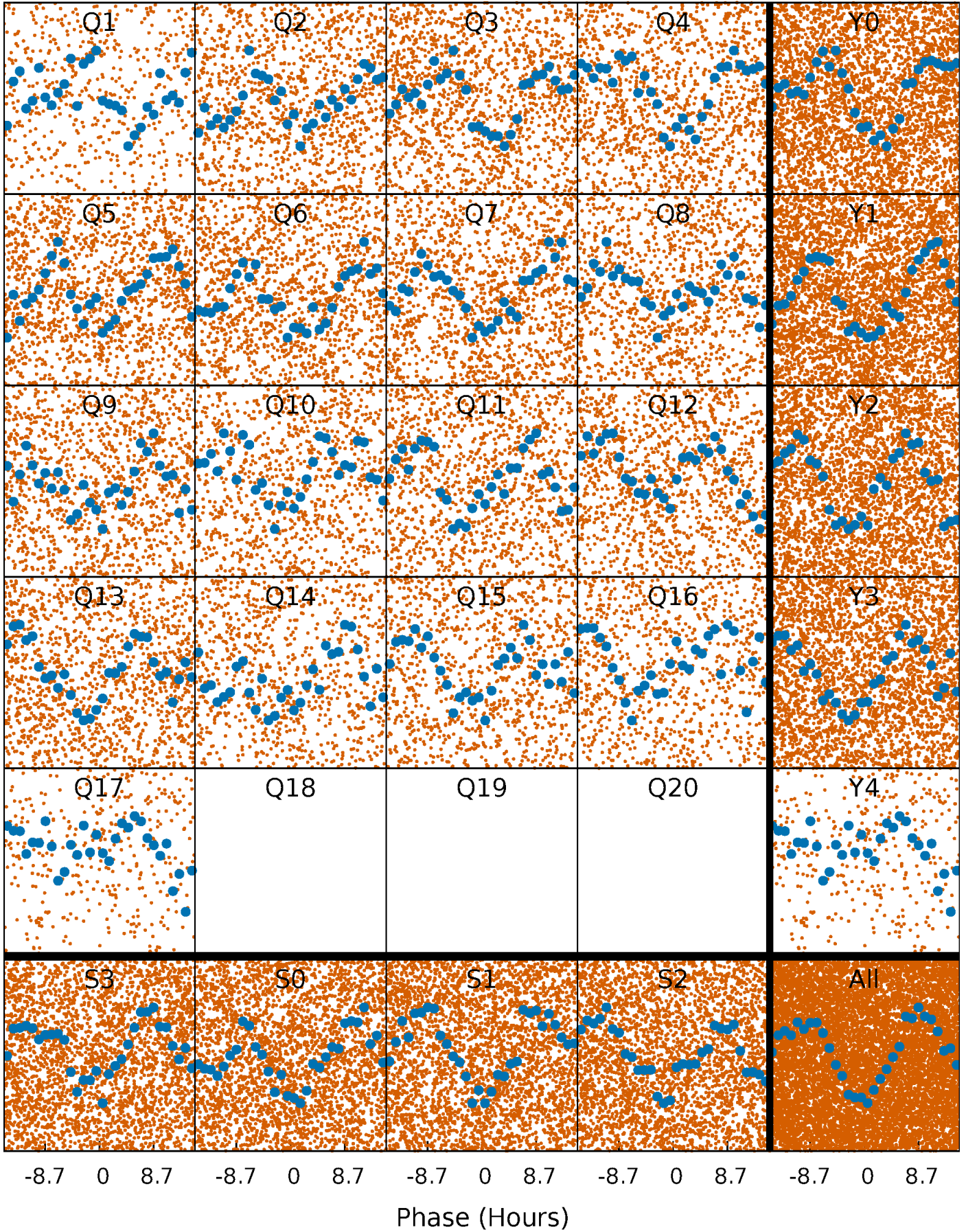


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



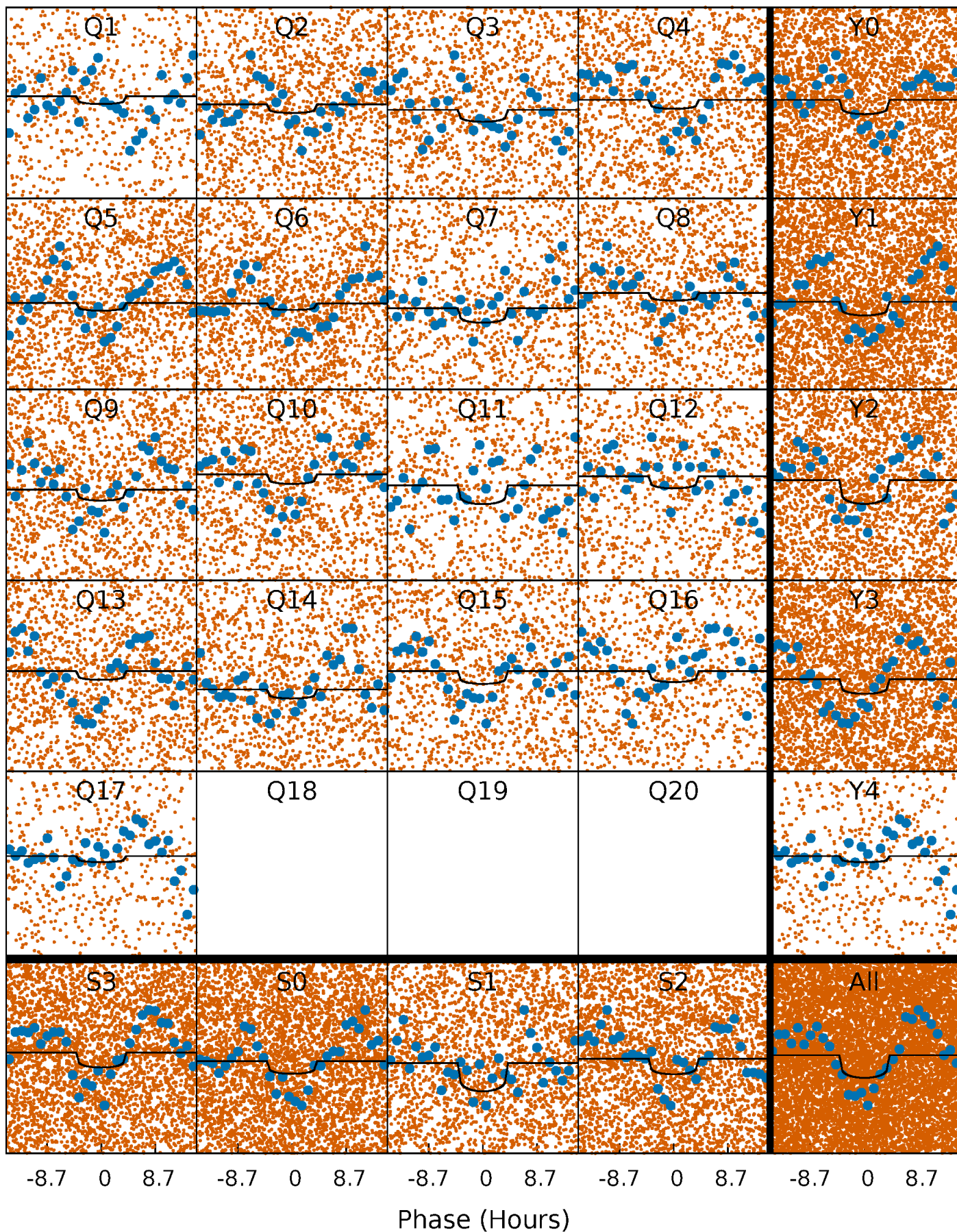
PDC Quarter-Phased Transit Curves

TCE 005566948-01 P= 2.347328 Days $T_0=132.755427$ (BKJD)



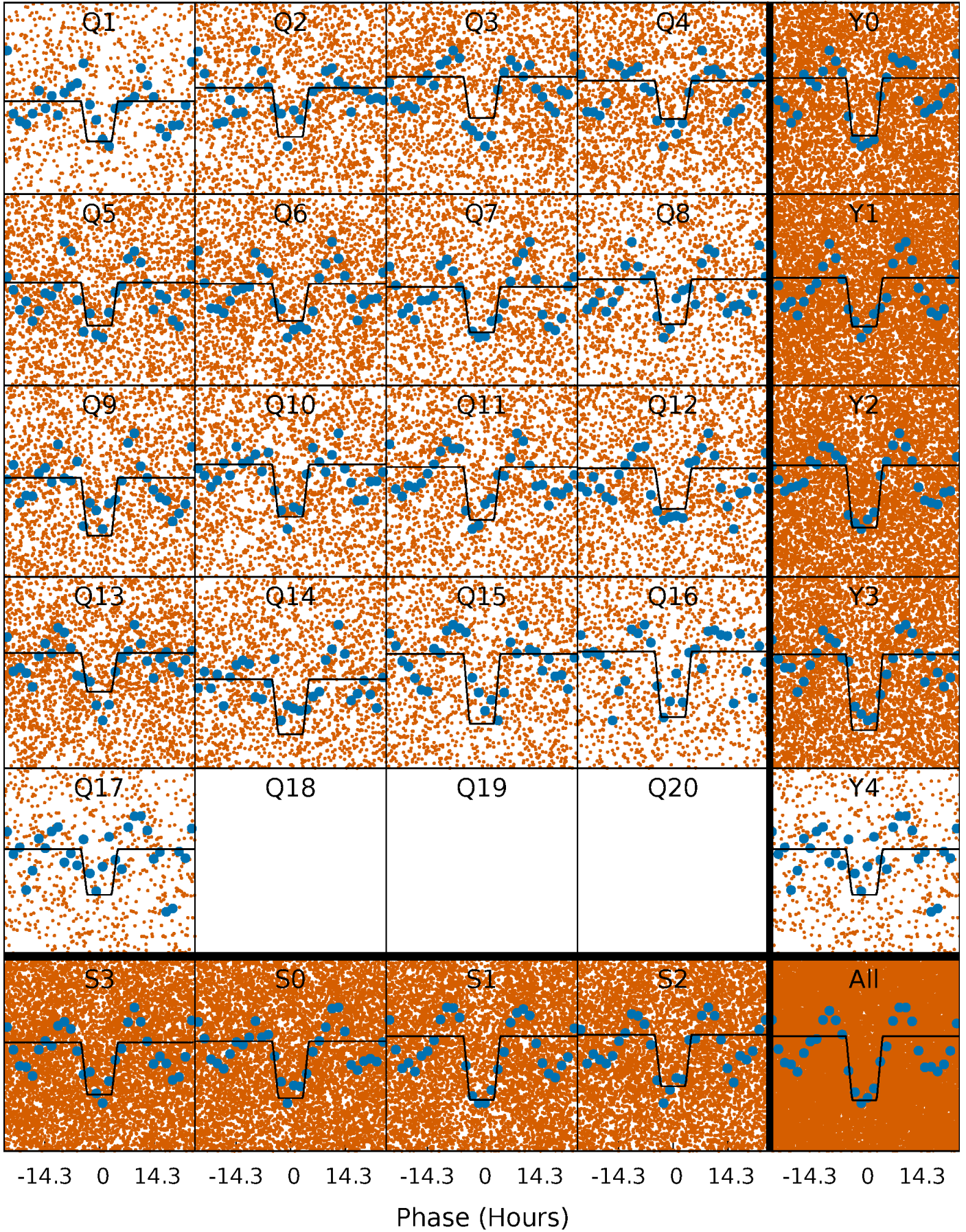
DV Quarter-Phased Transit Curves

TCE 005566948-01 P= 2.347328 Days $T_0=132.755427$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

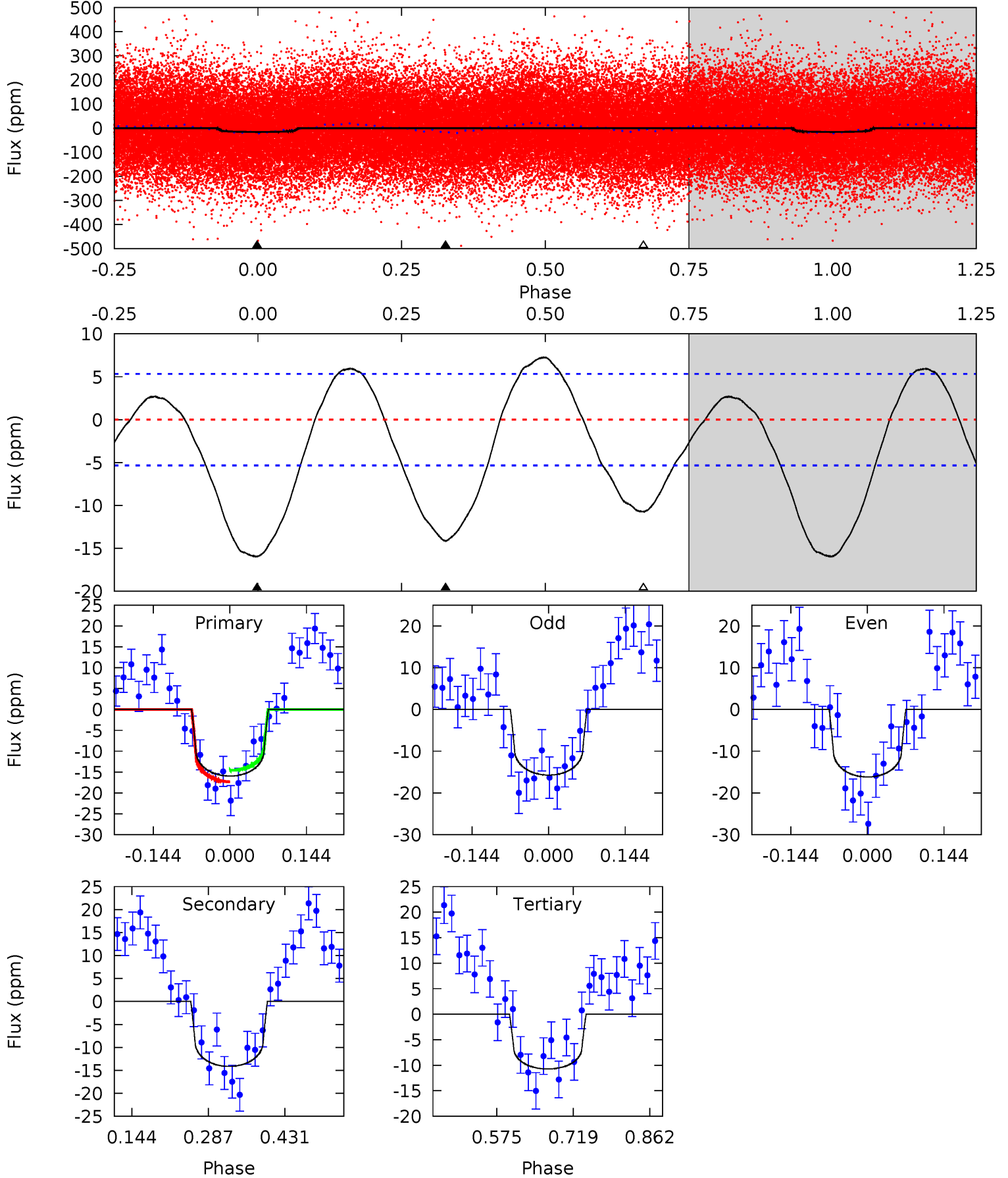
TCE 005566948-01 P= 2.346779 Days $T_0=132.897318$ (BKJD)



DV Model-Shift Uniqueness Test

005566948-01, P = 2.347328 Days, E = 130.408099 Days

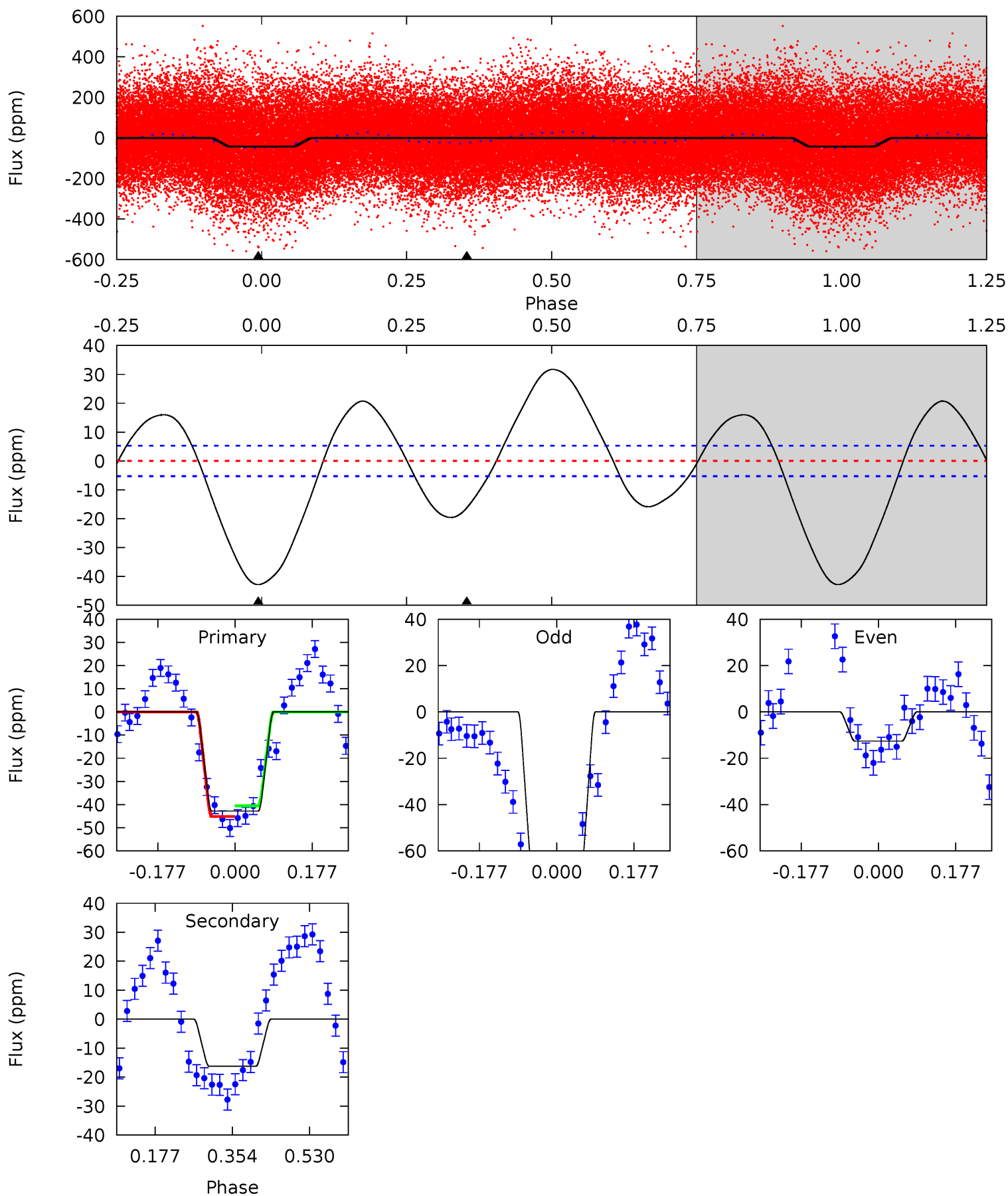
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	11.9	9.05	0	4.49	1.46	4.95	4.40	13.4	2.87	11.9	0.19	0.98	0.31	1.15



Alt Model-Shift Uniqueness Test

005566948-01, P = 2.346779 Days, E = 130.550539 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.0	13.7	0	0	4.44	1.35	11.1	36.0	36.0	13.7	13.7	24.2	1.00	0.43	1.96



Stellar Parameters For KIC 005566948

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6677^{+160}_{-200}	$3.615^{+0.323}_{-0.057}$	$-0.140^{+0.300}_{-0.250}$	$3.337^{+0.401}_{-1.202}$	$1.676^{+0.213}_{-0.320}$	$0.064^{+0.134}_{-0.012}$
	+2%/-3%	+9%/-2%	+214%/-179%	+12%/-36%	+13%/-19%	+211%/-19%
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 005566948-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-14 ± 1	$0.98^{+0.77}_{-0.56}$	3598^{+198}_{-336}	7585^{+6752}_{-1951}	14^{+61}_{-9}
Alt.	-16 ± 1	$2.28^{+0.84}_{-0.80}$	3594^{+206}_{-319}	5054^{+1019}_{-616}	$2.888^{+3.888}_{-1.304}$

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

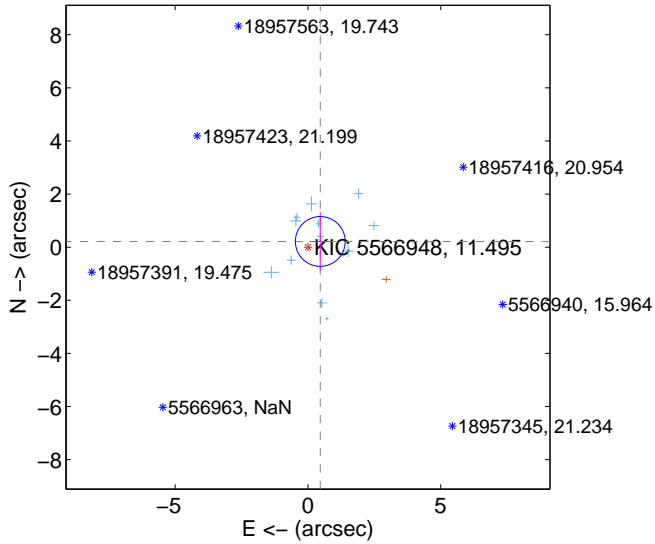
Supplemental centroid analysis for 005566948-01. **Kepler magnitude: 11.49.** Transit SNR 3.89

There are 14 quarters with good PRF difference image offsets

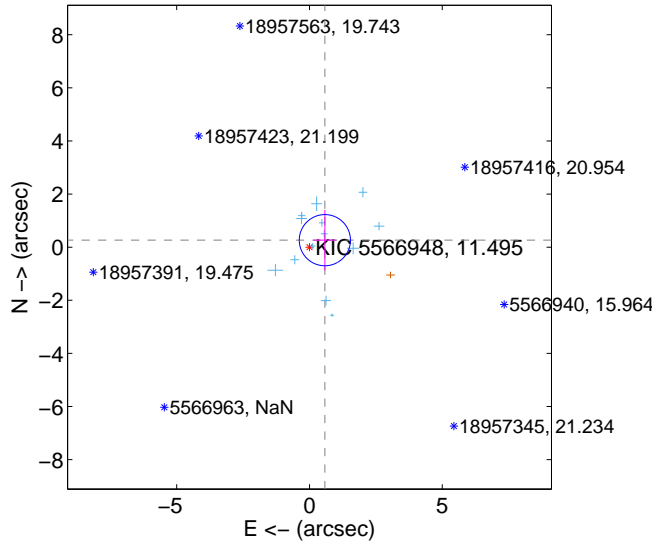
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.512 ± 0.312	1.64	-0.464 ± 0.419	0.215 ± 1.103
PRF-fit source offset from KIC position	0.636 ± 0.321	1.98	-0.579 ± 0.434	0.263 ± 1.140
photometric centroid source offset	1.02 ± 2.19	0.47	0.00 ± 1.60	1.02 ± 2.19

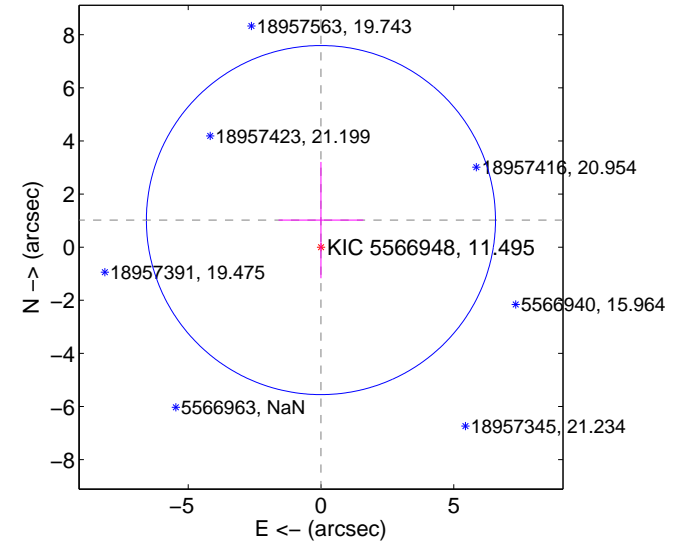
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

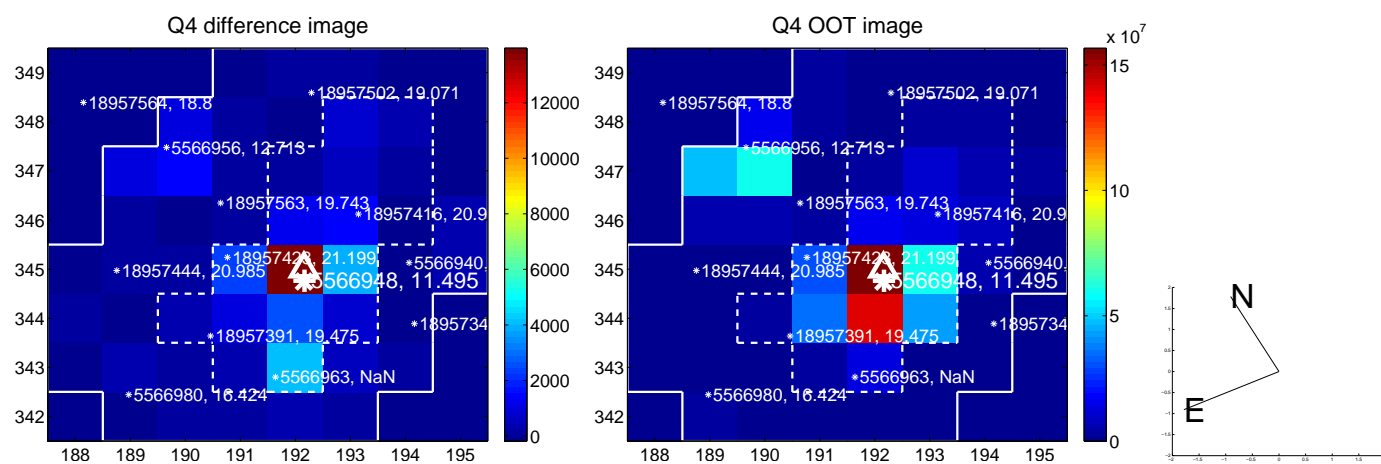
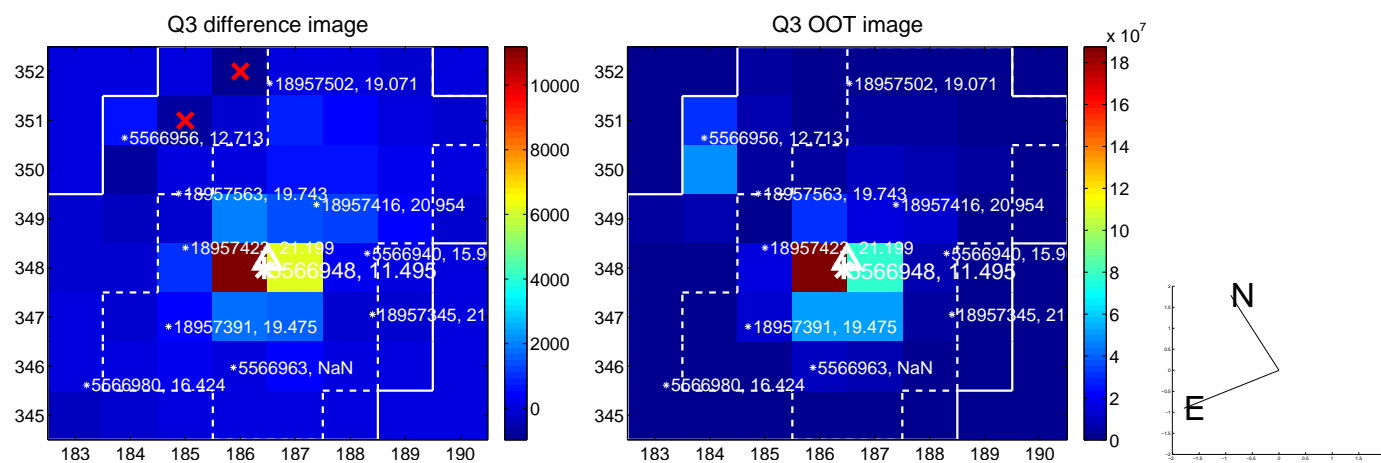
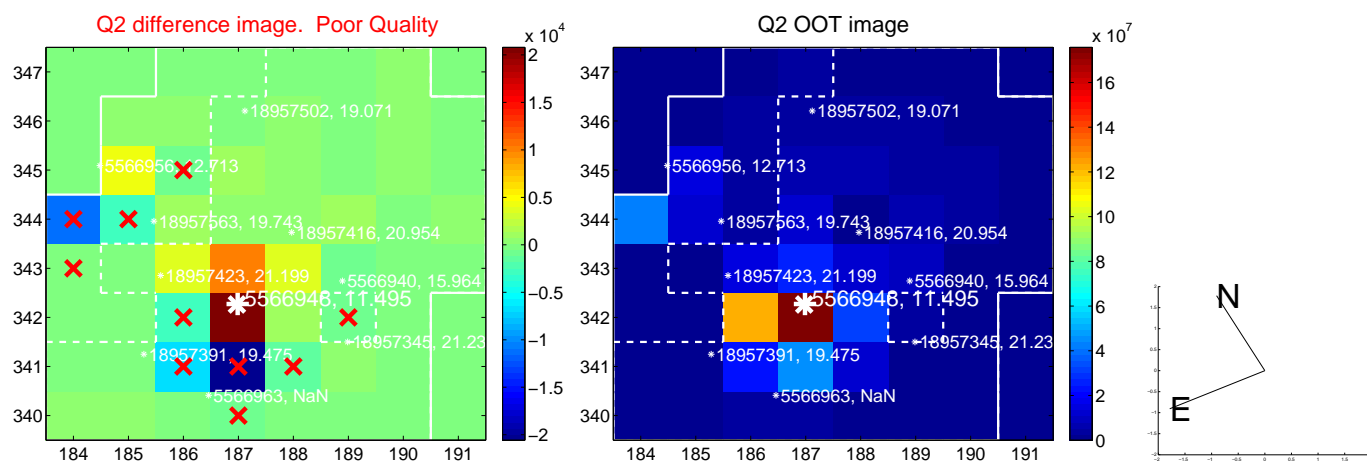
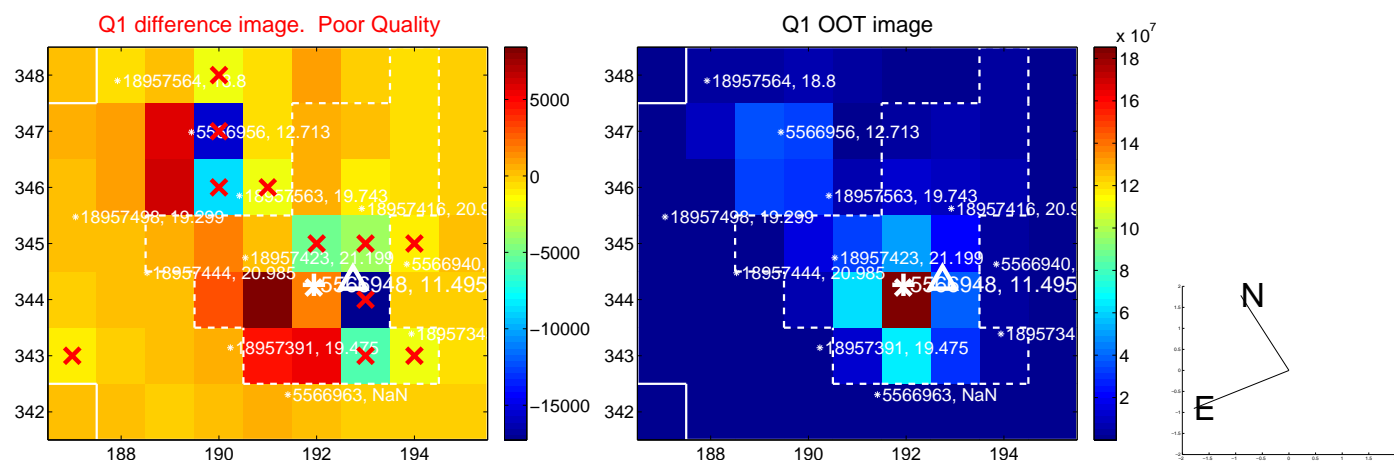


offset from photometric centroids

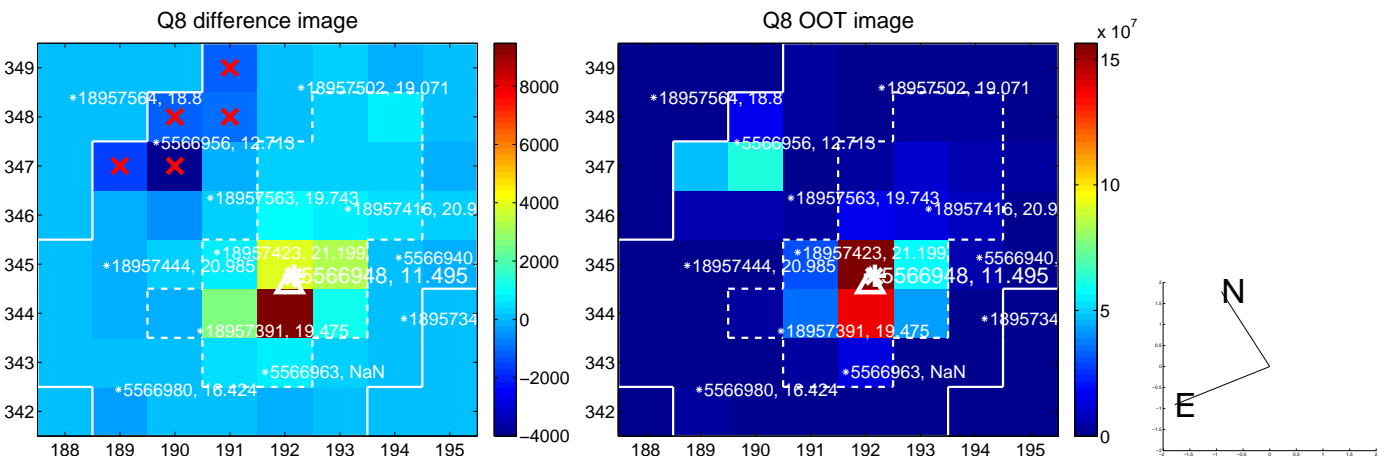
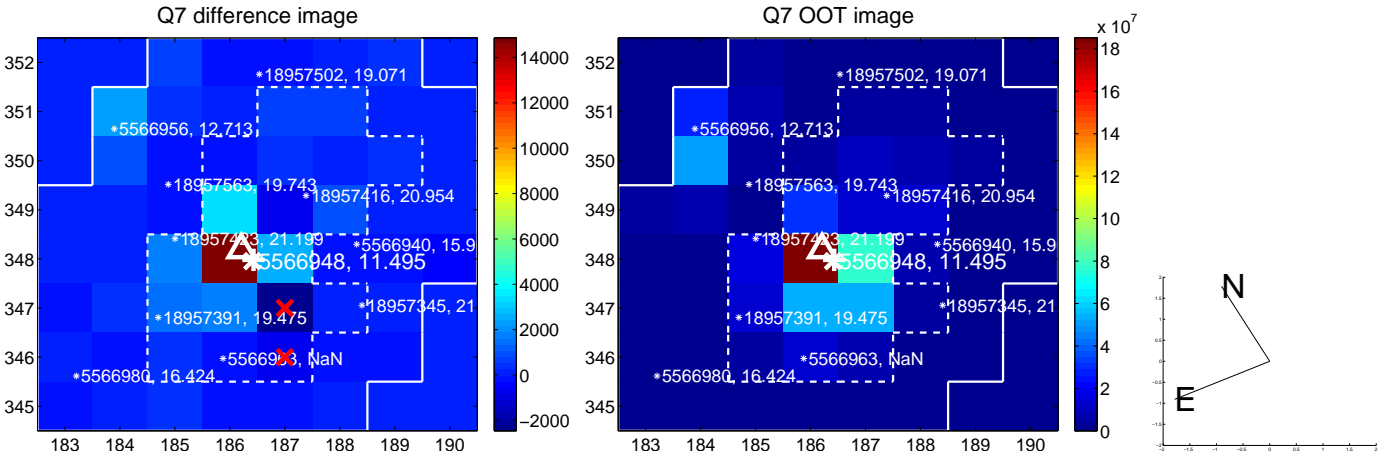
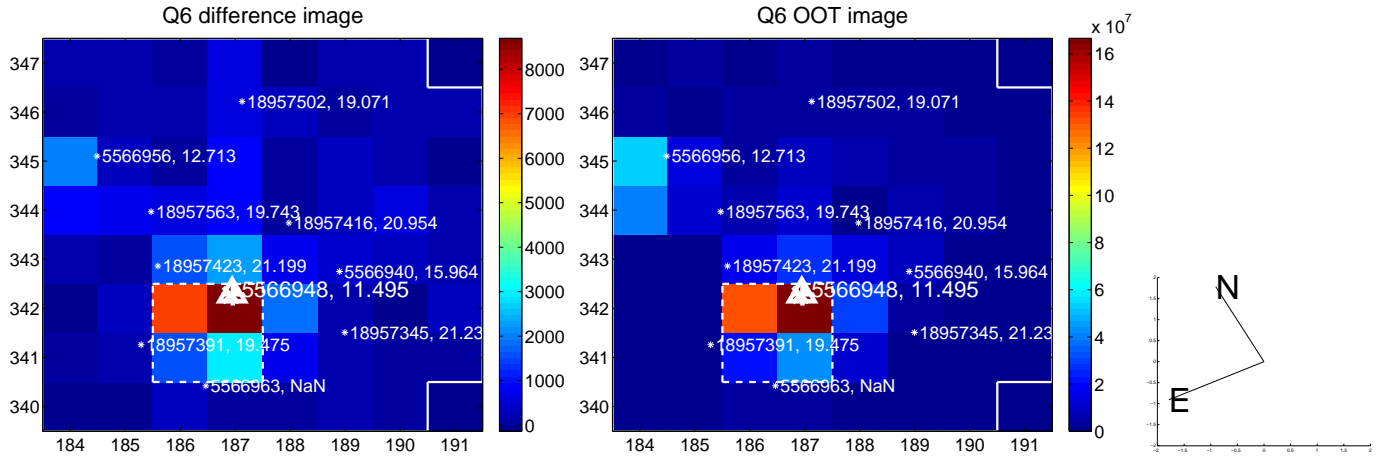
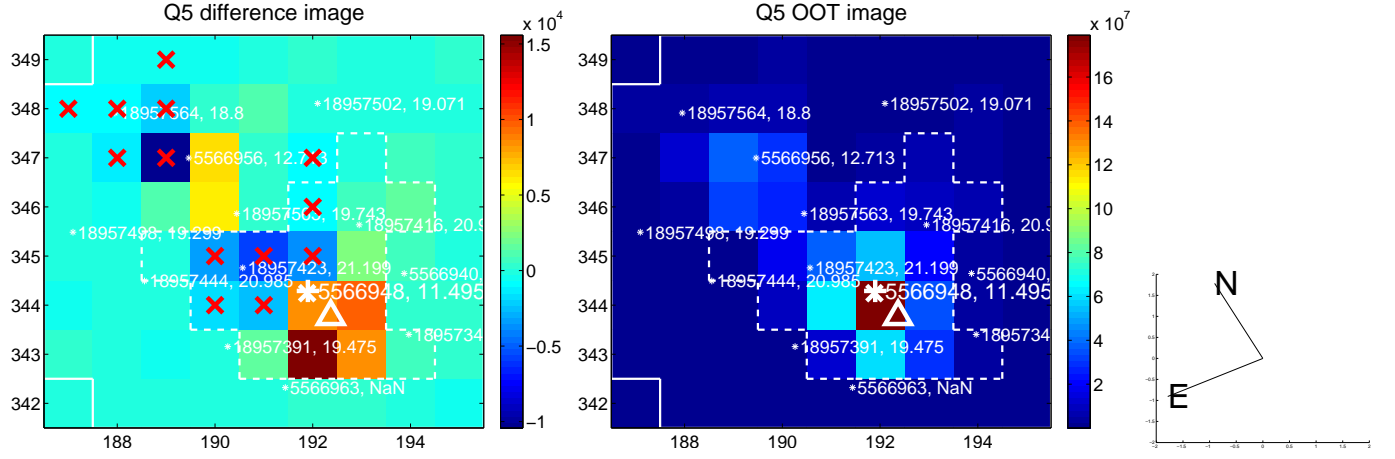


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

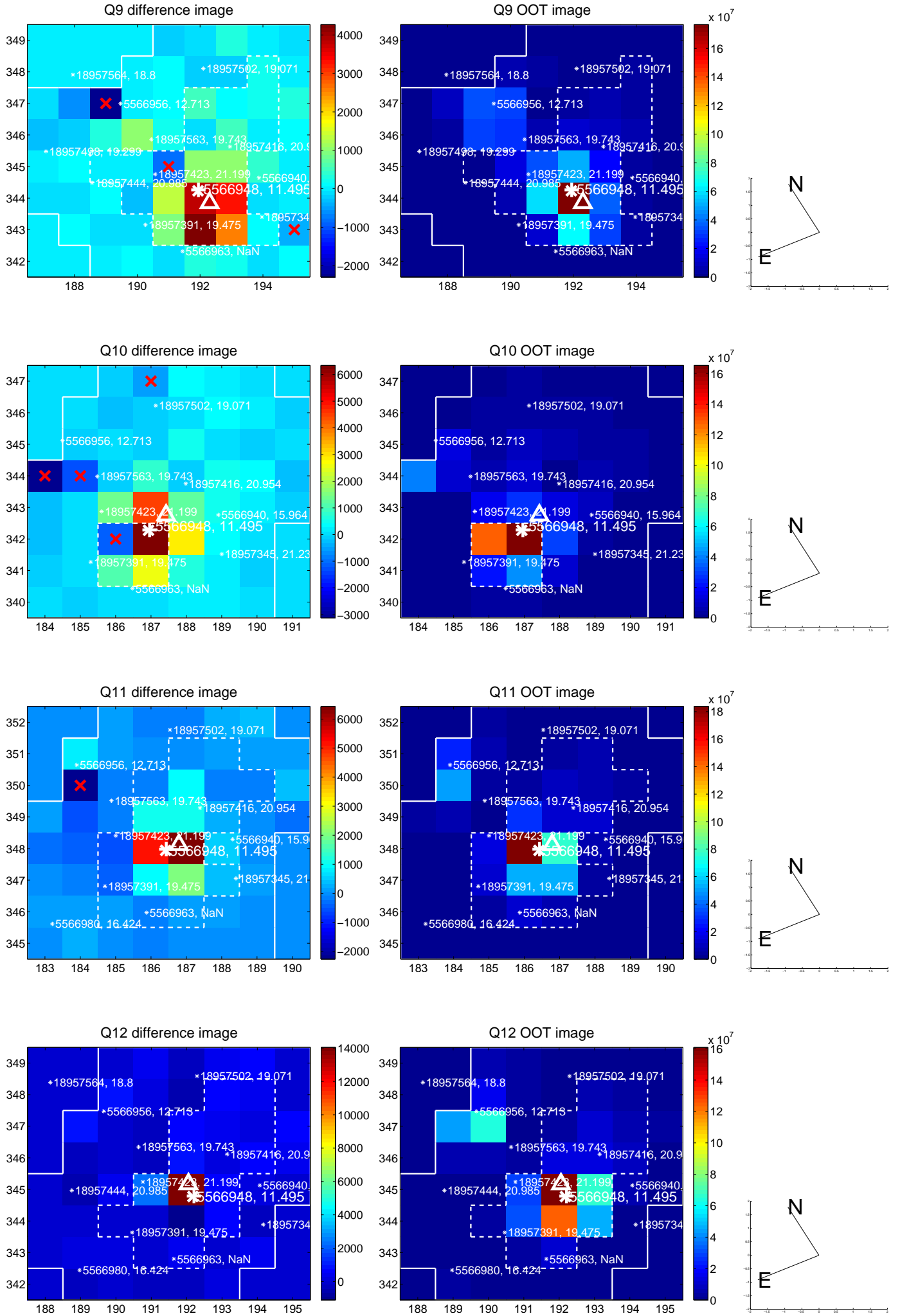
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



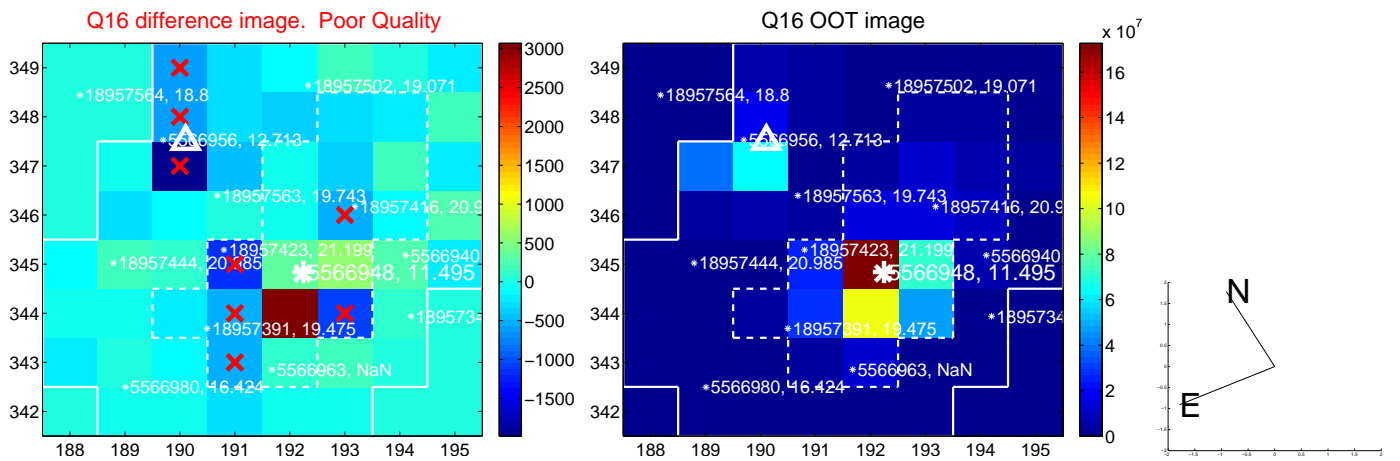
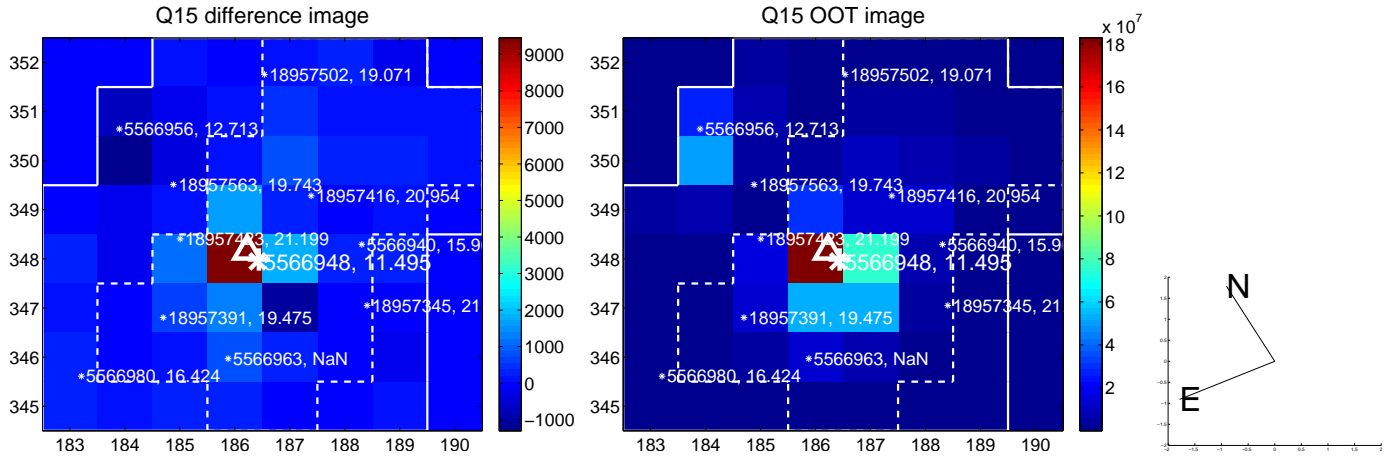
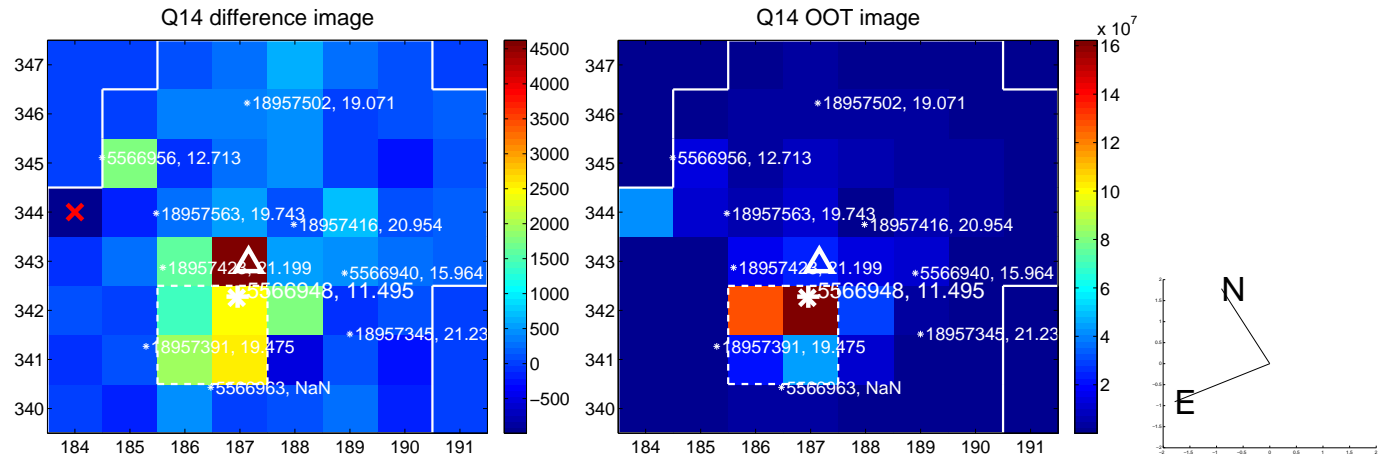
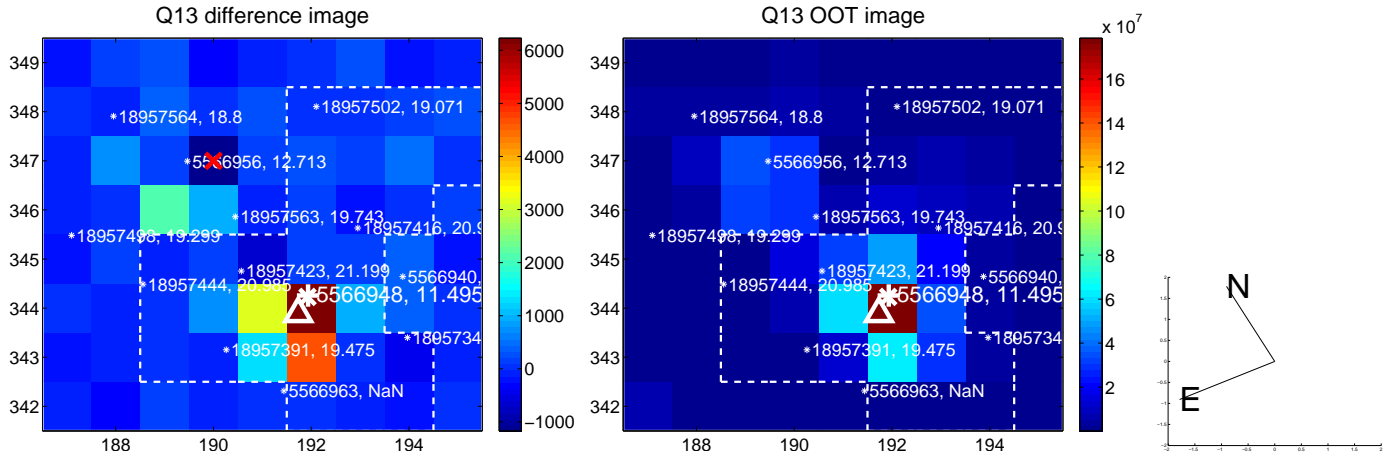
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



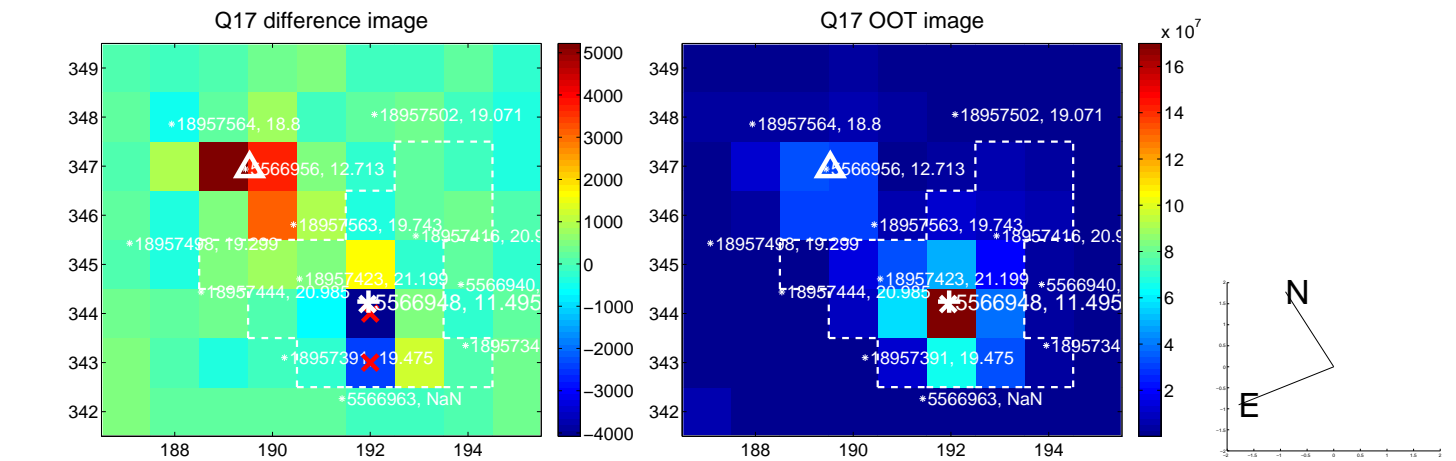
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



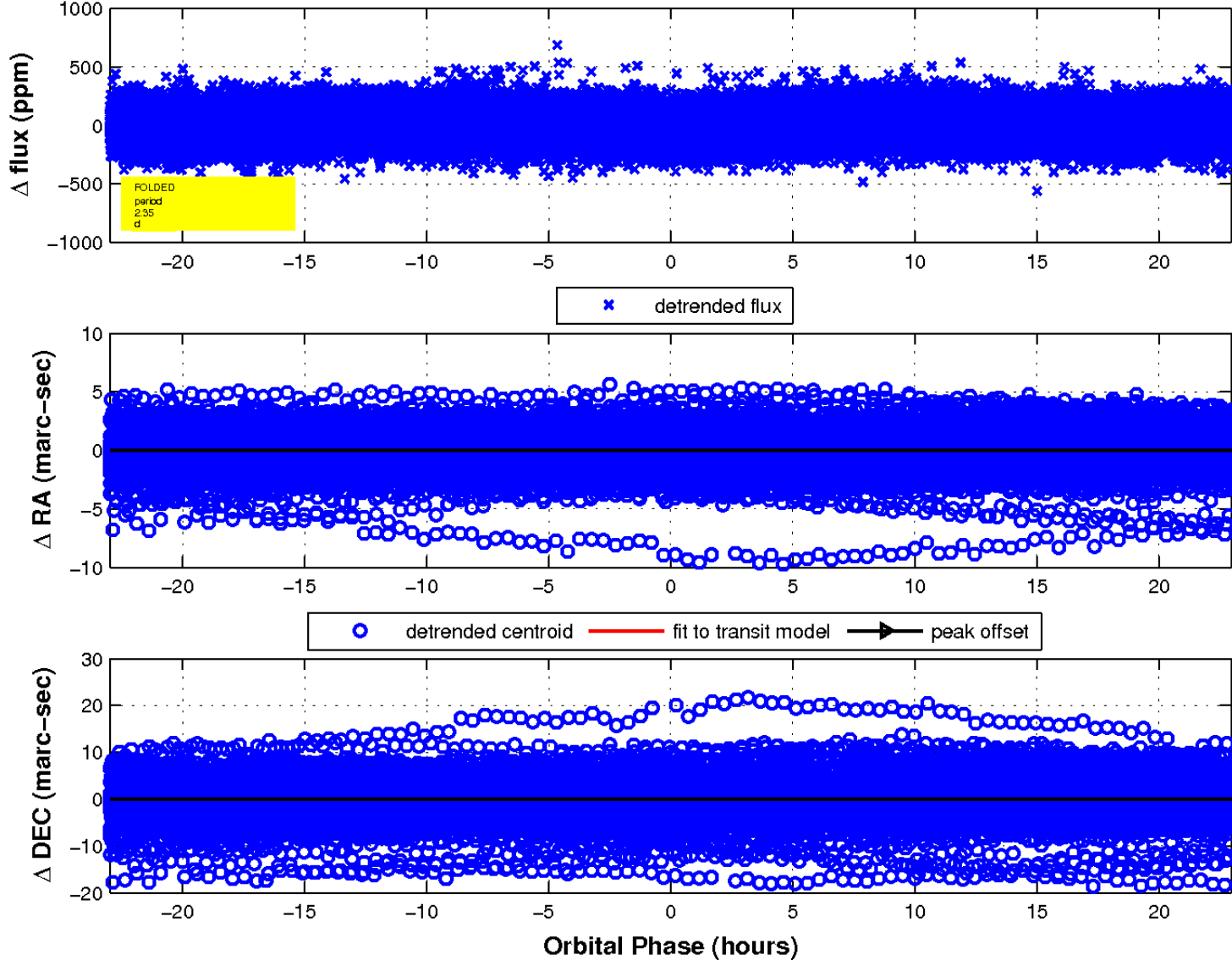
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

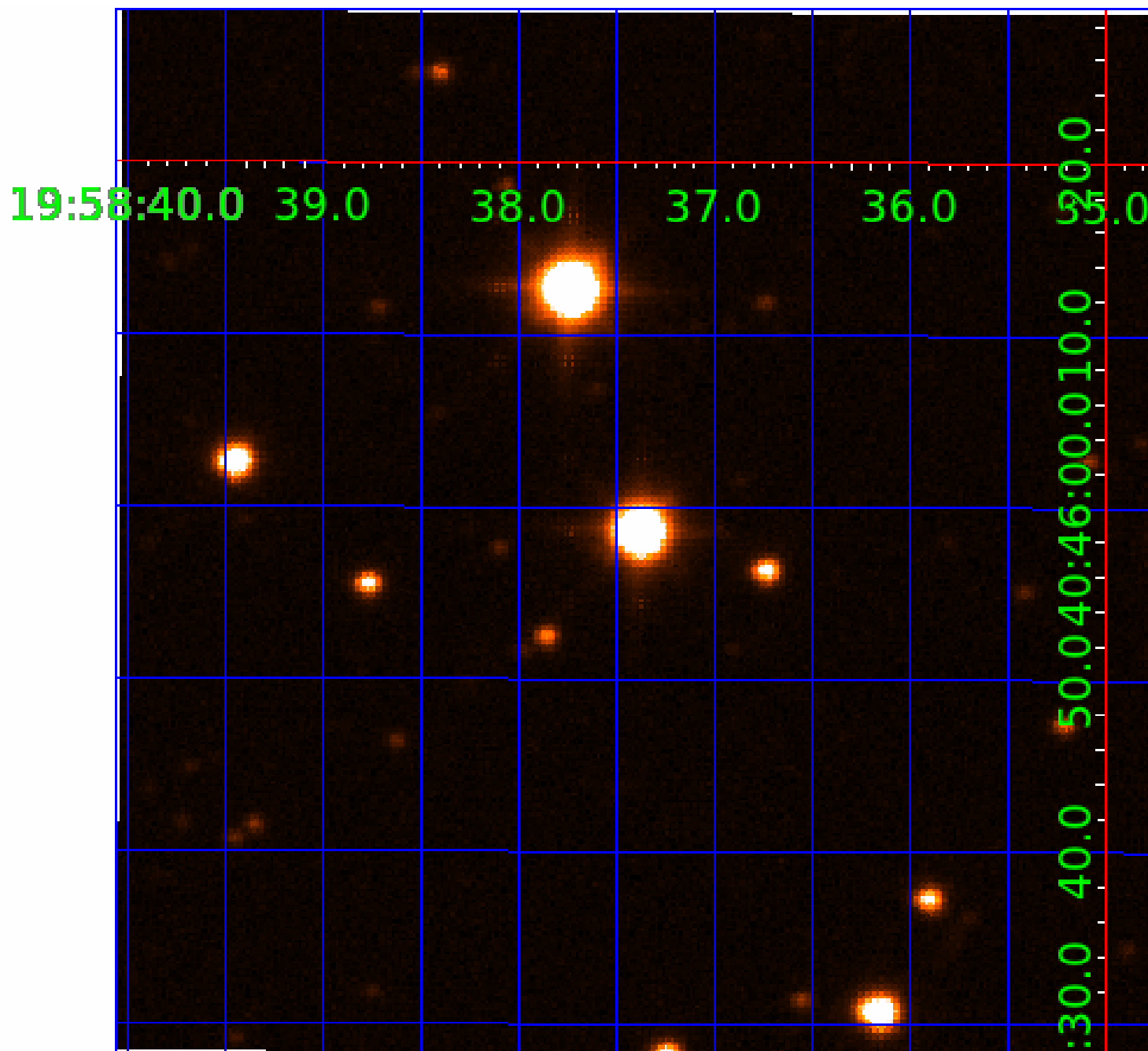


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 005566948

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})
005566948-01	OBS	No	2.347328	132.755427	9.2	7.656	7.5	3.9	3.34	6677	1.03	11767.72
005566948-02	OBS	No	182.790979	214.969686	204.2	6.666	7.3	7.2	3.34	6677	5.42	35.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005566948-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
005566948-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

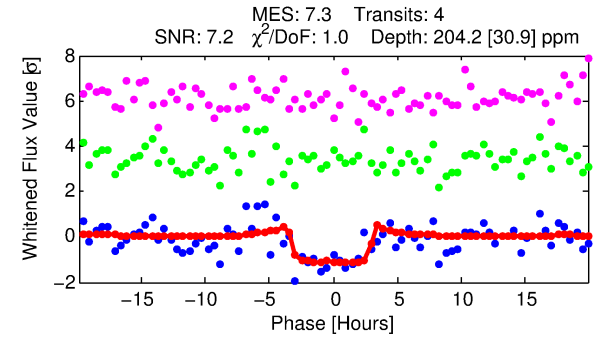
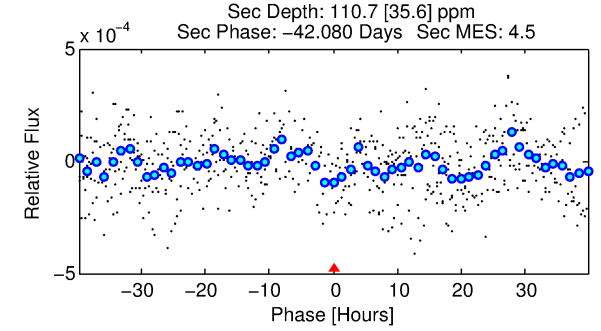
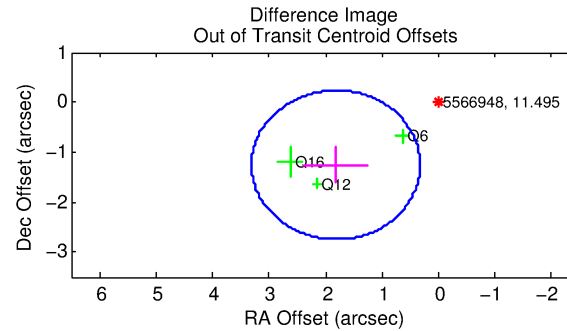
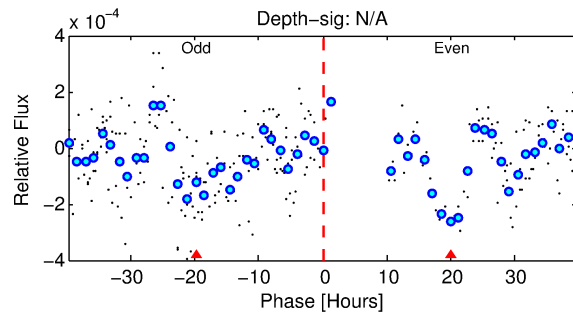
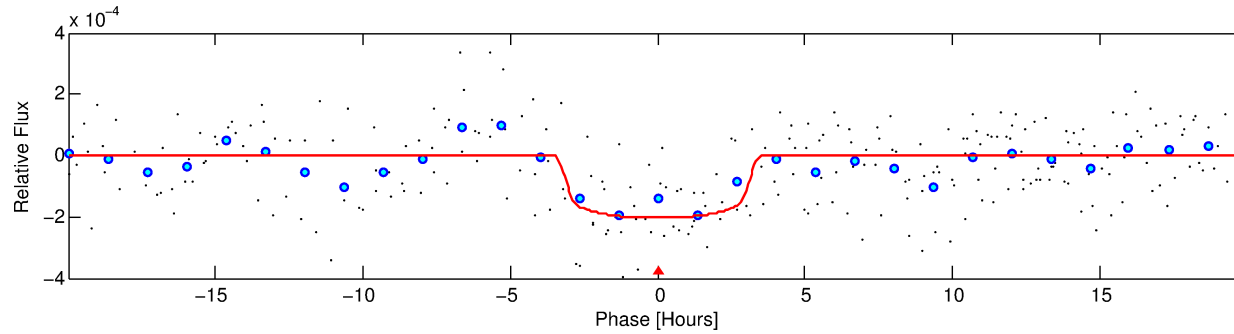
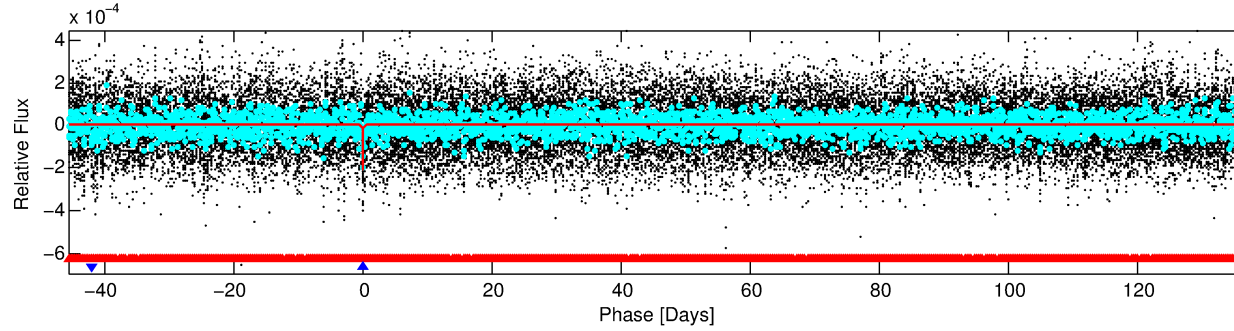
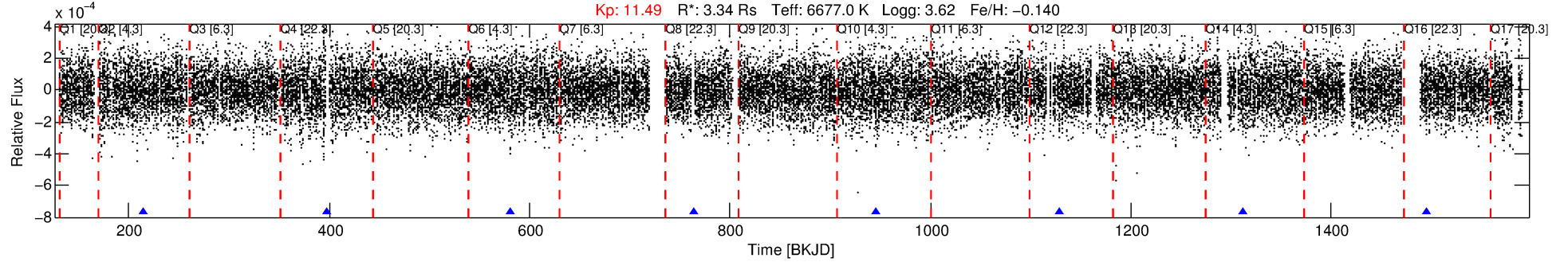
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005566948-02

No Significant Match Found

DV One-Page Summary

KIC: 5566948 Candidate: 2 of 2 Period: 182.791 d



DV Fit Results:

Period = 182.79098 [0.00523] d
 Epoch = 214.9697 [0.0240] BKJD
 Rp/R* = 0.0149 [0.0077]
 a/R* = 111.63 [336.13]
 b = 0.86 [0.89]
 Seff = 35.39 [19.95]
 Teq = 622 [88] K
 Rp = 5.42 [3.41] Re
 a = 0.7486 [0.2584] AU
 Ag = 1160.74 [1407.46] [0.82σ]
 Tefp = 5613 [1525] K [3.27σ]

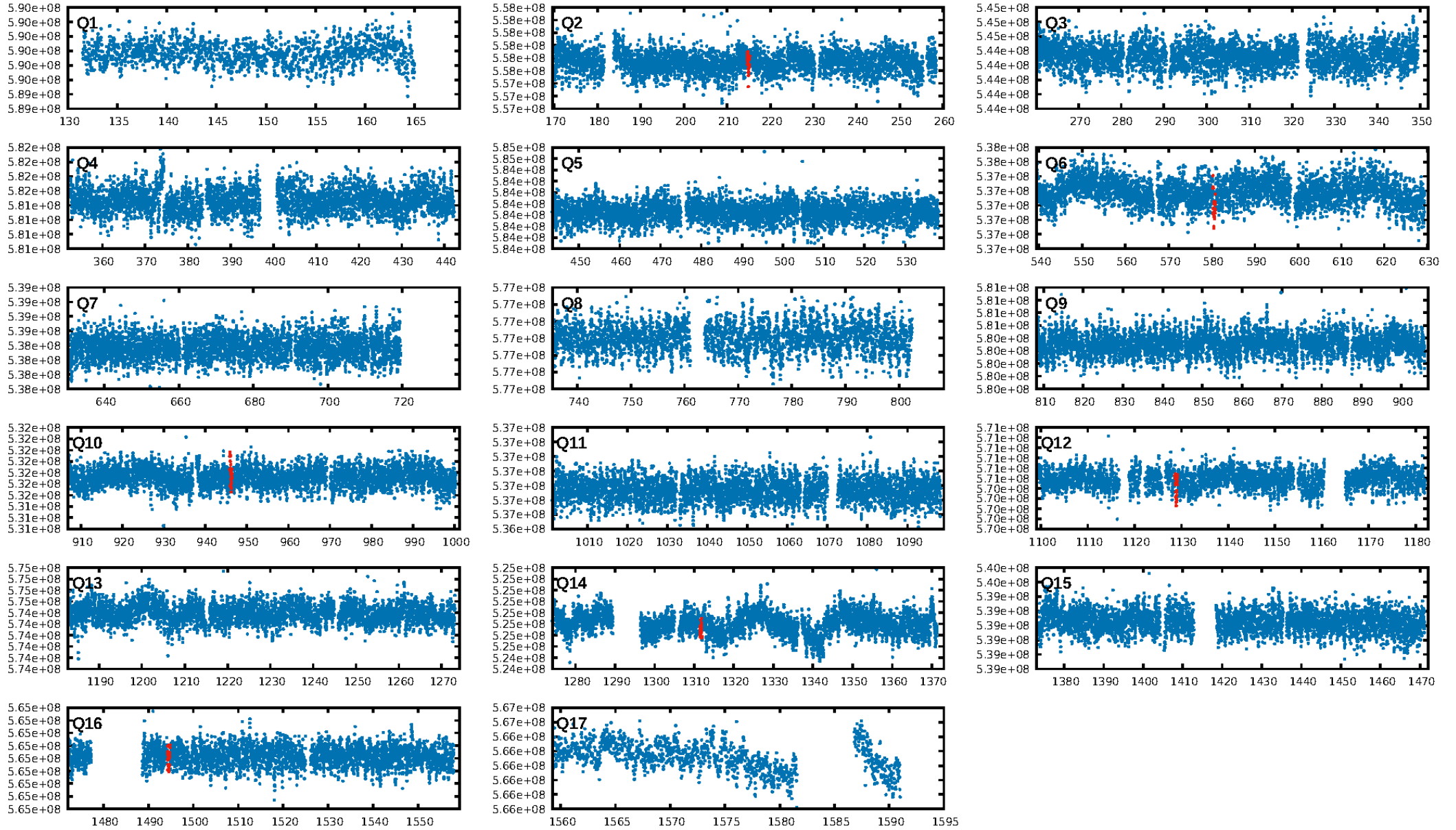
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [426.62σ]
 LongPeriod-sig: N/A
 ModelChiSquare2-sig: 15.6%
 ModelChiSquareGof-sig: 99.0%
 Bootstrap-pfa: 2.46e-09
 RollingBand-fgt: 1.00 [4/4]
 GhostDiagnostic-chr: -2.752
 Centroid-sig: 2.1%
 Centroid-so: 1.001 arcsec [1.68σ]
 OotOffset-rm: 2.209 arcsec [4.44σ]
 KicOffset-rm: 2.066 arcsec [3.92σ]
 OotOffset-st: 1/0/2/0 [3]
 KicOffset-st: 1/0/2/0 [3]
 DiffImageQuality-fgm: 0.67 [2/3]
 DiffImageOverlap-fno: 0.33 [2/6]

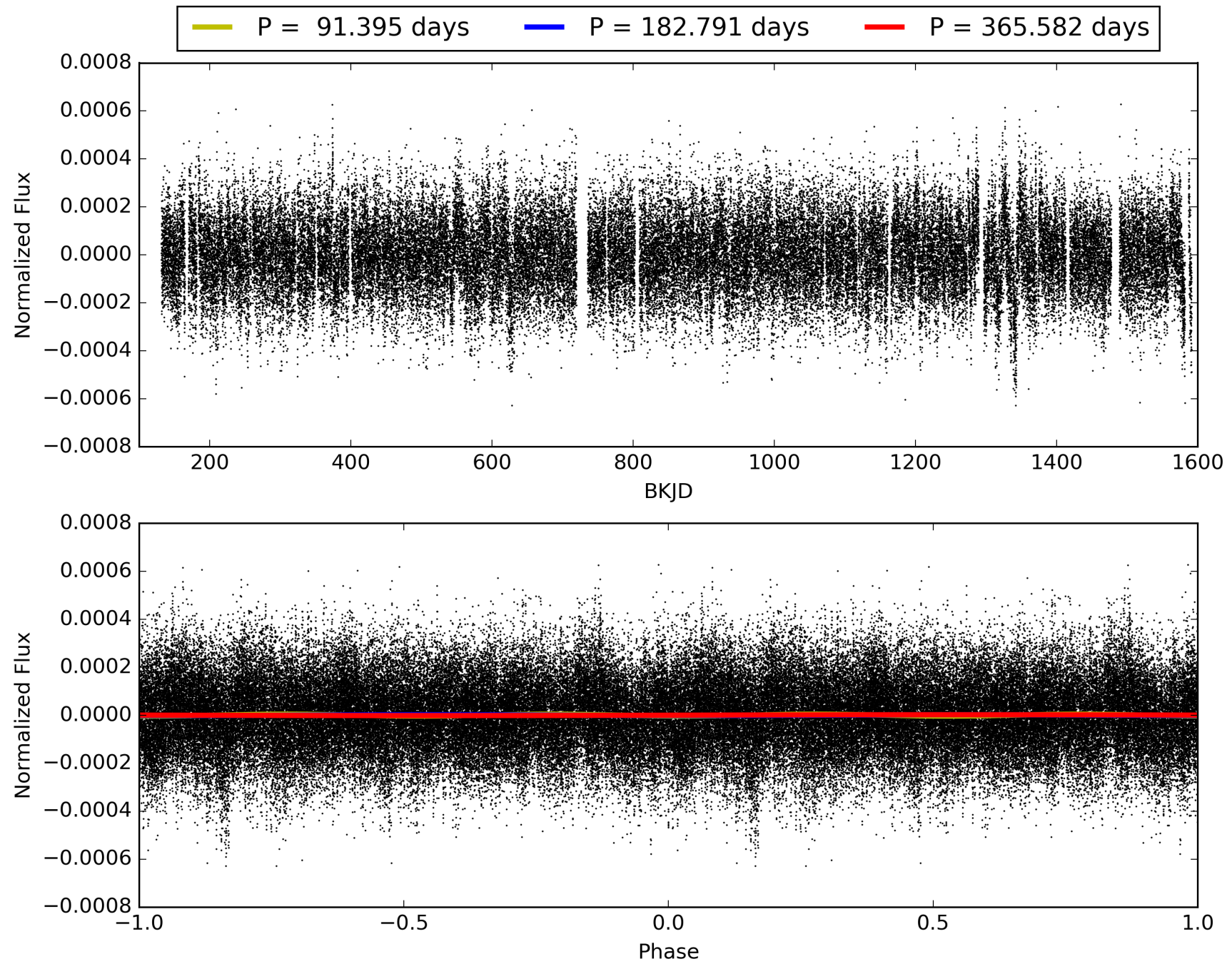
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:02:35 Z

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

TCE 005566948-02, PDC Light Curves

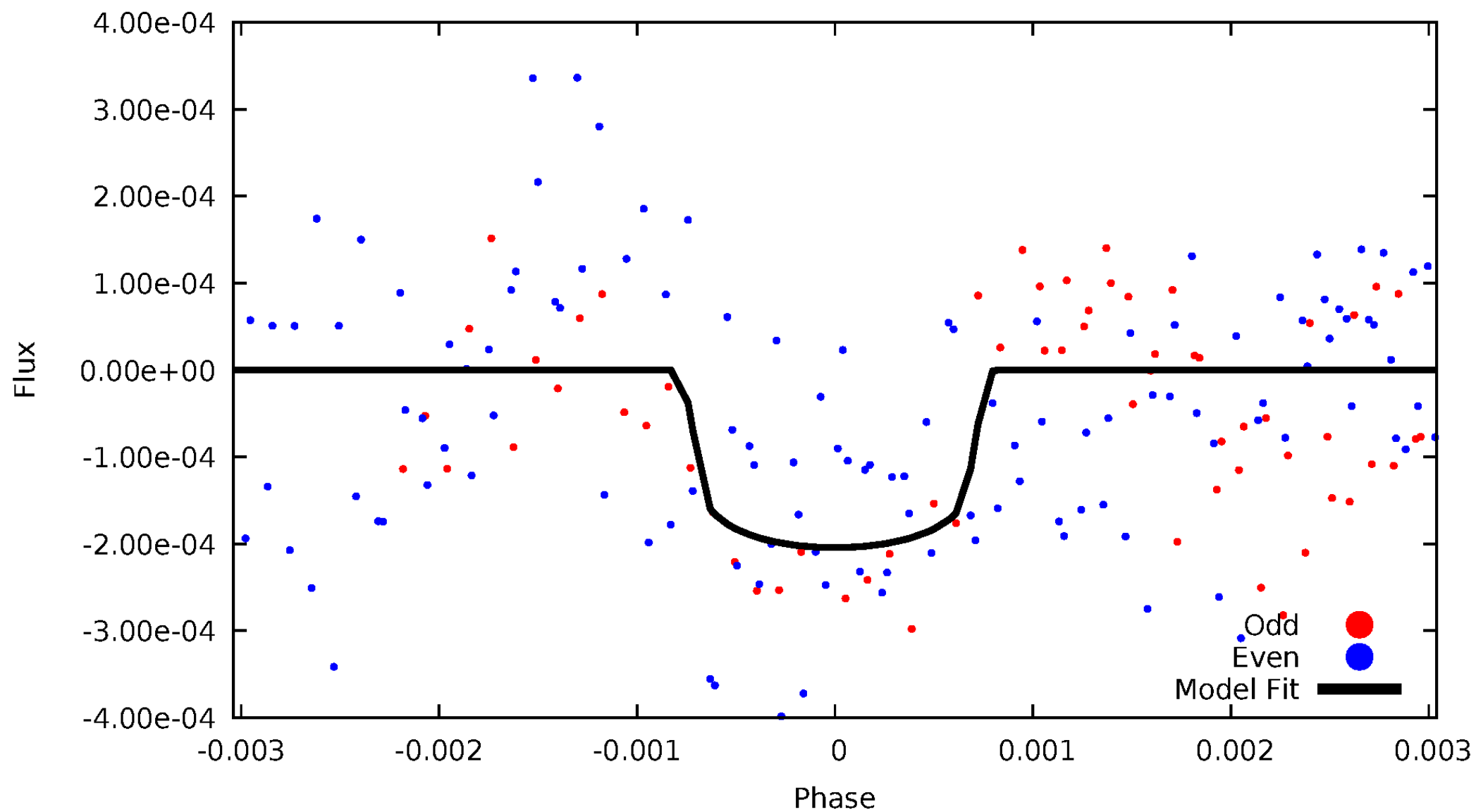


TCE 005566948-02



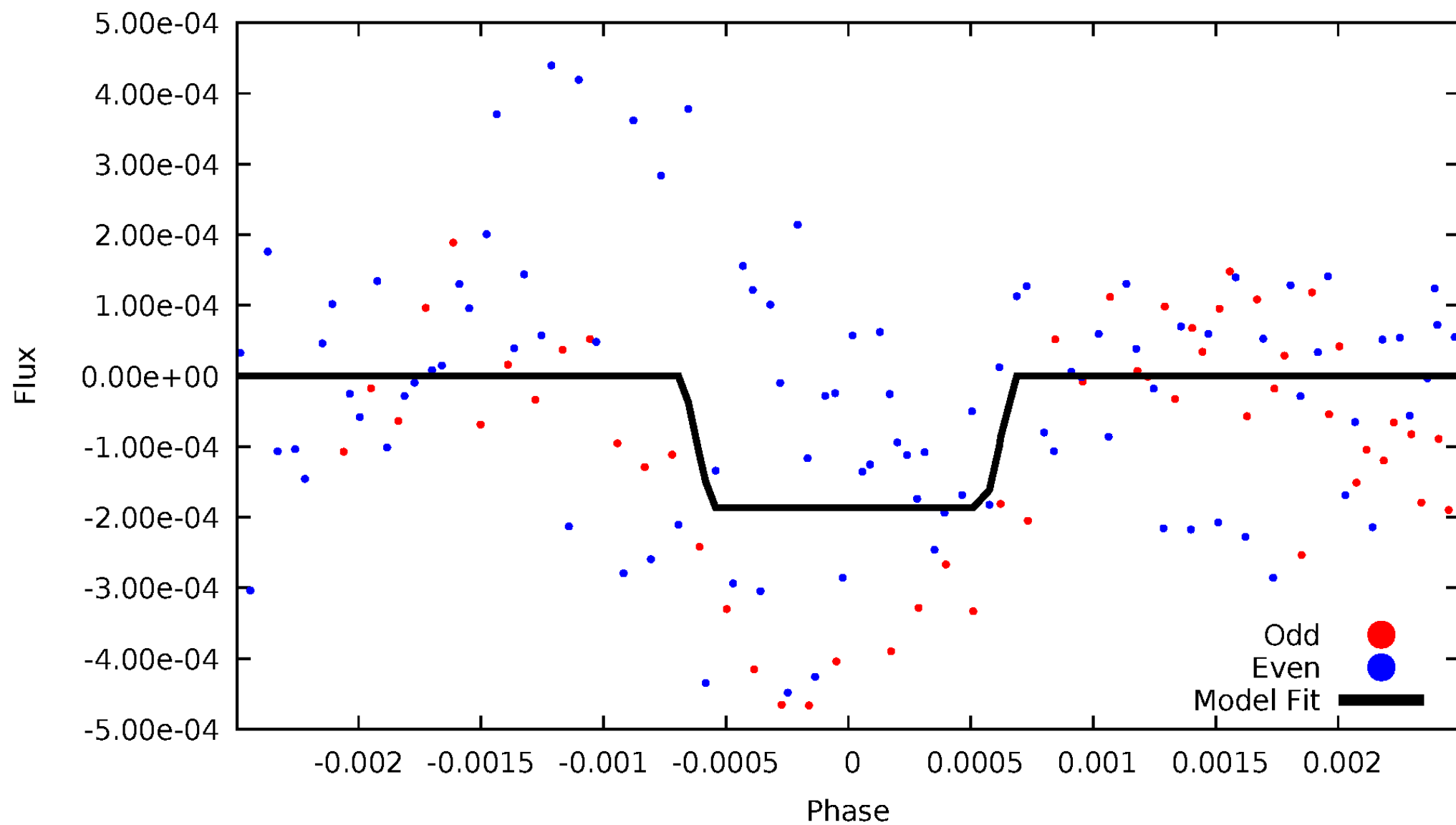
DV Odd/Even

TCE 005566948-02



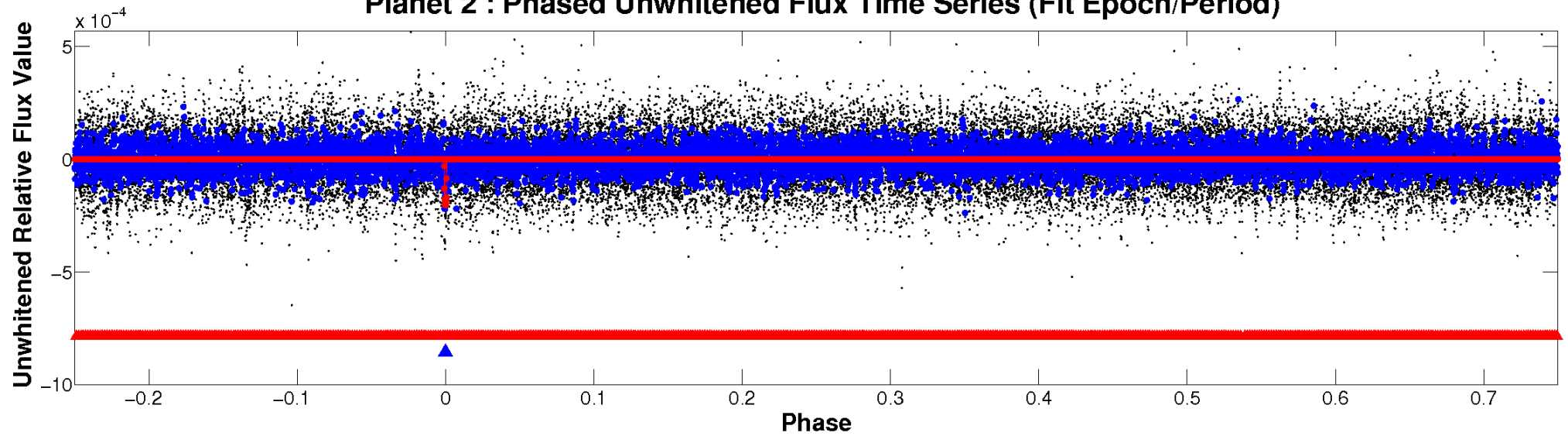
ALT Odd/Even

TCE 005566948-02

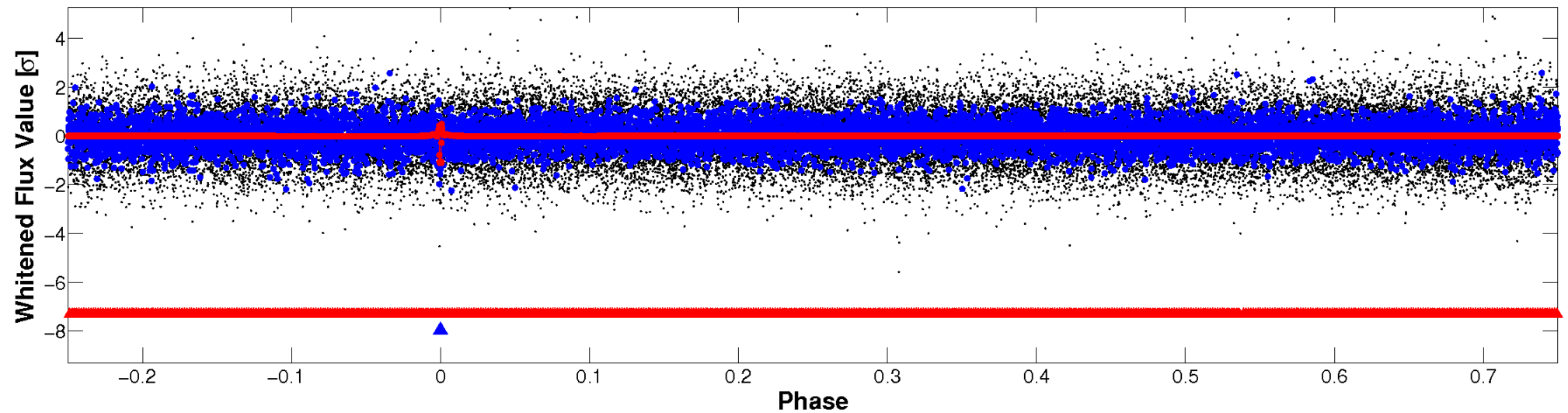


Non-Whitened Vs. Whitened Light Curve

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

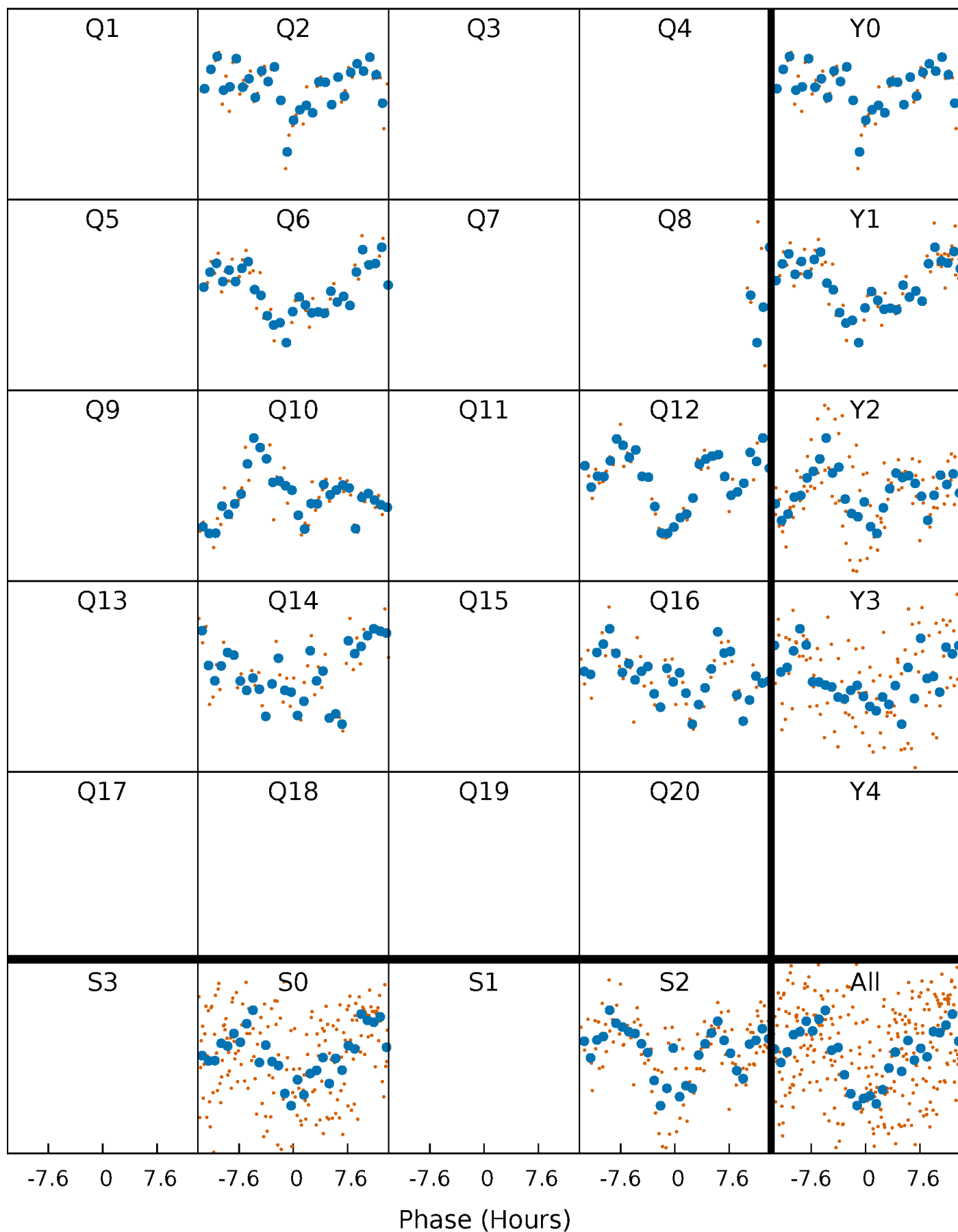


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



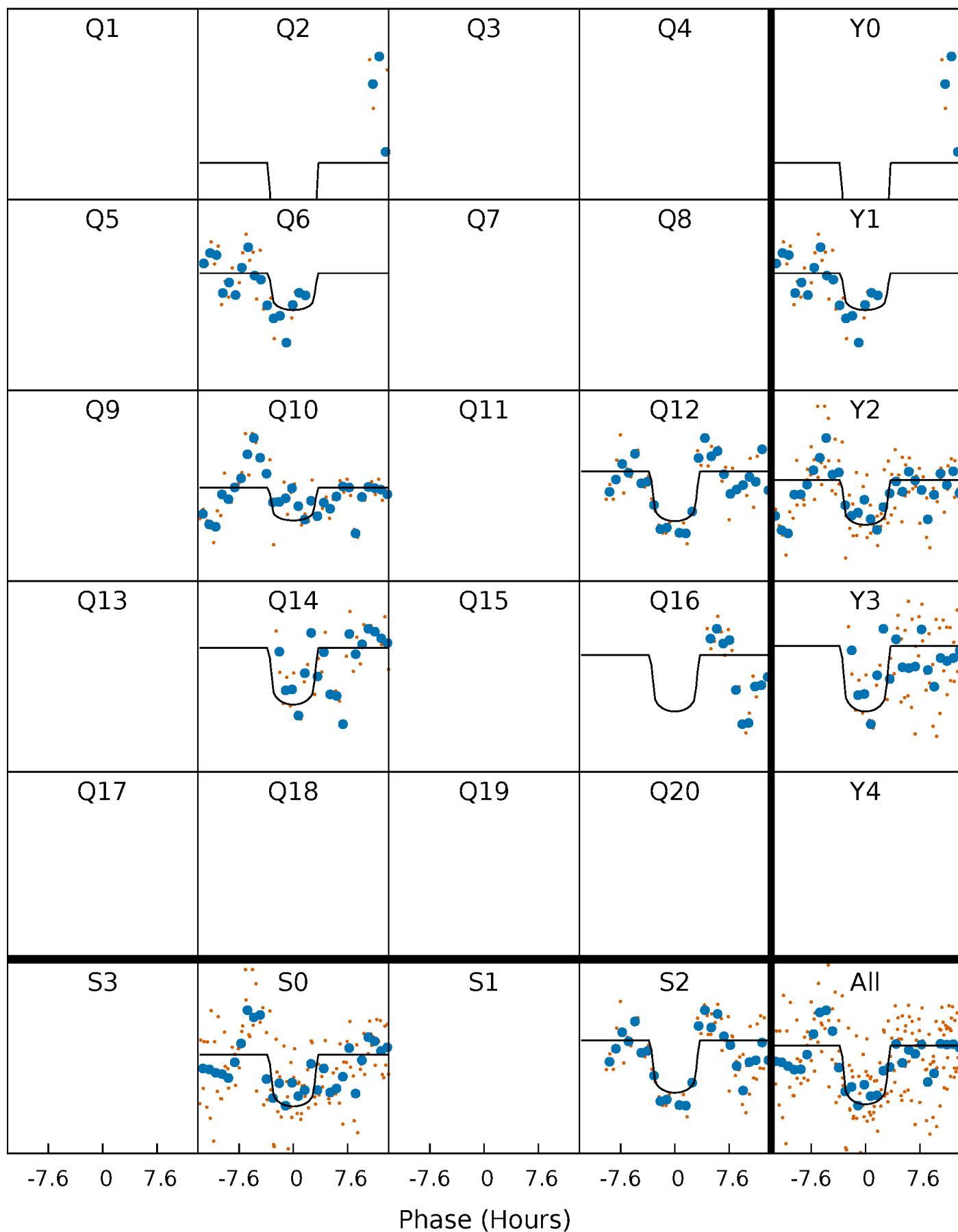
PDC Quarter-Phased Transit Curves

TCE 005566948-02 P=182.790979 Days $T_0=214.969686$ (BKJD)



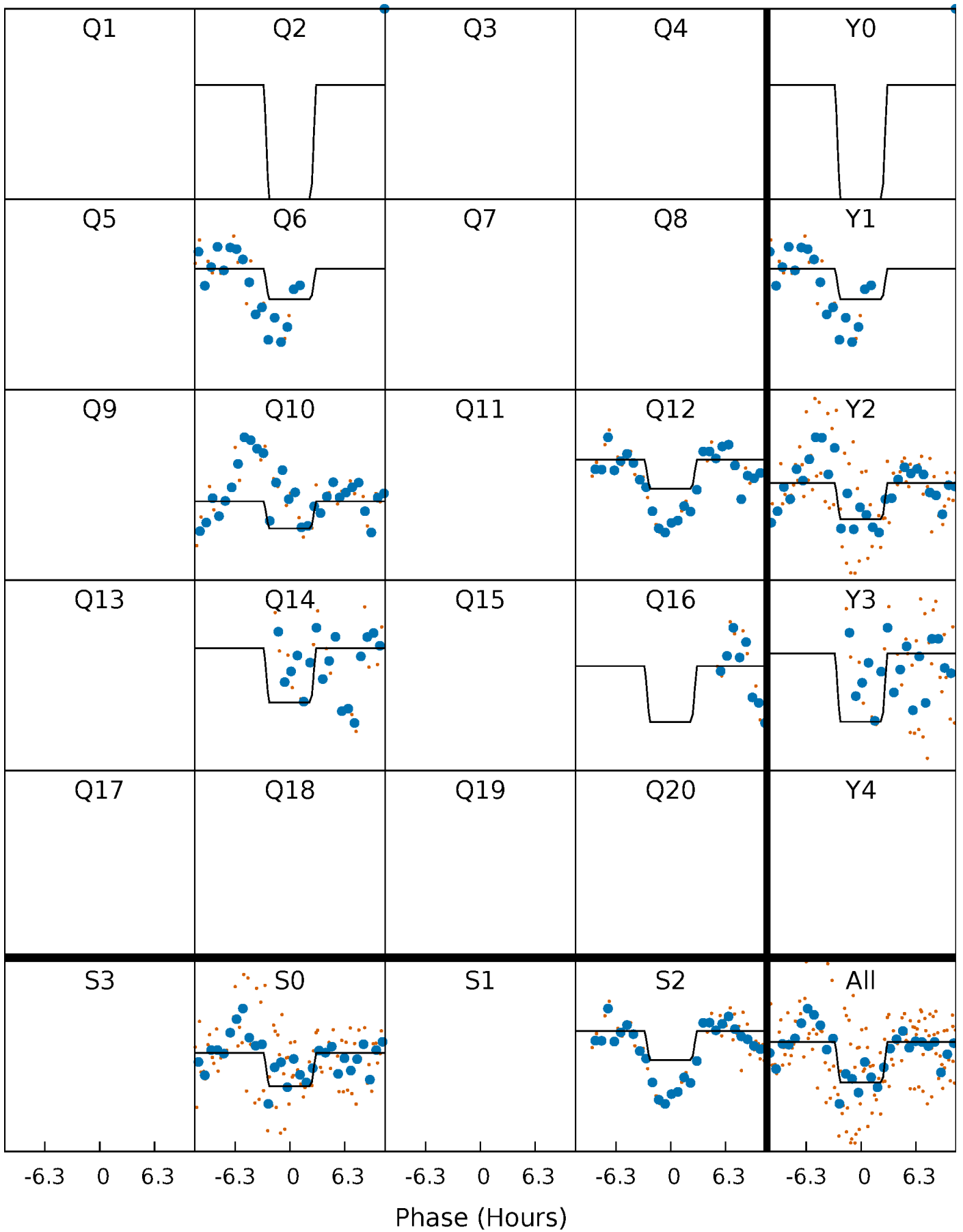
DV Quarter-Phased Transit Curves

TCE 005566948-02 P=182.790979 Days $T_0=214.969686$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

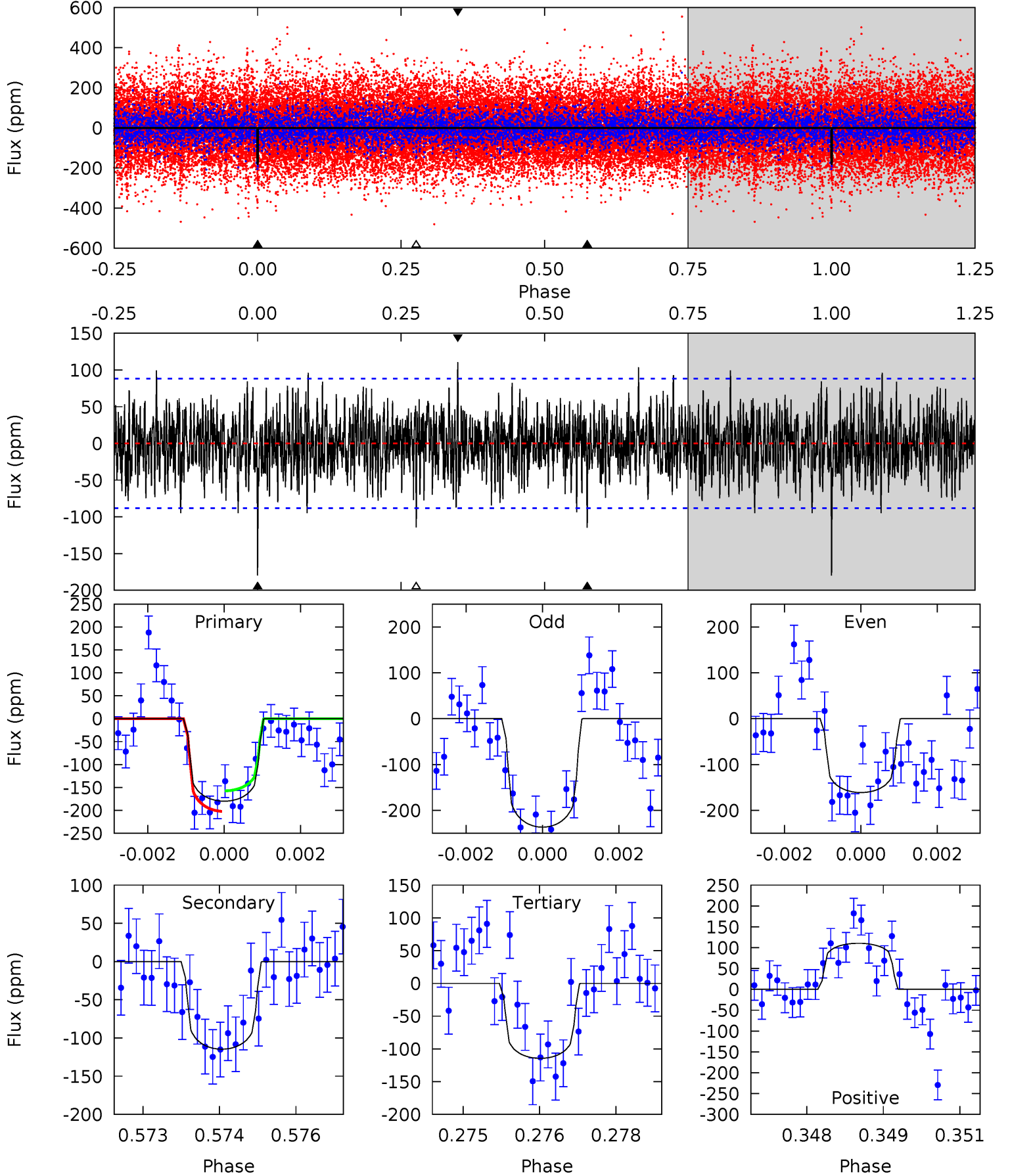
TCE 005566948-02 P=182.785005 Days $T_0=214.977302$ (BKJD)



DV Model-Shift Uniqueness Test

005566948-02, P = 182.790979 Days, E = 32.178707 Days

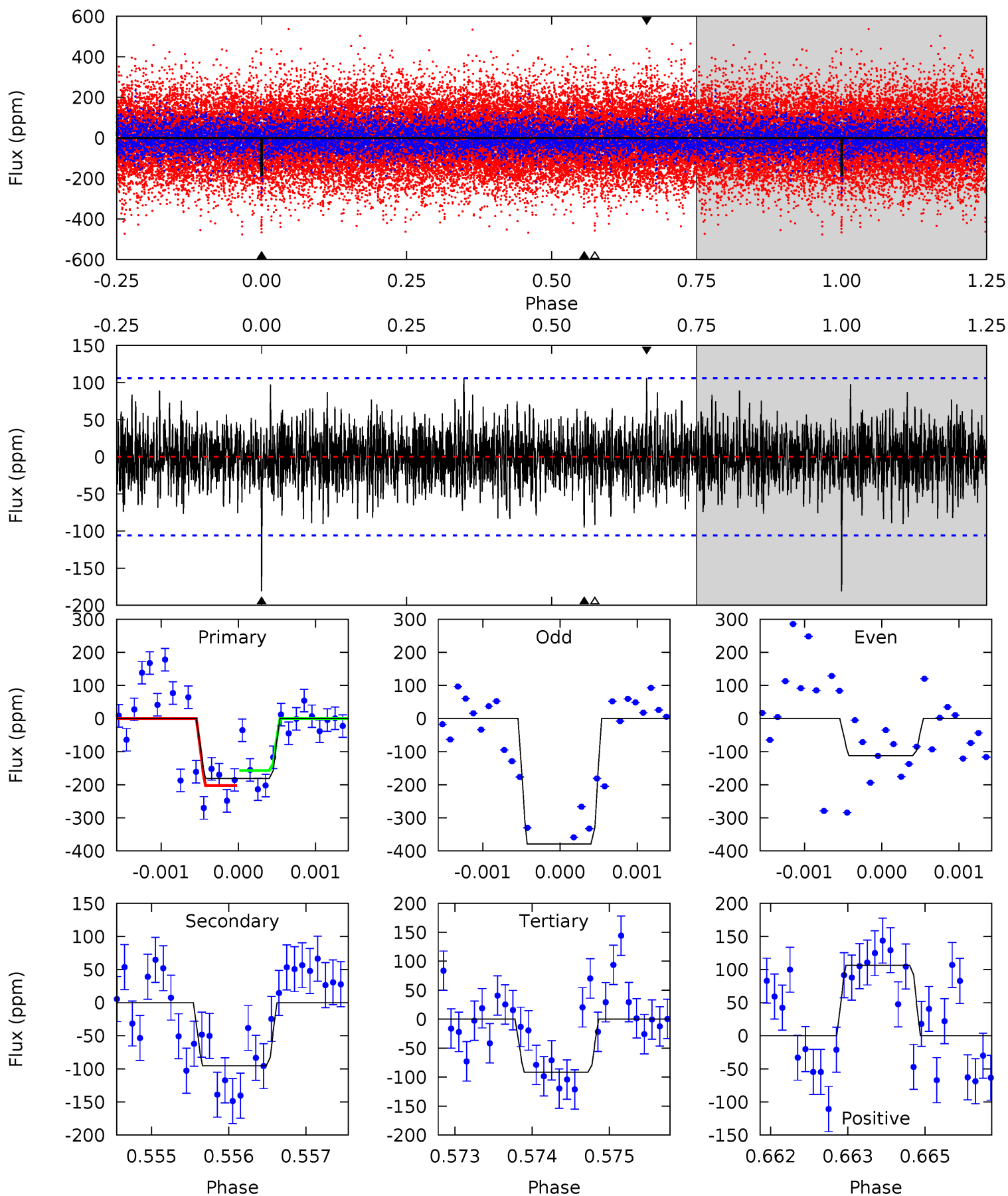
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	6.98	6.97	6.72	5.37	3.16	1.89	3.99	4.23	0.01	0.25	2.01	1.01	0.38	1.36



Alt Model-Shift Uniqueness Test

005566948-02, P = 182.785005 Days, E = 32.192297 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.25	4.87	4.68	5.43	5.41	3.22	1.42	4.57	3.82	0.19	-0.56	5.99	1.07	0.37	1.17



Stellar Parameters For KIC 005566948

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6677^{+160}_{-200}	$3.615^{+0.323}_{-0.057}$	$-0.140^{+0.300}_{-0.250}$	$3.337^{+0.401}_{-1.202}$	$1.676^{+0.213}_{-0.320}$	$0.064^{+0.134}_{-0.012}$
	+2%/-3%	+9%/-2%	+214%/-179%	+12%/-36%	+13%/-19%	+211%/-19%
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 005566948-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-115 ± 16	$5.03^{+3.07}_{-2.47}$	843^{+45}_{-71}	5551^{+2390}_{-872}	1345^{+4166}_{-794}
Alt.	-95 ± 20	$4.43^{+3.05}_{-2.35}$	850^{+42}_{-76}	5654^{+2982}_{-1077}	1486^{+5648}_{-975}

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

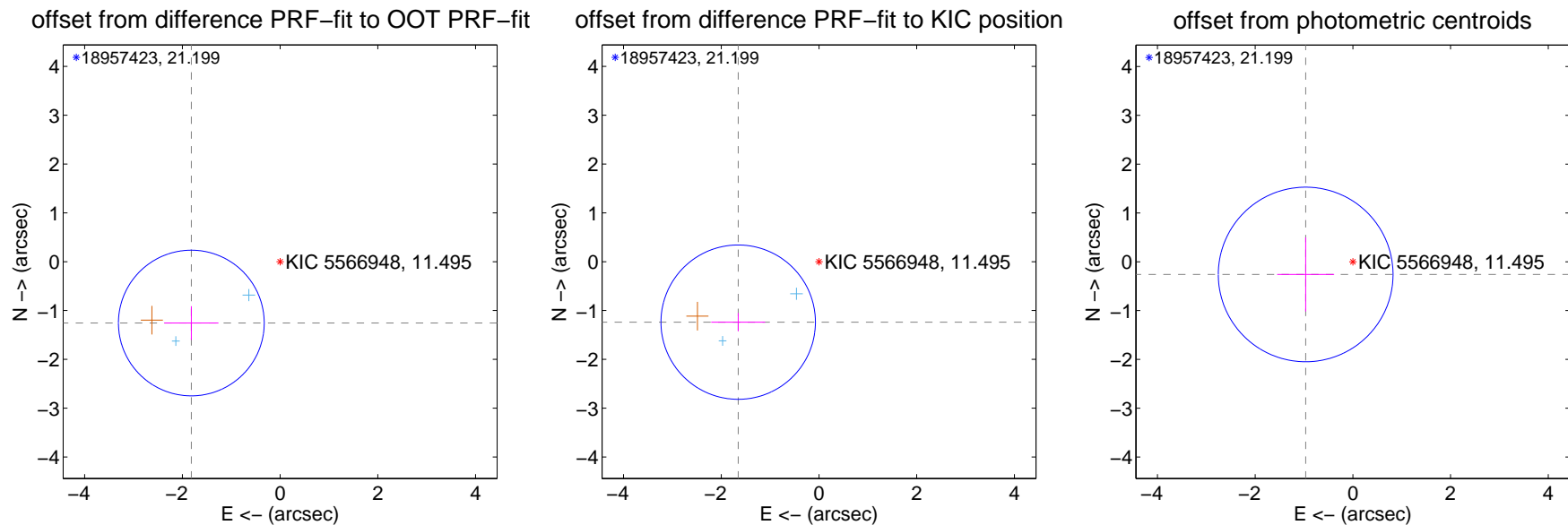
DV Centroid Data

Supplemental centroid analysis for 005566948-02. **Kepler magnitude: 11.49.** Transit SNR 7.18

There are 2 quarters with good PRF difference image offsets

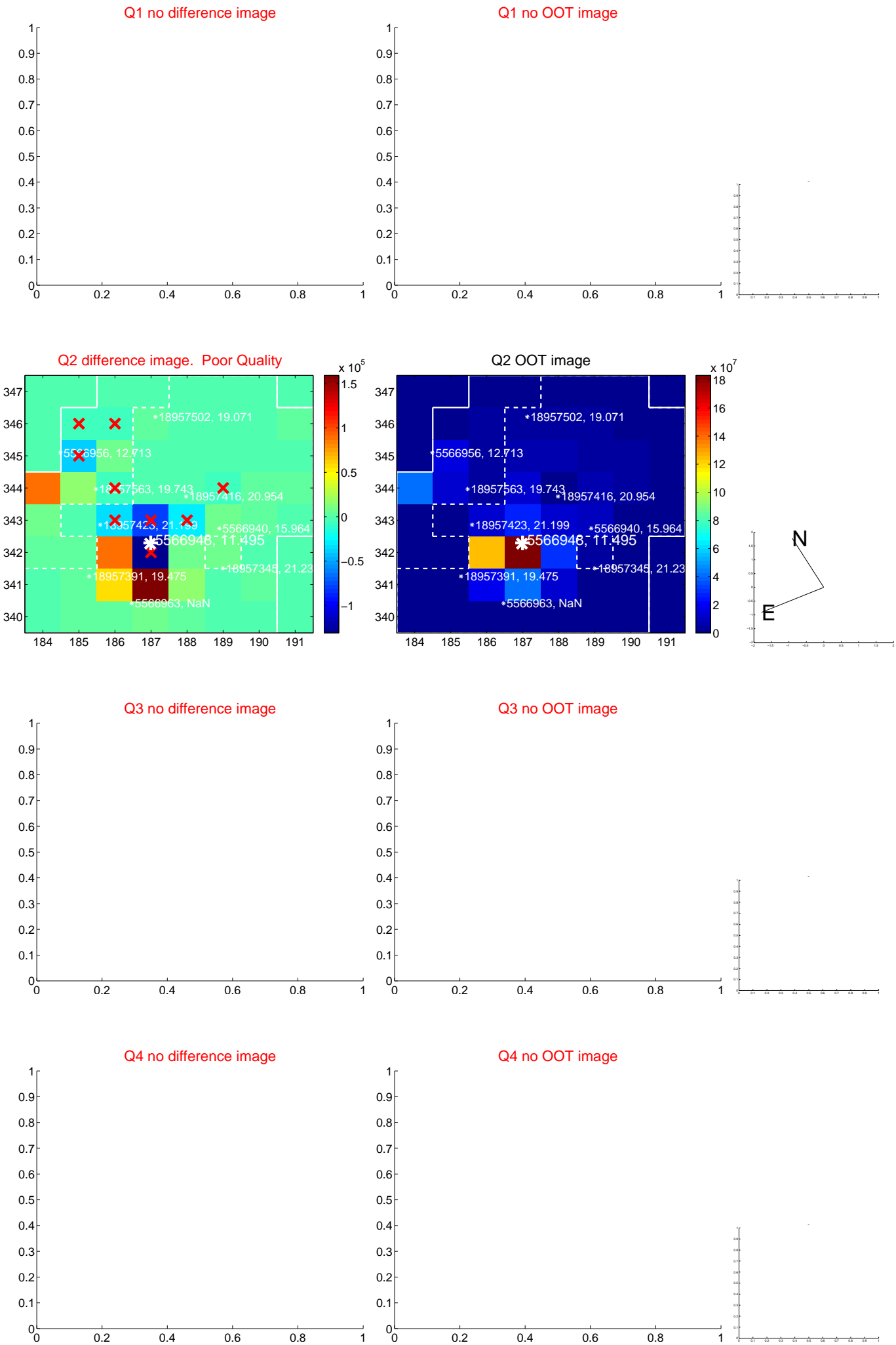
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.209 ± 0.497	4.44	1.817 ± 0.556	-1.256 ± 0.344
PRF-fit source offset from KIC position	2.066 ± 0.527	3.92	1.654 ± 0.551	-1.238 ± 0.185
photometric centroid source offset	1.00 ± 0.60	1.68	0.97 ± 0.58	-0.26 ± 0.76

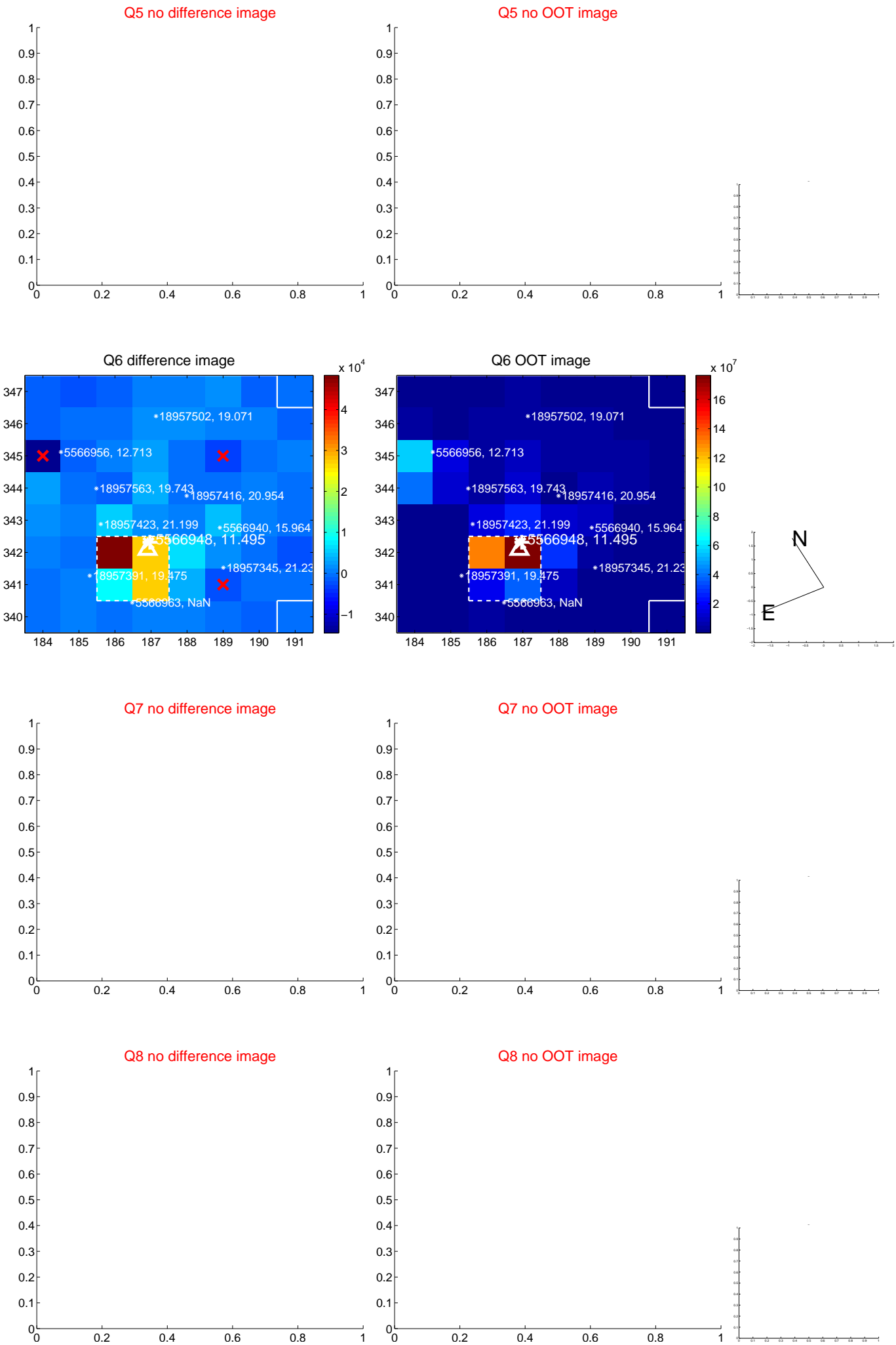


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

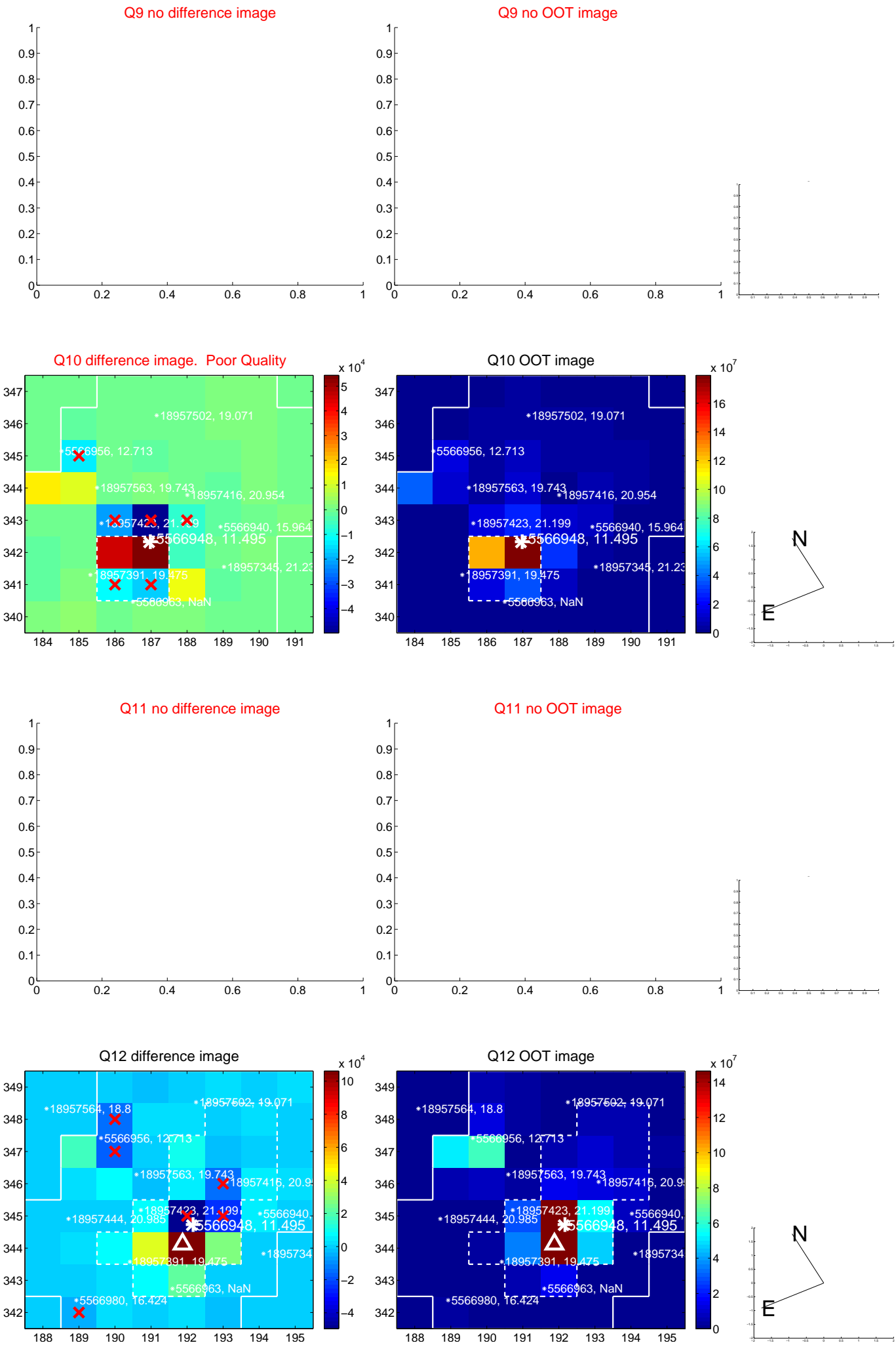
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



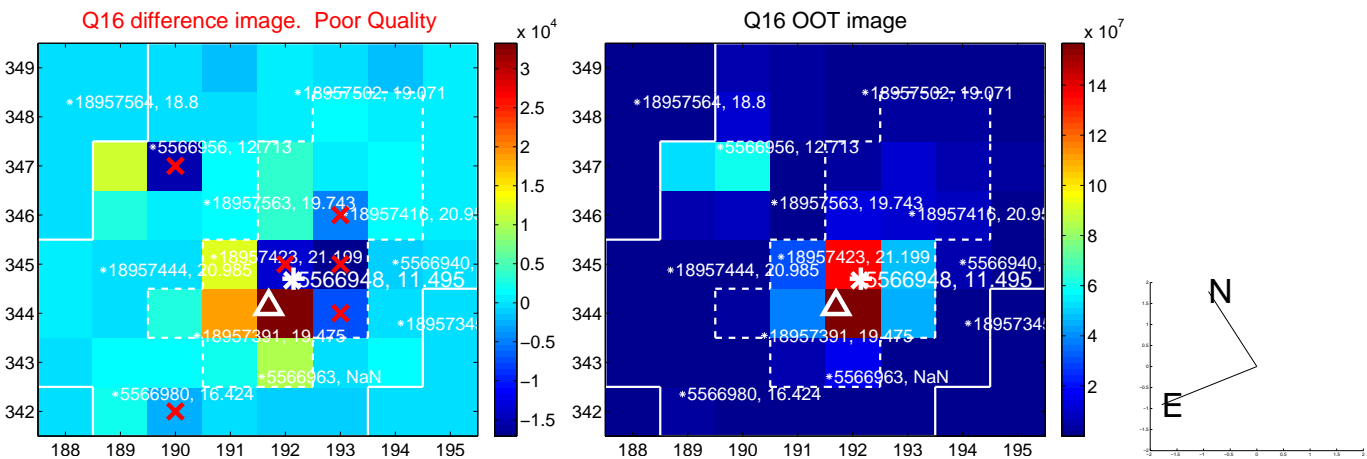
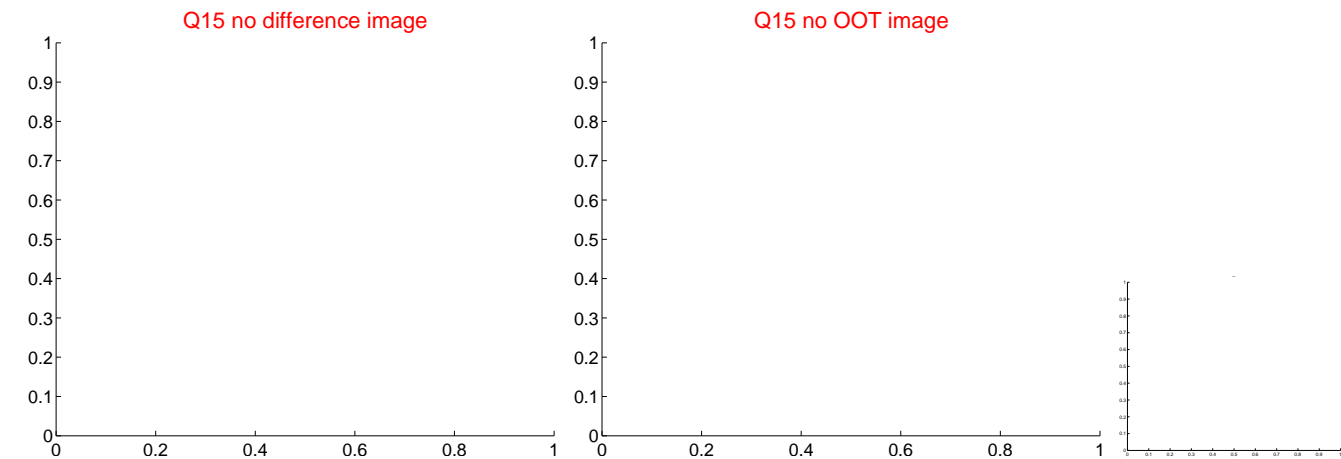
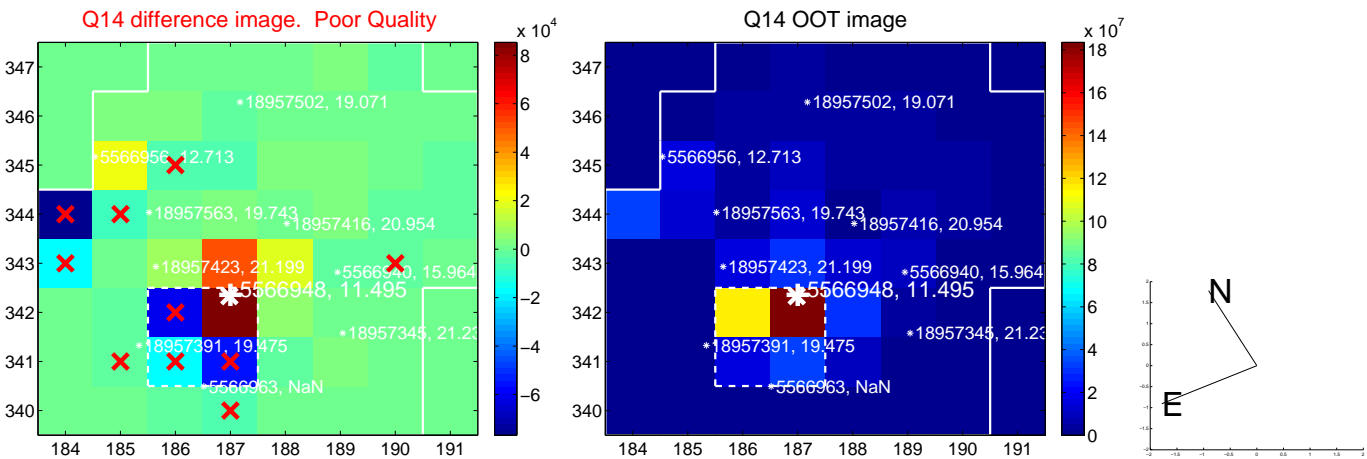
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



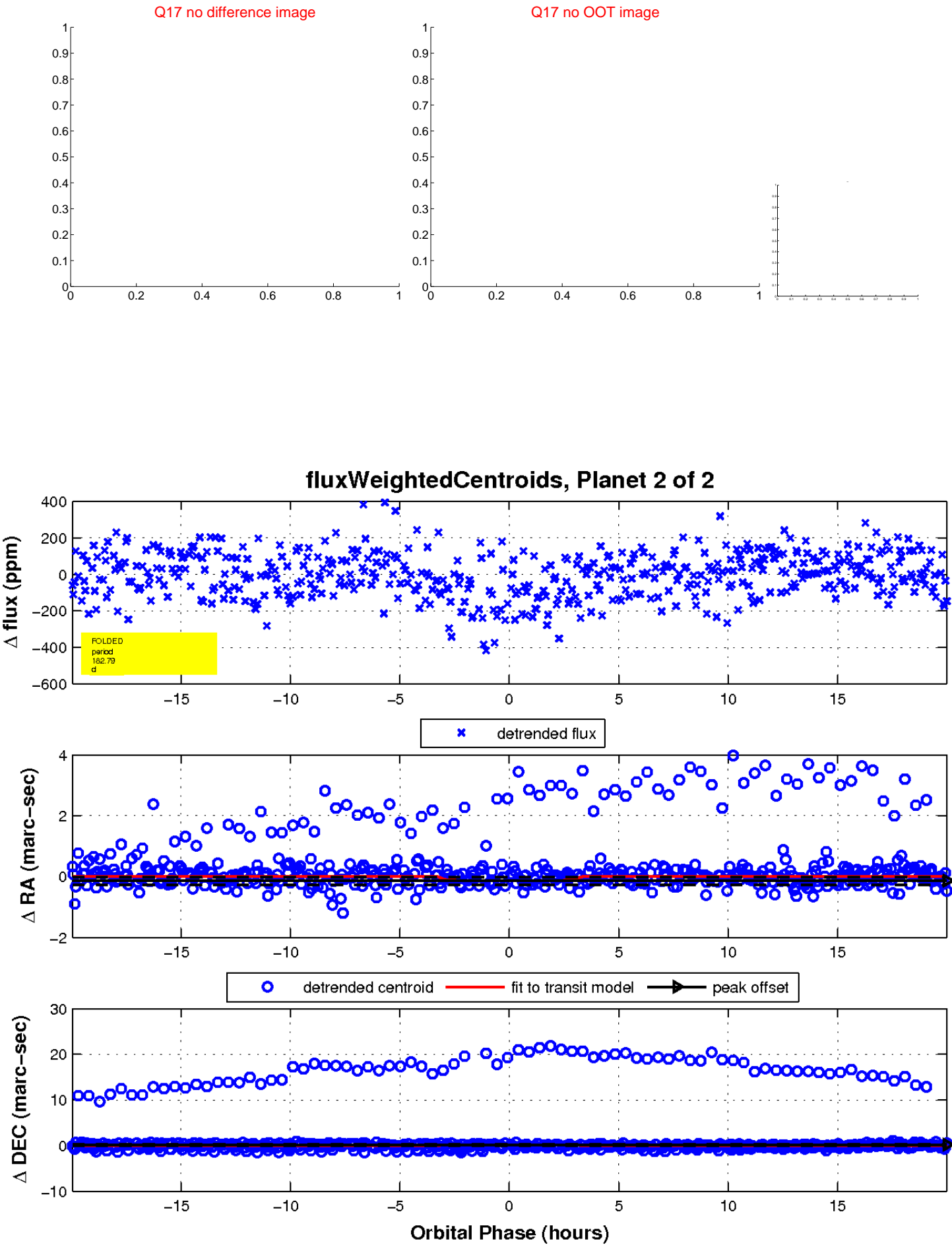
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

