

KIC 007198881

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})
007198881-01	OBS	No	0.566672	132.067244	10129.3	1.500	294.4	-1.0	1.16	6277	11.73	9036.81
007198881-02	OBS	No	0.566826	131.633842	200.5	5.283	71.0	62.3	1.16	6277	2.06	9033.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007198881-01	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS—EPHEM_MATCH
007198881-02	OBS	FP	0.00	1	0	1	1	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST—EPHEM_MATCH

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 007198881-01

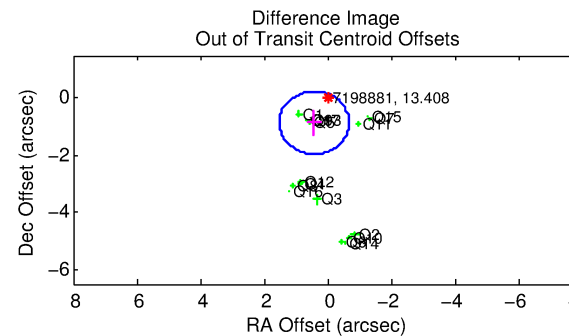
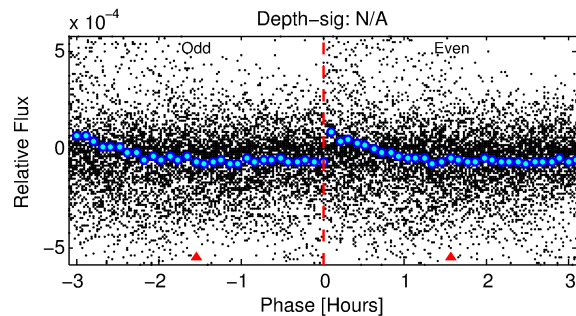
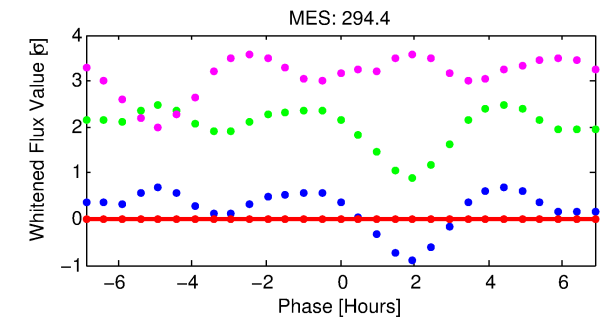
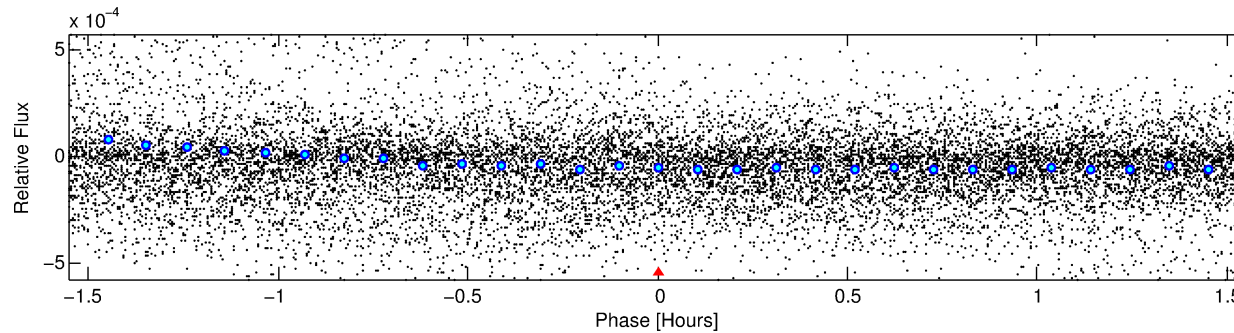
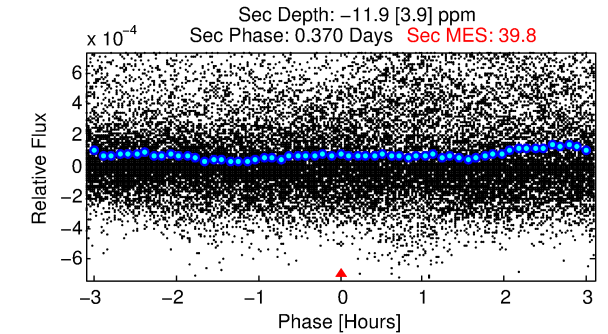
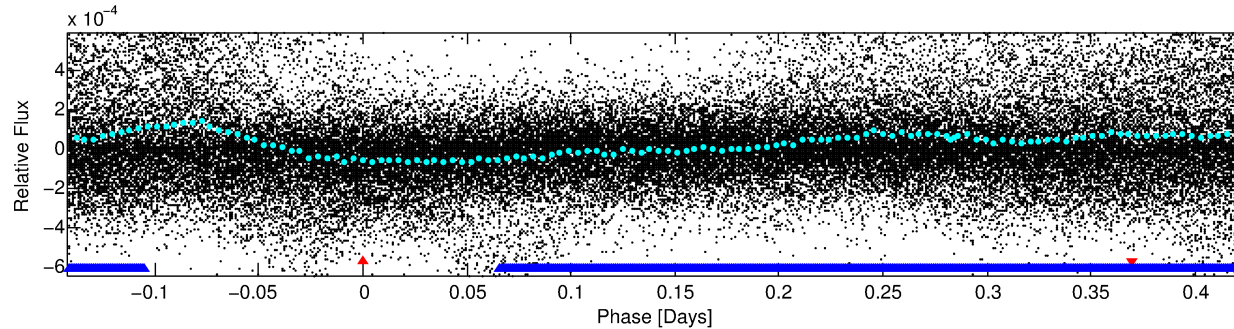
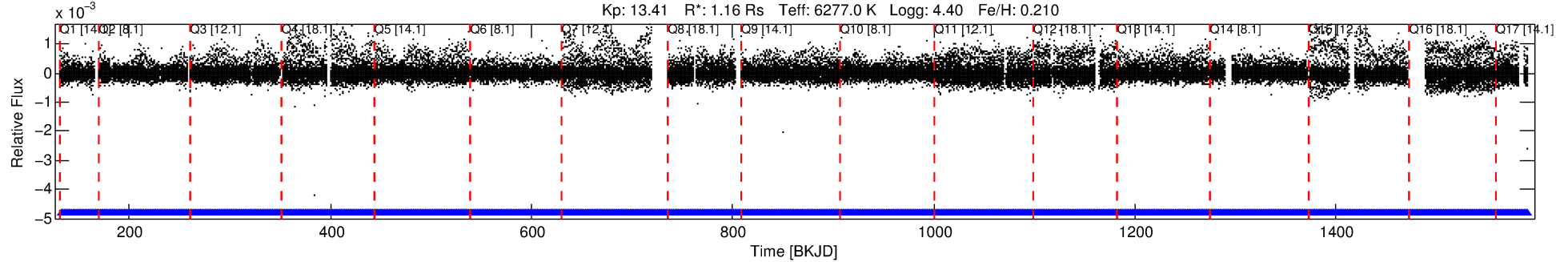
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007198881-01	7198881	RR-Lyr-pri	7198959	1:1	60.5	-15	-6	7.86	13.41	61.54	Direct-PRF	0	0.90	3.83

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7198881 Candidate: 1 of 2 Period: 0.567 d
KOI: K06158 Corr: No Ephemeris Match

Kp: 13.41 R*: 1.16 Rs Teff: 6277.0 K Logg: 4.40 Fe/H: 0.210



TPS TCE Results:

Period = 0.56667 d
Epoch = 132.0672 BKJD

DV fit results are unavailable

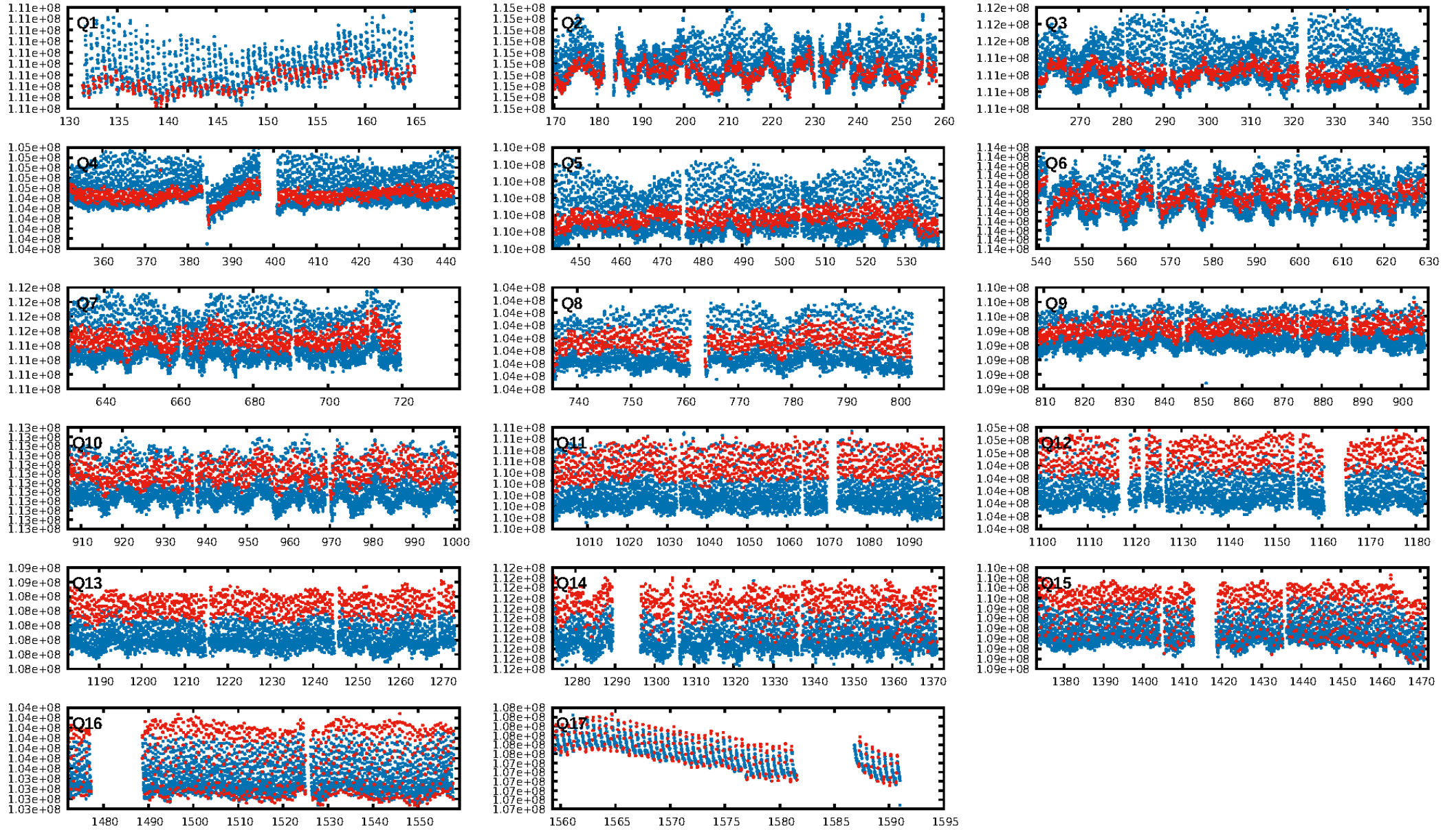
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2253/2253]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.949 arcsec [2.59σ]
KicOffset-rm: 0.969 arcsec [2.44σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

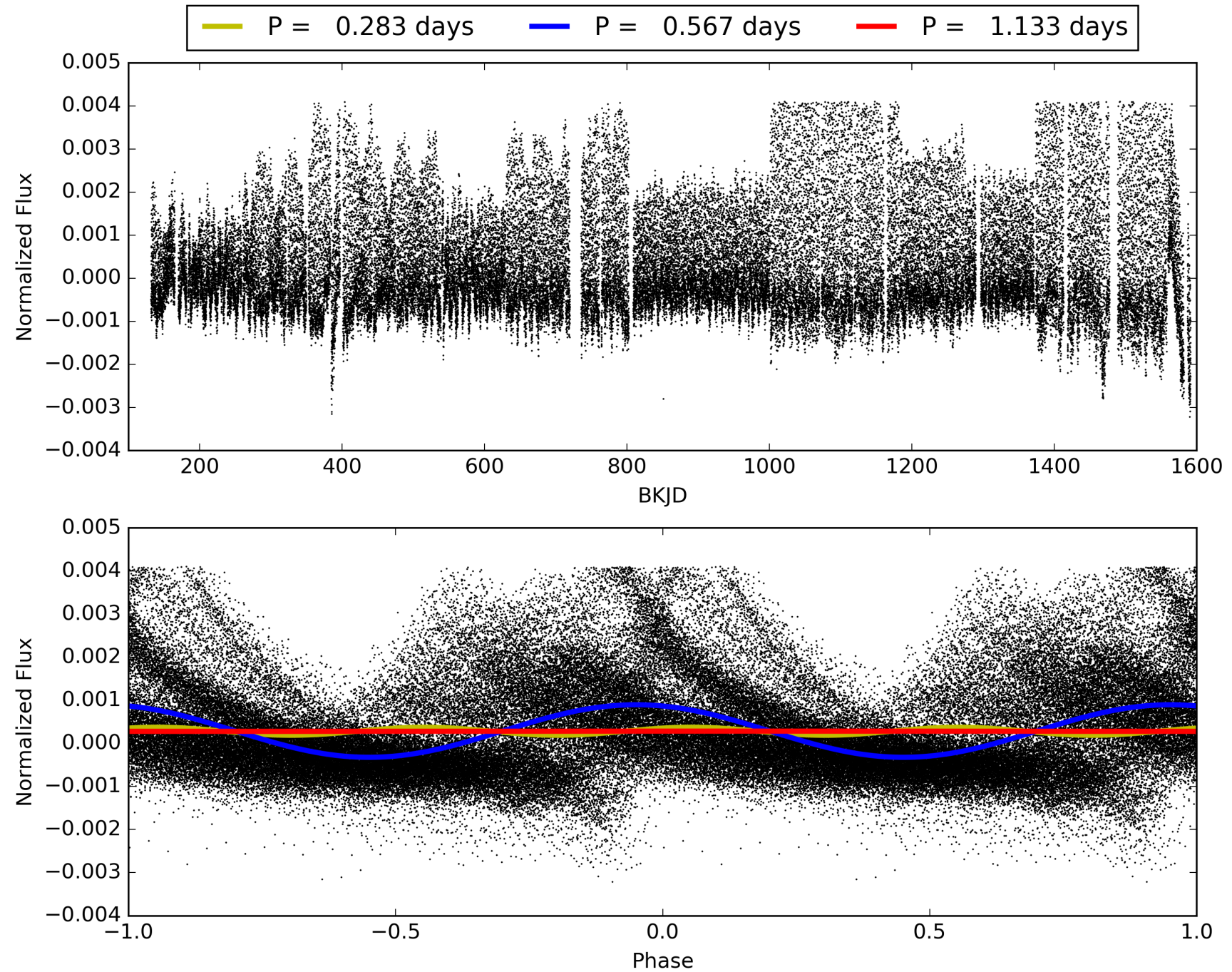
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:31:02 Z

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

TCE 007198881-01, PDC Light Curves

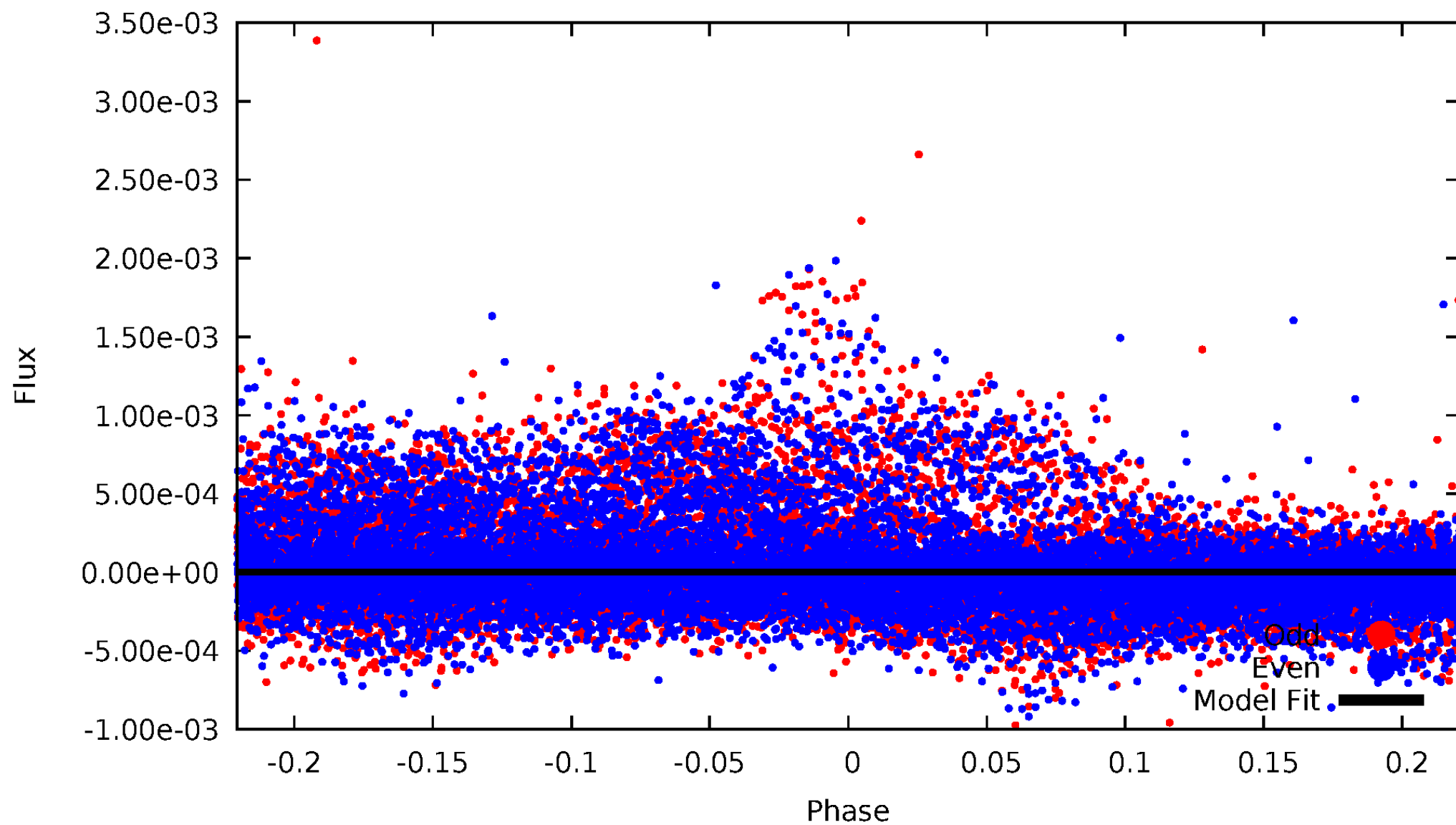


TCE 007198881-01



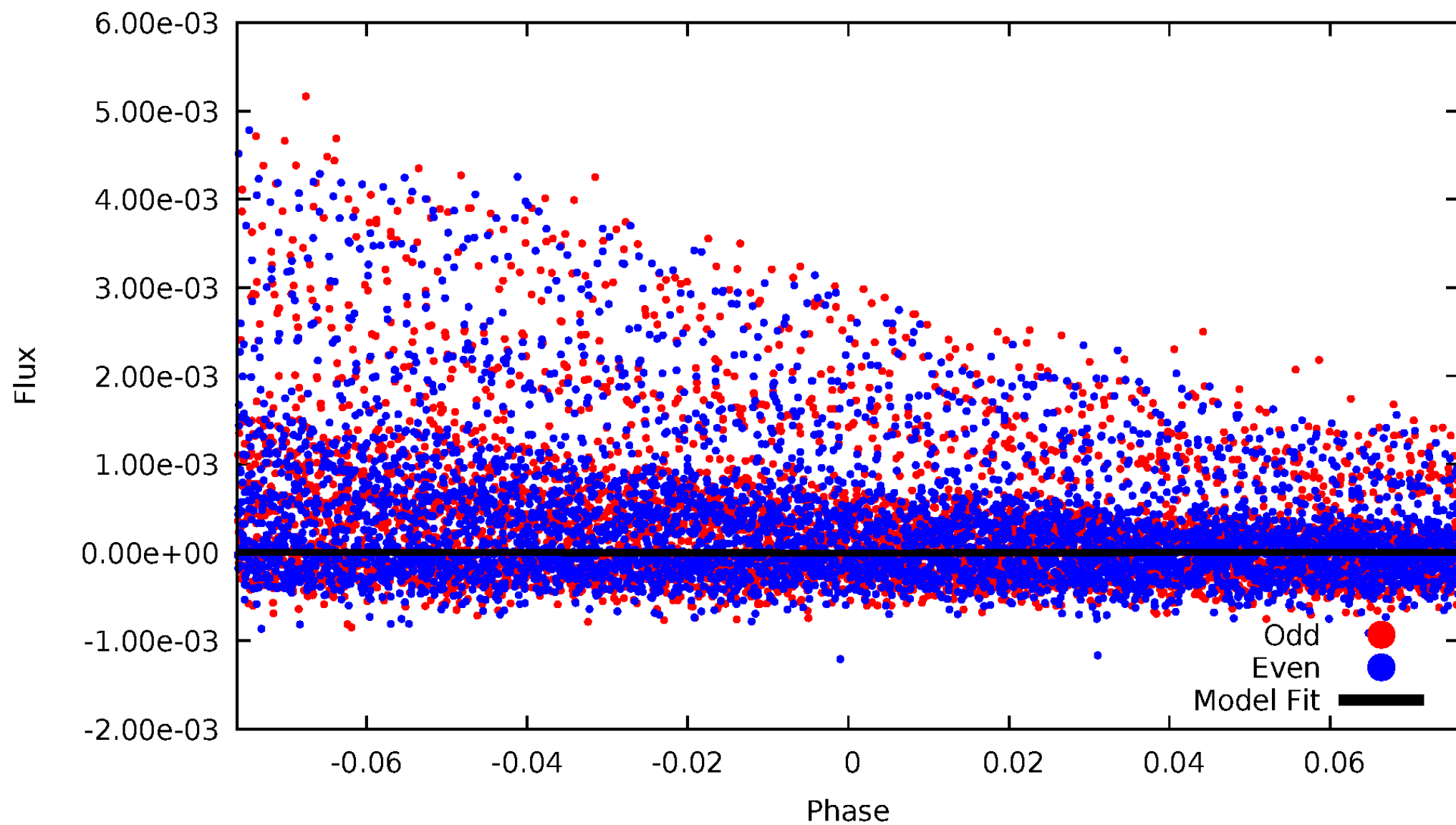
DV Odd/Even

TCE 007198881-01

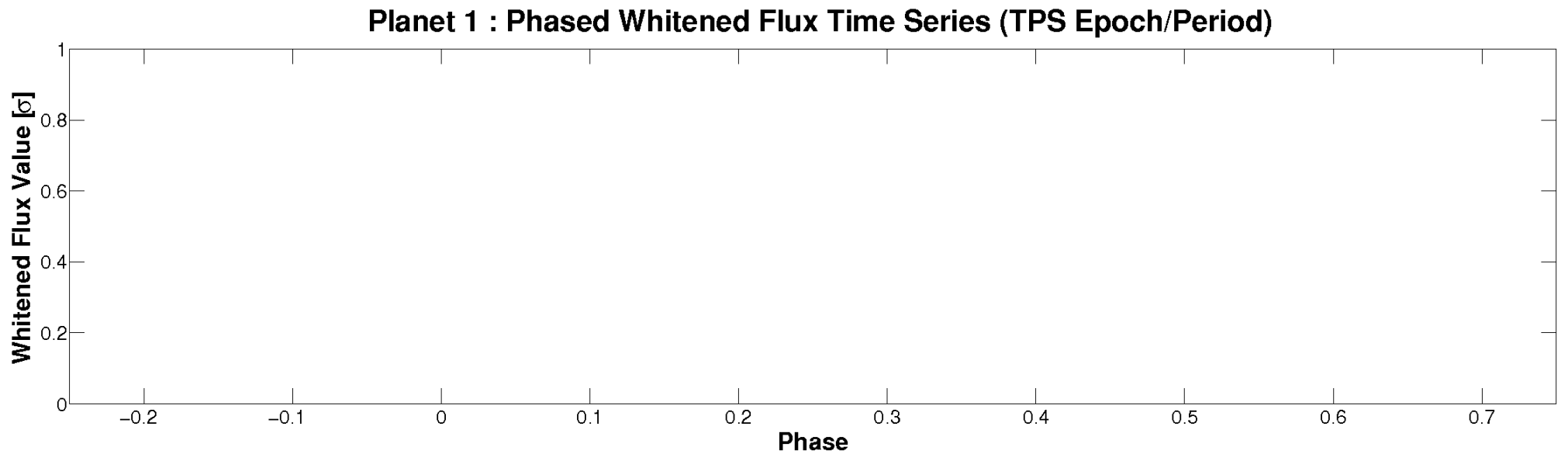
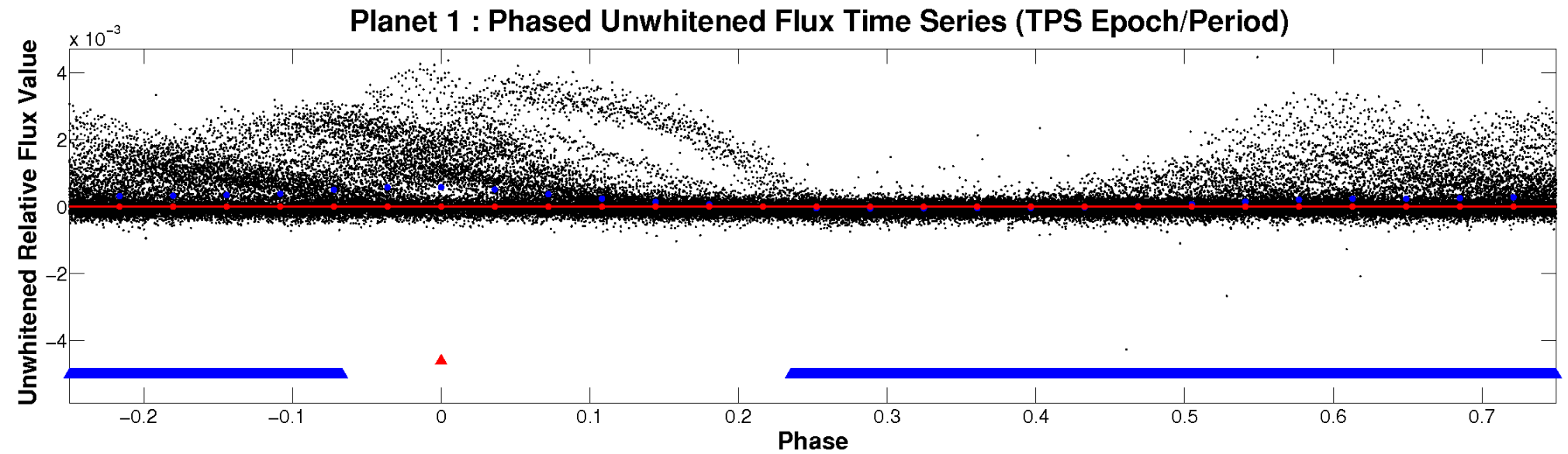


ALT Odd/Even

TCE 007198881-01

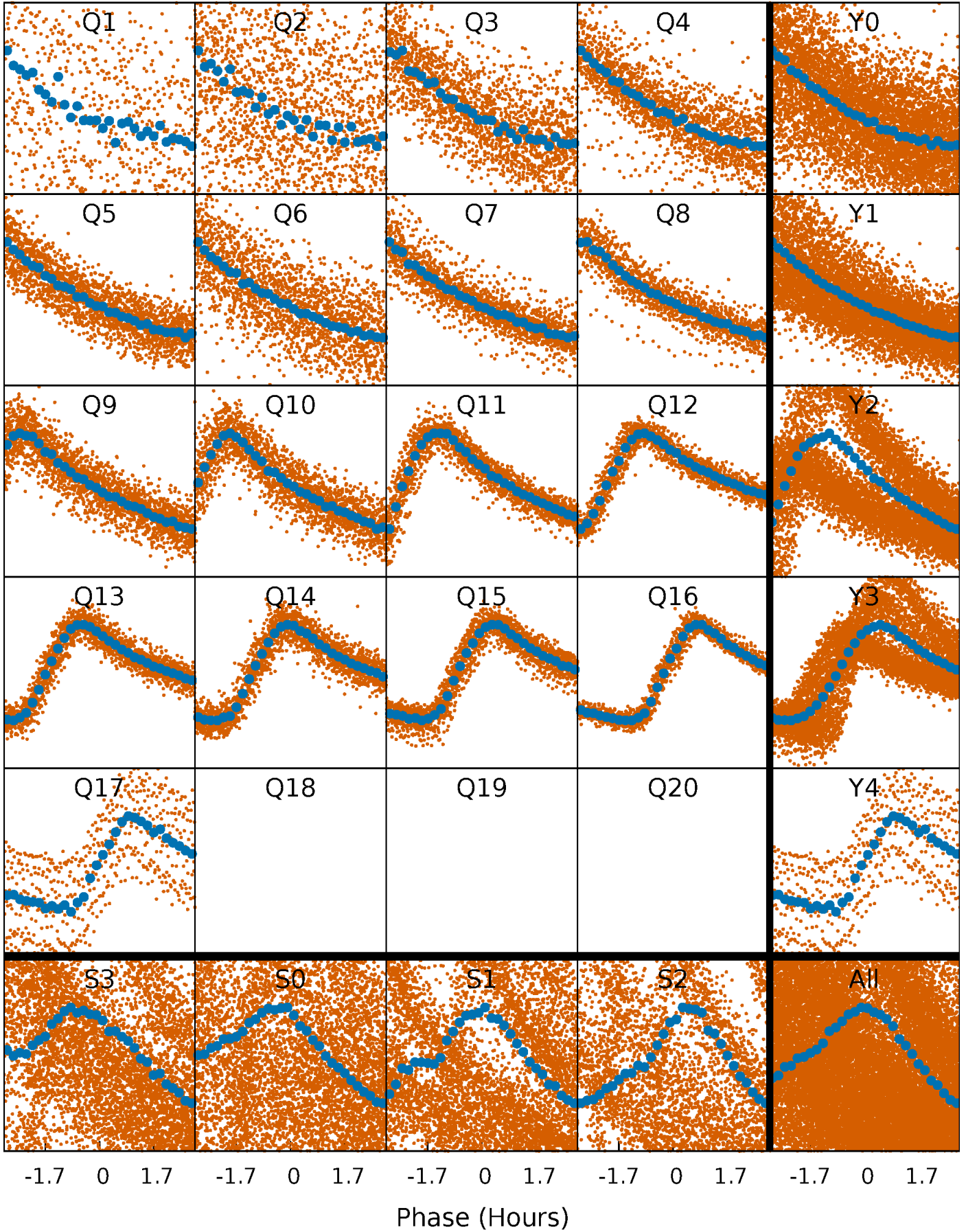


Non-Whitened Vs. Whitened Light Curve



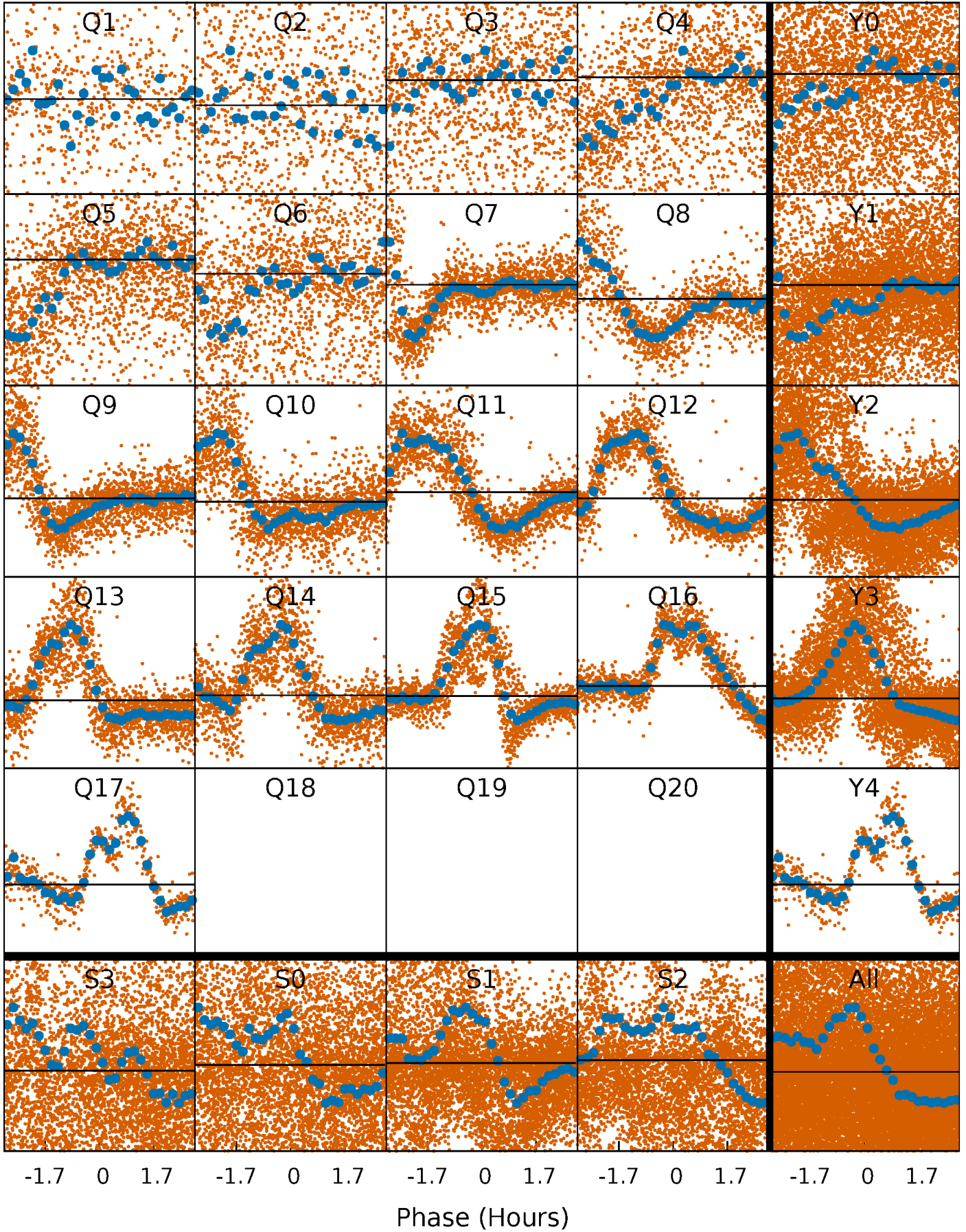
PDC Quarter-Phased Transit Curves

TCE 007198881-01 P= 0.566672 Days $T_0=132.067244$ (BKJD)



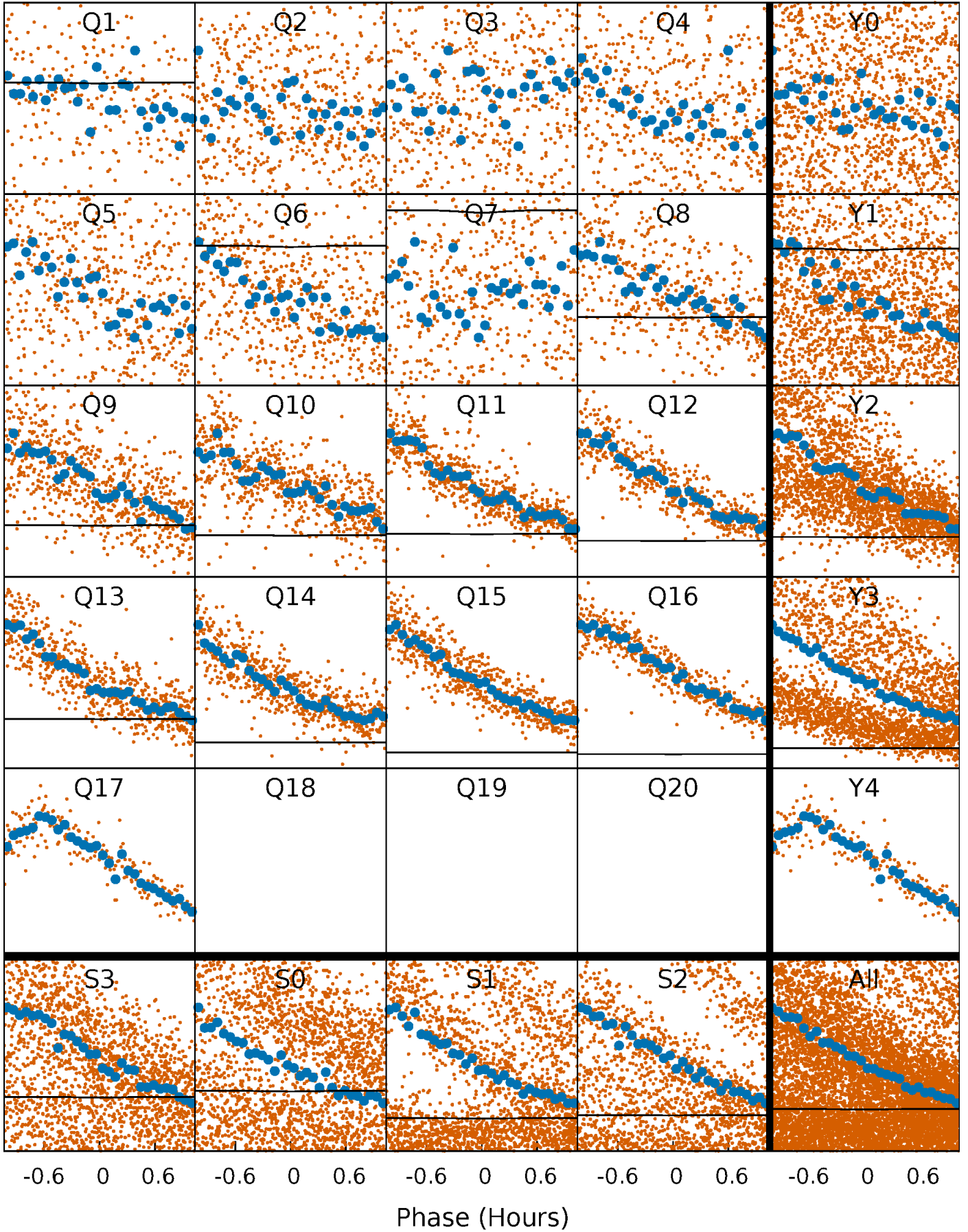
DV Quarter-Phased Transit Curves

TCE 007198881-01 P= 0.566672 Days $T_0=132.067244$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

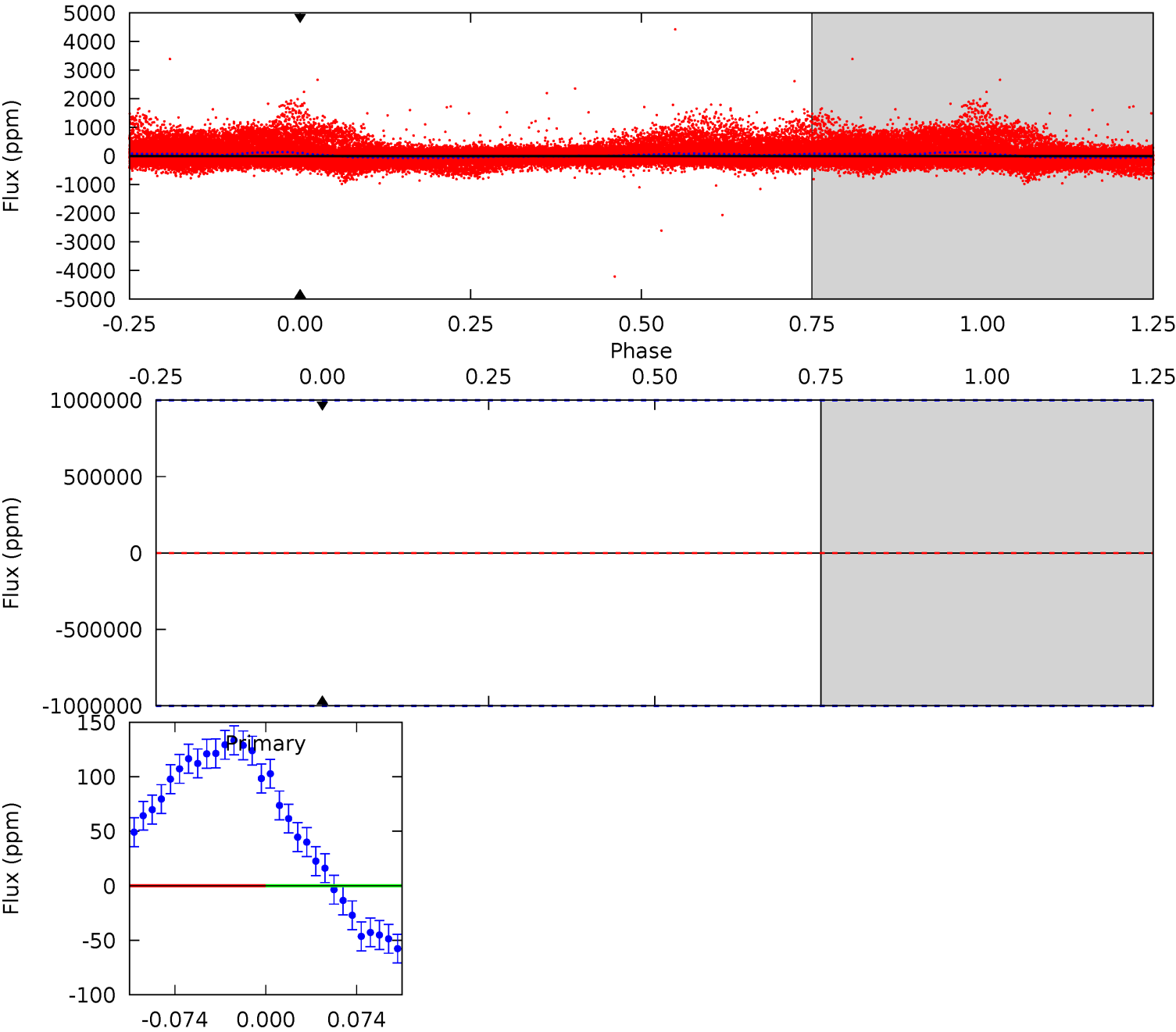
TCE 007198881-01 P= 0.566672 Days $T_0=132.134789$ (BKJD)



DV Model-Shift Uniqueness Test

007198881-01, P = 0.566672 Days, E = 131.500572 Days

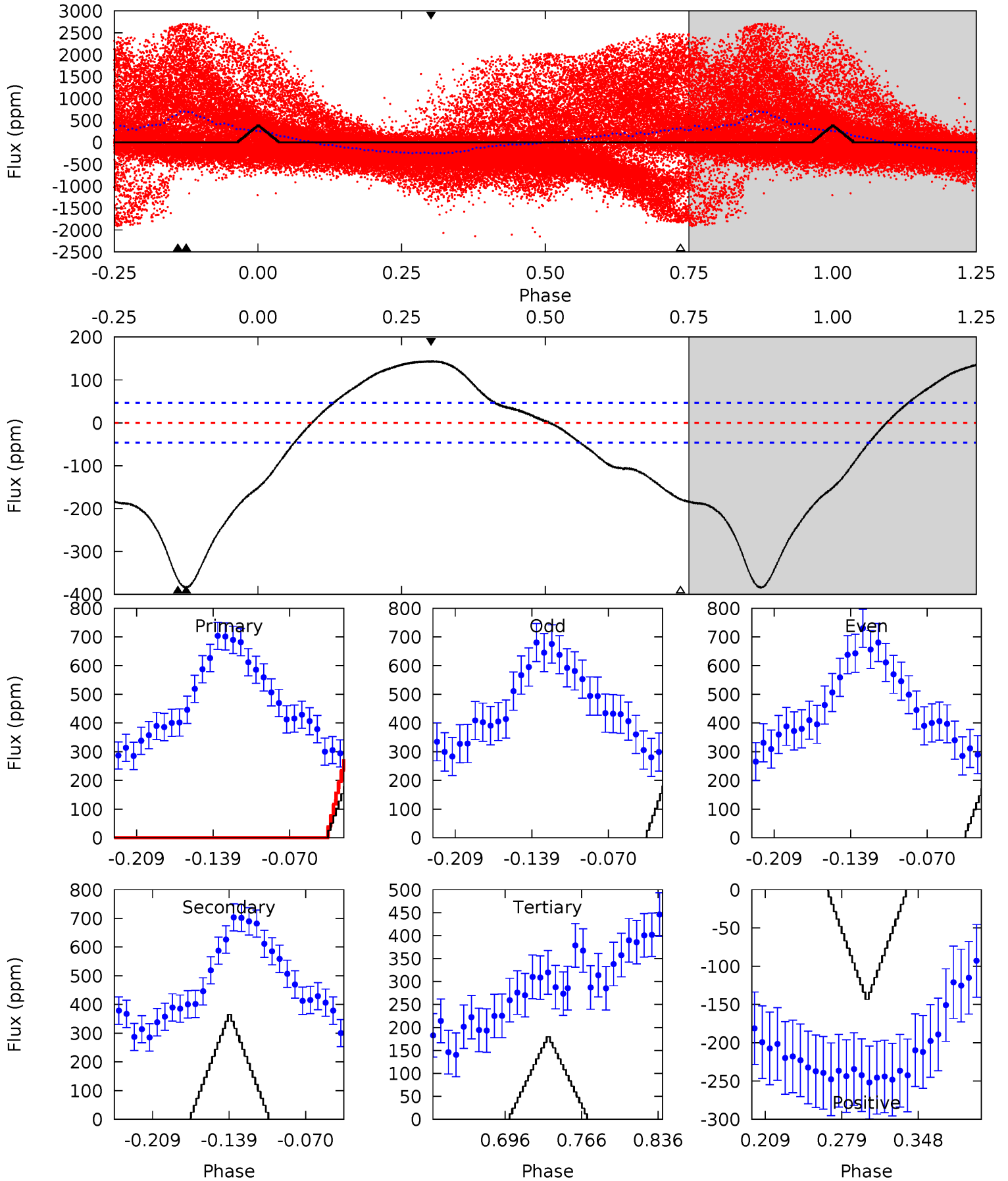
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007198881-01, P = 0.566672 Days, E = 131.001445 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.4	36.5	17.9	14.3	4.64	1.81	11.1	20.5	24.1	18.6	22.2	1.00	2.16	0.27	16.5



Stellar Parameters For KIC 007198881

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6277^{+170}_{-208}	$4.402^{+0.054}_{-0.216}$	$0.210^{+0.200}_{-0.300}$	$1.161^{+0.400}_{-0.107}$	$1.239^{+0.151}_{-0.168}$	$1.116^{+0.316}_{-0.584}$
	+3%/-3%	+1%/-5%	+95%/-143%	+34%/-9%	+12%/-14%	+28%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007198881-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$15.52^{+13.04}_{-10.25}$	3550^{+265}_{-173}	-3675^{+20570}_{-11191}	$-0.197^{+94.559}_{-68.064}$
Alt.	-365 ± 10	$9.35^{+9.95}_{-6.31}$	3542^{+259}_{-175}	3119^{+2508}_{-6311}	$0.465^{+3.860}_{-0.355}$

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

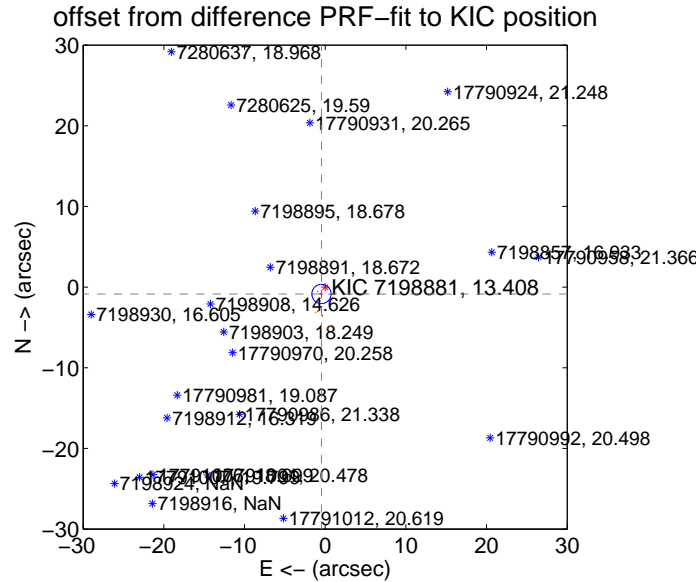
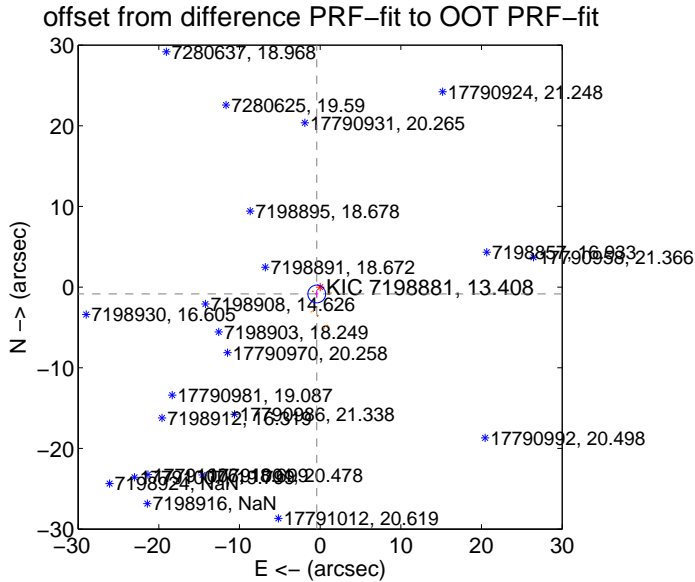
DV Centroid Data

Supplemental centroid analysis for 007198881-01. Kepler magnitude: 13.41. Transit SNR -1.00

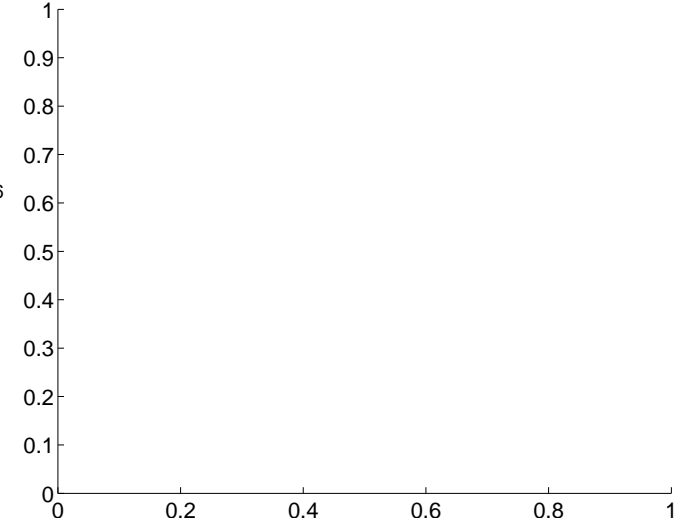
There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.949 ± 0.367	2.59	0.420 ± 0.207	-0.851 ± 0.416
PRF-fit source offset from KIC position	0.969 ± 0.397	2.44	0.460 ± 0.208	-0.852 ± 0.443
photometric centroid source offset	—	—	—	—

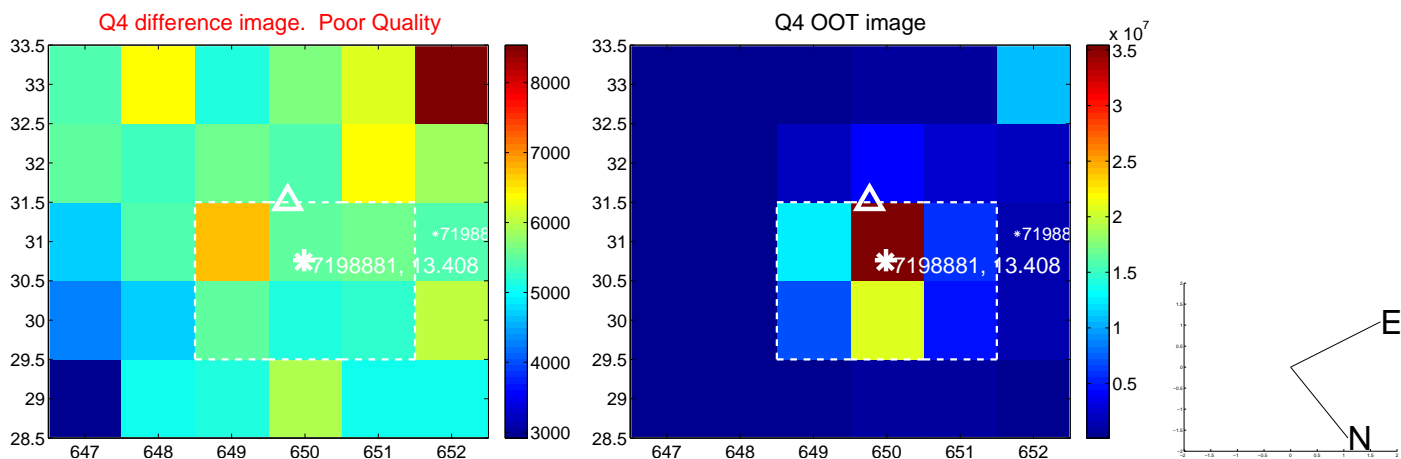
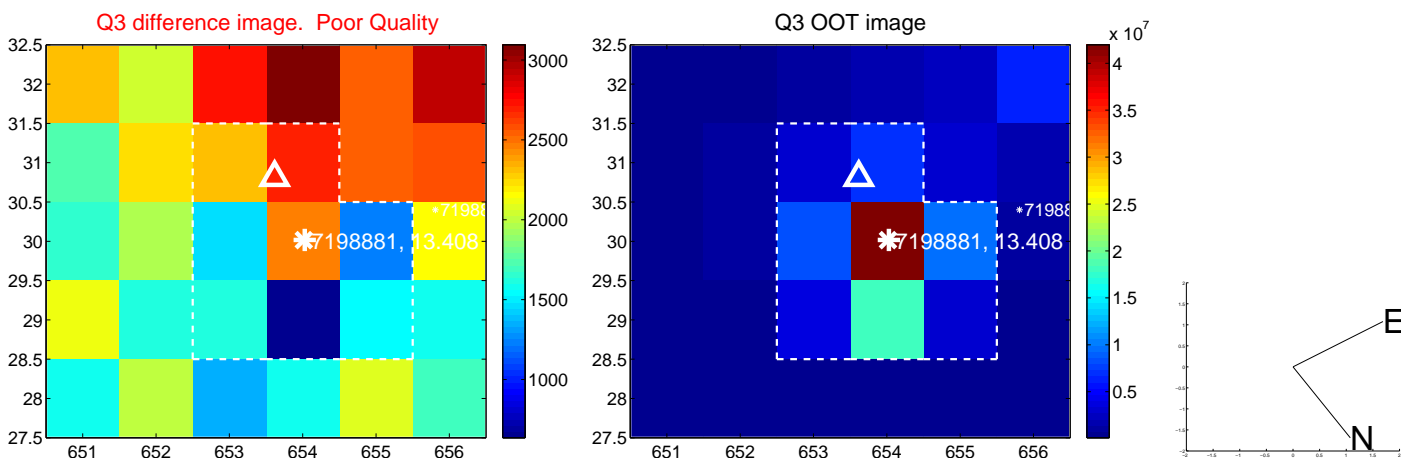
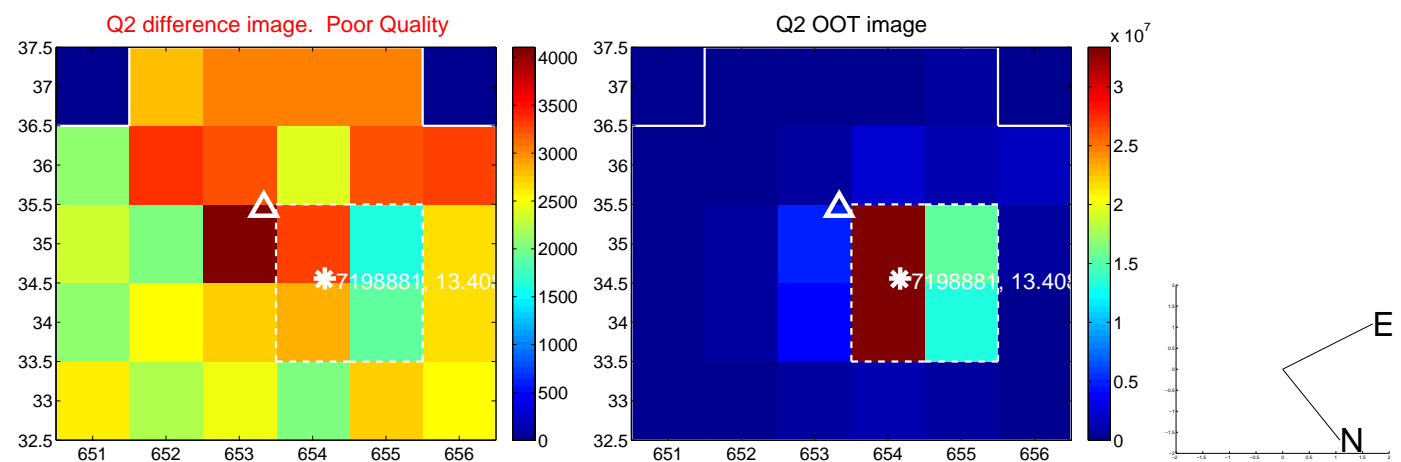
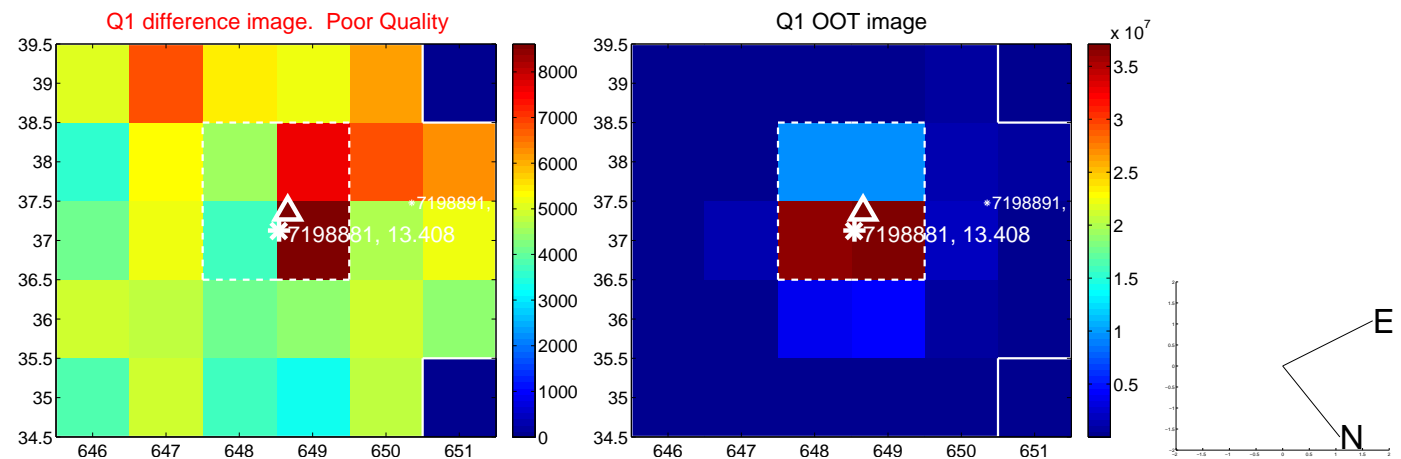


There are no photometric centroids

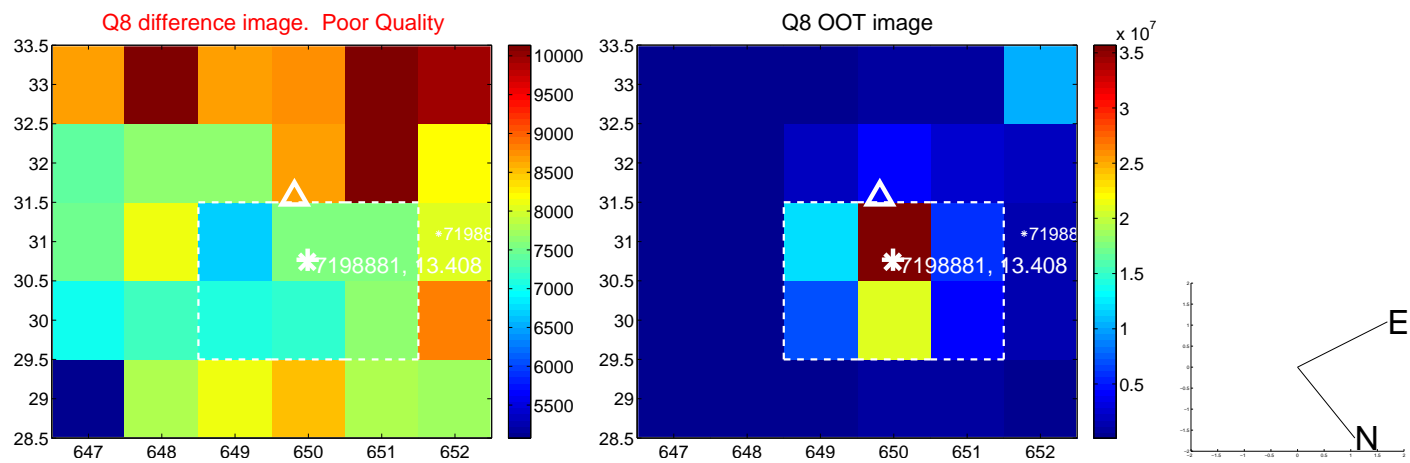
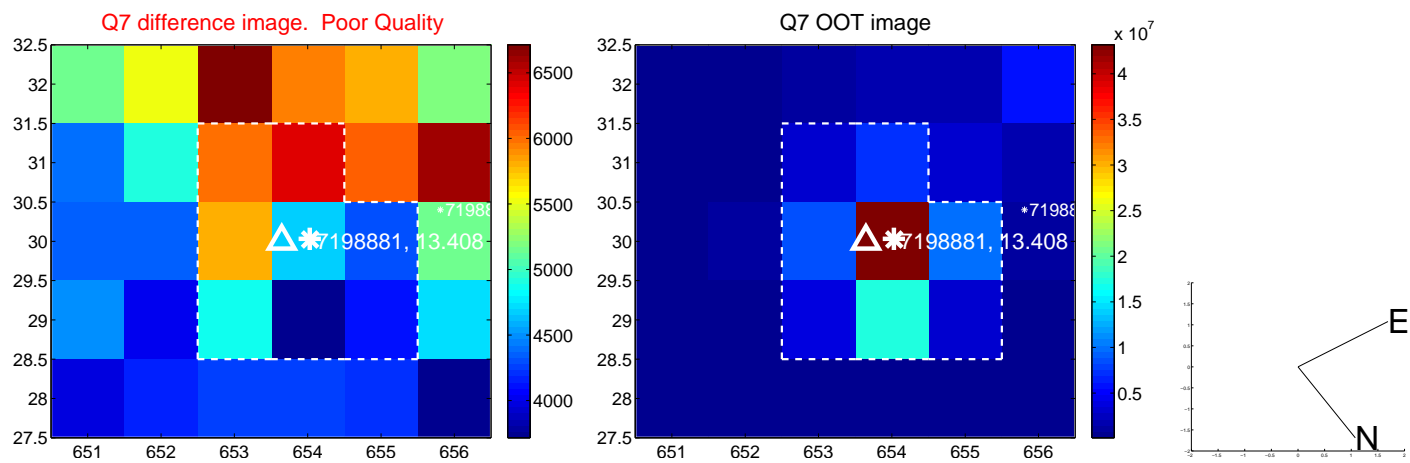
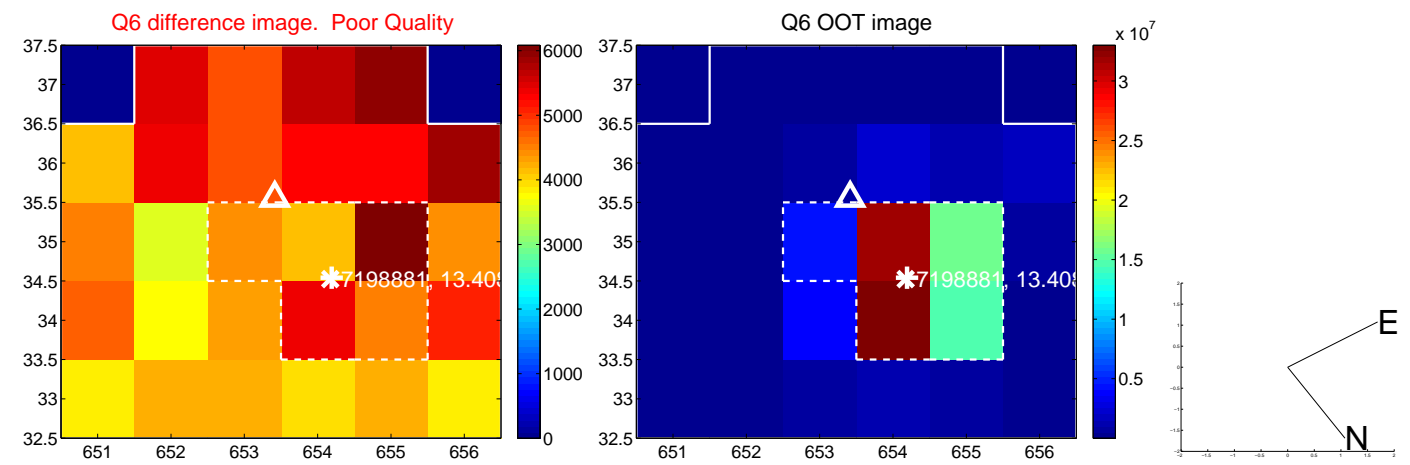
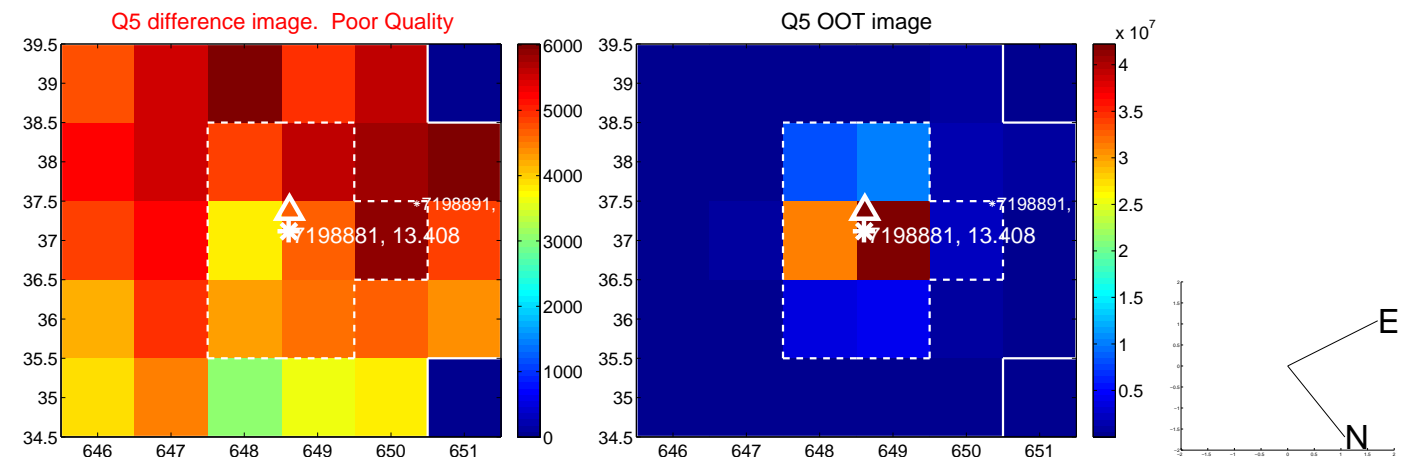


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

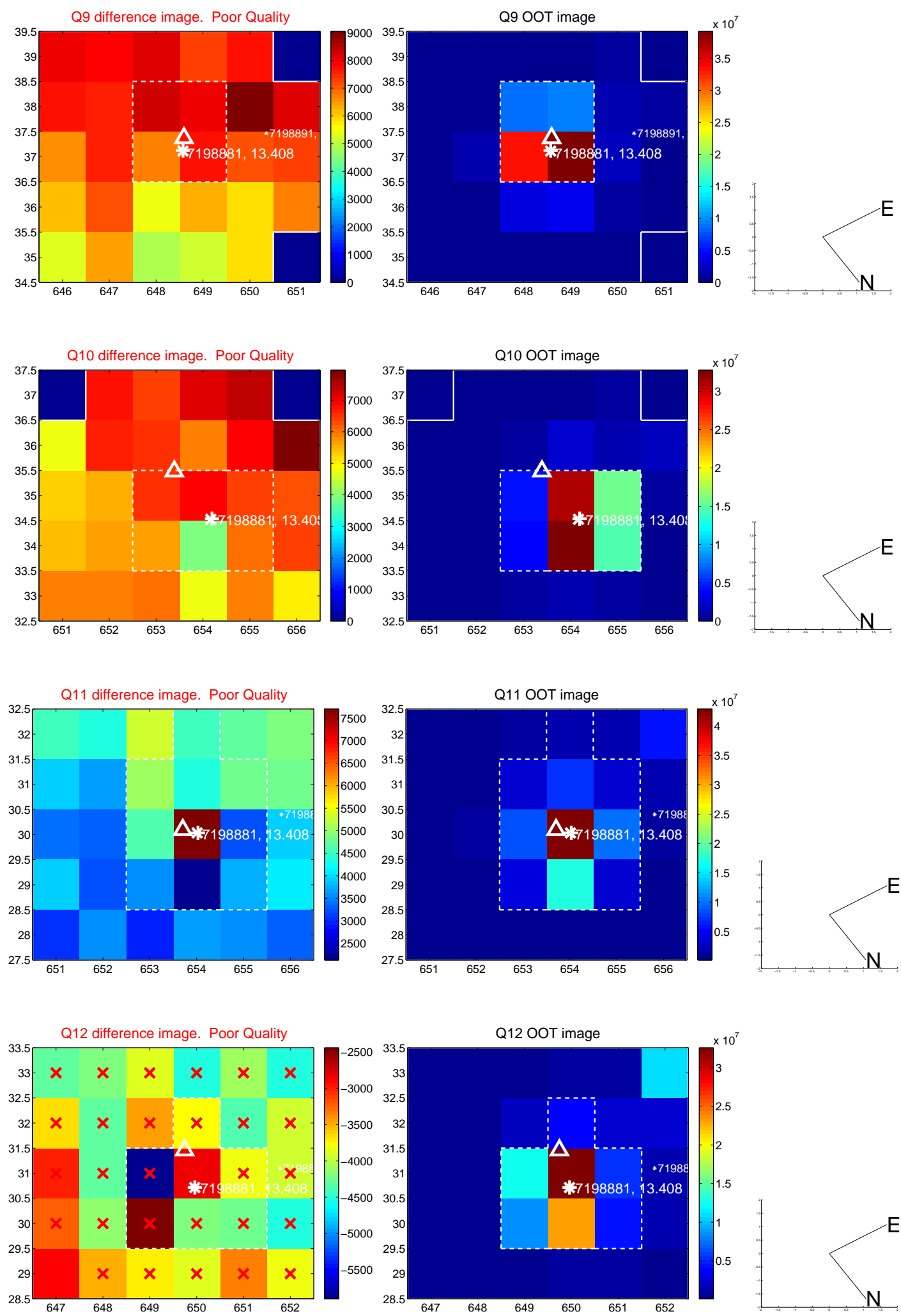
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



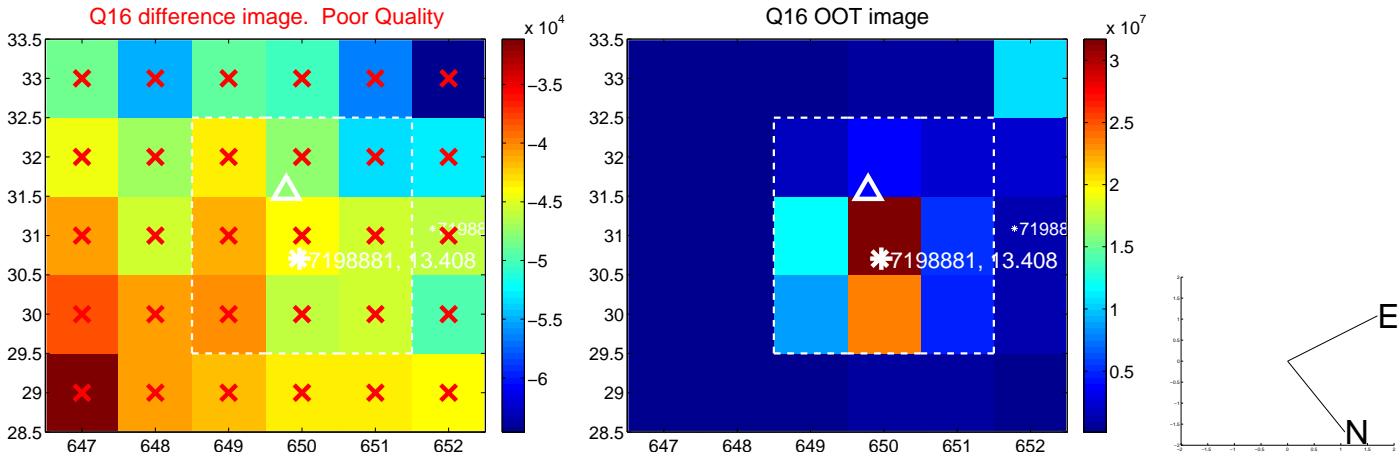
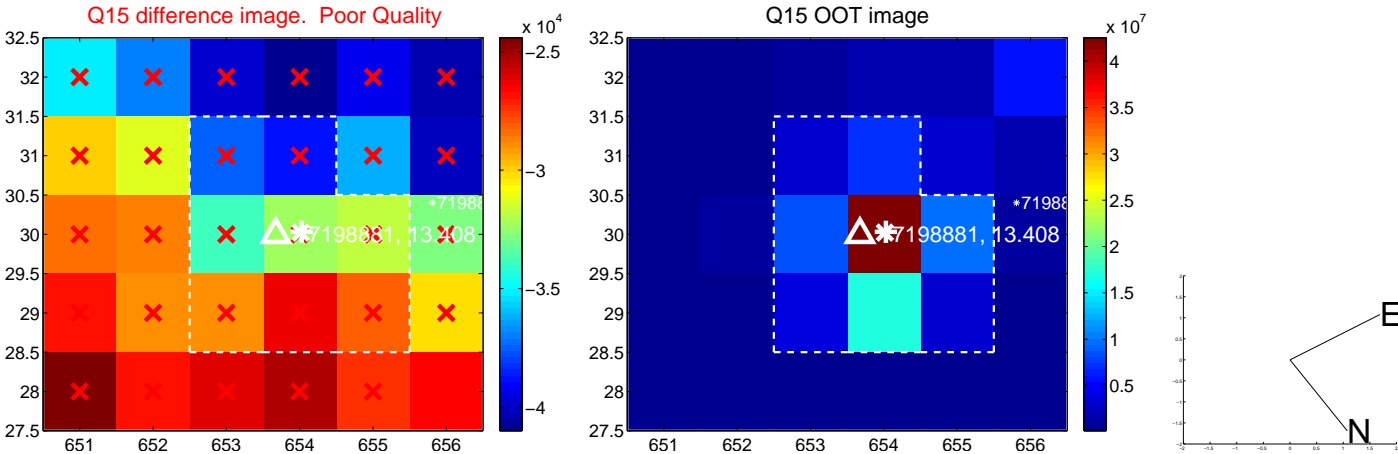
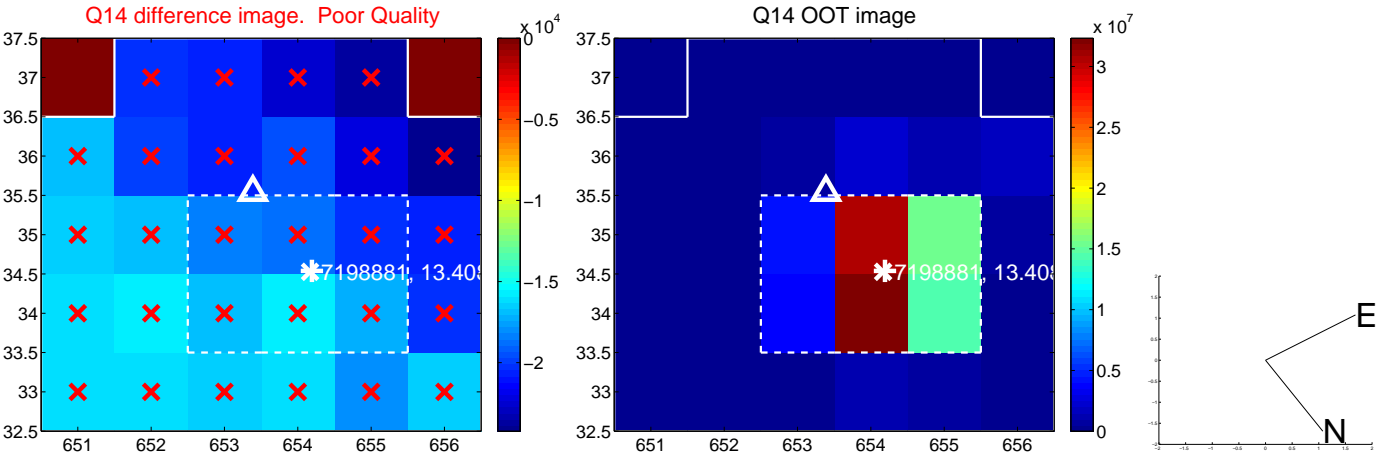
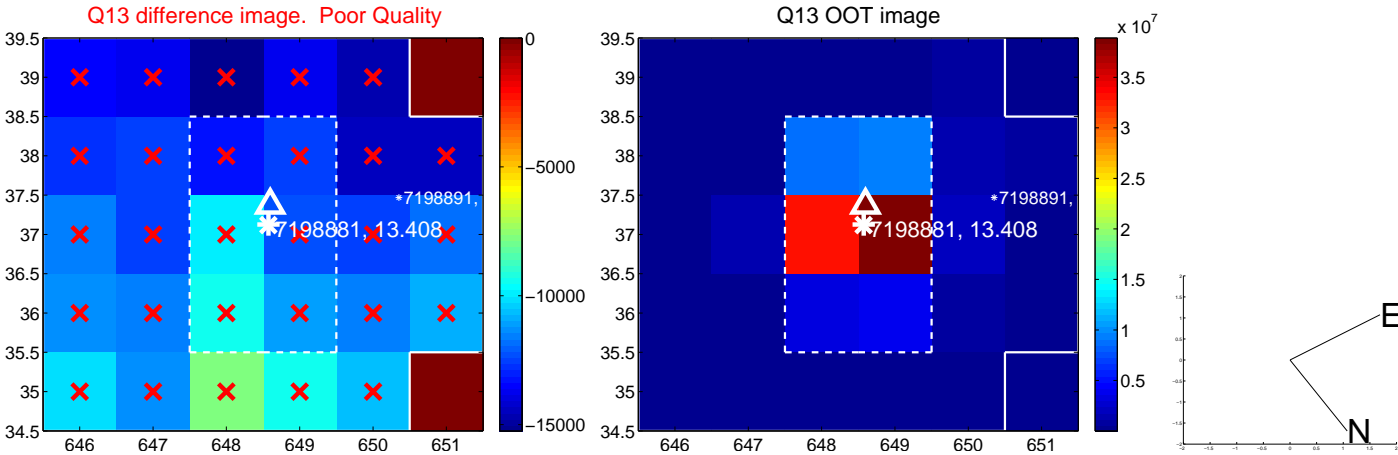
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



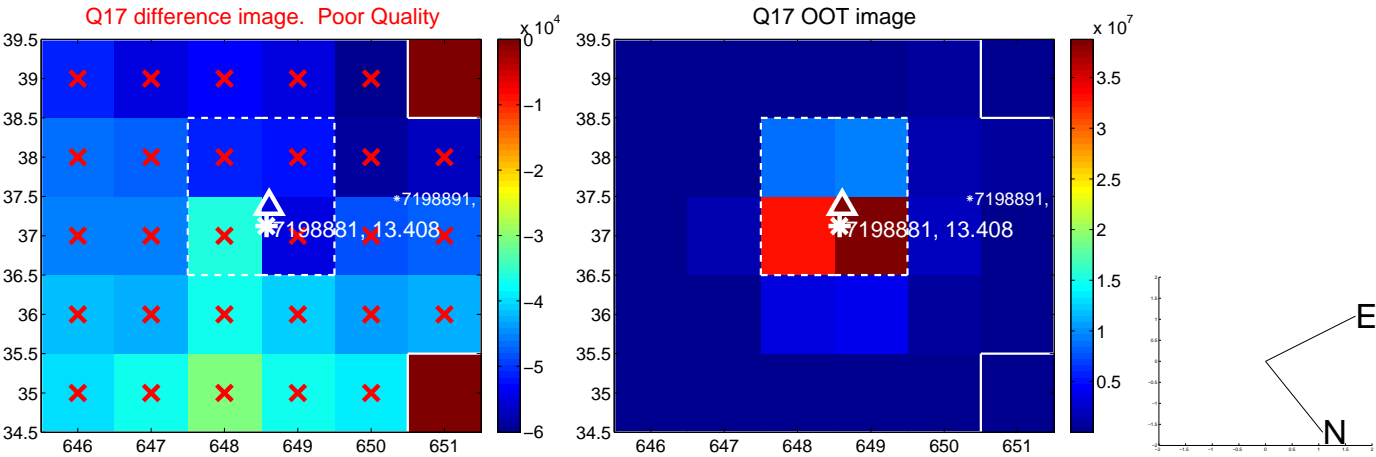
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



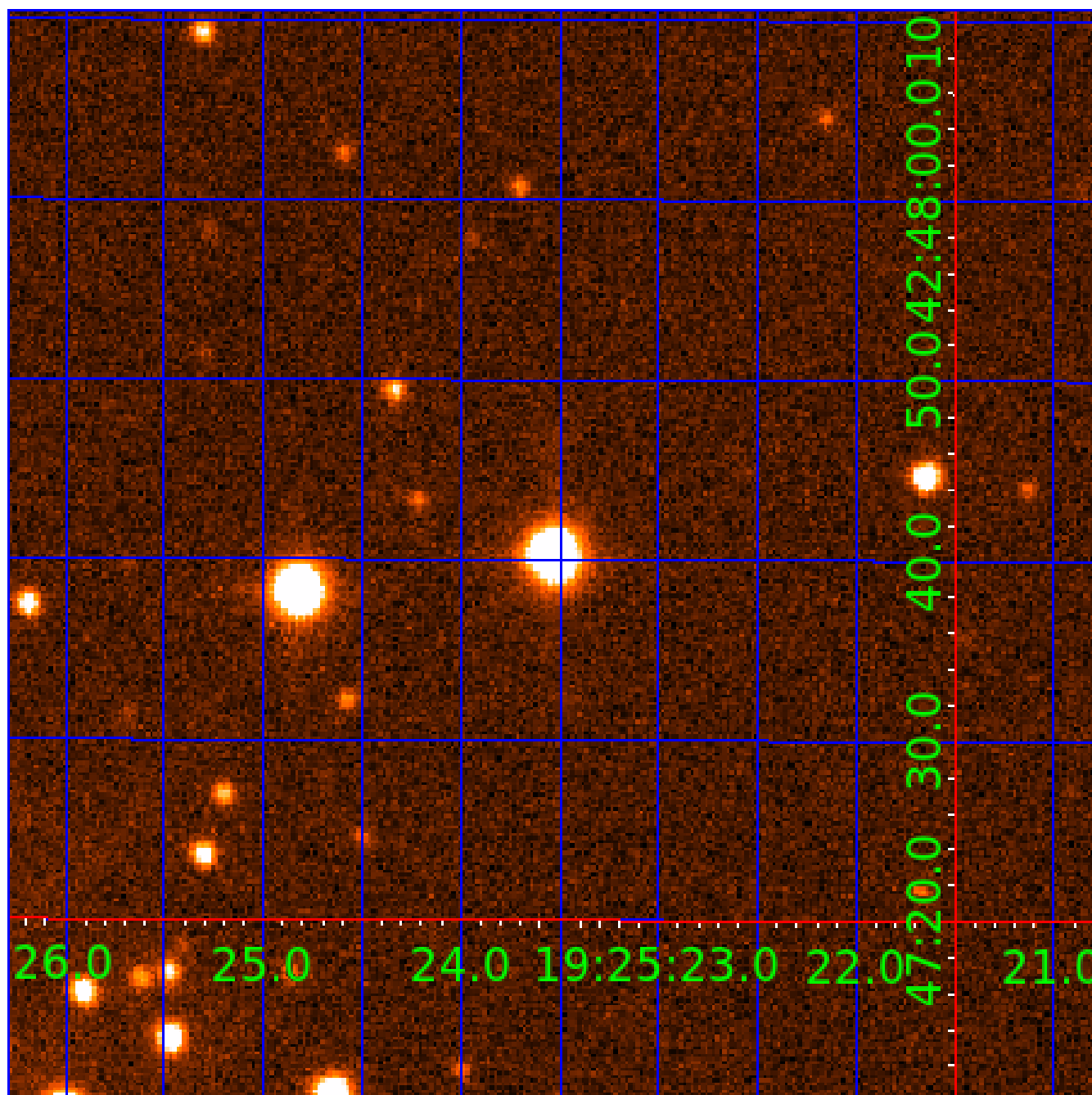
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 007198881

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})
007198881-01	OBS	No	0.566672	132.067244	10129.3	1.500	294.4	-1.0	1.16	6277	11.73	9036.81
007198881-02	OBS	No	0.566826	131.633842	200.5	5.283	71.0	62.3	1.16	6277	2.06	9033.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007198881-01	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS—EPHEM_MATCH
007198881-02	OBS	FP	0.00	1	0	1	1	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST—EPHEM_MATCH

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 007198881-02

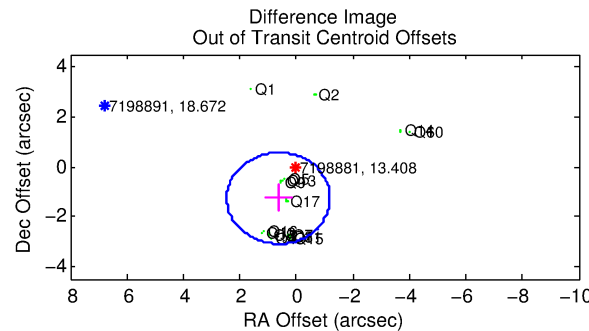
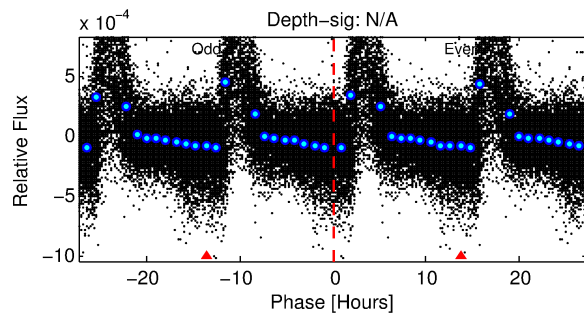
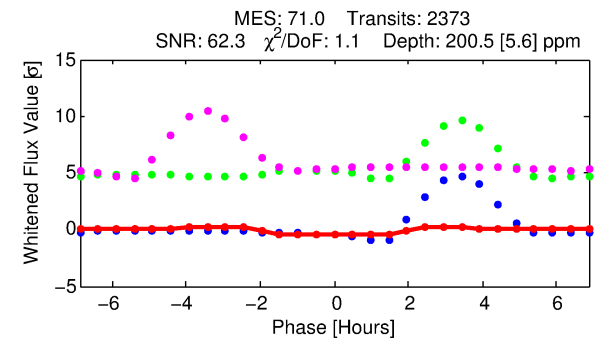
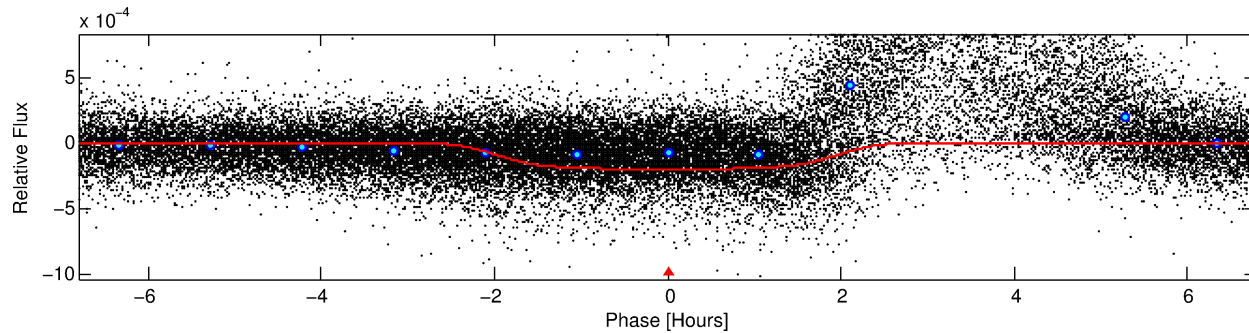
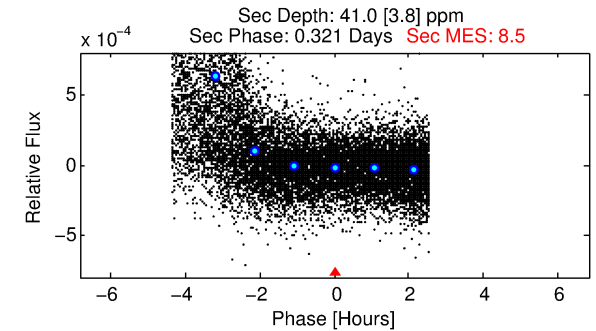
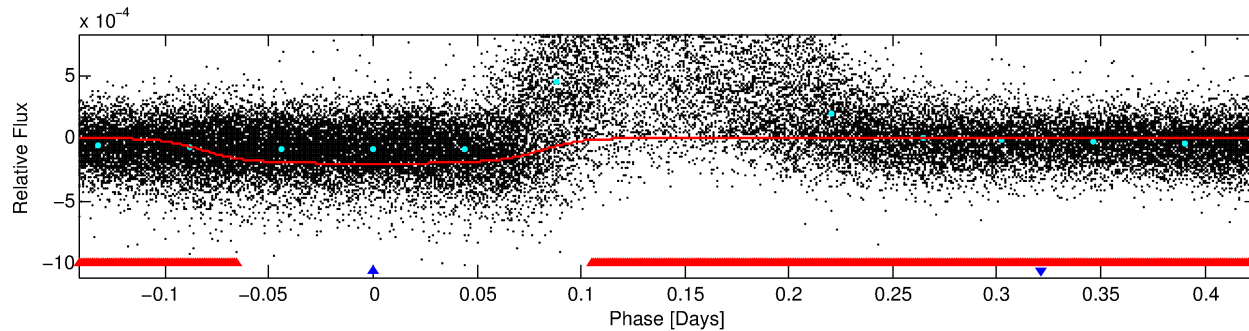
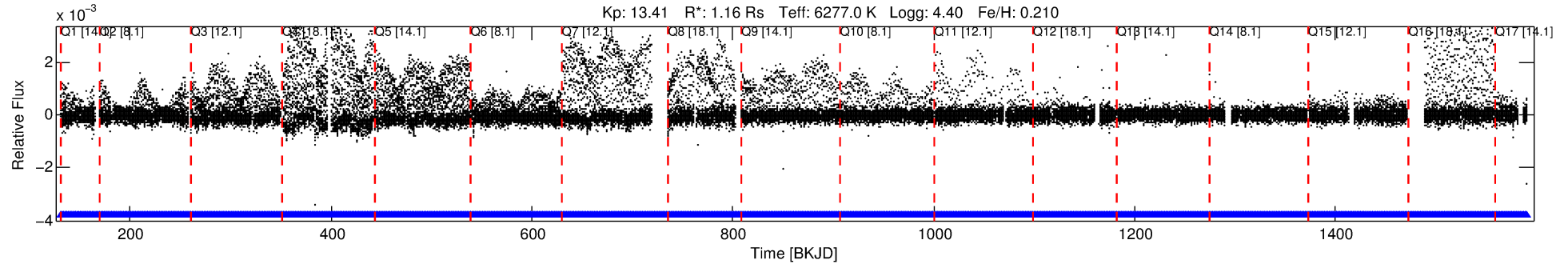
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007198881-02	7198881	RR-Lyr-pri	7198959	1:1	60.5	-15	-6	7.86	13.41	3116.50	Direct-PRF	0	0.37	8.22

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7198881 Candidate: 2 of 2 Period: 0.567 d
KOI: K06158 Corr: No Ephemeris Match

Kp: 13.41 R*: 1.16 Rs Teff: 6277.0 K Logg: 4.40 Fe/H: 0.210



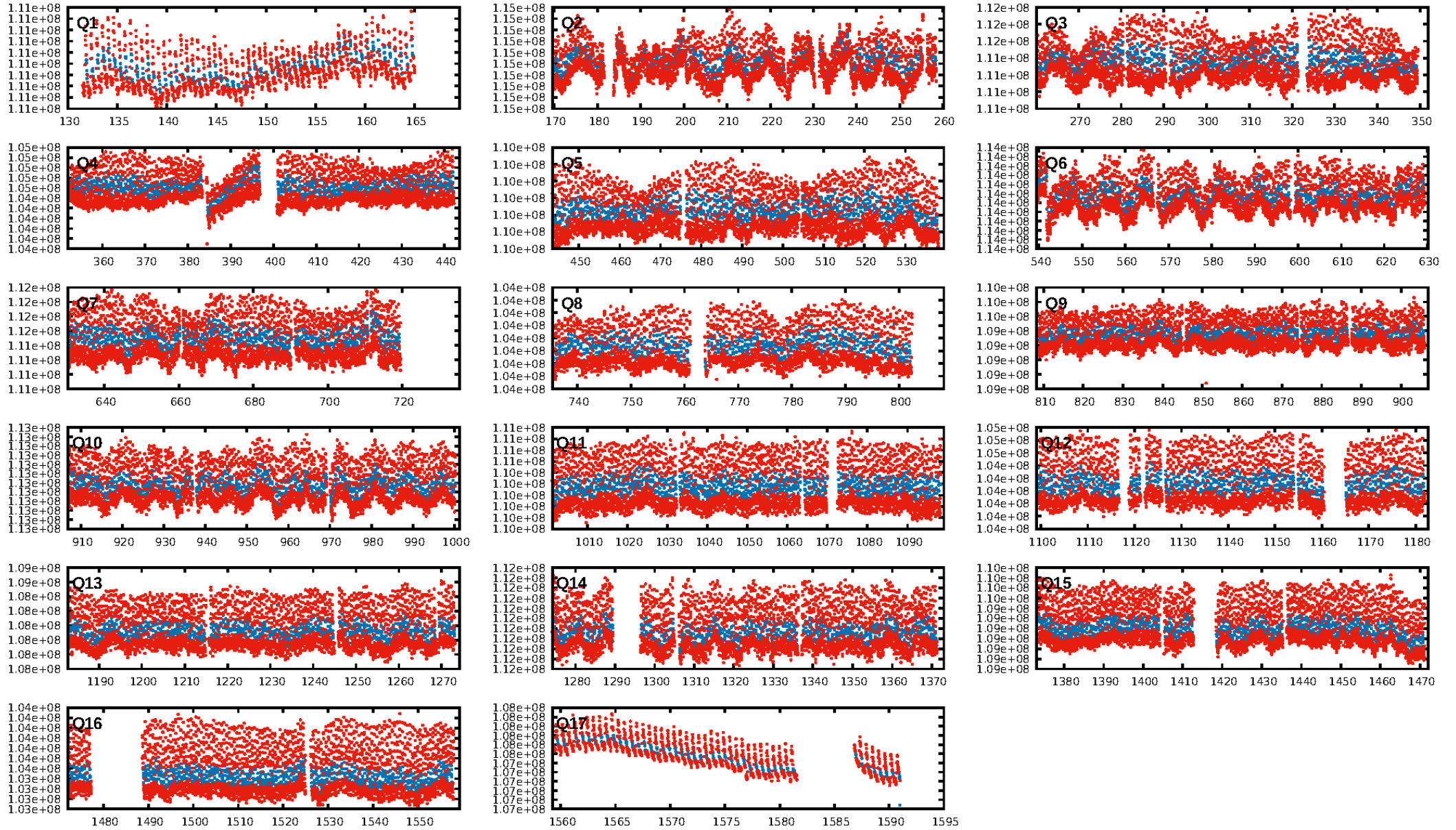
DV Fit Results:

Period = 0.56683 [0.00000] d
Epoch = 131.6338 [0.0008] BKJD
Rp/R* = 0.0163 [0.0003]
a/R* = 1.02 [0.00]
b = 0.95 [0.00]
Seff = 9033.54 [3835.43]
Teff = 2486 [264] K
Rp = 2.06 [0.71] Re
a = 0.0144 [0.0041] AU
Ag = 1.10 [0.46] [0.22σ]
Teffp = 3936 [162] K [4.68σ]

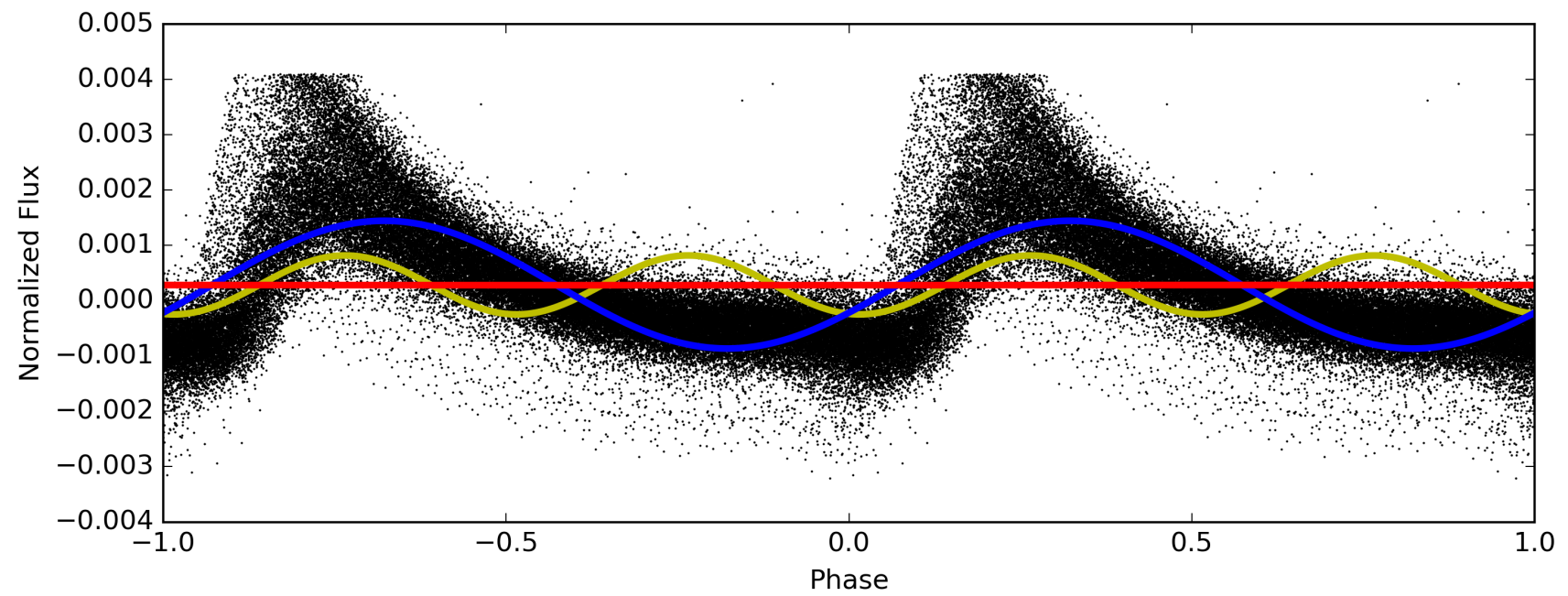
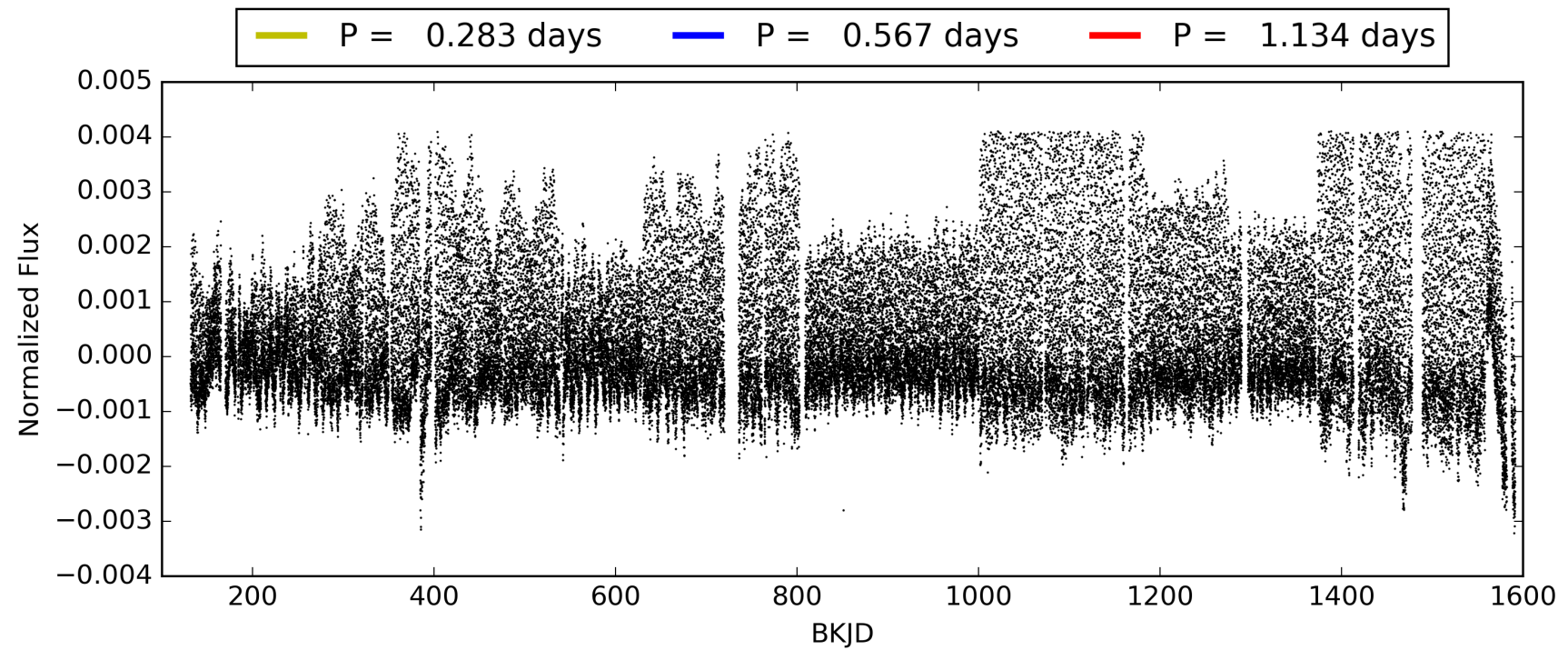
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2267/2267]
GhostDiagnostic-chr: -0.05245
Centroid-sig: N/A
Centroid-so: 0.184 arcsec [1.86σ]
OotOffset-rm: 1.417 arcsec [2.33σ]
KicOffset-rm: 1.445 arcsec [2.58σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.29 [5/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 007198881-02, PDC Light Curves

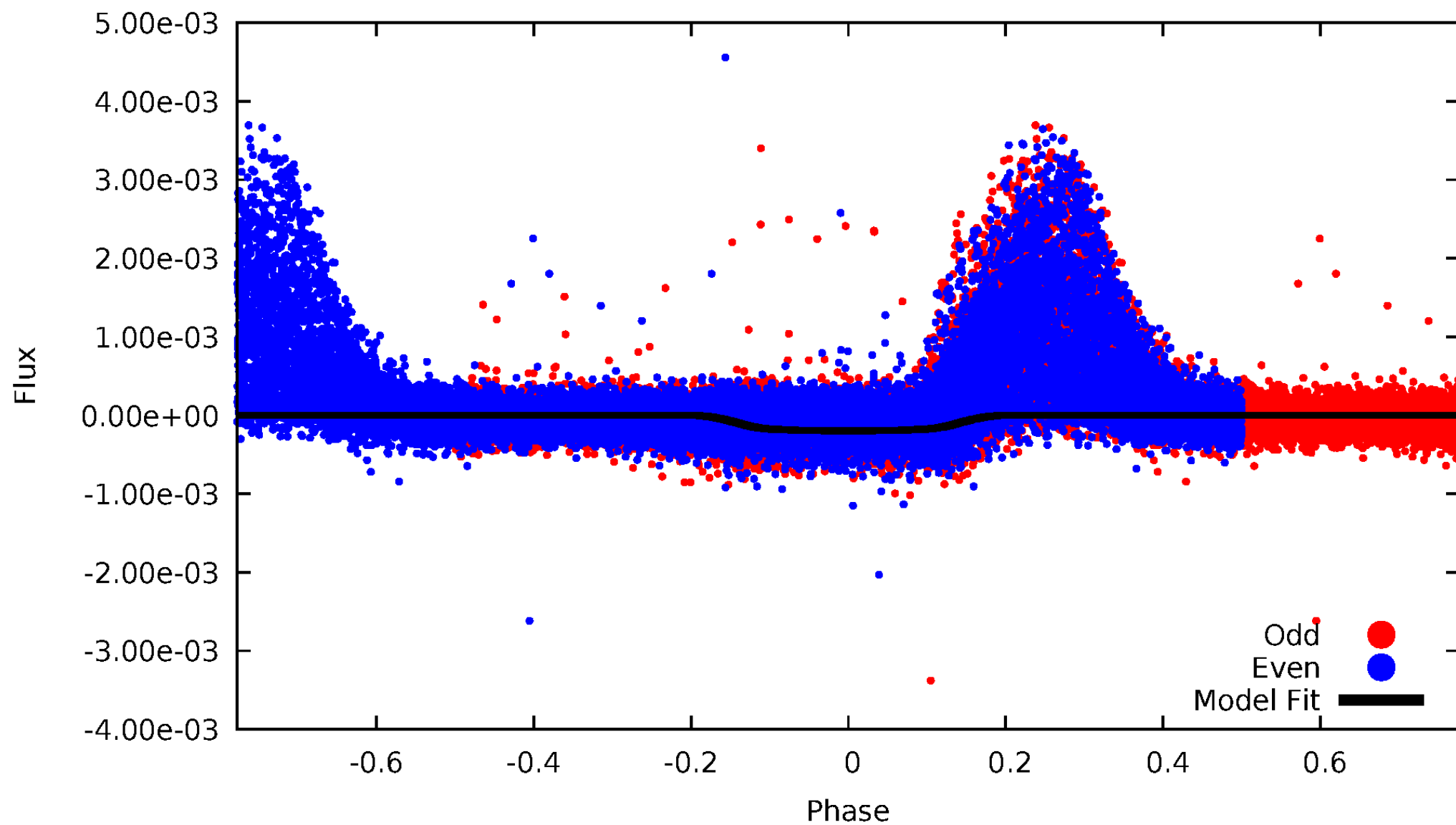


TCE 007198881-02



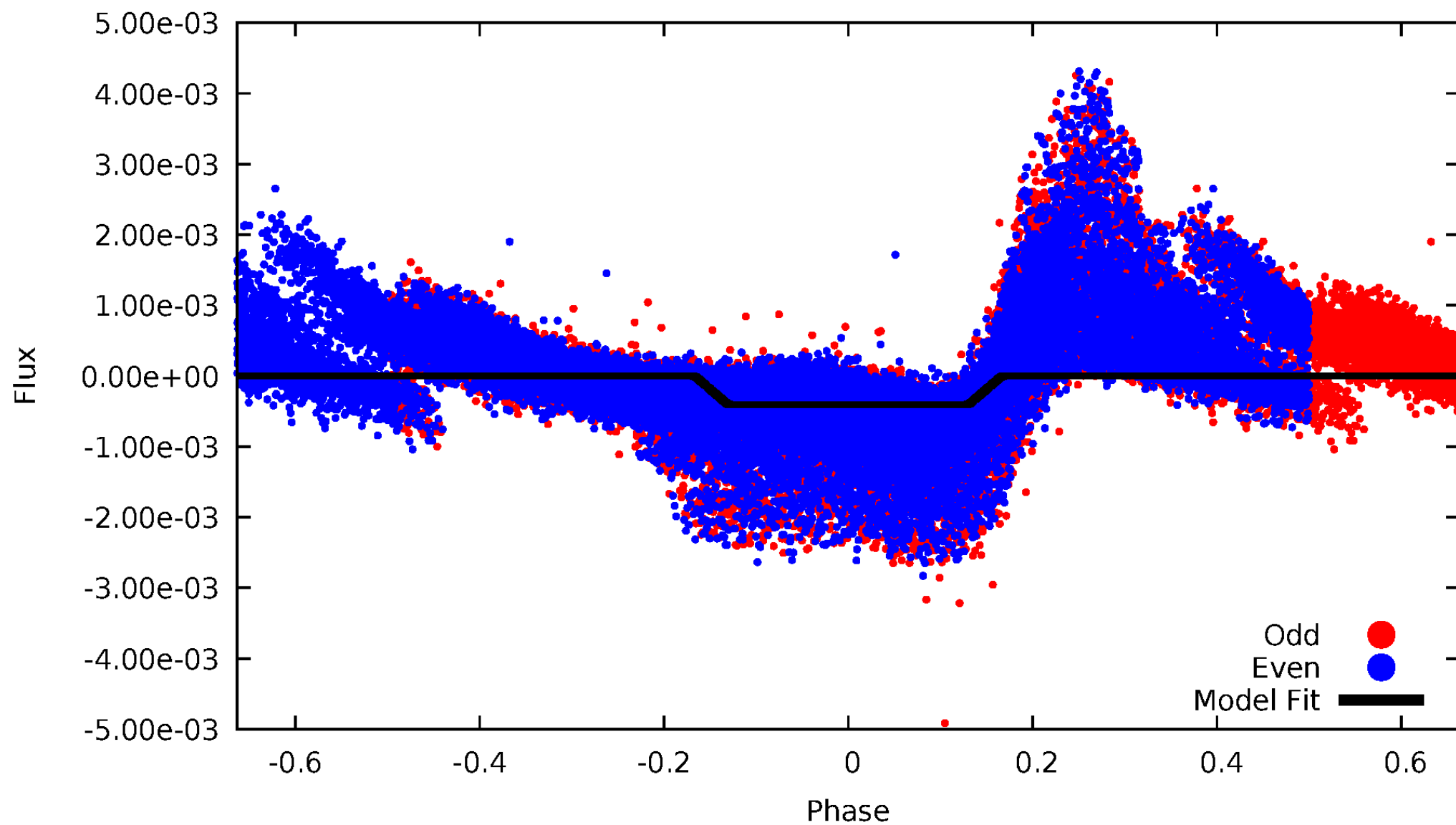
DV Odd/Even

TCE 007198881-02



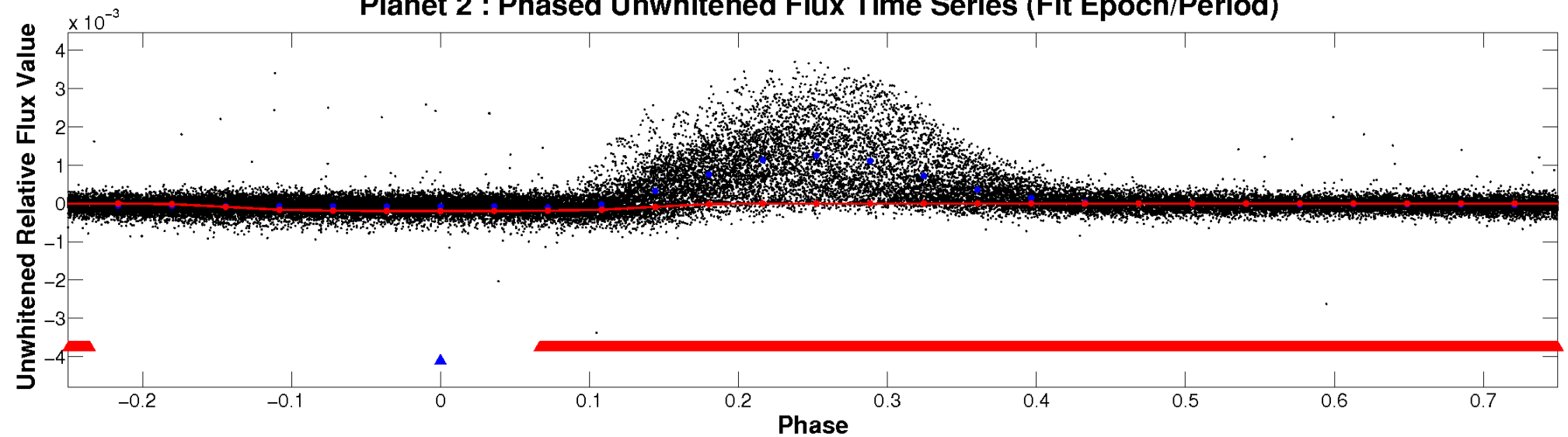
ALT Odd/Even

TCE 007198881-02

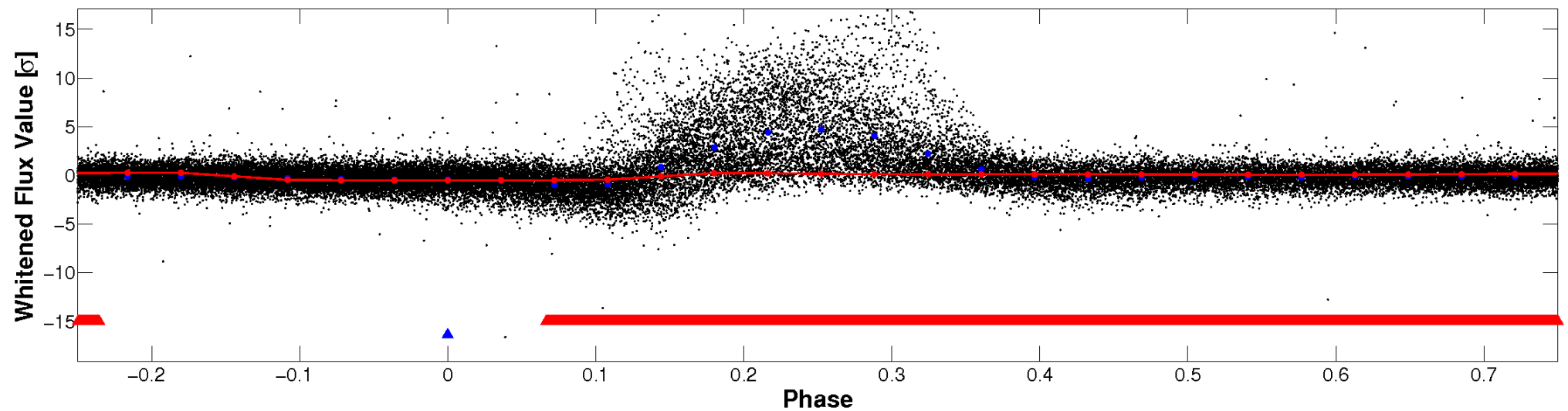


Non-Whitened Vs. Whitened Light Curve

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

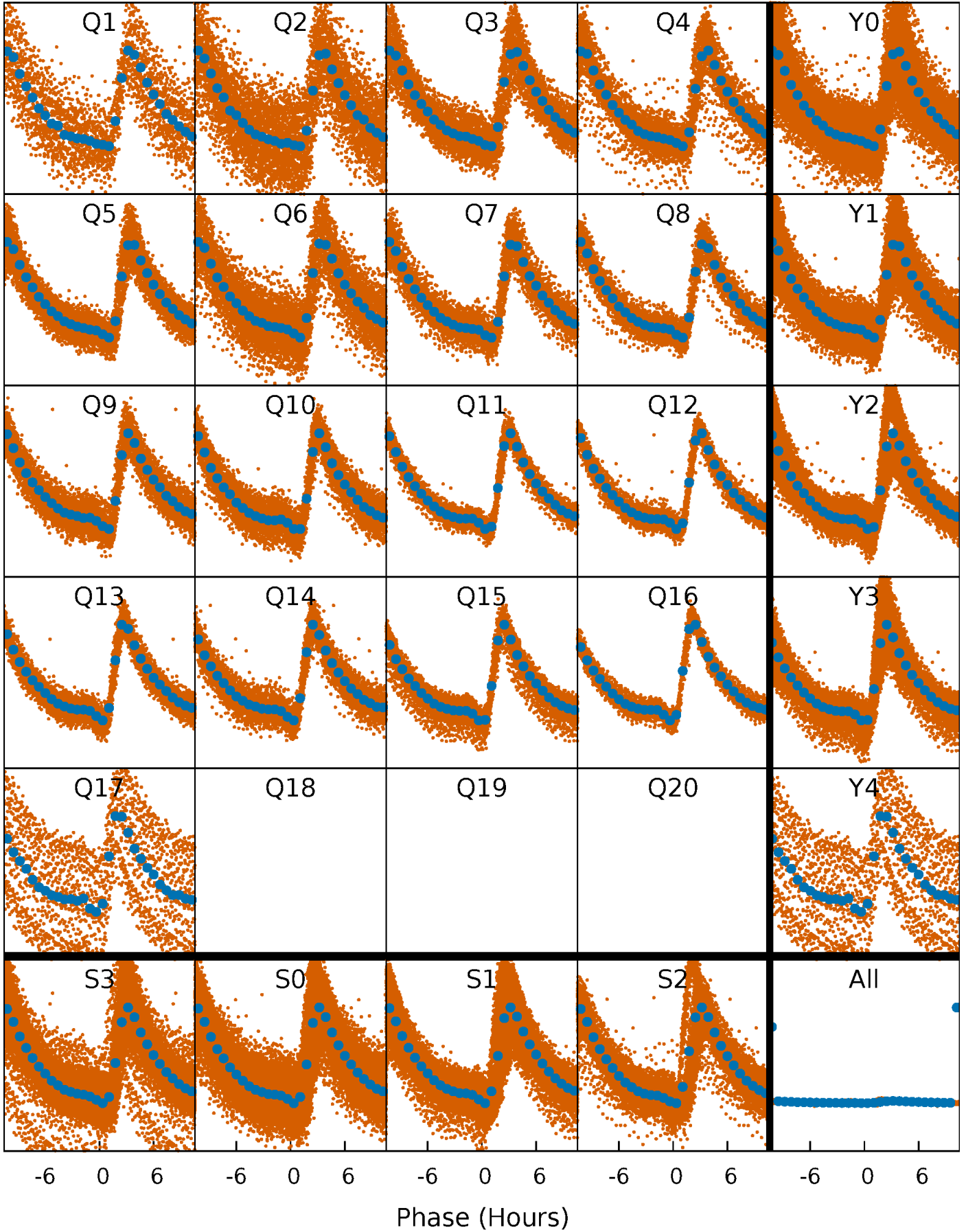


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



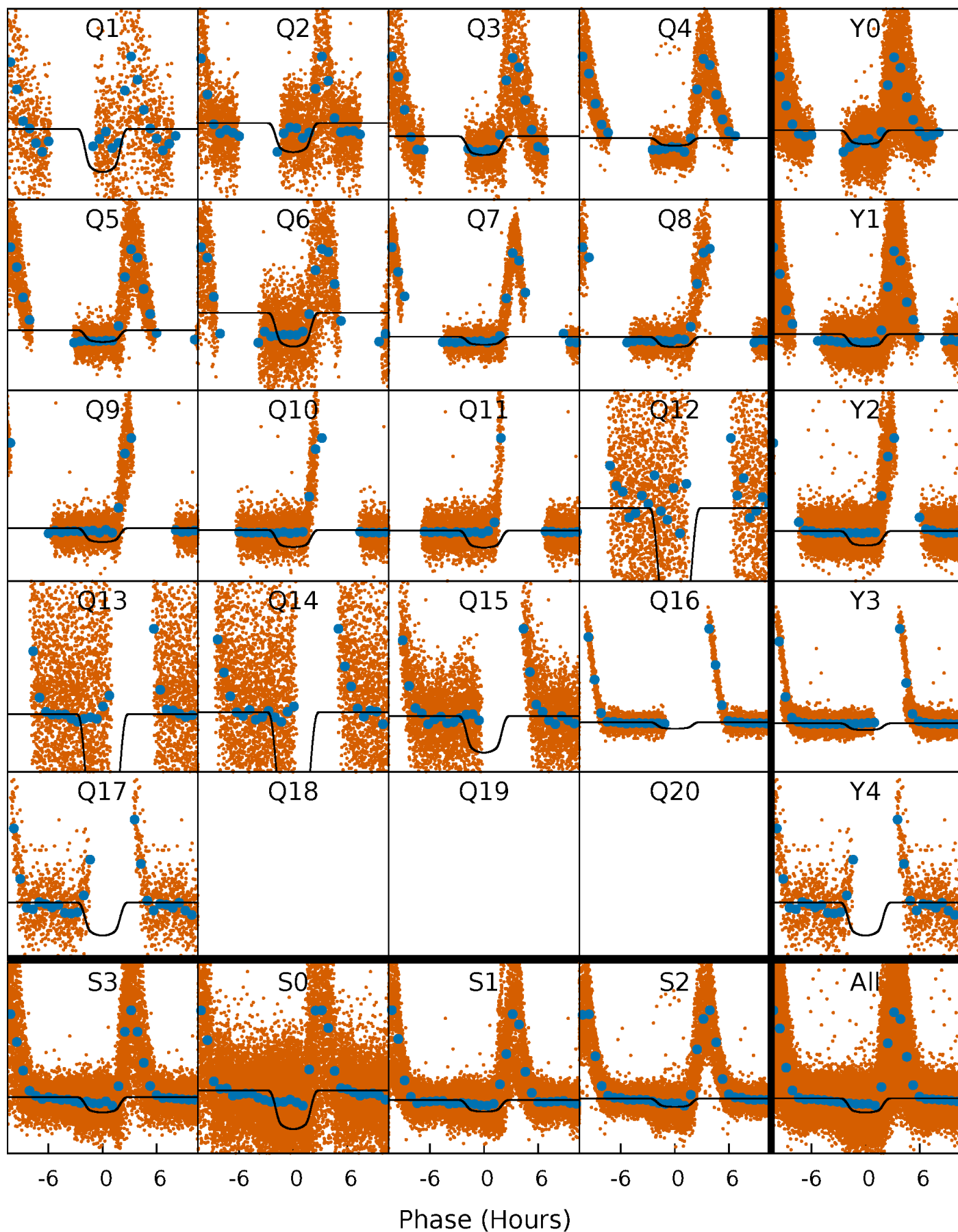
PDC Quarter-Phased Transit Curves

TCE 007198881-02 P= 0.566826 Days $T_0=131.633842$ (BKJD)



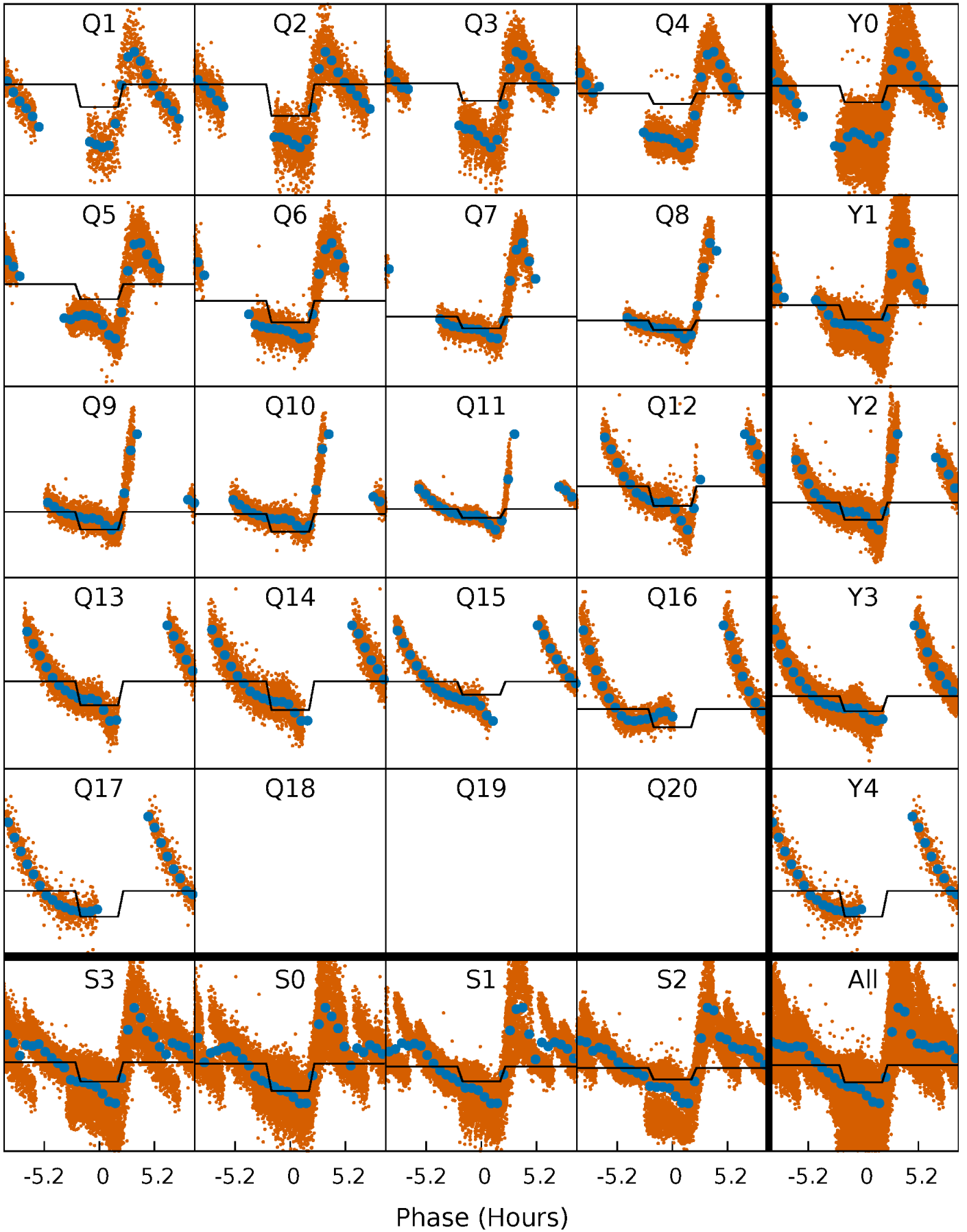
DV Quarter-Phased Transit Curves

TCE 007198881-02 P= 0.566826 Days $T_0=131.633842$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

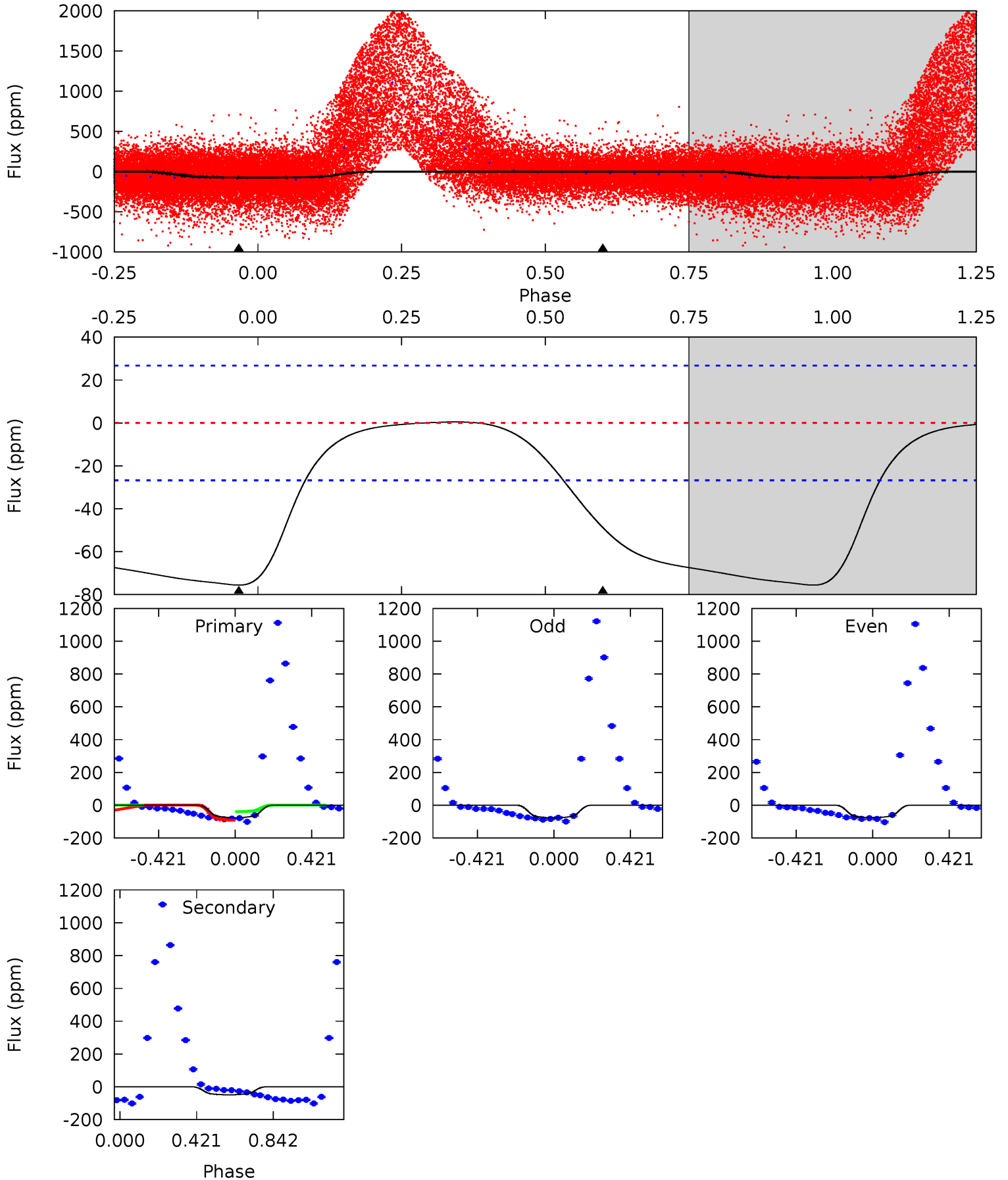
TCE 007198881-02 P= 0.566801 Days $T_0=131.644734$ (BKJD)



DV Model-Shift Uniqueness Test

007198881-02, P = 0.566826 Days, E = 131.067016 Days

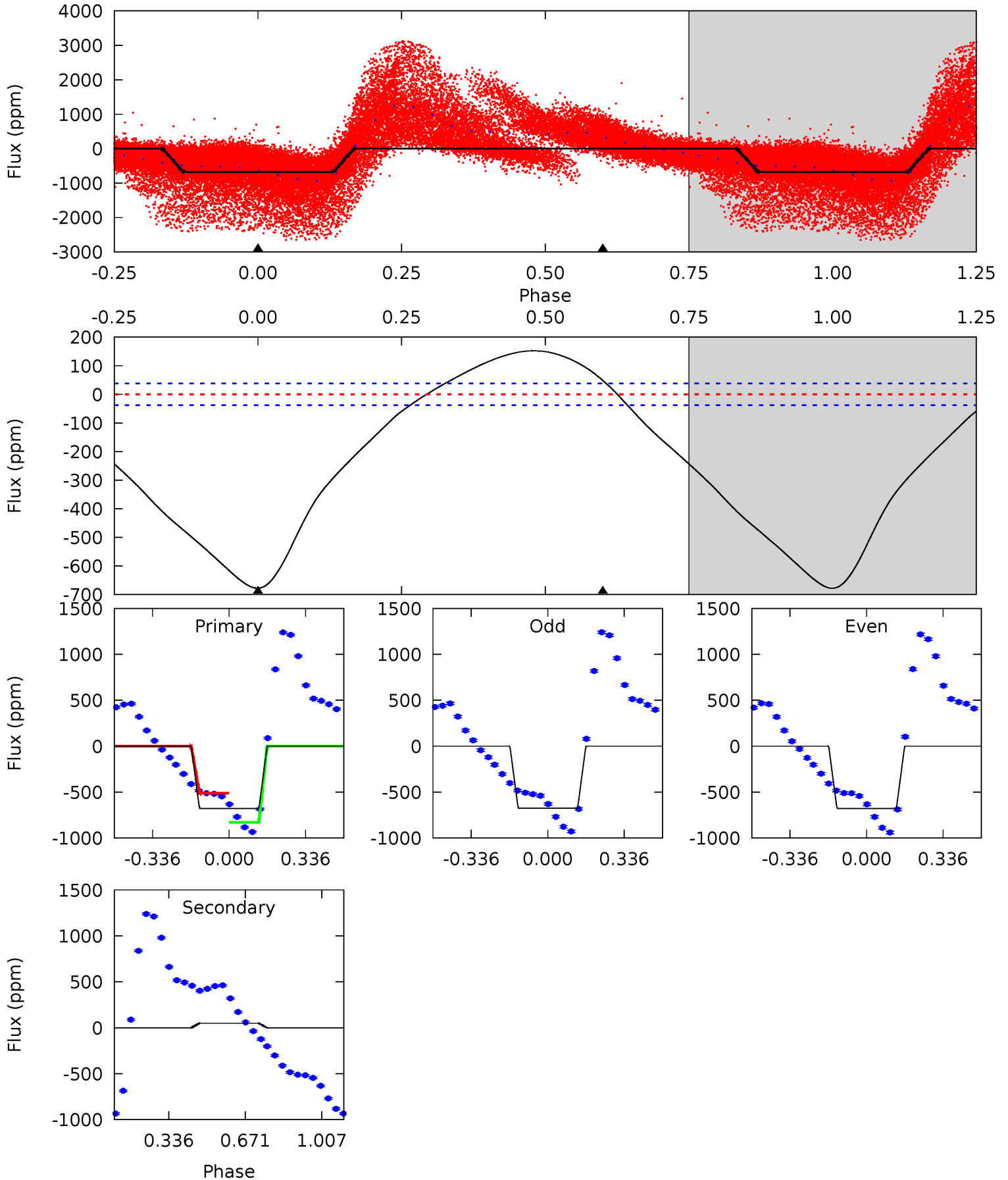
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	7.75	0	0	4.25	0.80	0.14	12.0	12.0	7.75	7.75	0.14	1.00	0.01	21.6



Alt Model-Shift Uniqueness Test

007198881-02, P = 0.566801 Days, E = 131.077933 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
77.1	-5.52	0	0	4.30	0.96	6.60	77.1	77.1	-5.52	-5.52	0.14	1.22	0.18	19.5



Stellar Parameters For KIC 007198881

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	6277^{+170}_{-208}	$4.402^{+0.054}_{-0.216}$	$0.210^{+0.200}_{-0.300}$	$1.161^{+0.400}_{-0.107}$	$1.239^{+0.151}_{-0.168}$	$1.116^{+0.316}_{-0.584}$
	+3%/-3%	+1%/-5%	+95%/-143%	+34%/-9%	+12%/-14%	+28%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007198881-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-49 ± 6	$2.11^{+0.41}_{-0.16}$	3537^{+304}_{-165}	4075^{+179}_{-176}	$1.173^{+0.294}_{-0.328}$
Alt.	48 ± 9	$2.58^{+0.44}_{-0.17}$	3523^{+240}_{-162}	-4251^{+150}_{-146}	$-0.768^{+0.201}_{-0.224}$

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

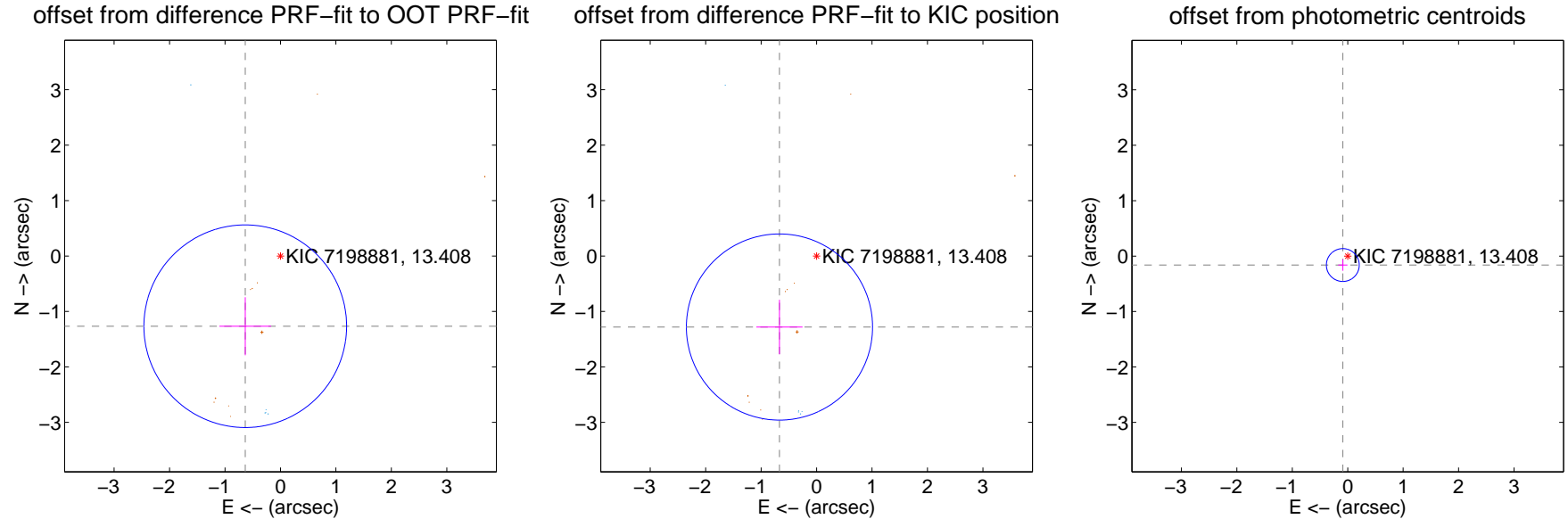
DV Centroid Data

Supplemental centroid analysis for 007198881-02. Kepler magnitude: 13.41. Transit SNR 62.27

There are 5 quarters with good PRF difference image offsets

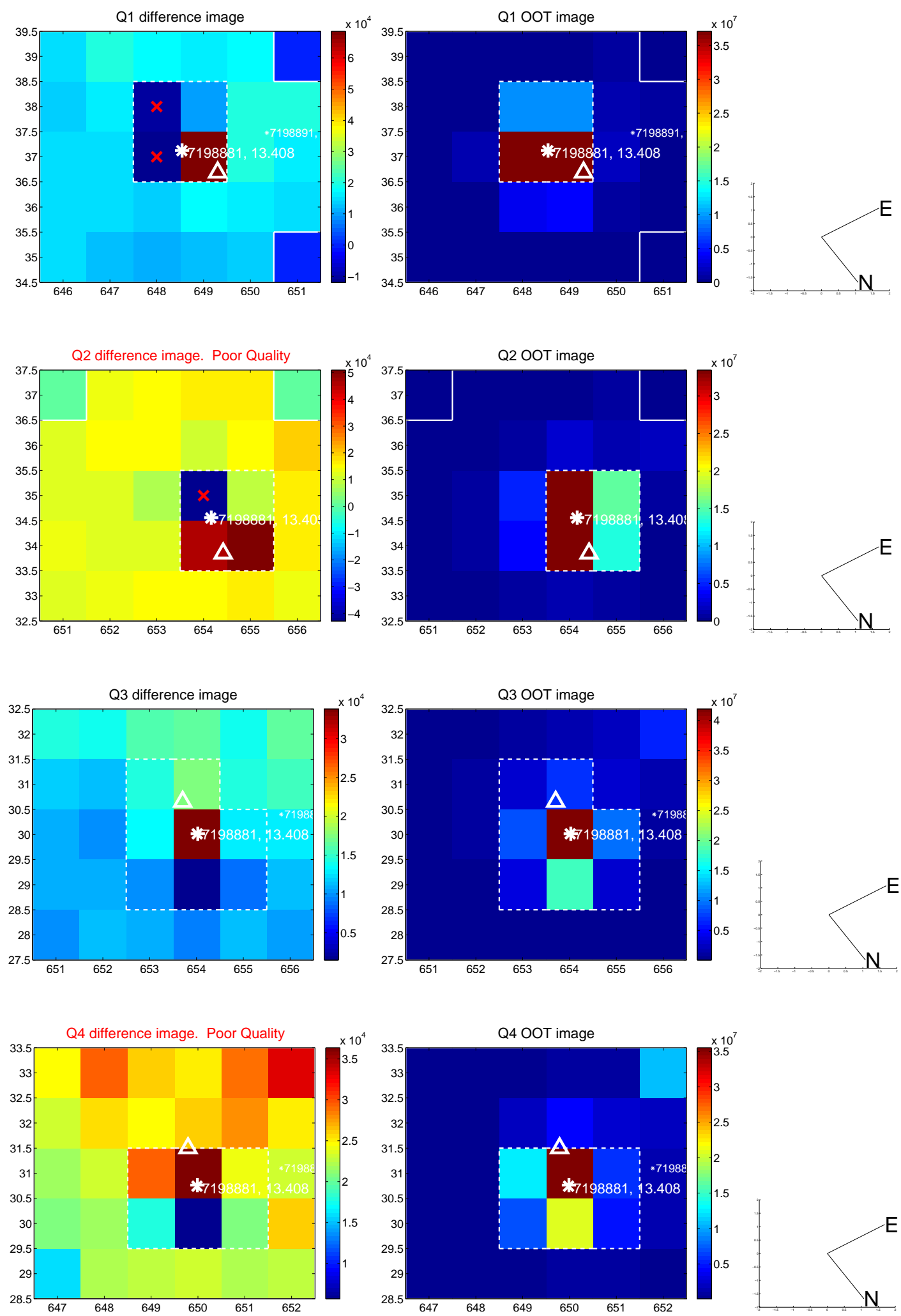
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.417 ± 0.609	2.33	0.635 ± 0.467	-1.266 ± 0.523
PRF-fit source offset from KIC position	1.445 ± 0.560	2.58	0.669 ± 0.416	-1.281 ± 0.491
photometric centroid source offset	0.18 ± 0.10	1.86	0.09 ± 0.08	-0.16 ± 0.10

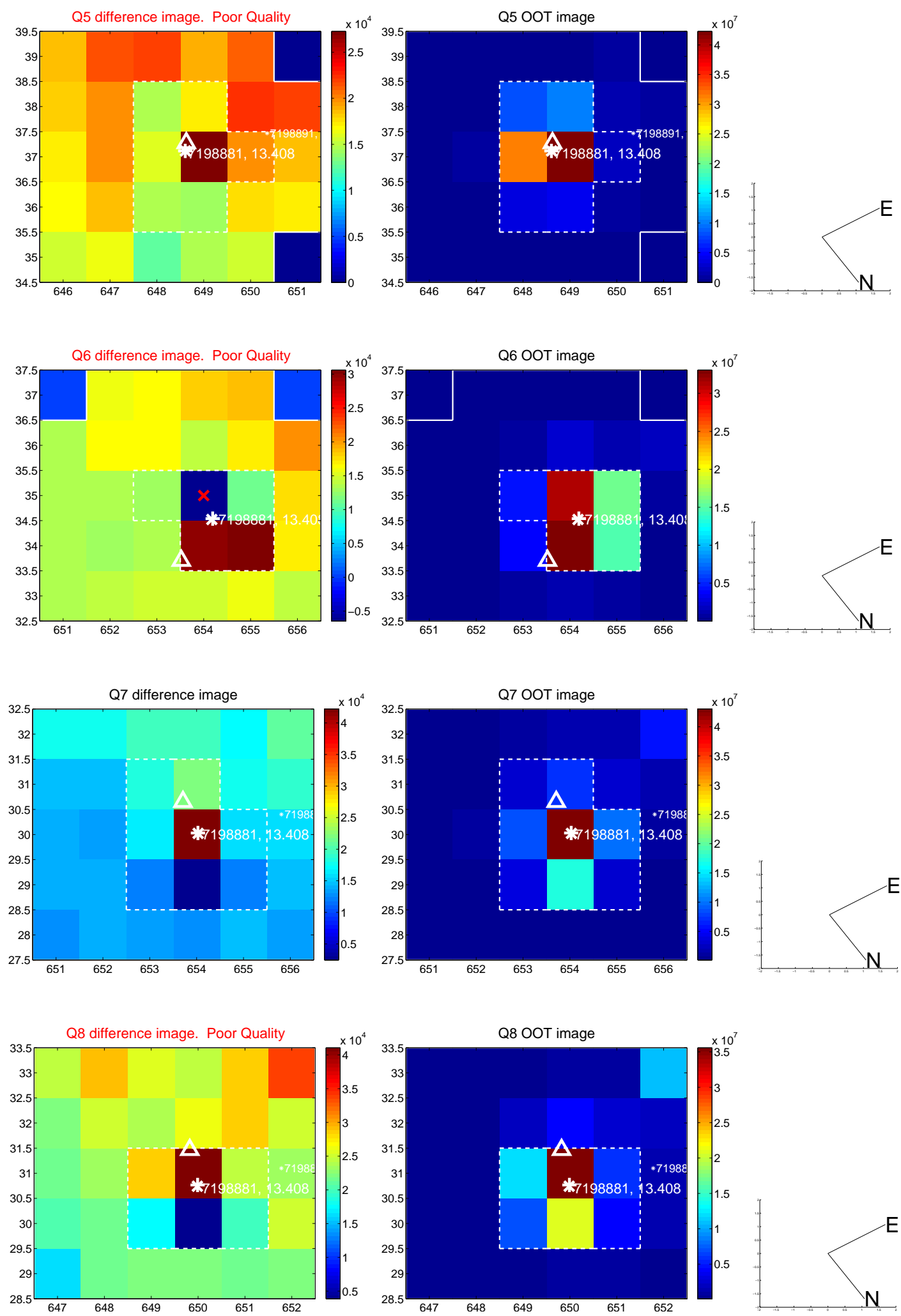


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

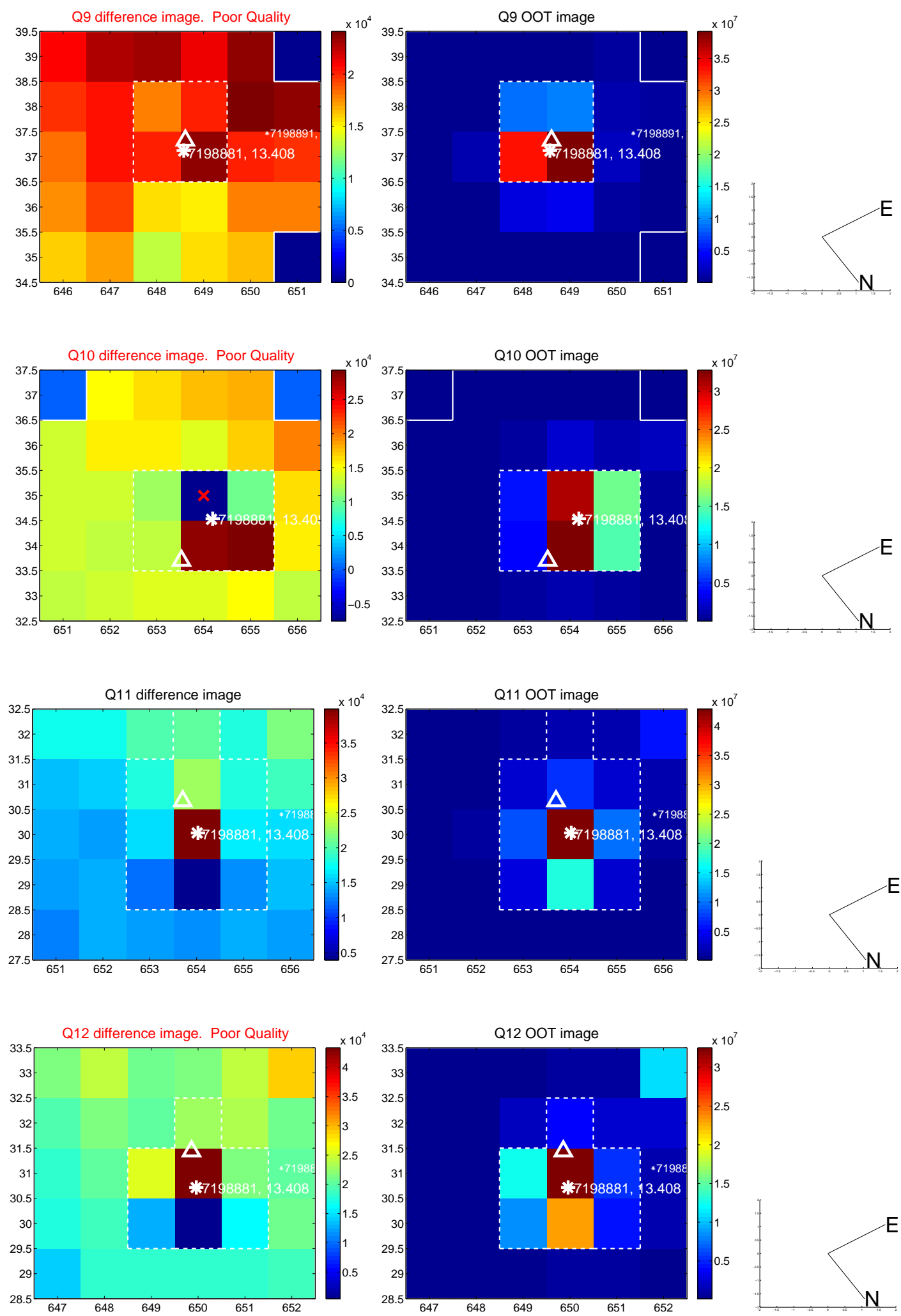
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



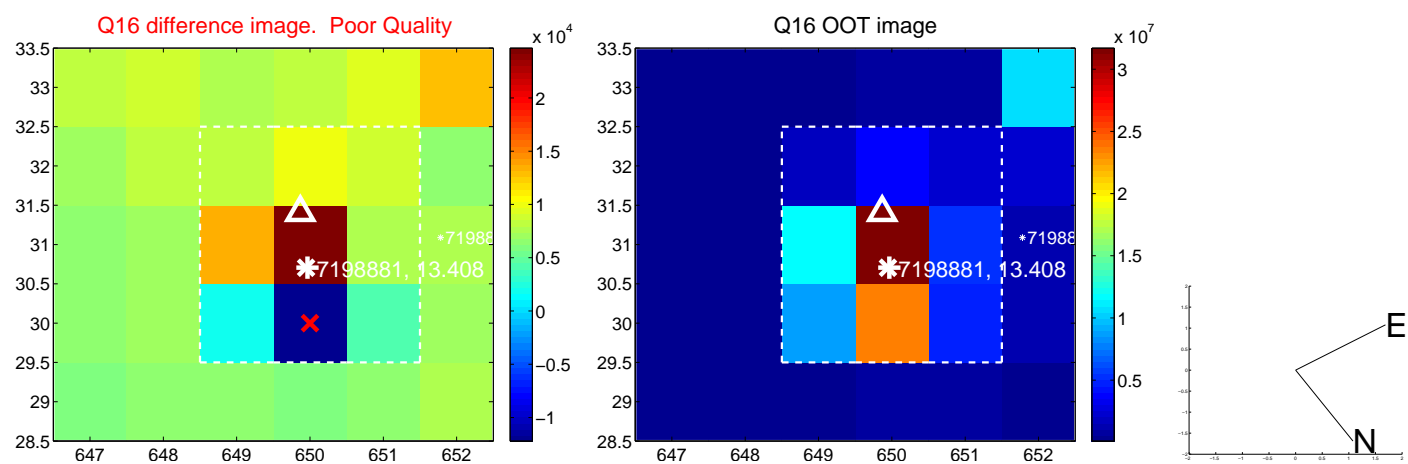
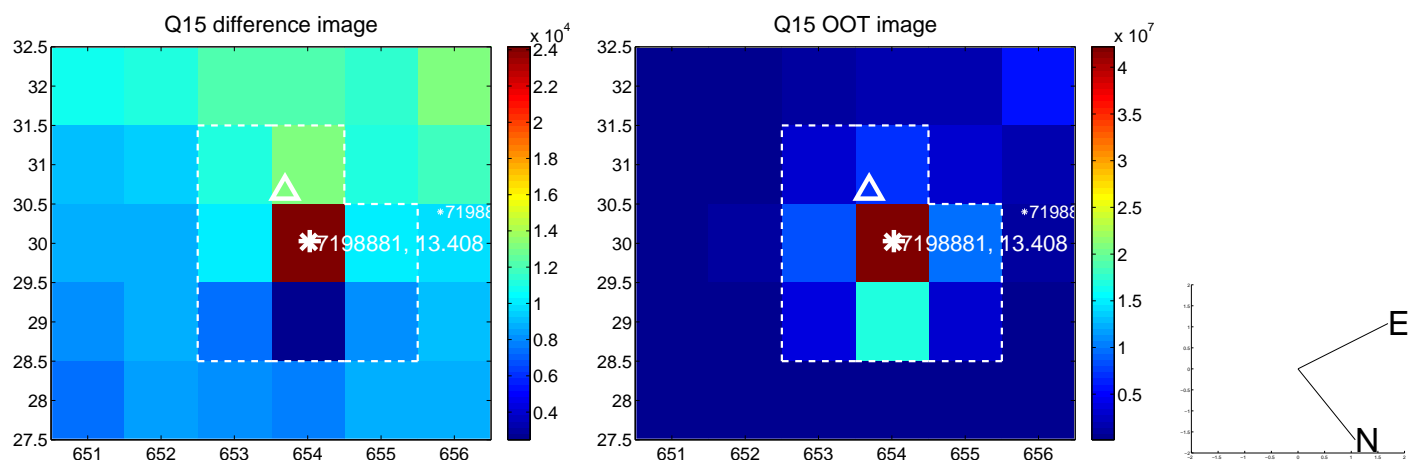
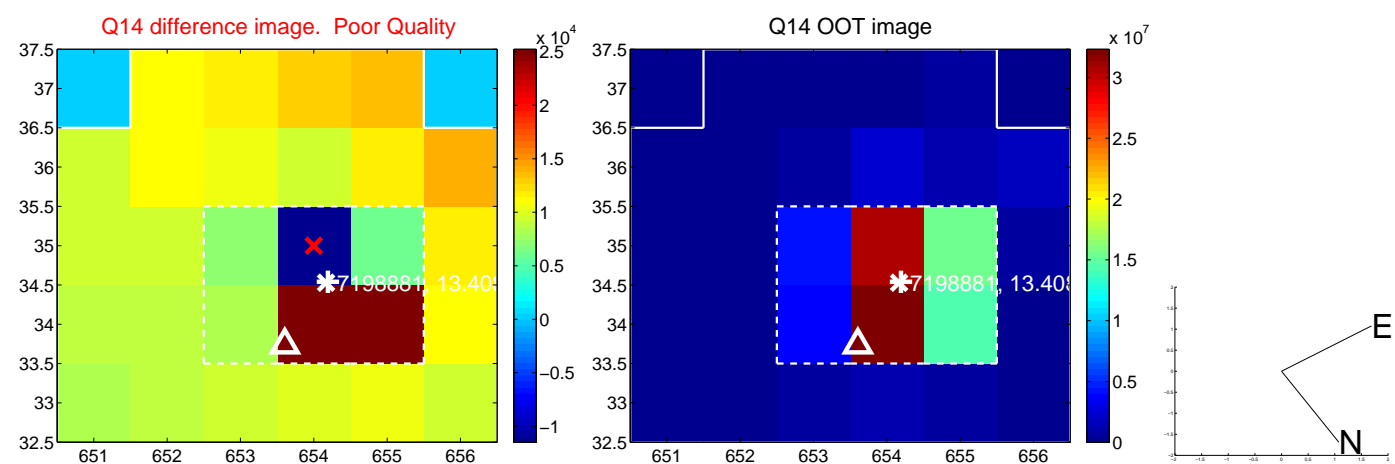
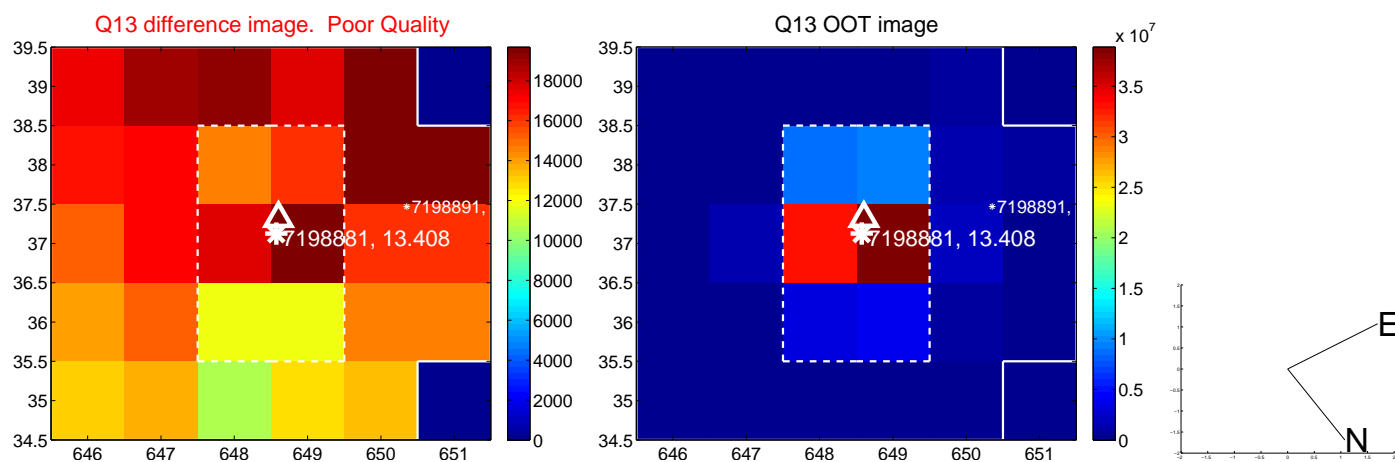
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



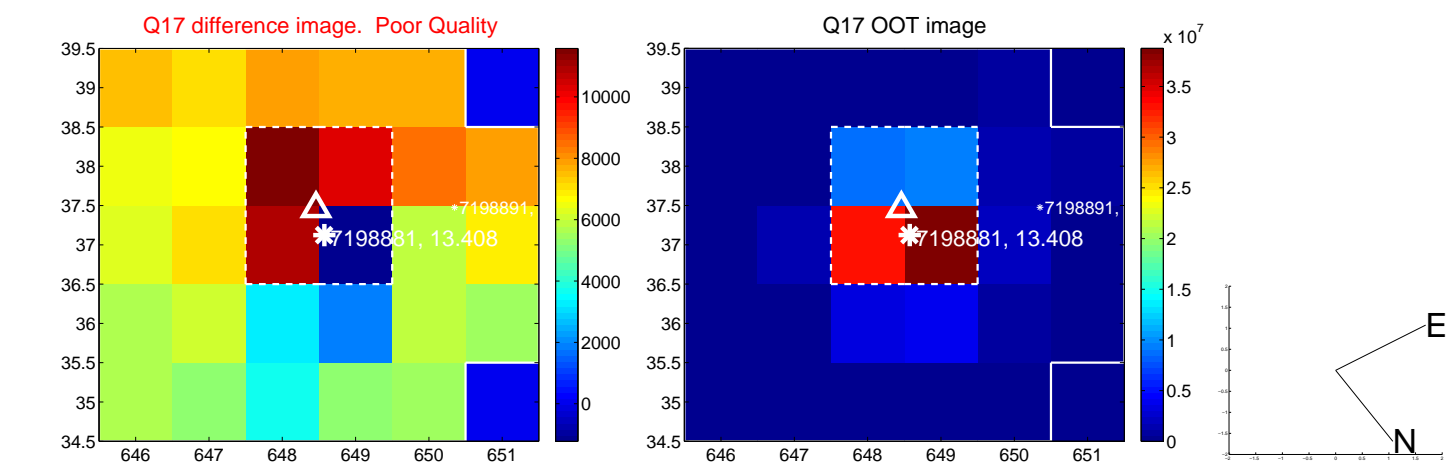
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



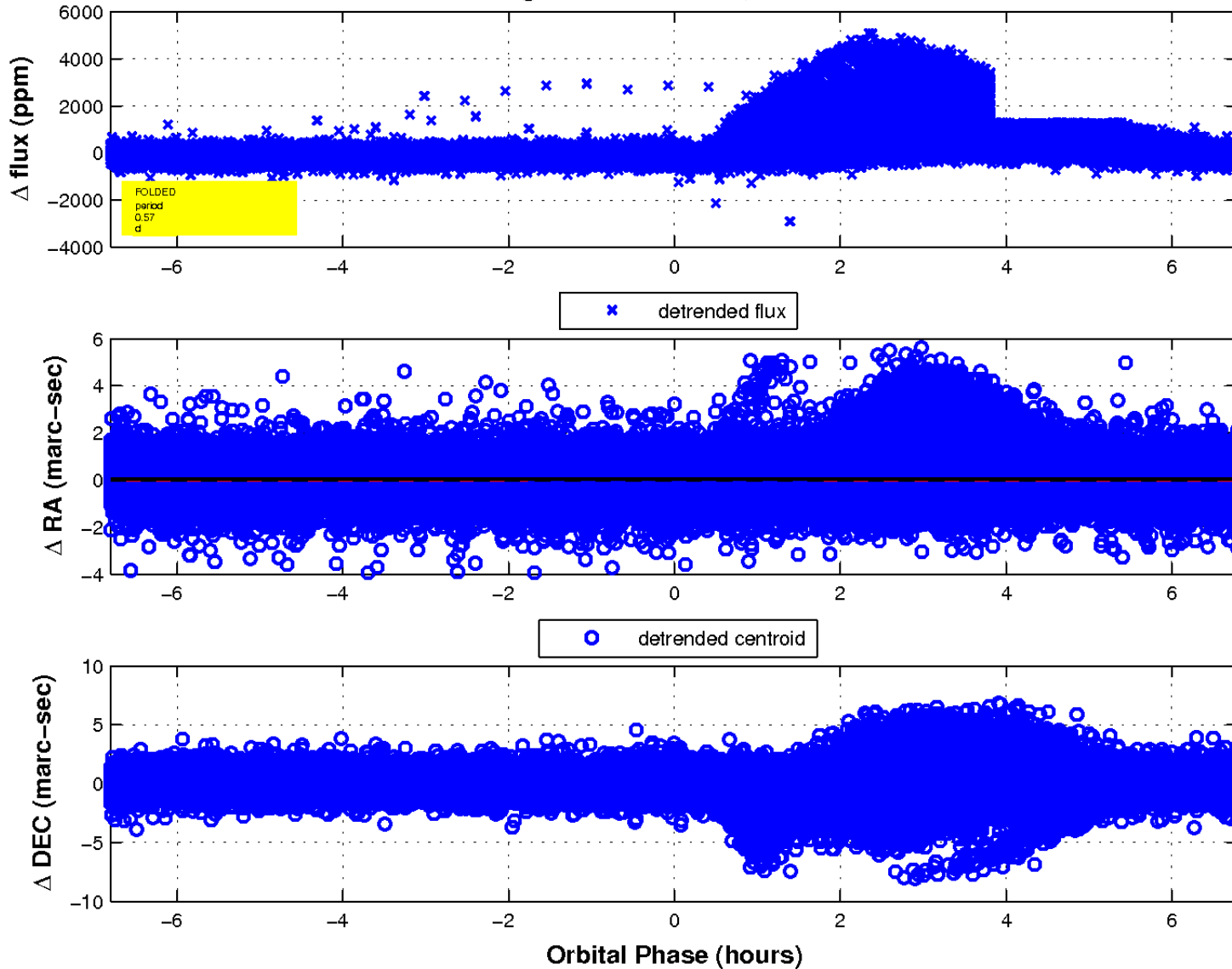
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

