

KIC 007517261

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})
007517261-01	OBS	3496.01	23.238465	143.538145	175.0	8.349	13.6	15.1	1.69	6602	2.47	157.42
007517261-02	OBS	3496.02	8.543379	137.989264	68.5	6.320	9.9	9.7	1.69	6602	1.63	597.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007517261-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007517261-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

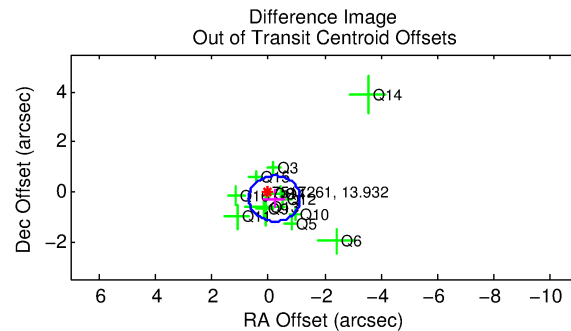
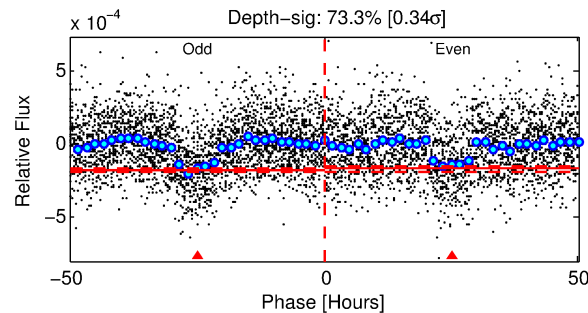
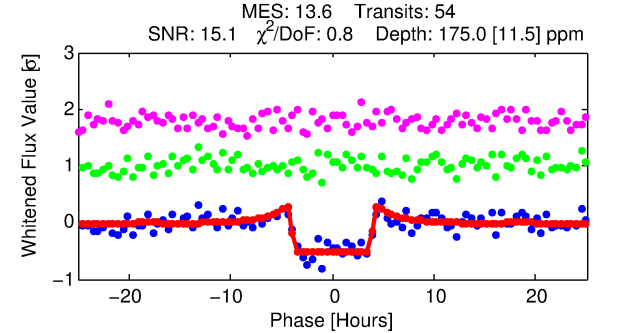
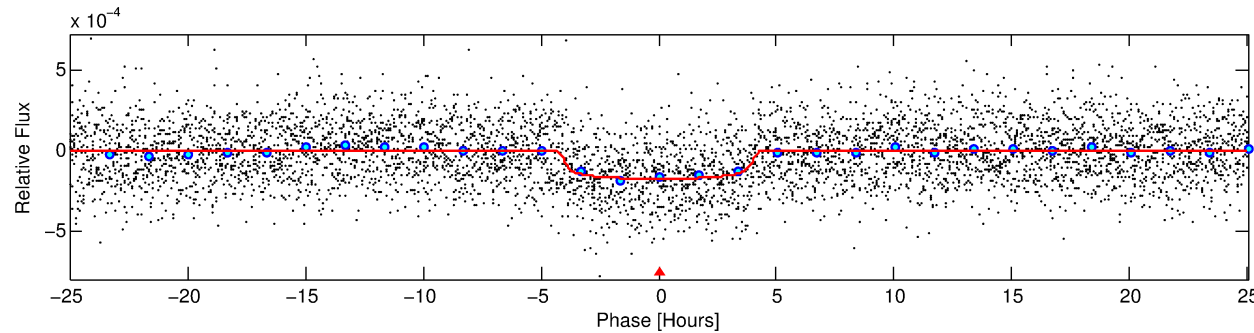
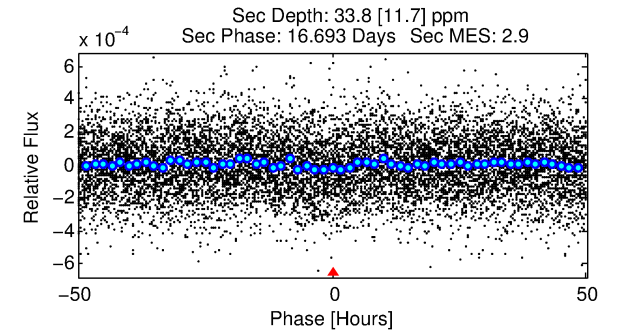
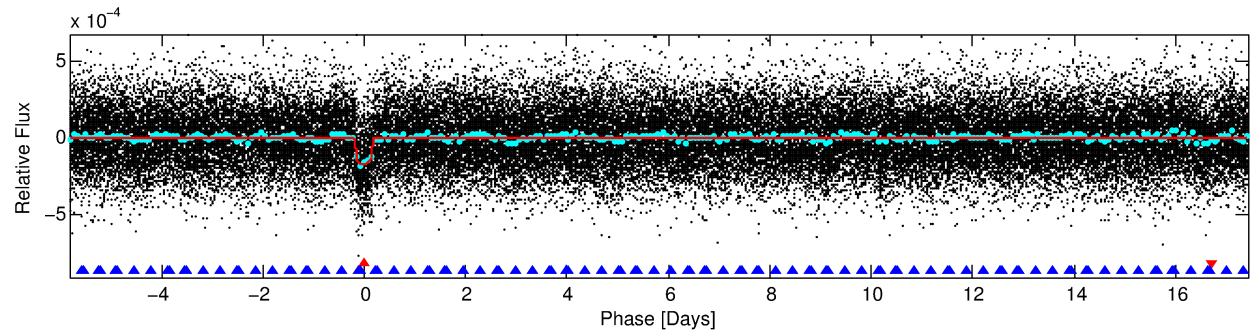
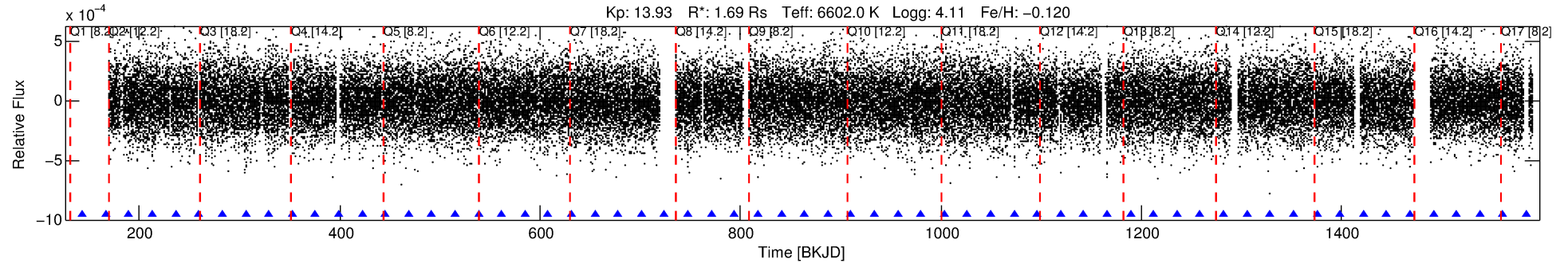
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007517261-01

No Significant Match Found

DV One-Page Summary

KIC: 7517261 Candidate: 1 of 2 Period: 23.238 d
KOI: K03496.01 Corr: 0.987



DV Fit Results:

Period = 23.23847 [0.00017] d
Epoch = 143.5381 [0.0061] BKJD
Rp/R* = 0.0134 [0.0020]
a/R* = 13.09 [10.54]
b = 0.81 [0.35]
Seff = 157.42 [65.89]
Teq = 903 [95] K
Rp = 2.47 [0.81] Re
a = 0.1752 [0.0453] AU
Ag = 93.85 [56.35] [1.65σ]
Teffp = 4346 [522] K [6.49σ]

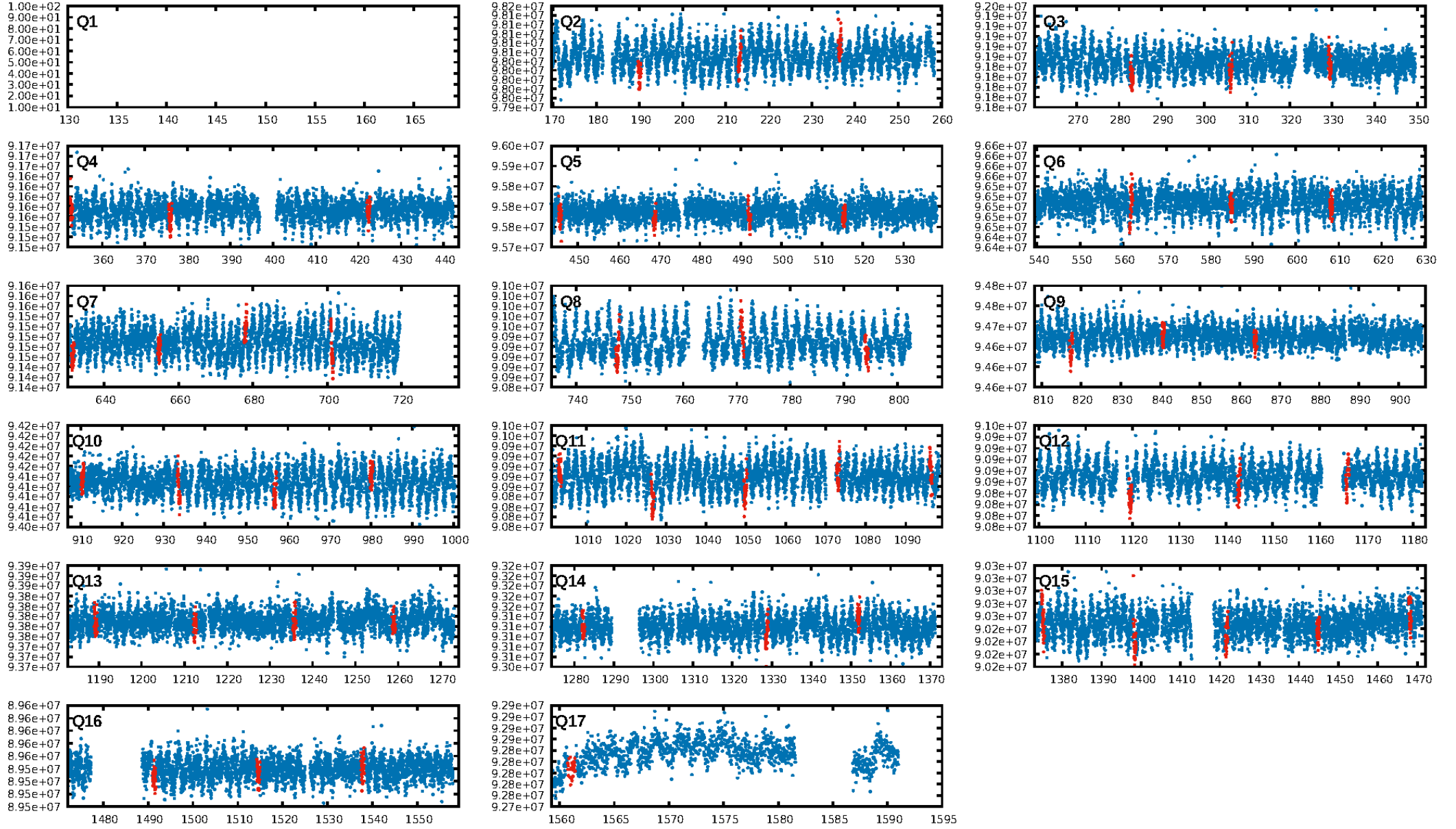
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [33.68σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 62.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.51e-37
RollingBand-fgt: 1.00 [53/53]
GhostDiagnostic-chr: 14.57
Centroid-sig: 5.9%
Centroid-so: 0.591 arcsec [1.28σ]
OotOffset-rm: 0.354 arcsec [1.17σ]
OotOffset-st: 3/3/4/3 [13]
KicOffset-rm: 0.488 arcsec [1.56σ]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 0.85 [11/13]
DiffImageOverlap-fno: 1.00 [15/15]

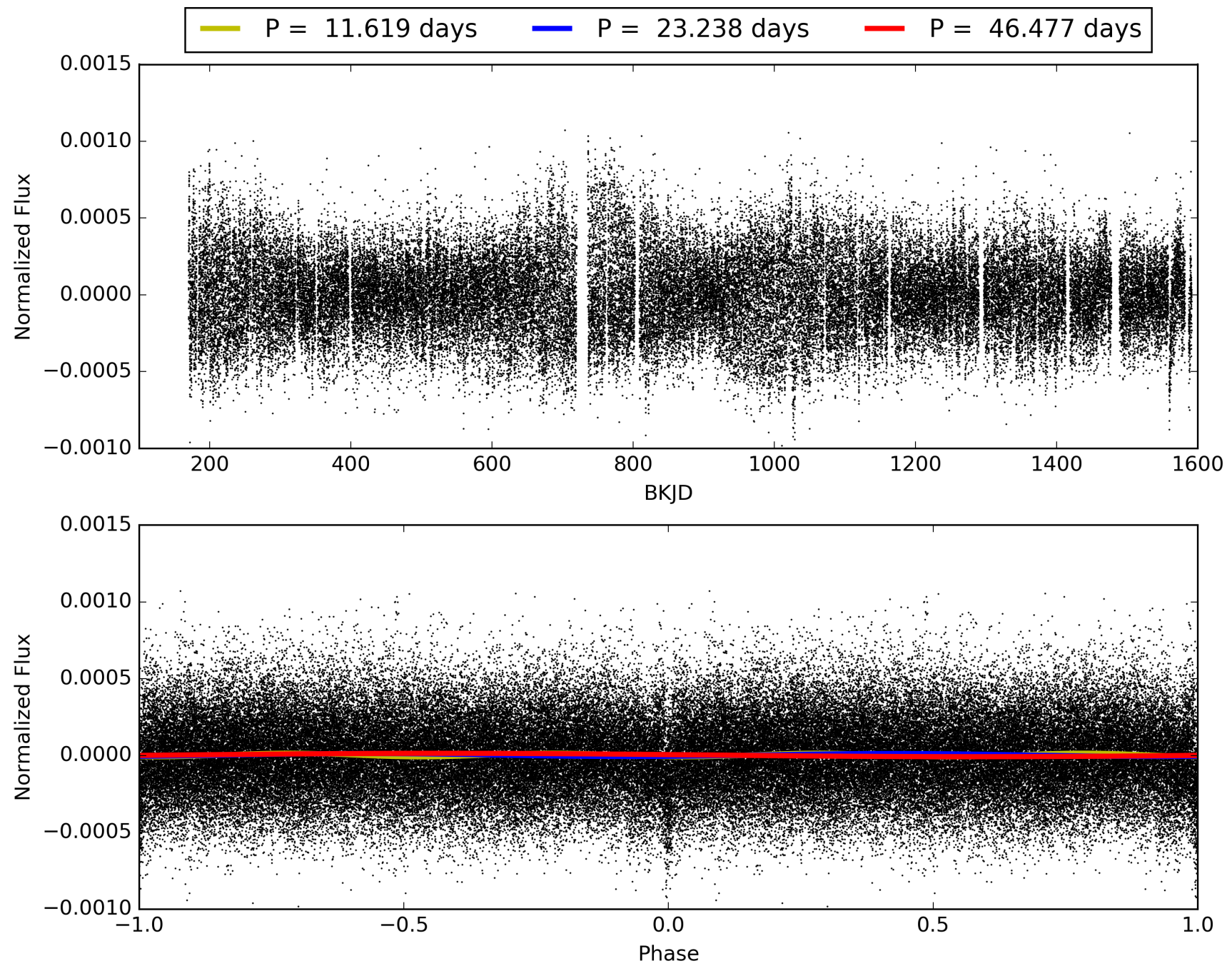
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 19:49:23 Z

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

TCE 007517261-01, PDC Light Curves

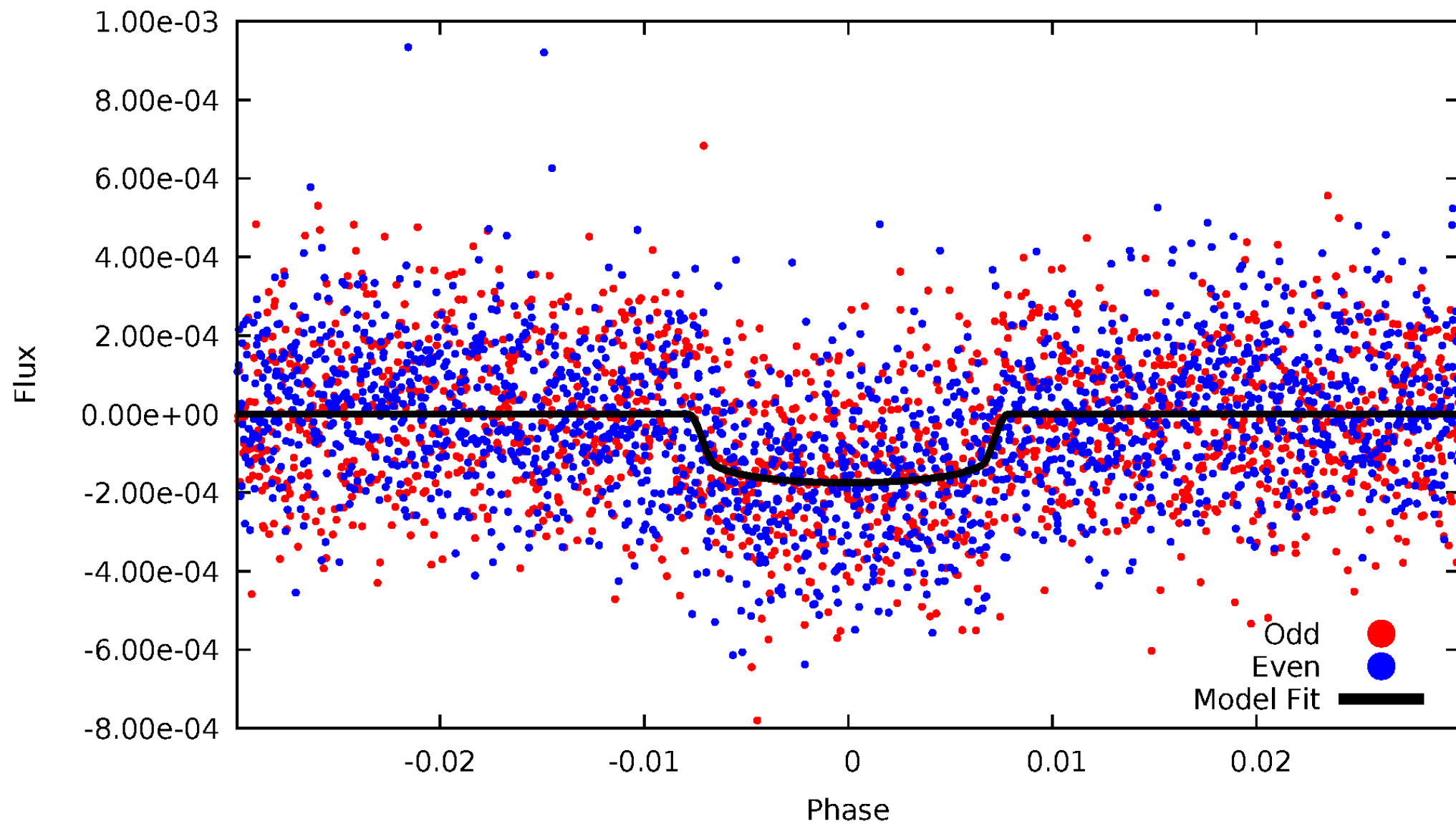


TCE 007517261-01



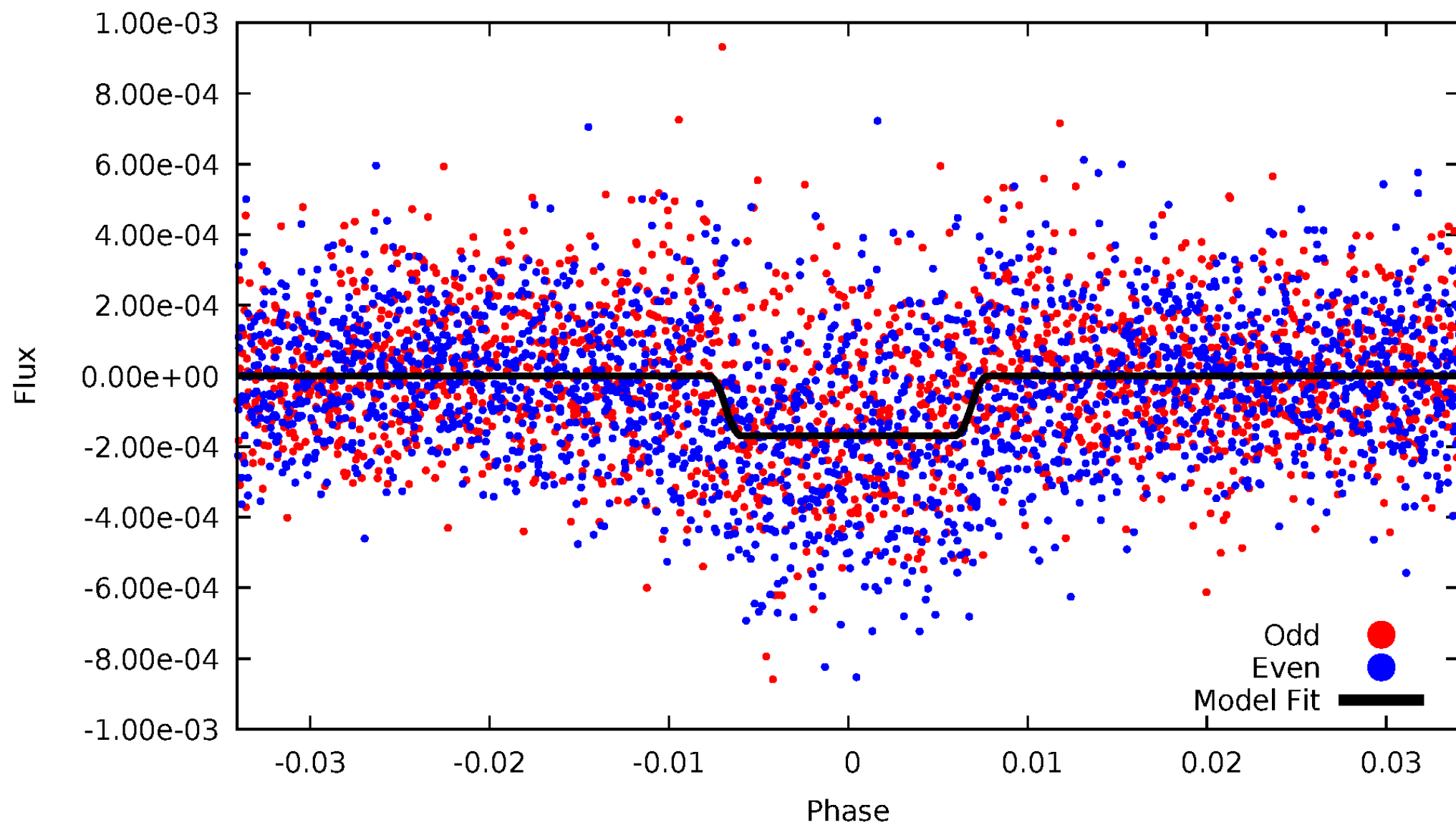
DV Odd/Even

TCE 007517261-01



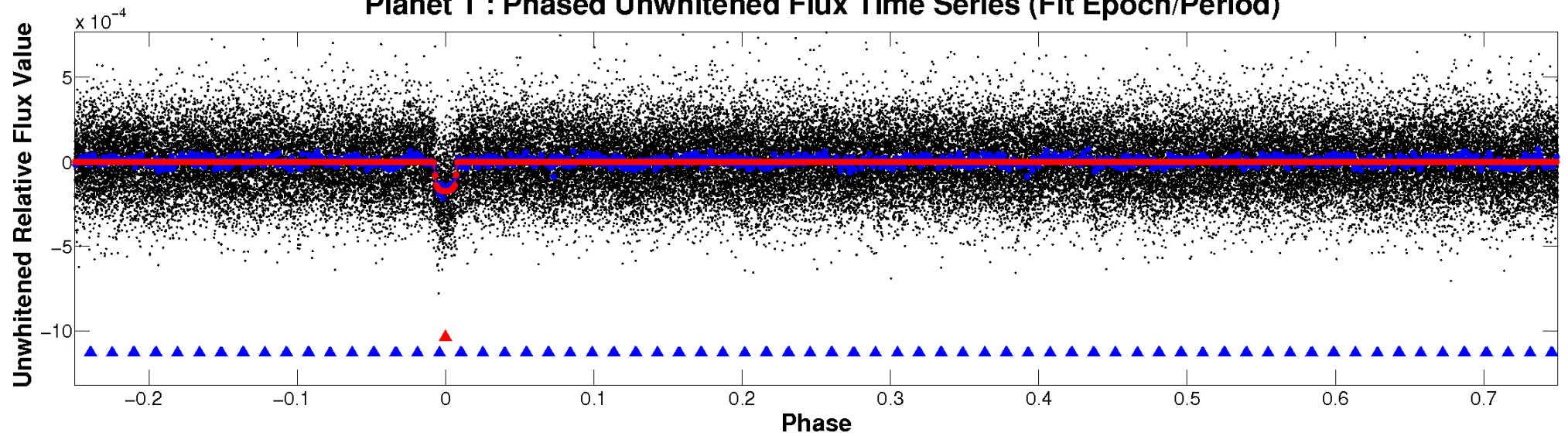
ALT Odd/Even

TCE 007517261-01

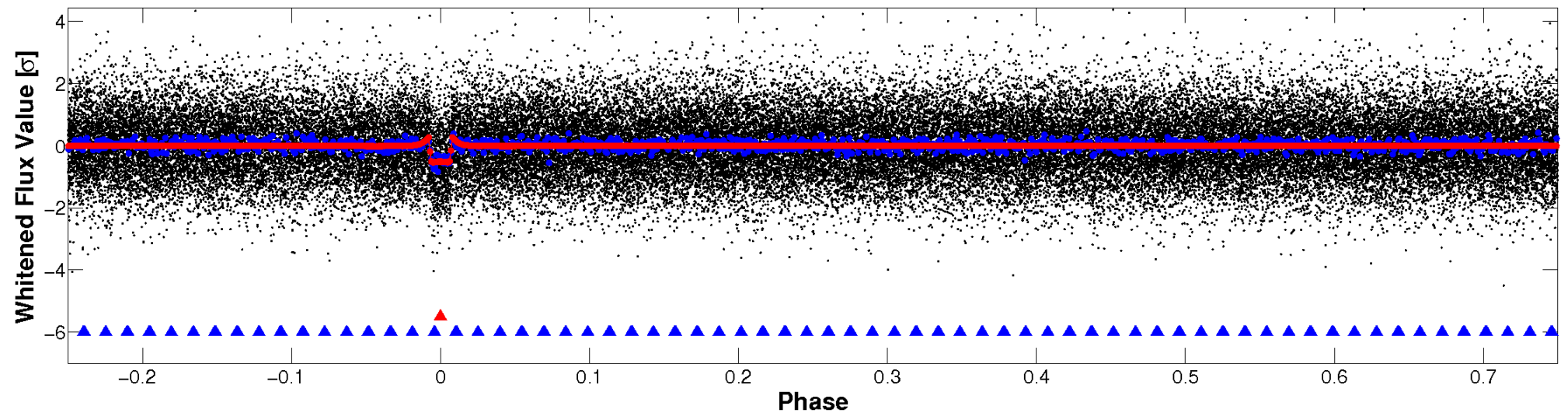


Non-Whitened Vs. Whitened Light Curve

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

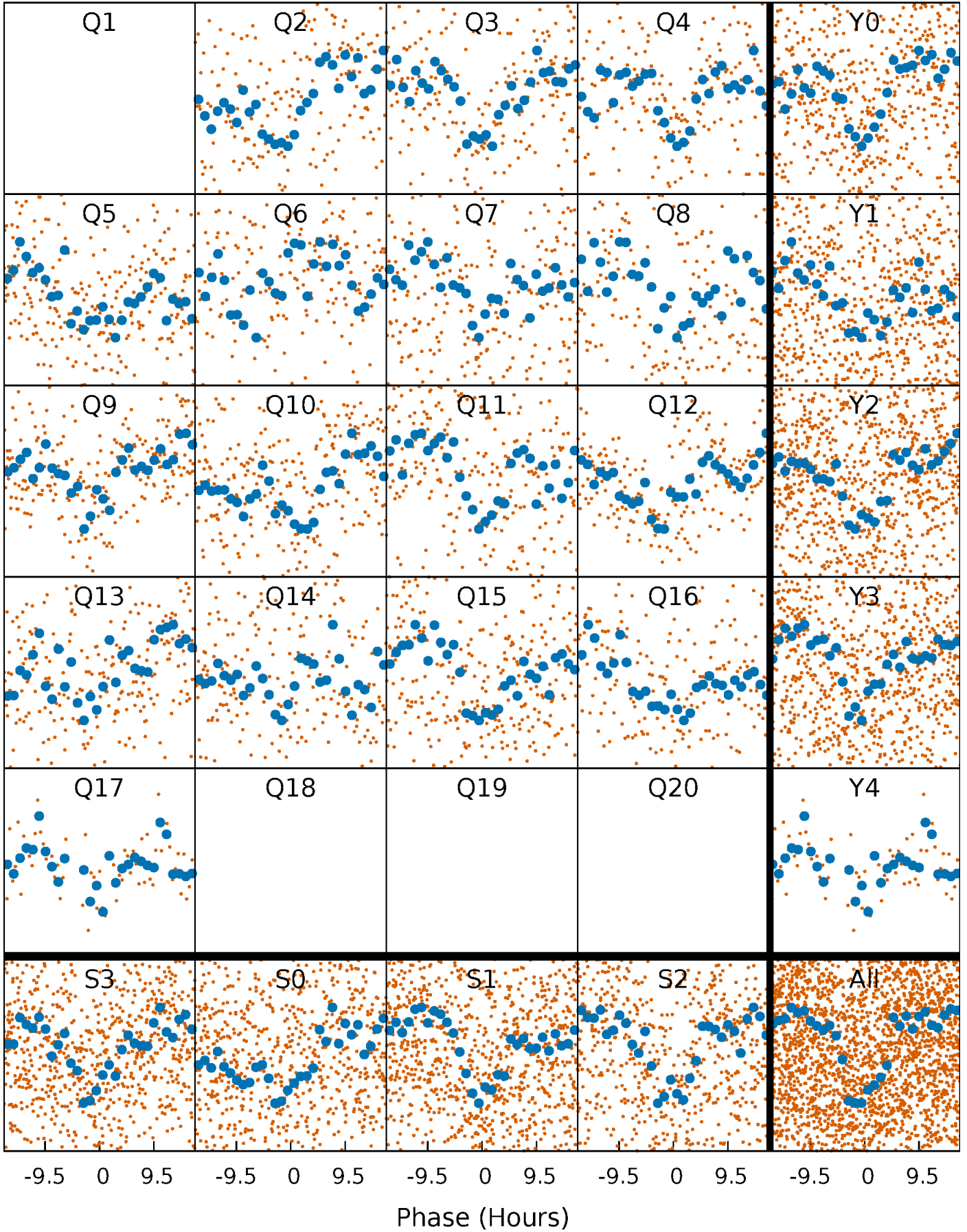


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



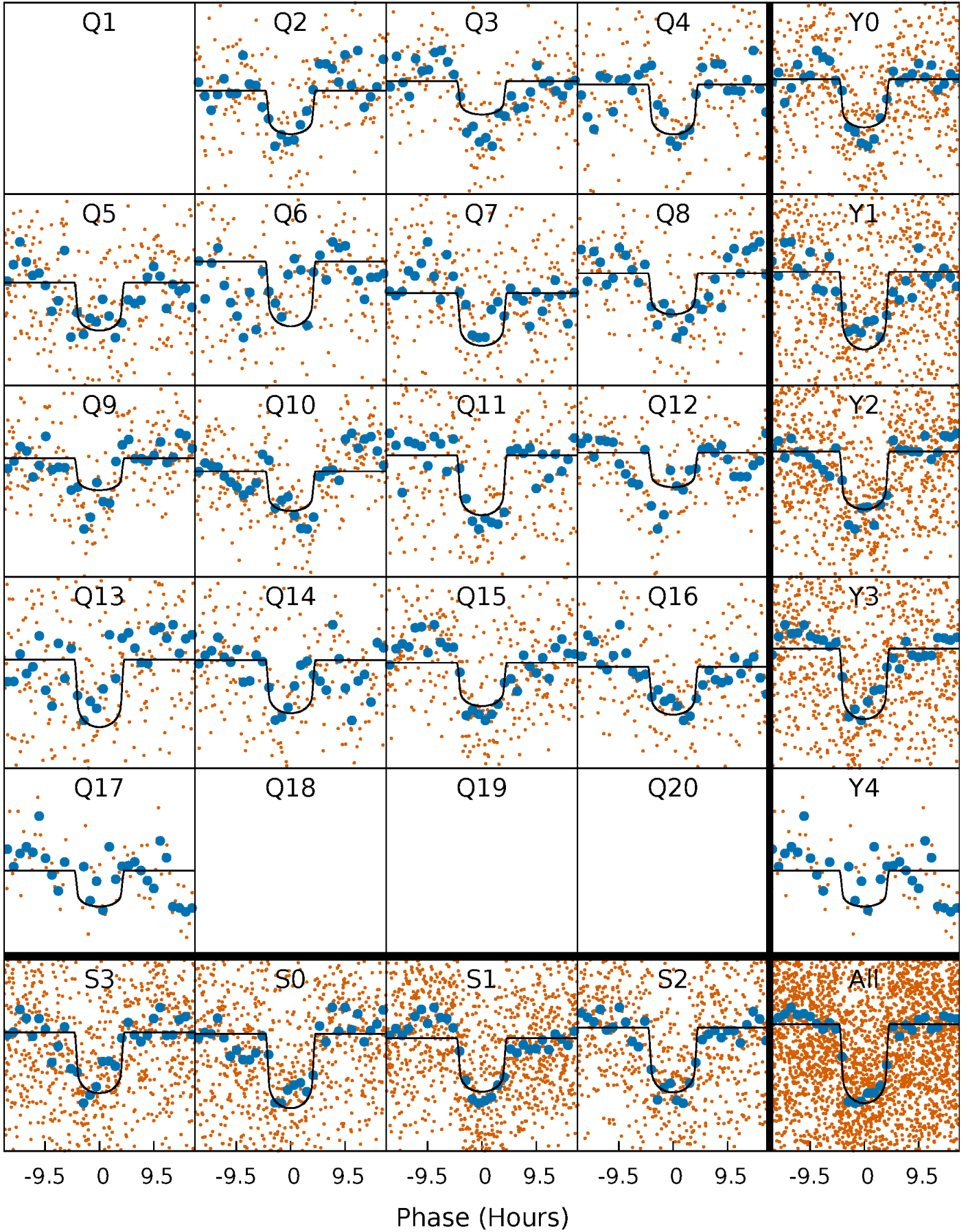
PDC Quarter-Phased Transit Curves

TCE 007517261-01 P= 23.238465 Days $T_0=143.538145$ (BKJD)



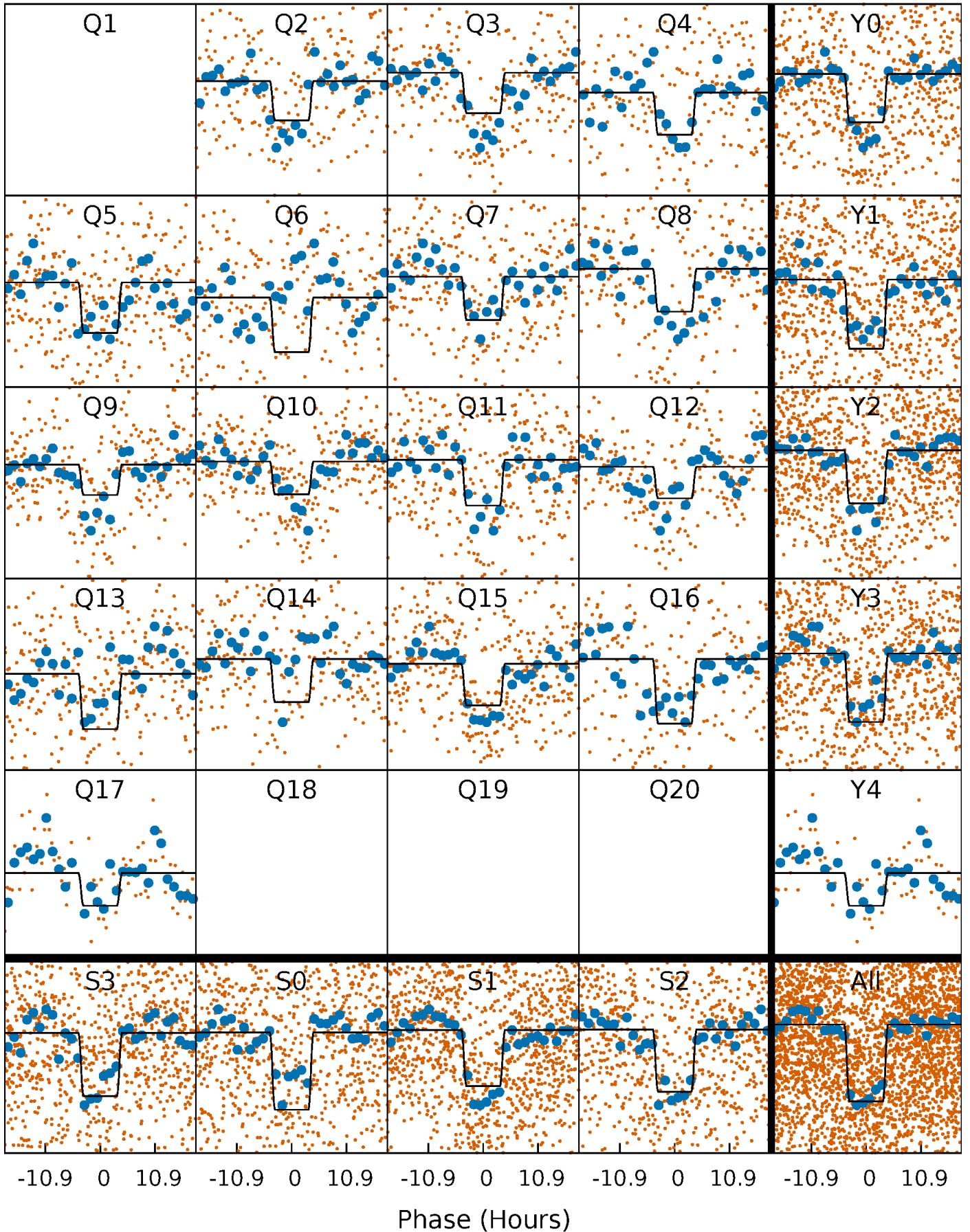
DV Quarter-Phased Transit Curves

TCE 007517261-01 P= 23.238465 Days $T_0=143.538145$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

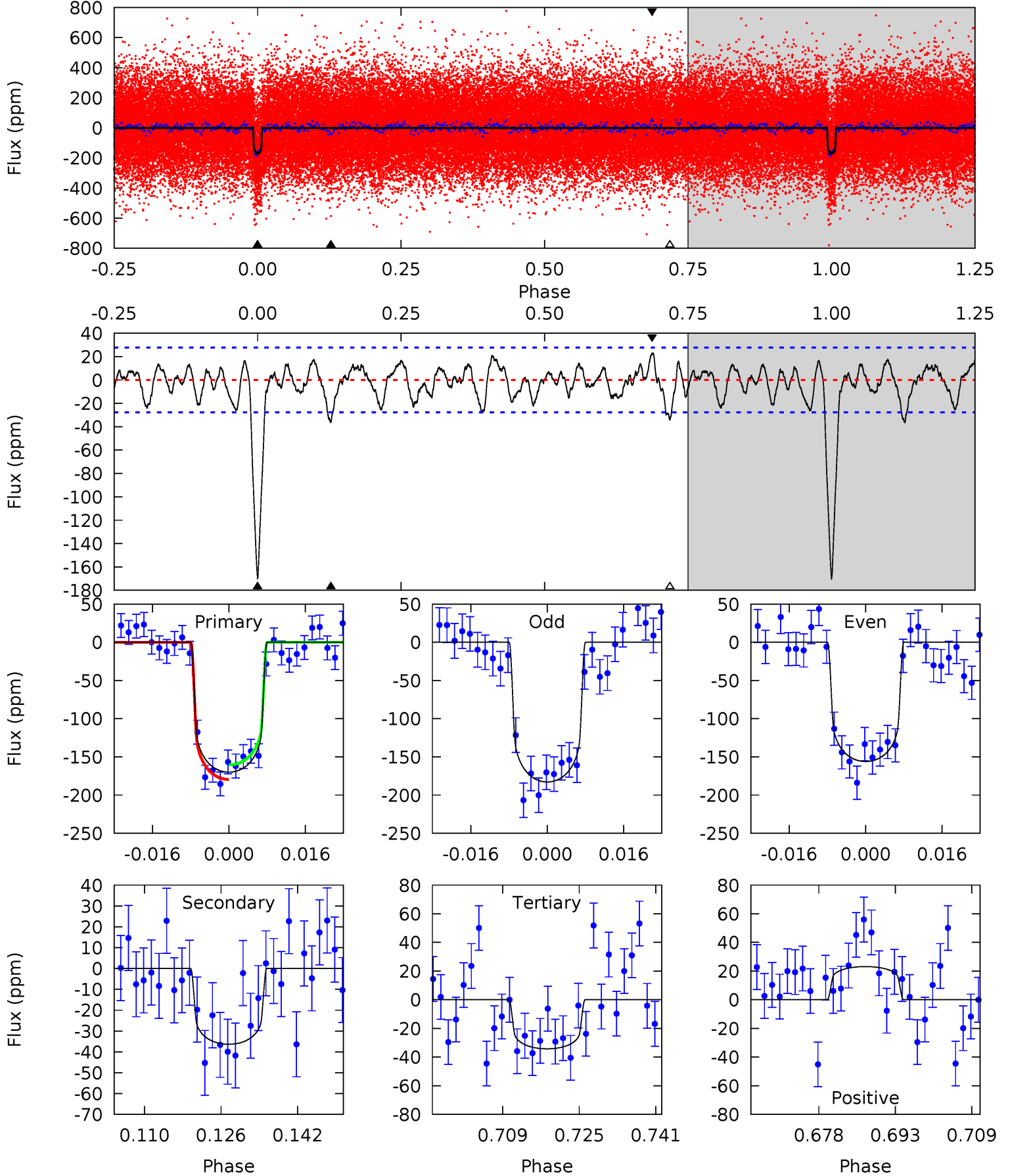
TCE 007517261-01 P= 23.238360 Days $T_0=143.537749$ (BKJD)



DV Model-Shift Uniqueness Test

007517261-01, P = 23.238465 Days, E = 143.538145 Days

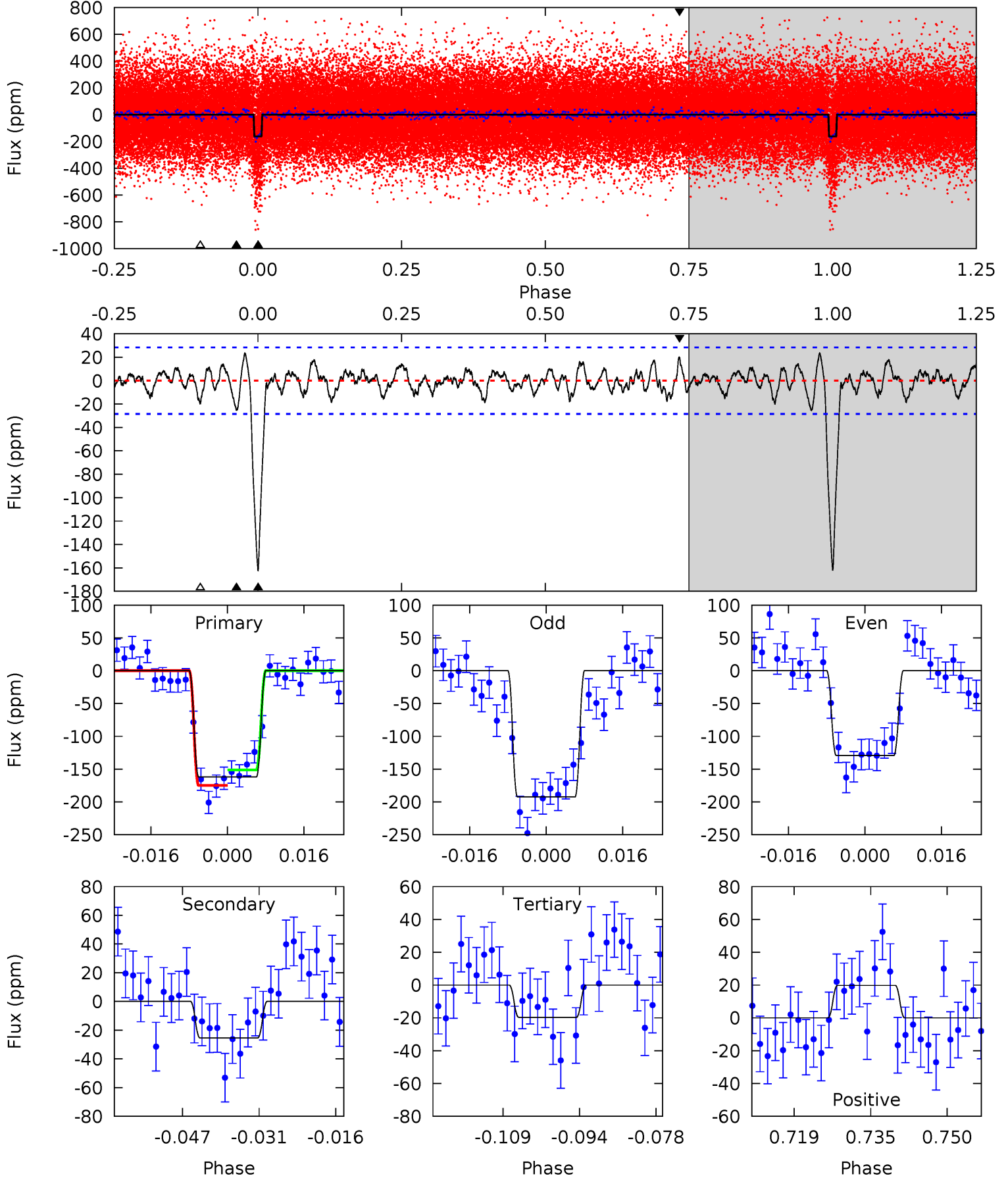
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.3	6.47	6.10	4.11	4.94	2.41	1.90	24.2	26.1	0.37	2.36	2.39	1.05	0.12	1.70



Alt Model-Shift Uniqueness Test

007517261-01, P = 23.238360 Days, E = 143.537749 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.2	4.42	3.42	3.44	4.94	2.42	1.28	24.7	24.7	1.00	0.98	5.47	1.12	0.13	2.05



Stellar Parameters For KIC 007517261

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6602^{+181}_{-250}	$4.108^{+0.220}_{-0.180}$	$-0.120^{+0.250}_{-0.300}$	$1.685^{+0.494}_{-0.444}$	$1.333^{+0.193}_{-0.236}$	$0.392^{+0.485}_{-0.186}$
	+3%/-4%	+5%/-4%	+208%/-250%	+29%/-26%	+14%/-18%	+124%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007517261-01 / KOI 3496.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-36 ± 6	$2.45^{+0.57}_{-0.53}$	1260^{+100}_{-100}	4578^{+357}_{-322}	101^{+63}_{-38}
Alt.	-25 ± 6	$2.35^{+0.57}_{-0.52}$	1254^{+93}_{-100}	4347^{+328}_{-339}	78^{+51}_{-31}

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

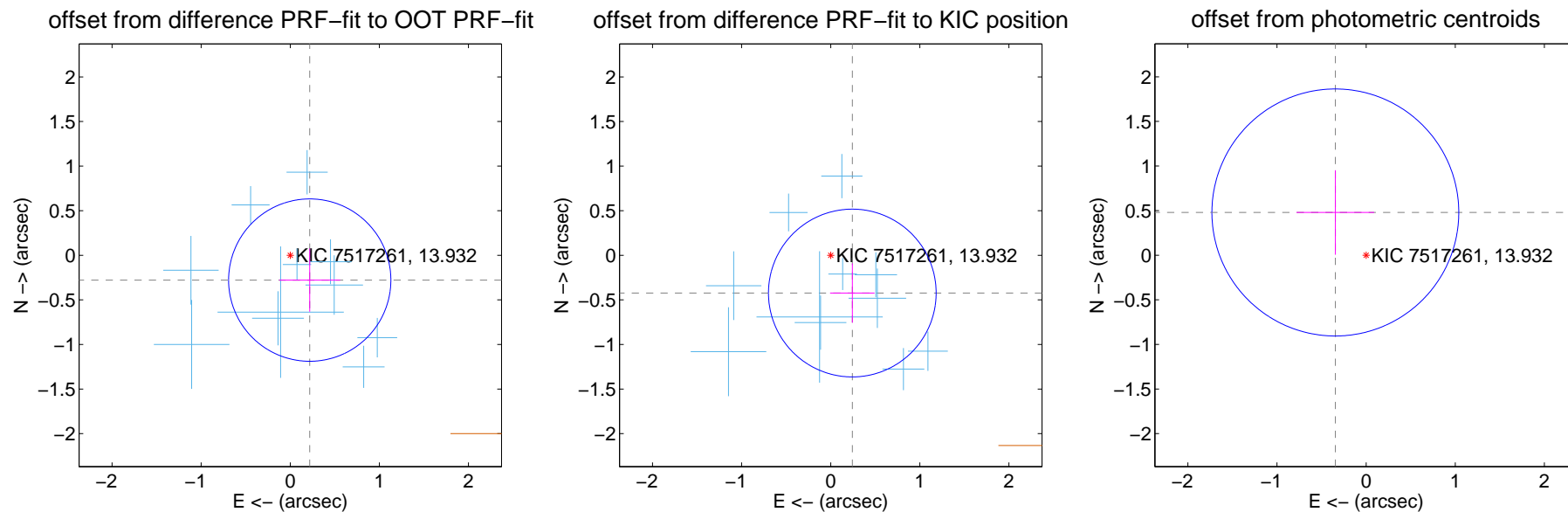
DV Centroid Data

Supplemental centroid analysis for 007517261-01. Kepler magnitude: 13.93. Transit SNR 15.08

There are 11 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.354 ± 0.303	1.17	-0.218 ± 0.342	-0.278 ± 0.354
PRF-fit source offset from KIC position	0.488 ± 0.314	1.56	-0.242 ± 0.250	-0.423 ± 0.332
photometric centroid source offset	0.59 ± 0.46	1.28	0.35 ± 0.44	0.48 ± 0.47



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.

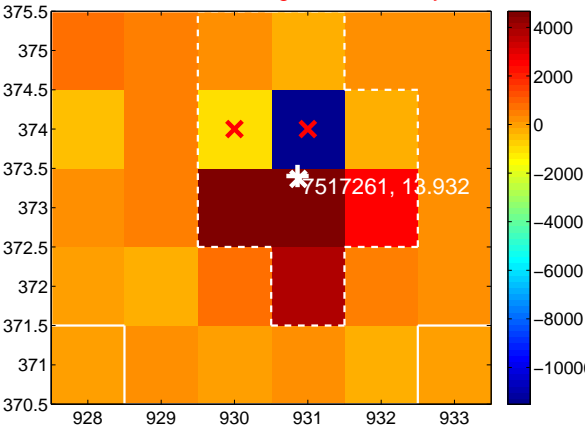
Q1 no difference image



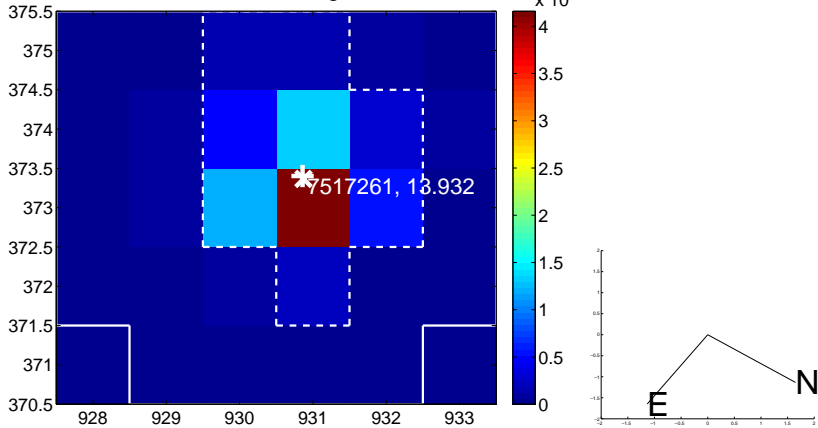
Q1 no OOT image



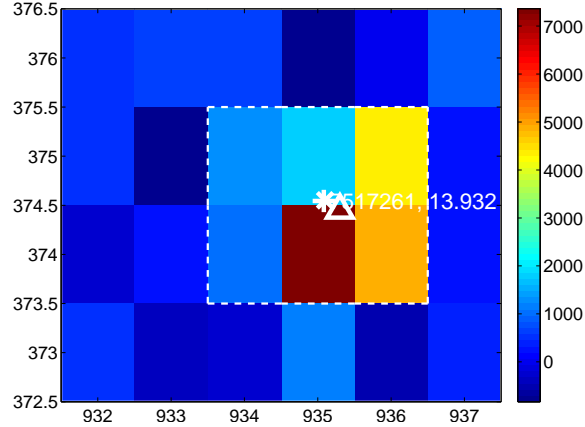
Q2 difference image. Poor Quality



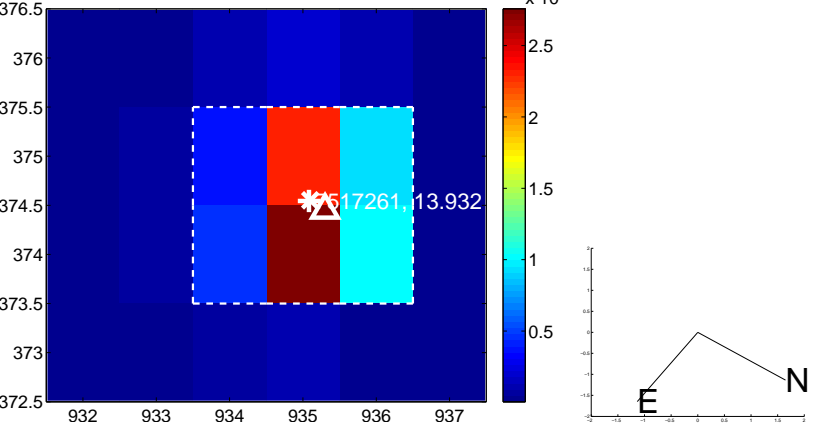
Q2 OOT image



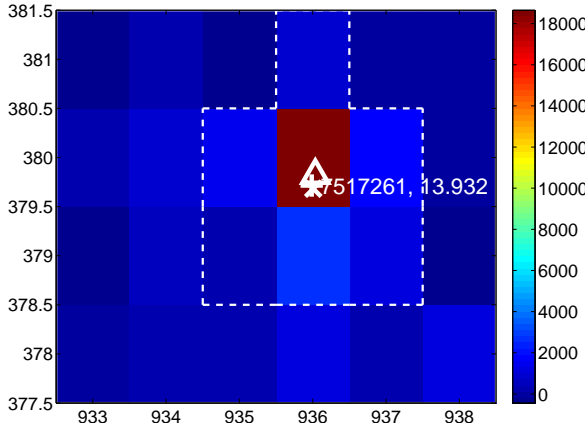
Q3 difference image



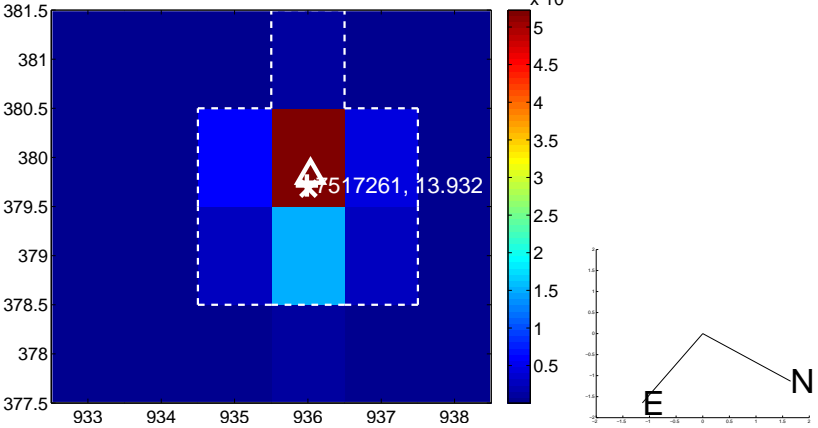
Q3 OOT image



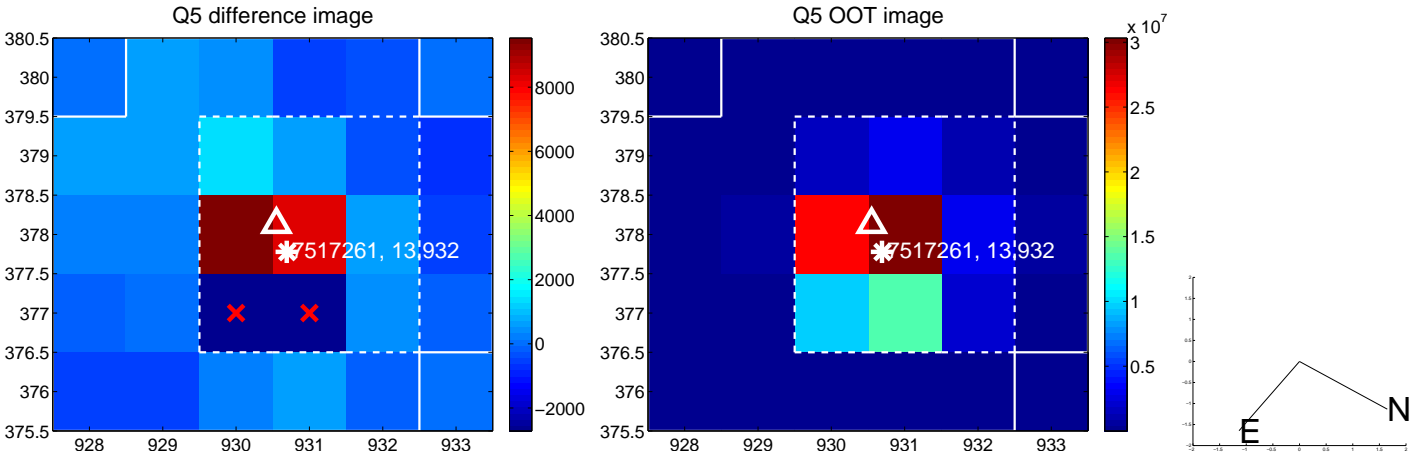
Q4 difference image



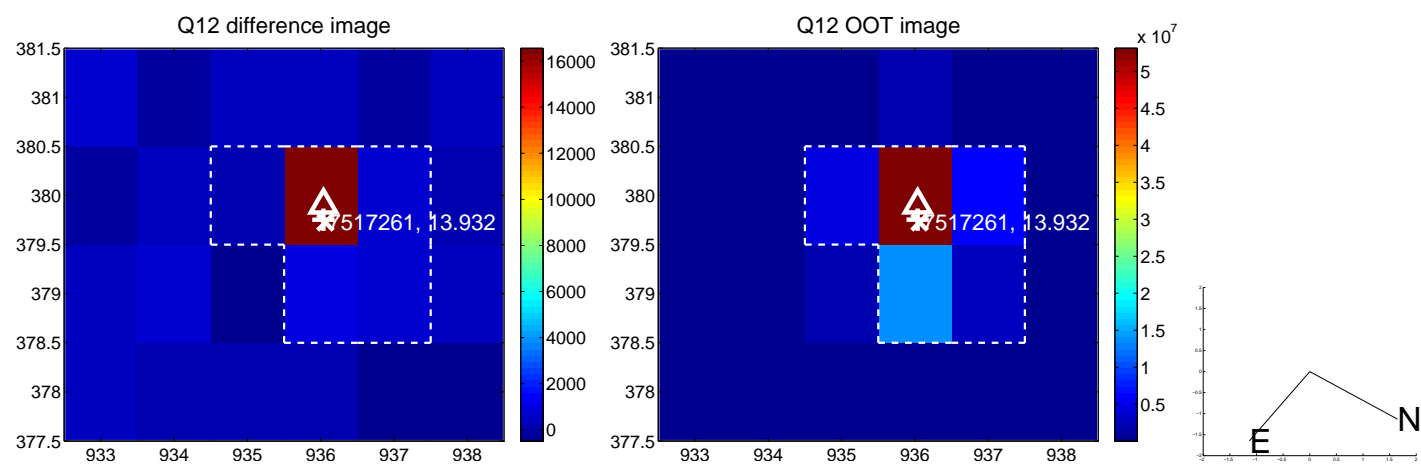
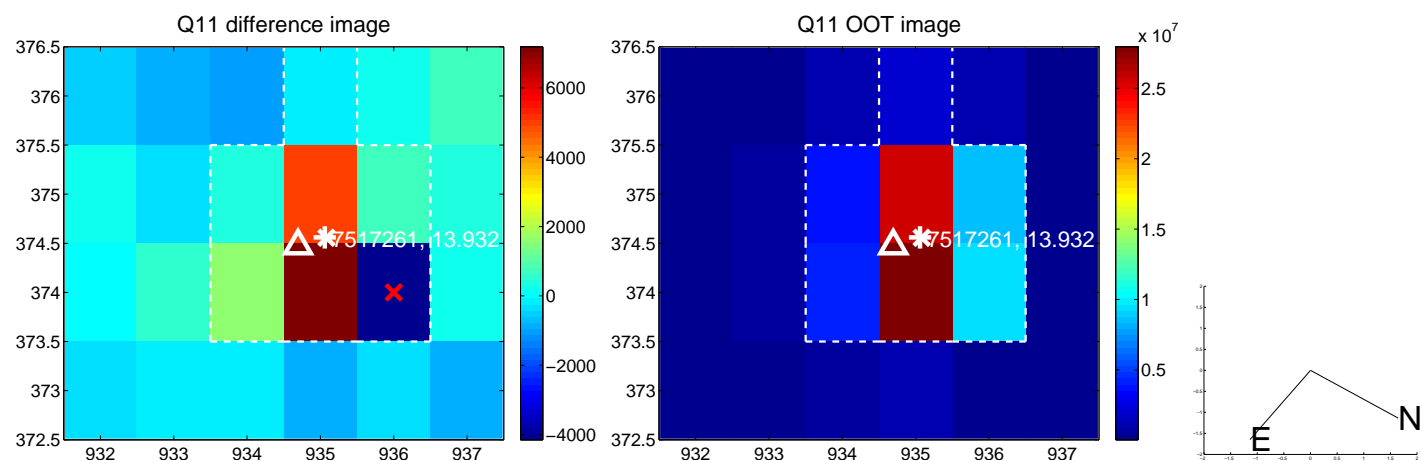
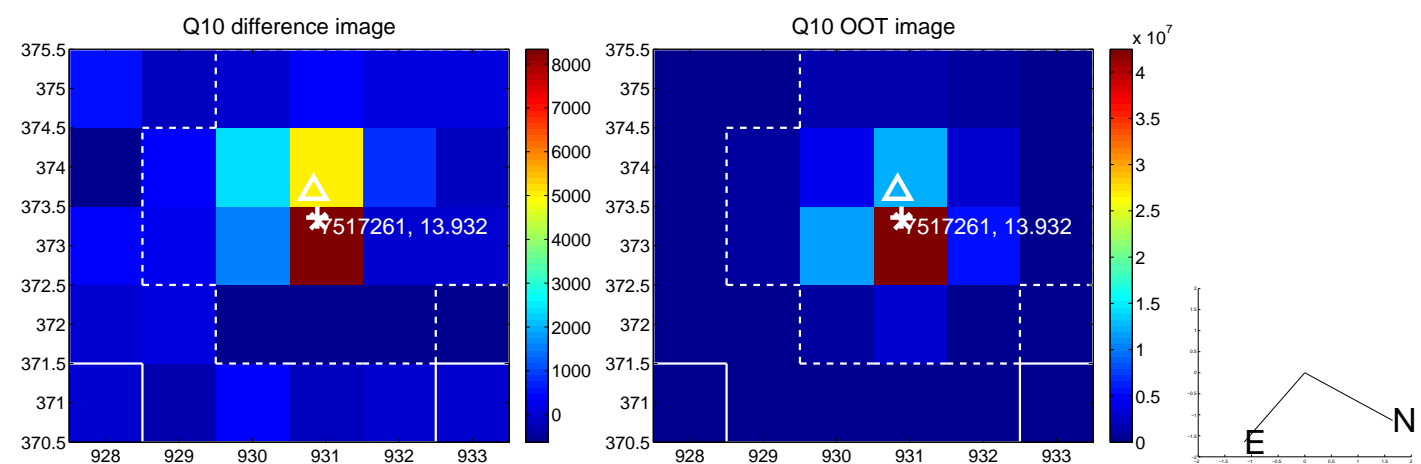
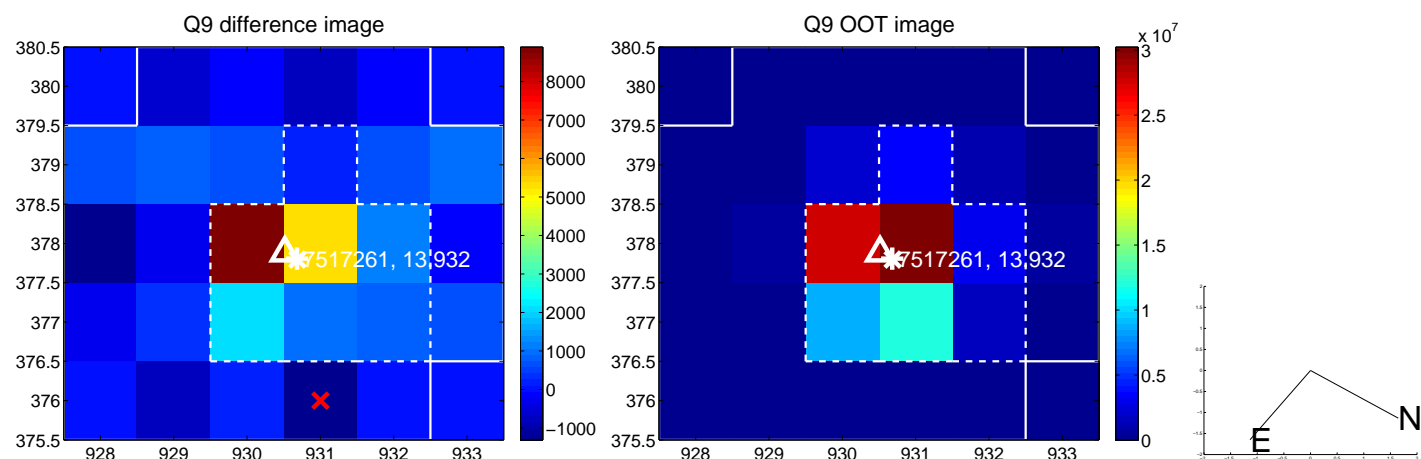
Q4 OOT image



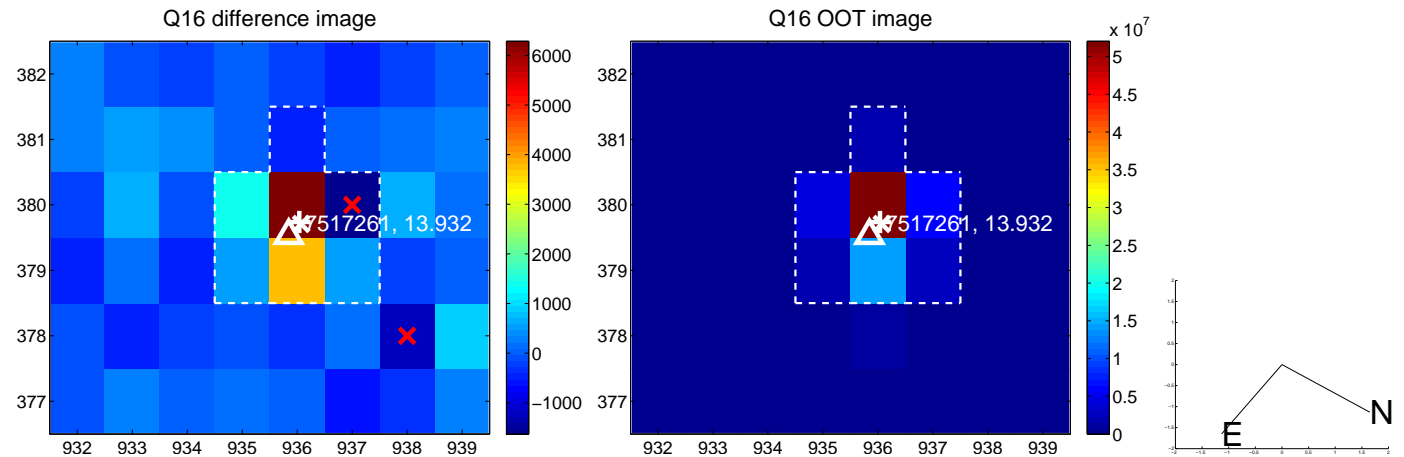
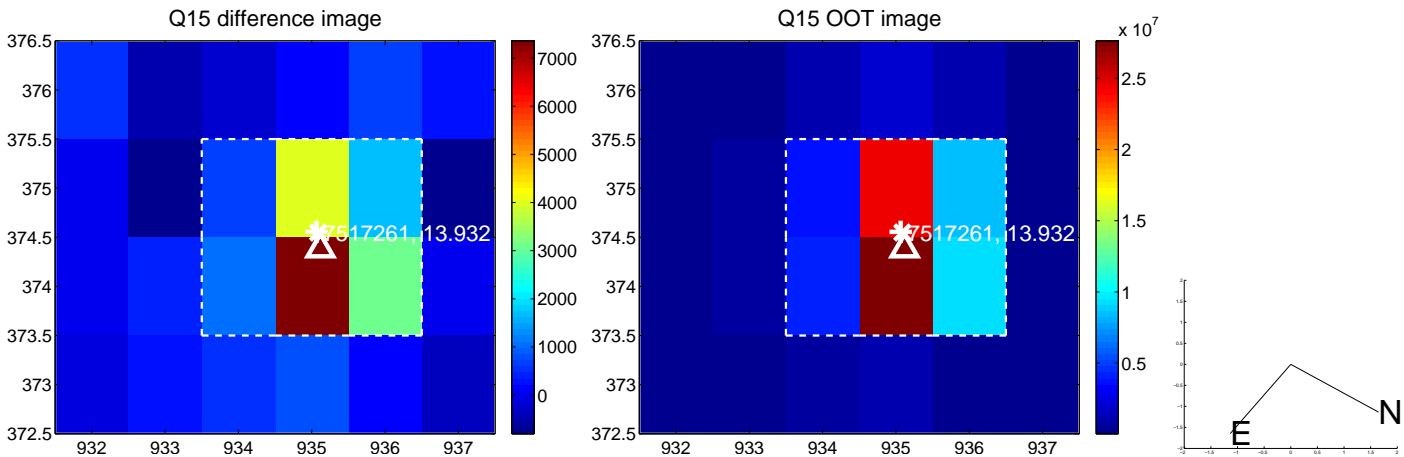
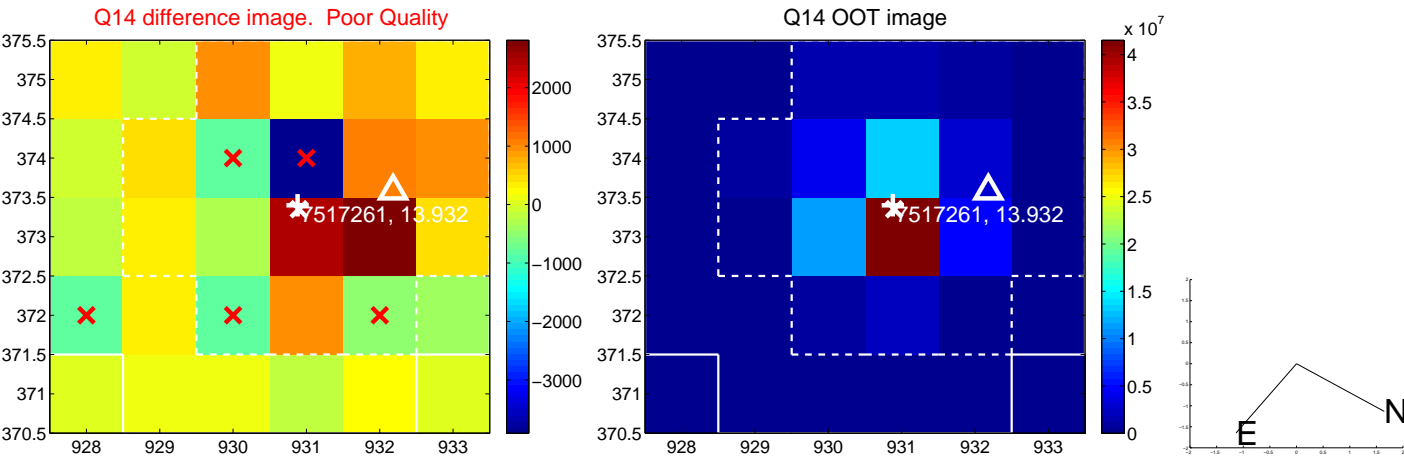
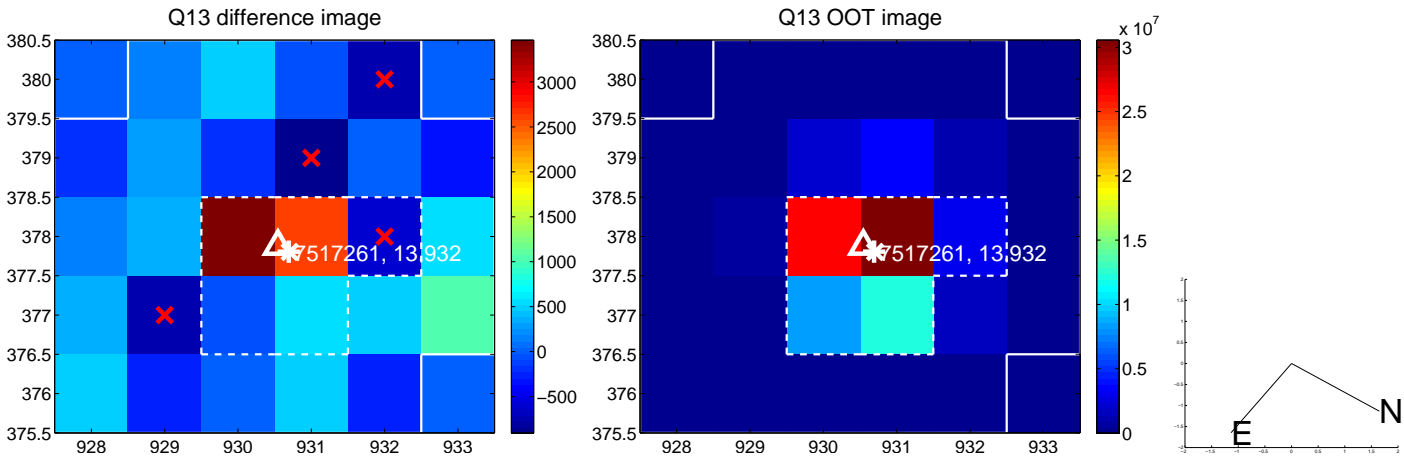
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



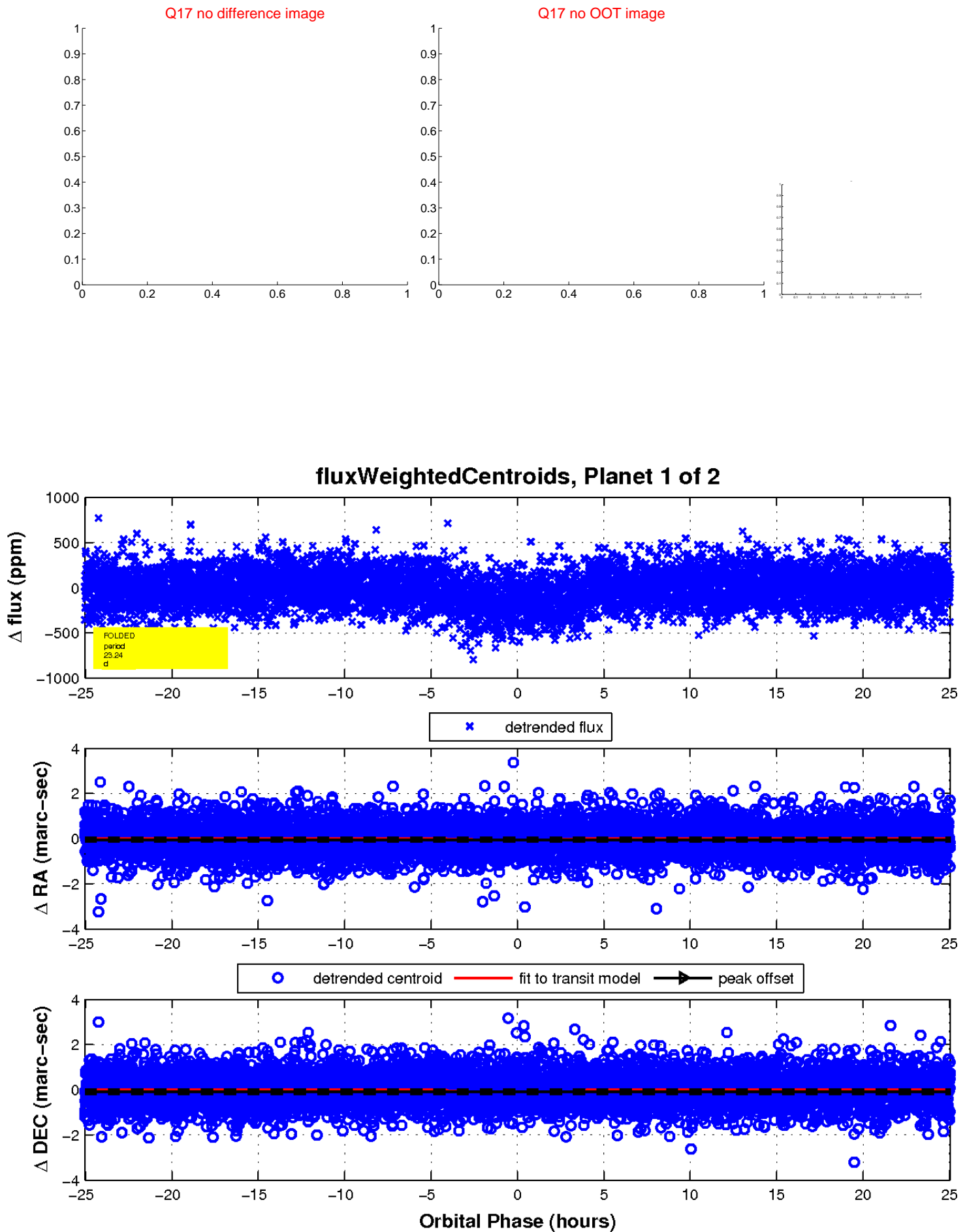
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

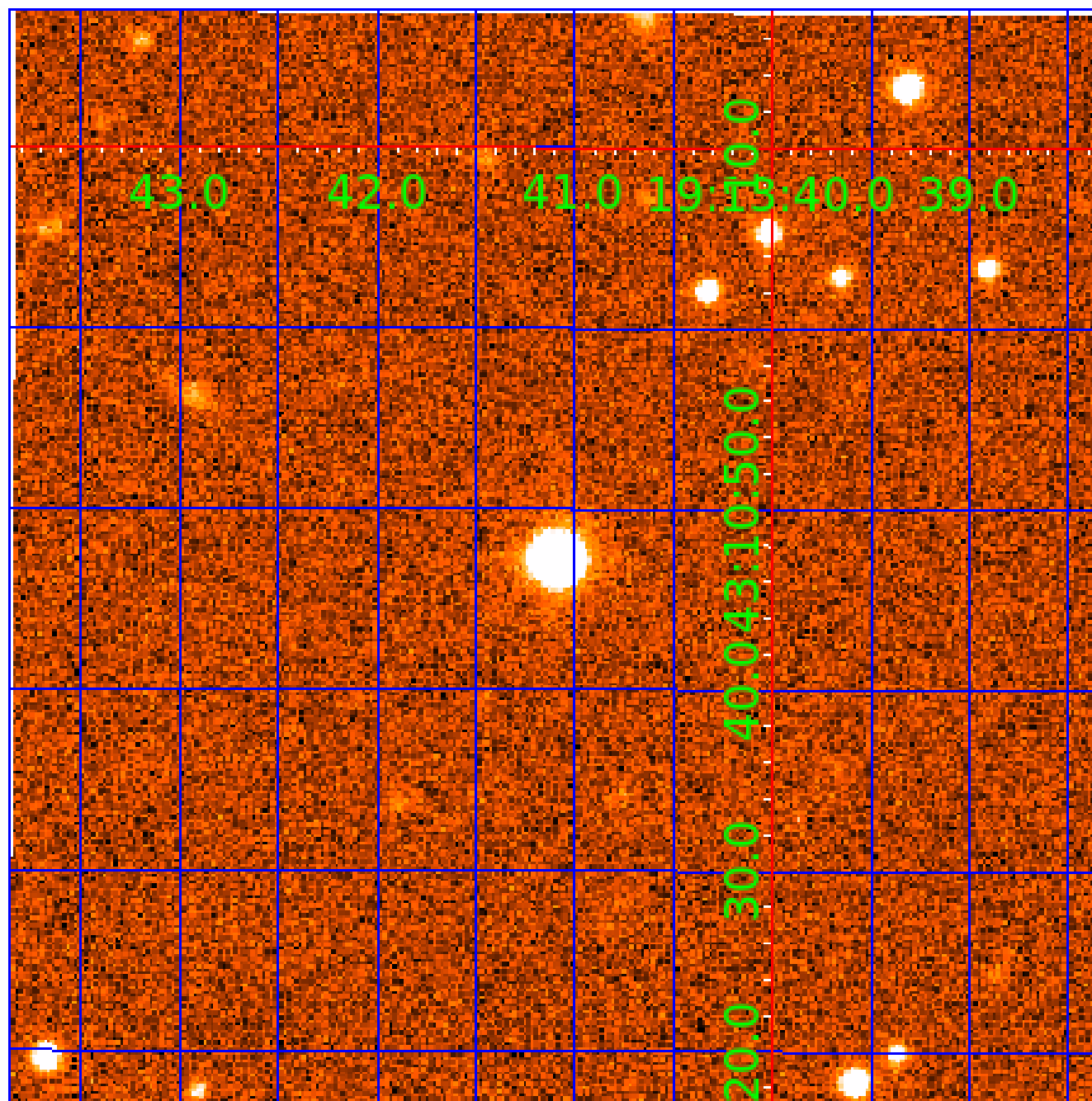


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007517261

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})
007517261-01	OBS	3496.01	23.238465	143.538145	175.0	8.349	13.6	15.1	1.69	6602	2.47	157.42
007517261-02	OBS	3496.02	8.543379	137.989264	68.5	6.320	9.9	9.7	1.69	6602	1.63	597.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007517261-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007517261-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

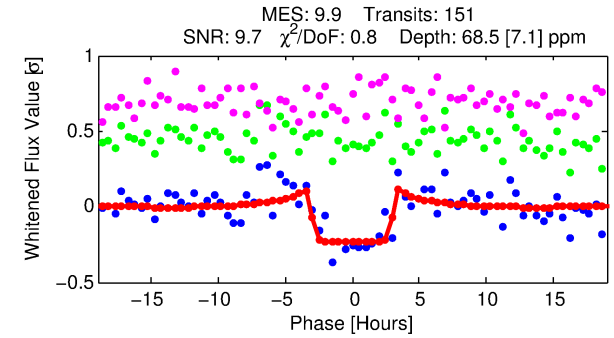
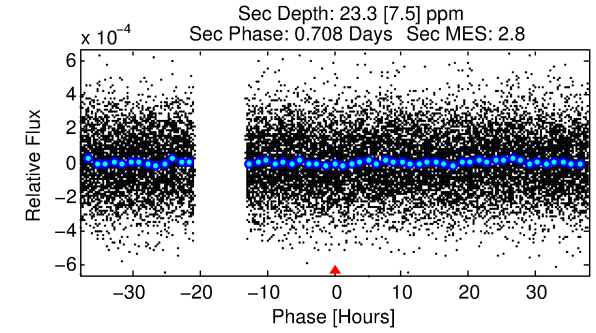
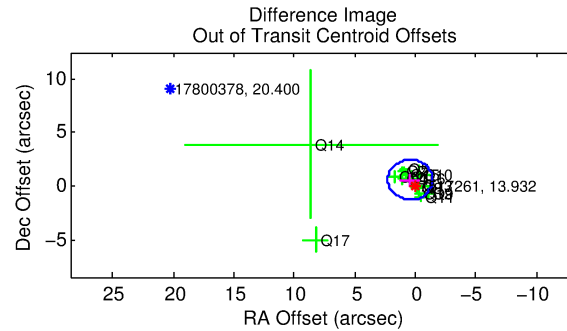
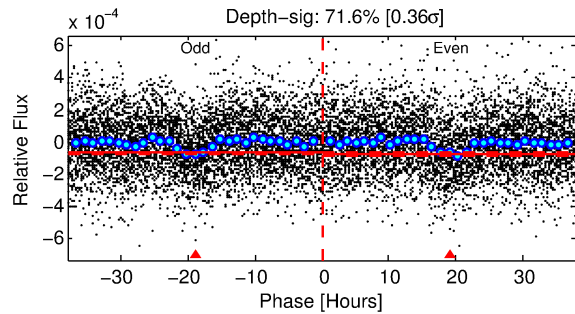
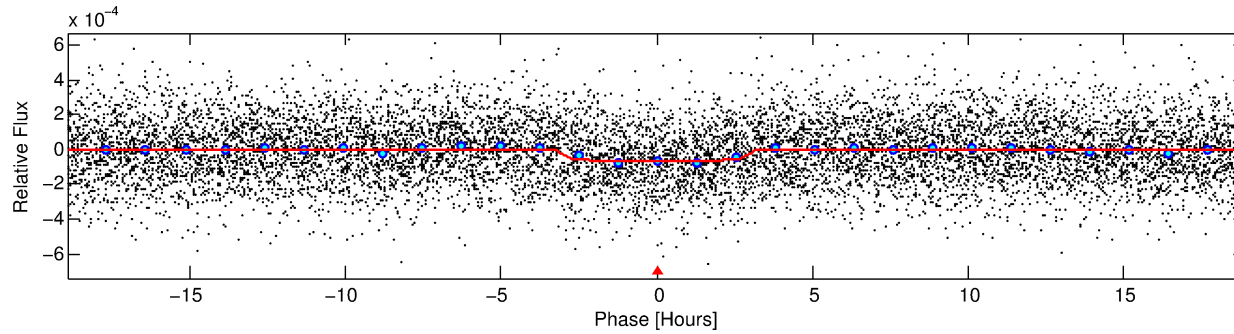
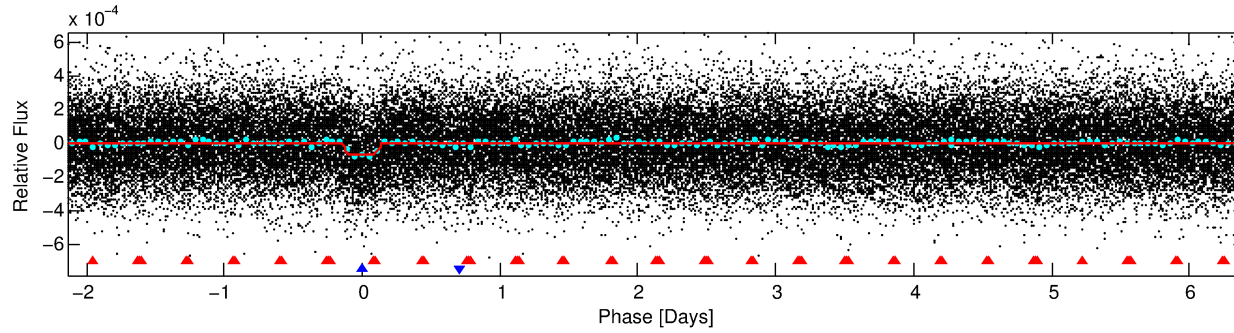
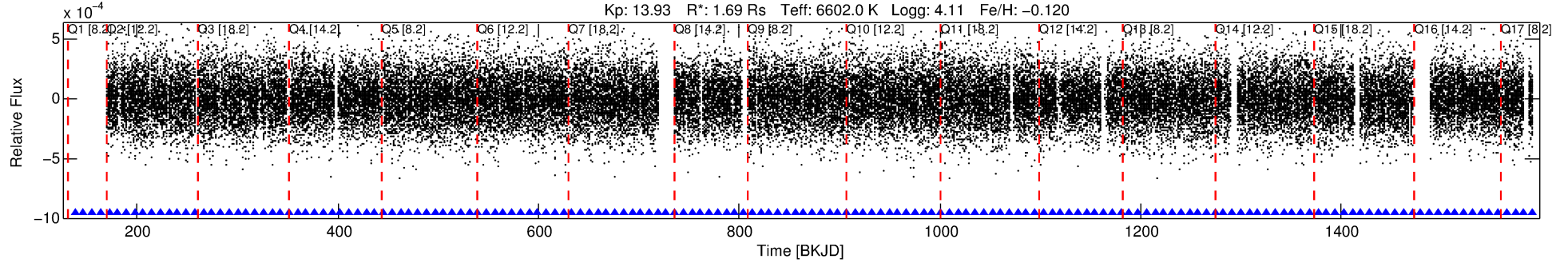
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007517261-02

No Significant Match Found

DV One-Page Summary

KIC: 7517261 Candidate: 2 of 2 Period: 8.543 d
KOI: K03496.02 Corr: 0.948



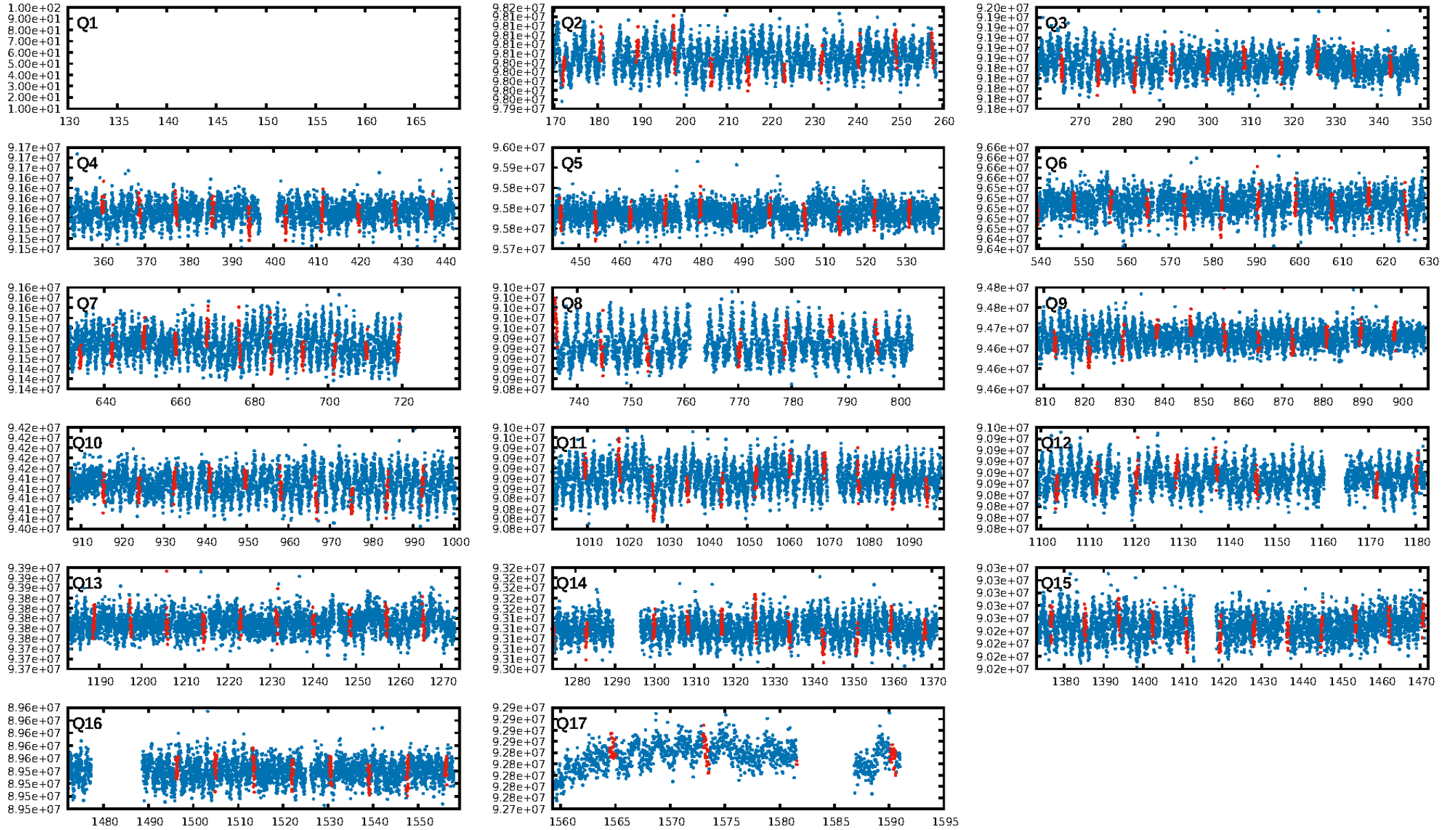
DV Fit Results:

Period = 8.54338 [0.00008] d
Epoch = 137.9893 [0.0072] BKJD
Rp/R* = 0.0088 [0.0020]
a/R* = 4.82 [5.70]
b = 0.90 [0.27]
Seff = 597.71 [250.18]
Teq = 1261 [132] K
Rp = 1.63 [0.60] Re
a = 0.0899 [0.0232] AU
Ag = 39.18 [26.31] [1.45 σ]
Teffp = 4877 [691] K [5.14 σ]

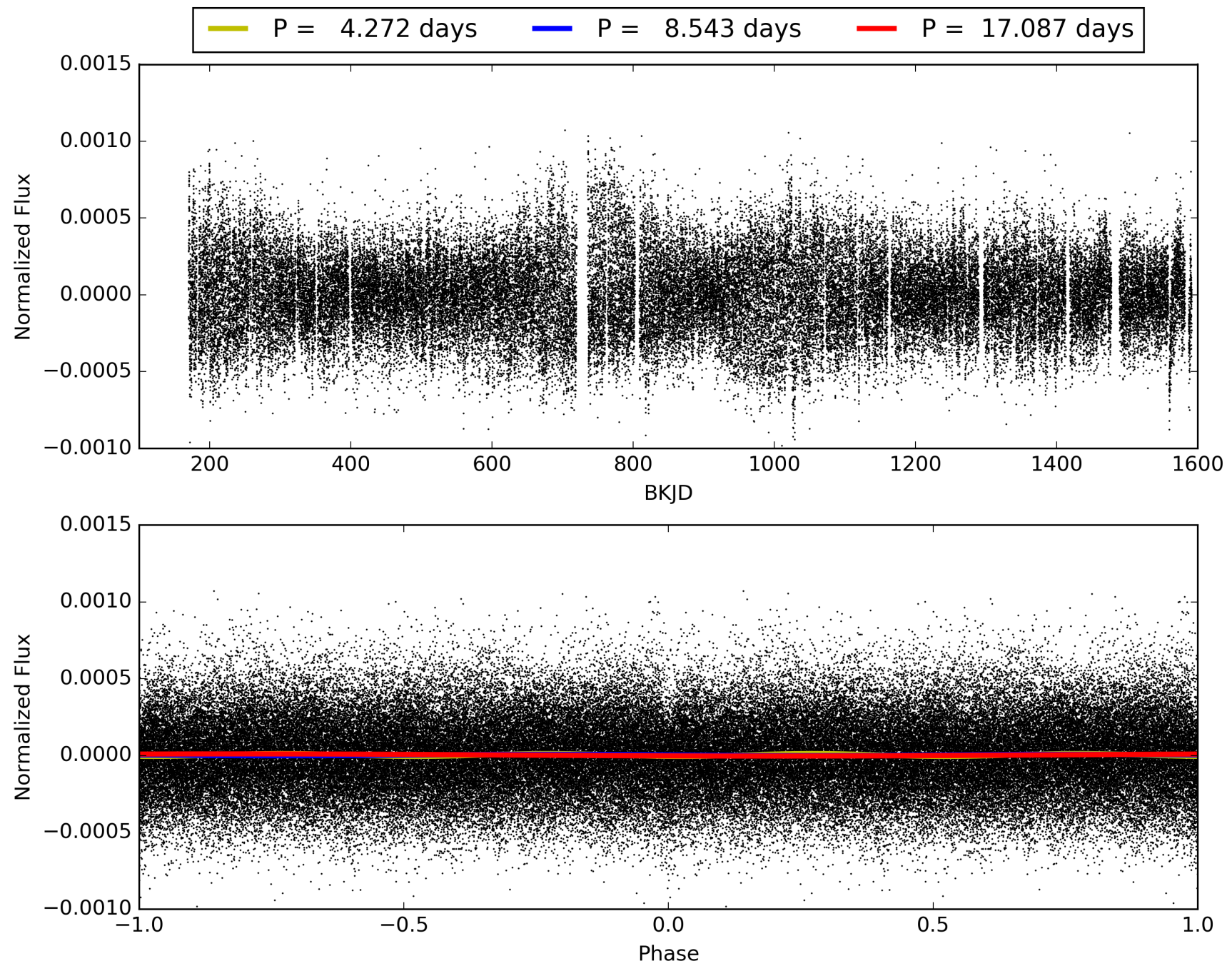
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [33.68 σ]
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.19e-21
RollingBand-fgt: 1.00 [148/148]
GhostDiagnostic-chr: 1.741
Centroid-sig: 18.3%
Centroid-so: 0.919 arcsec [1.23 σ]
OotOffset-rm: 0.732 arcsec [1.18 σ]
KicOffset-rm: 0.640 arcsec [0.99 σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 007517261-02, PDC Light Curves

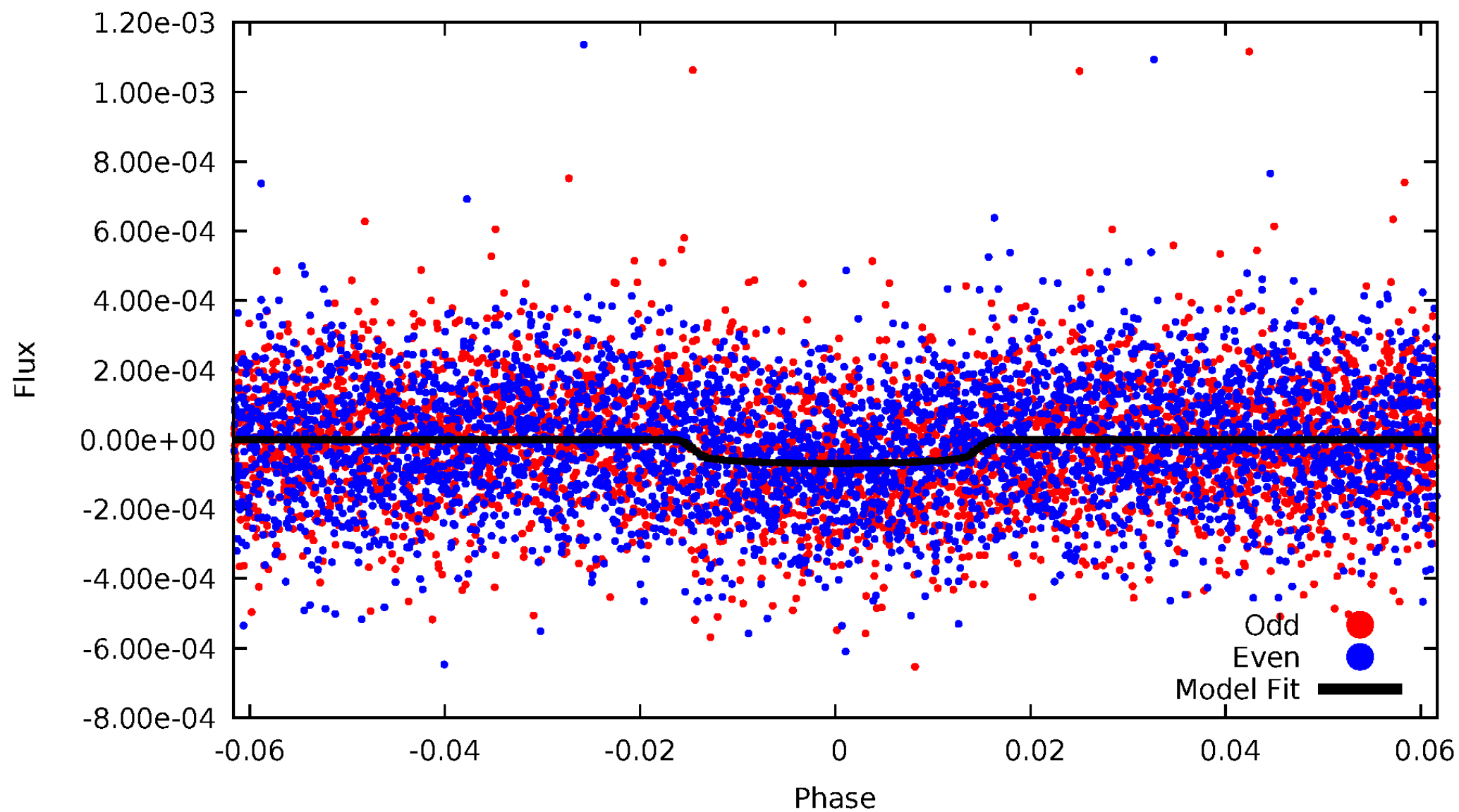


TCE 007517261-02



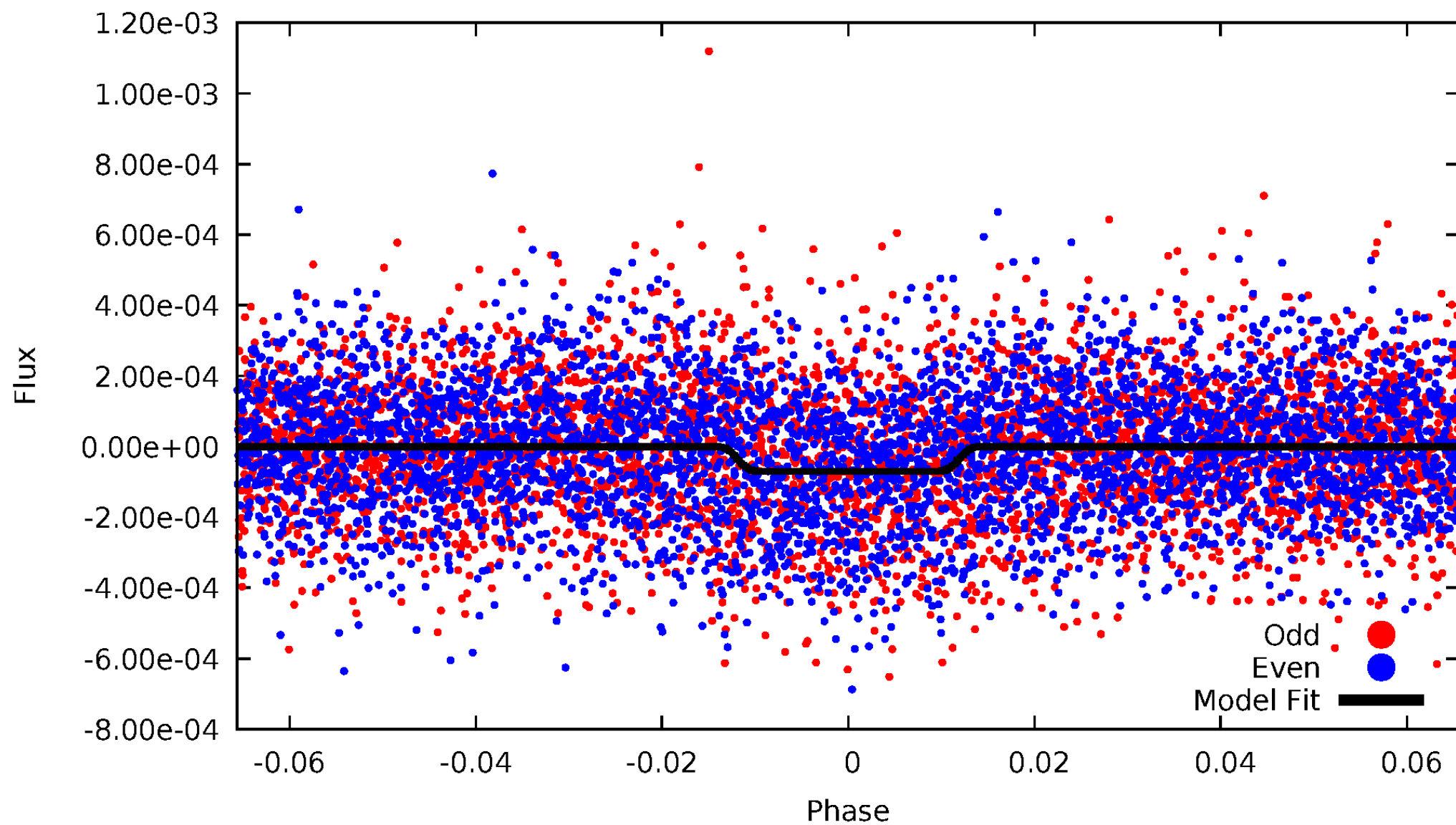
DV Odd/Even

TCE 007517261-02



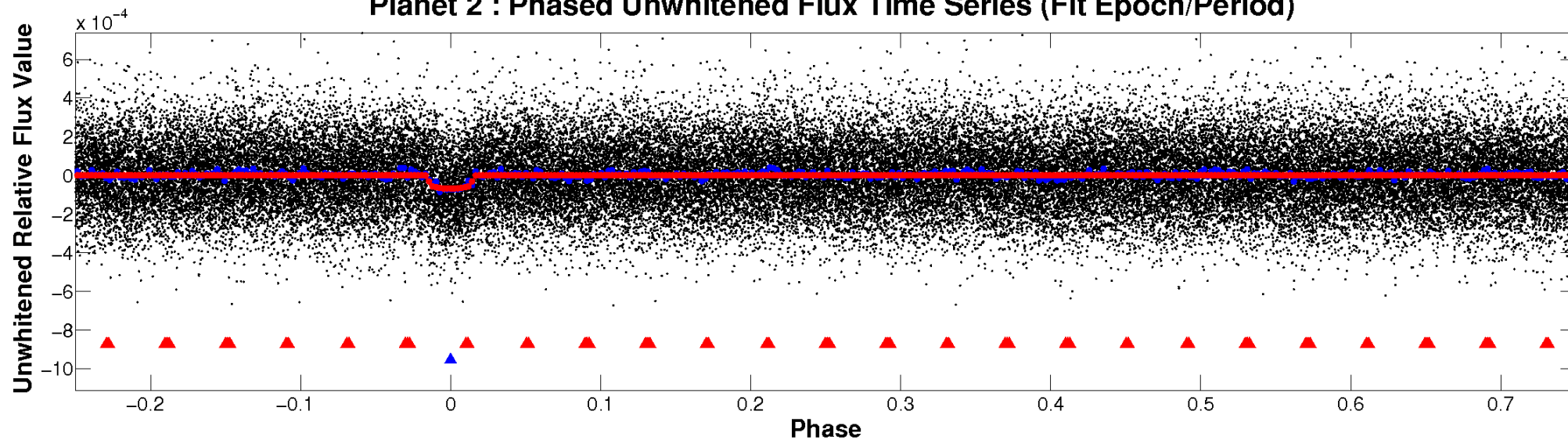
ALT Odd/Even

TCE 007517261-02

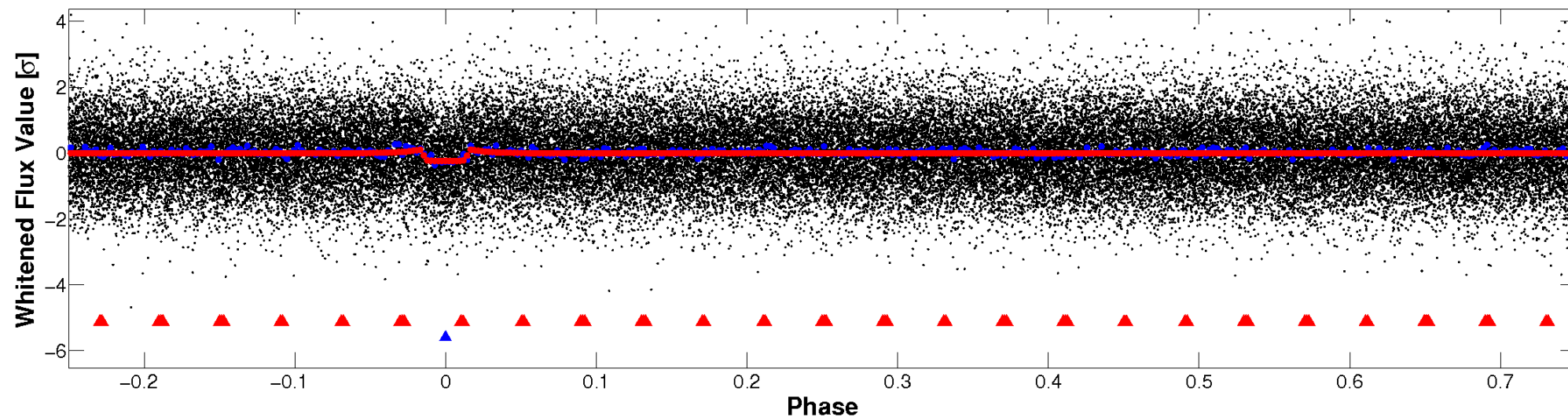


Non-Whitened Vs. Whitened Light Curve

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

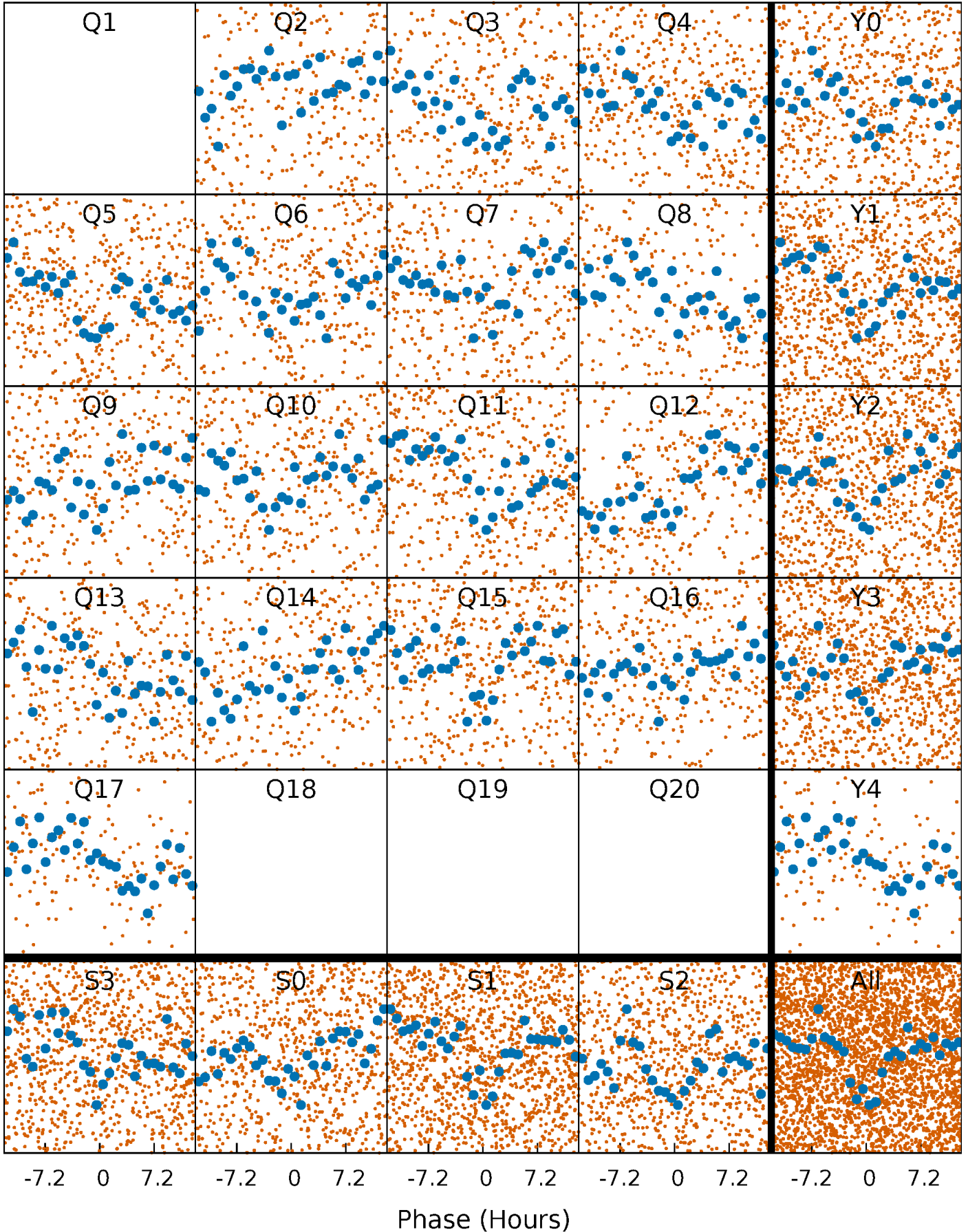


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



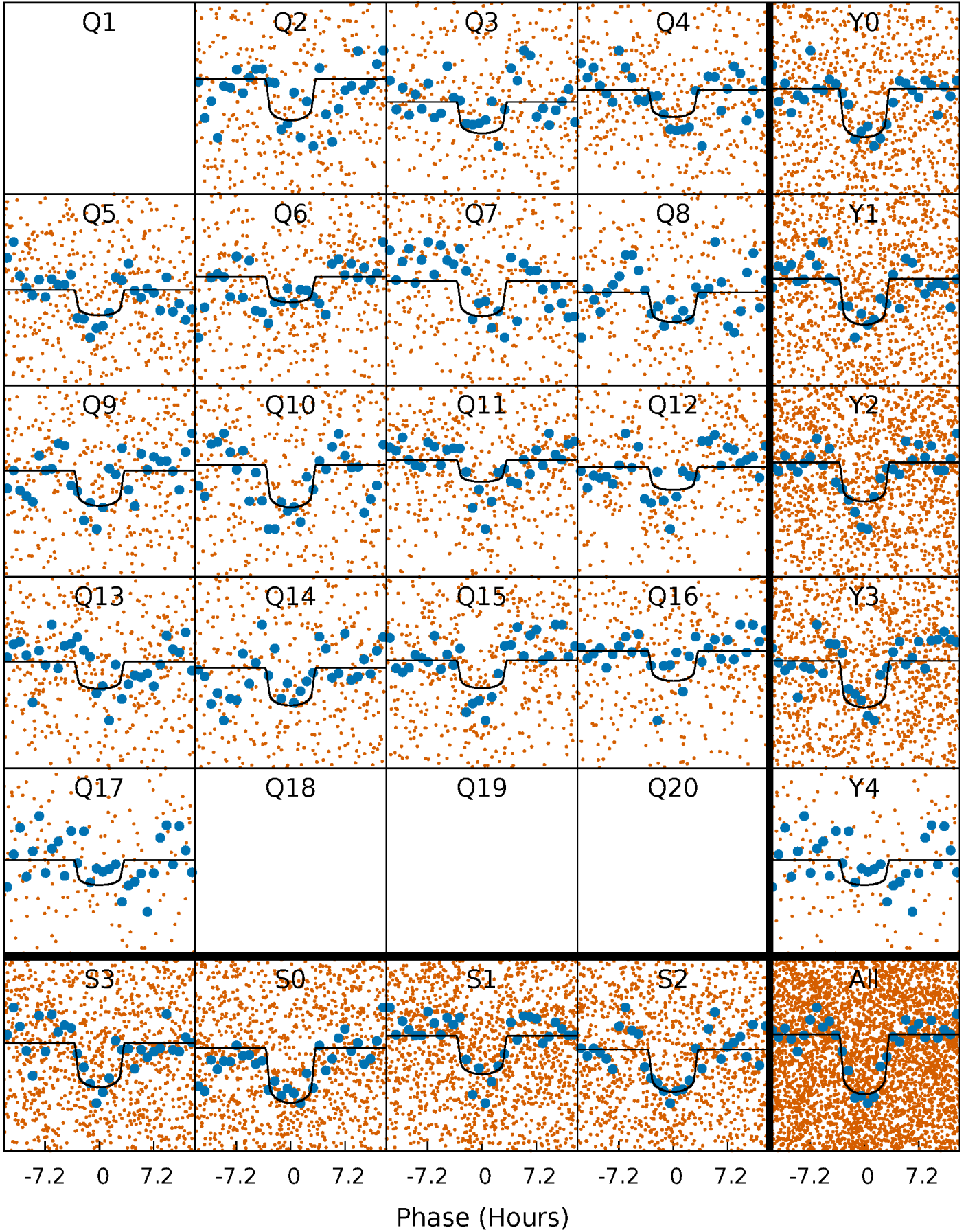
PDC Quarter-Phased Transit Curves

TCE 007517261-02 P= 8.543379 Days $T_0=137.989264$ (BKJD)



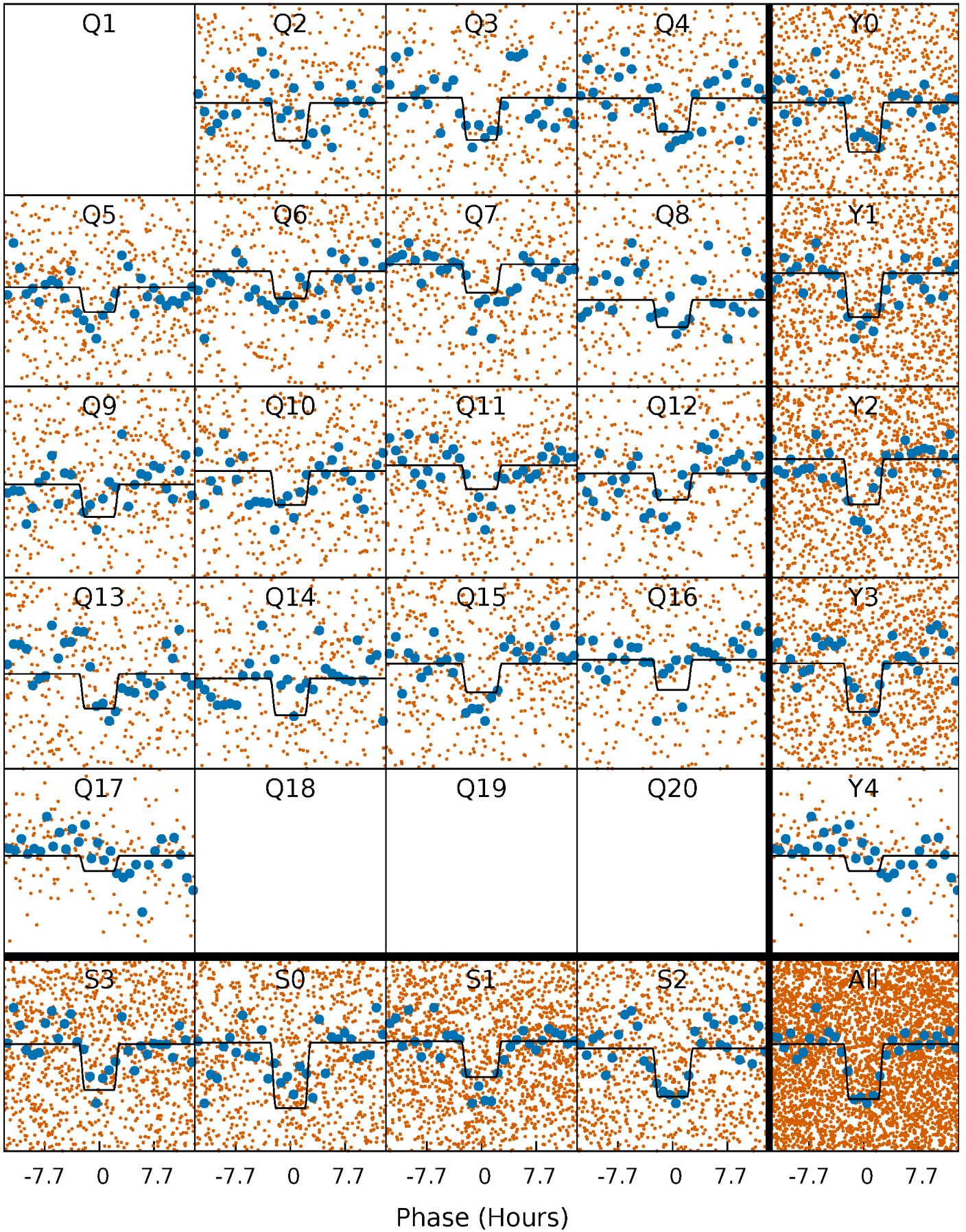
DV Quarter-Phased Transit Curves

TCE 007517261-02 P= 8.543379 Days $T_0=137.989264$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

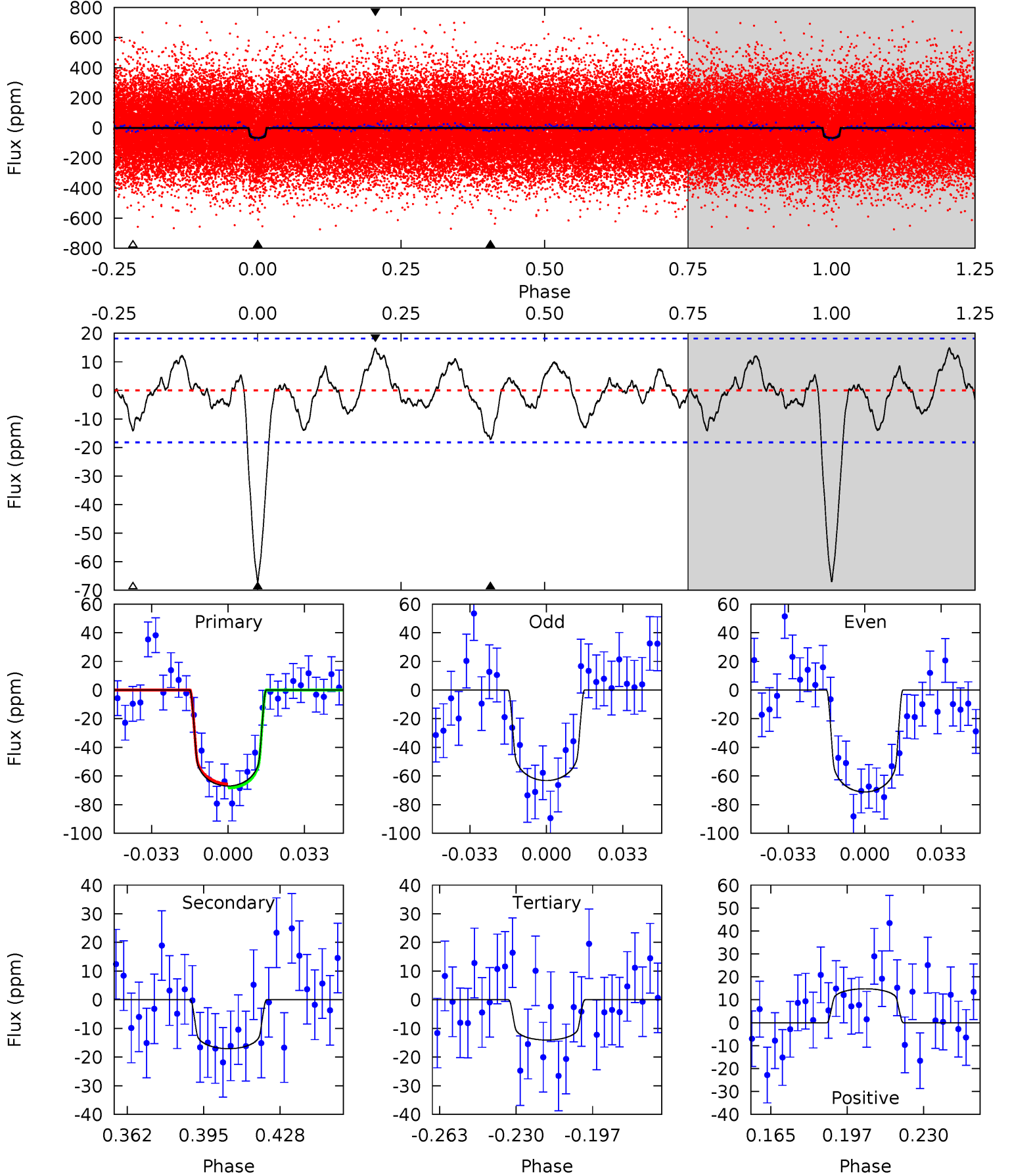
TCE 007517261-02 P= 8.543393 Days $T_0=137.990801$ (BKJD)



DV Model-Shift Uniqueness Test

007517261-02, P = 8.543379 Days, E = 137.989264 Days

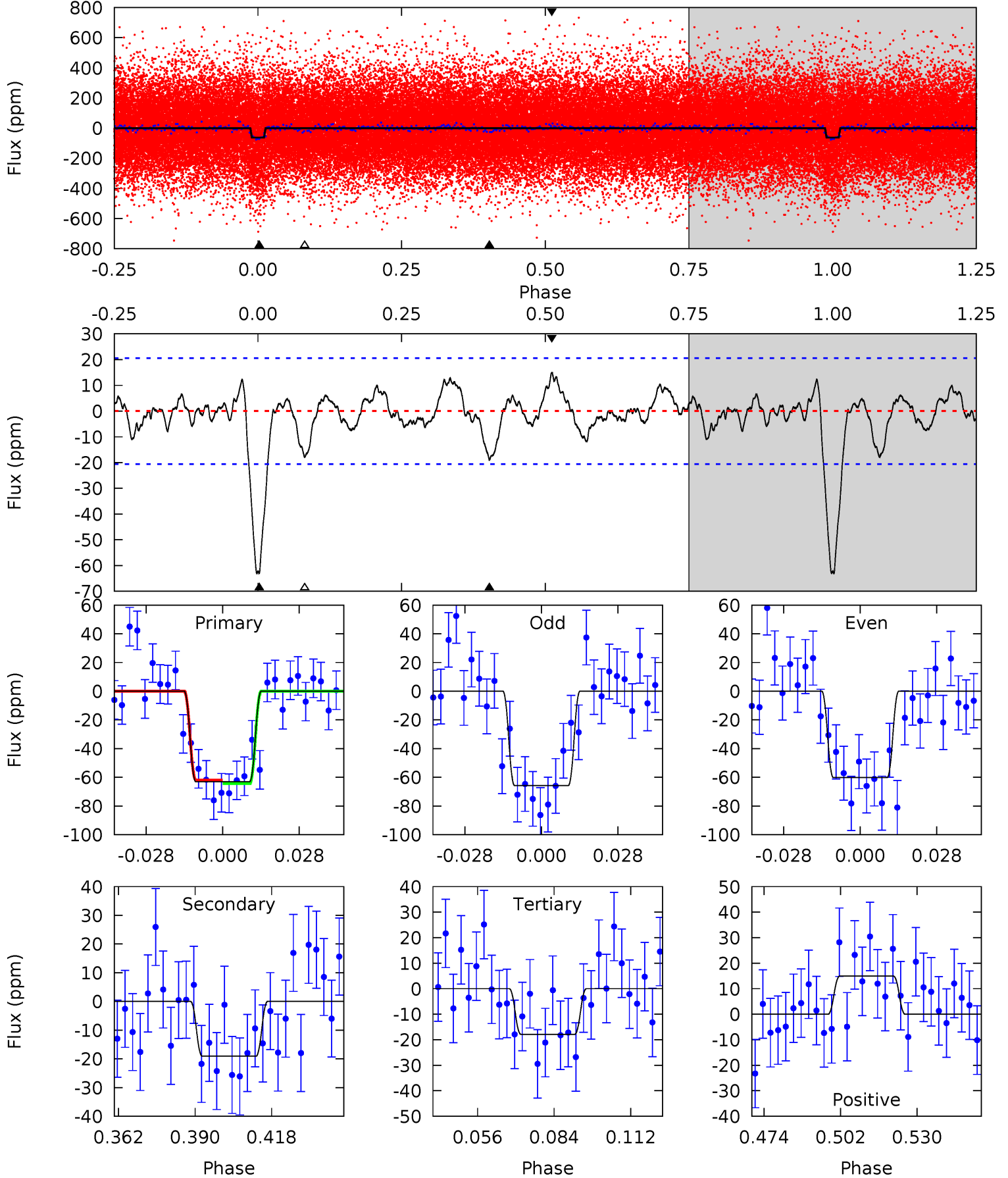
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.7	4.50	3.71	3.90	4.79	2.13	1.54	14.0	13.8	0.80	0.61	1.05	1.04	0.18	0.36



Alt Model-Shift Uniqueness Test

007517261-02, P = 8.543393 Days, E = 137.990801 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	4.47	4.19	3.50	4.83	2.20	1.32	10.6	11.3	0.28	0.97	0.65	0.85	0.19	0.30



Stellar Parameters For KIC 007517261

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6602^{+181}_{-250}	$4.108^{+0.220}_{-0.180}$	$-0.120^{+0.250}_{-0.300}$	$1.685^{+0.494}_{-0.444}$	$1.333^{+0.193}_{-0.236}$	$0.392^{+0.485}_{-0.186}$
	+3%/-4%	+5%/-4%	+208%/-250%	+29%/-26%	+14%/-18%	+124%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007517261-02 / KOI 3496.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-17 ± 4	$1.57^{+0.47}_{-0.41}$	1748^{+134}_{-141}	4657^{+616}_{-431}	31^{+27}_{-14}
Alt.	-19 ± 4	$1.50^{+0.46}_{-0.41}$	1750^{+138}_{-134}	4840^{+705}_{-468}	37^{+34}_{-17}

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

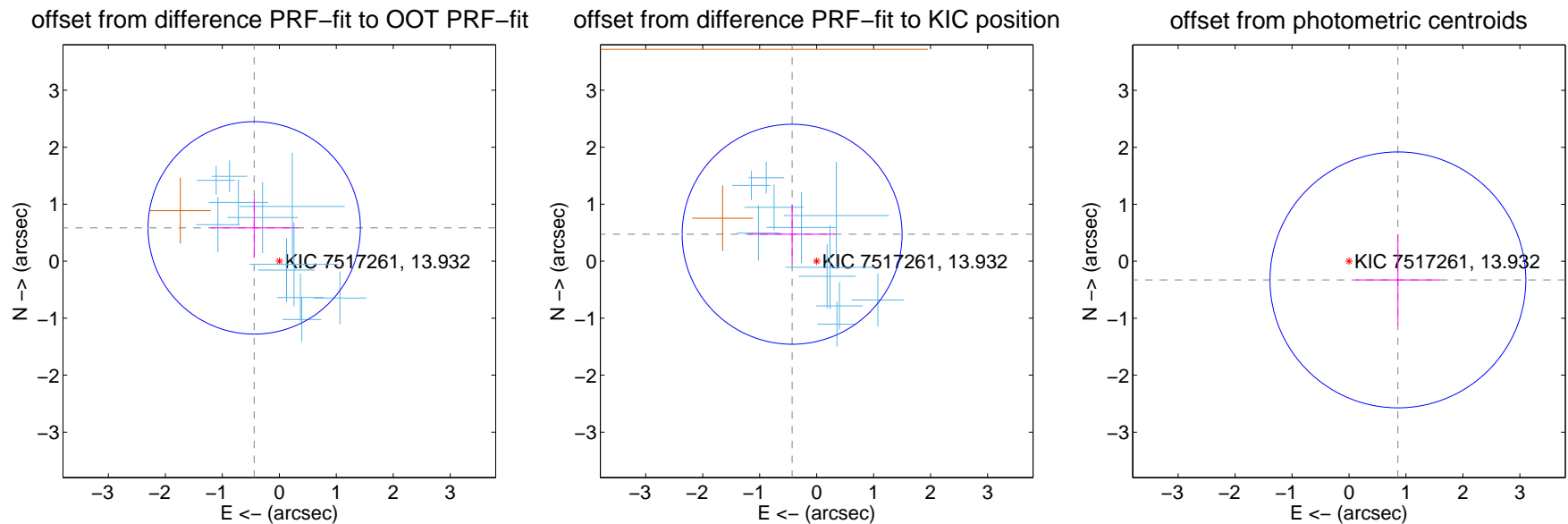
DV Centroid Data

Supplemental centroid analysis for 007517261-02. Kepler magnitude: 13.93. Transit SNR 9.70

There are 11 quarters with good PRF difference image offsets

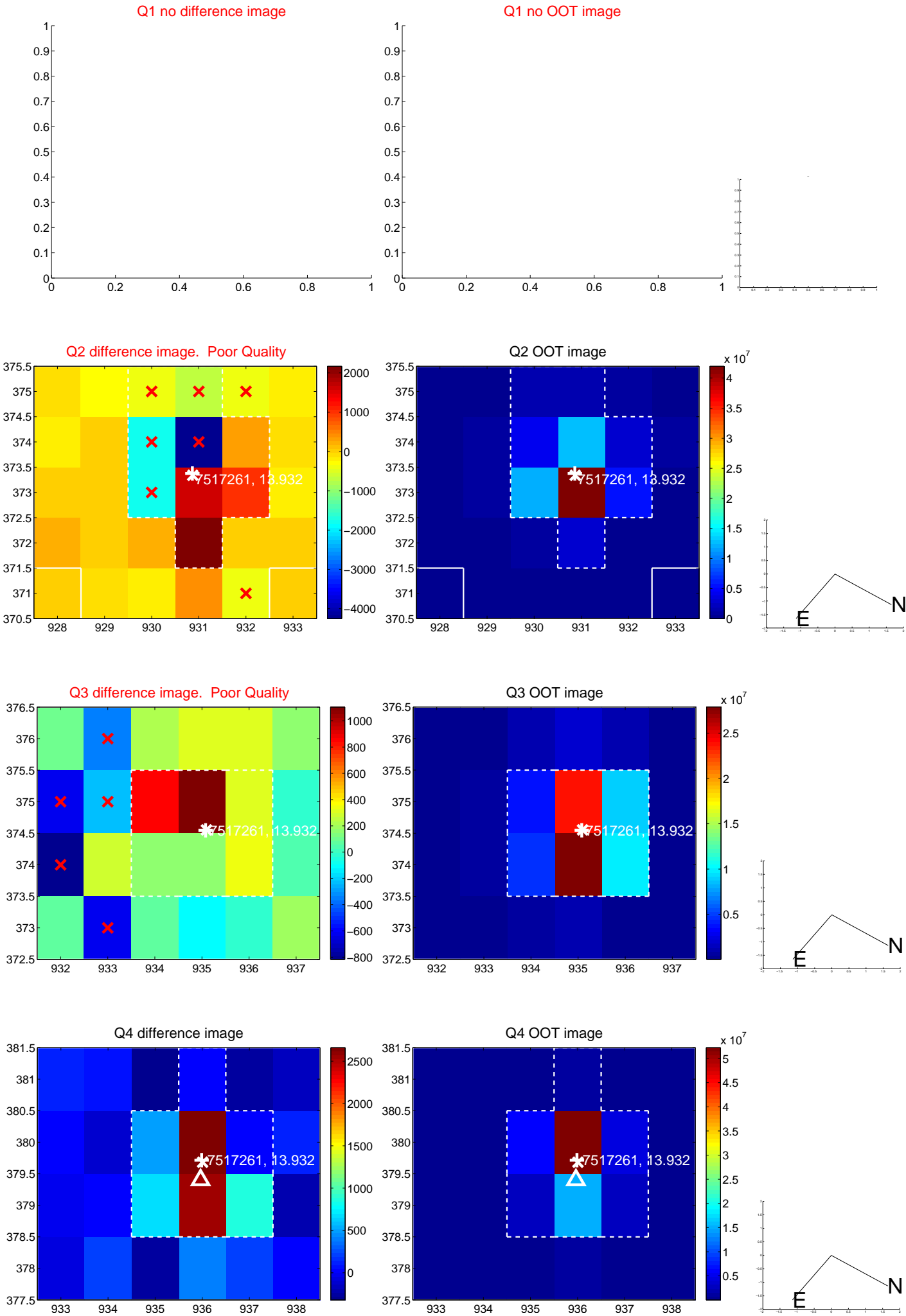
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.732 ± 0.621	1.18	0.441 ± 0.763	0.585 ± 0.524
PRF-fit source offset from KIC position	0.640 ± 0.643	0.99	0.431 ± 0.763	0.473 ± 0.524
photometric centroid source offset	0.92 ± 0.75	1.23	-0.86 ± 0.74	-0.33 ± 0.80

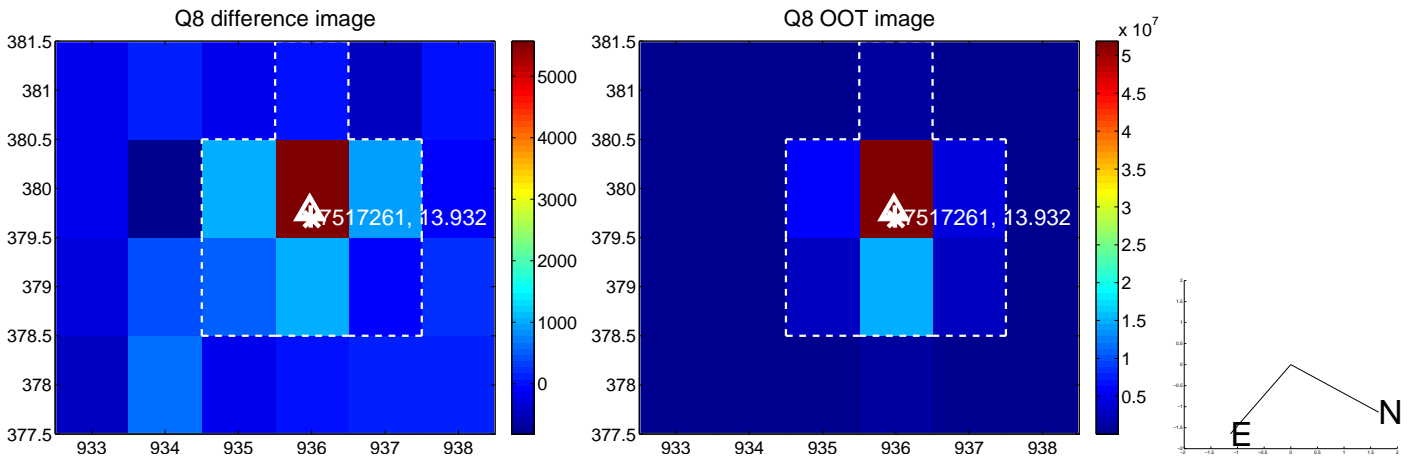
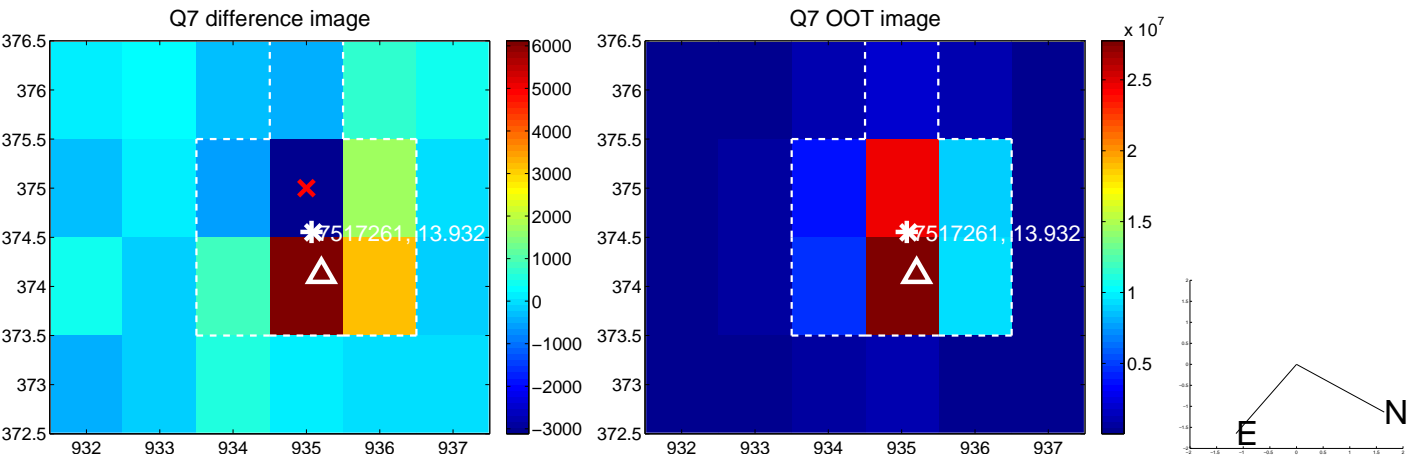
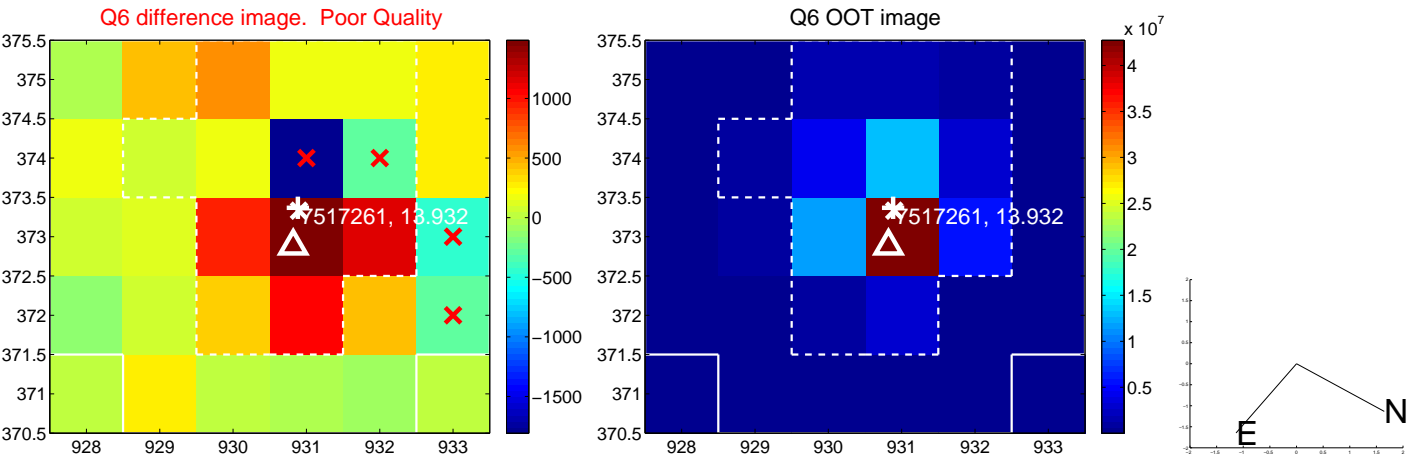
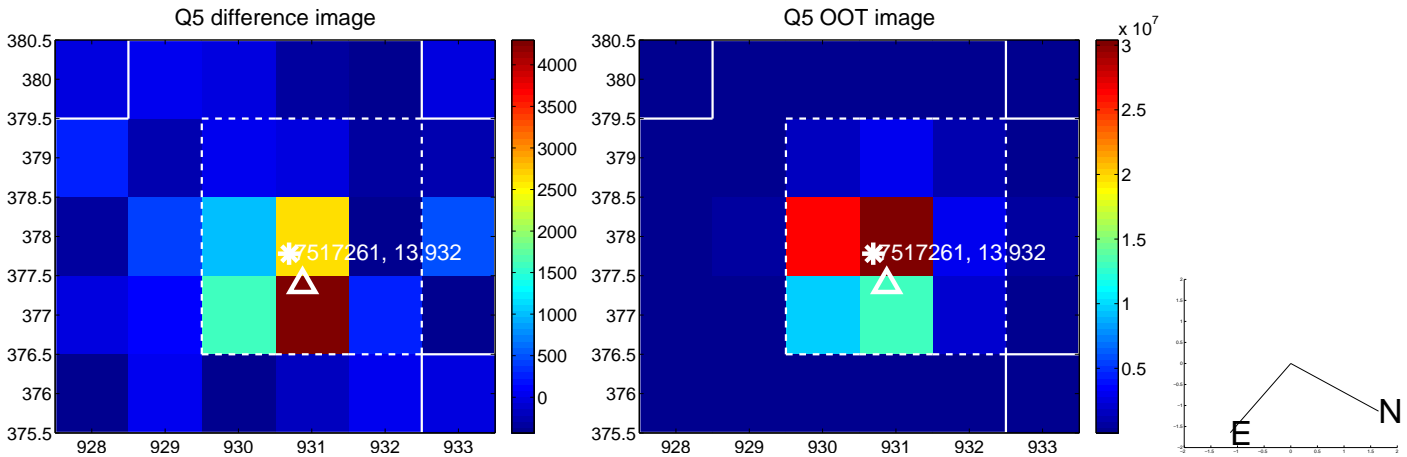


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

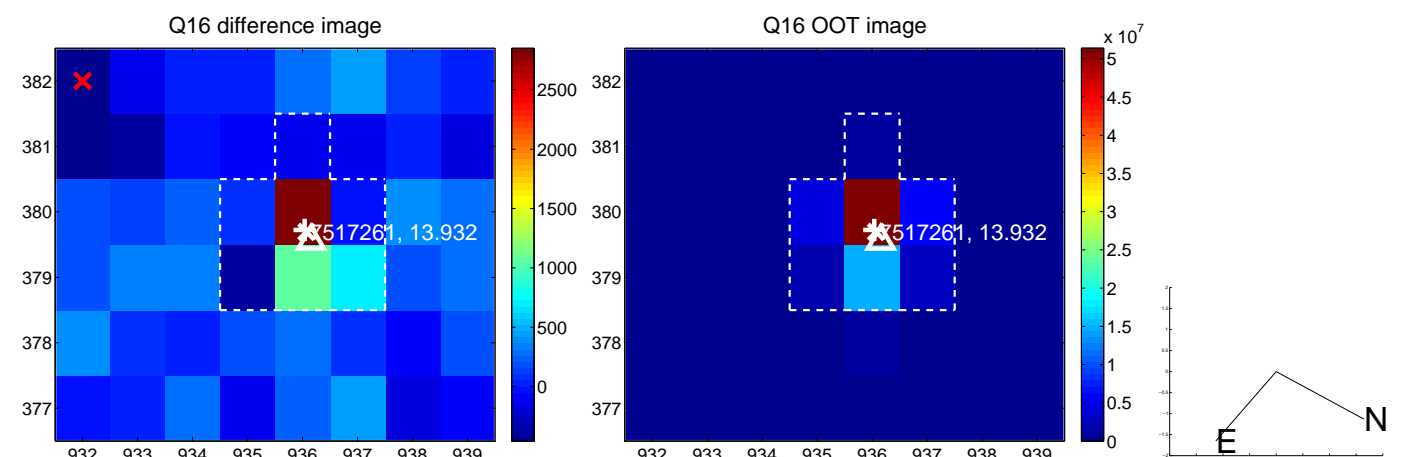
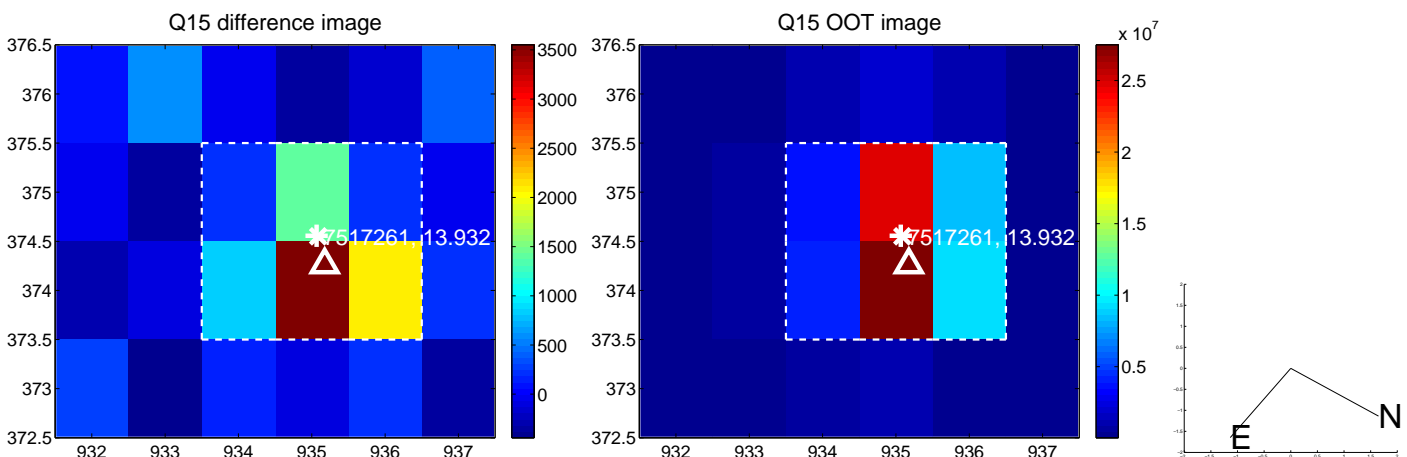
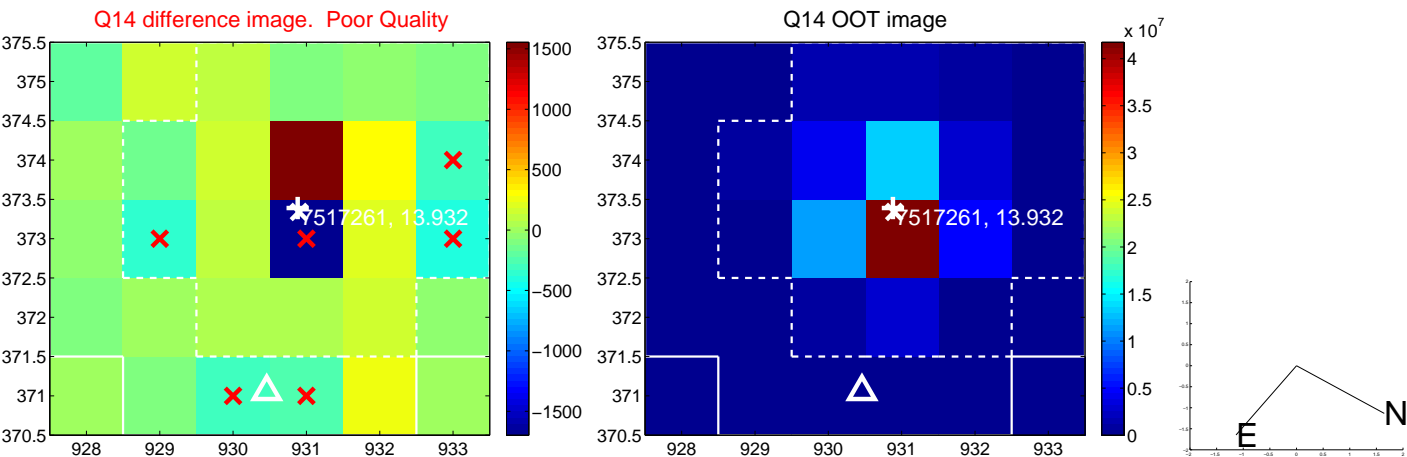
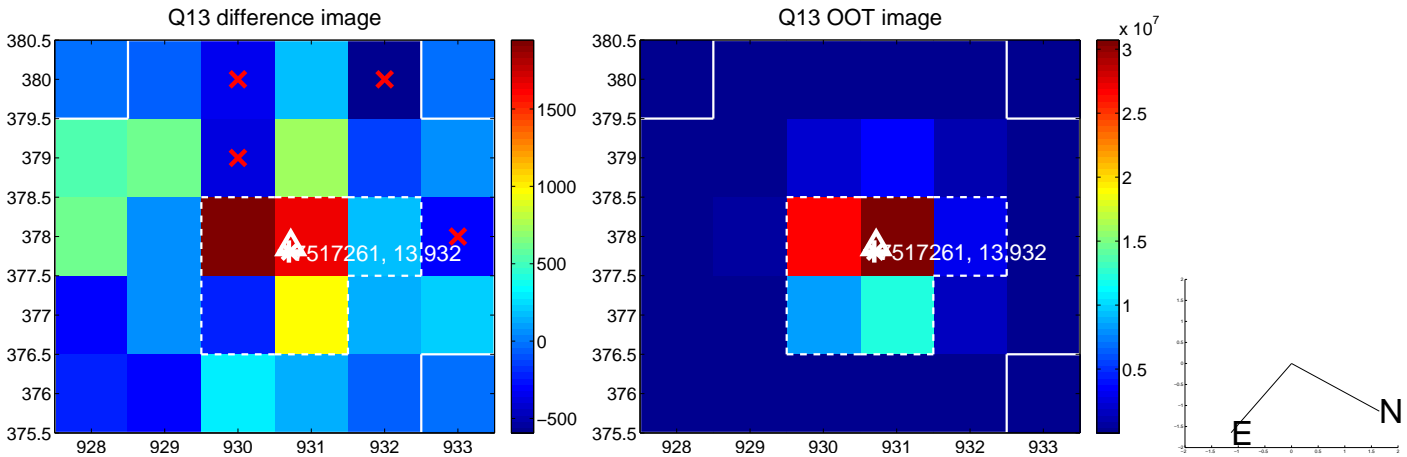
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



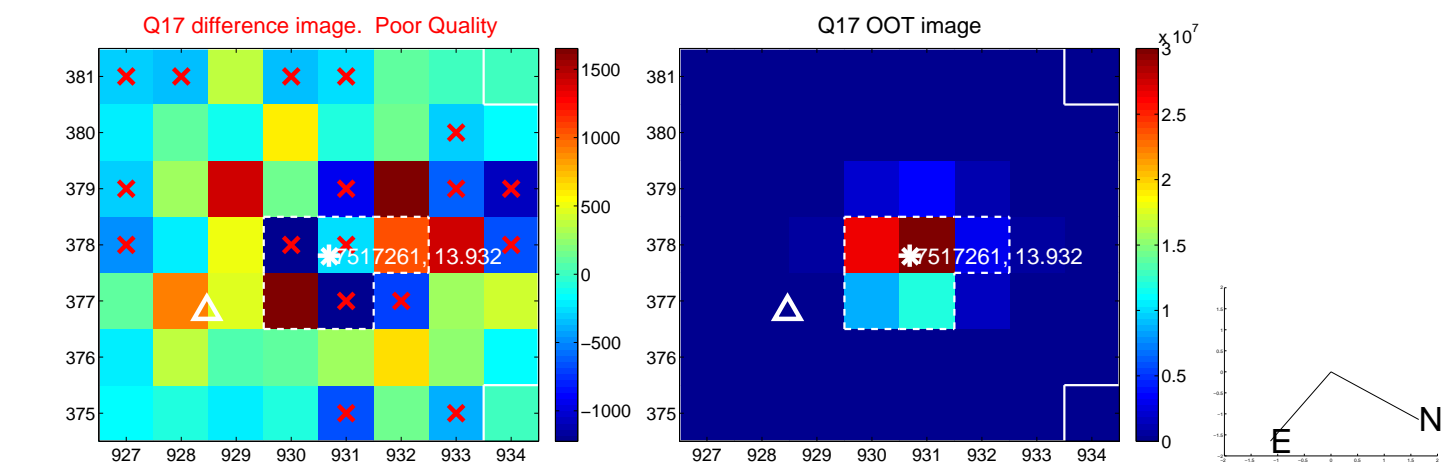
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



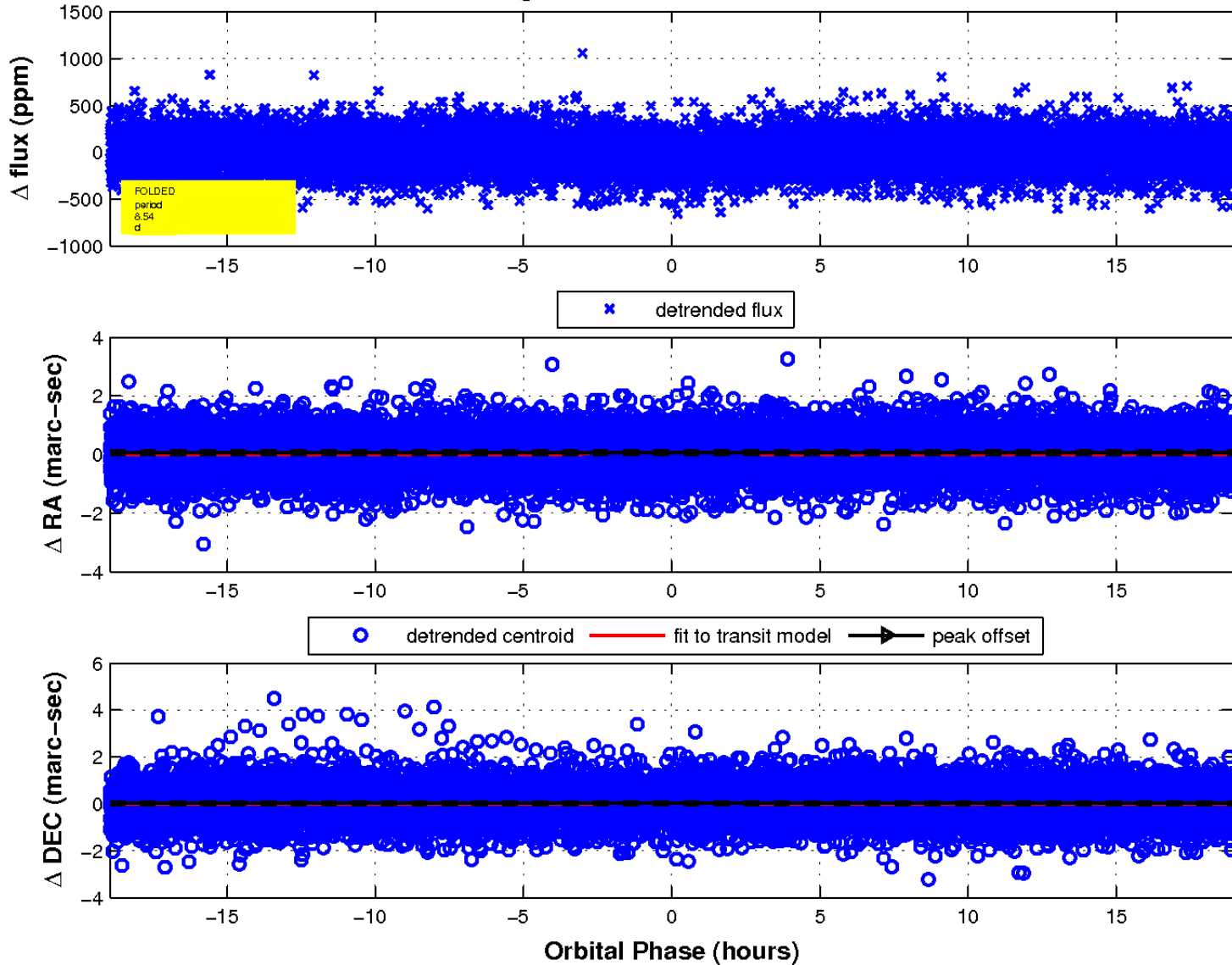
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

