

KIC 011571757

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})
011571757-01	OBS	No	1.418377	131.682115	31.6	5.298	9.0	6.1	4.87	6732	3.18	45490.70
011571757-02	OBS	No	1.418349	132.401079	96.3	7.632	11.3	13.1	4.87	6732	8.80	45491.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011571757-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011571757-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

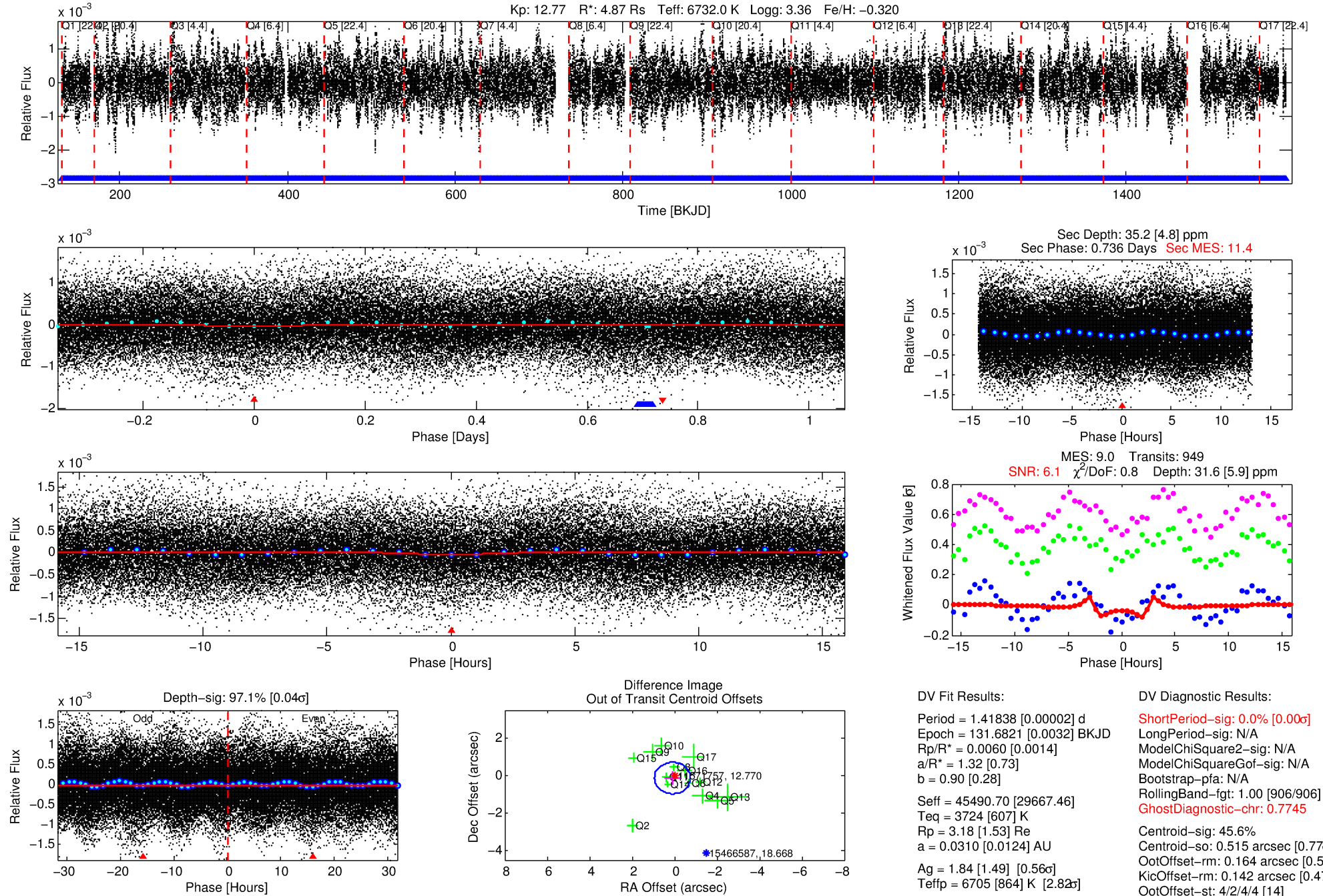
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011571757-01

No Significant Match Found

DV One-Page Summary

KIC: 11571757 Candidate: 1 of 2 Period: 1.418 d



DV Fit Results:

Period = 1.41838 [0.00002] d
Epoch = 131.6821 [0.0032] BKJD
Rp/R* = 0.0060 [0.0014]
a/R* = 1.32 [0.73]
b = 0.90 [0.28]
Seff = 45490.70 [29667.46]
Teff = 3724 [607] K
Rp = 3.18 [1.53] Re
a = 0.0310 [0.0124] AU
Ag = 1.84 [1.49] [0.56 σ]
Teffp = 6705 [864] K [2.82 σ]

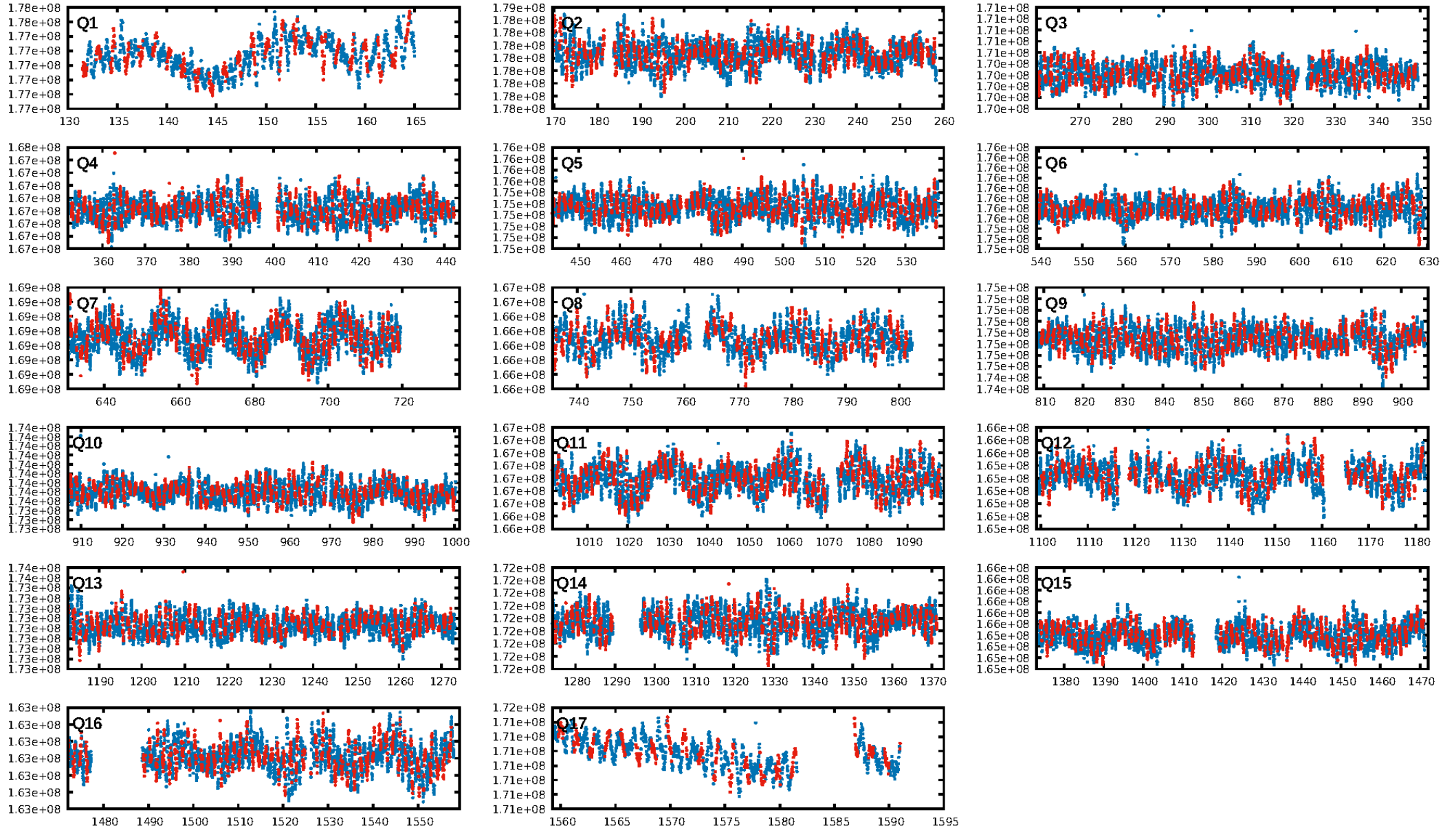
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [906/906]
GhostDiagnostic-chr: 0.7745
Centroid-sig: 45.6%
Centroid-so: 0.515 arcsec [0.77 σ]
OotOffset-rm: 0.164 arcsec [0.58 σ]
KicOffset-rm: 0.142 arcsec [0.47 σ]
OotOffset-st: 4/2/4/4 [14]
KicOffset-st: 4/2/4/4 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [17/17]

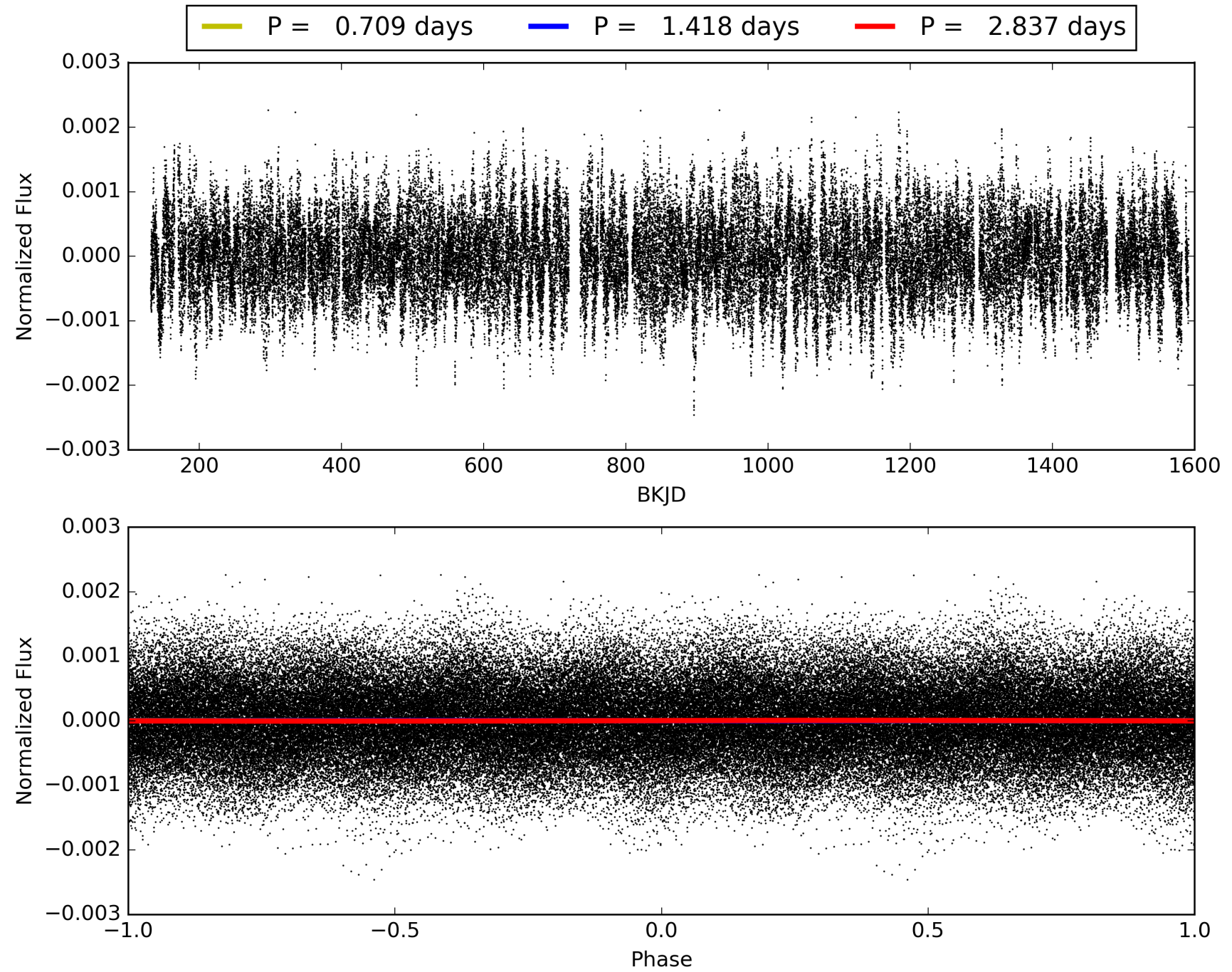
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:51:34 Z

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

TCE 011571757-01, PDC Light Curves

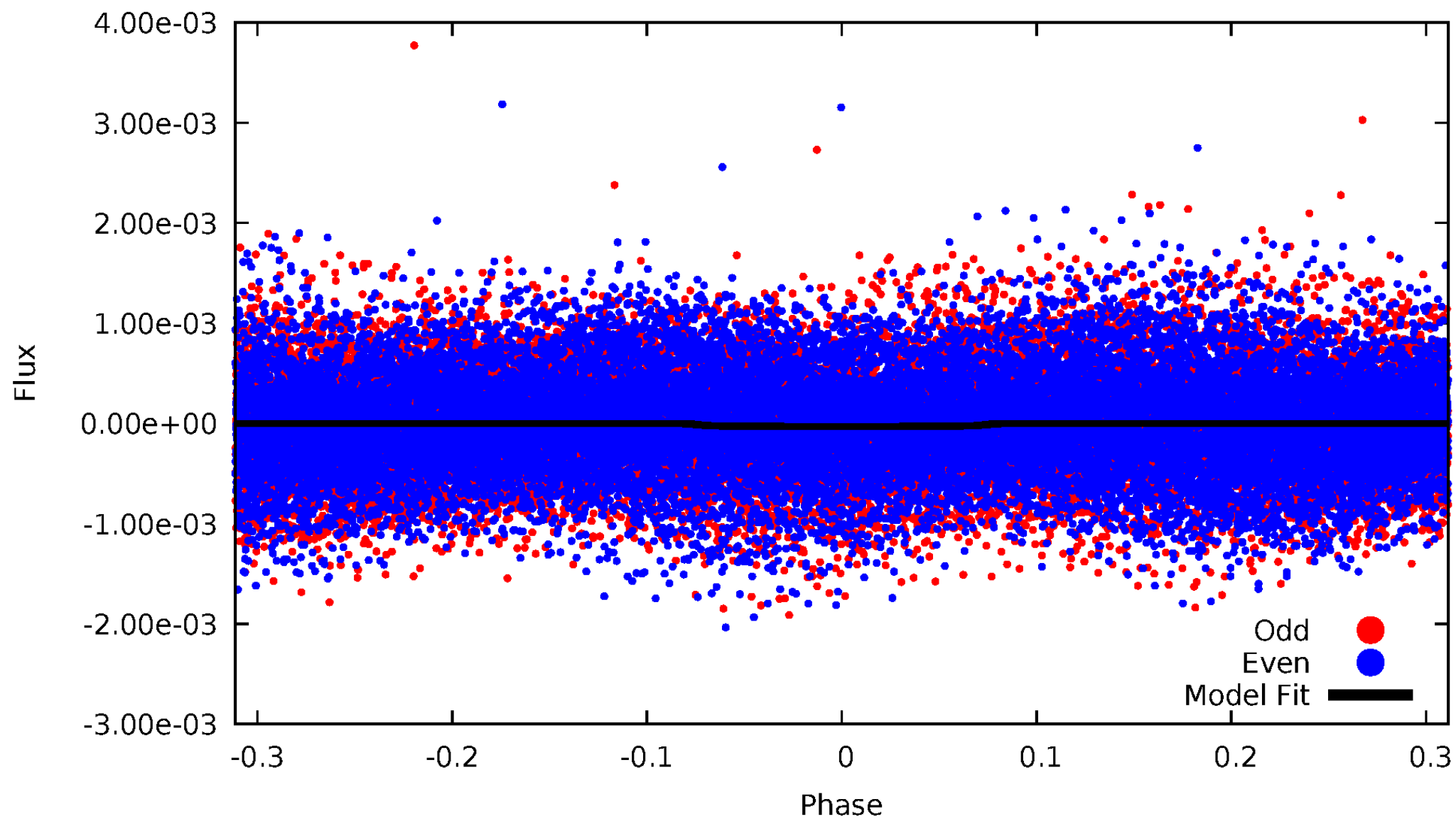


TCE 011571757-01



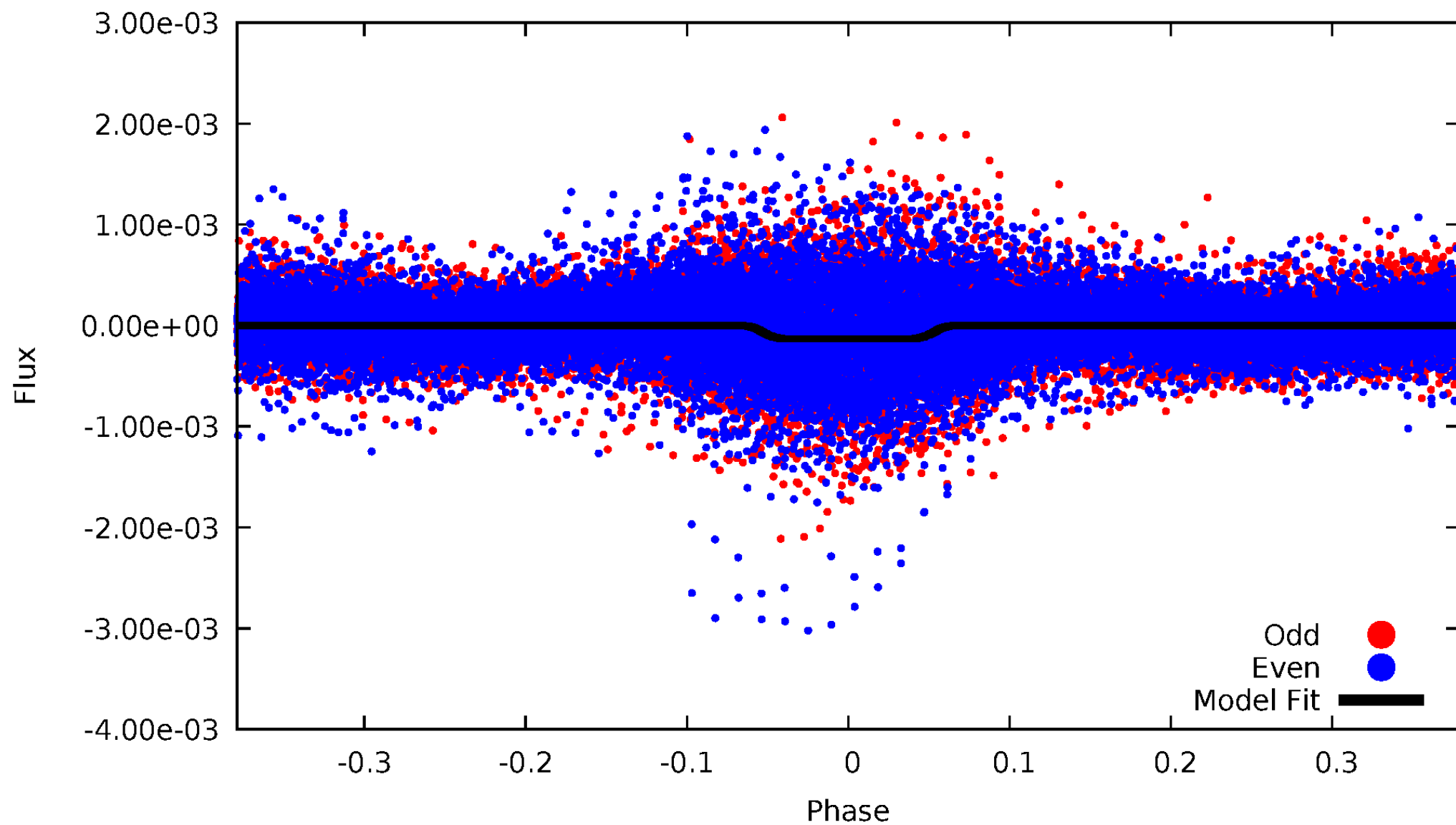
DV Odd/Even

TCE 011571757-01

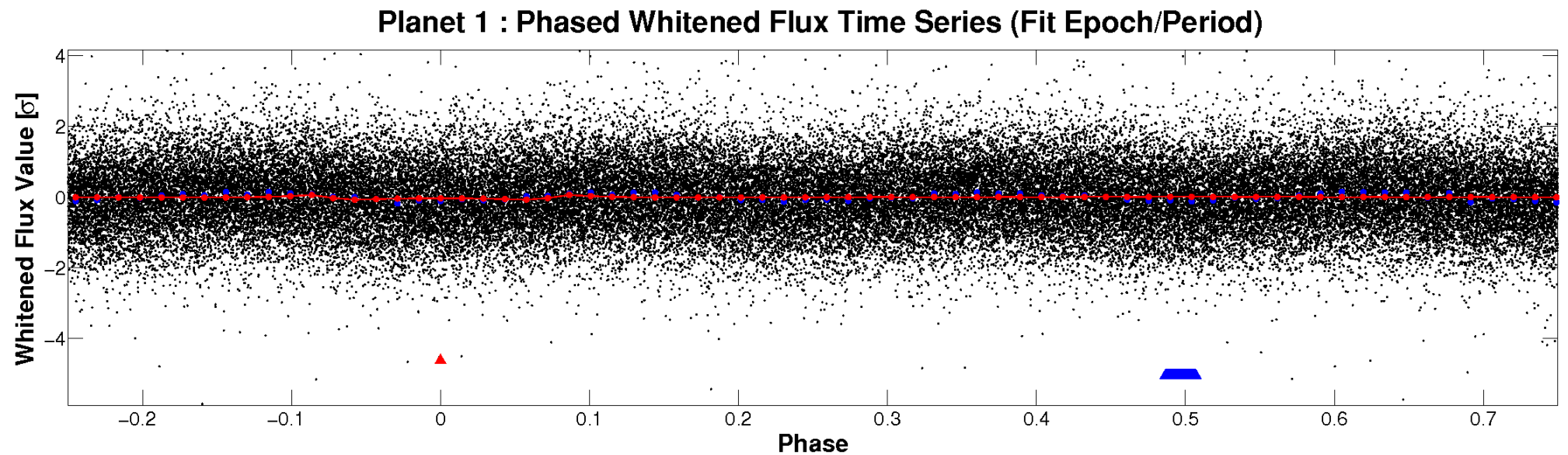
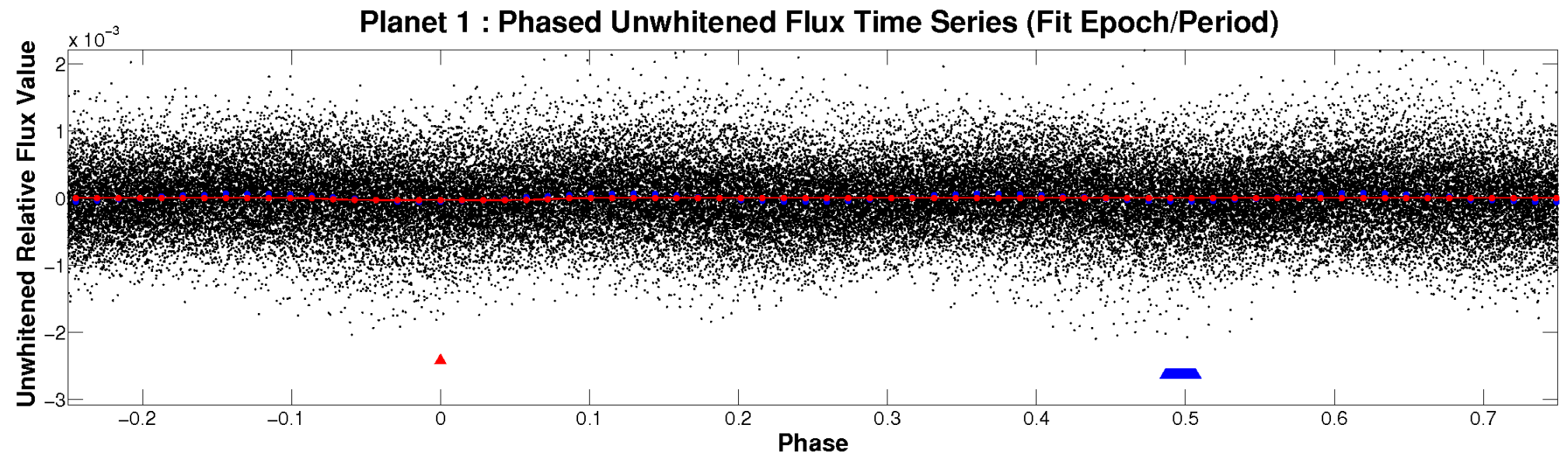


ALT Odd/Even

TCE 011571757-01

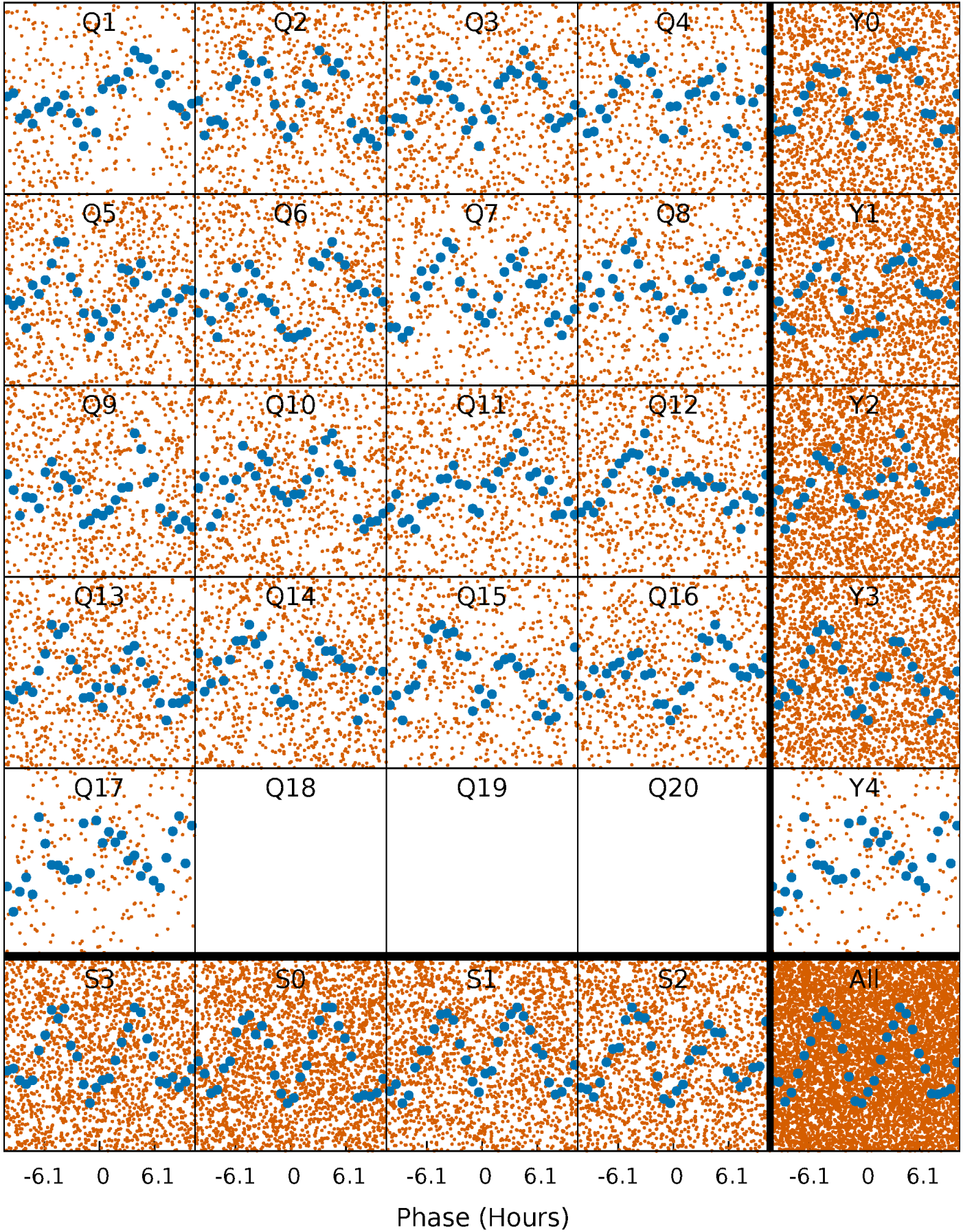


Non-Whitened Vs. Whitened Light Curve



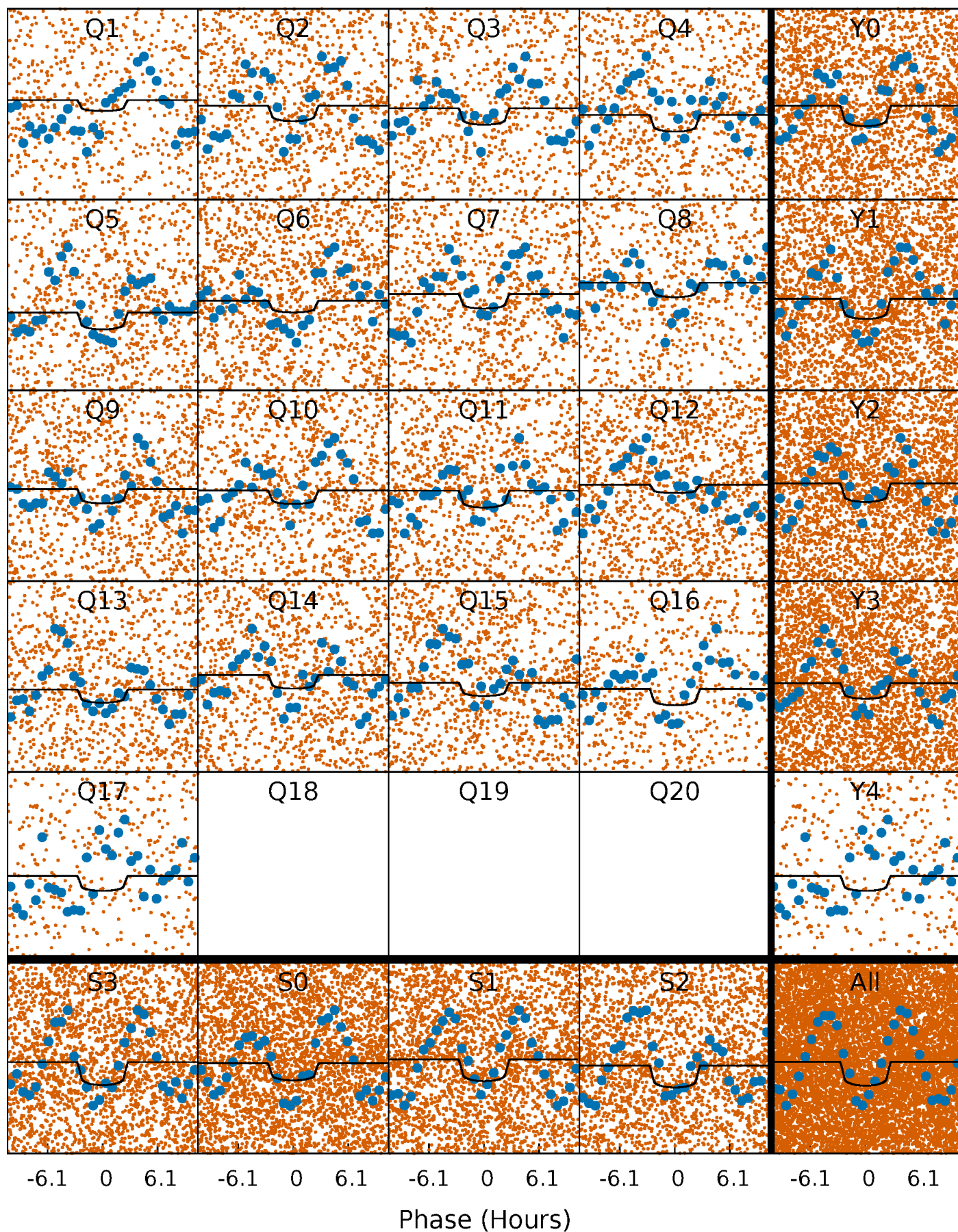
PDC Quarter-Phased Transit Curves

TCE 011571757-01 P= 1.418377 Days $T_0=131.682115$ (BKJD)



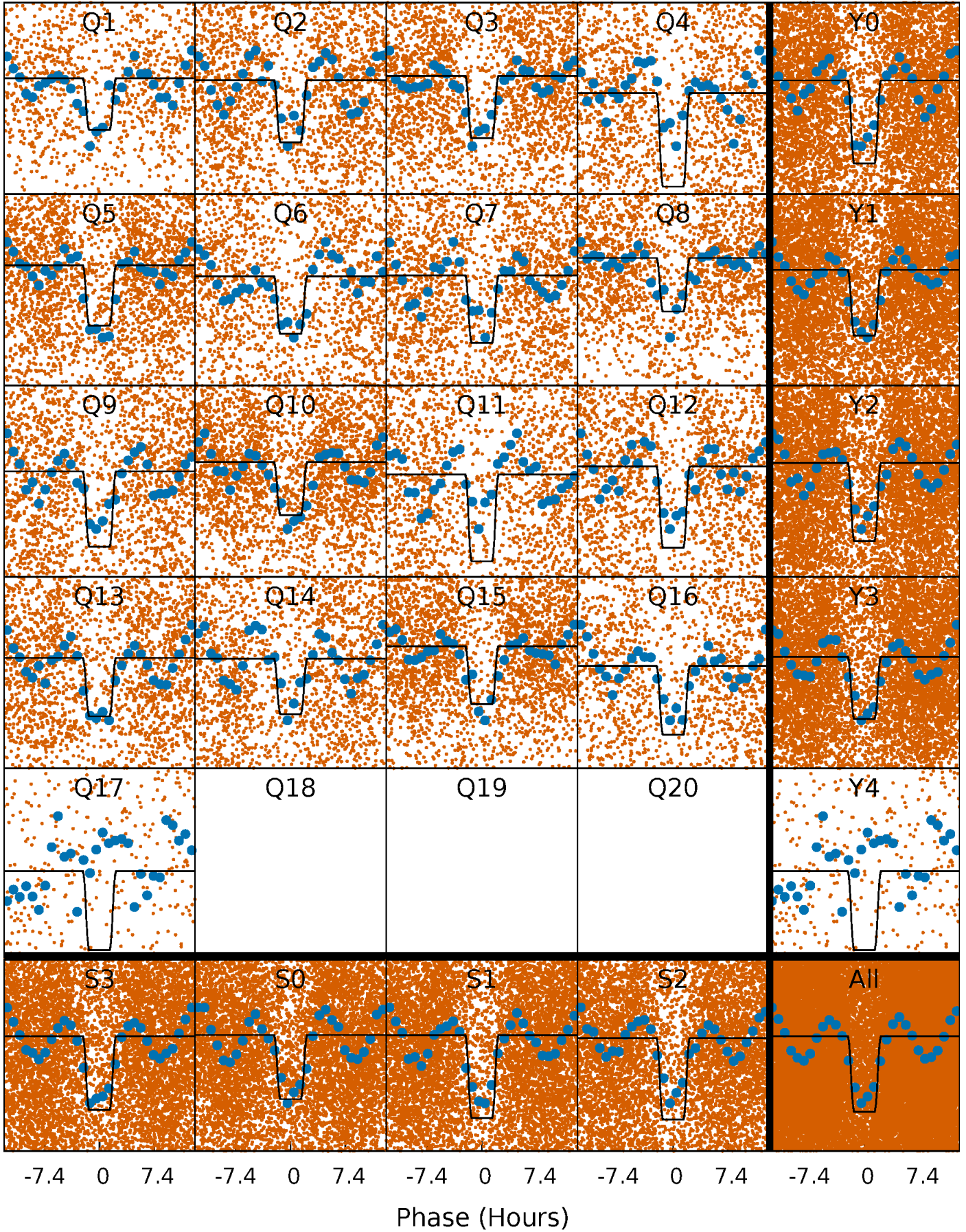
DV Quarter-Phased Transit Curves

TCE 011571757-01 P= 1.418377 Days $T_0=131.682115$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

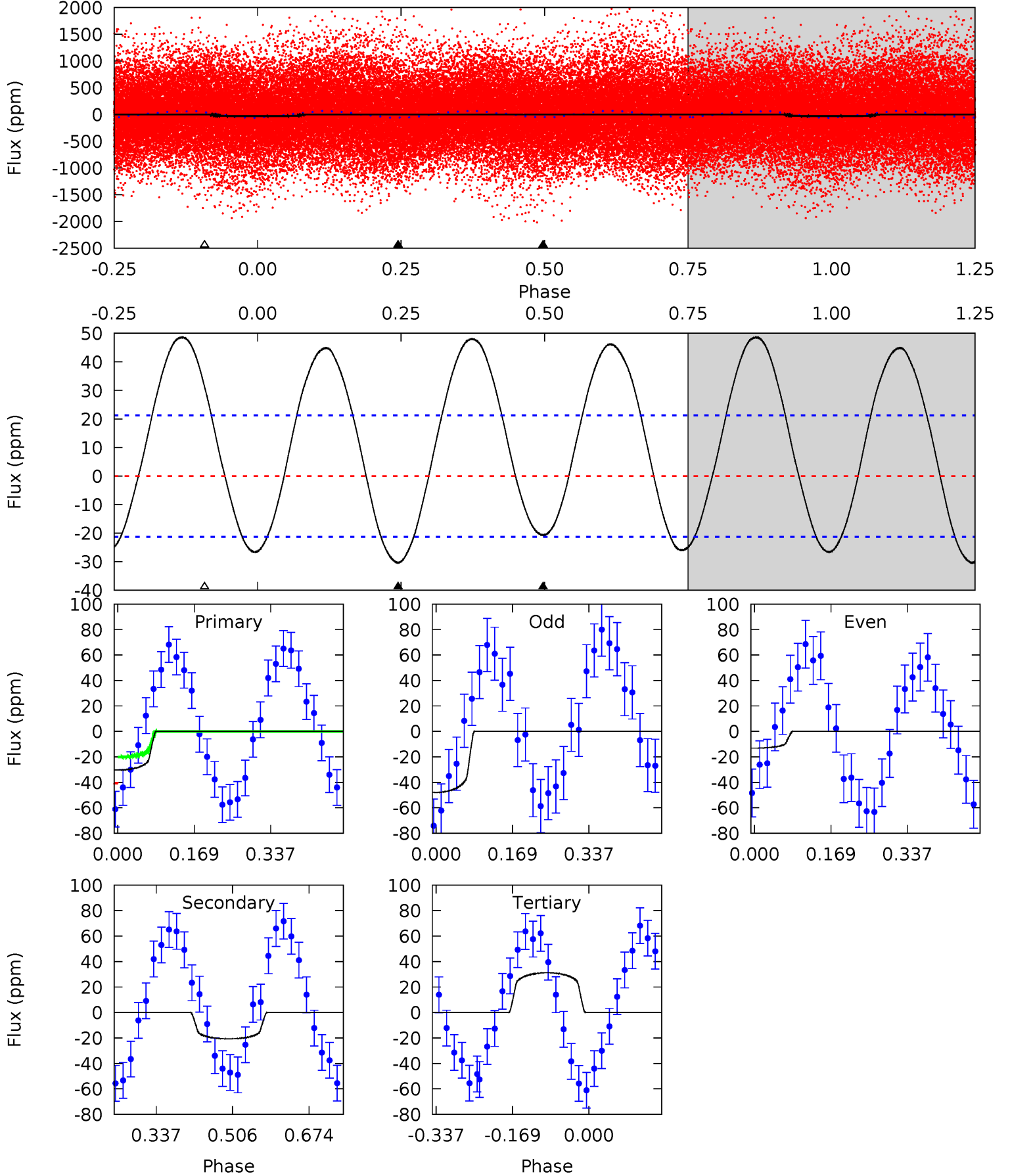
TCE 011571757-01 P= 1.418356 Days $T_0=131.681391$ (BKJD)



DV Model-Shift Uniqueness Test

011571757-01, P = 1.418377 Days, E = 130.263738 Days

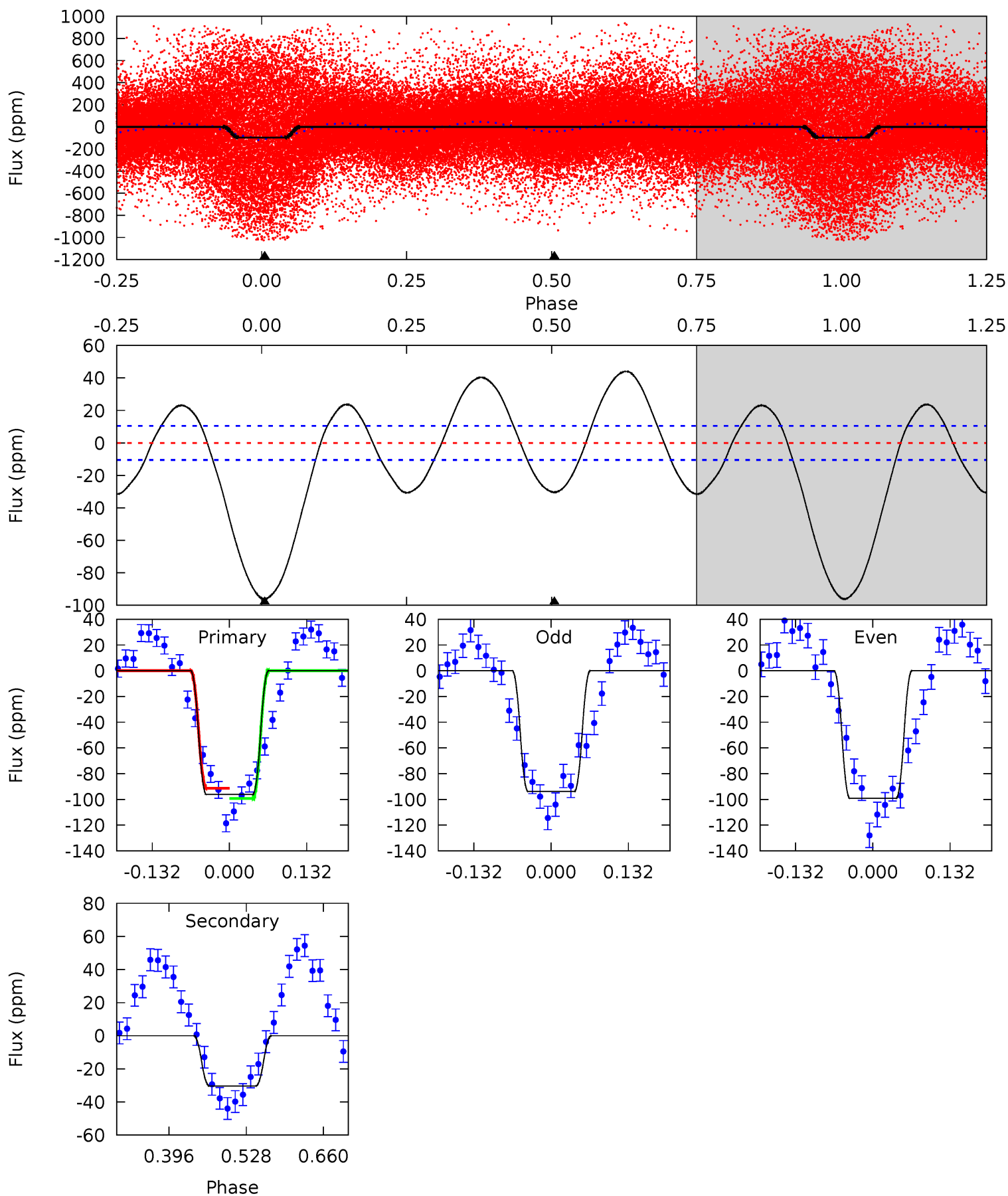
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.36	4.33	-6.54	0	4.45	1.38	5.16	12.9	6.36	10.9	4.33	3.62	0.92	0.62	2.12



Alt Model-Shift Uniqueness Test

011571757-01, P = 1.418356 Days, E = 130.263035 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.4	13.1	0	0	4.51	1.51	9.67	41.4	41.4	13.1	13.1	1.12	0.90	0.31	1.70



Stellar Parameters For KIC 011571757

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6732^{+182}_{-223}	$3.357^{+0.374}_{-0.066}$	$-0.320^{+0.400}_{-0.300}$	$4.867^{+0.360}_{-2.041}$	$1.968^{+0.142}_{-0.398}$	$0.024^{+0.074}_{-0.005}$
	+3%/-3%	+11%/-2%	+125%/-94%	+7%/-42%	+7%/-20%	+310%/-22%
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 011571757-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-21 ± 5	$2.96^{+0.84}_{-0.85}$	5072^{+281}_{-486}	5432^{+1008}_{-850}	$1.230^{+1.194}_{-0.551}$
Alt.	-30 ± 2	$5.72^{+1.01}_{-1.24}$	5095^{+272}_{-471}	4016^{+520}_{-664}	$0.488^{+0.285}_{-0.131}$

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

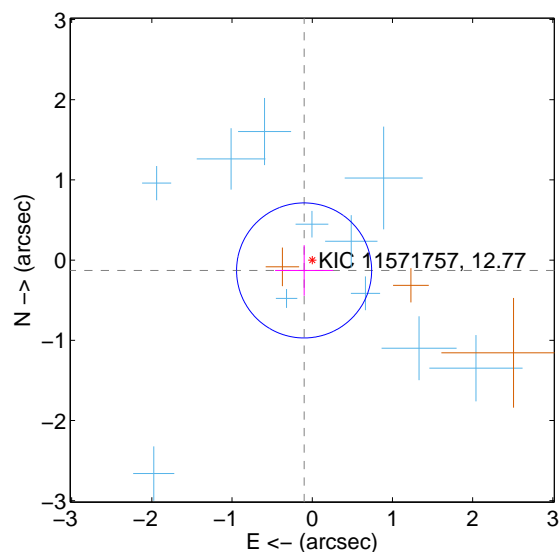
Supplemental centroid analysis for 011571757-01. Kepler magnitude: 12.77. Transit SNR 6.11

There are 11 quarters with good PRF difference image offsets

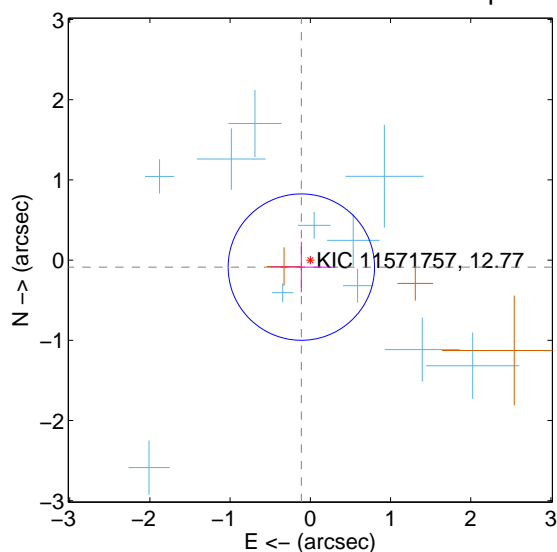
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.164 ± 0.281	0.58	0.101 ± 0.361	-0.129 ± 0.316
PRF-fit source offset from KIC position	0.142 ± 0.304	0.47	0.112 ± 0.378	-0.087 ± 0.315
photometric centroid source offset	0.52 ± 0.67	0.77	-0.11 ± 0.61	0.50 ± 0.67

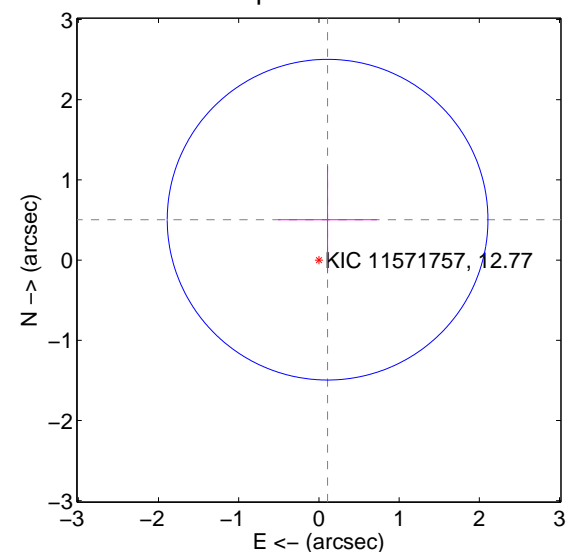
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

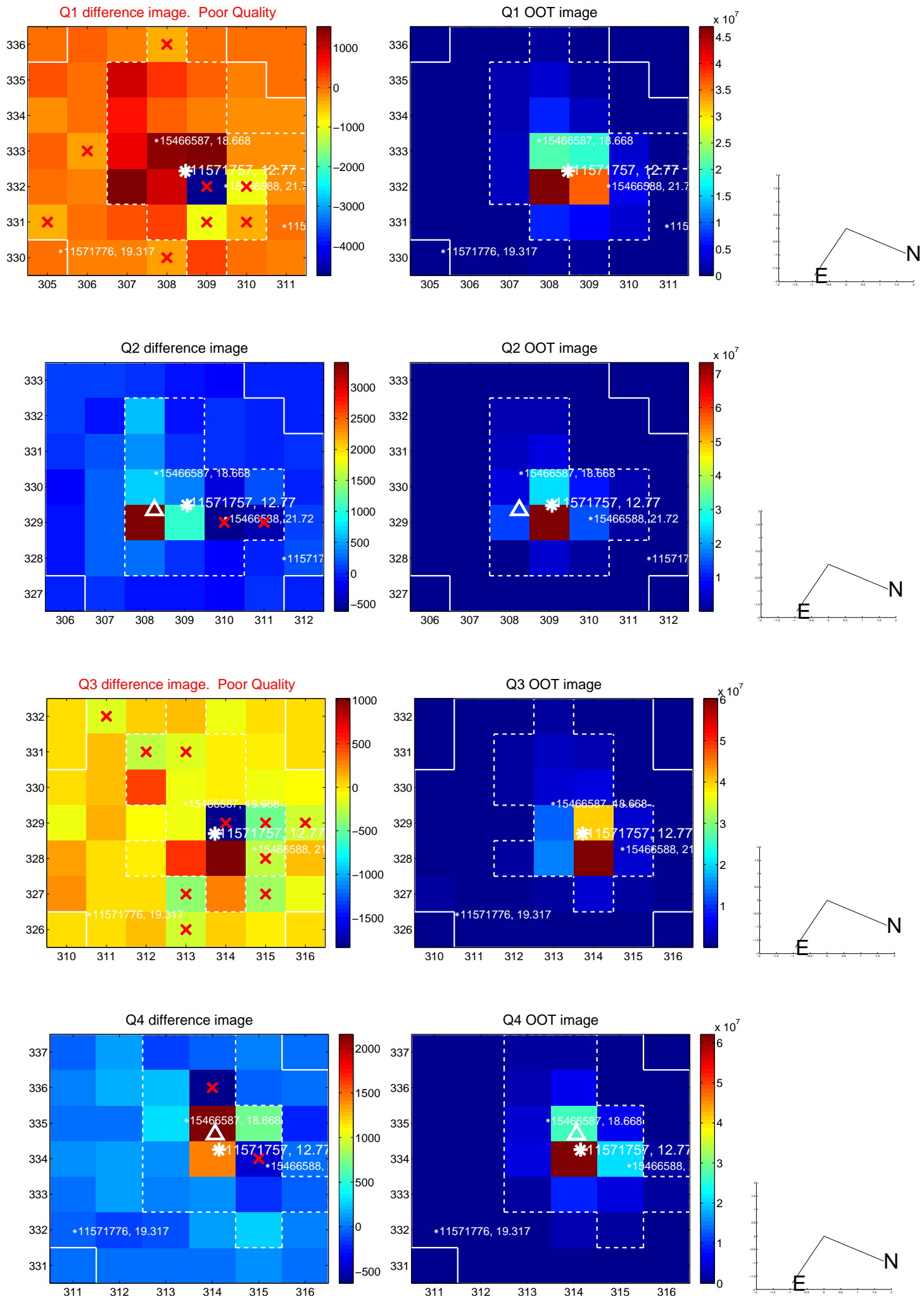


offset from photometric centroids

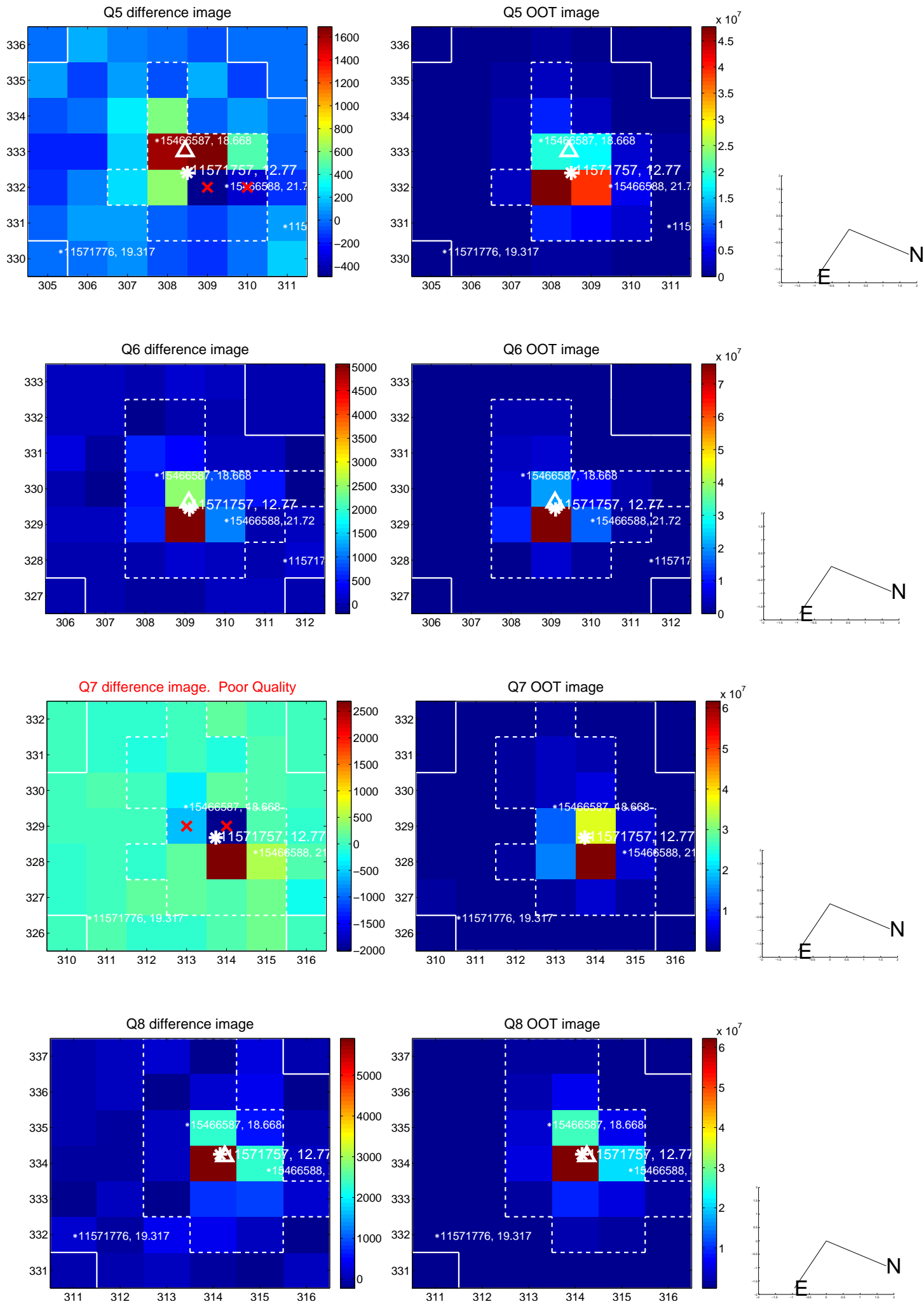


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

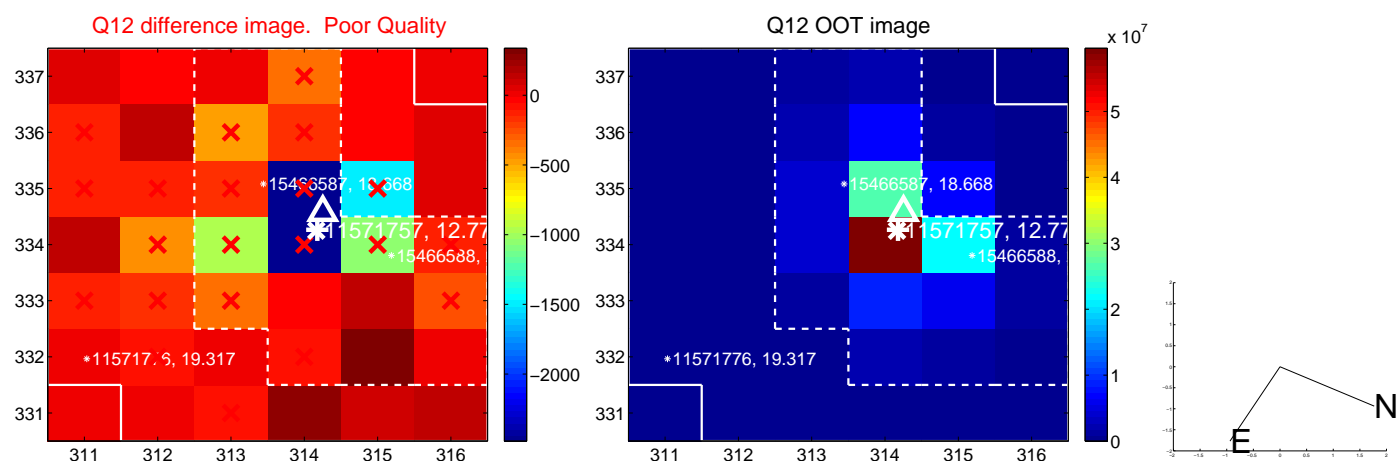
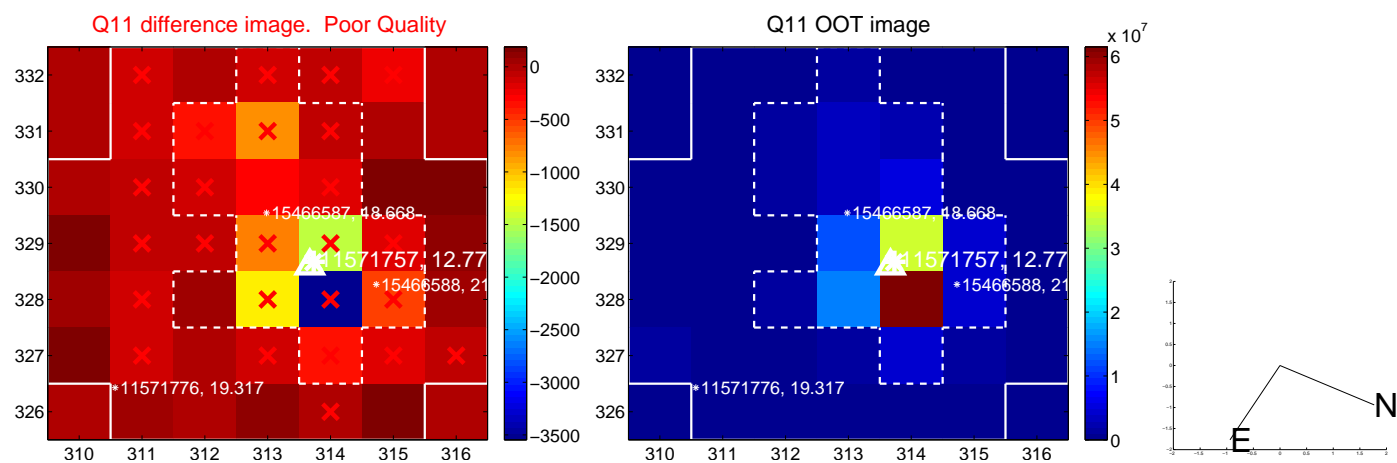
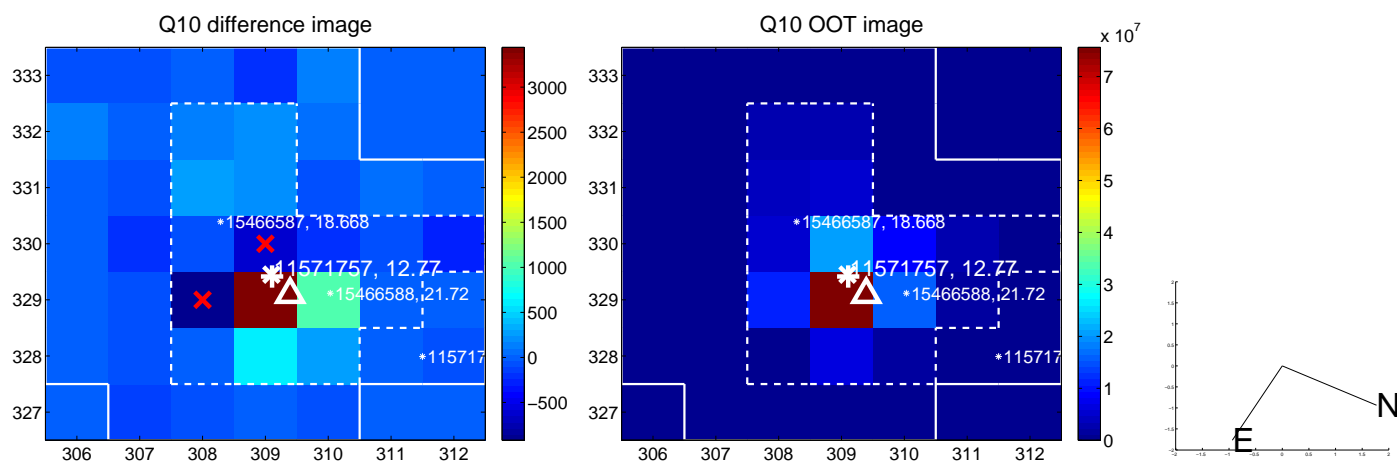
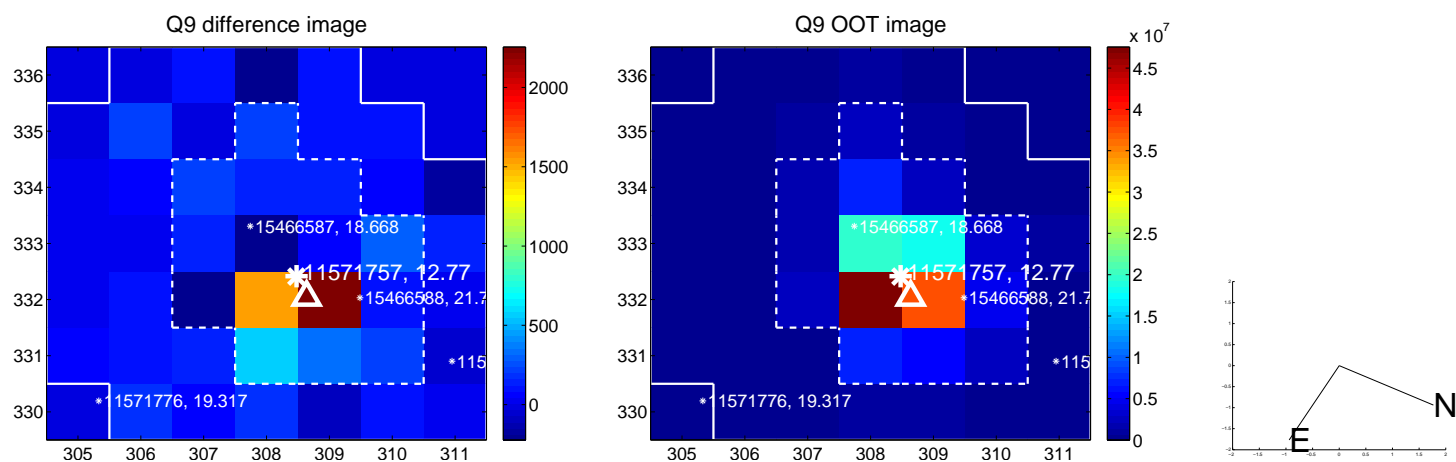
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



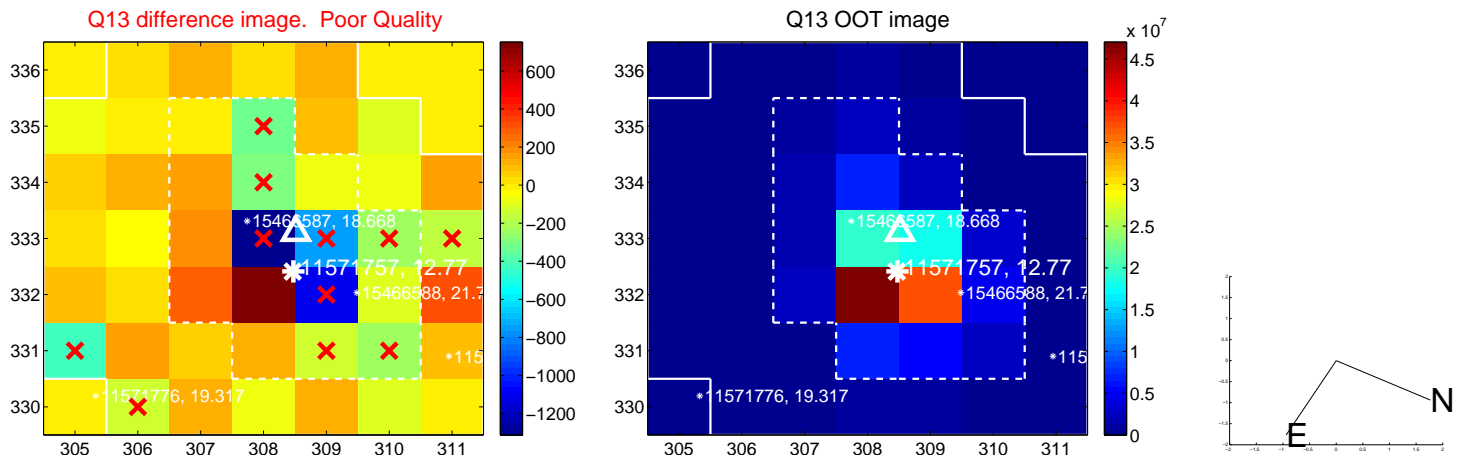
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



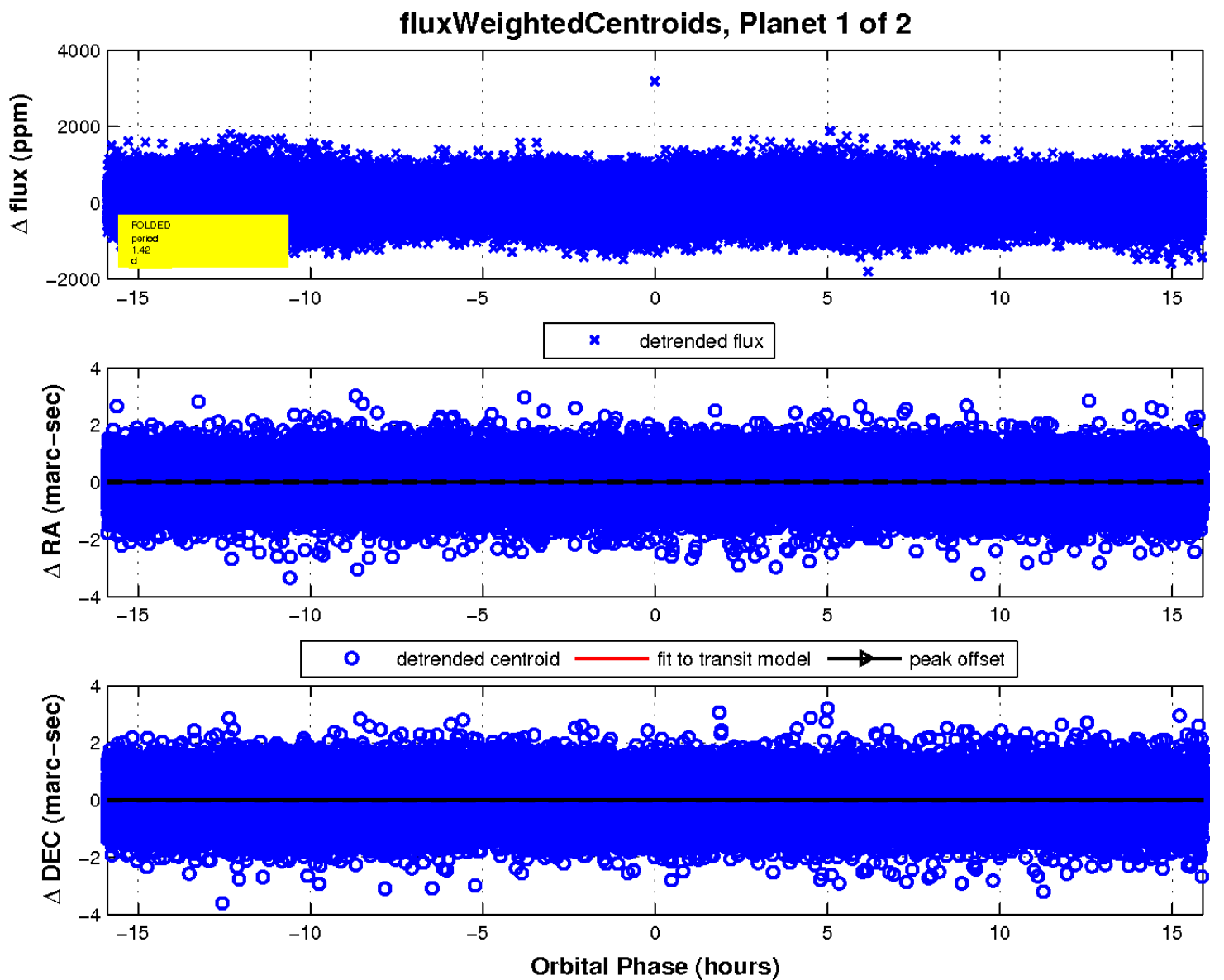
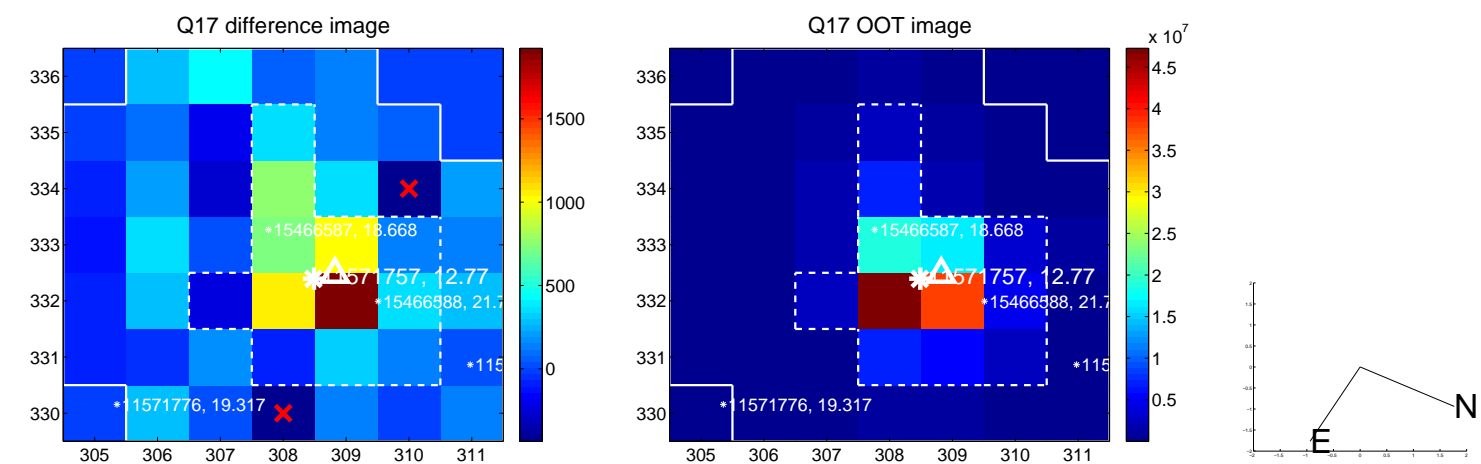
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

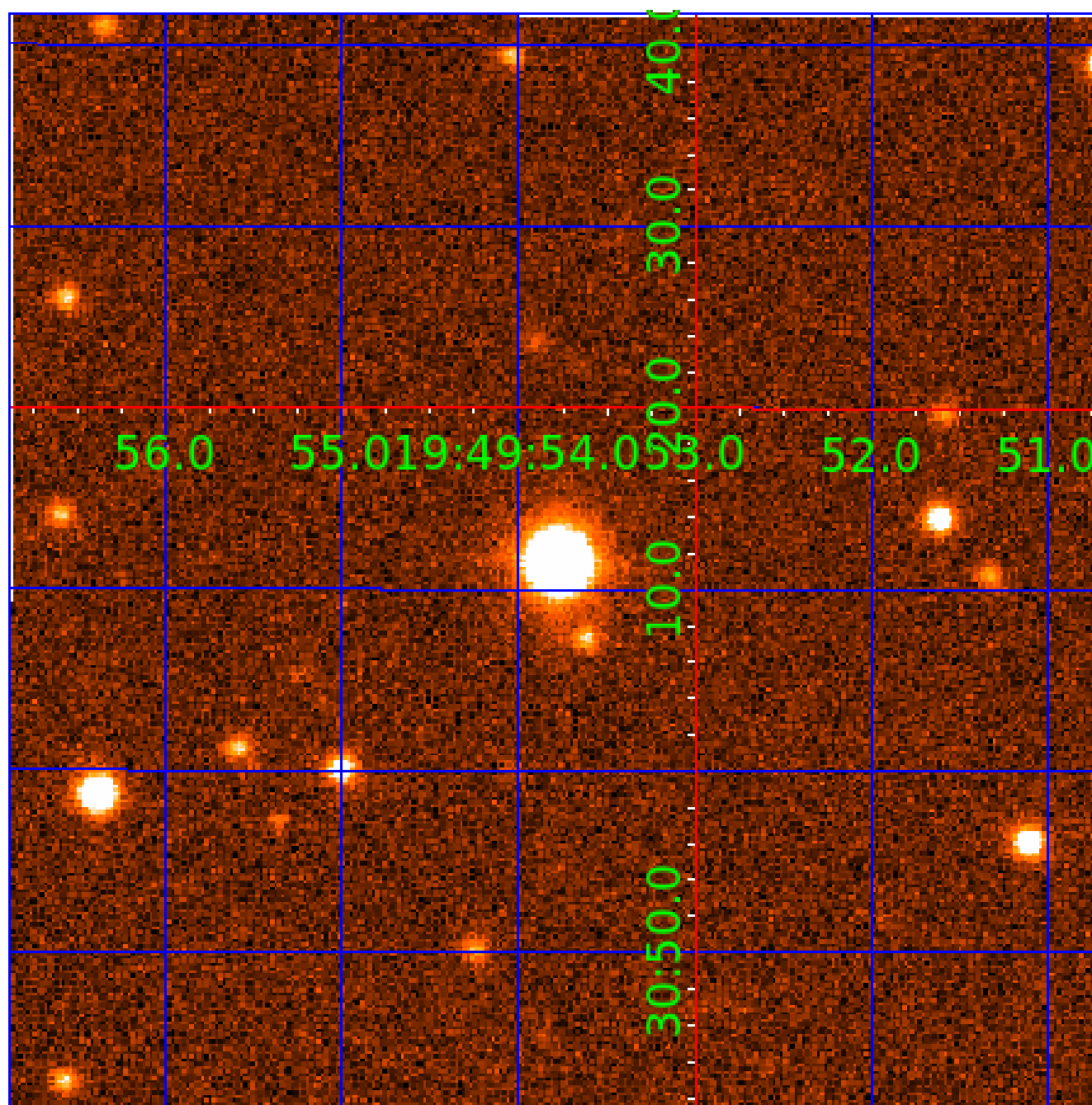


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011571757

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})
011571757-01	OBS	No	1.418377	131.682115	31.6	5.298	9.0	6.1	4.87	6732	3.18	45490.70
011571757-02	OBS	No	1.418349	132.401079	96.3	7.632	11.3	13.1	4.87	6732	8.80	45491.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011571757-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011571757-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

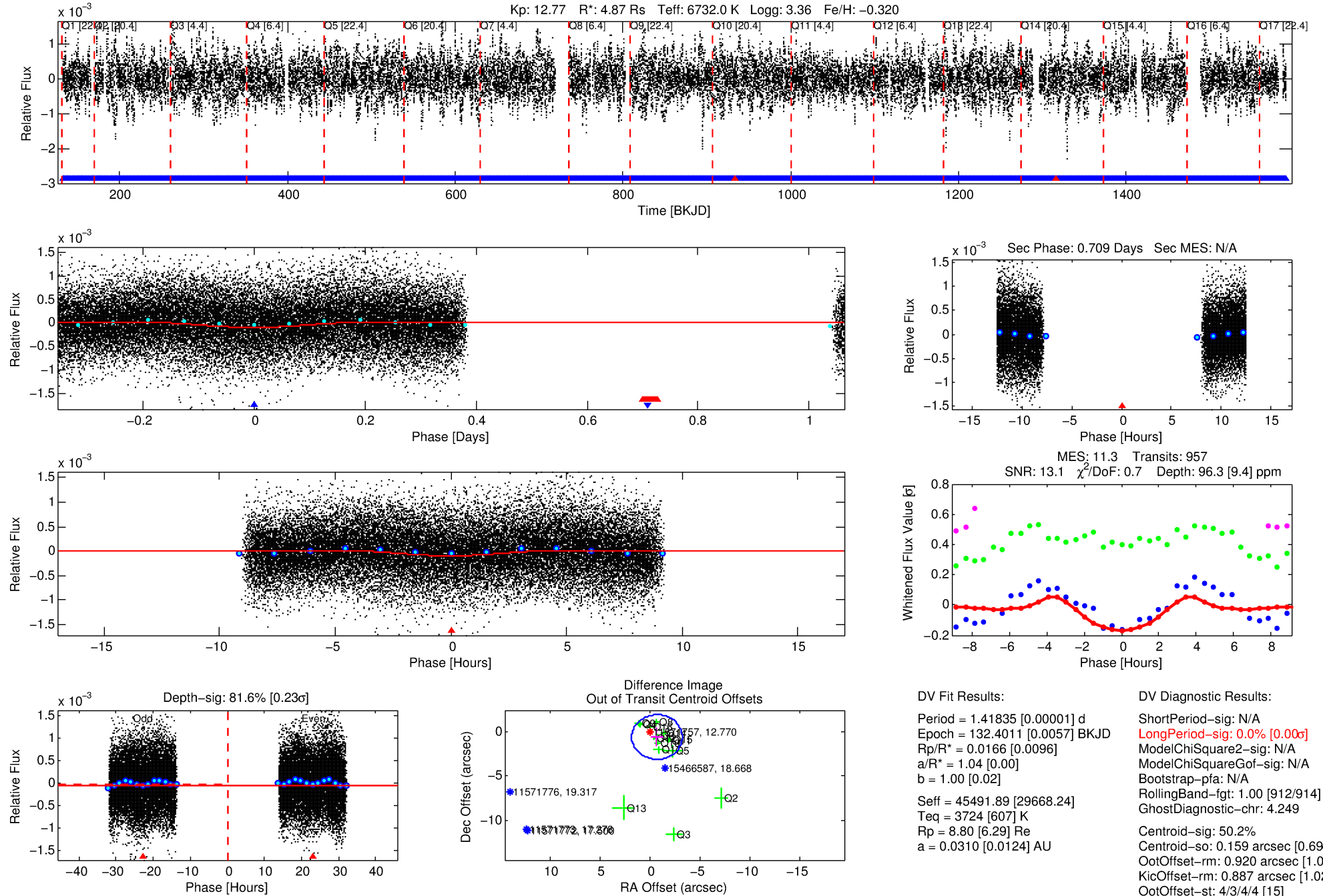
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011571757-02

No Significant Match Found

DV One-Page Summary

KIC: 11571757 Candidate: 2 of 2 Period: 1.418 d



DV Fit Results:

Period = 1.41835 [0.00001] d
Epoch = 132.4011 [0.0057] BKJD
Rp/R* = 0.0166 [0.0096]
a/R* = 1.04 [0.00]
b = 1.00 [0.02]
Seff = 45491.89 [29668.24]
Teff = 3724 [607] K
Rp = 8.80 [6.29] Re
a = 0.0310 [0.0124] AU

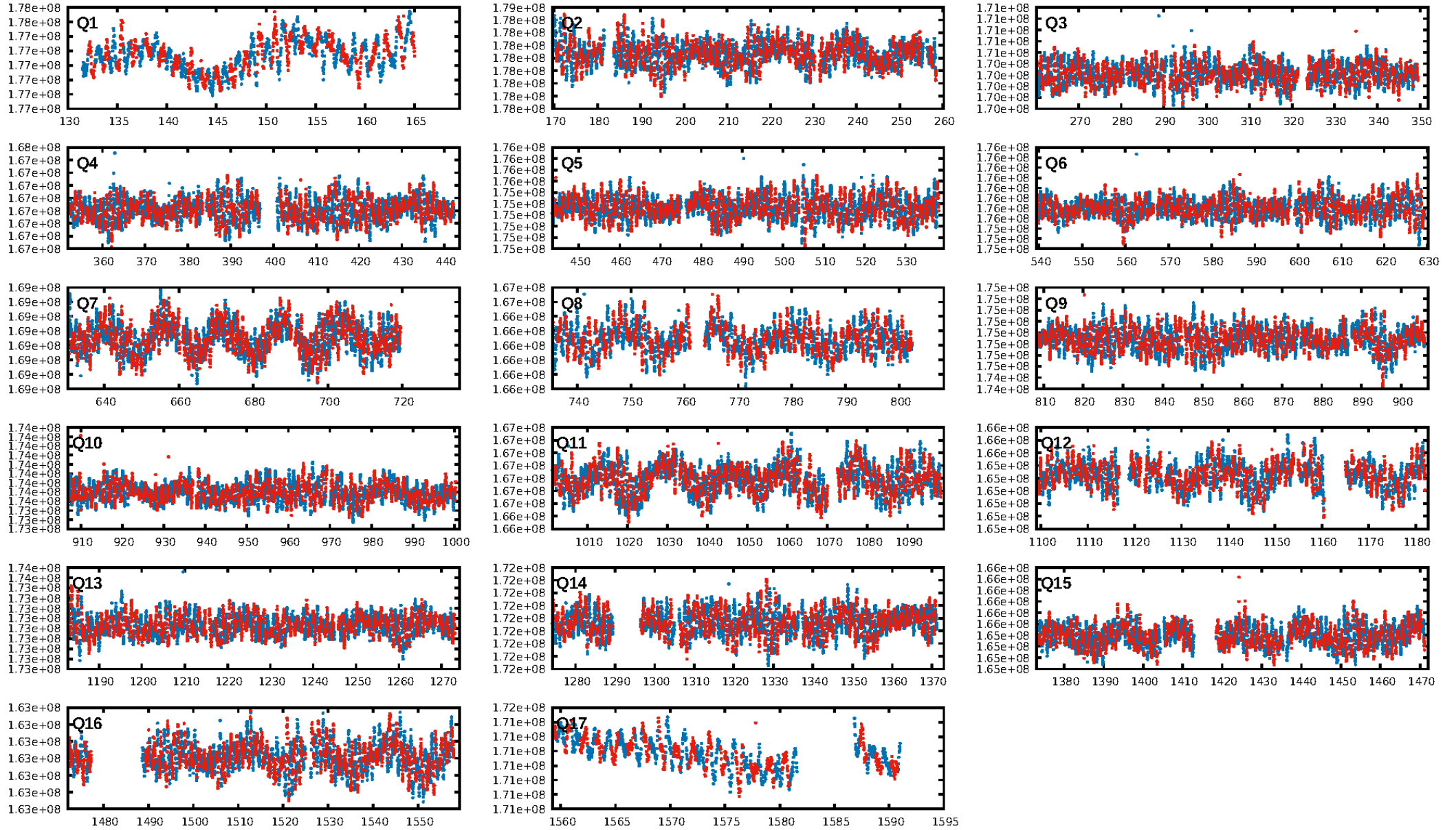
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [912/914]
GhostDiagnostic-chr: 4.249
Centroid-sig: 50.2%
Centroid-so: 0.159 arcsec [0.69 σ]
OotOffset-rm: 0.920 arcsec [1.09 σ]
KicOffset-rm: 0.887 arcsec [1.02 σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 0.67 [10/15]
DiffImageOverlap-fno: 0.00 [0/17]

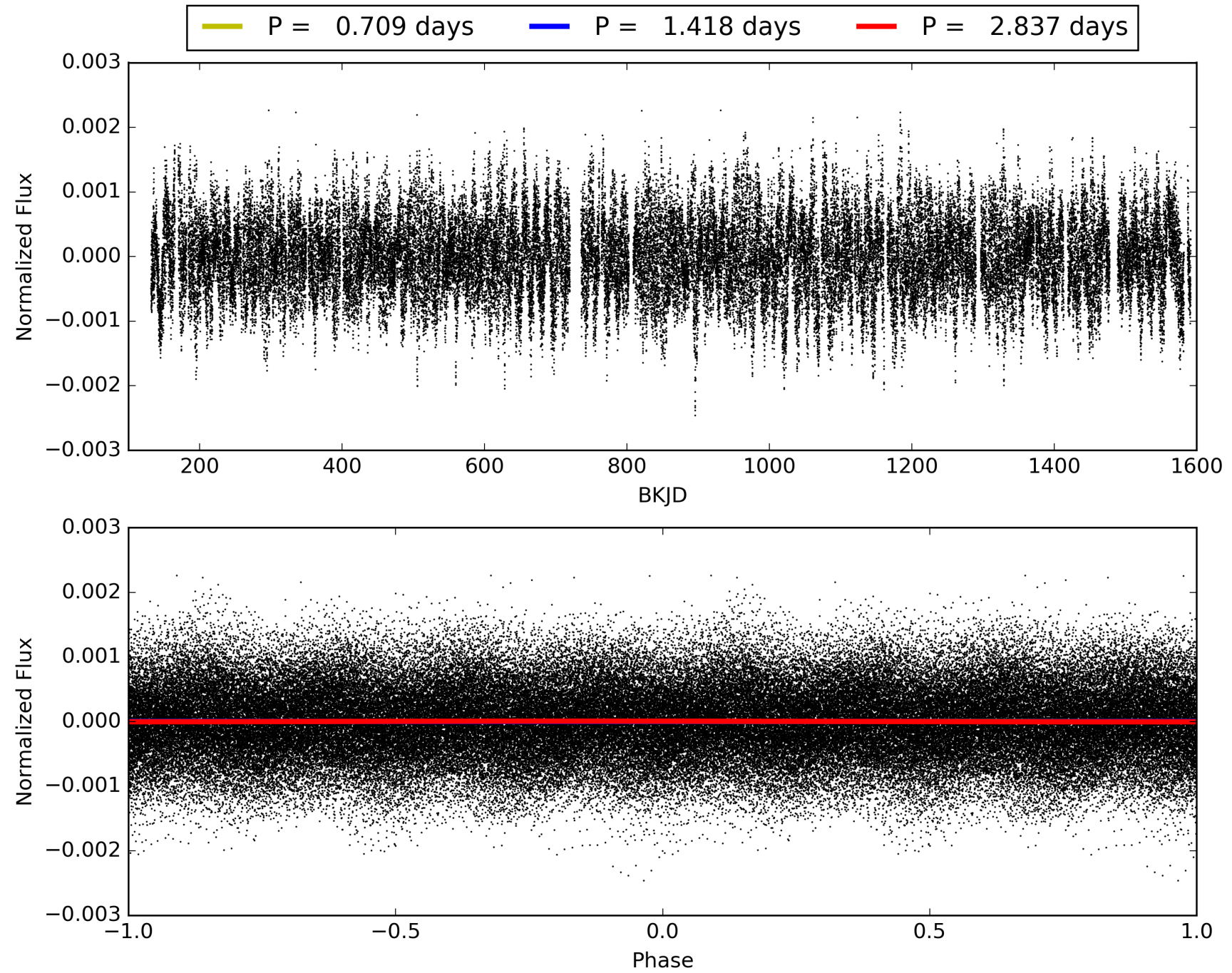
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:51:47 Z

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

TCE 011571757-02, PDC Light Curves

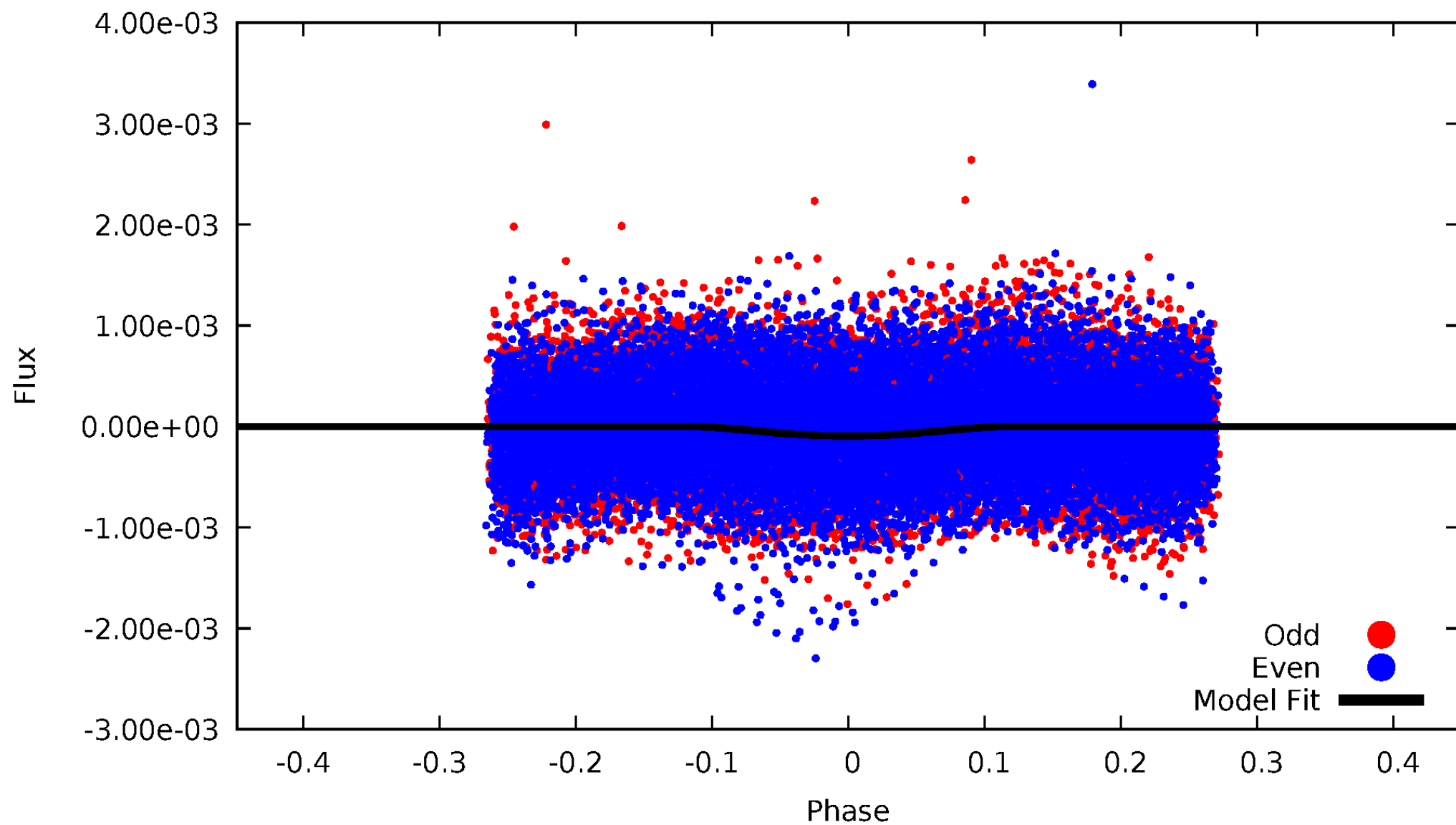


TCE 011571757-02



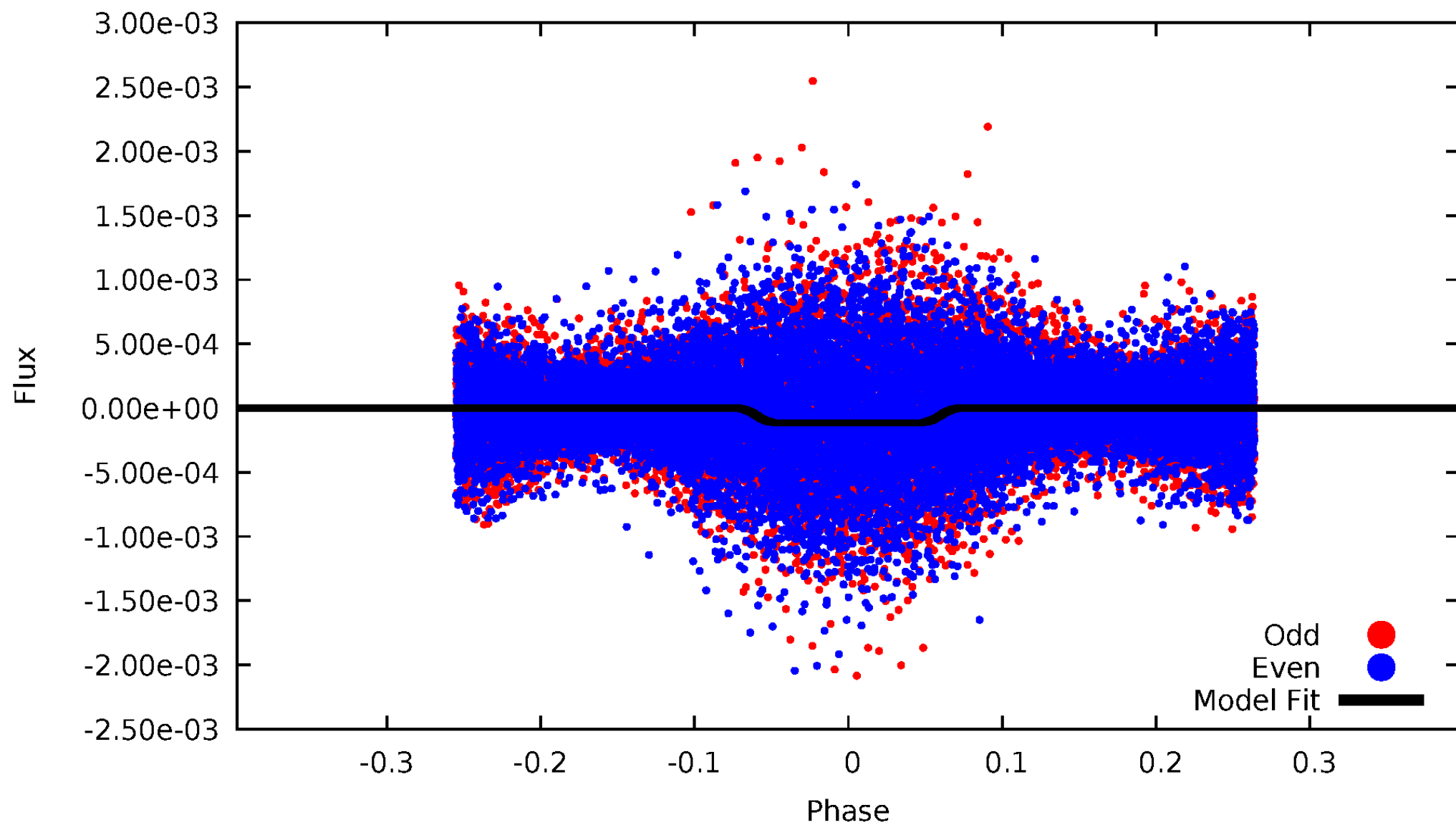
DV Odd/Even

TCE 011571757-02



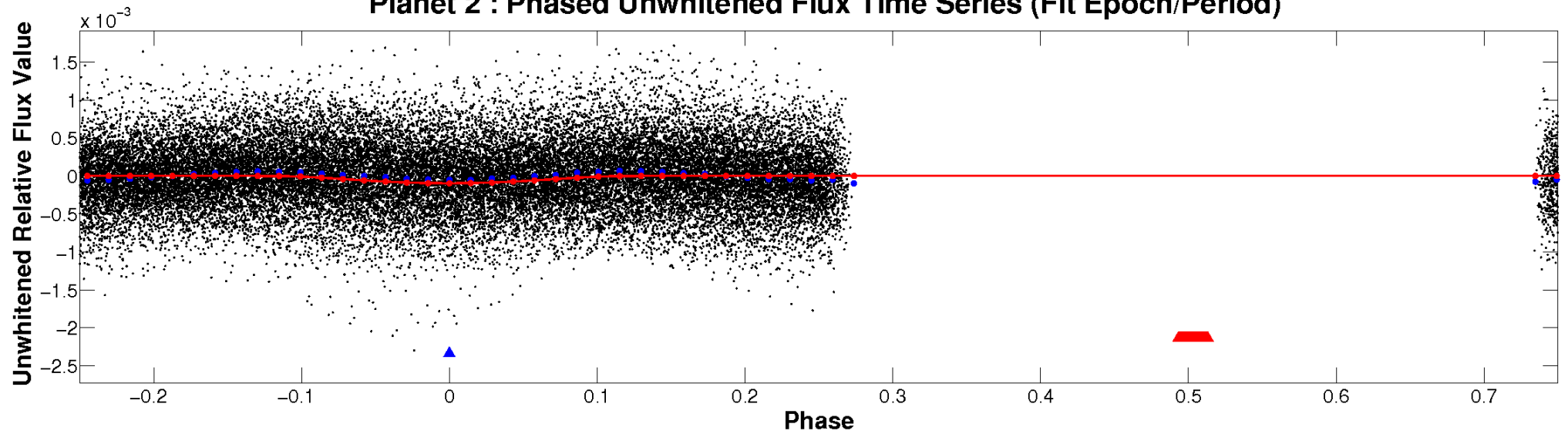
ALT Odd/Even

TCE 011571757-02

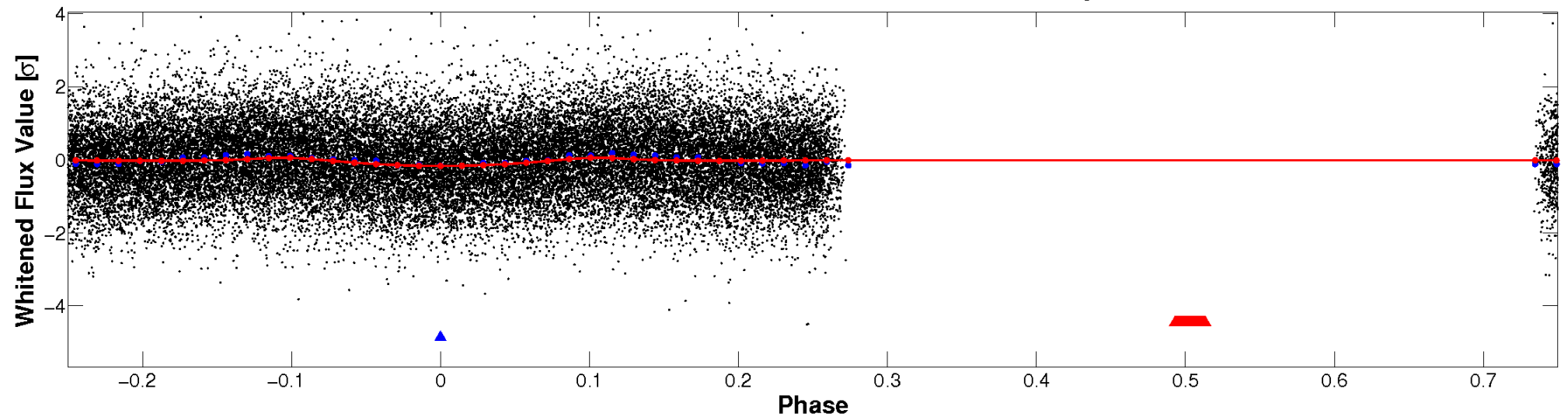


Non-Whitened Vs. Whitened Light Curve

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

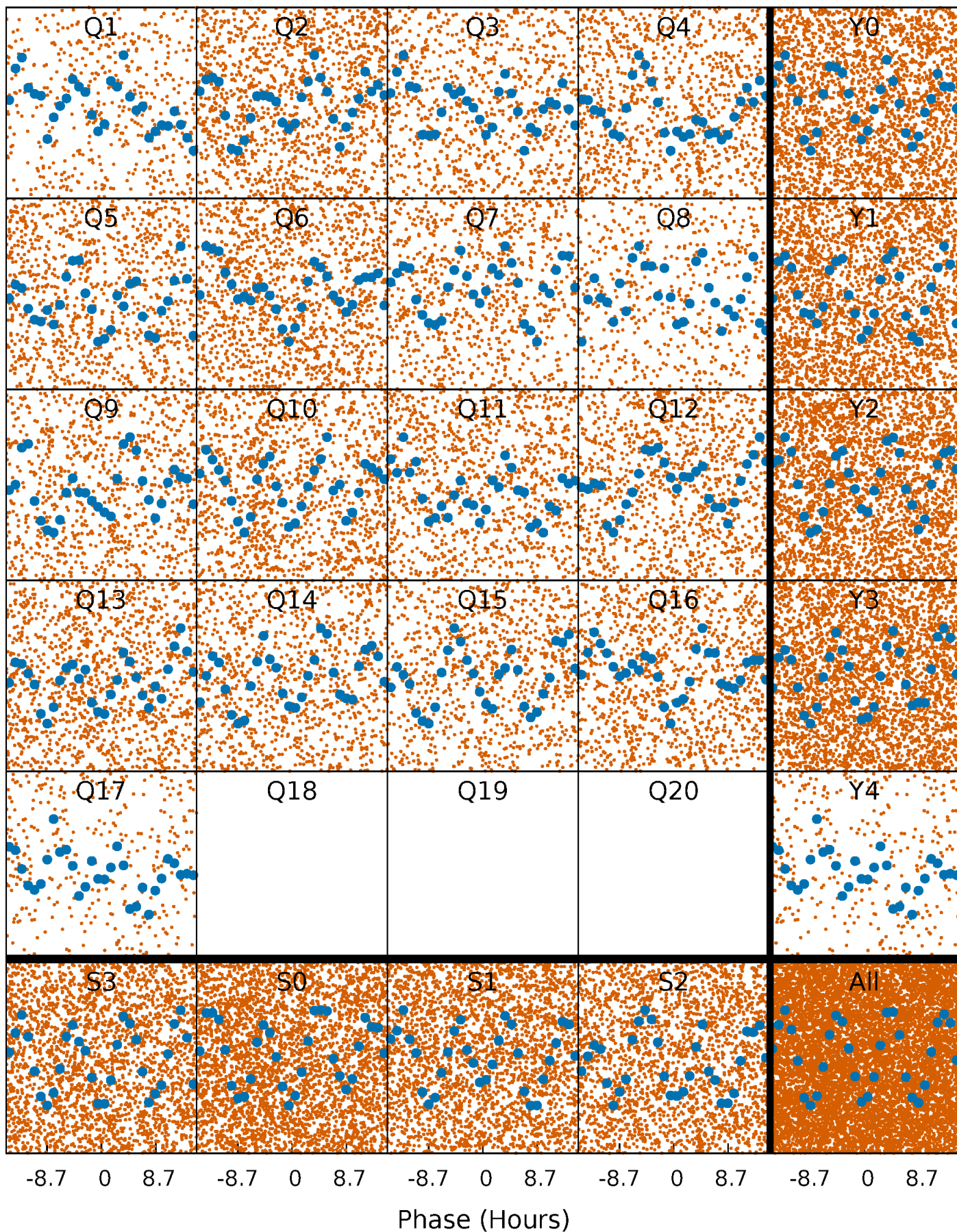


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



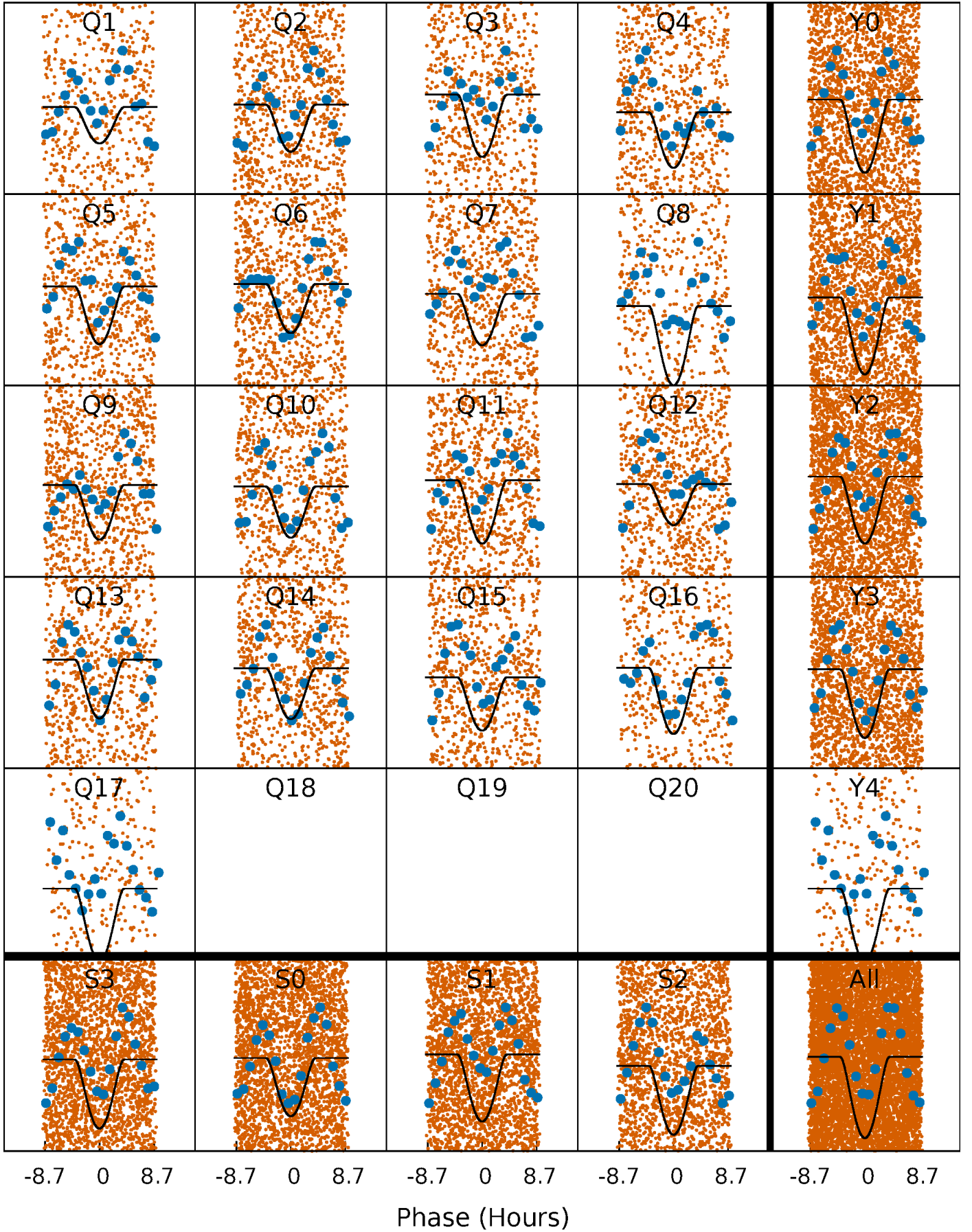
PDC Quarter-Phased Transit Curves

TCE 011571757-02 P= 1.418349 Days $T_0=132.401079$ (BKJD)



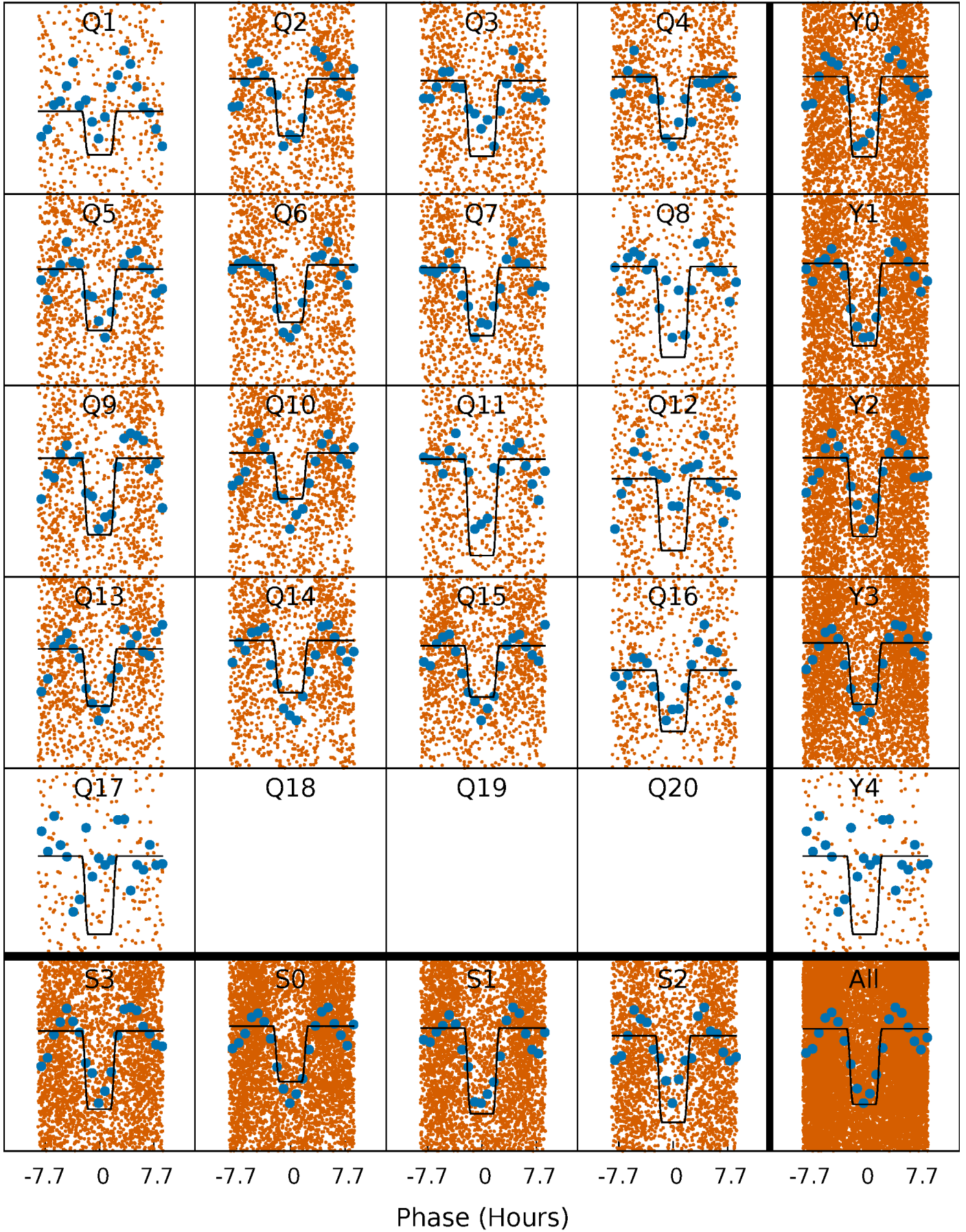
DV Quarter-Phased Transit Curves

TCE 011571757-02 $P = 1.418349$ Days $T_0 = 132.401079$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

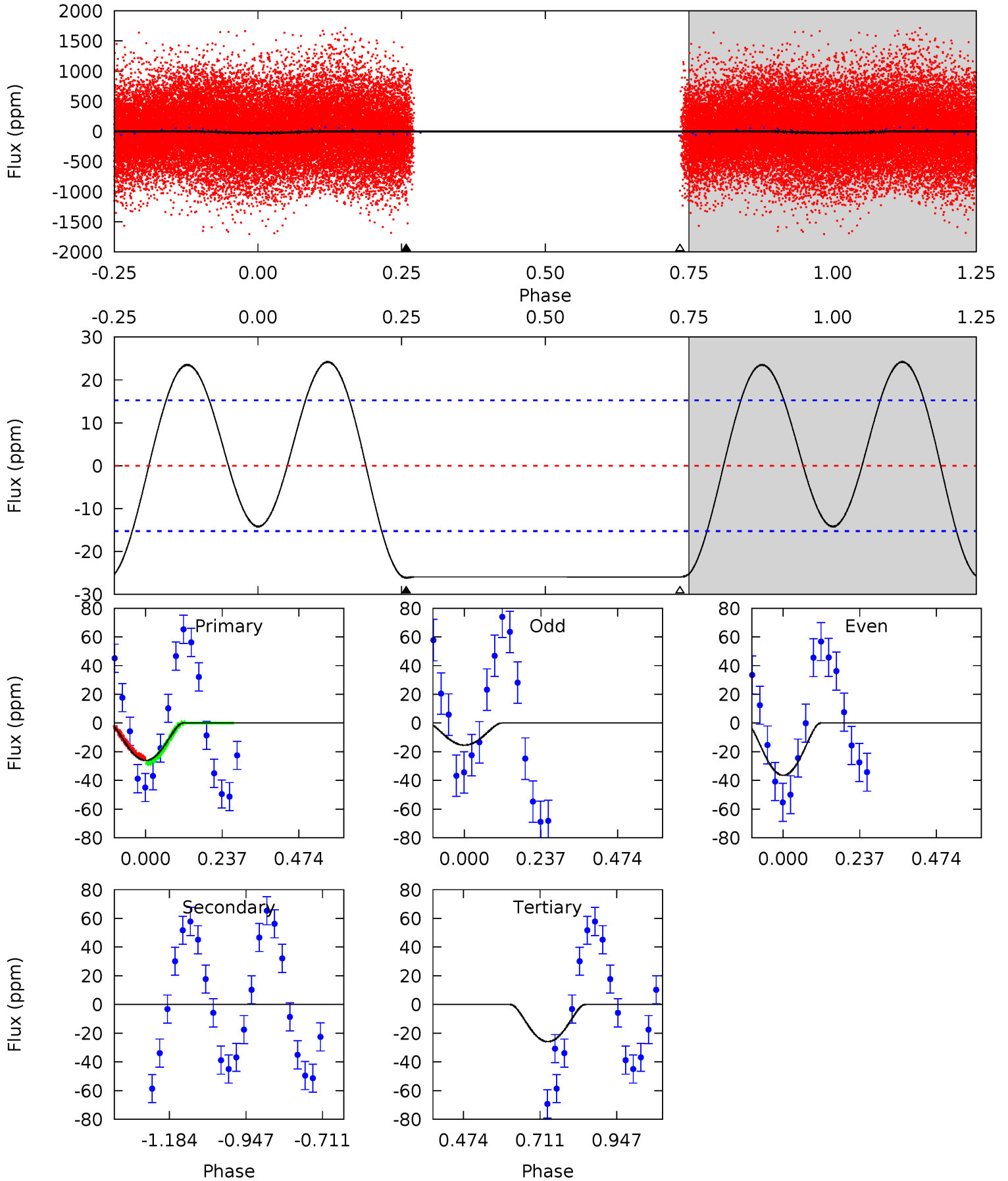
TCE 011571757-02 P= 1.418376 Days $T_0=132.385464$ (BKJD)



DV Model-Shift Uniqueness Test

011571757-02, P = 1.418349 Days, E = 130.982730 Days

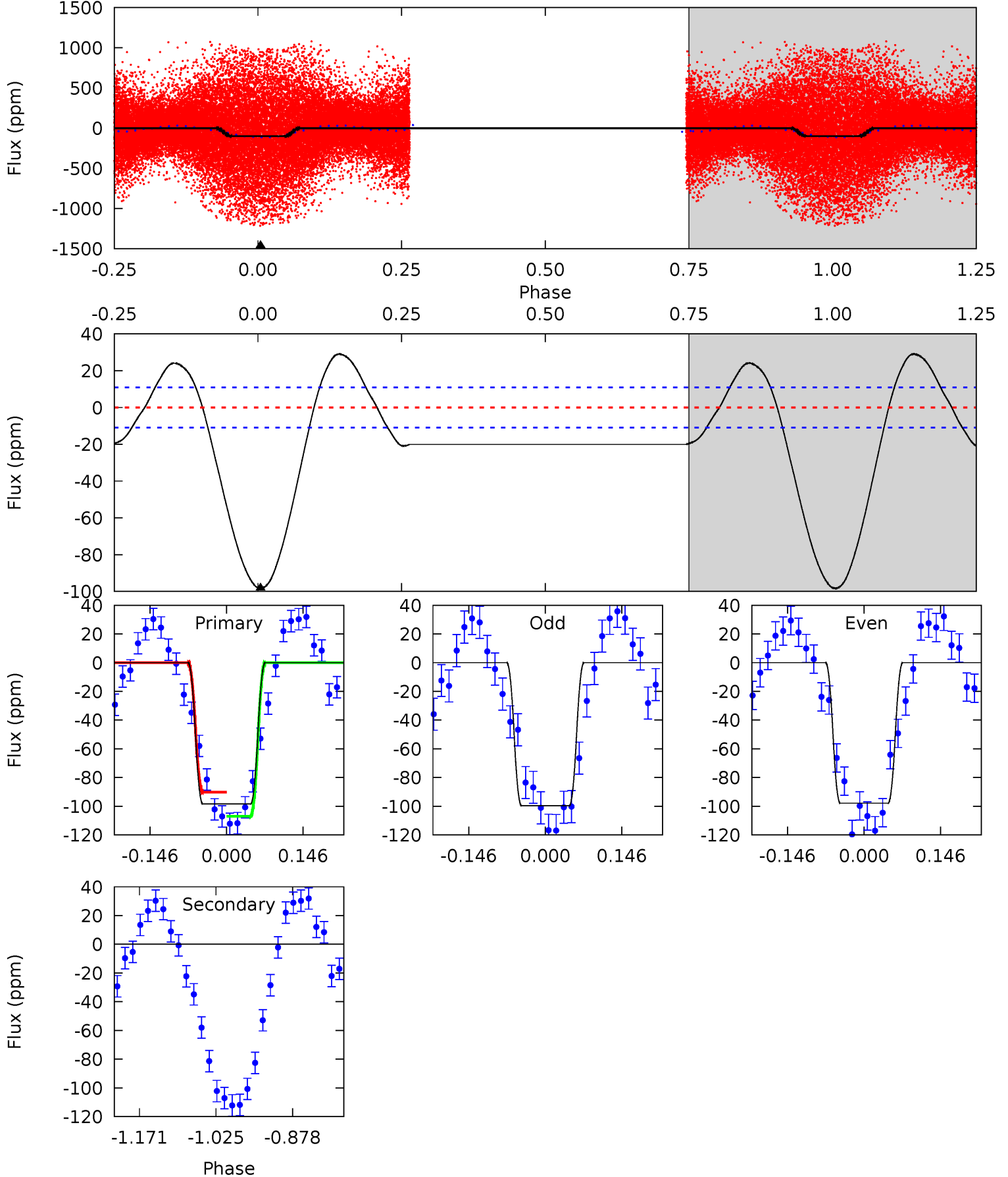
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.50	0	7.45	0	4.38	1.18	4.47	0.05	7.50	-7.45	0	2.99	2.76	0.48	0.54



Alt Model-Shift Uniqueness Test

011571757-02, P = 1.418376 Days, E = 130.967088 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.3	0	0	0	4.48	1.45	6.58	40.3	40.3	0	0	0.35	1.06	0.23	2.48



Stellar Parameters For KIC 011571757

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6732^{+182}_{-223}	$3.357^{+0.374}_{-0.066}$	$-0.320^{+0.400}_{-0.300}$	$4.867^{+0.360}_{-2.041}$	$1.968^{+0.142}_{-0.398}$	$0.024^{+0.074}_{-0.005}$
	+3%/-3%	+11%/-2%	+125%/-94%	+7%/-42%	+7%/-20%	+310%/-22%
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 011571757-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 3	$8.28^{+4.84}_{-4.38}$	5090^{+283}_{-532}	-4363^{+412}_{-231}	$0.001^{+0.037}_{-0.044}$
Alt.	0 ± 2	$5.85^{+4.76}_{-3.71}$	5109^{+255}_{-492}	-4367^{+521}_{-249}	$0.001^{+0.066}_{-0.058}$

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 $A_{obs} \gg 1.0$

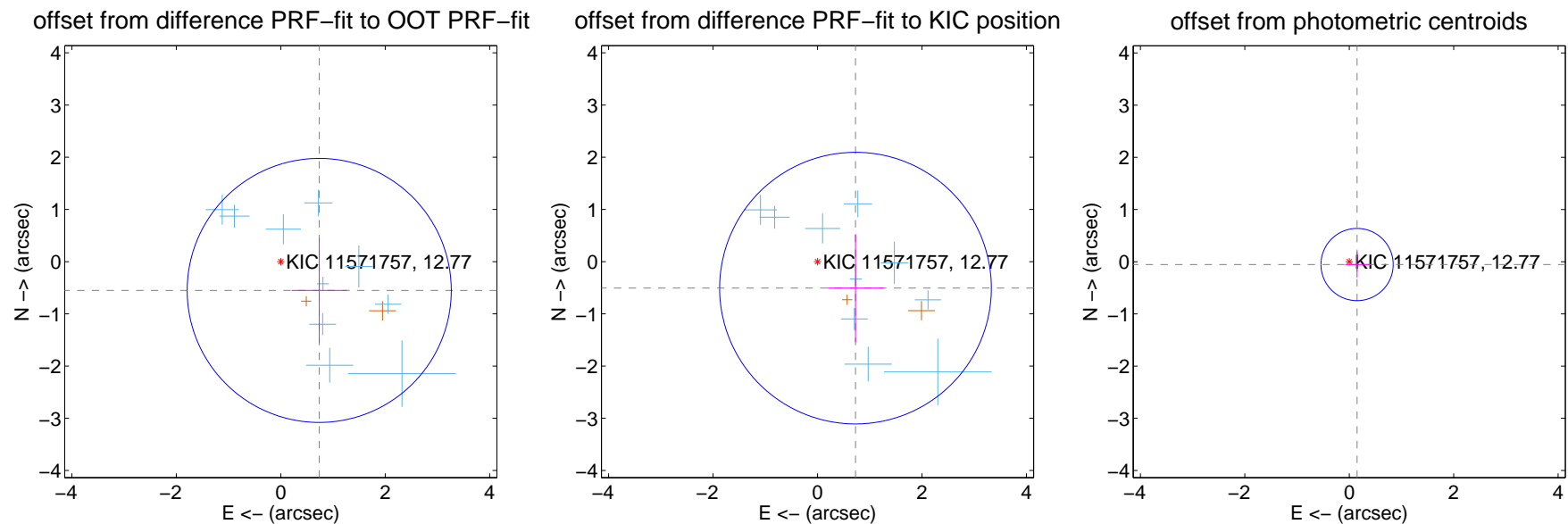
DV Centroid Data

Supplemental centroid analysis for 011571757-02. Kepler magnitude: 12.77. Transit SNR 13.14

There are 10 quarters with good PRF difference image offsets

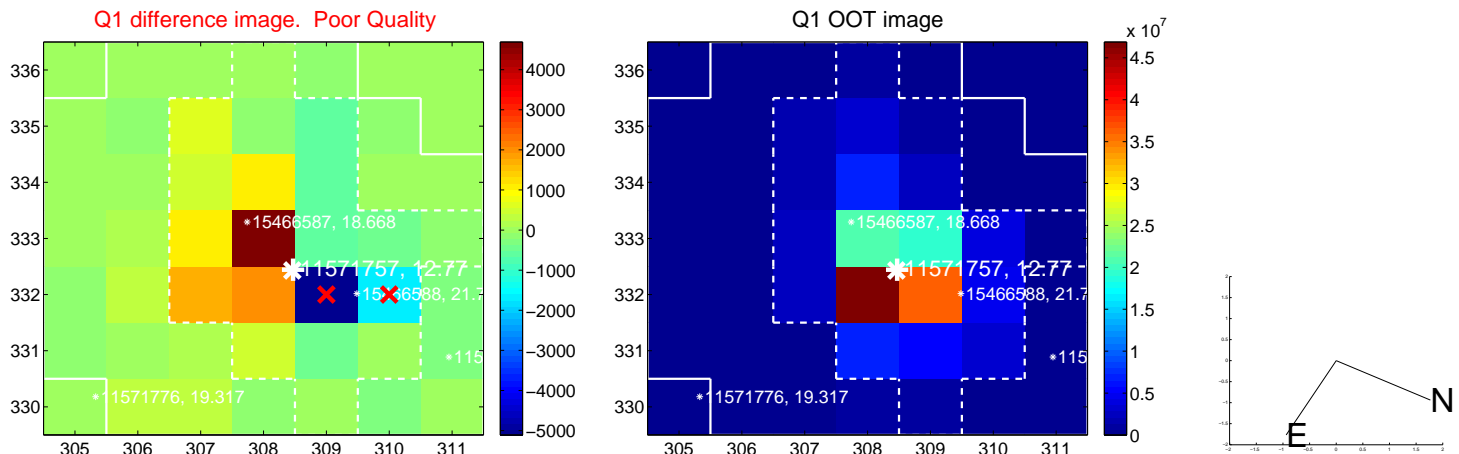
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.920 ± 0.843	1.09	-0.737 ± 0.530	-0.551 ± 1.001
PRF-fit source offset from KIC position	0.887 ± 0.867	1.02	-0.727 ± 0.536	-0.507 ± 1.033
photometric centroid source offset	0.16 ± 0.23	0.69	-0.15 ± 0.23	-0.05 ± 0.25

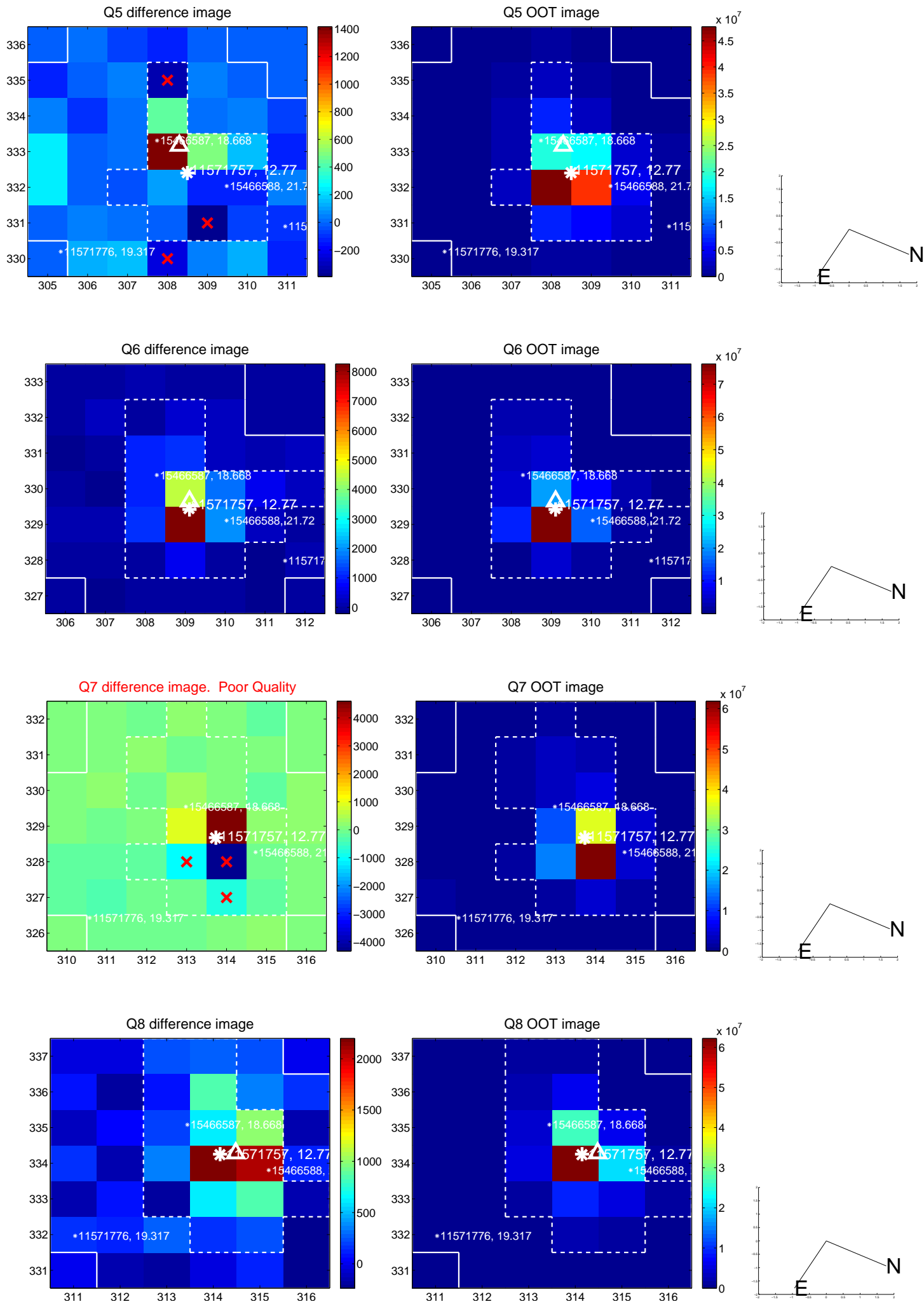


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

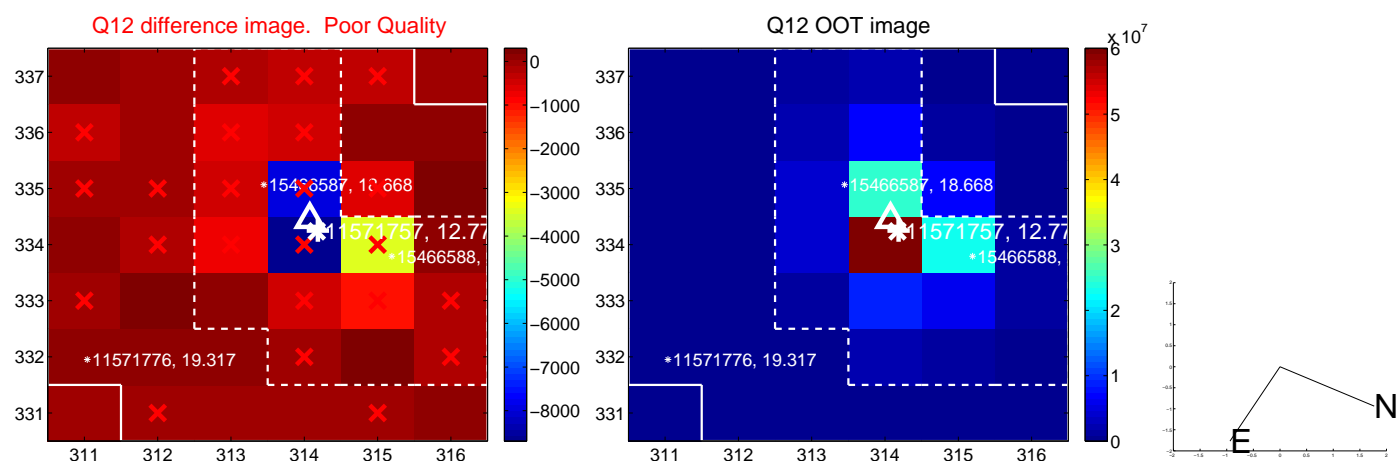
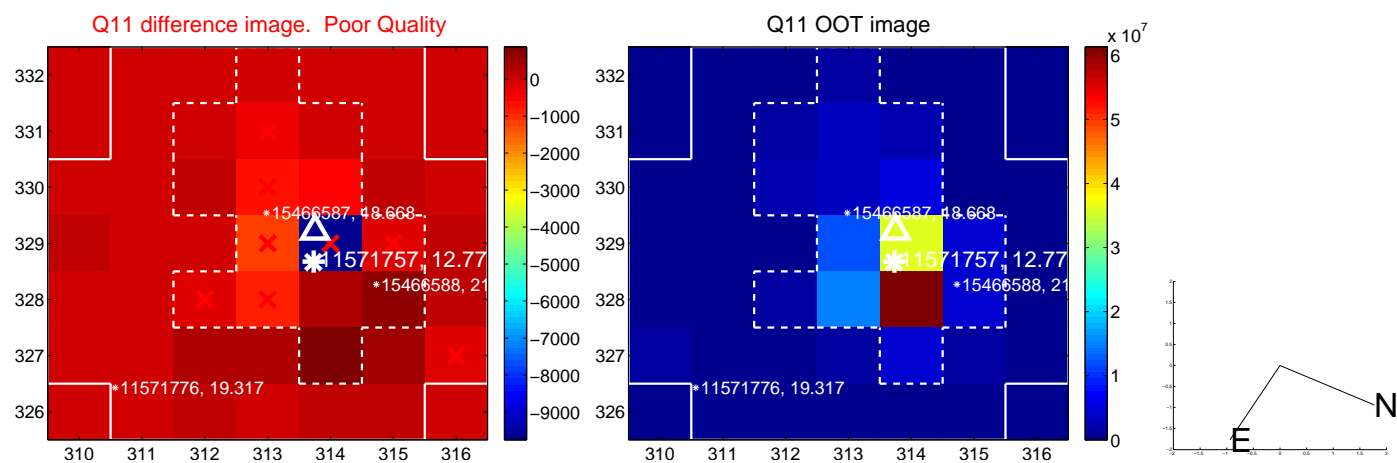
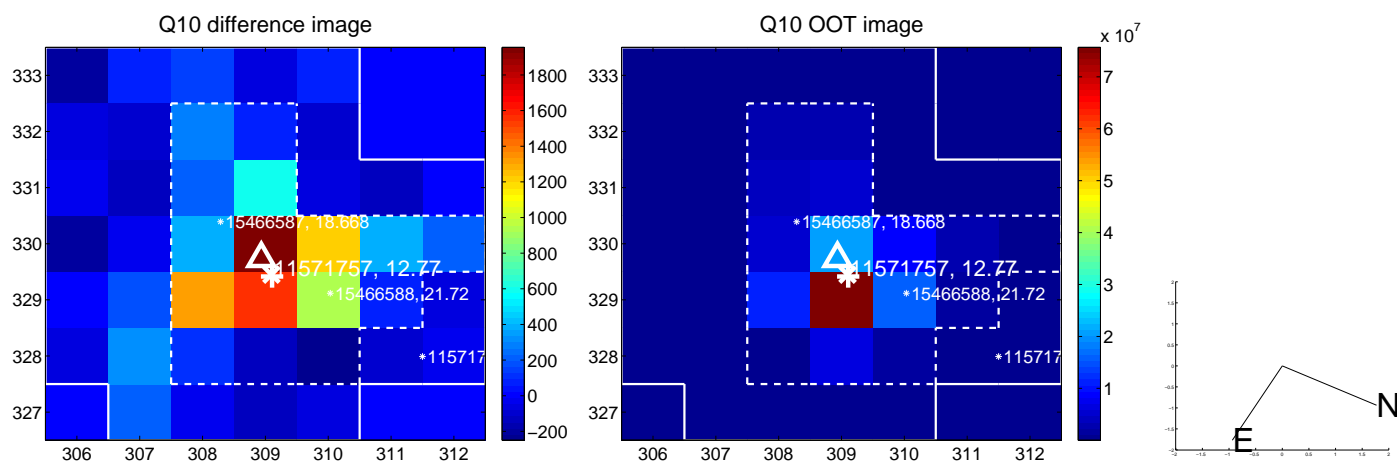
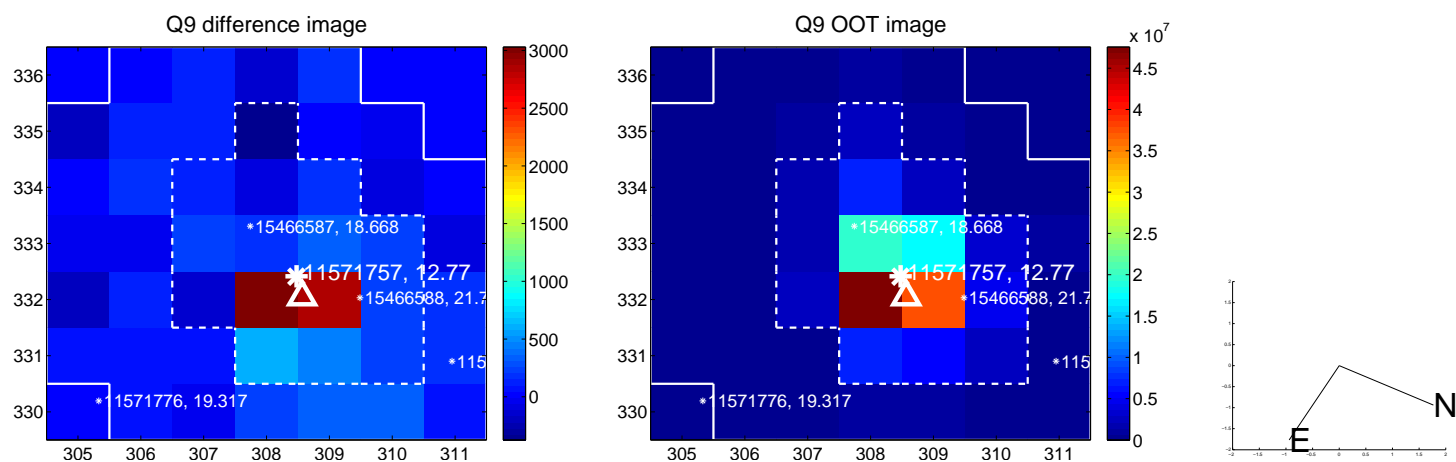
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



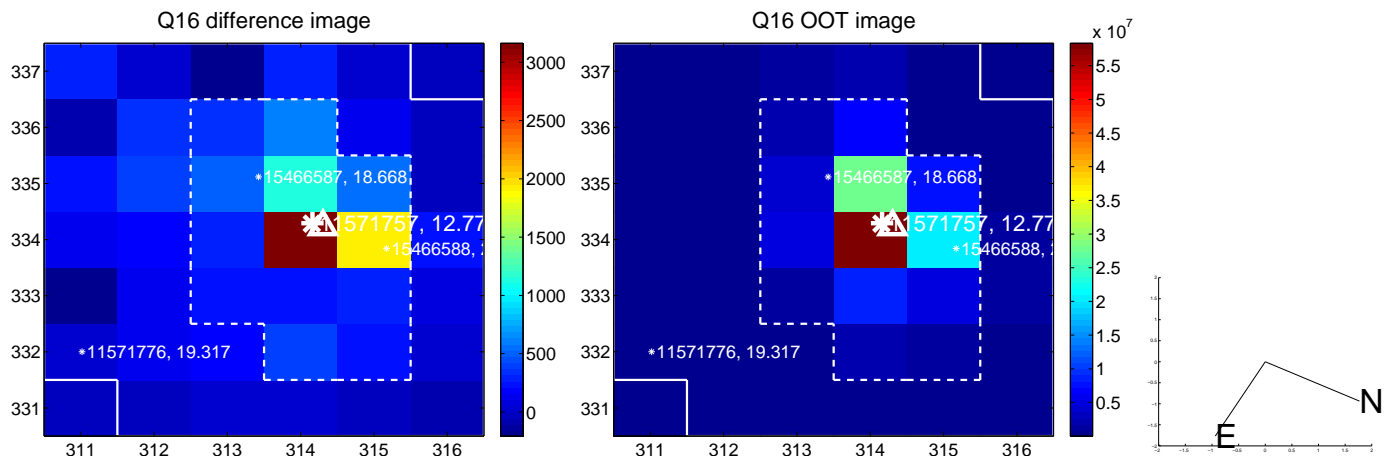
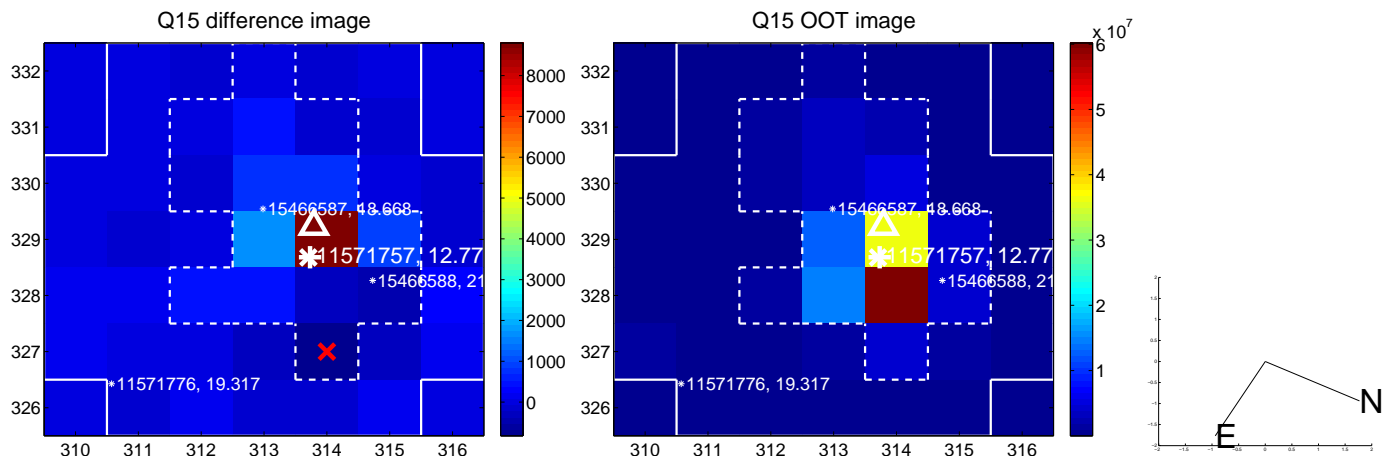
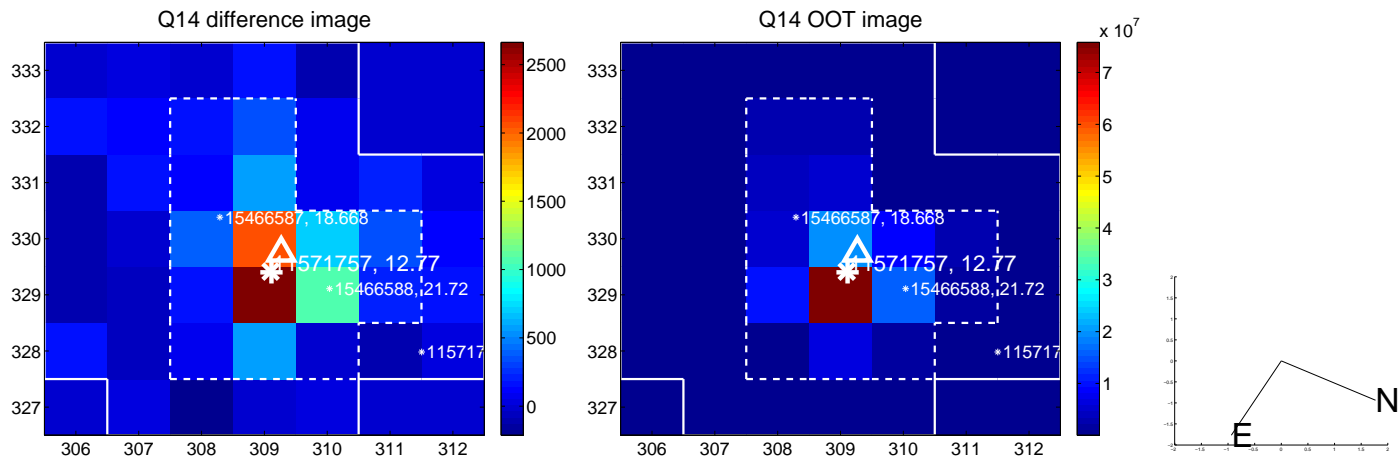
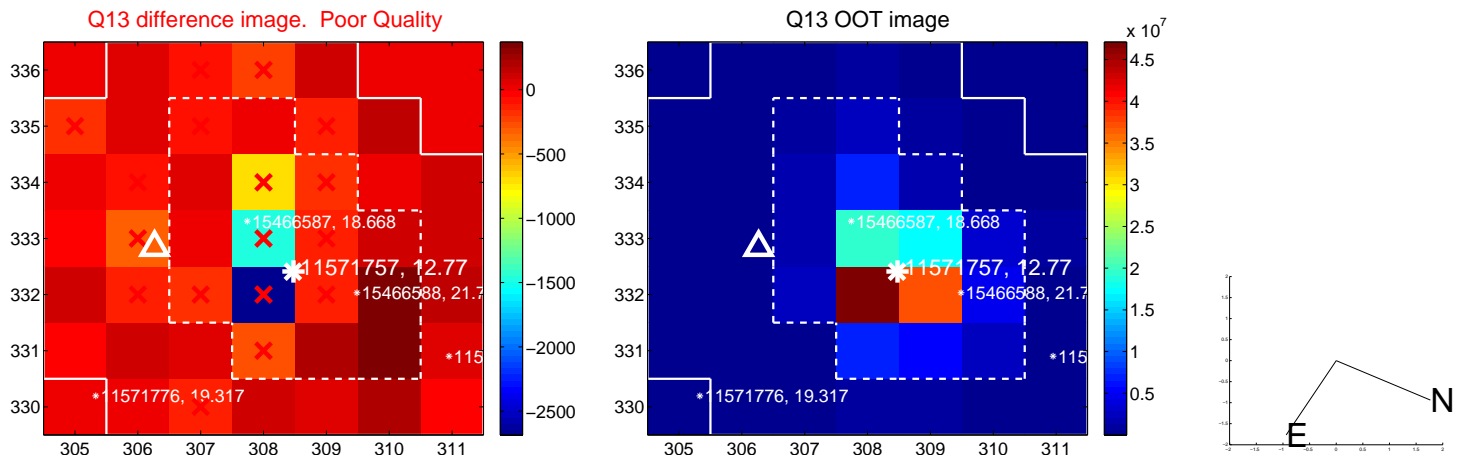
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



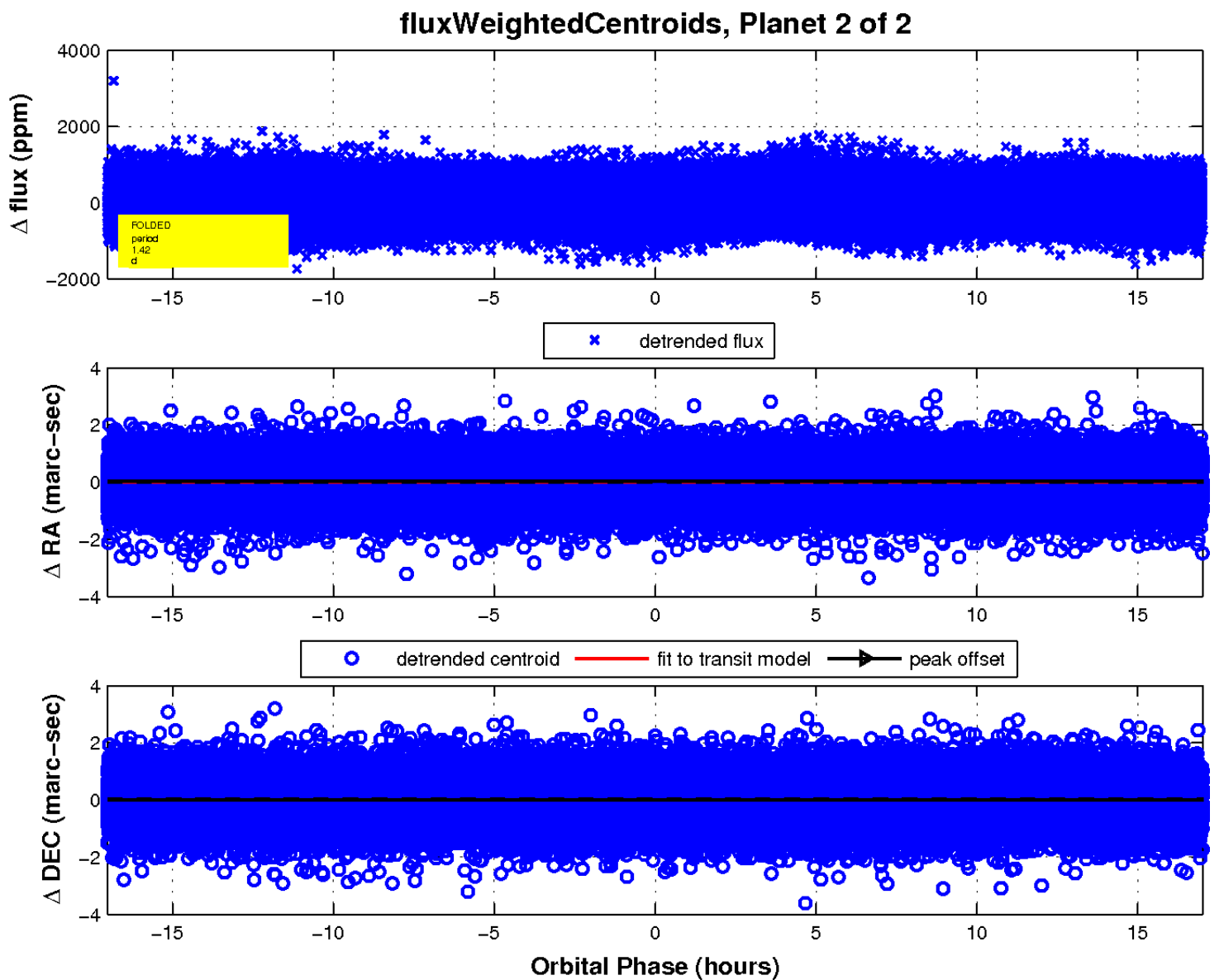
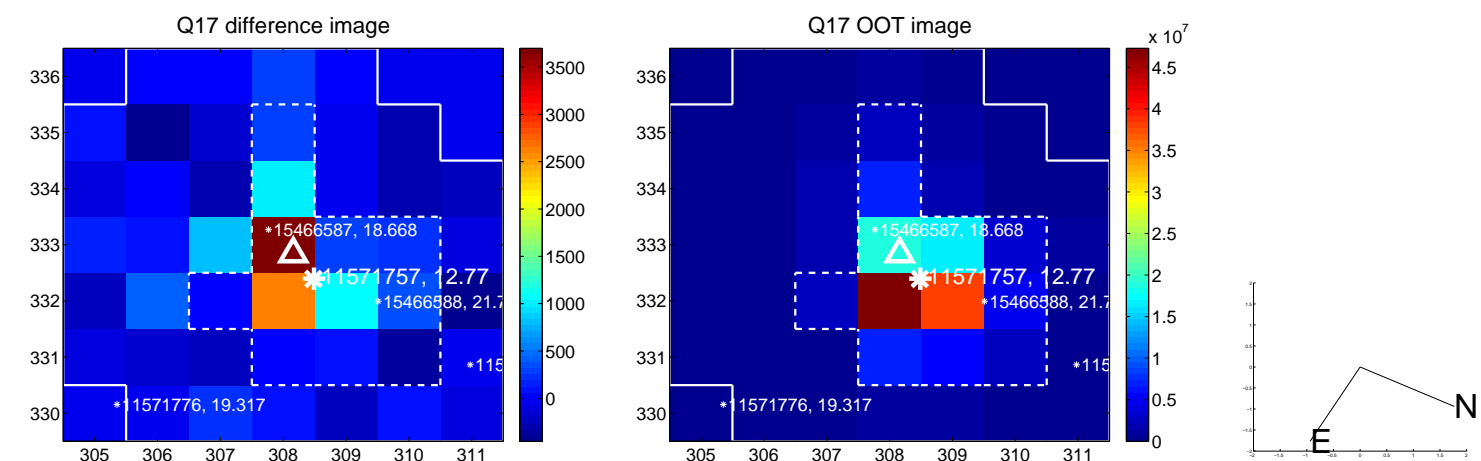
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

