

KIC 008571125

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})
008571125-01	OBS	No	0.695906	131.953656	3.4	3.271	7.9	1.7	2.58	6443	0.48	33965.49
008571125-02	OBS	No	63.943476	178.410384	183.0	1.982	7.4	6.9	2.58	6443	3.69	81.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008571125-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008571125-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

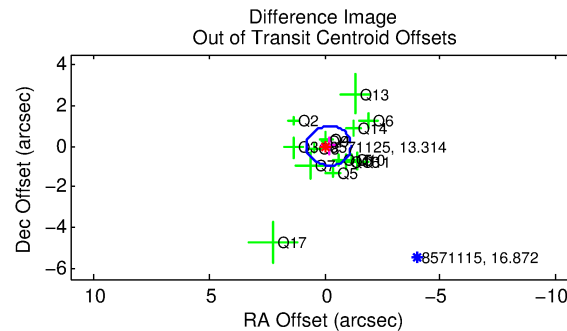
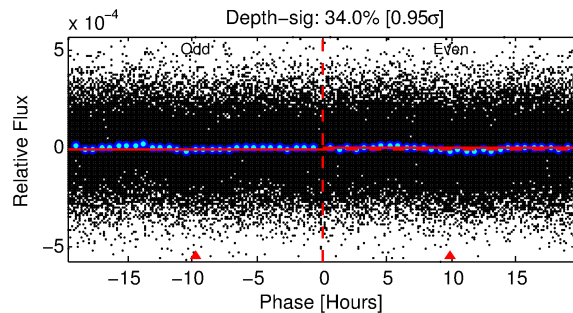
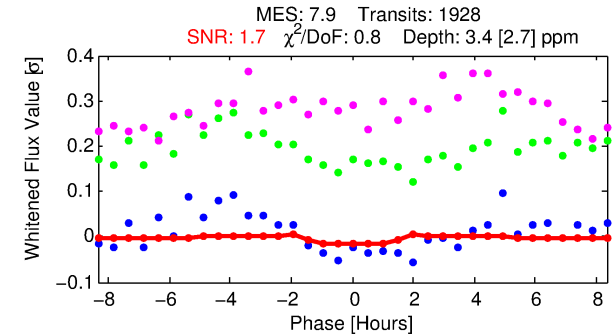
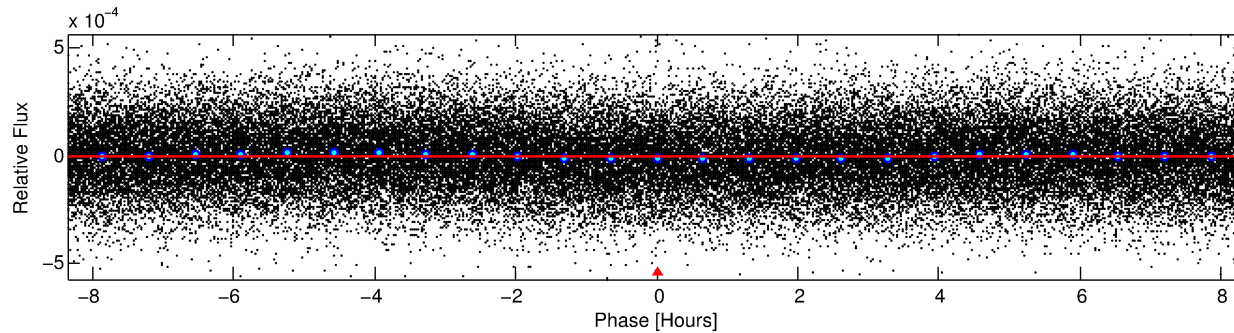
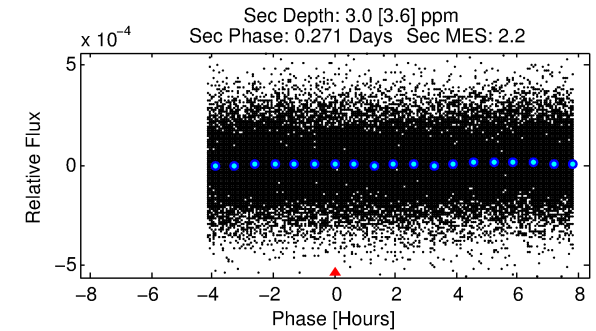
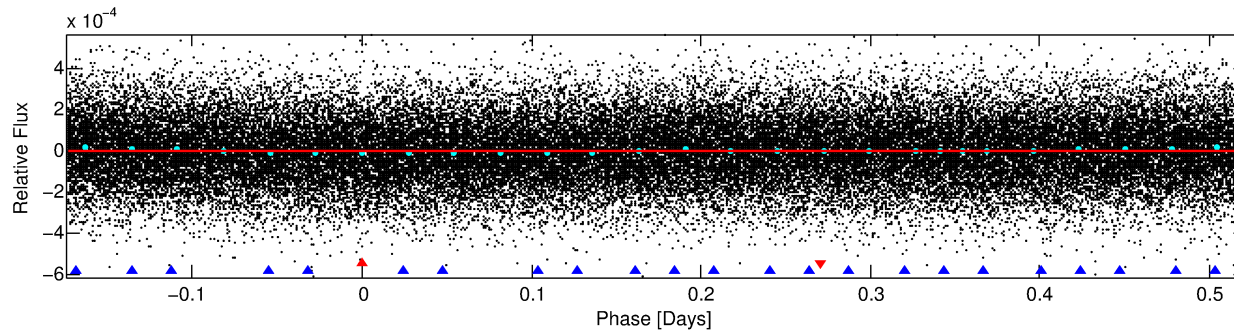
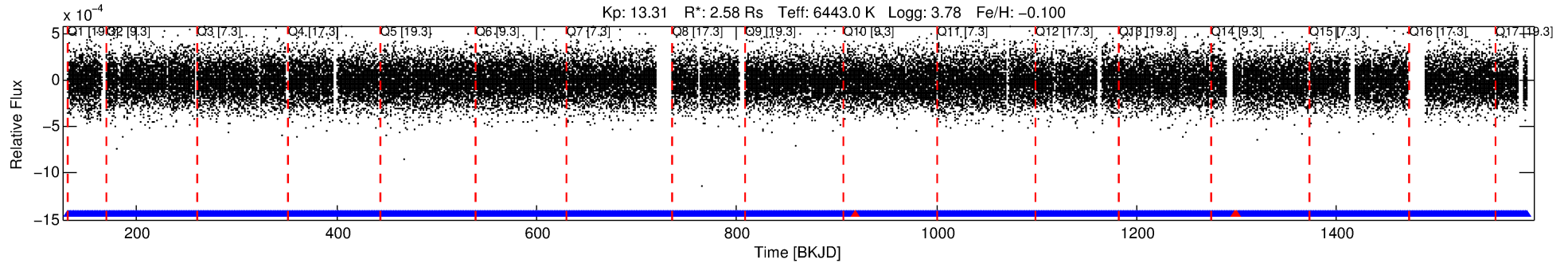
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008571125-01

No Significant Match Found

DV One-Page Summary

KIC: 8571125 Candidate: 1 of 2 Period: 0.696 d



DV Fit Results:

Period = 0.69591 [0.00006] d
Epoch = 131.9537 [0.0181] BKJD
Rp/R* = 0.0017 [0.0082]
a/R* = 1.73 [29.28]
b = 0.09 [282.90]
Seff = 33965.49 [18011.71]
Teq = 3462 [459] K
Rp = 0.48 [2.32] Re
a = 0.0174 [0.0058] AU
Ag = 2.21 [21.67] [0.06σ]
Teffp = 6526 [15968] K [0.19σ]

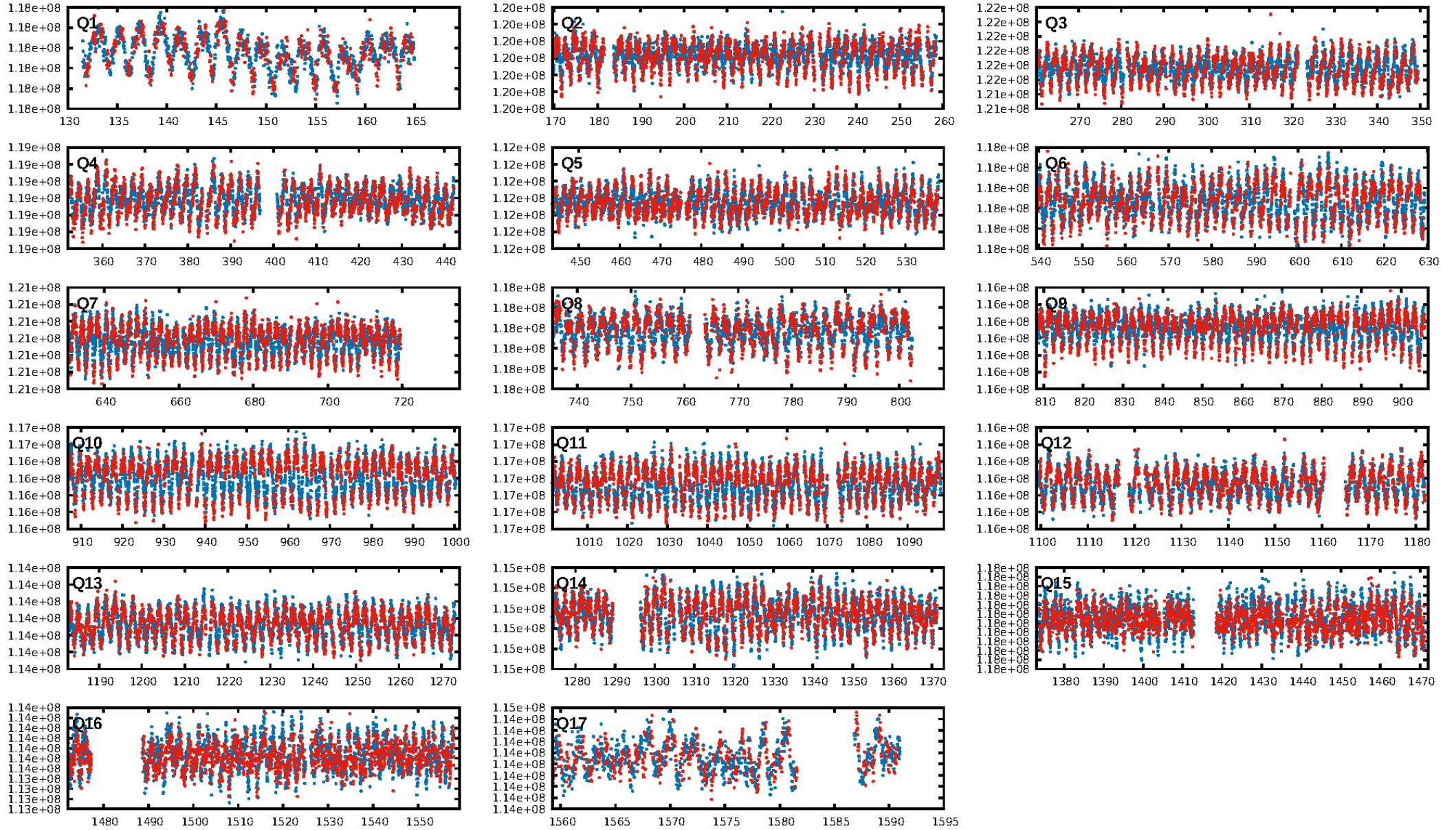
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [396.92σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.05e-12
RollingBand-fgt: 1.00 [1838/1841]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.179 arcsec [0.56σ]
KicOffset-rm: 0.245 arcsec [0.90σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.93 [14/15]
DiffImageOverlap-fno: 1.00 [17/17]

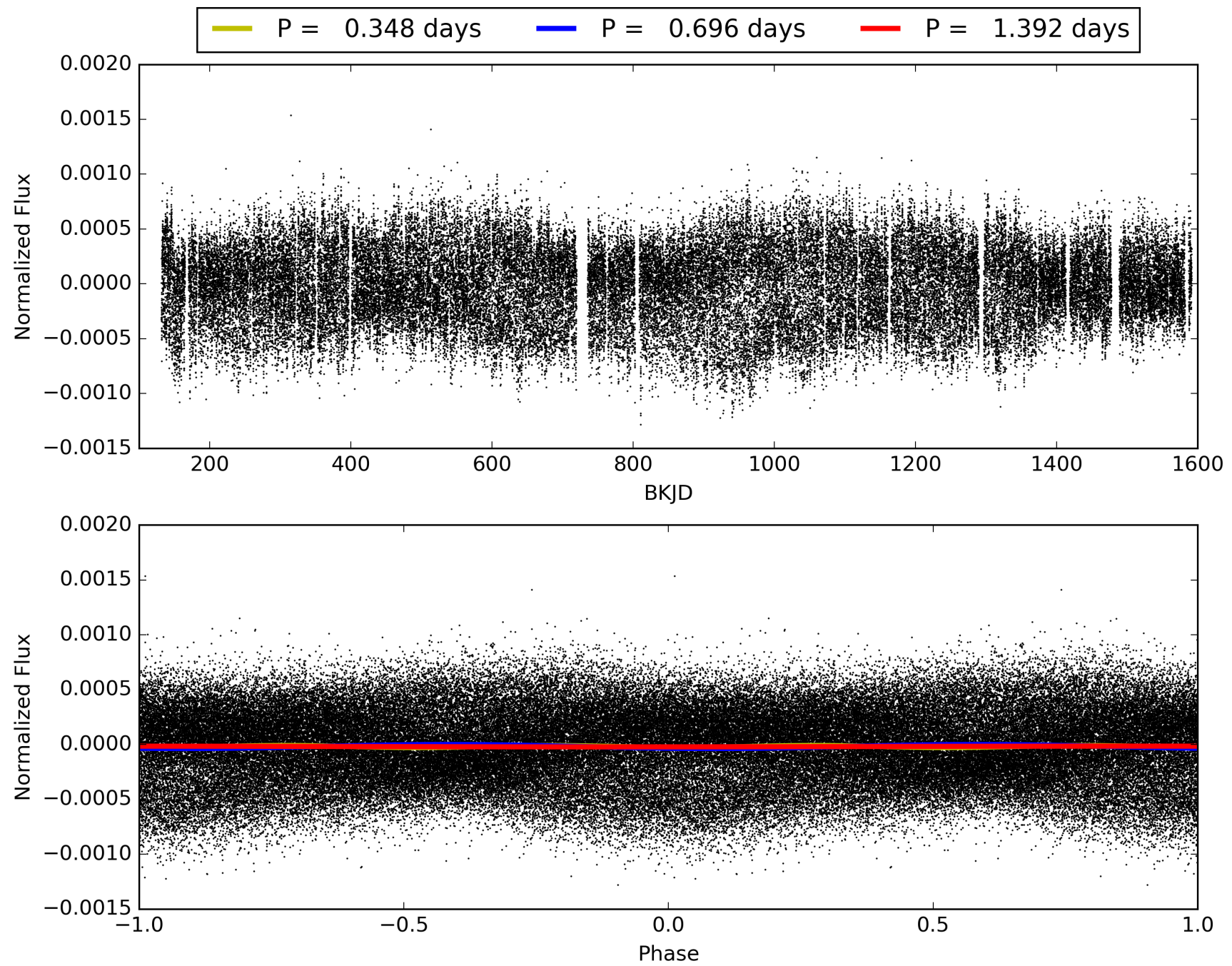
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:54:12 Z

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

TCE 008571125-01, PDC Light Curves

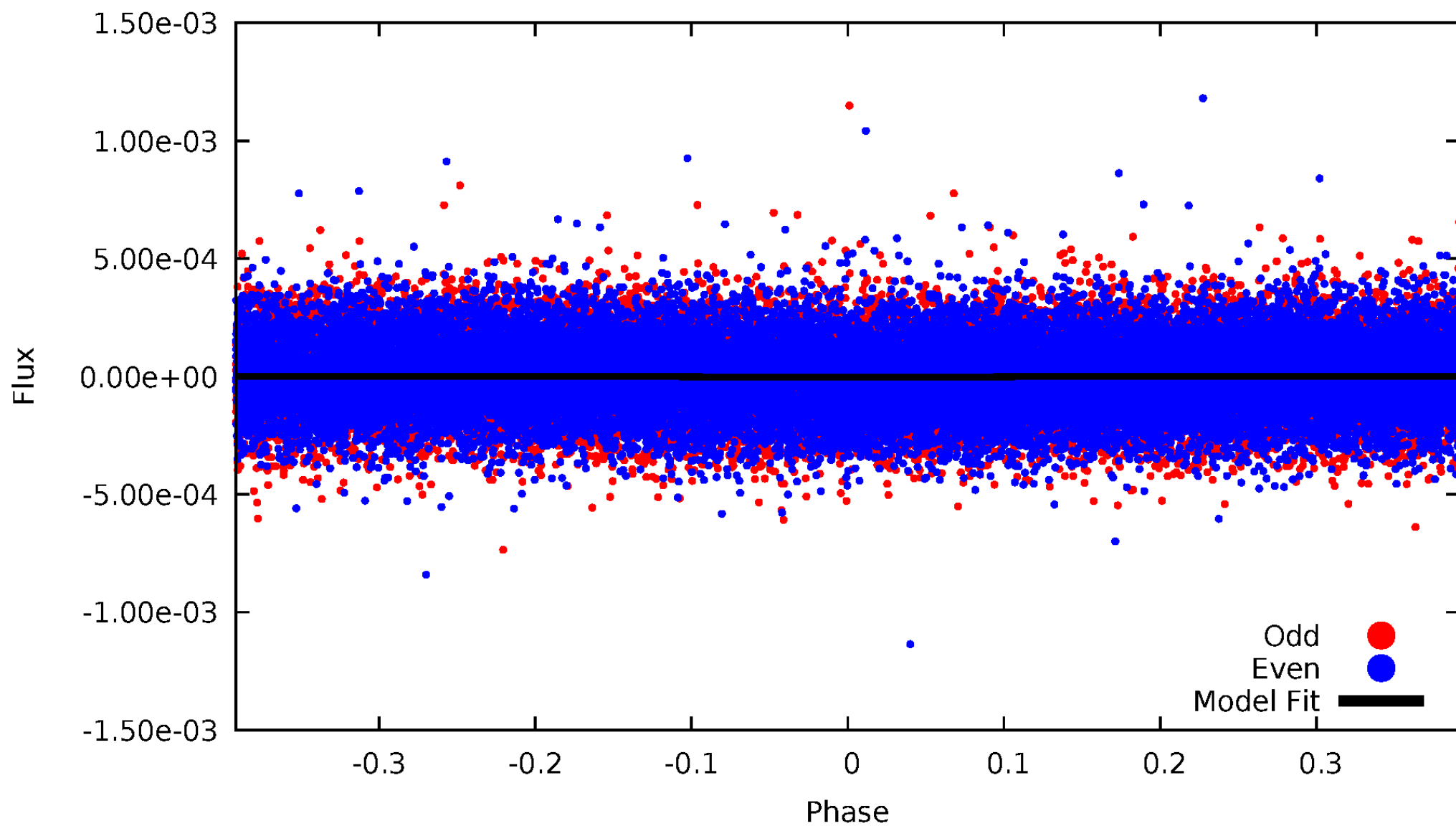


TCE 008571125-01



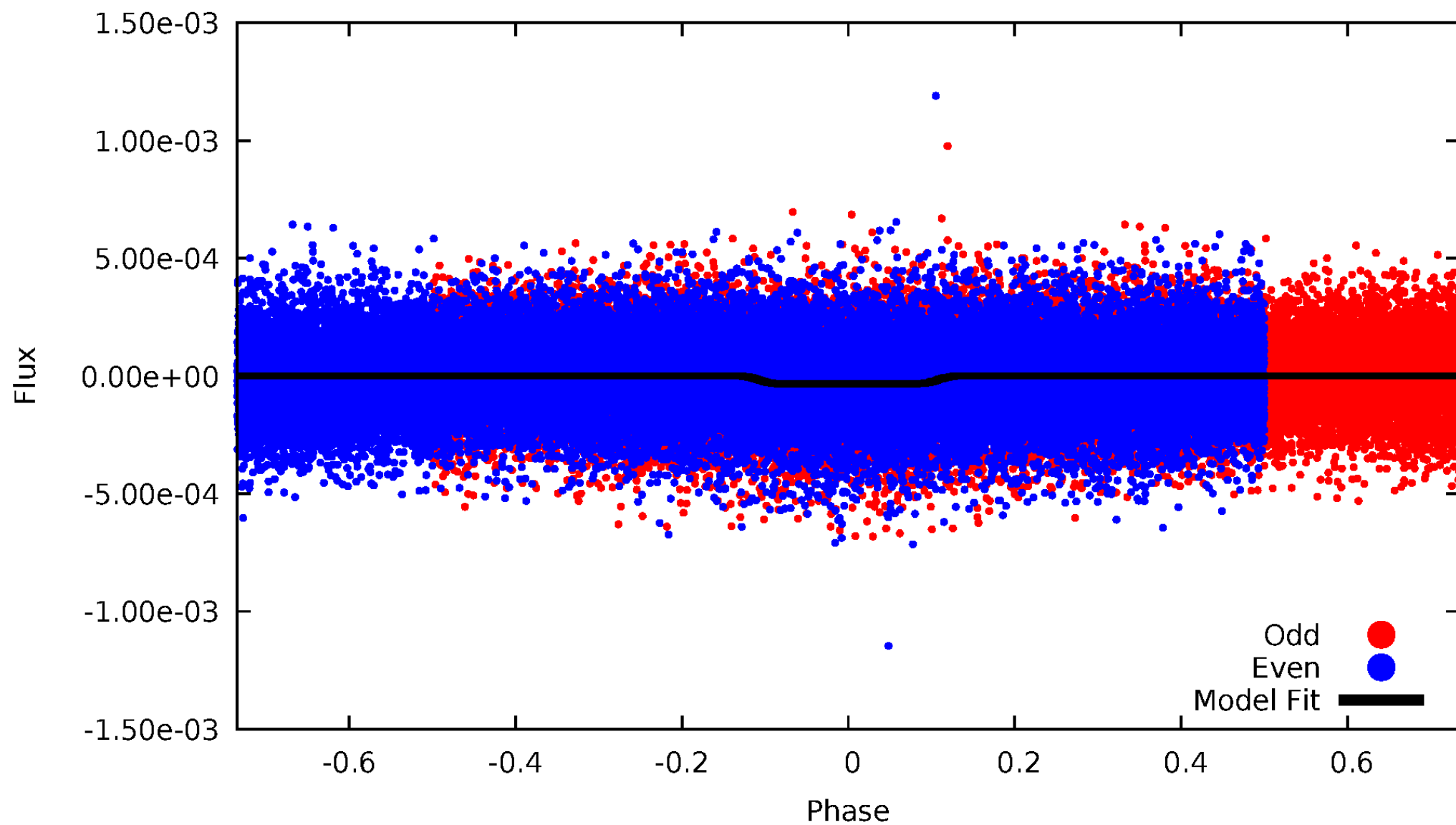
DV Odd/Even

TCE 008571125-01



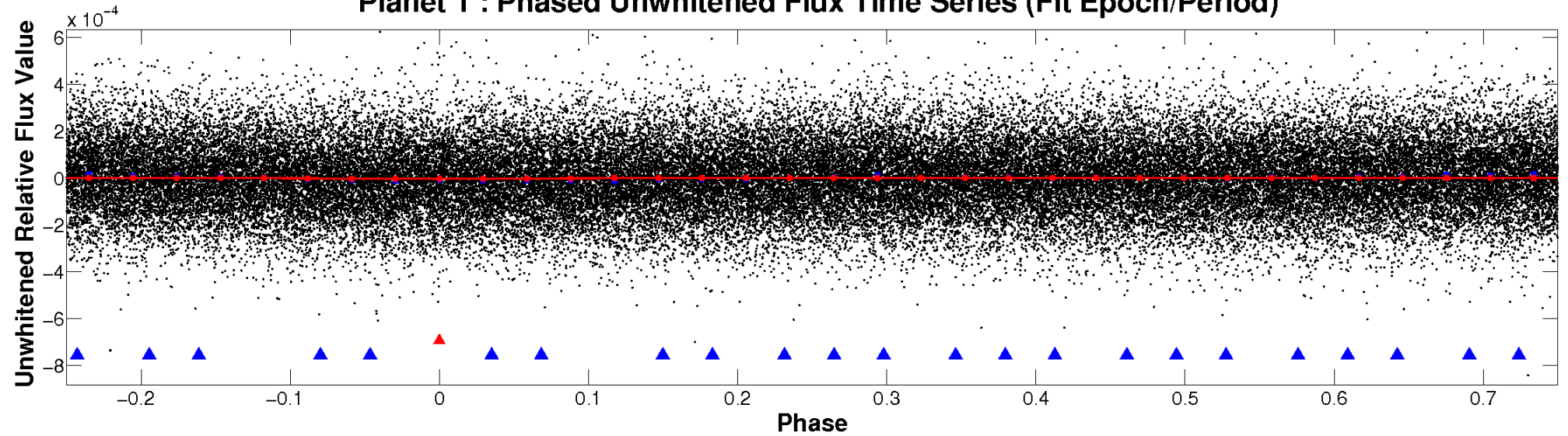
ALT Odd/Even

TCE 008571125-01

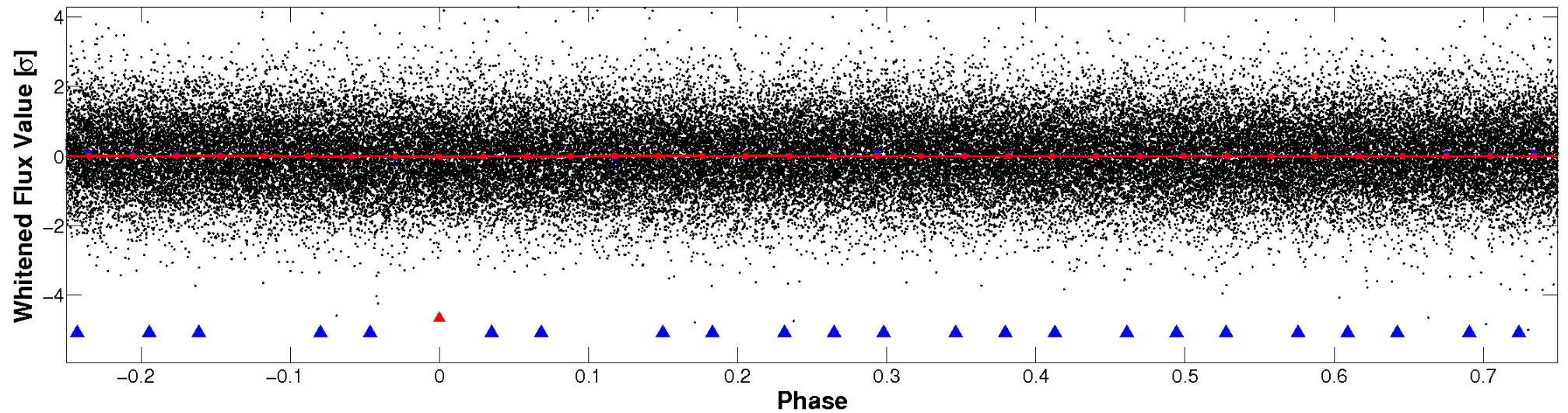


Non-Whitened Vs. Whitened Light Curve

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

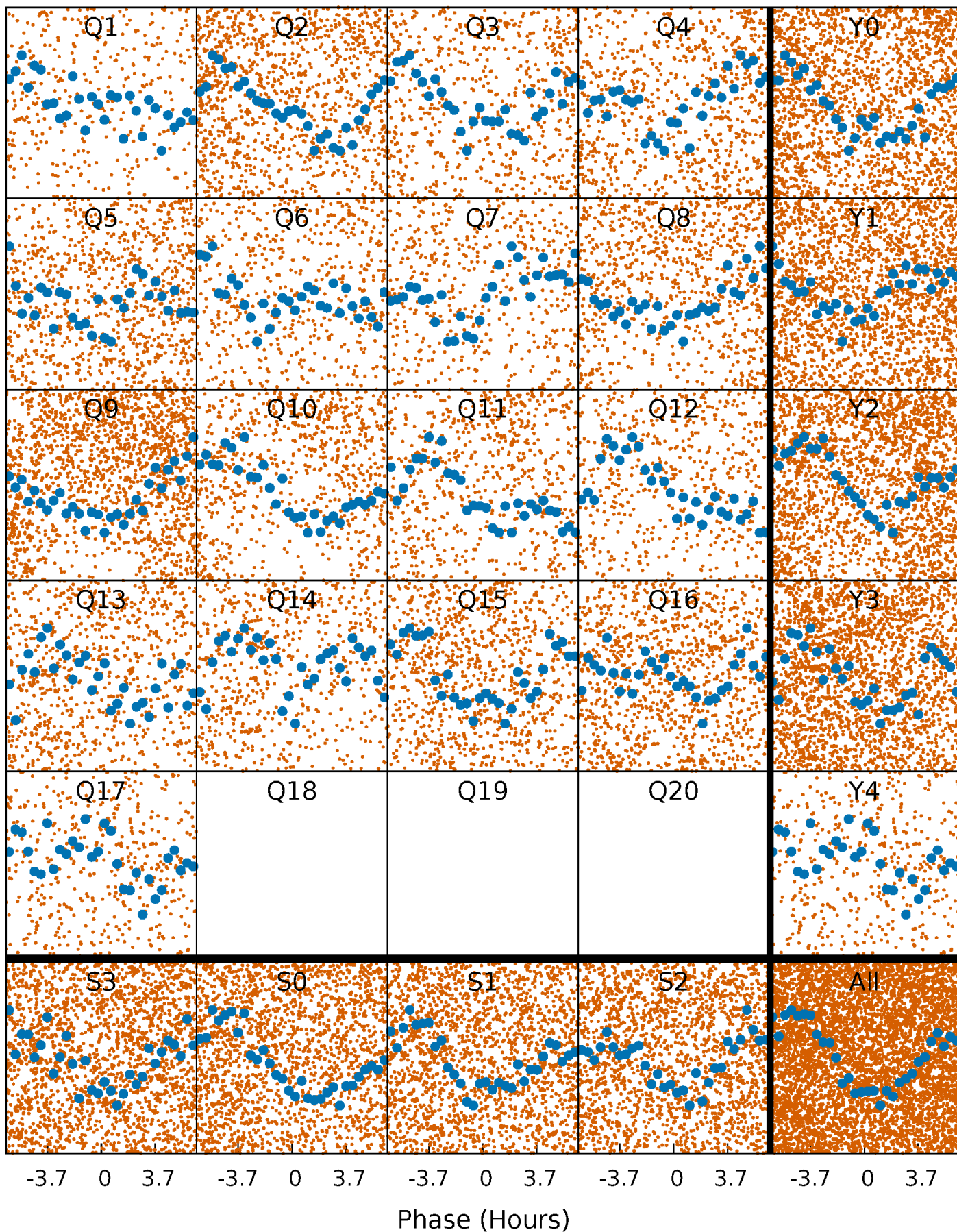


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



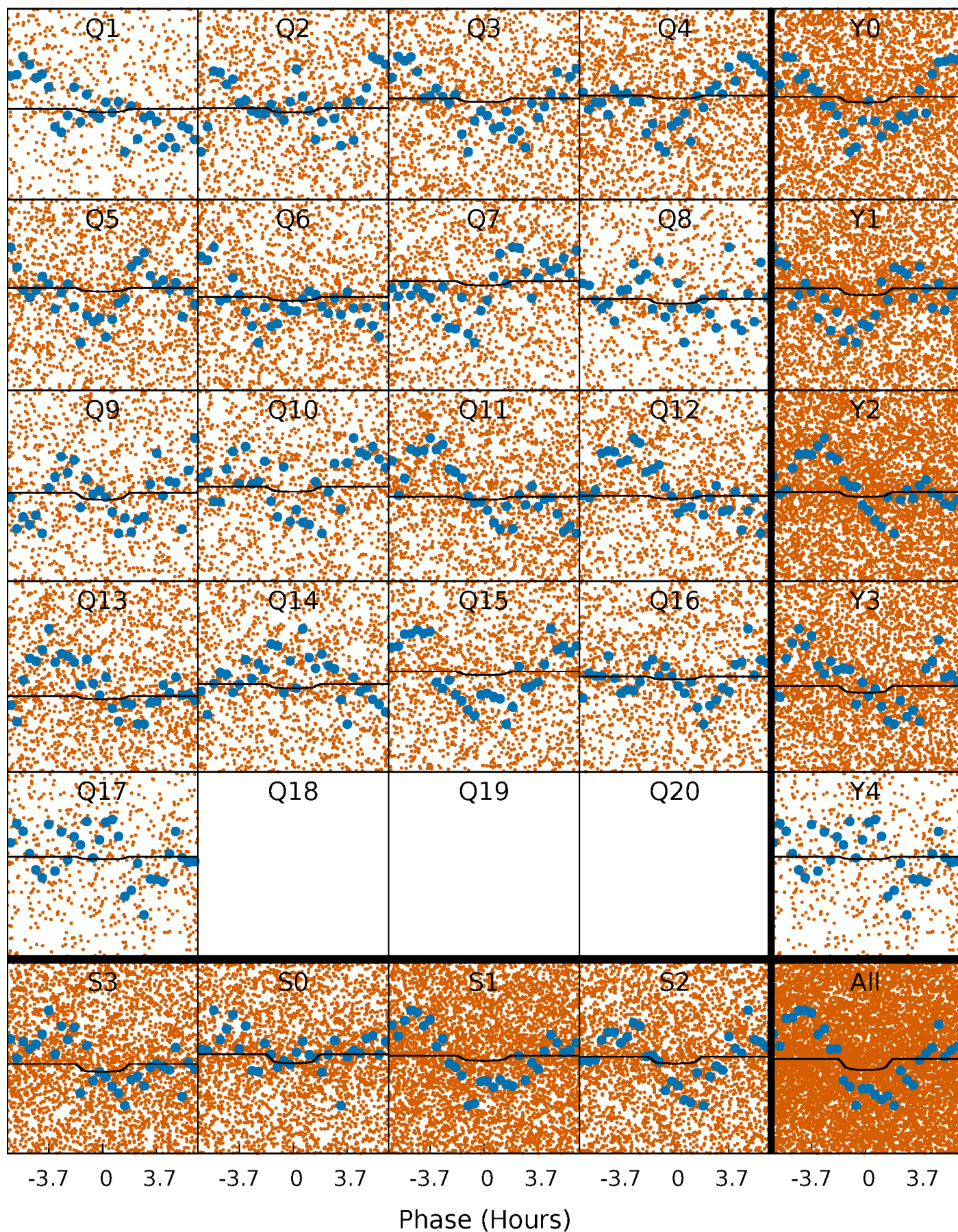
PDC Quarter-Phased Transit Curves

TCE 008571125-01 P= 0.695906 Days $T_0=131.953656$ (BKJD)



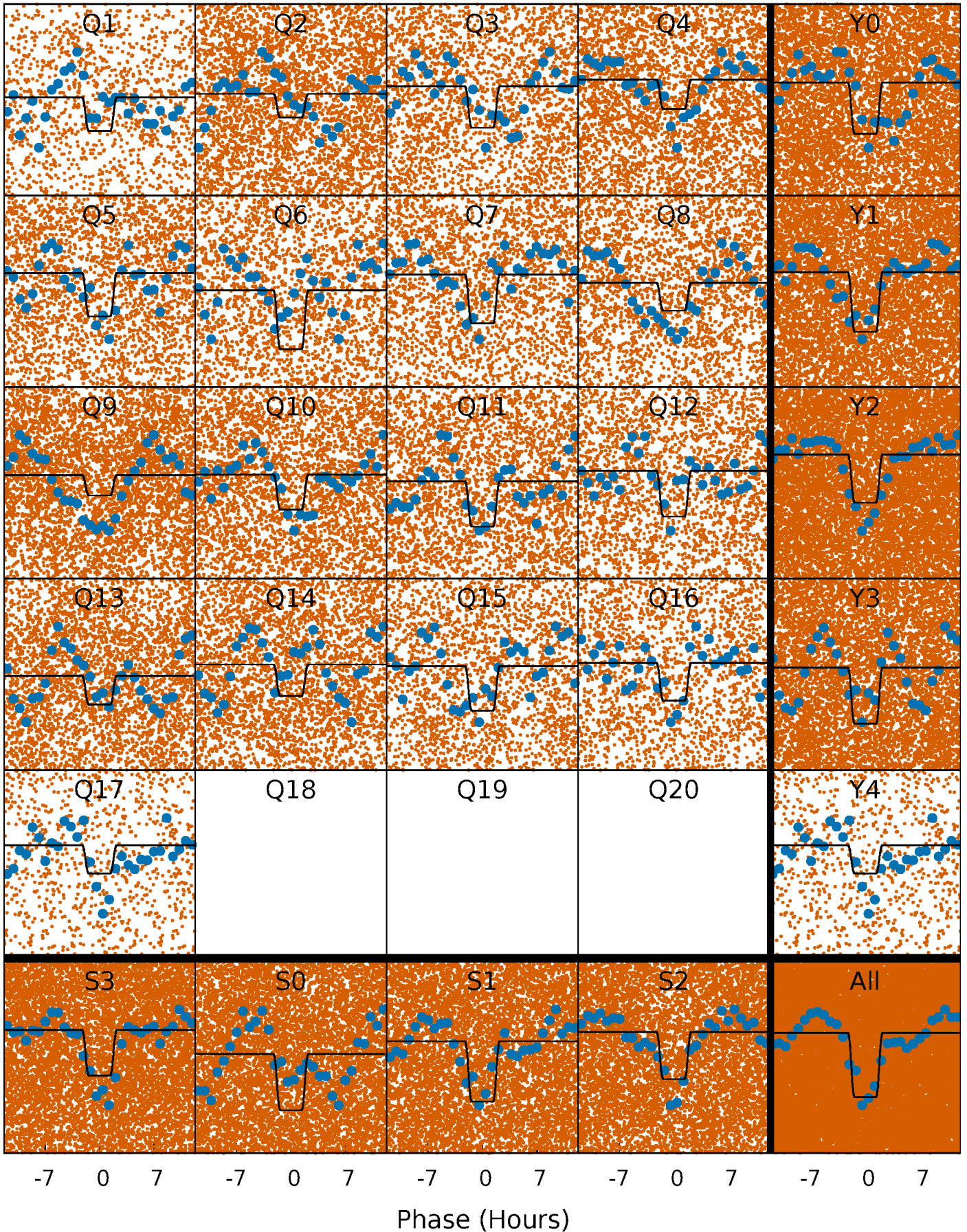
DV Quarter-Phased Transit Curves

TCE 008571125-01 P= 0.695906 Days $T_0=131.953656$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

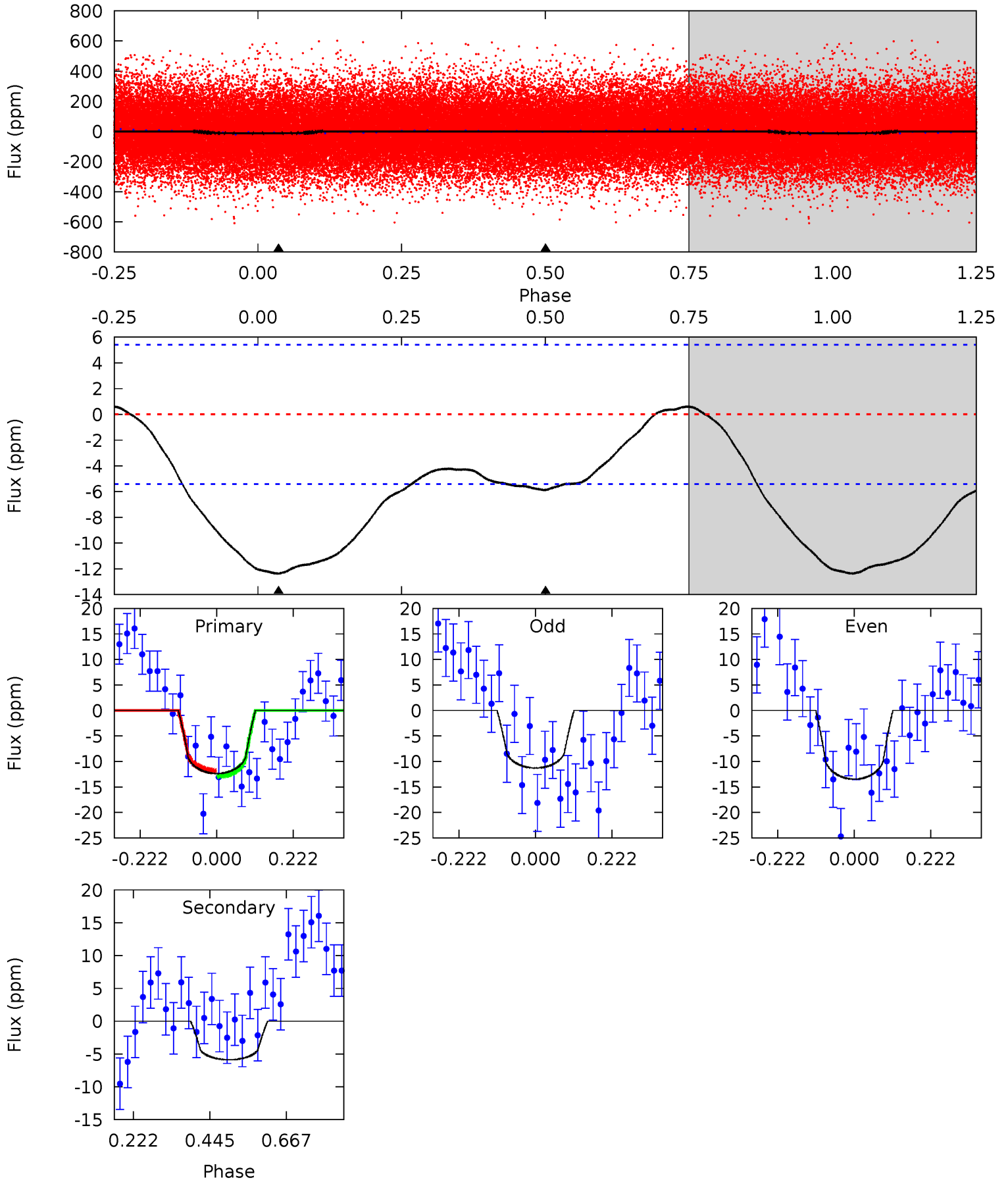
TCE 008571125-01 P= 0.695998 Days $T_0=131.864293$ (BKJD)



DV Model-Shift Uniqueness Test

008571125-01, P = 0.695906 Days, E = 131.257750 Days

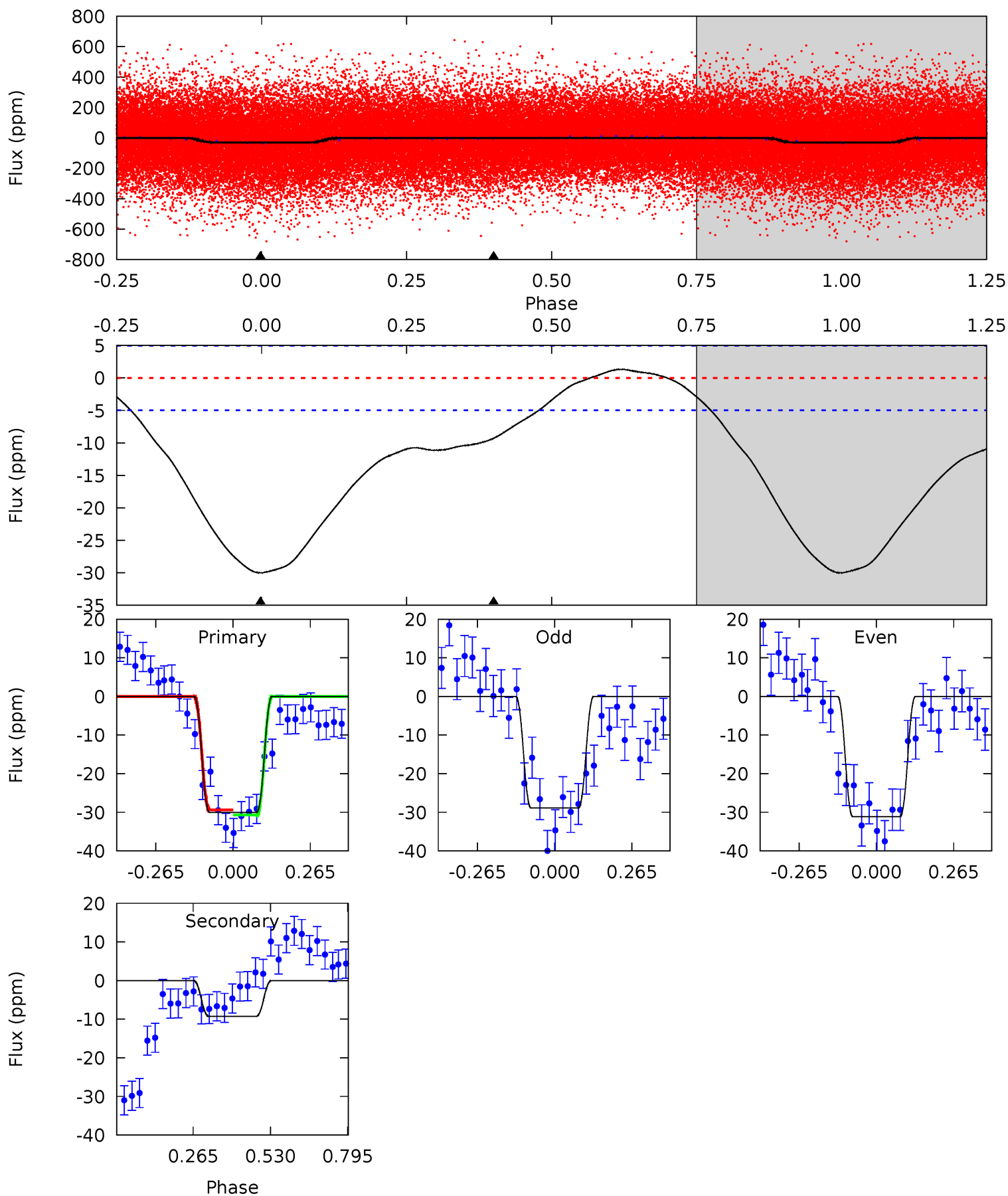
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	4.77	0	0	4.39	1.22	1.74	10.0	10.0	4.77	4.77	0.89	1.06	0.05	0.38



Alt Model-Shift Uniqueness Test

008571125-01, P = 0.695998 Days, E = 131.168295 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.3	8.13	0	0	4.36	1.11	0.98	26.3	26.3	8.13	8.13	0.97	1.32	0.04	0.53



Stellar Parameters For KIC 008571125

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6443^{+175}_{-175}	$3.776^{+0.300}_{-0.080}$	$-0.100^{+0.300}_{-0.250}$	$2.581^{+0.428}_{-0.927}$	$1.450^{+0.236}_{-0.289}$	$0.119^{+0.255}_{-0.038}$
	+3%/-3%	+8%/-2%	+300%/-250%	+17%/-36%	+16%/-20%	+214%/-32%
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 008571125-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 1	$1.56^{+1.60}_{-1.06}$	4723^{+263}_{-424}	3381^{+3635}_{-7230}	$0.405^{+3.270}_{-0.300}$
Alt.	-9 ± 1	$2.24^{+2.10}_{-1.51}$	4754^{+273}_{-408}	2138^{+4386}_{-6079}	$0.303^{+2.456}_{-0.220}$

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

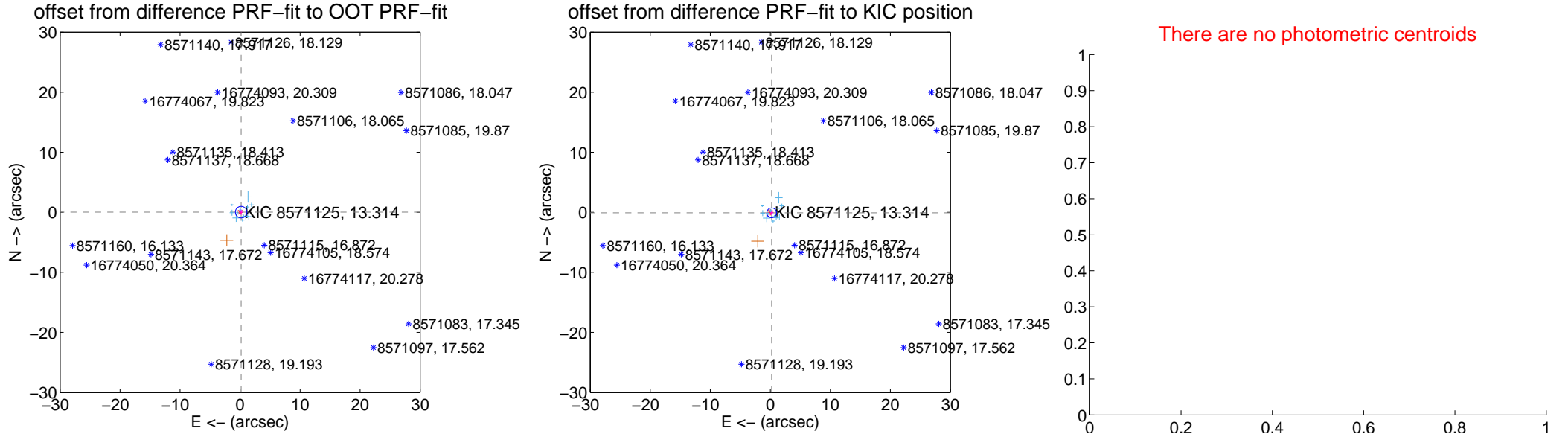
DV Centroid Data

Supplemental centroid analysis for 008571125-01. Kepler magnitude: 13.31. Transit SNR 1.67

There are 14 quarters with good PRF difference image offsets

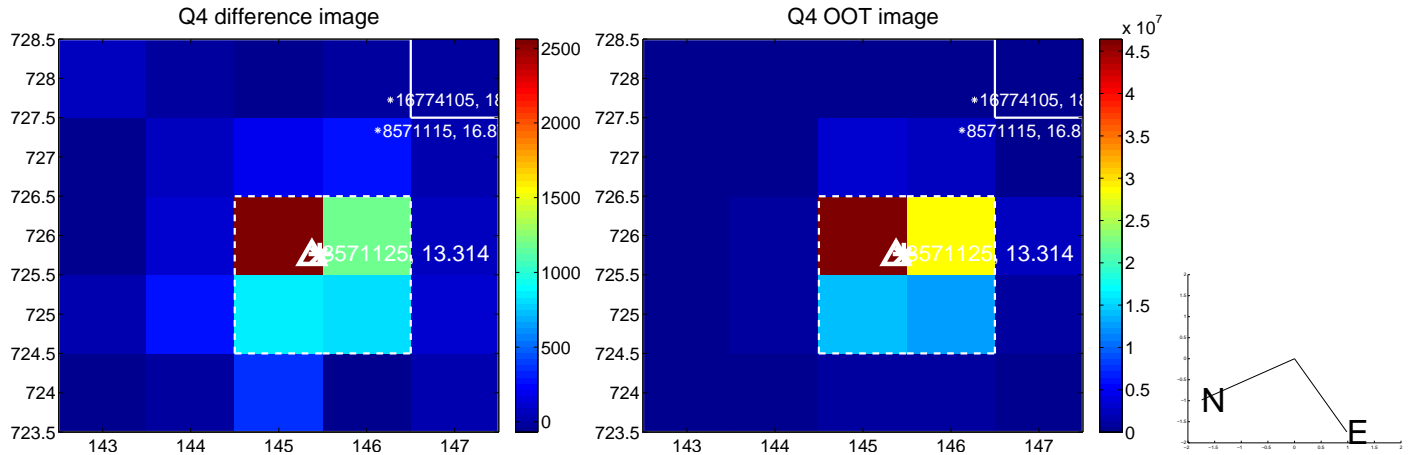
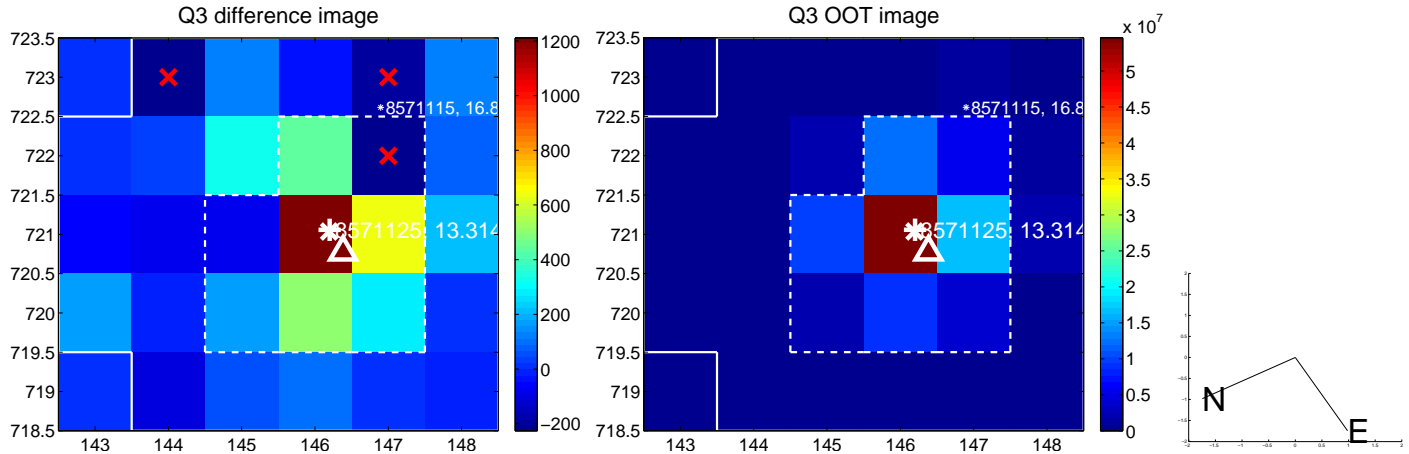
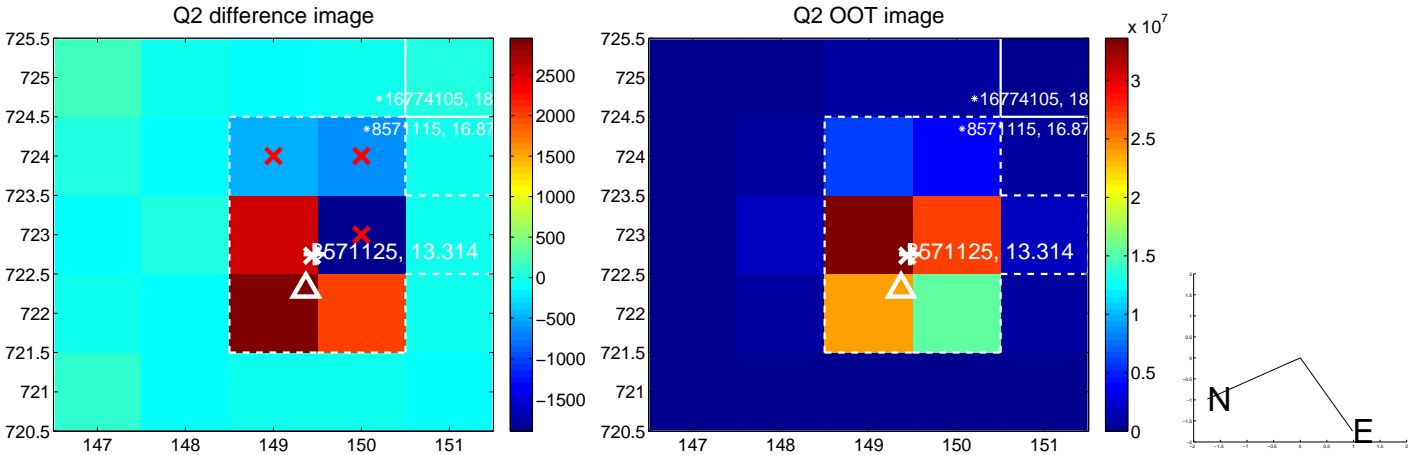
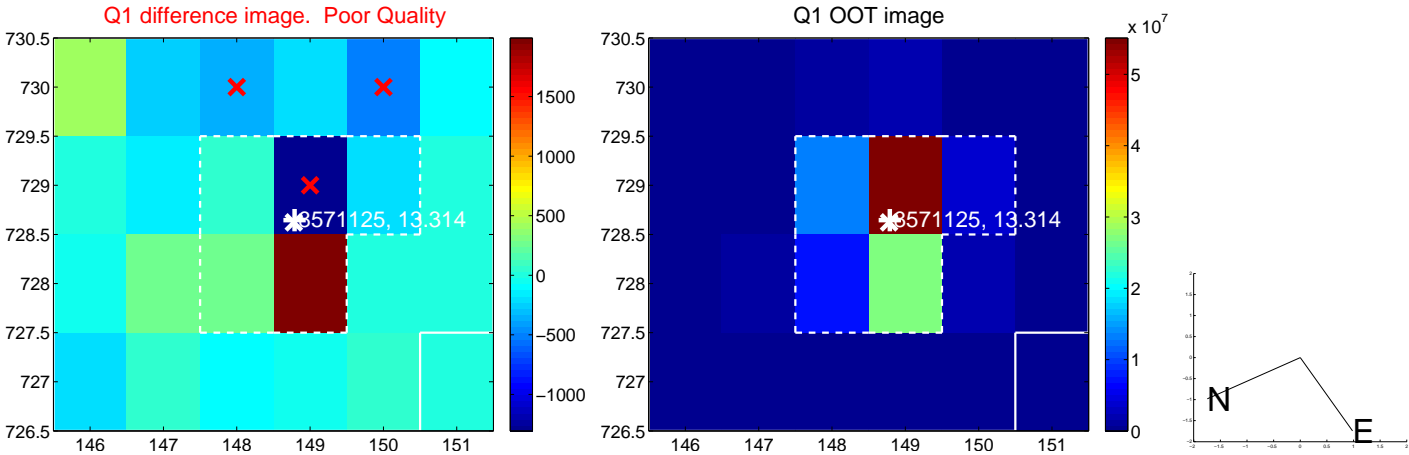
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.179 ± 0.321	0.56	-0.178 ± 0.293	0.021 ± 0.419
PRF-fit source offset from KIC position	0.245 ± 0.272	0.90	-0.227 ± 0.302	-0.093 ± 0.382
photometric centroid source offset	—	—	—	—

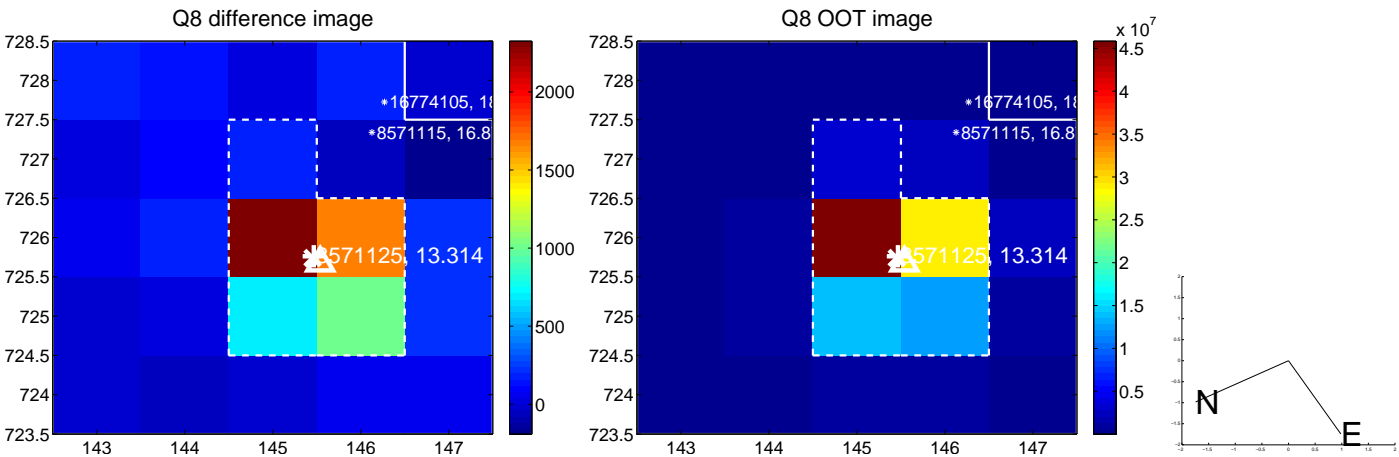
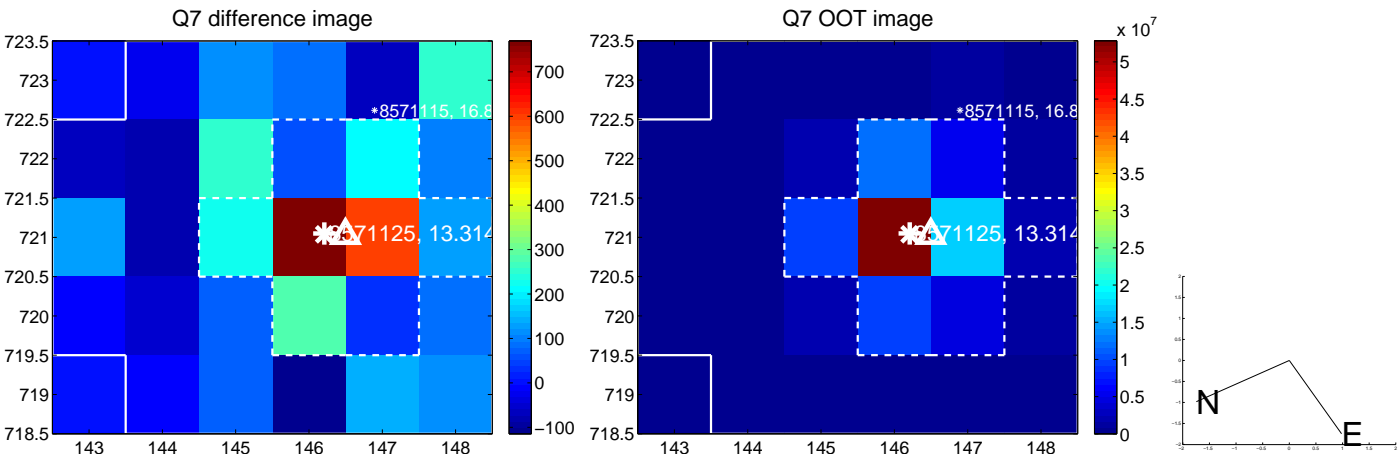
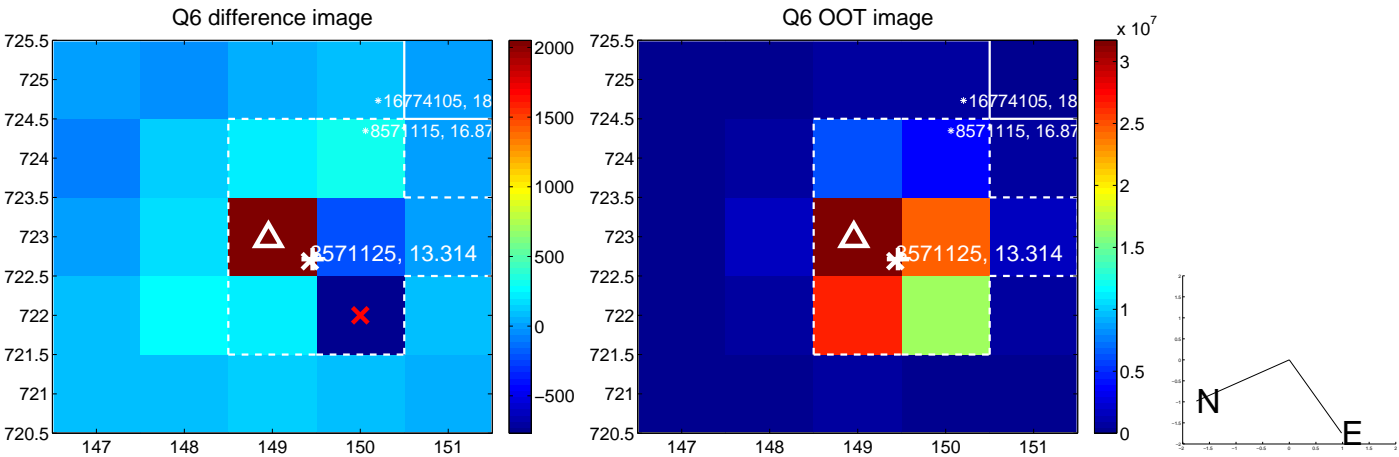
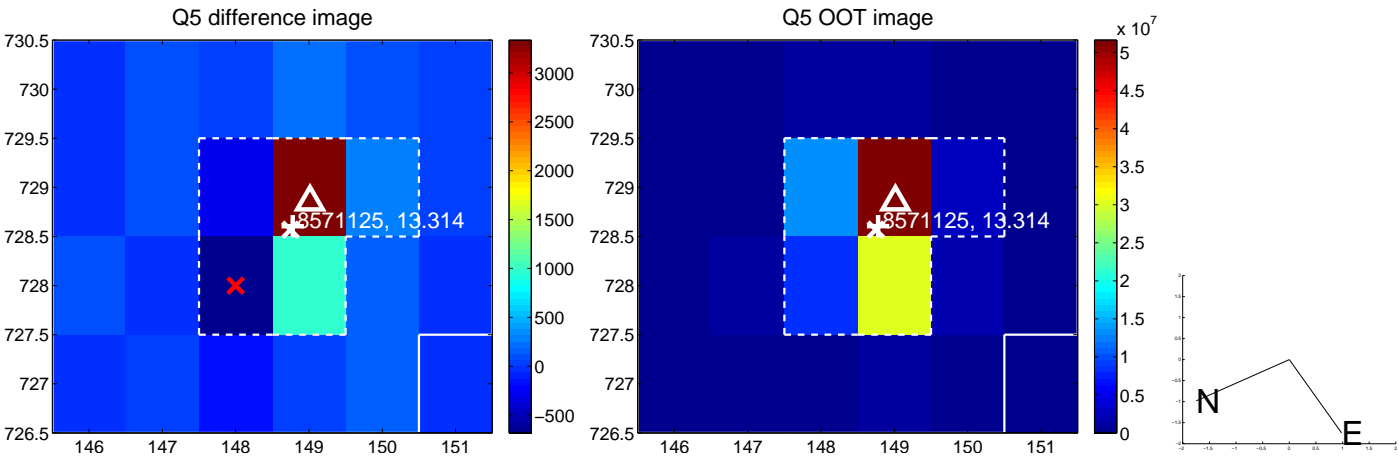


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

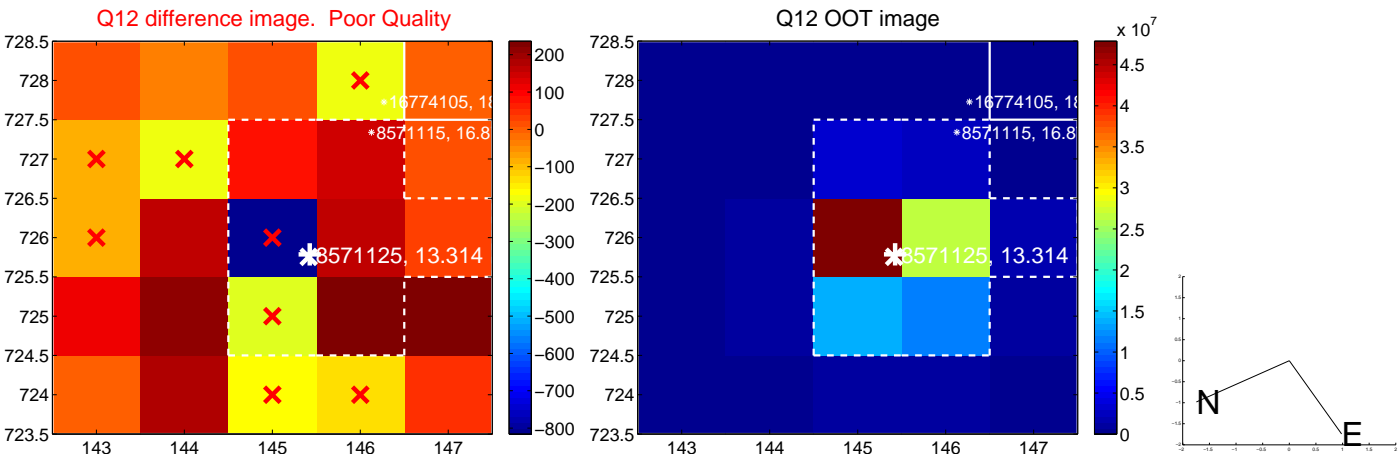
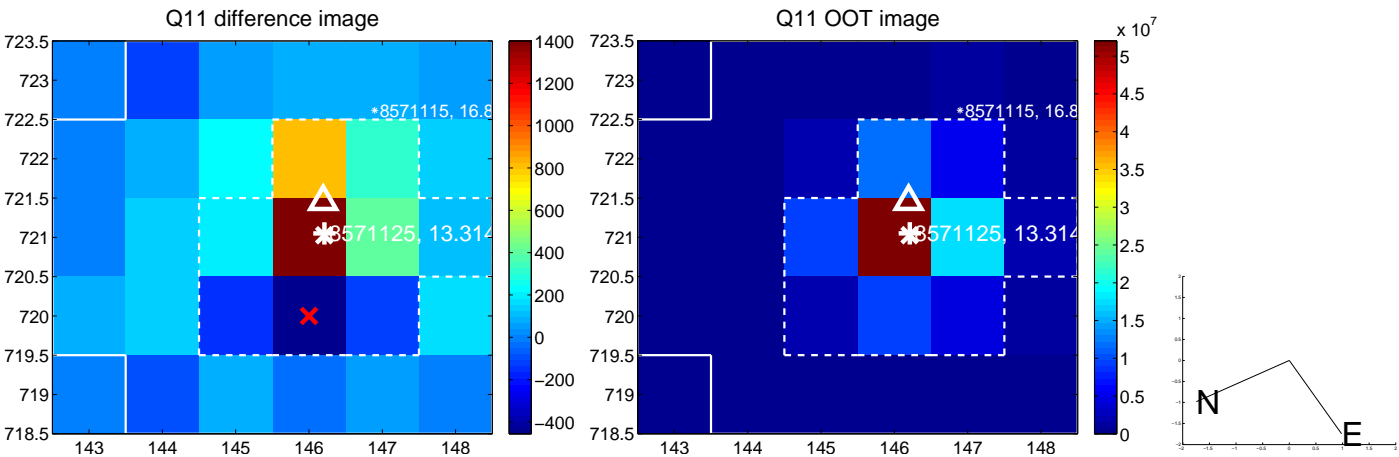
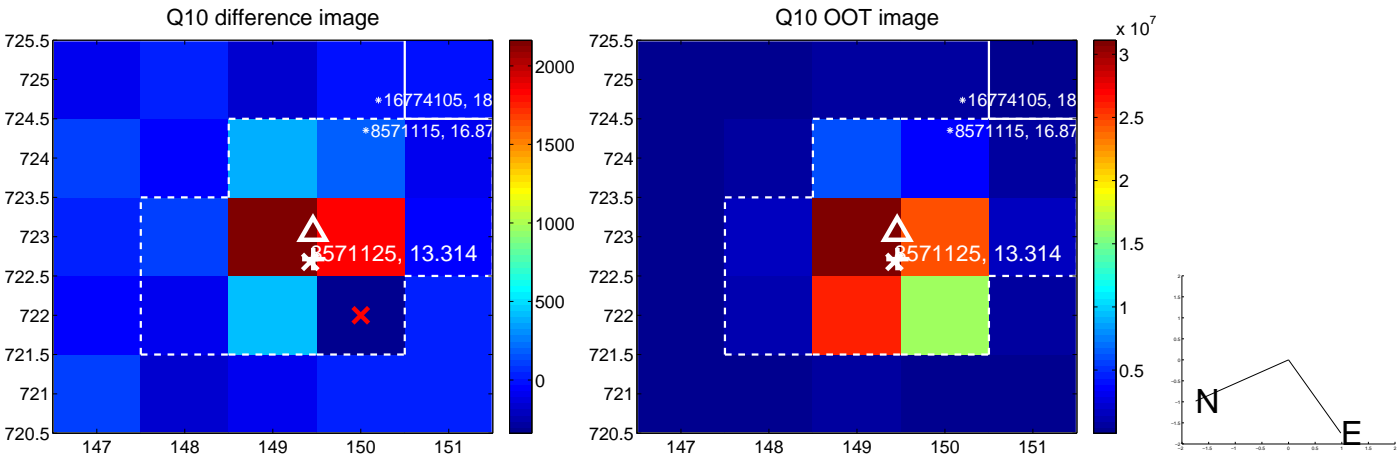
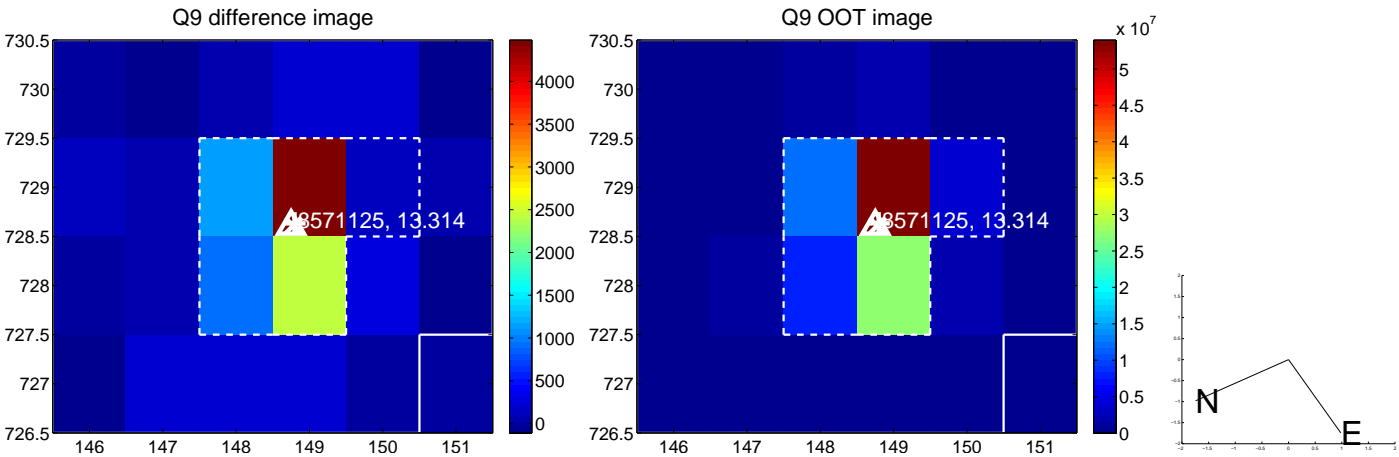
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



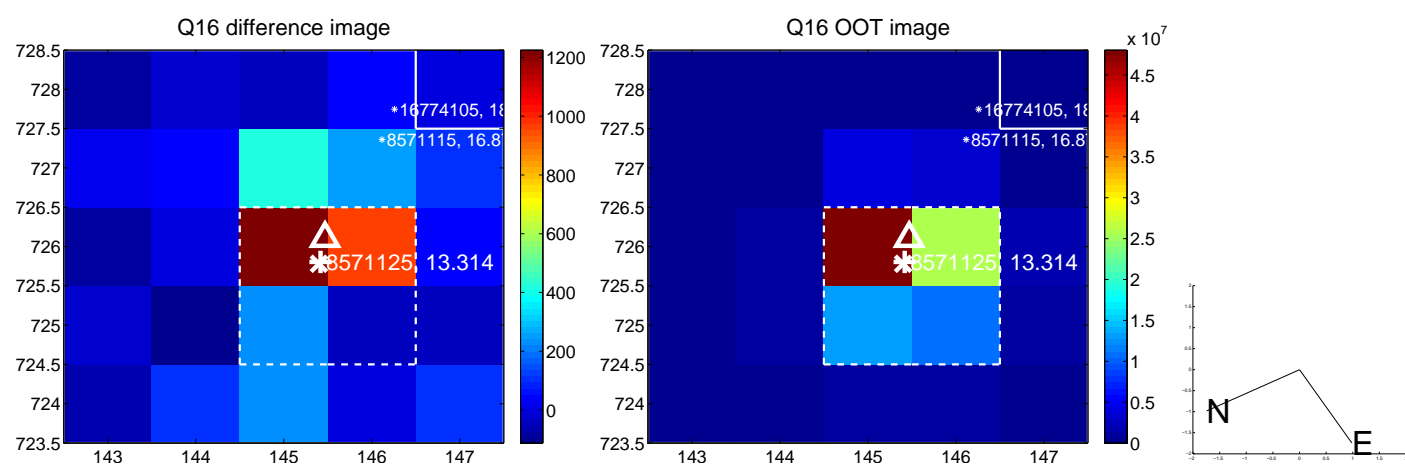
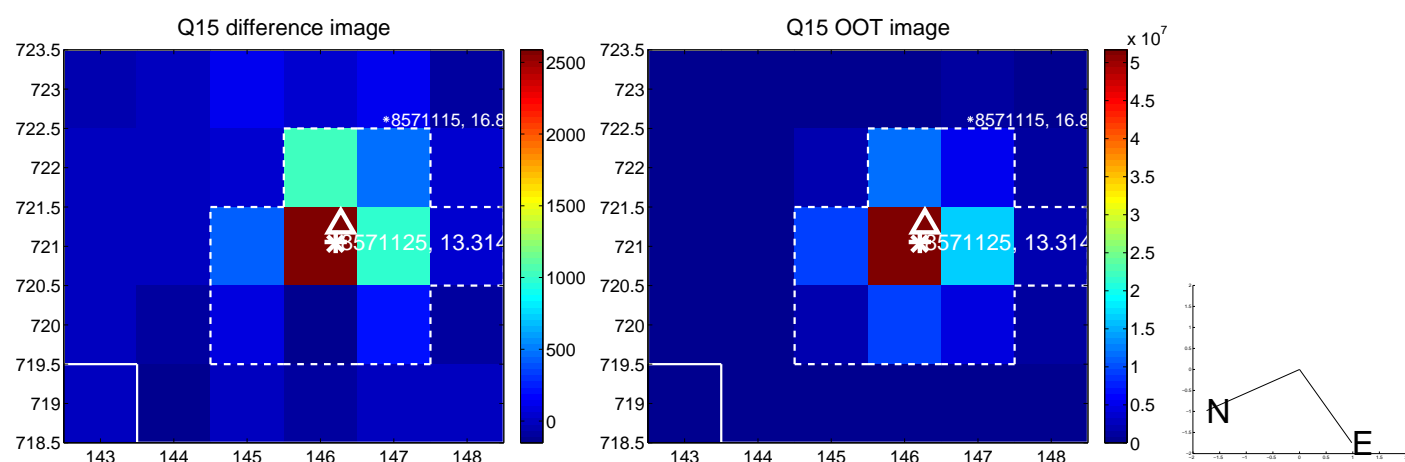
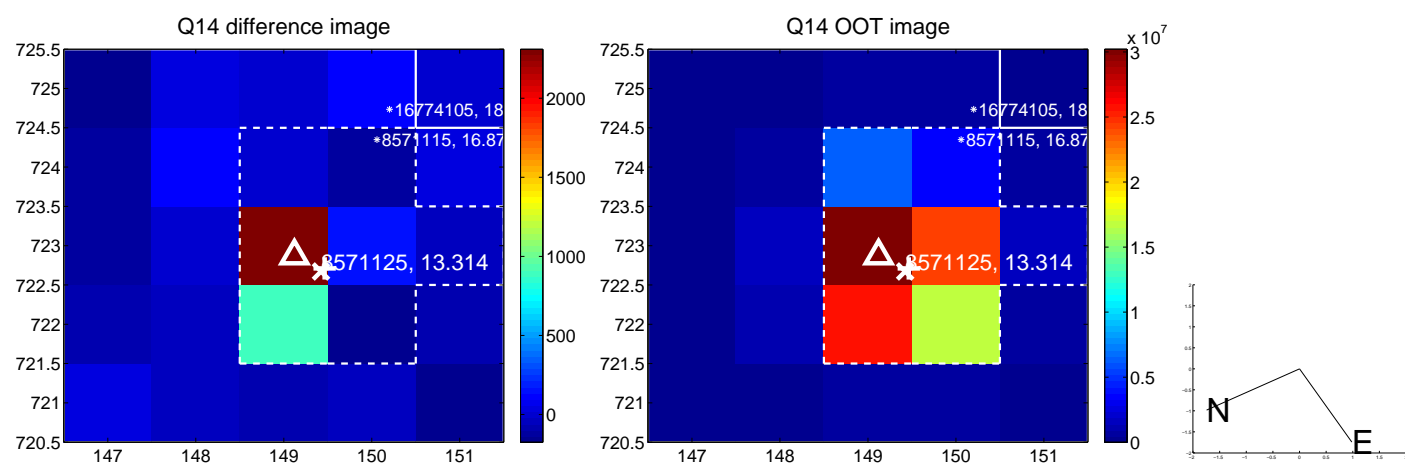
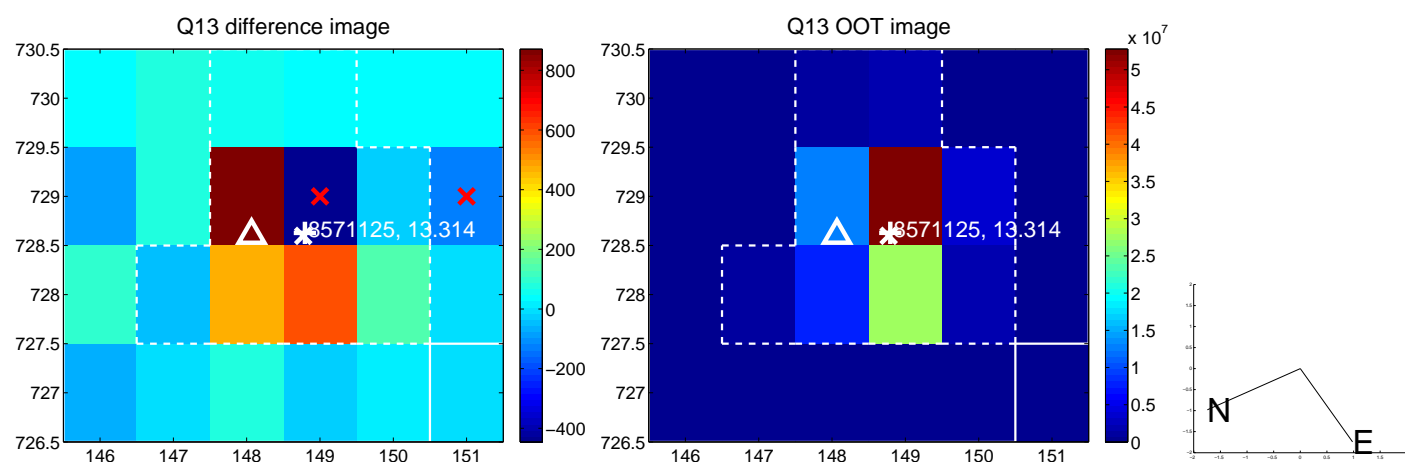
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



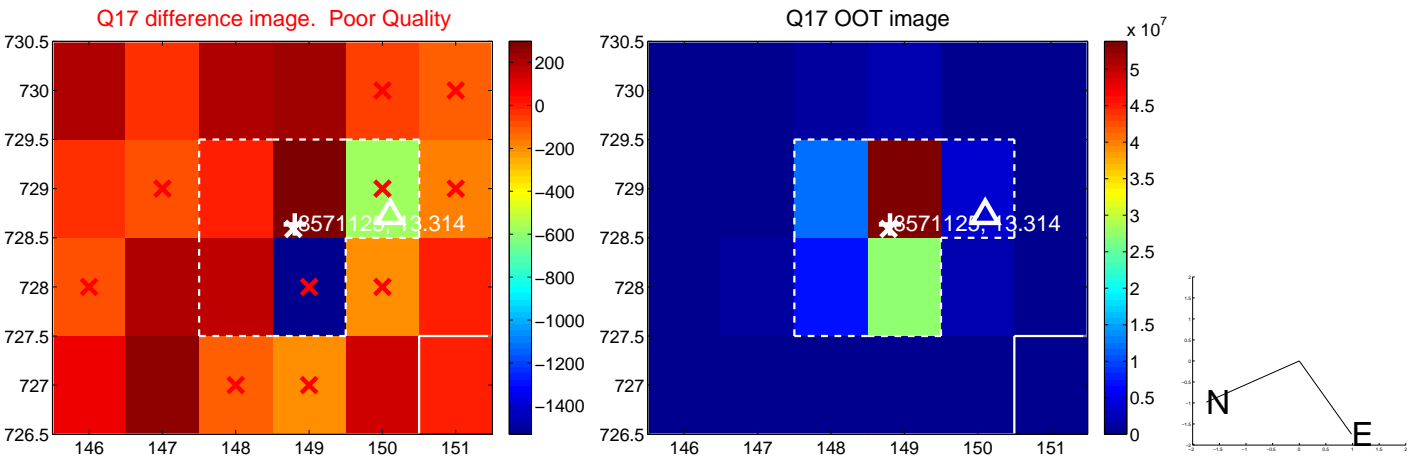
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



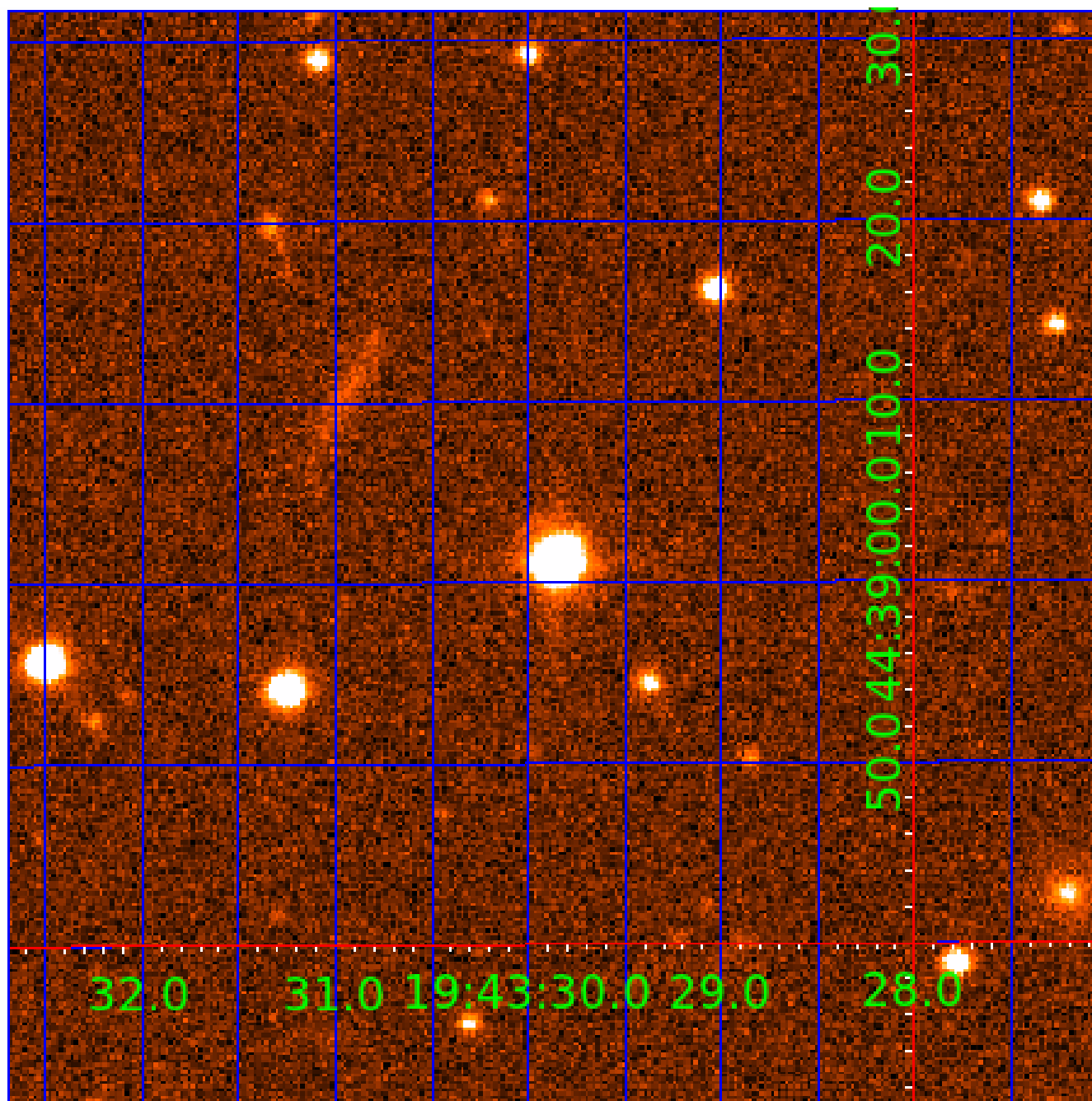
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 008571125

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})
008571125-01	OBS	No	0.695906	131.953656	3.4	3.271	7.9	1.7	2.58	6443	0.48	33965.49
008571125-02	OBS	No	63.943476	178.410384	183.0	1.982	7.4	6.9	2.58	6443	3.69	81.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008571125-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008571125-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

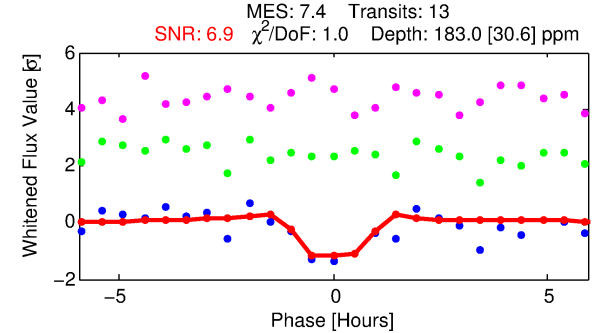
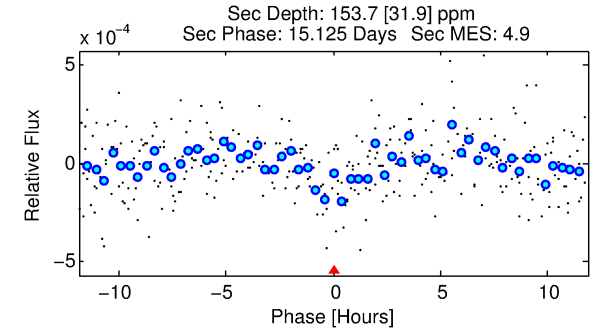
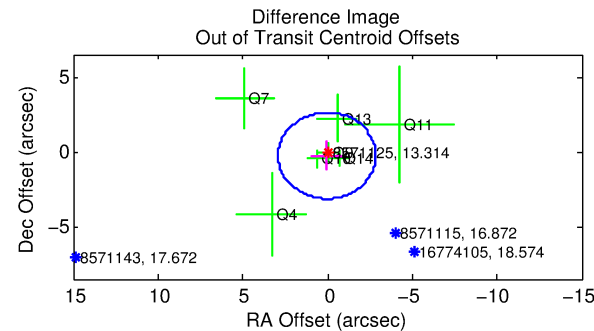
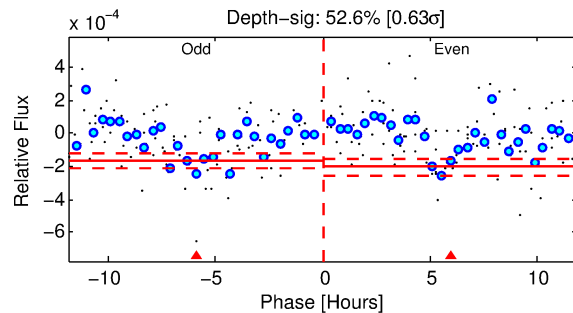
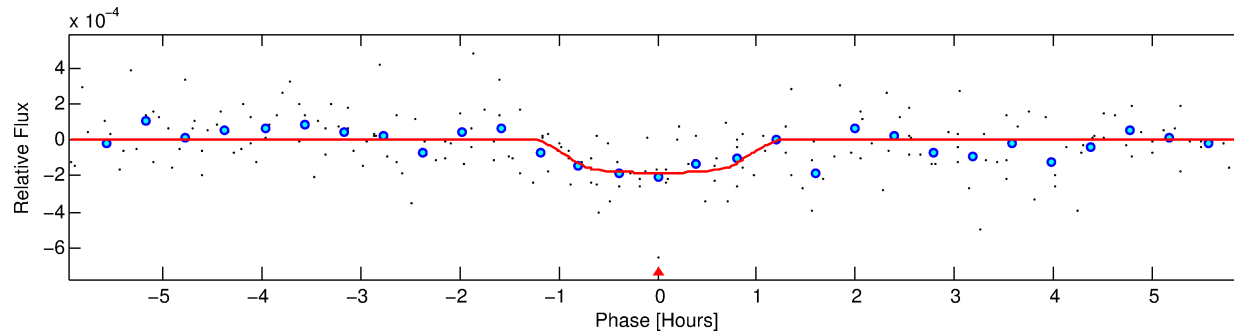
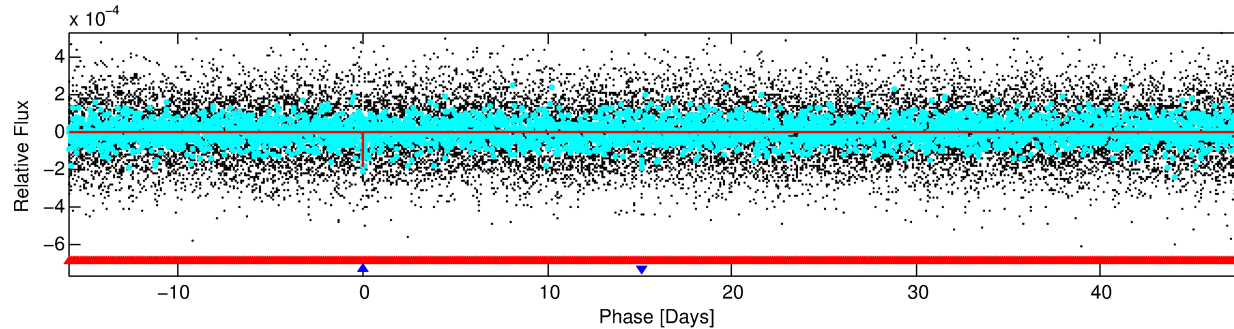
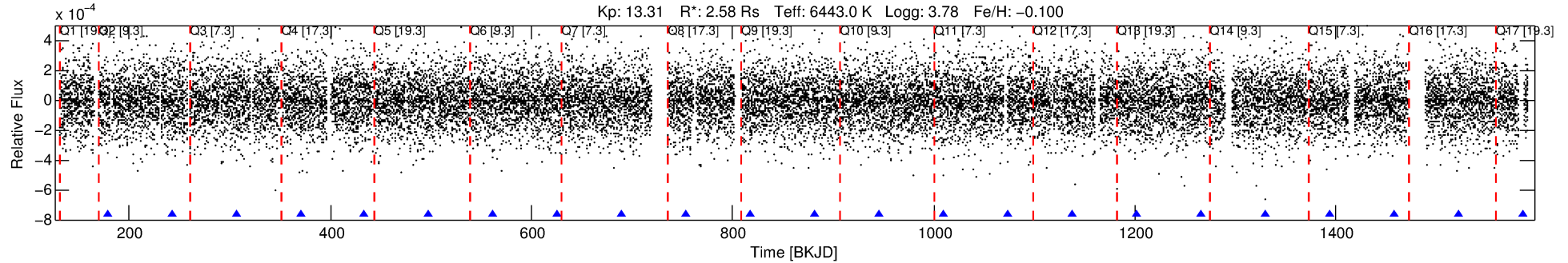
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008571125-02

No Significant Match Found

DV One-Page Summary

KIC: 8571125 Candidate: 2 of 2 Period: 63.943 d



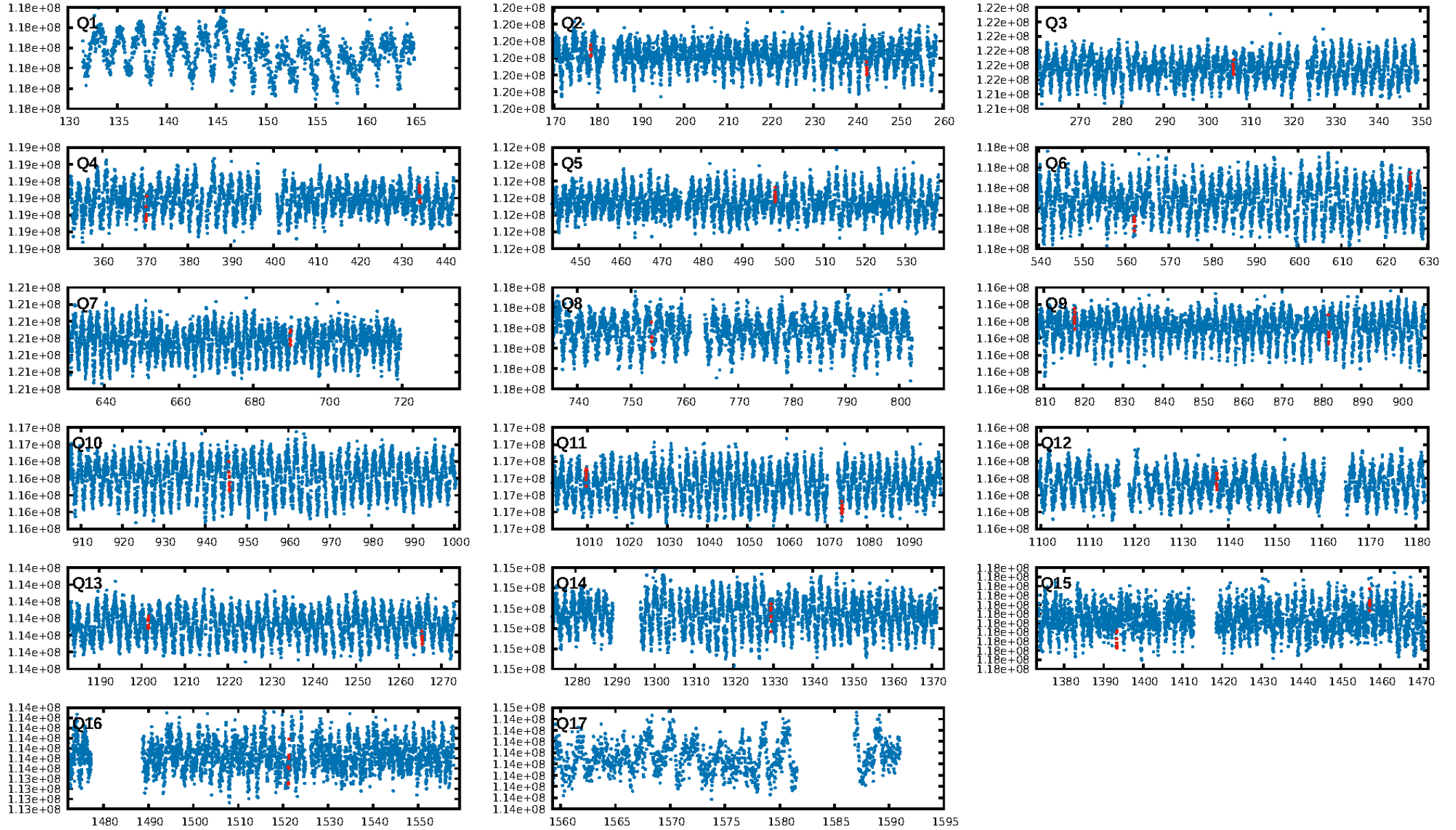
DV Fit Results:

Period = 63.94348 [0.00054] d
Epoch = 178.4104 [0.0073] BKJD
Rp/R* = 0.0131 [0.0114]
a/R* = 193.19 [881.39]
b = 0.64 [4.27]
Seff = 81.92 [43.44]
Teq = 767 [102] K
Rp = 3.69 [3.48] Re
a = 0.3543 [0.1177] AU
Ag = 777.94 [1424.36] [0.55 σ]
Teffp = 6264 [2755] K [1.99 σ]

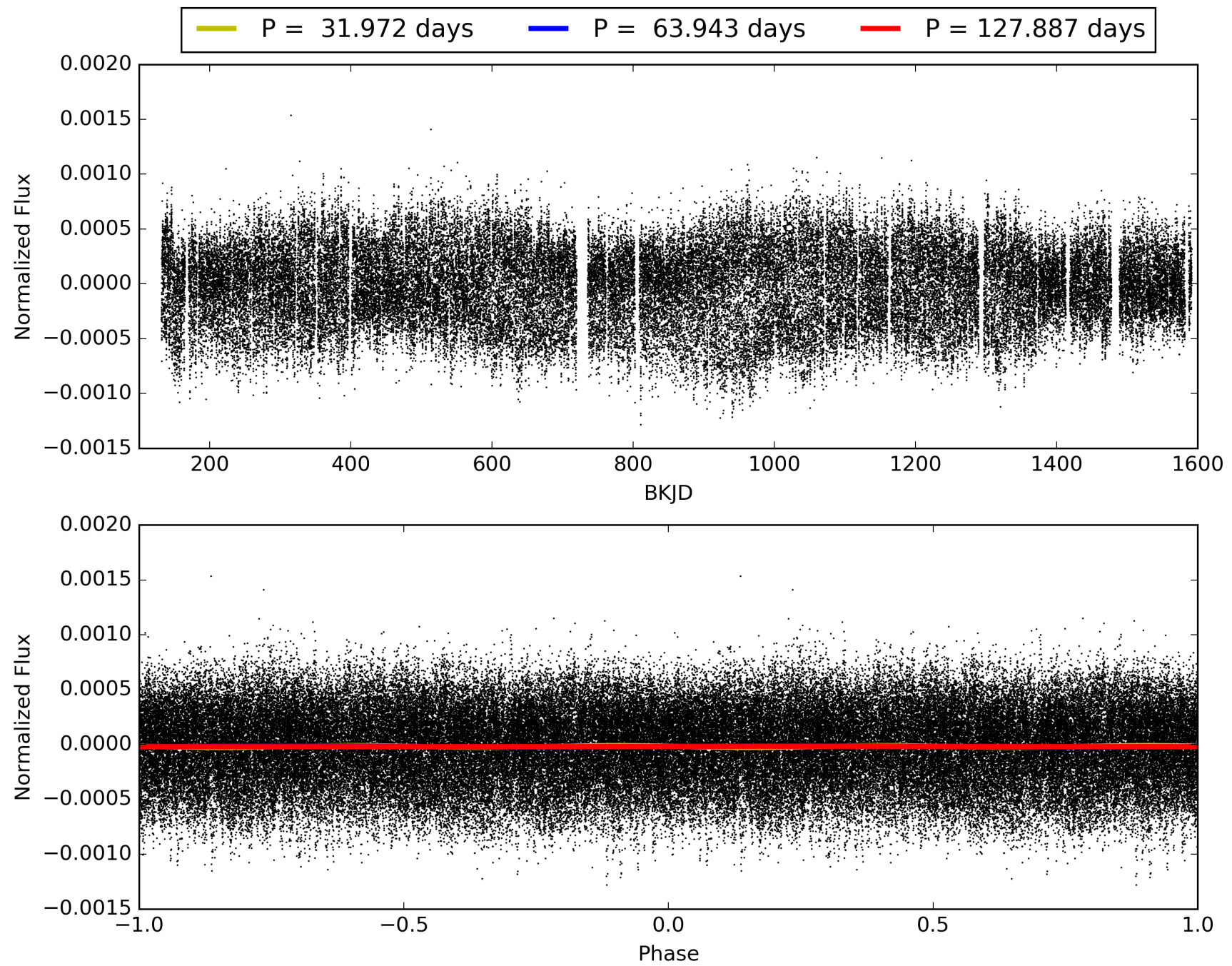
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [396.92 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 52.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.95e-10
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: -3.392
Centroid-sig: 15.5%
Centroid-so: 1.093 arcsec [1.27 σ]
OotOffset-rm: 0.268 arcsec [0.28 σ]
KicOffset-rm: 0.425 arcsec [0.40 σ]
OotOffset-st: 2/2/1/2 [7]
KicOffset-st: 2/2/1/2 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 0.20 [3/15]

TCE 008571125-02, PDC Light Curves

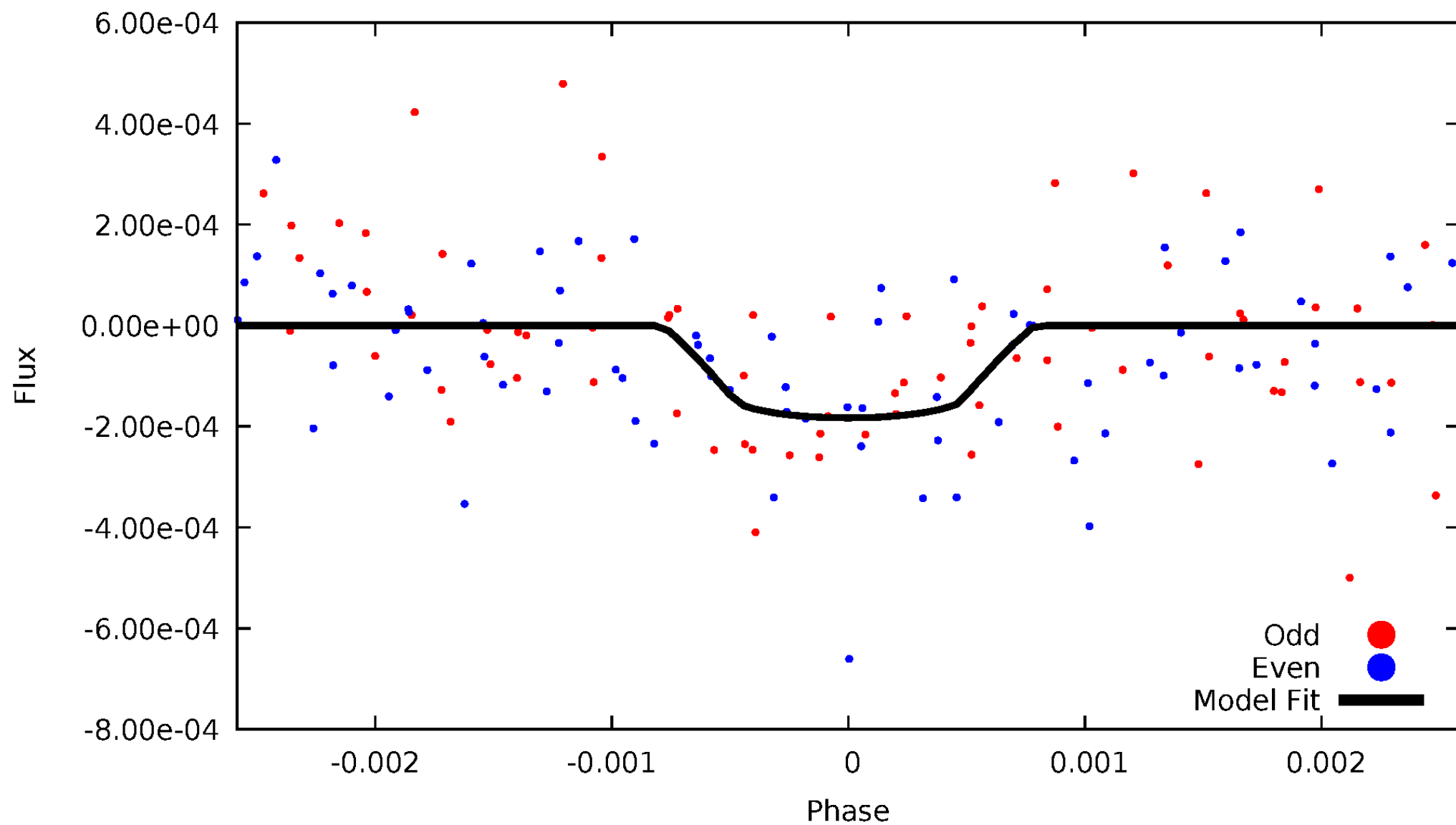


TCE 008571125-02



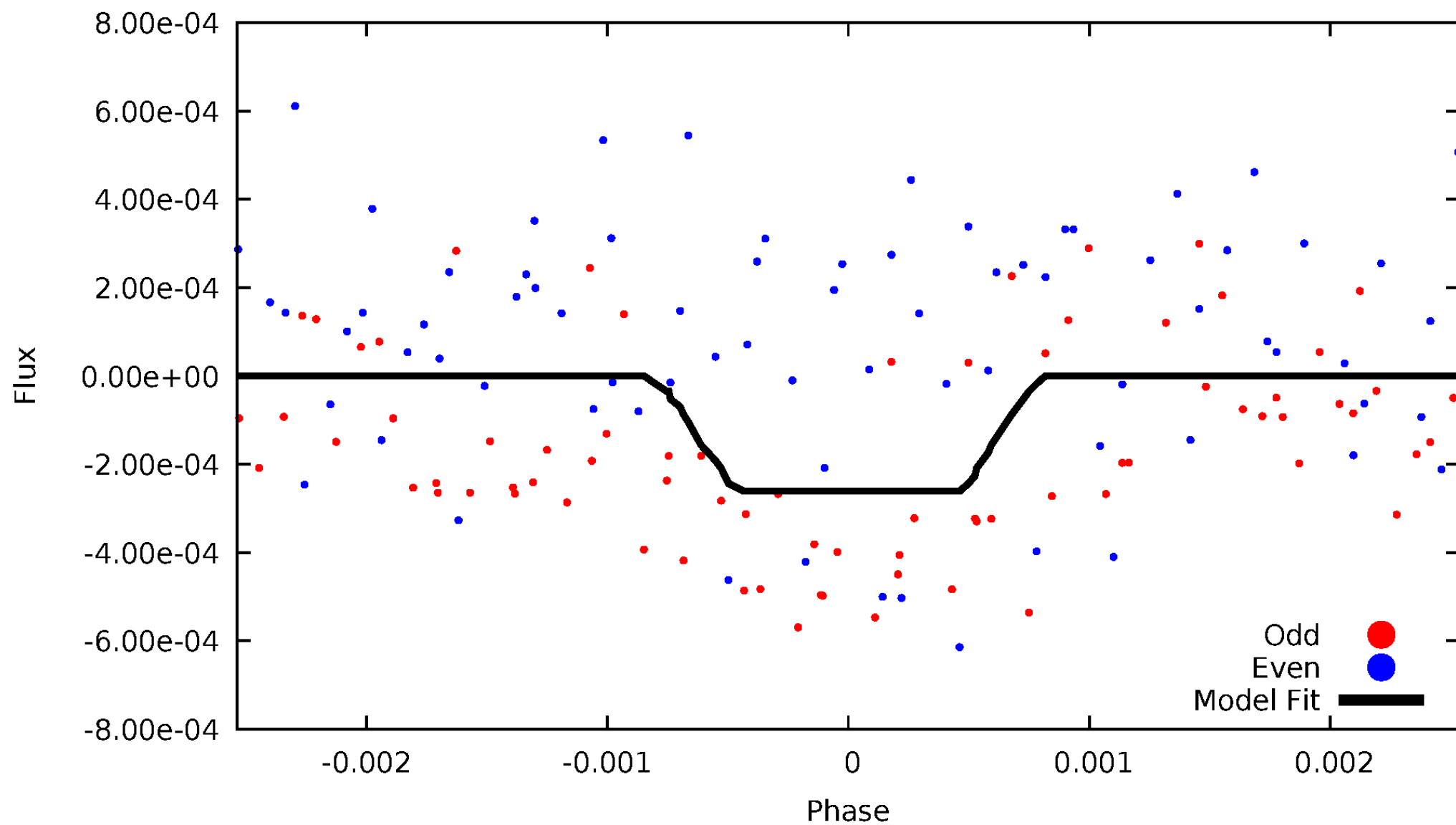
DV Odd/Even

TCE 008571125-02



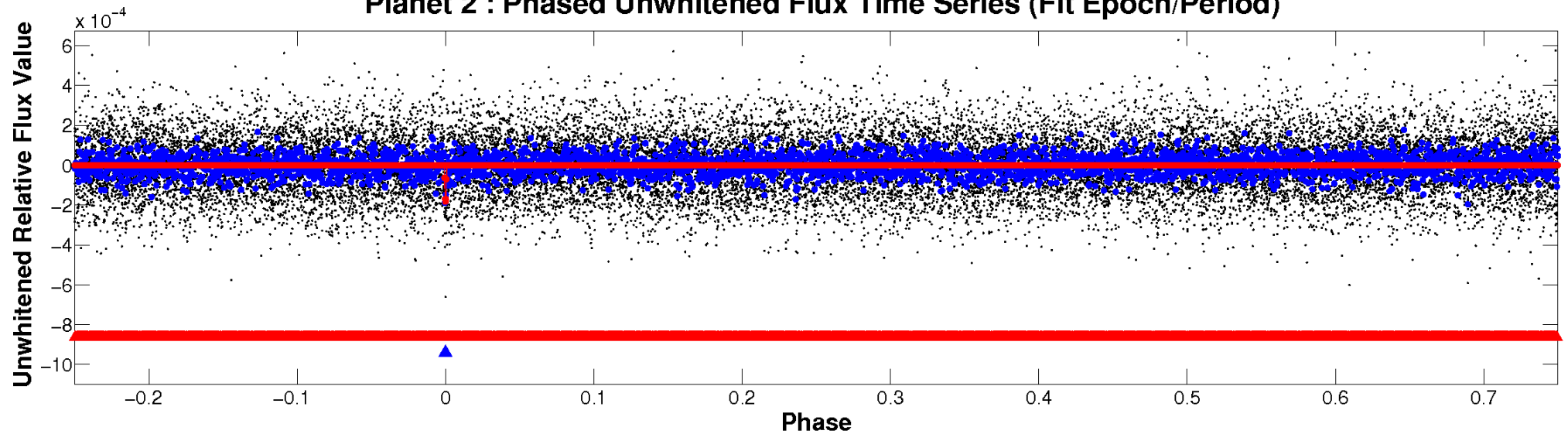
ALT Odd/Even

TCE 008571125-02

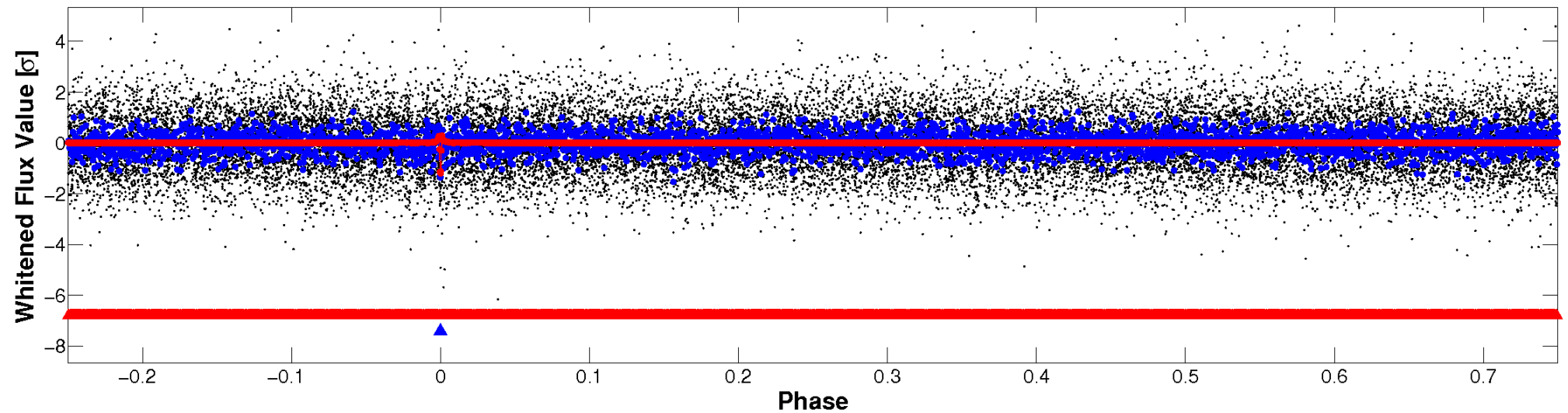


Non-Whitened Vs. Whitened Light Curve

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

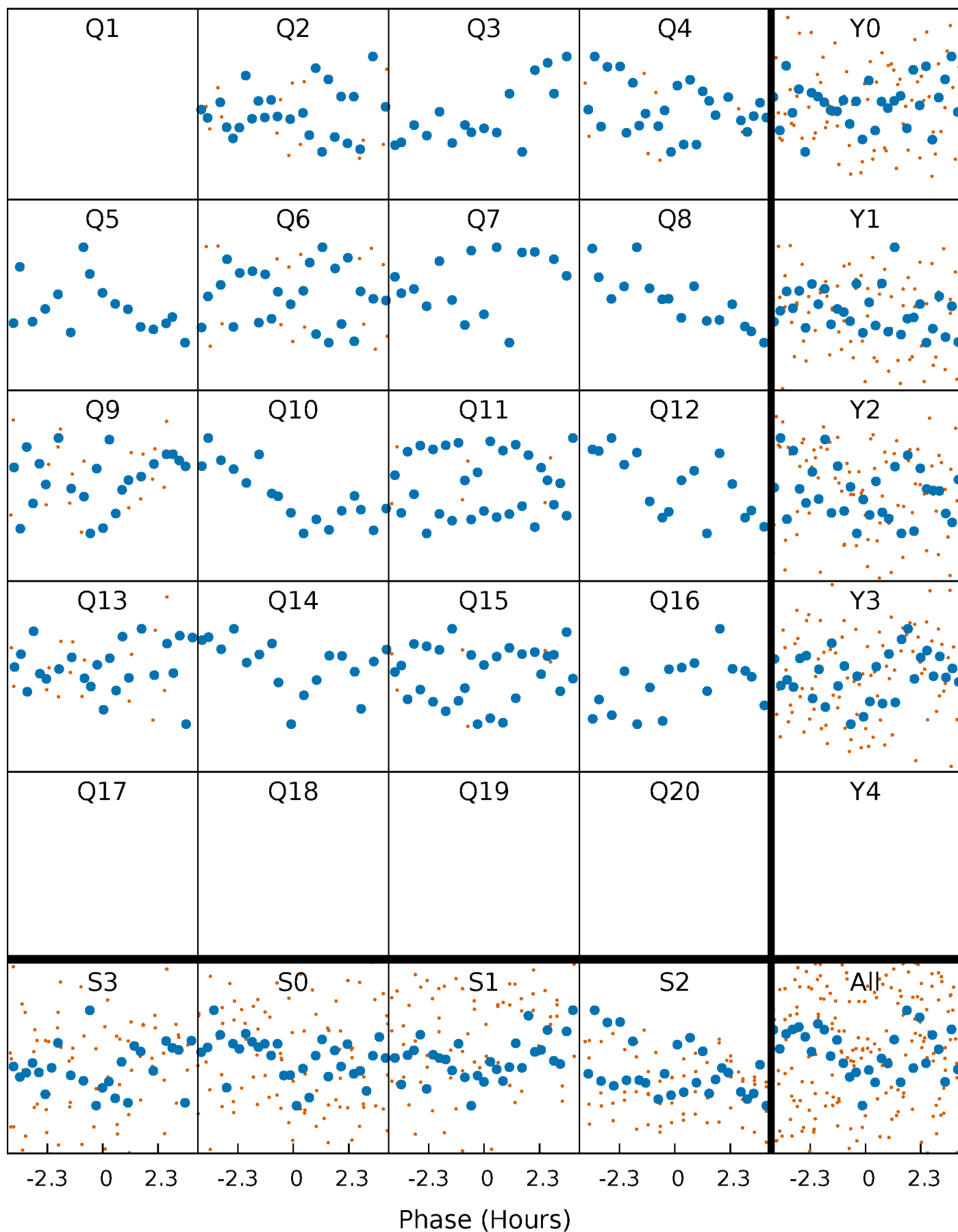


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



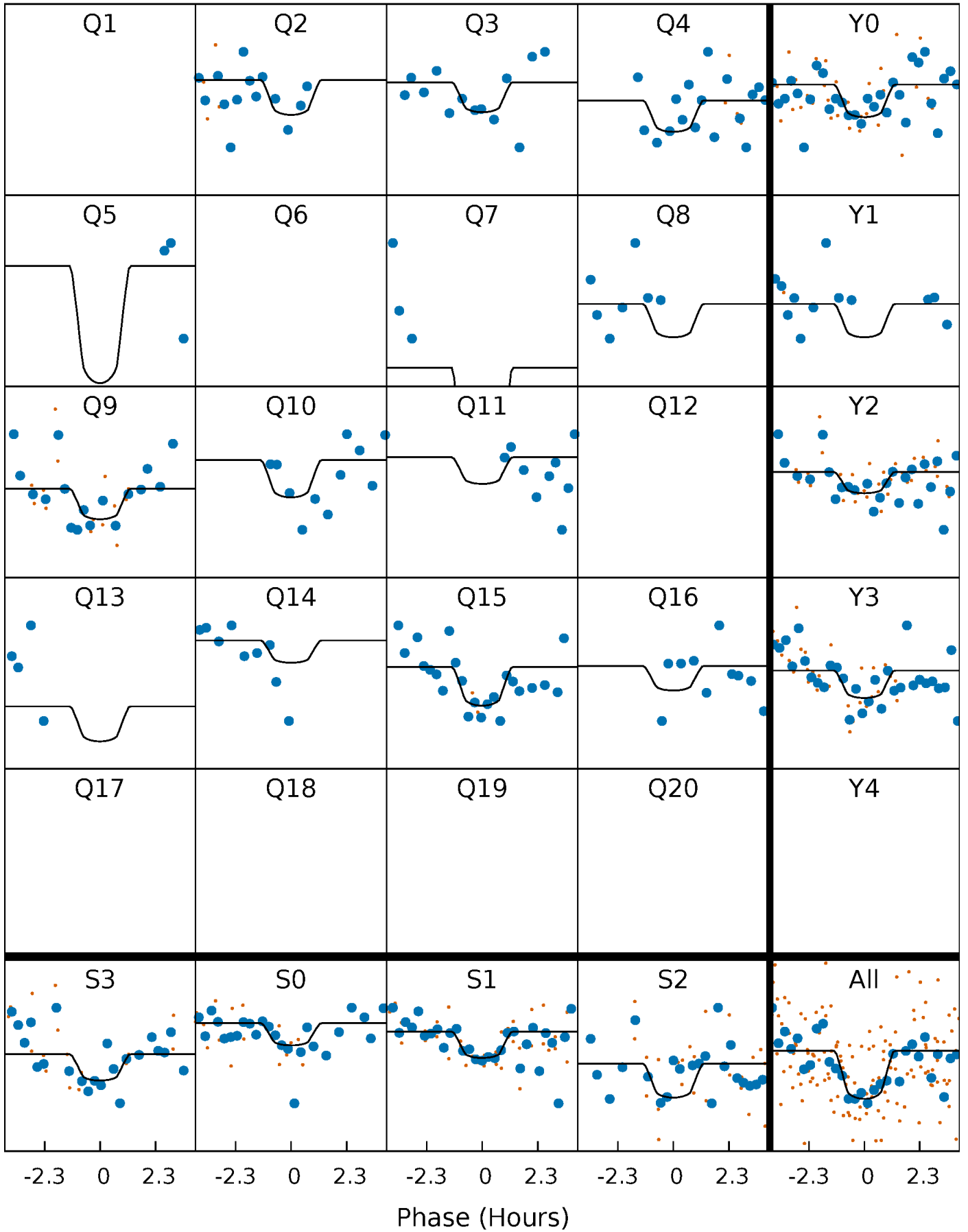
PDC Quarter-Phased Transit Curves

TCE 008571125-02 P= 63.943476 Days $T_0=178.410384$ (BKJD)



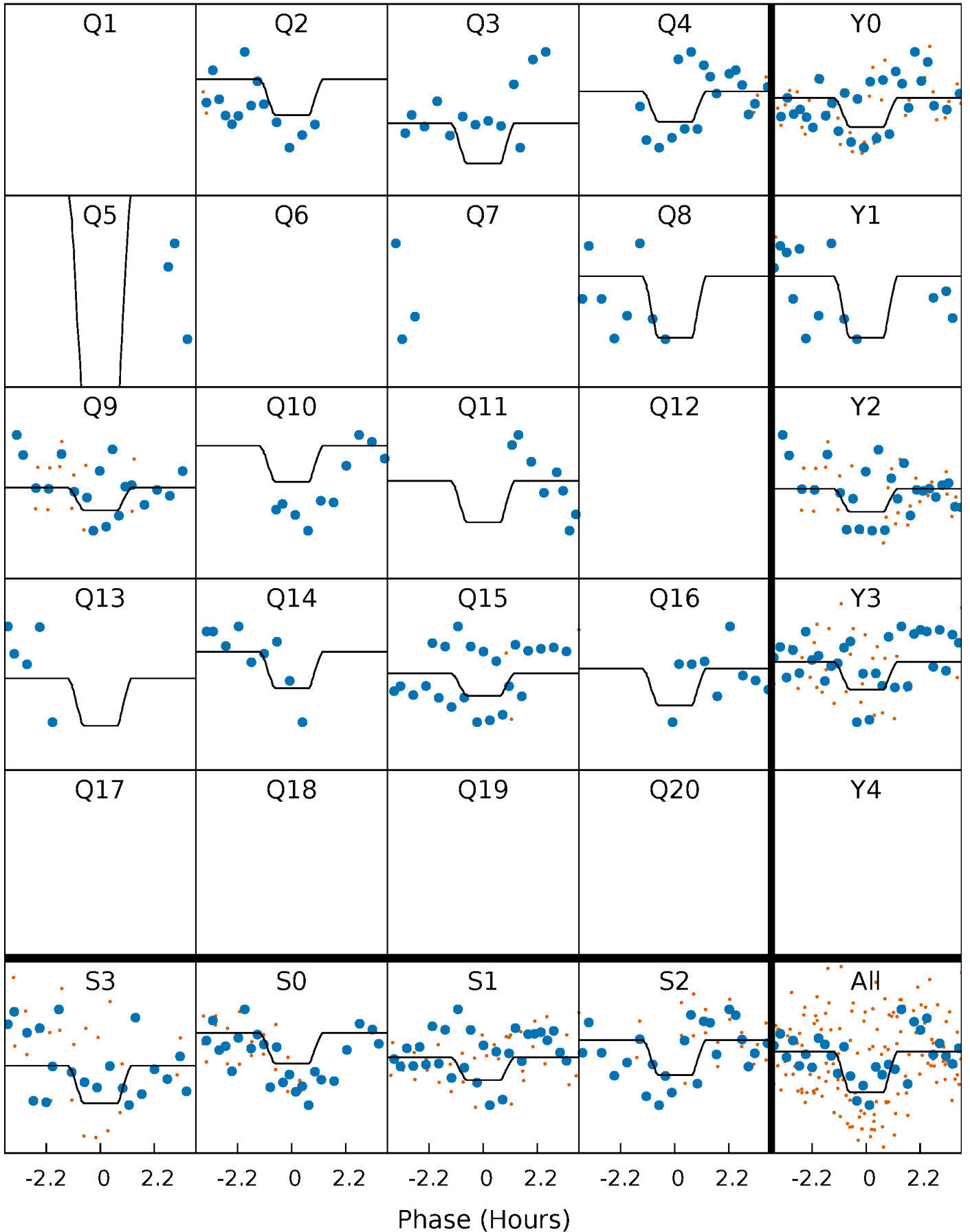
DV Quarter-Phased Transit Curves

TCE 008571125-02 P= 63.943476 Days $T_0=178.410384$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

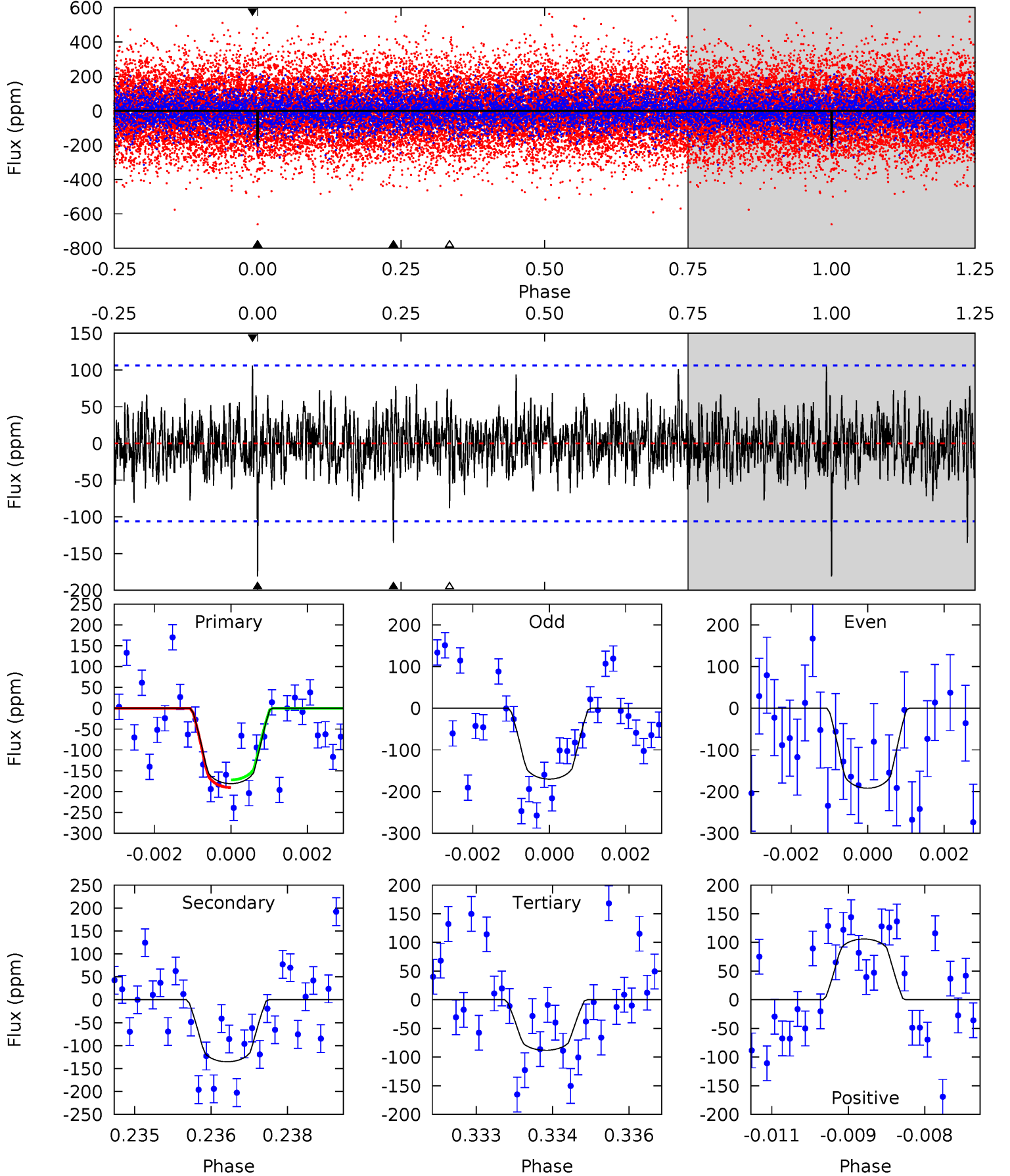
TCE 008571125-02 P= 63.942721 Days $T_0=178.410109$ (BKJD)



DV Model-Shift Uniqueness Test

008571125-02, P = 63.943476 Days, E = 114.466908 Days

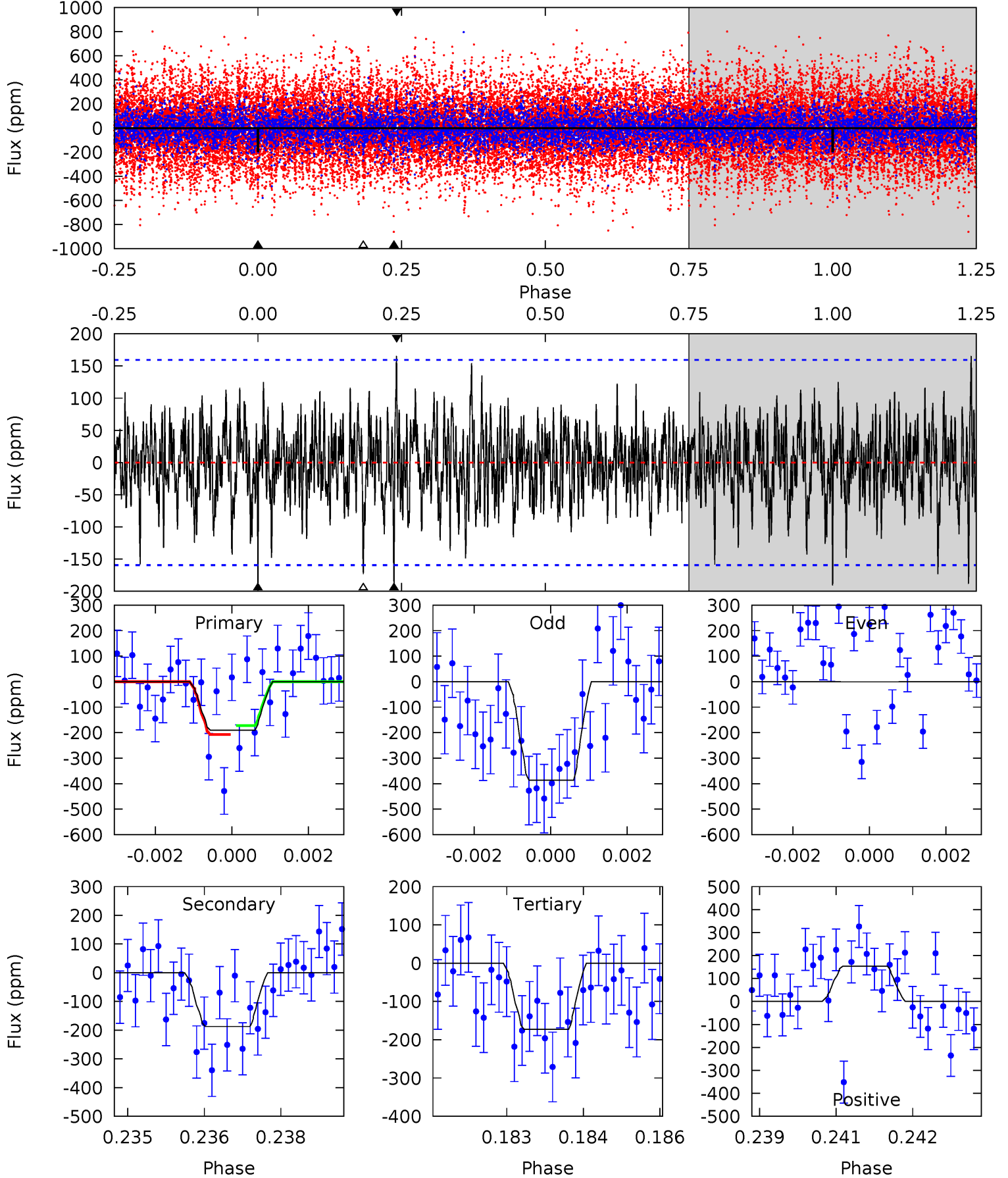
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.16	6.85	4.46	5.37	5.37	3.17	1.37	4.69	3.79	2.38	1.48	0.55	0.94	0.37	0.47



Alt Model-Shift Uniqueness Test

008571125-02, P = 63.942721 Days, E = 114.467388 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.42	6.31	5.84	5.17	5.37	3.17	1.67	0.59	1.25	0.47	1.14	6.50	0.70	0.46	0.60



Stellar Parameters For KIC 008571125

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6443^{+175}_{-175}	$3.776^{+0.300}_{-0.080}$	$-0.100^{+0.300}_{-0.250}$	$2.581^{+0.428}_{-0.927}$	$1.450^{+0.236}_{-0.289}$	$0.119^{+0.255}_{-0.038}$
	+3%/-3%	+8%/-2%	+300%/-250%	+17%/-36%	+16%/-20%	+214%/-32%
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 008571125-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-135 ± 20	$3.97^{+3.01}_{-2.32}$	1055^{+60}_{-107}	5698^{+3574}_{-1209}	608^{+2804}_{-416}
Alt.	-187 ± 30	$4.51^{+2.91}_{-2.63}$	1046^{+62}_{-88}	5747^{+3742}_{-1114}	625^{+2972}_{-390}

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 $A_{obs} \gg 1.0$

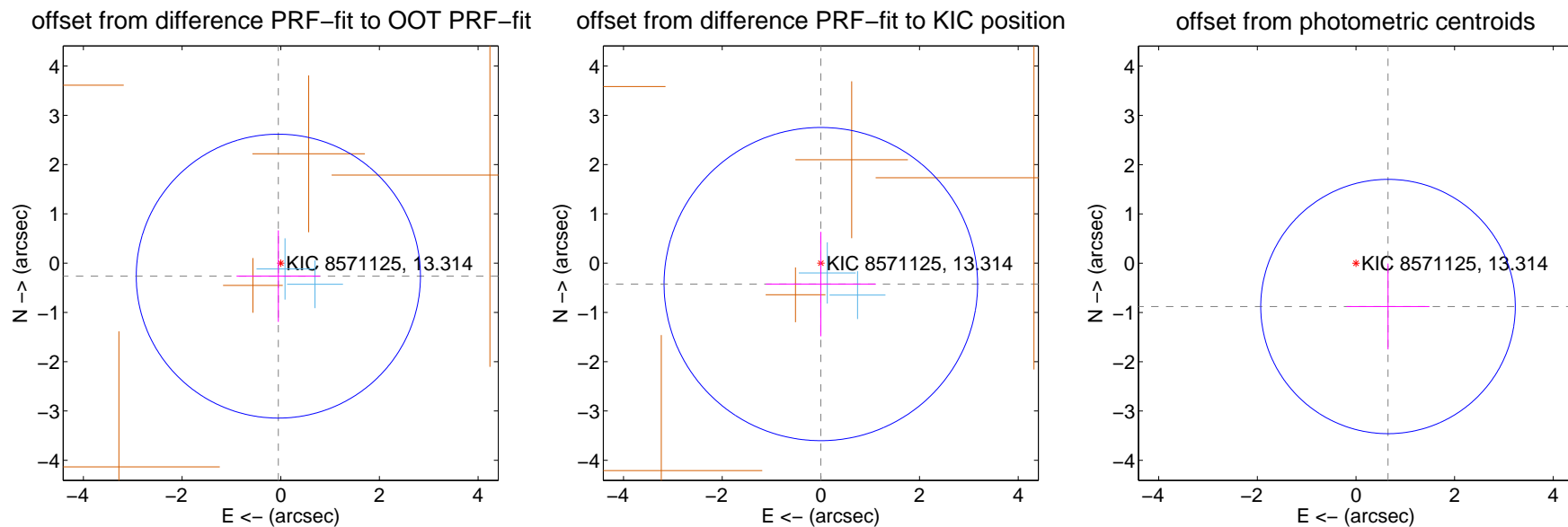
DV Centroid Data

Supplemental centroid analysis for 008571125-02. Kepler magnitude: 13.31. Transit SNR 6.92

There are 2 quarters with good PRF difference image offsets

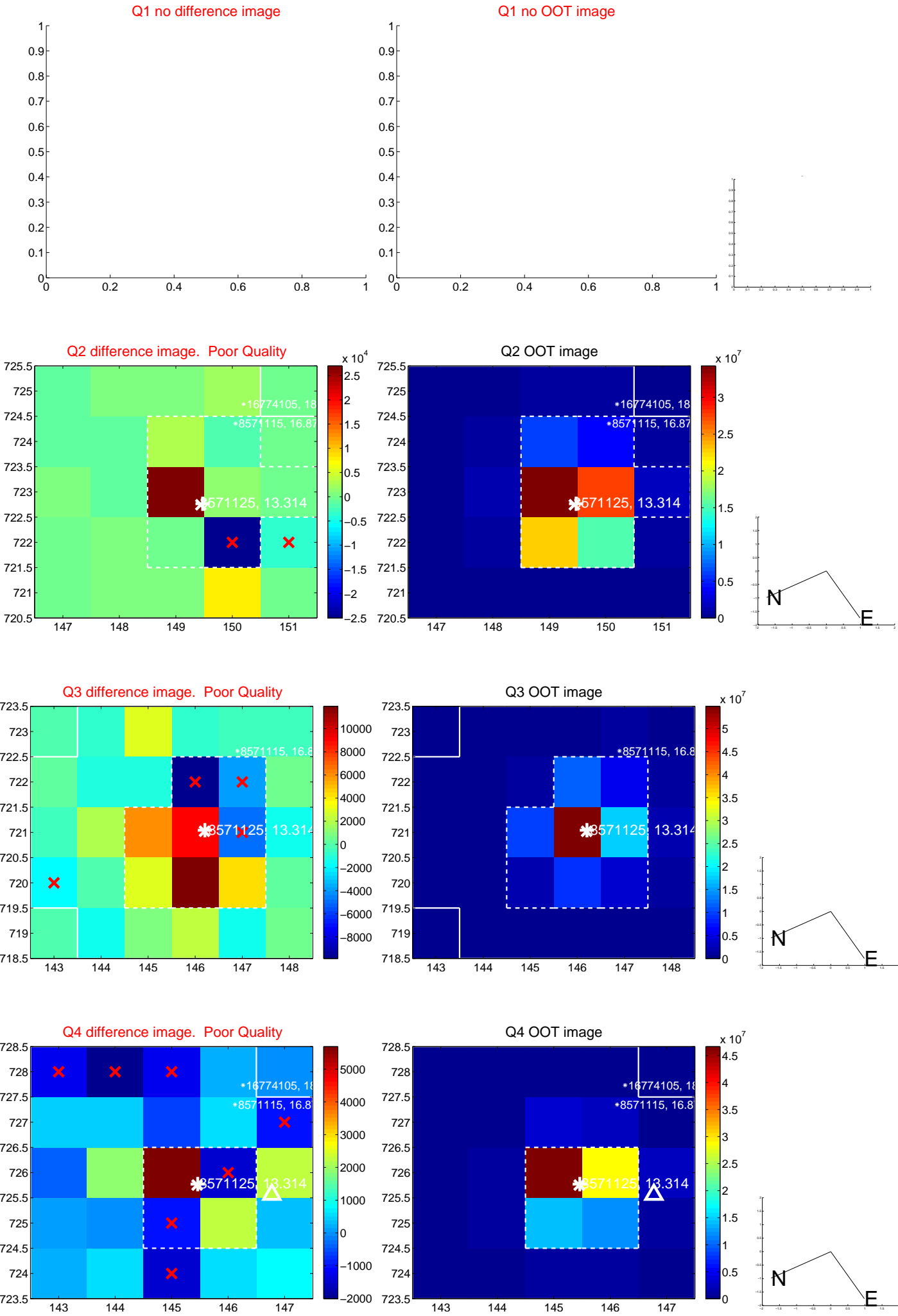
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.268 ± 0.960	0.28	0.049 ± 0.848	-0.264 ± 0.928
PRF-fit source offset from KIC position	0.425 ± 1.059	0.40	0.001 ± 1.113	-0.425 ± 1.060
photometric centroid source offset	1.09 ± 0.86	1.27	-0.65 ± 0.84	-0.88 ± 0.87

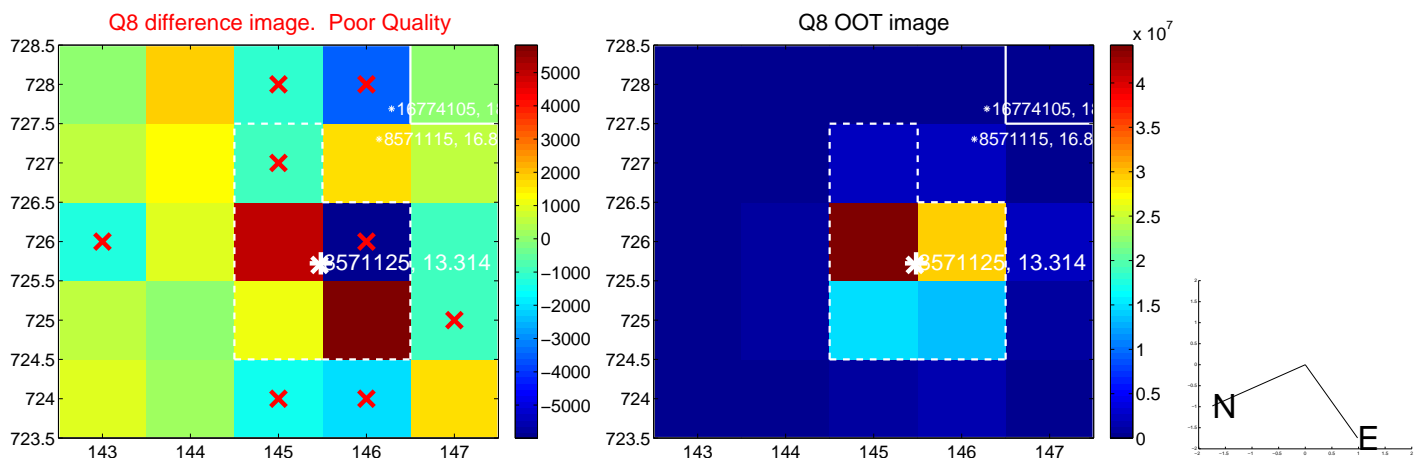
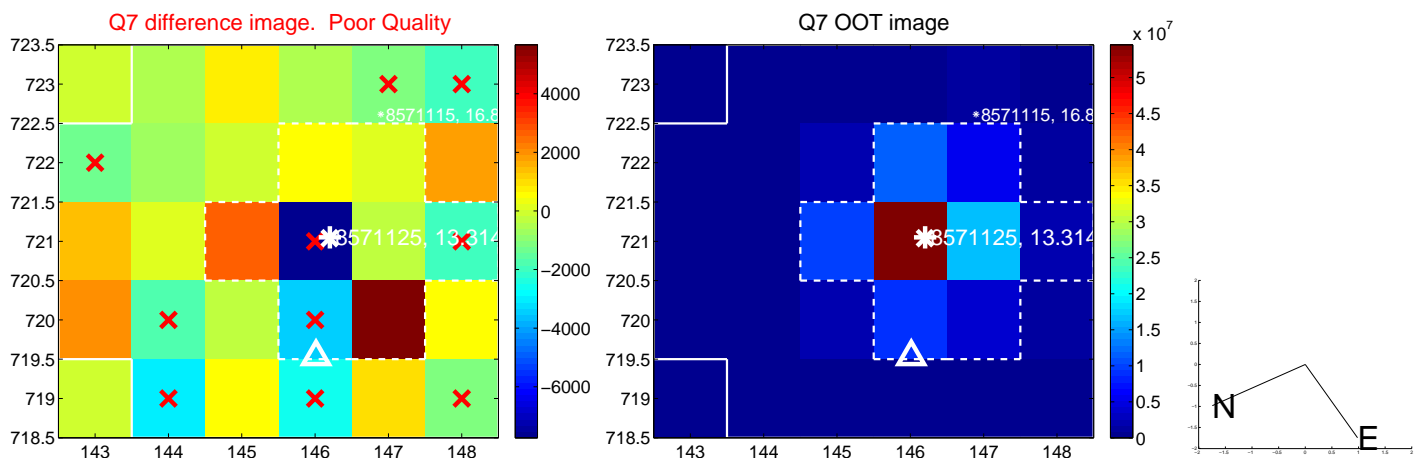
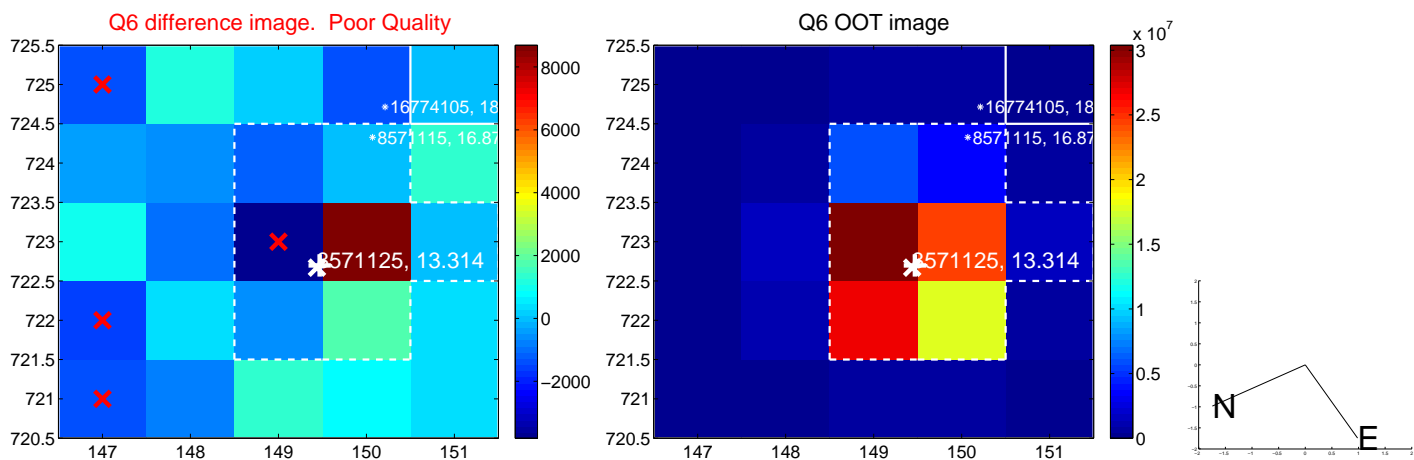
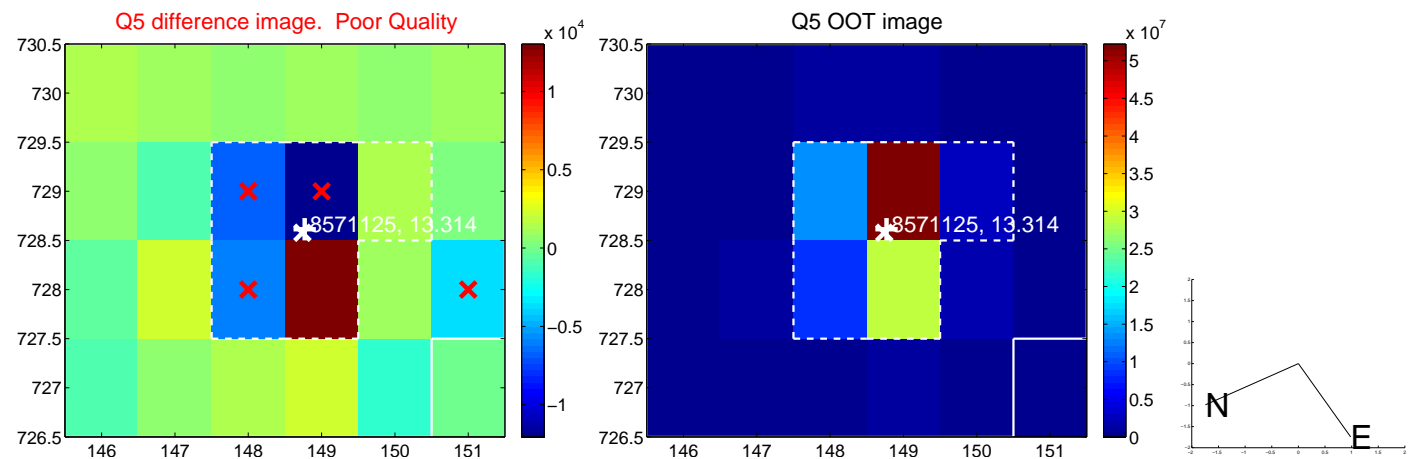


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

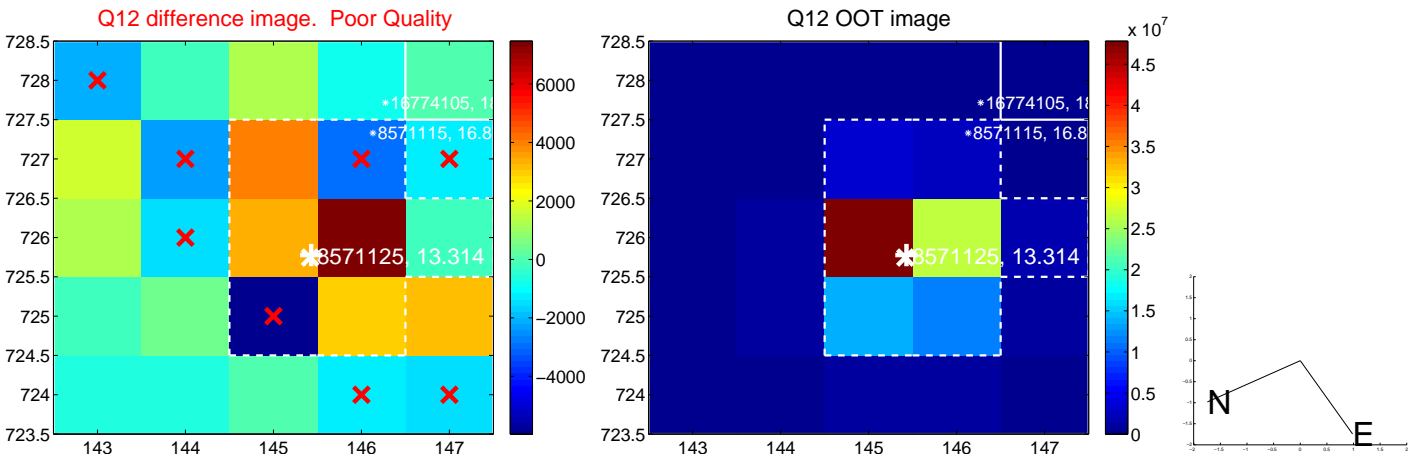
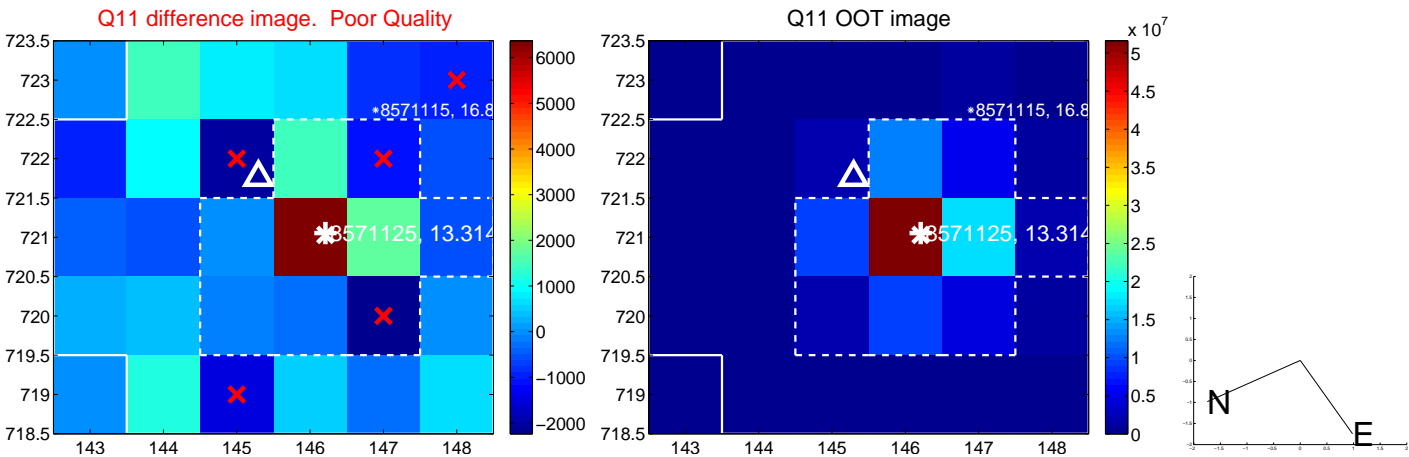
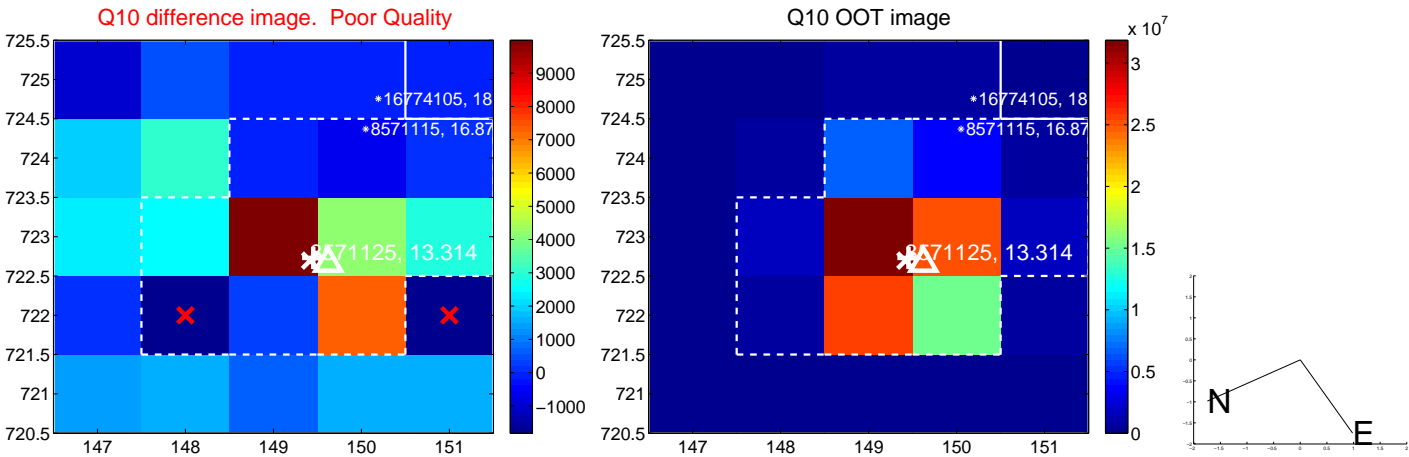
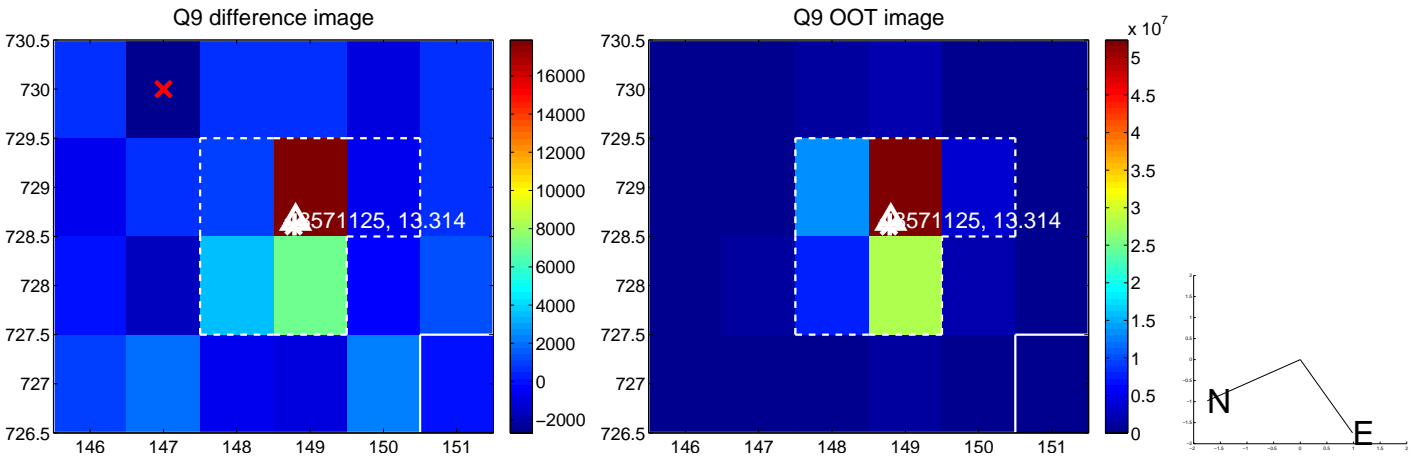
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



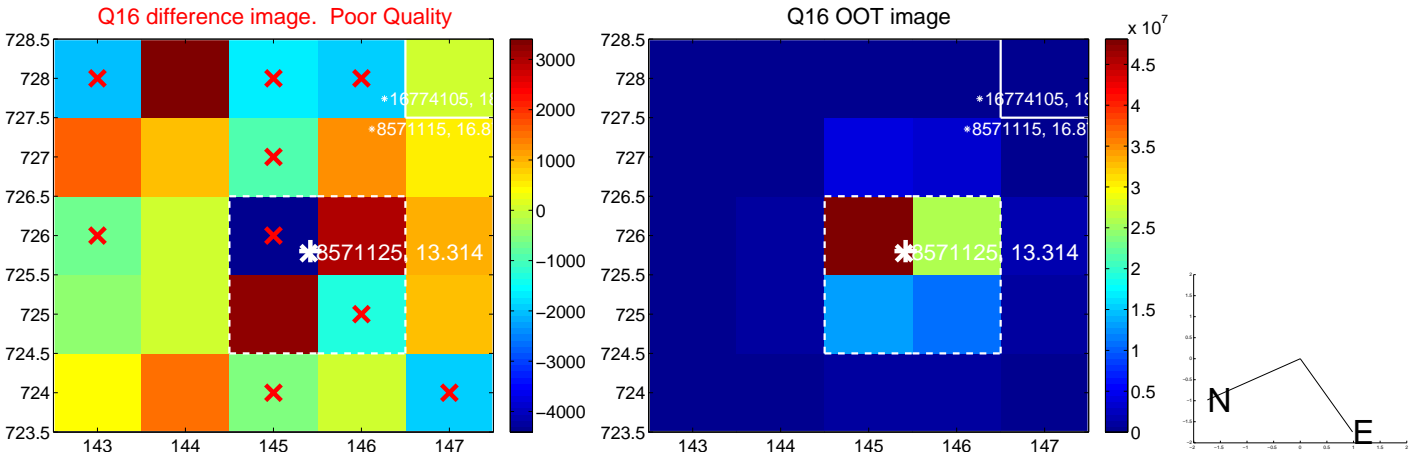
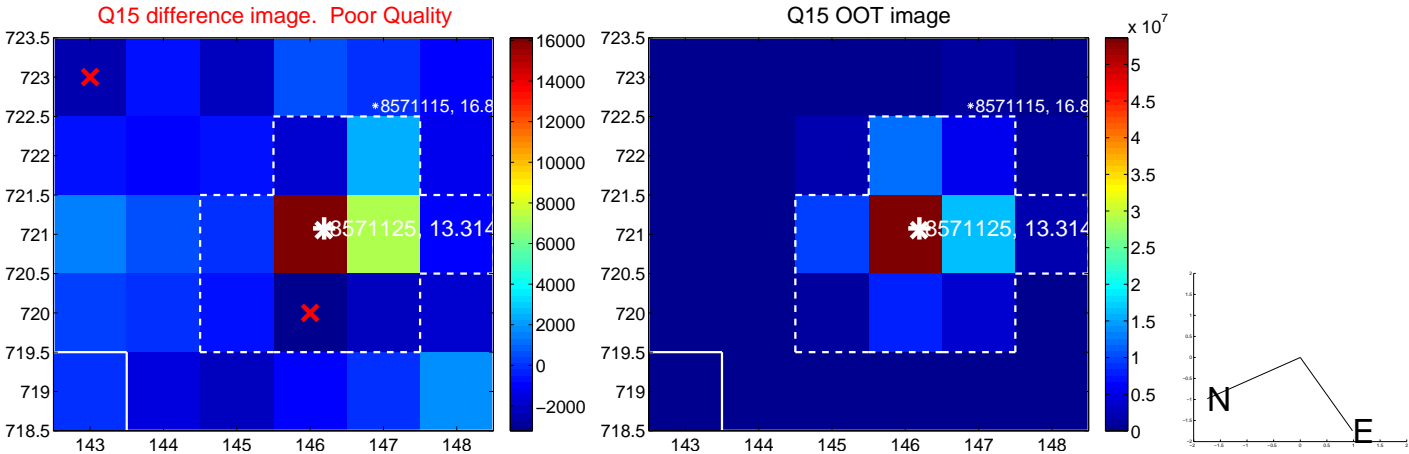
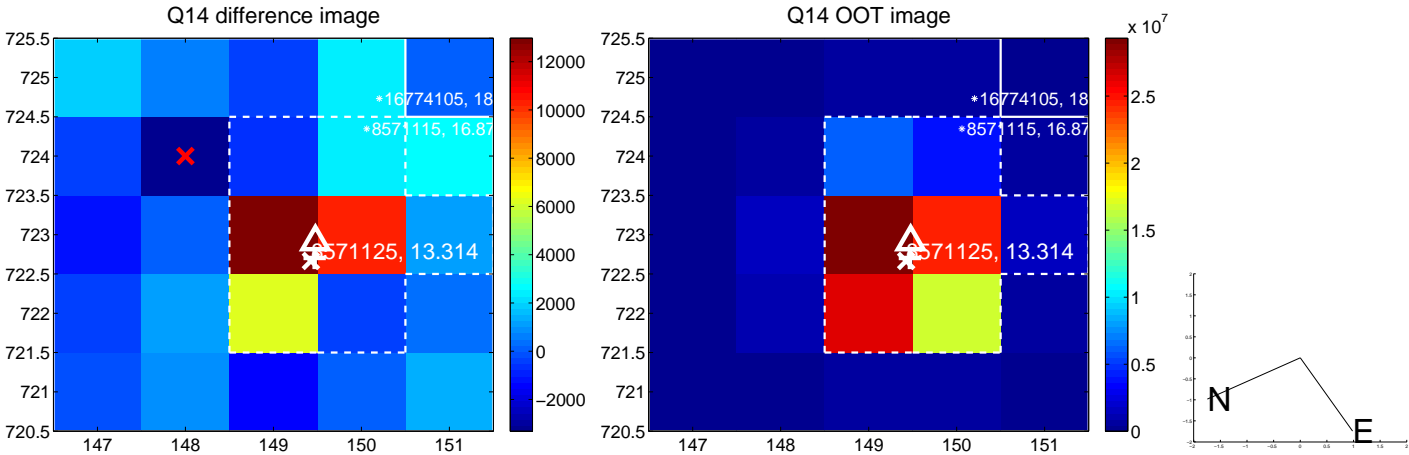
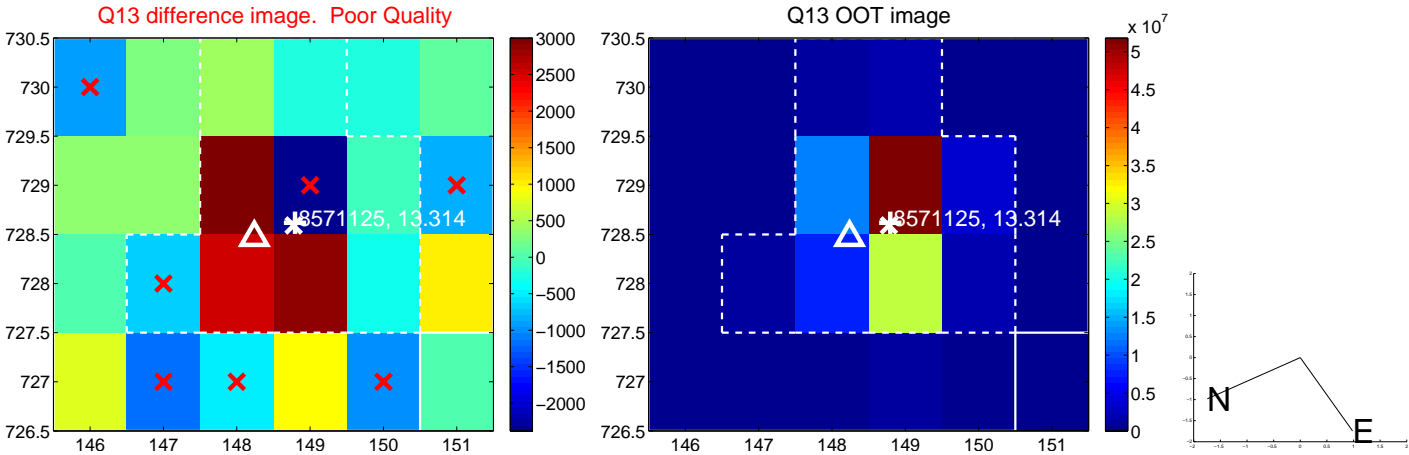
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



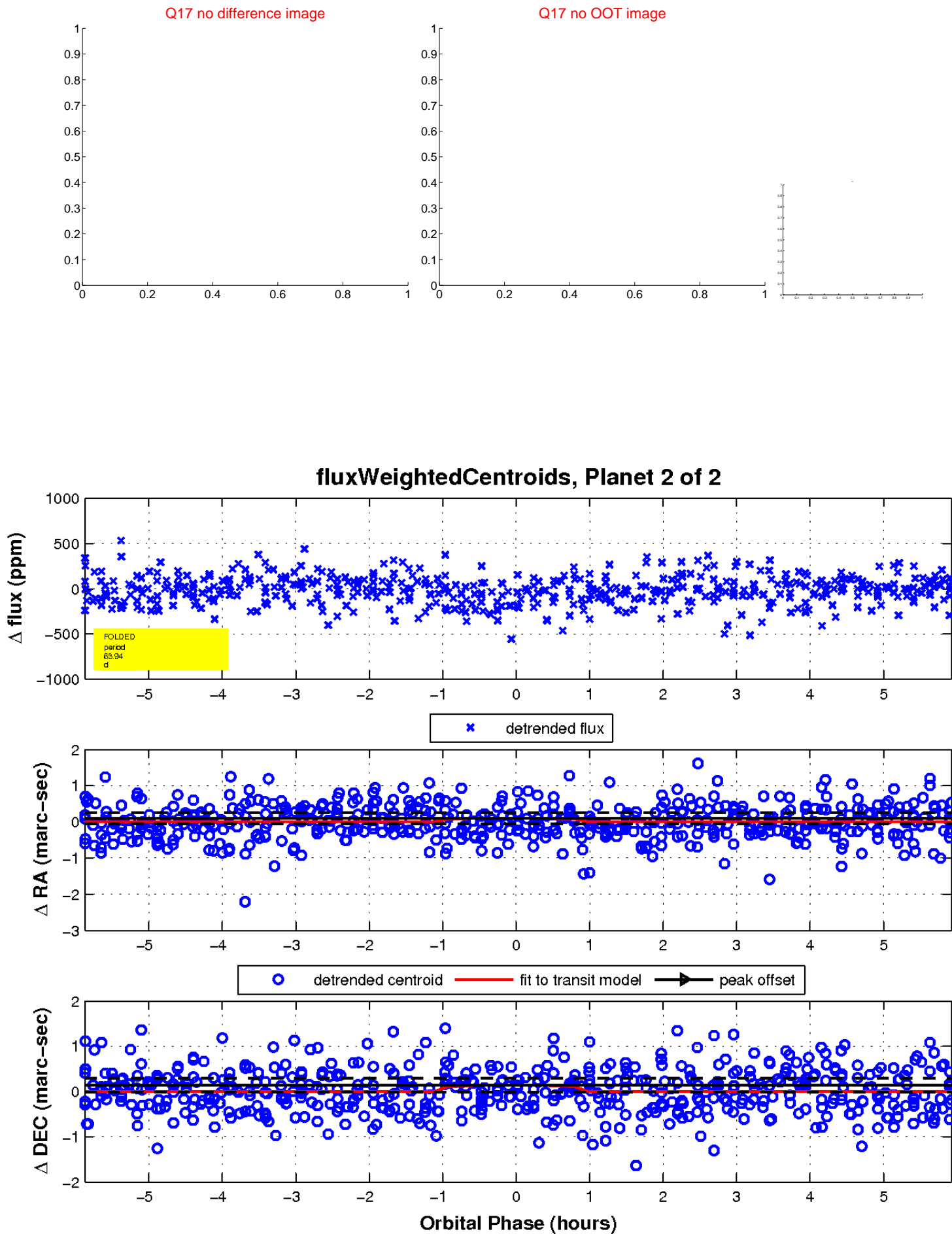
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

