

KIC 002582575

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})
002582575-01	OBS	No	0.751723	131.925777	994.8	2.000	7.8	-1.0	1.00	6092	3.15	4473.12
002582575-02	OBS	No	89.629900	191.030161	1001.6	1.887	7.3	8.1	1.00	6092	4.57	7.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002582575-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_NOFITS
002582575-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

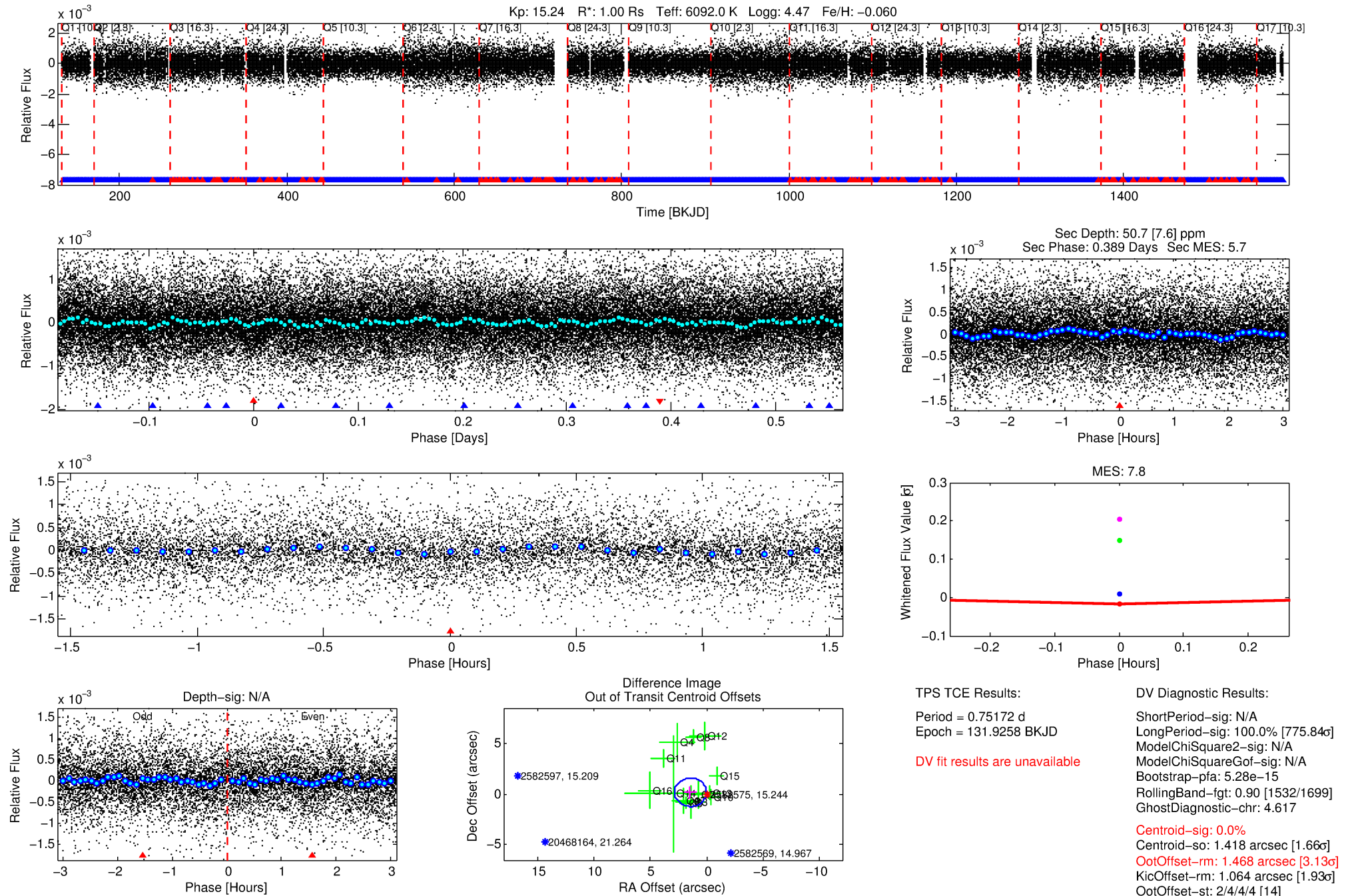
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002582575-01

No Significant Match Found

DV One-Page Summary

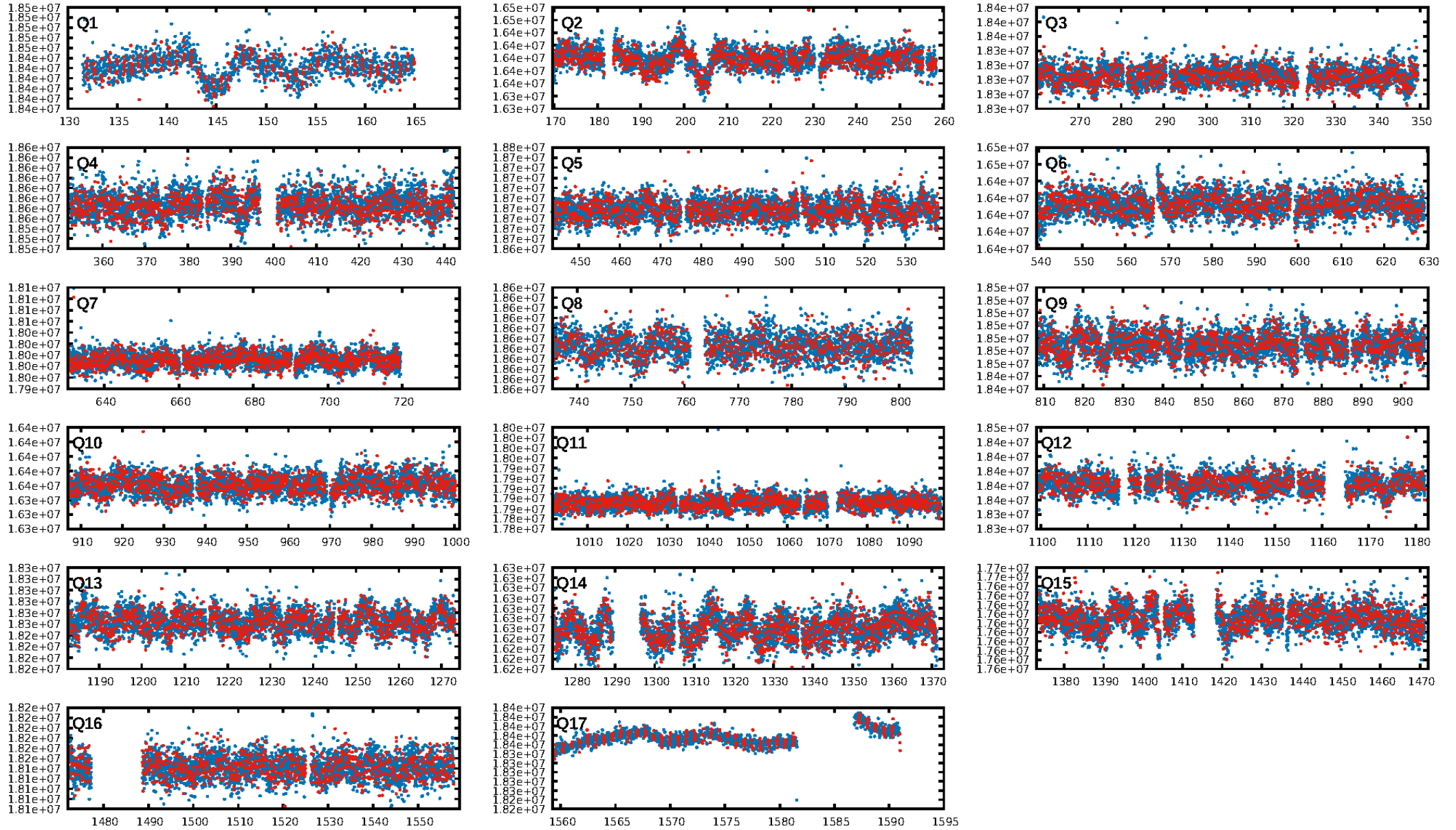
KIC: 2582575 Candidate: 1 of 2 Period: 0.752 d



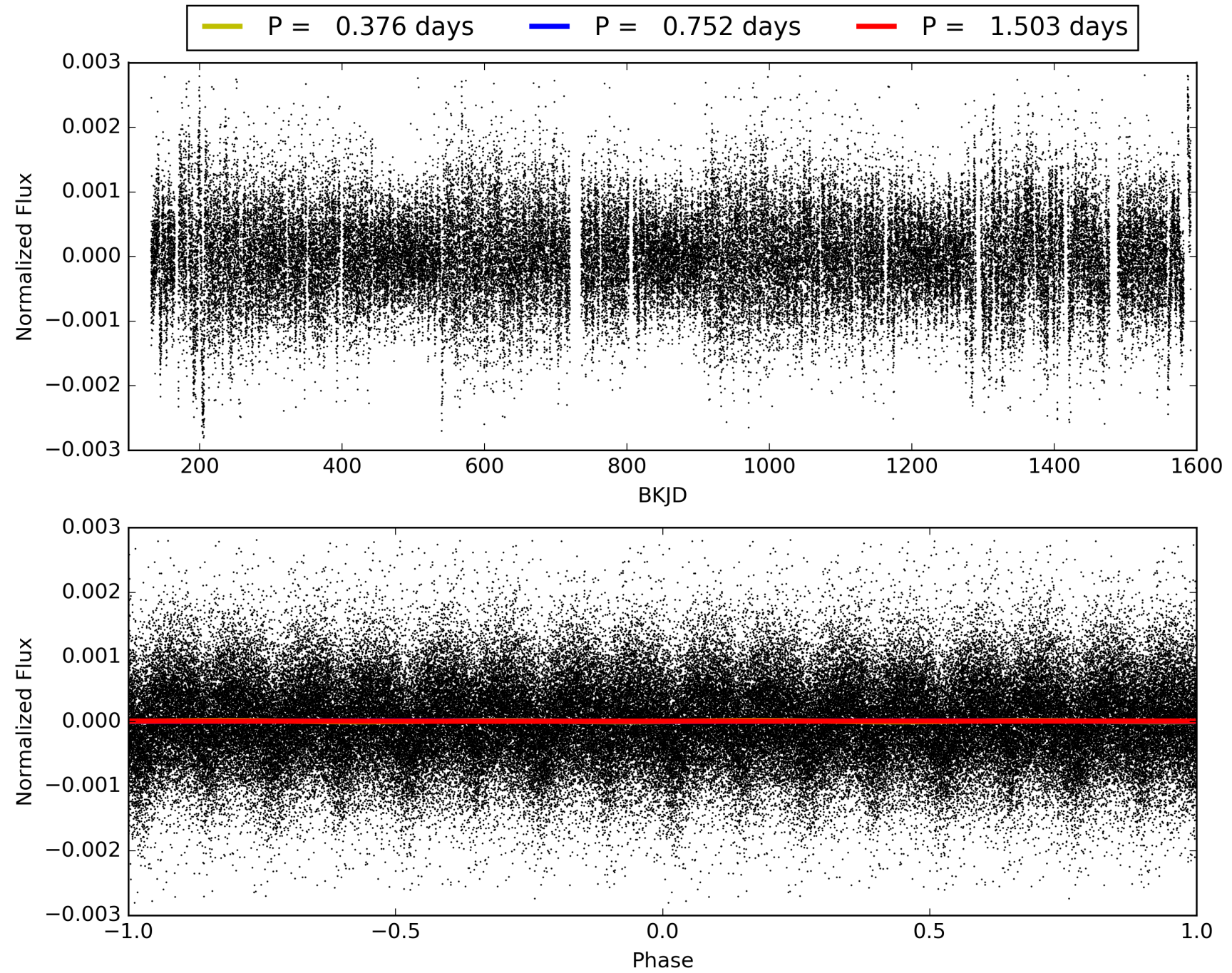
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:21:44 Z

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

TCE 002582575-01, PDC Light Curves

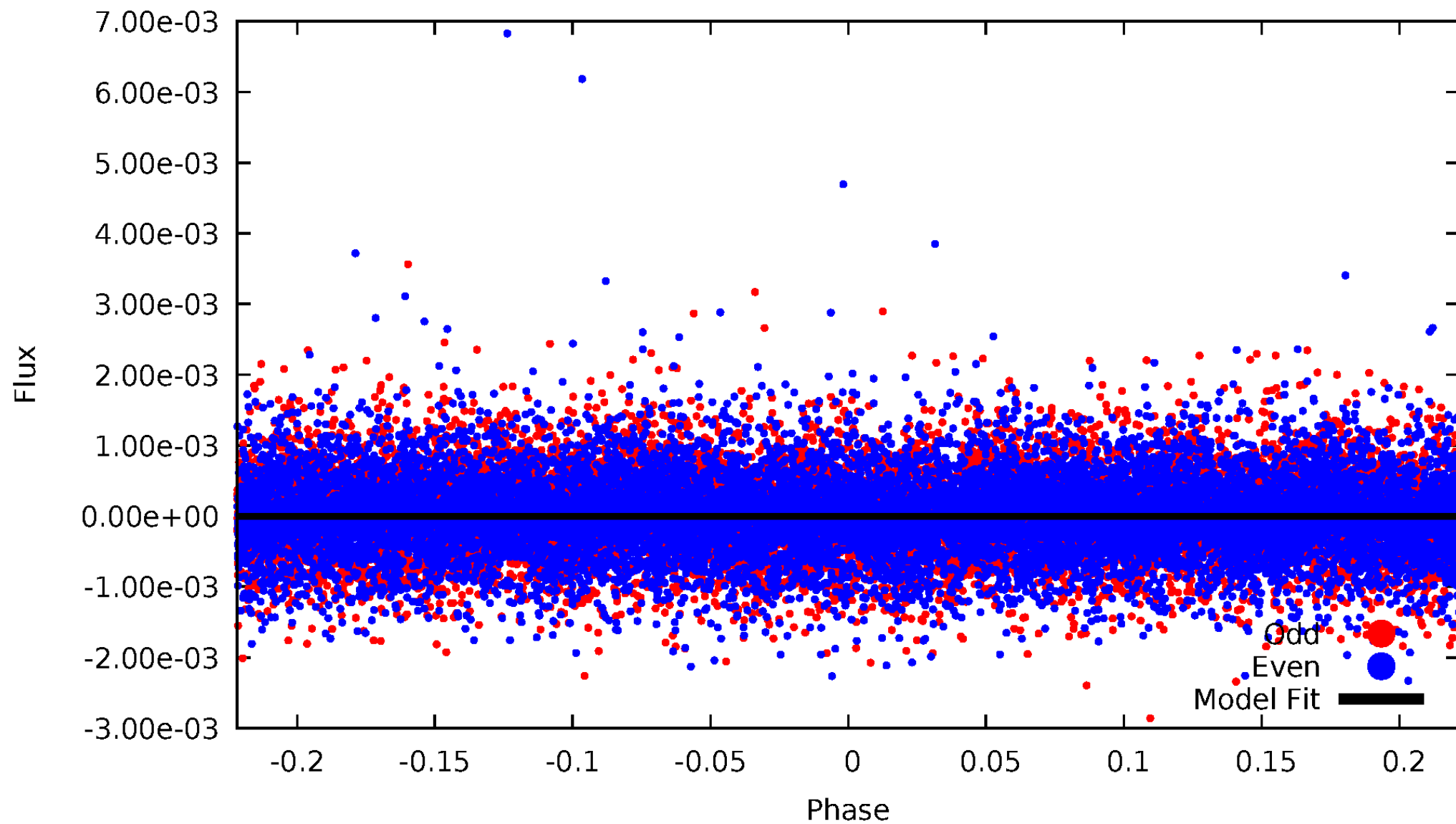


TCE 002582575-01



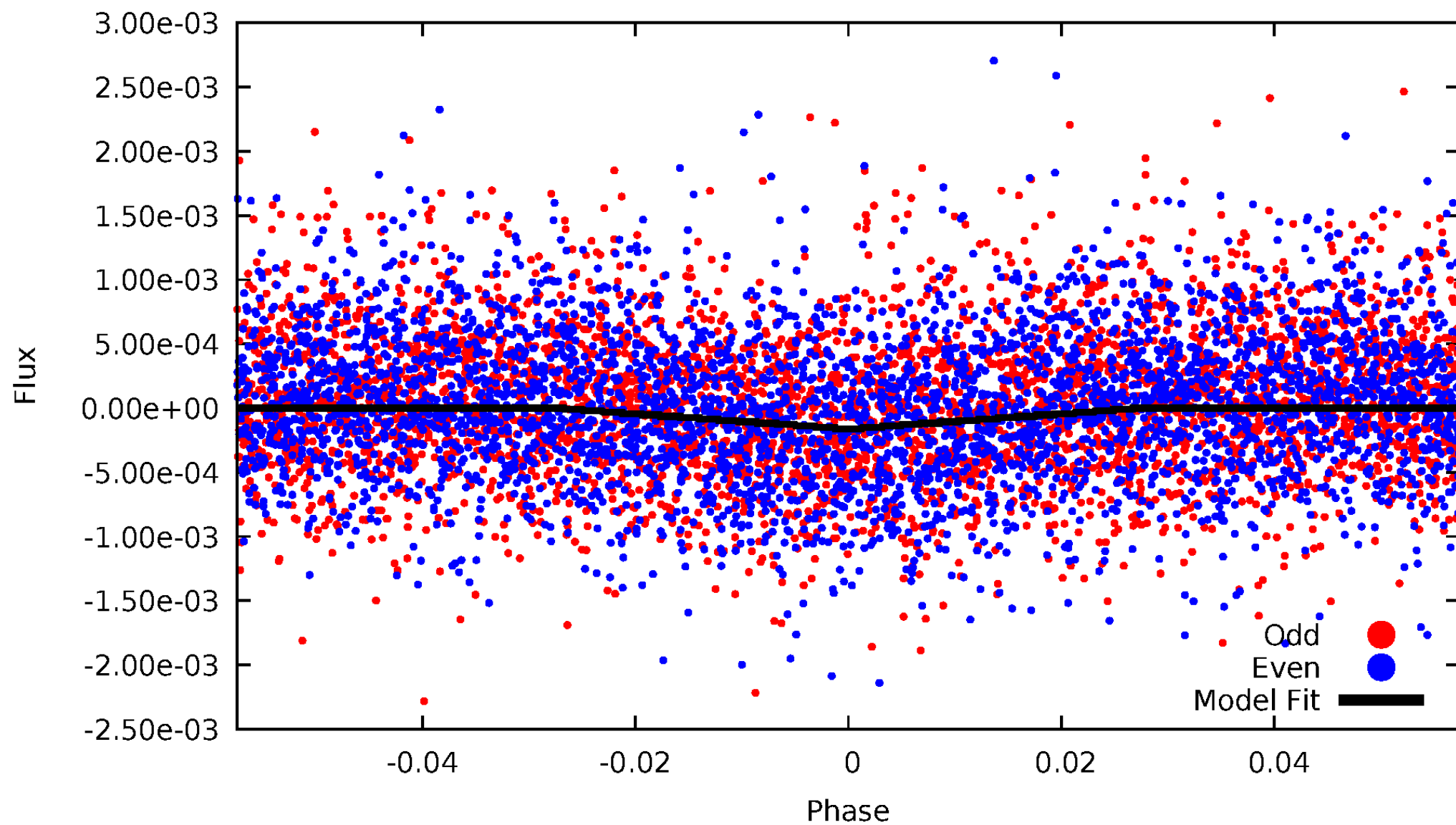
DV Odd/Even

TCE 002582575-01

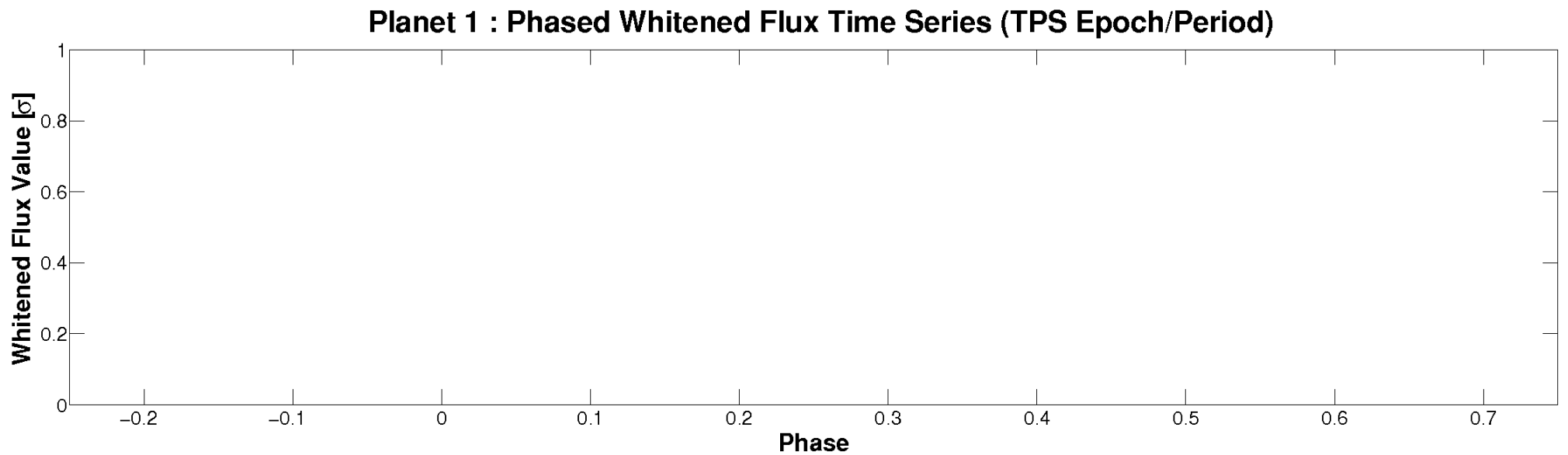
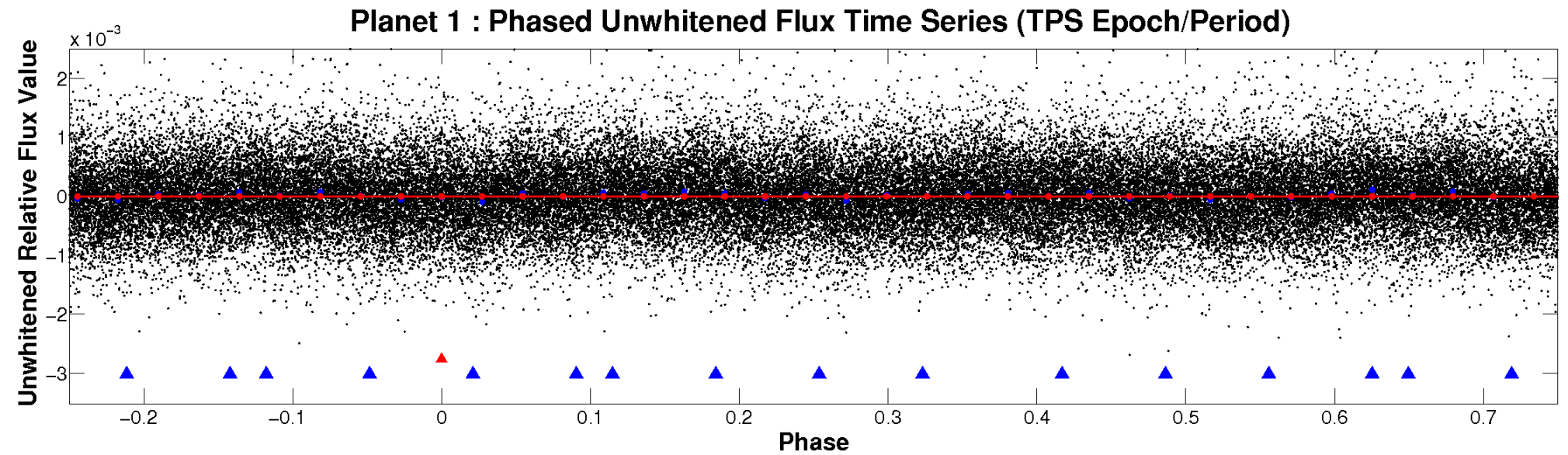


ALT Odd/Even

TCE 002582575-01

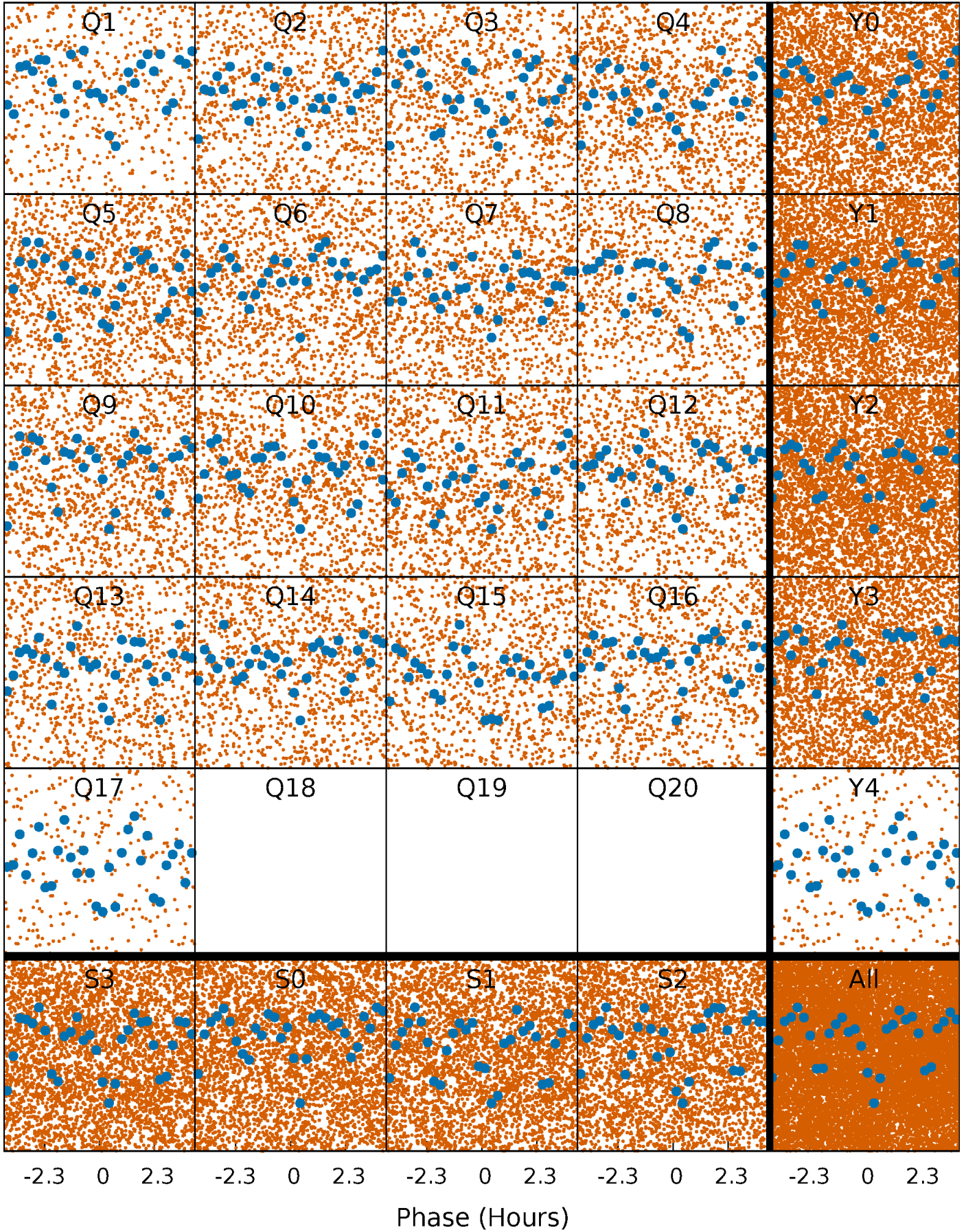


Non-Whitened Vs. Whitened Light Curve



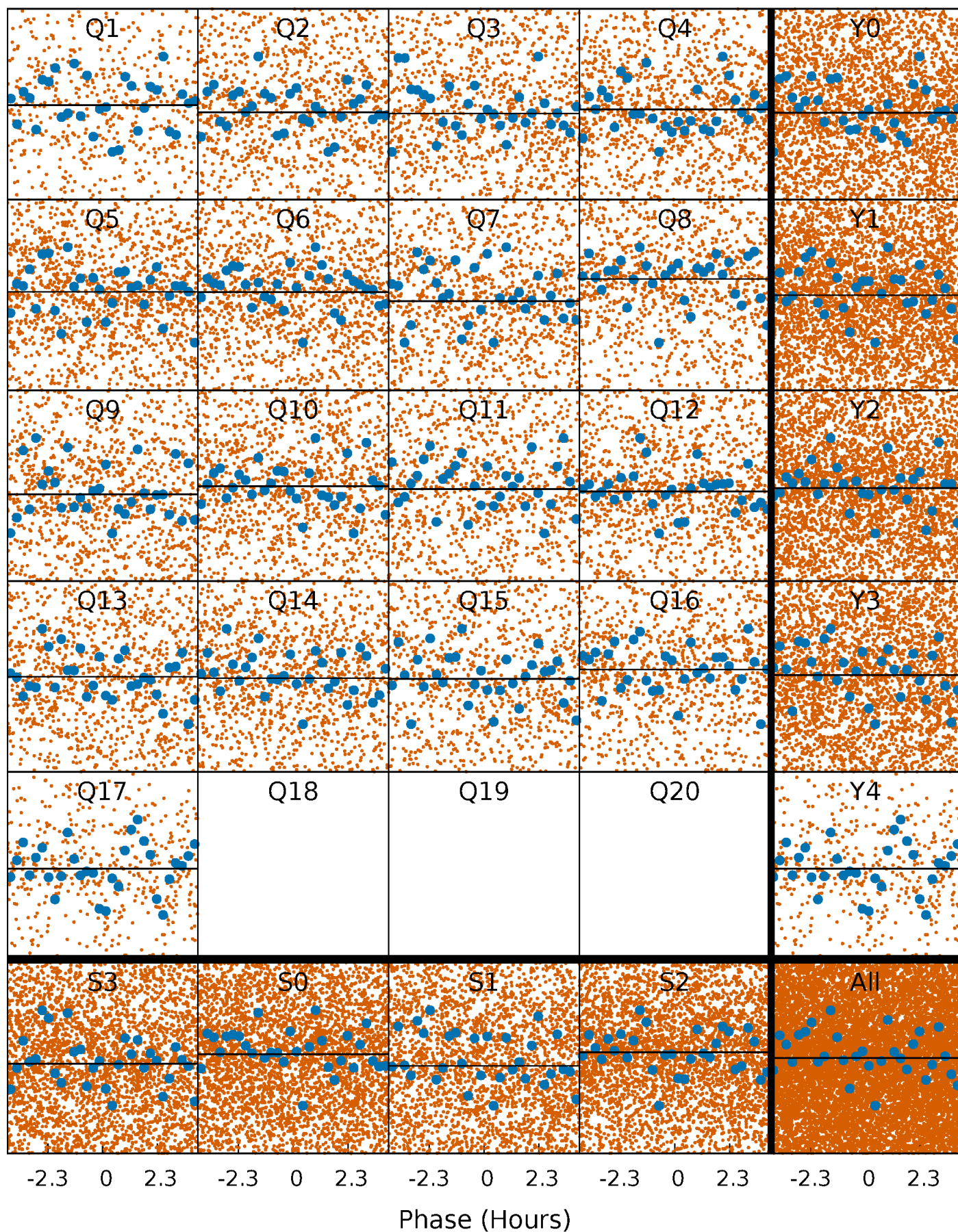
PDC Quarter-Phased Transit Curves

TCE 002582575-01 P= 0.751723 Days $T_0=131.925777$ (BKJD)



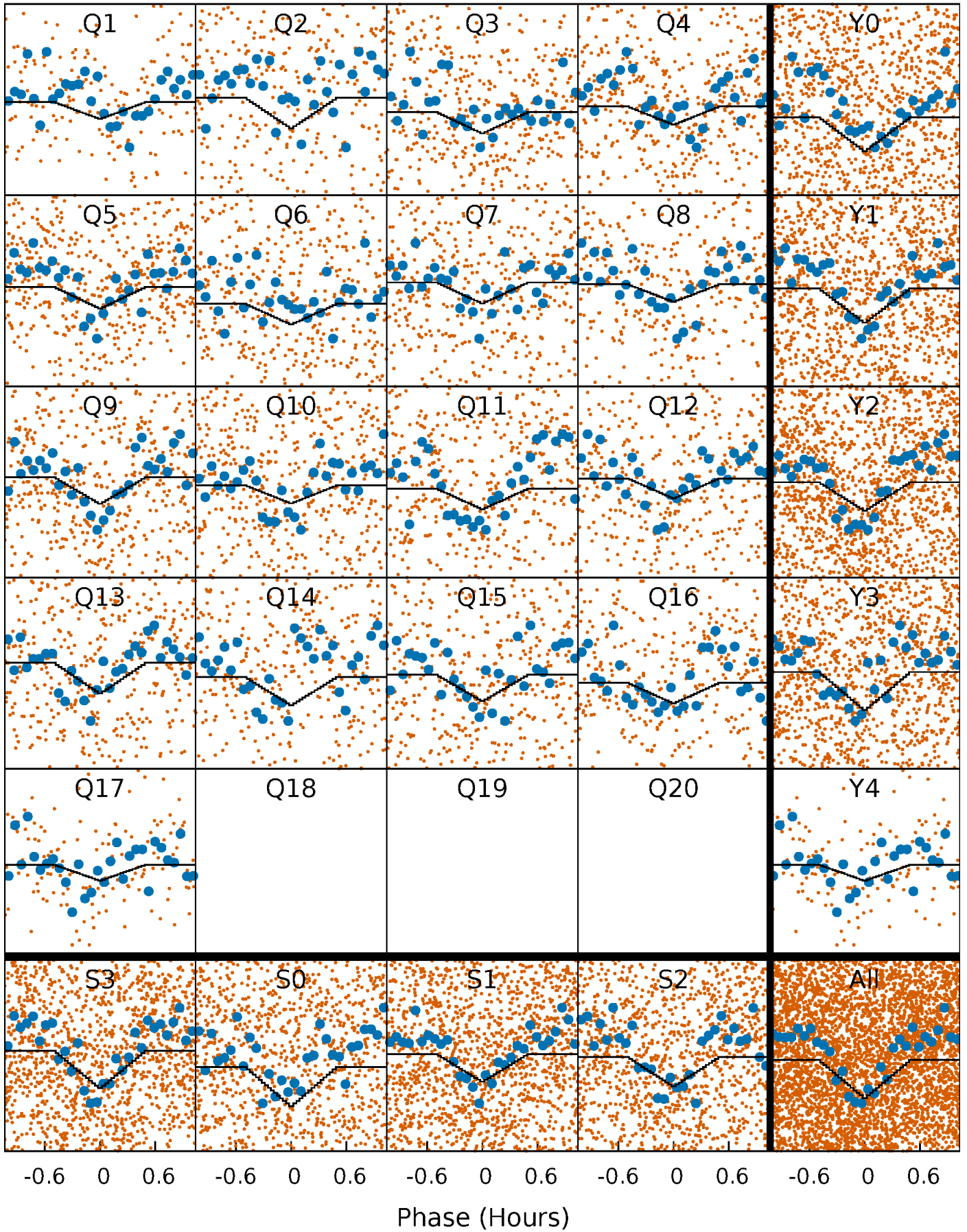
DV Quarter-Phased Transit Curves

TCE 002582575-01 P= 0.751723 Days $T_0=131.925777$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

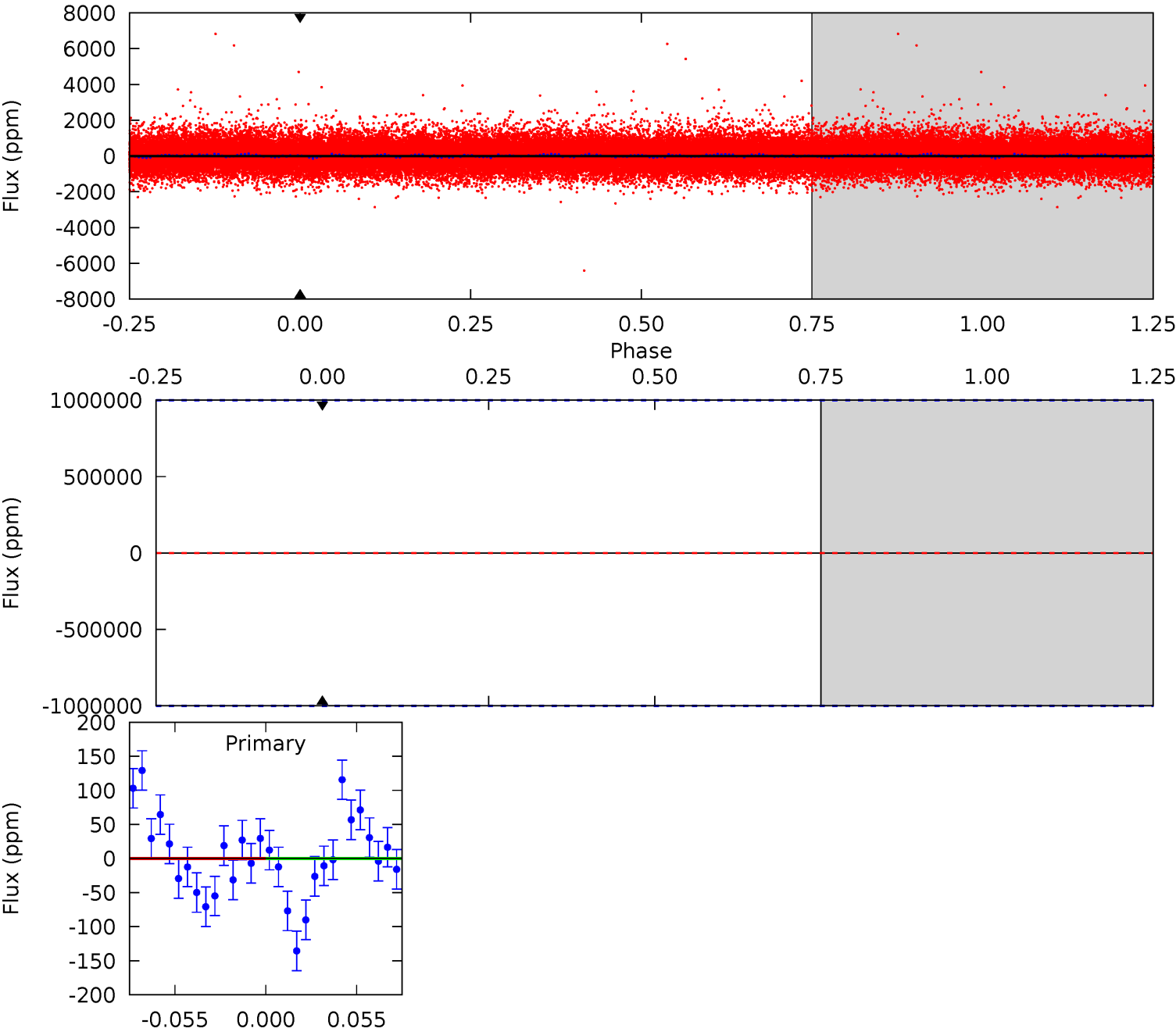
TCE 002582575-01 P= 0.751723 Days $T_0=132.038086$ (BKJD)



DV Model-Shift Uniqueness Test

002582575-01, P = 0.751723 Days, E = 131.174054 Days

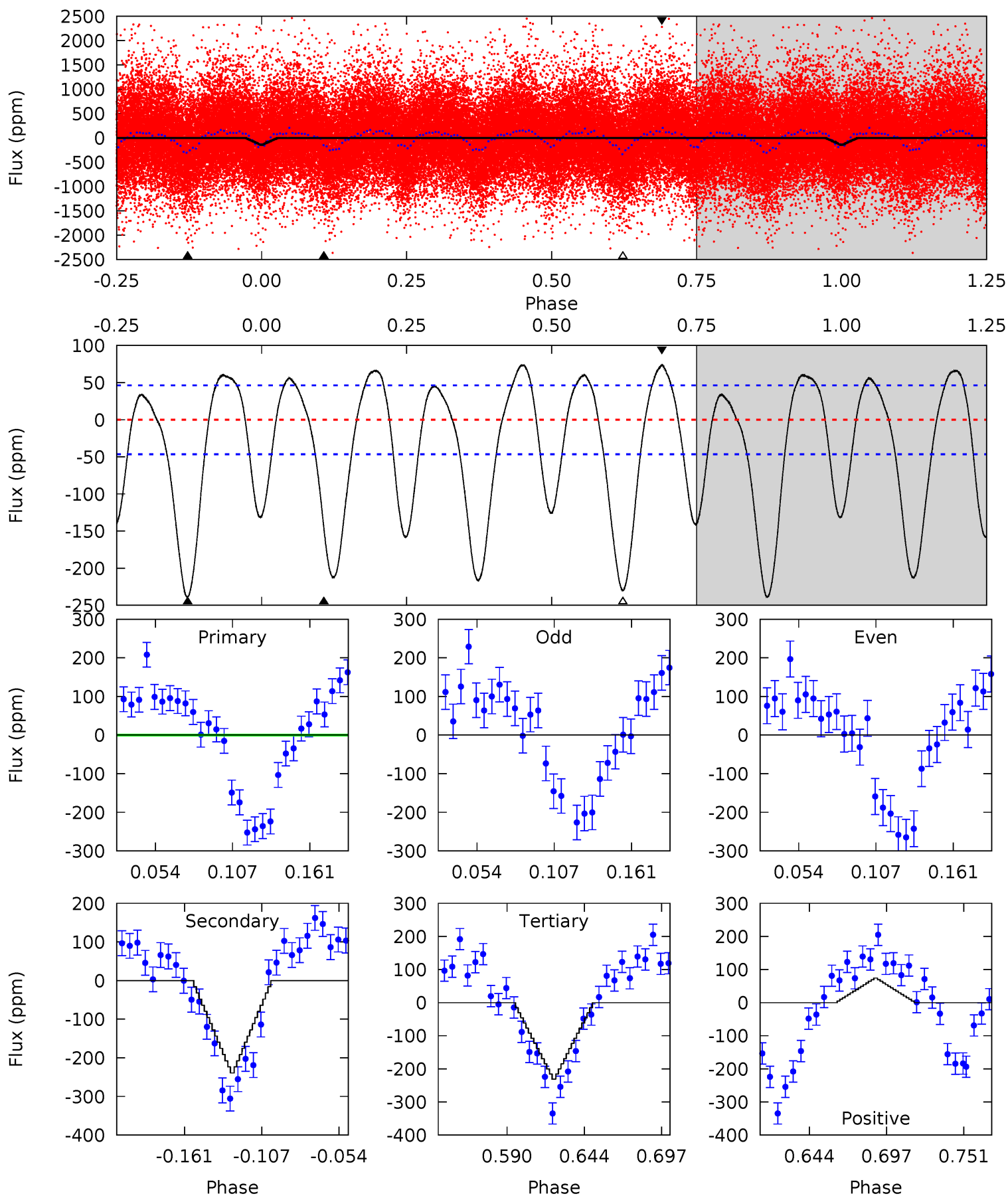
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

002582575-01, P = 0.751723 Days, E = 131.286363 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	24.2	23.3	7.50	4.69	1.93	8.37	-8.53	7.30	0.86	16.7	3.62	0.93	0.24	4.79



Stellar Parameters For KIC 002582575

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6092^{+192}_{-235}	$4.471^{+0.052}_{-0.208}$	$-0.060^{+0.250}_{-0.300}$	$0.998^{+0.329}_{-0.110}$	$1.074^{+0.137}_{-0.150}$	$1.522^{+0.437}_{-0.806}$
	+3%/-4%	+1%/-5%	+417%/-500%	+33%/-11%	+13%/-14%	+29%/-53%
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 002582575-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$9.23^{+8.44}_{-6.36}$	2981^{+222}_{-143}	5408^{+16270}_{-26127}	$6.976^{+339.699}_{-280.200}$
Alt.	-239 ± 10	$8.34^{+9.03}_{-5.83}$	2970^{+244}_{-142}	2967^{+2112}_{-5840}	$0.531^{+5.138}_{-0.410}$

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

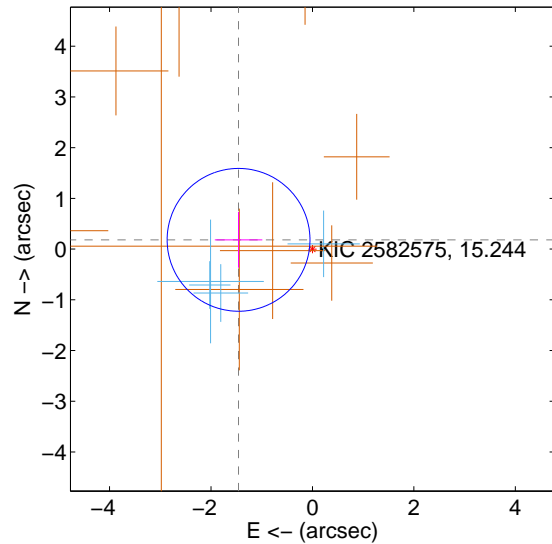
Supplemental centroid analysis for 002582575-01. Kepler magnitude: 15.24. Transit SNR -1.00

There are 5 quarters with good PRF difference image offsets

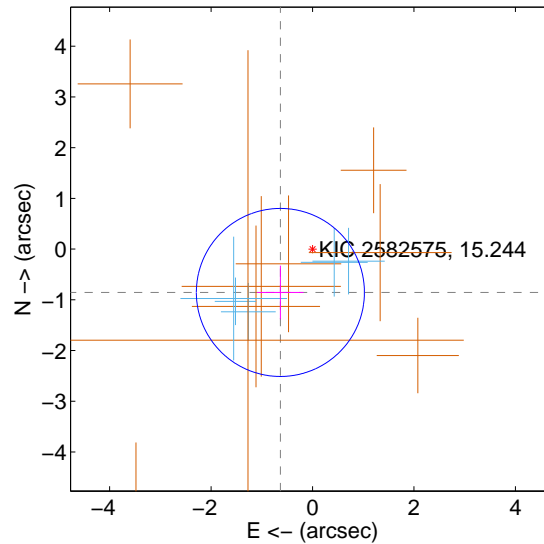
The direct PRF centroid is offset from the target star catalog position by about 0.57 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.468 ± 0.469	3.13	1.457 ± 0.468	0.182 ± 0.550
PRF-fit source offset from KIC position	1.064 ± 0.552	1.93	0.634 ± 0.457	-0.855 ± 0.528
photometric centroid source offset	1.42 ± 0.85	1.66	1.41 ± 0.85	-0.19 ± 0.97

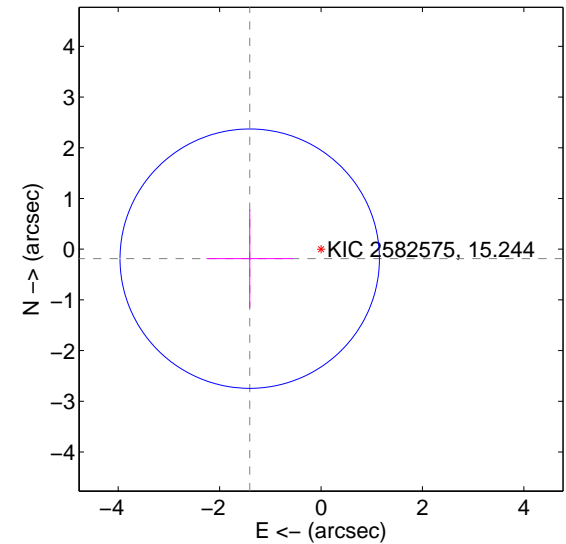
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

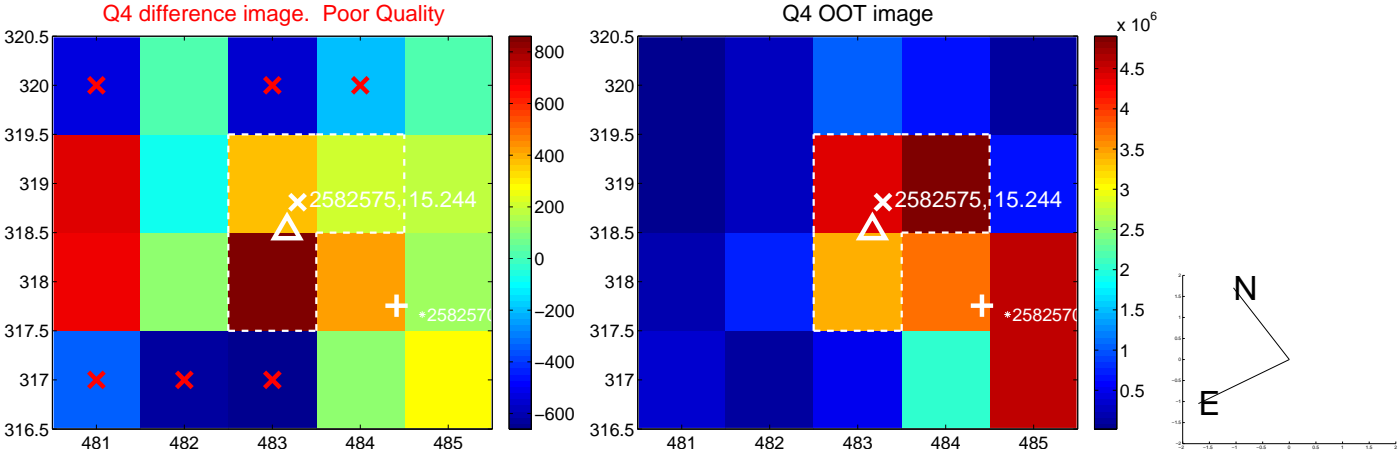
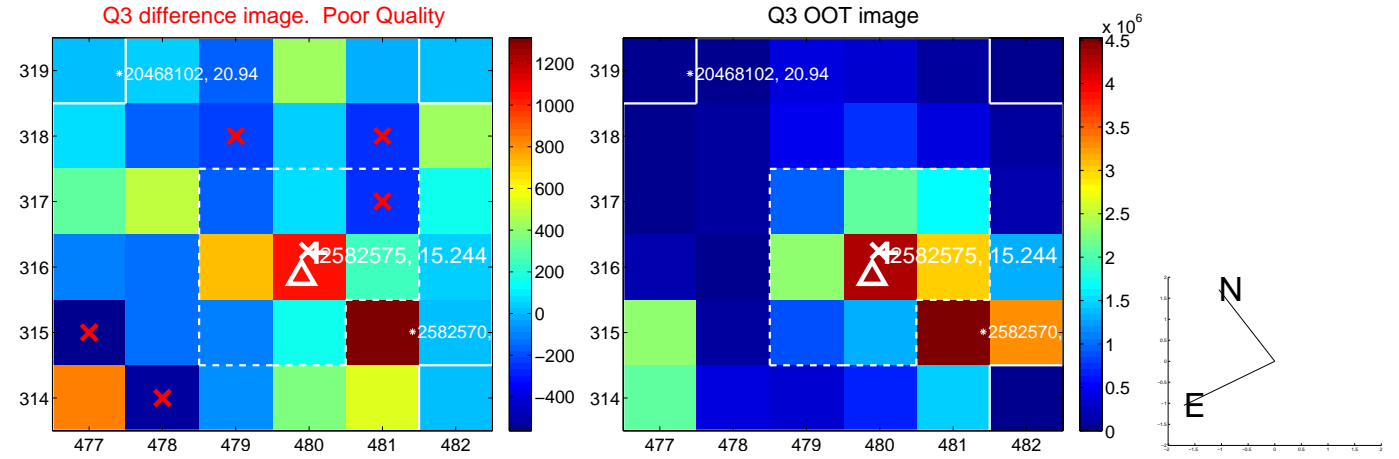
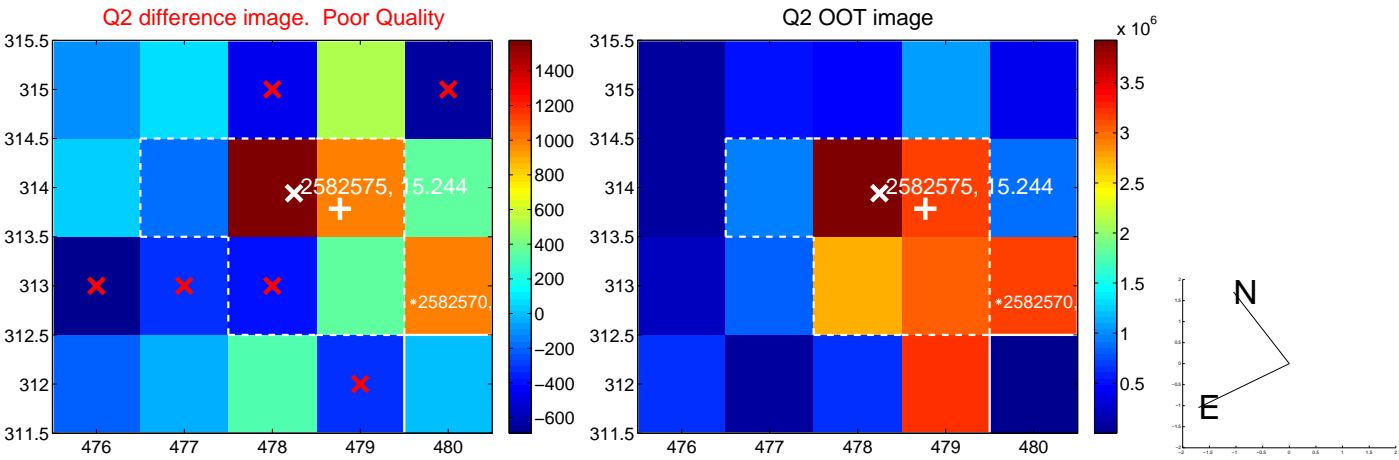
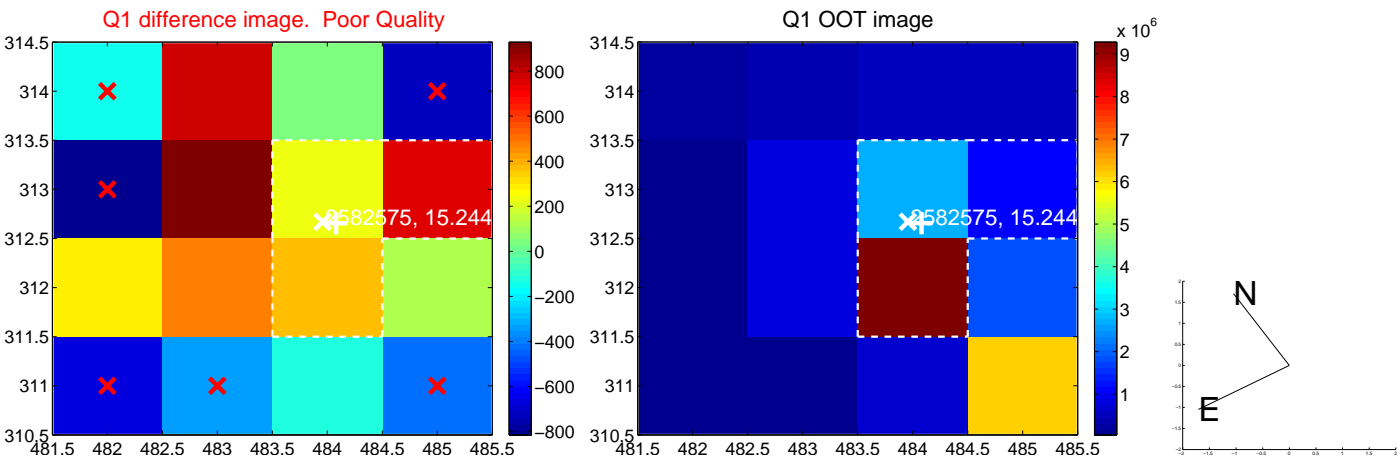


offset from photometric centroids

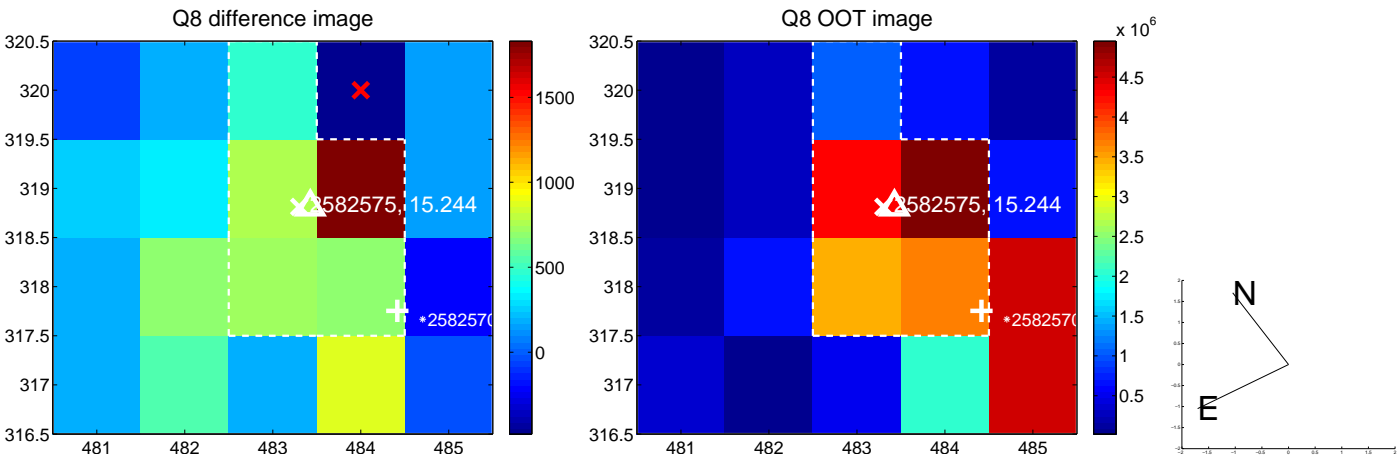
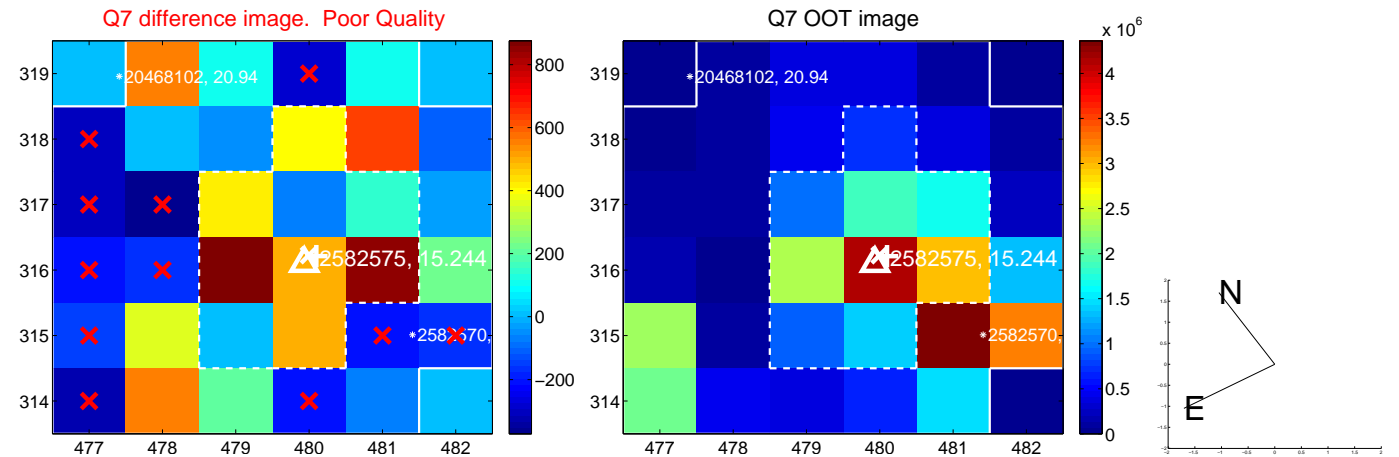
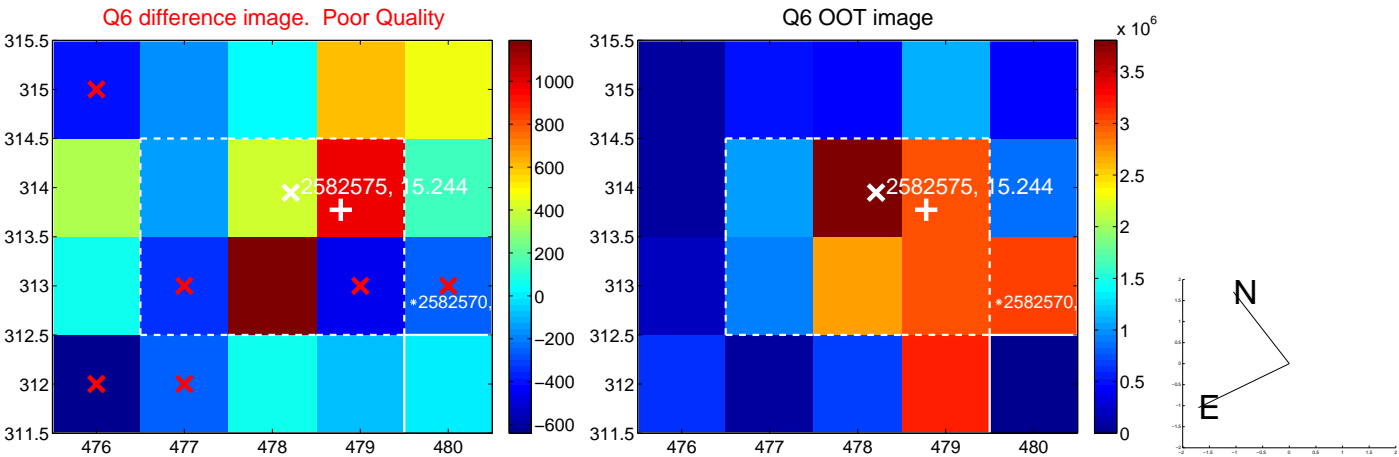
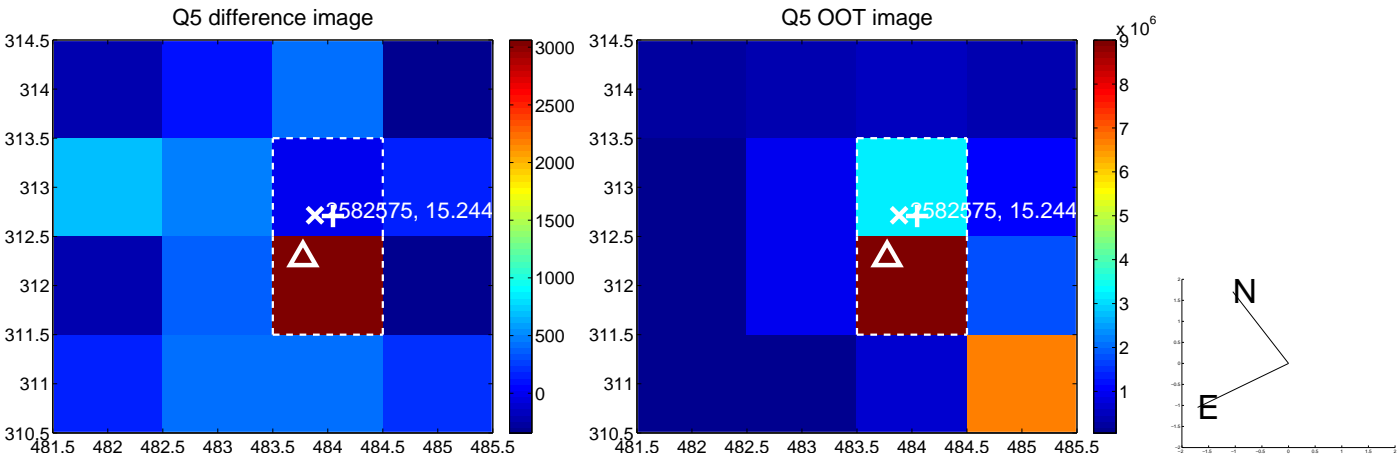


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

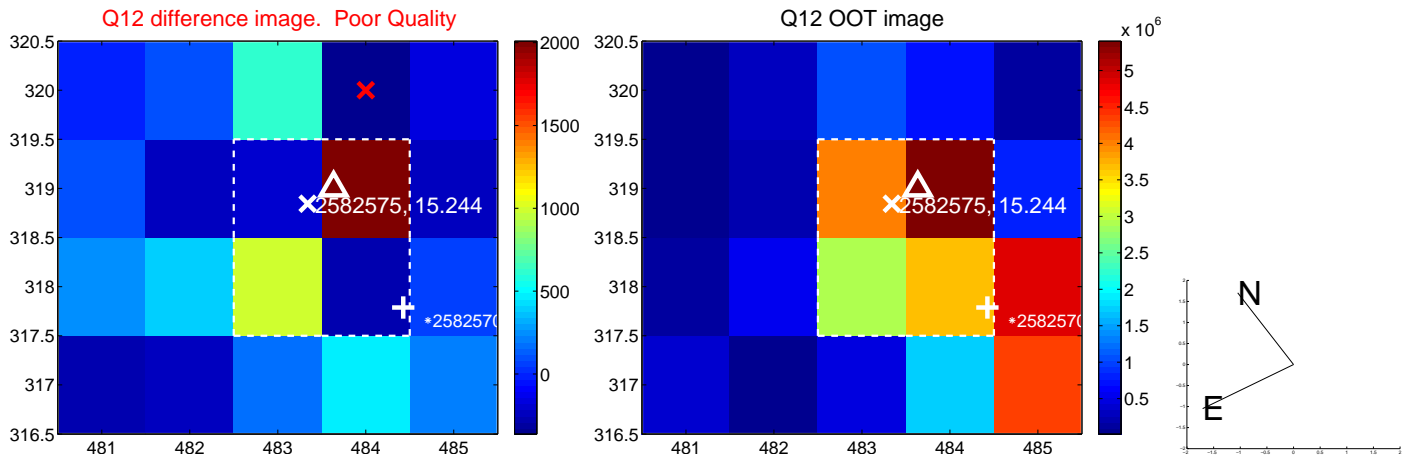
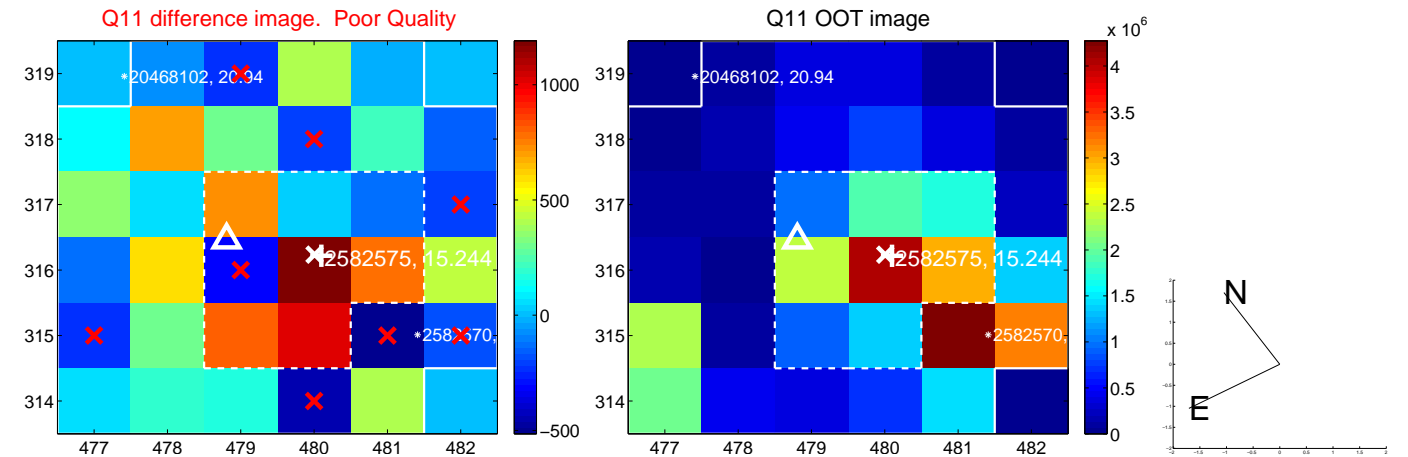
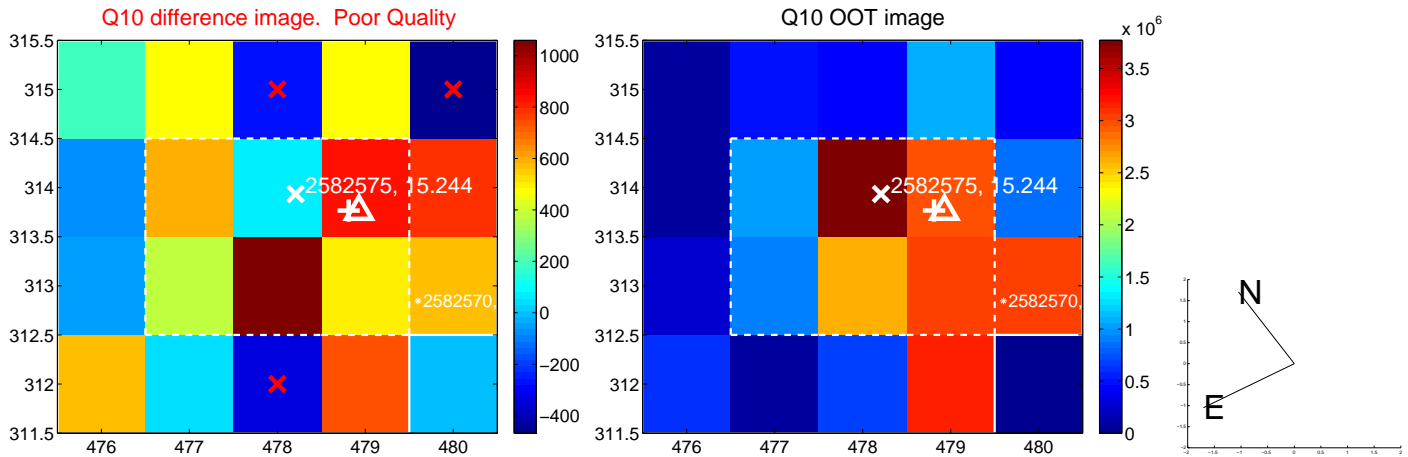
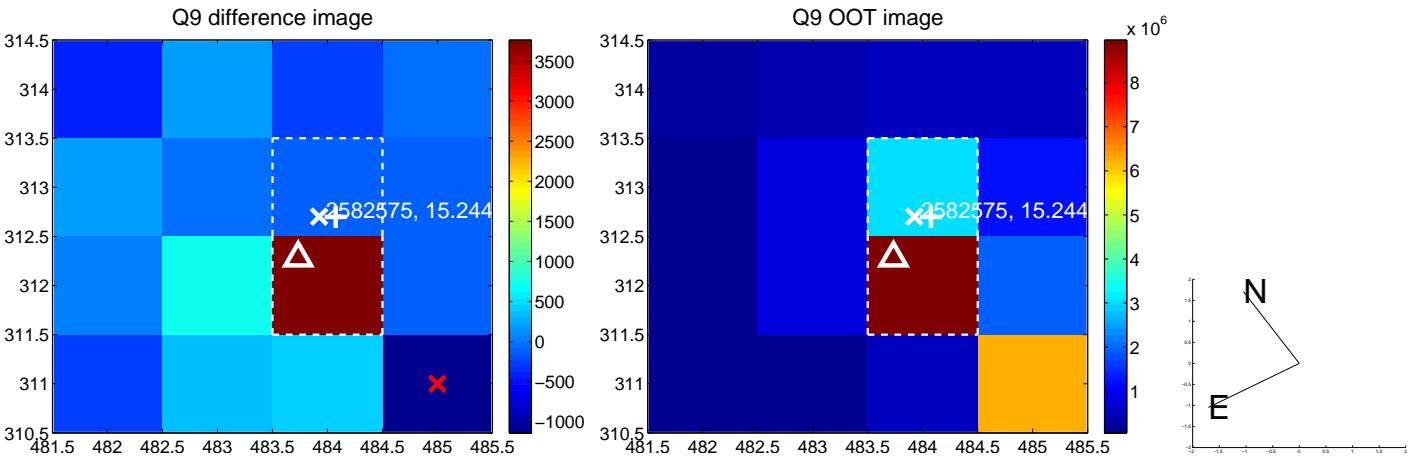
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



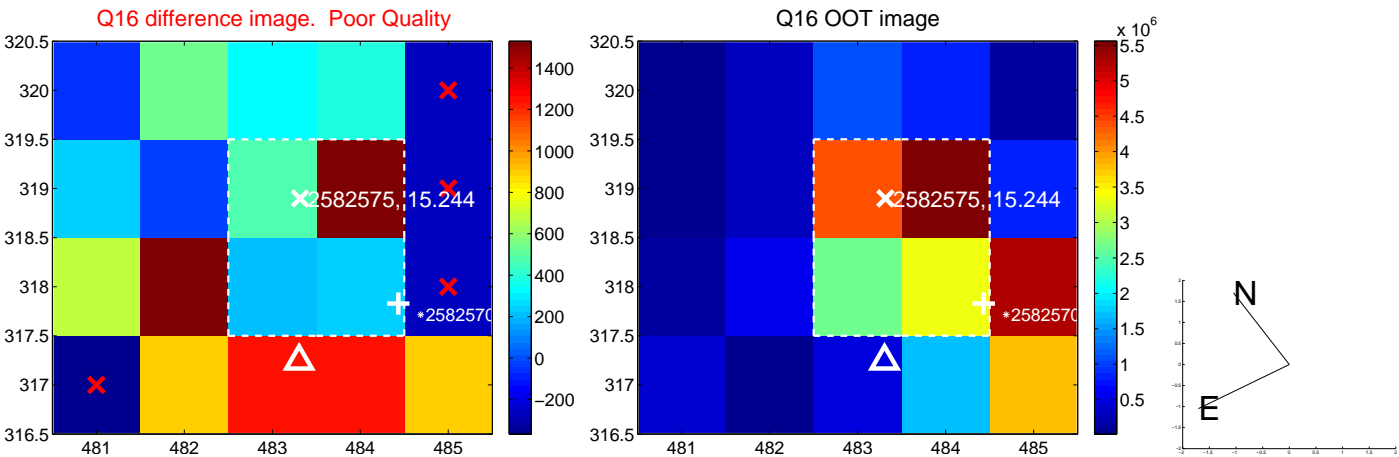
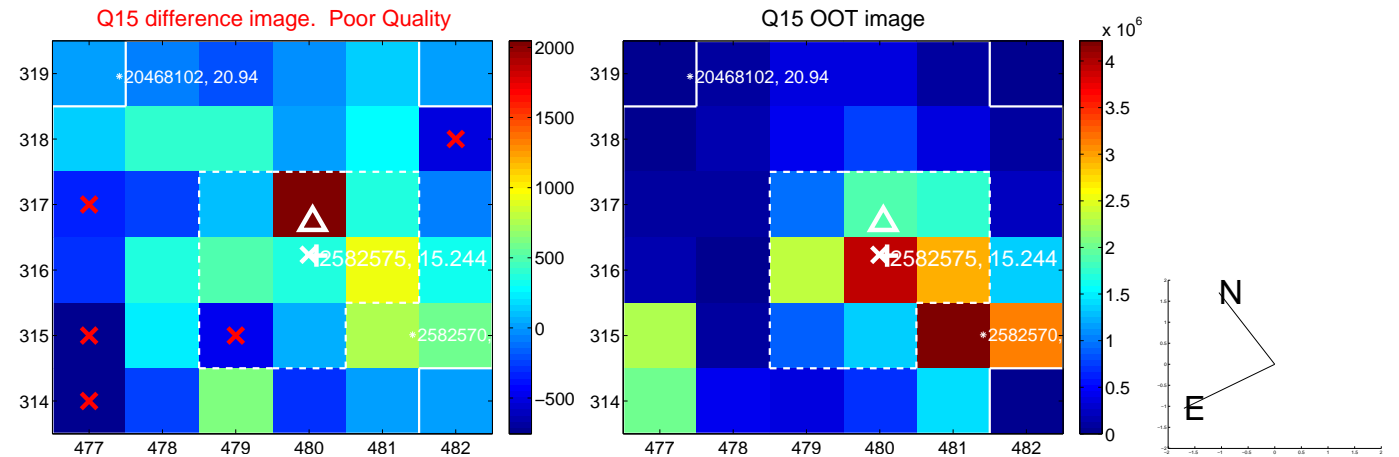
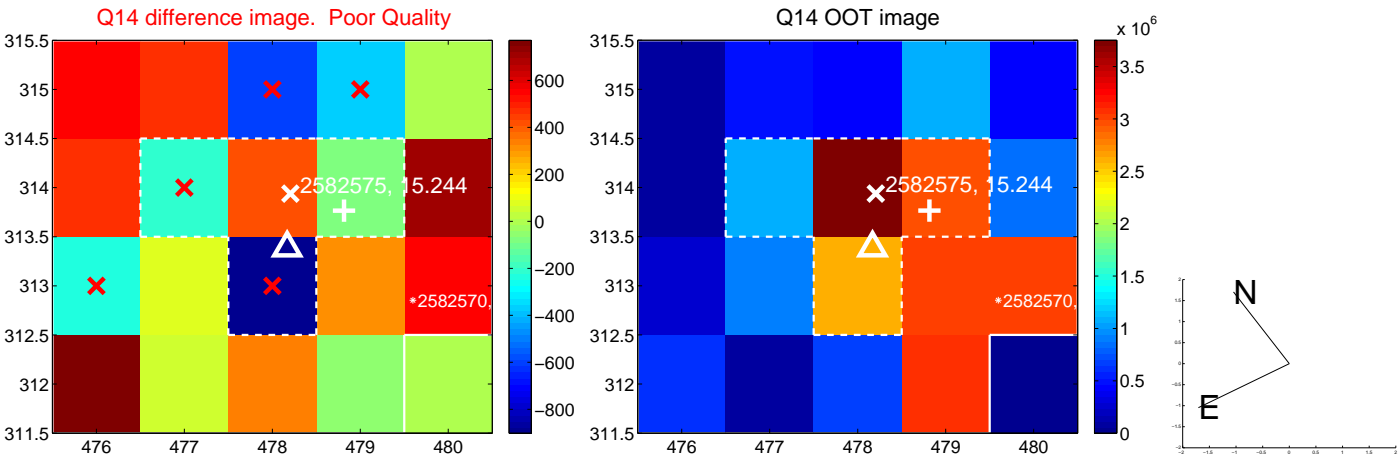
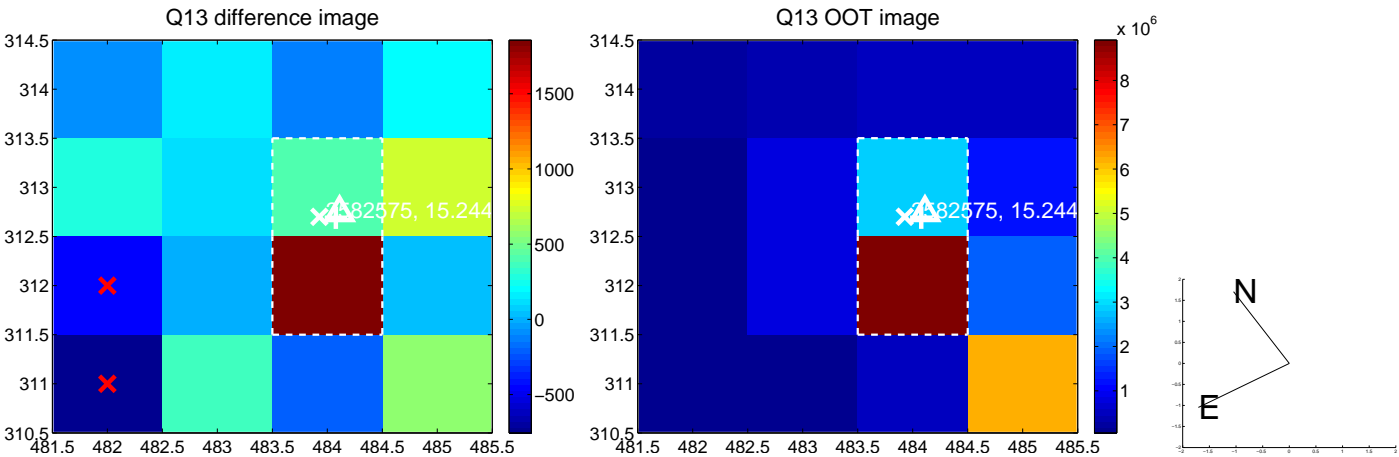
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



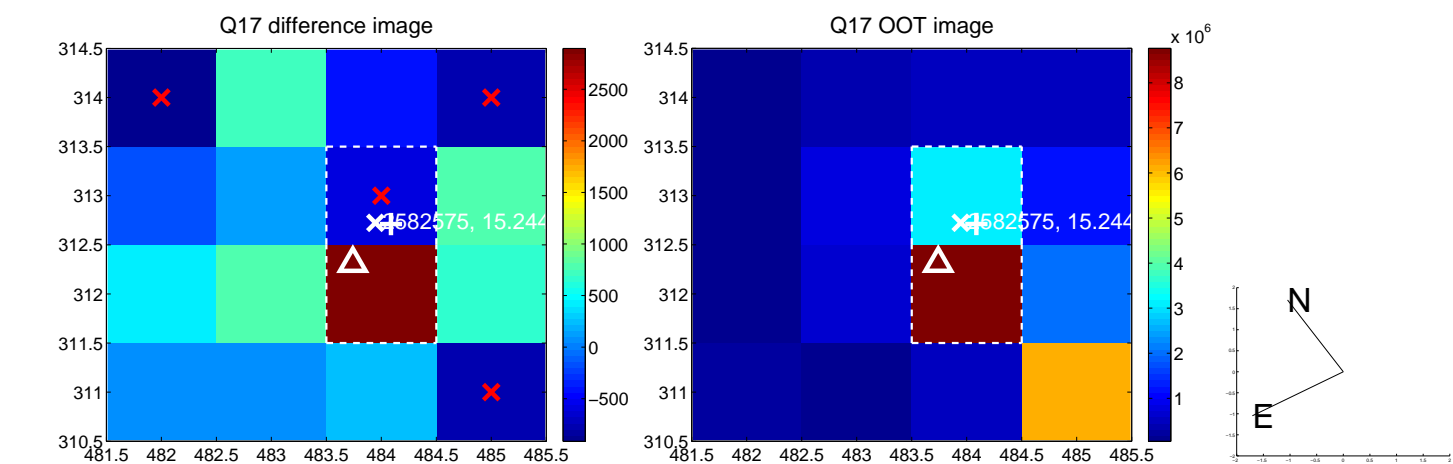
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



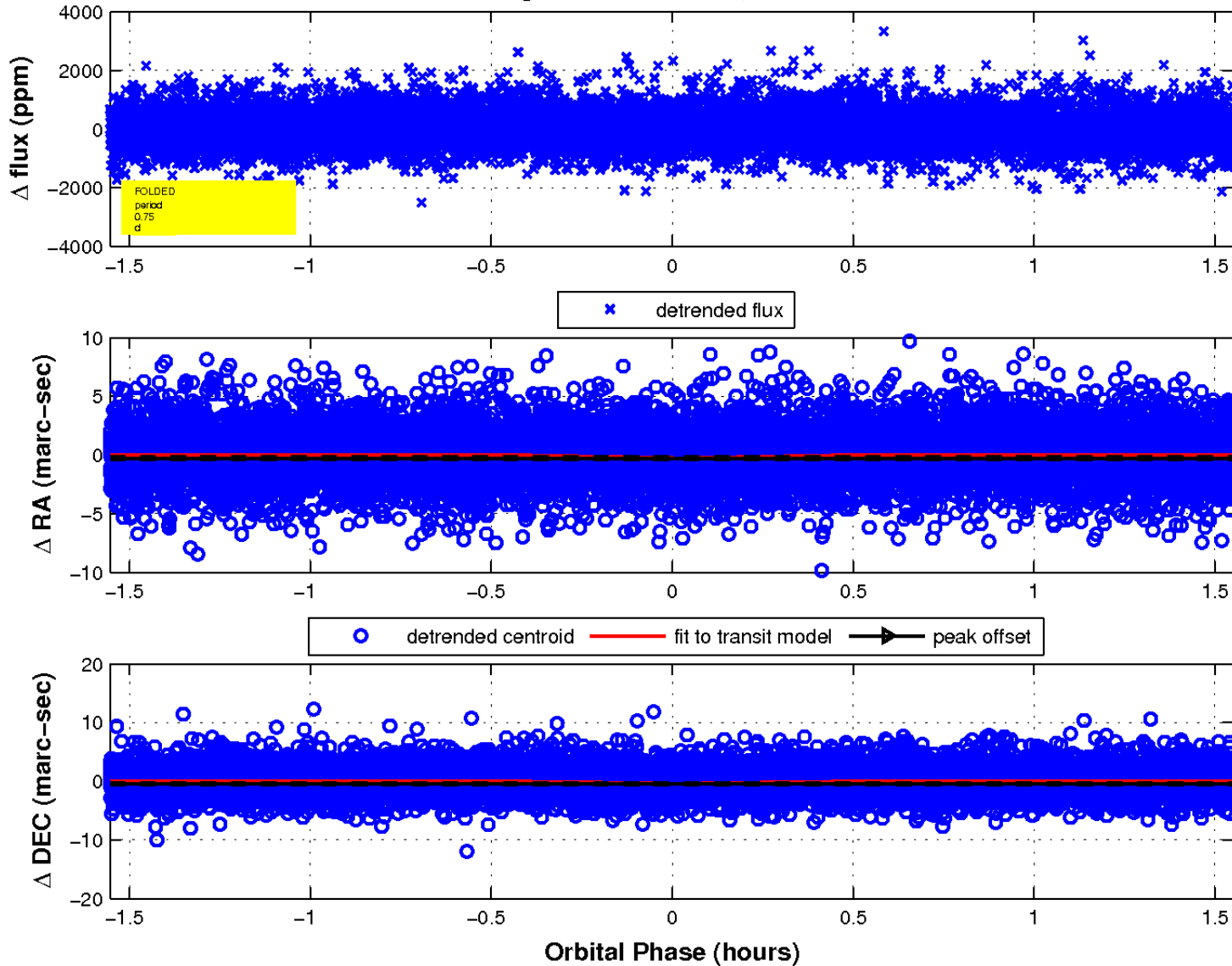
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

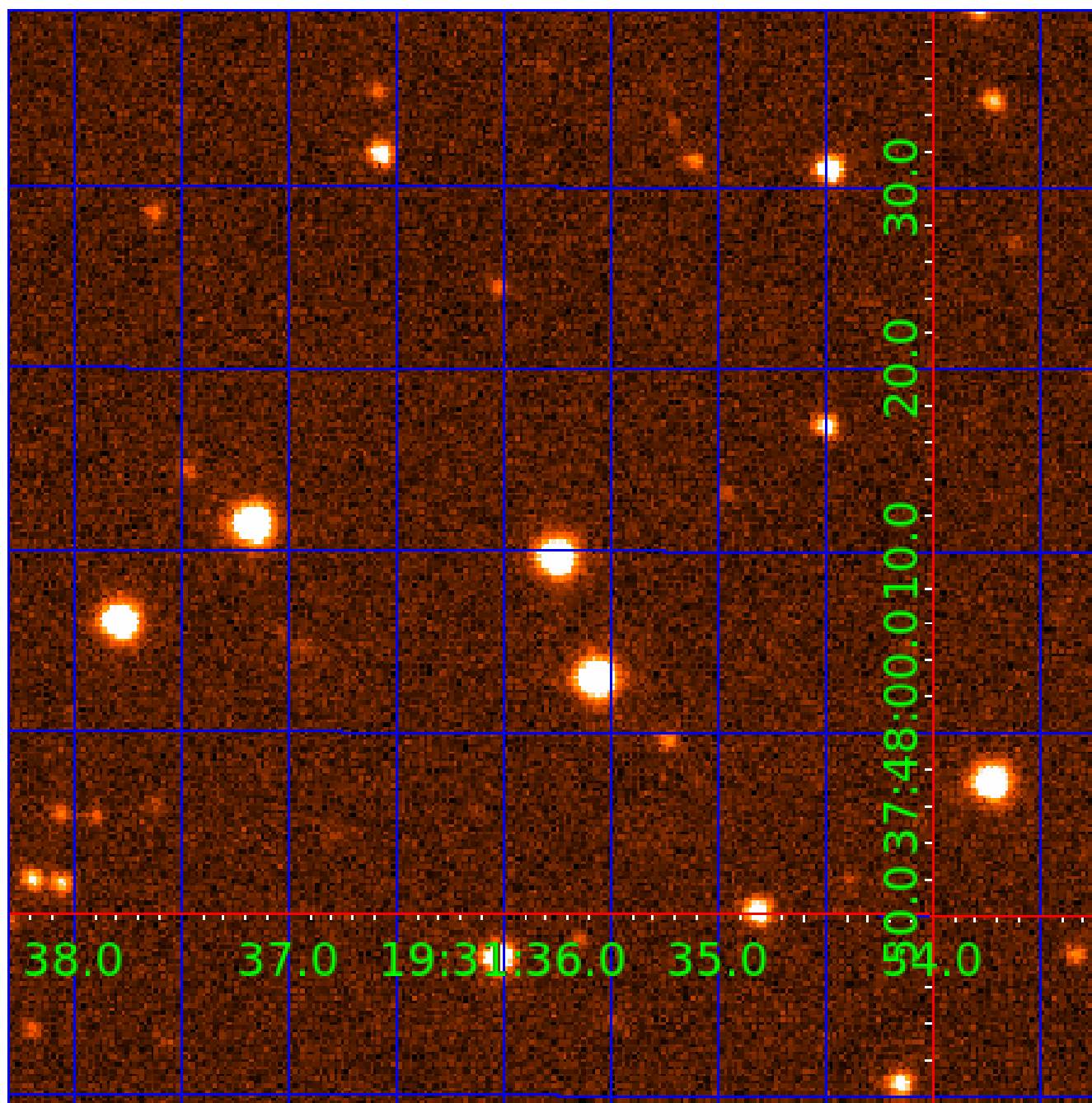


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 002582575

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})
002582575-01	OBS	No	0.751723	131.925777	994.8	2.000	7.8	-1.0	1.00	6092	3.15	4473.12
002582575-02	OBS	No	89.629900	191.030161	1001.6	1.887	7.3	8.1	1.00	6092	4.57	7.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002582575-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_NOFITS
002582575-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

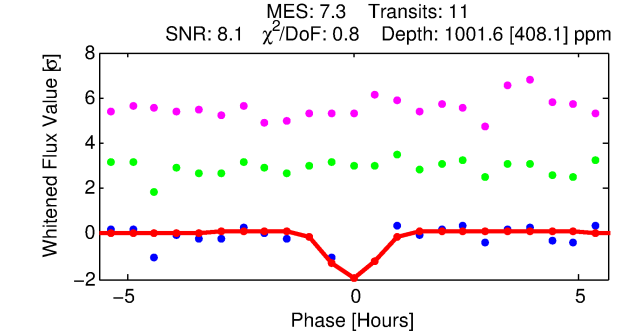
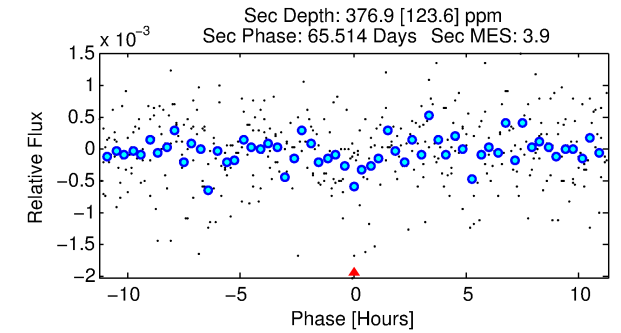
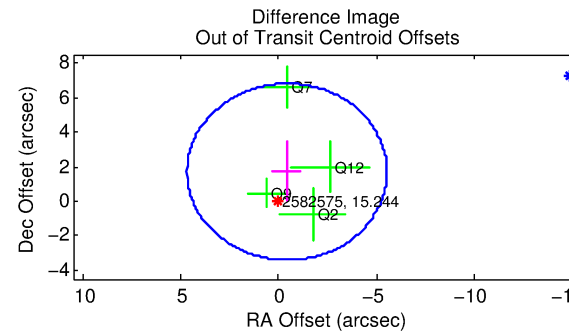
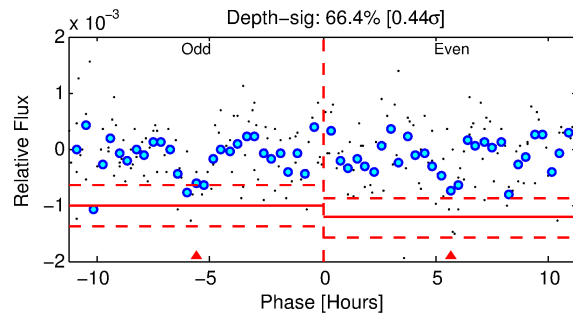
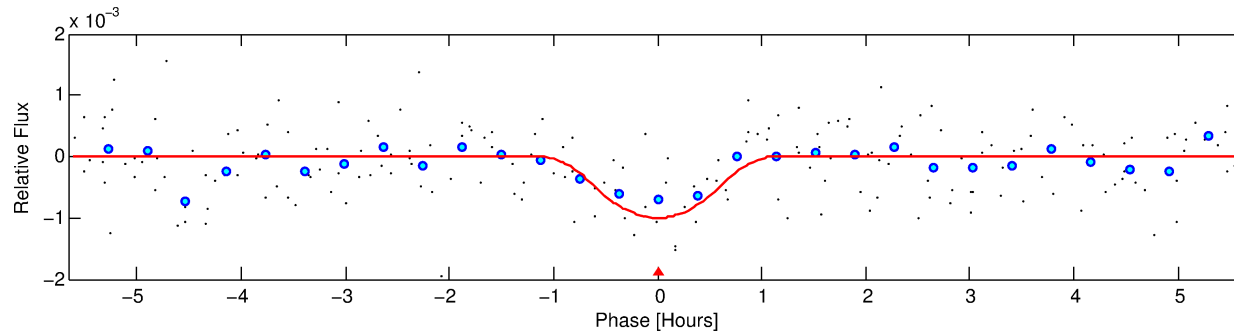
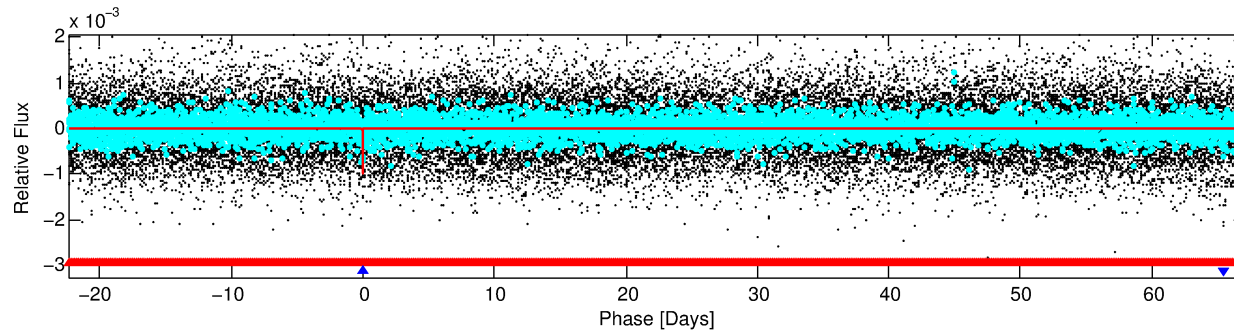
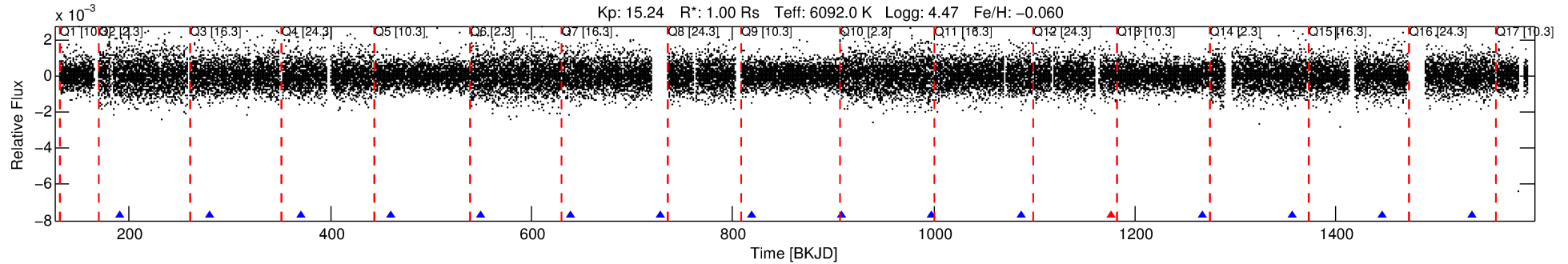
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002582575-02

No Significant Match Found

DV One-Page Summary

KIC: 2582575 Candidate: 2 of 2 Period: 89.630 d



DV Fit Results:

Period = 89.62990 [0.00081] d
Epoch = 191.0302 [0.0069] BKJD
Rp/R* = 0.0419 [0.0957]
a/R* = 133.72 [151.45]
b = 0.97 [0.21]
Seff = 7.62 [3.18]
Teq = 424 [44] K
Rp = 4.57 [10.53] Re
a = 0.4016 [0.1091] AU
Ag = 1603.77 [7363.29] [0.22 σ]
Teffp = 4145 [4744] K [0.78 σ]

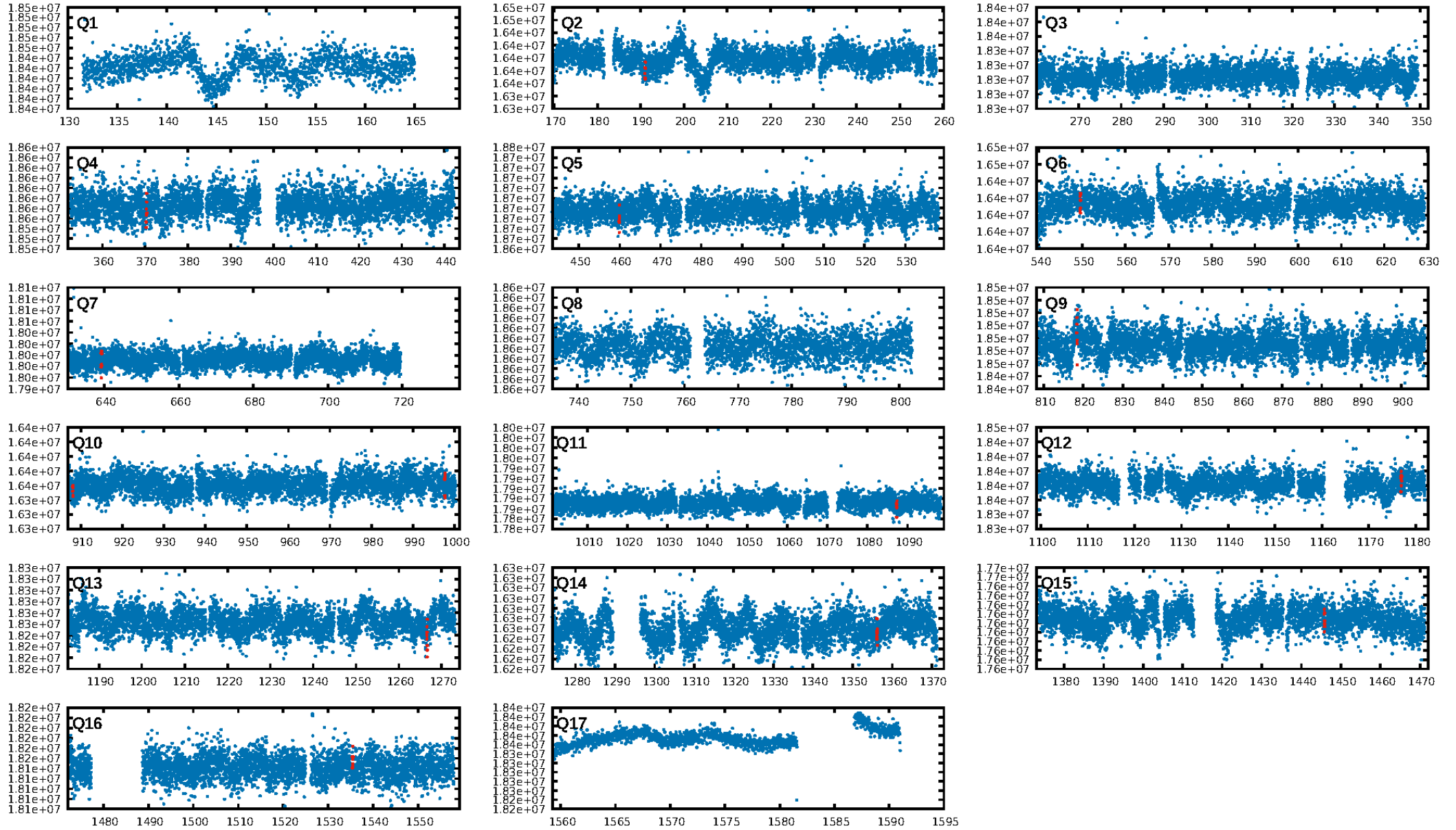
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [775.84 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 64.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.33e-12
RollingBand-fgt: 0.91 [10/11]
GhostDiagnostic-chr: 1.958
Centroid-sig: 96.4%
Centroid-so: 2.943 arcsec [2.51 σ]
OotOffset-rm: 1.749 arcsec [1.03 σ]
KicOffset-rm: 0.877 arcsec [0.77 σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.31 [4/13]

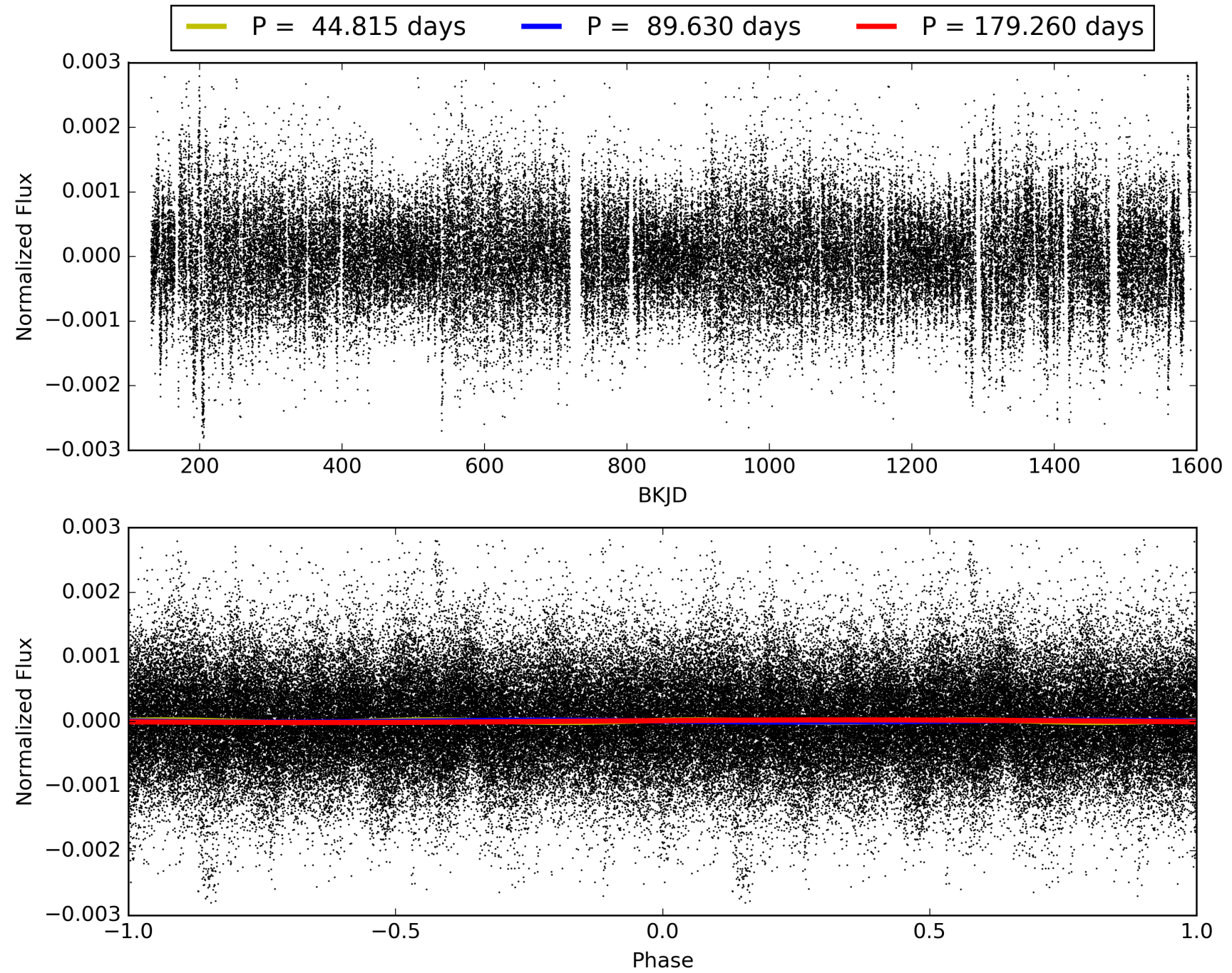
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:22:01 Z

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

TCE 002582575-02, PDC Light Curves

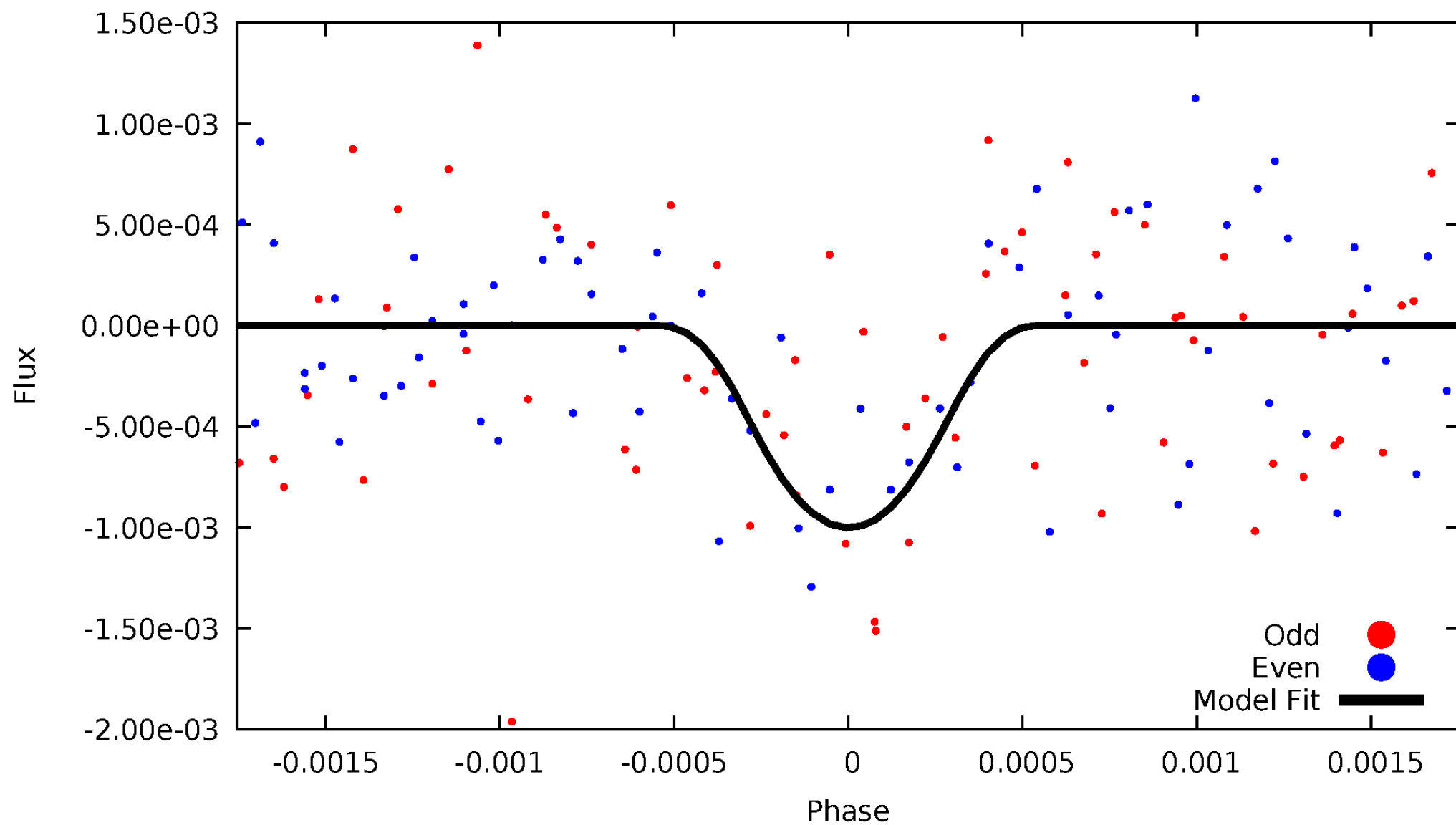


TCE 002582575-02



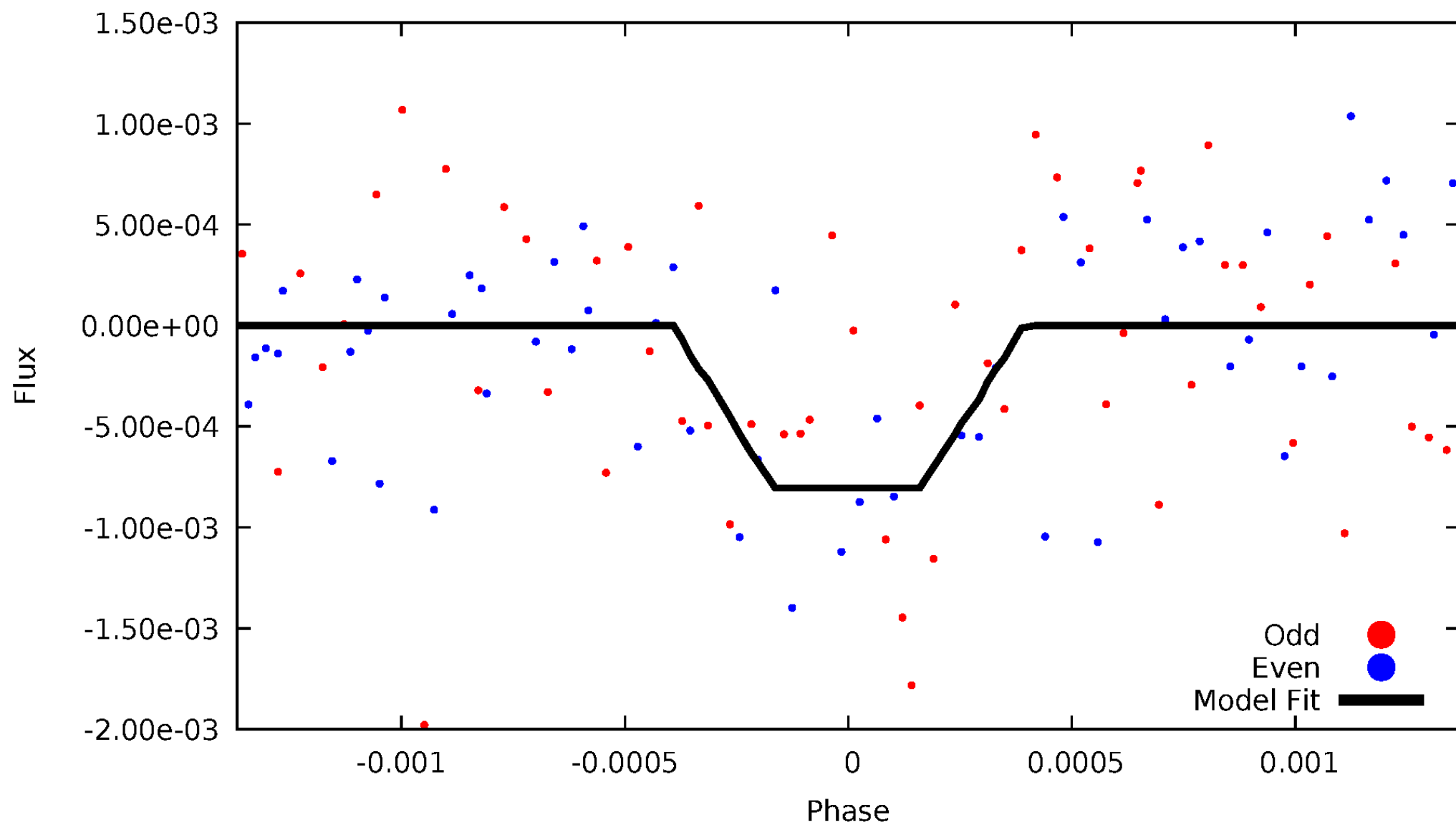
DV Odd/Even

TCE 002582575-02



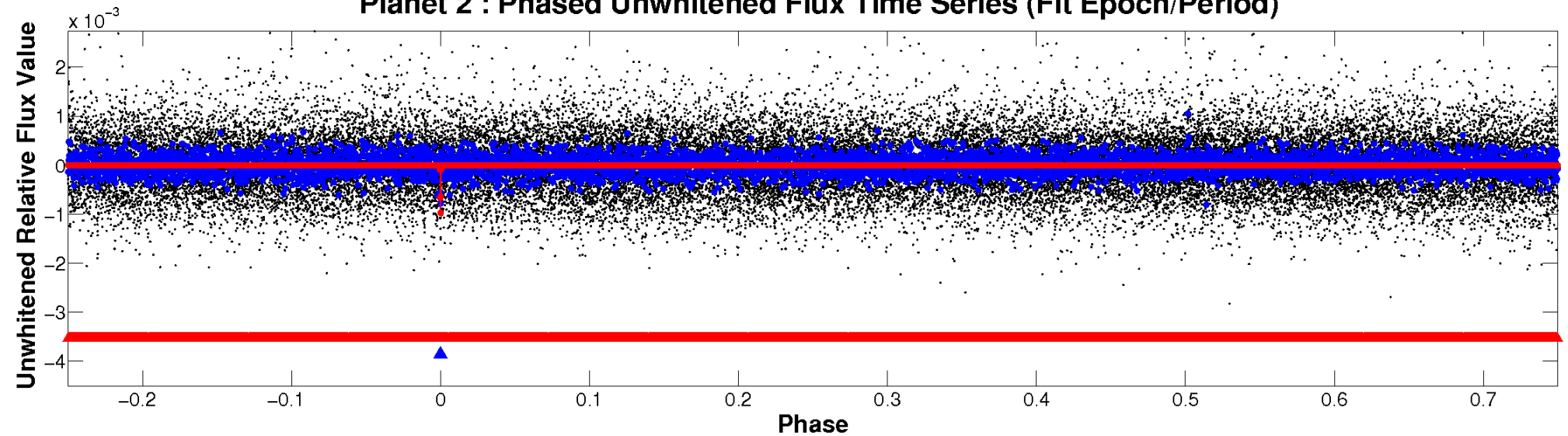
ALT Odd/Even

TCE 002582575-02

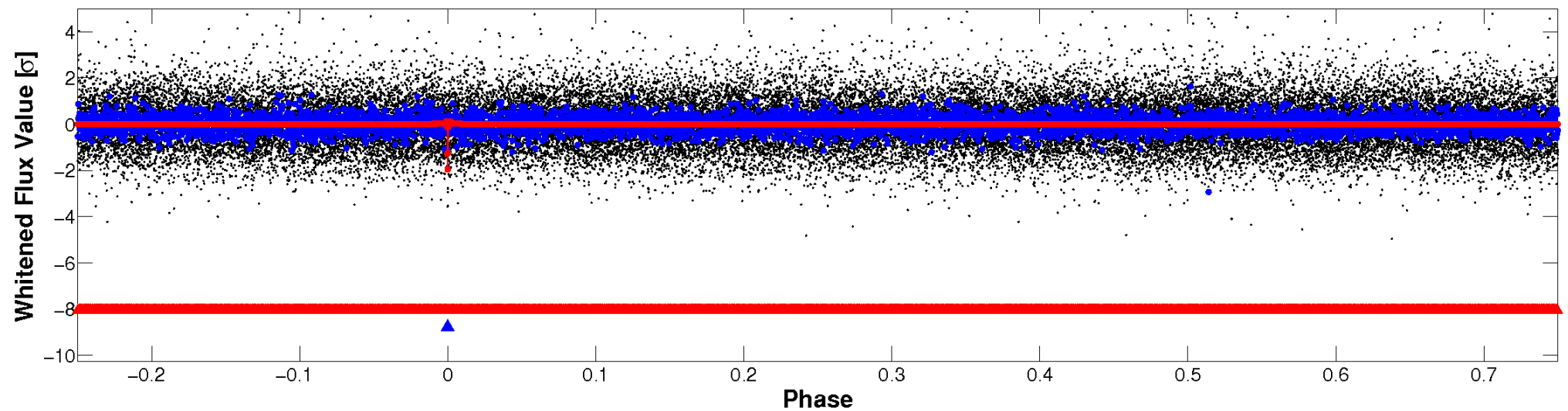


Non-Whitened Vs. Whitened Light Curve

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

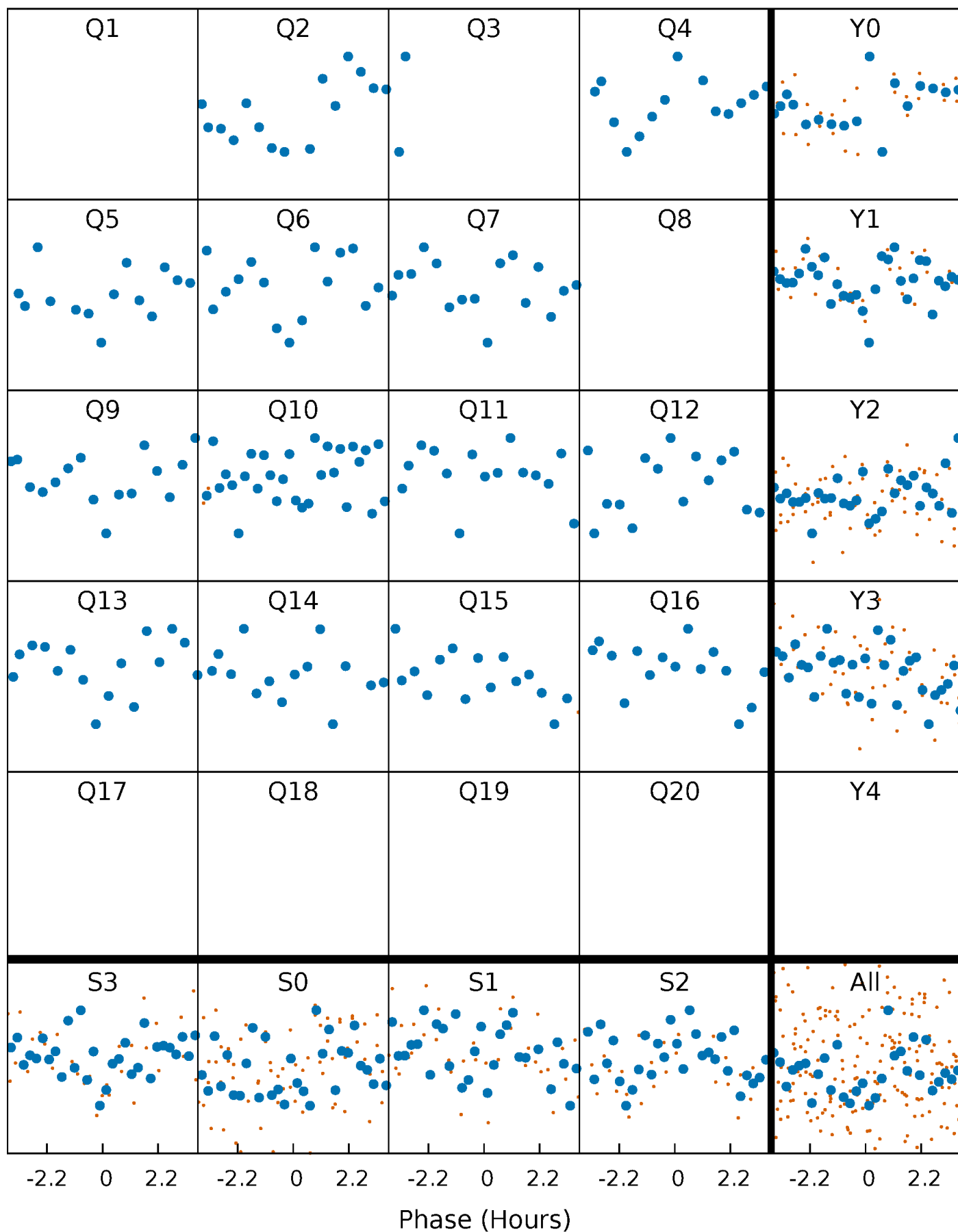


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



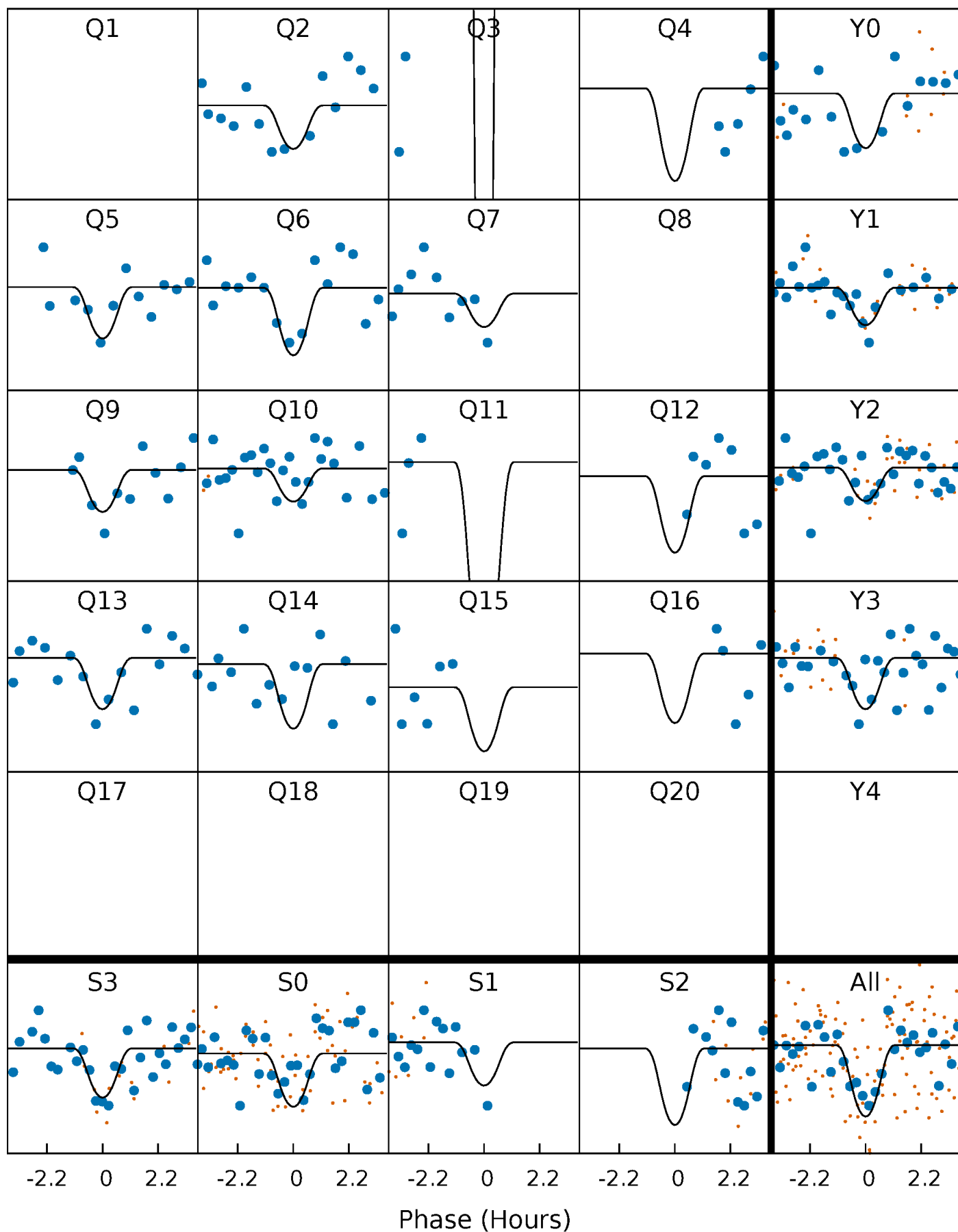
PDC Quarter-Phased Transit Curves

TCE 002582575-02 P= 89.629900 Days $T_0=191.030161$ (BKJD)



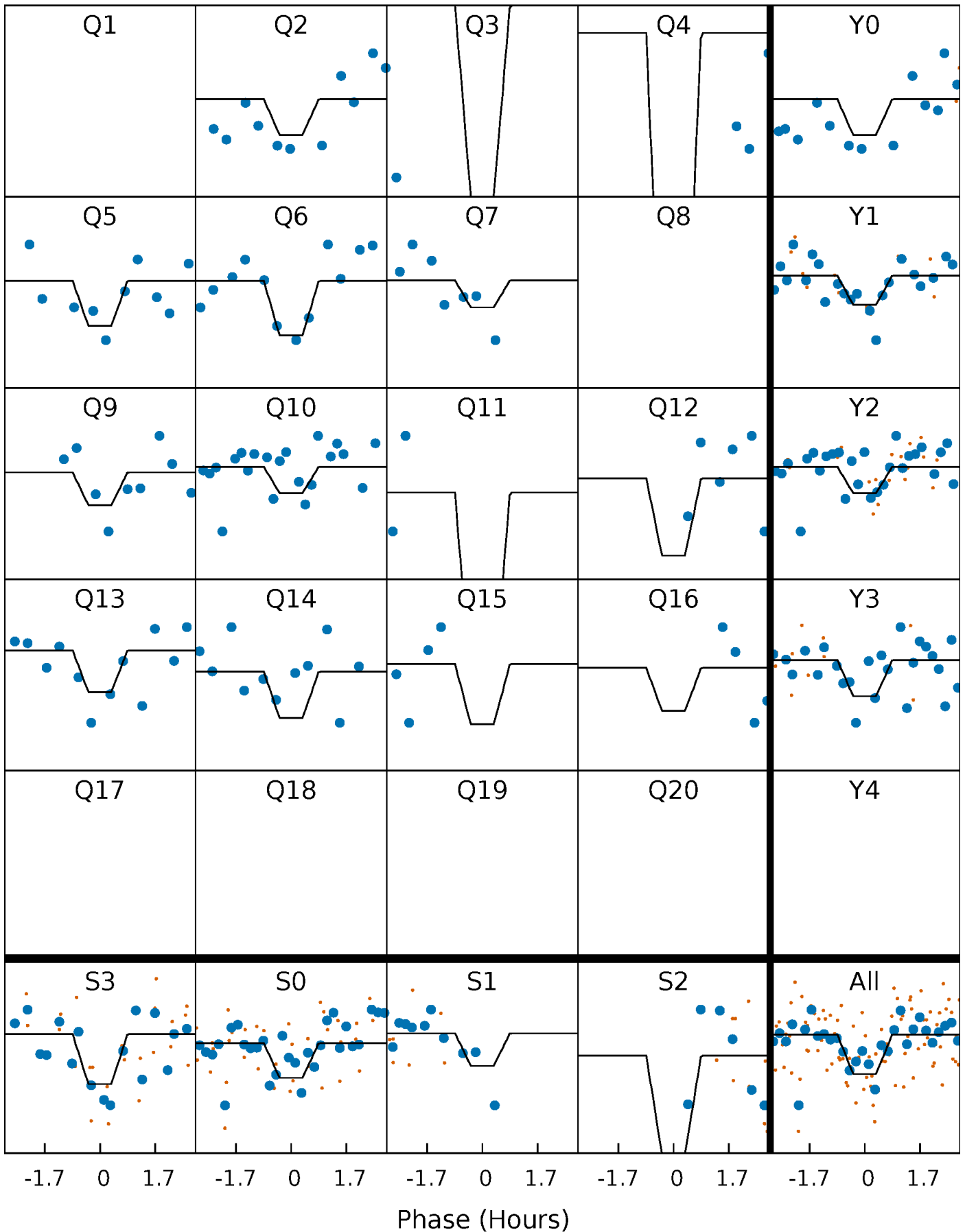
DV Quarter-Phased Transit Curves

TCE 002582575-02 P= 89.629900 Days $T_0=191.030161$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

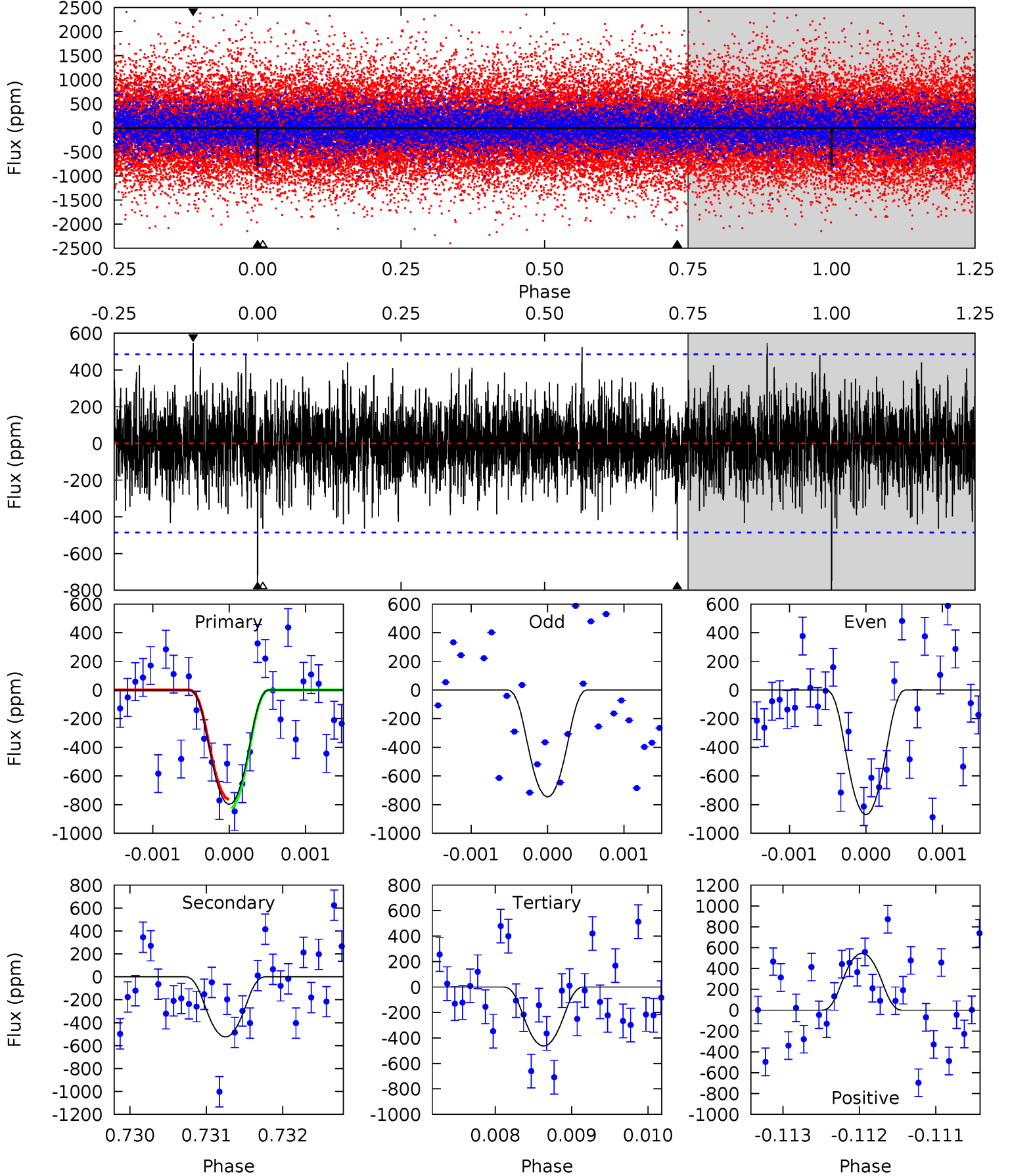
TCE 002582575-02 P= 89.631002 Days $T_0=191.018697$ (BKJD)



DV Model-Shift Uniqueness Test

002582575-02, P = 89.629900 Days, E = 101.400261 Days

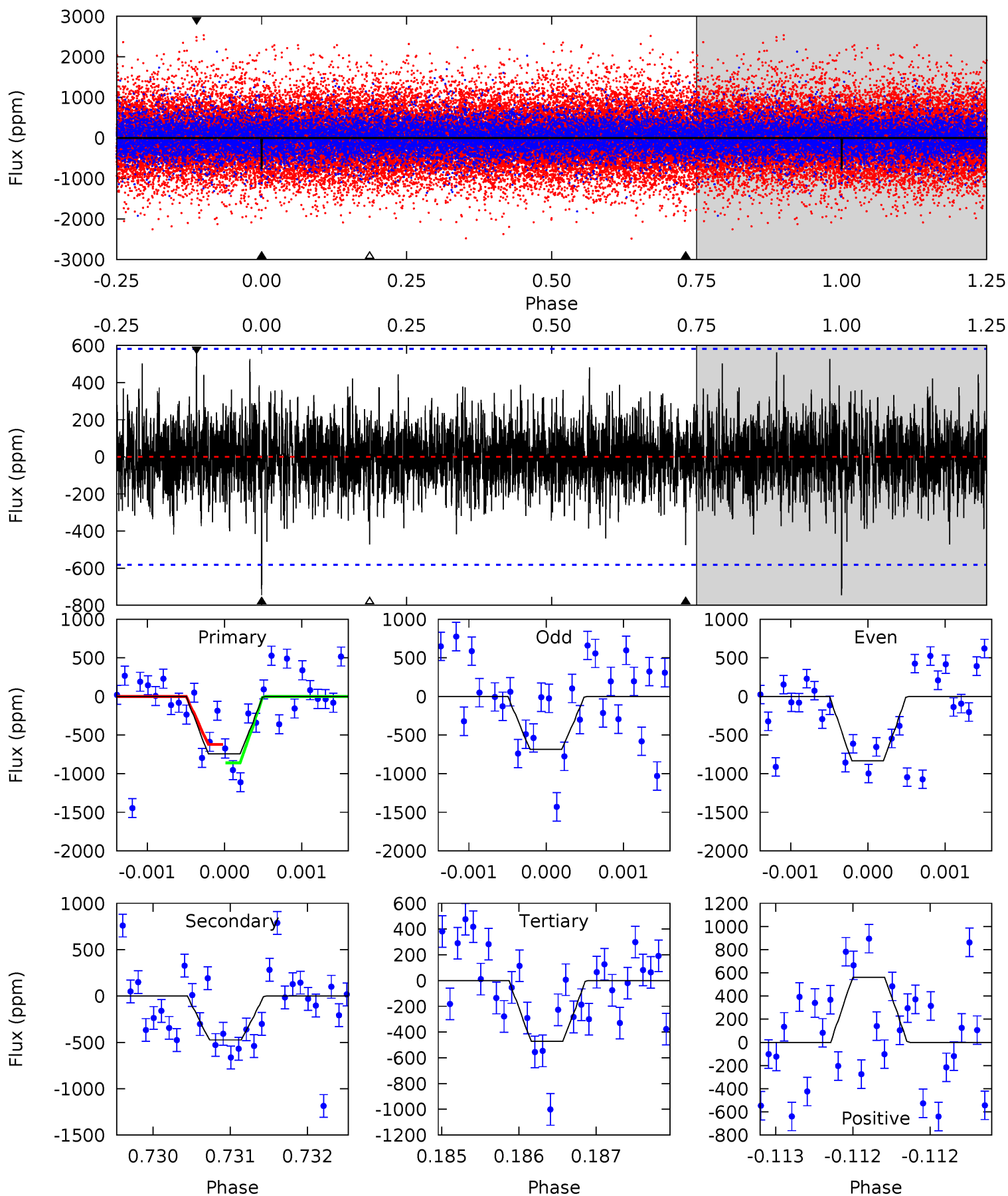
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.96	5.88	5.20	6.12	5.44	3.28	1.52	3.76	2.83	0.68	-0.24	0.68	0.97	0.41	0.35



Alt Model-Shift Uniqueness Test

002582575-02, P = 89.631002 Days, E = 101.387695 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.03	4.48	4.45	5.31	5.49	3.36	1.21	2.58	1.72	0.03	-0.83	0.68	0.90	0.43	1.13



Stellar Parameters For KIC 002582575

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6092^{+192}_{-235}	$4.471^{+0.052}_{-0.208}$	$-0.060^{+0.250}_{-0.300}$	$0.998^{+0.329}_{-0.110}$	$1.074^{+0.137}_{-0.150}$	$1.522^{+0.437}_{-0.806}$
	+3%/-4%	+1%/-5%	+417%/-500%	+33%/-11%	+13%/-14%	+29%/-53%
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 002582575-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-524 ± 89	$8.96^{+9.83}_{-6.04}$	603^{+49}_{-29}	3676^{+2151}_{-724}	537^{+4901}_{-413}
Alt.	-474 ± 106	$8.67^{+9.04}_{-6.25}$	606^{+40}_{-32}	3671^{+2457}_{-691}	521^{+6328}_{-391}

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

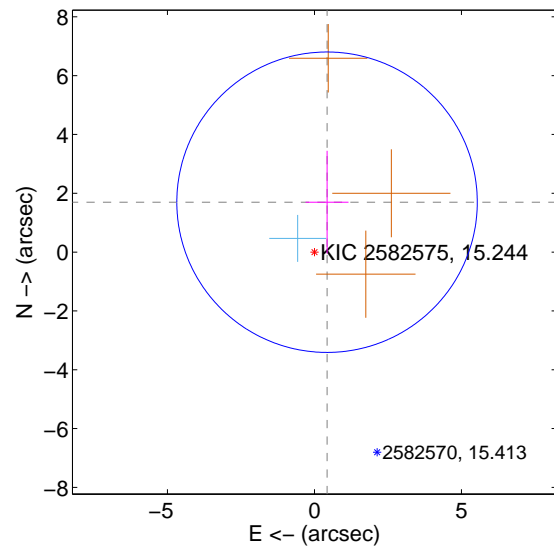
Supplemental centroid analysis for 002582575-02. Kepler magnitude: 15.24. Transit SNR 8.09

There are 1 quarters with good PRF difference image offsets

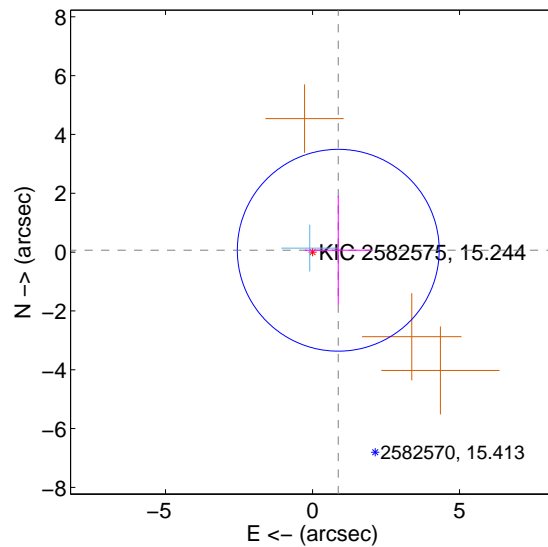
The OOT PRF centroid is offset from the target star catalog position by about 6.27 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.749 ± 1.703	1.03	-0.429 ± 0.729	1.696 ± 1.746
PRF-fit source offset from KIC position	0.877 ± 1.144	0.77	-0.875 ± 1.139	0.063 ± 1.851
photometric centroid source offset	2.94 ± 1.17	2.51	-0.22 ± 1.04	-2.93 ± 1.17

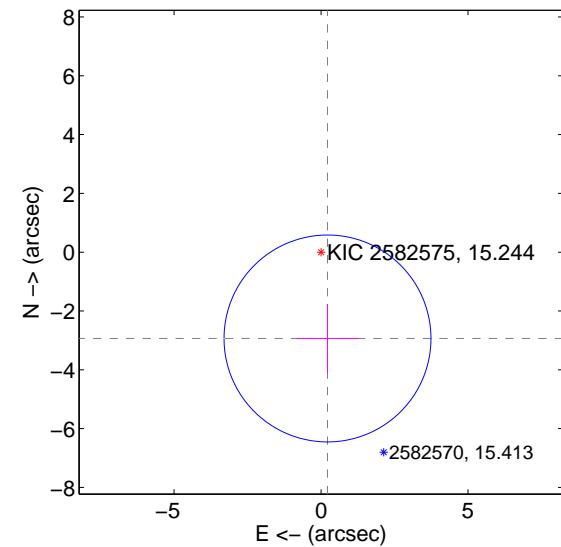
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

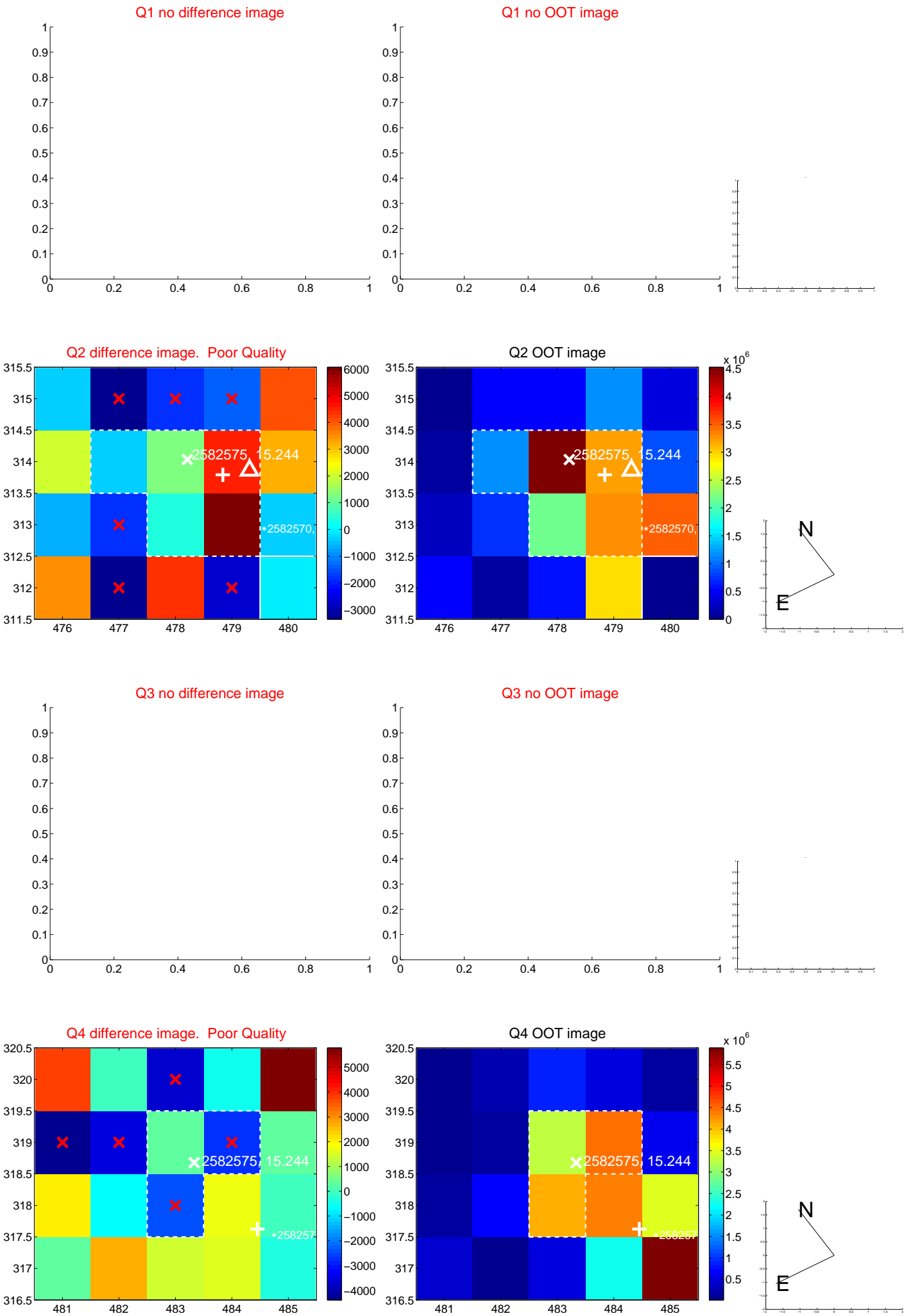


offset from photometric centroids

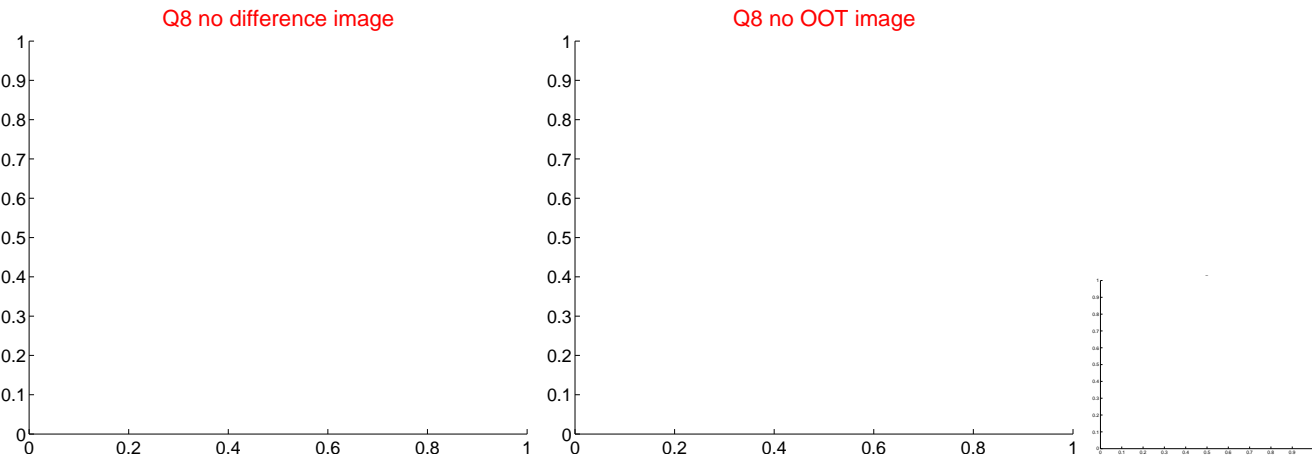
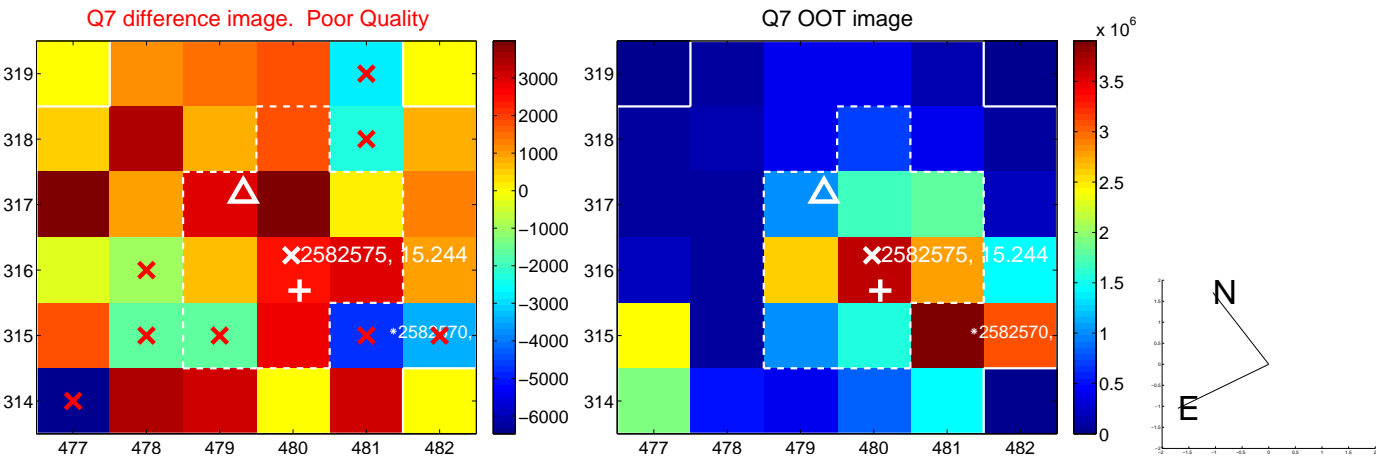
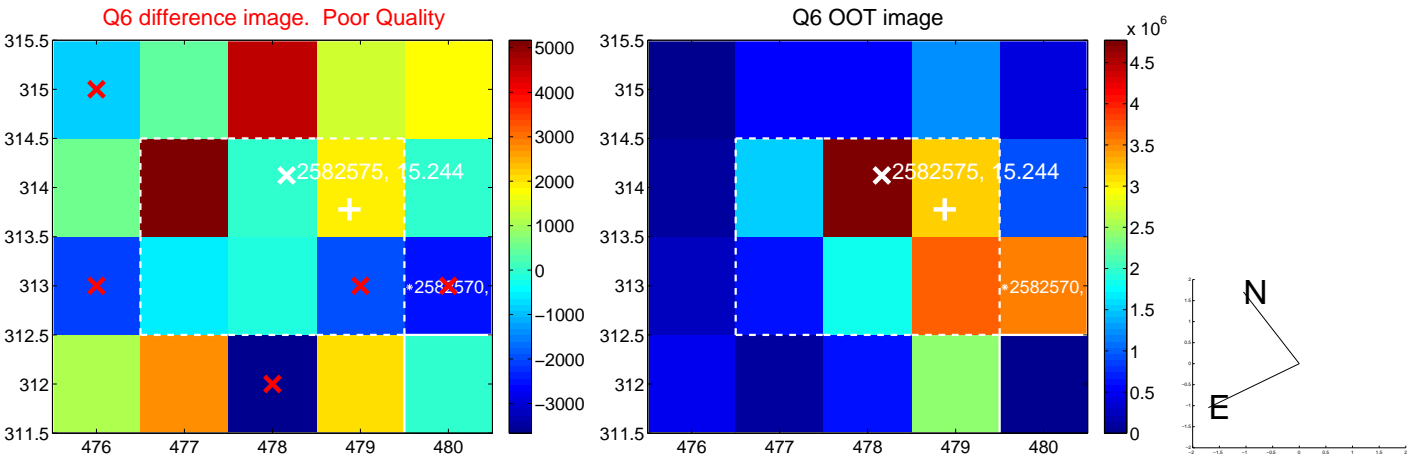
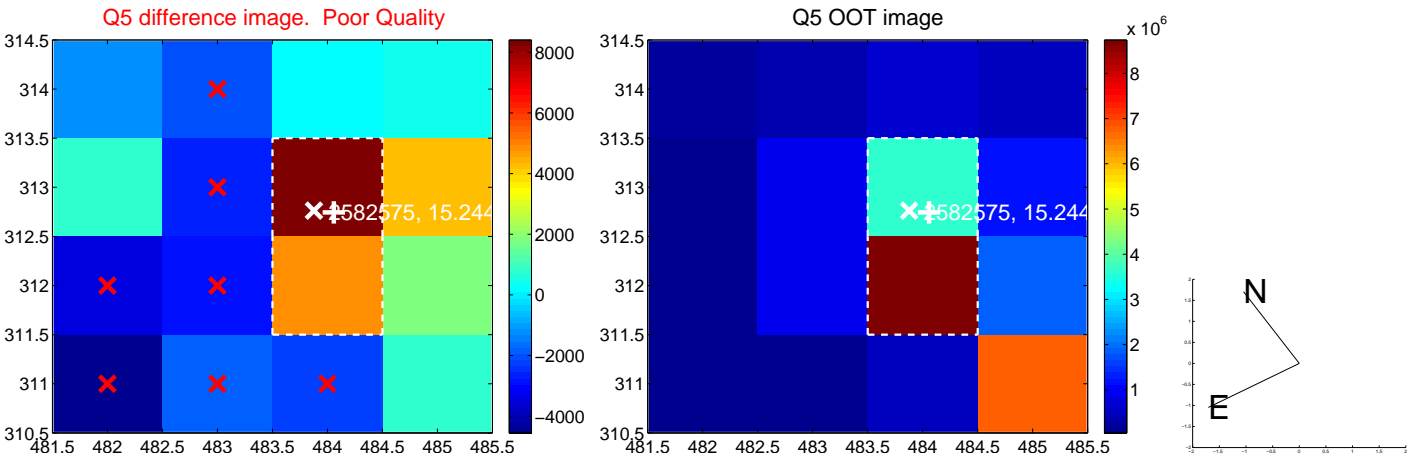


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

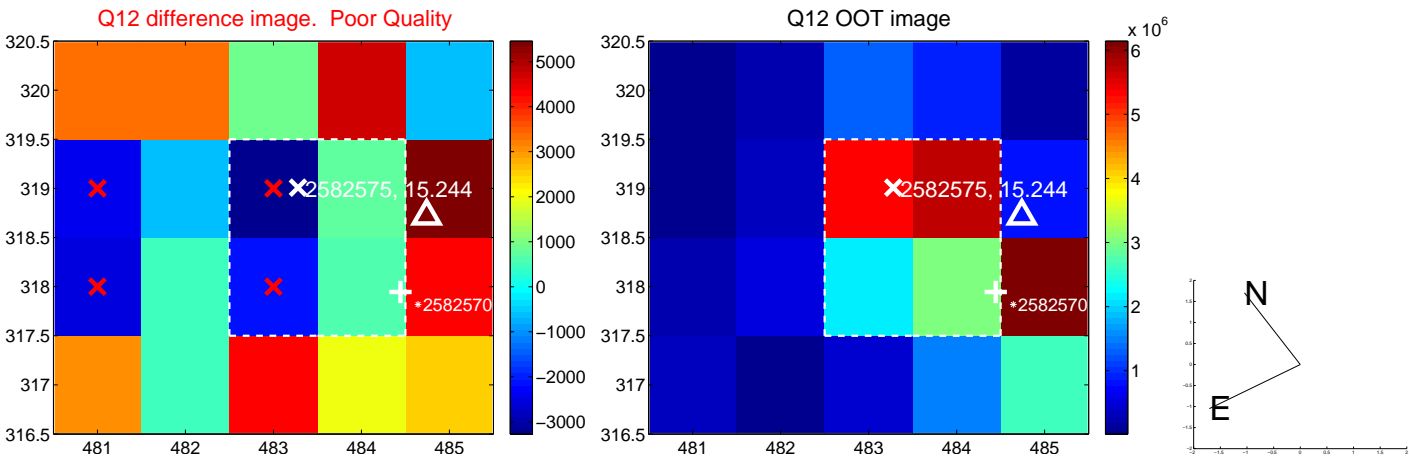
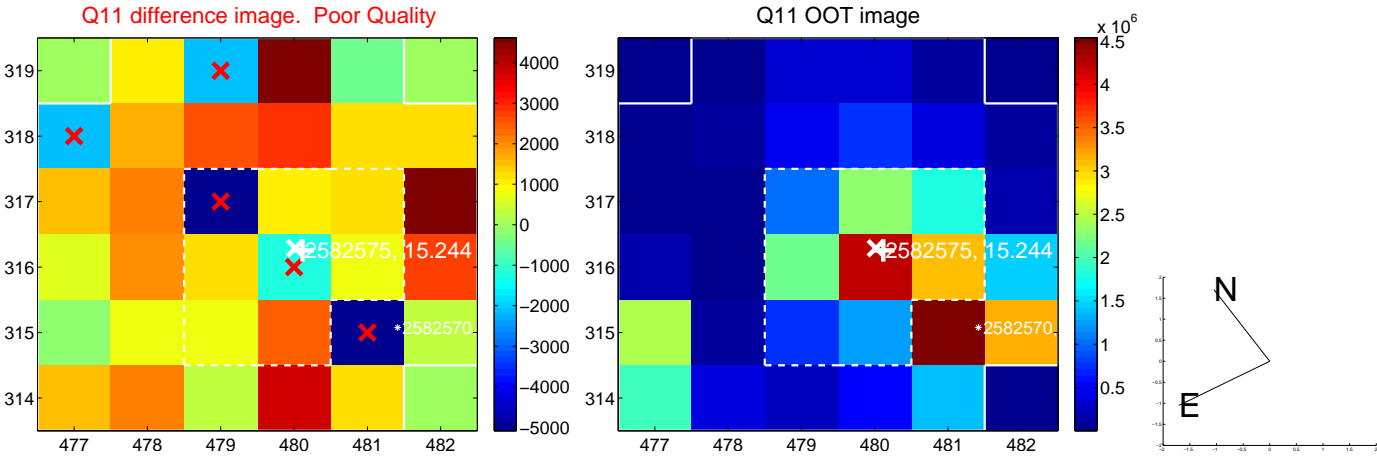
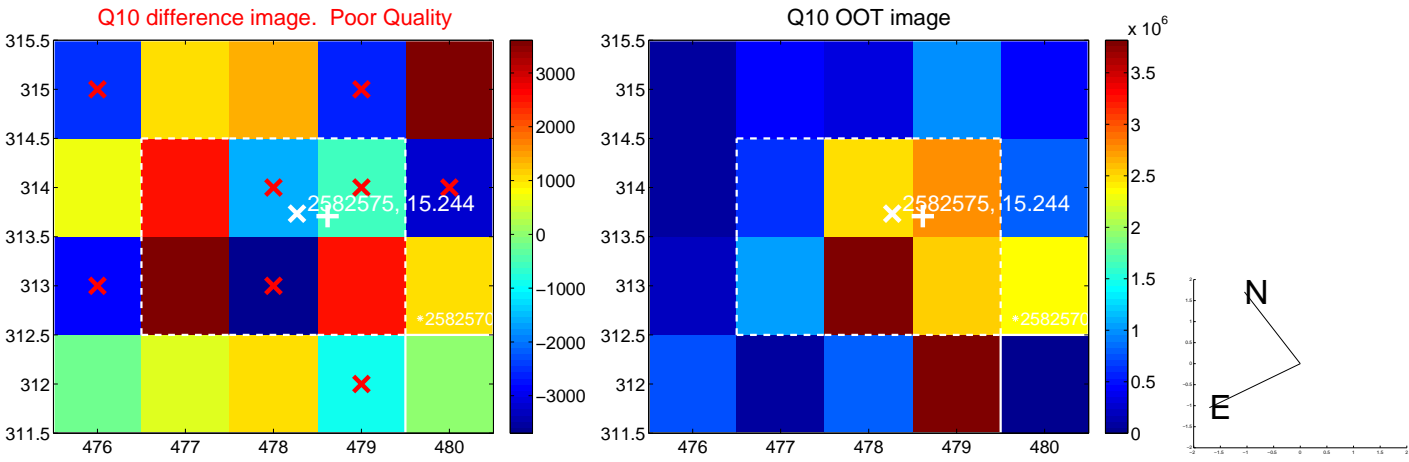
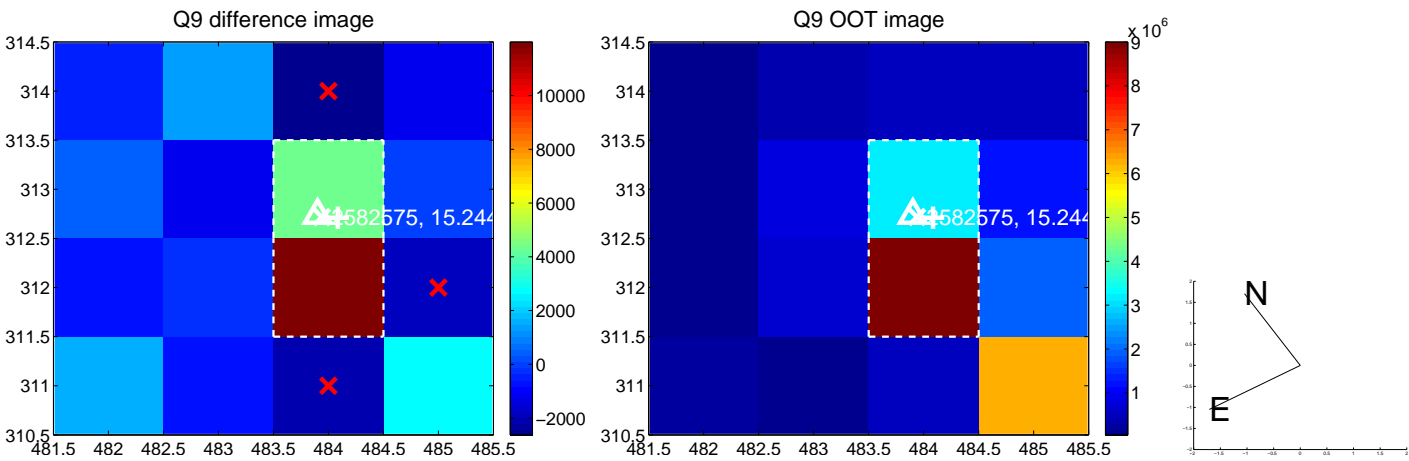
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



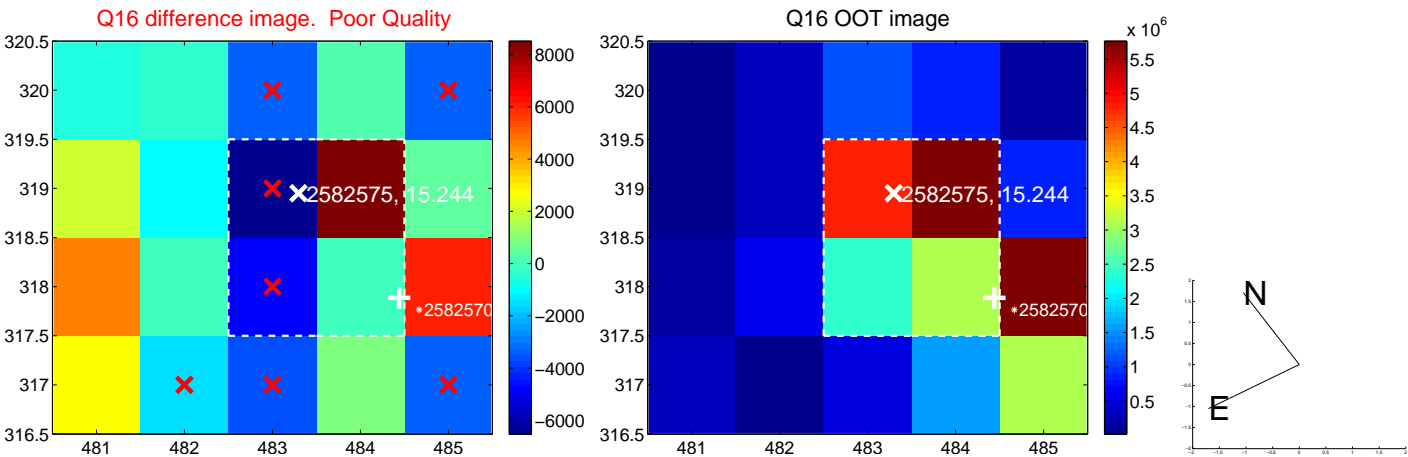
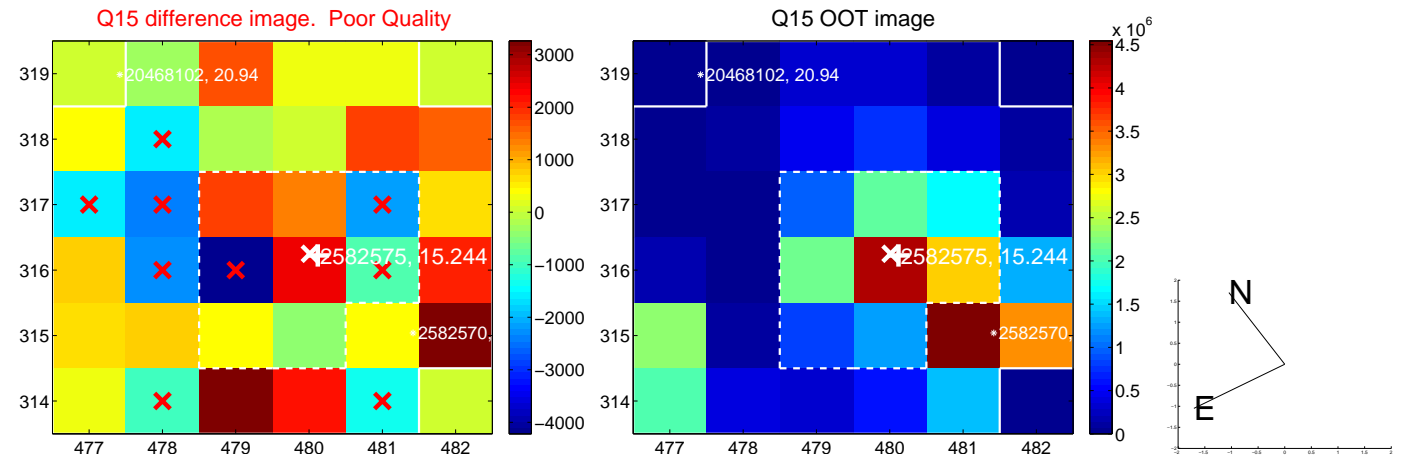
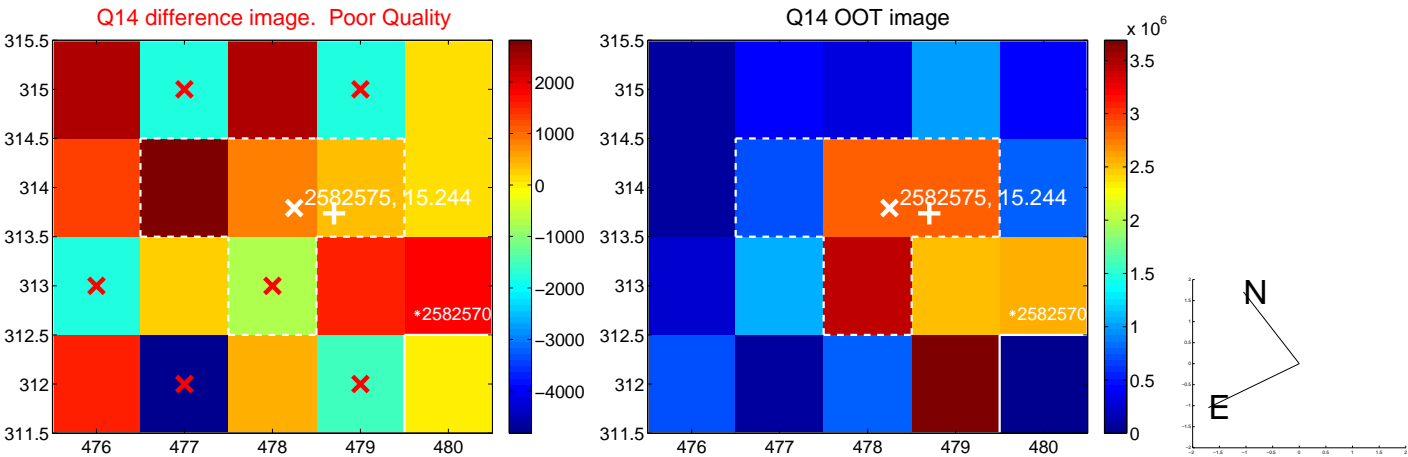
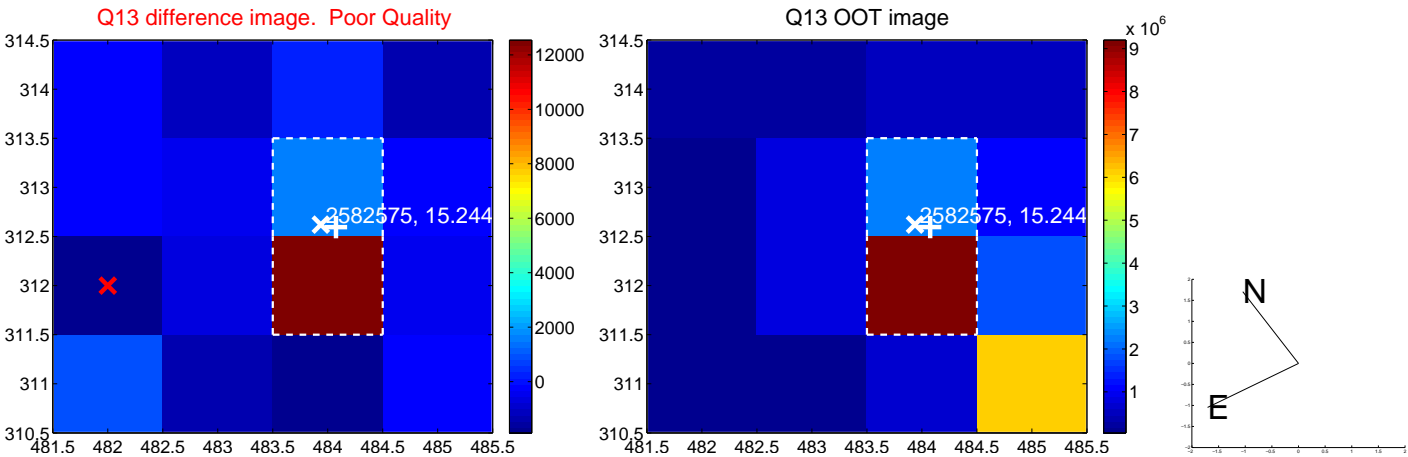
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



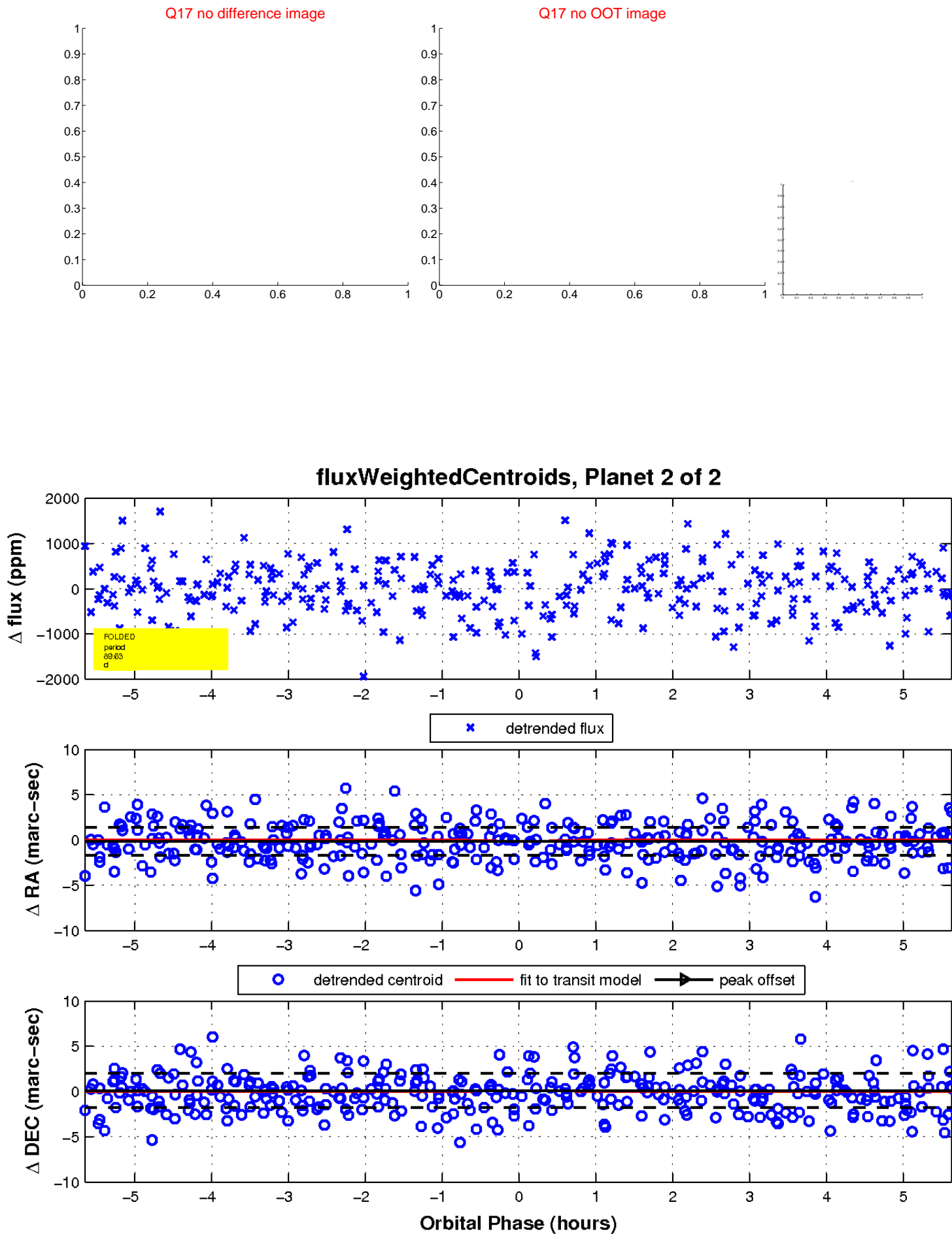
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

