

KIC 011306840

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})
011306840-01	OBS	No	4.624129	132.045304	75.4	15.155	8.5	8.0	0.85	4910	0.91	144.81
011306840-02	OBS	No	3.082719	133.580149	95.5	9.592	8.0	9.1	0.85	4910	0.99	248.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011306840-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
011306840-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET

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

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

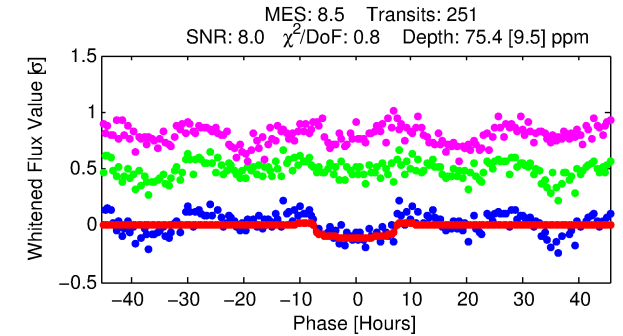
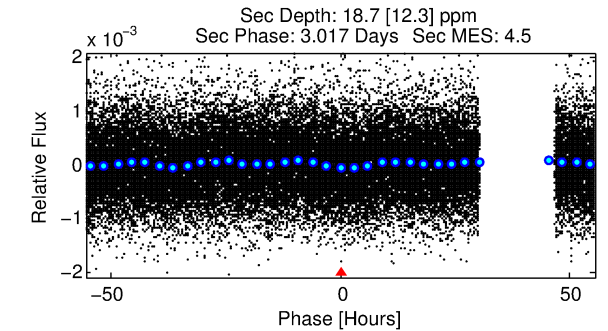
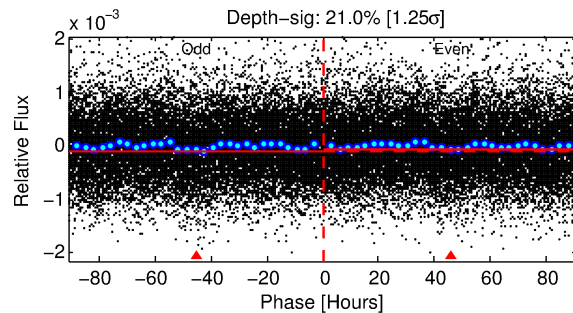
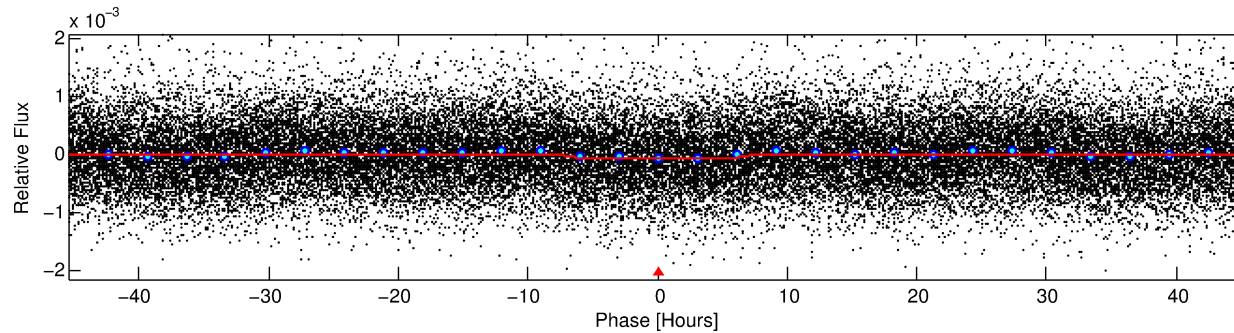
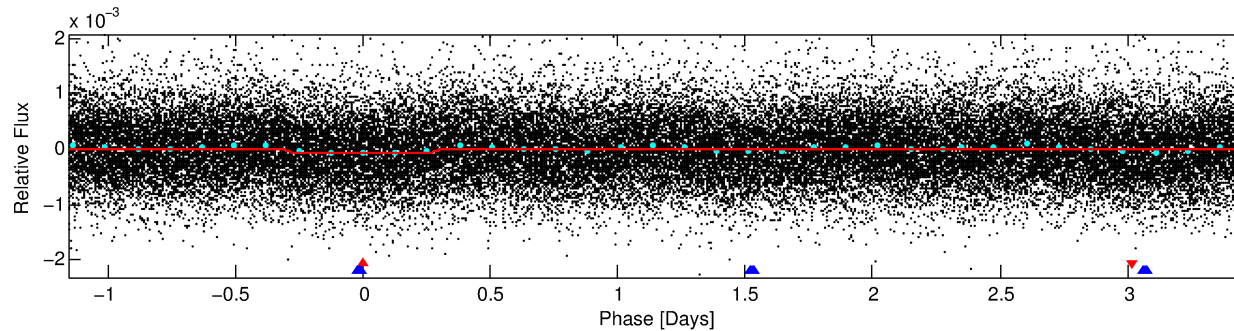
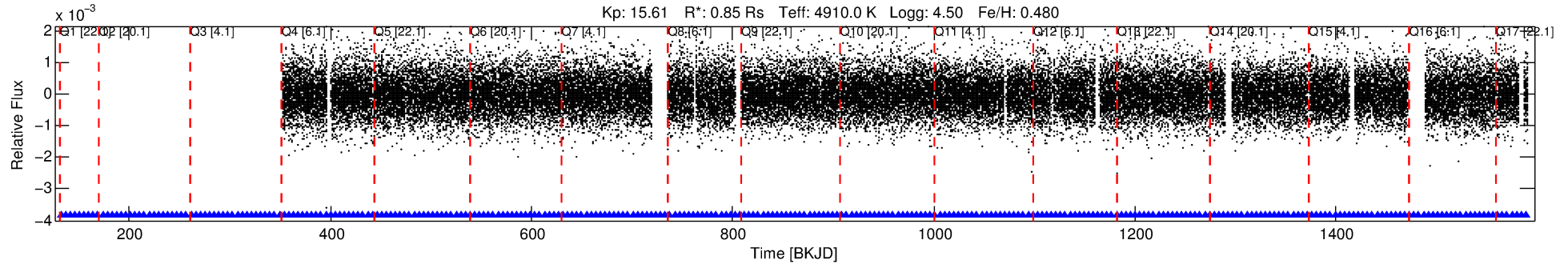
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011306840-01

No Significant Match Found

DV One-Page Summary

KIC: 11306840 Candidate: 1 of 2 Period: 4.624 d



DV Fit Results:

Period = 4.62413 [0.00015] d
Epoch = 132.0453 [0.0261] BKJD
Rp/R* = 0.0097 [0.0029]
a/R* = 1.43 [0.83]
b = 0.90 [0.25]
Seff = 144.81 [29.45]
Teq = 885 [45] K
Rp = 0.90 [0.28] Re
a = 0.0511 [0.0045] AU
Ag = 32.73 [29.22] [1.09 σ]
Teffp = 3271 [732] K [3.25 σ]

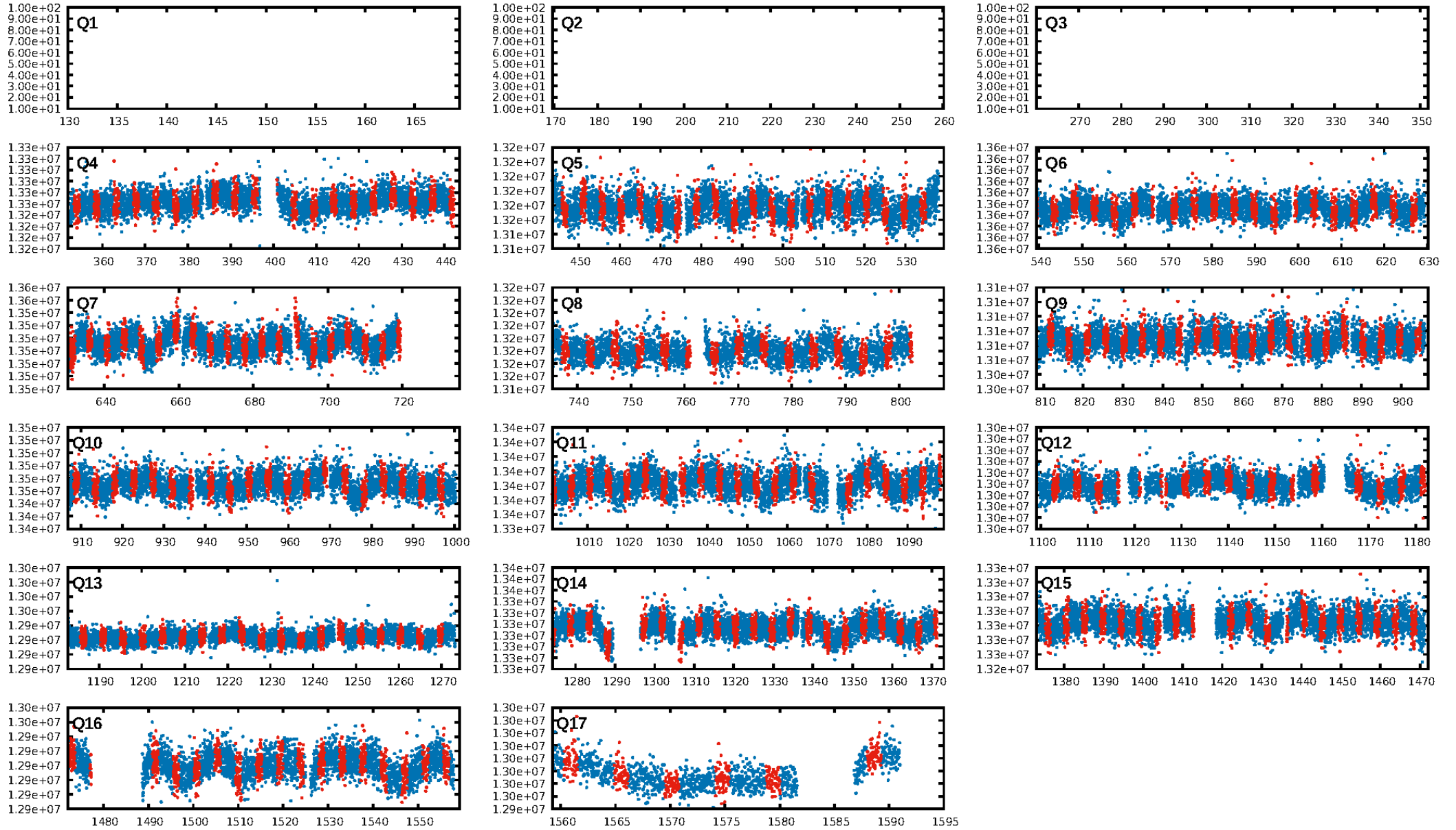
DV Diagnostic Results:

ShortPeriod-sig: 96.1% [2.06 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.67e-17
RollingBand-fgt: 1.00 [245/245]
GhostDiagnostic-chr: -2.966
Centroid-sig: 0.0%
Centroid-so: 4.263 arcsec [2.20 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [14/14]

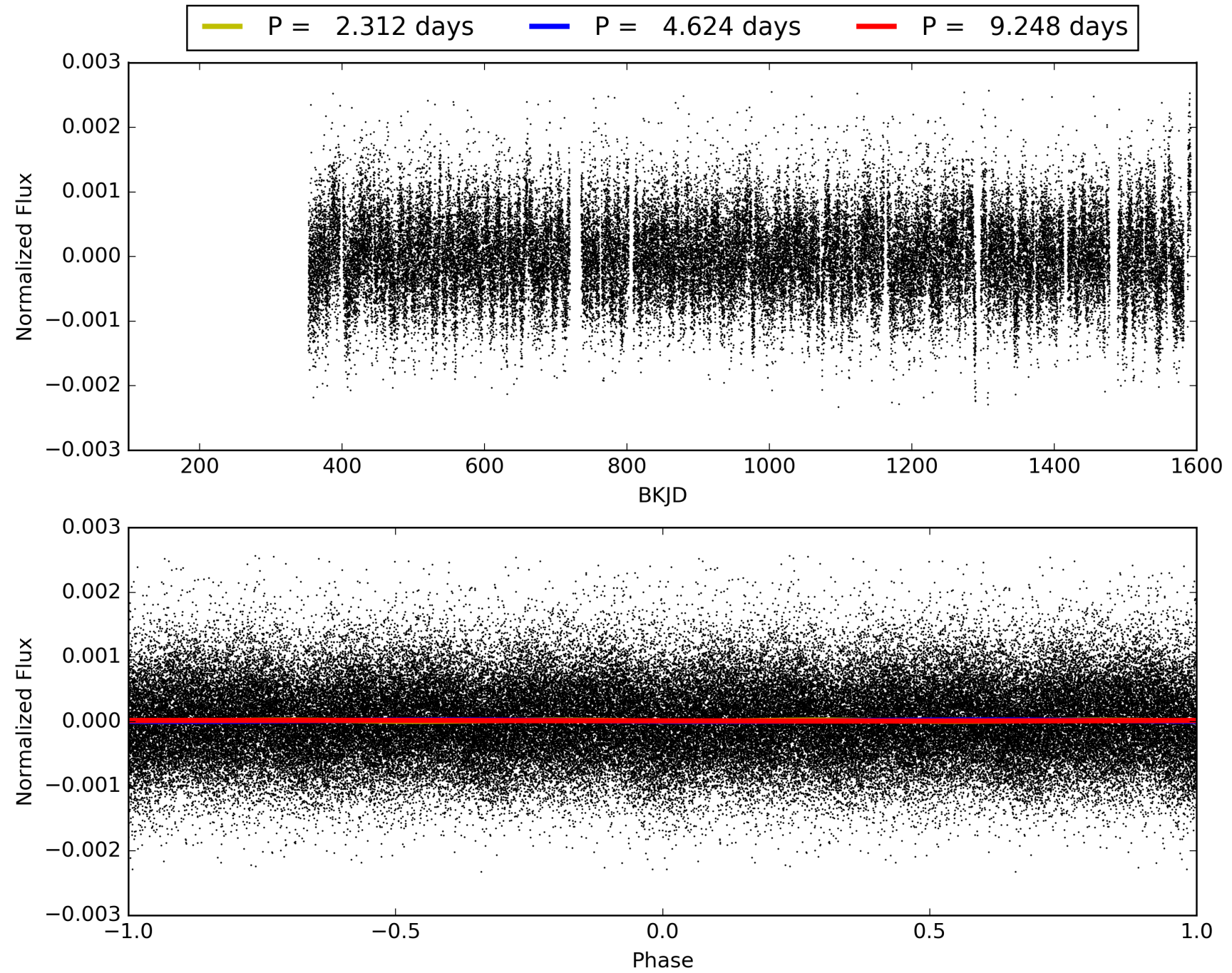
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:02:23 Z

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

TCE 011306840-01, PDC Light Curves

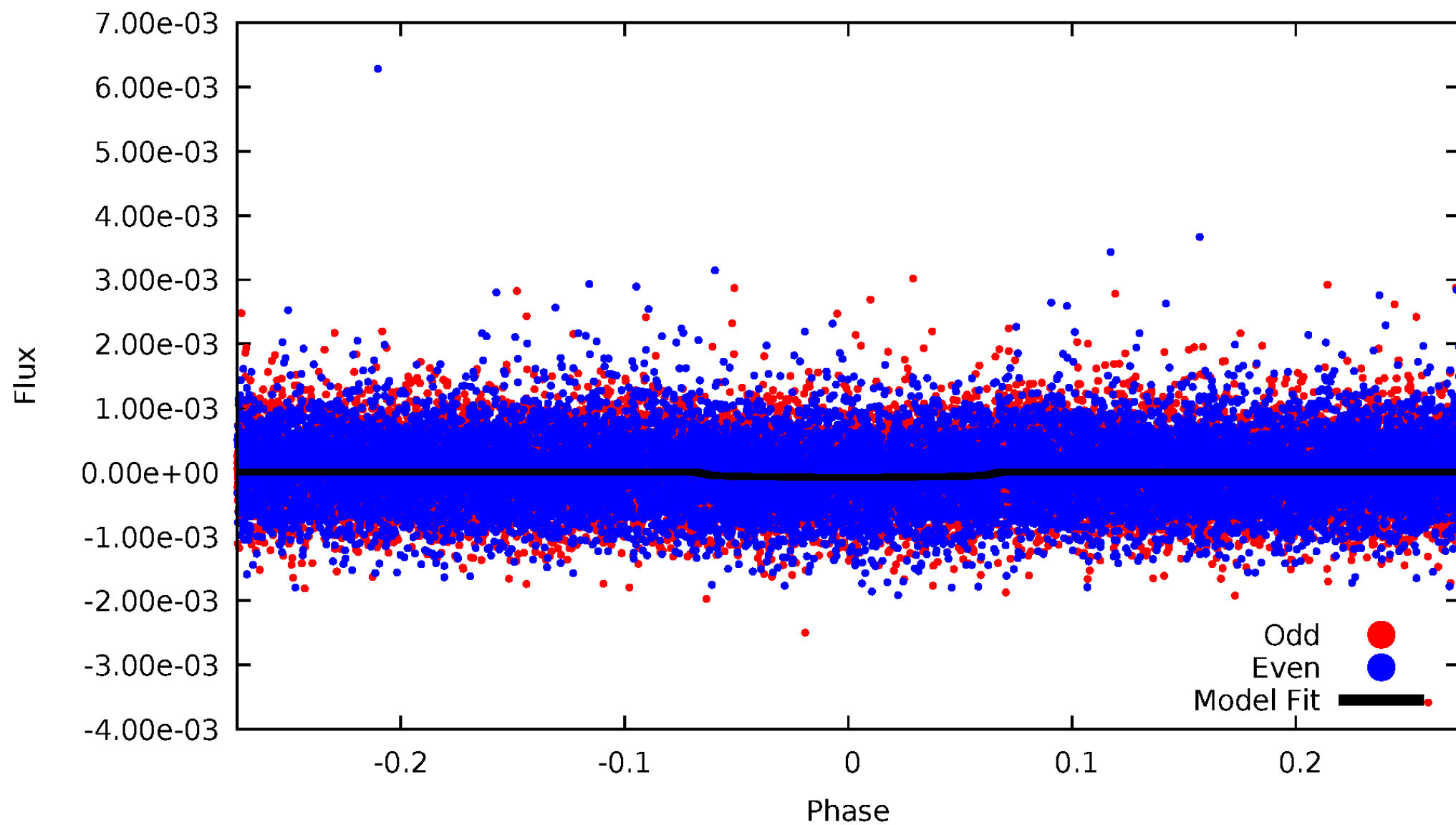


TCE 011306840-01



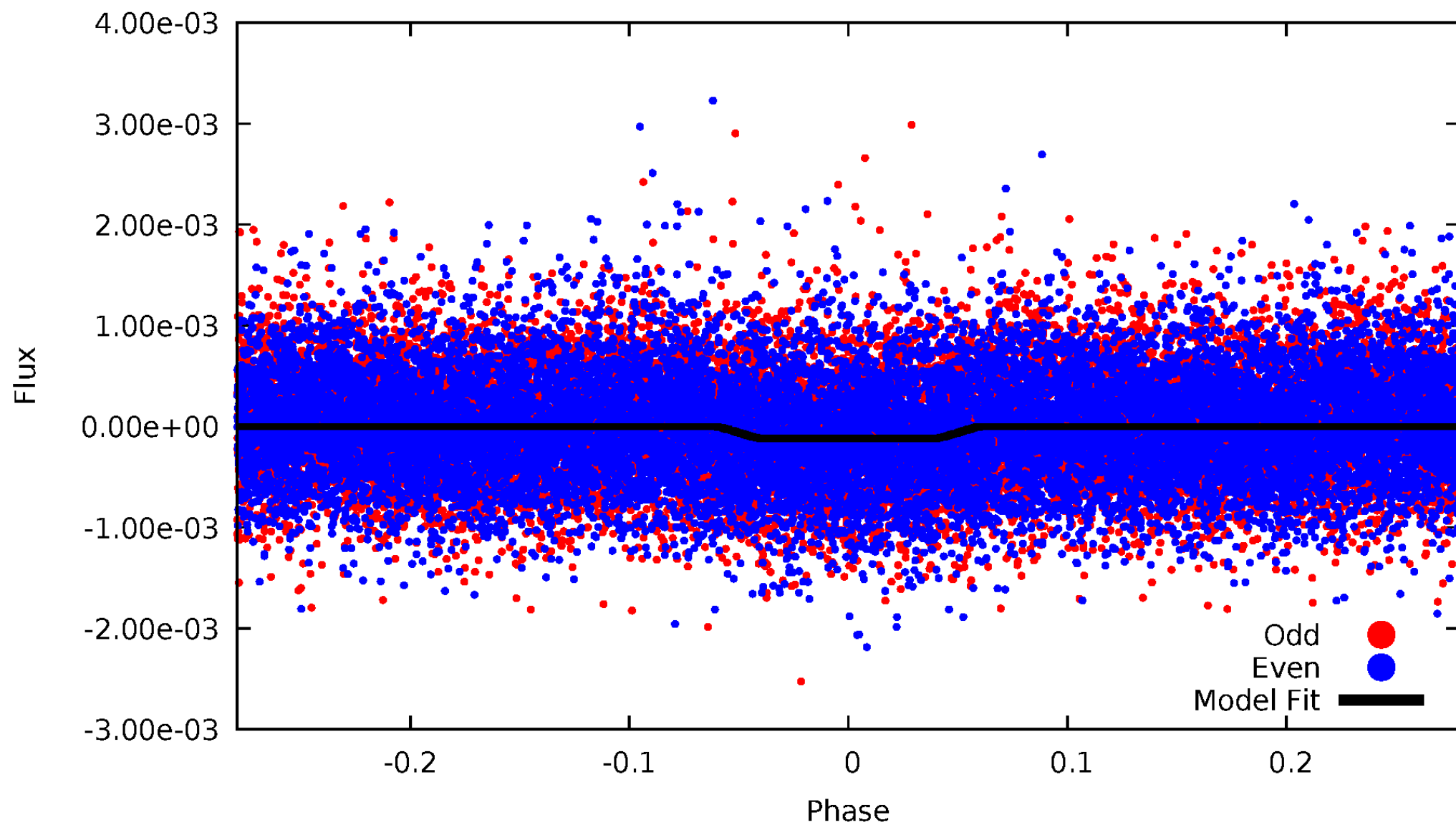
DV Odd/Even

TCE 011306840-01

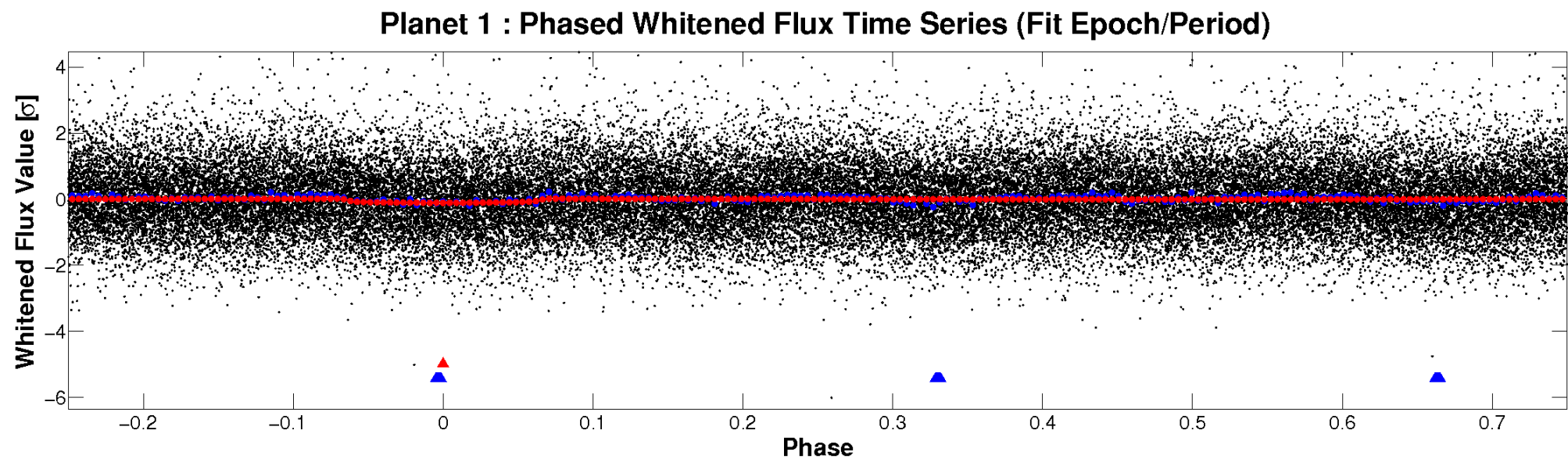
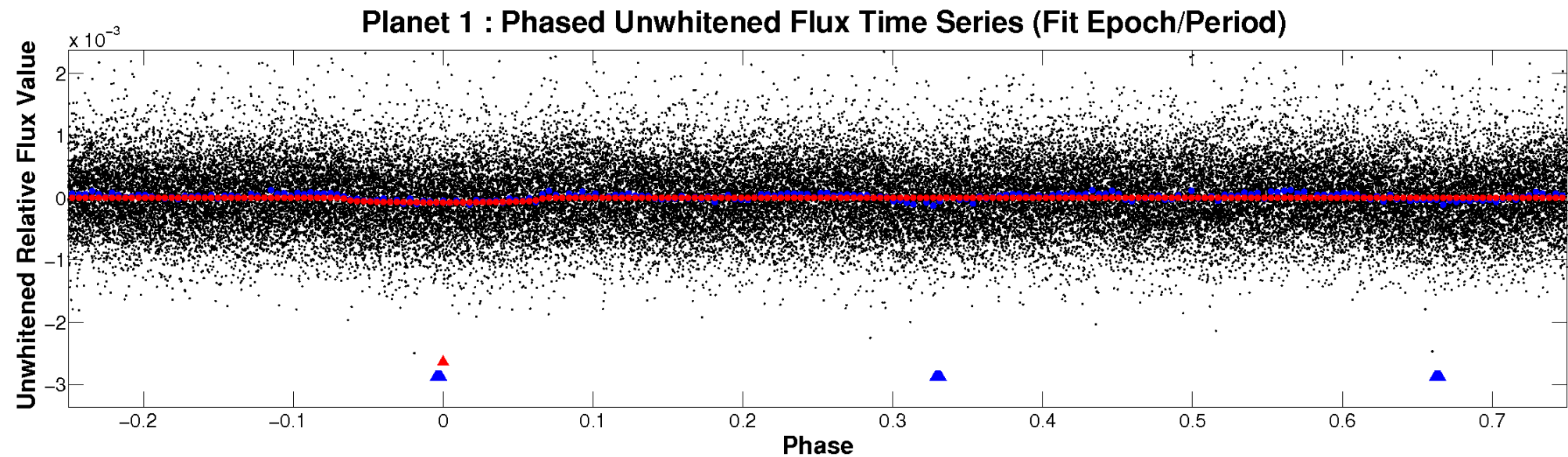


ALT Odd/Even

TCE 011306840-01

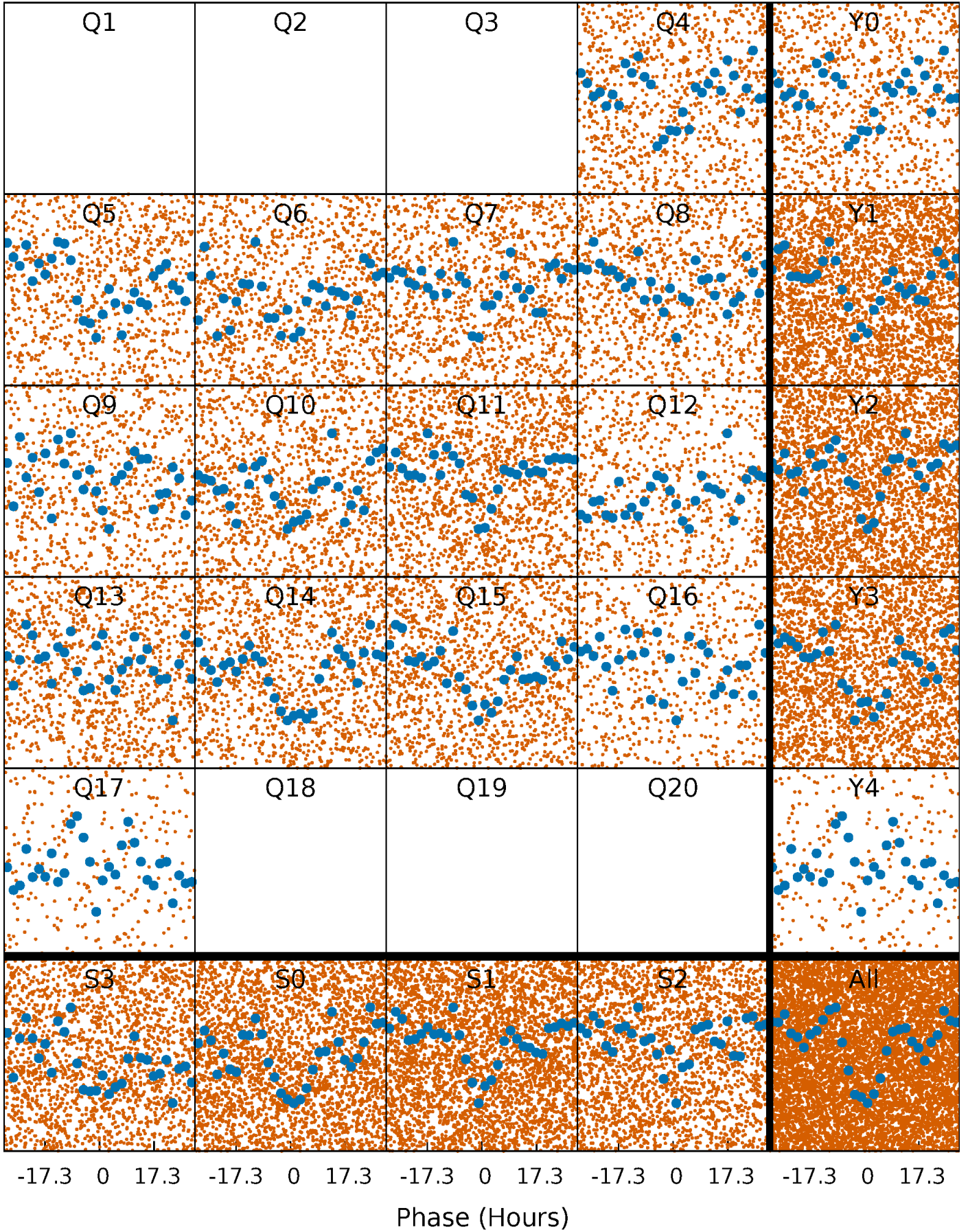


Non-Whitened Vs. Whitened Light Curve



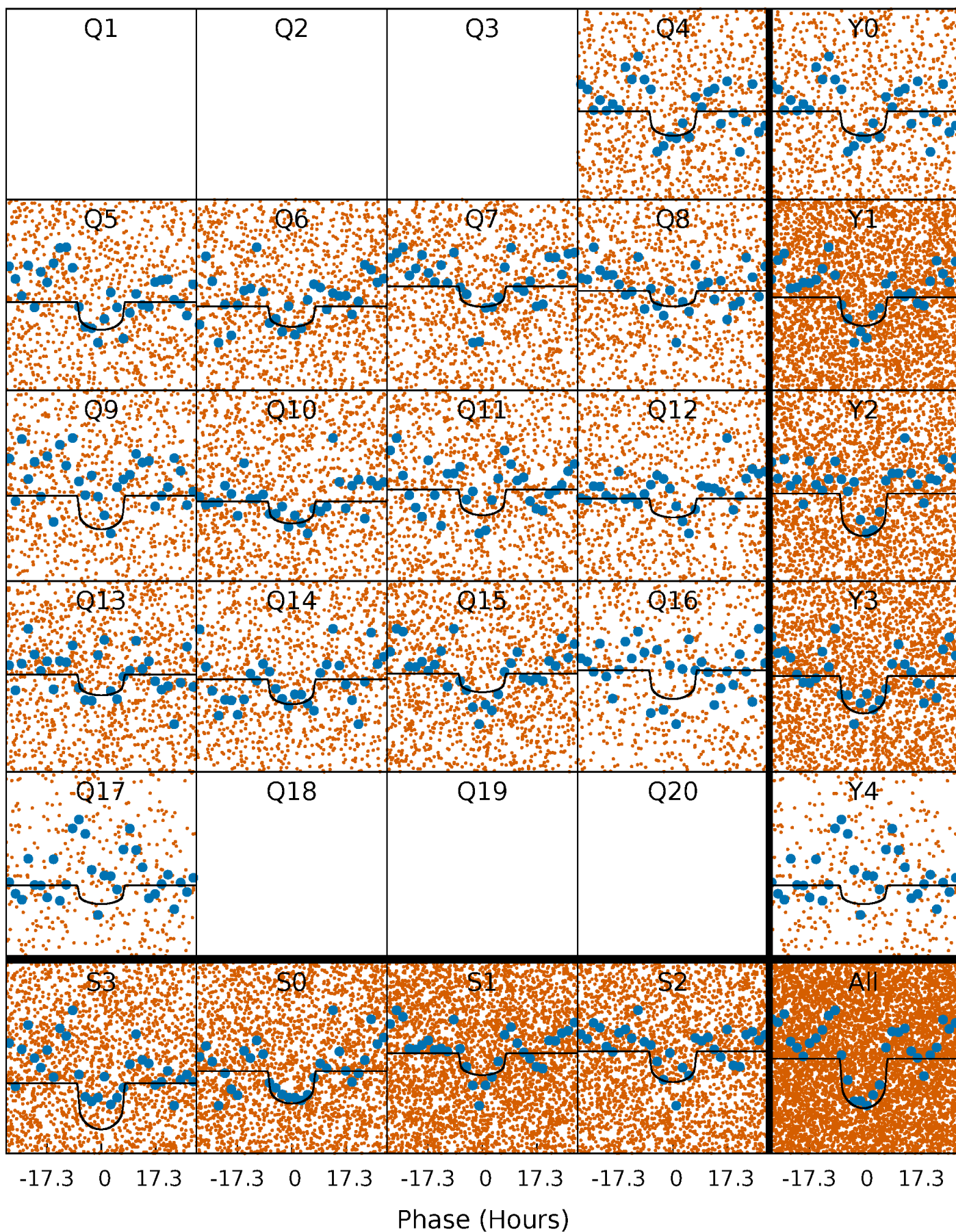
PDC Quarter-Phased Transit Curves

TCE 011306840-01 P= 4.624129 Days $T_0=132.045304$ (BKJD)



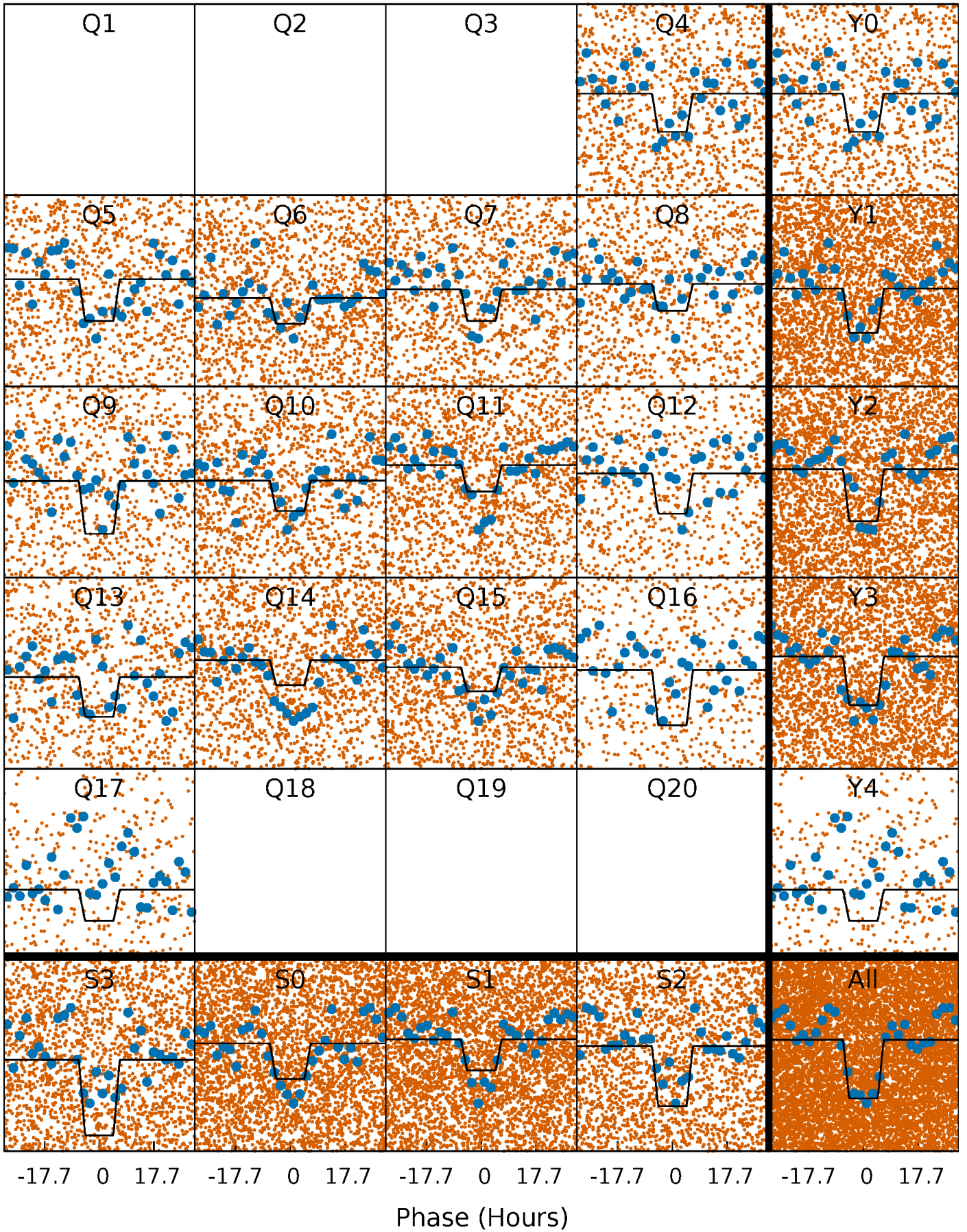
DV Quarter-Phased Transit Curves

TCE 011306840-01 P= 4.624129 Days $T_0=132.045304$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

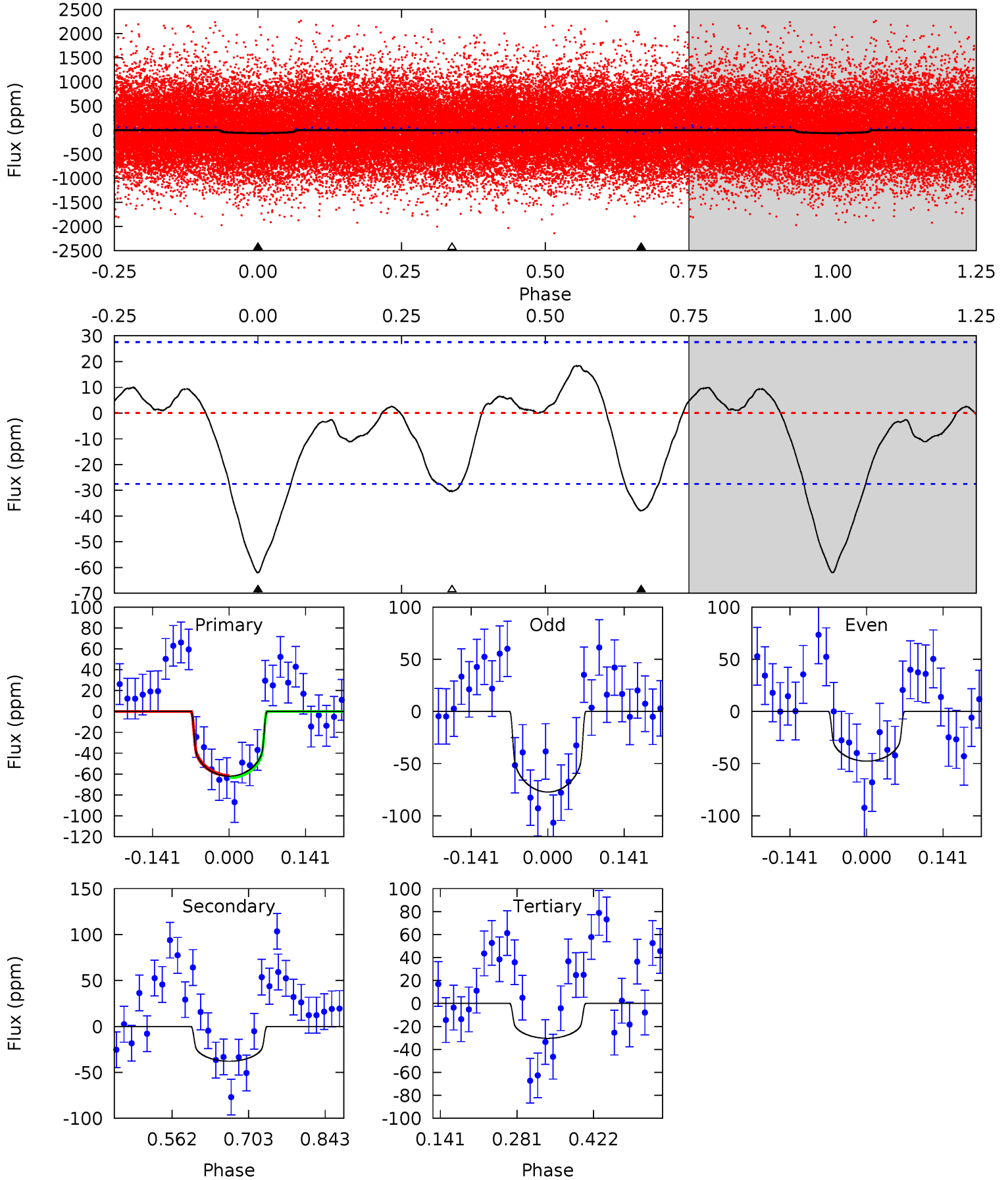
TCE 011306840-01 P= 4.624195 Days $T_0=132.040938$ (BKJD)



DV Model-Shift Uniqueness Test

011306840-01, P = 4.624129 Days, E = 132.045304 Days

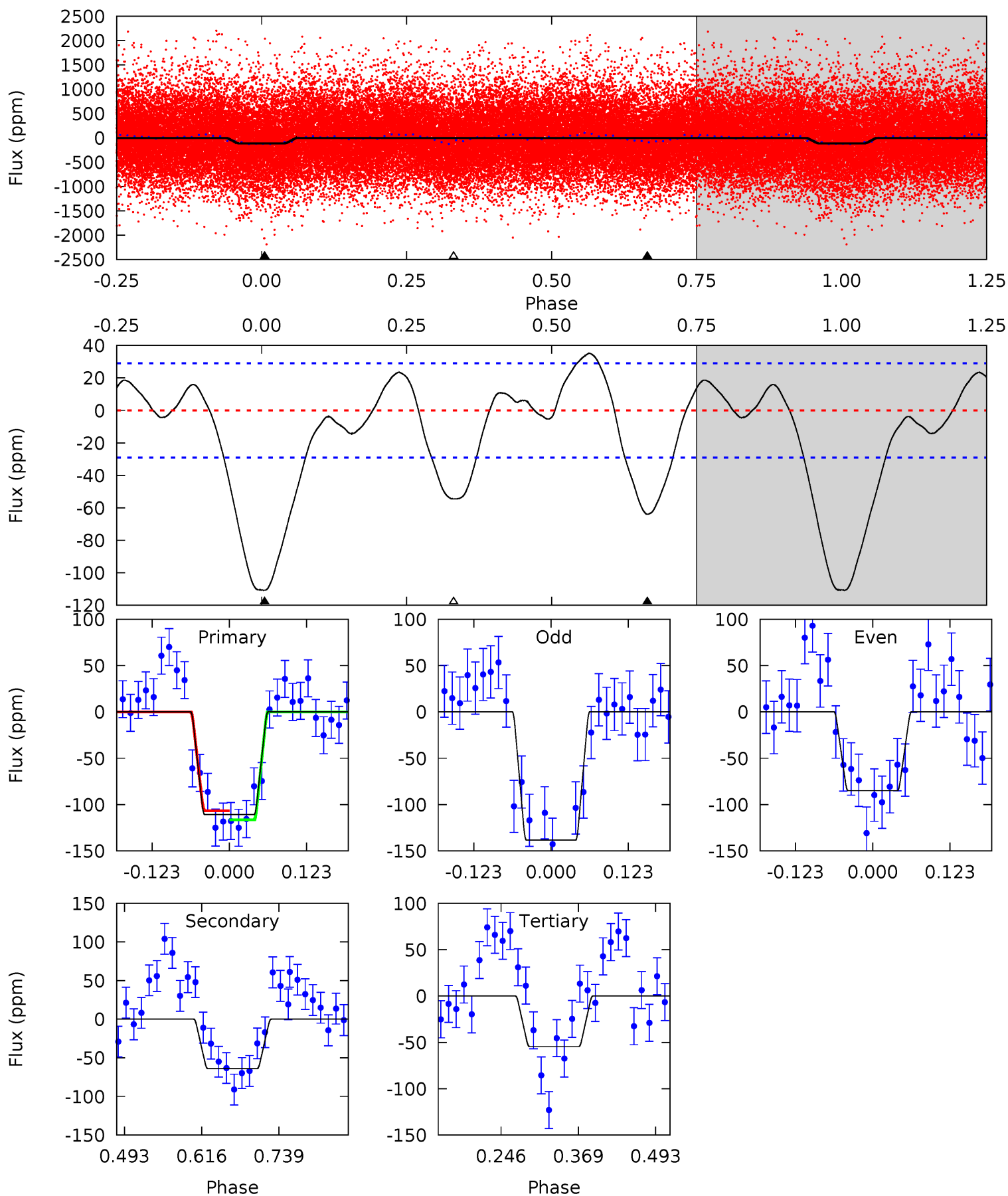
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	6.19	4.96	0	4.49	1.47	1.84	5.16	10.1	1.23	6.19	2.42	1.11	0.23	0.17



Alt Model-Shift Uniqueness Test

011306840-01, P = 4.624195 Days, E = 132.040938 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	9.97	8.50	0	4.52	1.54	3.28	8.76	17.3	1.48	9.97	4.16	1.12	0.24	0.76



Stellar Parameters For KIC 011306840

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4910^{+186}_{-169}	$4.497^{+0.077}_{-0.063}$	$0.480^{+0.050}_{-0.300}$	$0.852^{+0.068}_{-0.085}$	$0.833^{+0.052}_{-0.052}$	$1.896^{+0.638}_{-0.360}$
	+4%/-3%	+2%/-1%	+10%/-62%	+8%/-10%	+6%/-6%	+34%/-19%
Source	KIC0	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 011306840-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-38 ± 6	$0.90^{+0.27}_{-0.25}$	1236^{+54}_{-55}	4115^{+591}_{-418}	67^{+63}_{-30}
Alt.	-64 ± 6	$0.98^{+0.27}_{-0.28}$	1238^{+55}_{-50}	4393^{+695}_{-394}	96^{+91}_{-39}

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

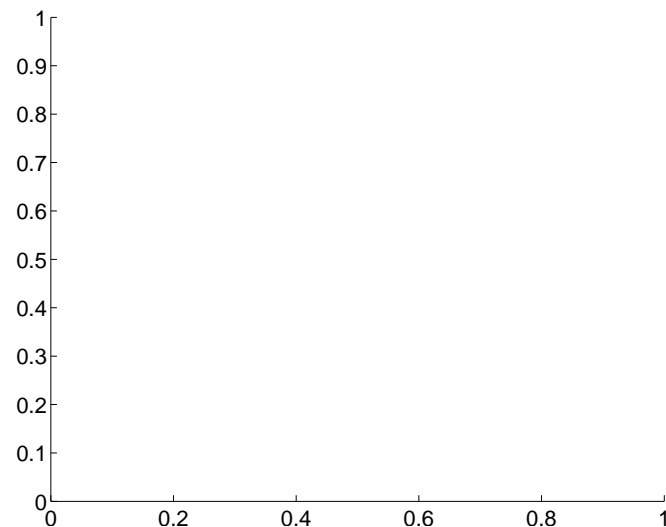
Supplemental centroid analysis for 011306840-01. Kepler magnitude: 15.62. Transit SNR 7.95

There are 0 quarters with good PRF difference image offsets

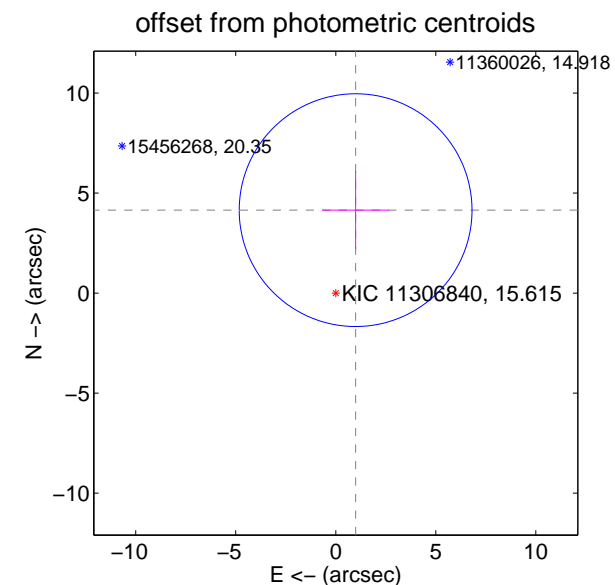
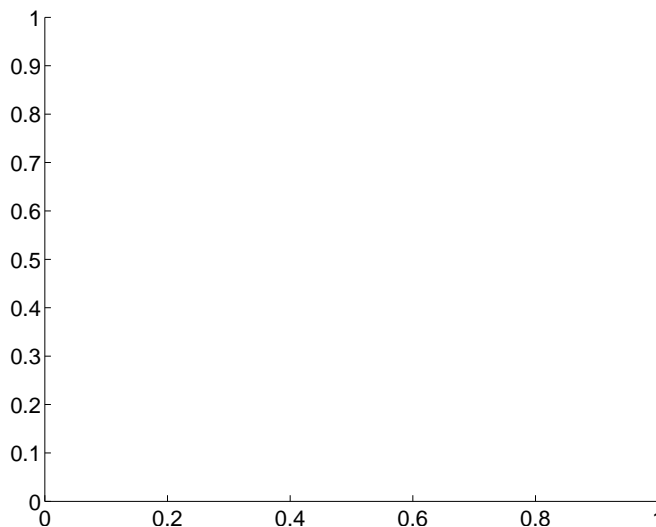
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	4.26 ± 1.94	2.20	-0.99 ± 1.68	4.15 ± 1.95

There is no PRF-fit offset from OOT-fit

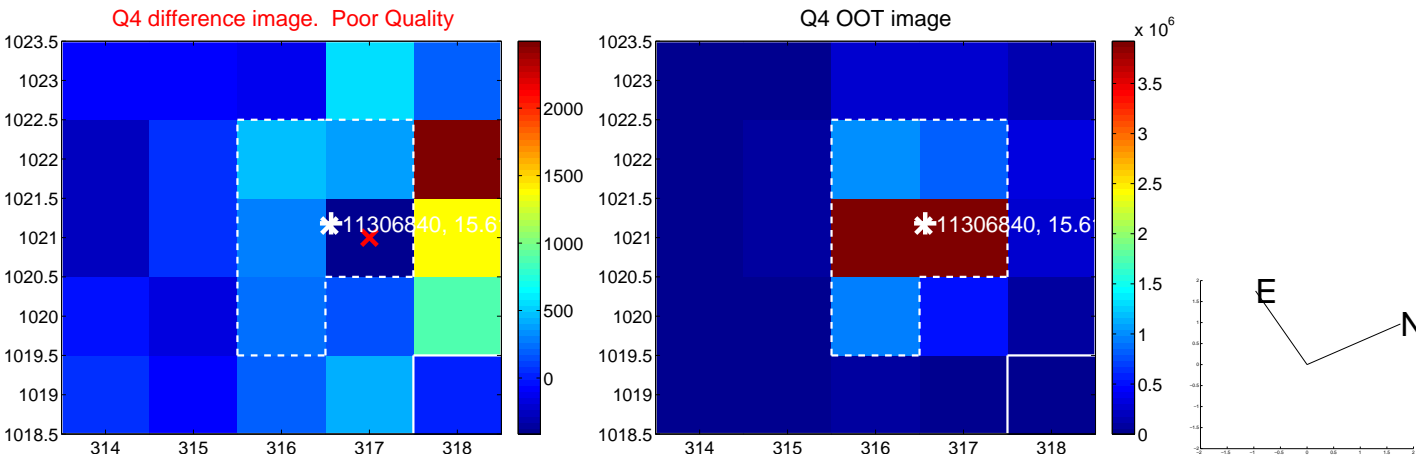


There is no PRF-fit offset from KIC

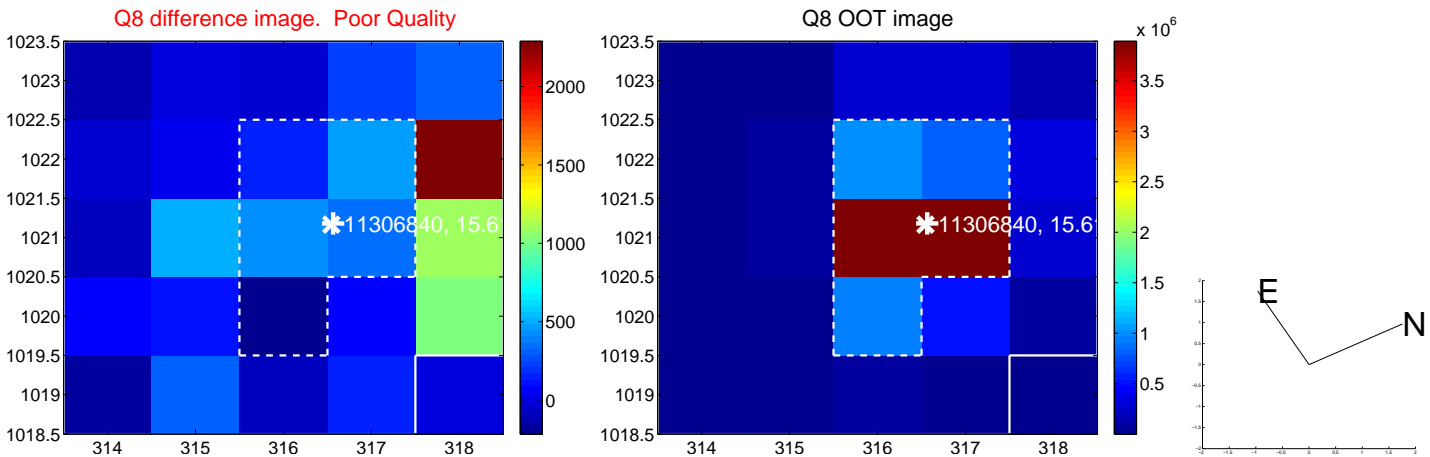
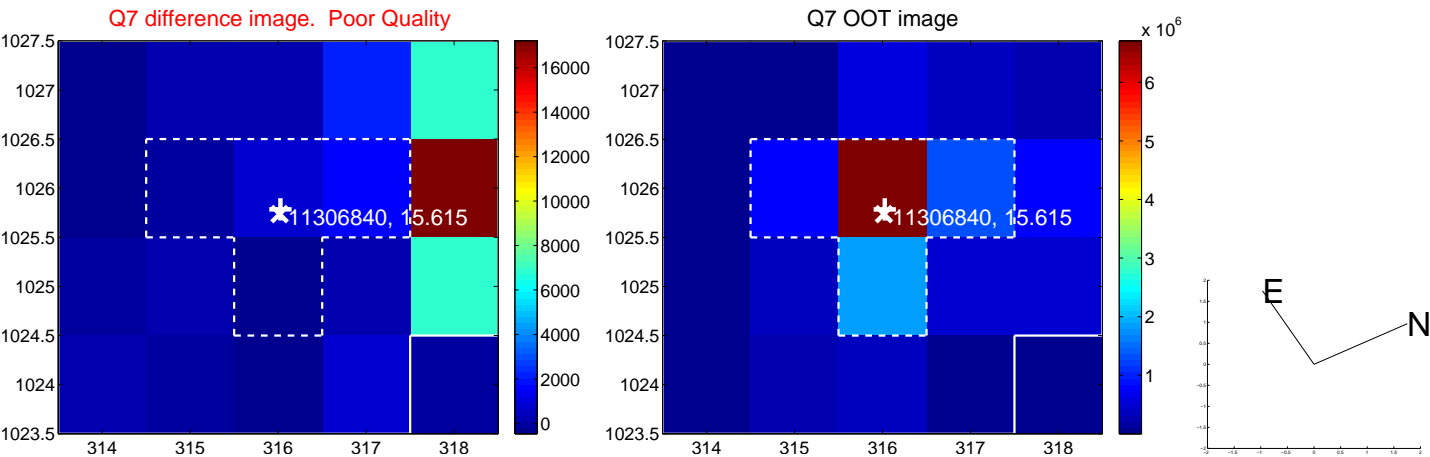
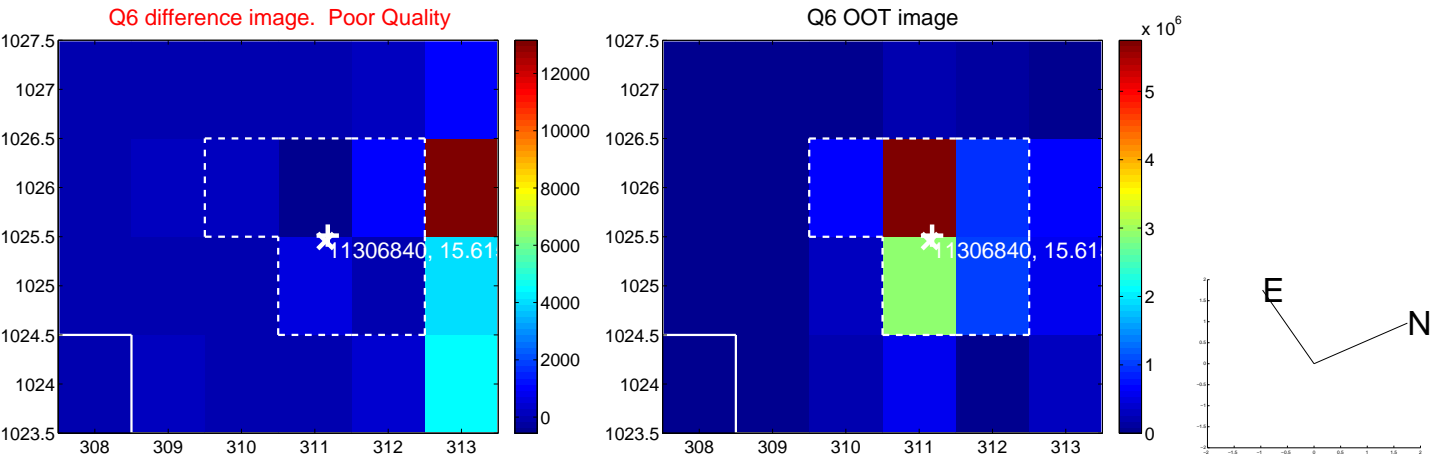
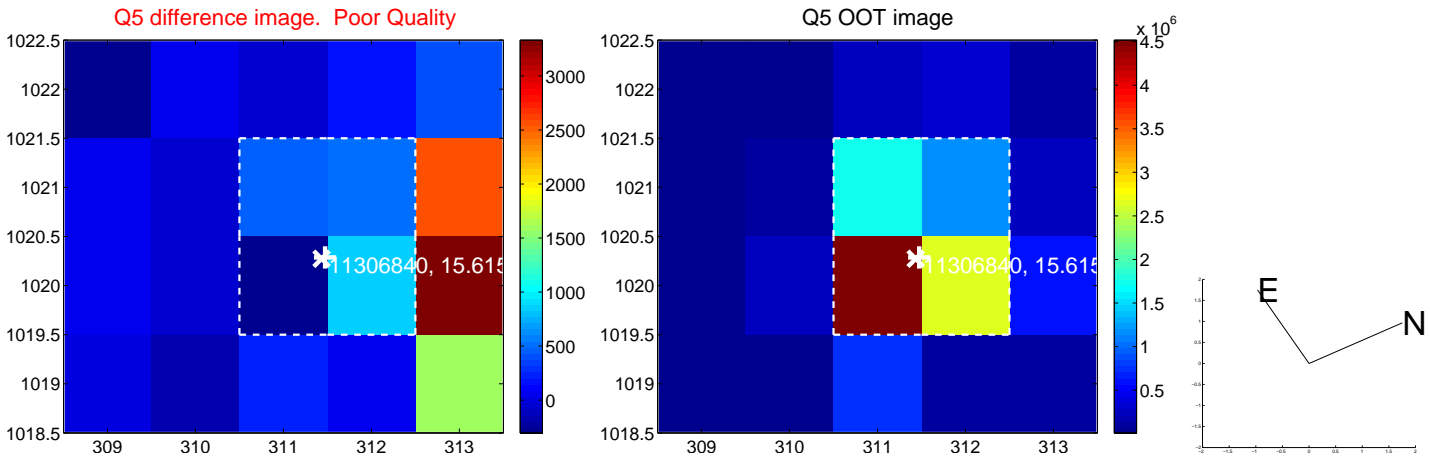


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

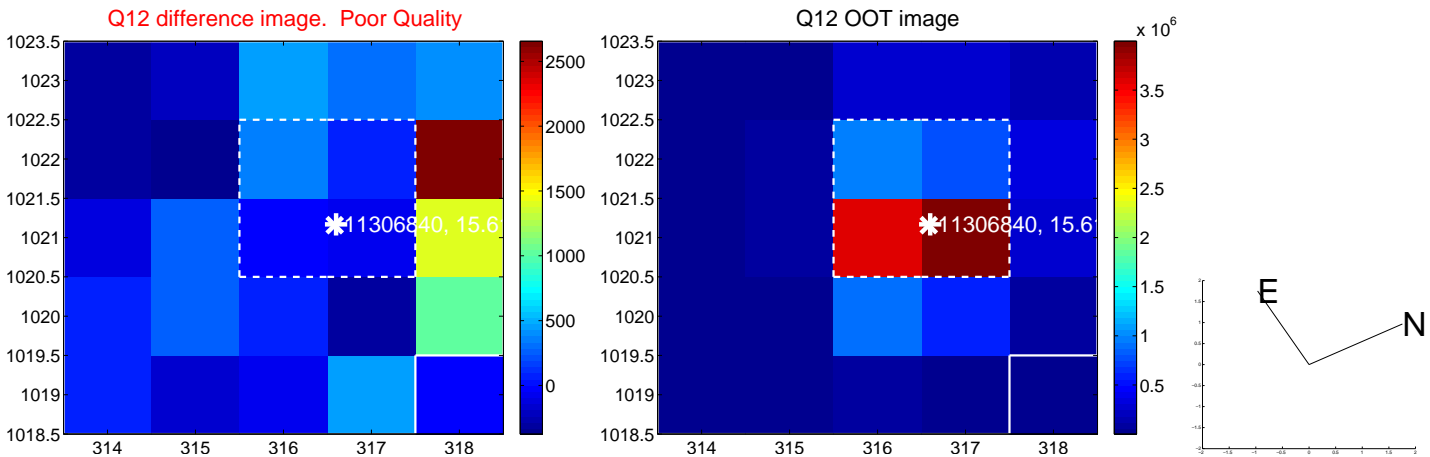
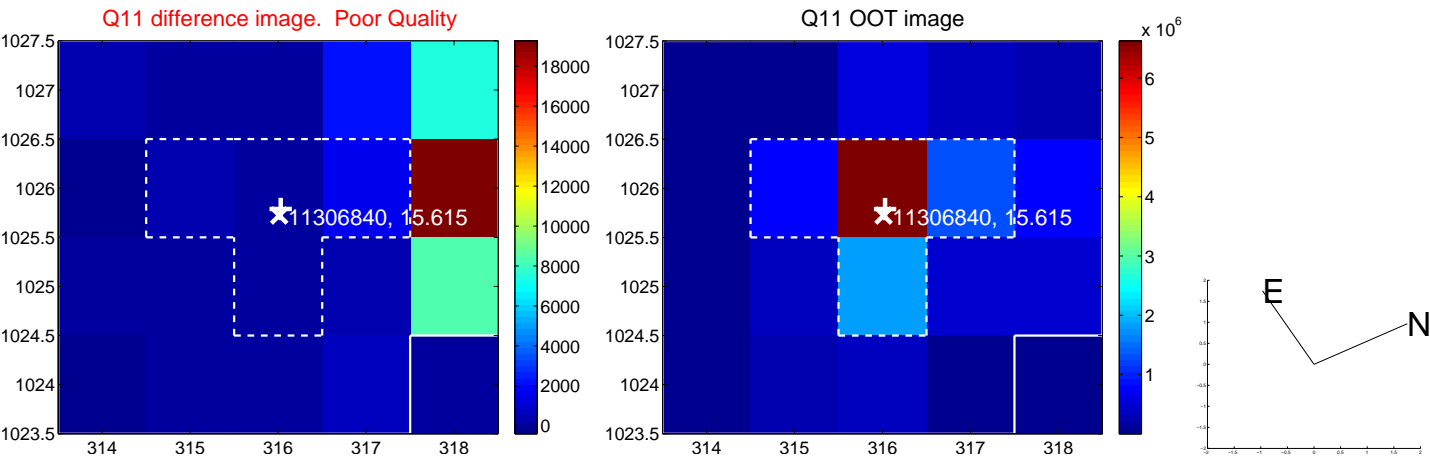
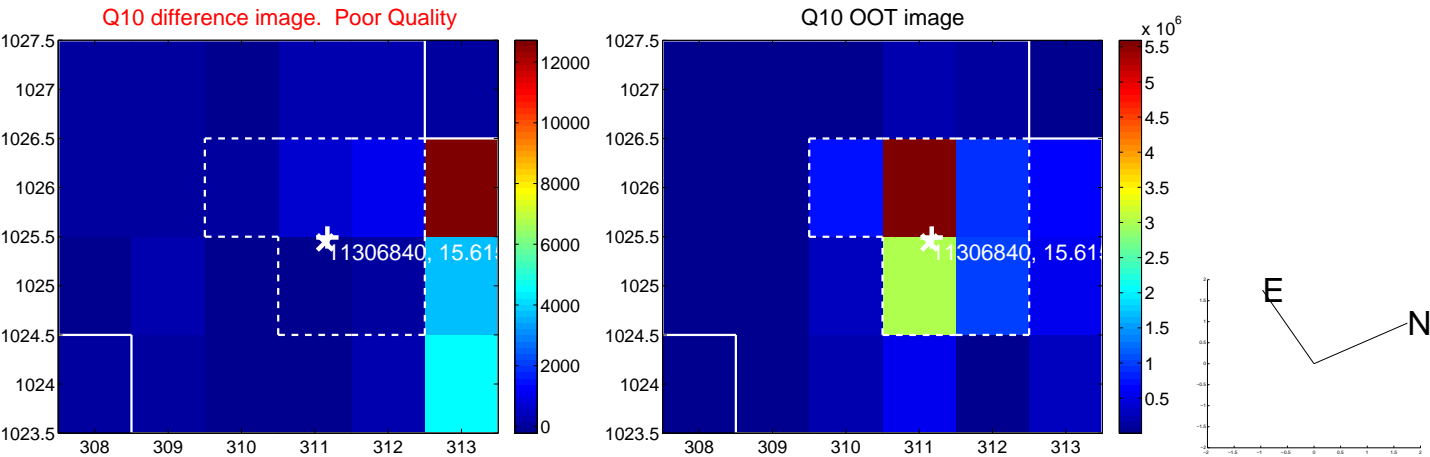
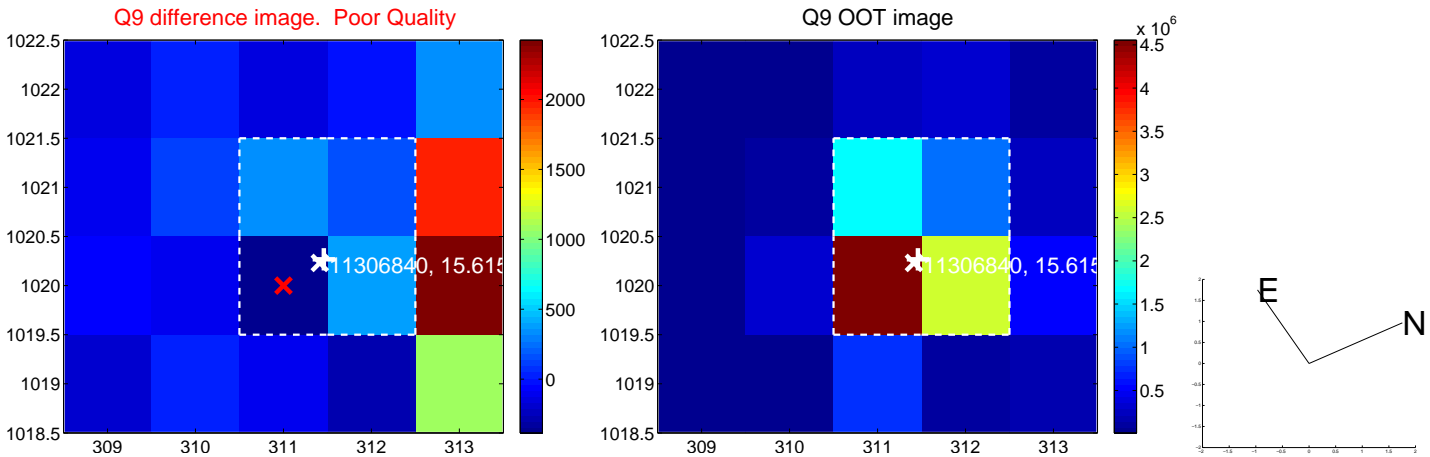
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



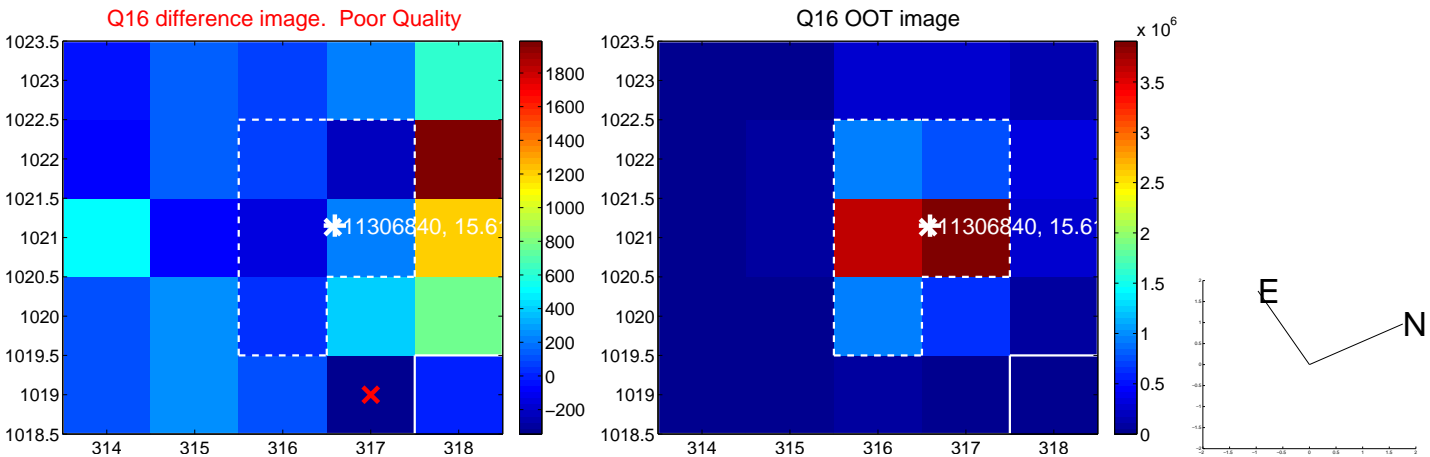
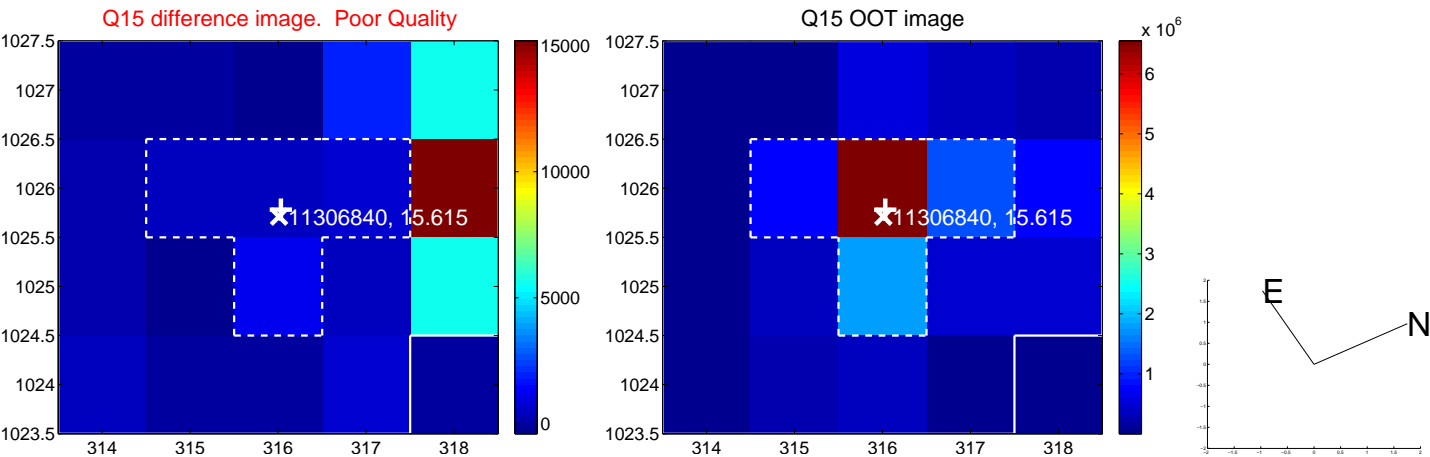
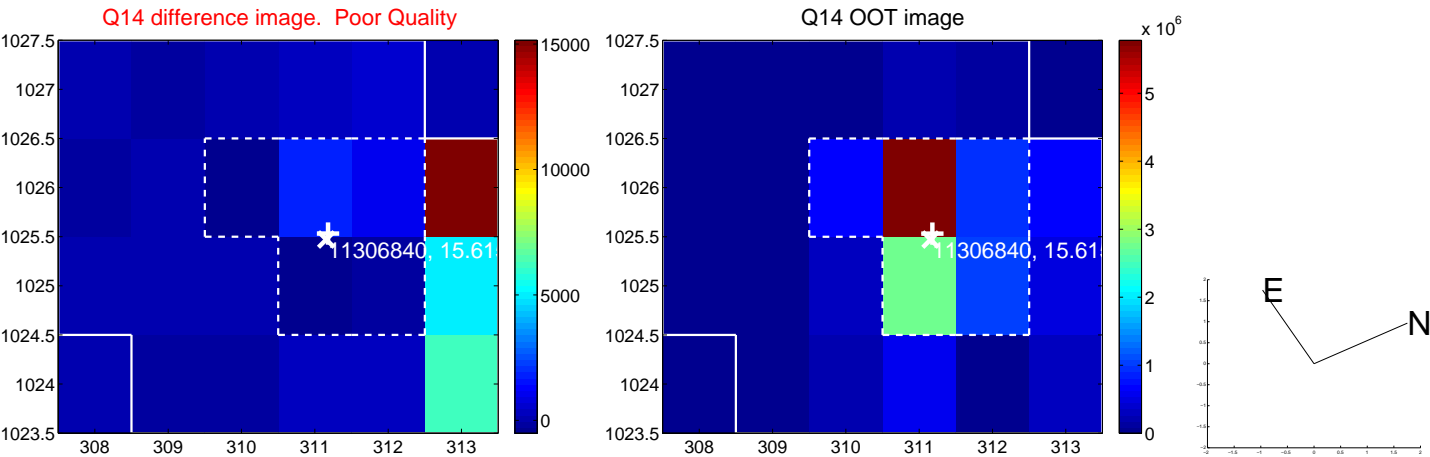
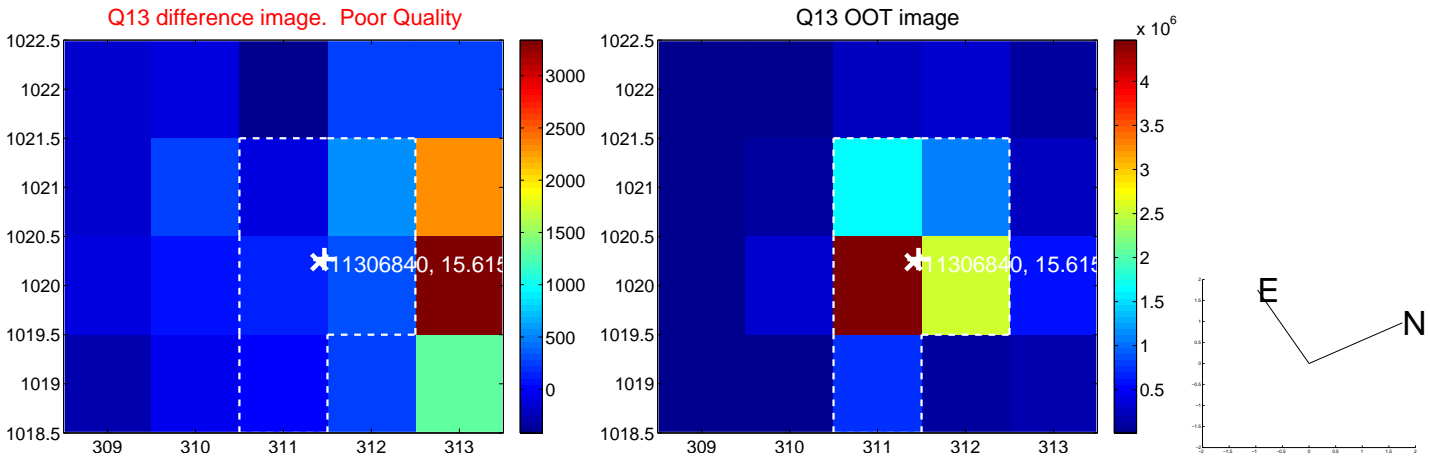
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



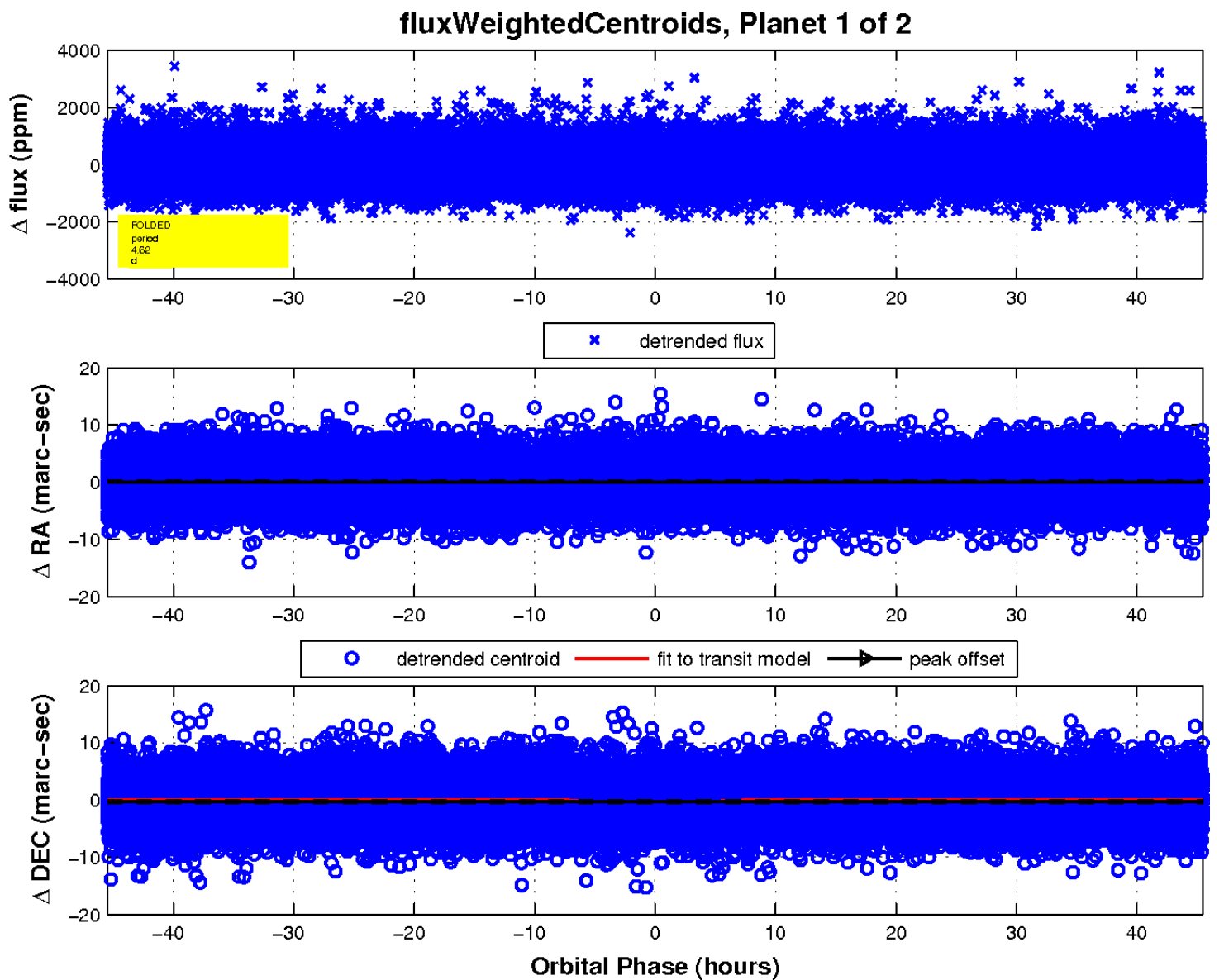
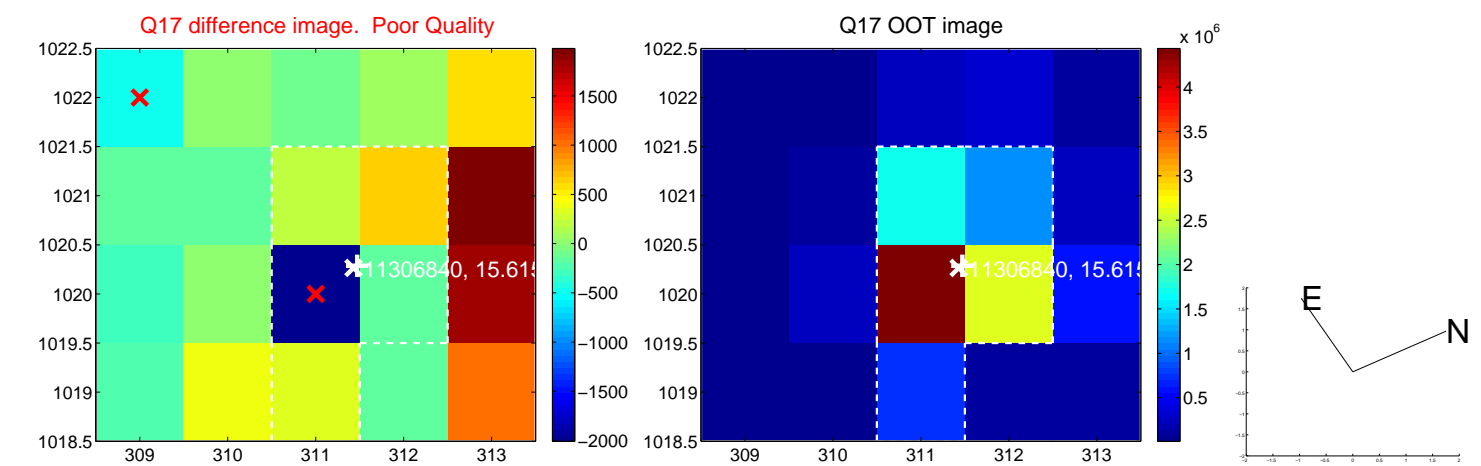
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

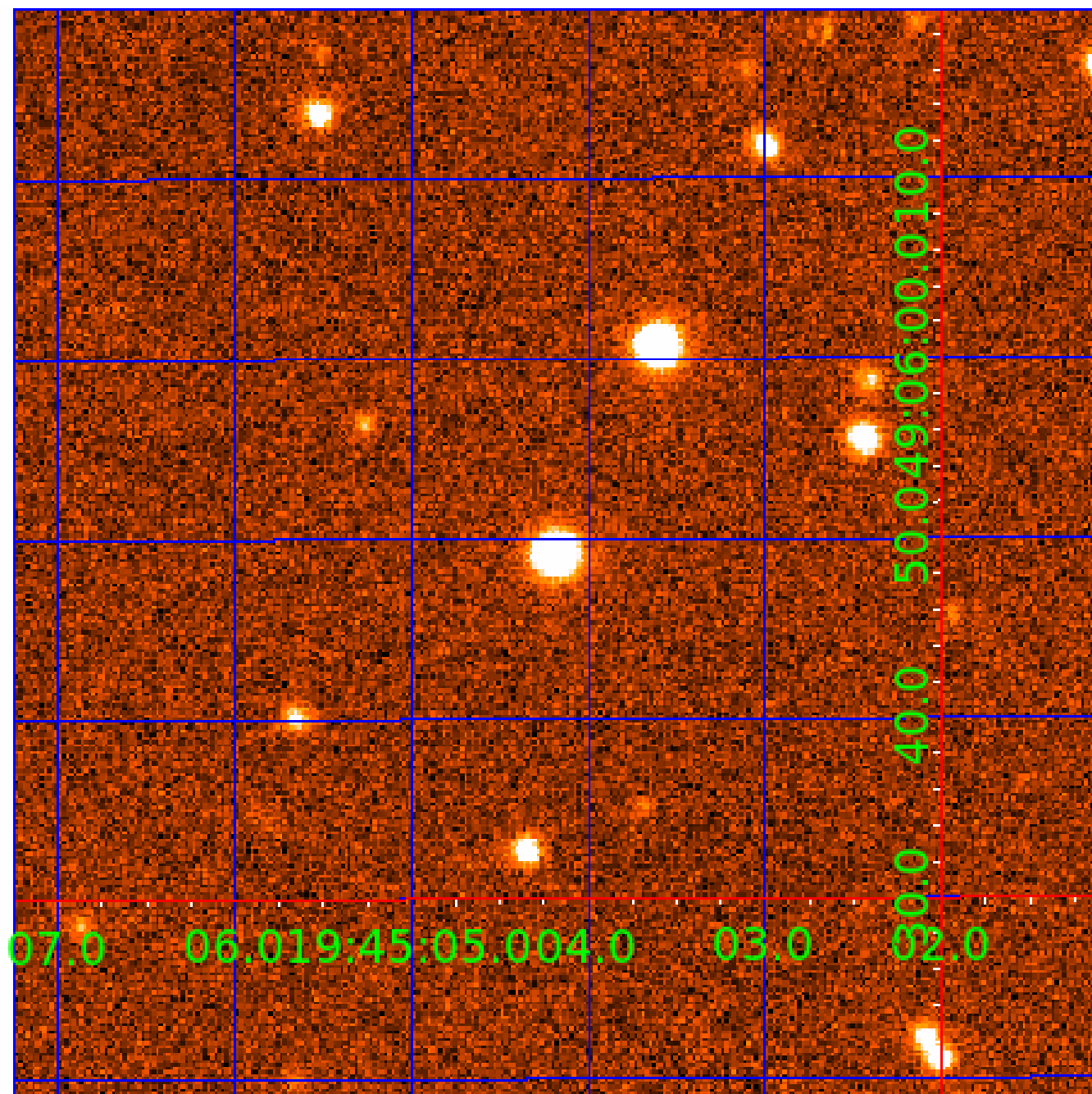


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



UKIRT Image

Declination



KIC 011306840

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})
011306840-01	OBS	No	4.624129	132.045304	75.4	15.155	8.5	8.0	0.85	4910	0.91	144.81
011306840-02	OBS	No	3.082719	133.580149	95.5	9.592	8.0	9.1	0.85	4910	0.99	248.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011306840-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
011306840-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET

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

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

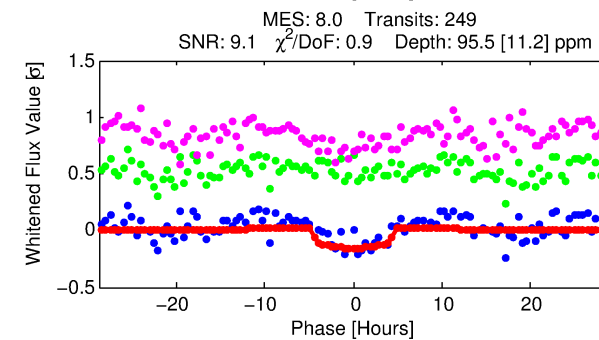
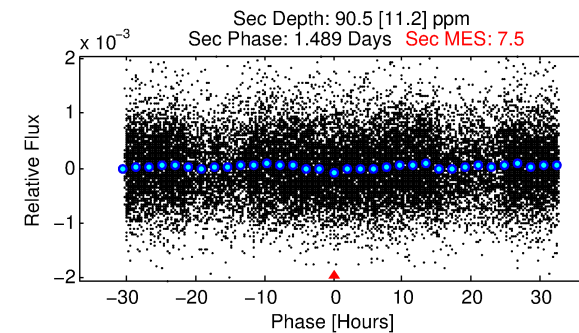
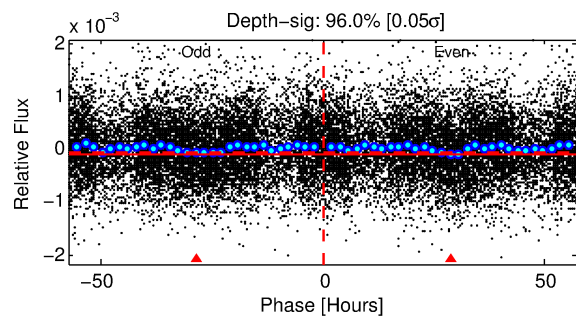
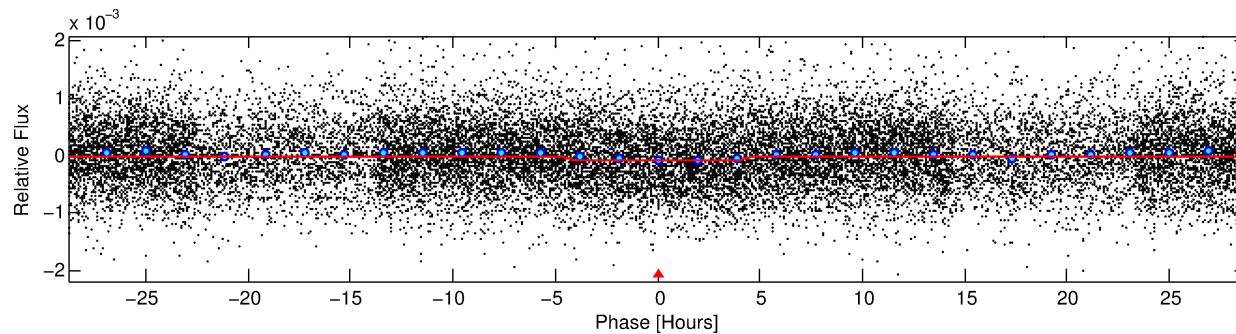
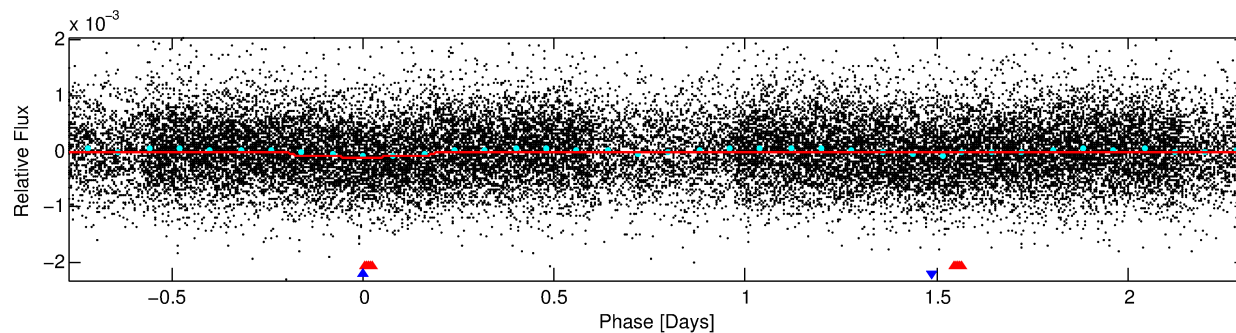
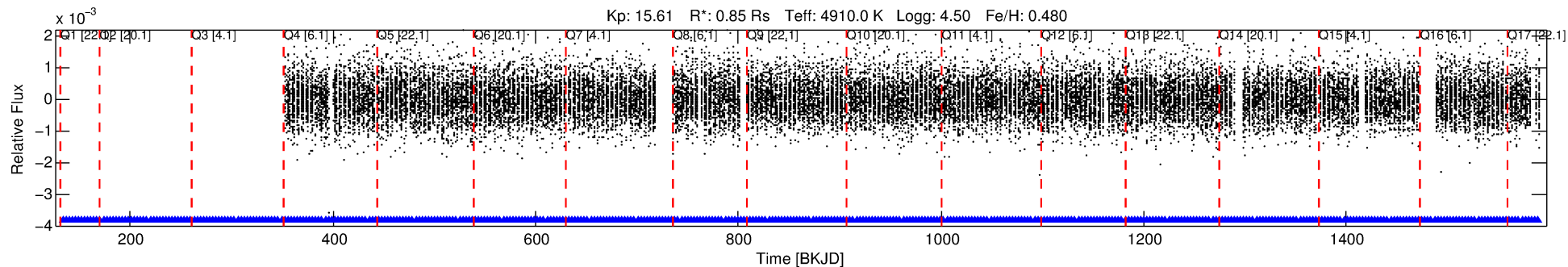
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011306840-02

No Significant Match Found

DV One-Page Summary

KIC: 11306840 Candidate: 2 of 2 Period: 3.083 d



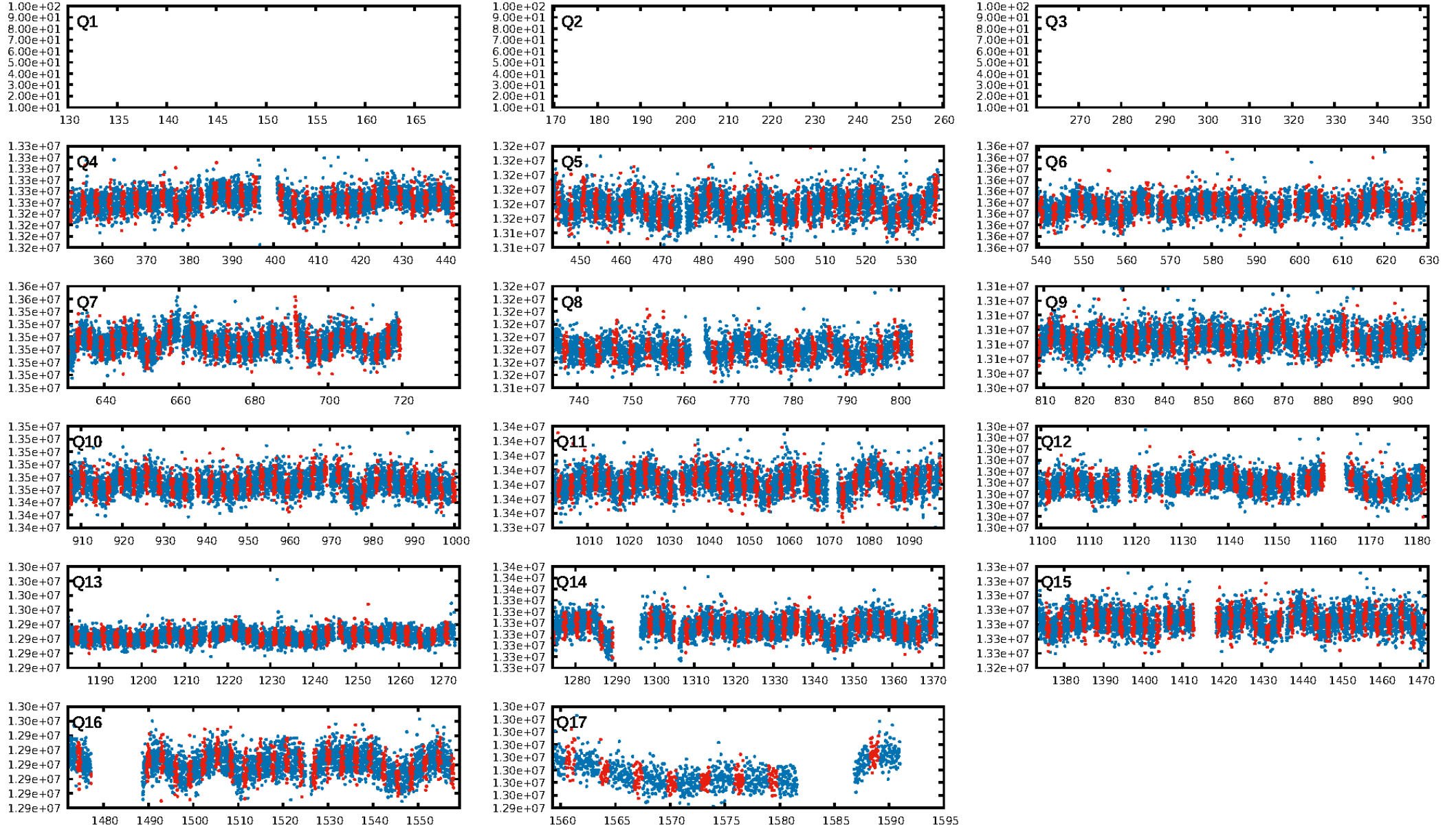
DV Fit Results:

Period = 3.08272 [0.00005] d
Epoch = 133.5801 [0.0128] BKJD
Rp/R* = 0.0107 [0.0047]
a/R* = 1.55 [1.48]
b = 0.88 [0.45]
Seff = 248.66 [50.57]
Teq = 1013 [51] K
Rp = 0.99 [0.44] Re
a = 0.0390 [0.0035] AU
Ag = 76.70 [68.26] [1.11 σ]
Teffp = 4633 [1034] K [3.50 σ]

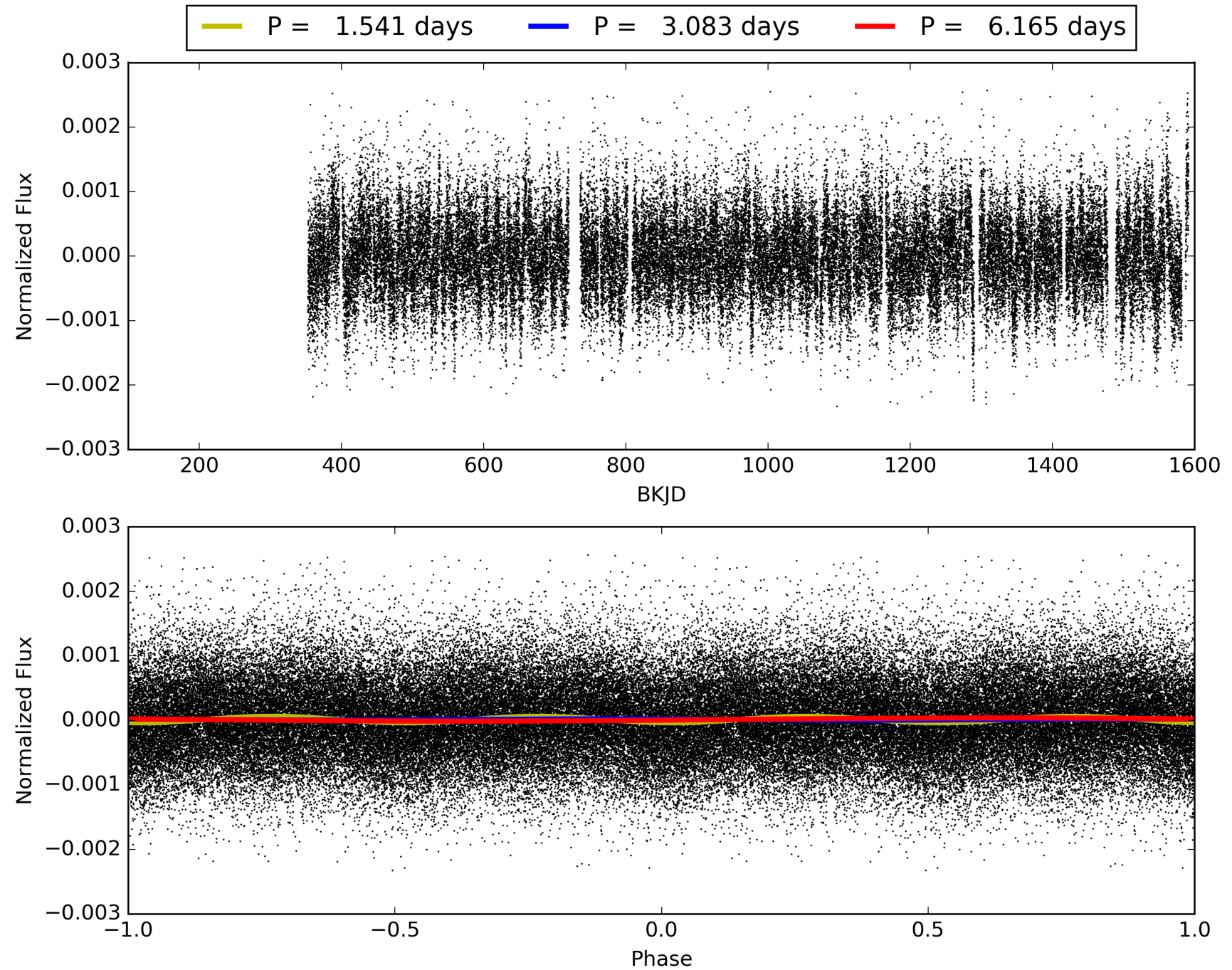
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 96.1% [2.06 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.76e-13
RollingBand-fgt: 1.00 [245/245]
GhostDiagnostic-chr: -1.25
Centroid-sig: 67.9%
Centroid-so: 0.331 arcsec [0.21 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [14/14]

TCE 011306840-02, PDC Light Curves

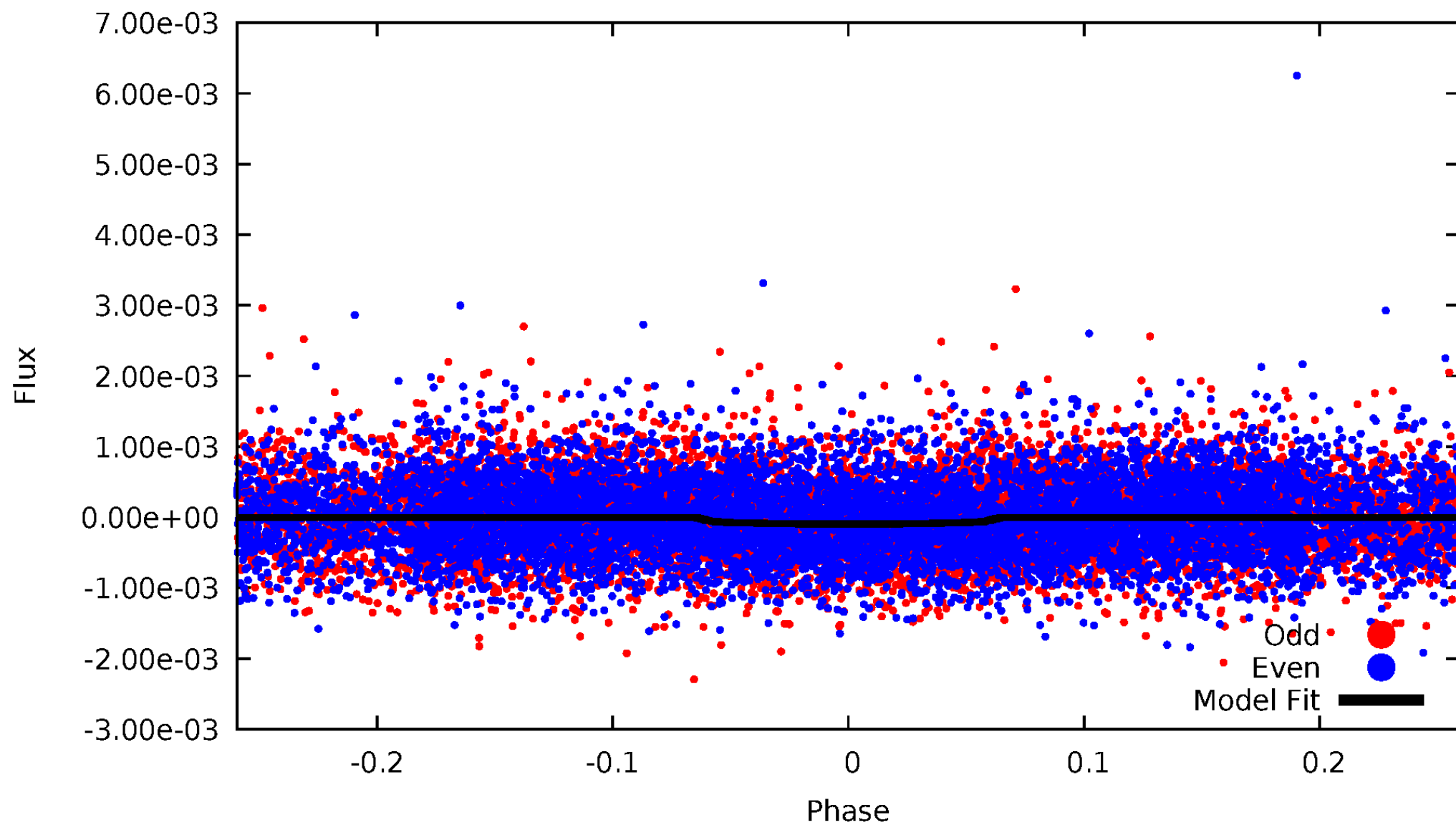


TCE 011306840-02



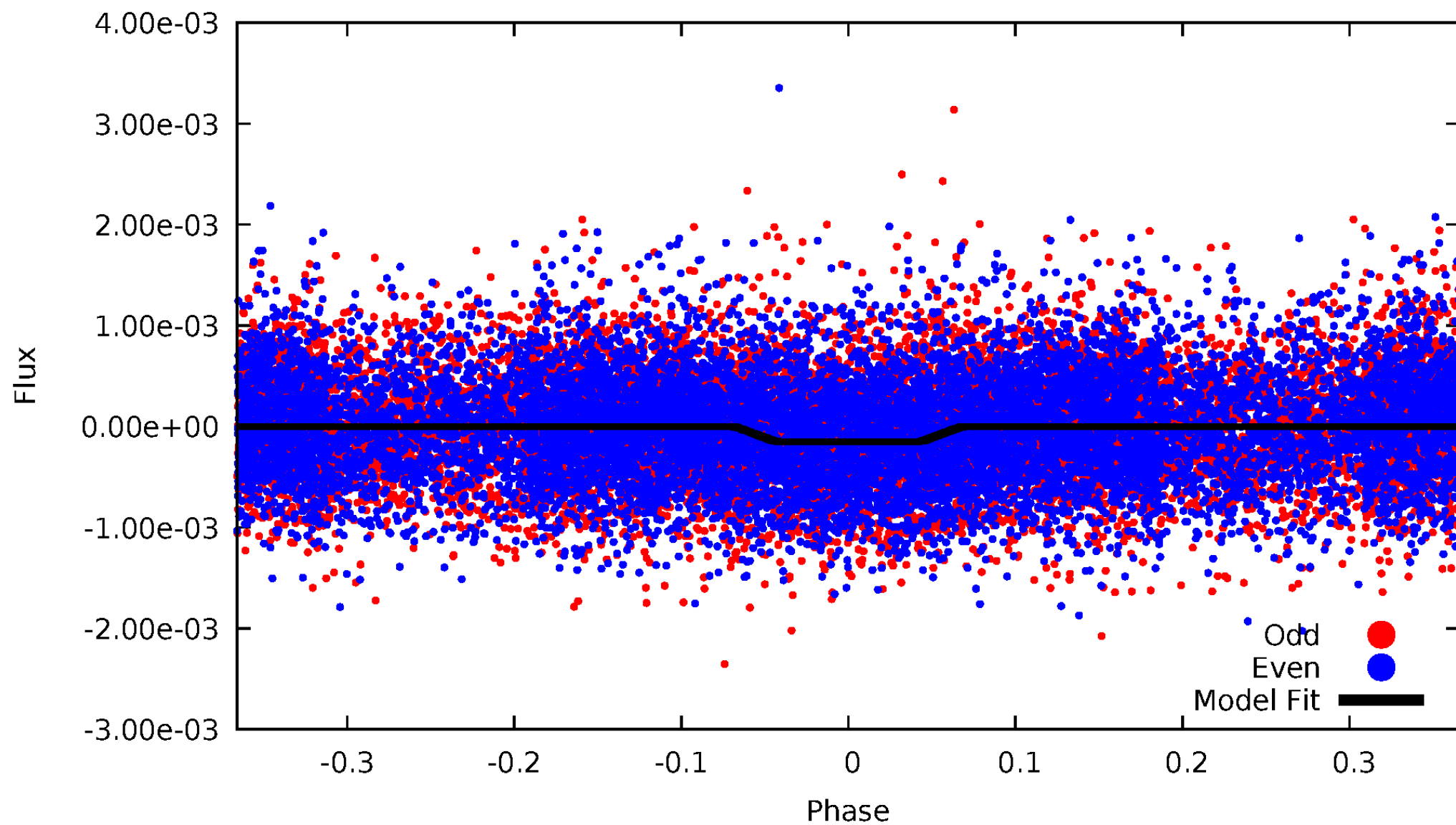
DV Odd/Even

TCE 011306840-02



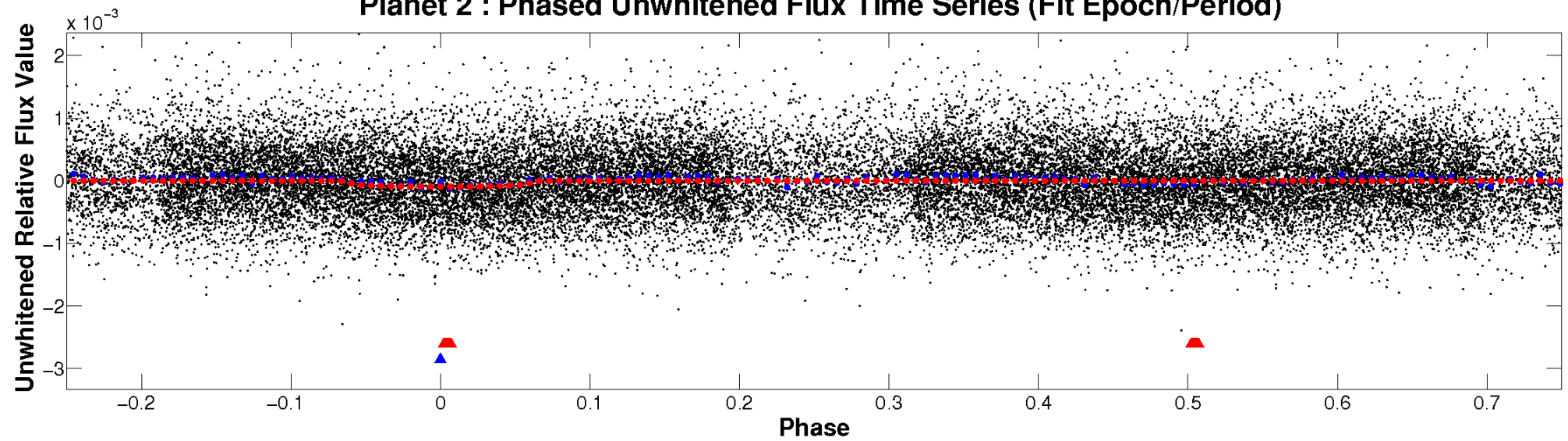
ALT Odd/Even

TCE 011306840-02

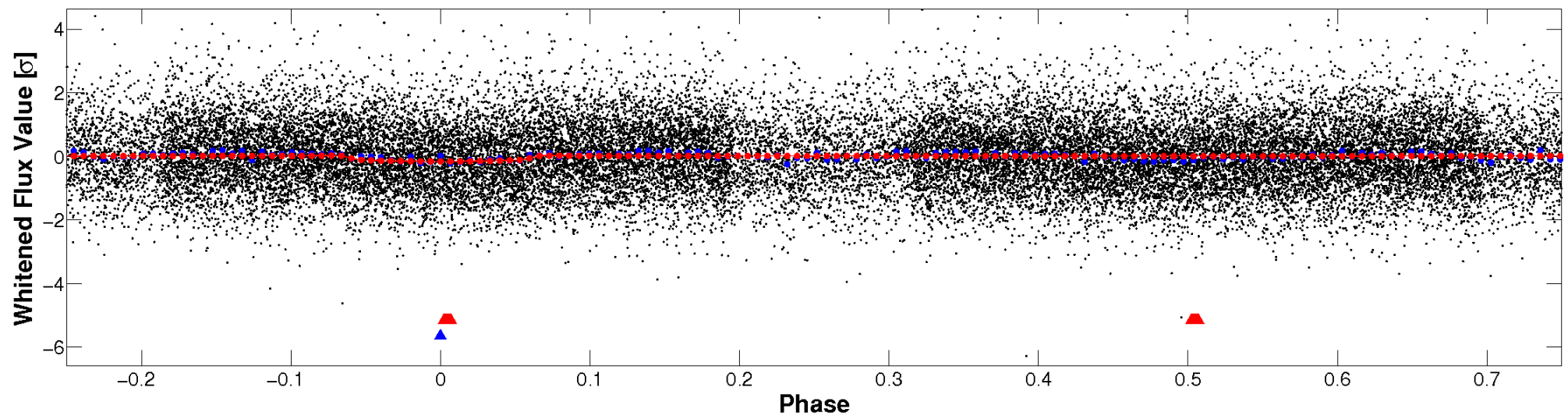


Non-Whitened Vs. Whitened Light Curve

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

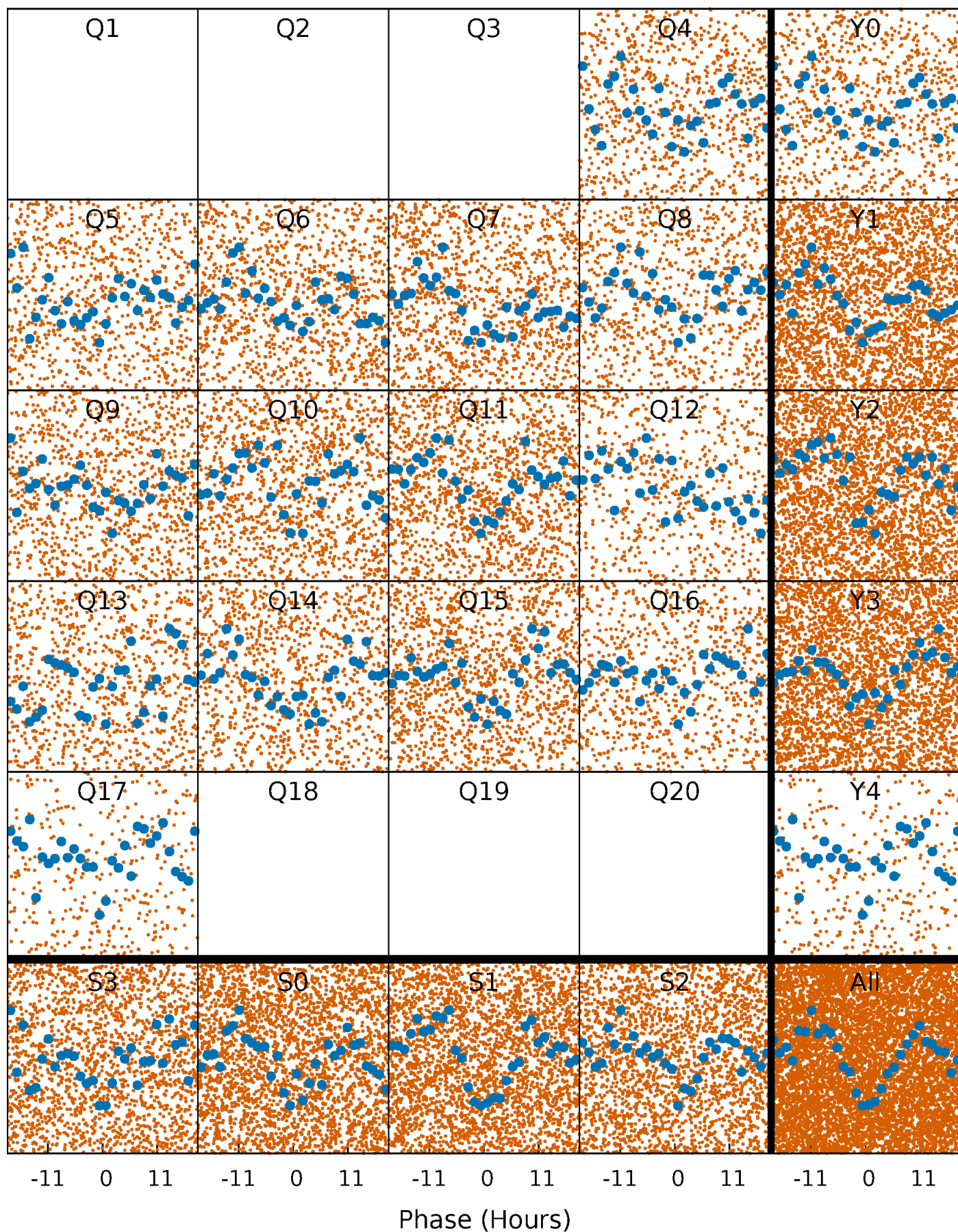


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



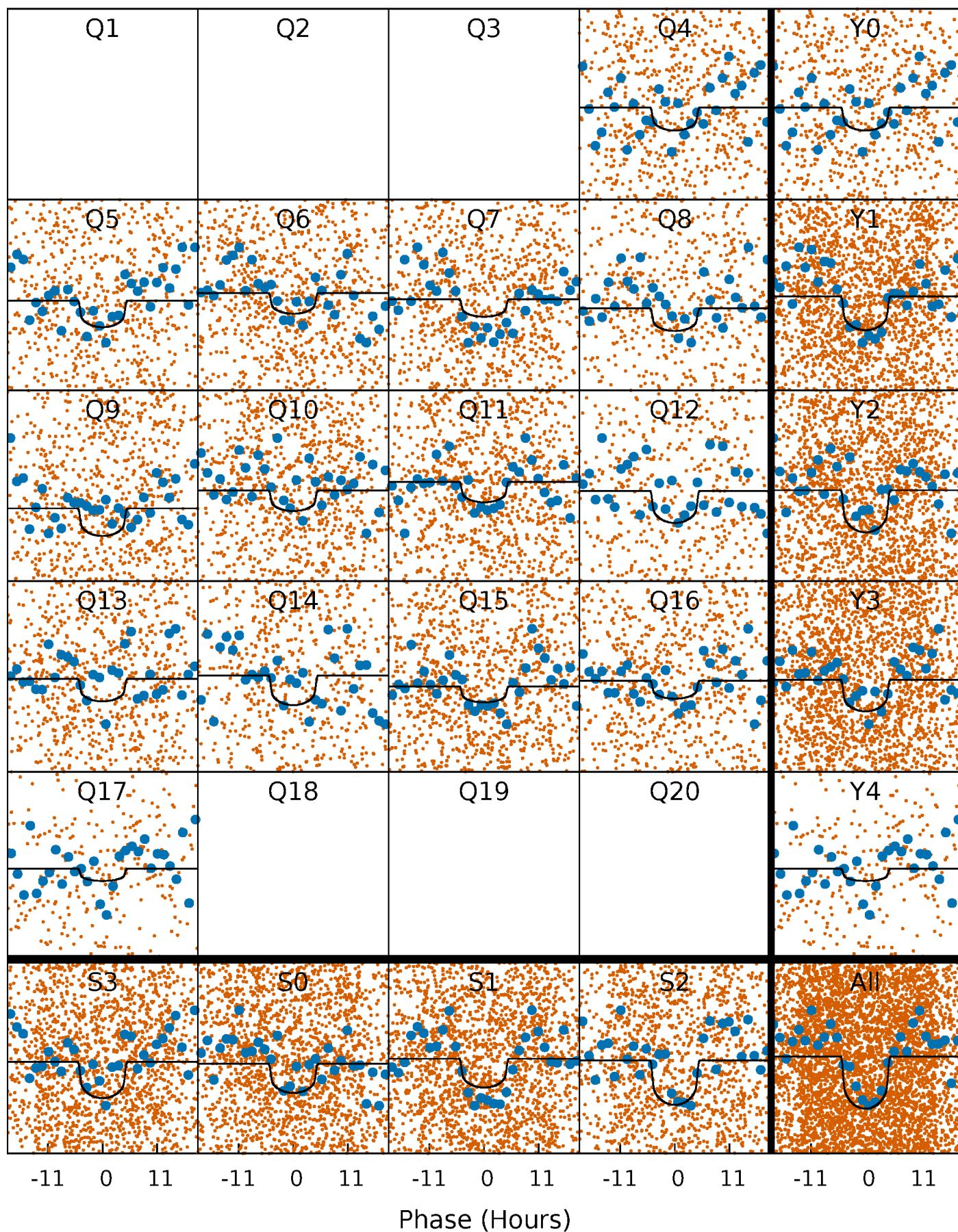
PDC Quarter-Phased Transit Curves

TCE 011306840-02 P= 3.082719 Days $T_0=133.580149$ (BKJD)



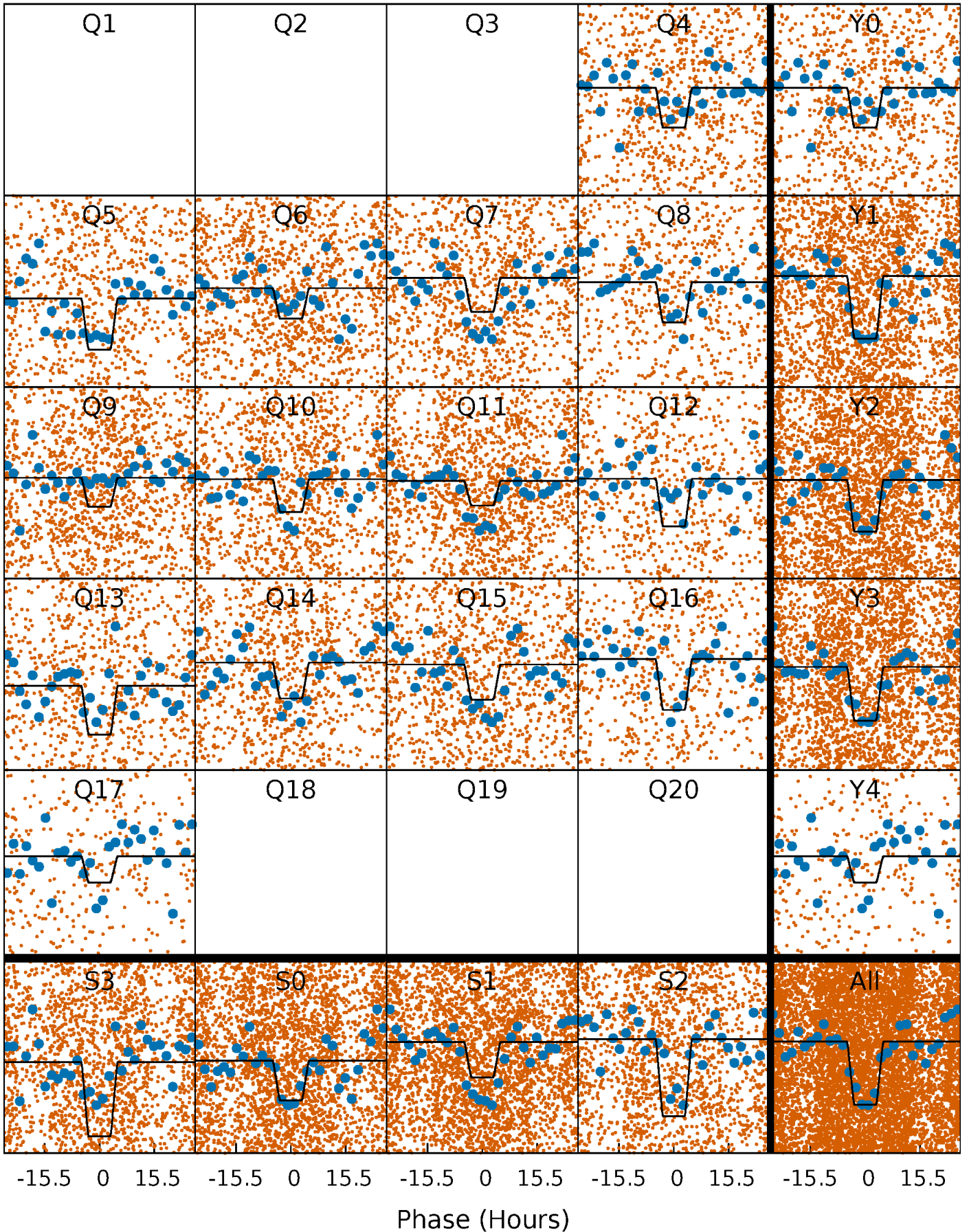
DV Quarter-Phased Transit Curves

TCE 011306840-02 P= 3.082719 Days $T_0=133.580149$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

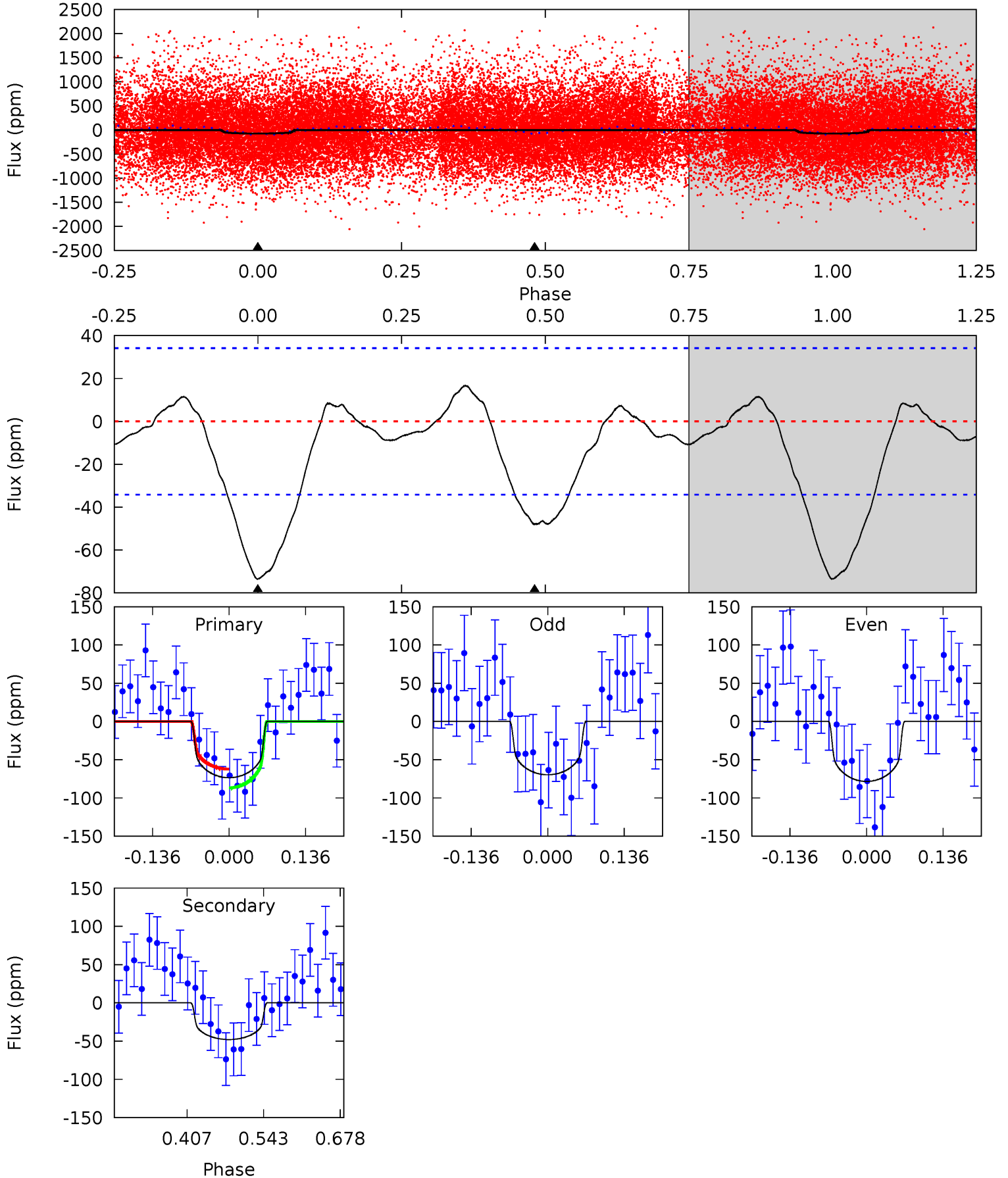
TCE 011306840-02 P= 3.082754 Days $T_0=133.591699$ (BKJD)



DV Model-Shift Uniqueness Test

011306840-02, P = 3.082719 Days, E = 133.580149 Days

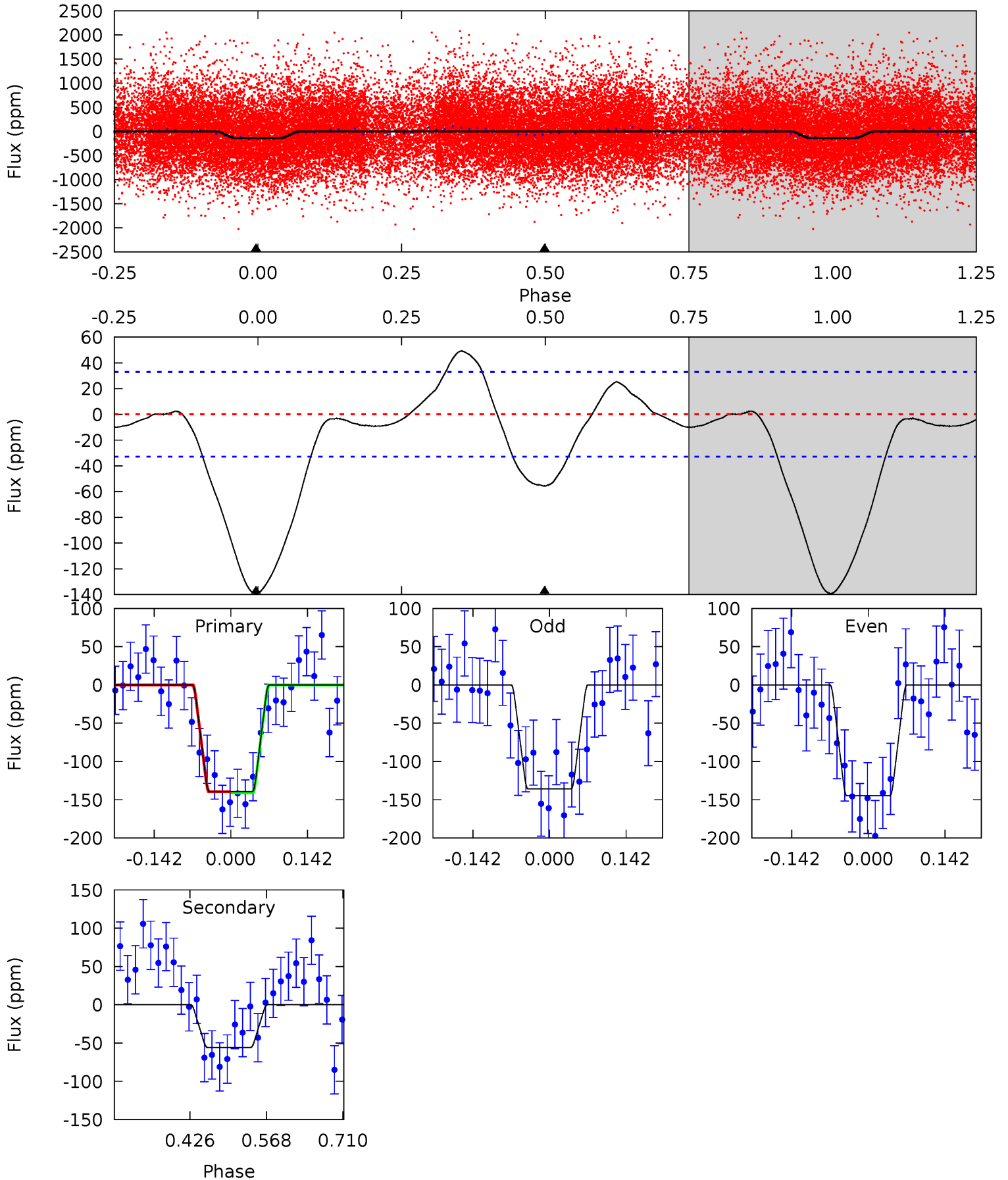
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.67	6.31	0	0	4.50	1.49	0.79	9.67	9.67	6.31	6.31	0.58	0.88	0.18	1.61



Alt Model-Shift Uniqueness Test

011306840-02, P = 3.082754 Days, E = 133.591699 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.0	7.61	0	0	4.49	1.47	2.17	19.0	19.0	7.61	7.61	0.61	0.98	0.26	0.10



Stellar Parameters For KIC 011306840

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4910^{+186}_{-169}	$4.497^{+0.077}_{-0.063}$	$0.480^{+0.050}_{-0.300}$	$0.852^{+0.068}_{-0.085}$	$0.833^{+0.052}_{-0.052}$	$1.896^{+0.638}_{-0.360}$
	+4%/-3%	+2%/-1%	+10%/-62%	+8%/-10%	+6%/-6%	+34%/-19%
Source	KIC0	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 011306840-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-48 ± 8	$0.96^{+0.47}_{-0.40}$	1413^{+66}_{-59}	4206^{+1099}_{-588}	44^{+90}_{-25}
Alt.	-56 ± 7	$1.16^{+0.44}_{-0.43}$	1413^{+69}_{-54}	4034^{+827}_{-446}	35^{+55}_{-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

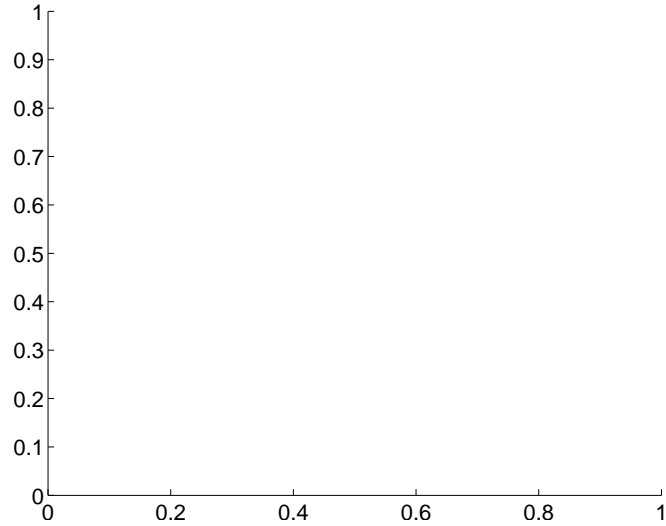
Supplemental centroid analysis for 011306840-02. Kepler magnitude: 15.62. Transit SNR 9.08

There are 0 quarters with good PRF difference image offsets

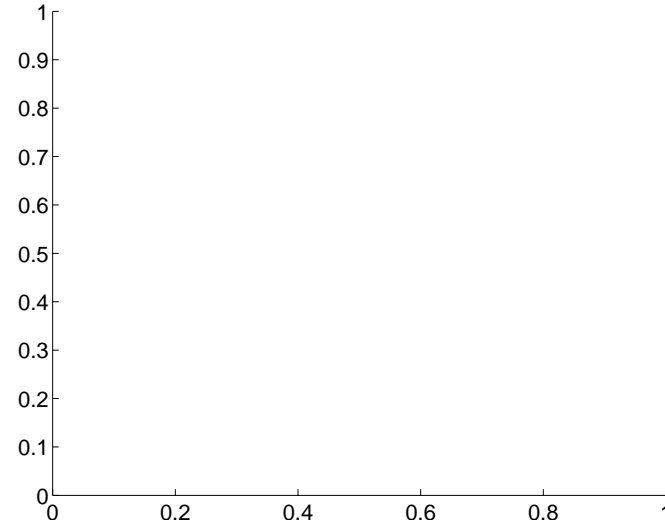
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.33 ± 1.54	0.21	-0.00 ± 1.32	-0.33 ± 1.54

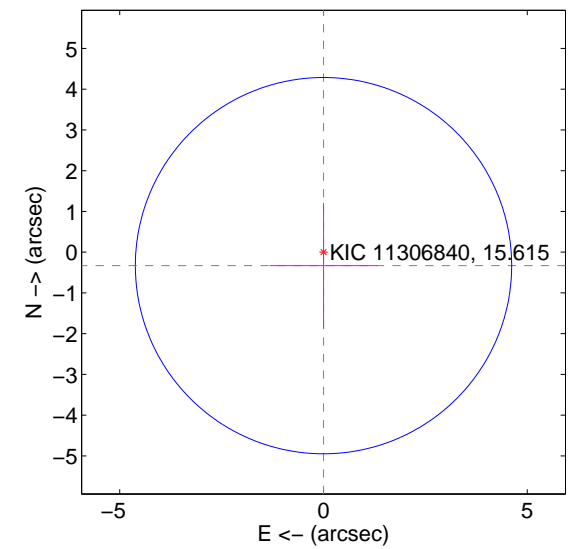
There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

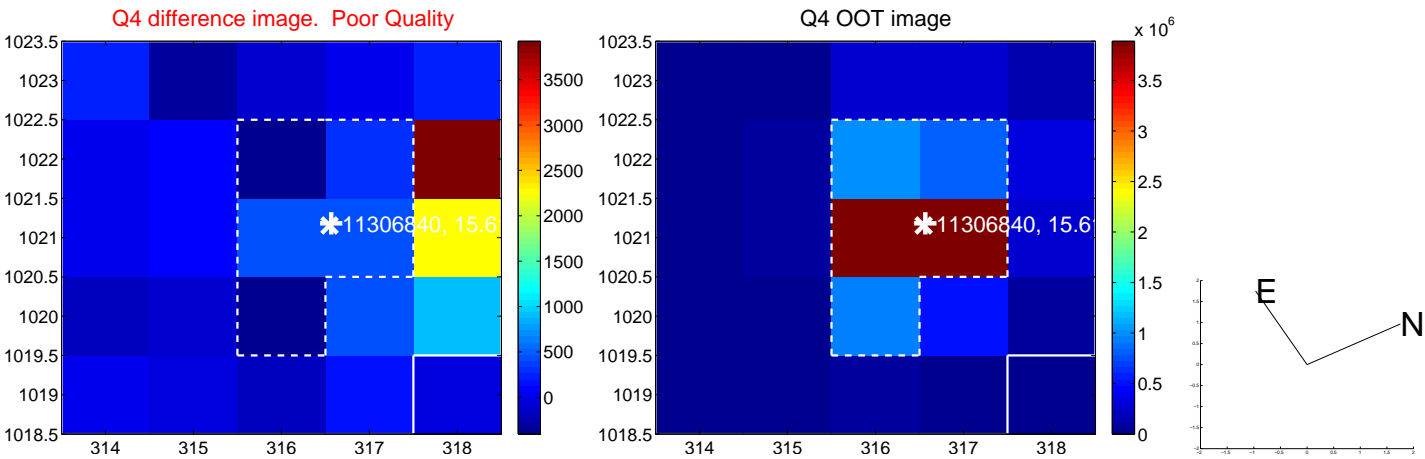
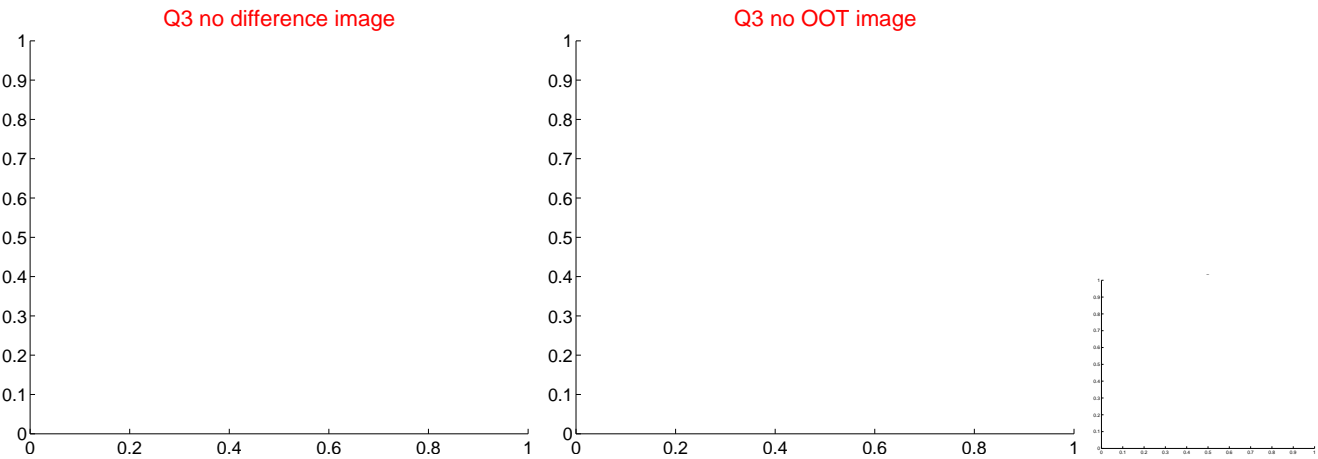
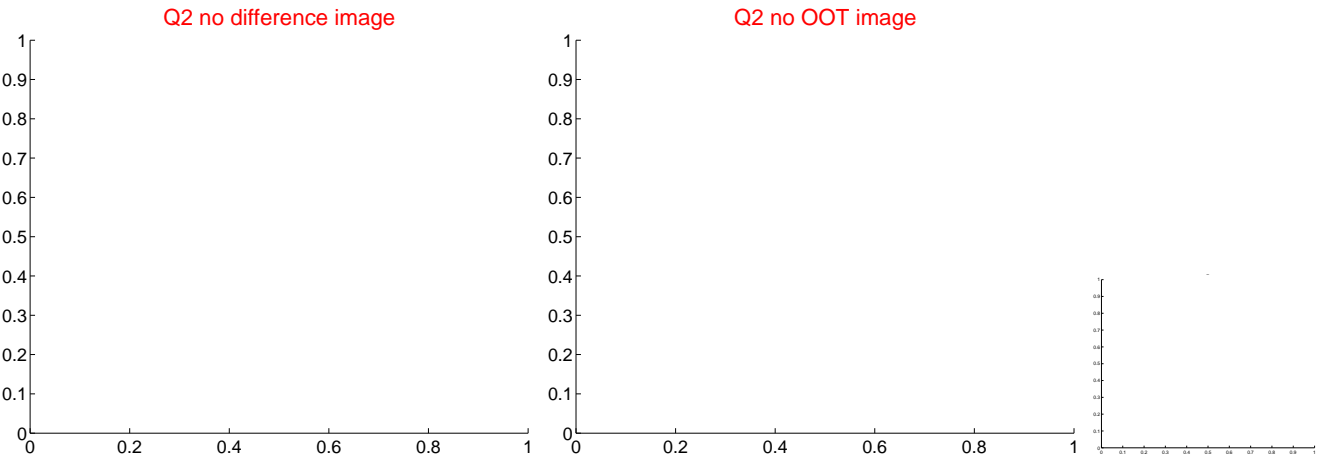
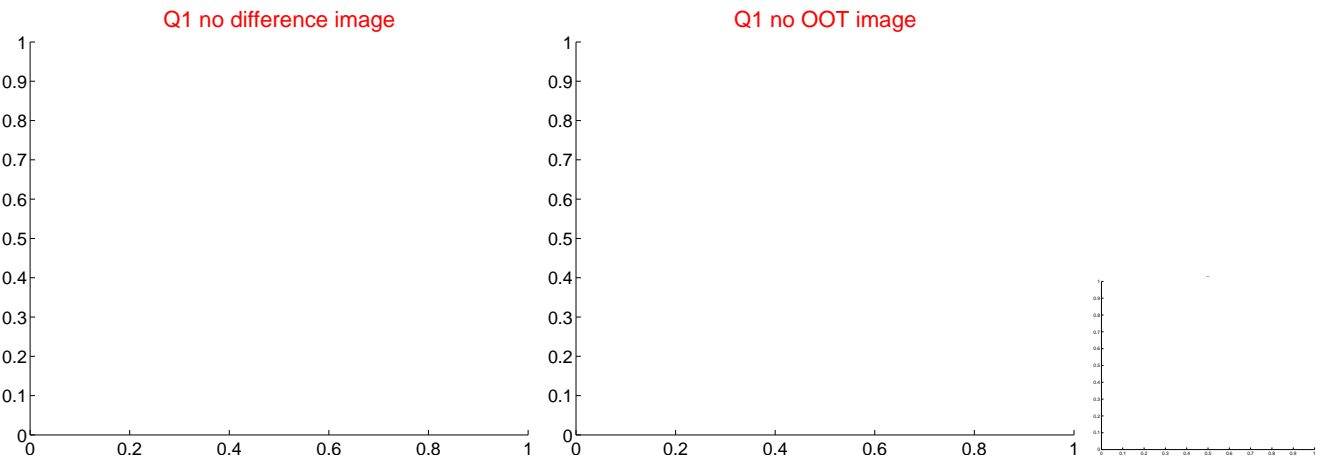


offset from photometric centroids

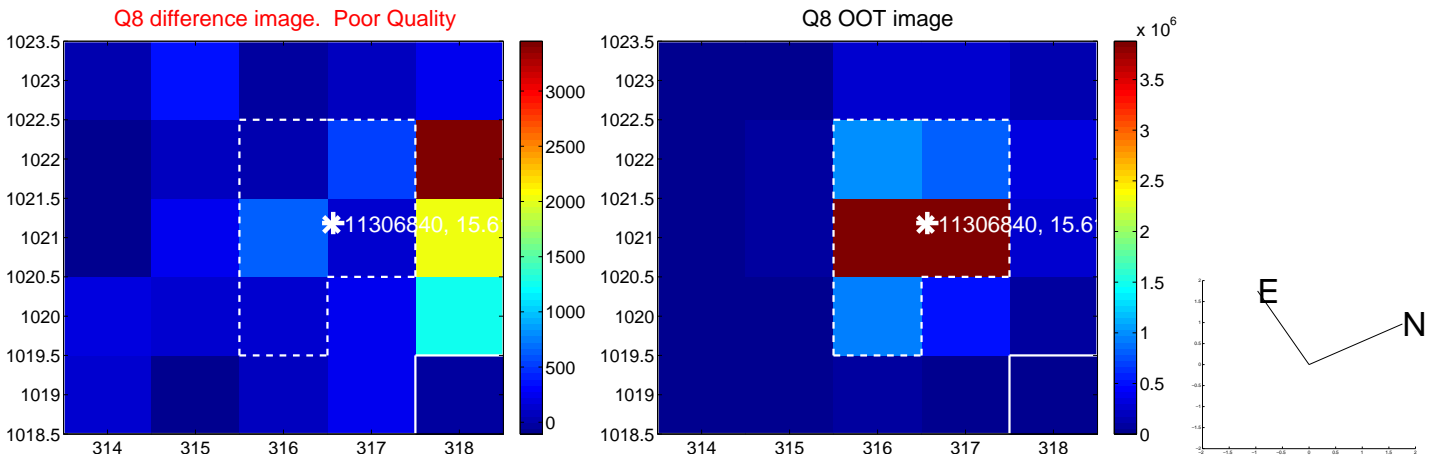
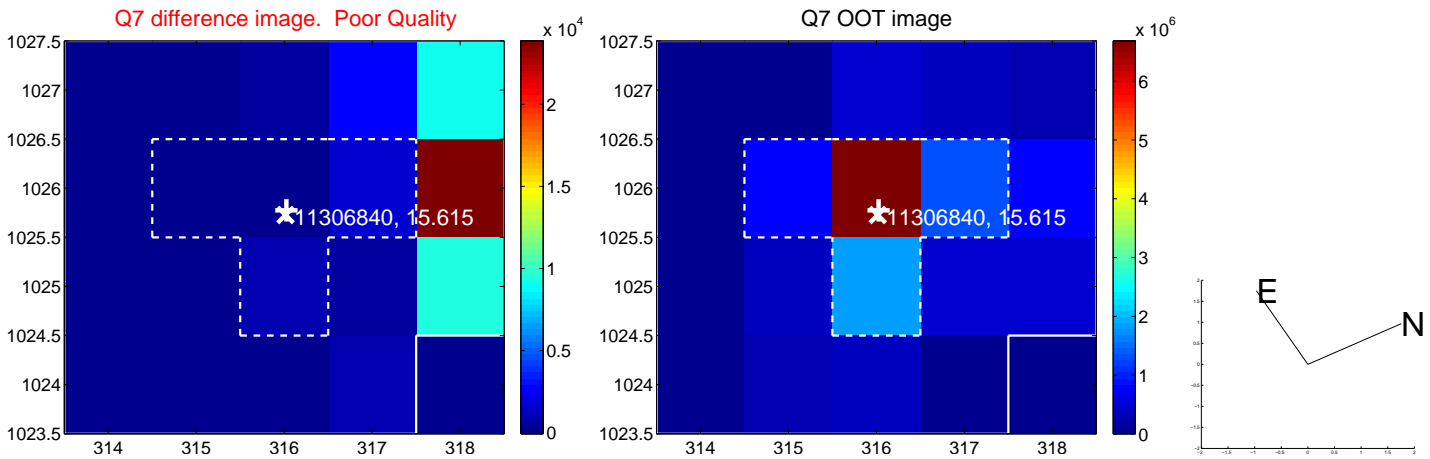
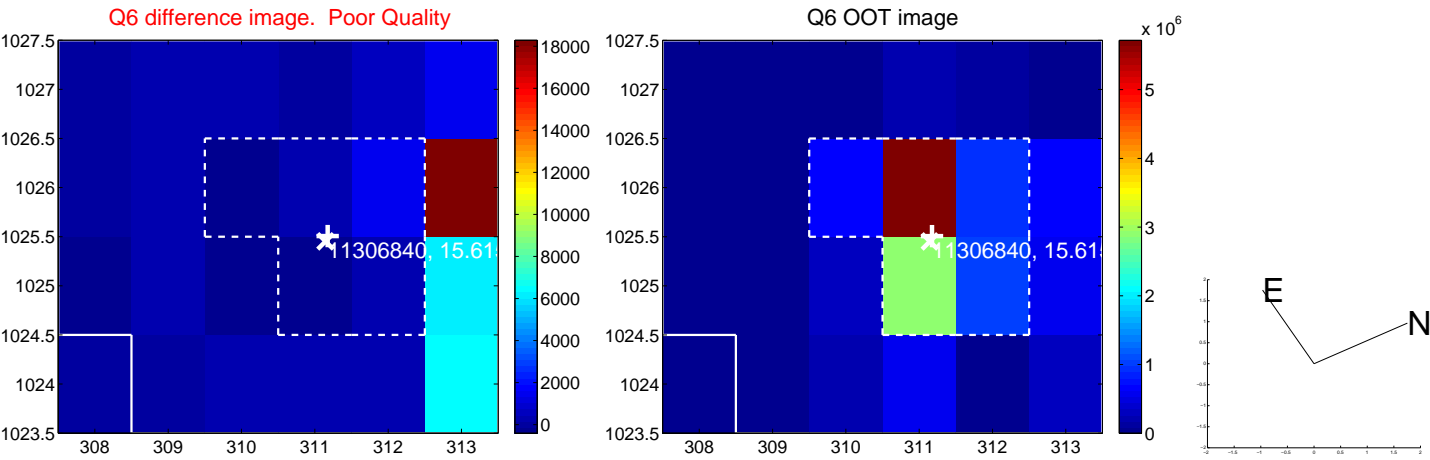
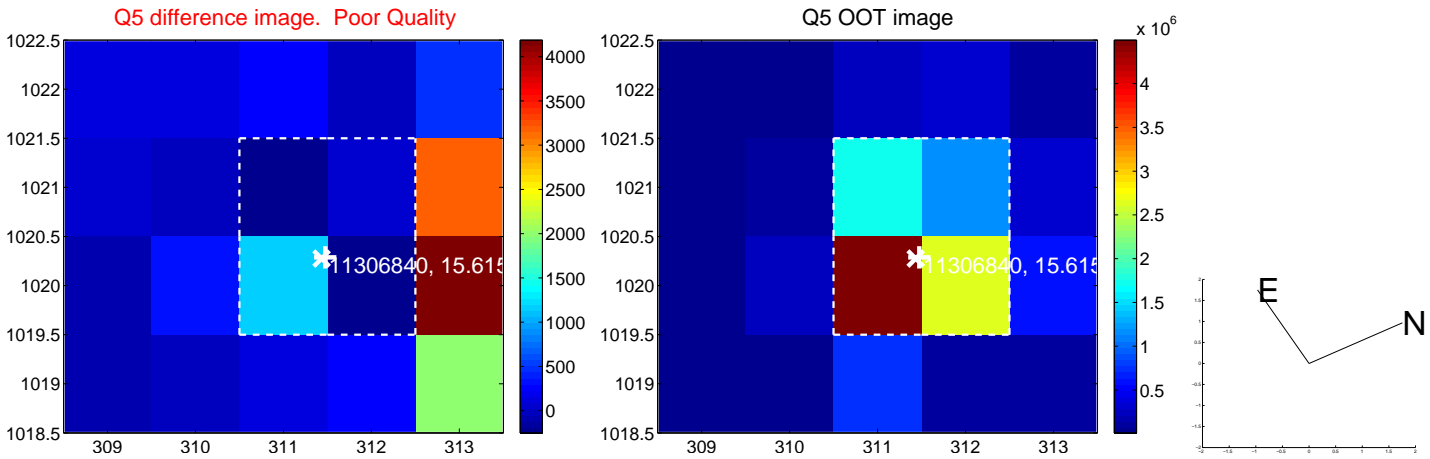


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

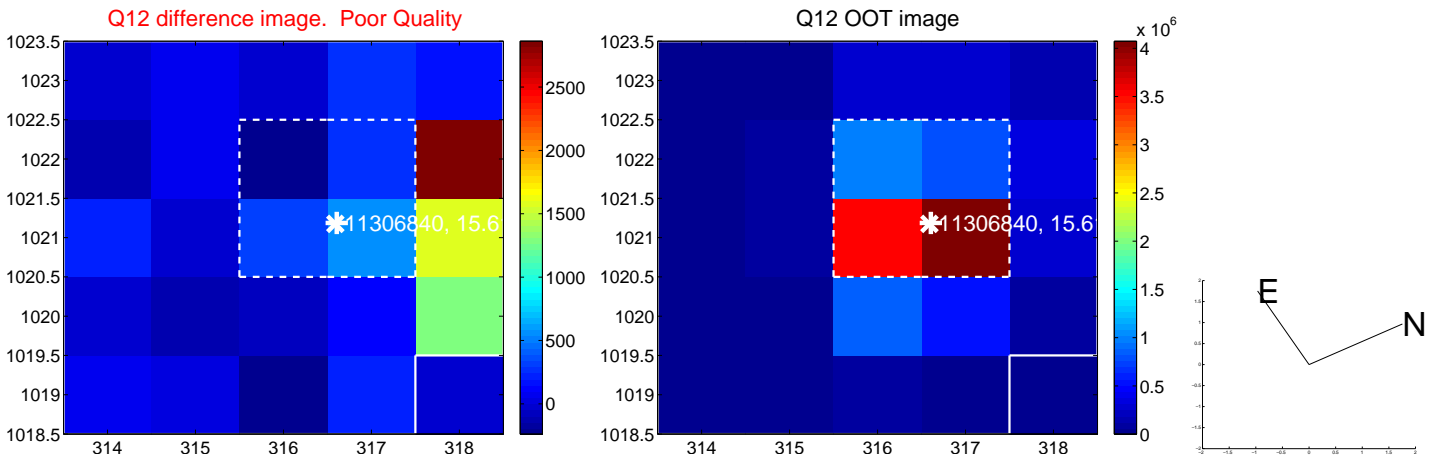
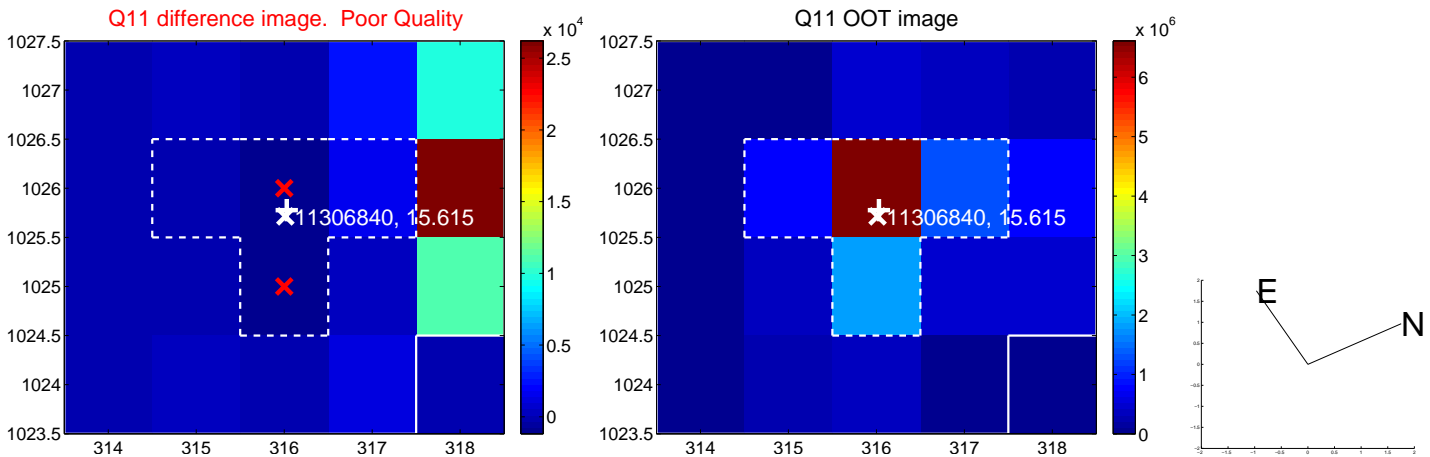
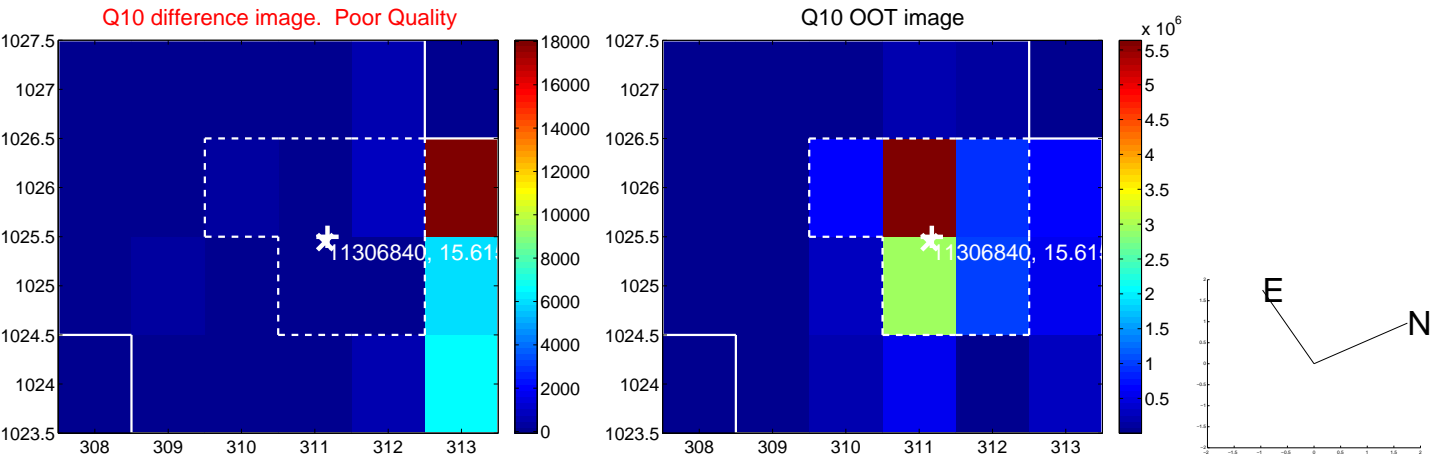
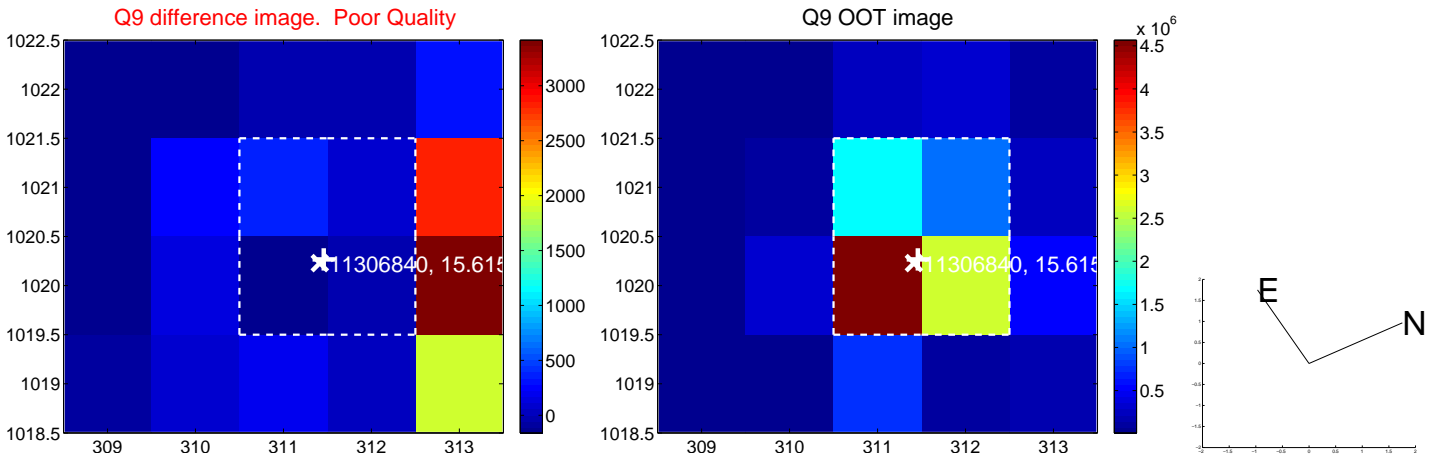
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



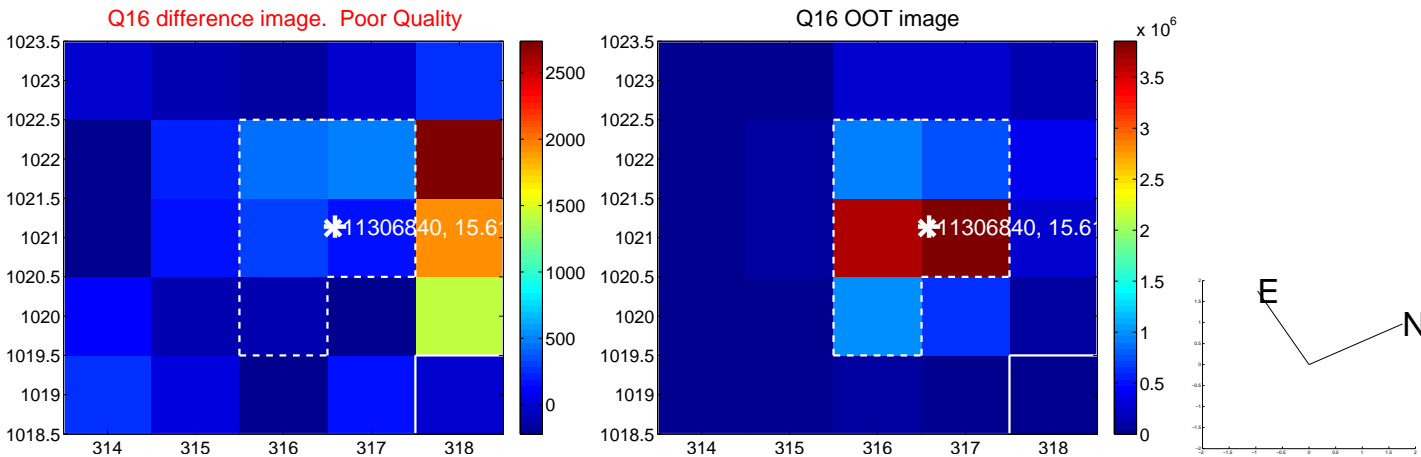
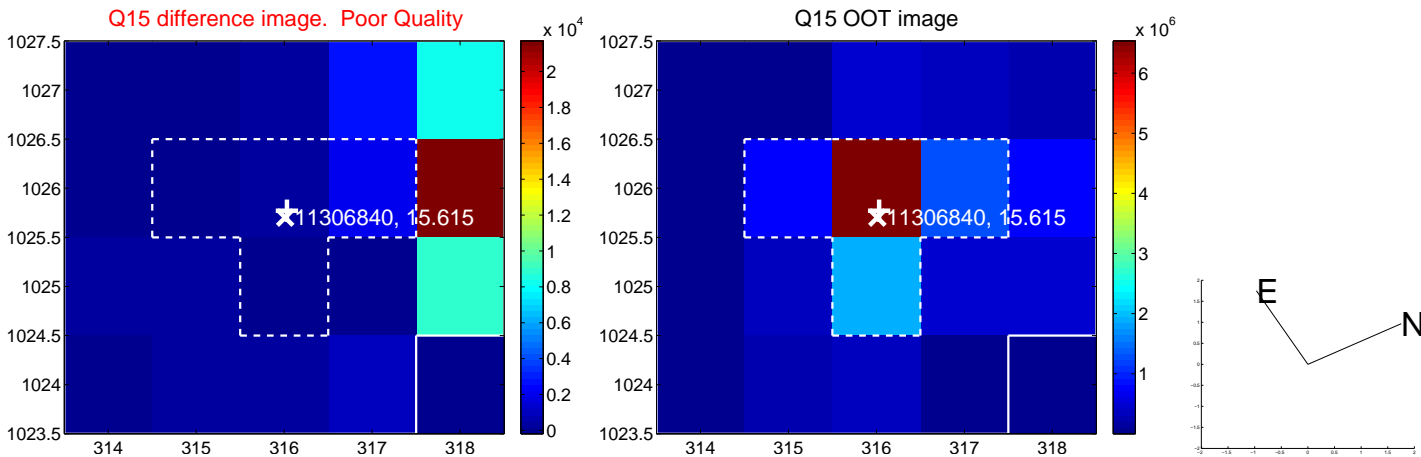
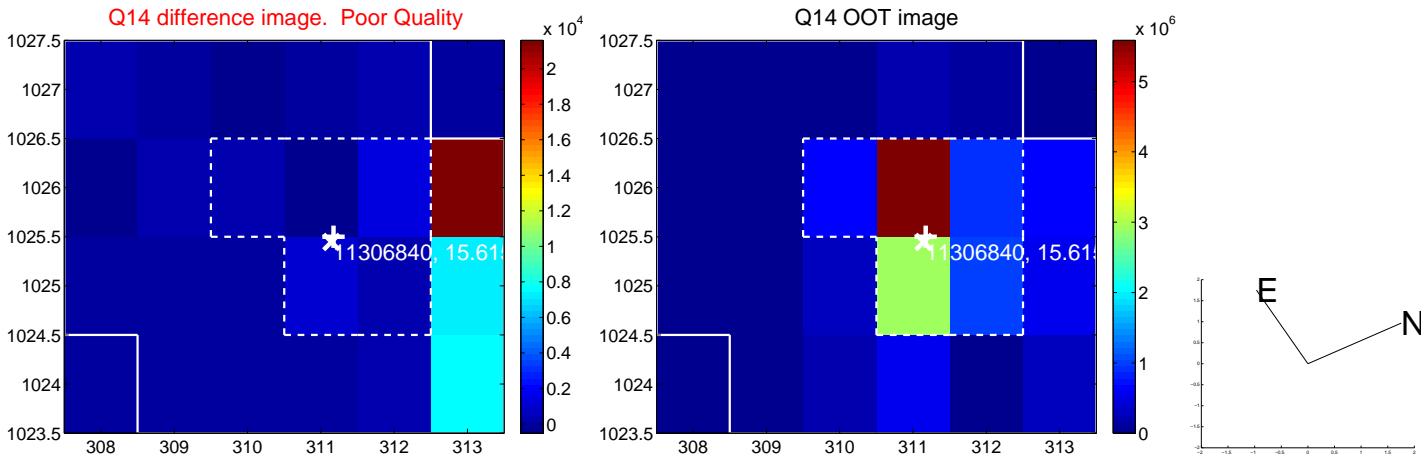
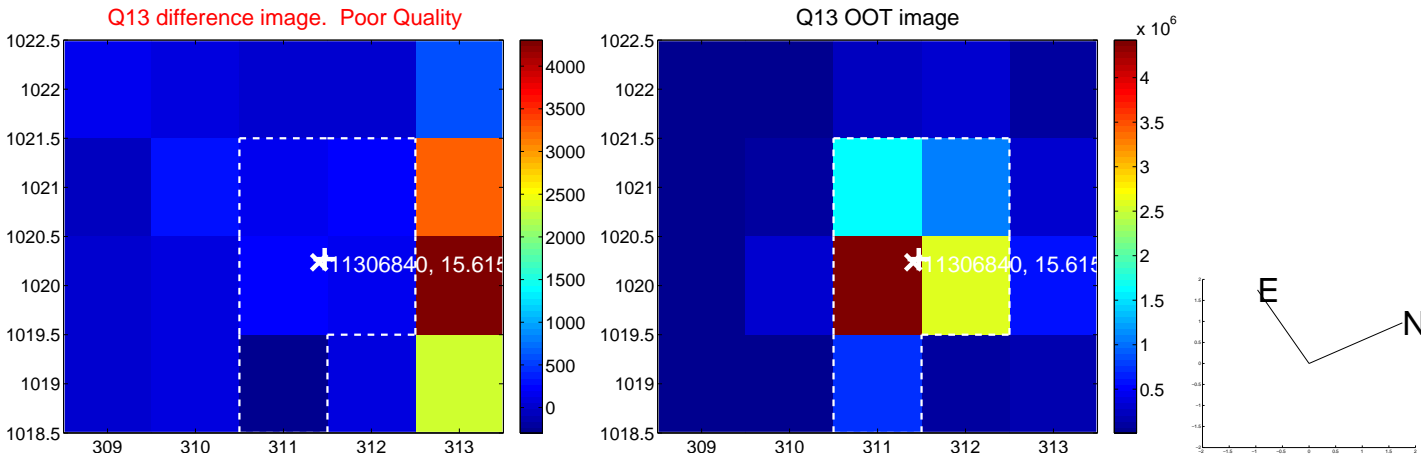
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



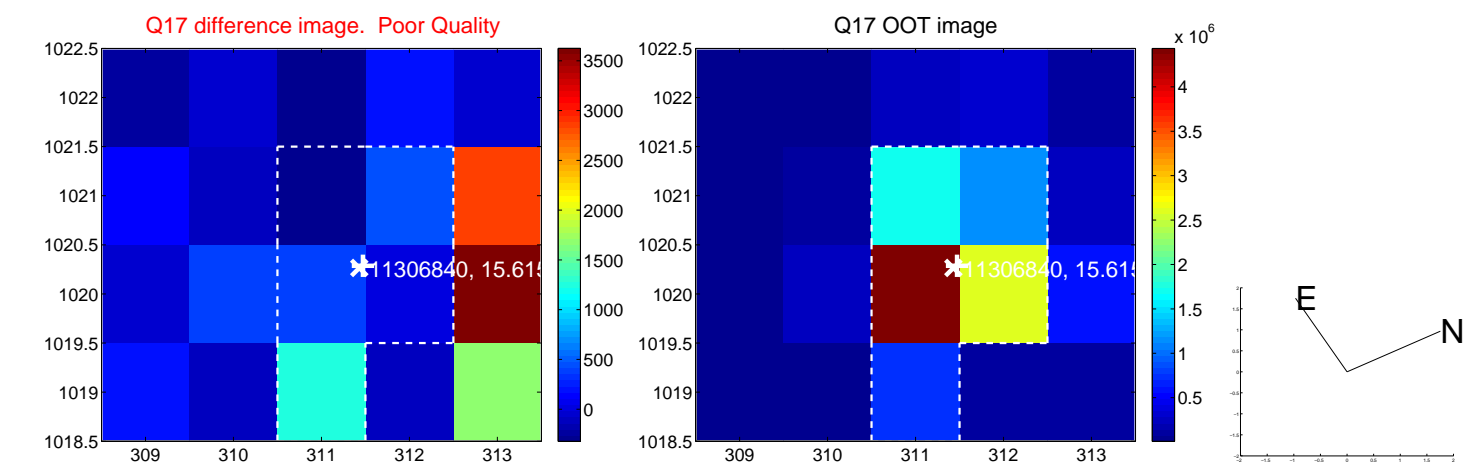
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



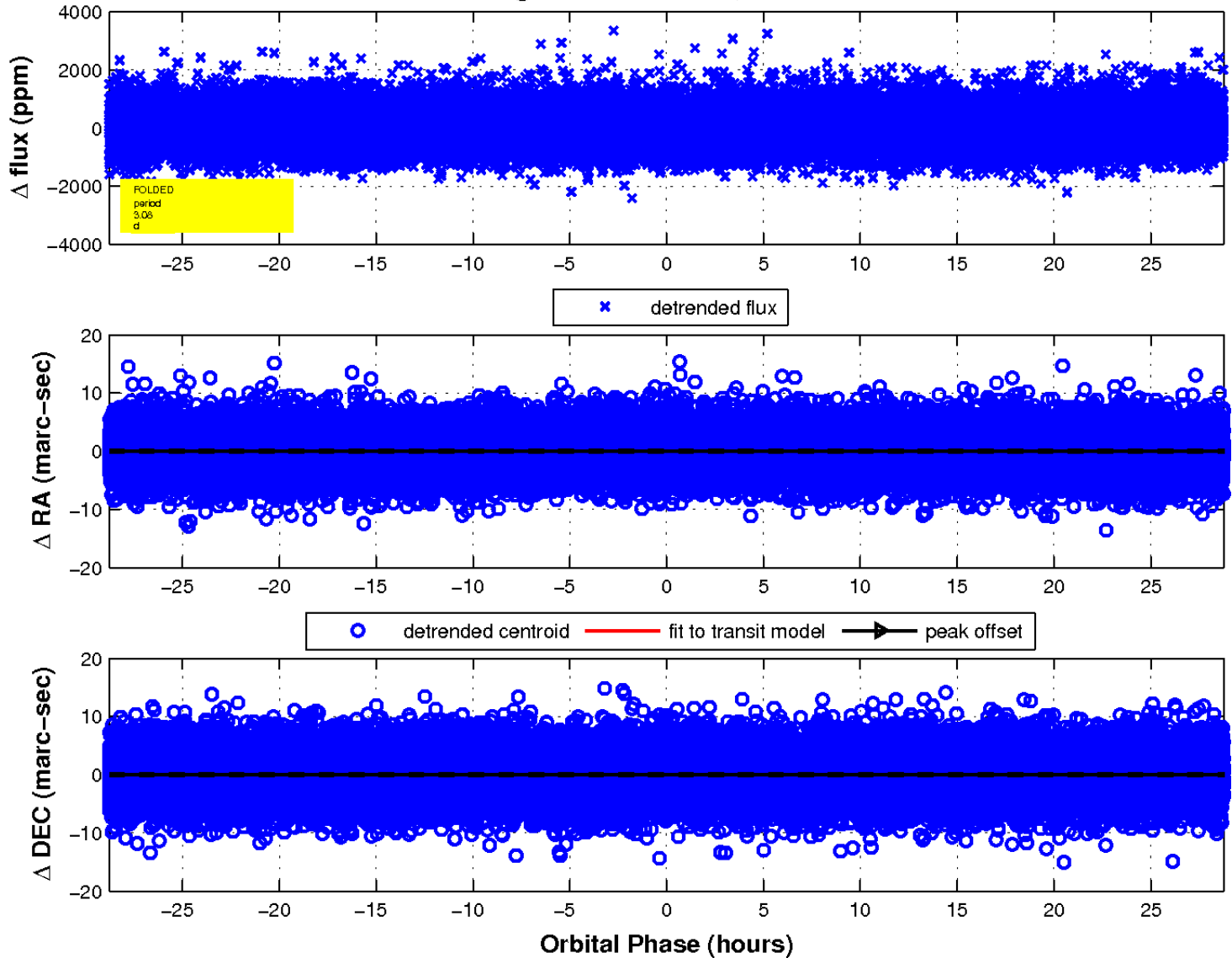
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

