

KIC 004379948

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})
004379948-01	OBS	No	2.805608	132.507608	45.4	20.198	7.6	8.2	1.05	6215	0.72	909.14
004379948-03	OBS	No	25.537052	144.044948	469.5	6.423	14.4	12.4	1.05	6215	2.47	47.84
004379948-04	OBS	No	91.137004	214.092844	547.2	2.635	11.0	11.5	1.05	6215	2.77	8.77
004379948-05	OBS	No	60.012279	188.275226	601.9	6.667	11.0	11.9	1.05	6215	3.07	15.31
004379948-06	OBS	No	34.409382	160.283297	286.0	5.947	10.1	9.7	1.05	6215	1.89	32.14
004379948-07	OBS	No	63.989987	137.220837	567.3	2.961	10.0	10.3	1.05	6215	2.61	14.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004379948-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
004379948-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004379948-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004379948-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
004379948-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
004379948-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_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.

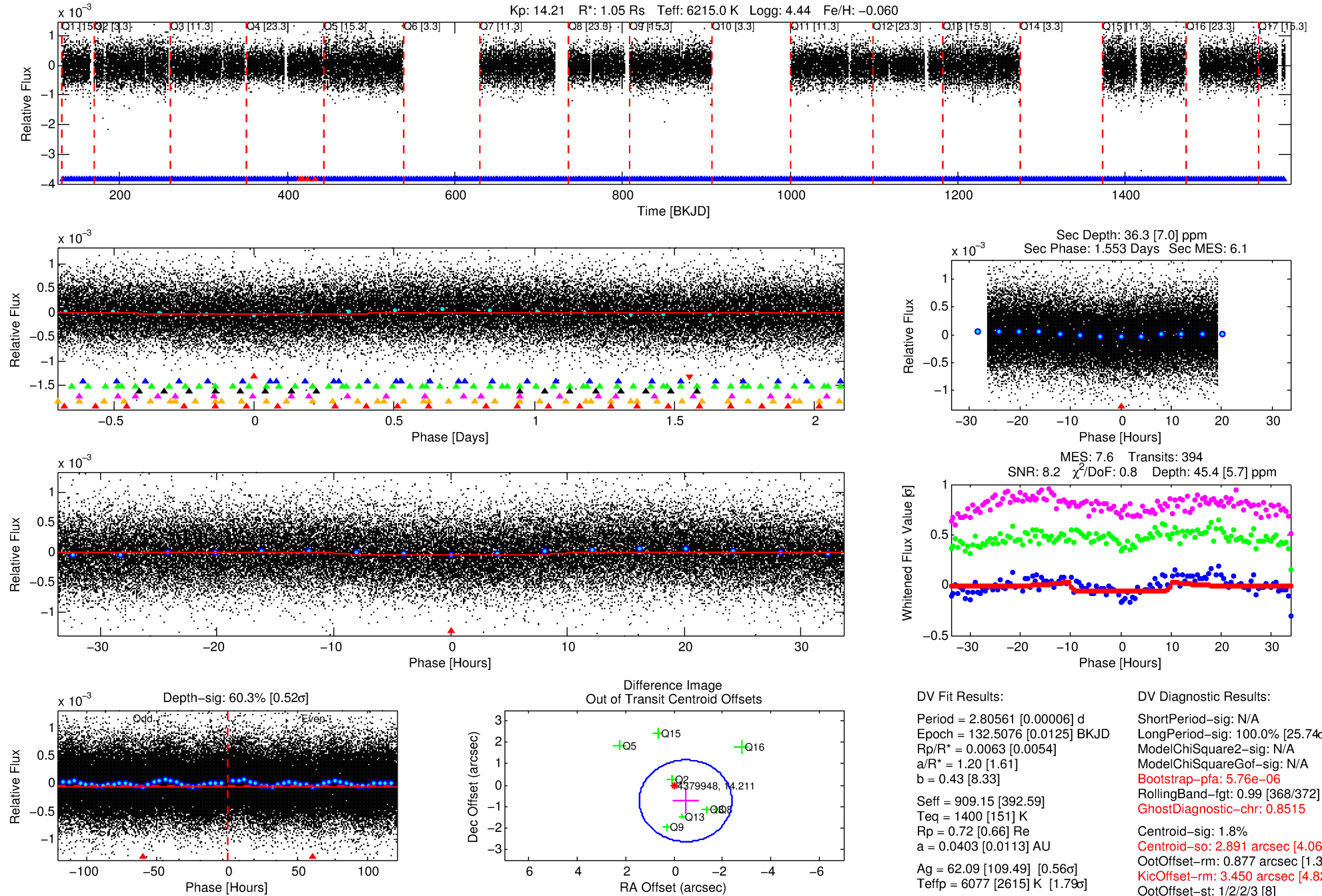
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004379948-01

No Significant Match Found

DV One-Page Summary

KIC: 4379948 Candidate: 1 of 7 Period: 2.806 d



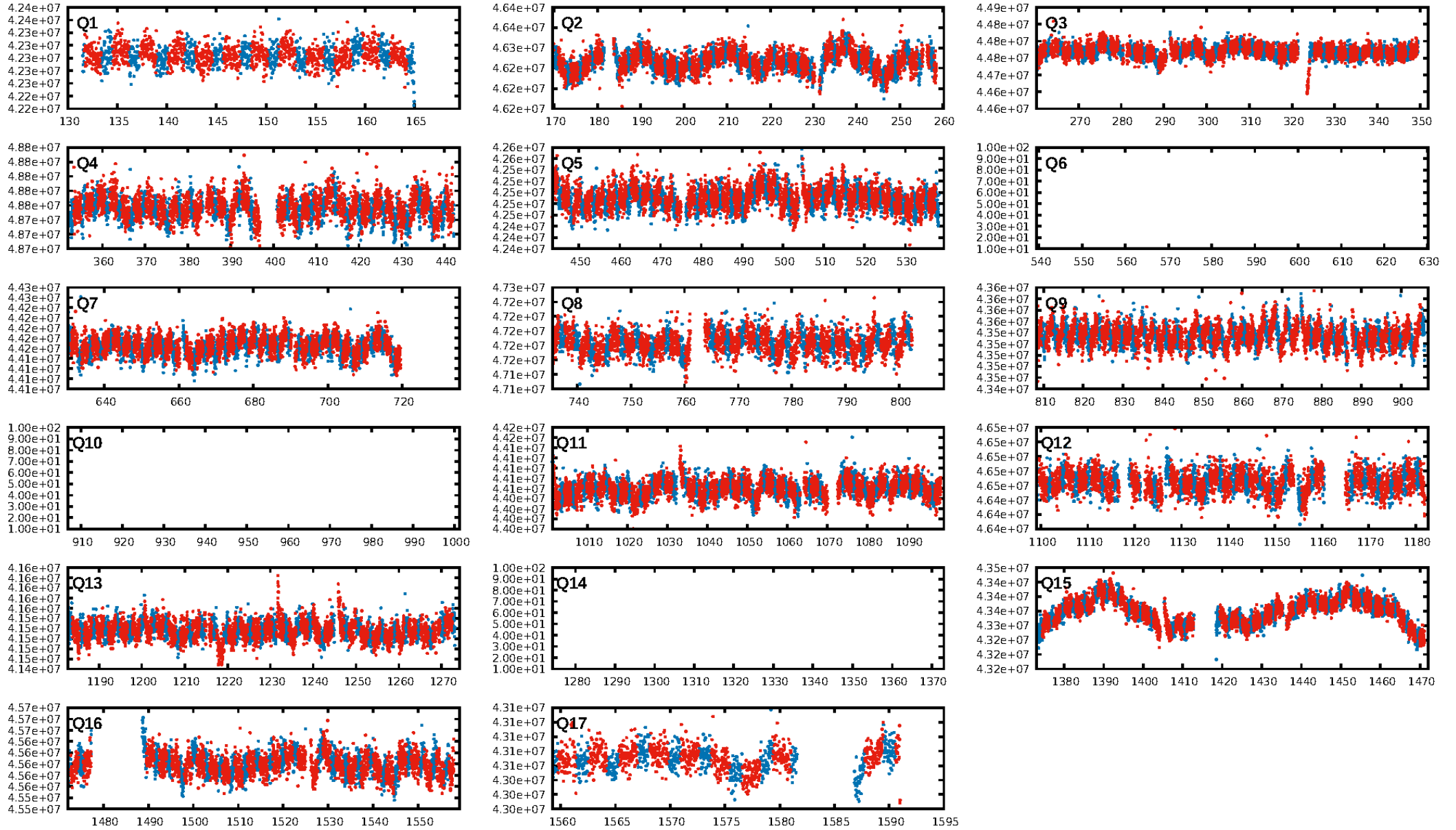
DV Fit Results:

Period = 2.80561 [0.00006] d
Epoch = 132.5076 [0.0125] BKJD
Rp/R* = 0.0063 [0.0054]
a/R* = 1.20 [1.61]
b = 0.43 [8.33]
Seff = 909.15 [392.59]
Teq = 1400 [151] K
Rp = 0.72 [0.66] Re
a = 0.0403 [0.0113] AU
Ag = 62.09 [109.49] [0.56 σ]
Teffp = 6077 [2615] K [1.79 σ]

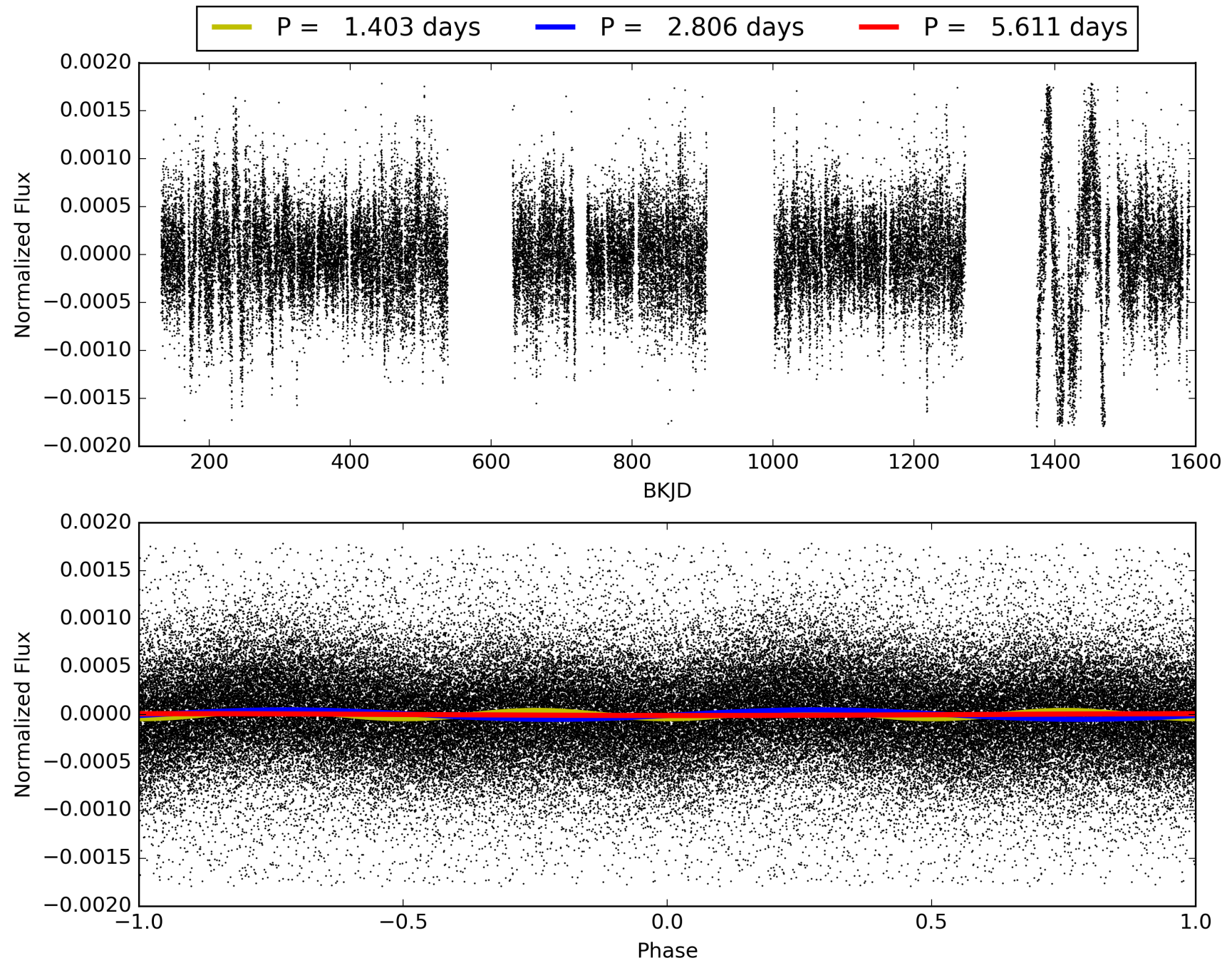
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [25.74 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.76e-06
RollingBand-fgt: 0.99 [368/372]
GhostDiagnostic-chr: 0.8515
Centroid-sig: 1.8%
Centroid-so: 2.891 arcsec [4.06 σ]
OotOffset-rm: 0.877 arcsec [1.38 σ]
KicOffset-rm: 3.450 arcsec [4.82 σ]
OotOffset-st: 1/2/2/3 [8]
KicOffset-st: 1/2/2/3 [8]
DiffImageQuality-fgm: 0.88 [7/8]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 004379948-01, PDC Light Curves

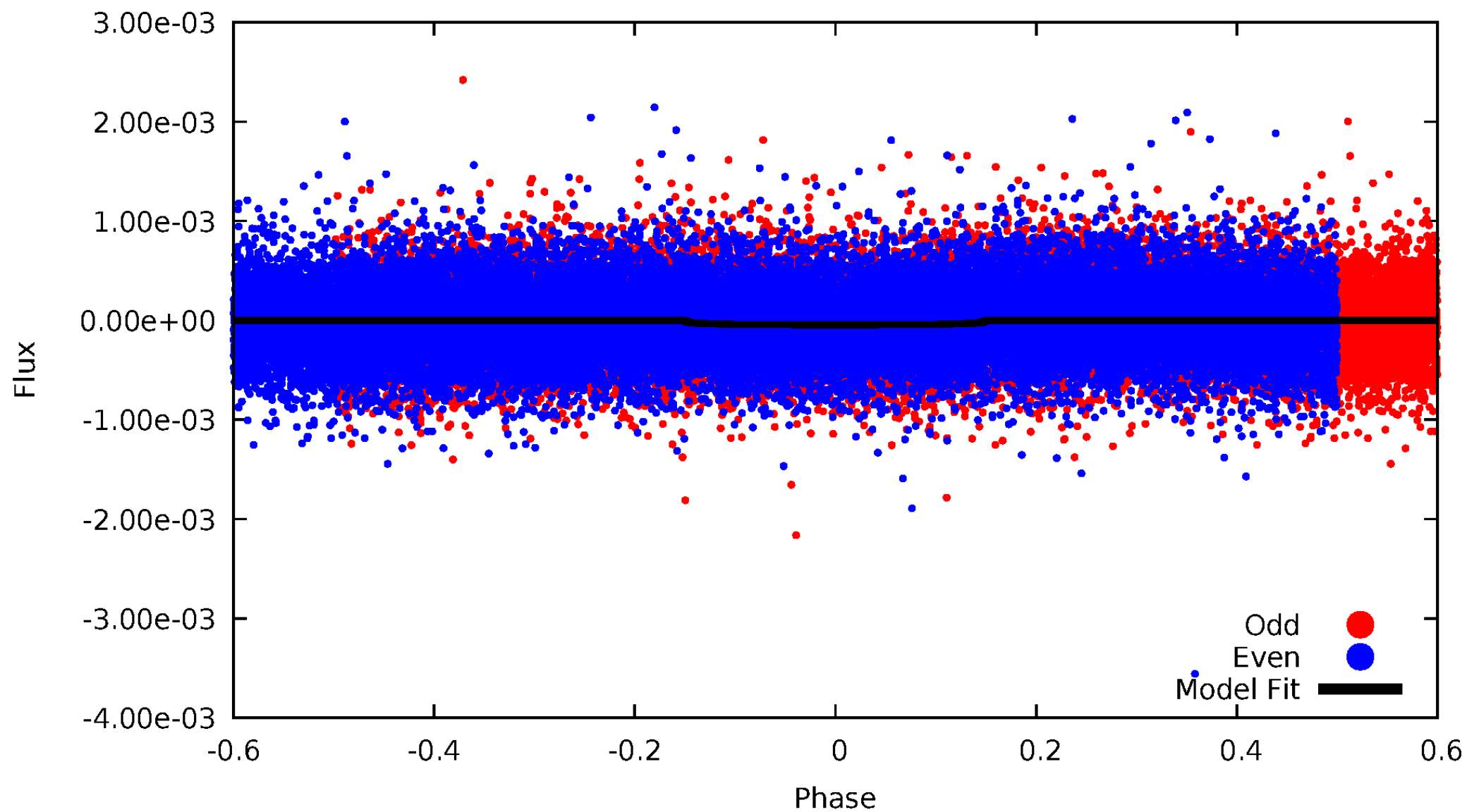


TCE 004379948-01



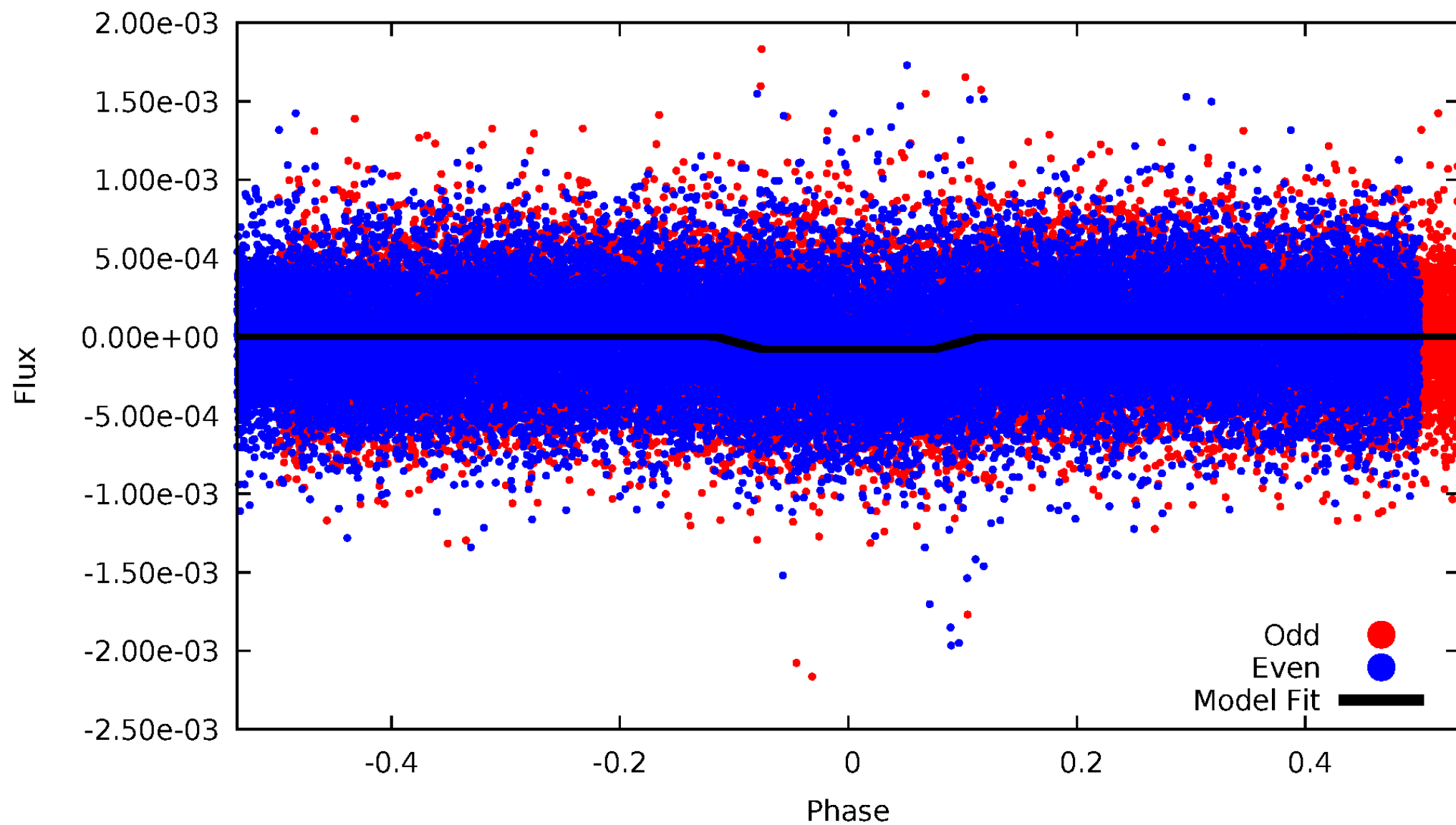
DV Odd/Even

TCE 004379948-01



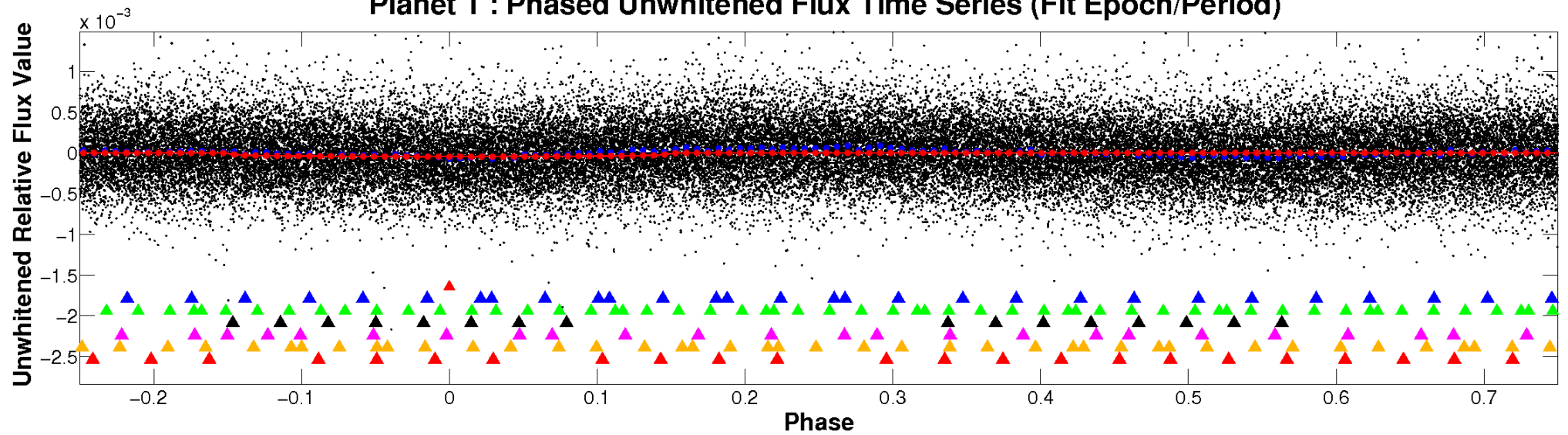
ALT Odd/Even

TCE 004379948-01

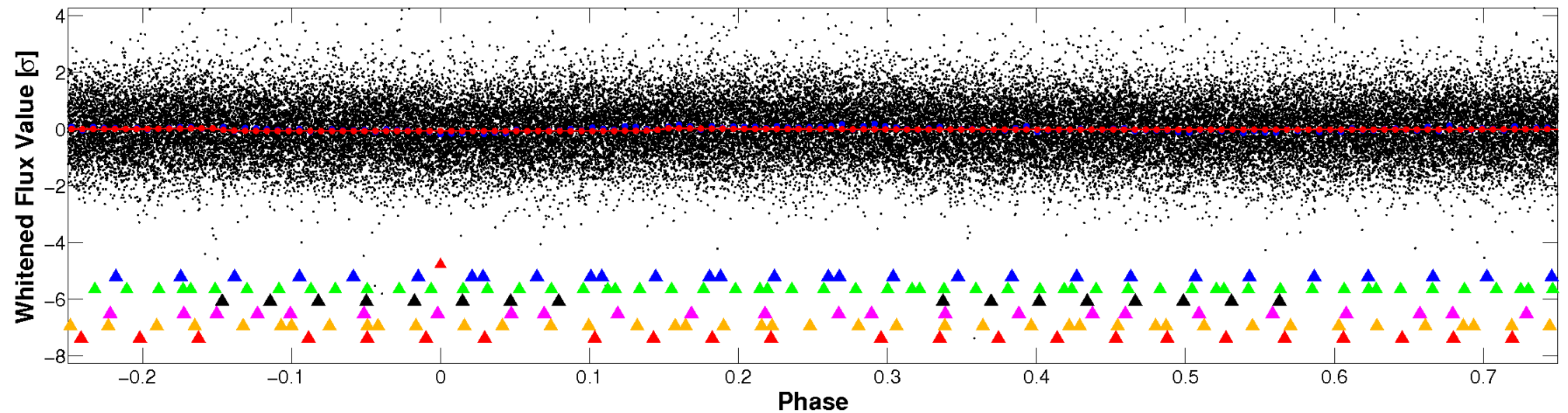


Non-Whitened Vs. Whitened Light Curve

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

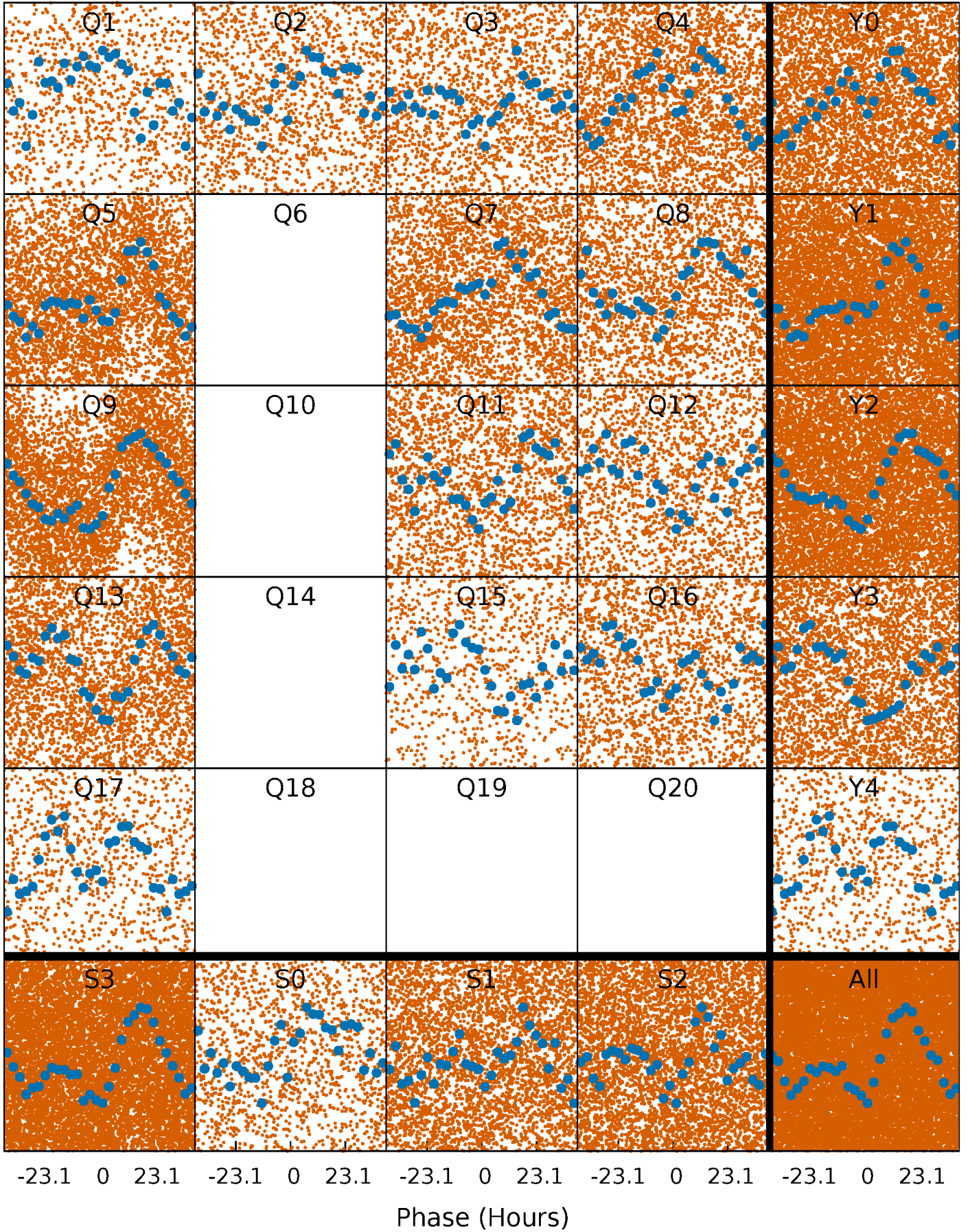


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



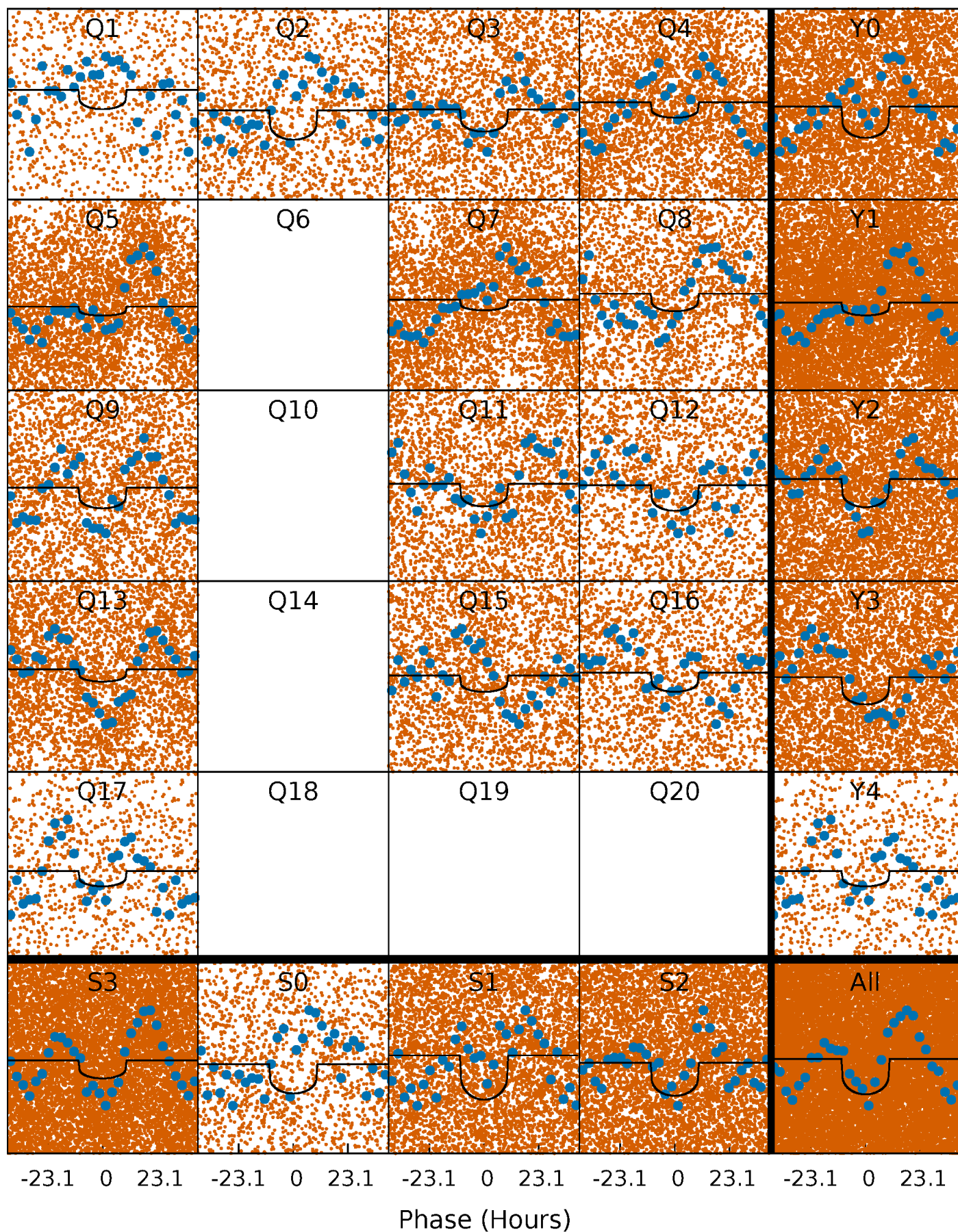
PDC Quarter-Phased Transit Curves

TCE 004379948-01 P= 2.805608 Days $T_0=132.507608$ (BKJD)



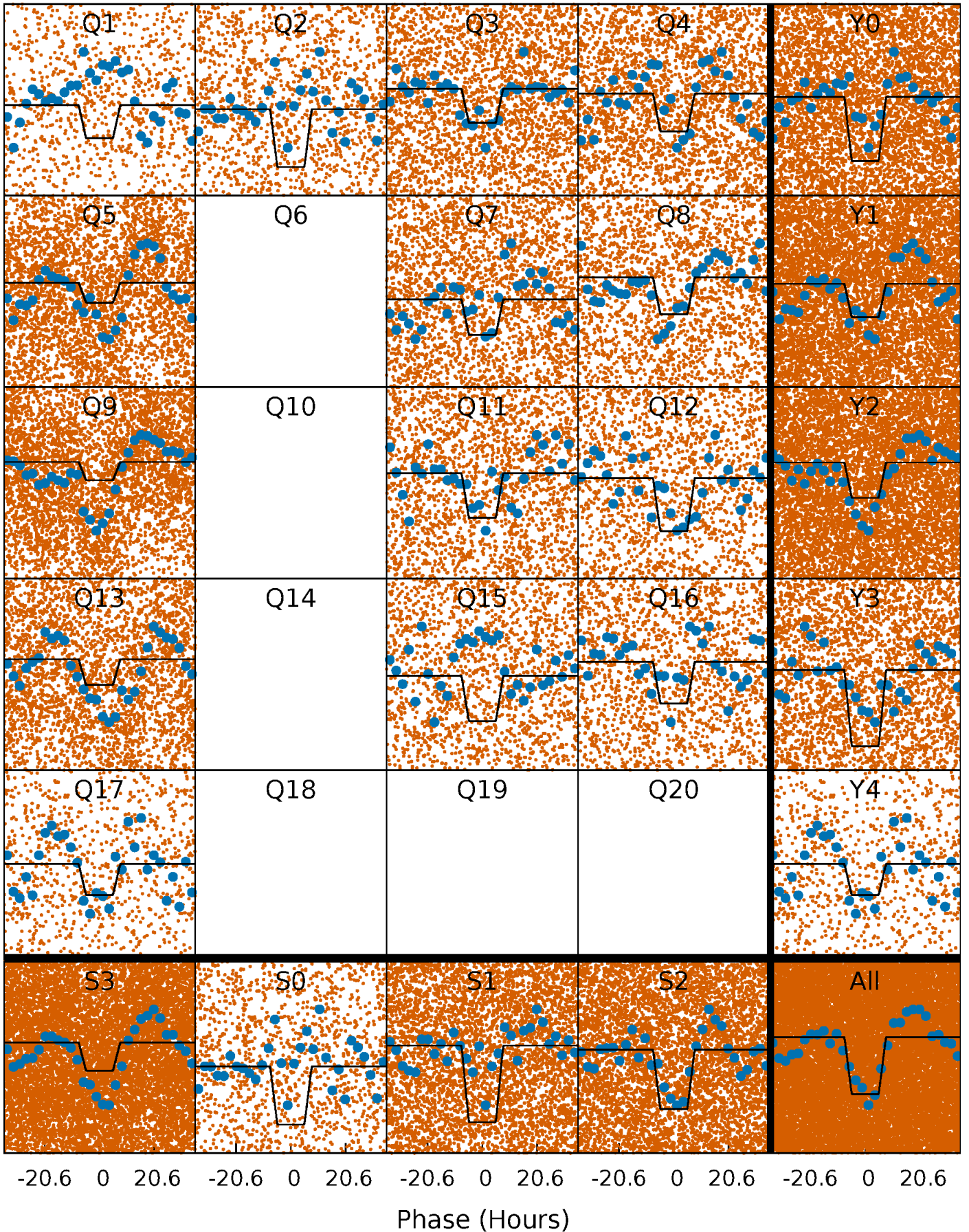
DV Quarter-Phased Transit Curves

TCE 004379948-01 P= 2.805608 Days $T_0=132.507608$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

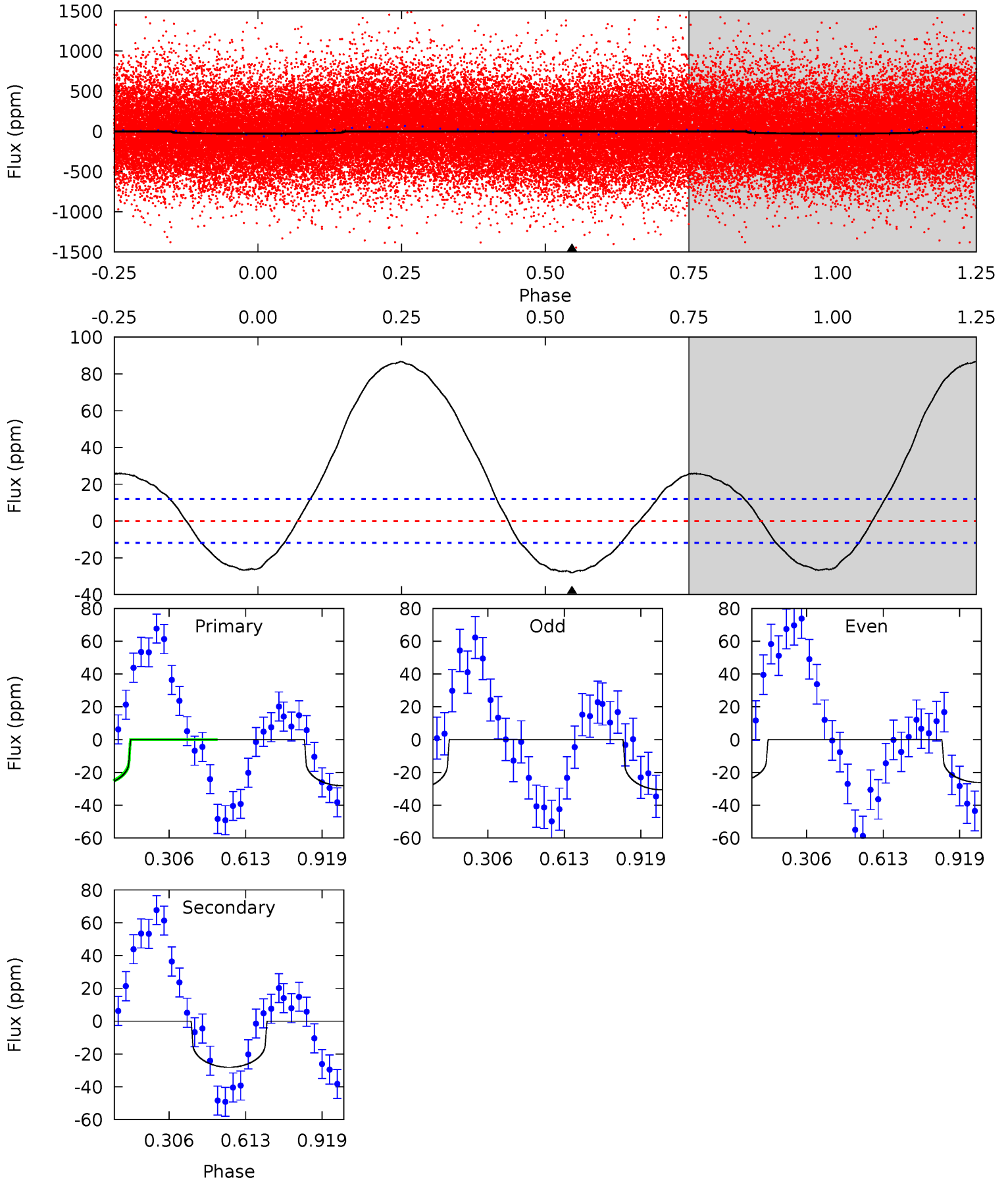
TCE 004379948-01 P= 2.805375 Days $T_0=132.529594$ (BKJD)



DV Model-Shift Uniqueness Test

004379948-01, P = 2.805608 Days, E = 129.702000 Days

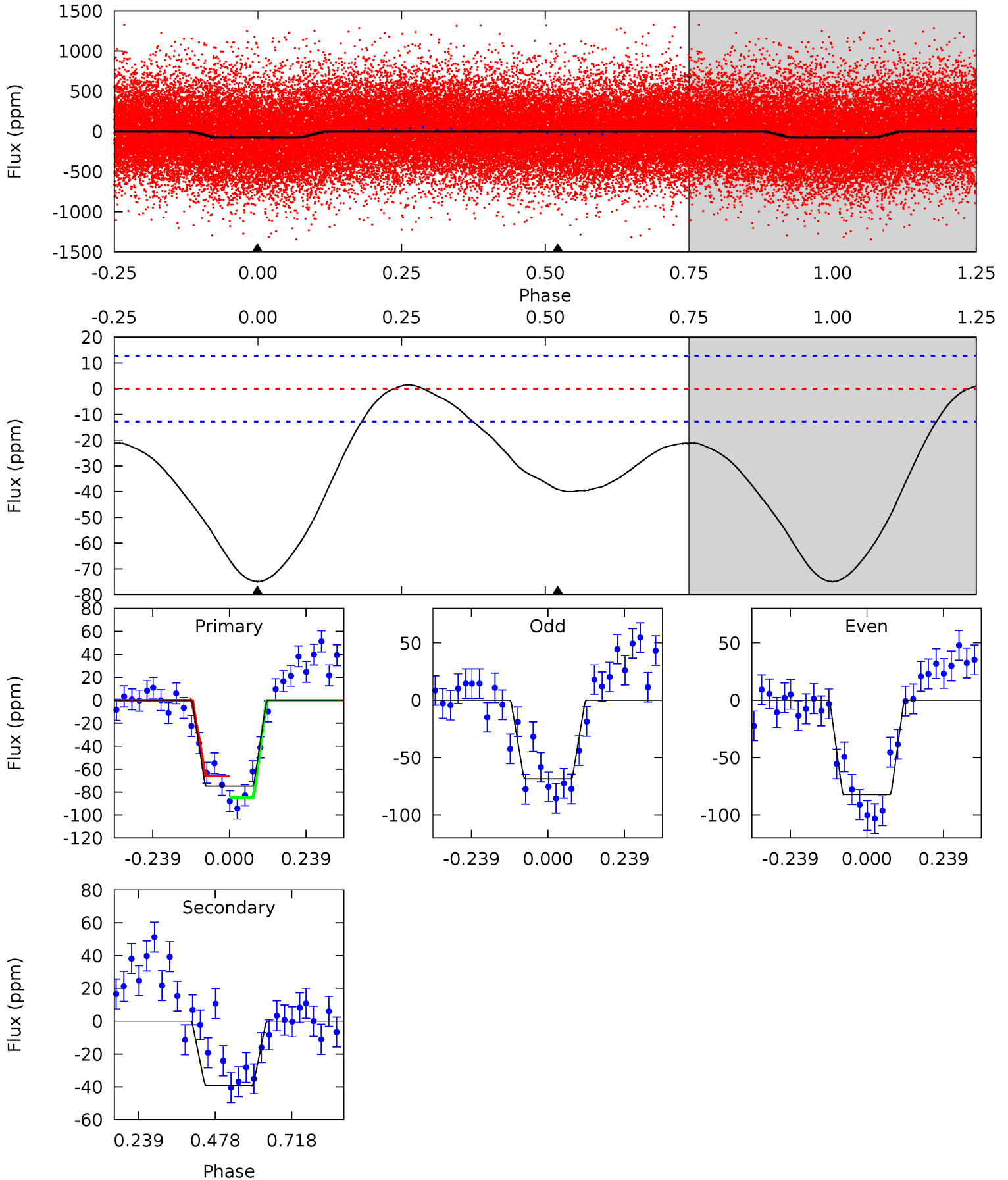
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	10.2	0	0	4.32	1.02	13.9	10.2	10.2	10.2	10.2	0.80	0.99	0.76	0.20



Alt Model-Shift Uniqueness Test

004379948-01, P = 2.805375 Days, E = 129.724219 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.8	13.4	0	0	4.38	1.18	3.36	25.8	25.8	13.4	13.4	2.39	0.99	0.02	3.30



Stellar Parameters For KIC 004379948

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6215^{+172}_{-216}	$4.440^{+0.056}_{-0.224}$	$-0.060^{+0.250}_{-0.300}$	$1.052^{+0.349}_{-0.116}$	$1.111^{+0.153}_{-0.153}$	$1.345^{+0.398}_{-0.727}$
	+3%/-3%	+1%/-5%	+417%/-500%	+33%/-11%	+14%/-14%	+30%/-54%
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 004379948-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-28 ± 3	$0.85^{+0.60}_{-0.49}$	2000^{+149}_{-106}	5427^{+3113}_{-1127}	35^{+151}_{-23}
Alt.	-39 ± 3	$1.13^{+0.65}_{-0.61}$	1998^{+155}_{-102}	5091^{+2460}_{-824}	26^{+100}_{-15}

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

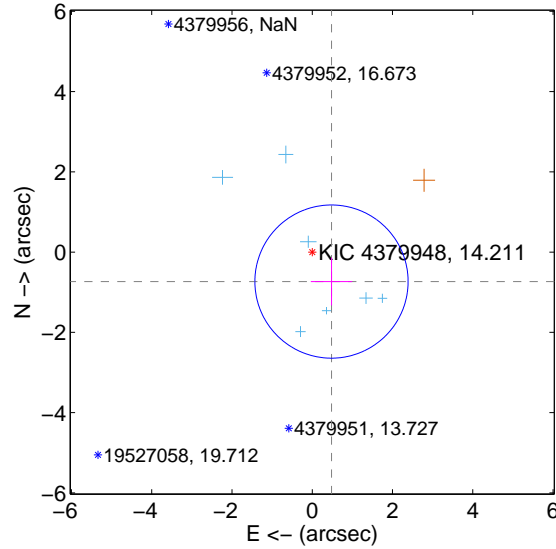
Supplemental centroid analysis for 004379948-01. Kepler magnitude: 14.21. Transit SNR 8.22

There are 7 quarters with good PRF difference image offsets

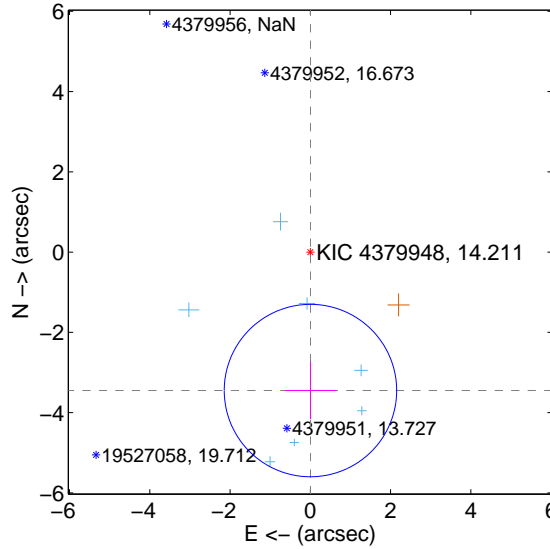
The OOT PRF centroid is offset from the target star catalog position by about 3.16 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.877 ± 0.636	1.38	-0.480 ± 0.516	-0.735 ± 0.593
PRF-fit source offset from KIC position	3.450 ± 0.716	4.82	-0.003 ± 0.627	-3.450 ± 0.716
photometric centroid source offset	2.89 ± 0.71	4.06	0.16 ± 0.45	-2.89 ± 0.71

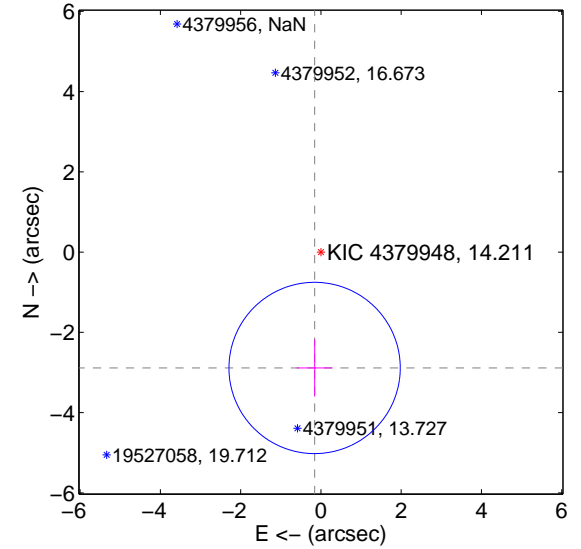
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

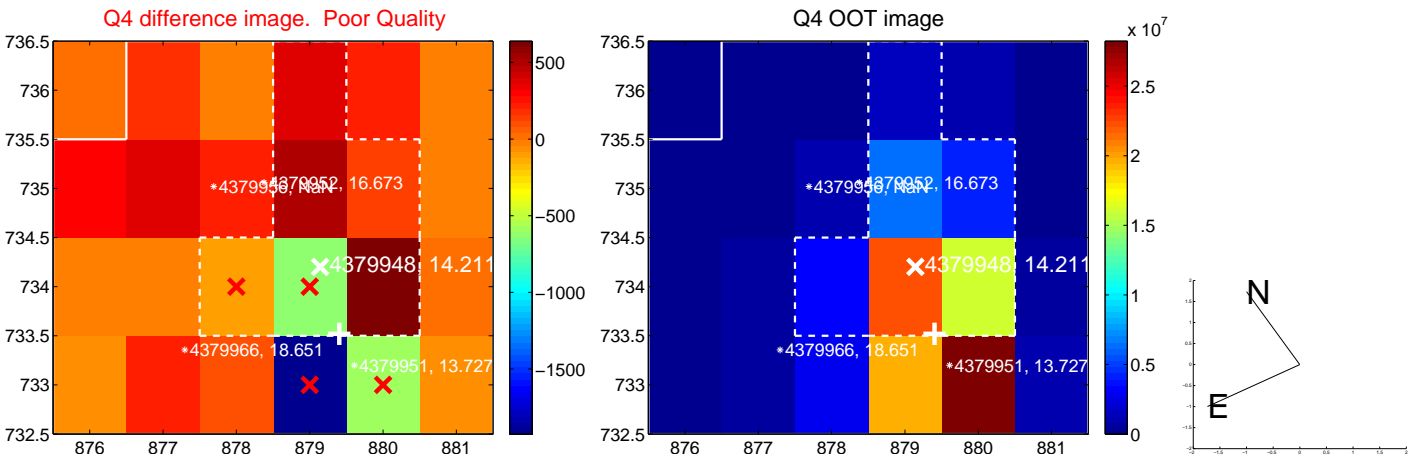
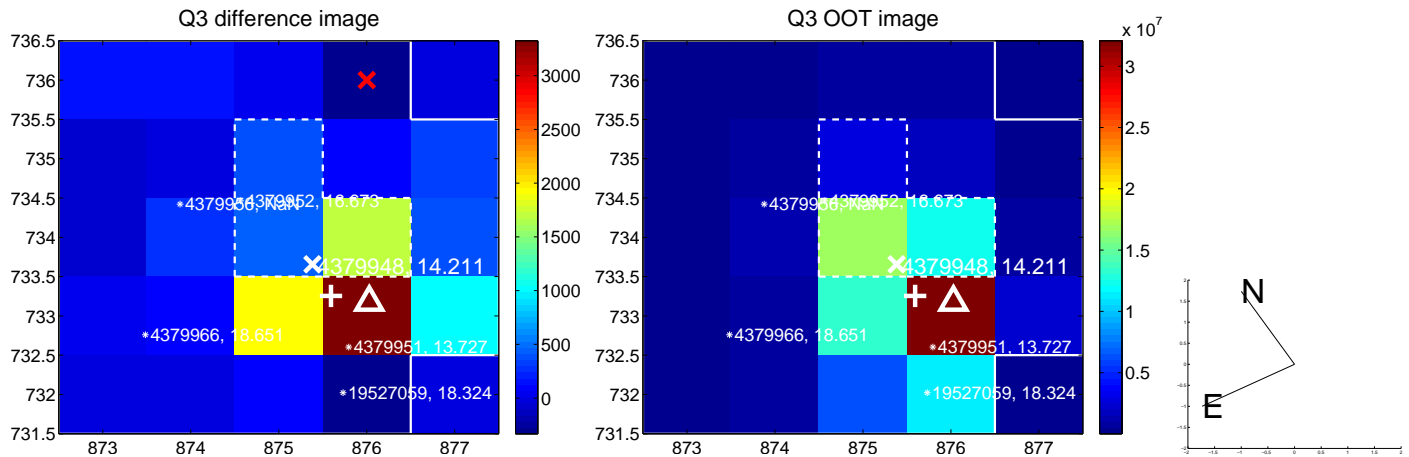
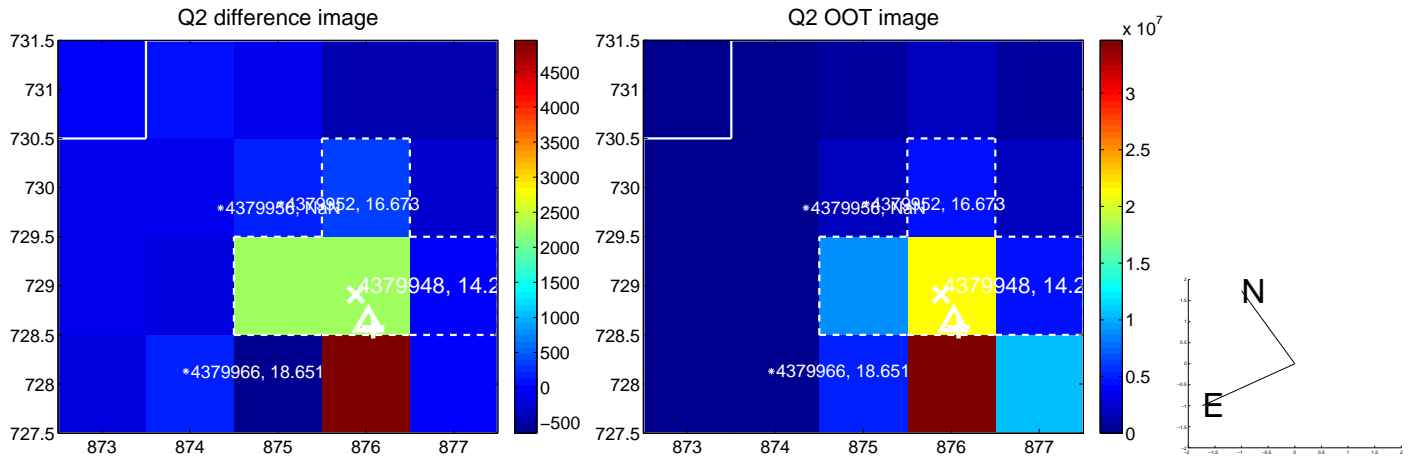
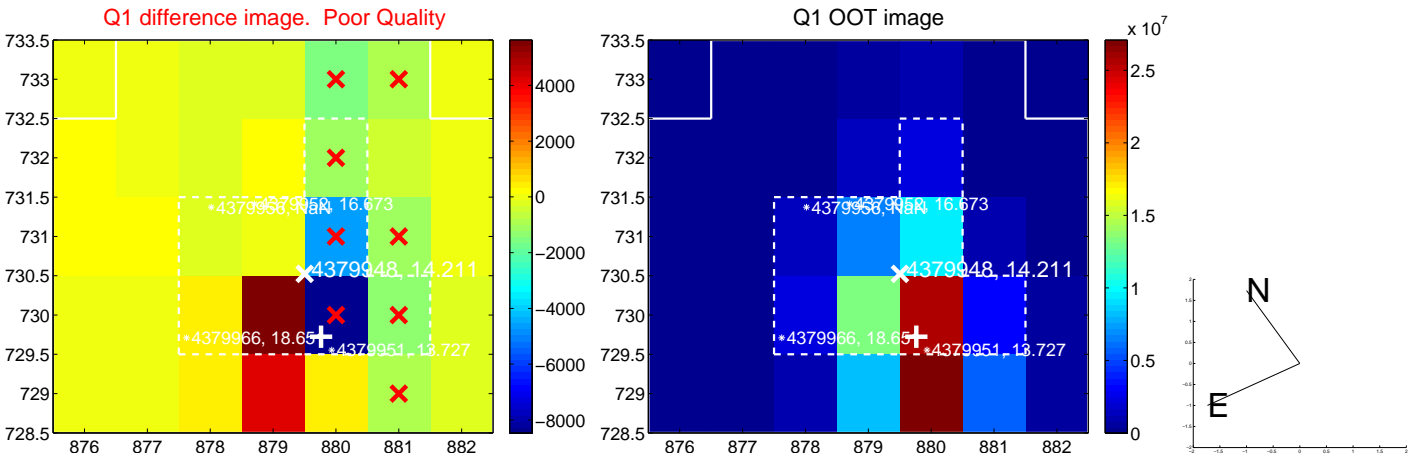


offset from photometric centroids

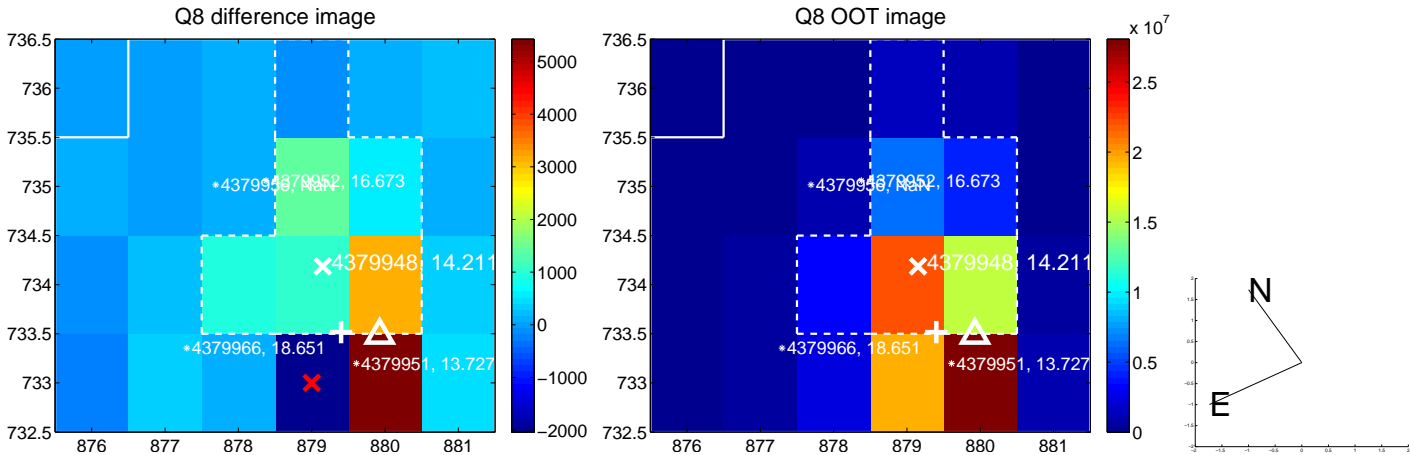
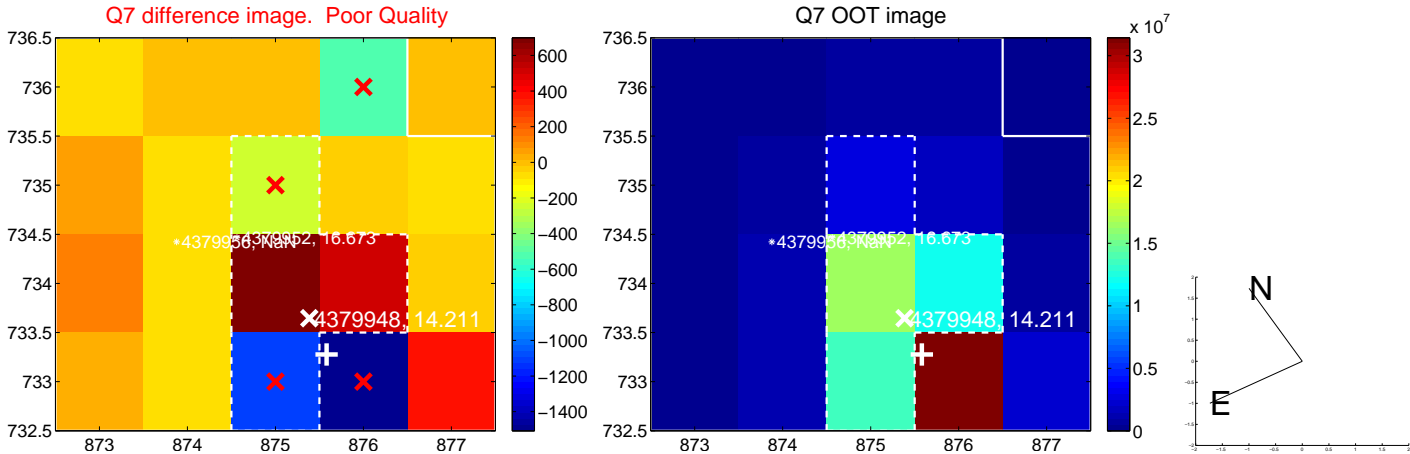
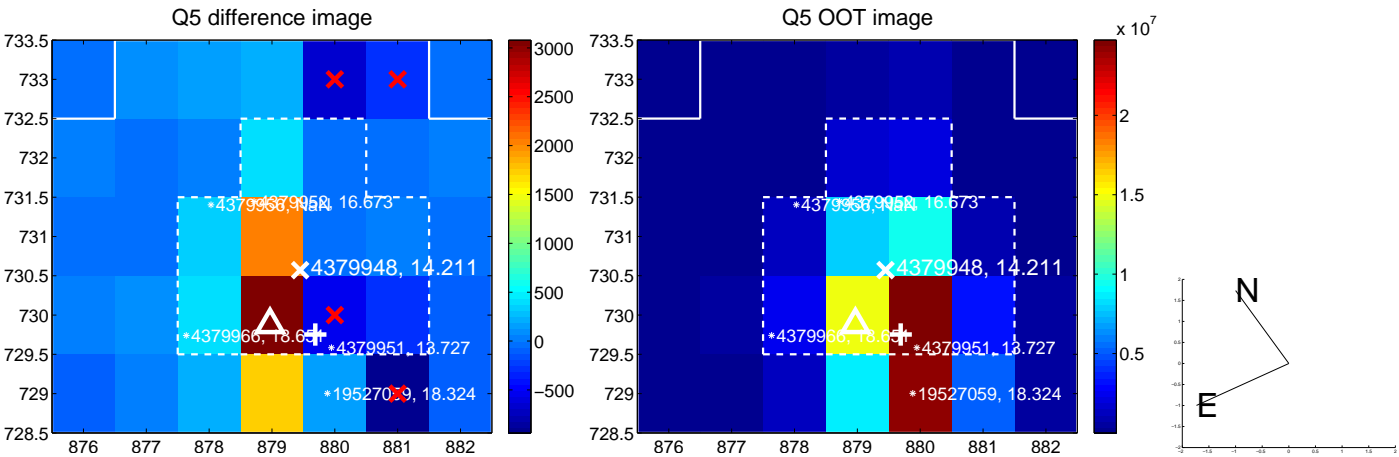


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

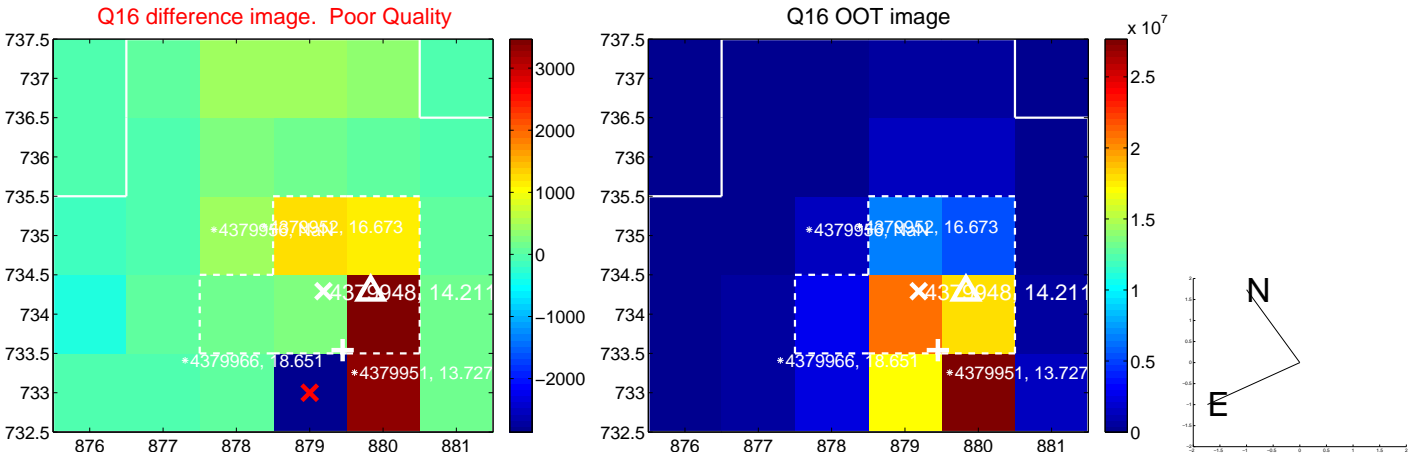
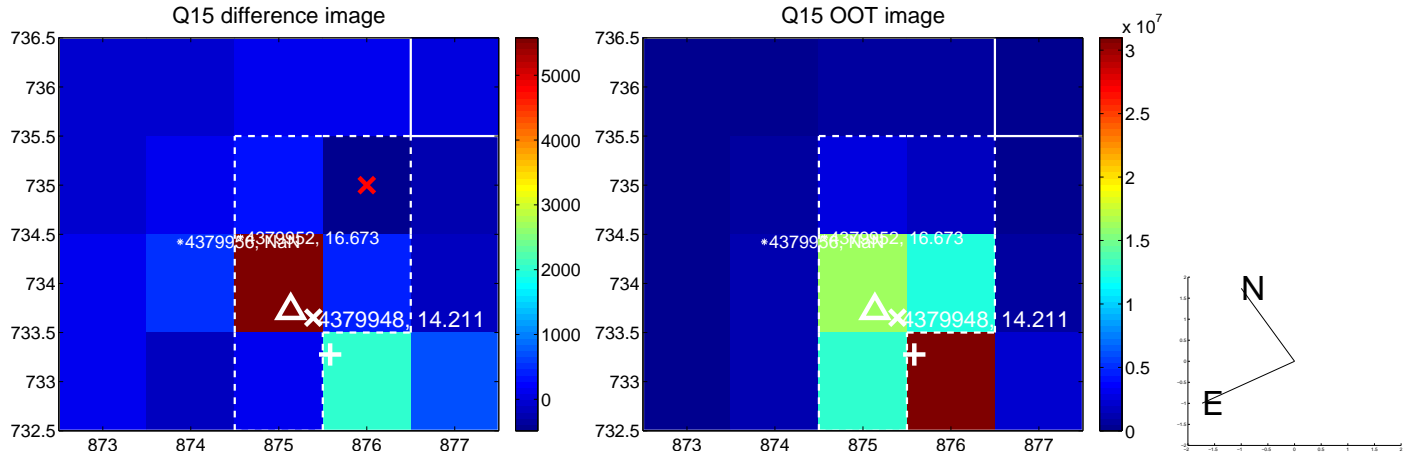
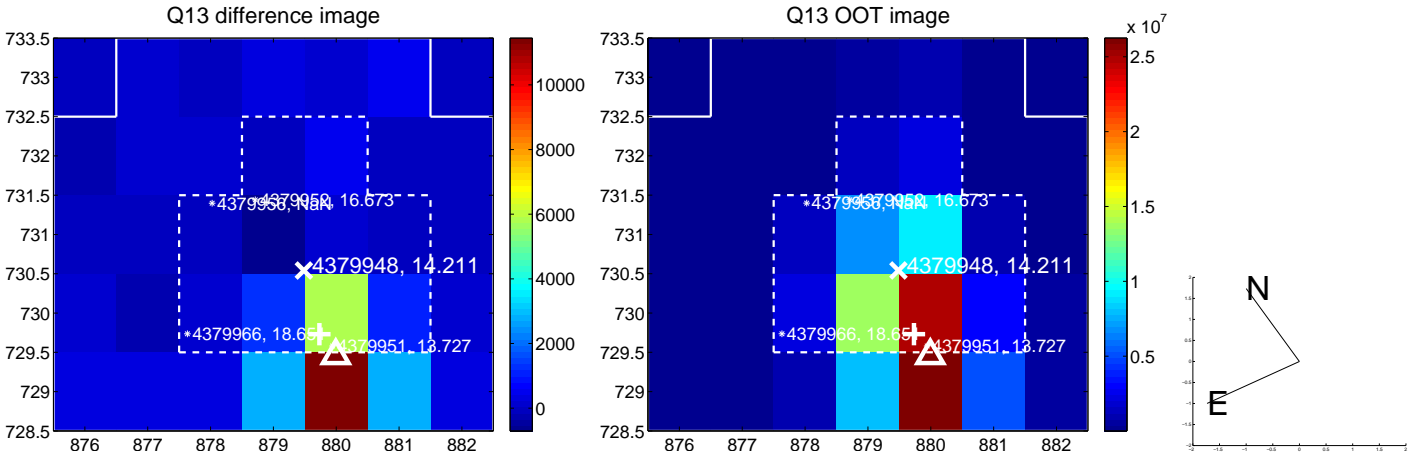
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



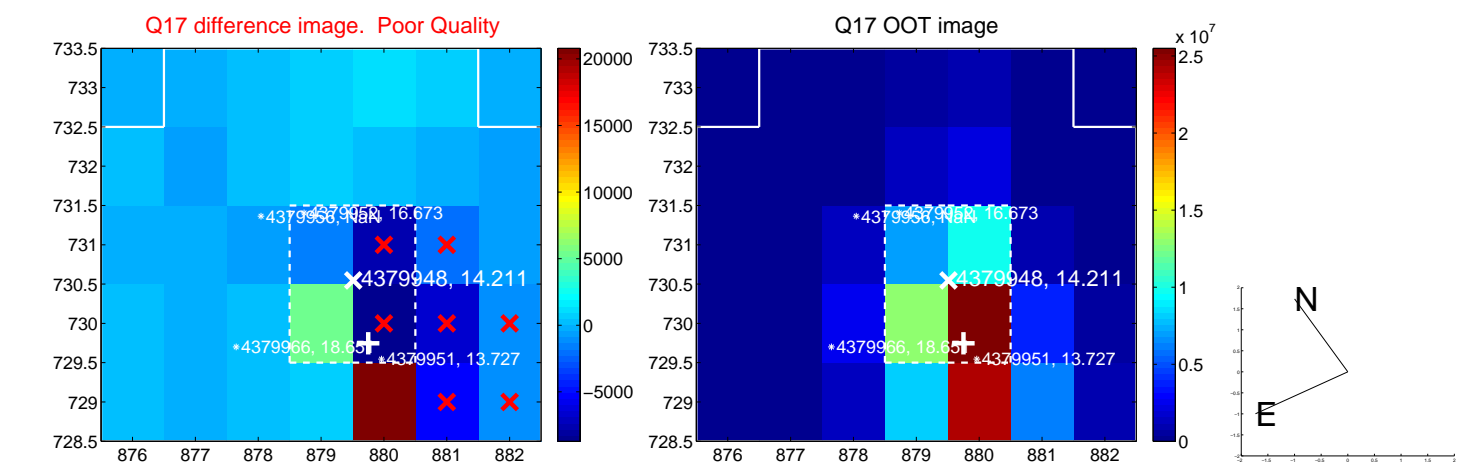
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



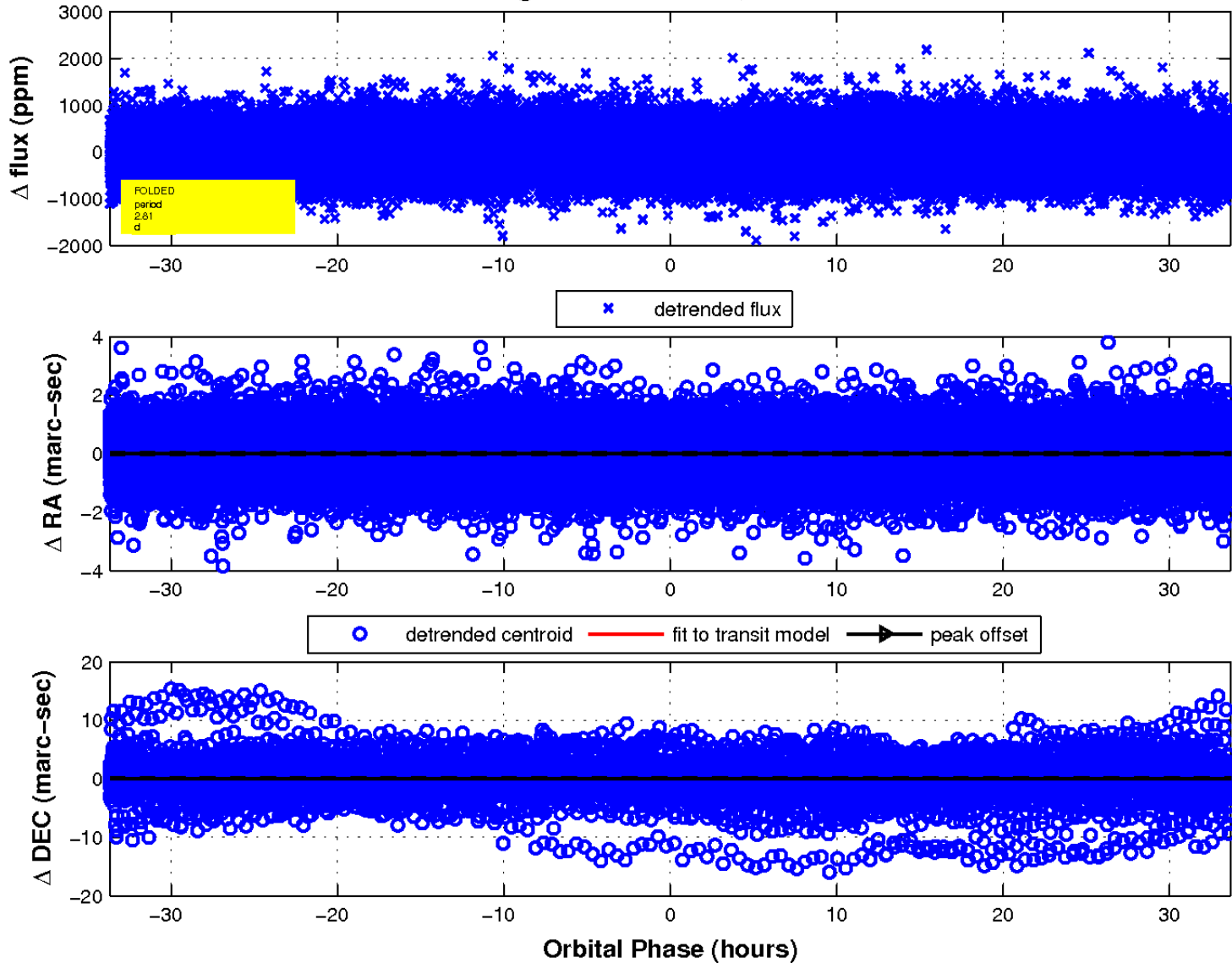
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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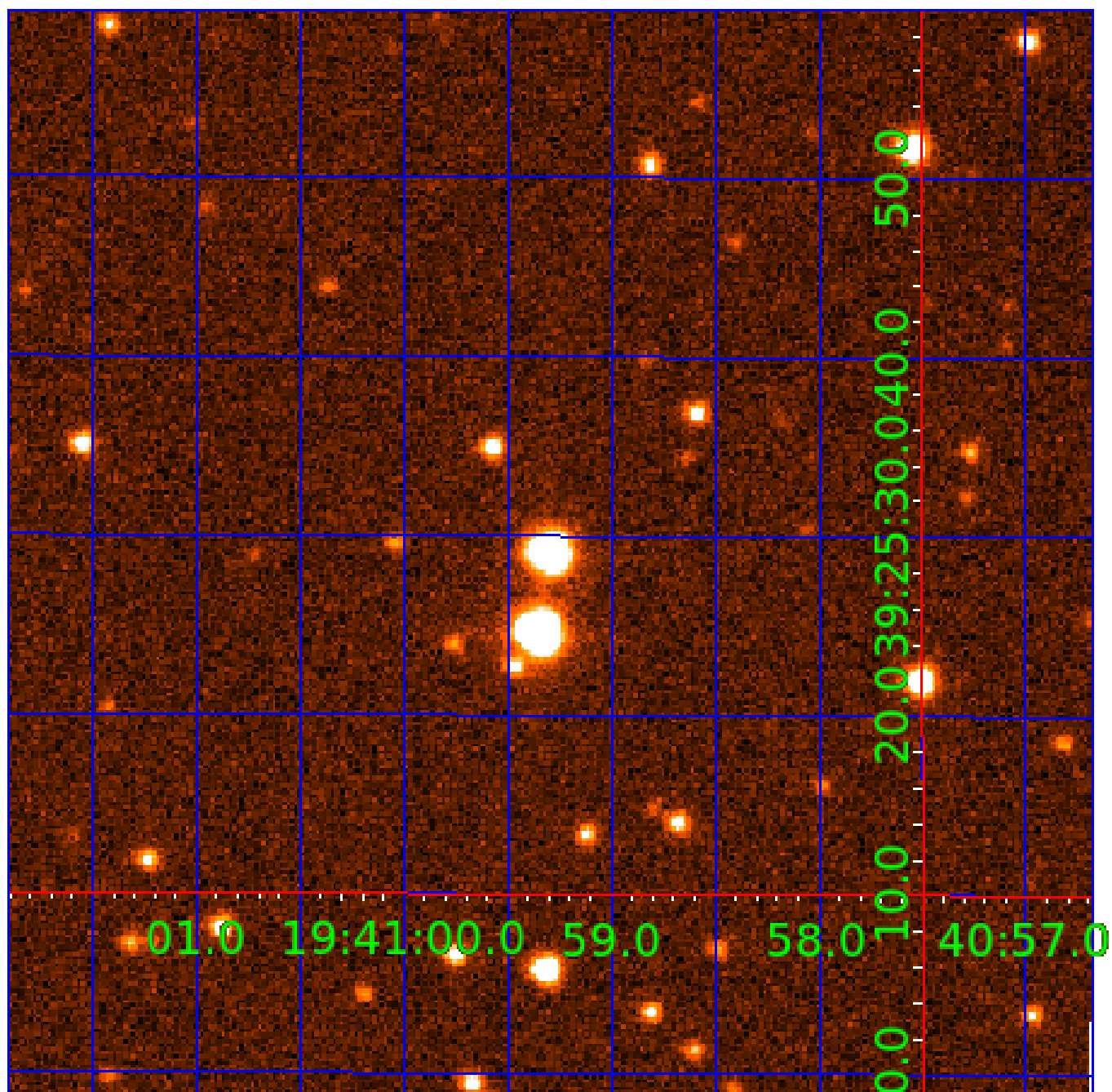


fluxWeightedCentroids, Planet 1 of 7



UKIRT Image

Declination



KIC 004379948

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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004379948-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004379948-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004379948-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
004379948-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
004379948-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_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.

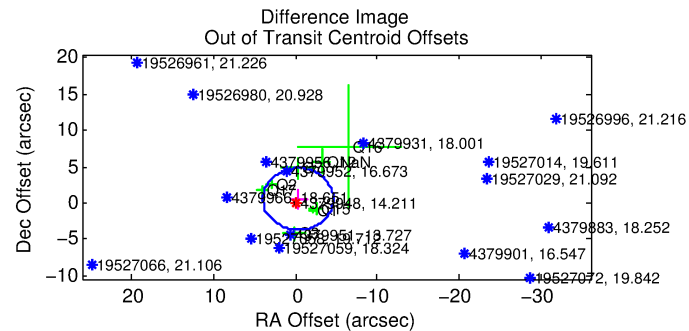
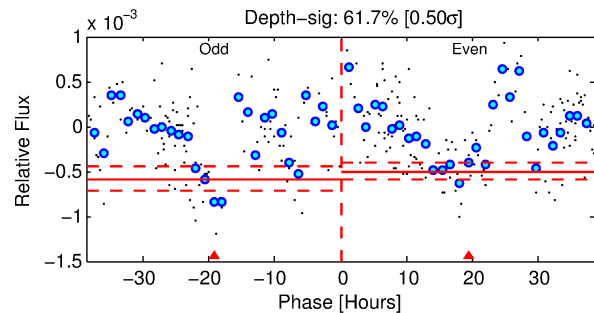
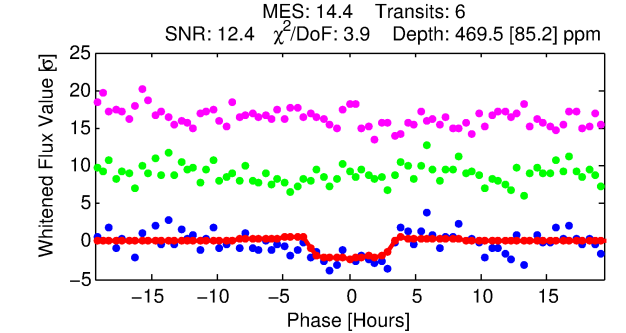
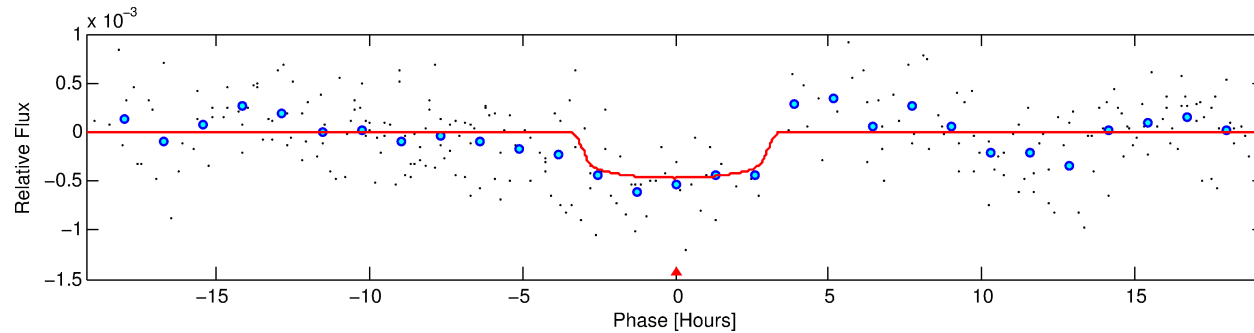
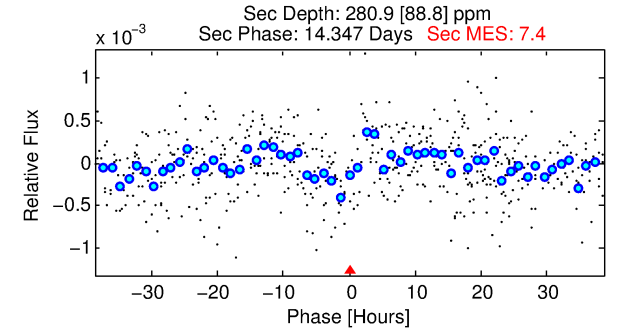
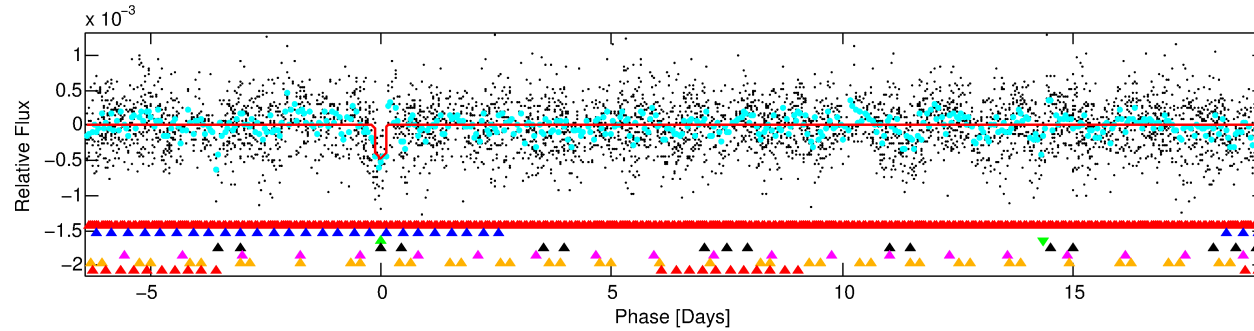
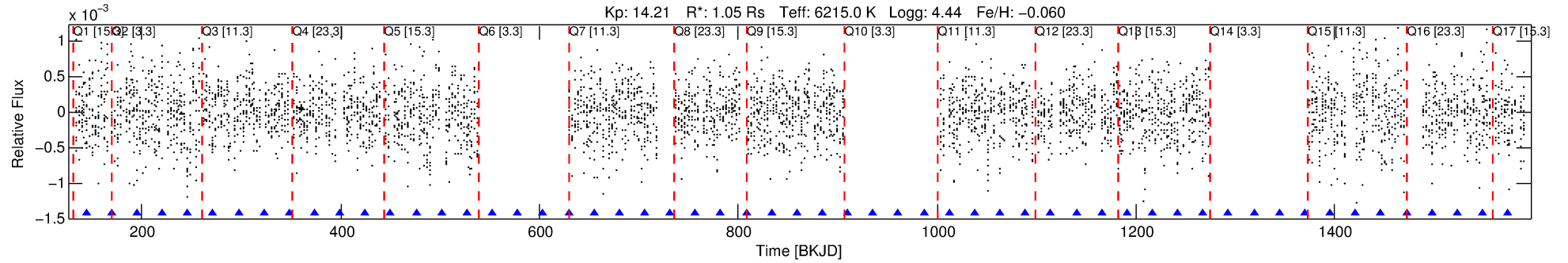
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004379948-03

No Significant Match Found

DV One-Page Summary

KIC: 4379948 Candidate: 3 of 7 Period: 25.537 d



DV Fit Results:

Period = 25.53705 [0.00058] d
Epoch = 144.0449 [0.0185] BKJD
Rp/R* = 0.0215 [0.0168]
a/R* = 21.41 [82.98]
b = 0.74 [2.43]
Seff = 47.84 [20.66]
Teff = 671 [72] K
Rp = 2.47 [2.10] Re
a = 0.1759 [0.0493] AU
Ag = 785.99 [1298.28] [0.60σ]
Teffp = 5490 [2205] K [2.18σ]

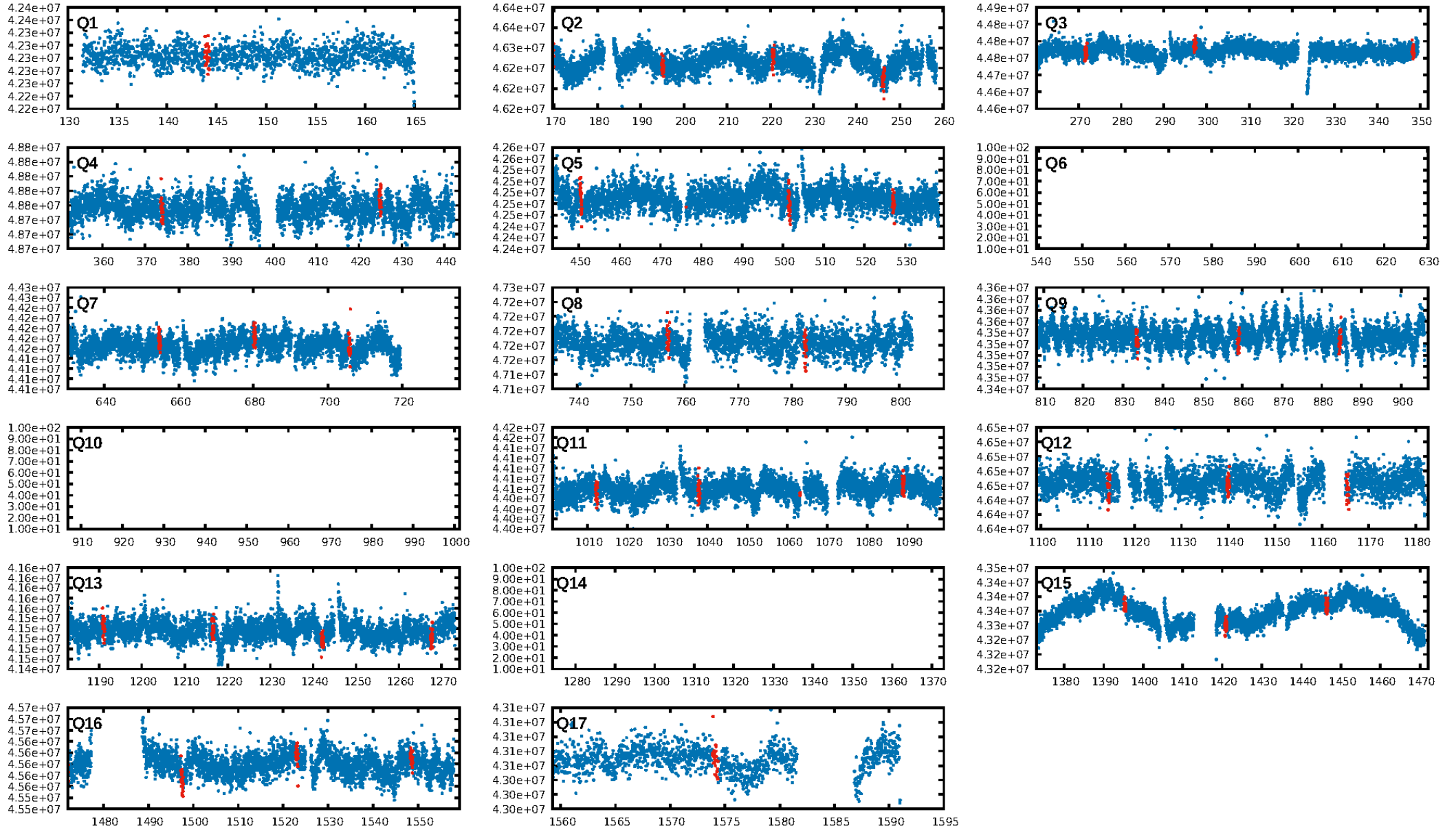
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [25.74σ]
LongPeriod-sig: 100.0% [24.33σ]
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 11.3%
Bootstrap-pfa: 1.11e-22
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.3243
Centroid-sig: 31.6%
Centroid-so: 2.049 arcsec [6.50σ]
OotOffset-rm: 0.627 arcsec [0.44σ]
KicOffset-rm: 1.961 arcsec [1.36σ]
OotOffset-st: 1/3/2/2 [8]
KicOffset-st: 1/3/2/2 [8]
DiffImageQuality-fgm: 0.12 [1/8]
DiffImageOverlap-fno: 0.50 [7/14]

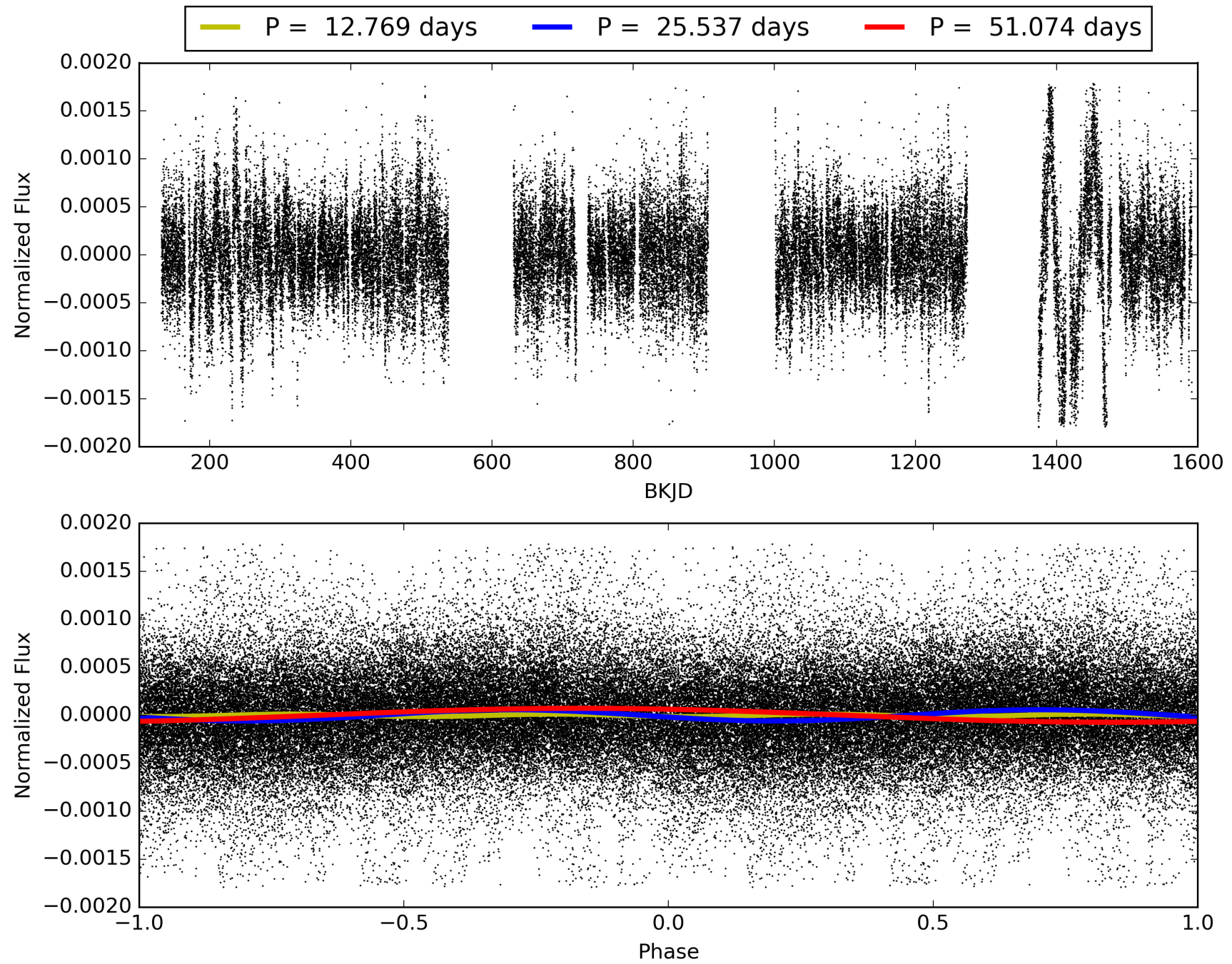
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:17:10 Z

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

TCE 004379948-03, PDC Light Curves

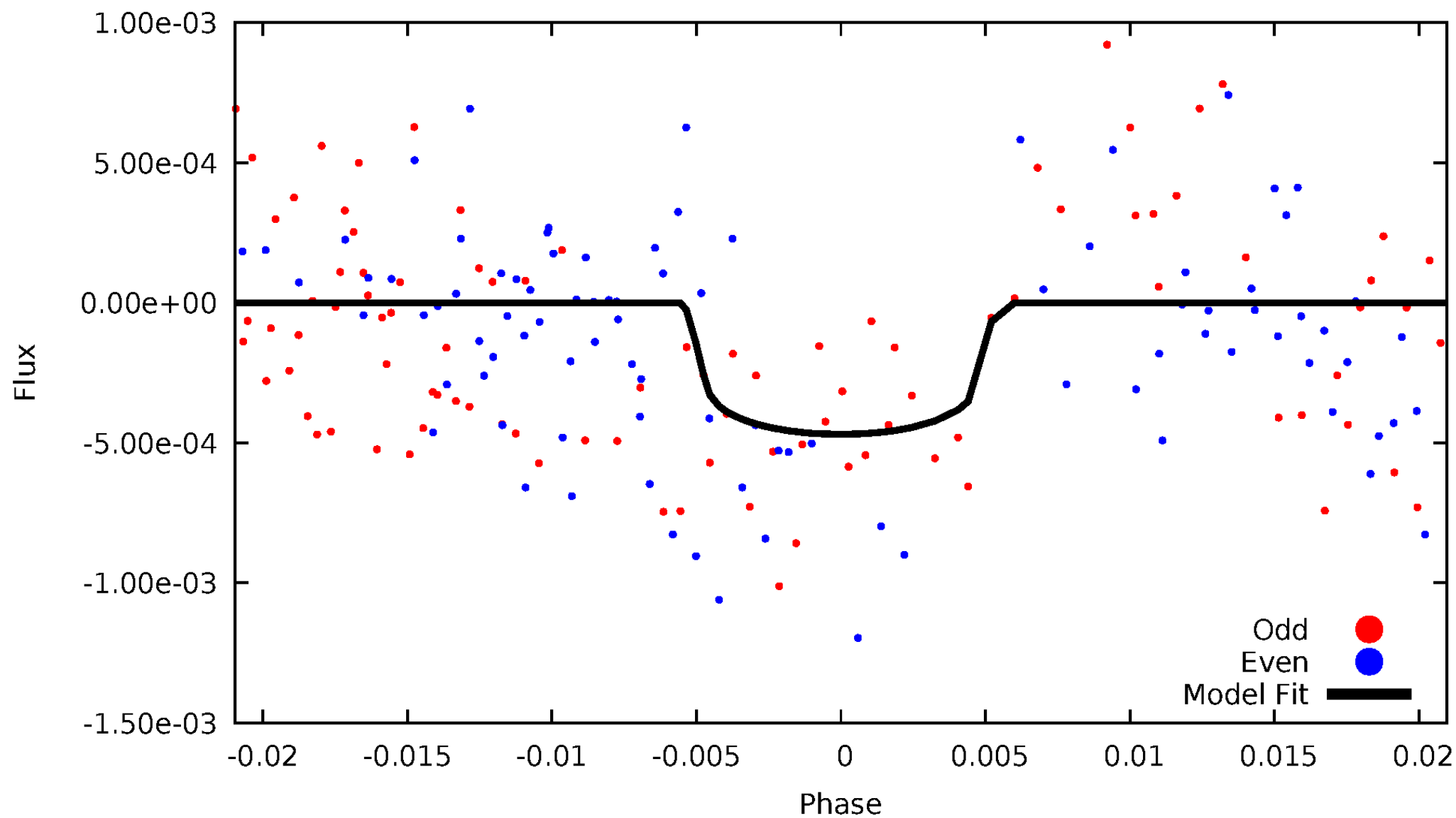


TCE 004379948-03



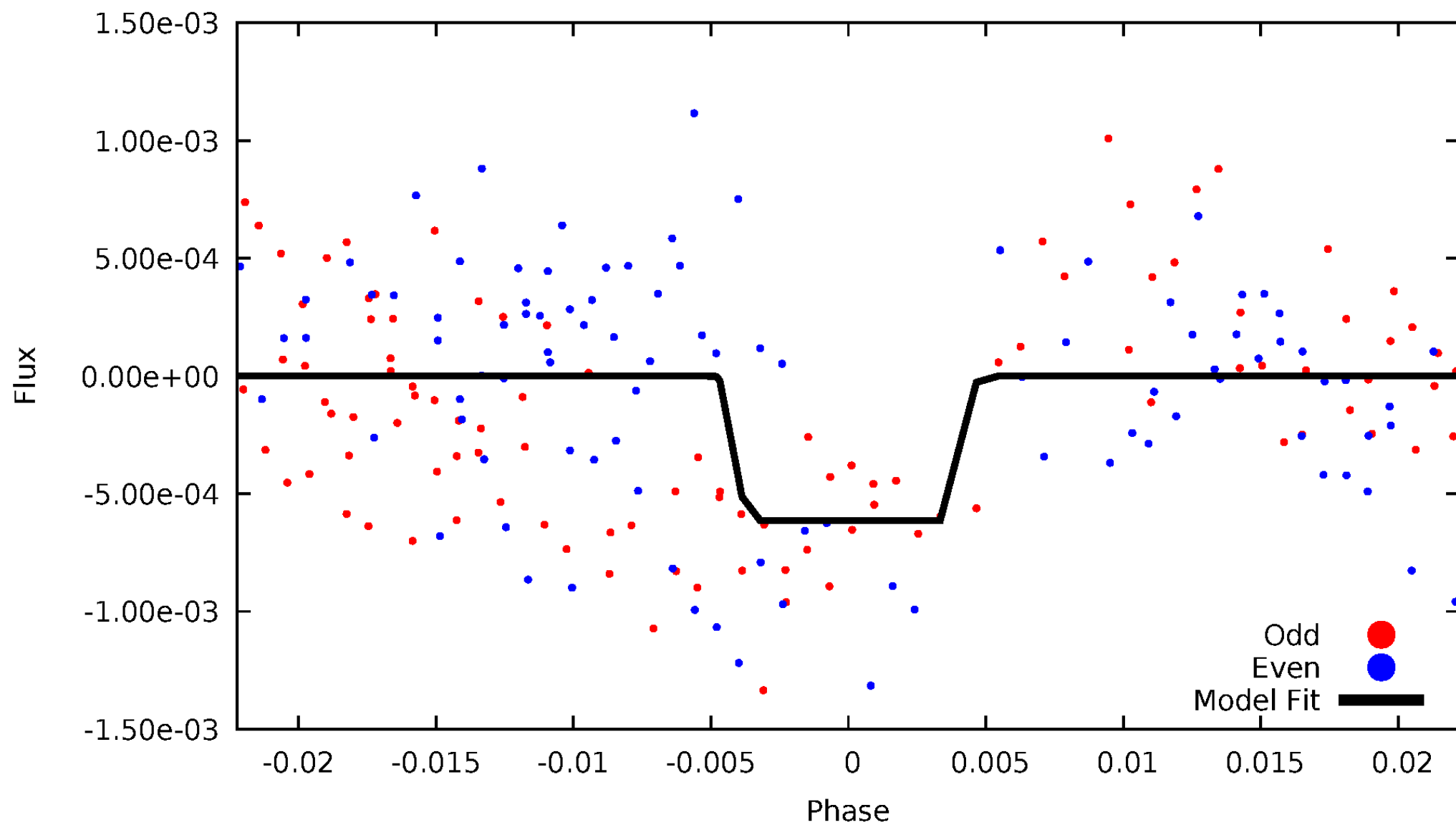
DV Odd/Even

TCE 004379948-03



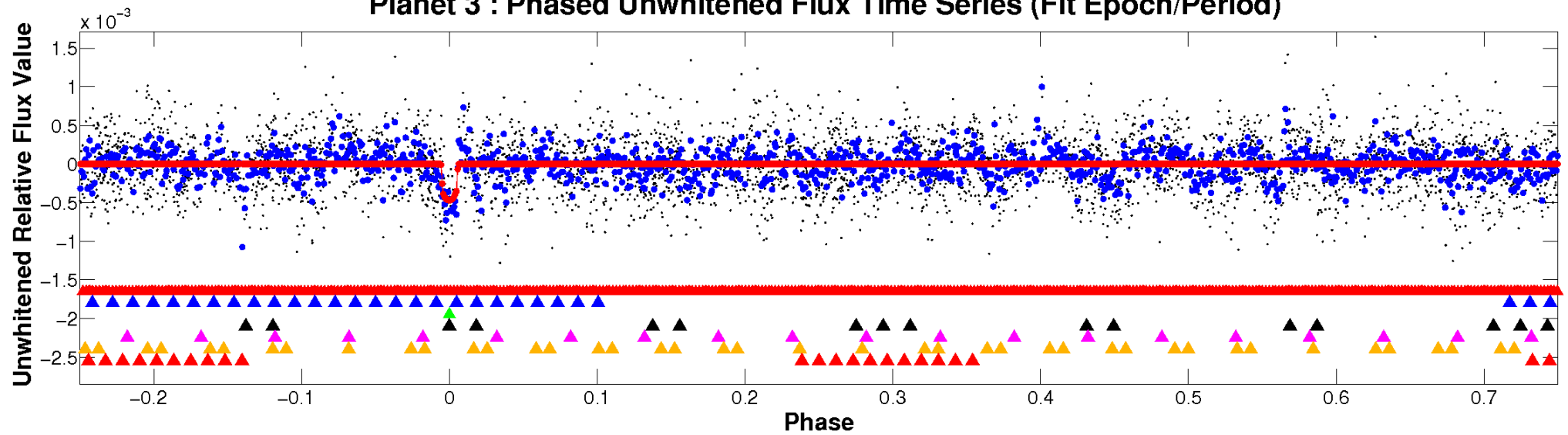
ALT Odd/Even

TCE 004379948-03

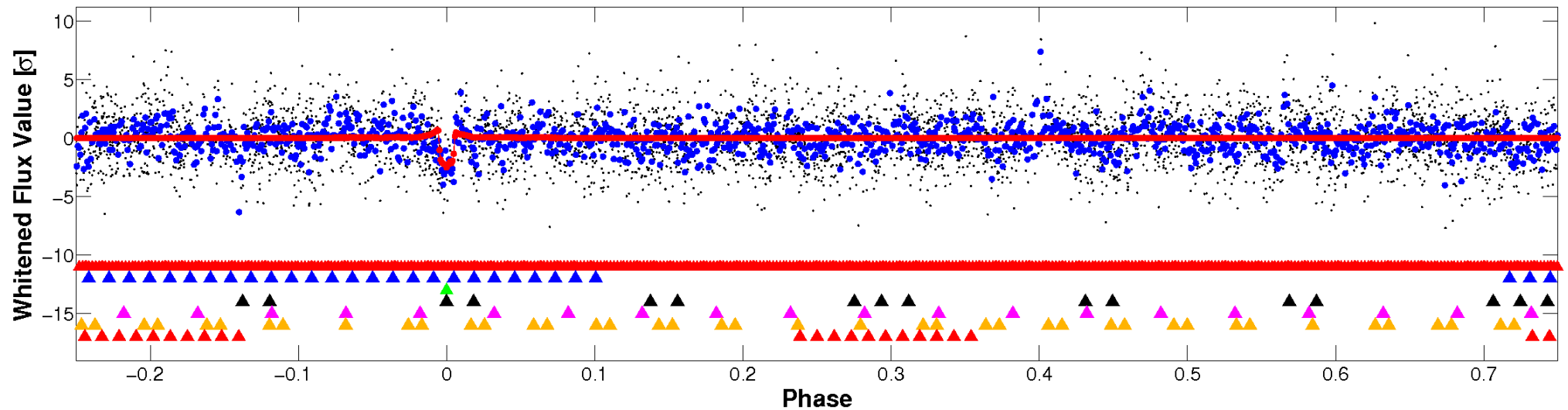


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

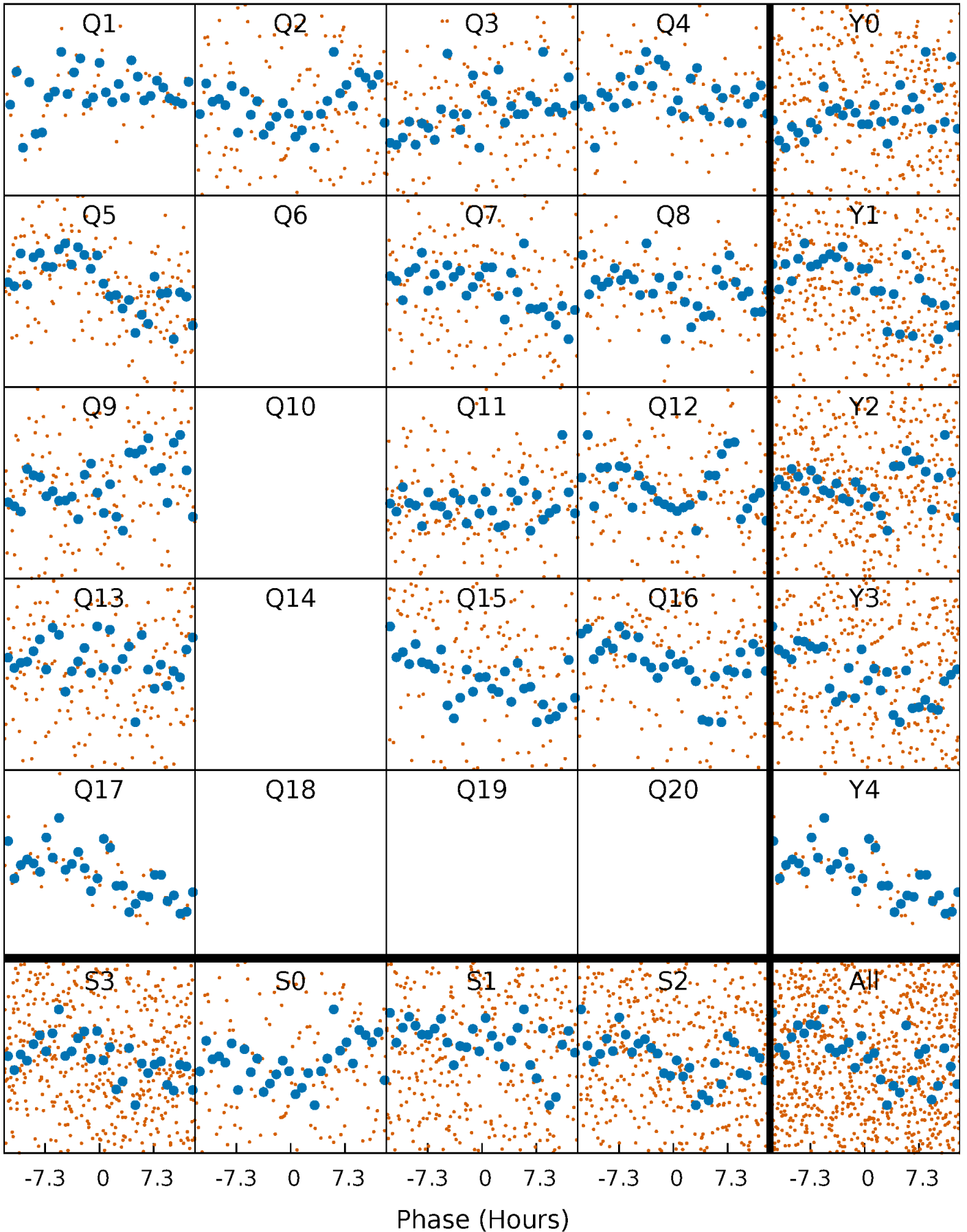


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



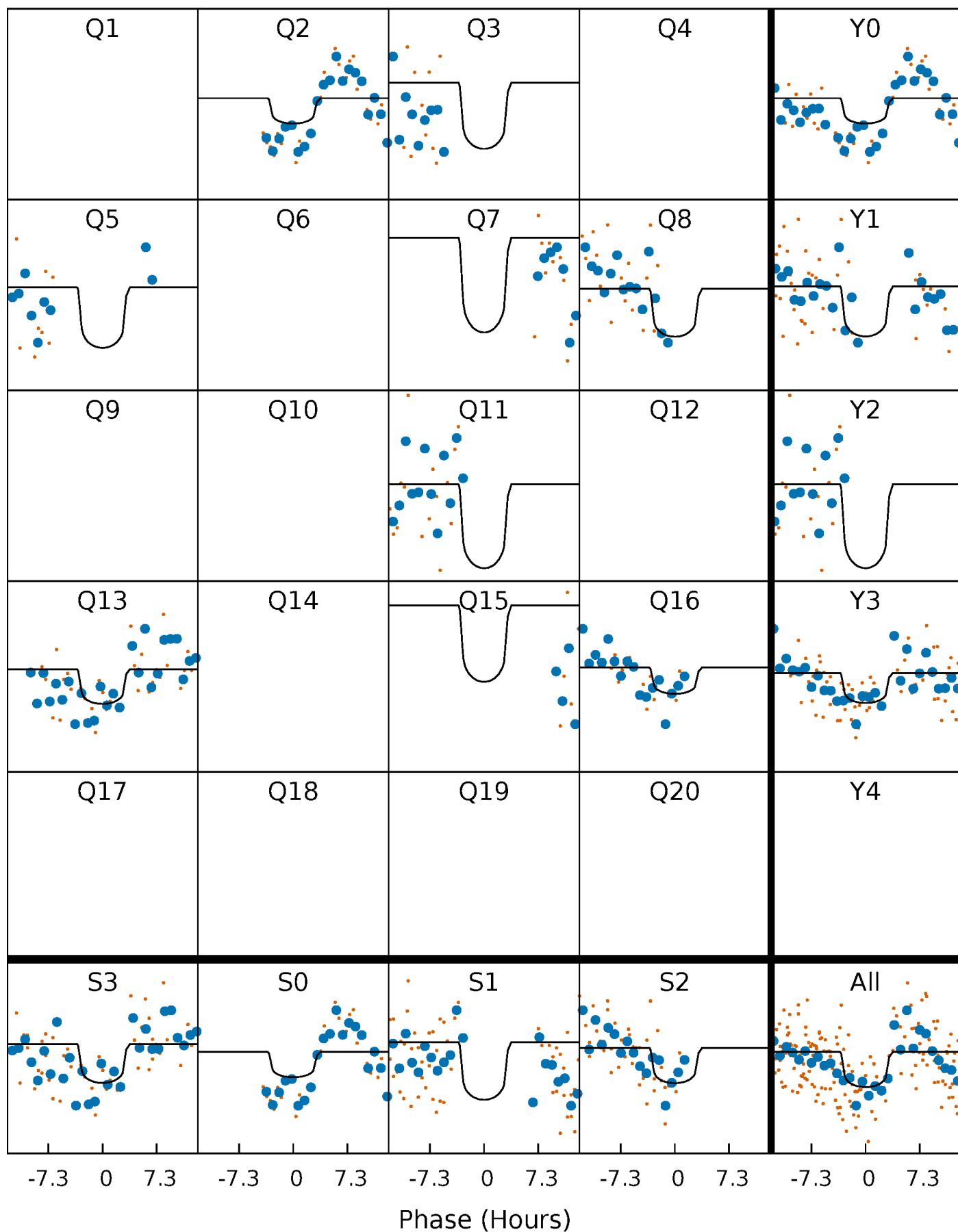
PDC Quarter-Phased Transit Curves

TCE 004379948-03 P= 25.537052 Days $T_0=144.044948$ (BKJD)



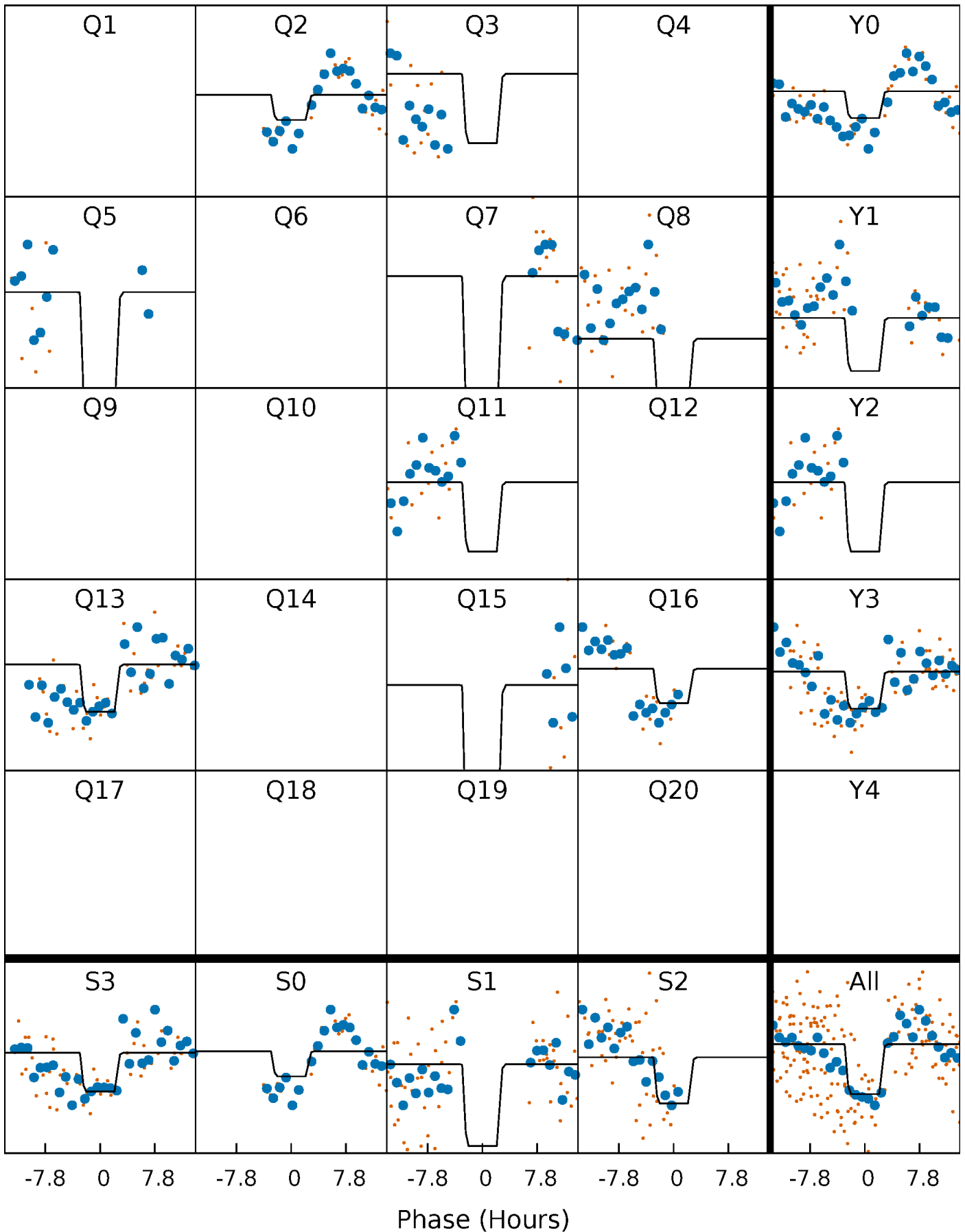
DV Quarter-Phased Transit Curves

TCE 004379948-03 P= 25.537052 Days $T_0=144.044948$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

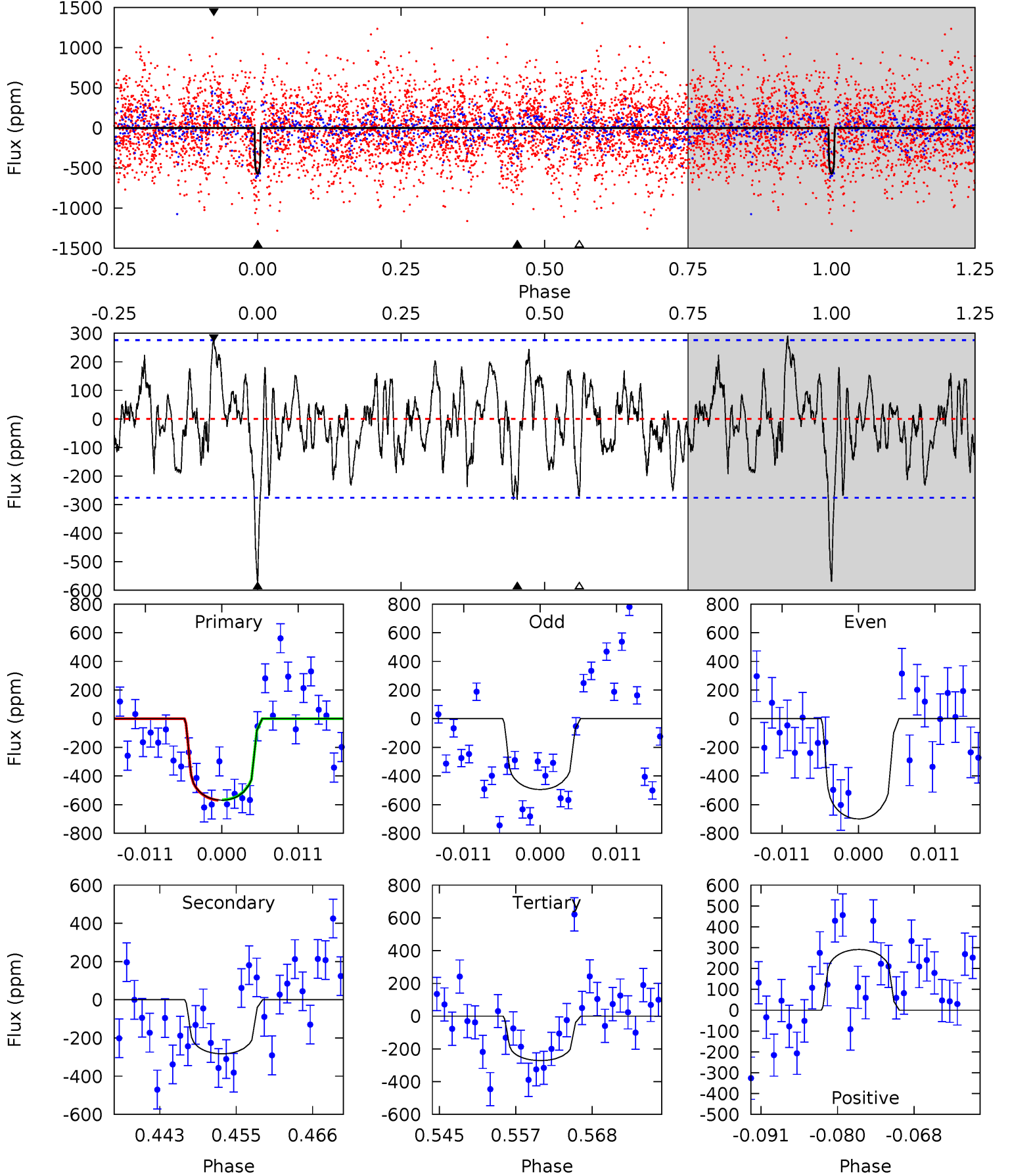
TCE 004379948-03 P= 25.537667 Days $T_0=144.036711$ (BKJD)



DV Model-Shift Uniqueness Test

004379948-03, P = 25.537052 Days, E = 118.507896 Days

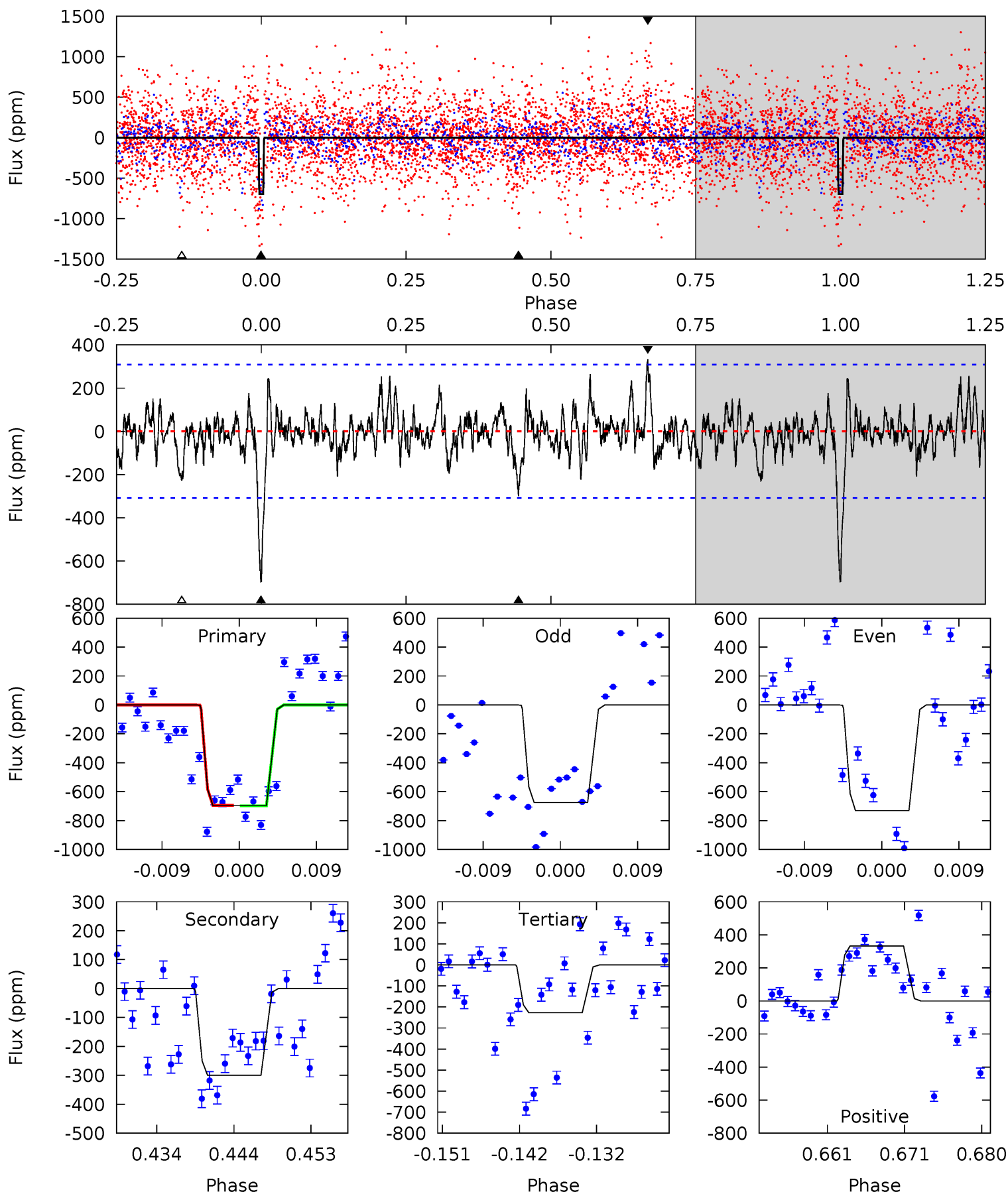
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	5.12	4.91	5.27	5.00	2.53	1.80	5.40	5.04	0.21	-0.15	1.77	1.18	0.34	0.03



Alt Model-Shift Uniqueness Test

004379948-03, P = 25.537667 Days, E = 118.499044 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	4.89	3.71	5.43	5.04	2.60	1.30	7.64	5.92	1.18	-0.54	0.43	0.74	0.32	0.02



Stellar Parameters For KIC 004379948

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6215^{+172}_{-216}	$4.440^{+0.056}_{-0.224}$	$-0.060^{+0.250}_{-0.300}$	$1.052^{+0.349}_{-0.116}$	$1.111^{+0.153}_{-0.153}$	$1.345^{+0.398}_{-0.727}$
	+3%/-3%	+1%/-5%	+417%/-500%	+33%/-11%	+14%/-14%	+30%/-54%
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 004379948-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-283 ± 55	$3.00^{+2.19}_{-1.77}$	957^{+70}_{-48}	5215^{+2785}_{-1051}	549^{+2704}_{-376}
Alt.	-300 ± 61	$3.14^{+1.97}_{-1.74}$	956^{+69}_{-47}	5134^{+2557}_{-933}	523^{+2082}_{-336}

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 $A_{obs} \gg 1.0$

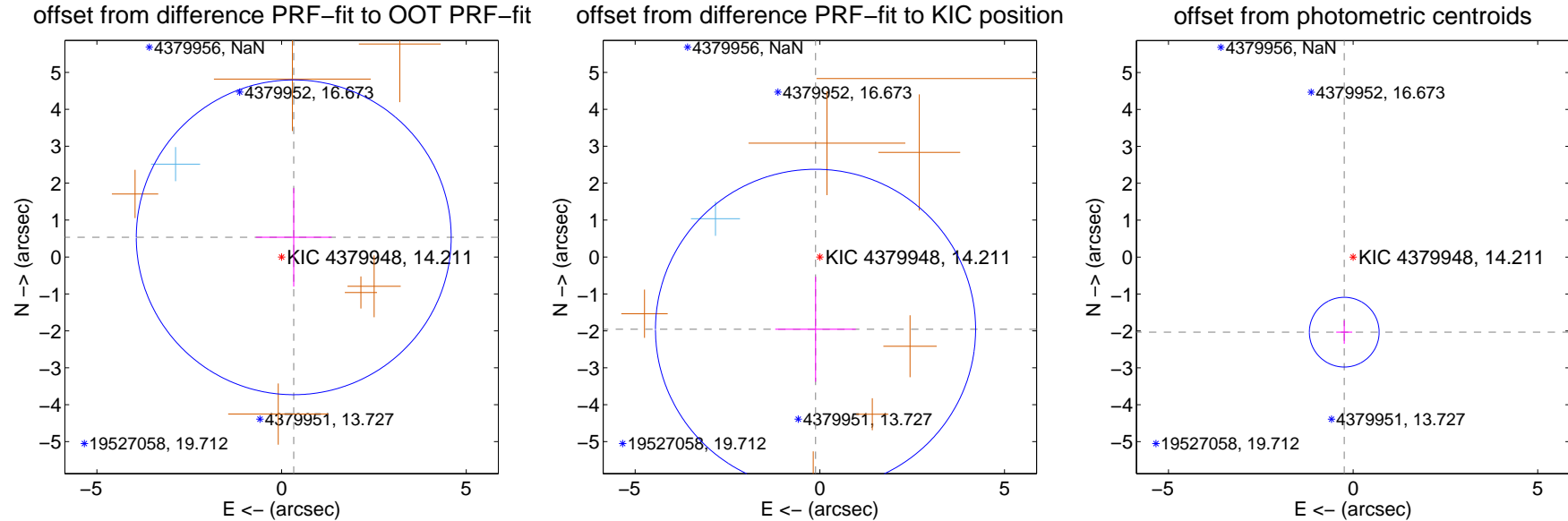
DV Centroid Data

Supplemental centroid analysis for 004379948-03. Kepler magnitude: 14.21. Transit SNR 12.37

There are 1 quarters with good PRF difference image offsets

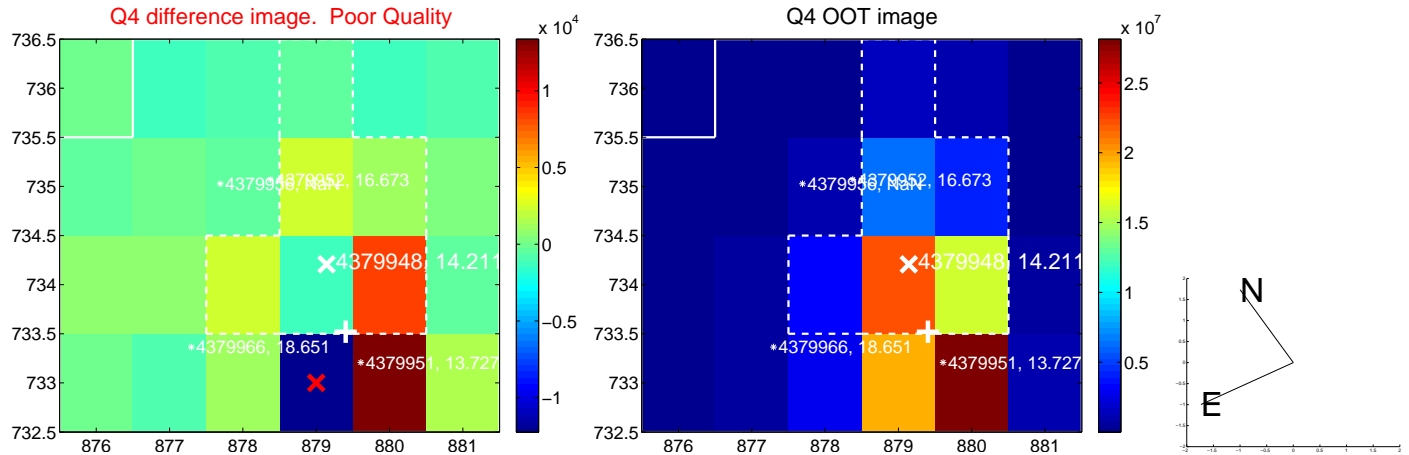
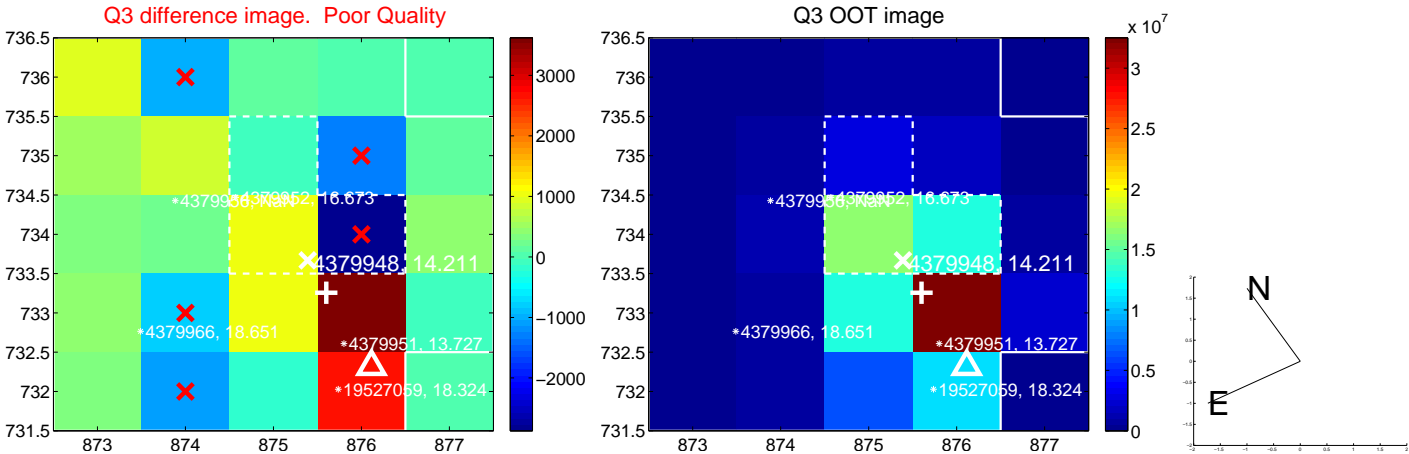
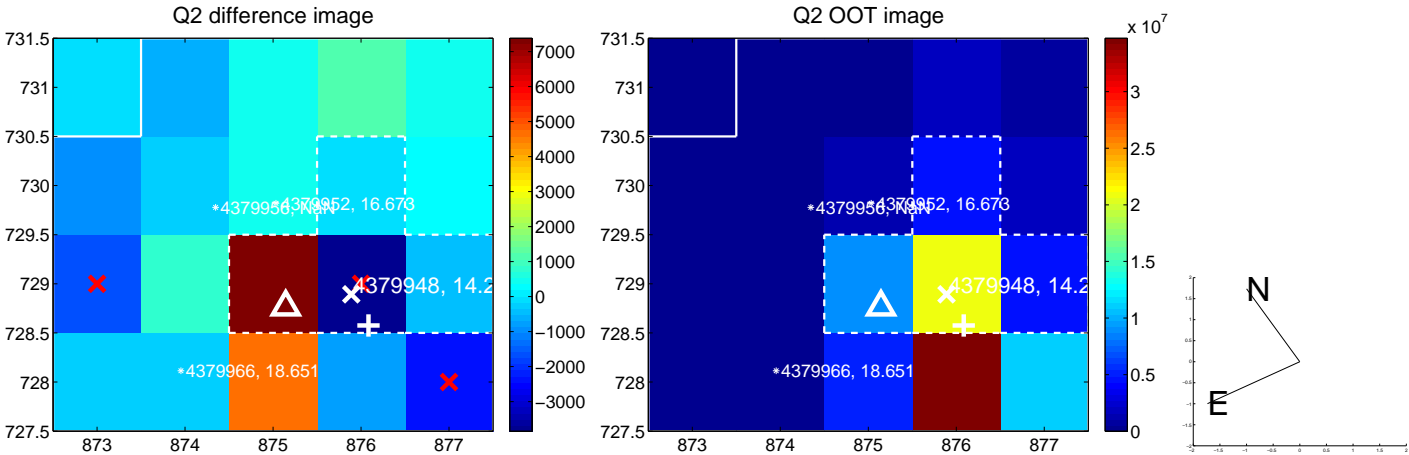
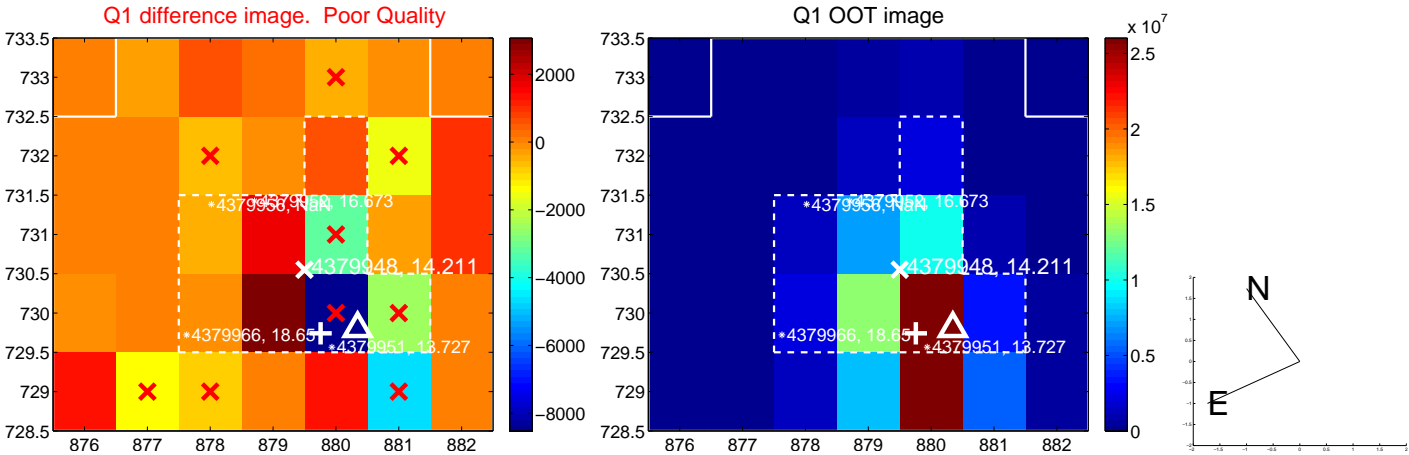
The OOT PRF centroid is offset from the target star catalog position by about 3.34 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.627 ± 1.421	0.44	-0.329 ± 1.026	0.533 ± 1.334
PRF-fit source offset from KIC position	1.961 ± 1.445	1.36	0.116 ± 1.091	-1.957 ± 1.422
photometric centroid source offset	2.05 ± 0.32	6.50	0.24 ± 0.22	-2.03 ± 0.32

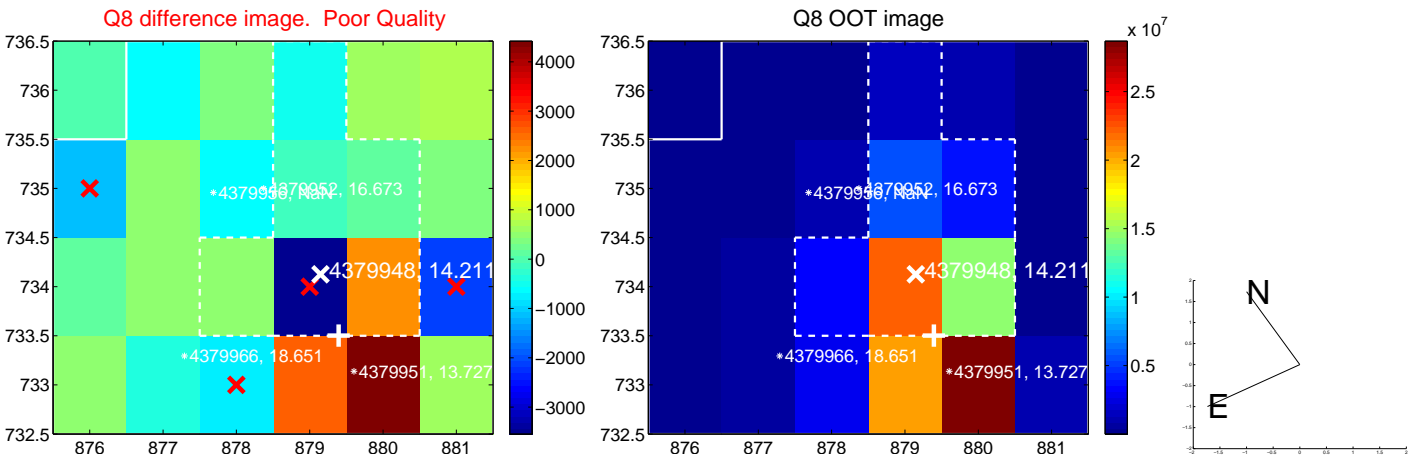
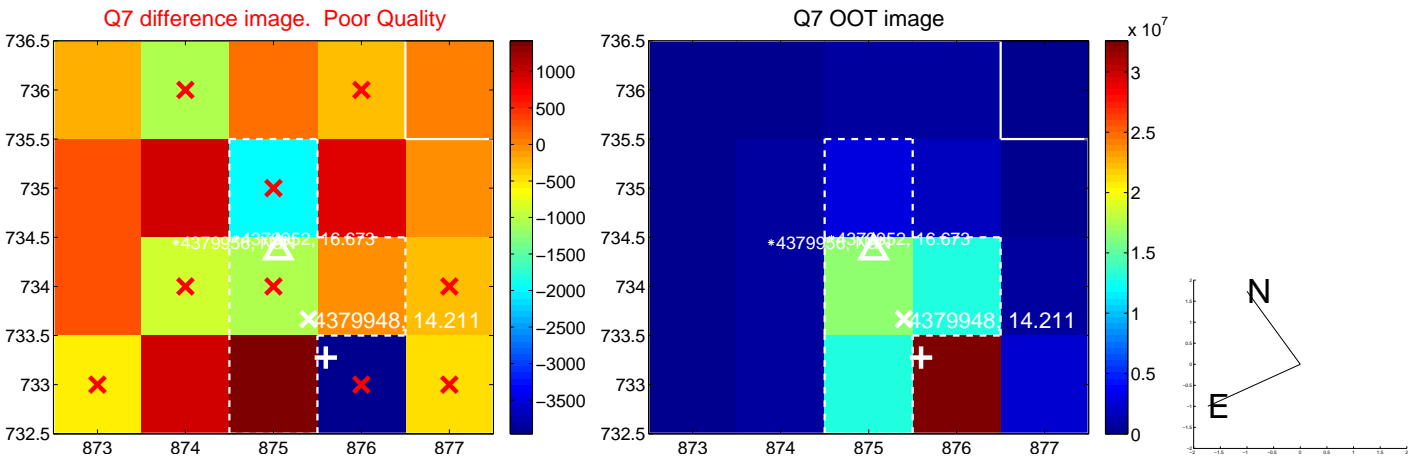
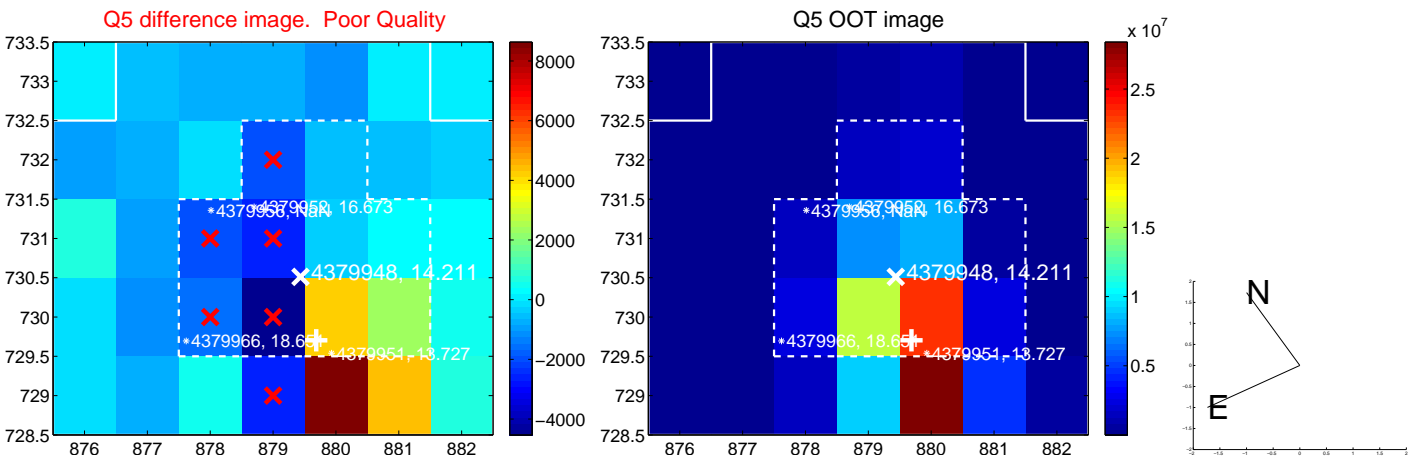


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

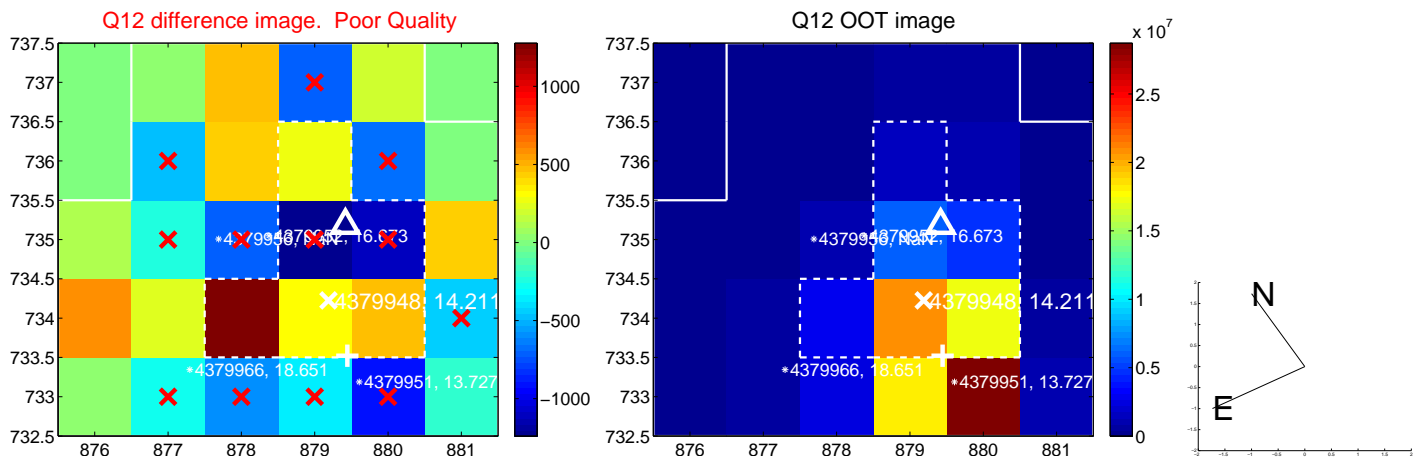
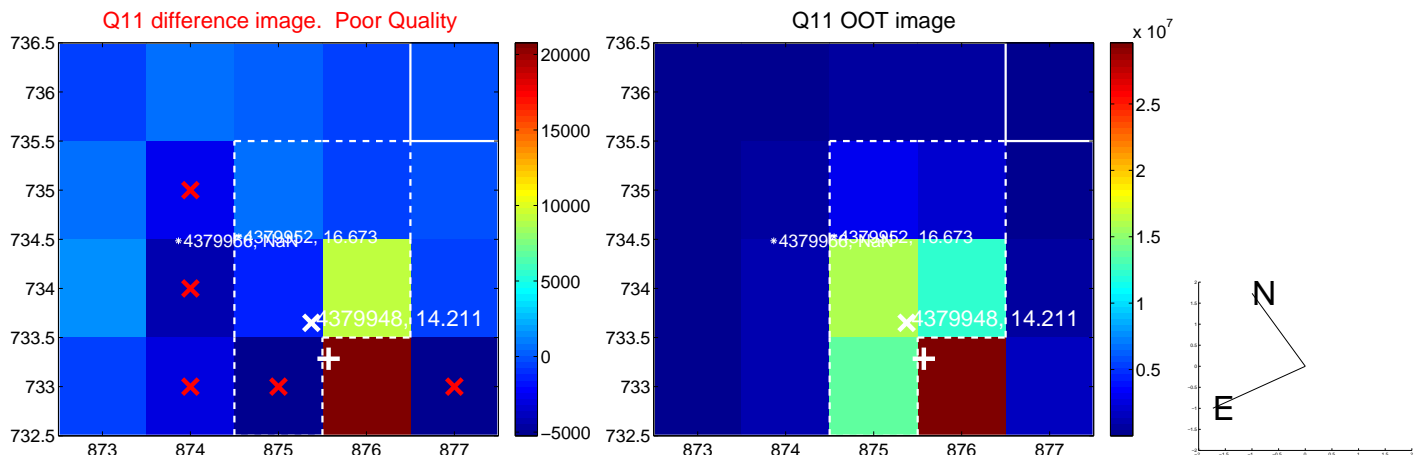
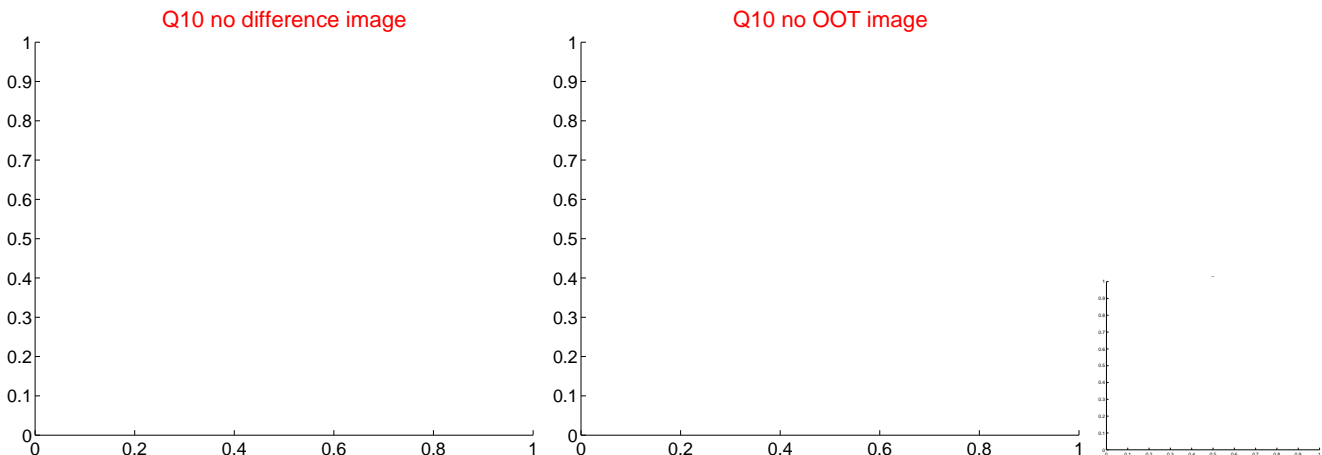
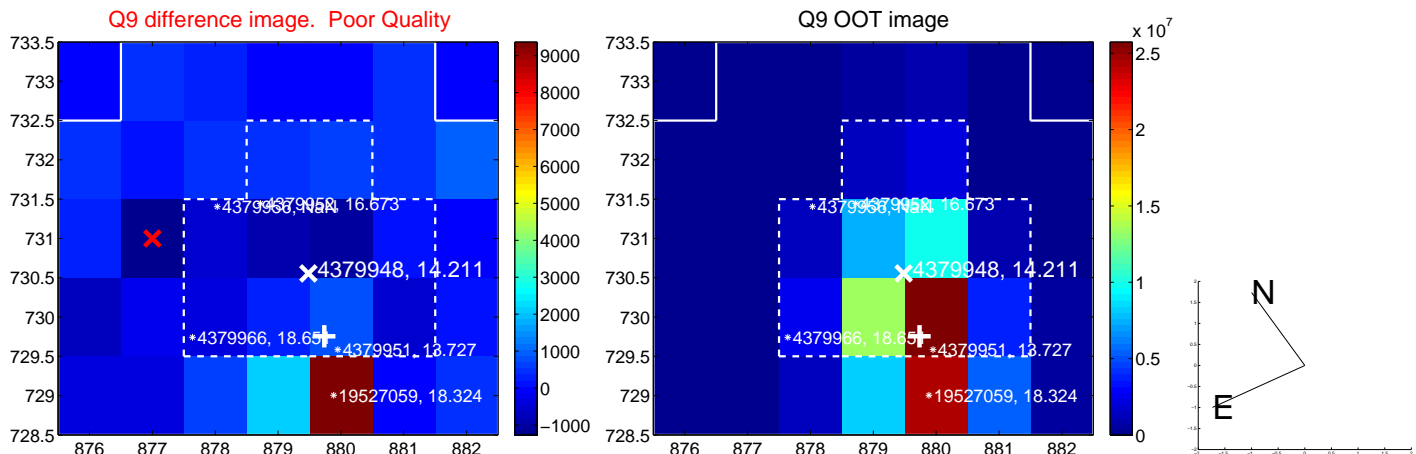
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



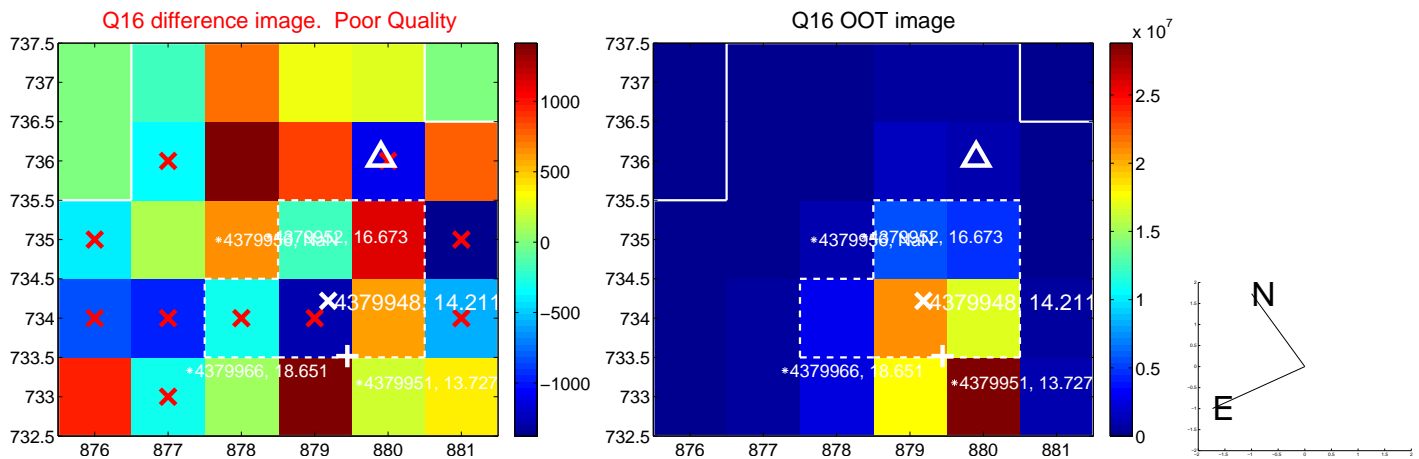
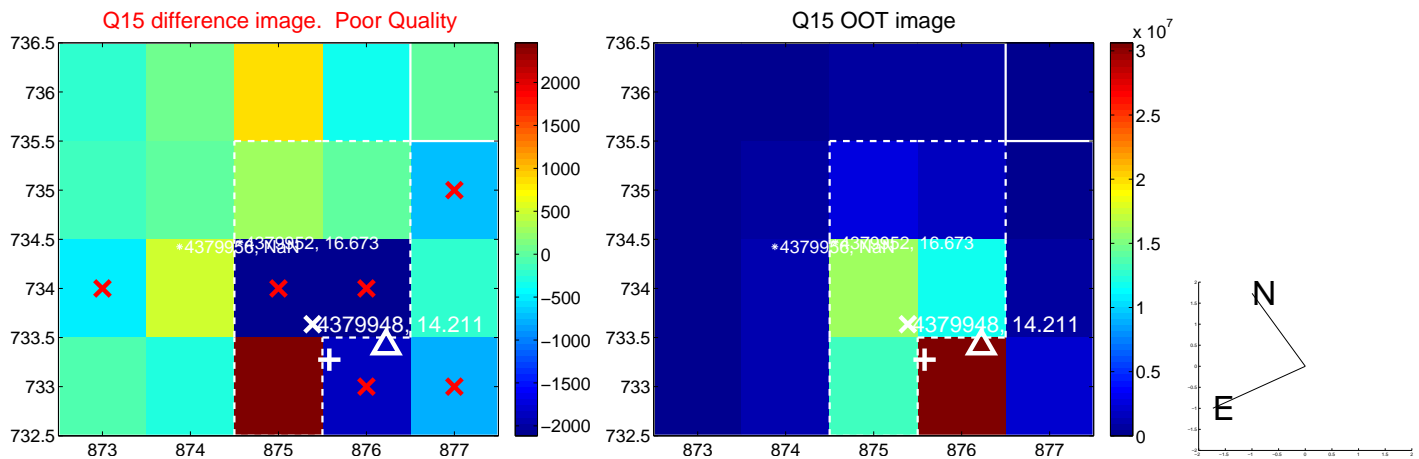
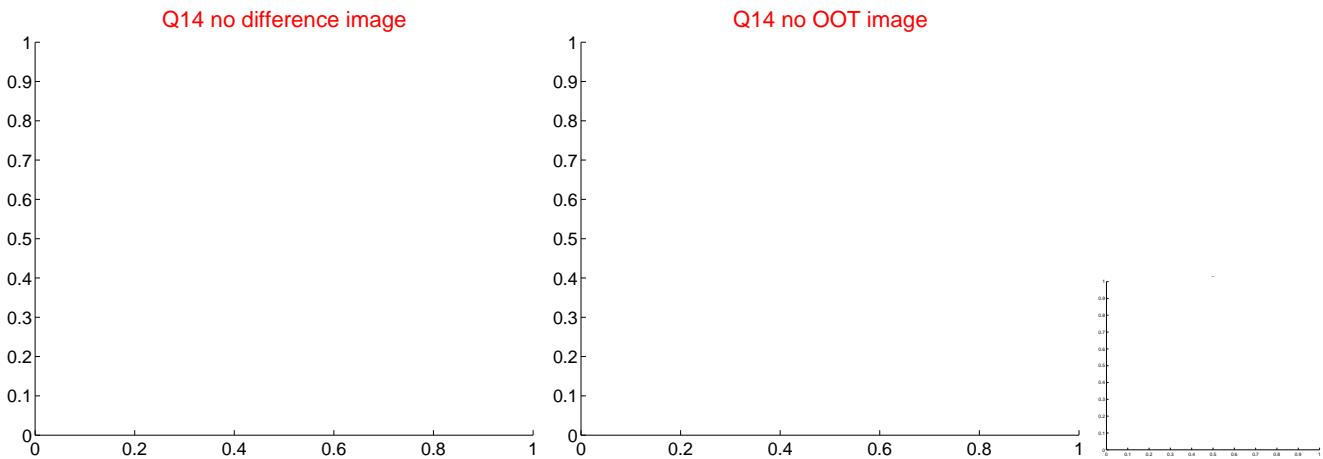
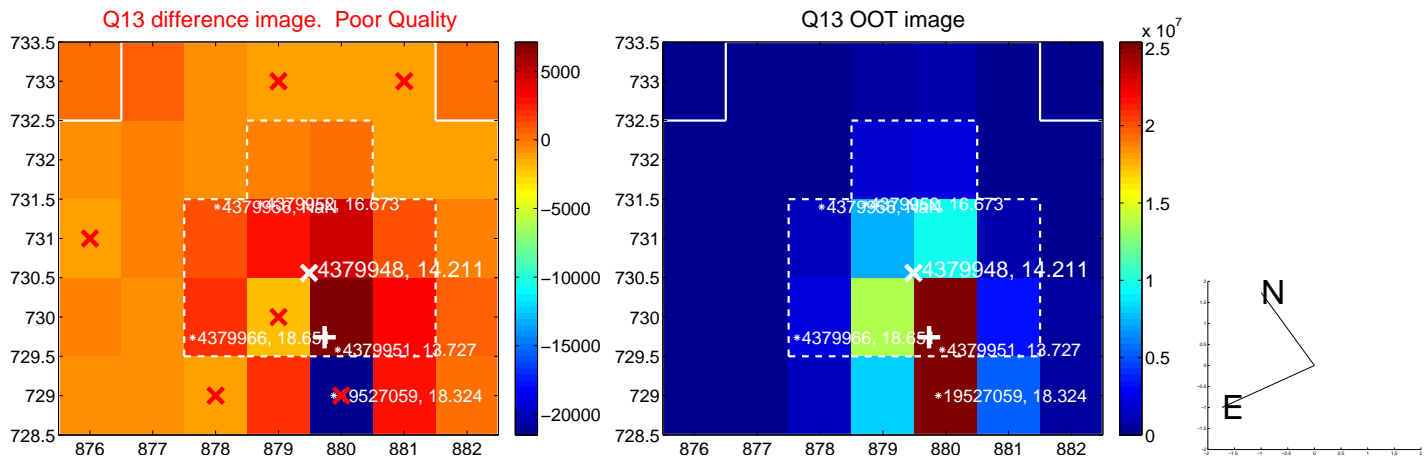
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



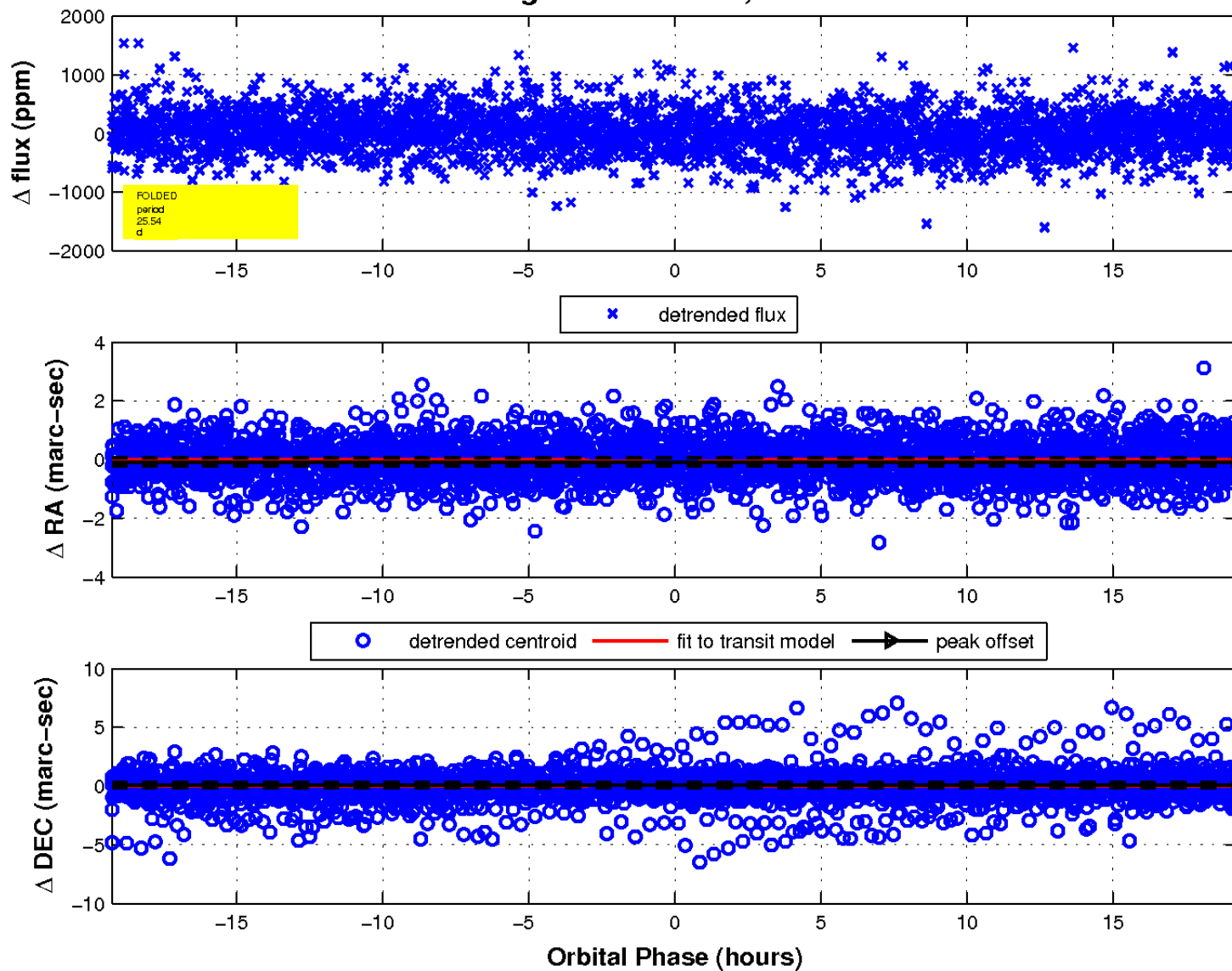
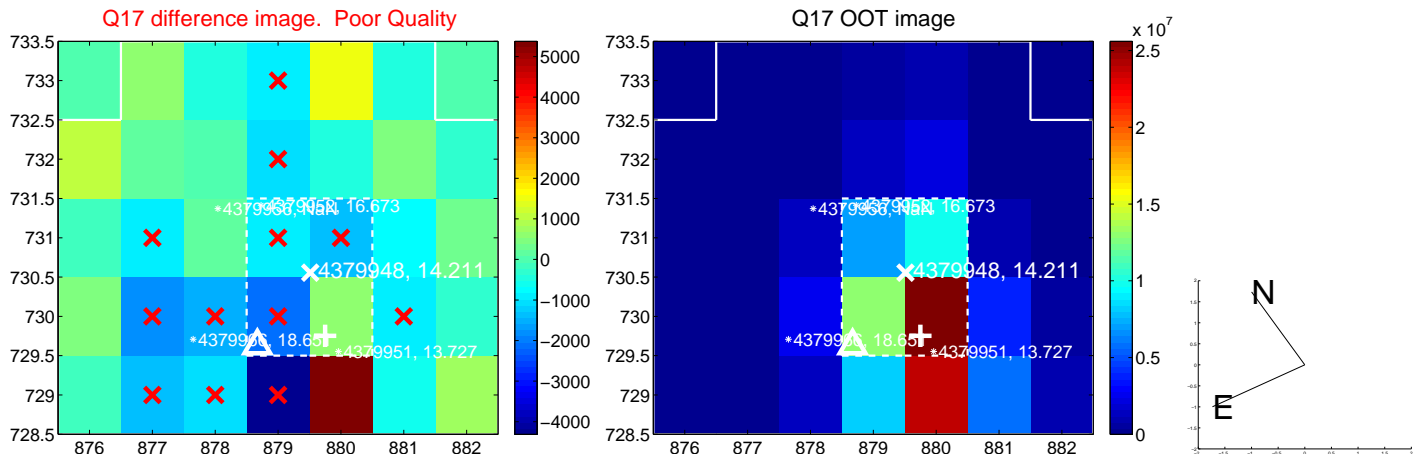
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

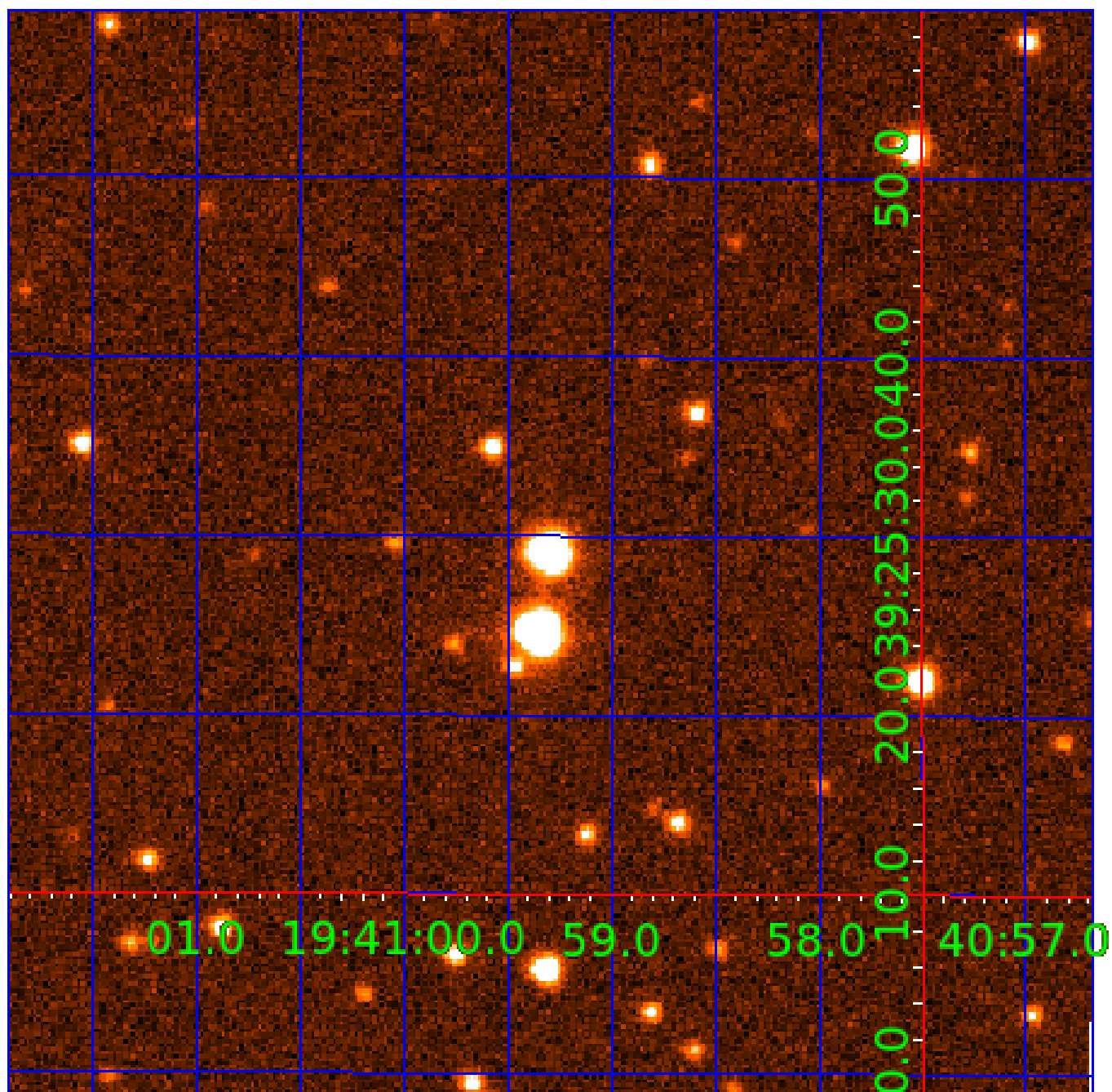


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004379948

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})
004379948-01	OBS	No	2.805608	132.507608	45.4	20.198	7.6	8.2	1.05	6215	0.72	909.14
004379948-03	OBS	No	25.537052	144.044948	469.5	6.423	14.4	12.4	1.05	6215	2.47	47.84
004379948-04	OBS	No	91.137004	214.092844	547.2	2.635	11.0	11.5	1.05	6215	2.77	8.77
004379948-05	OBS	No	60.012279	188.275226	601.9	6.667	11.0	11.9	1.05	6215	3.07	15.31
004379948-06	OBS	No	34.409382	160.283297	286.0	5.947	10.1	9.7	1.05	6215	1.89	32.14
004379948-07	OBS	No	63.989987	137.220837	567.3	2.961	10.0	10.3	1.05	6215	2.61	14.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004379948-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
004379948-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004379948-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004379948-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
004379948-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
004379948-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_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.

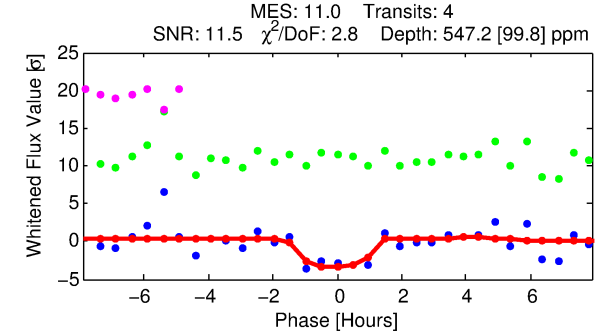
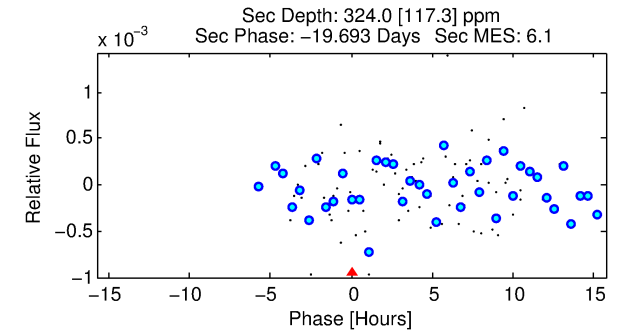
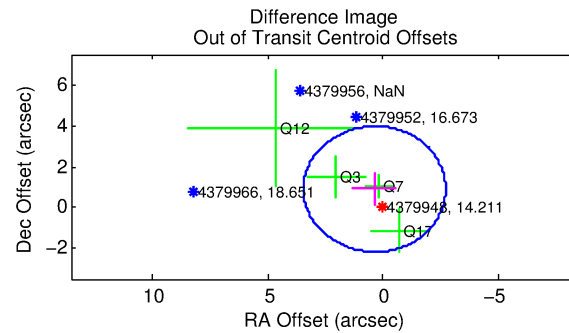
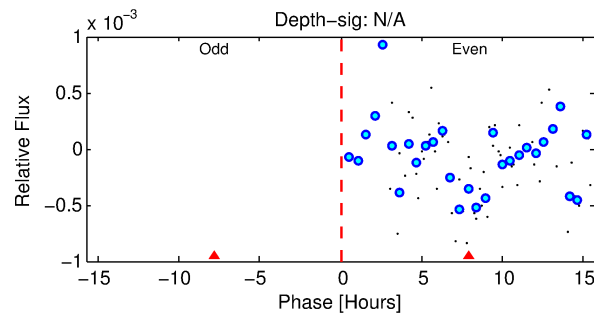
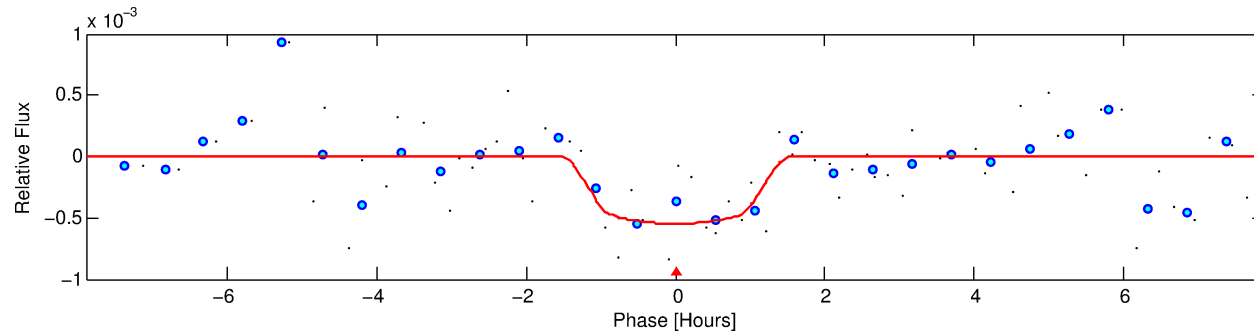
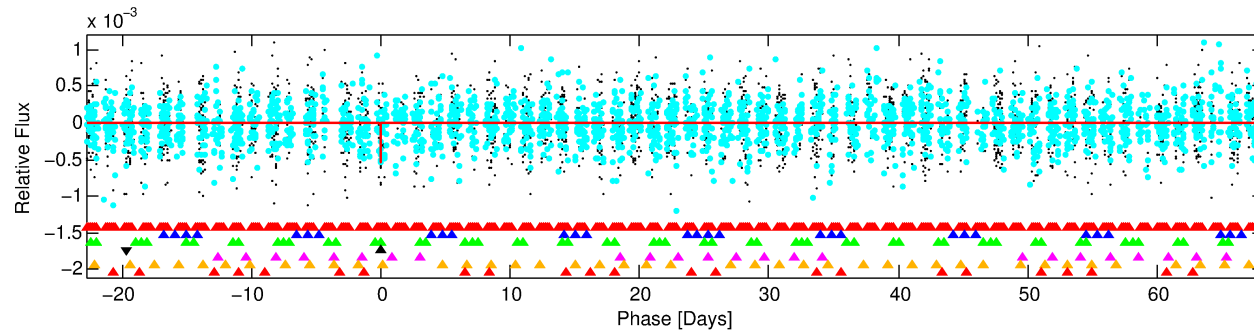
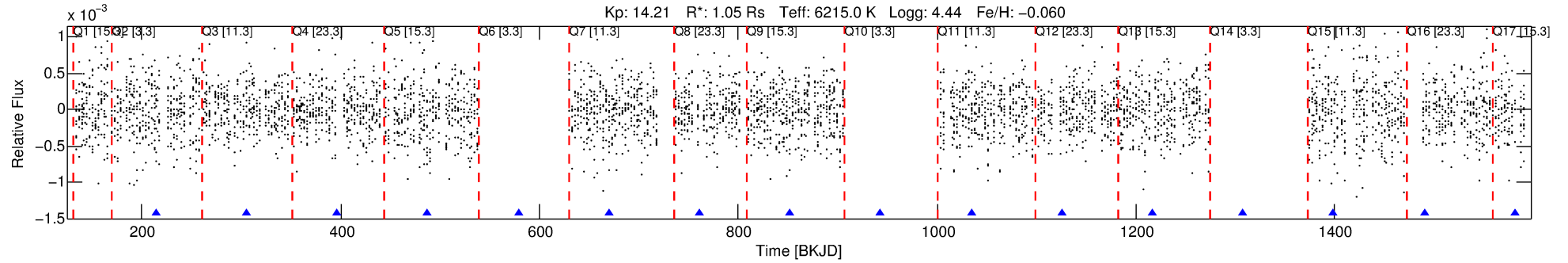
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004379948-04

No Significant Match Found

DV One-Page Summary

KIC: 4379948 Candidate: 4 of 7 Period: 91.137 d



DV Fit Results:

Period = 91.13700 [0.00334] d
Epoch = 214.0928 [0.0168] BKJD
Rp/R* = 0.0241 [0.0526]
a/R* = 156.57 [1738.87]
b = 0.84 [4.11]
Seff = 8.77 [3.79]
Teff = 439 [47] K
Rp = 2.77 [6.10] Re
a = 0.4107 [0.1150] AU
Ag = 3912.76 [17168.94] [0.23 σ]
Teffp = 5366 [5864] K [0.84 σ]

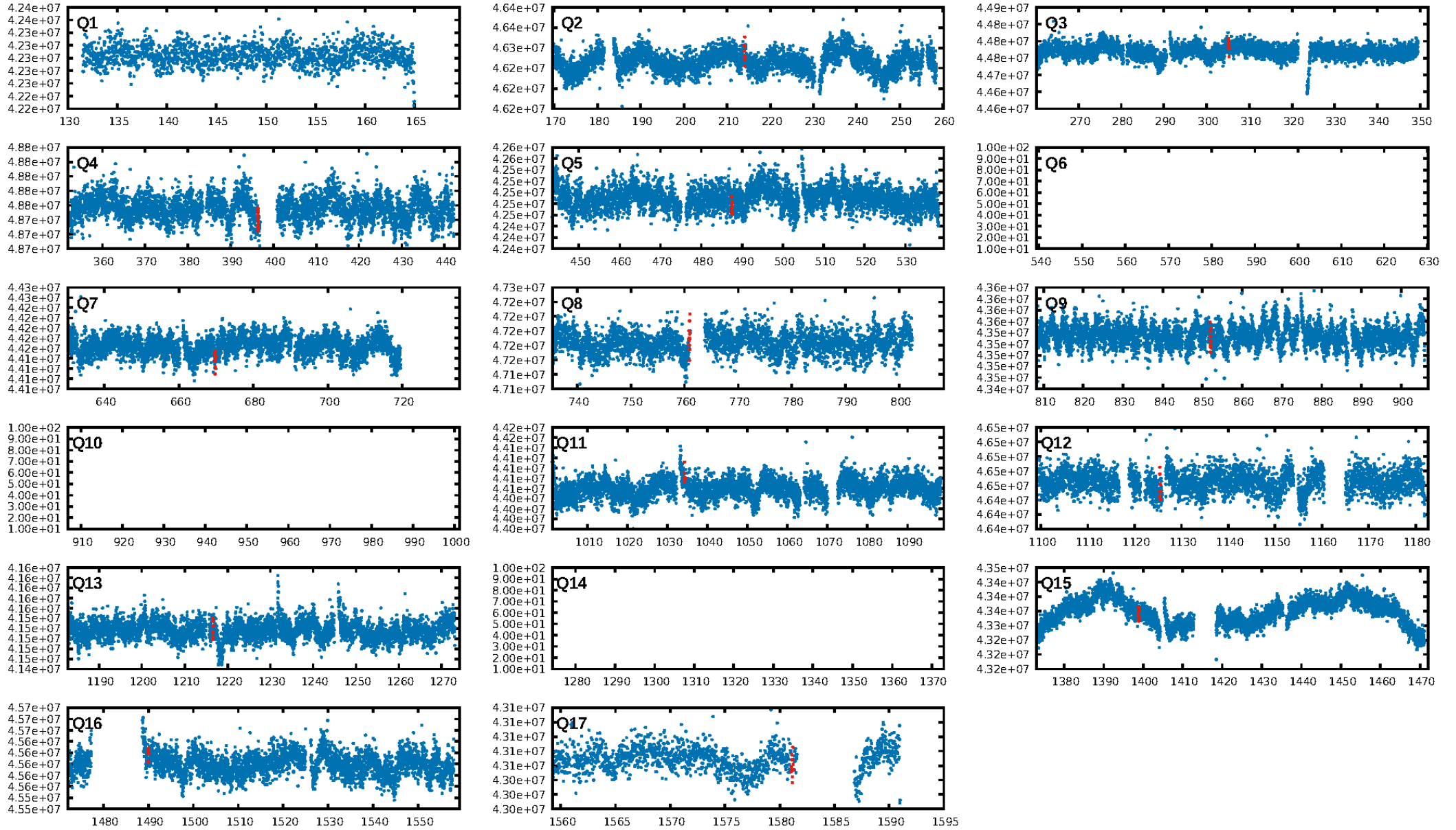
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [164.36 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 32.8%
ModelChiSquareGof-sig: 23.5%
Bootstrap-pfa: 7.02e-08
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 10.87
Centroid-sig: 76.2%
Centroid-so: 1.714 arcsec [2.80 σ]
OotOffset-rm: 0.978 arcsec [0.95 σ]
OotOffset-st: 0/2/1/1 [4]
KicOffset-rm: 0.688 arcsec [0.71 σ]
KicOffset-st: 0/2/1/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.55 [6/11]

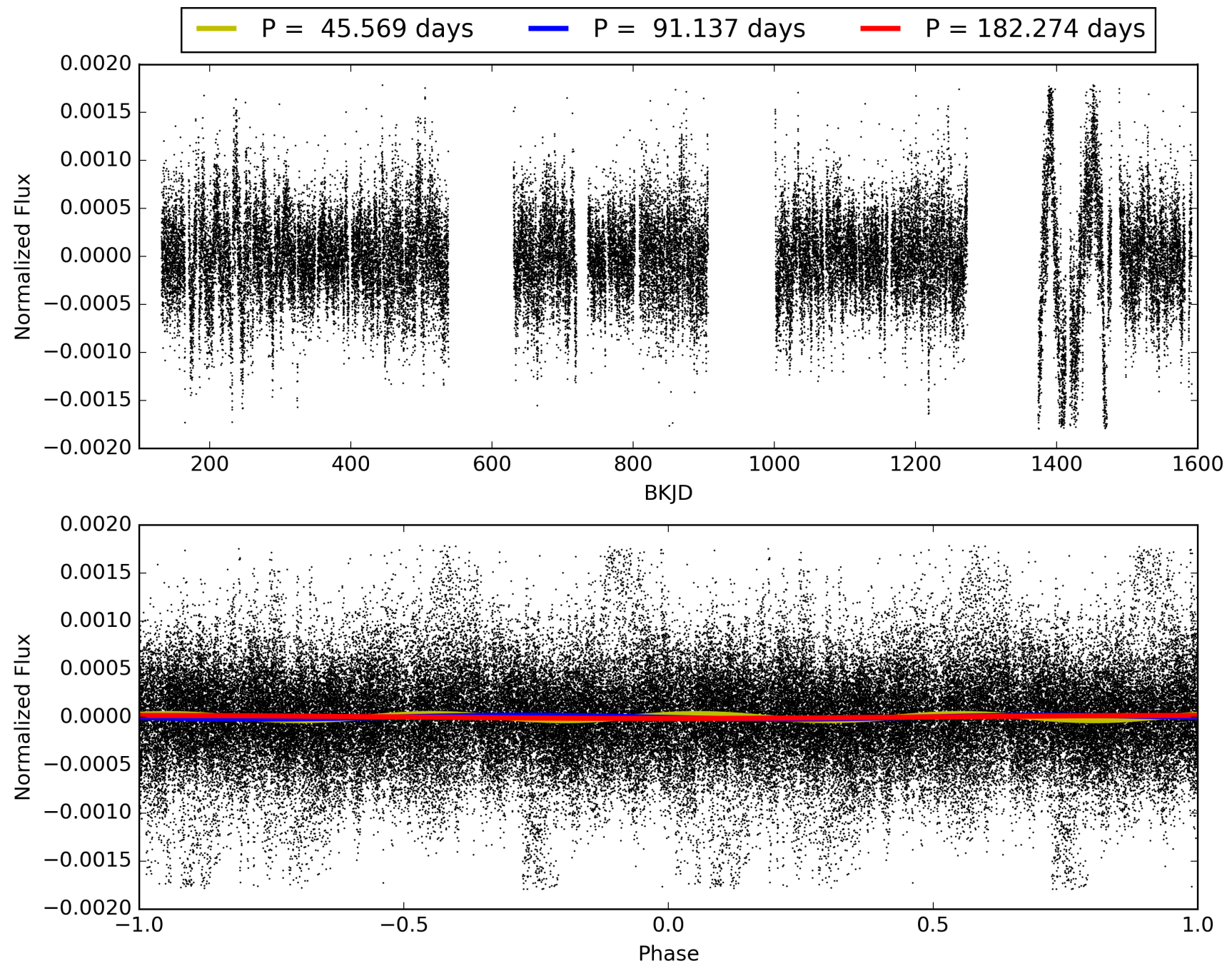
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:17:13 Z

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

TCE 004379948-04, PDC Light Curves

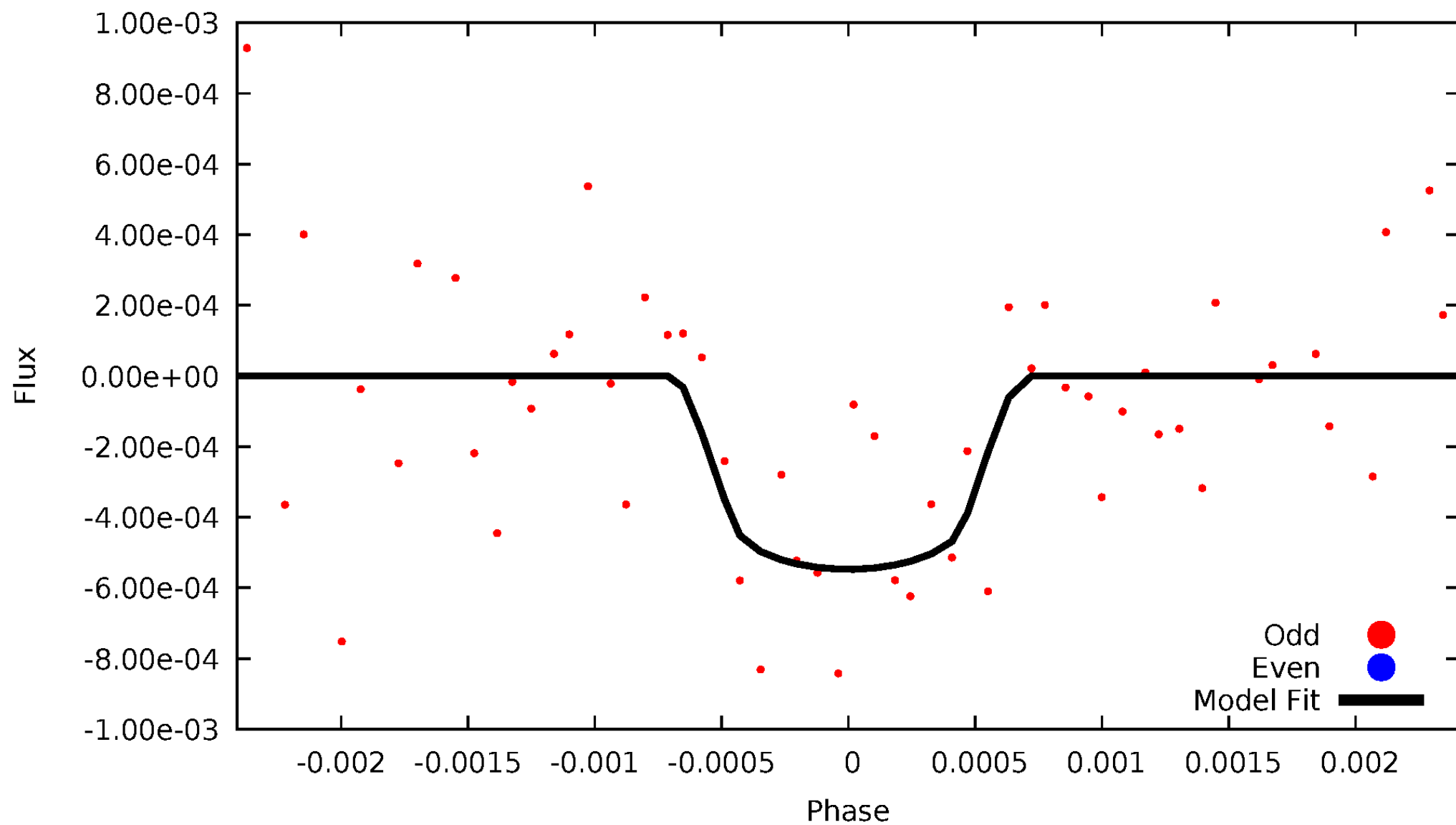


TCE 004379948-04



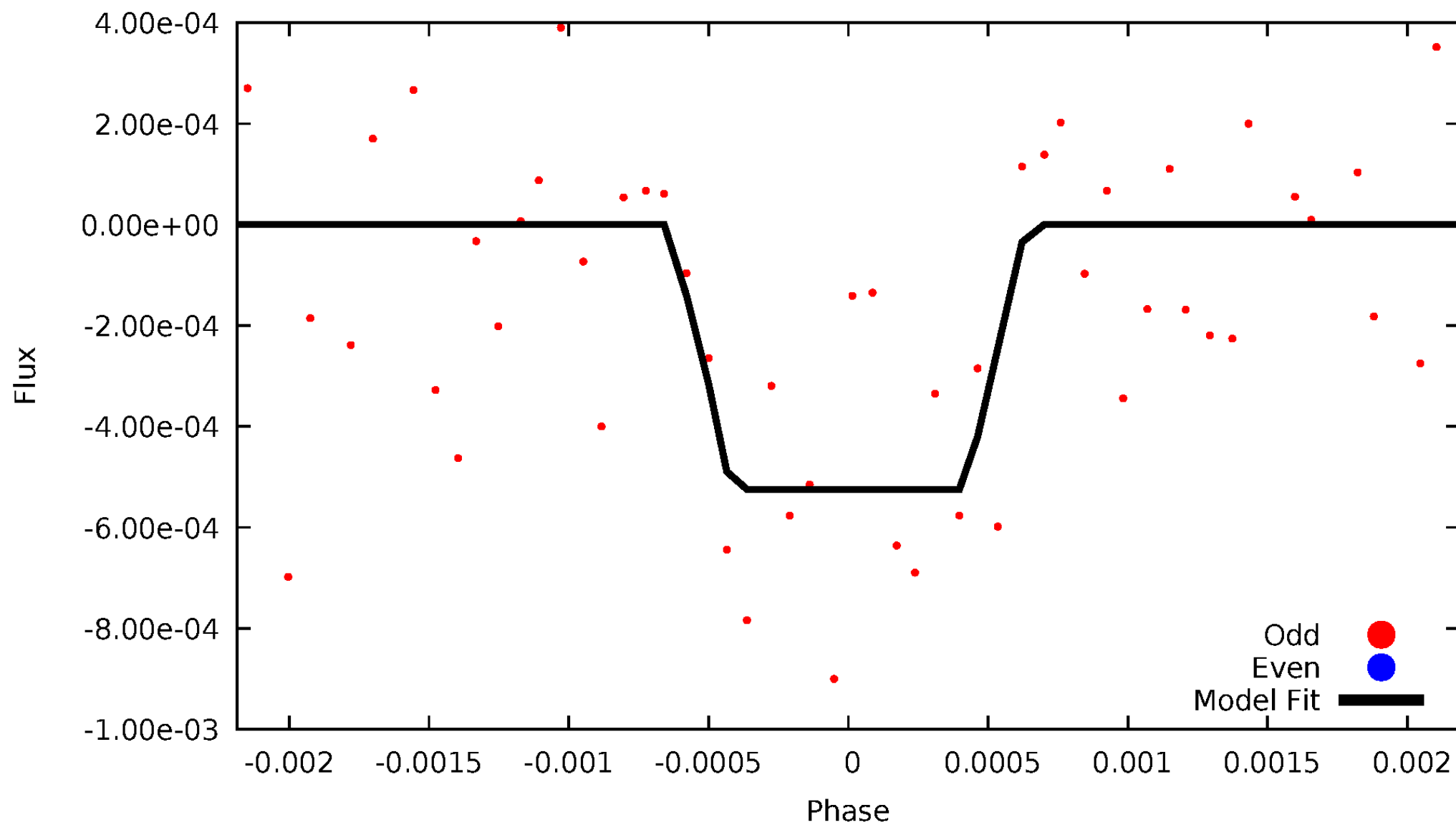
DV Odd/Even

TCE 004379948-04



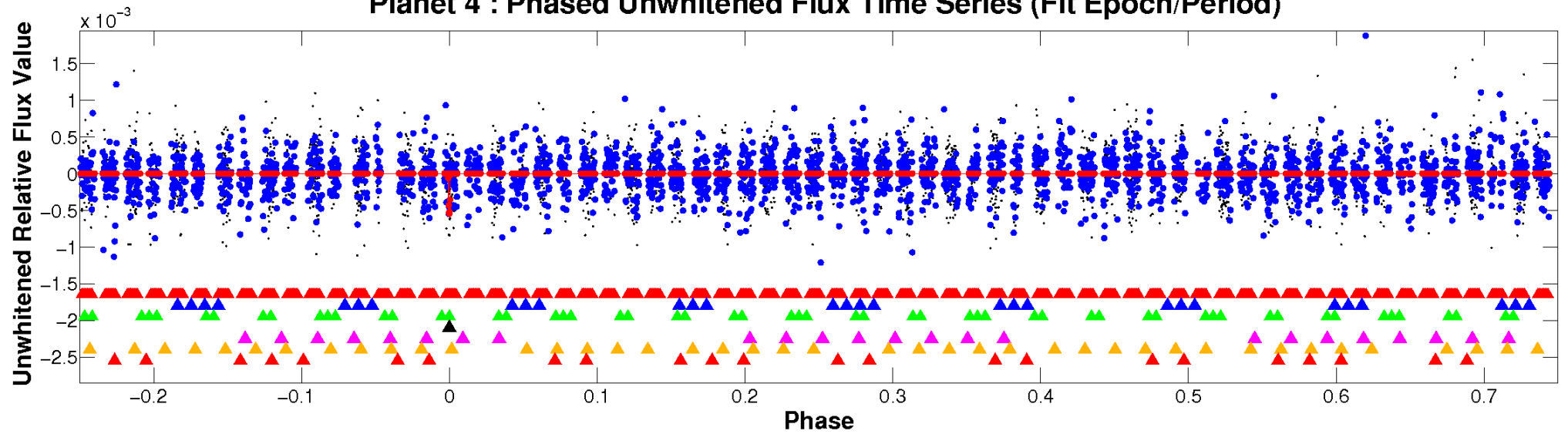
ALT Odd/Even

TCE 004379948-04

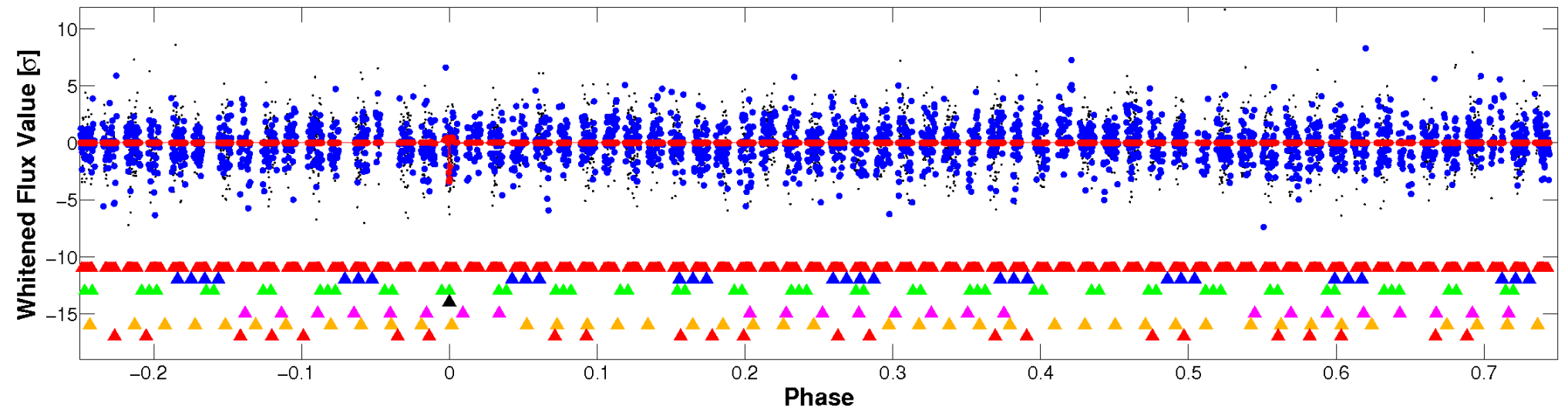


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

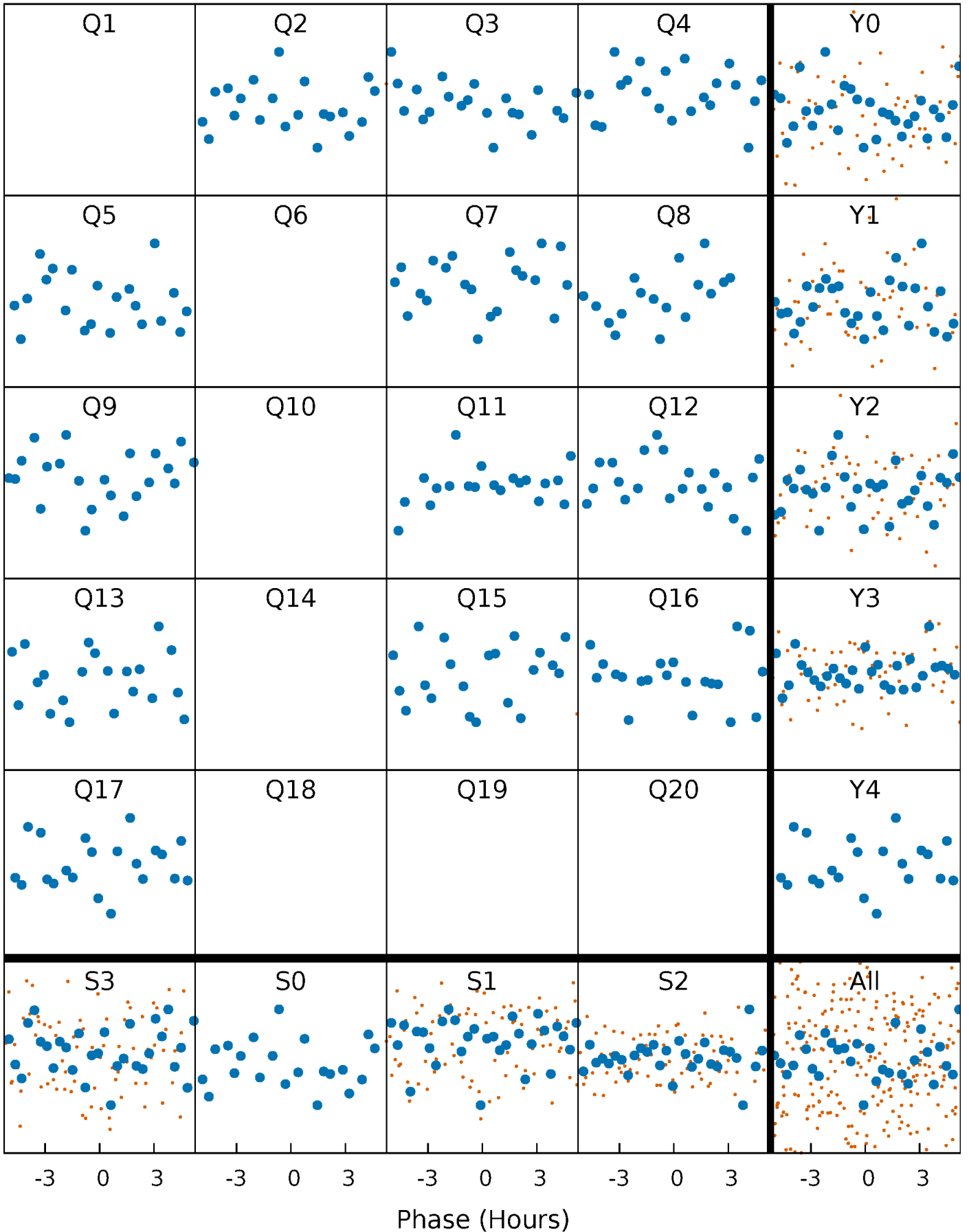


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



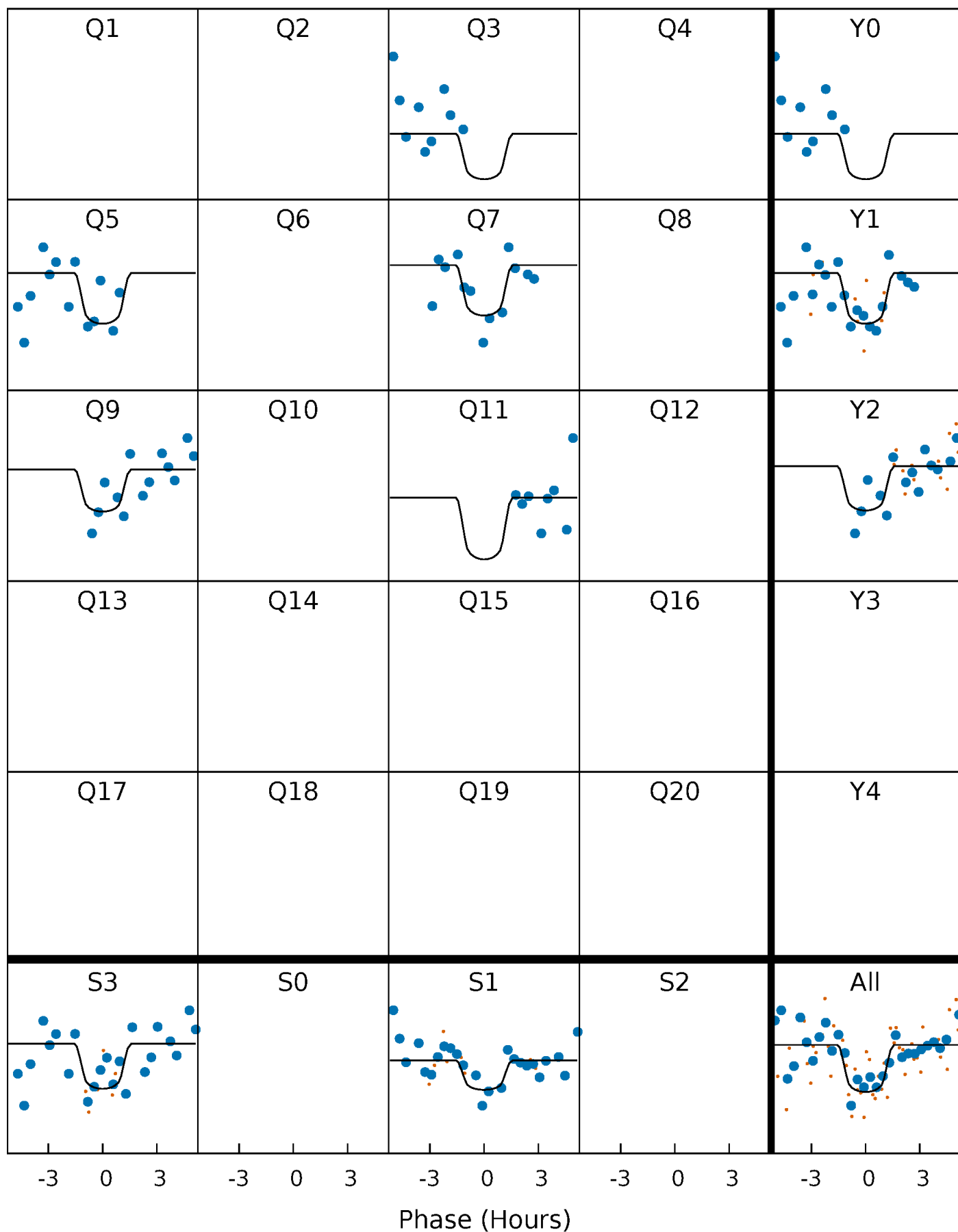
PDC Quarter-Phased Transit Curves

TCE 004379948-04 P= 91.137004 Days $T_0=214.092844$ (BKJD)



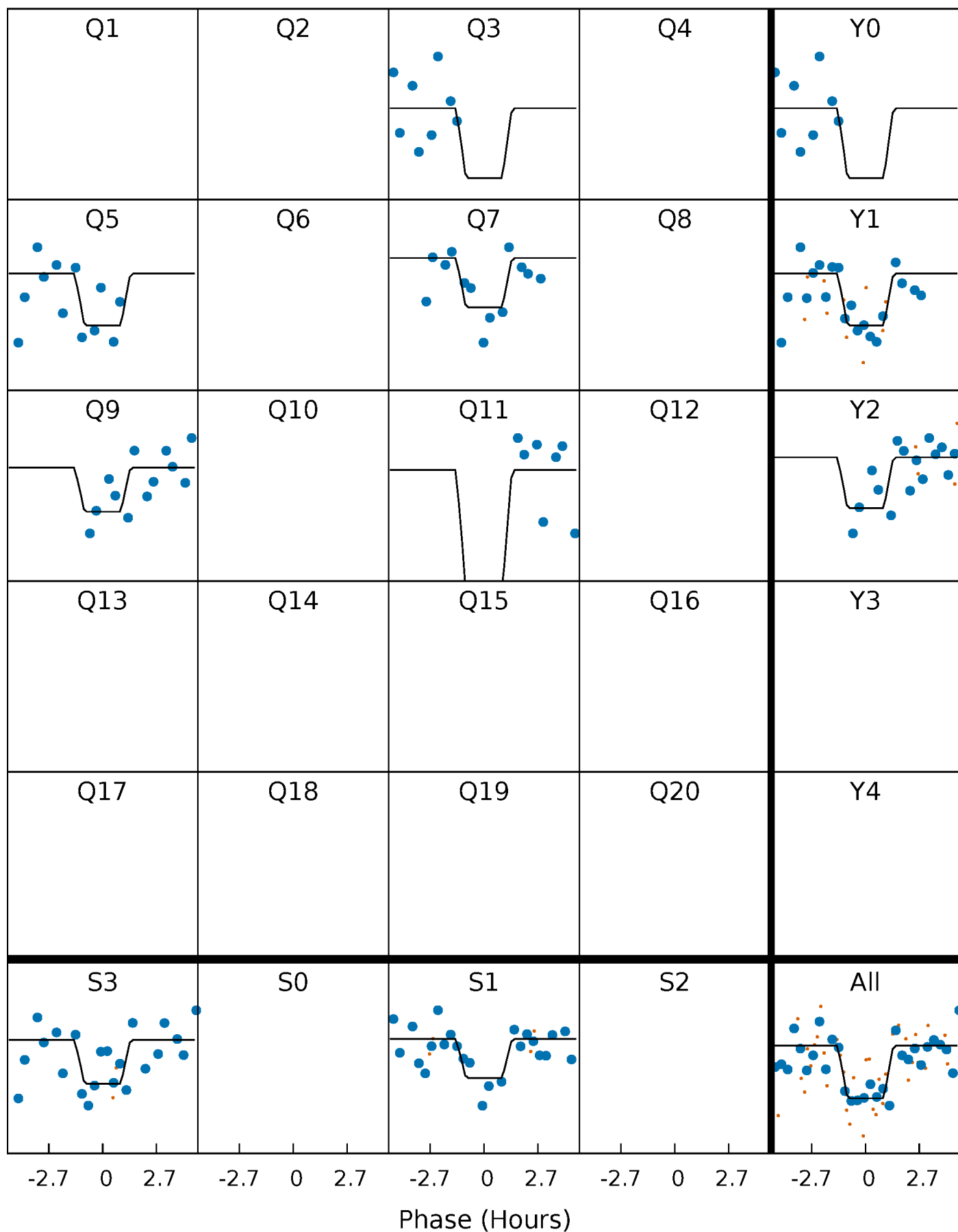
DV Quarter-Phased Transit Curves

TCE 004379948-04 P= 91.137004 Days $T_0=214.092844$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

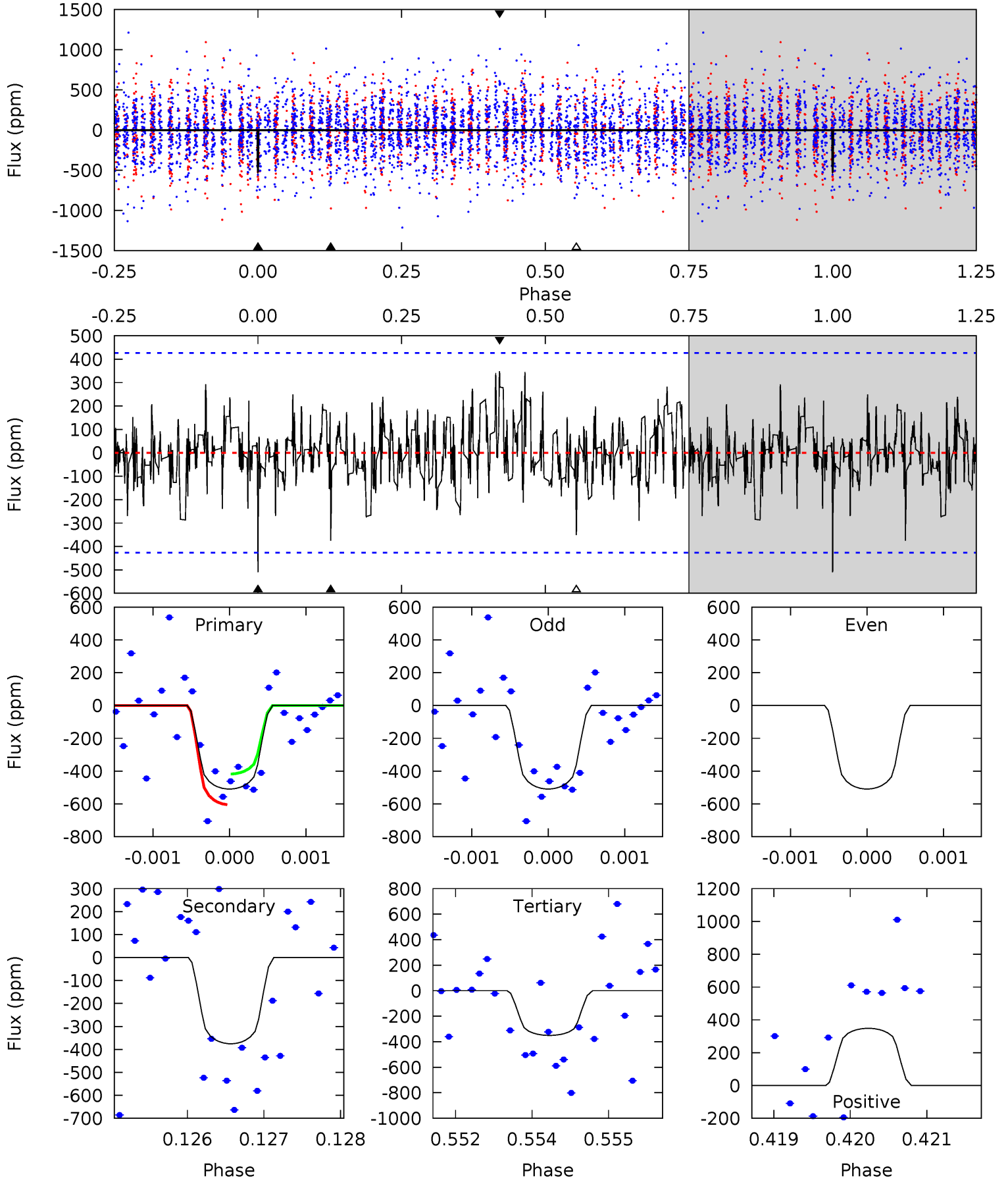
TCE 004379948-04 $P = 91.137229$ Days $T_0 = 214.092761$ (BKJD)



DV Model-Shift Uniqueness Test

004379948-04, P = 91.137004 Days, E = 122.955840 Days

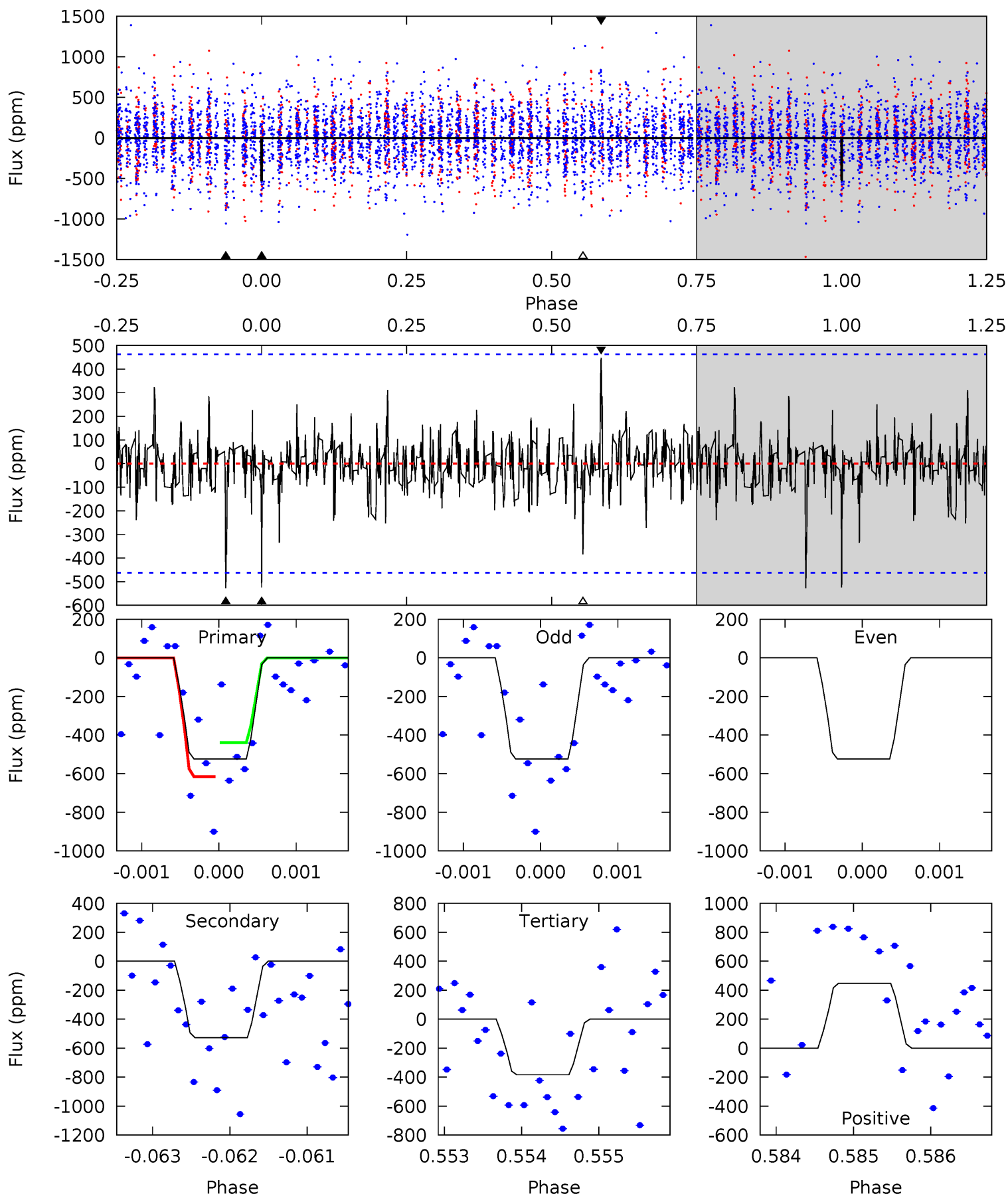
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.46	4.76	4.44	4.42	5.41	3.22	1.29	2.01	2.04	0.32	0.34	0	0.95	0.41	1.18



Alt Model-Shift Uniqueness Test

004379948-04, P = 91.137229 Days, E = 122.955532 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.15	6.20	4.51	5.25	5.43	3.26	1.09	1.64	0.90	1.69	0.95	0	1.06	0.46	1.03



Stellar Parameters For KIC 004379948

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6215^{+172}_{-216}	$4.440^{+0.056}_{-0.224}$	$-0.060^{+0.250}_{-0.300}$	$1.052^{+0.349}_{-0.116}$	$1.111^{+0.153}_{-0.153}$	$1.345^{+0.398}_{-0.727}$
	+3%/-3%	+1%/-5%	+417%/-500%	+33%/-11%	+14%/-14%	+30%/-54%
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 004379948-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-376 ± 79	$5.93^{+5.06}_{-4.23}$	627^{+47}_{-34}	4212^{+3178}_{-828}	959^{+11752}_{-691}
Alt.	-528 ± 85	$5.46^{+5.44}_{-3.58}$	626^{+50}_{-32}	4599^{+3150}_{-1002}	1662^{+12059}_{-1258}

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

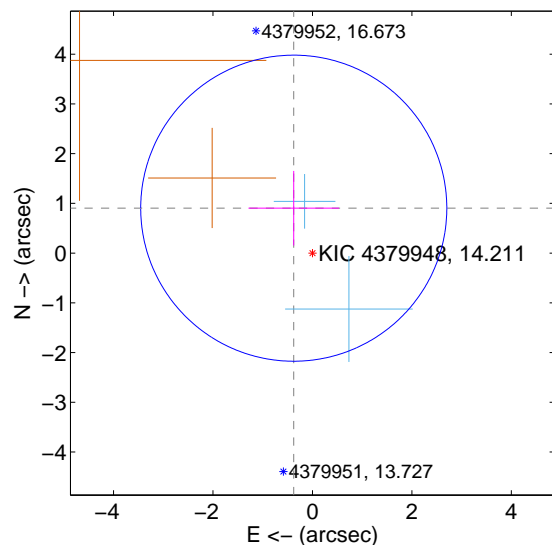
Supplemental centroid analysis for 004379948-04. Kepler magnitude: 14.21. Transit SNR 11.53

There are 2 quarters with good PRF difference image offsets

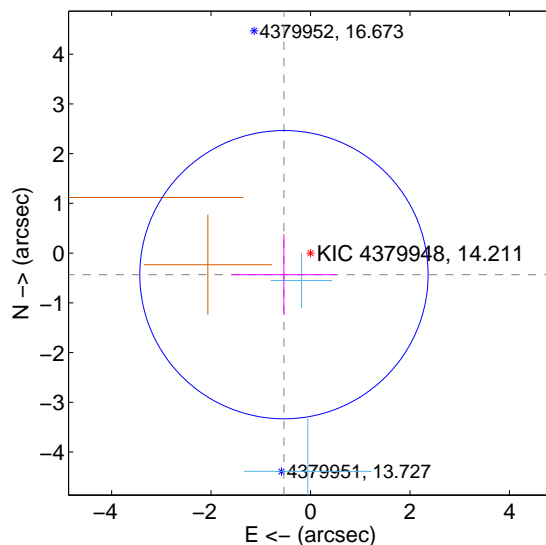
The OOT PRF centroid is offset from the target star catalog position by about 3.36 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.978 ± 1.026	0.95	0.376 ± 0.911	0.903 ± 0.750
PRF-fit source offset from KIC position	0.688 ± 0.966	0.71	0.534 ± 1.056	-0.434 ± 0.810
photometric centroid source offset	1.71 ± 0.61	2.80	-0.09 ± 0.45	-1.71 ± 0.61

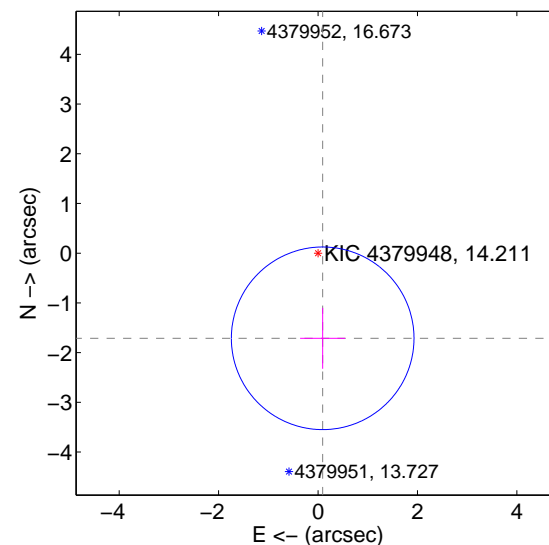
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

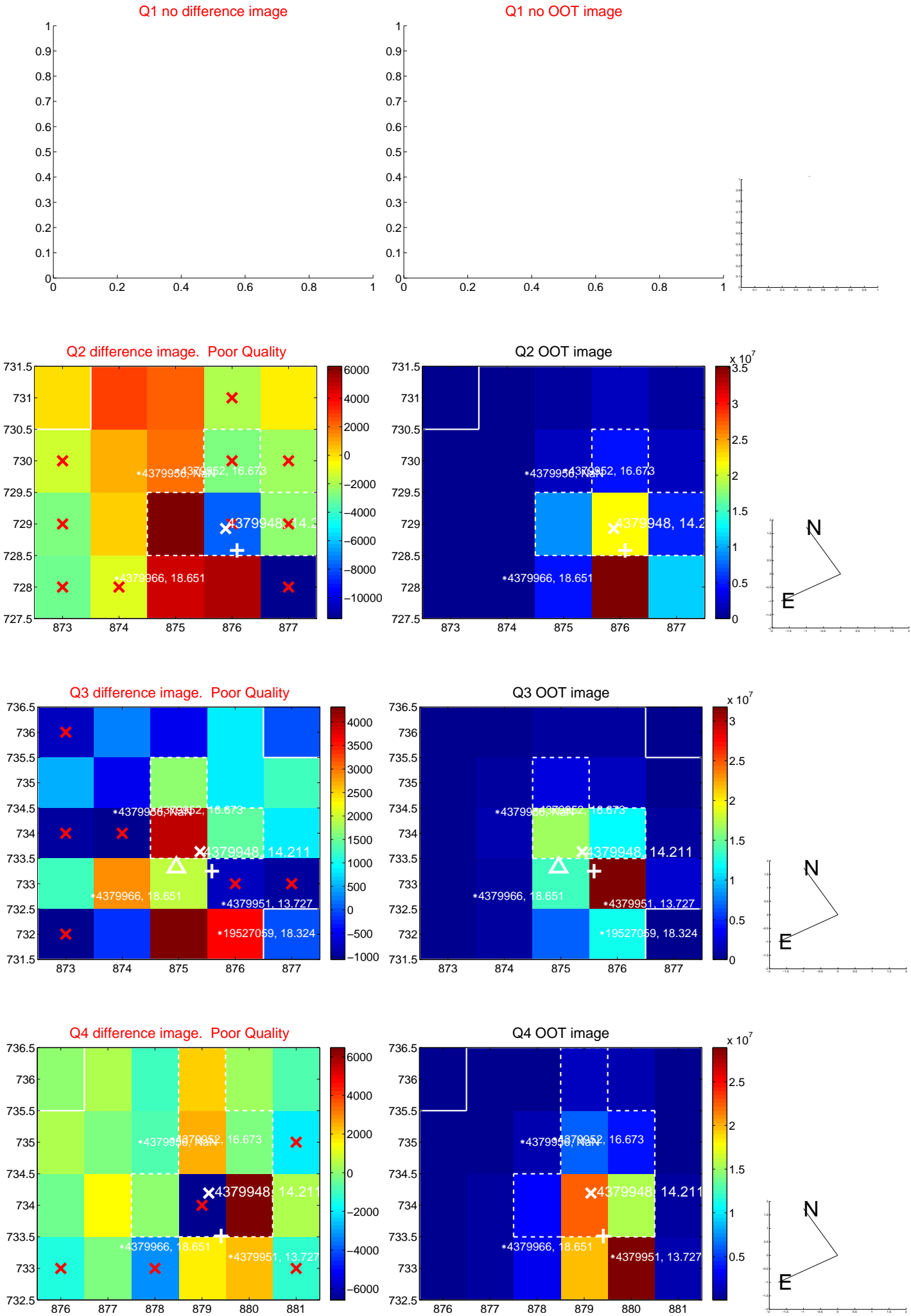


offset from photometric centroids

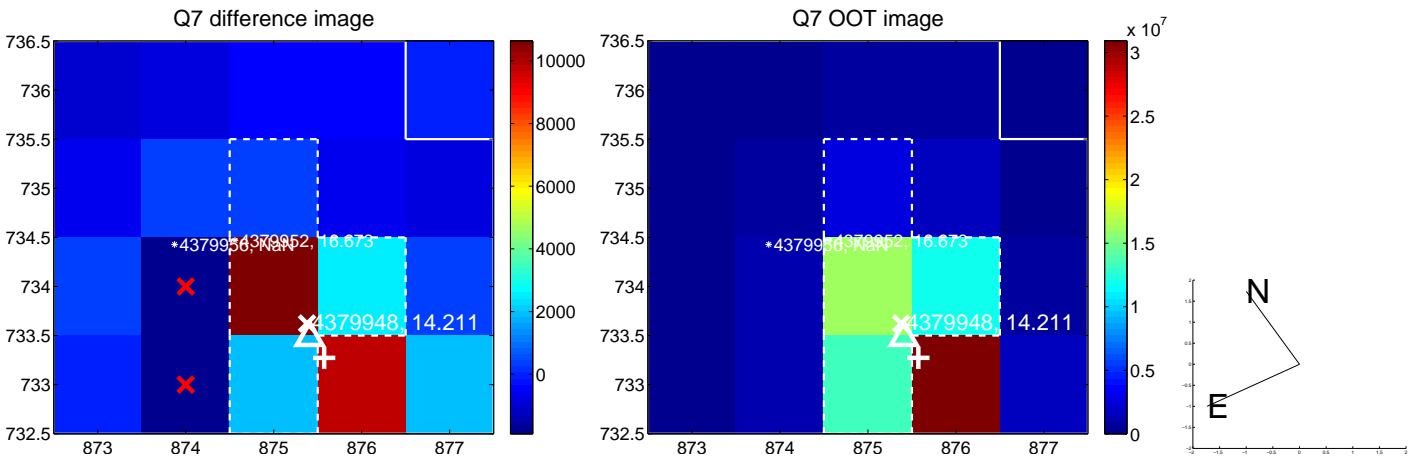
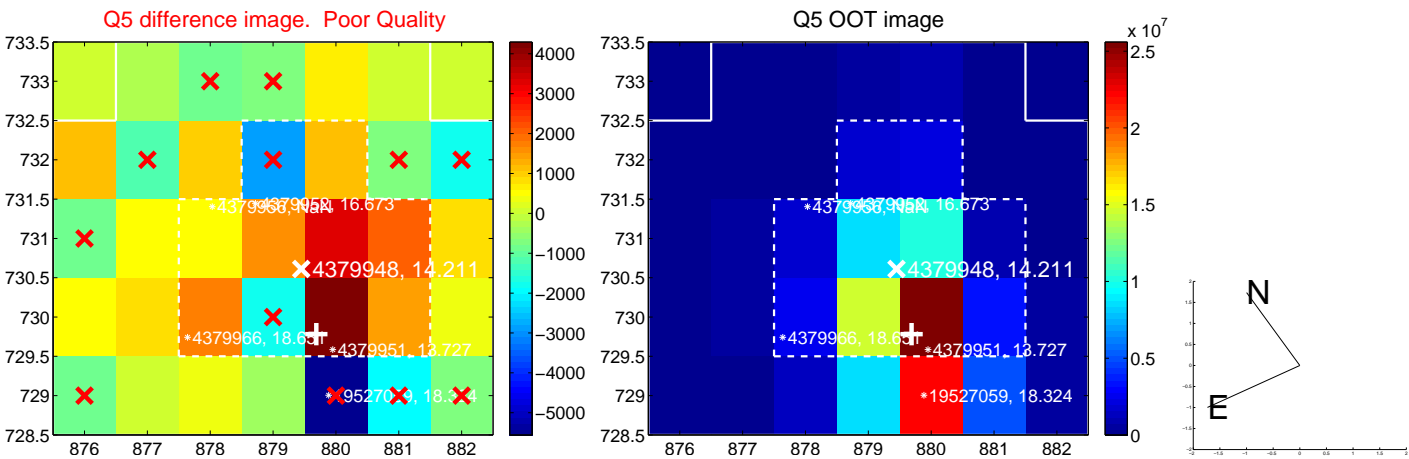


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

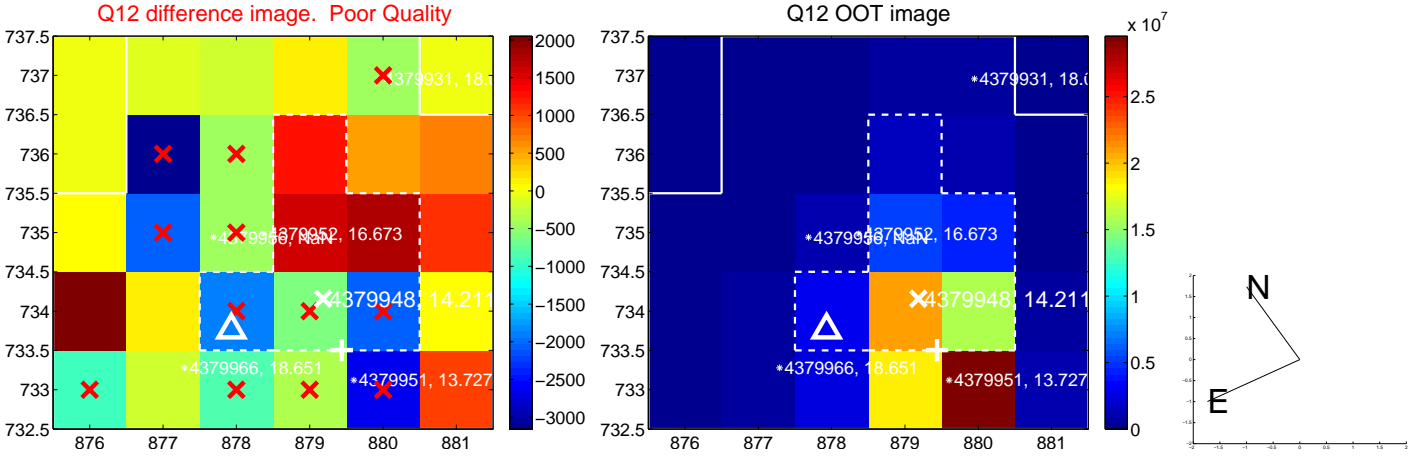
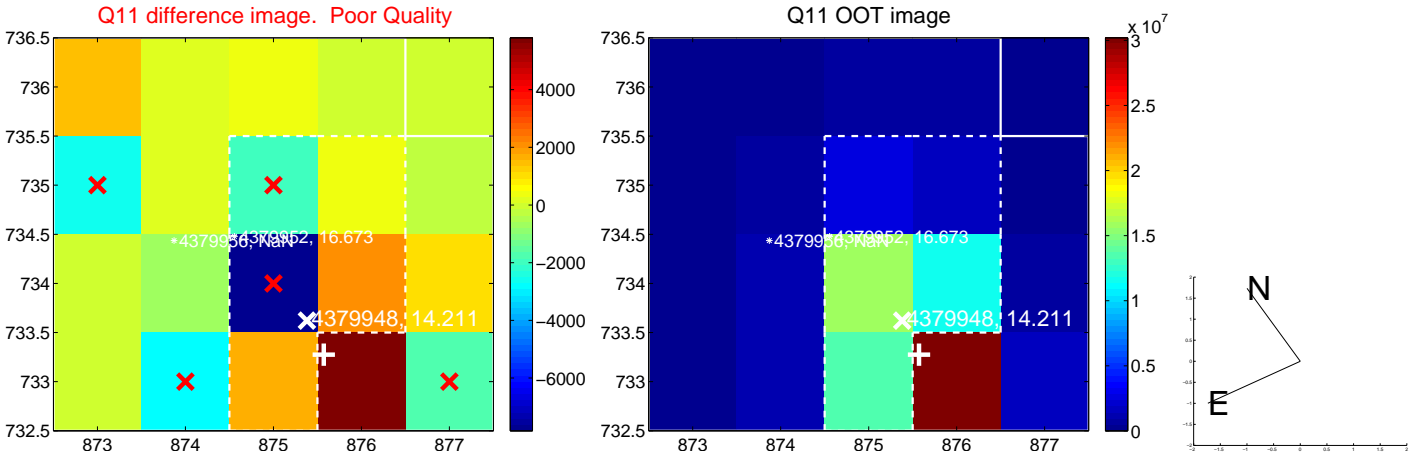
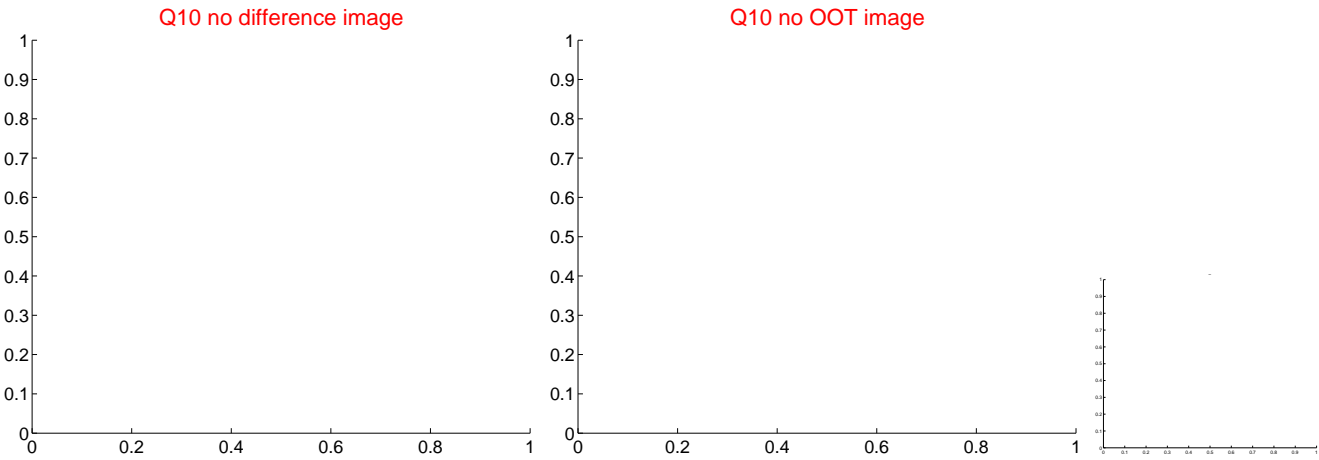
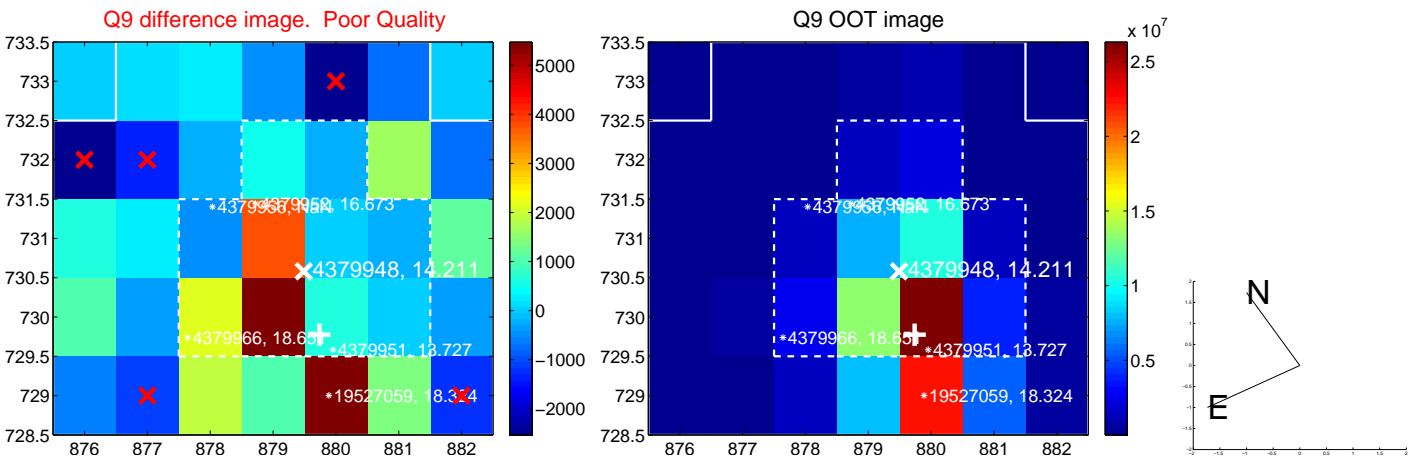
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



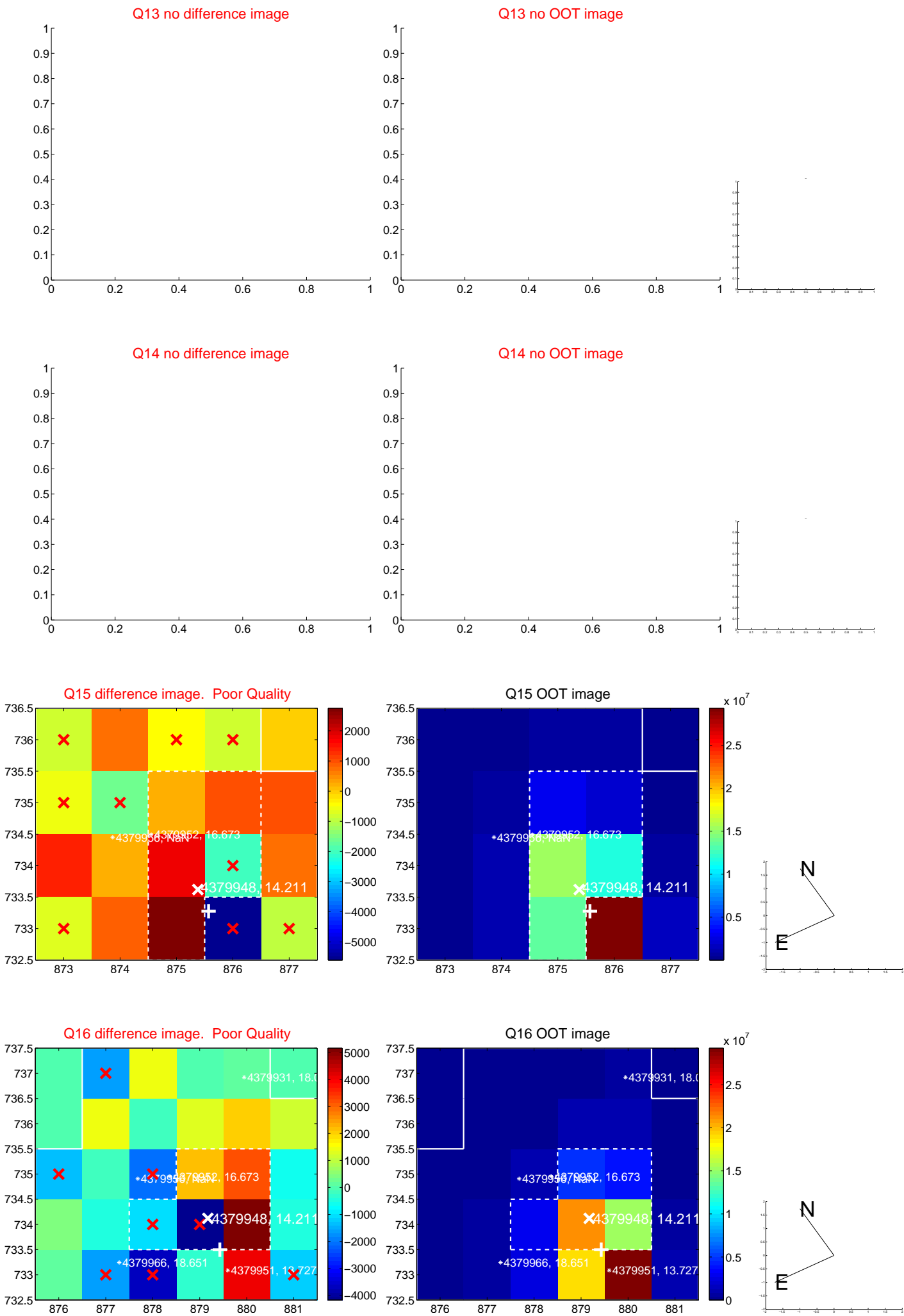
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



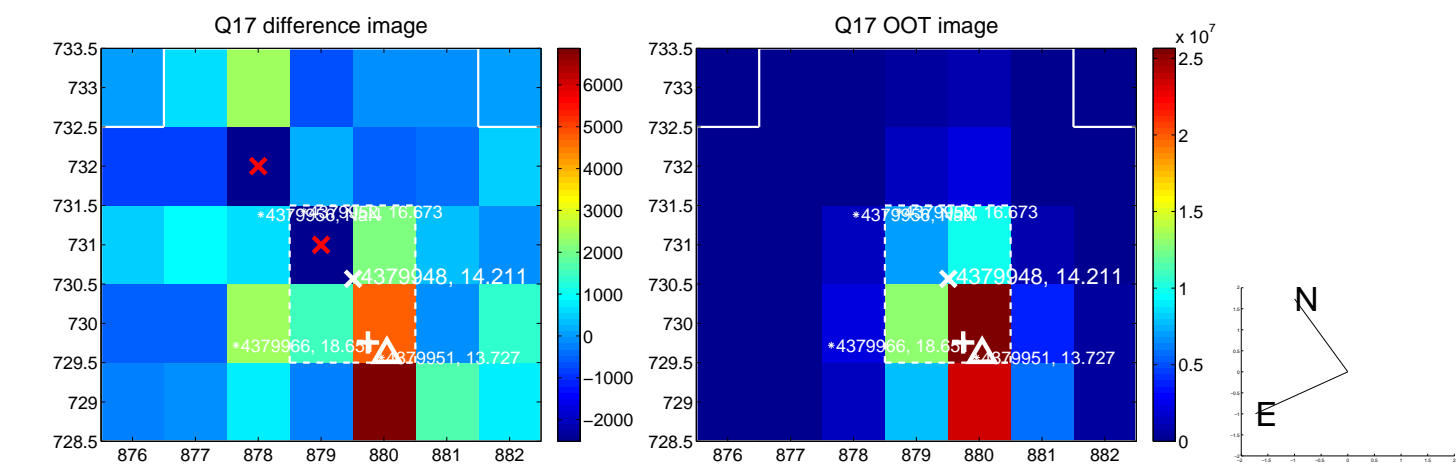
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



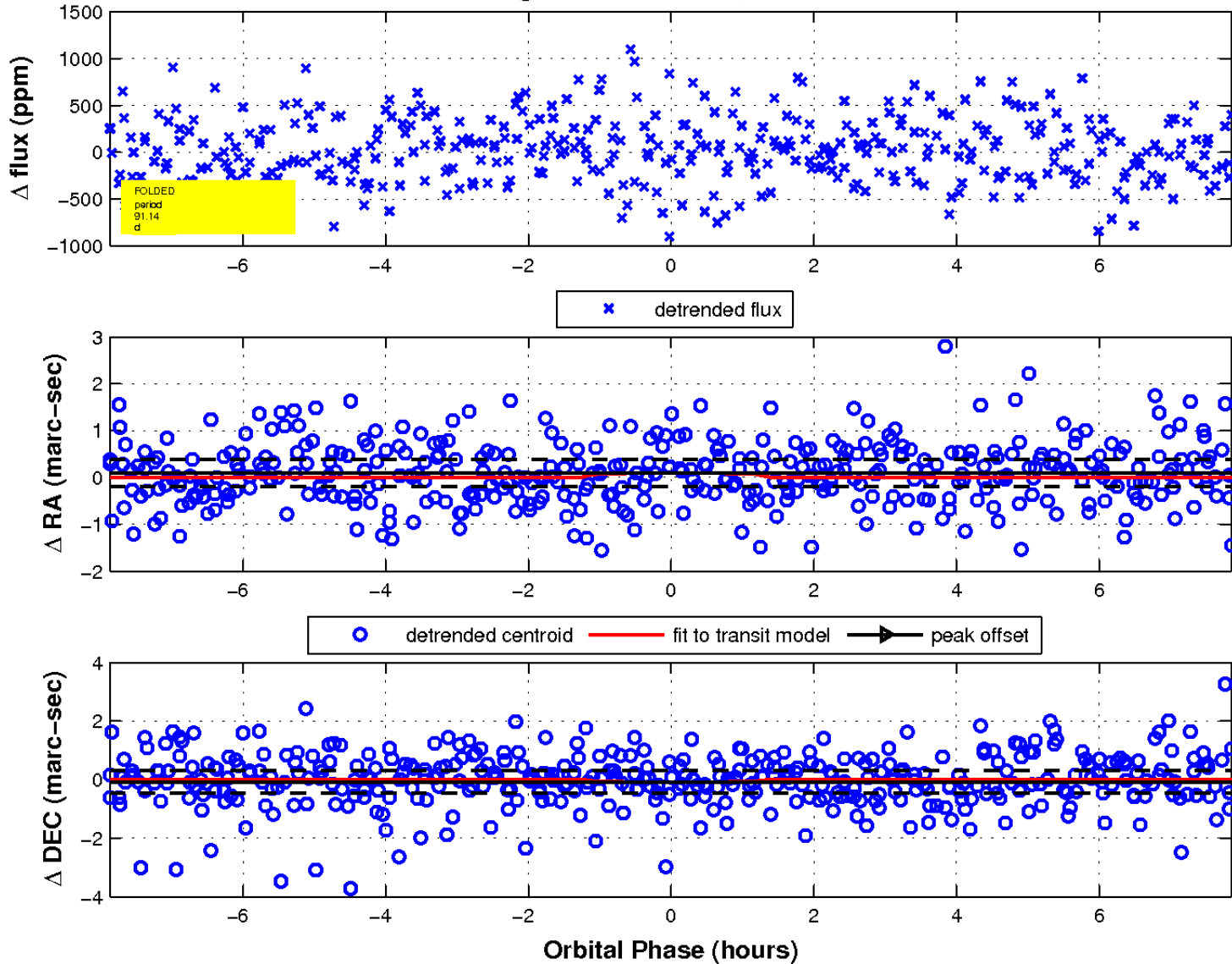
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

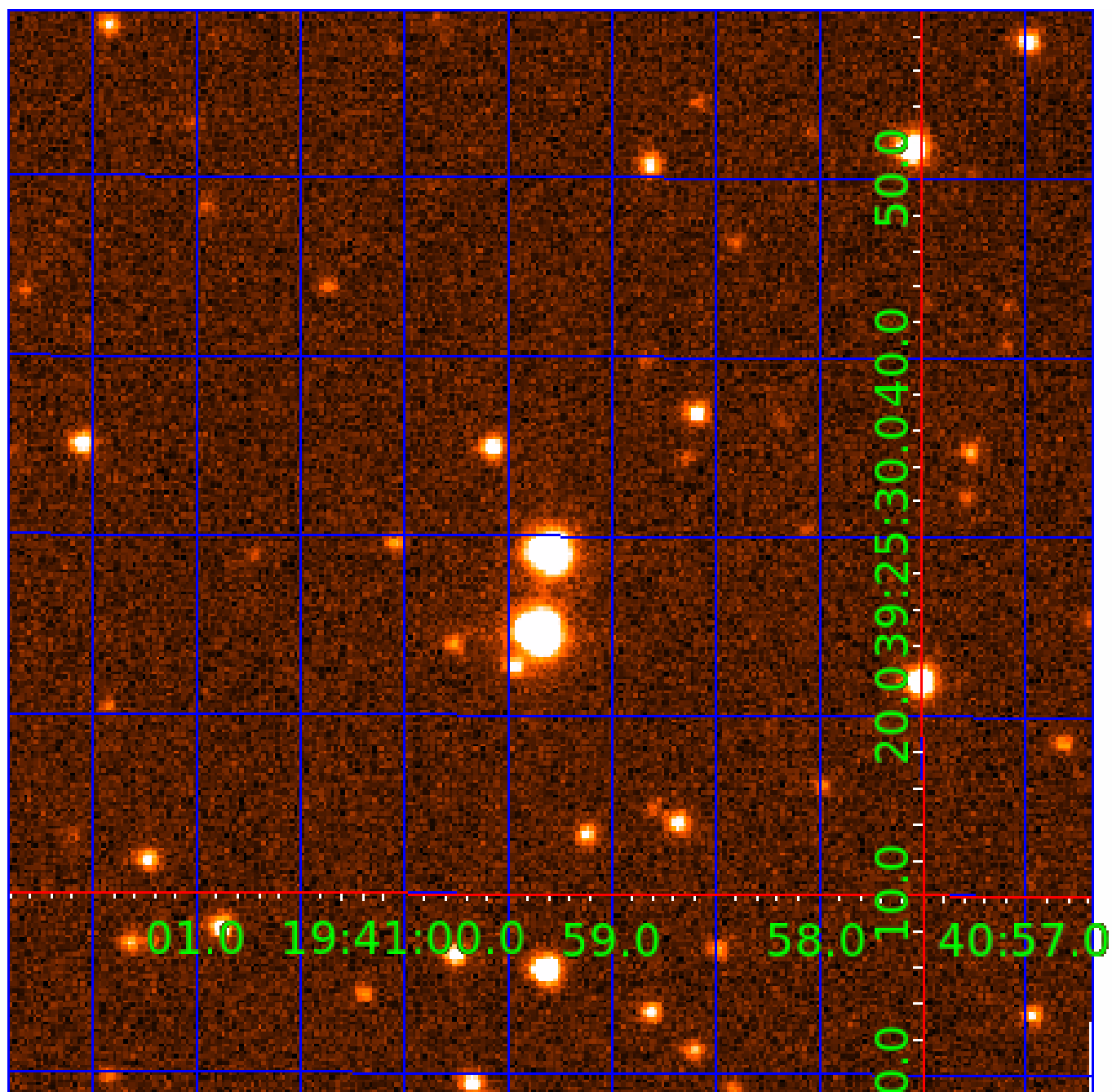


fluxWeightedCentroids, Planet 4 of 7



UKIRT Image

Declination



KIC 004379948

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})
004379948-01	OBS	No	2.805608	132.507608	45.4	20.198	7.6	8.2	1.05	6215	0.72	909.14
004379948-03	OBS	No	25.537052	144.044948	469.5	6.423	14.4	12.4	1.05	6215	2.47	47.84
004379948-04	OBS	No	91.137004	214.092844	547.2	2.635	11.0	11.5	1.05	6215	2.77	8.77
004379948-05	OBS	No	60.012279	188.275226	601.9	6.667	11.0	11.9	1.05	6215	3.07	15.31
004379948-06	OBS	No	34.409382	160.283297	286.0	5.947	10.1	9.7	1.05	6215	1.89	32.14
004379948-07	OBS	No	63.989987	137.220837	567.3	2.961	10.0	10.3	1.05	6215	2.61	14.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004379948-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
004379948-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004379948-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004379948-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
004379948-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
004379948-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_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.

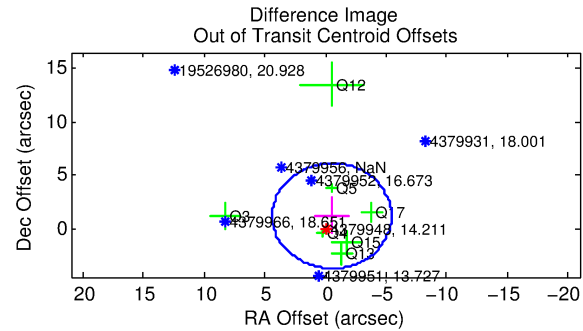
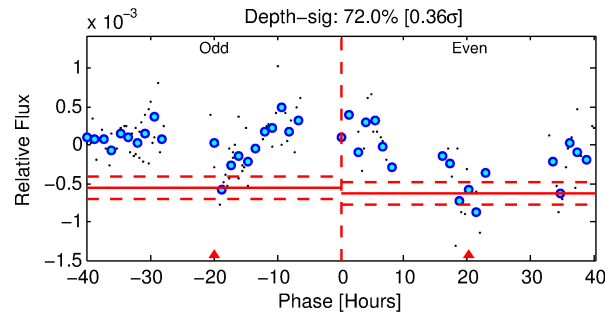
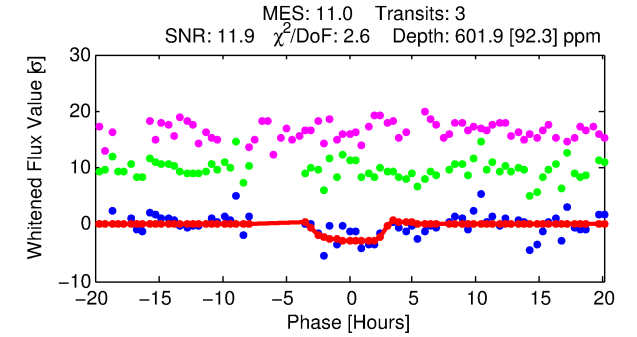
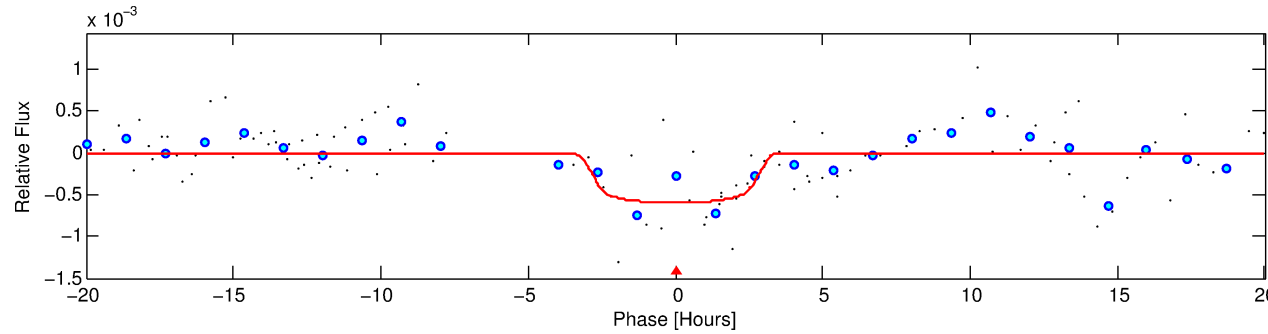
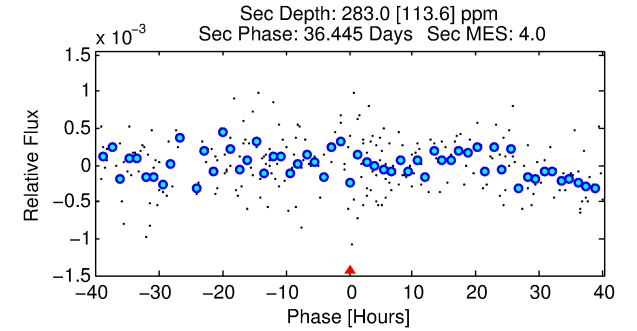
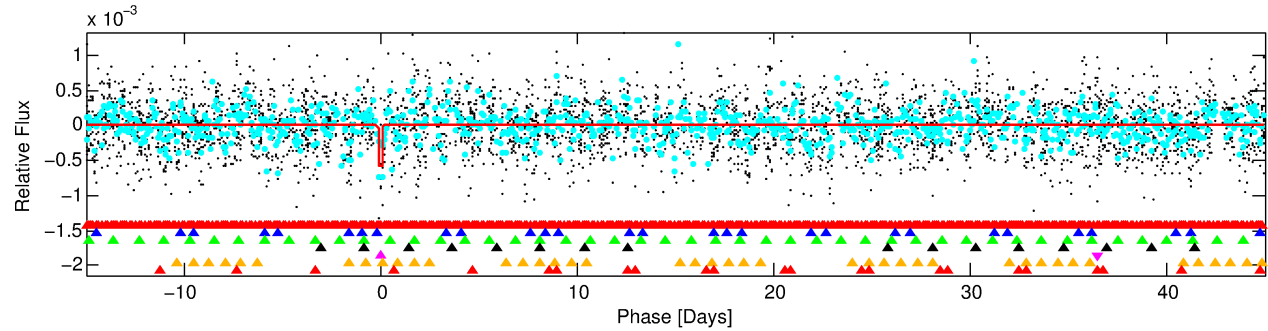
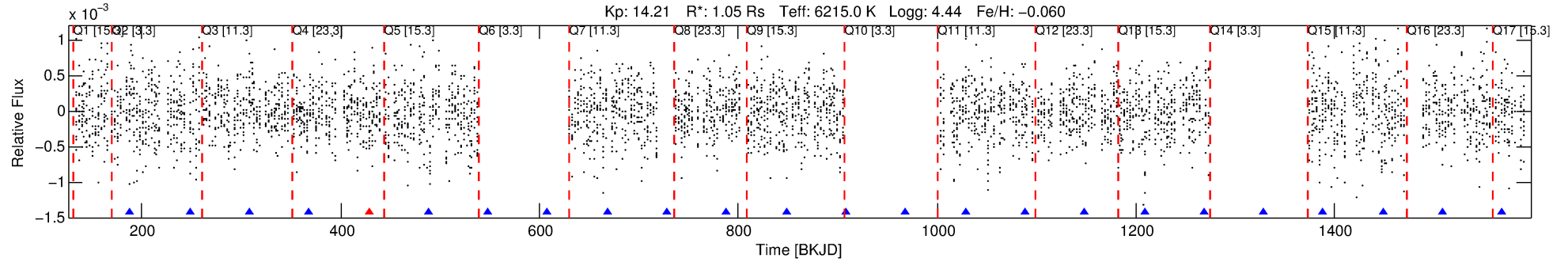
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004379948-05

No Significant Match Found

DV One-Page Summary

KIC: 4379948 Candidate: 5 of 7 Period: 60.012 d



DV Fit Results:

Period = 60.01228 [0.00121] d
Epoch = 188.2752 [0.0218] BKJD
Rp/R* = 0.0267 [0.0041]
a/R* = 32.37 [21.16]
b = 0.91 [0.12]
Seff = 15.31 [6.61]
Teq = 504 [54] K
Rp = 3.07 [1.12] Re
a = 0.3108 [0.0871] AU
Ag = 1595.97 [1039.93] [1.53σ]
Teffp = 4929 [648] K [6.80σ]

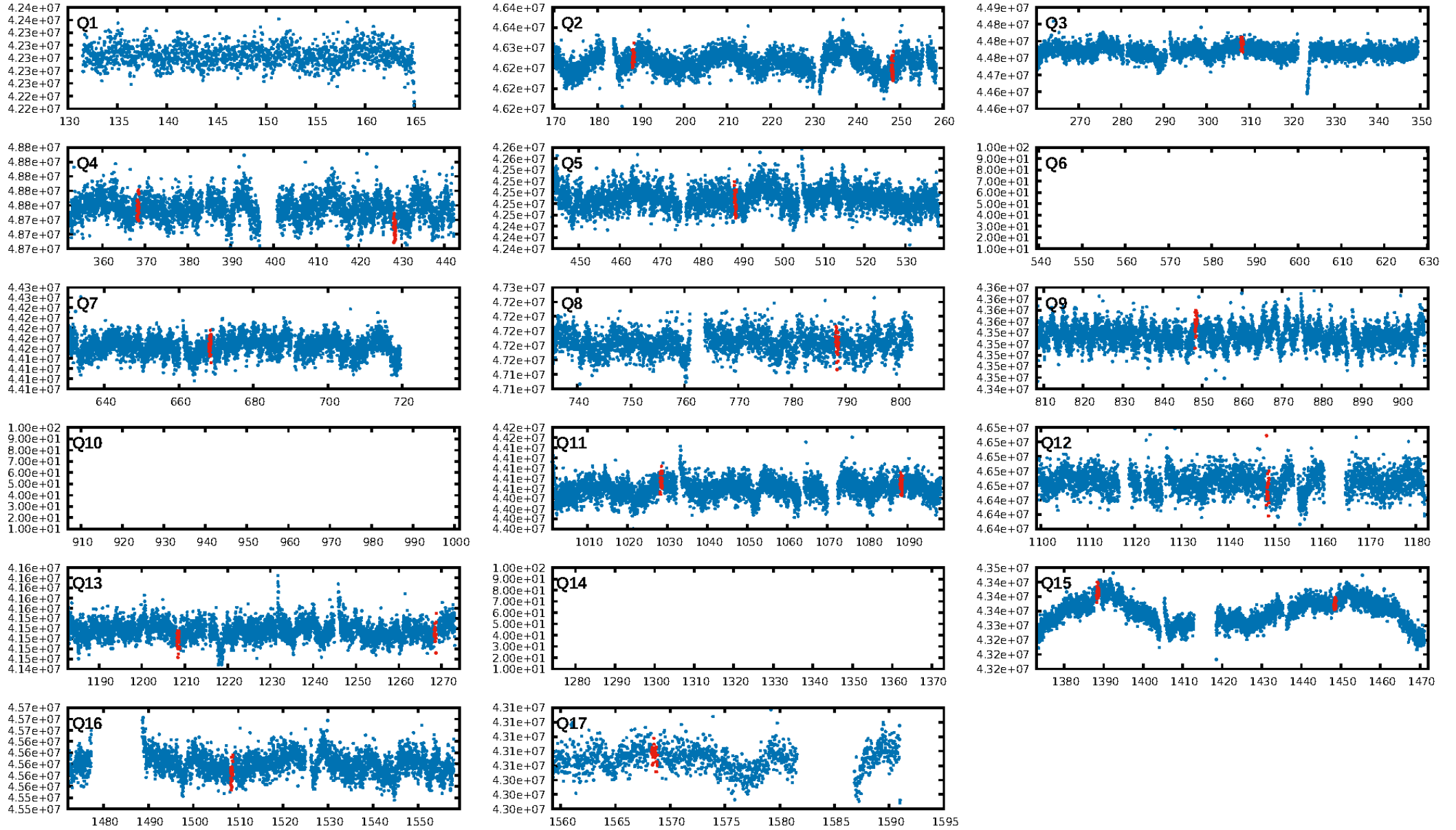
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [19.16σ]
LongPeriod-sig: 100.0% [13.09σ]
ModelChiSquare2-sig: 43.2%
ModelChiSquareGof-sig: 85.7%
Bootstrap-pfa: 1.02e-07
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 0.236
Centroid-sig: 73.5%
Centroid-so: 1.726 arcsec [4.77σ]
OotOffset-rm: 1.314 arcsec [0.80σ]
KicOffset-rm: 1.875 arcsec [1.26σ]
OotOffset-st: 0/2/2/3 [7]
KicOffset-st: 0/2/2/3 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 0.23 [3/13]

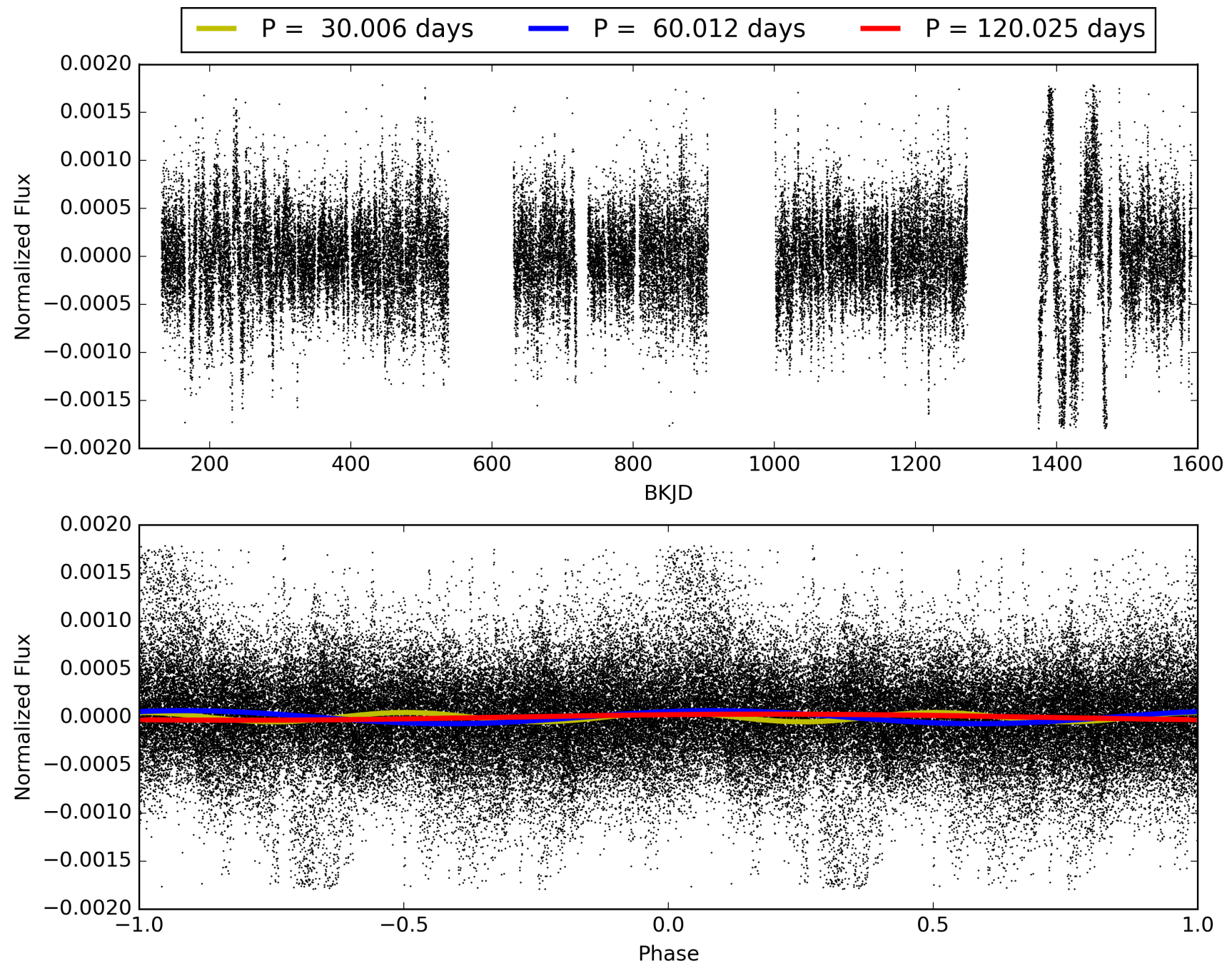
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:17:16 Z

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

TCE 004379948-05, PDC Light Curves

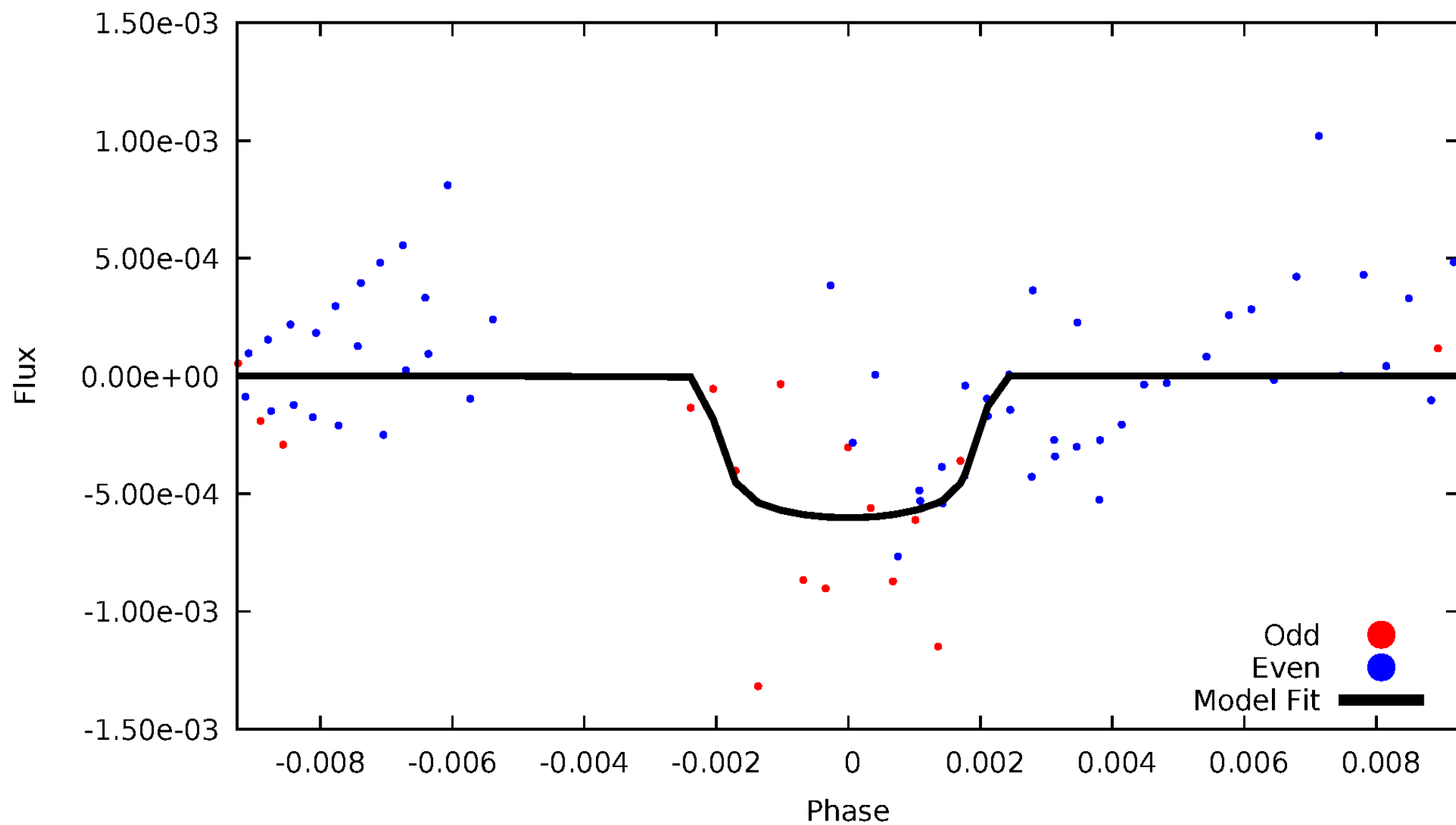


TCE 004379948-05



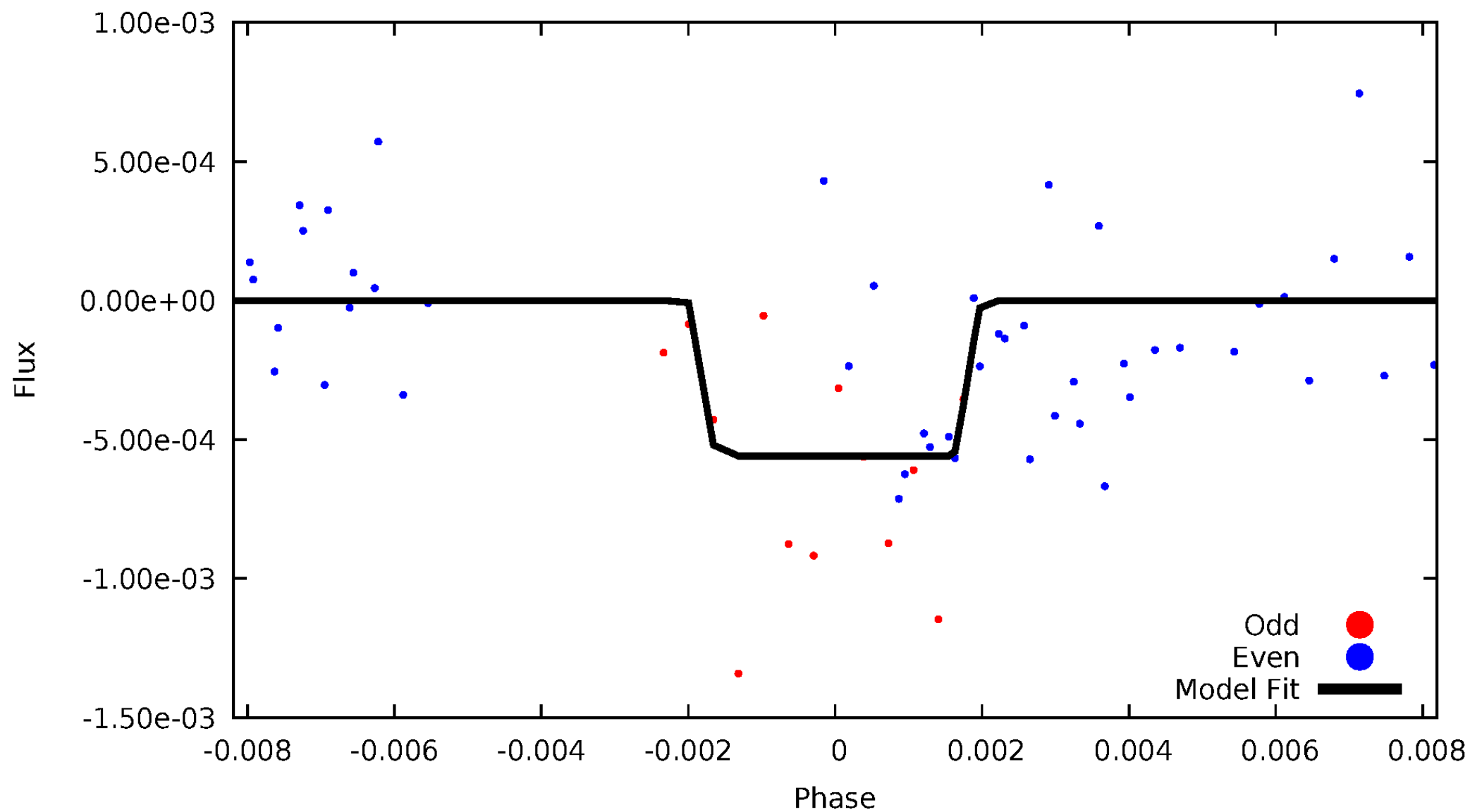
DV Odd/Even

TCE 004379948-05



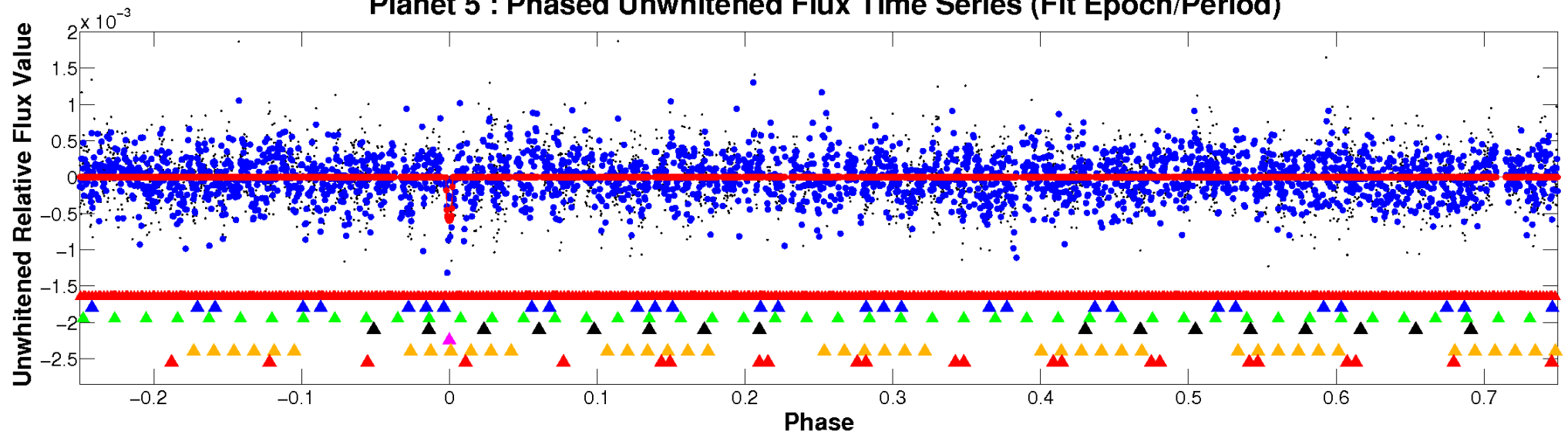
ALT Odd/Even

TCE 004379948-05

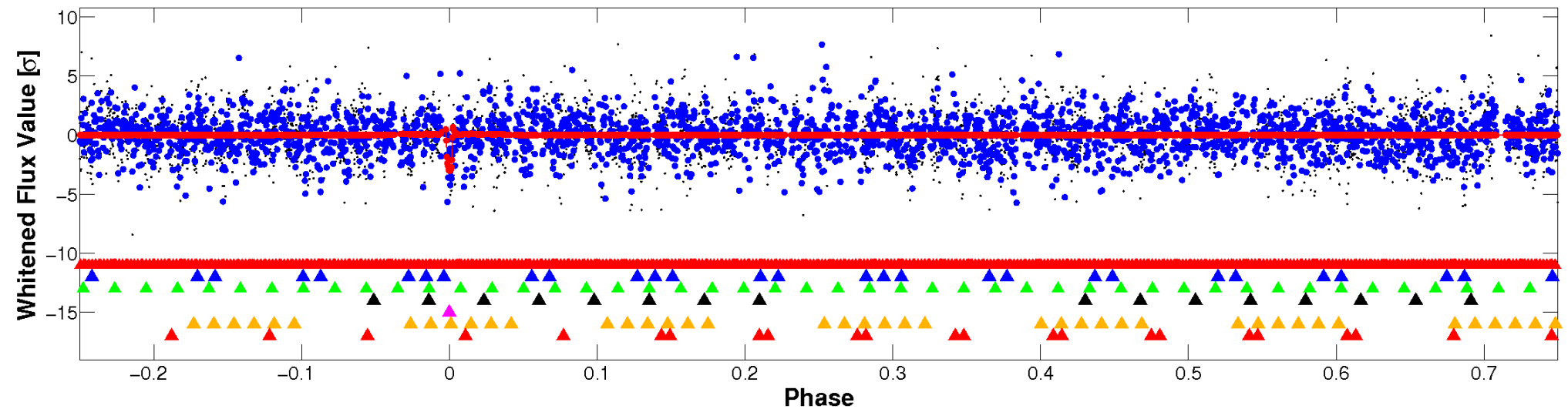


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

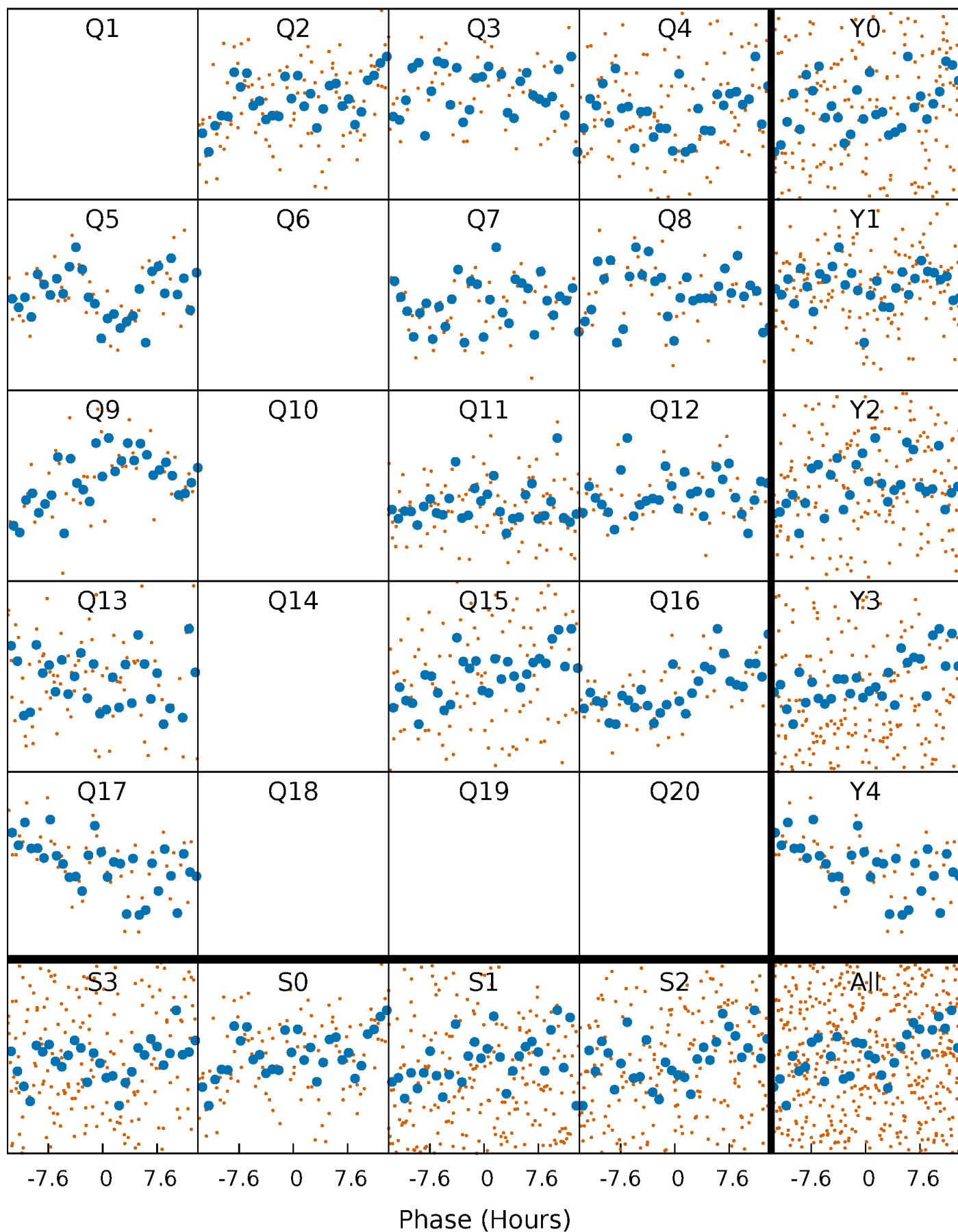


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



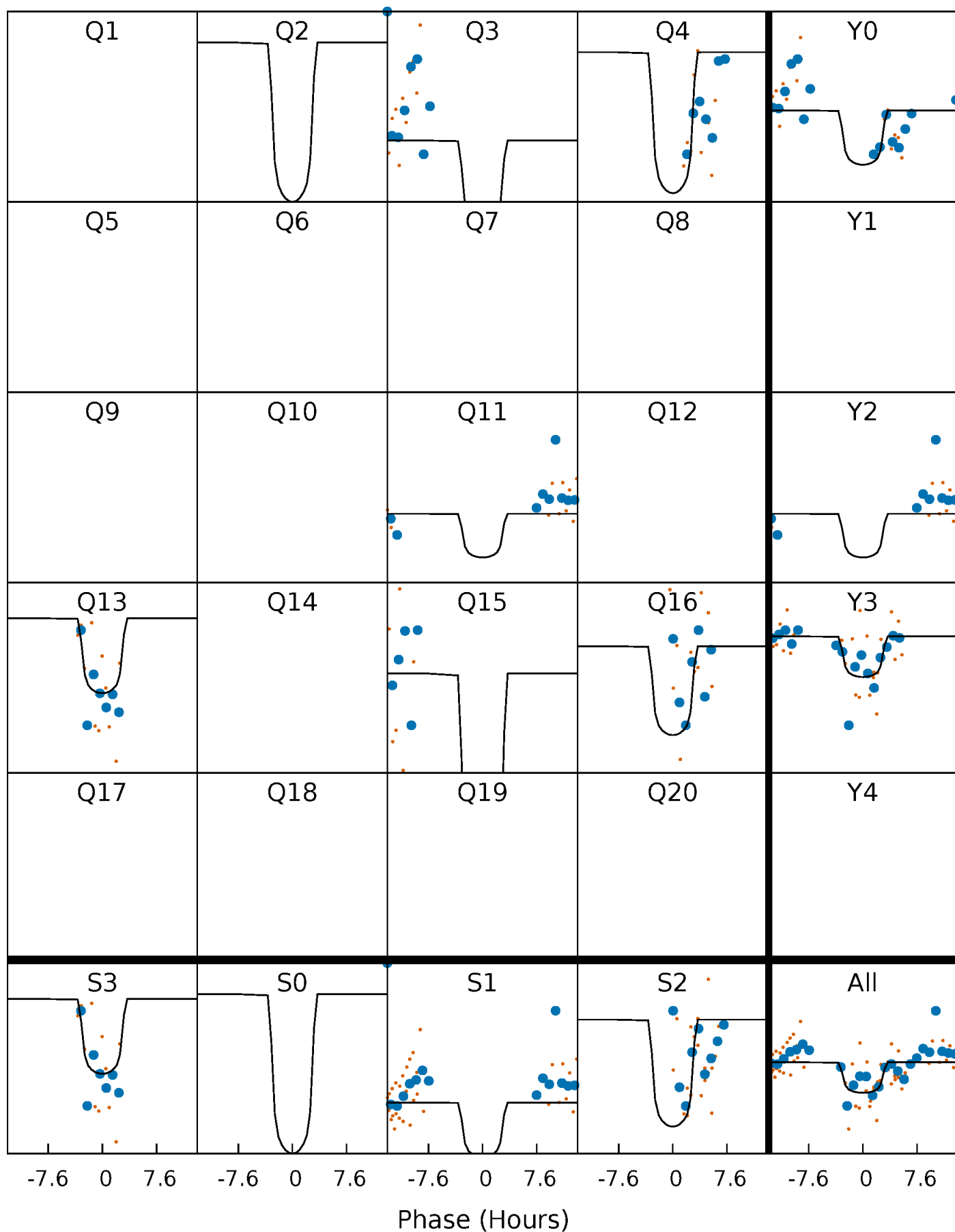
PDC Quarter-Phased Transit Curves

TCE 004379948-05 $P = 60.012279$ Days $T_0 = 188.275226$ (BKJD)



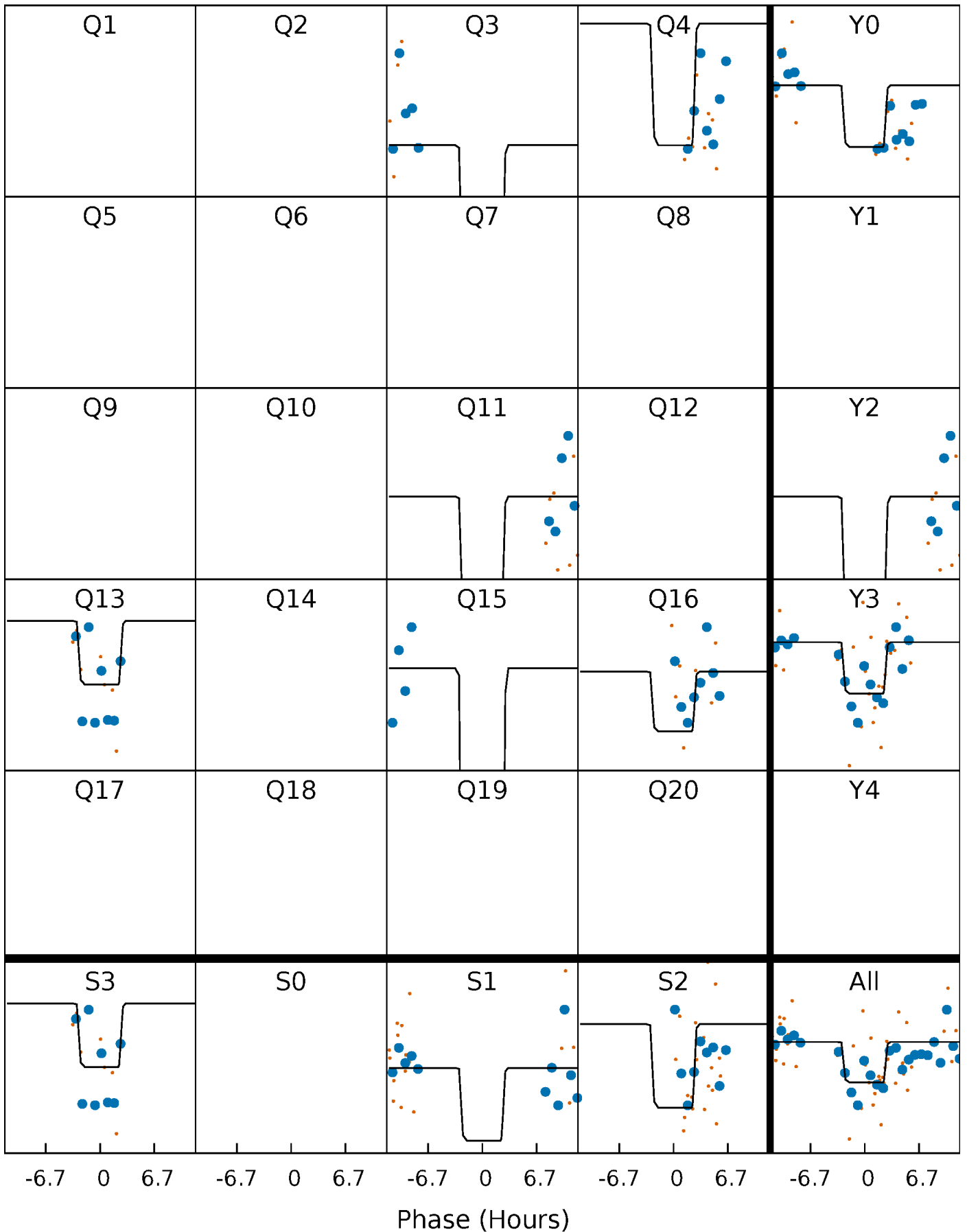
DV Quarter-Phased Transit Curves

TCE 004379948-05 $P = 60.012279$ Days $T_0 = 188.275226$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

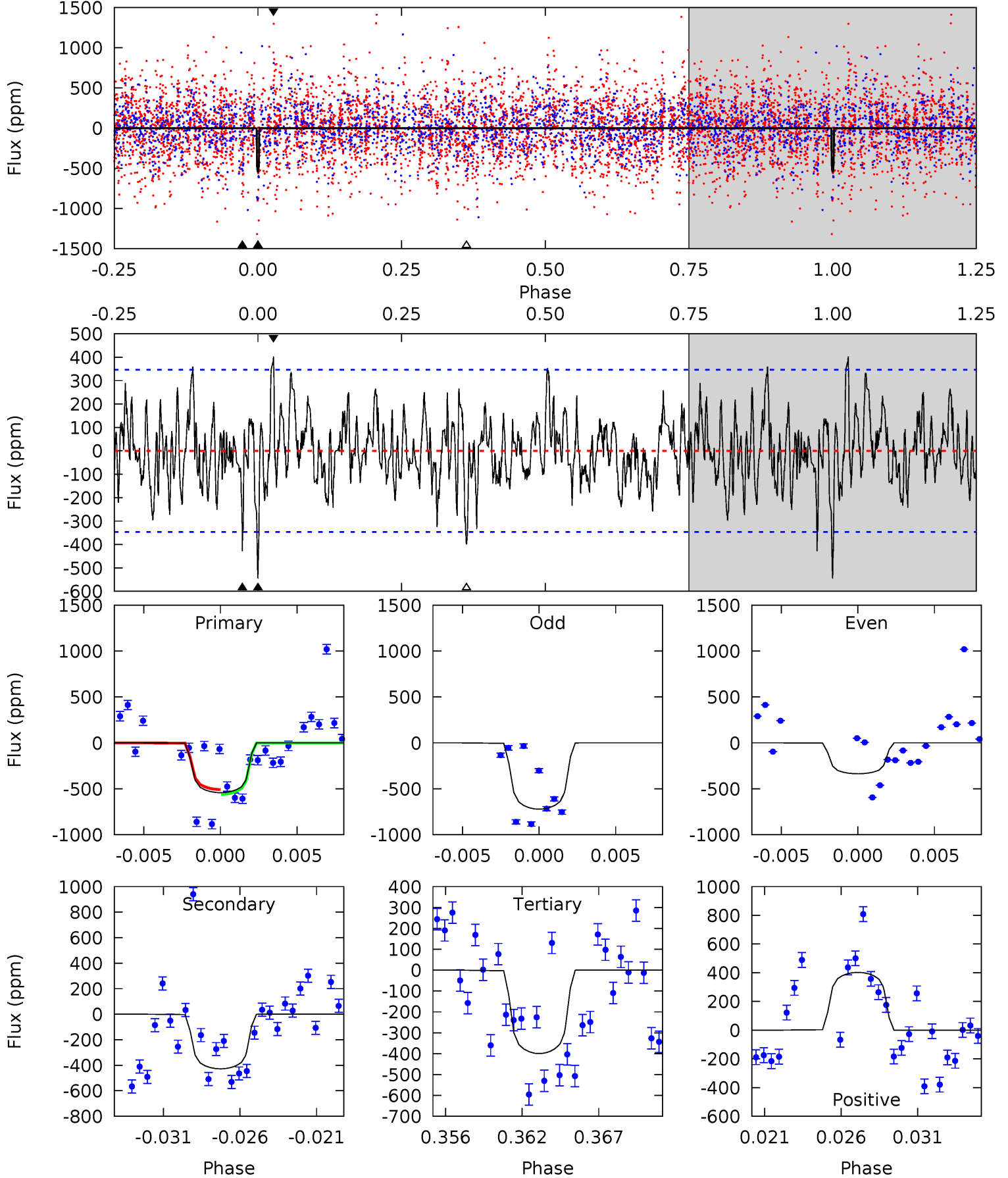
TCE 004379948-05 $P = 60.011463$ Days $T_0 = 188.286082$ (BKJD)



DV Model-Shift Uniqueness Test

004379948-05, P = 60.012279 Days, E = 128.262947 Days

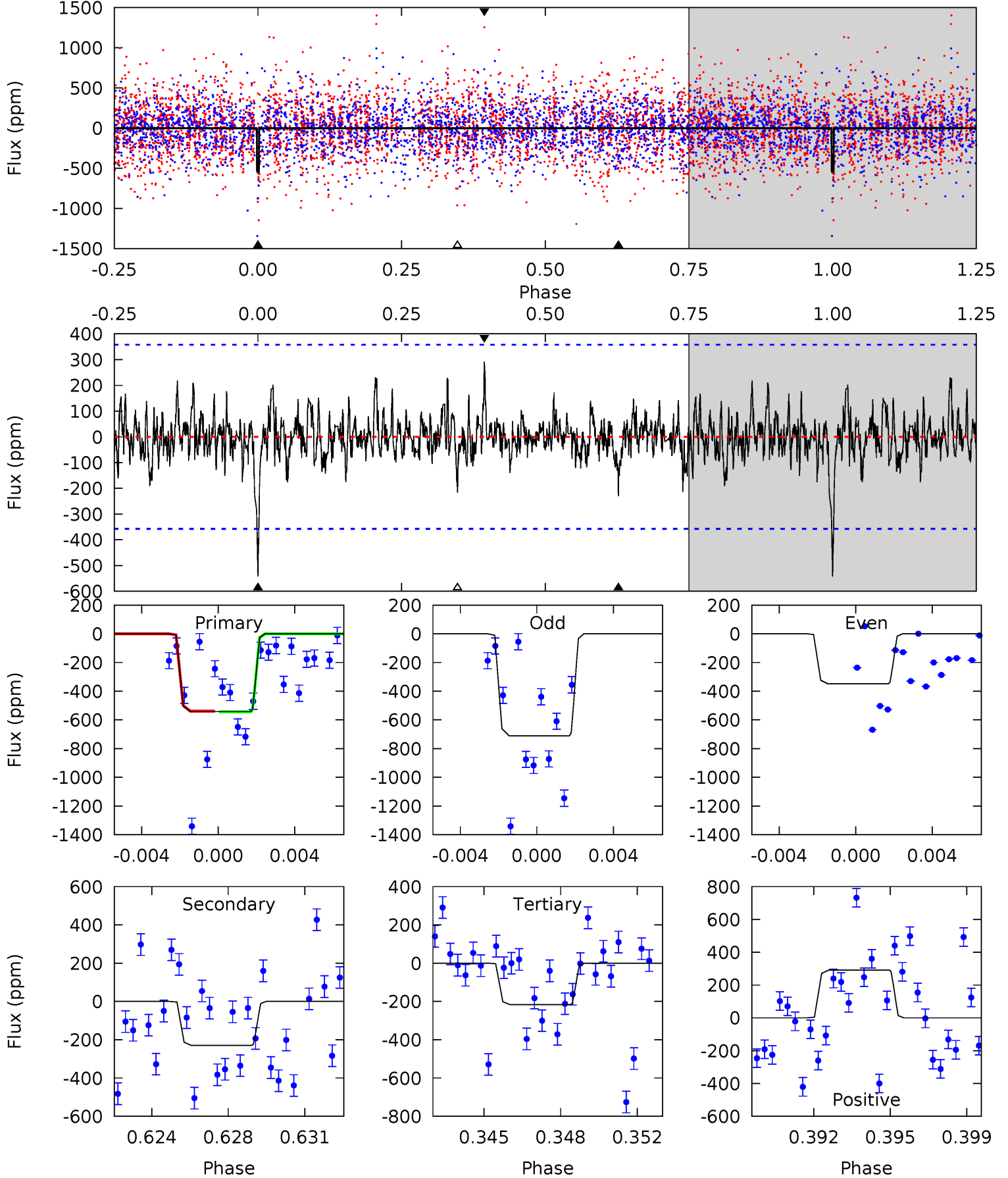
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.07	6.36	5.94	5.99	5.15	2.80	1.80	2.12	2.08	0.42	0.38	2.87	0.99	0.43	0.36



Alt Model-Shift Uniqueness Test

004379948-05, P = 60.011463 Days, E = 128.274619 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.91	3.35	3.16	4.25	5.22	2.91	0.97	4.75	3.65	0.19	-0.90	2.66	0.88	0.35	0.03



Stellar Parameters For KIC 004379948

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6215^{+172}_{-216}	$4.440^{+0.056}_{-0.224}$	$-0.060^{+0.250}_{-0.300}$	$1.052^{+0.349}_{-0.116}$	$1.111^{+0.153}_{-0.153}$	$1.345^{+0.398}_{-0.727}$
	+3%/-3%	+1%/-5%	+417%/-500%	+33%/-11%	+14%/-14%	+30%/-54%
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 004379948-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-428 ± 67	$3.22^{+0.72}_{-0.55}$	720^{+56}_{-38}	5461^{+545}_{-393}	2122^{+1065}_{-706}
Alt.	-230 ± 69	$2.88^{+0.60}_{-0.58}$	721^{+52}_{-39}	4990^{+549}_{-461}	1398^{+889}_{-577}

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

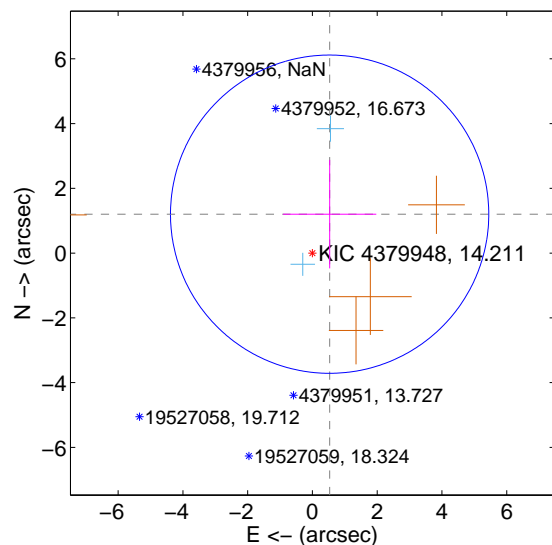
Supplemental centroid analysis for 004379948-05. Kepler magnitude: 14.21. Transit SNR 11.87

There are 2 quarters with good PRF difference image offsets

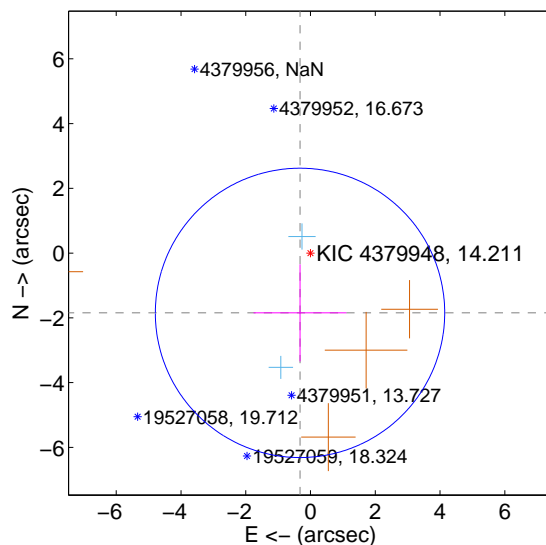
The OOT PRF centroid is offset from the target star catalog position by about 3.32 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.314 ± 1.638	0.80	-0.531 ± 1.442	1.202 ± 1.675
PRF-fit source offset from KIC position	1.875 ± 1.489	1.26	0.325 ± 1.435	-1.846 ± 1.497
photometric centroid source offset	1.73 ± 0.36	4.77	0.06 ± 0.25	-1.73 ± 0.36

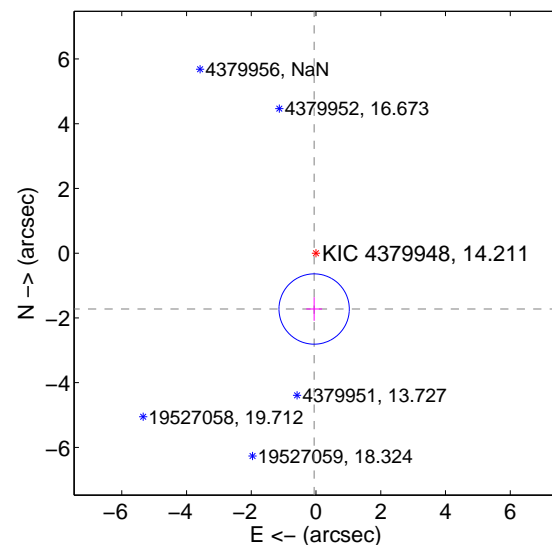
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

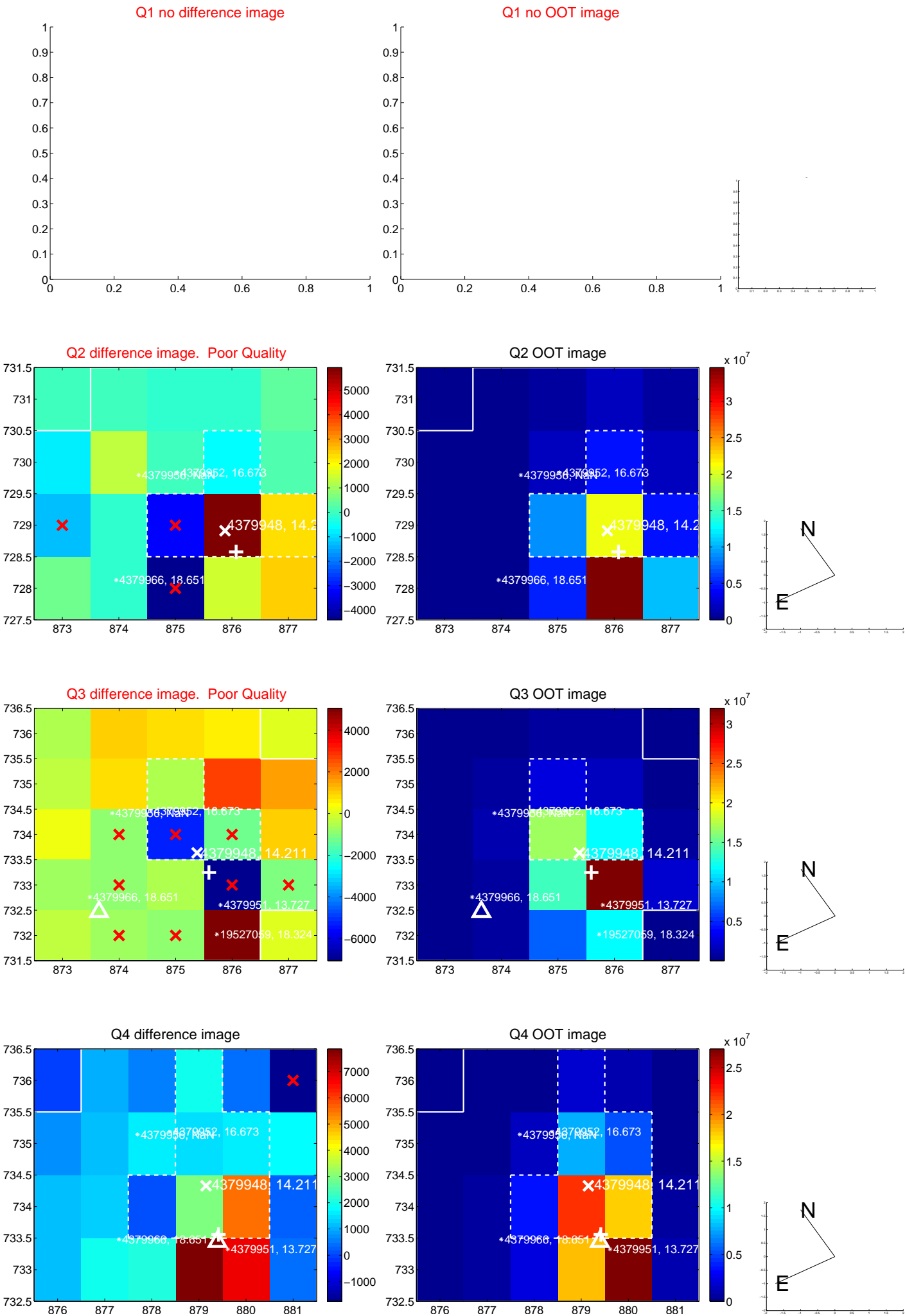


offset from photometric centroids

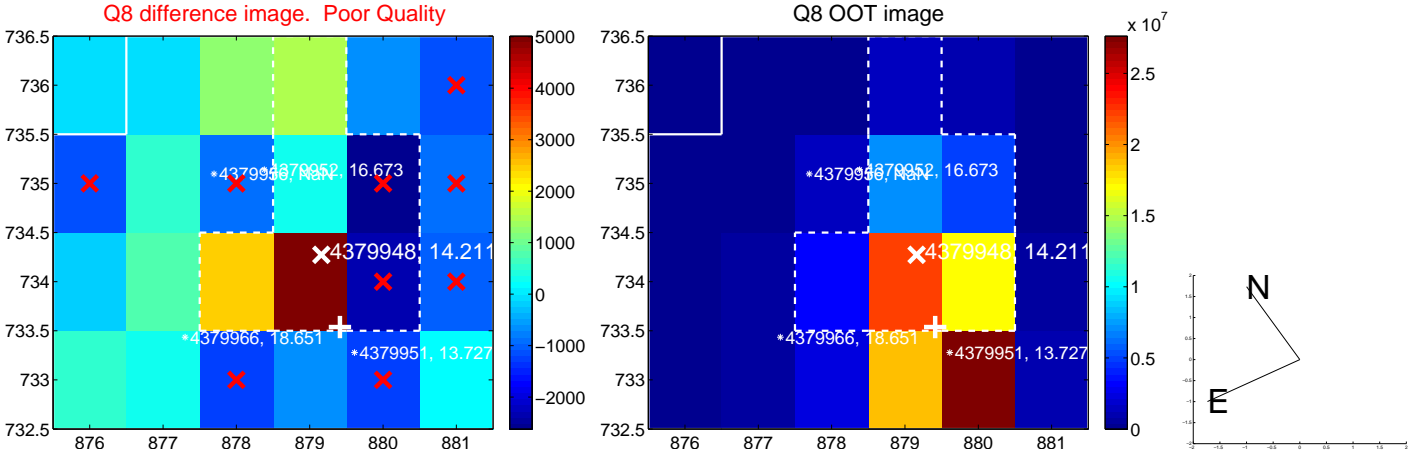
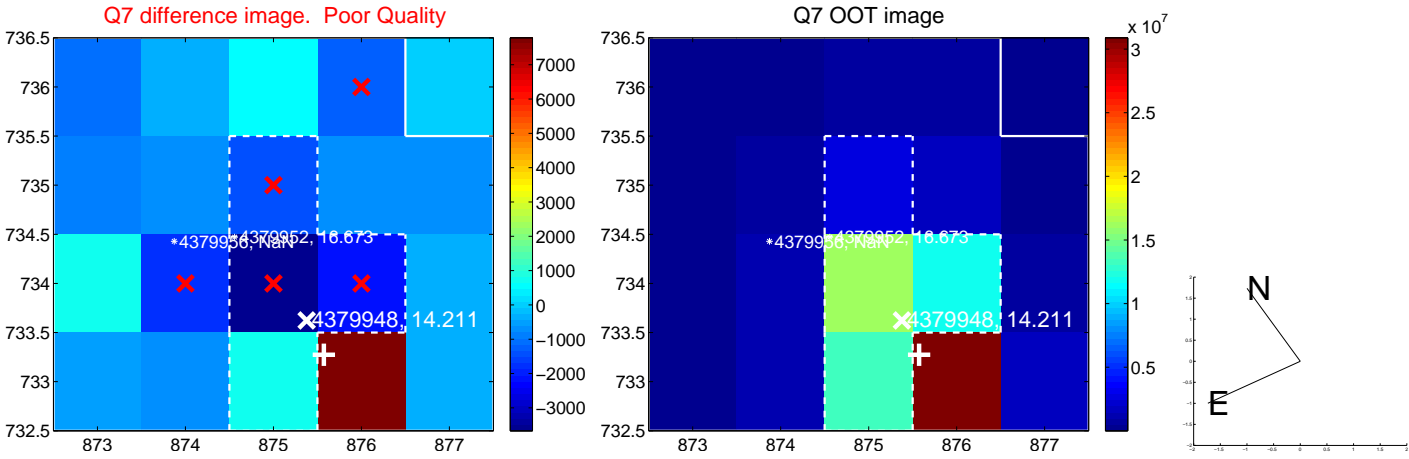
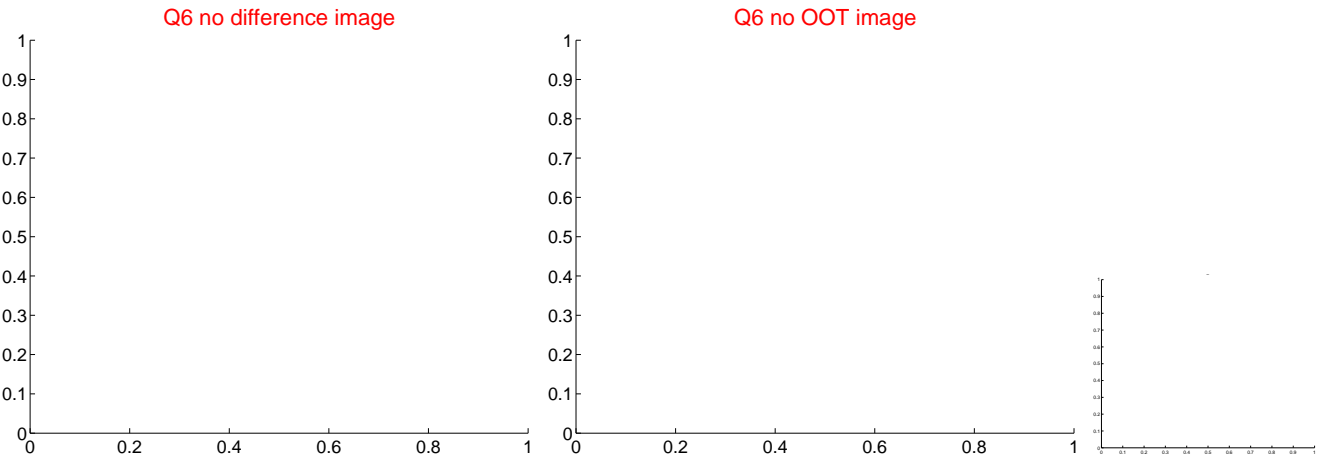
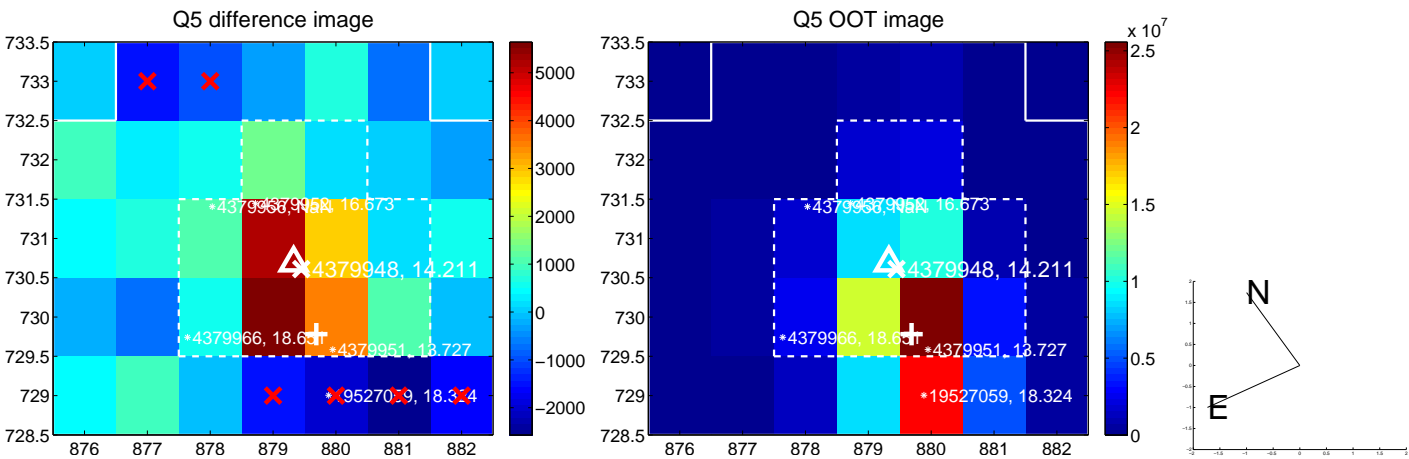


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

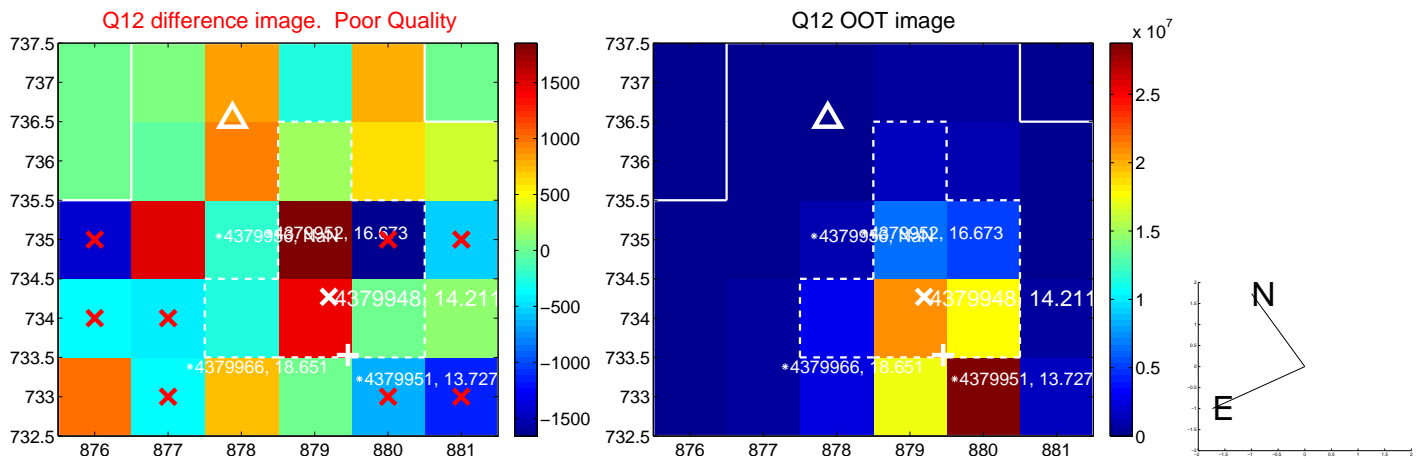
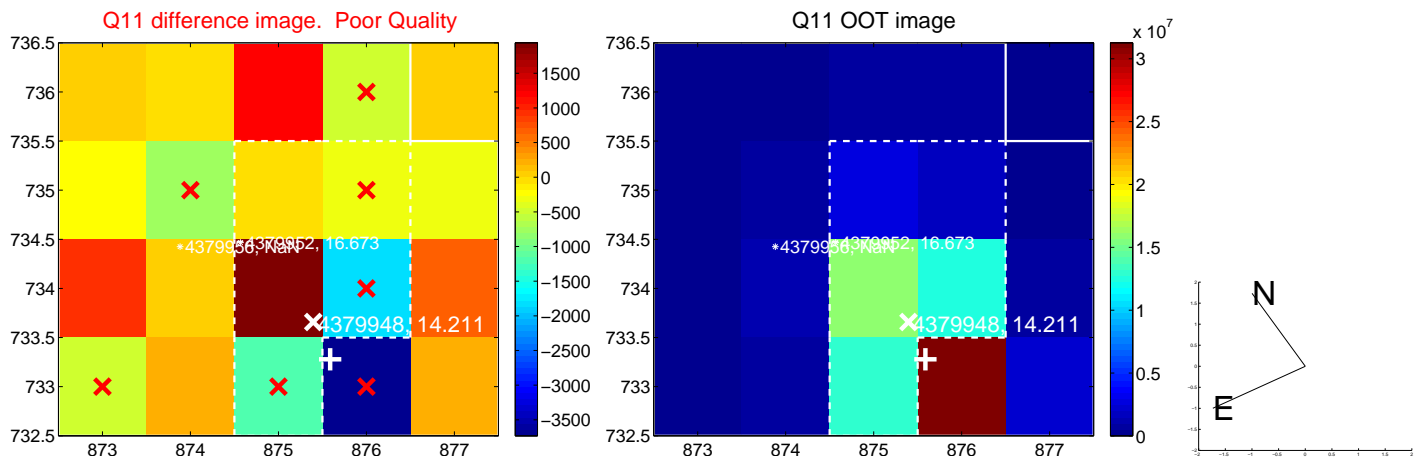
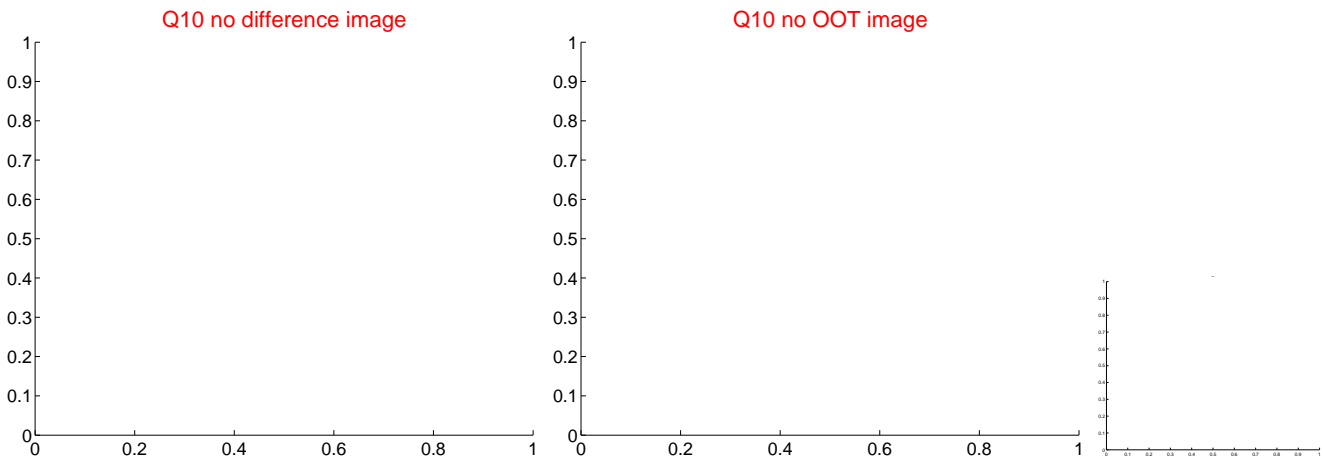
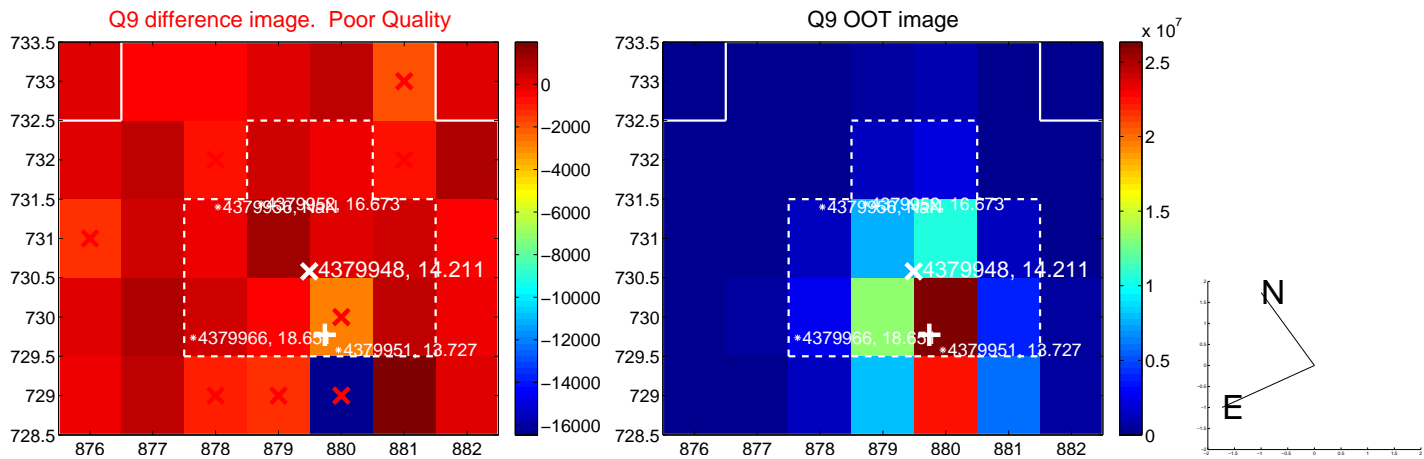
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



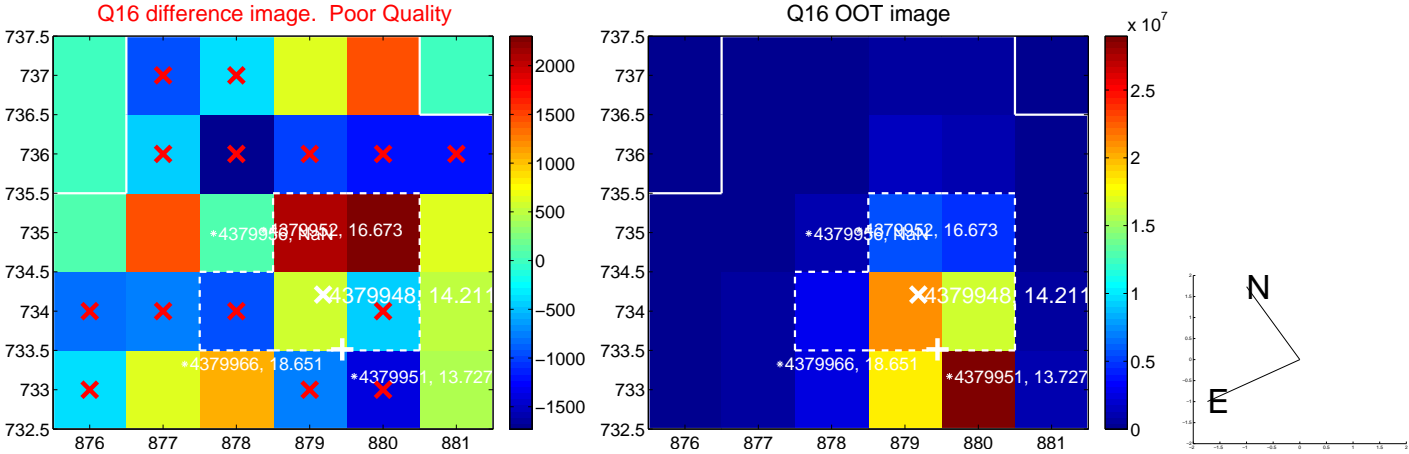
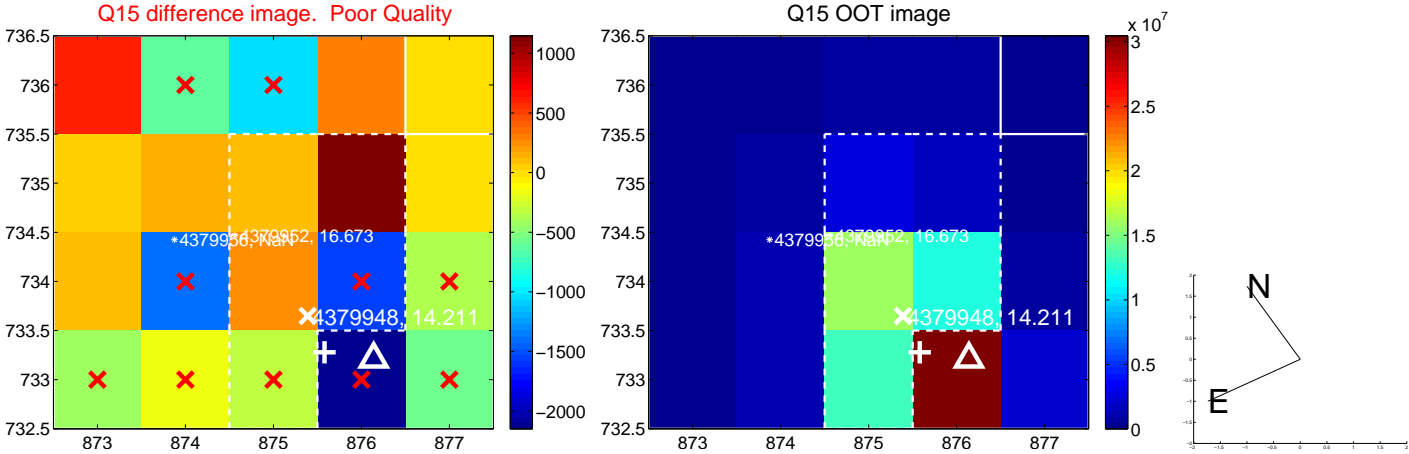
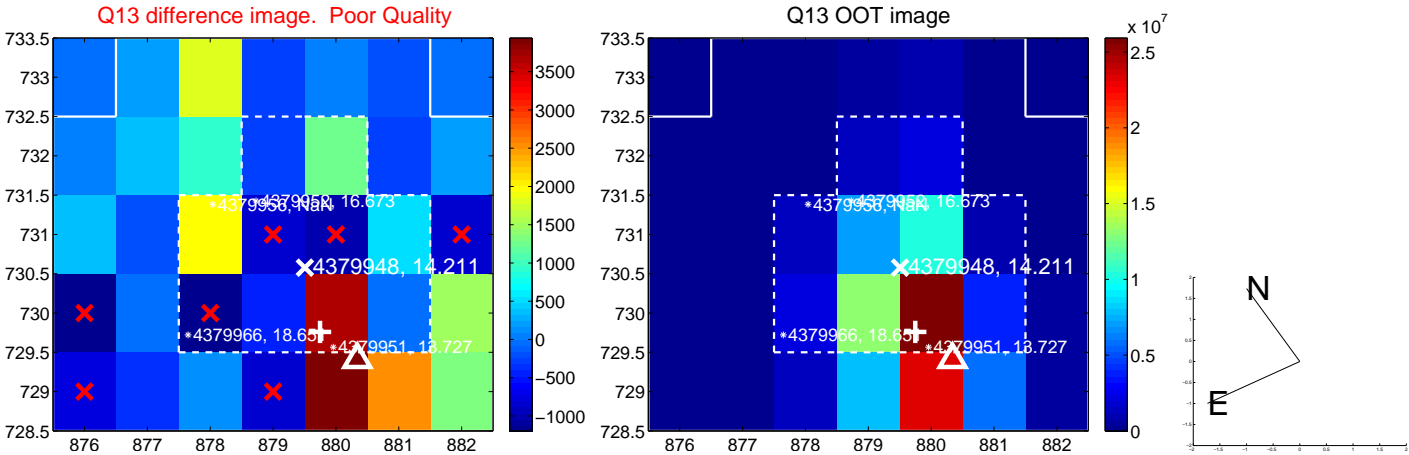
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



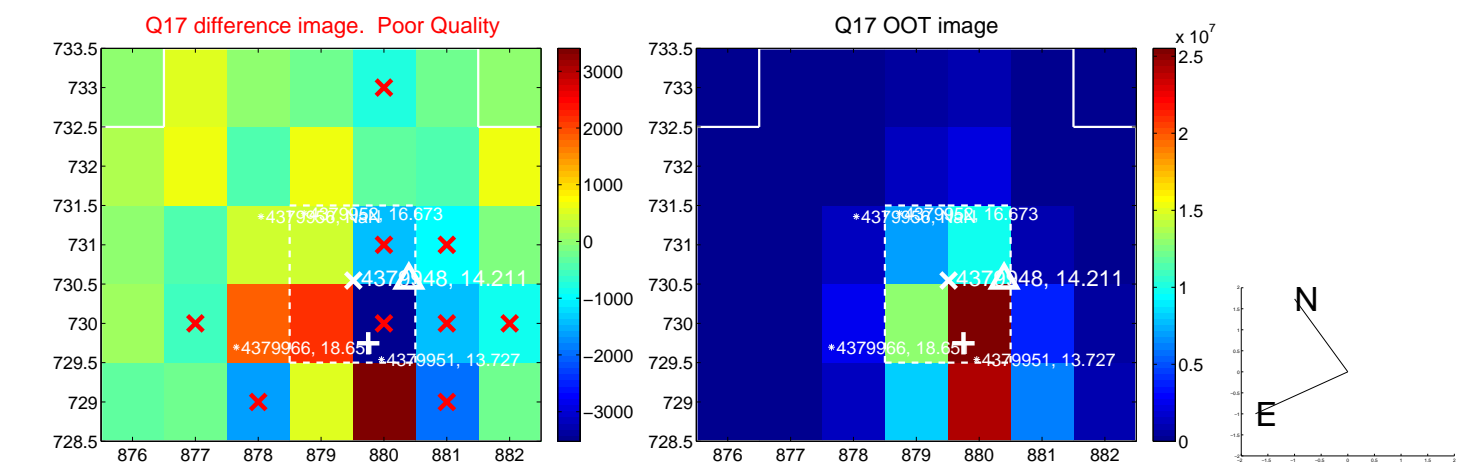
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



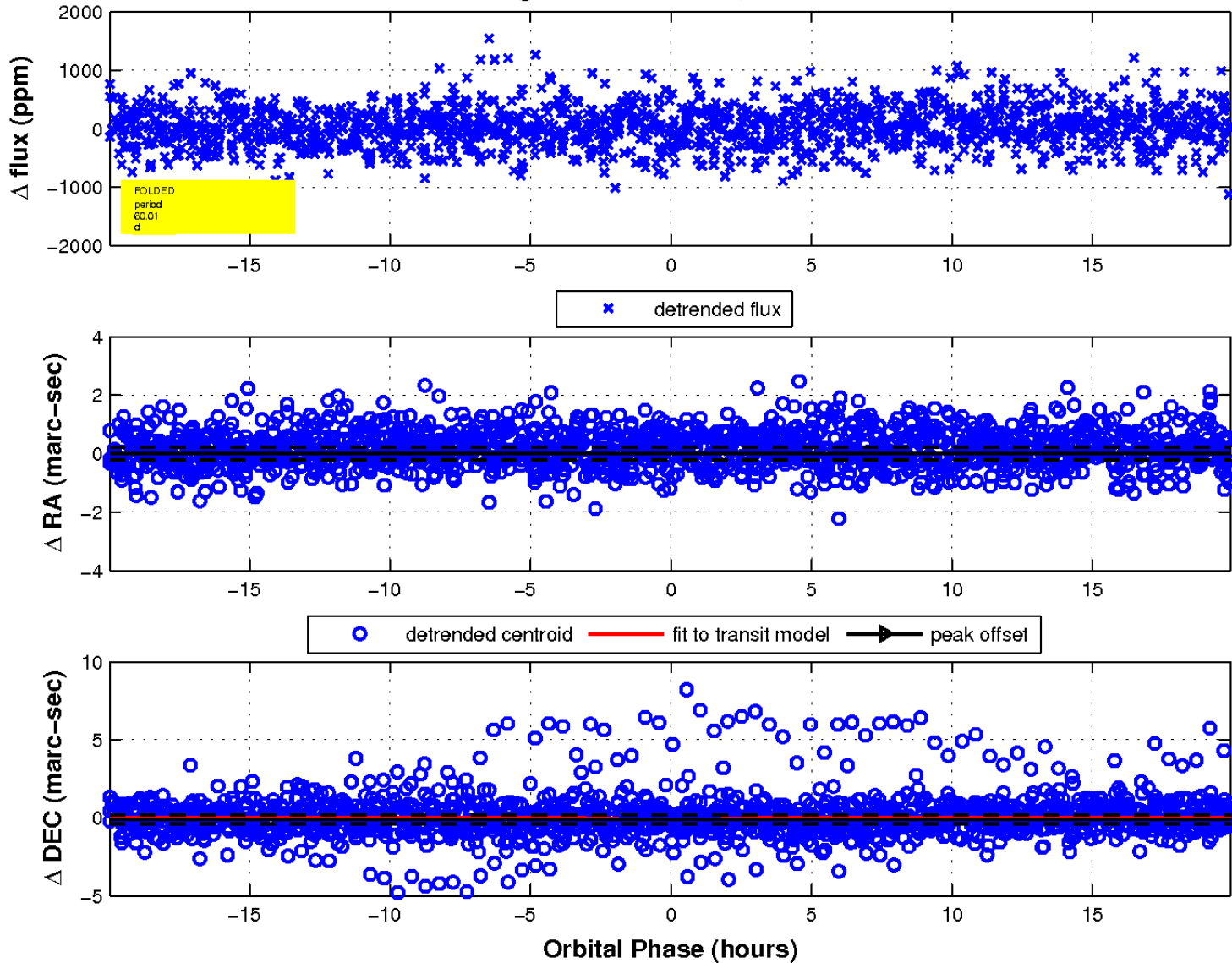
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

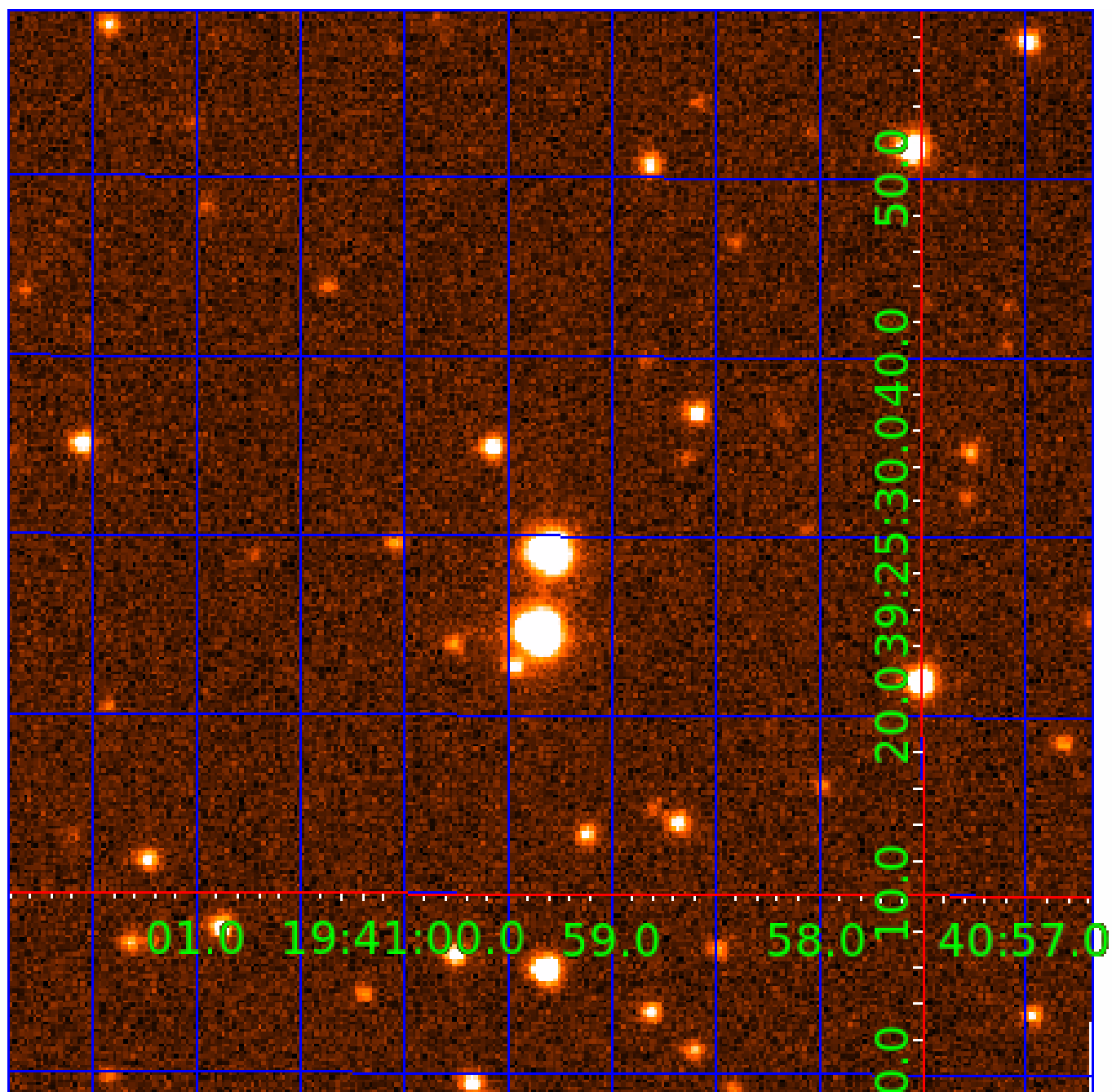


fluxWeightedCentroids, Planet 5 of 7



UKIRT Image

Declination



KIC 004379948

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})
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004379948-03	OBS	No	25.537052	144.044948	469.5	6.423	14.4	12.4	1.05	6215	2.47	47.84
004379948-04	OBS	No	91.137004	214.092844	547.2	2.635	11.0	11.5	1.05	6215	2.77	8.77
004379948-05	OBS	No	60.012279	188.275226	601.9	6.667	11.0	11.9	1.05	6215	3.07	15.31
004379948-06	OBS	No	34.409382	160.283297	286.0	5.947	10.1	9.7	1.05	6215	1.89	32.14
004379948-07	OBS	No	63.989987	137.220837	567.3	2.961	10.0	10.3	1.05	6215	2.61	14.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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004379948-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004379948-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004379948-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
004379948-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
004379948-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

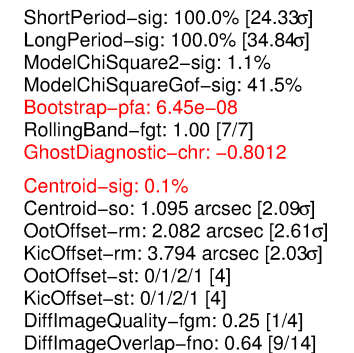
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

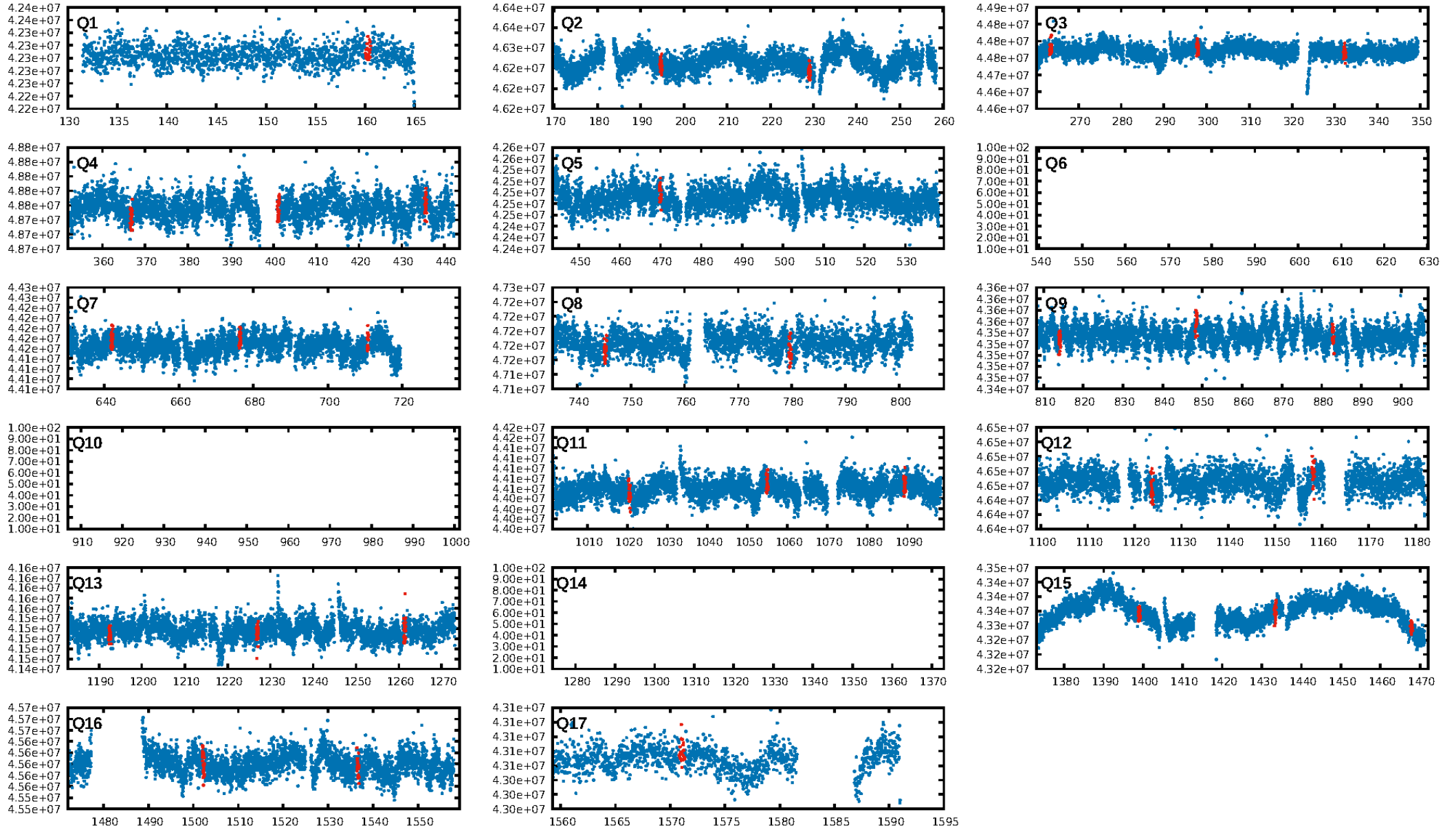
Ephemeris Match Information For 004379948-06

No Significant Match Found

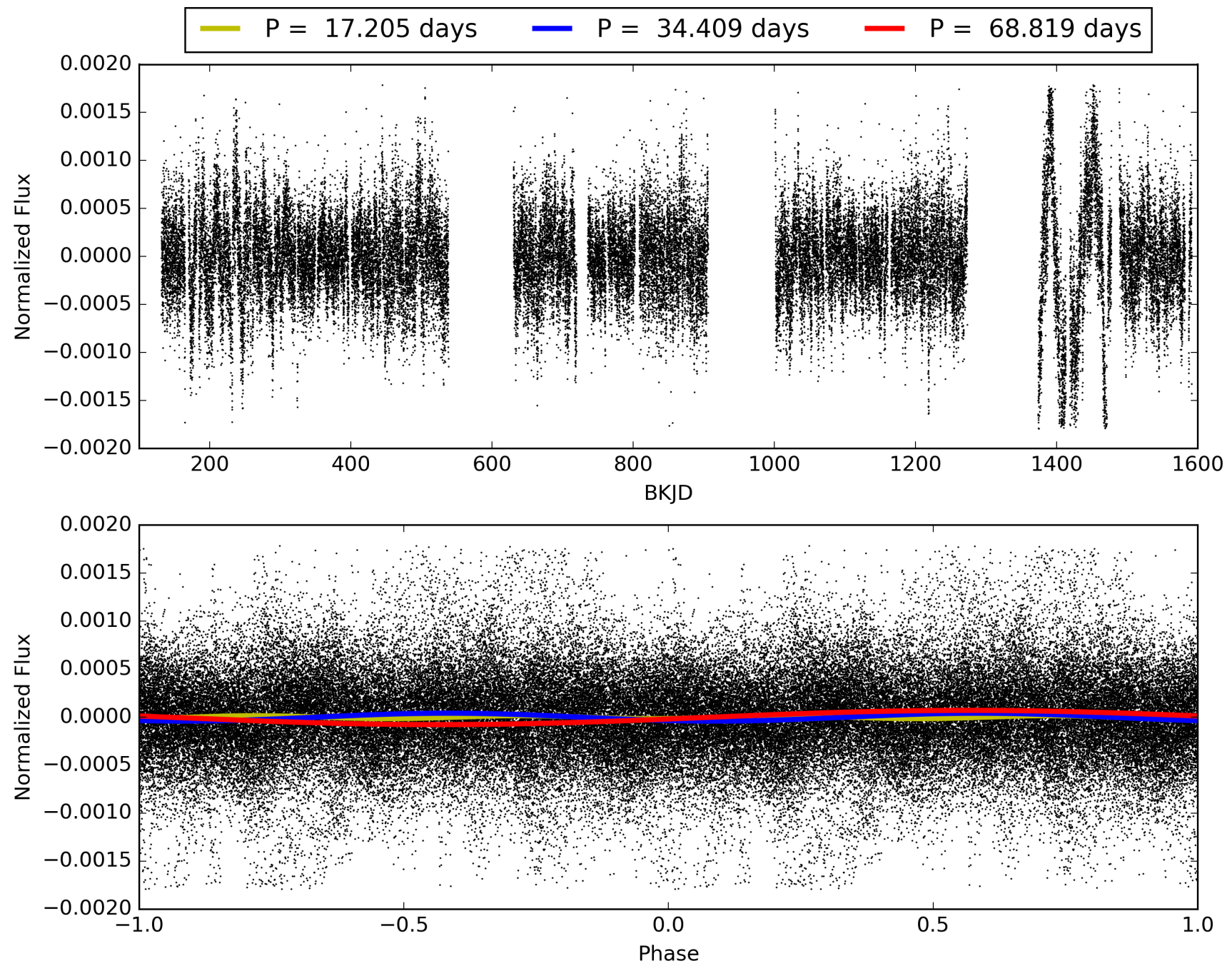
KIC: 4379948 Candidate: 6 of 7 Period: 34.409 d



TCE 004379948-06, PDC Light Curves

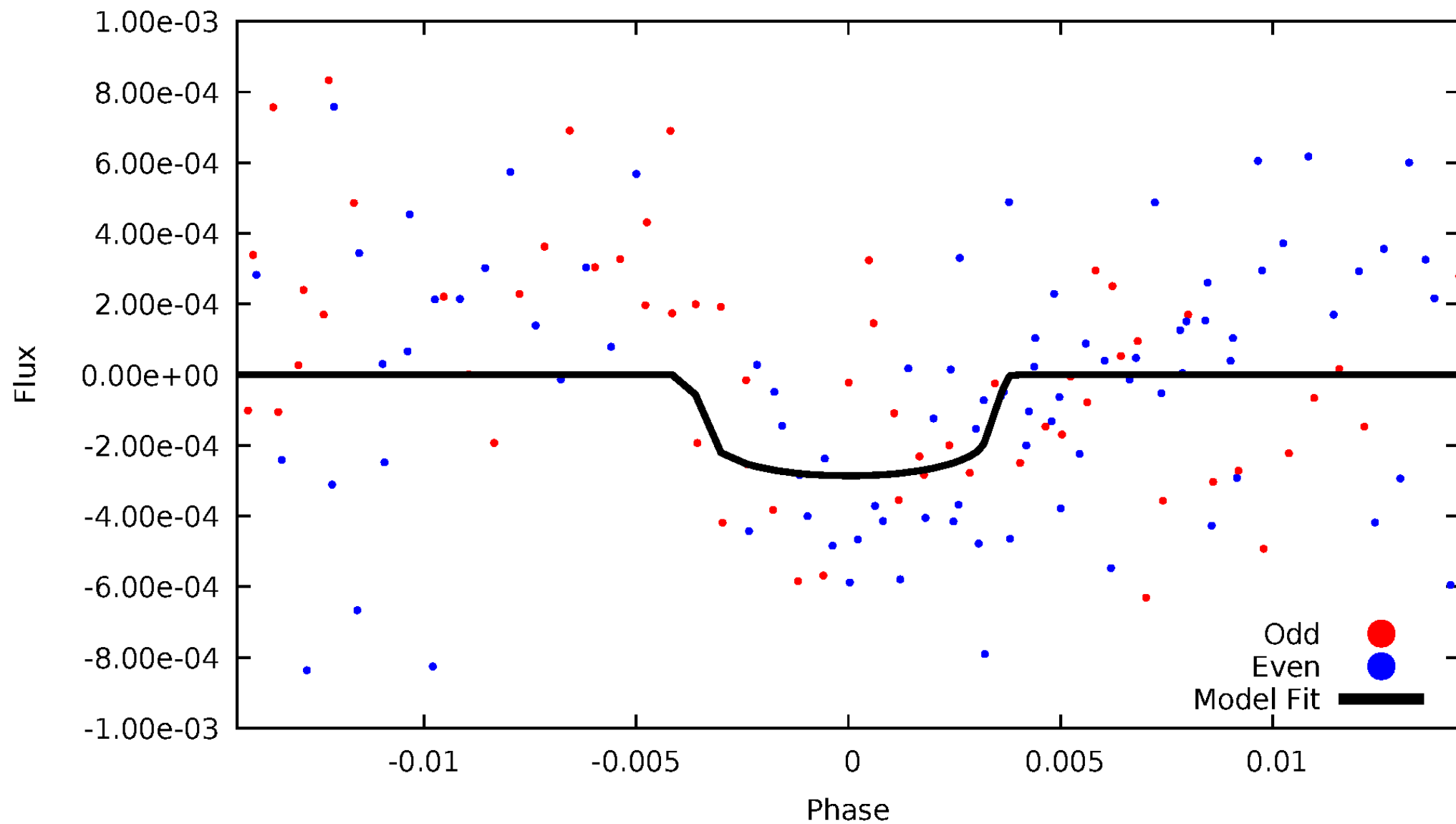


TCE 004379948-06



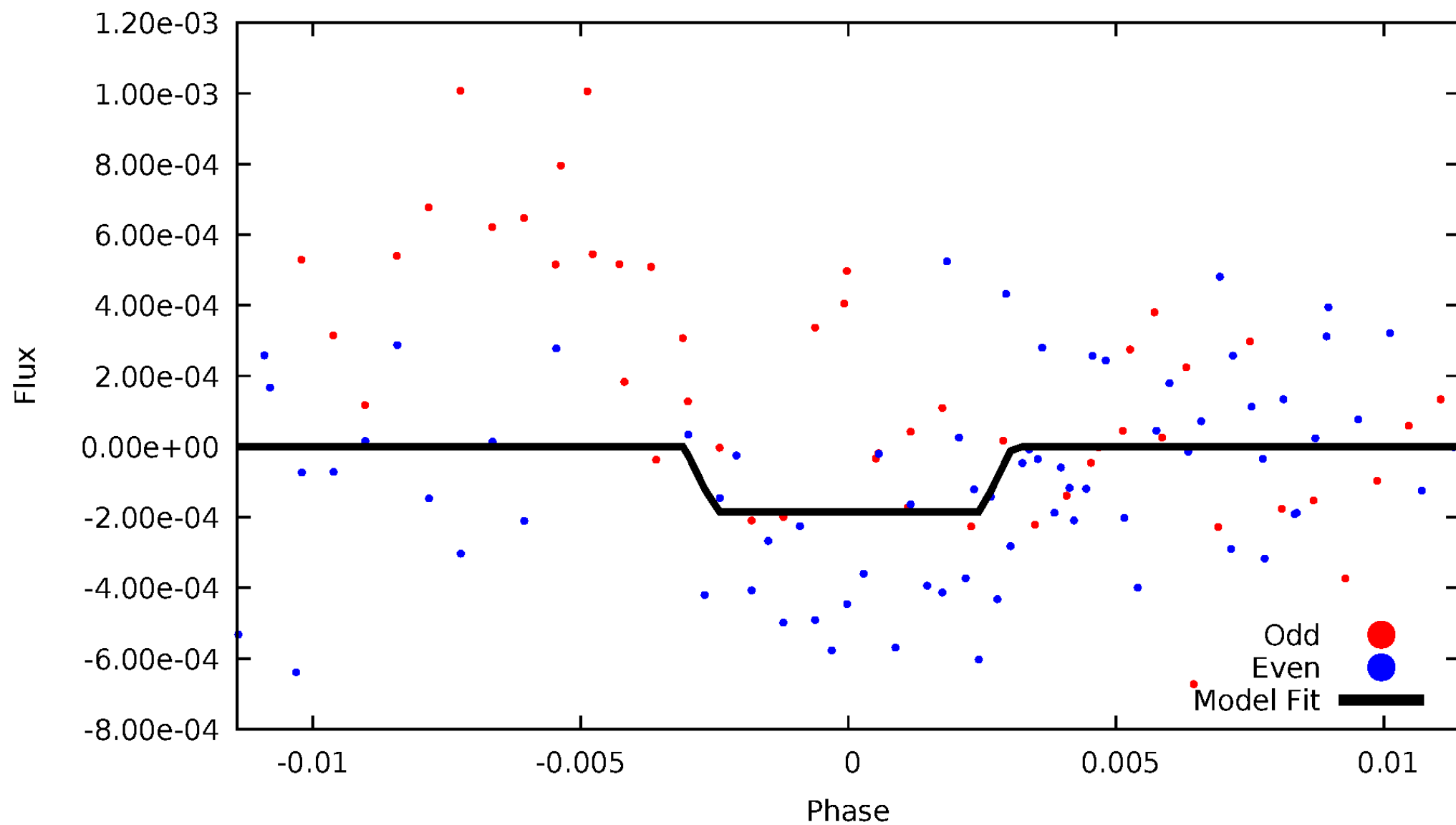
DV Odd/Even

TCE 004379948-06



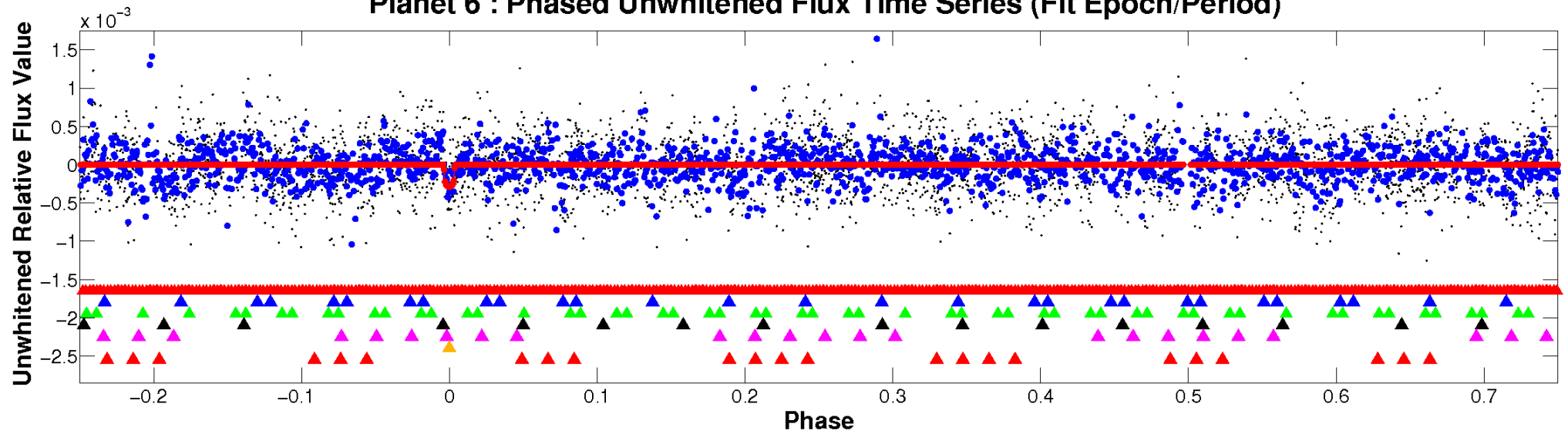
ALT Odd/Even

TCE 004379948-06

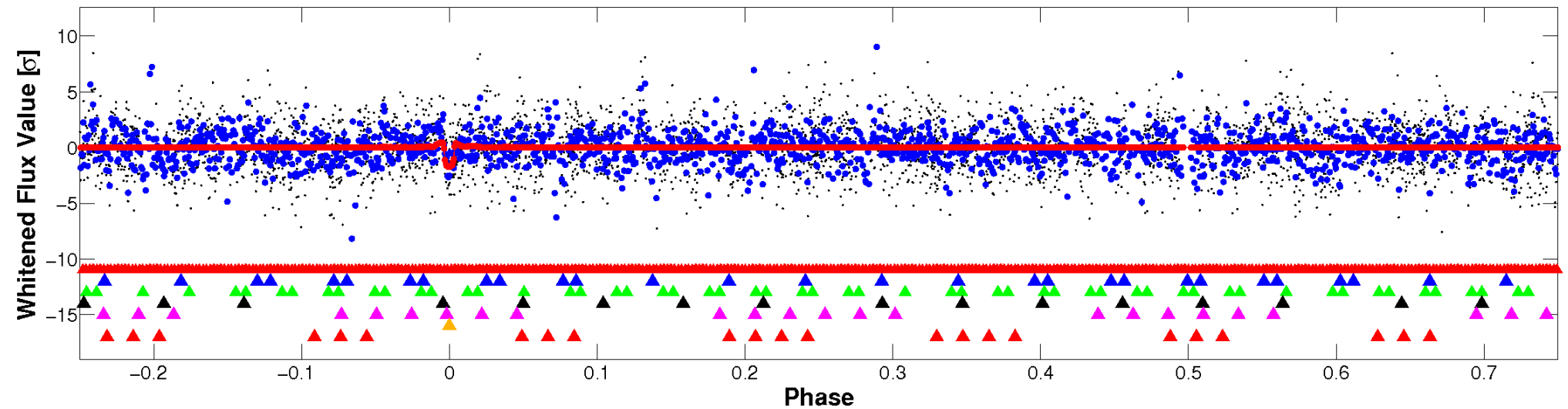


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

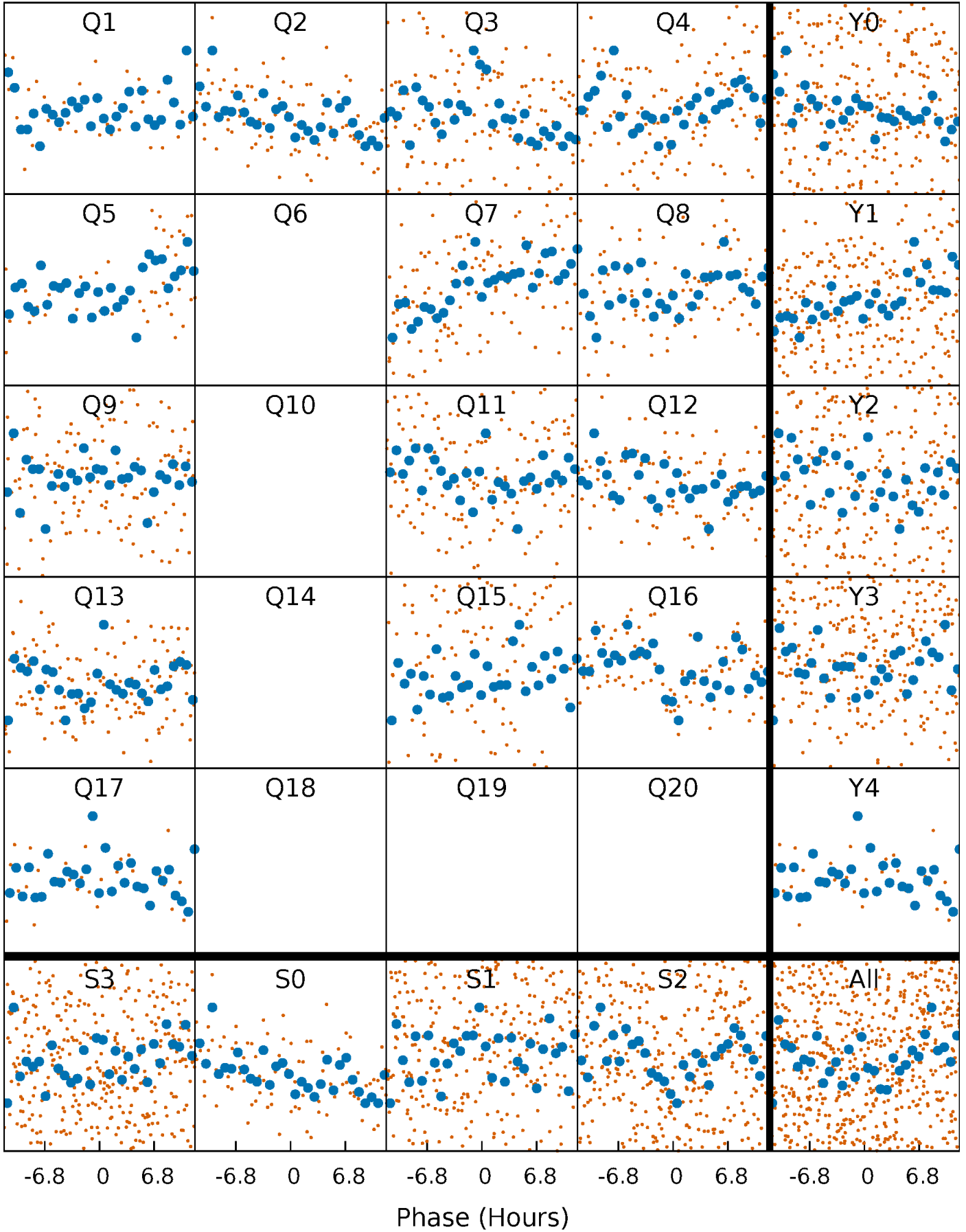


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



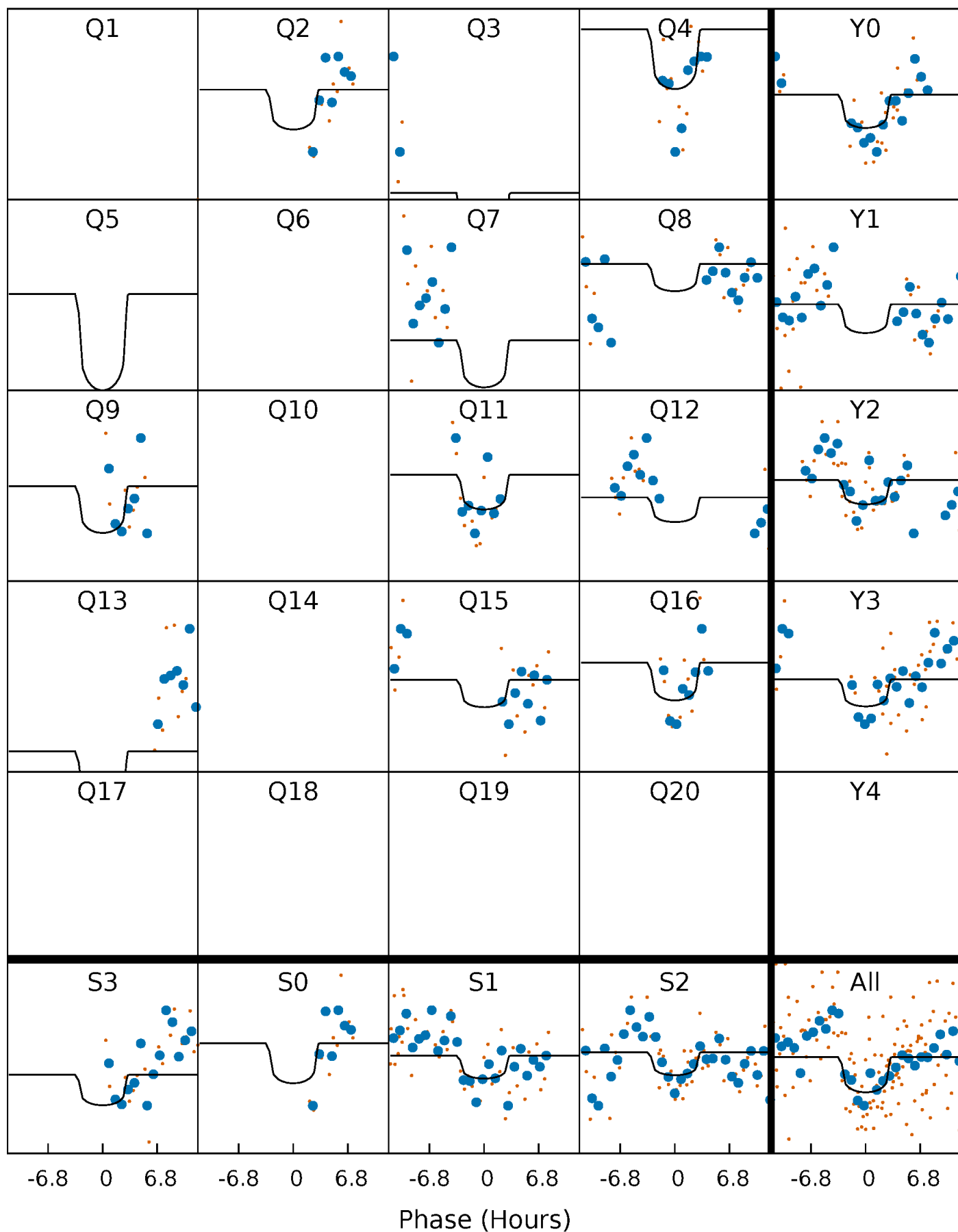
PDC Quarter-Phased Transit Curves

TCE 004379948-06 P= 34.409382 Days $T_0=160.283297$ (BKJD)



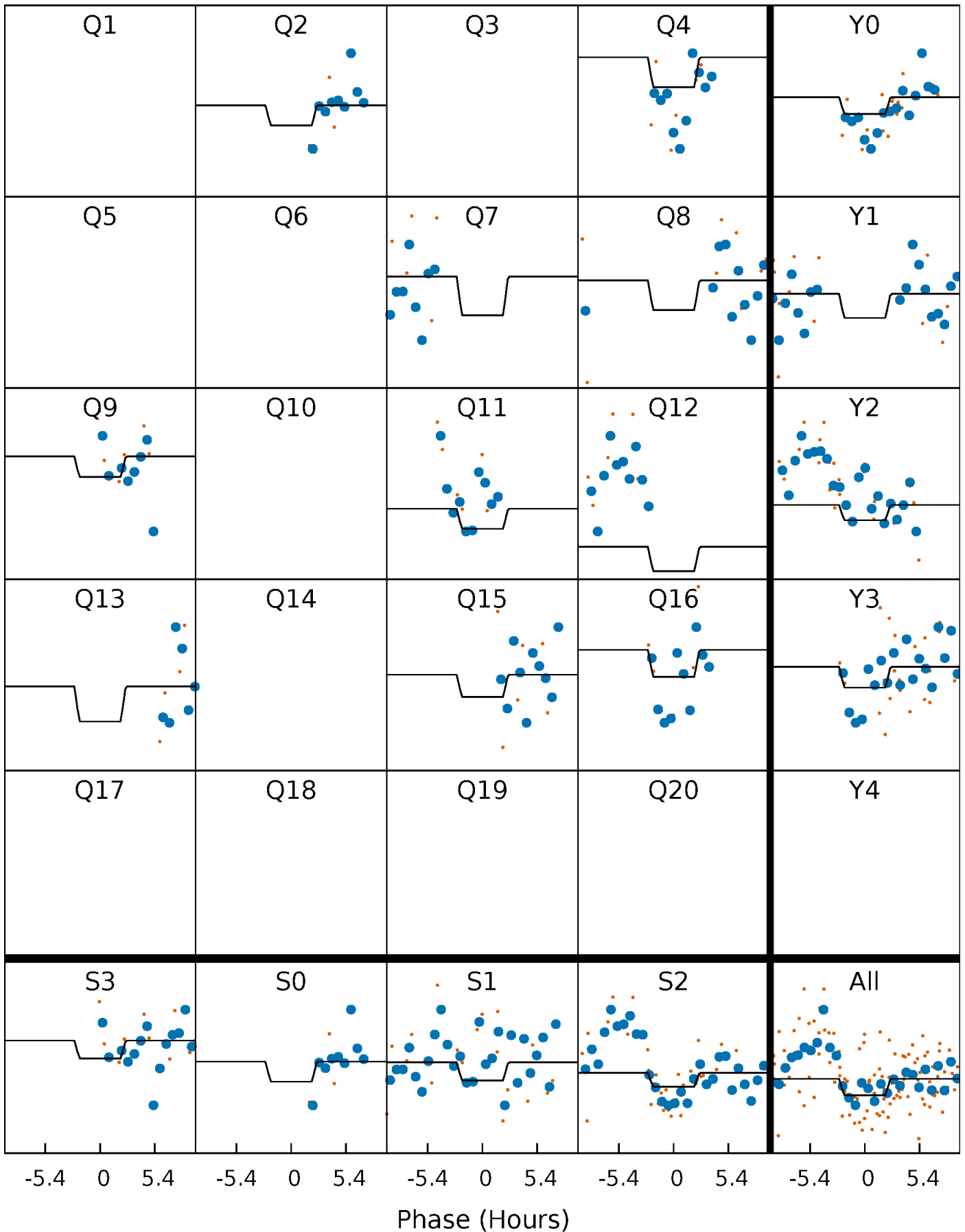
DV Quarter-Phased Transit Curves

TCE 004379948-06 P= 34.409382 Days $T_0=160.283297$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

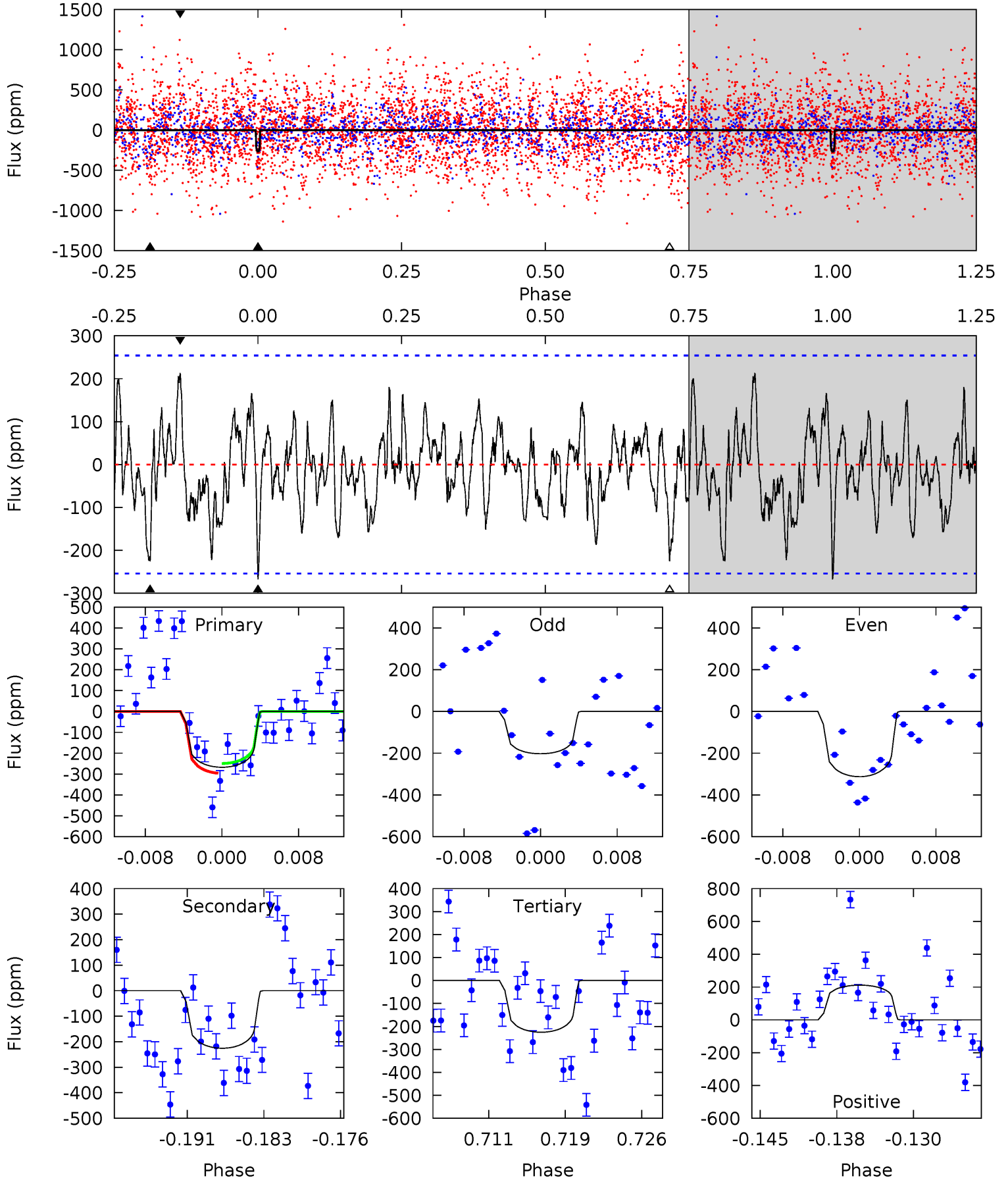
TCE 004379948-06 P= 34.409886 Days $T_0=160.292172$ (BKJD)



DV Model-Shift Uniqueness Test

004379948-06, P = 34.409382 Days, E = 125.873915 Days

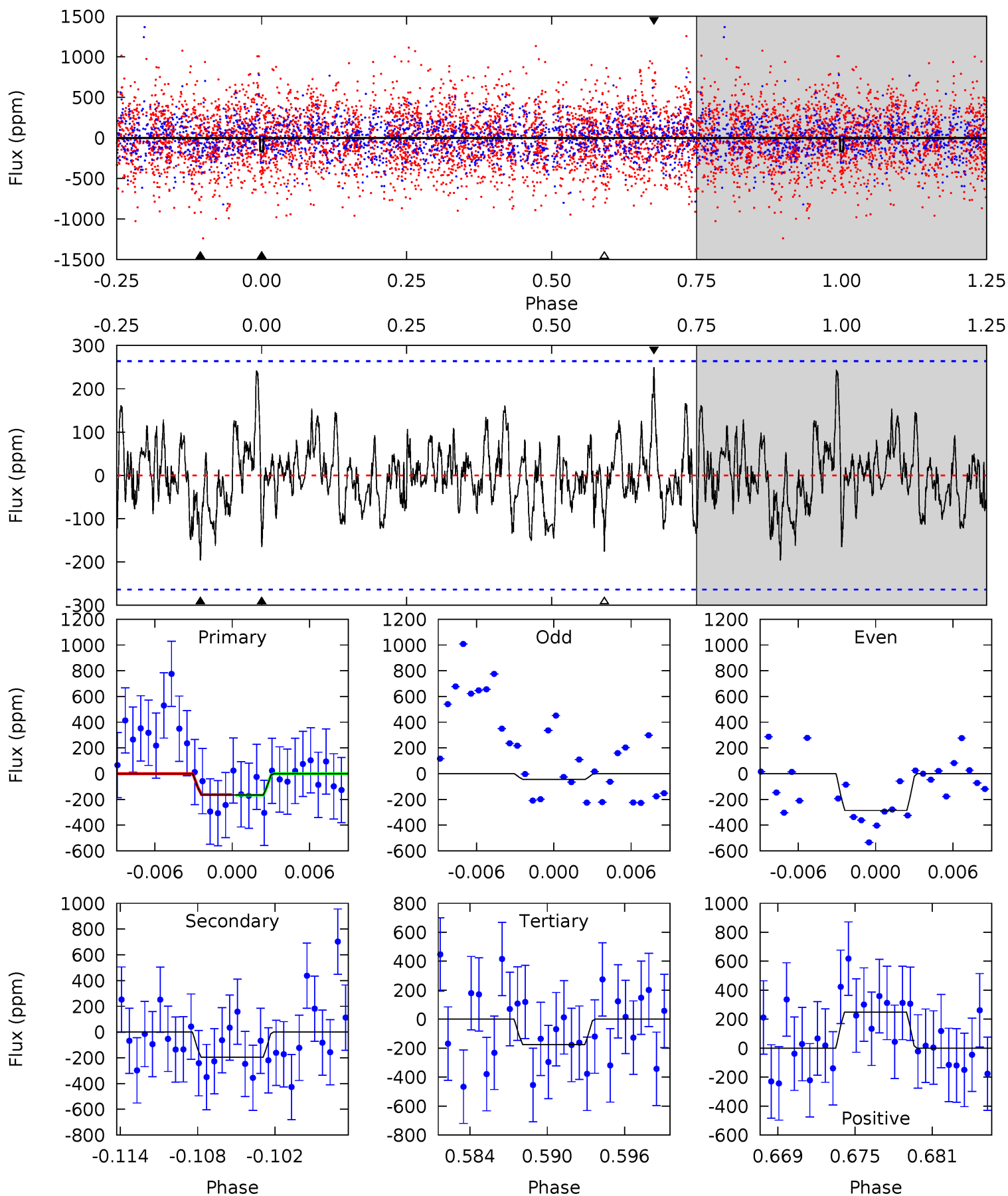
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.34	4.50	4.50	4.23	5.08	2.67	1.51	0.84	1.12	0.00	0.28	1.08	0.86	0.44	0.44



Alt Model-Shift Uniqueness Test

004379948-06, P = 34.409886 Days, E = 125.882286 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.21	3.81	3.42	4.84	5.12	2.75	1.25	-0.21	-1.63	0.40	-1.02	2.24	1.04	0.56	0.06



Stellar Parameters For KIC 004379948

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6215^{+172}_{-216}	$4.440^{+0.056}_{-0.224}$	$-0.060^{+0.250}_{-0.300}$	$1.052^{+0.349}_{-0.116}$	$1.111^{+0.153}_{-0.153}$	$1.345^{+0.398}_{-0.727}$
	+3%/-3%	+1%/-5%	+417%/-500%	+33%/-11%	+14%/-14%	+30%/-54%
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 004379948-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-225 ± 50	$2.94^{+2.36}_{-2.00}$	862^{+62}_{-41}	4929^{+4061}_{-1016}	655^{+5692}_{-470}
Alt.	-196 ± 51	$2.77^{+2.46}_{-1.80}$	867^{+67}_{-42}	4946^{+3105}_{-1071}	630^{+3832}_{-453}

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 $A_{obs} \gg 1.0$

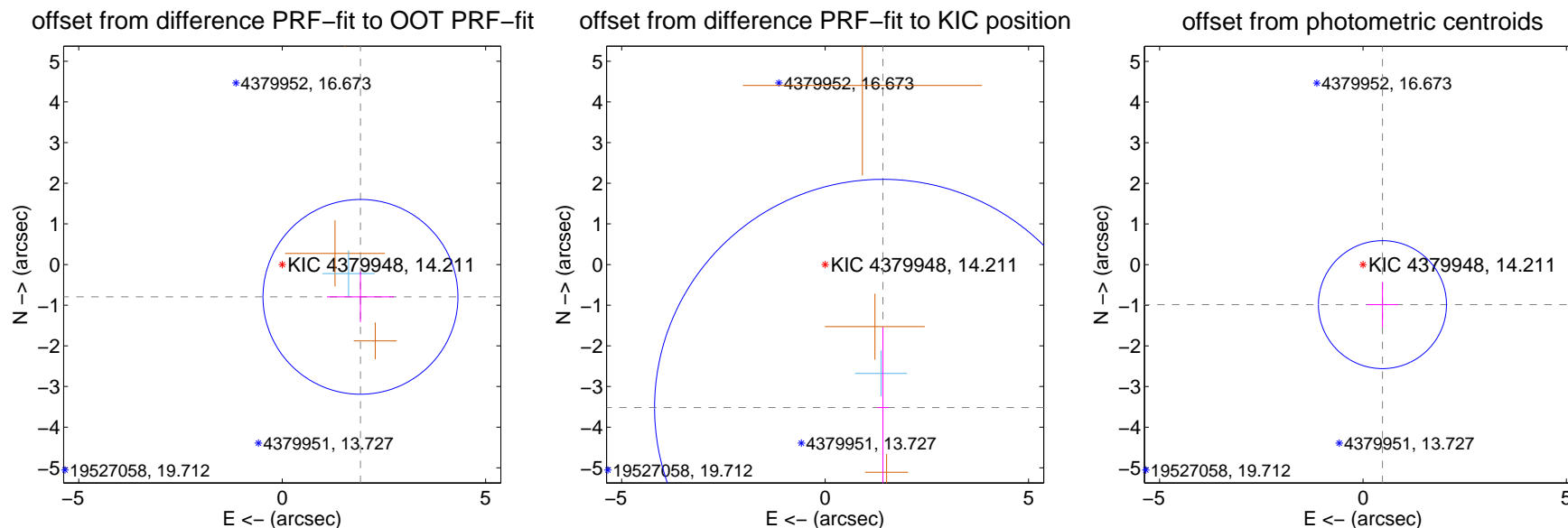
DV Centroid Data

Supplemental centroid analysis for 004379948-06. Kepler magnitude: 14.21. Transit SNR 9.67

There are 1 quarters with good PRF difference image offsets

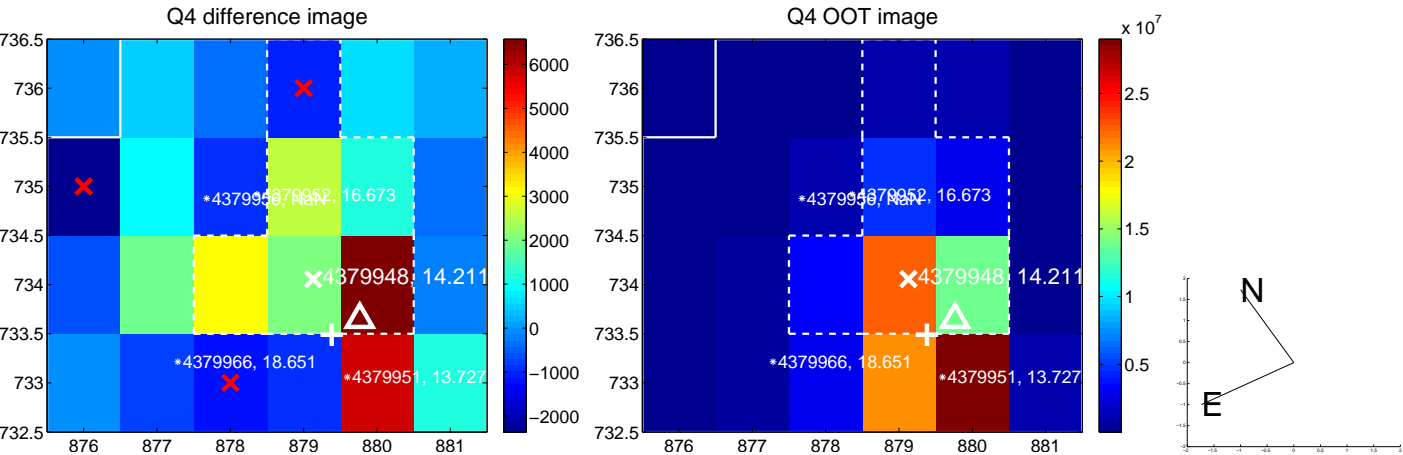
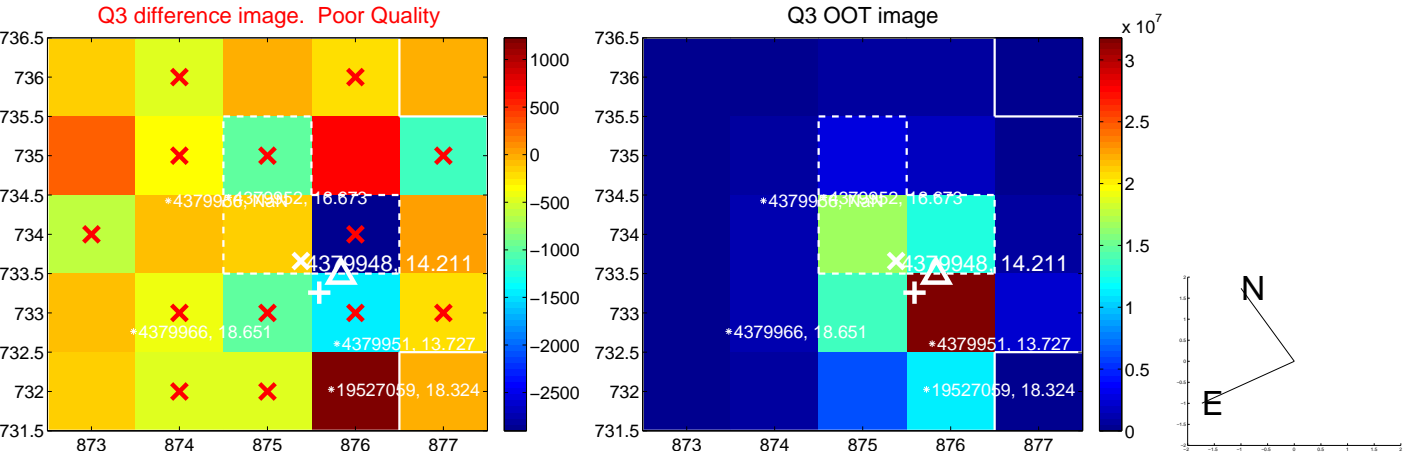
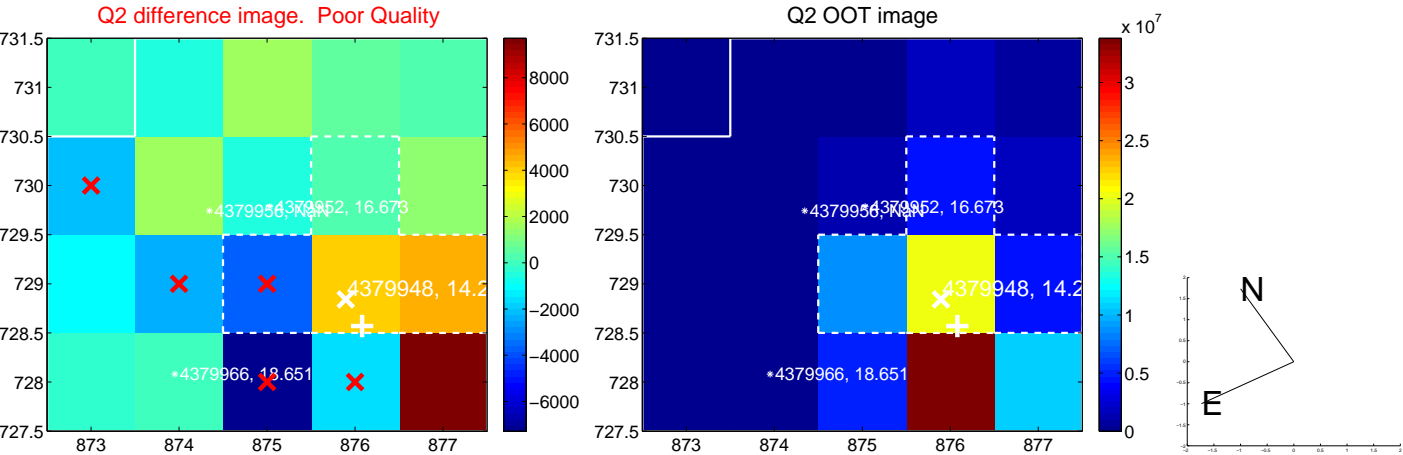
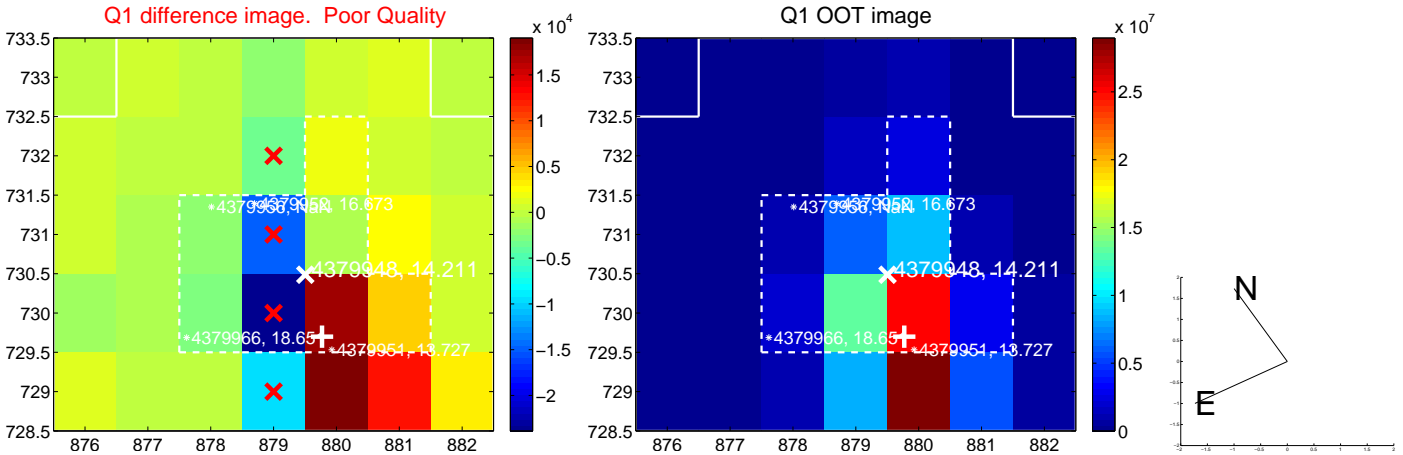
The OOT PRF centroid is offset from the target star catalog position by about 3.32 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.082 ± 0.799	2.61	-1.924 ± 0.825	-0.795 ± 0.620
PRF-fit source offset from KIC position	3.794 ± 1.871	2.03	-1.421 ± 0.137	-3.517 ± 1.970
photometric centroid source offset	1.09 ± 0.52	2.09	-0.48 ± 0.38	-0.98 ± 0.55

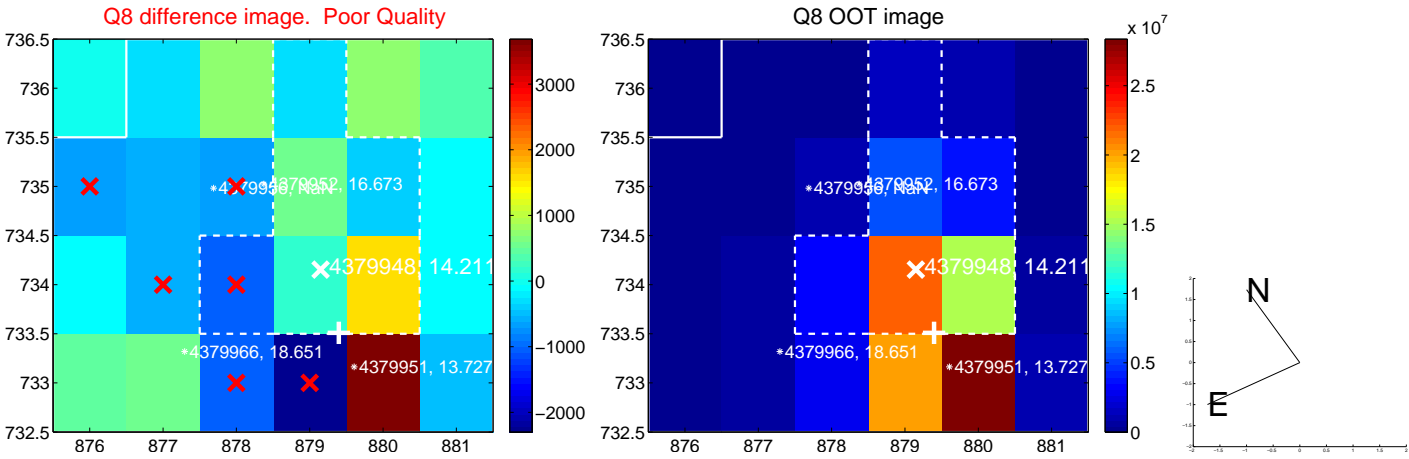
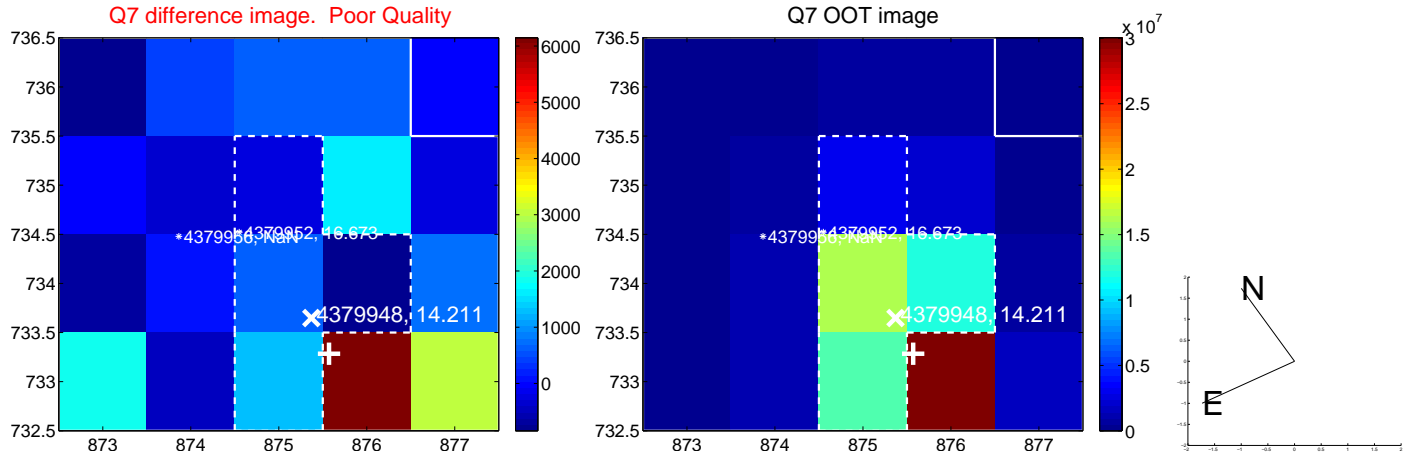
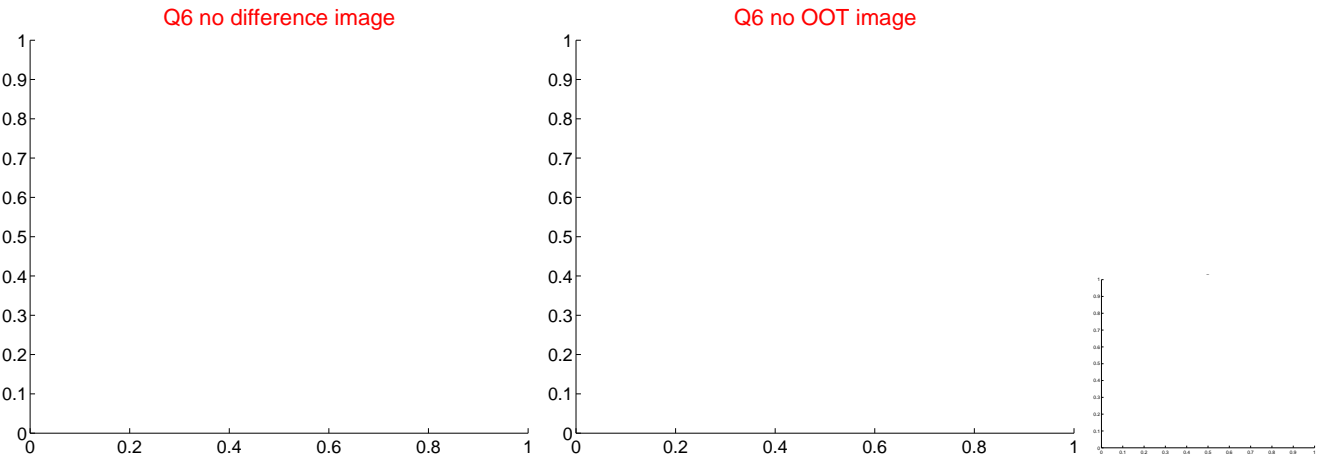
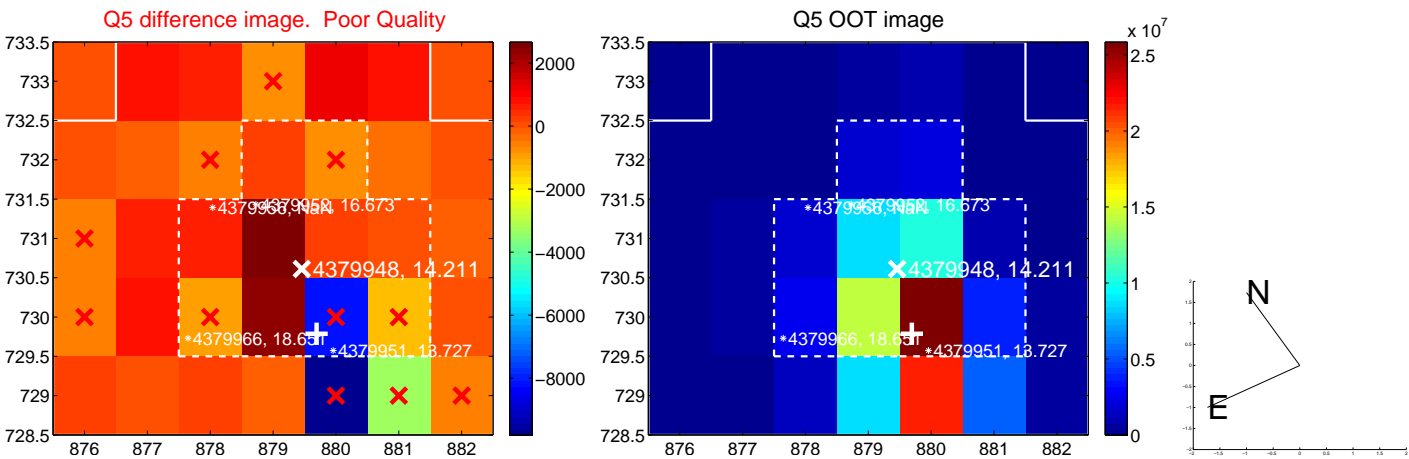


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

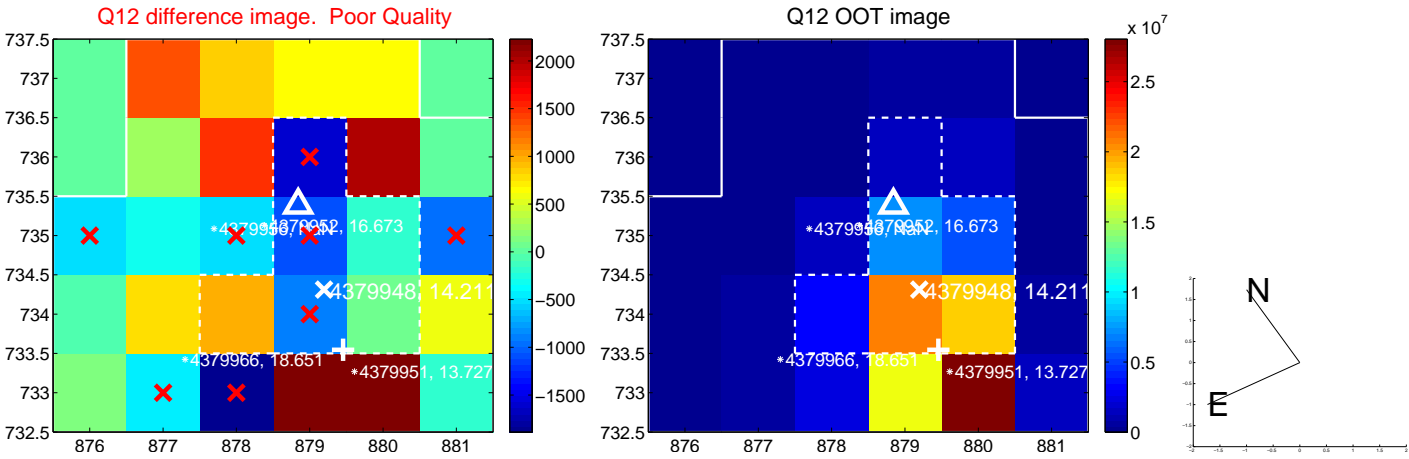
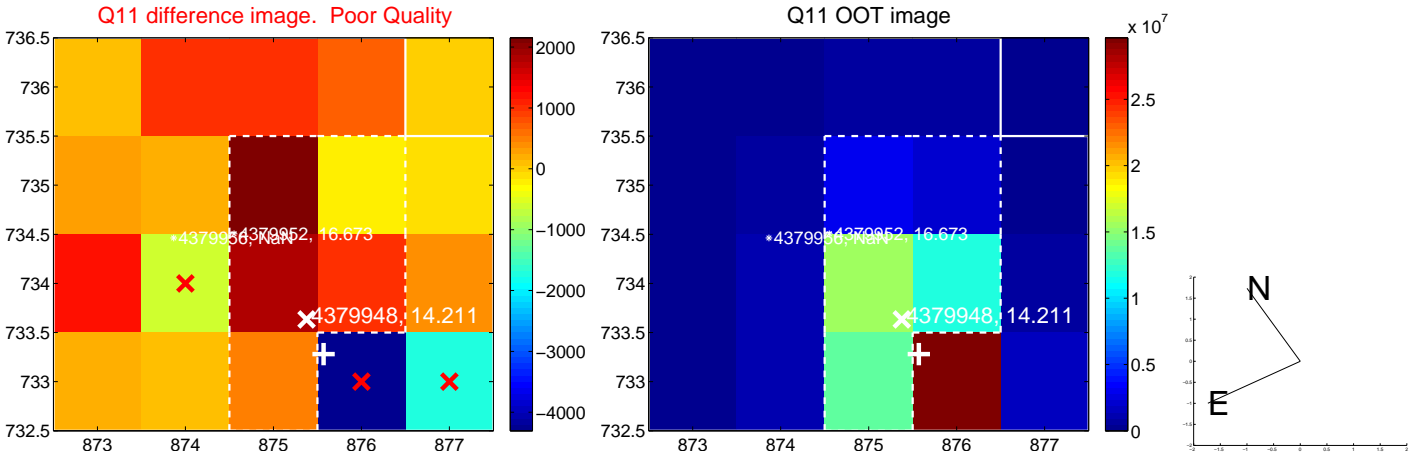
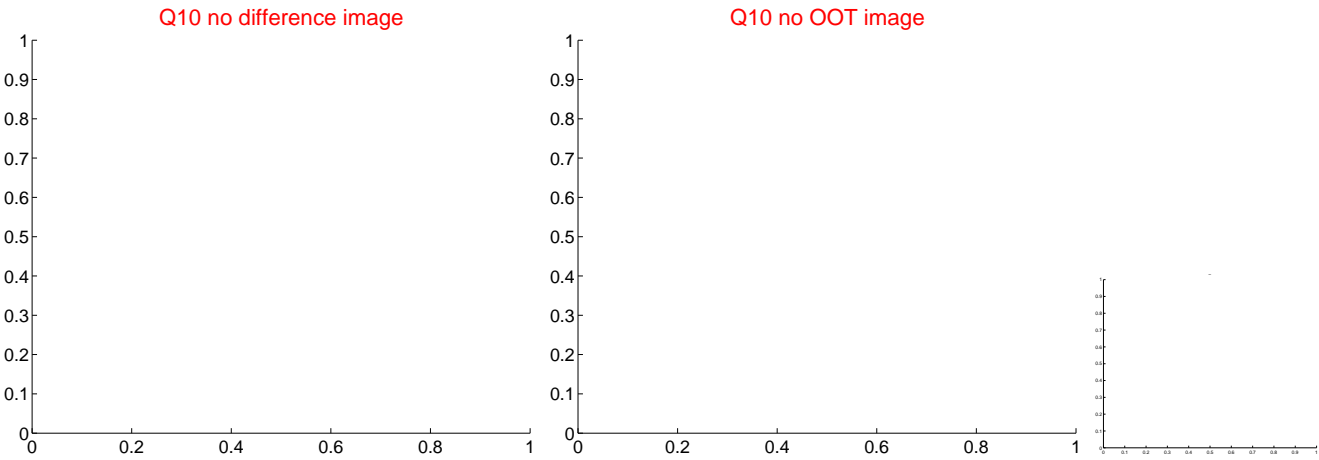
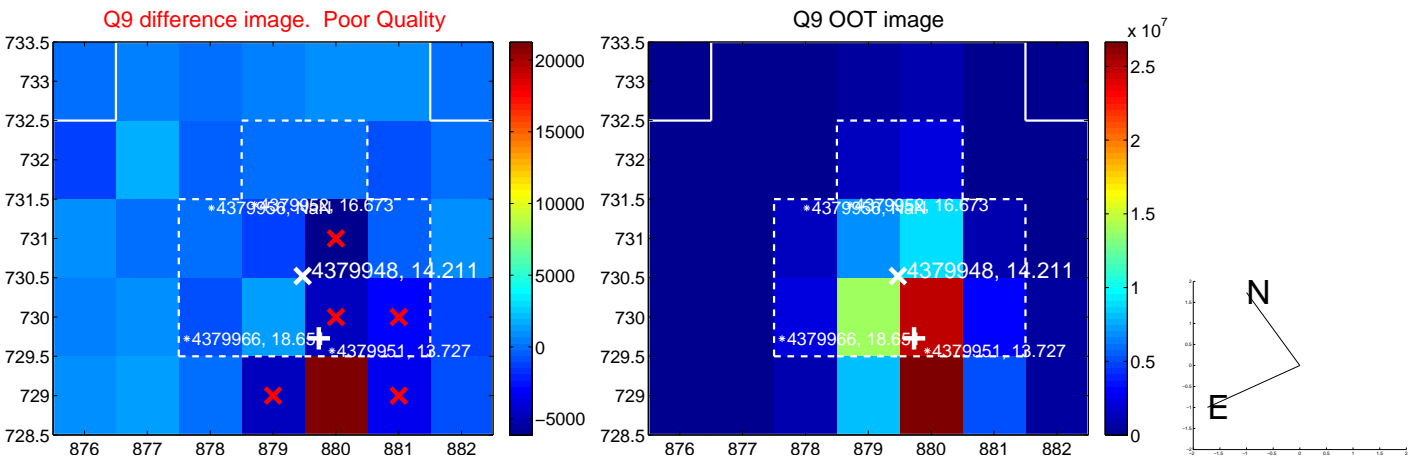
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



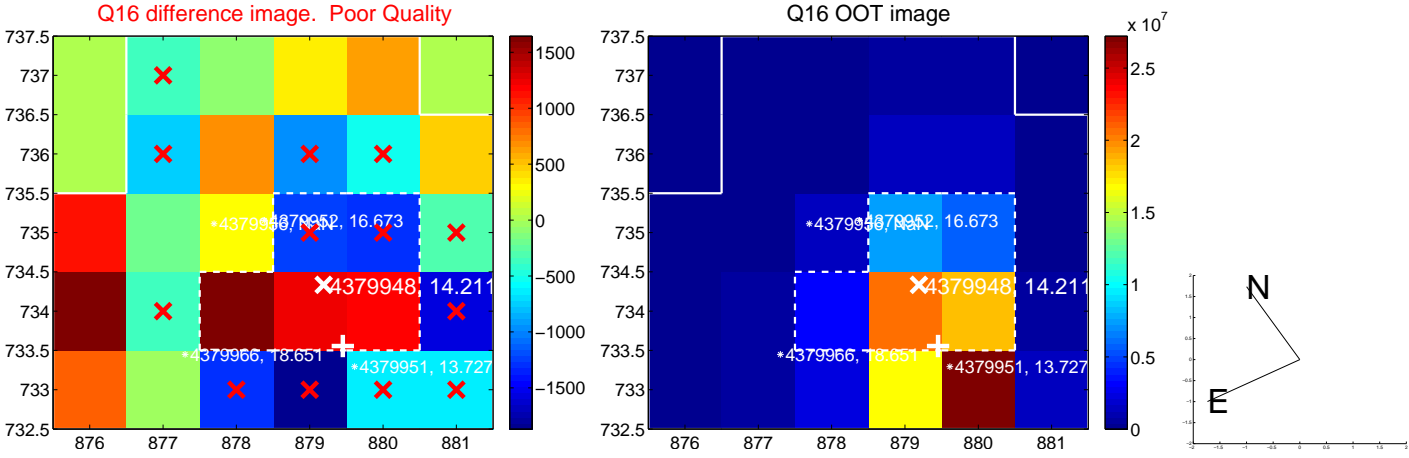
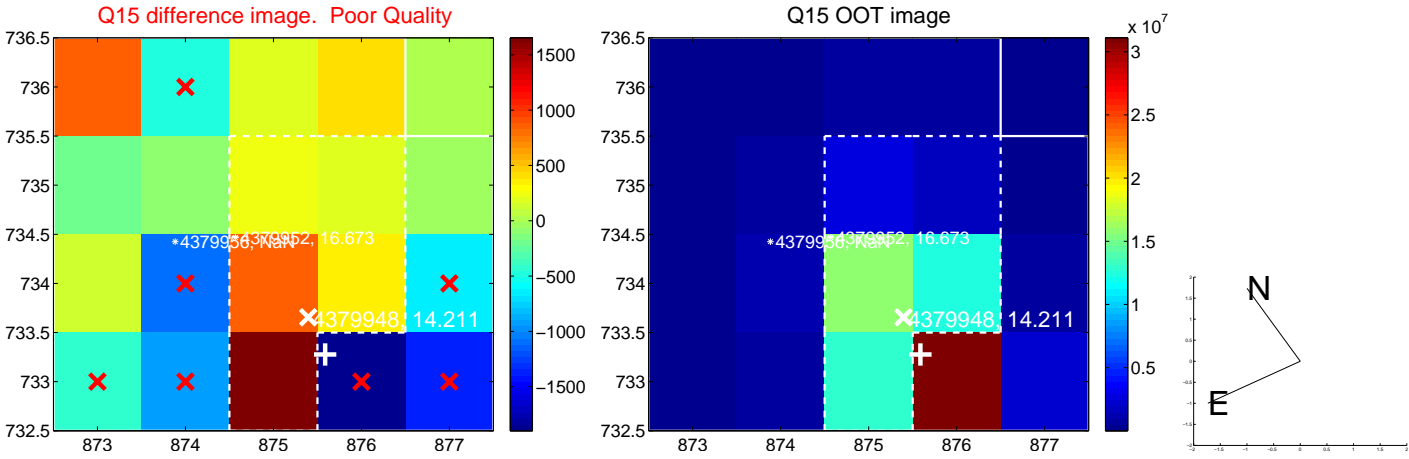
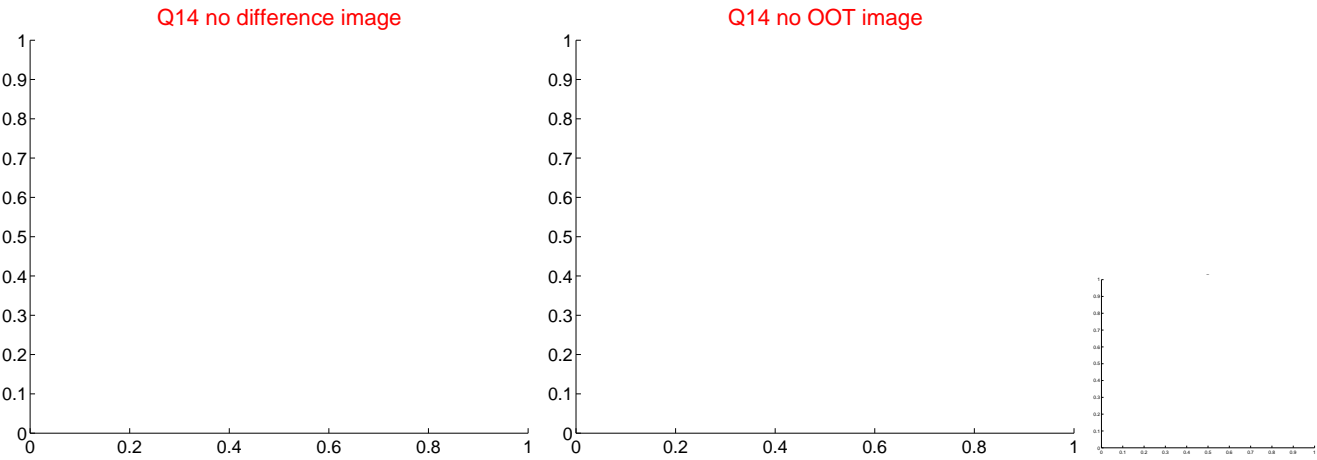
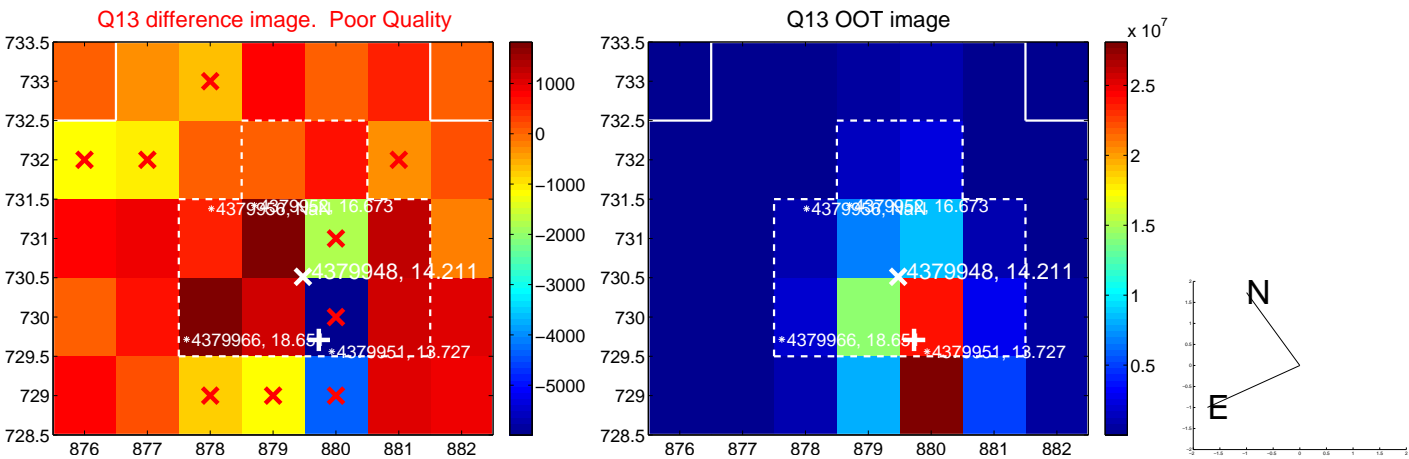
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



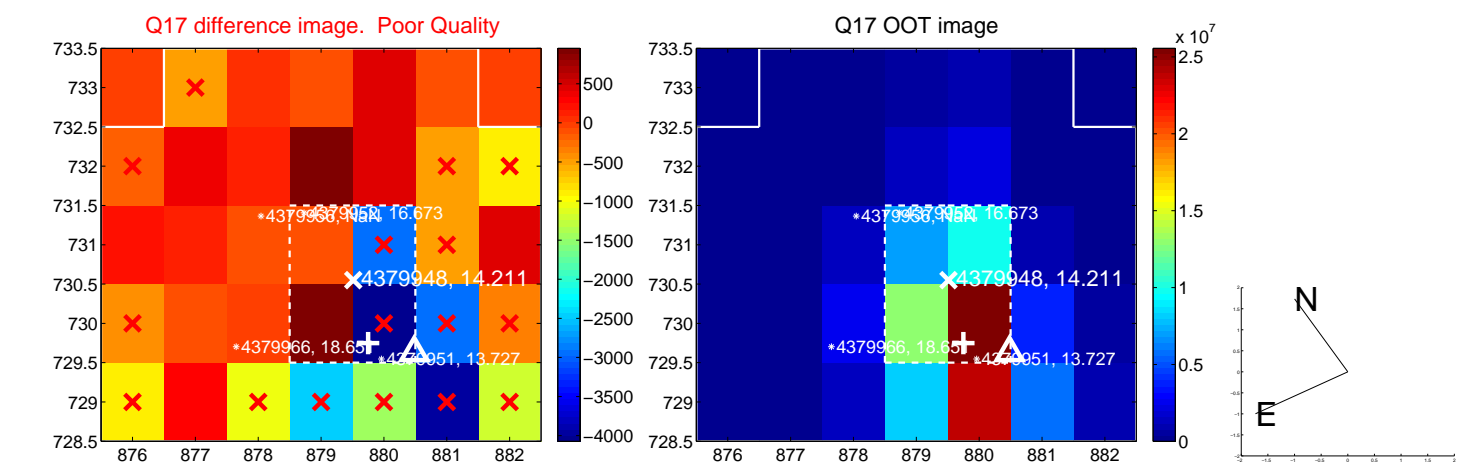
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



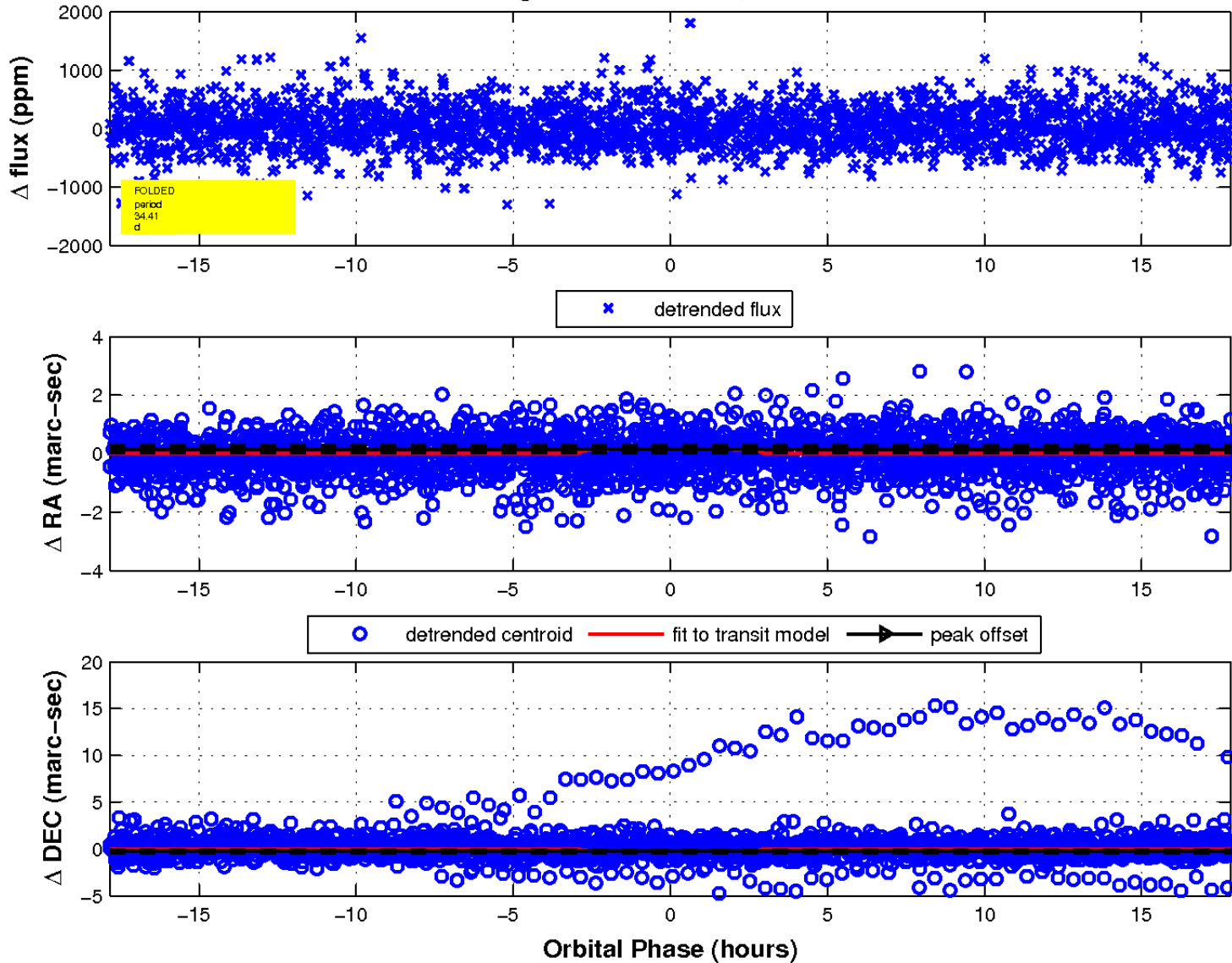
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

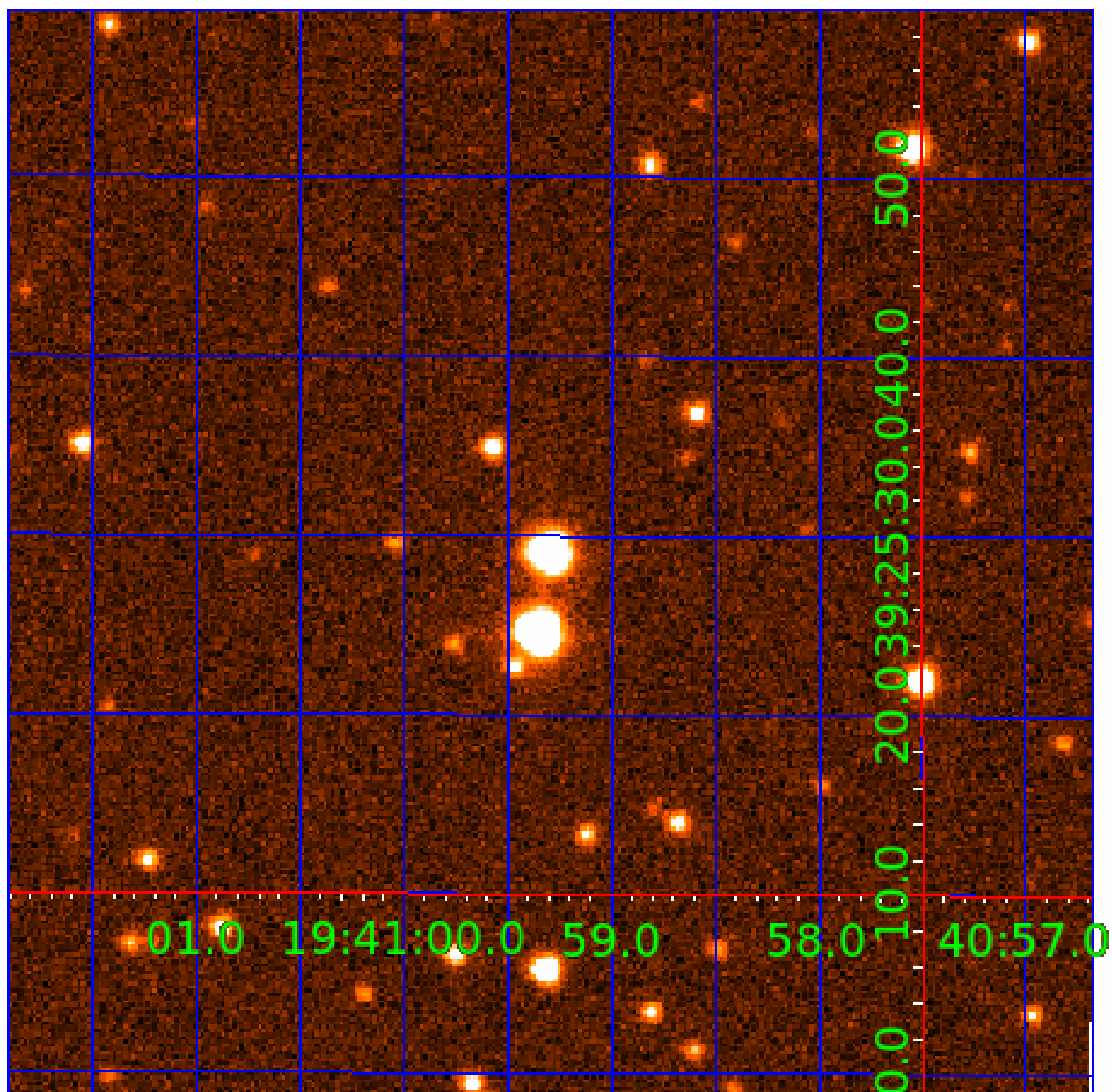


fluxWeightedCentroids, Planet 6 of 7



UKIRT Image

Declination



KIC 004379948

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})
004379948-01	OBS	No	2.805608	132.507608	45.4	20.198	7.6	8.2	1.05	6215	0.72	909.14
004379948-03	OBS	No	25.537052	144.044948	469.5	6.423	14.4	12.4	1.05	6215	2.47	47.84
004379948-04	OBS	No	91.137004	214.092844	547.2	2.635	11.0	11.5	1.05	6215	2.77	8.77
004379948-05	OBS	No	60.012279	188.275226	601.9	6.667	11.0	11.9	1.05	6215	3.07	15.31
004379948-06	OBS	No	34.409382	160.283297	286.0	5.947	10.1	9.7	1.05	6215	1.89	32.14
004379948-07	OBS	No	63.989987	137.220837	567.3	2.961	10.0	10.3	1.05	6215	2.61	14.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004379948-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
004379948-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004379948-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004379948-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
004379948-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
004379948-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_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.

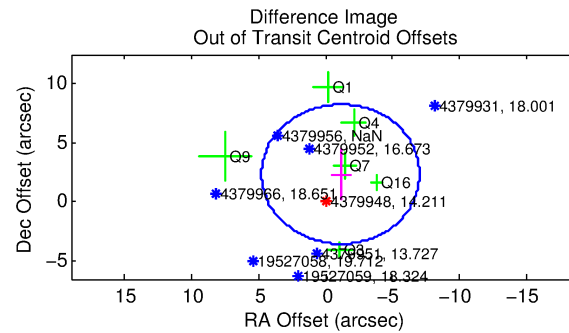
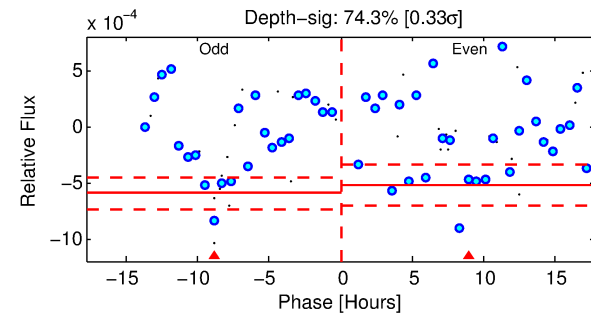
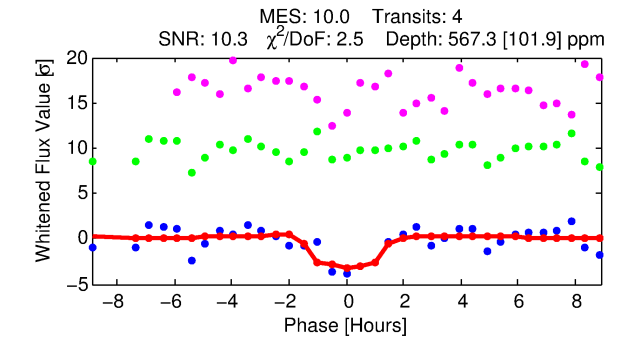
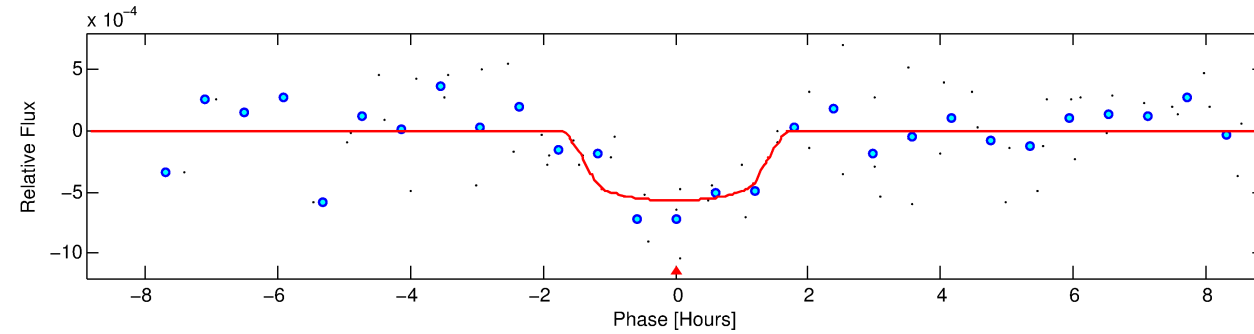
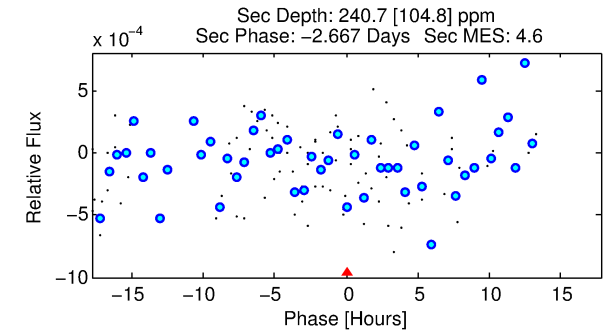
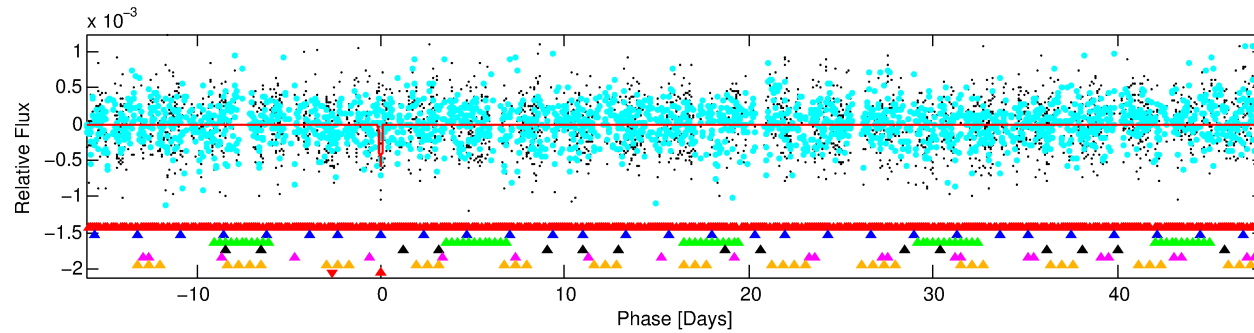
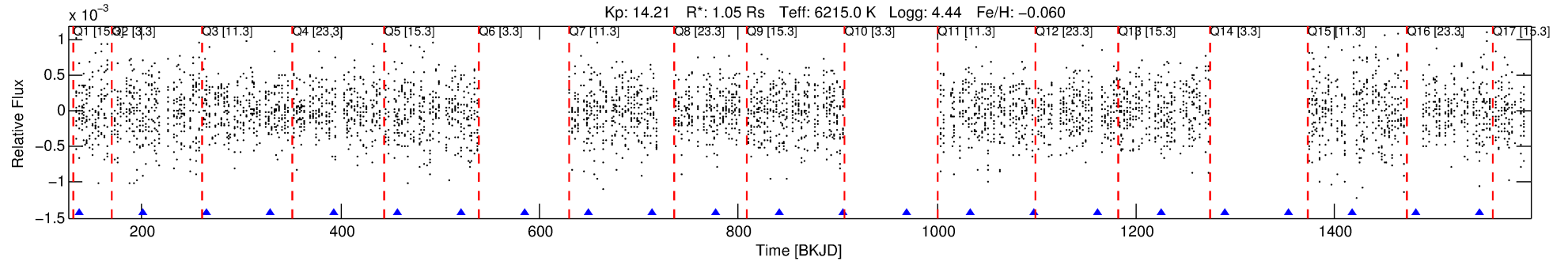
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004379948-07

No Significant Match Found

DV One-Page Summary

KIC: 4379948 Candidate: 7 of 7 Period: 63.990 d



DV Fit Results:

Period = 63.98999 [0.00094] d
Epoch = 137.2208 [0.0108] BKJD
Rp/R* = 0.0227 [0.0974]
a/R* = 139.13 [2986.13]
b = 0.58 [24.78]
Seff = 14.06 [6.07]
Teff = 494 [53] K
Rp = 2.61 [11.21] Re
a = 0.3244 [0.0909] AU
Ag = 2043.48 [17533.74] [0.12 σ]
Teffp = 5132 [10998] K [0.42 σ]

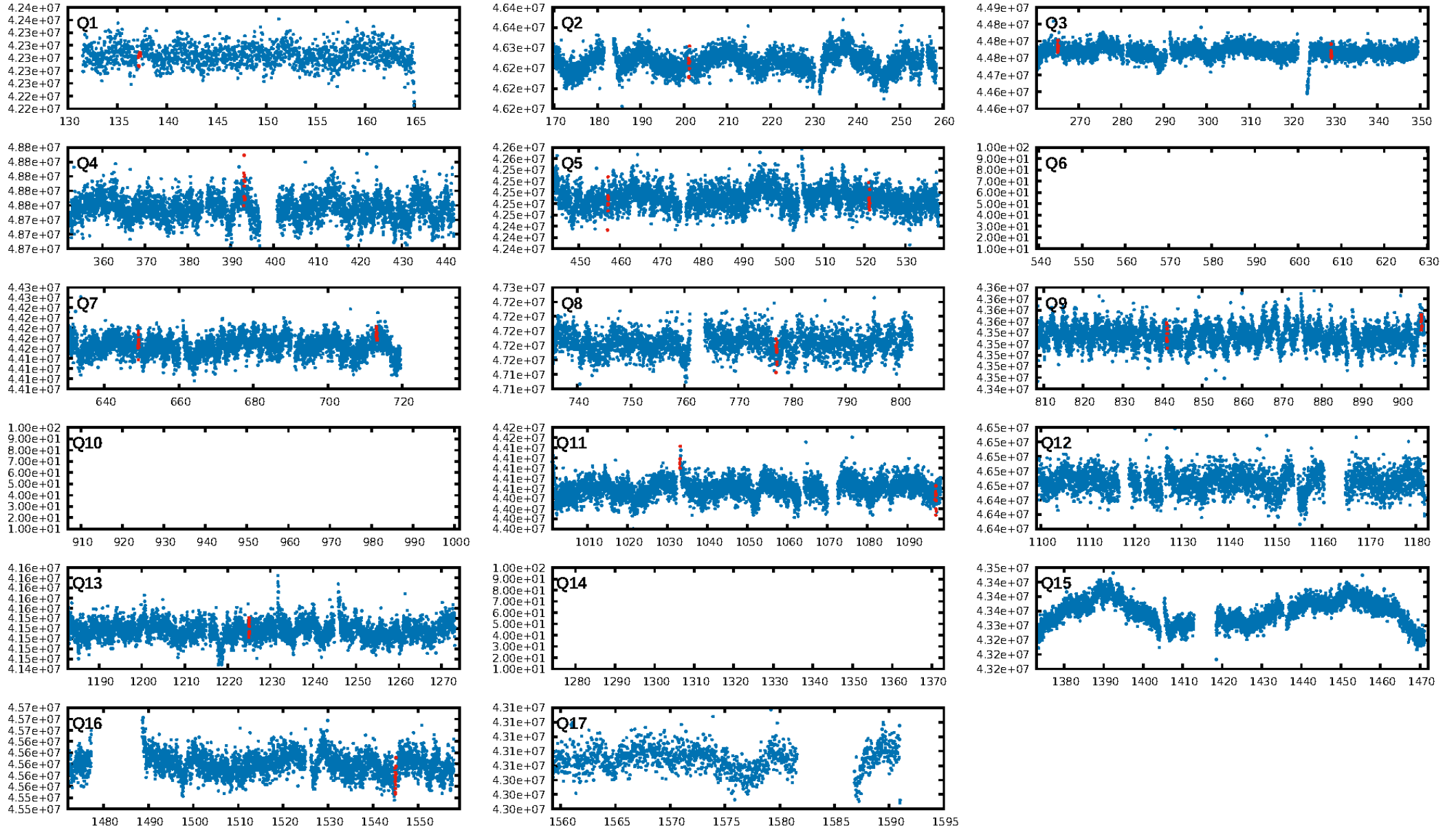
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [13.09 σ]
LongPeriod-sig: 100.0% [164.36 σ]
ModelChiSquare2-sig: 51.0%
ModelChiSquareGof-sig: 93.2%
Bootstrap-pfa: 6.22e-07
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.877
Centroid-sig: 8.7%
Centroid-so: 1.913 arcsec [3.89 σ]
OotOffset-rm: 2.619 arcsec [1.33 σ]
KicOffset-rm: 2.052 arcsec [1.23 σ]
OotOffset-st: 0/2/2/2 [6]
KicOffset-st: 0/2/2/2 [6]
DiffImageQuality-fgm: 0.17 [1/6]
DiffImageOverlap-fno: 0.70 [7/10]

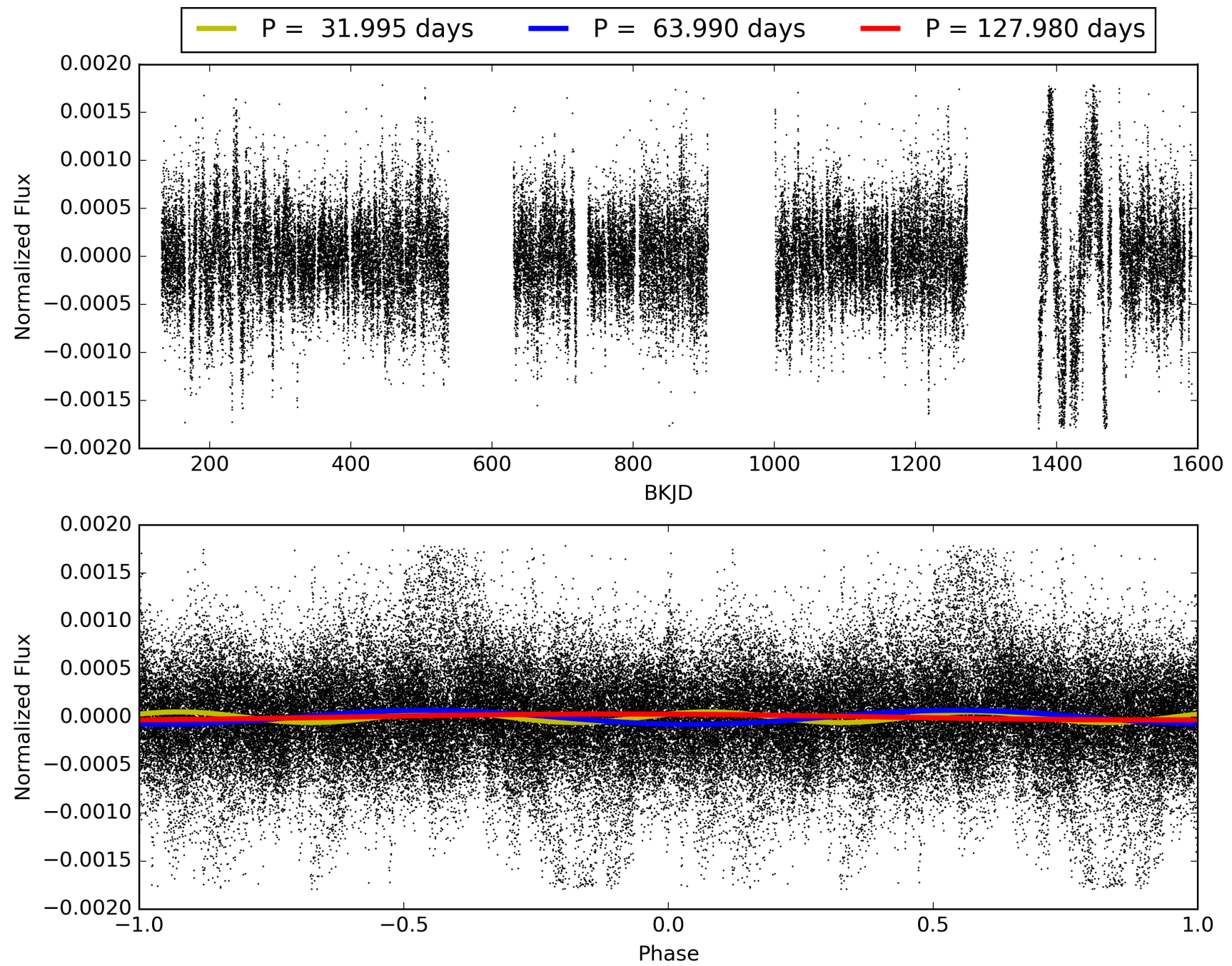
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:17:22 Z

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

TCE 004379948-07, PDC Light Curves

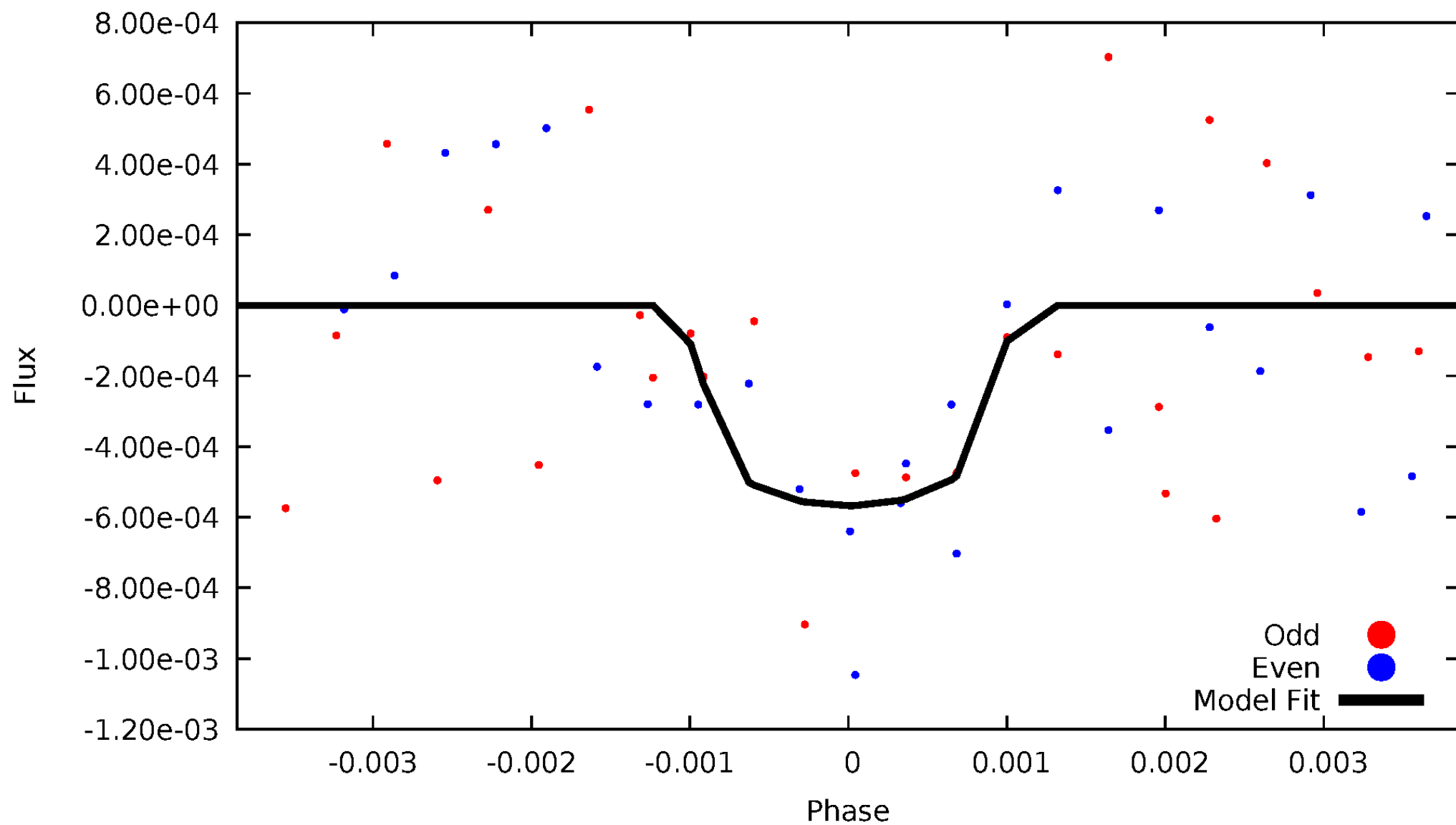


TCE 004379948-07



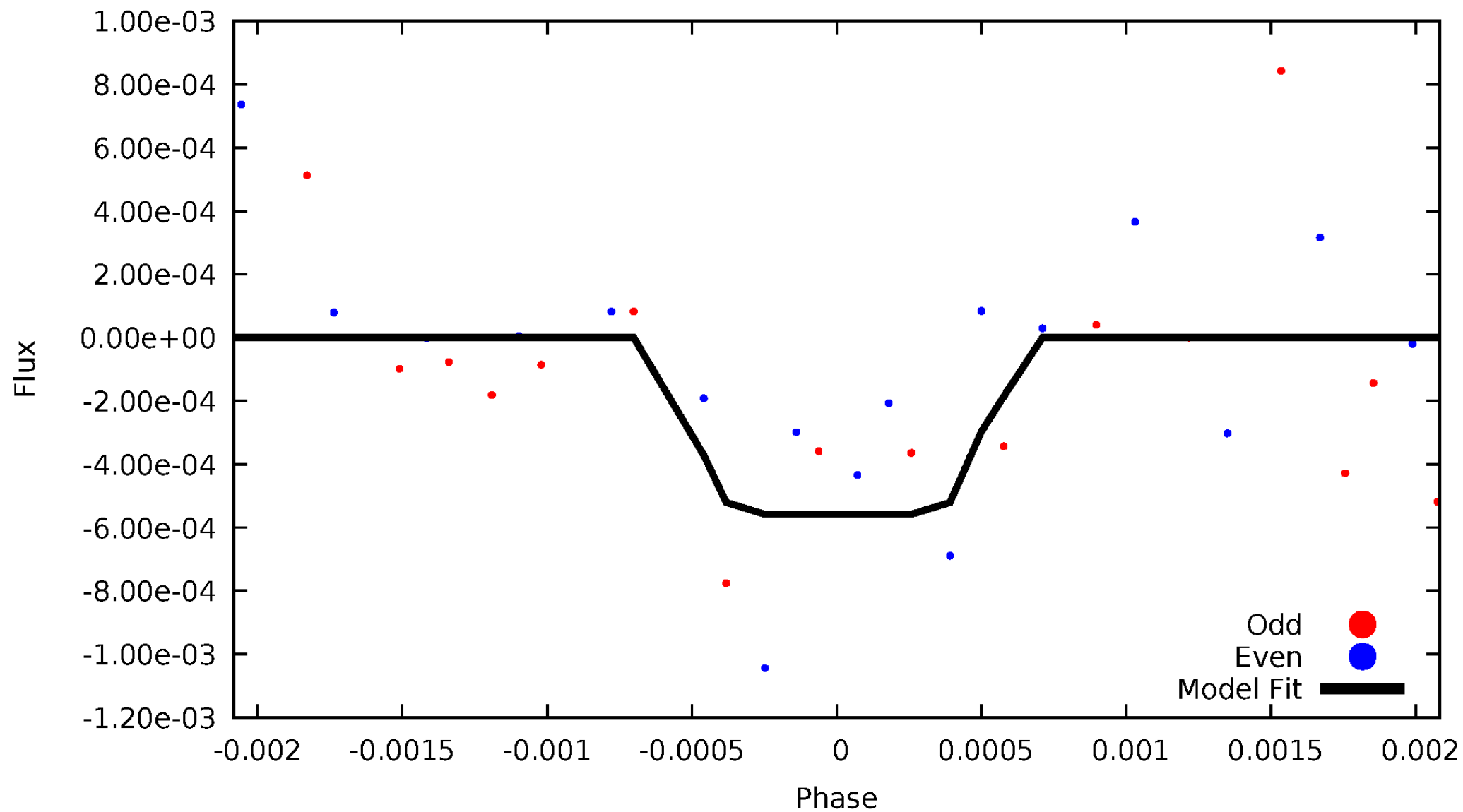
DV Odd/Even

TCE 004379948-07



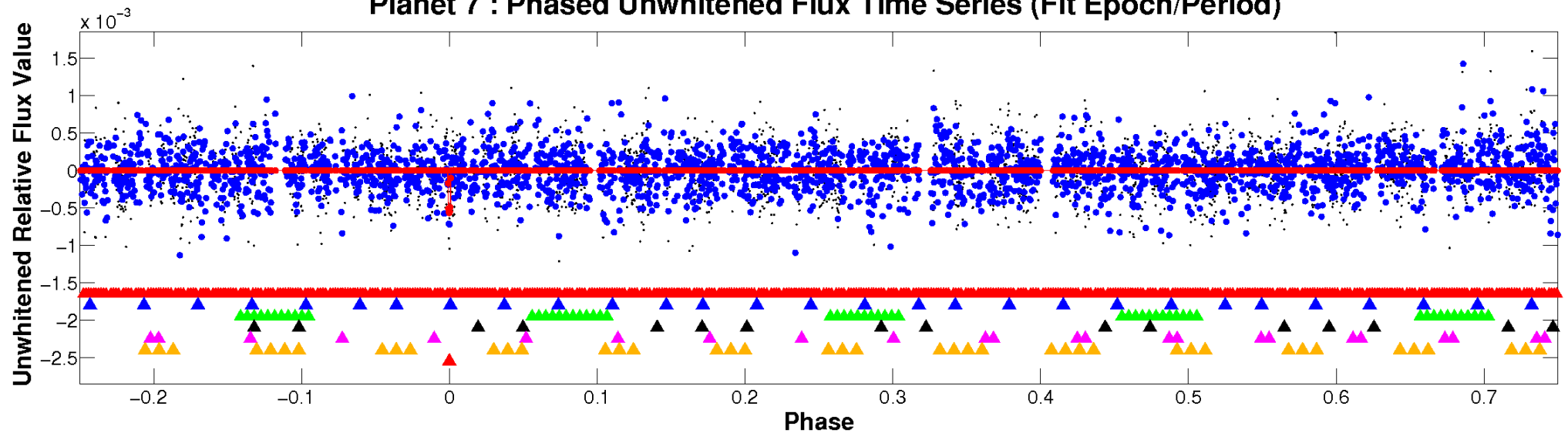
ALT Odd/Even

TCE 004379948-07

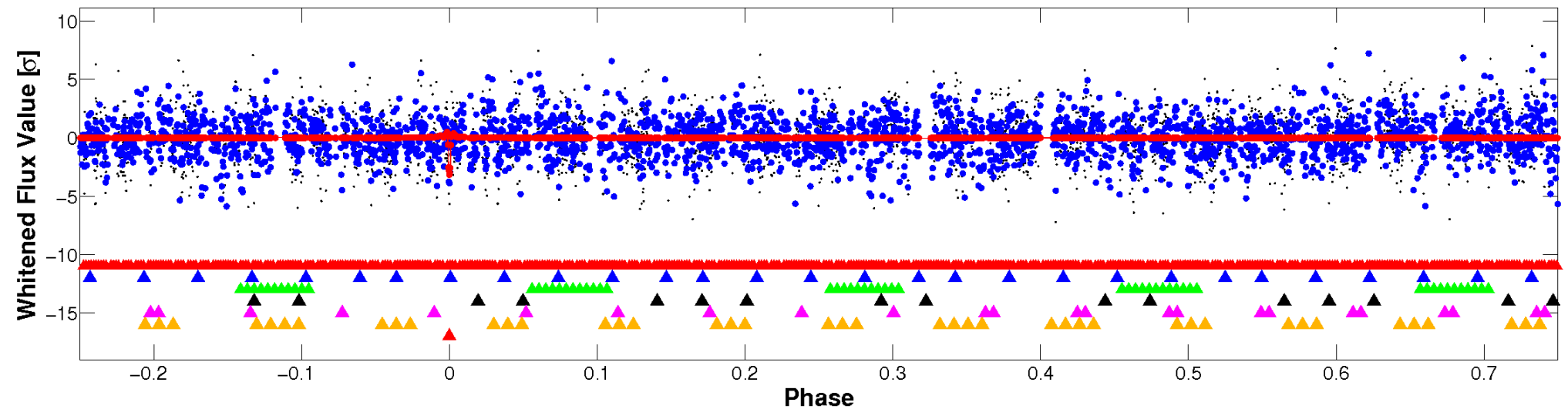


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

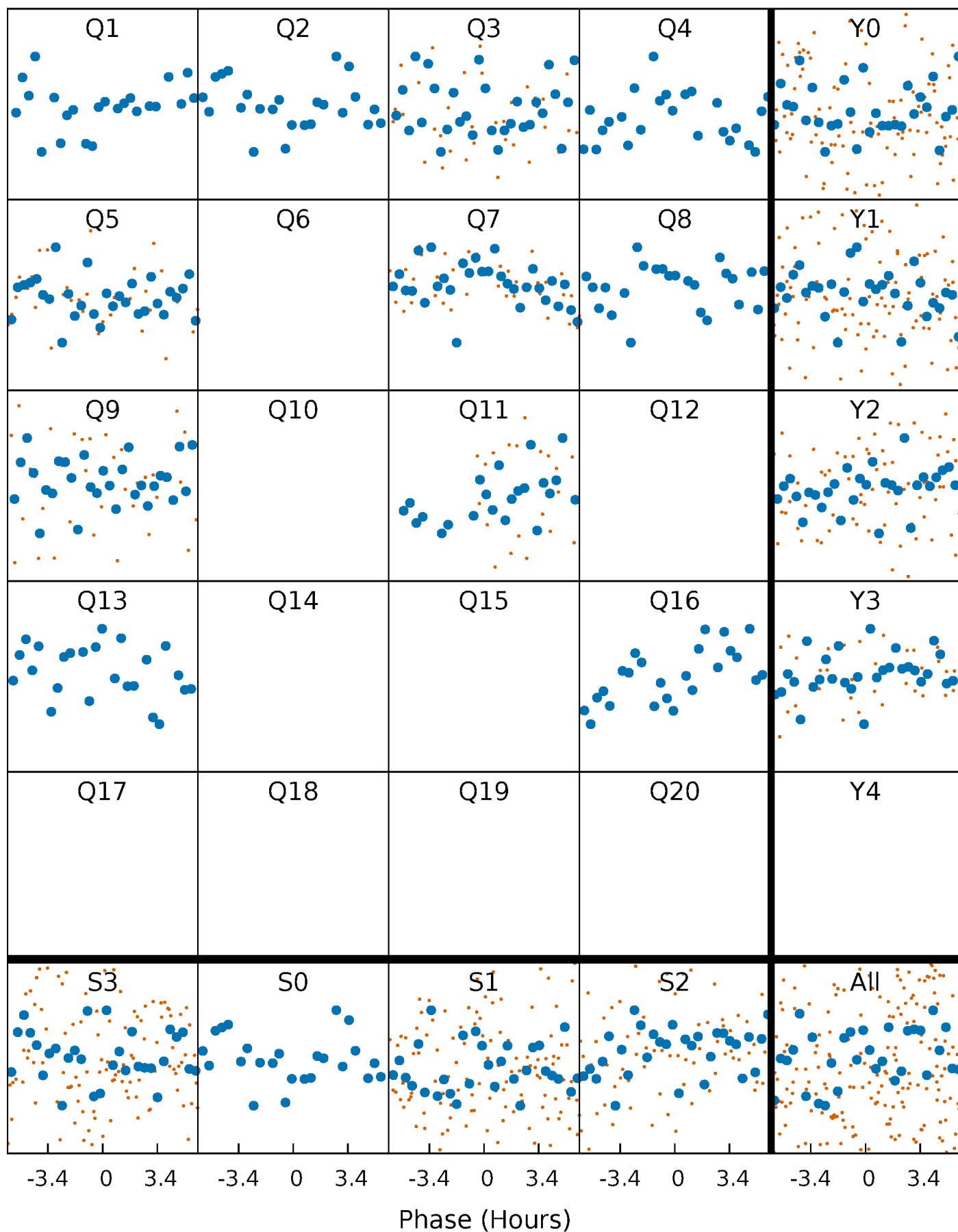


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



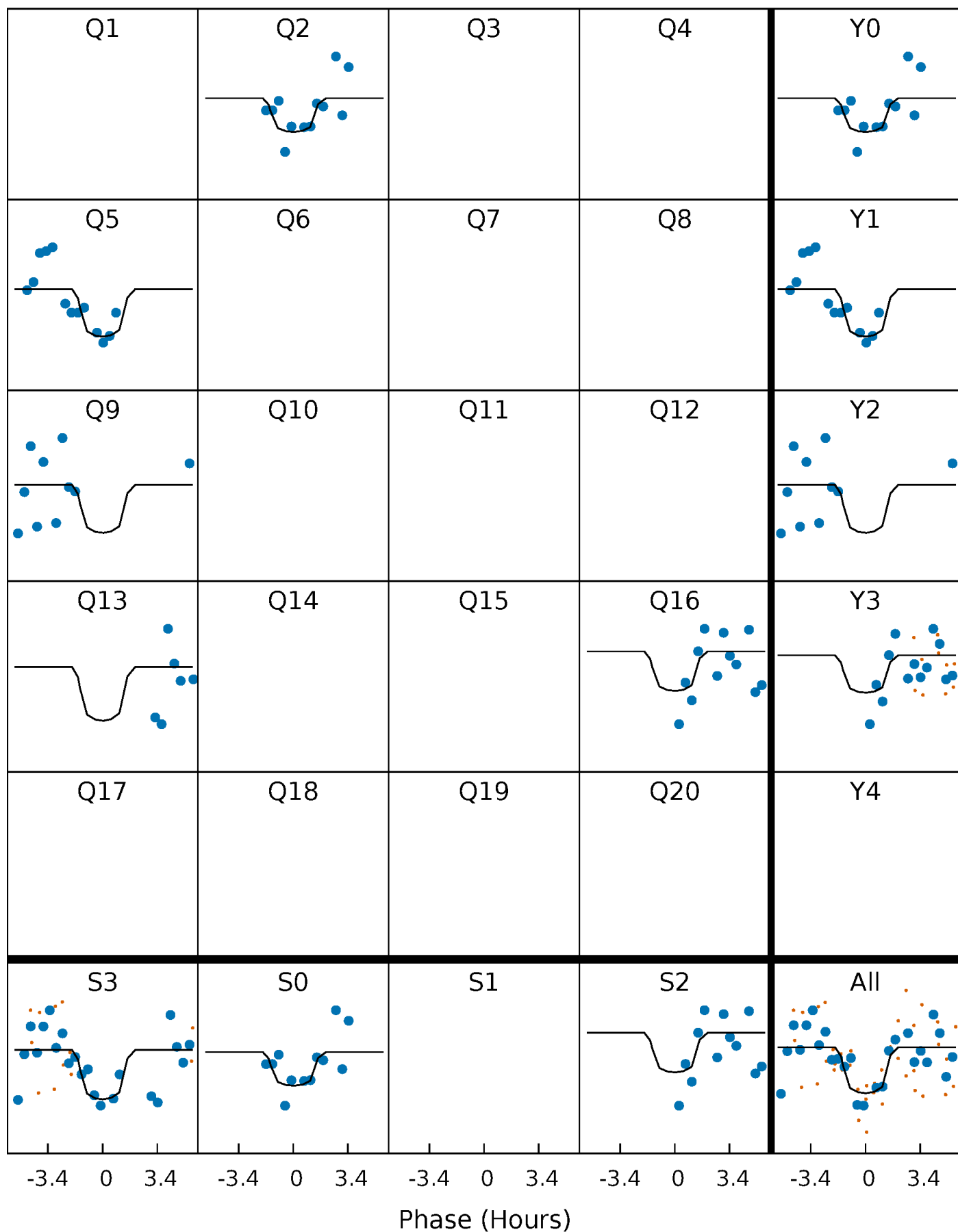
PDC Quarter-Phased Transit Curves

TCE 004379948-07 P= 63.989987 Days $T_0=137.220837$ (BKJD)



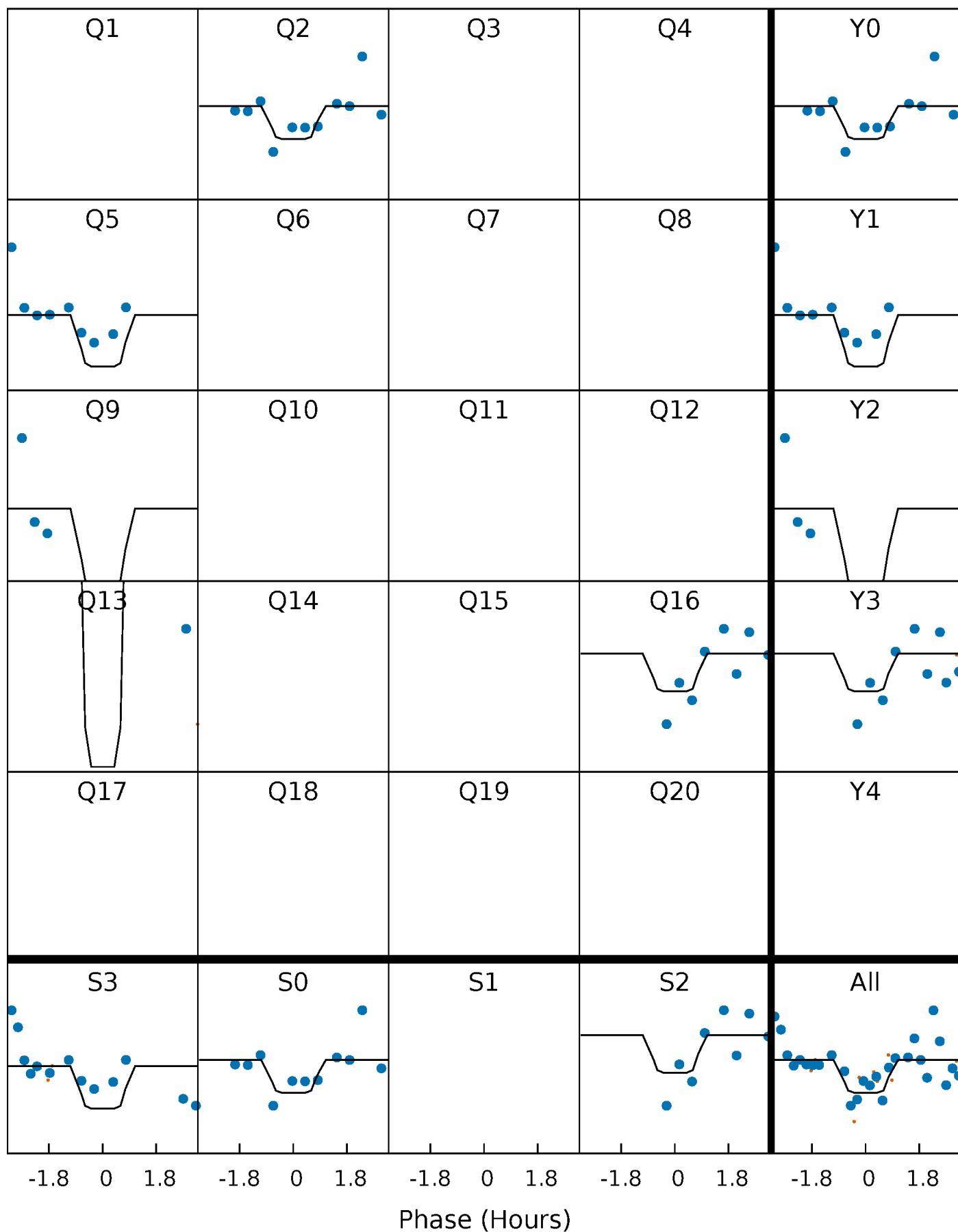
DV Quarter-Phased Transit Curves

TCE 004379948-07 P= 63.989987 Days $T_0=137.220837$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

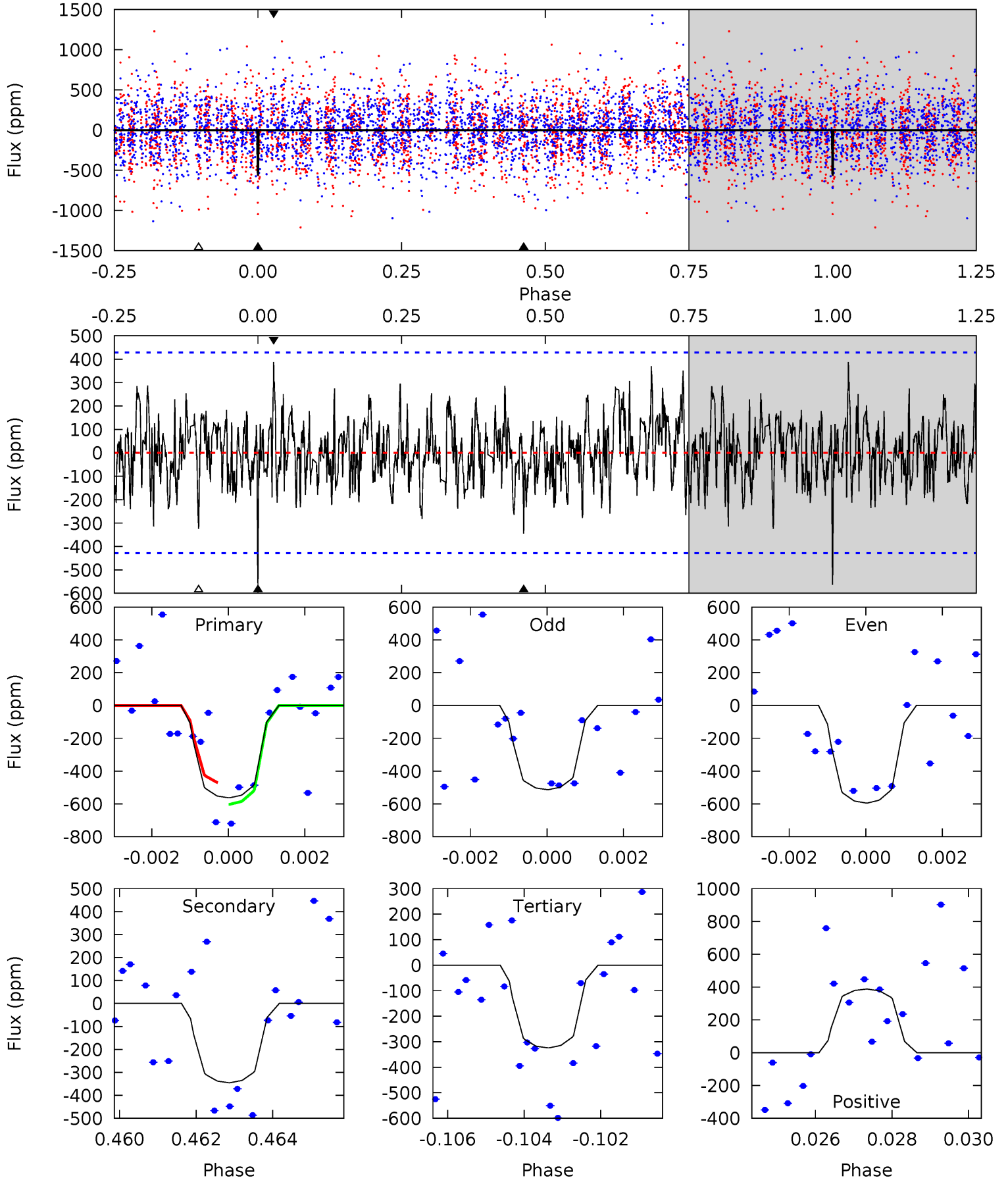
TCE 004379948-07 P= 63.990551 Days $T_0=137.227101$ (BKJD)



DV Model-Shift Uniqueness Test

004379948-07, P = 63.989987 Days, E = 73.230850 Days

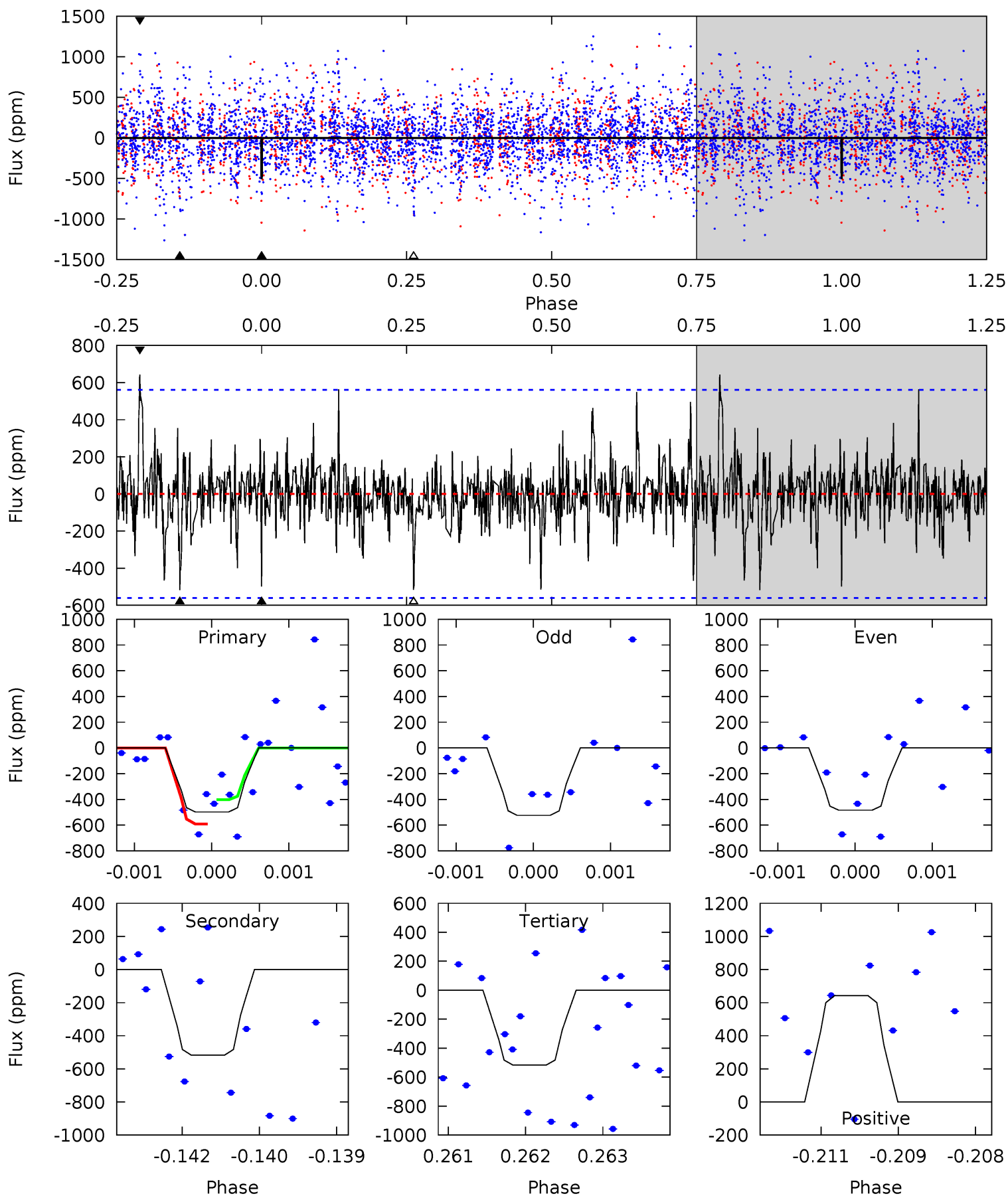
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.00	4.29	4.03	4.82	5.33	3.09	1.40	2.97	2.18	0.26	-0.53	0.50	1.15	0.41	0.80



Alt Model-Shift Uniqueness Test

004379948-07, P = 63.990551 Days, E = 73.236550 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.81	5.00	5.00	6.21	5.42	3.25	1.28	-0.19	-1.40	0.00	-1.21	0.19	0.94	0.55	0.90



Stellar Parameters For KIC 004379948

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6215^{+172}_{-216}	$4.440^{+0.056}_{-0.224}$	$-0.060^{+0.250}_{-0.300}$	$1.052^{+0.349}_{-0.116}$	$1.111^{+0.153}_{-0.153}$	$1.345^{+0.398}_{-0.727}$
	+3%/-3%	+1%/-5%	+417%/-500%	+33%/-11%	+14%/-14%	+30%/-54%
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 004379948-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-345 ± 80	$9.55^{+9.22}_{-6.60}$	703^{+55}_{-35}	3512^{+1911}_{-635}	222^{+1995}_{-167}
Alt.	-517 ± 103	$9.46^{+8.65}_{-6.46}$	706^{+54}_{-39}	3735^{+2184}_{-707}	328^{+2770}_{-246}

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 $A_{obs} \gg 1.0$

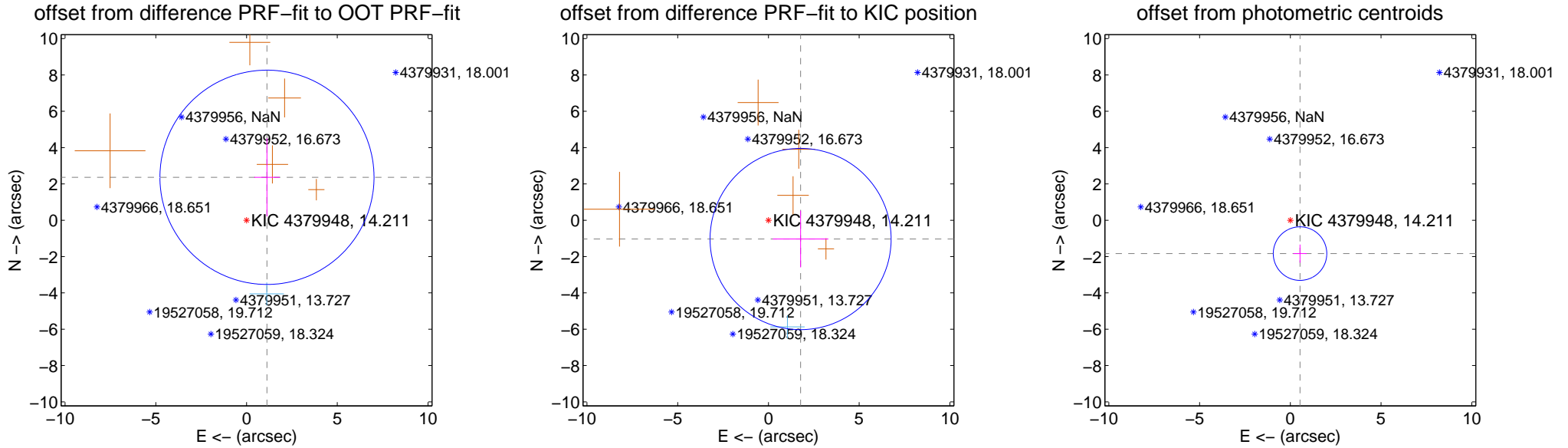
DV Centroid Data

Supplemental centroid analysis for 004379948-07. Kepler magnitude: 14.21. Transit SNR 10.33

There are 1 quarters with good PRF difference image offsets

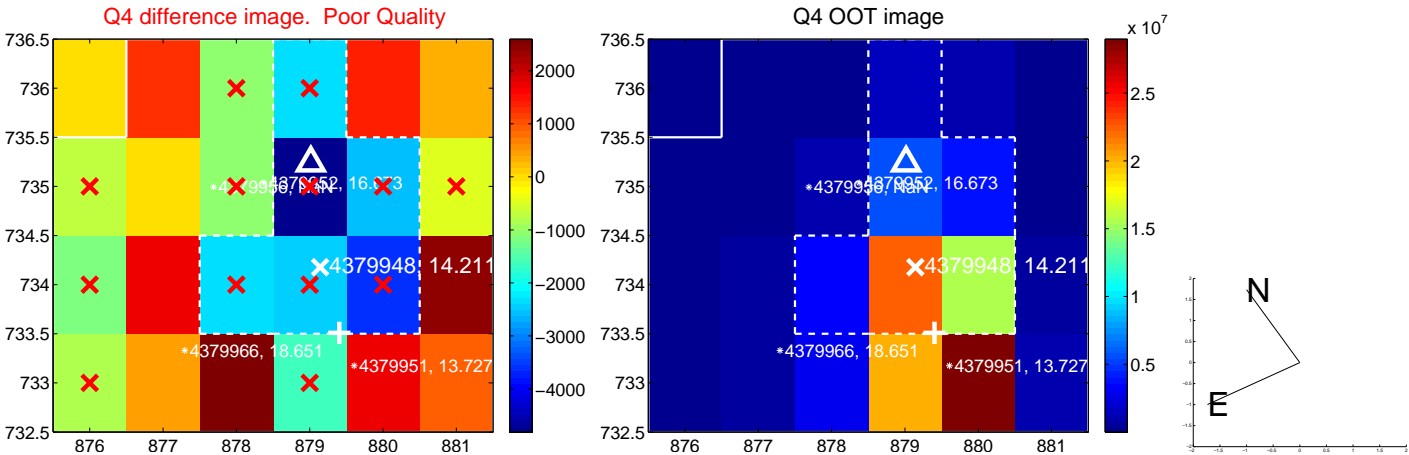
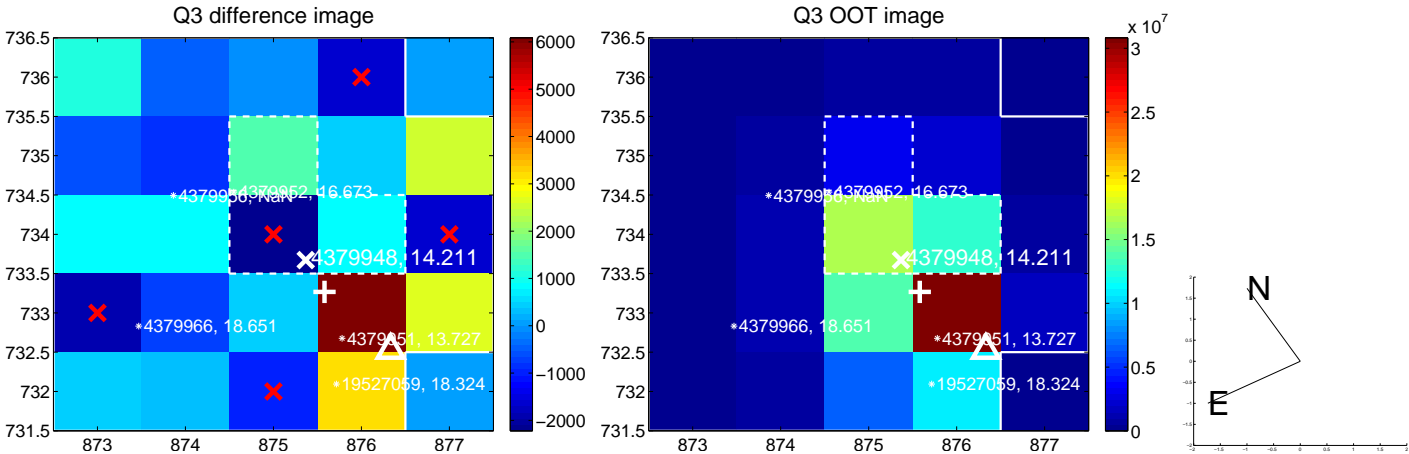
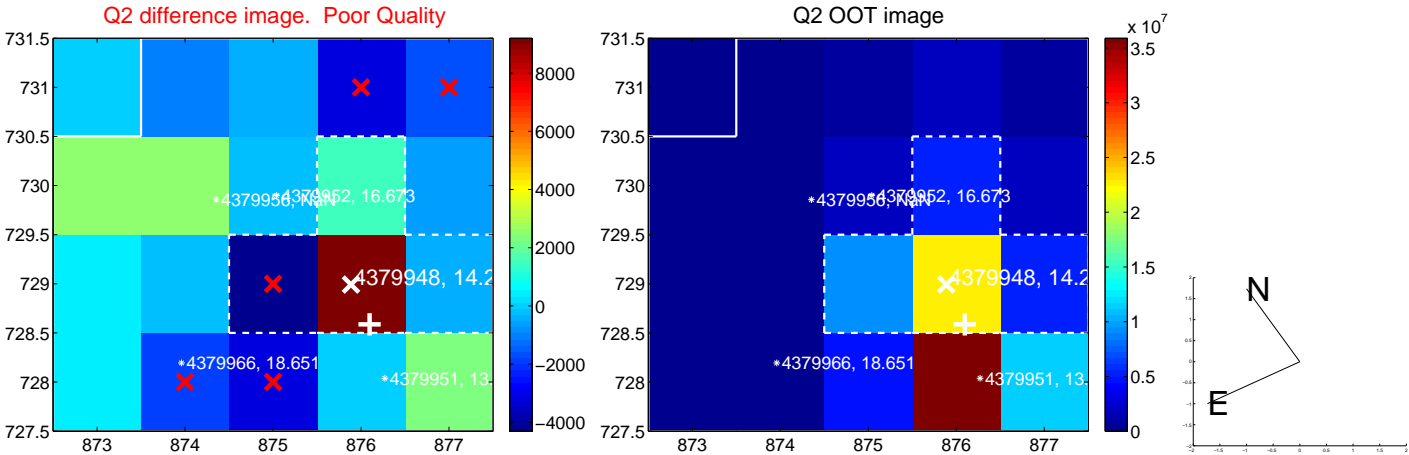
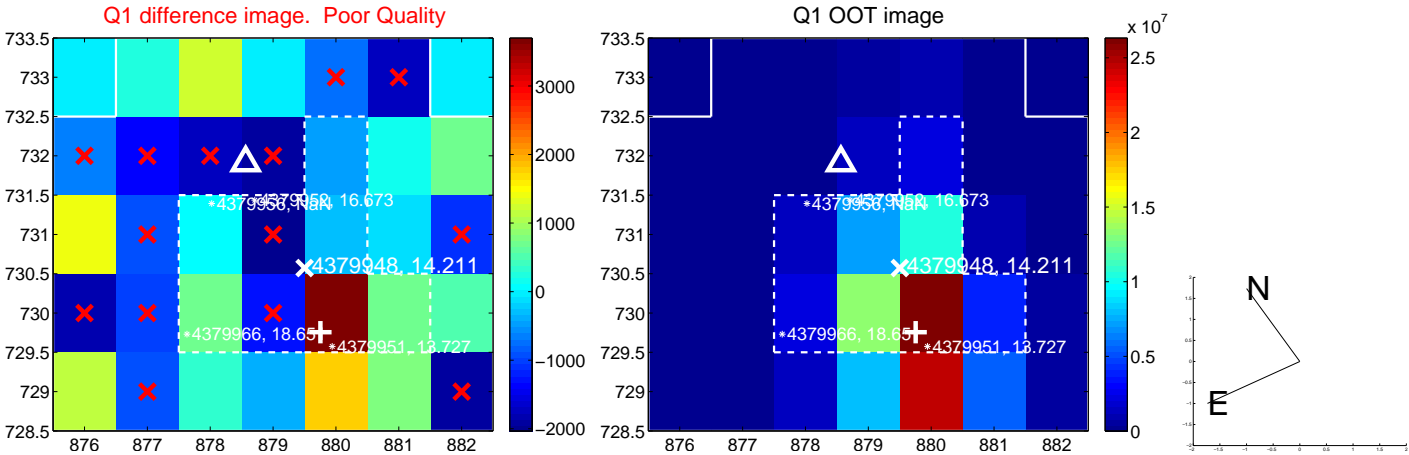
The OOT PRF centroid is offset from the target star catalog position by about 3.33 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.619 ± 1.967	1.33	-1.126 ± 0.704	2.364 ± 2.152
PRF-fit source offset from KIC position	2.052 ± 1.663	1.23	-1.772 ± 1.530	-1.035 ± 1.563
photometric centroid source offset	1.91 ± 0.49	3.89	-0.54 ± 0.37	-1.84 ± 0.50

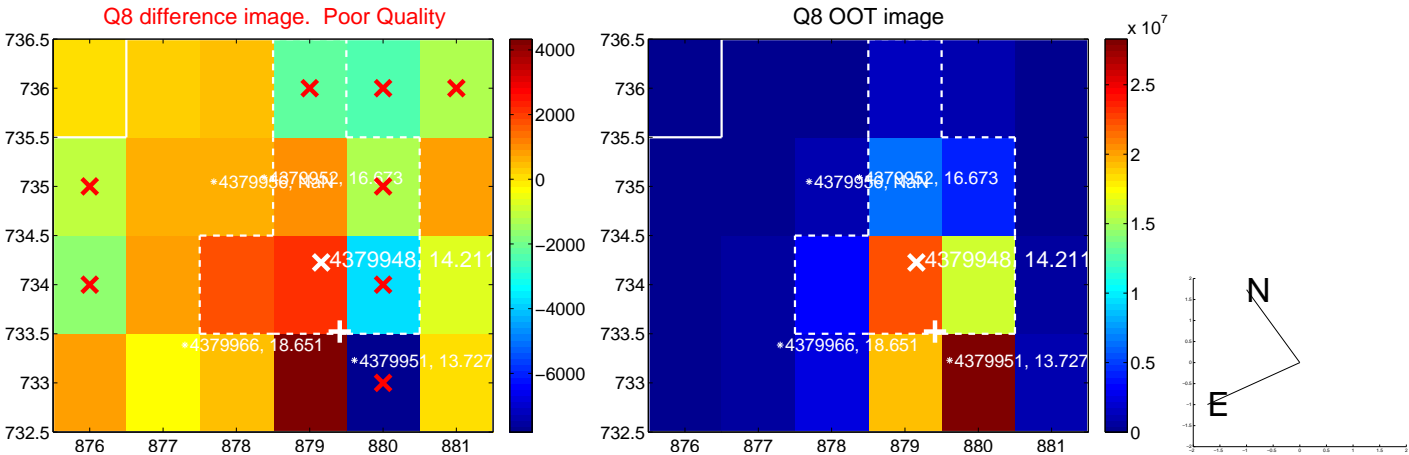
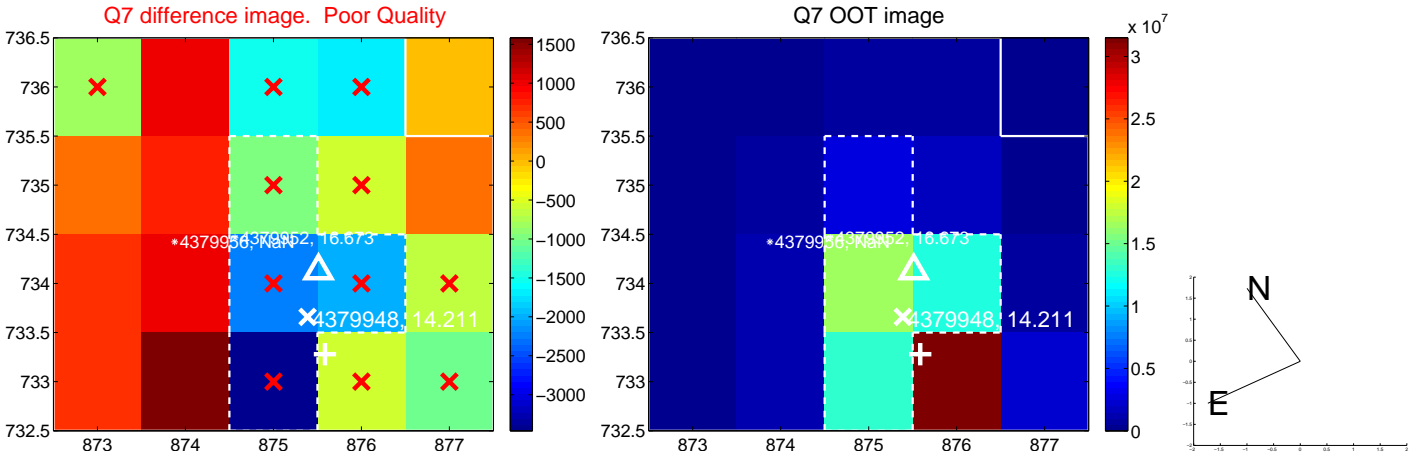
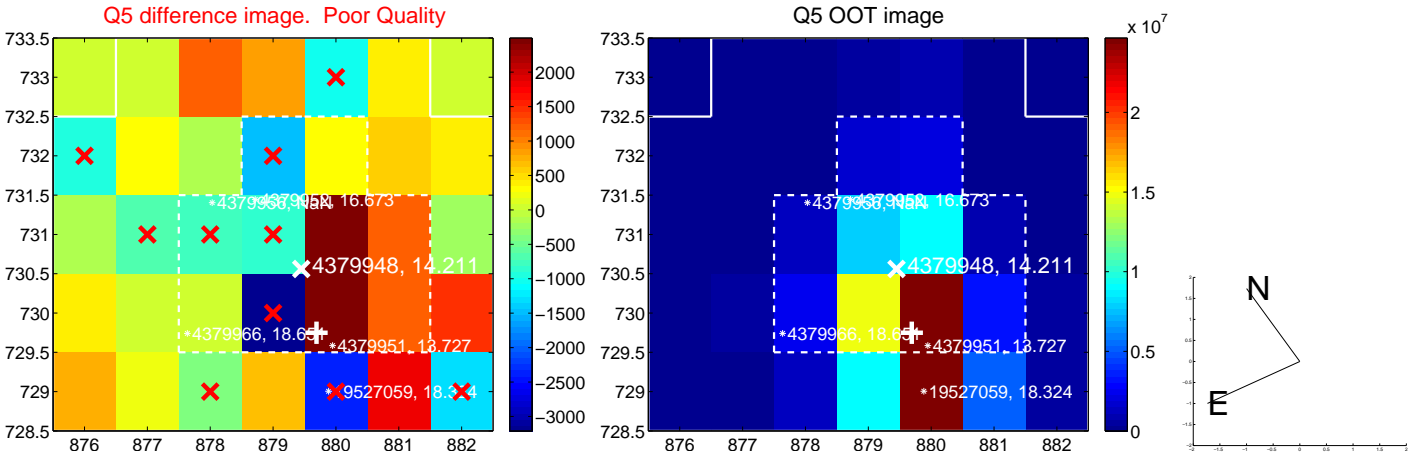


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

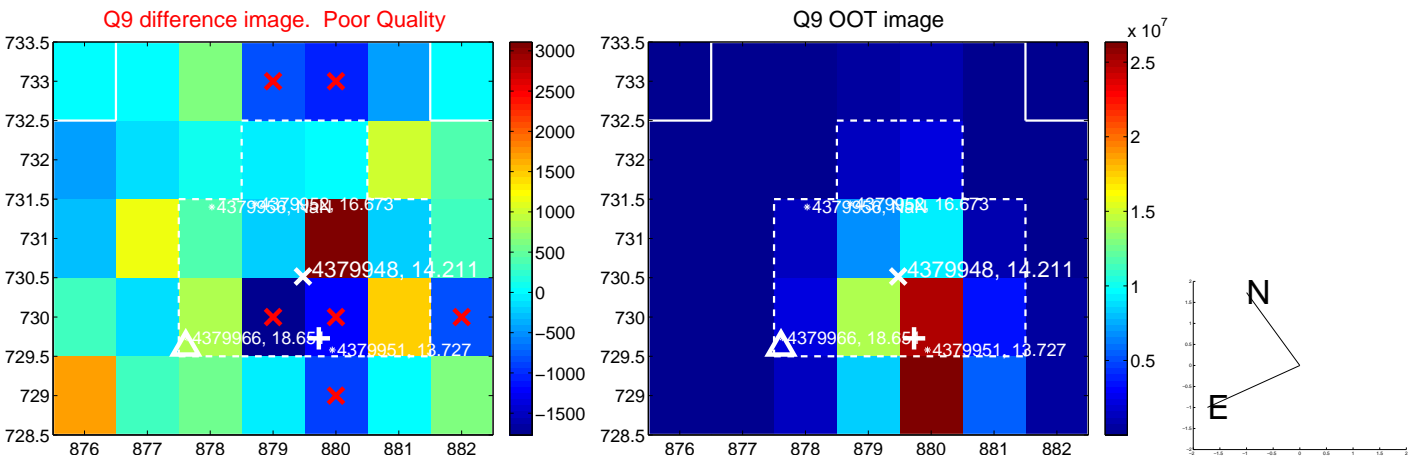
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



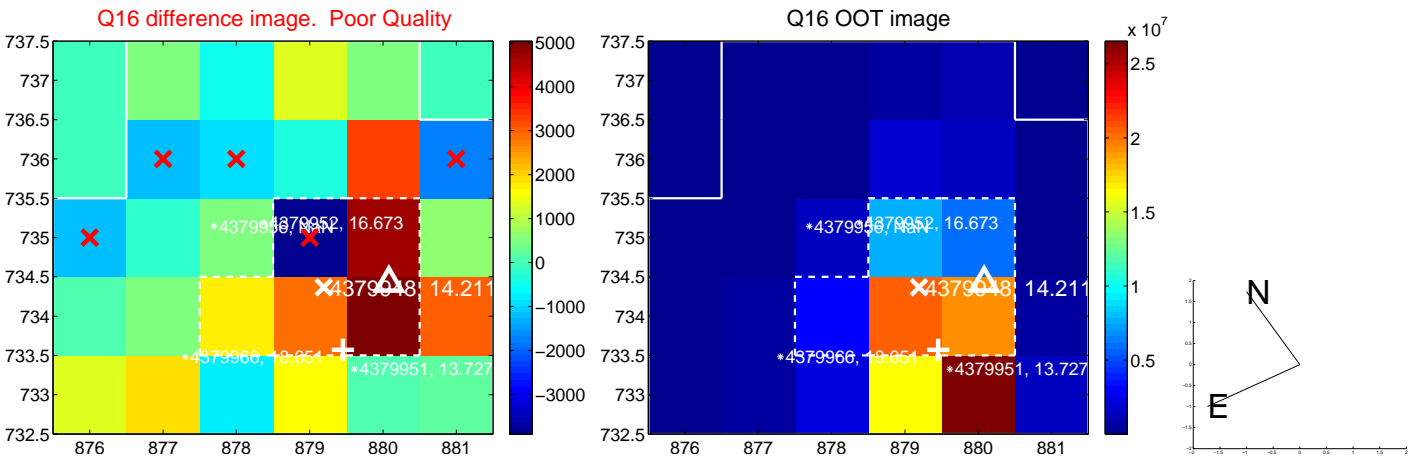
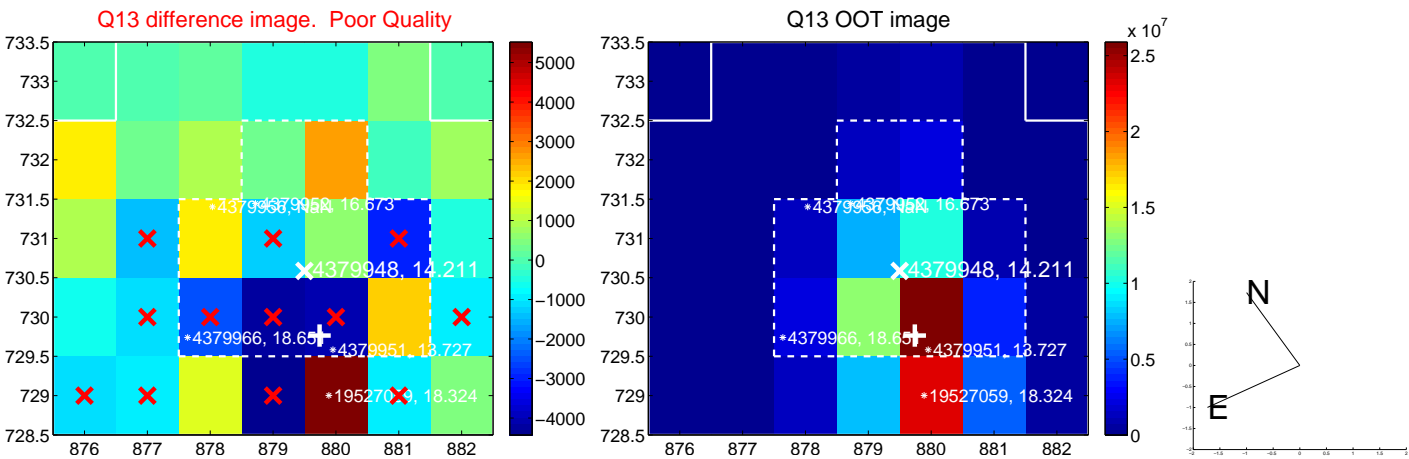
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



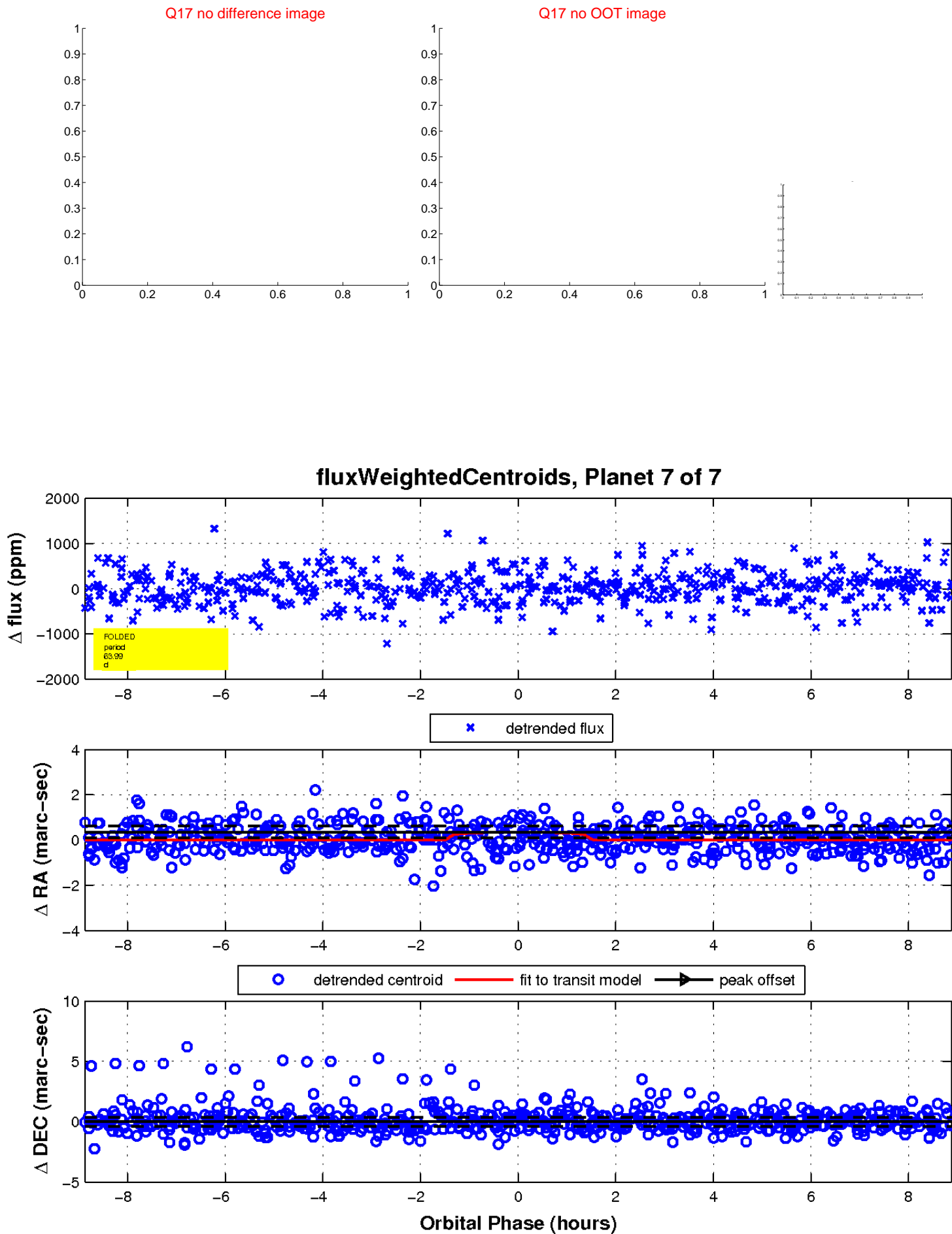
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

