

KIC 007839007

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})
007839007-01	OBS	No	0.605752	131.993795	18.9	4.178	8.7	6.7	0.92	5963	0.47	5068.13
007839007-02	OBS	No	28.362360	153.801265	581.3	1.054	7.9	7.6	0.92	5963	2.43	30.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007839007-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
007839007-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

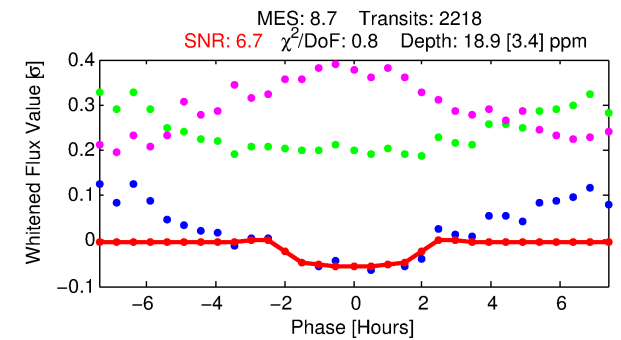
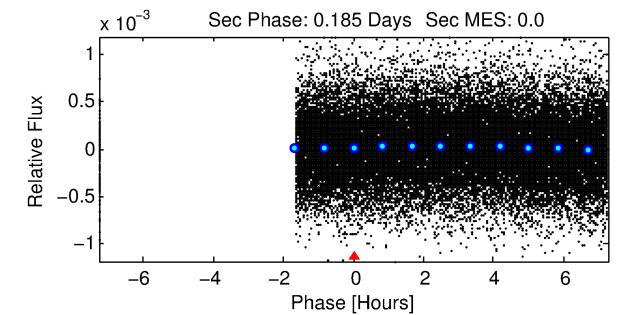
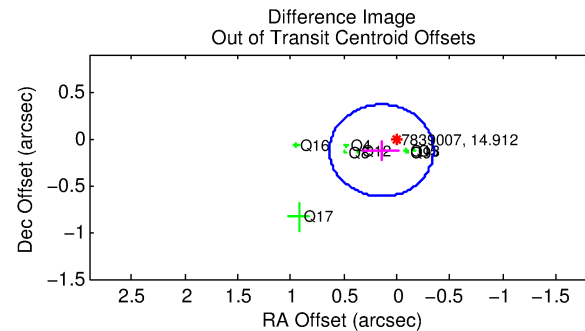
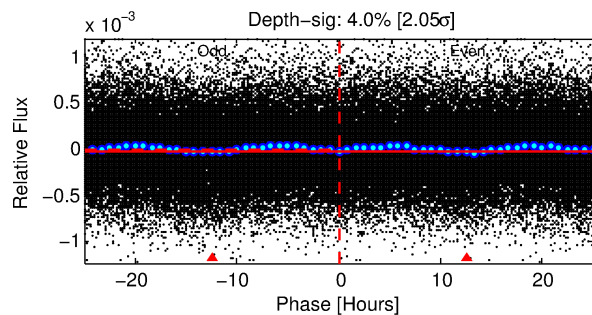
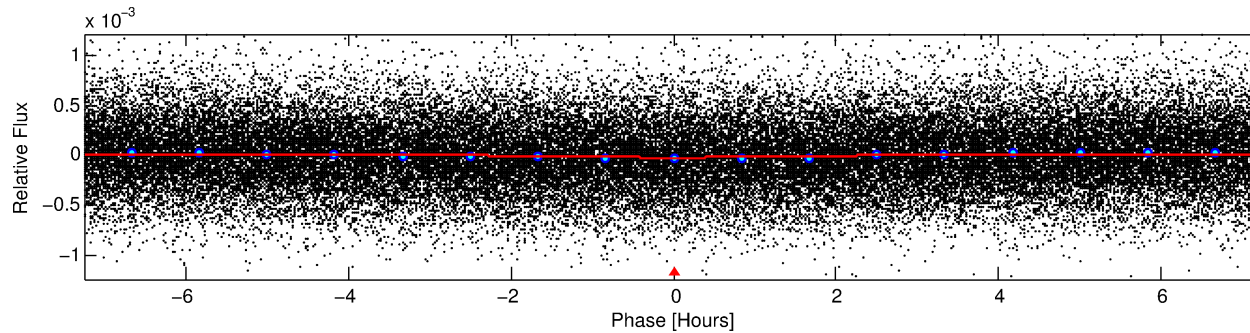
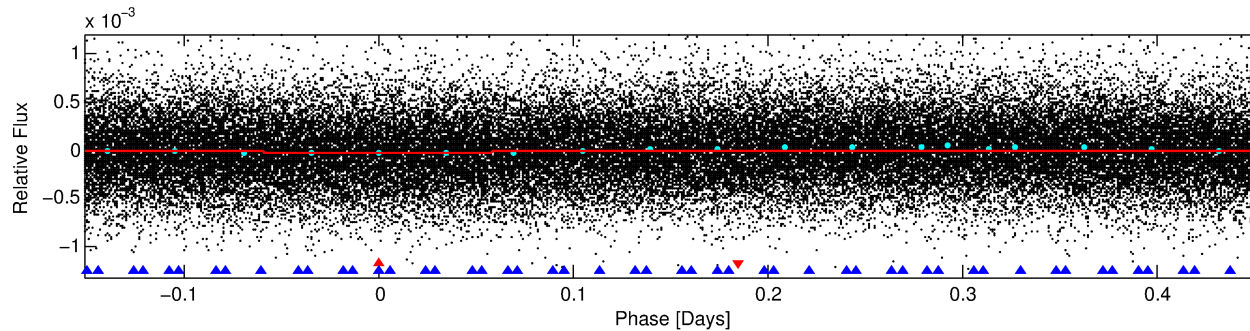
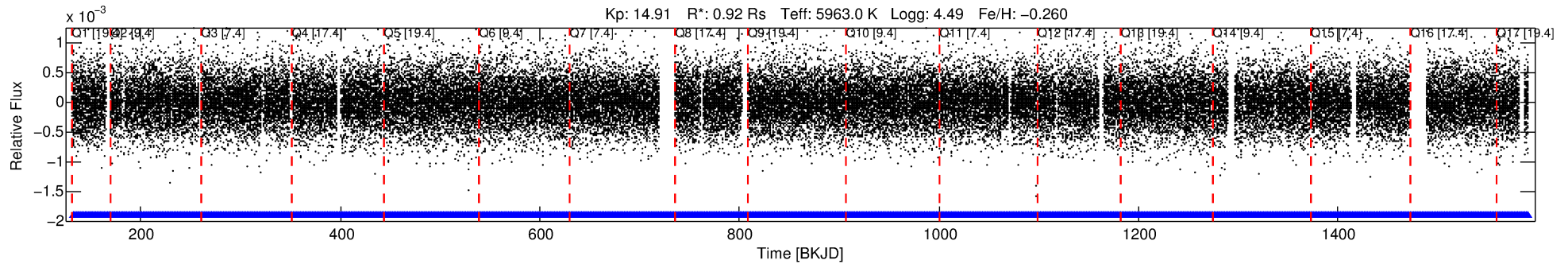
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007839007-01

No Significant Match Found

DV One-Page Summary

KIC: 7839007 Candidate: 1 of 2 Period: 0.606 d



DV Fit Results:

Period = 0.60575 [0.00002] d
Epoch = 131.9938 [0.0071] BKJD
Rp/R* = 0.0046 [0.0058]
a/R* = 1.07 [0.92]
b = 0.88 [1.66]
Seff = 5068.13 [2037.99]
Teq = 2151 [216] K
Rp = 0.47 [0.60] Re
a = 0.0138 [0.0036] AU
Ag = N/A
Teffp = N/A

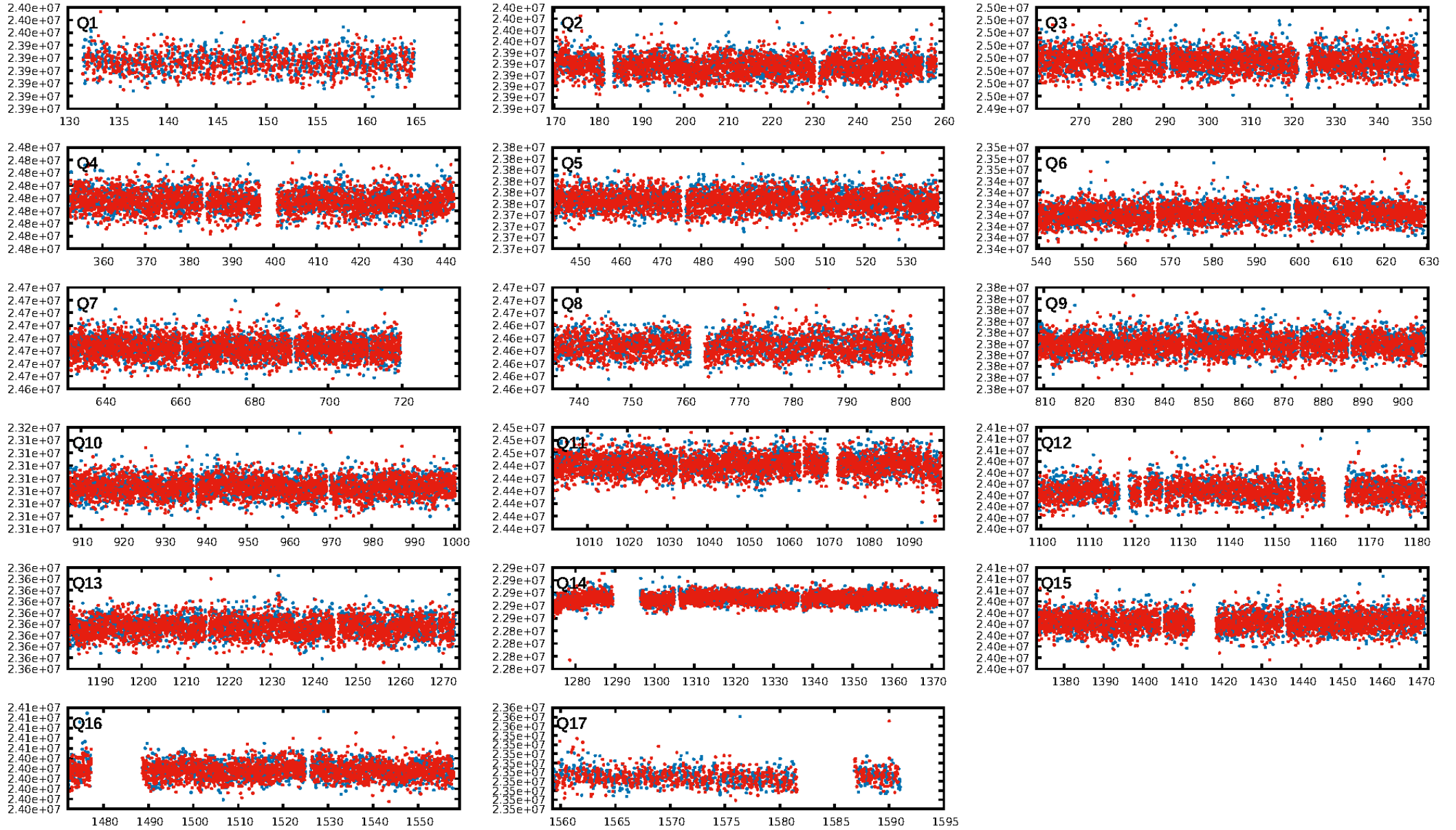
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [154.60 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.11e-11
RollingBand-fgt: 1.00 [2119/2119]
GhostDiagnostic-chr: -8.528
Centroid-sig: 0.1%
Centroid-so: 2.935 arcsec [2.41 σ]
OotOffset-rm: 0.191 arcsec [1.17 σ]
OotOffset-st: 0/0/4/4 [8]
KicOffset-rm: 9.786 arcsec [100.78 σ]
KicOffset-st: 0/0/4/4 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [17/17]

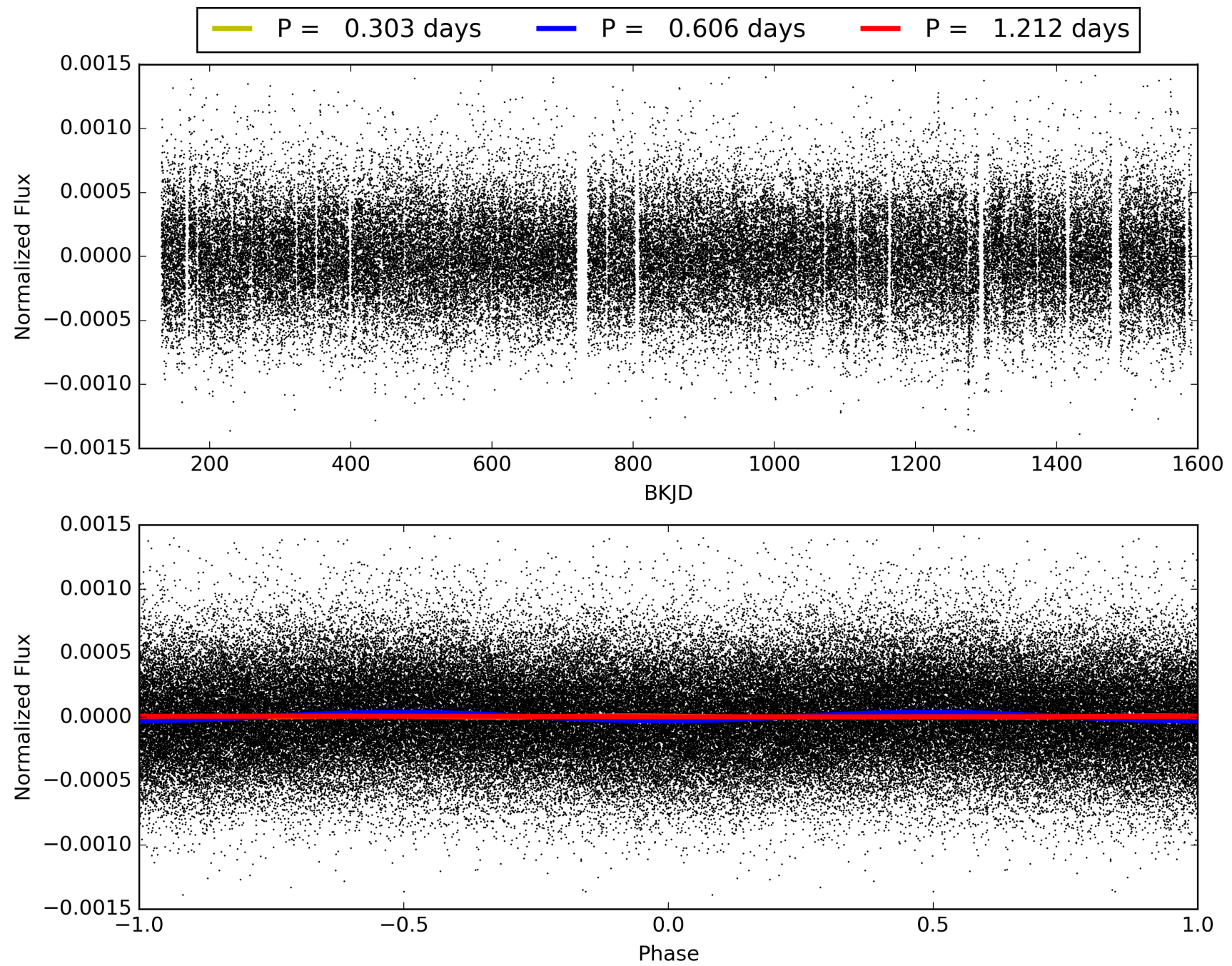
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:10:08 Z

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

TCE 007839007-01, PDC Light Curves

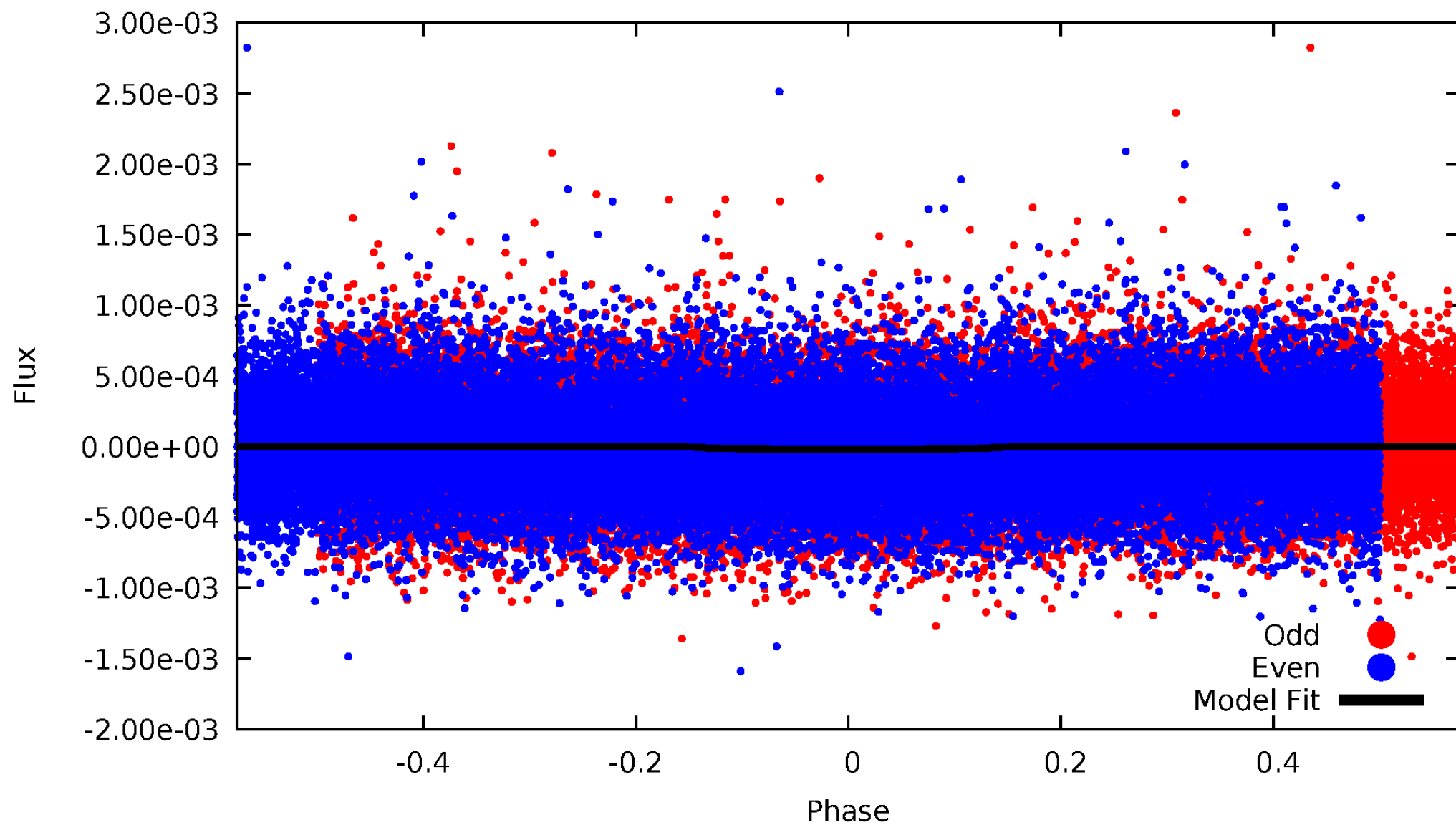


TCE 007839007-01



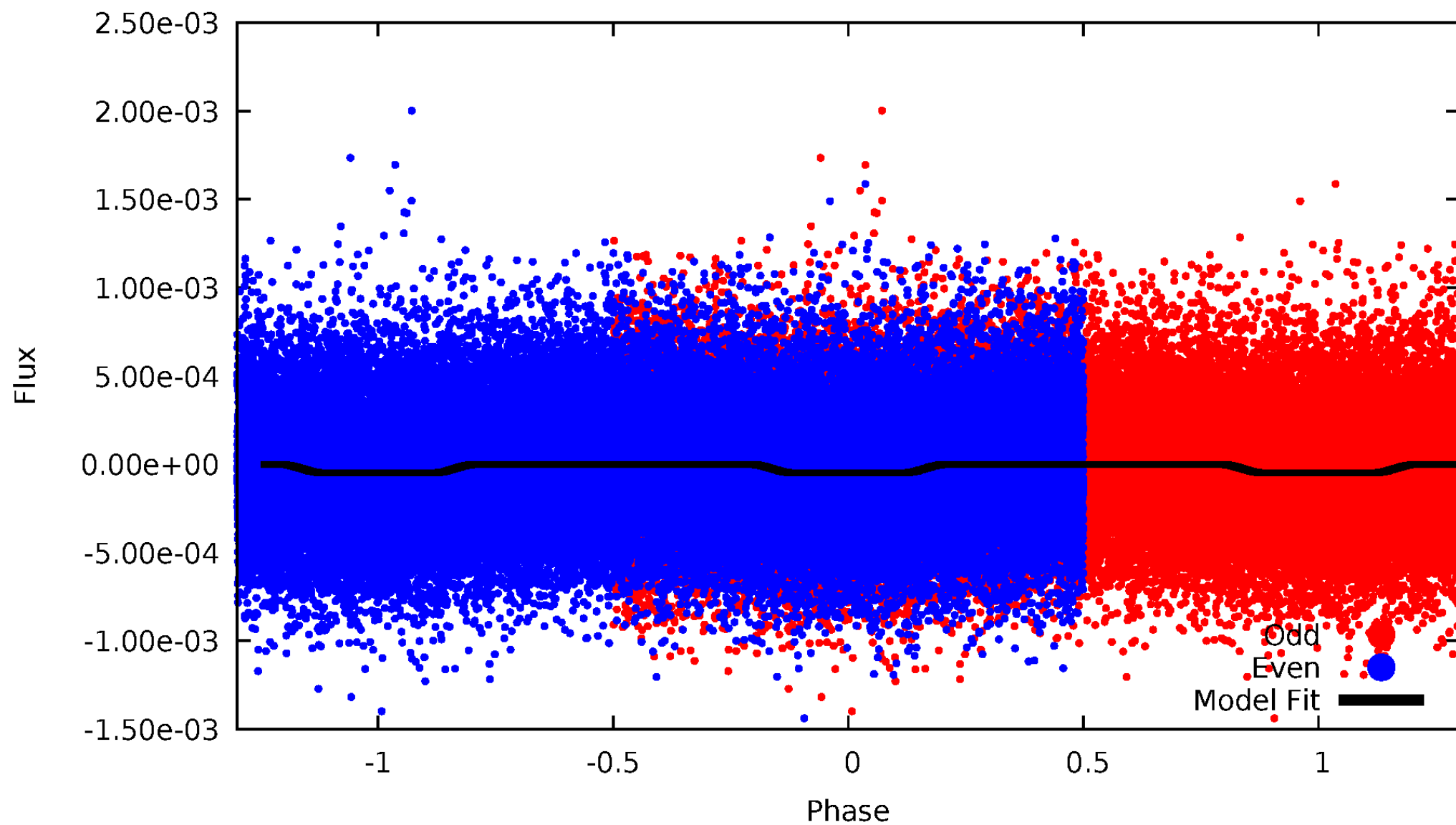
DV Odd/Even

TCE 007839007-01

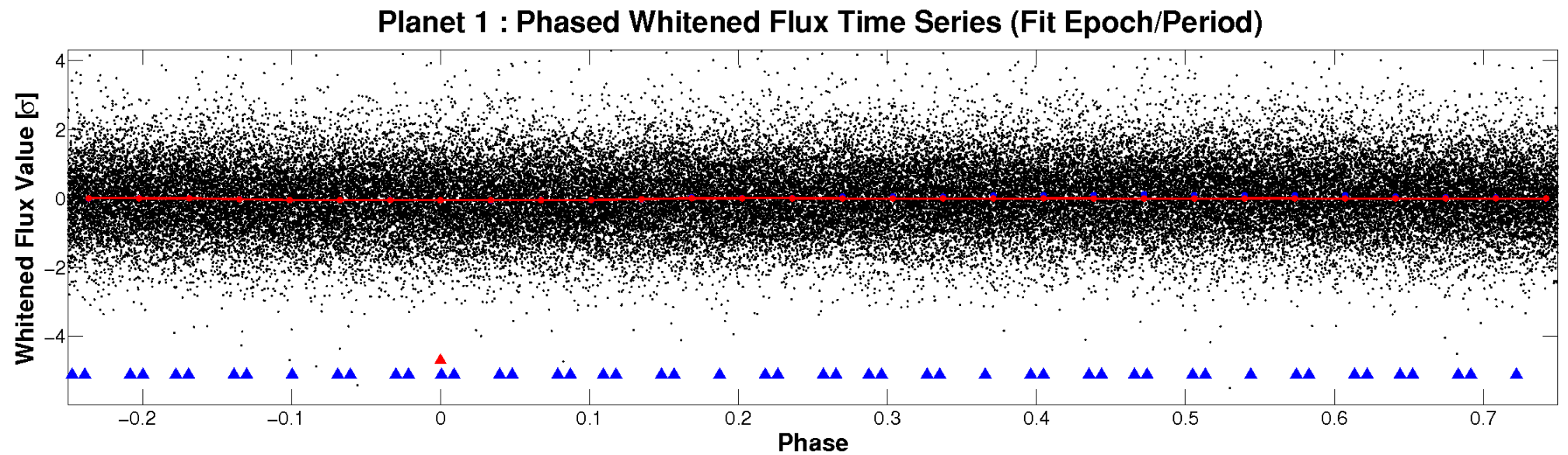
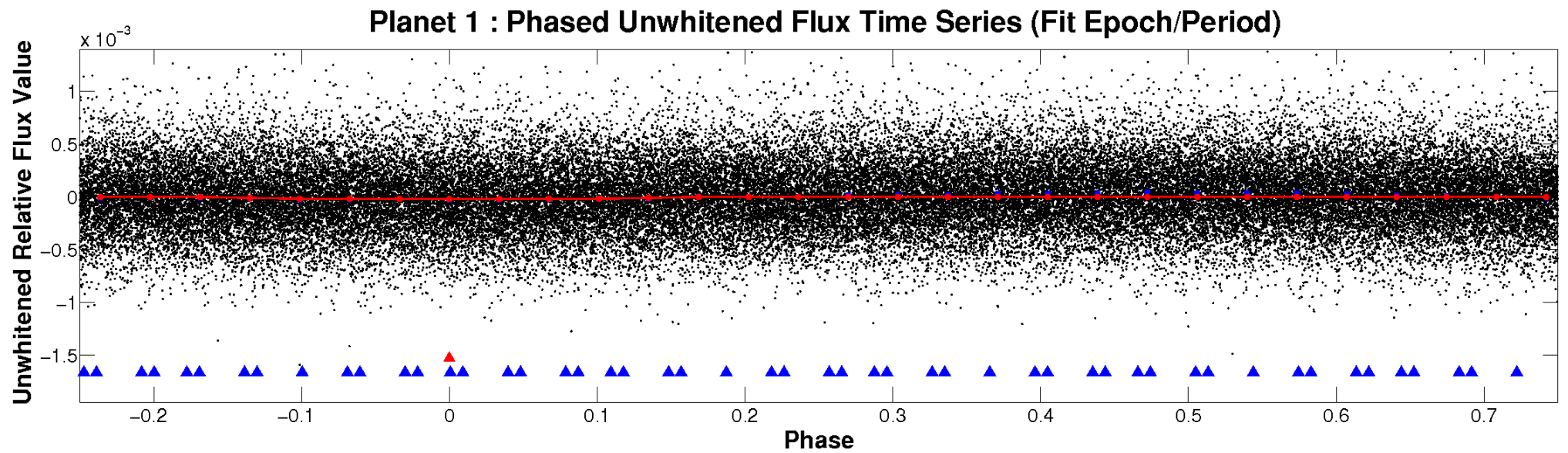


ALT Odd/Even

TCE 007839007-01

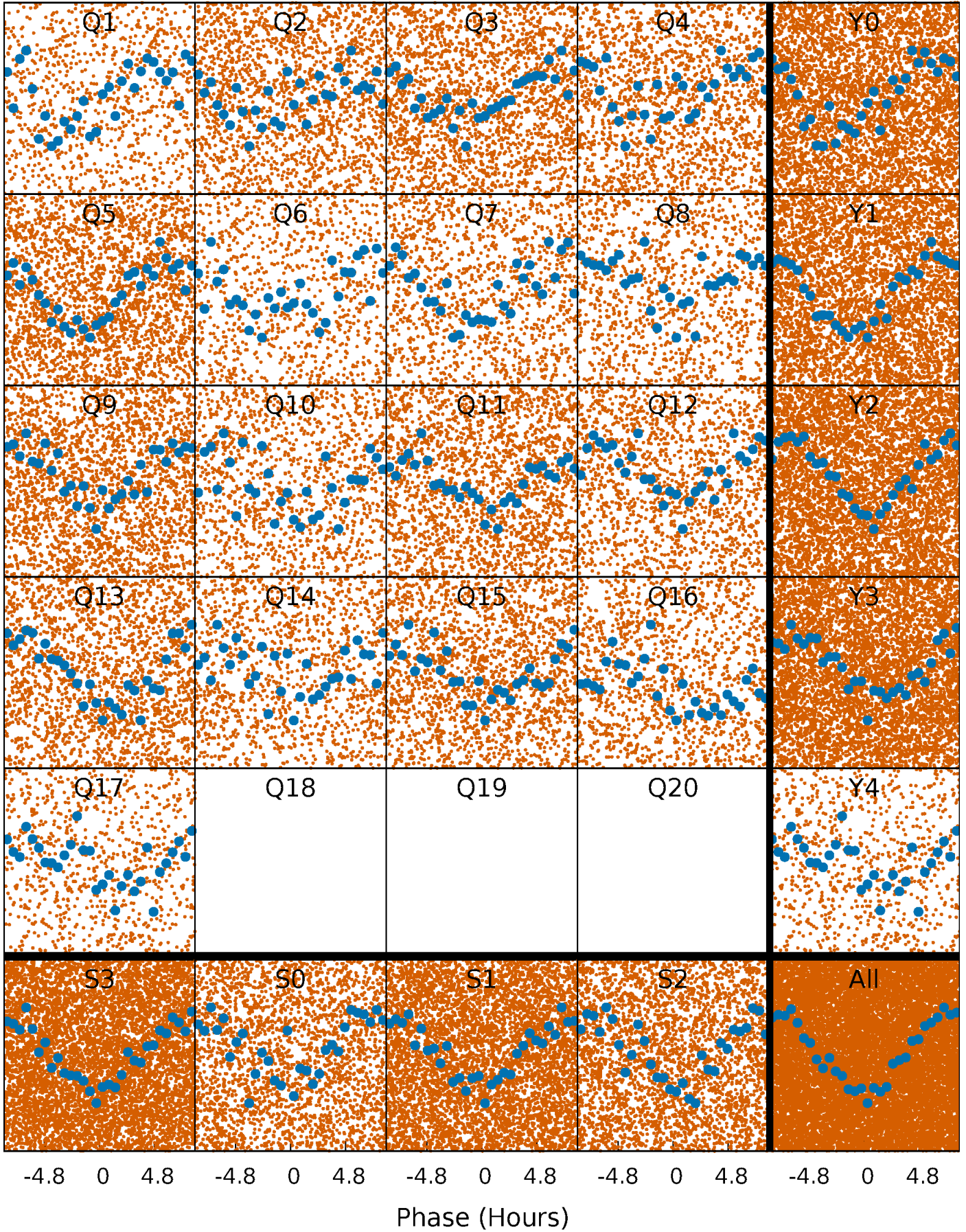


Non-Whitened Vs. Whitened Light Curve



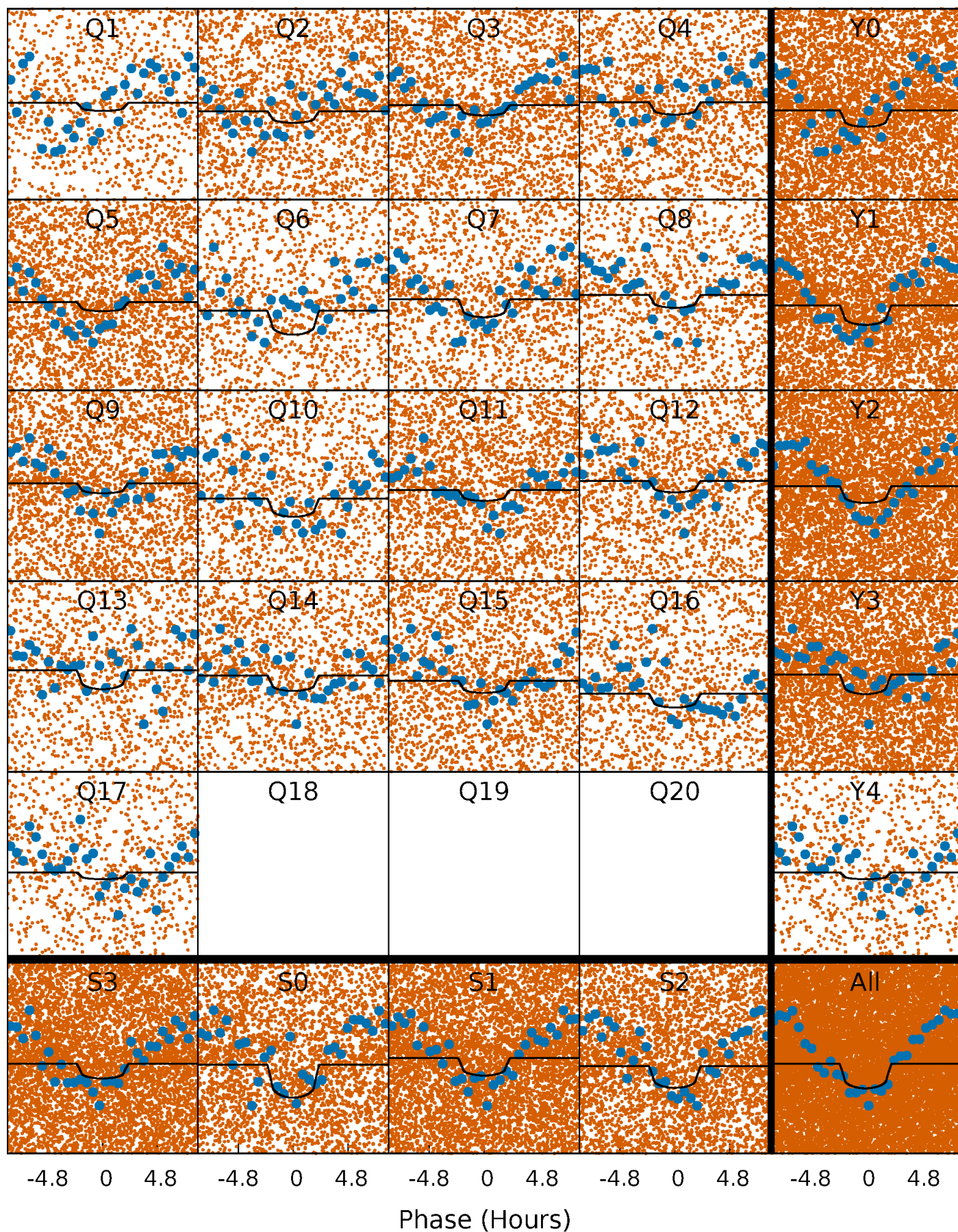
PDC Quarter-Phased Transit Curves

TCE 007839007-01 P= 0.605752 Days $T_0=131.993795$ (BKJD)



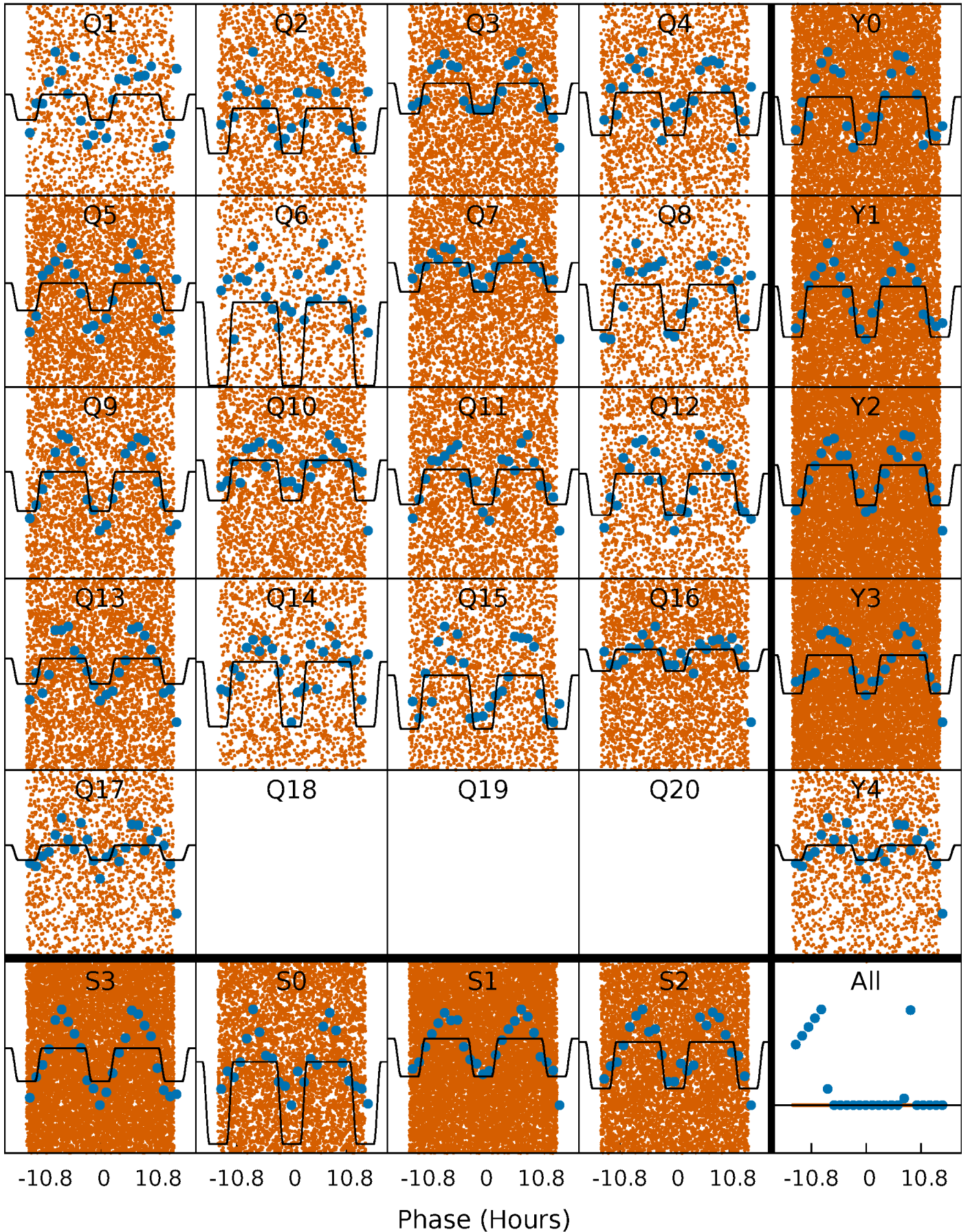
DV Quarter-Phased Transit Curves

TCE 007839007-01 P= 0.605752 Days $T_0=131.993795$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

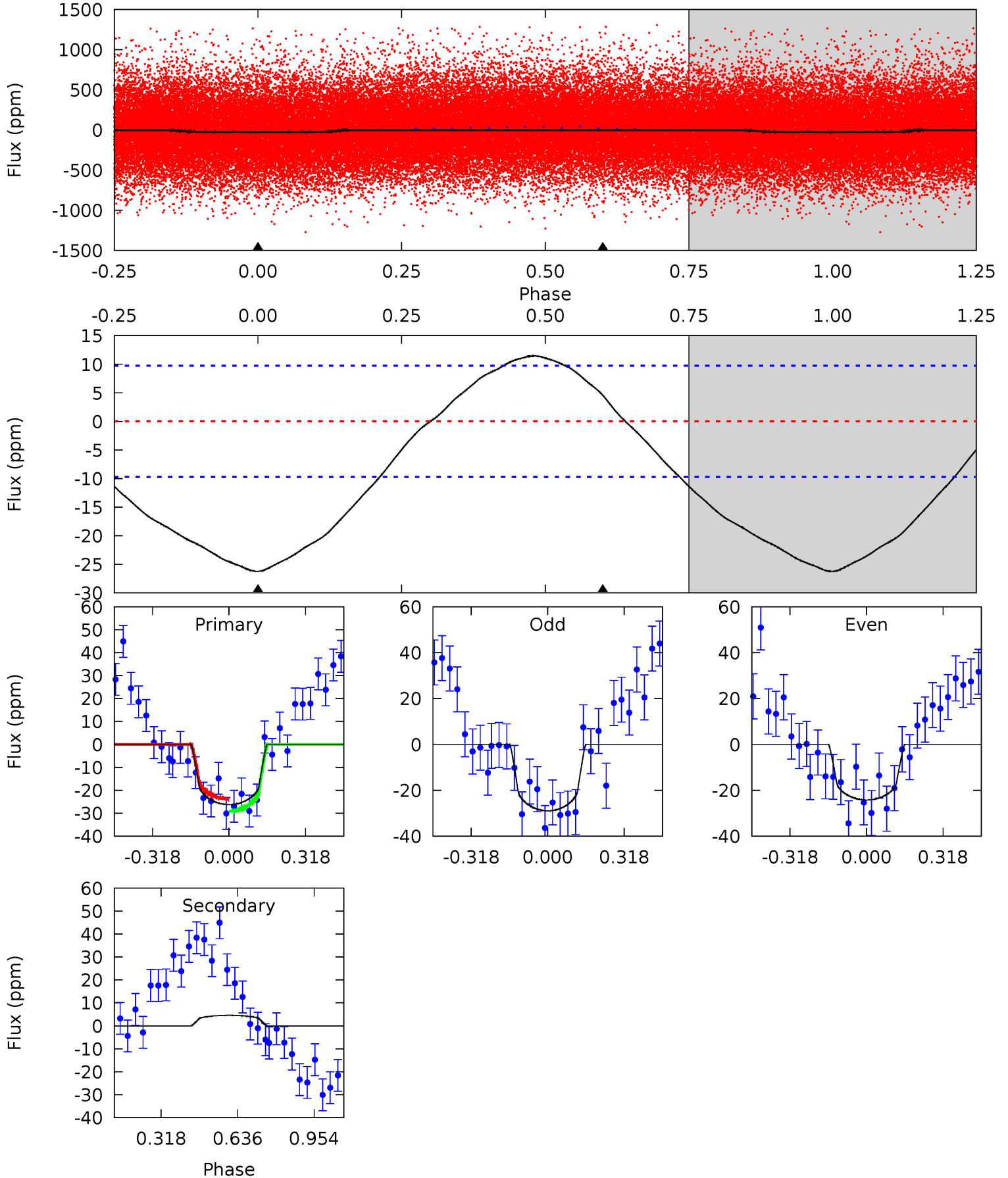
TCE 007839007-01 P= 0.605805 Days $T_0=131.925100$ (BKJD)



DV Model-Shift Uniqueness Test

007839007-01, P = 0.605752 Days, E = 131.388043 Days

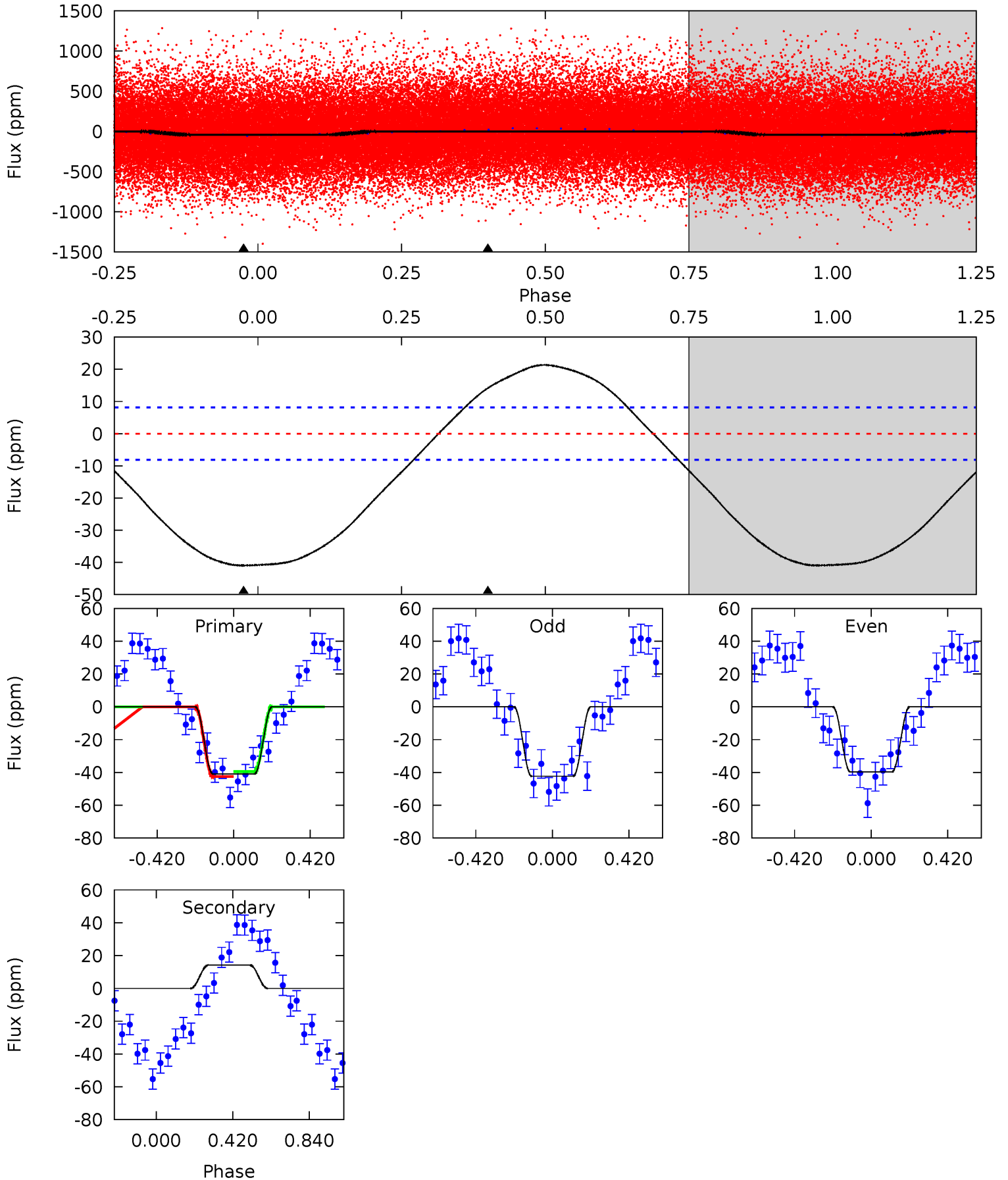
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	-2.02	0	0	4.32	1.00	1.16	11.6	11.6	-2.02	-2.02	1.05	1.03	0.30	1.19



Alt Model-Shift Uniqueness Test

007839007-01, P = 0.605805 Days, E = 131.319295 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.4	-7.41	0	0	4.25	0.81	2.78	21.4	21.4	-7.41	-7.41	0.68	1.07	0.34	0.75



Stellar Parameters For KIC 007839007

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5963^{+161}_{-196}	$4.487^{+0.065}_{-0.208}$	$-0.260^{+0.300}_{-0.300}$	$0.922^{+0.285}_{-0.095}$	$0.953^{+0.118}_{-0.107}$	$1.710^{+0.564}_{-0.864}$
	+3%/-3%	+1%/-5%	+115%/-115%	+31%/-10%	+12%/-11%	+33%/-50%
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 007839007-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	5 ± 2	$0.68^{+0.56}_{-0.44}$	3060^{+226}_{-148}	-3958^{+525}_{-1755}	$-0.956^{+0.730}_{-6.418}$
Alt.	14 ± 2	$0.83^{+0.60}_{-0.48}$	3045^{+210}_{-140}	-4465^{+645}_{-1974}	$-2.111^{+1.402}_{-10.069}$

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

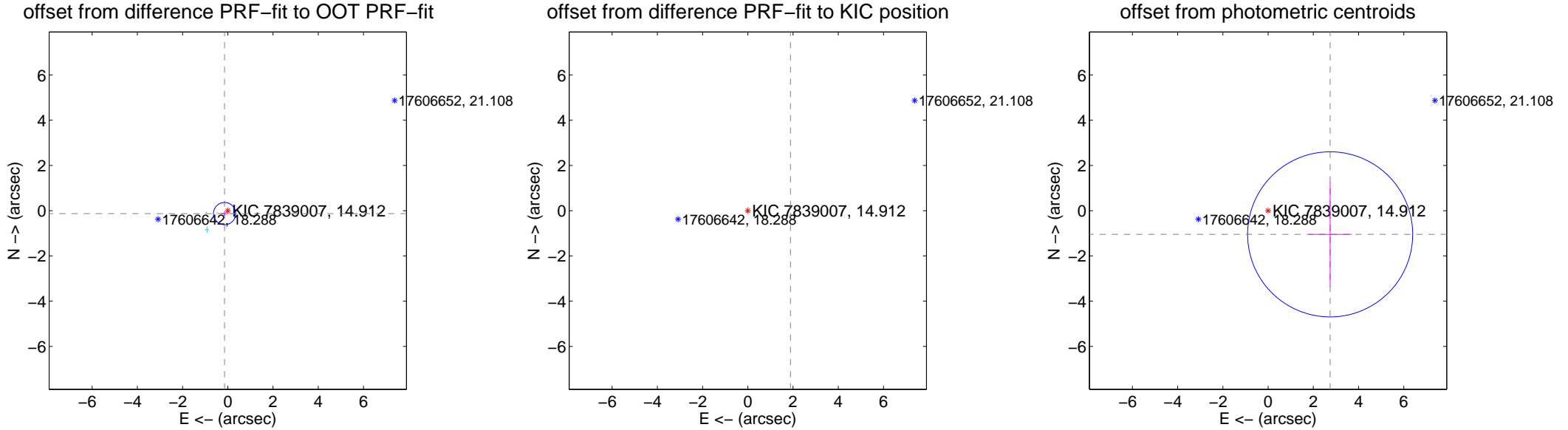
DV Centroid Data

Supplemental centroid analysis for 007839007-01. Kepler magnitude: 14.91. Transit SNR 6.75

There are 8 quarters with good PRF difference image offsets

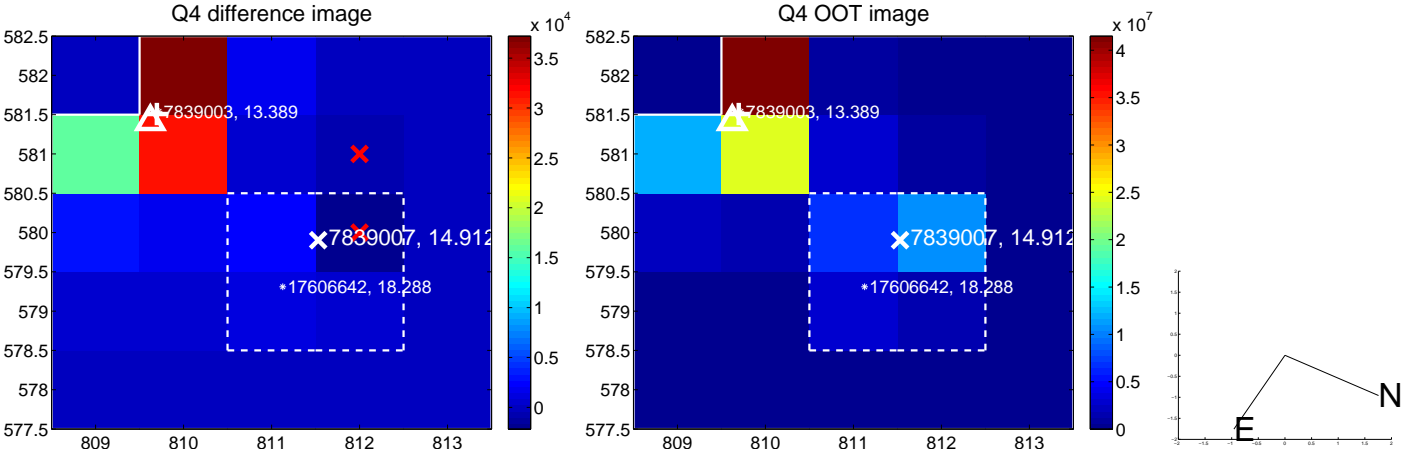
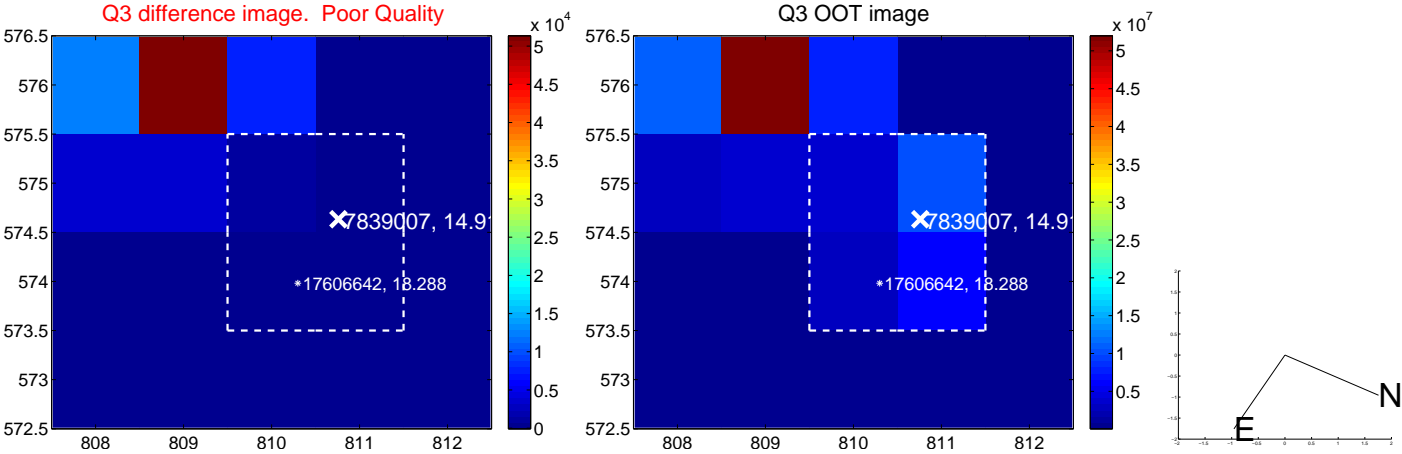
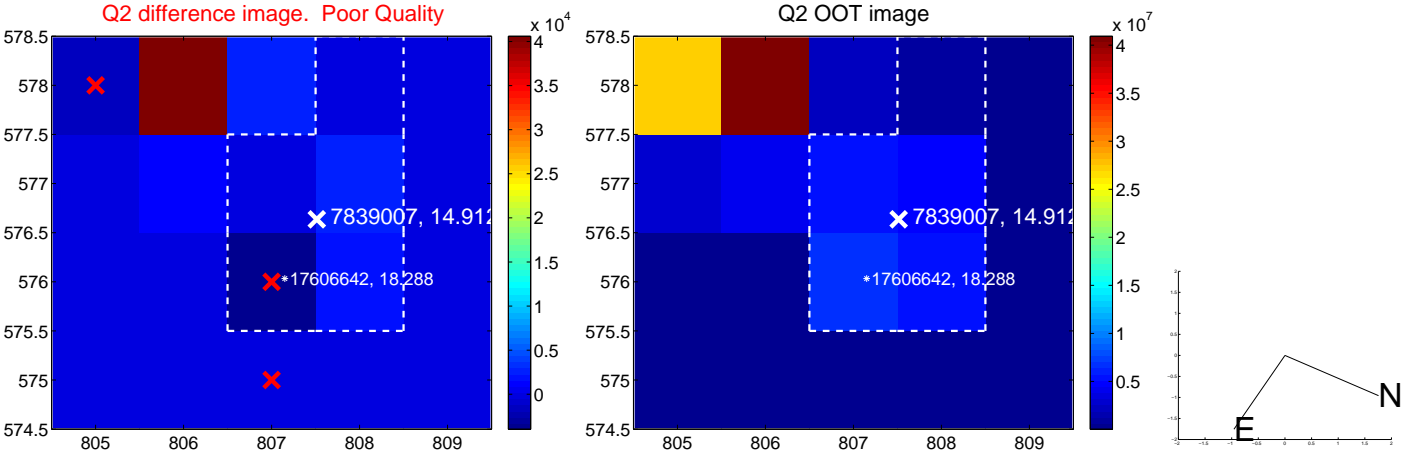
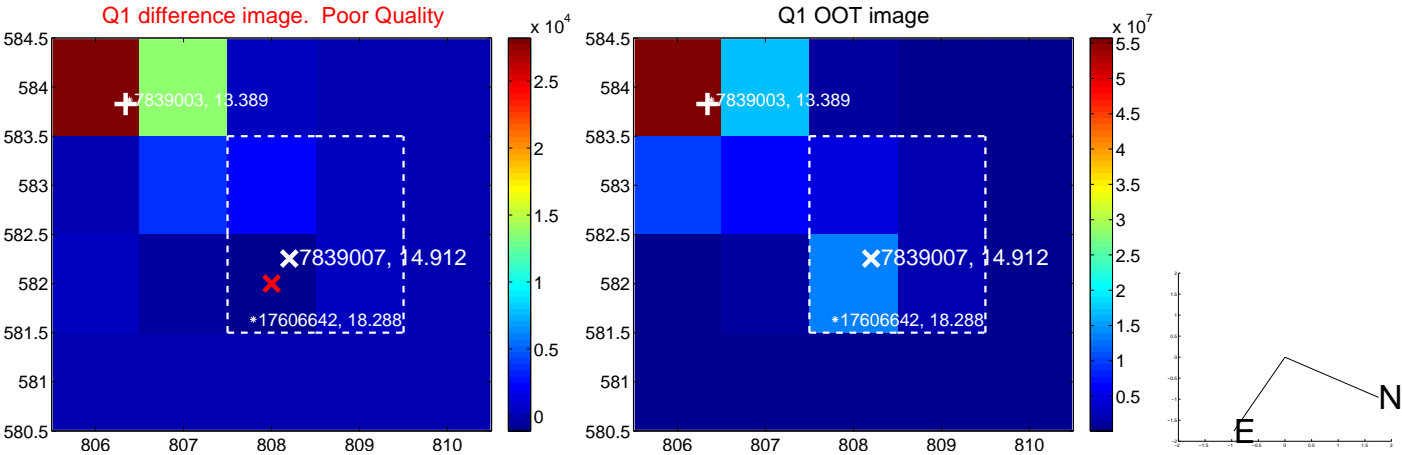
The OOT PRF centroid is offset from the target star catalog position by about 9.70 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.191 ± 0.164	1.17	0.143 ± 0.165	-0.128 ± 0.107
PRF-fit source offset from KIC position	9.786 ± 0.097	100.78	-1.886 ± 0.154	-9.602 ± 0.109
photometric centroid source offset	2.94 ± 1.22	2.41	-2.74 ± 0.95	-1.05 ± 2.32

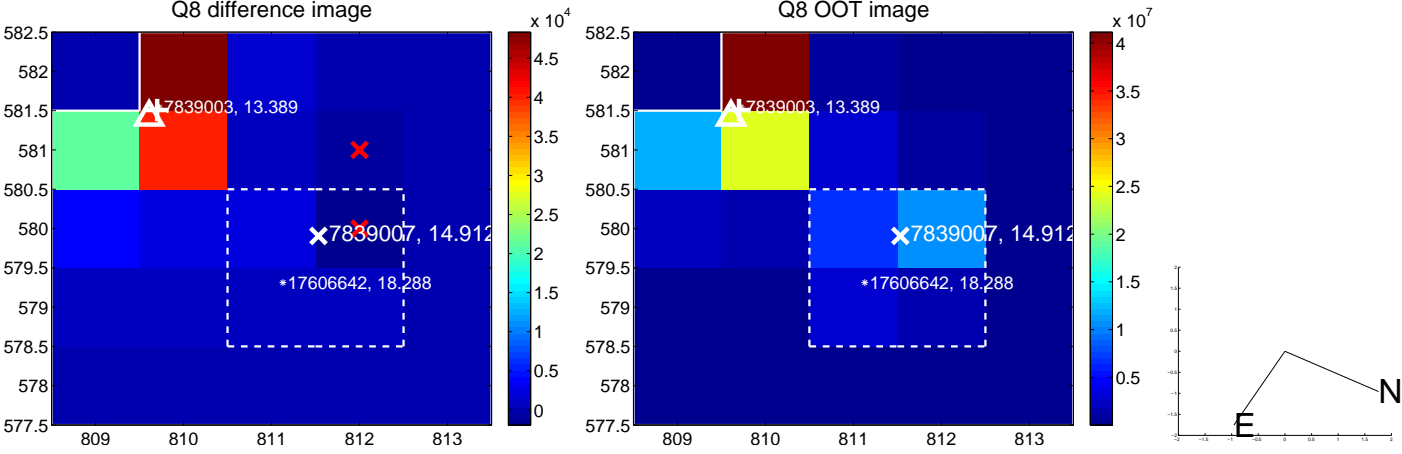
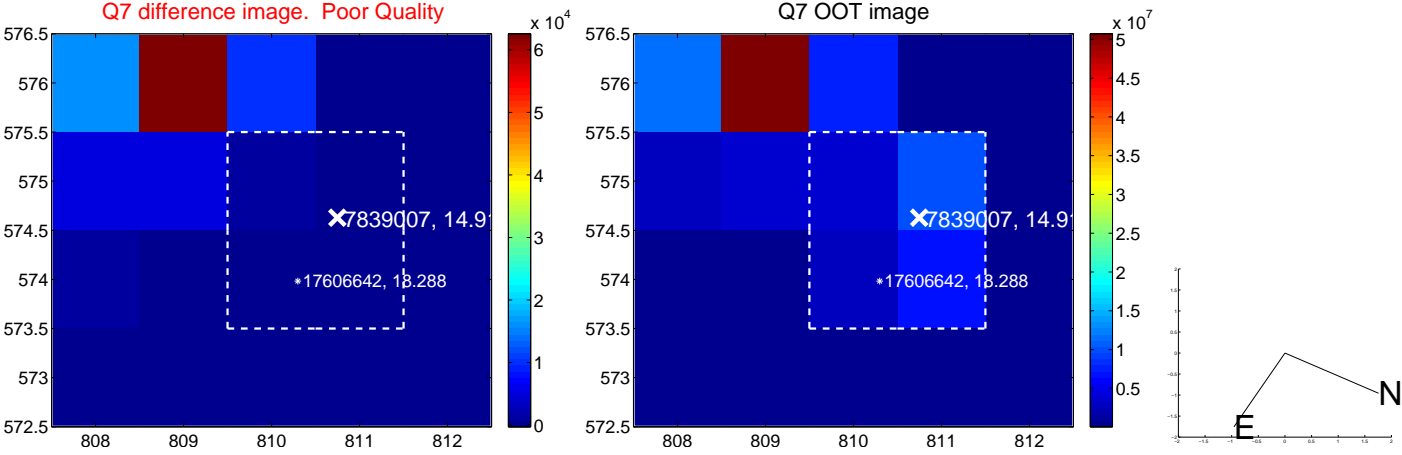
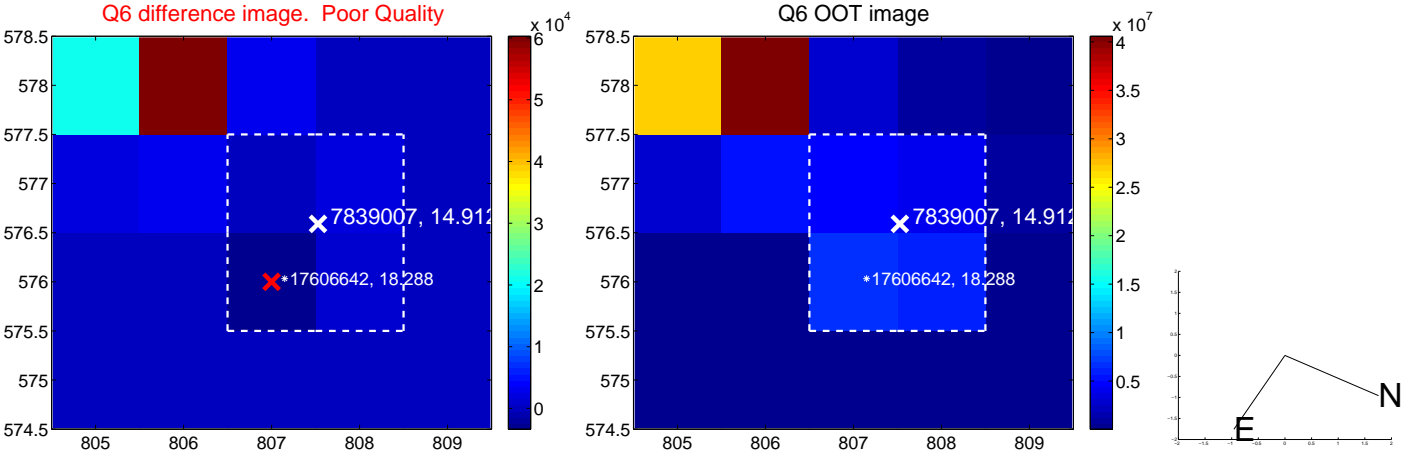
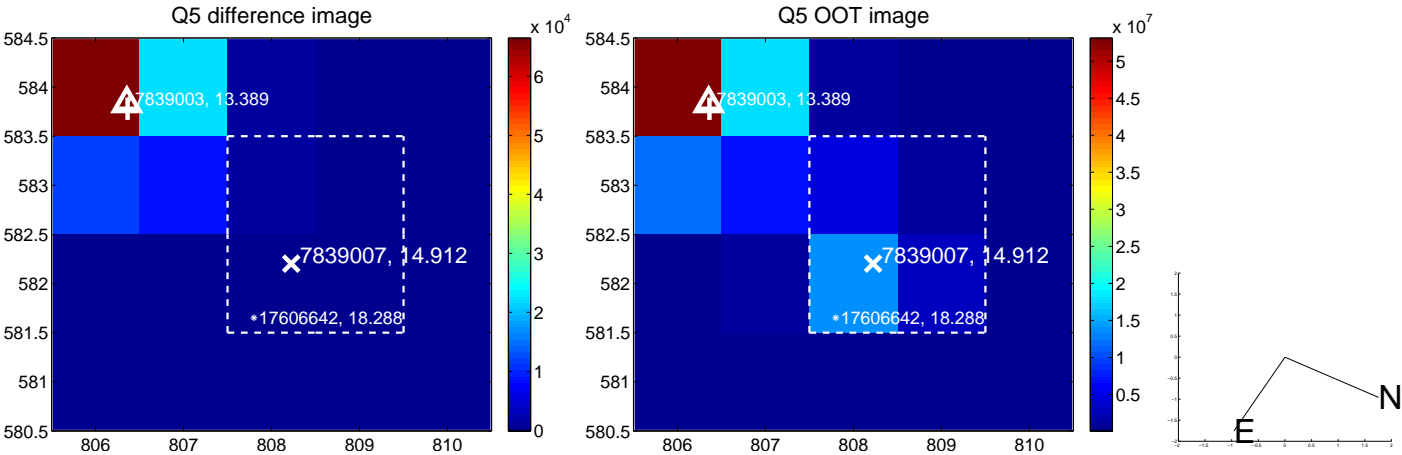


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

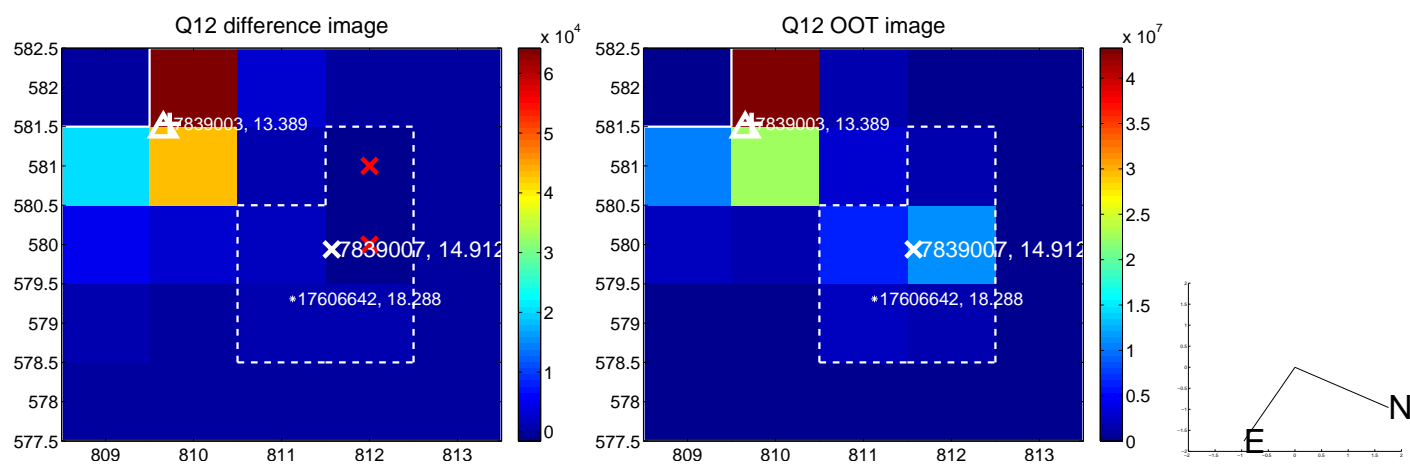
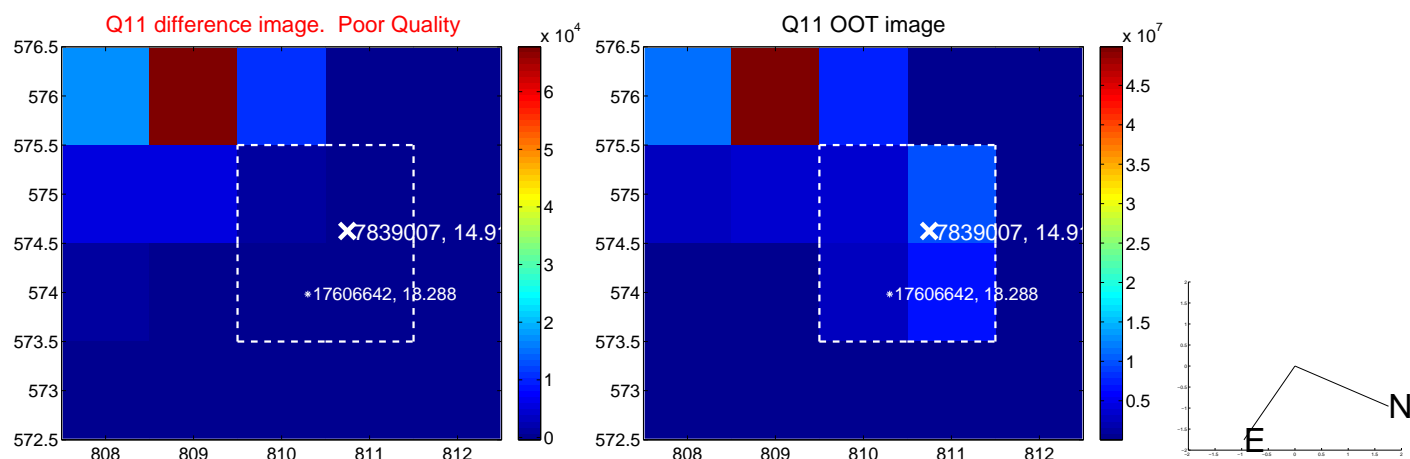
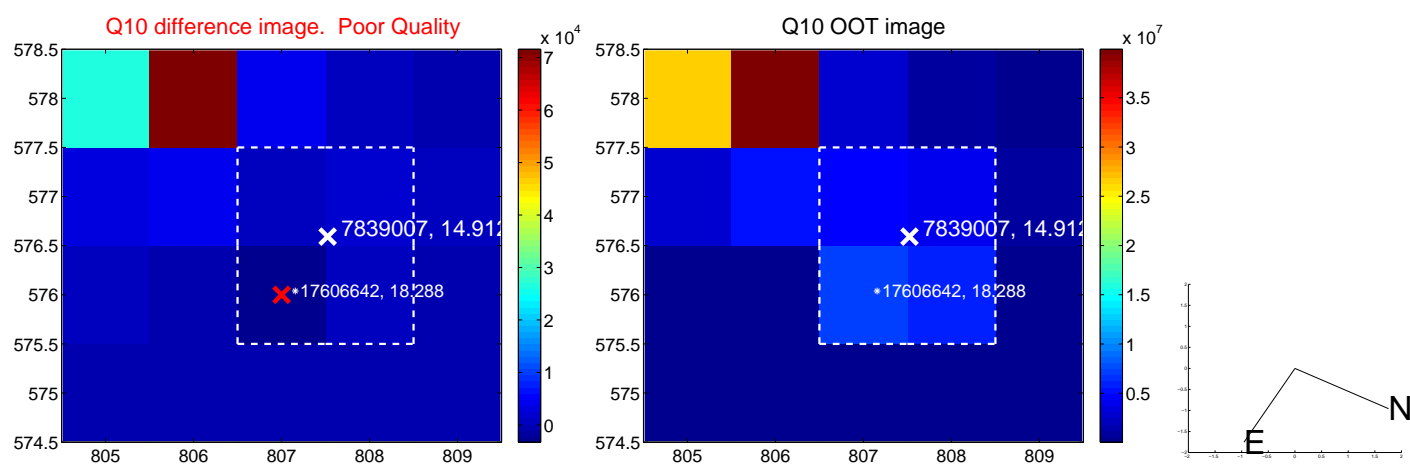
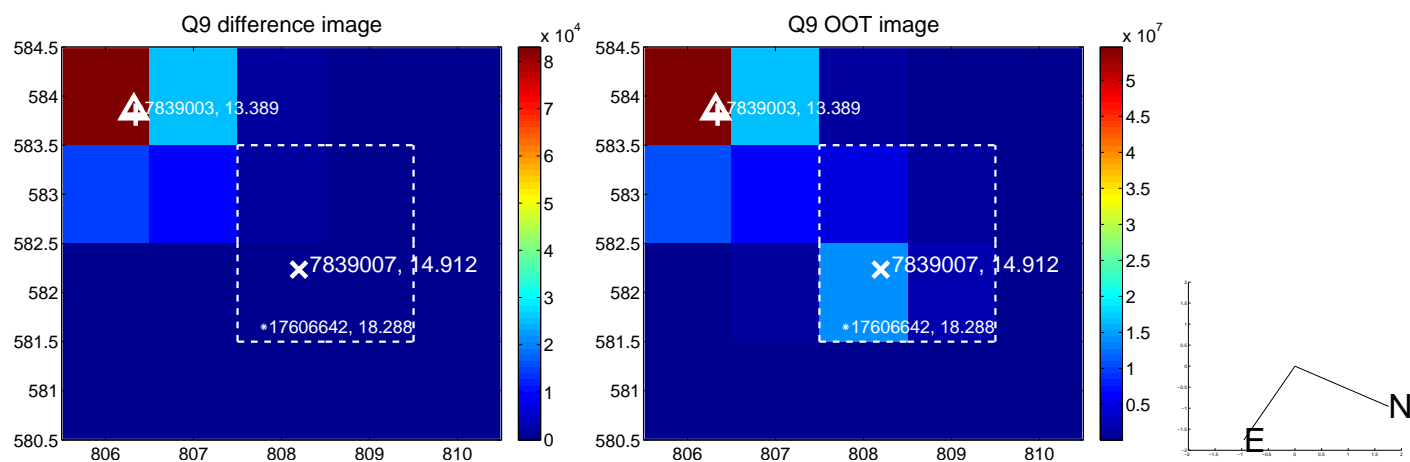
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



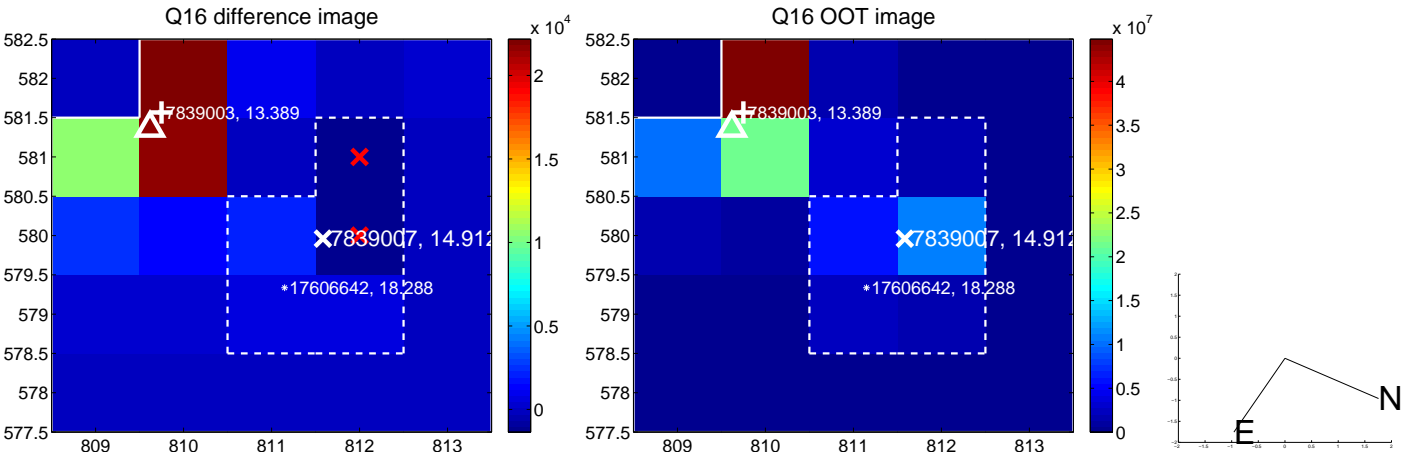
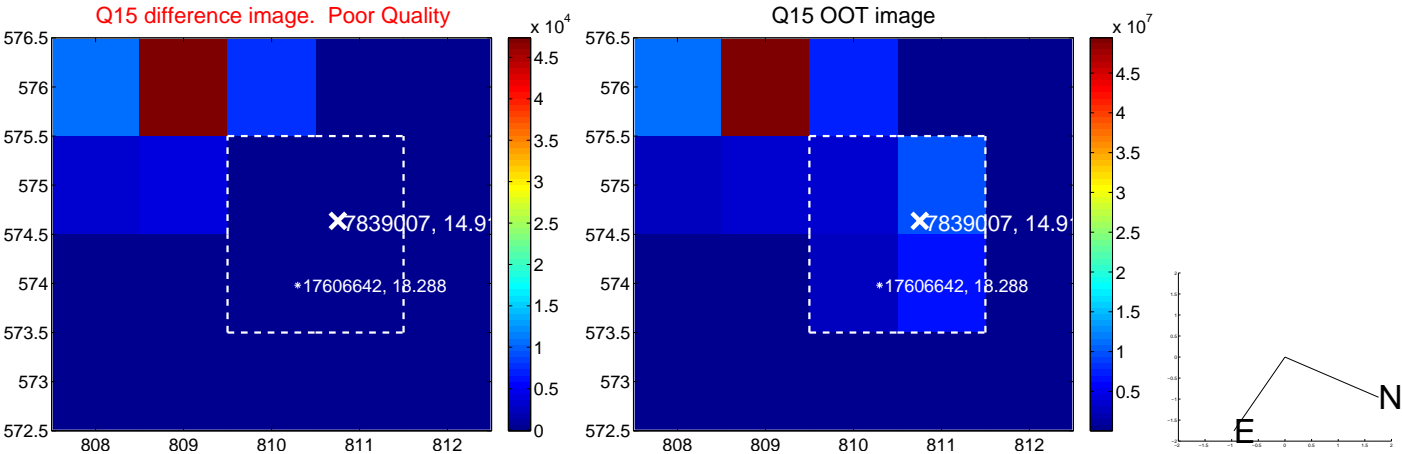
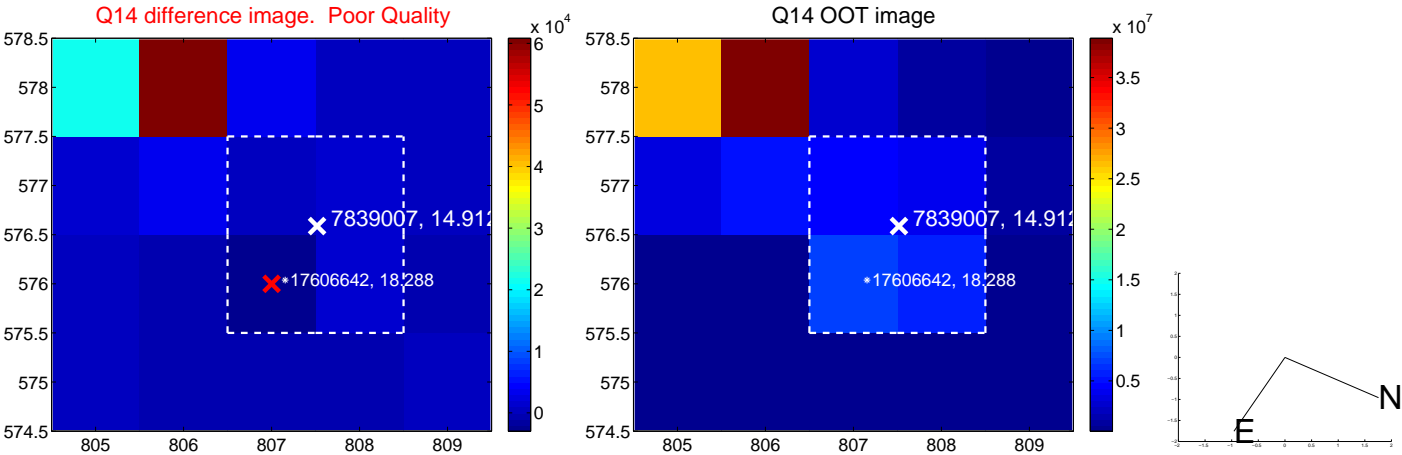
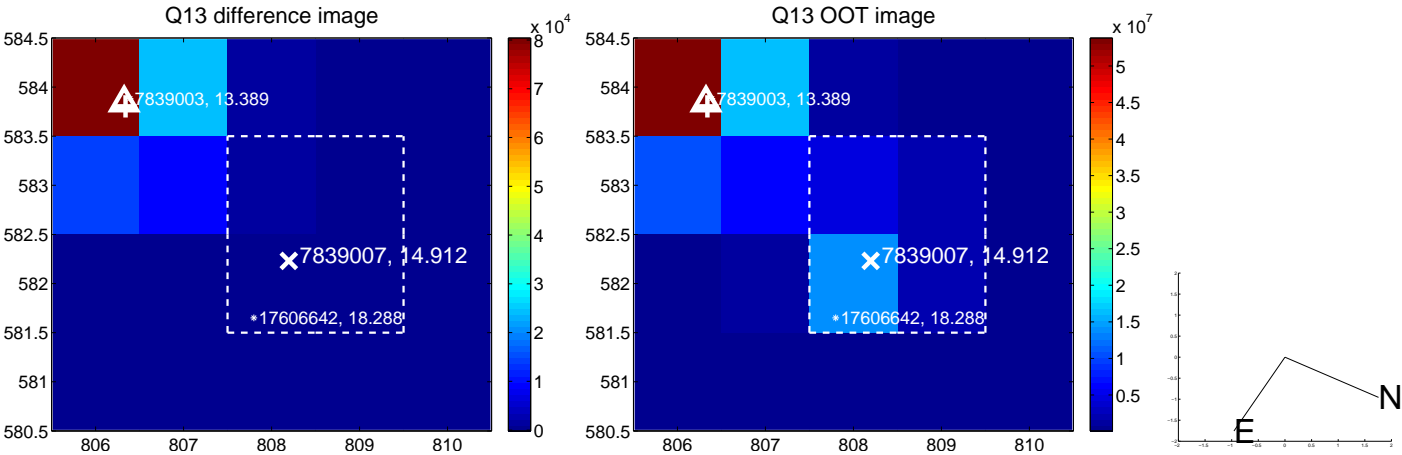
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



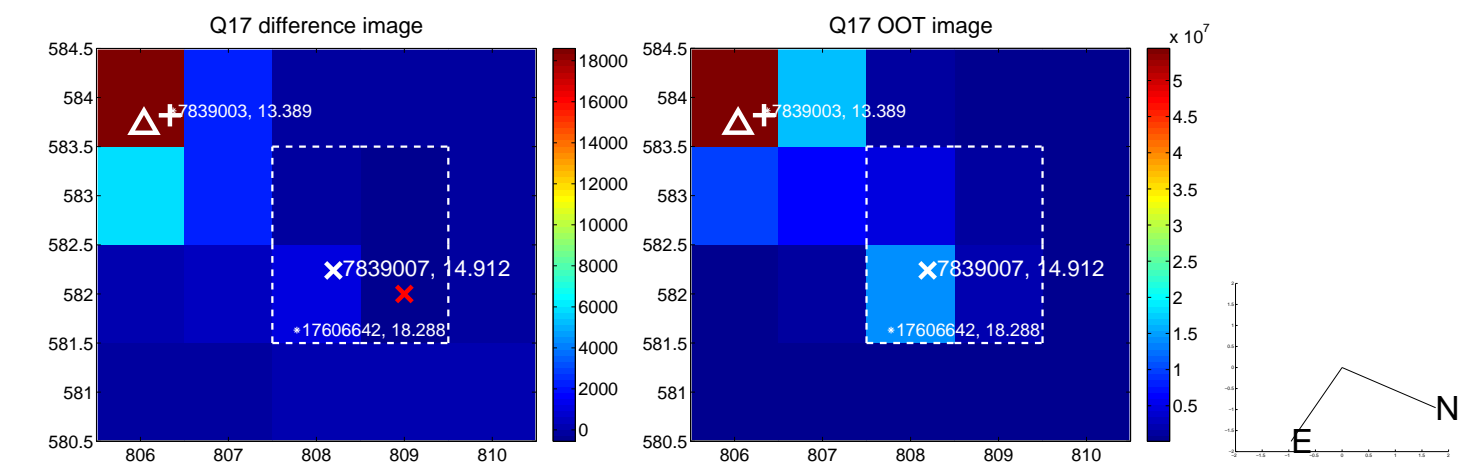
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



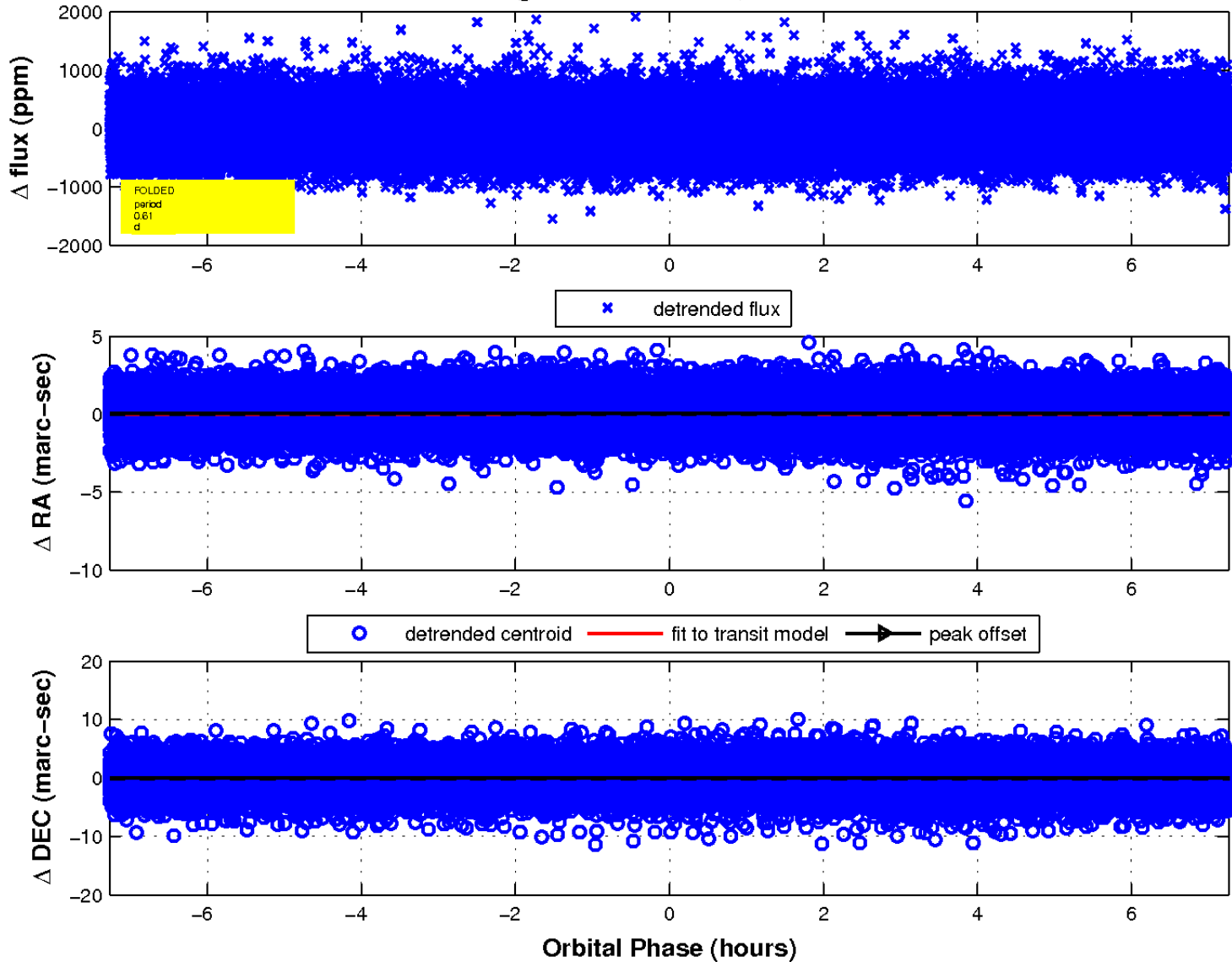
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

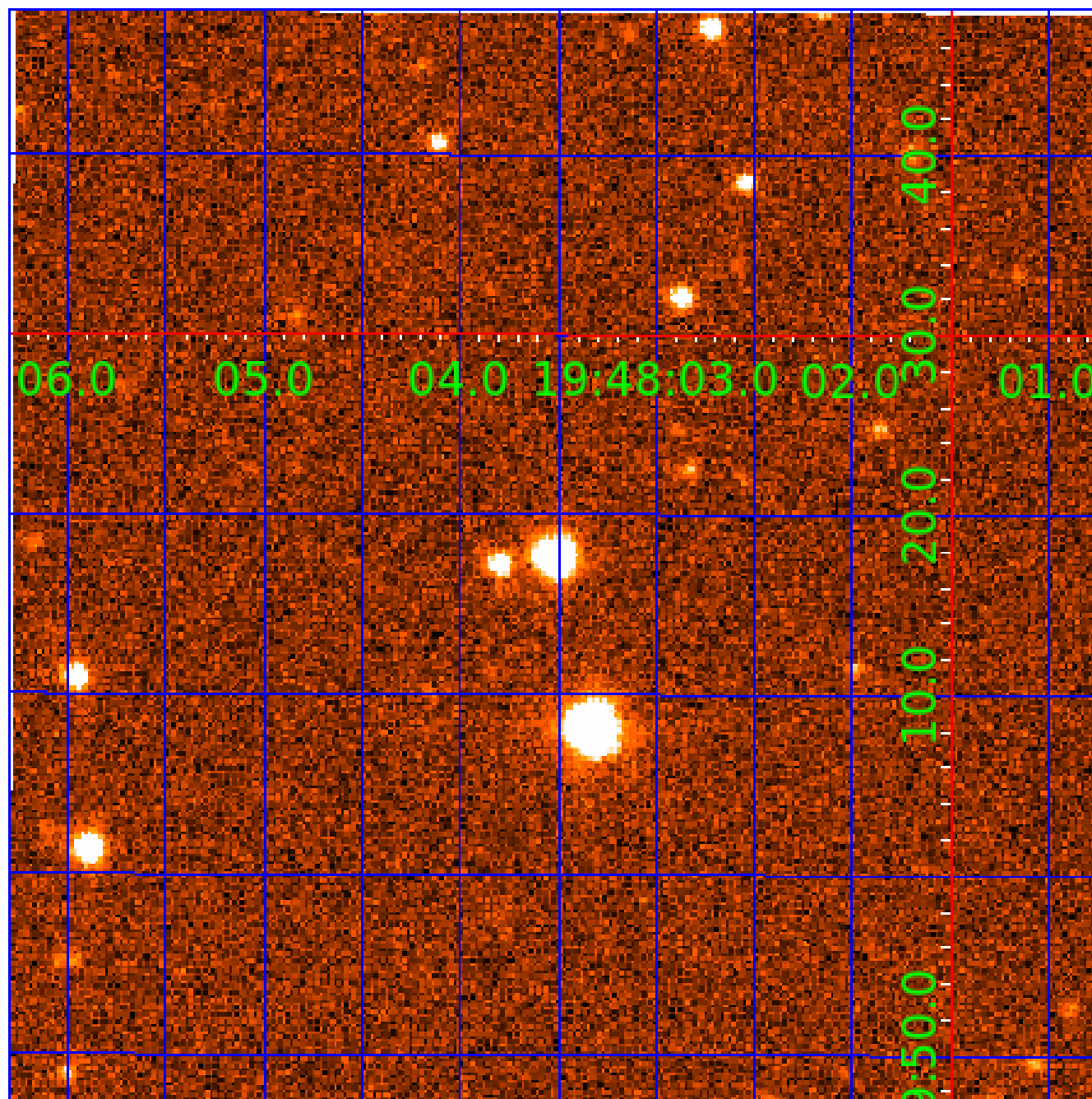


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007839007

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})
007839007-01	OBS	No	0.605752	131.993795	18.9	4.178	8.7	6.7	0.92	5963	0.47	5068.13
007839007-02	OBS	No	28.362360	153.801265	581.3	1.054	7.9	7.6	0.92	5963	2.43	30.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007839007-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
007839007-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

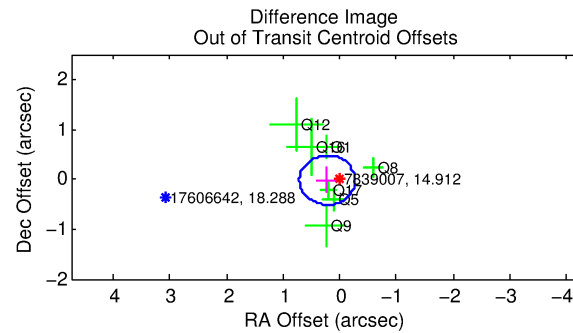
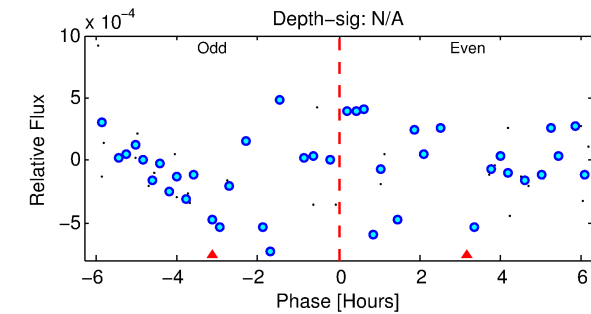
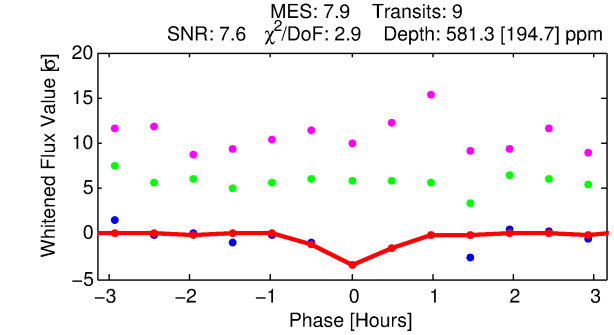
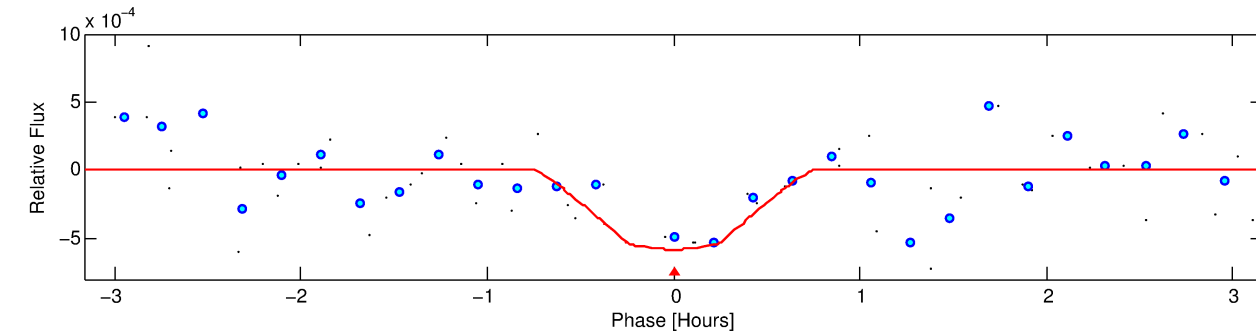
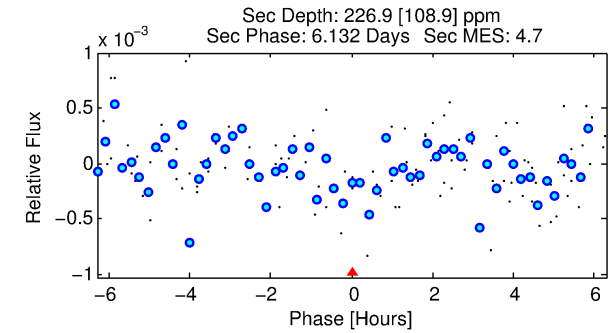
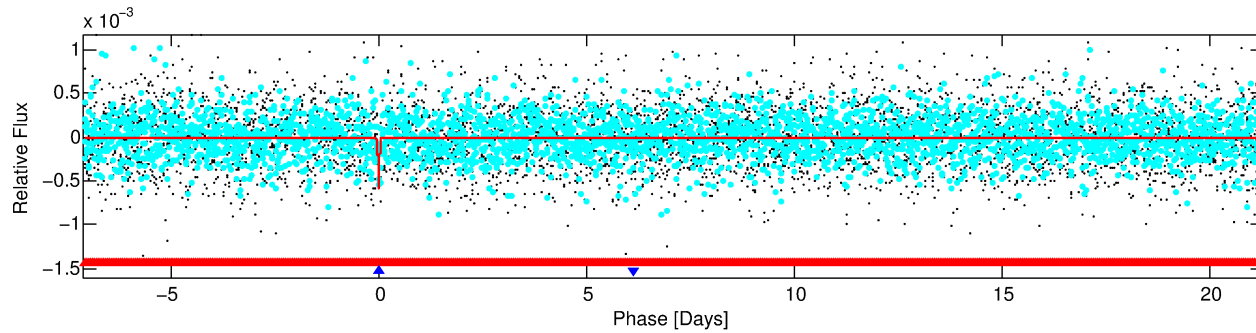
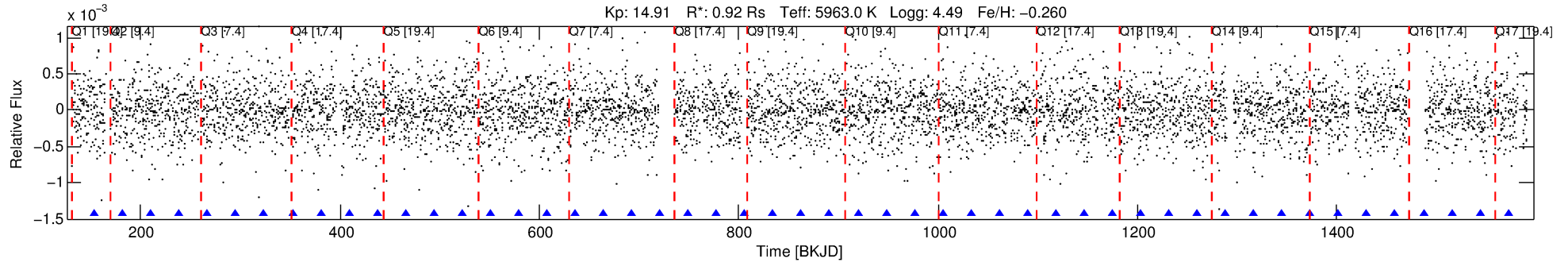
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007839007-02

No Significant Match Found

DV One-Page Summary

KIC: 7839007 Candidate: 2 of 2 Period: 28.362 d



DV Fit Results:

Period = 28.36236 [0.00043] d
Epoch = 153.8013 [0.0101] BKJD
Rp/R* = 0.0242 [0.0703]
a/R* = 144.26 [2025.69]
b = 0.75 [8.47]
Seff = 30.03 [12.08]
Teff = 597 [60] K
Rp = 2.43 [7.11] Re
a = 0.1791 [0.0467] AU
Ag = 678.01 [3966.54] [0.17σ]
Teffp = 4709 [6875] K [0.60σ]

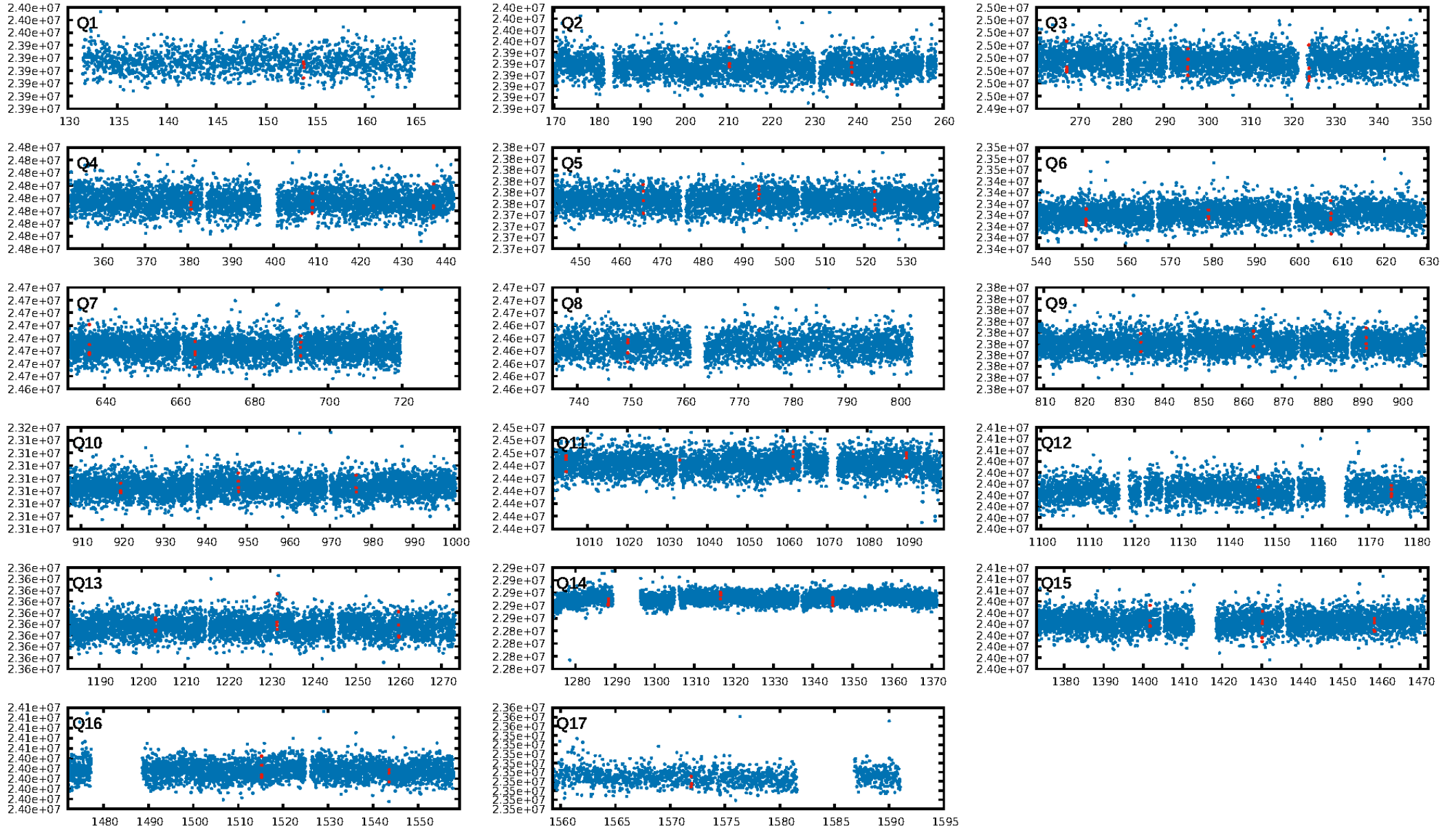
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [154.60σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 66.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 3.97e-09
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 3.013
Centroid-sig: 1.7%
Centroid-so: 5.092 arcsec [6.36σ]
OotOffset-rm: 0.224 arcsec [1.37σ]
KicOffset-rm: 9.588 arcsec [37.59σ]
OotOffset-st: 0/0/3/4 [7]
KicOffset-st: 2/0/3/4 [9]
DiffImageQuality-fgm: 0.56 [5/9]
DiffImageOverlap-fno: 0.00 [0/17]

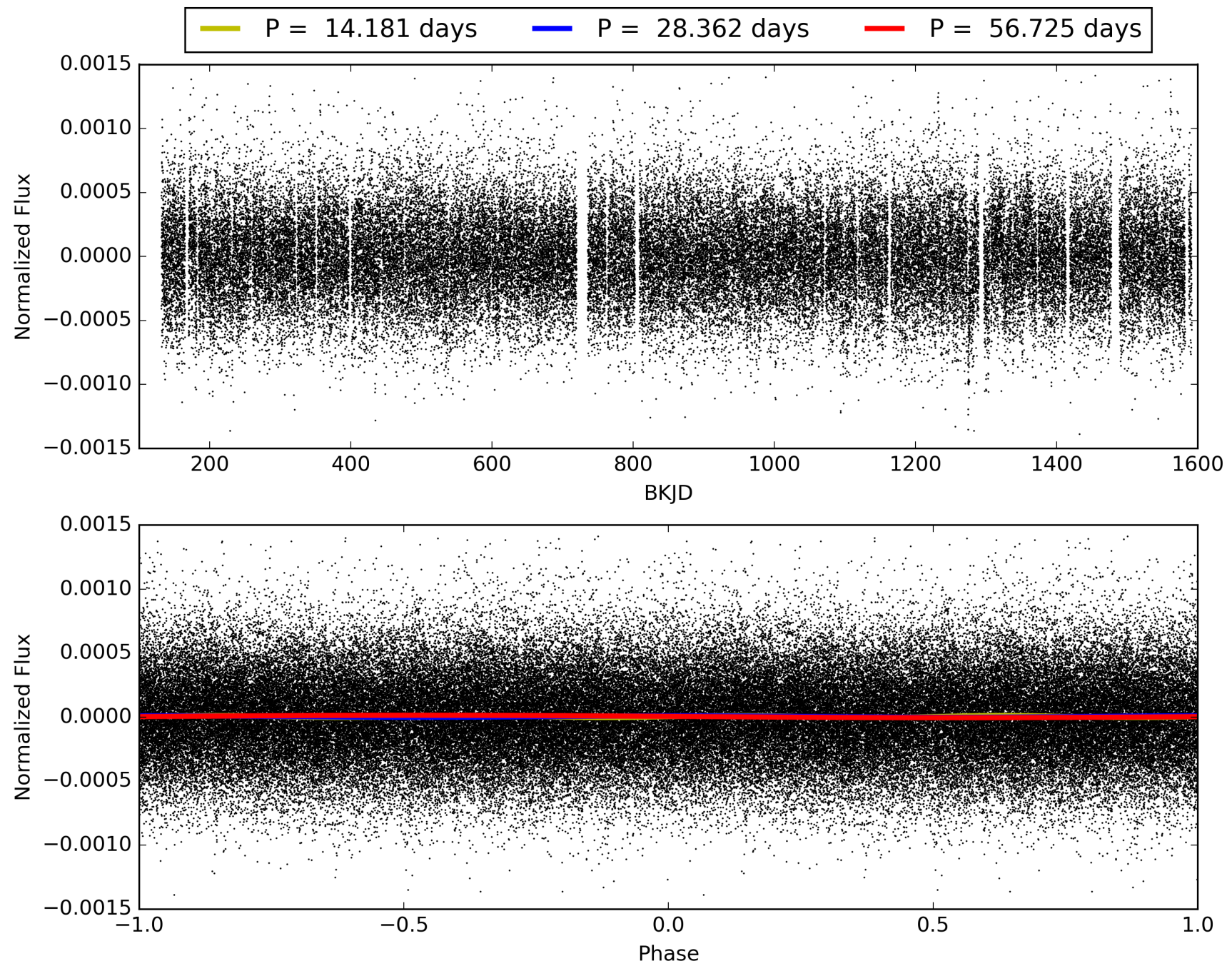
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:10:19 Z

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

TCE 007839007-02, PDC Light Curves

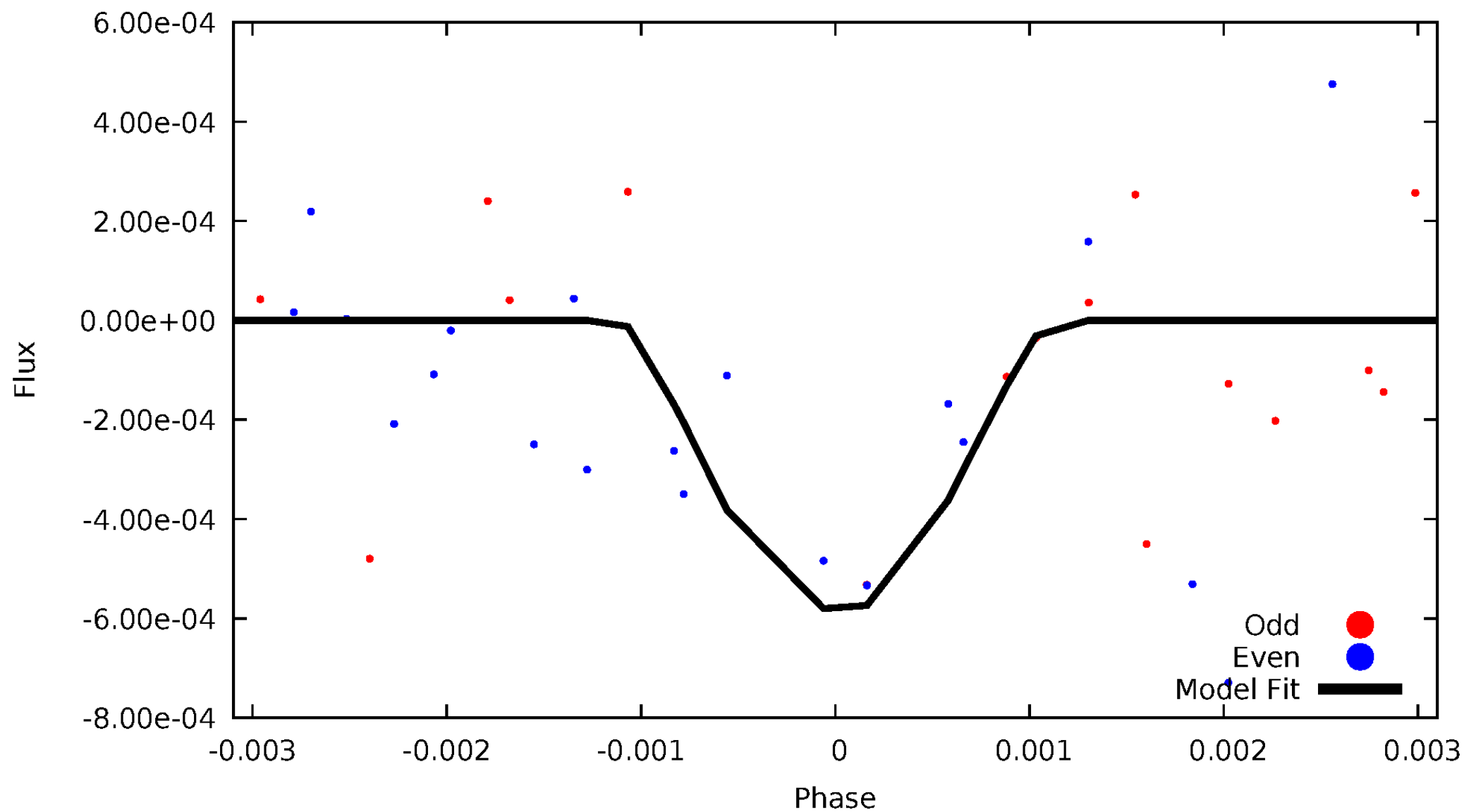


TCE 007839007-02



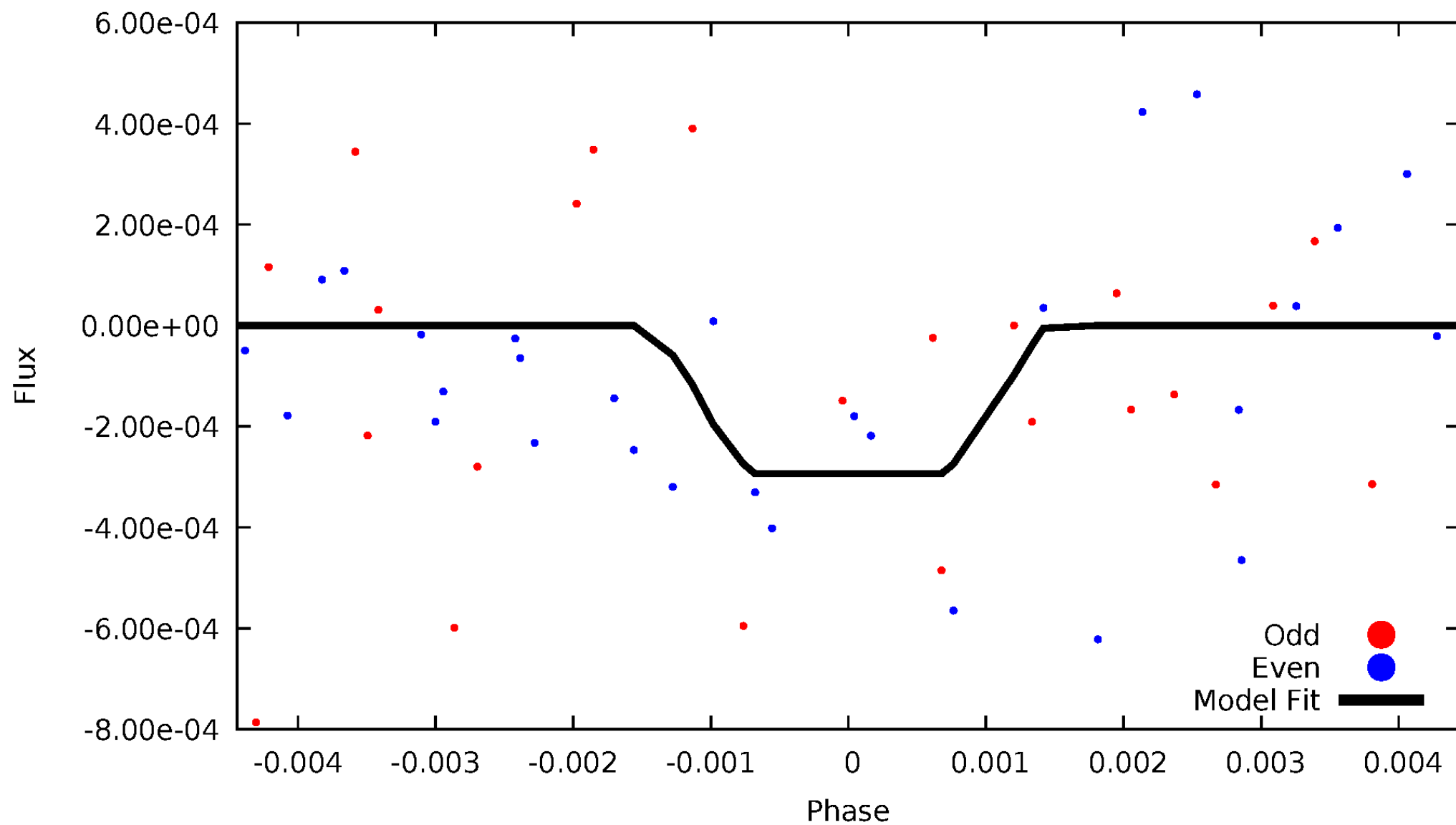
DV Odd/Even

TCE 007839007-02



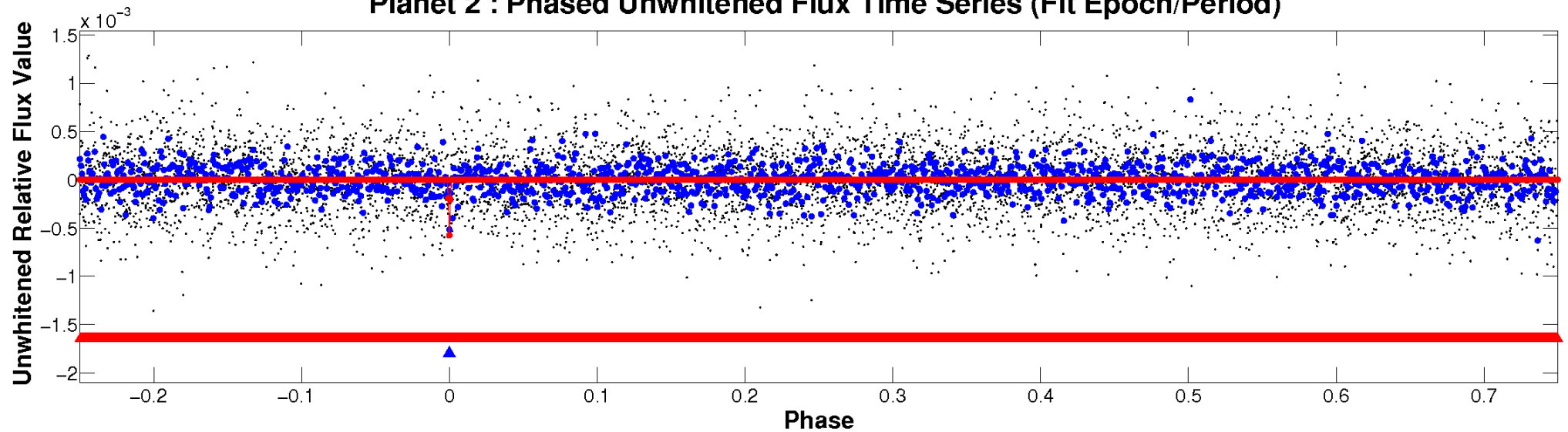
ALT Odd/Even

TCE 007839007-02

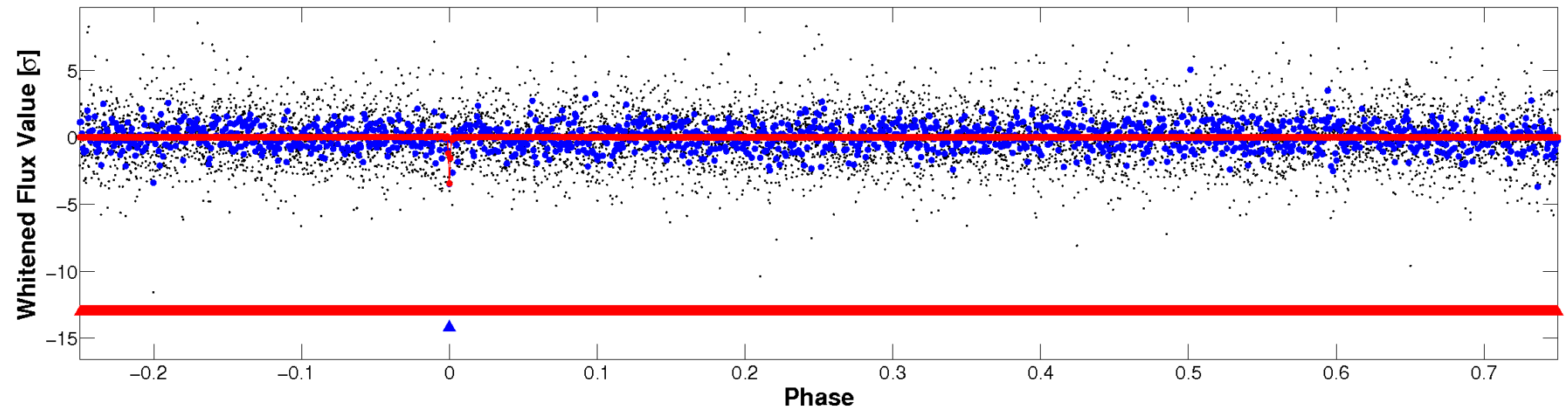


Non-Whitened Vs. Whitened Light Curve

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

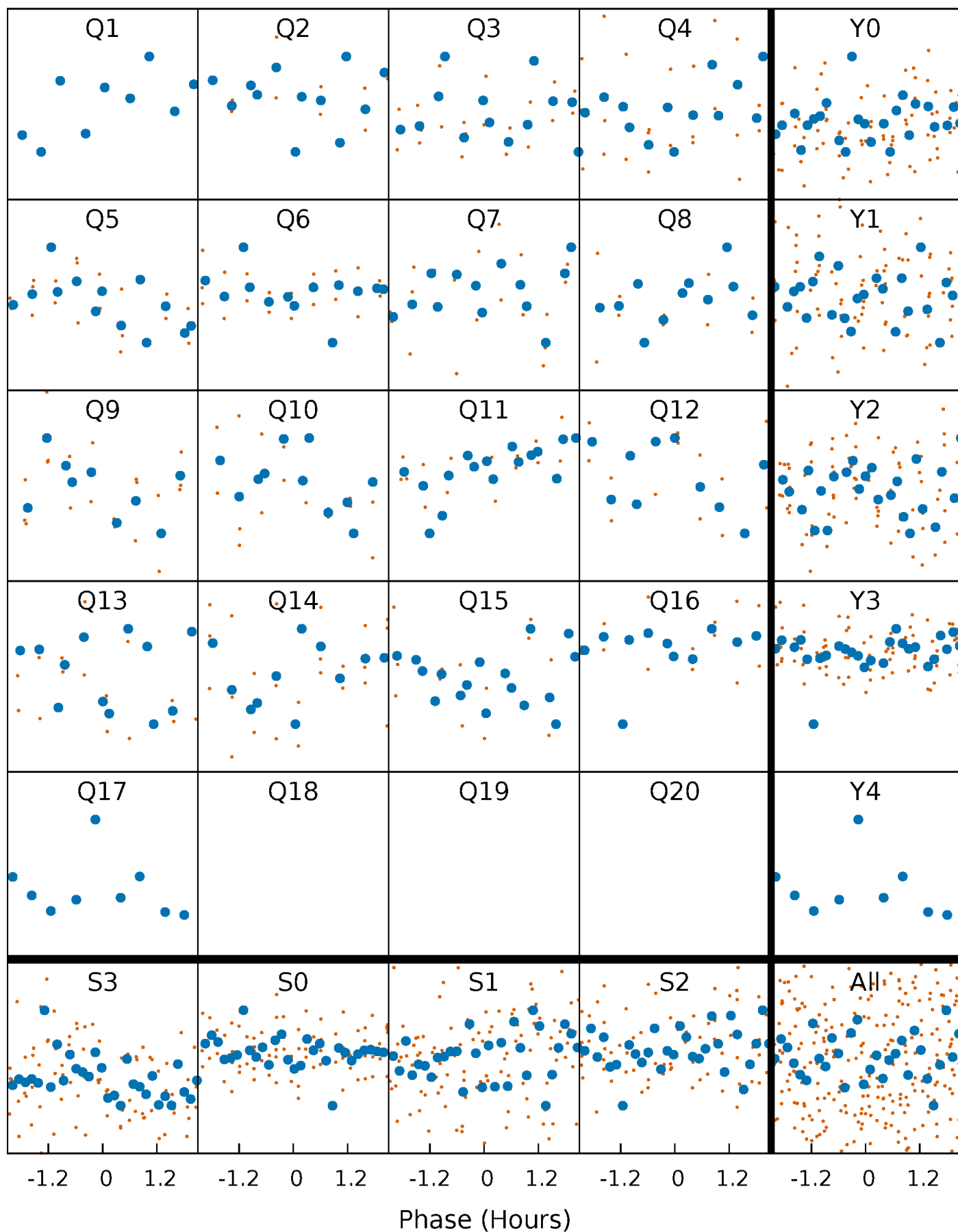


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



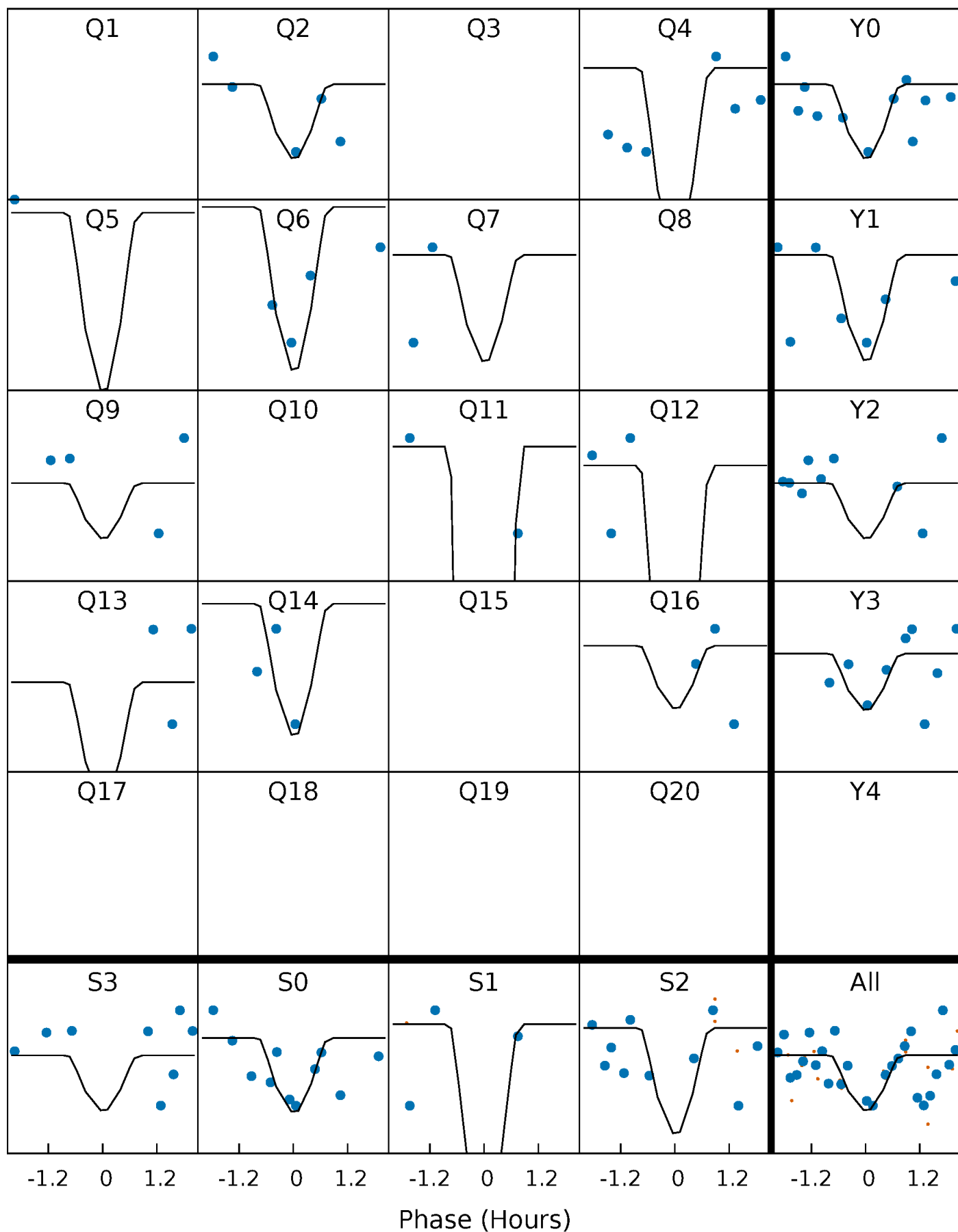
PDC Quarter-Phased Transit Curves

TCE 007839007-02 P= 28.362360 Days $T_0=153.801265$ (BKJD)



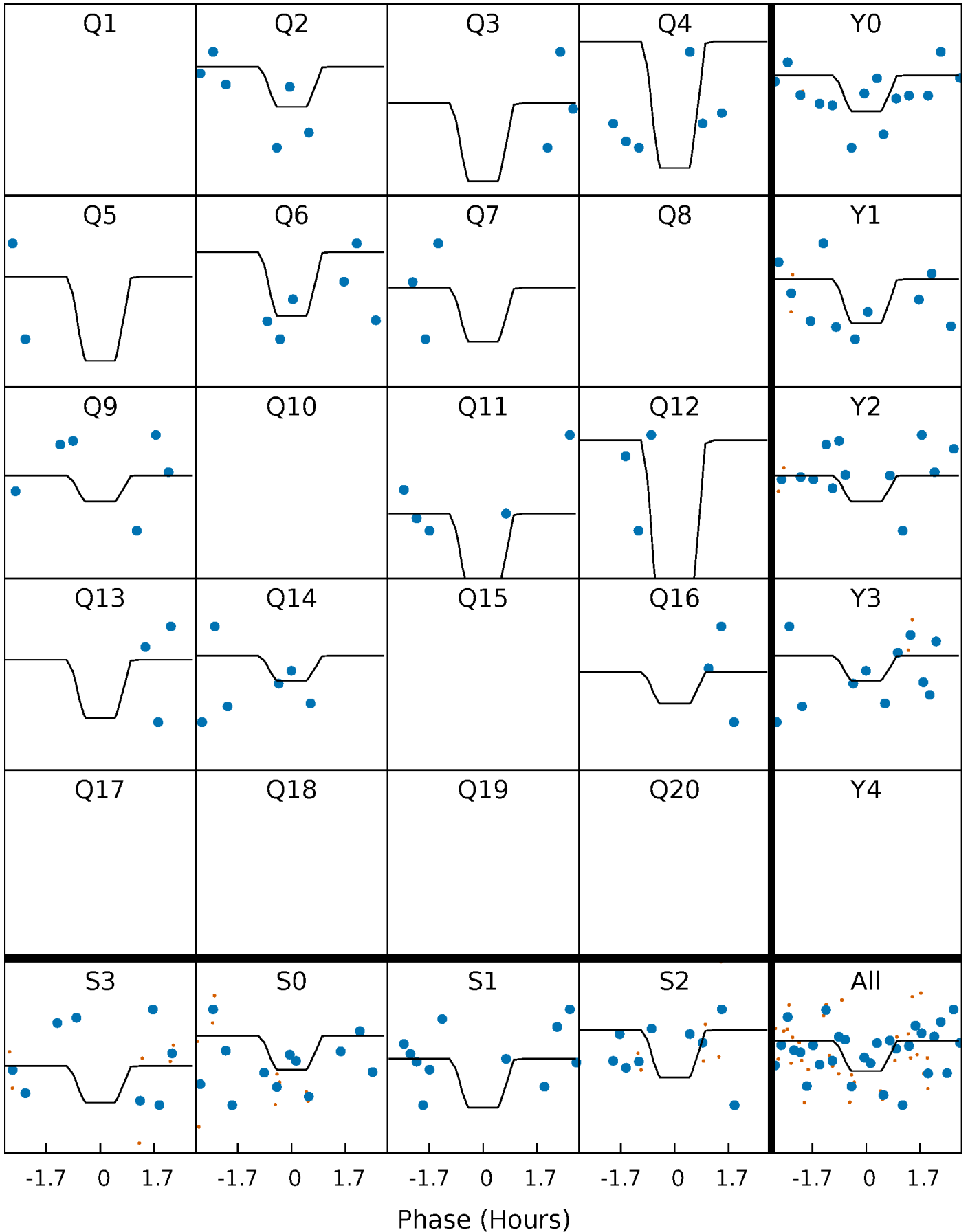
DV Quarter-Phased Transit Curves

TCE 007839007-02 P= 28.362360 Days $T_0=153.801265$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

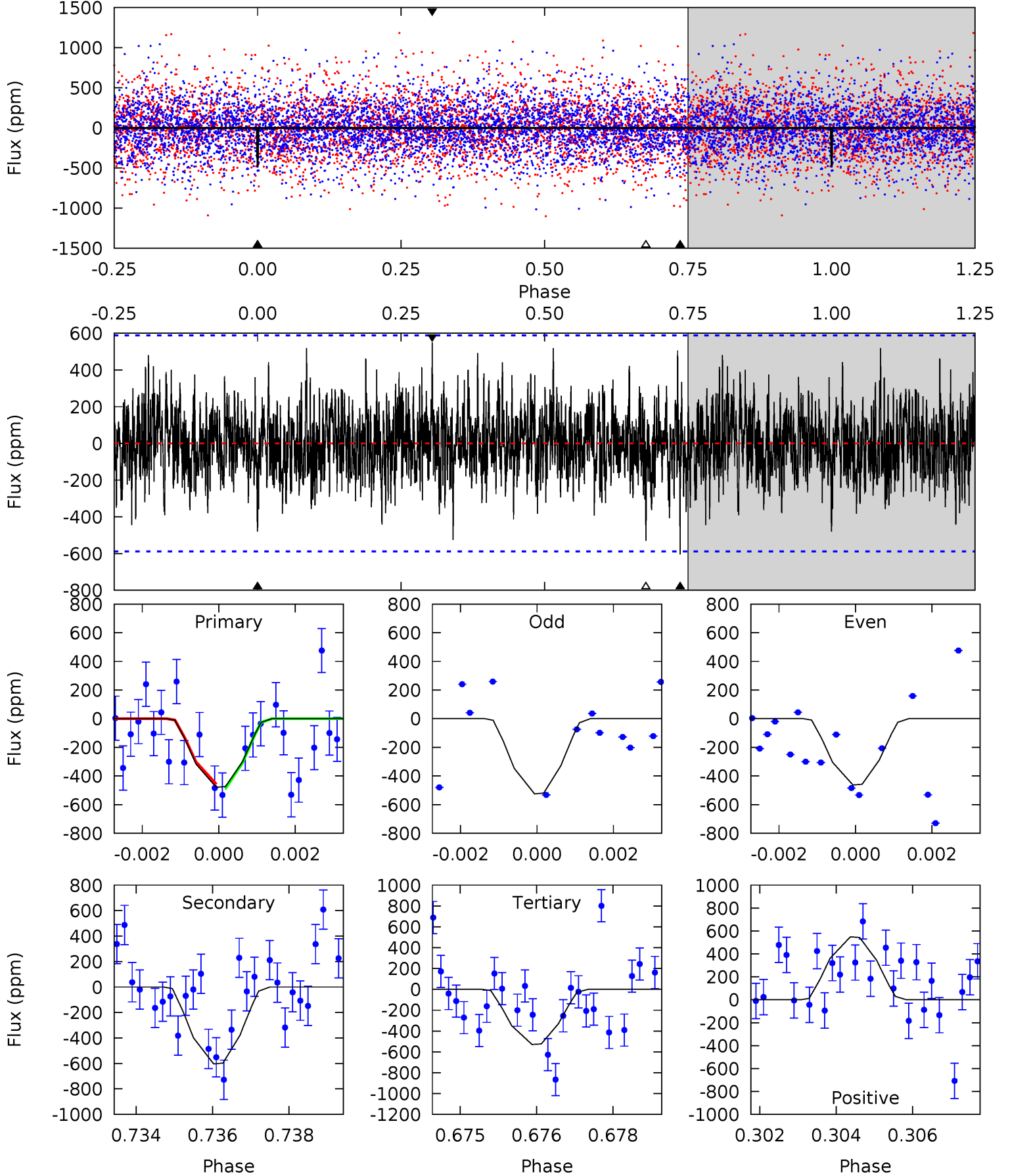
TCE 007839007-02 P= 28.361251 Days $T_0=153.830818$ (BKJD)



DV Model-Shift Uniqueness Test

007839007-02, P = 28.362360 Days, E = 125.438905 Days

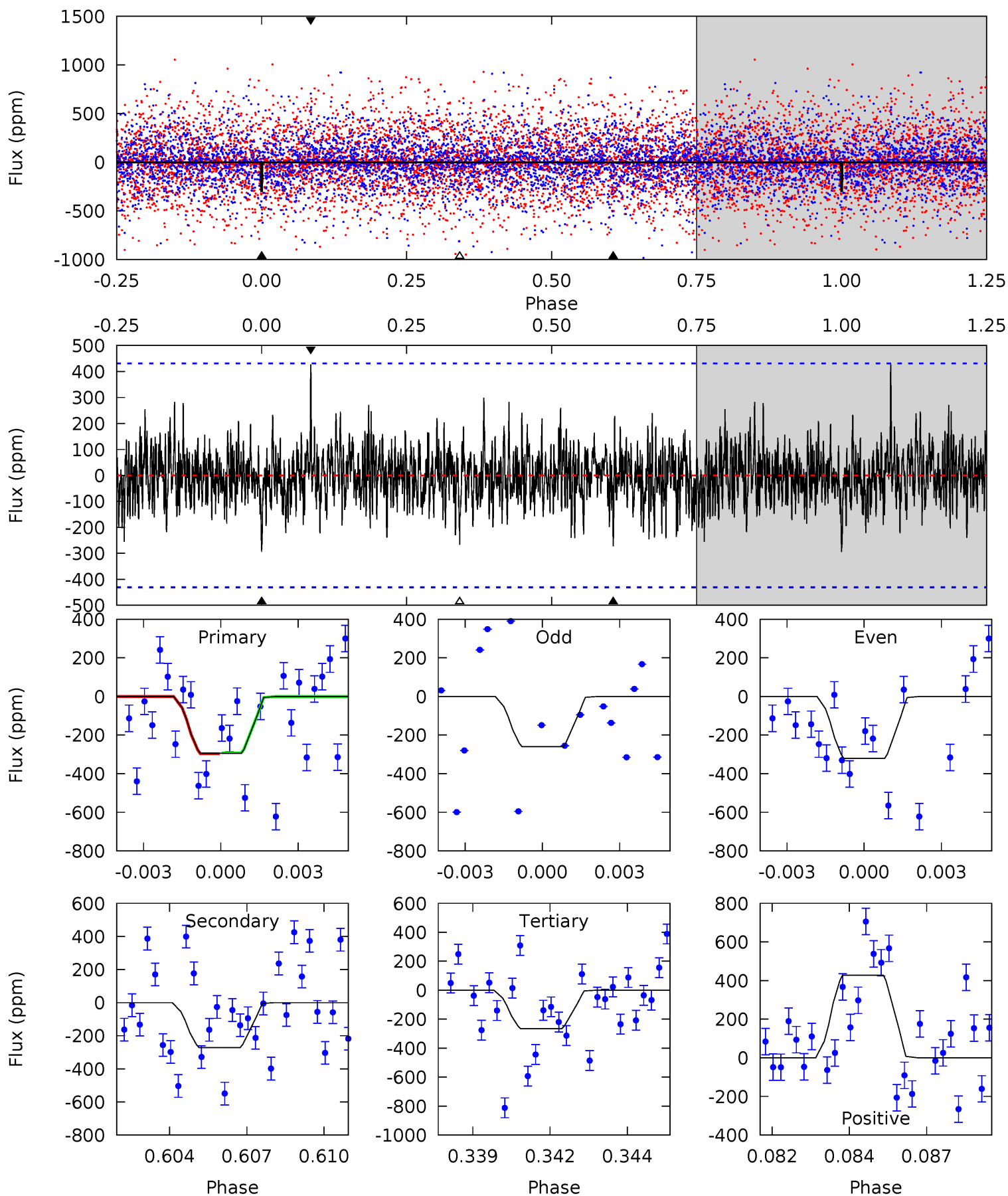
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.35	5.48	4.80	4.98	5.34	3.11	1.38	-0.46	-0.63	0.68	0.50	0.25	0.94	0.48	0.13



Alt Model-Shift Uniqueness Test

007839007-02, P = 28.361251 Days, E = 125.469567 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.61	3.34	3.26	5.24	5.28	3.02	1.06	0.34	-1.63	0.07	-1.90	0.37	0.83	0.59	0.03



Stellar Parameters For KIC 007839007

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5963^{+161}_{-196}	$4.487^{+0.065}_{-0.208}$	$-0.260^{+0.300}_{-0.300}$	$0.922^{+0.285}_{-0.095}$	$0.953^{+0.118}_{-0.107}$	$1.710^{+0.564}_{-0.864}$
	+3%/-3%	+1%/-5%	+115%/-115%	+31%/-10%	+12%/-11%	+33%/-50%
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 007839007-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-604 ± 110	$5.82^{+5.96}_{-3.73}$	848^{+62}_{-40}	4196^{+2374}_{-862}	295^{+2053}_{-220}
Alt.	-272 ± 82	$5.95^{+5.70}_{-4.16}$	849^{+57}_{-43}	3616^{+2067}_{-673}	126^{+1197}_{-95}

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

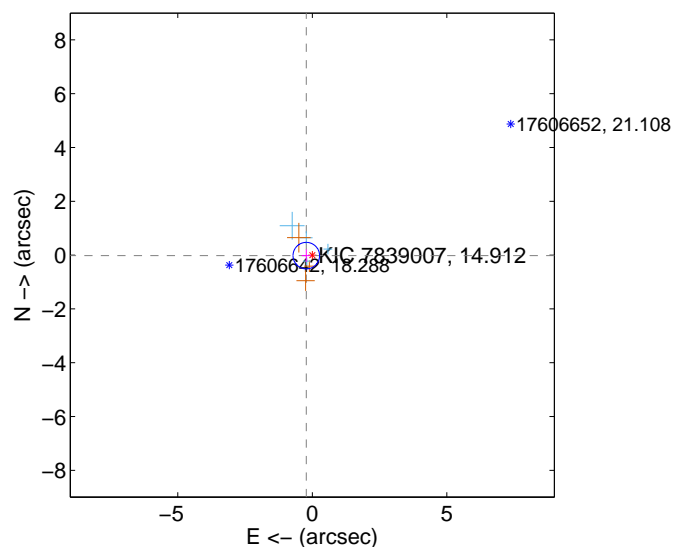
Supplemental centroid analysis for 007839007-02. Kepler magnitude: 14.91. Transit SNR 7.58

There are 5 quarters with good PRF difference image offsets

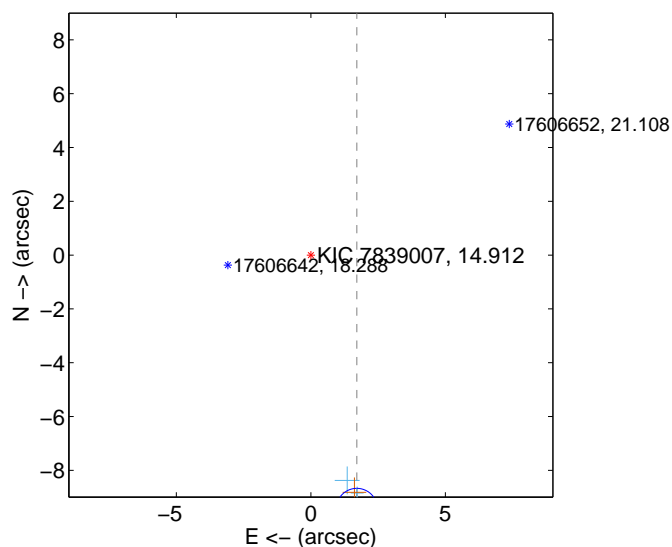
The OOT PRF centroid is offset from the target star catalog position by about 9.70 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.224 ± 0.164	1.37	0.223 ± 0.169	-0.020 ± 0.234
PRF-fit source offset from KIC position	9.588 ± 0.255	37.59	-1.709 ± 0.201	-9.435 ± 0.244
photometric centroid source offset	5.09 ± 0.80	6.36	-1.75 ± 0.43	-4.78 ± 0.84

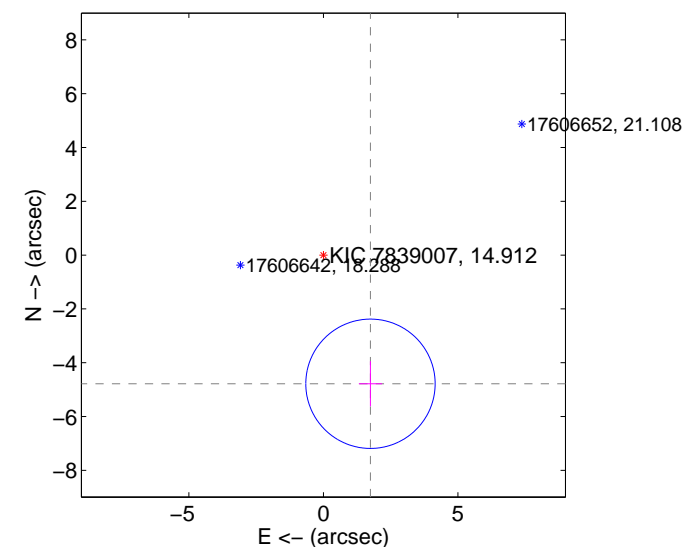
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

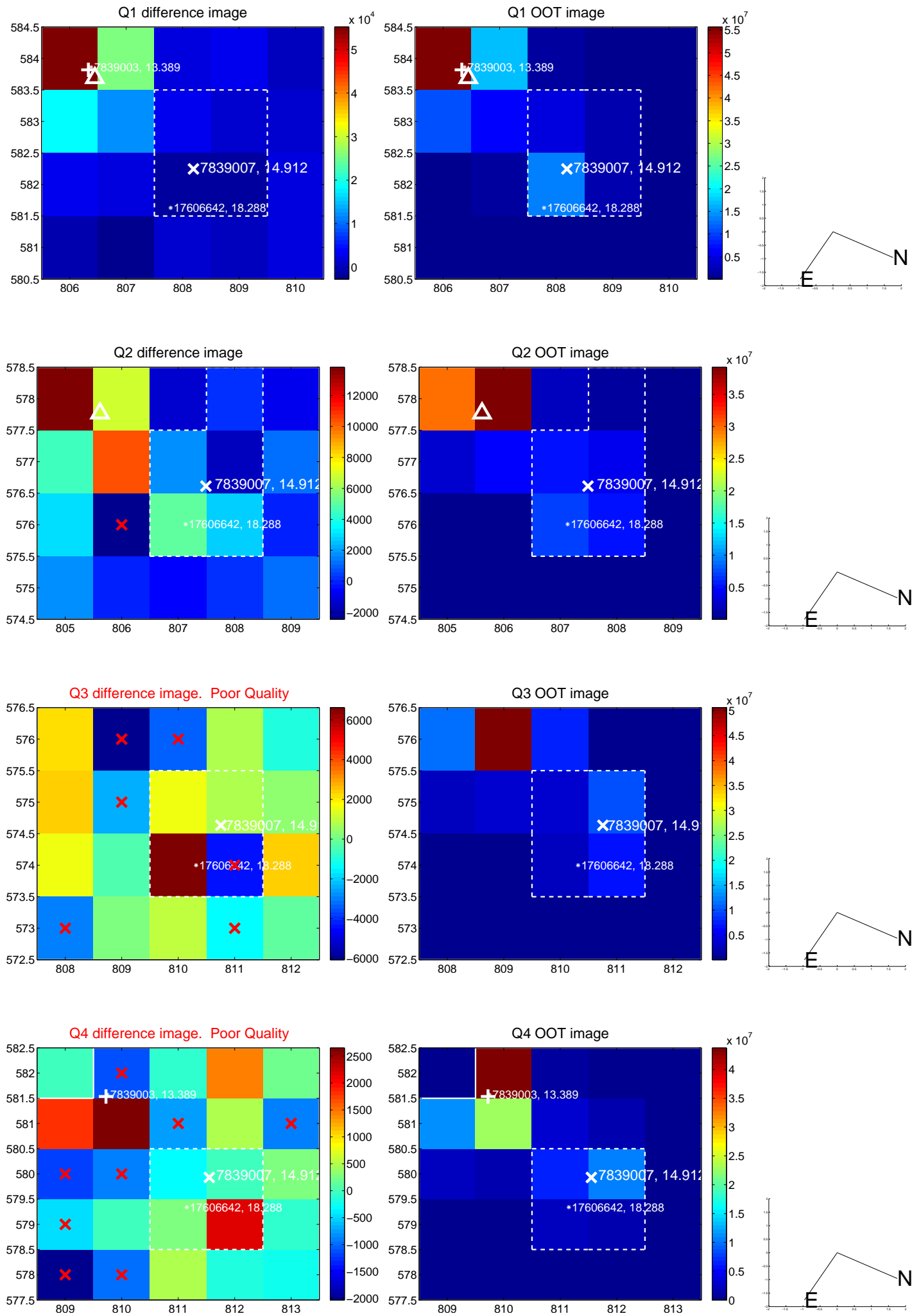


offset from photometric centroids

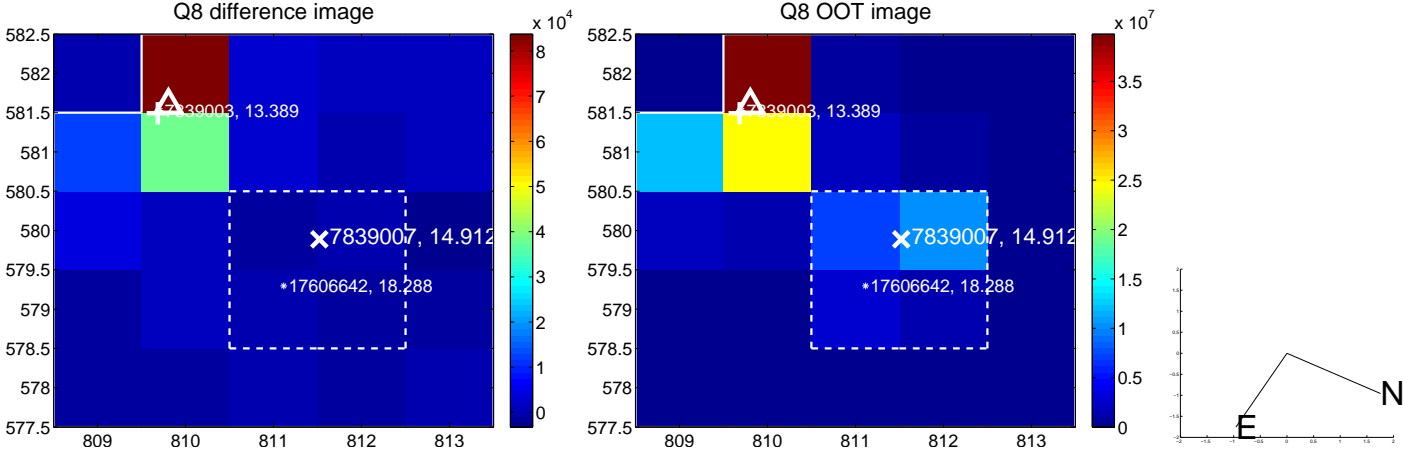
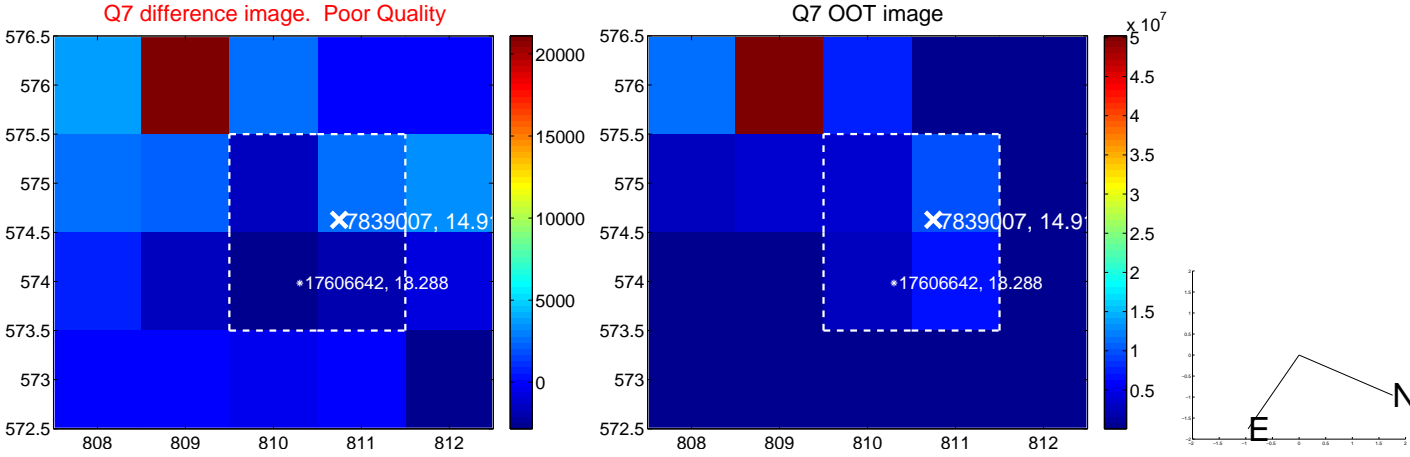
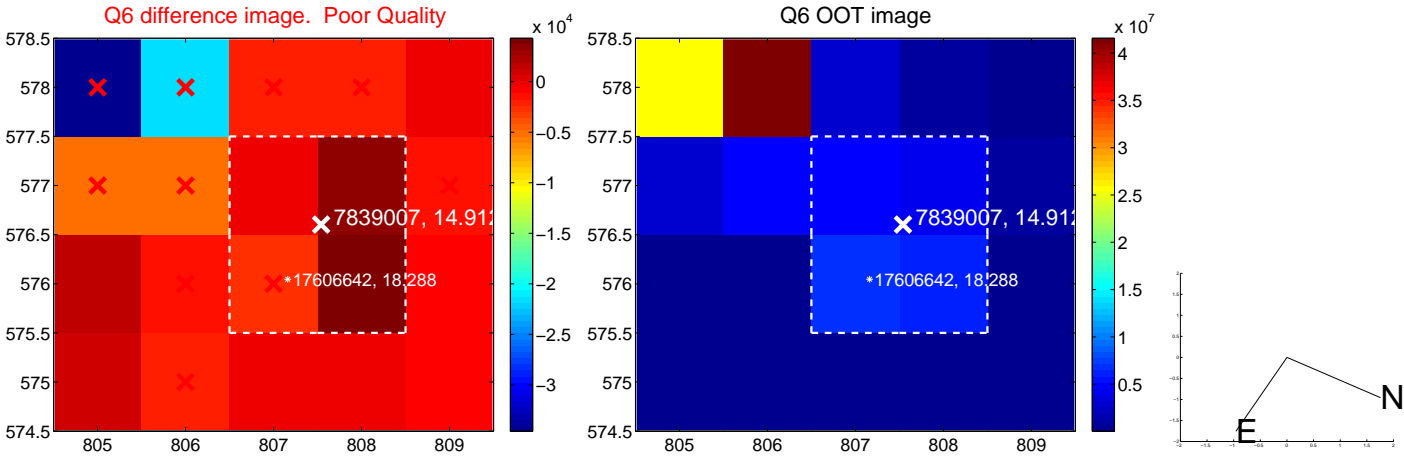
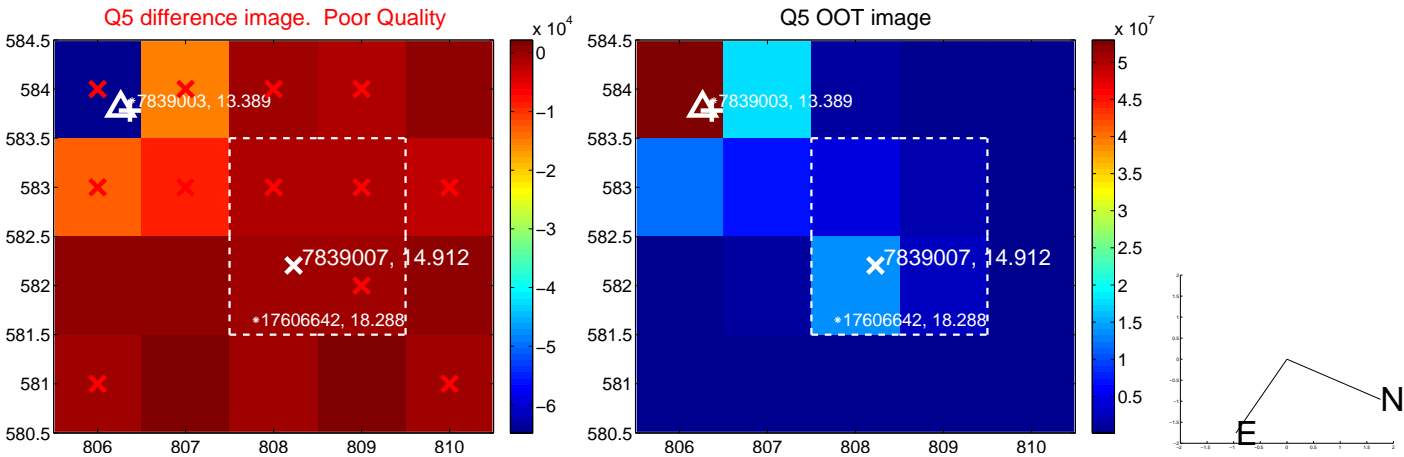


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

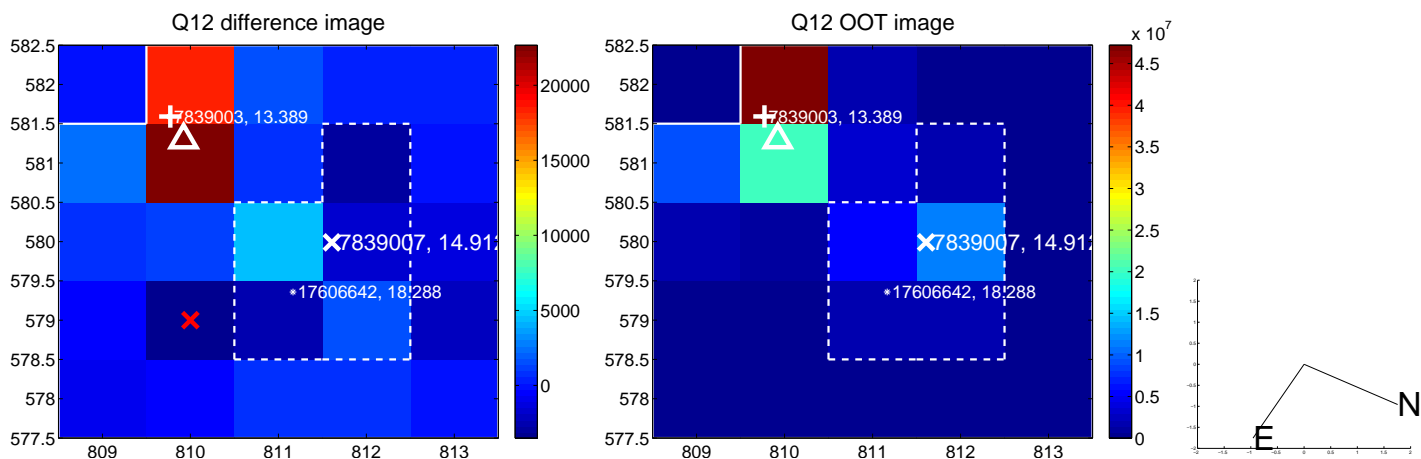
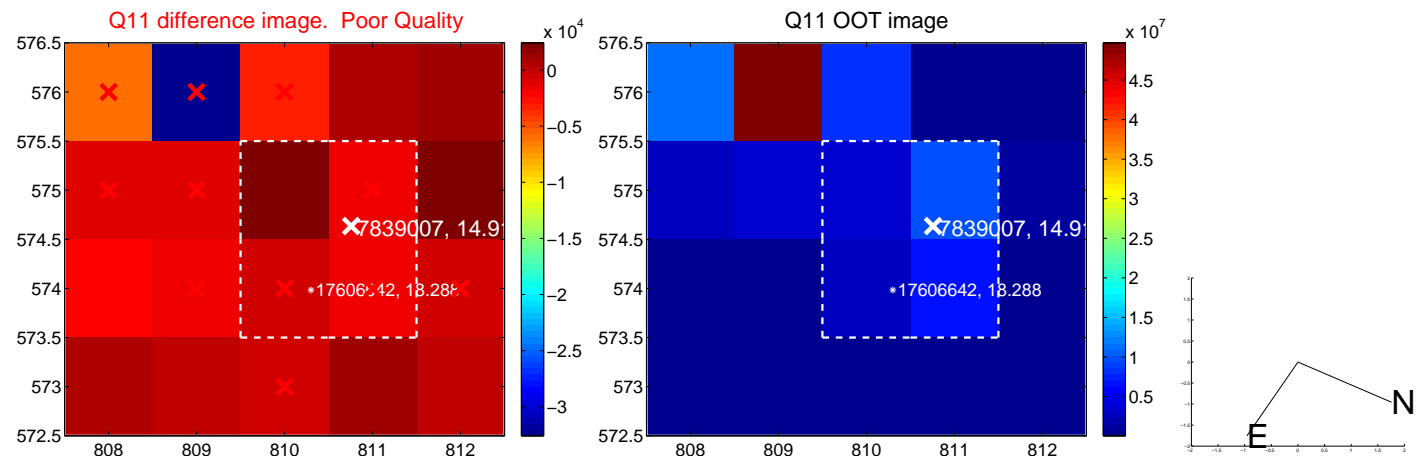
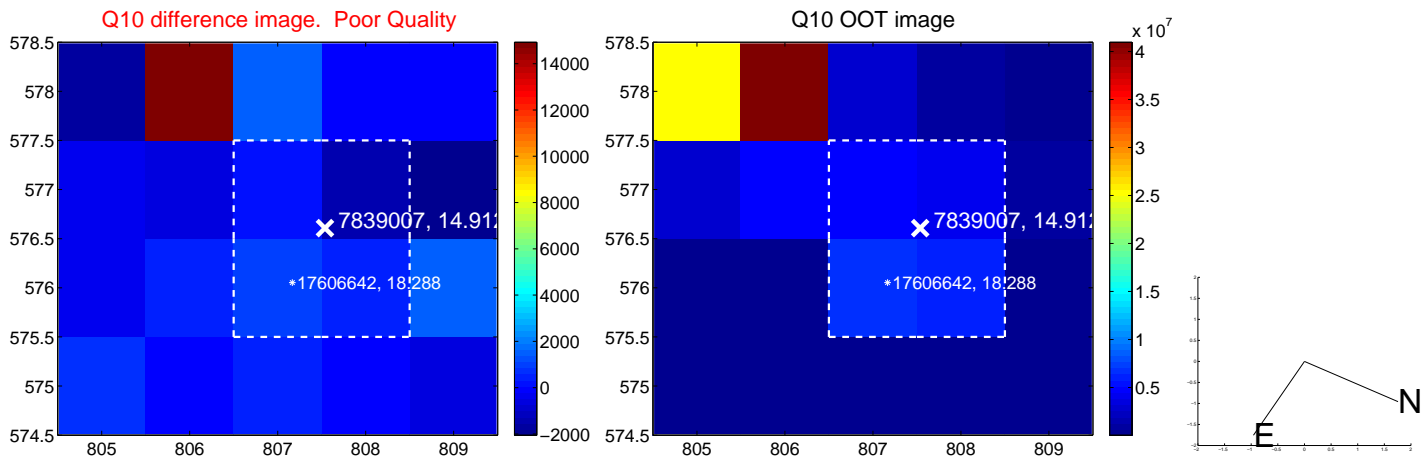
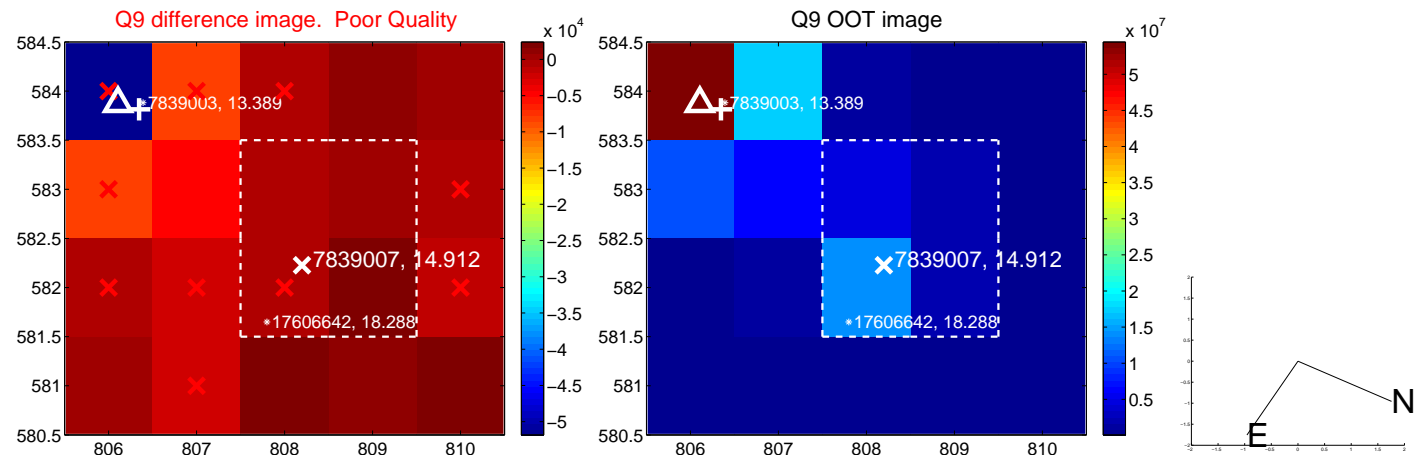
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



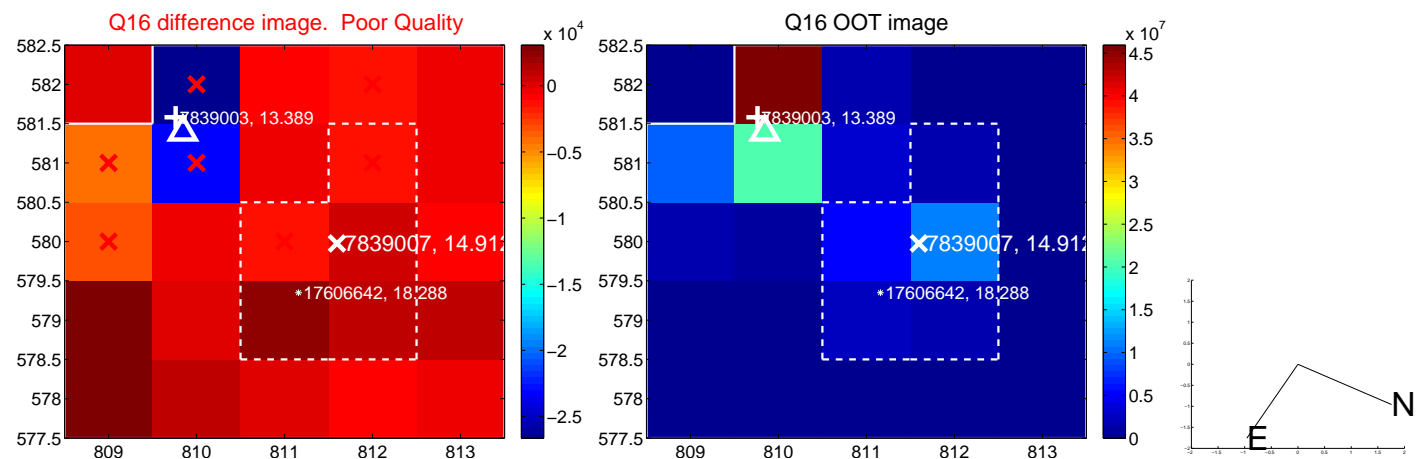
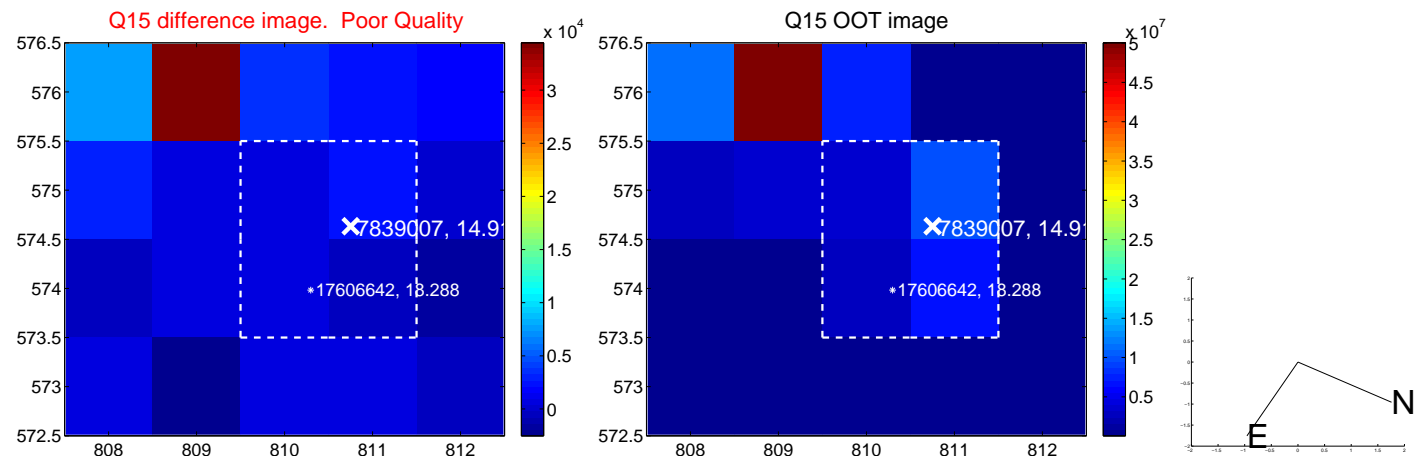
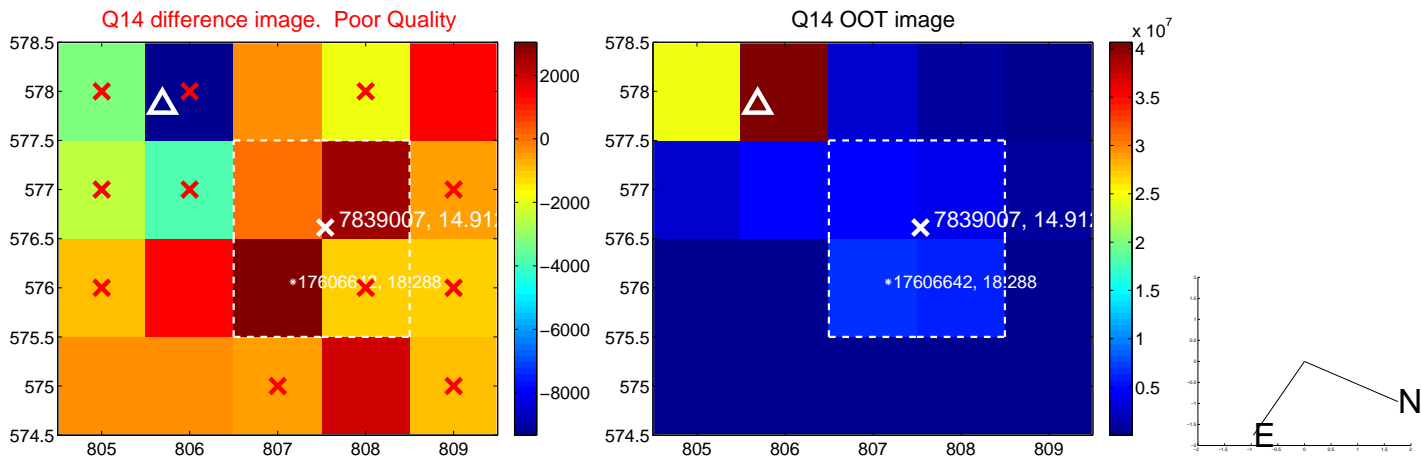
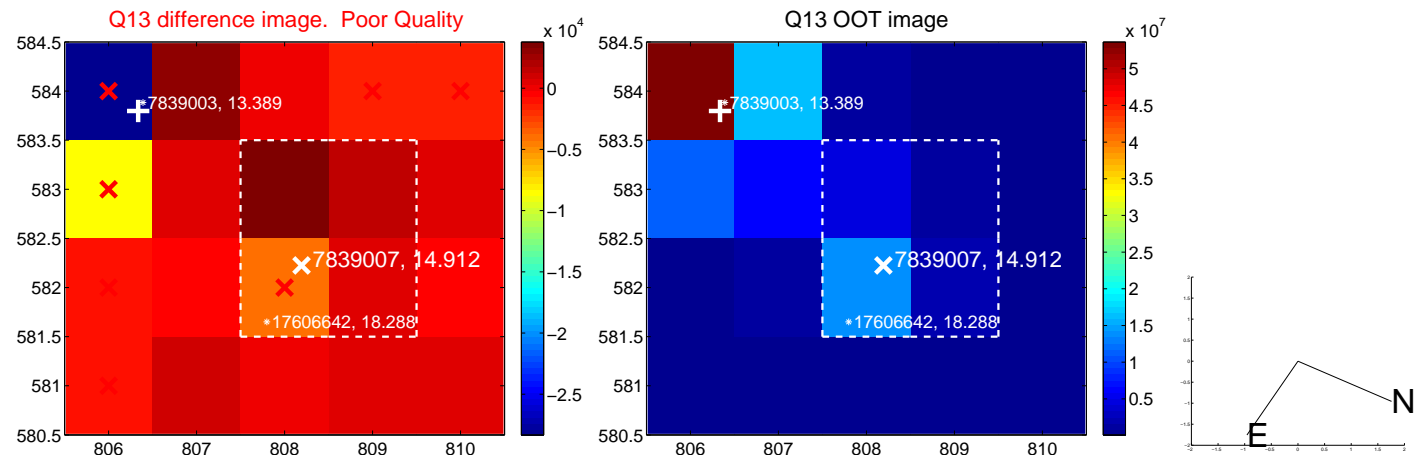
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



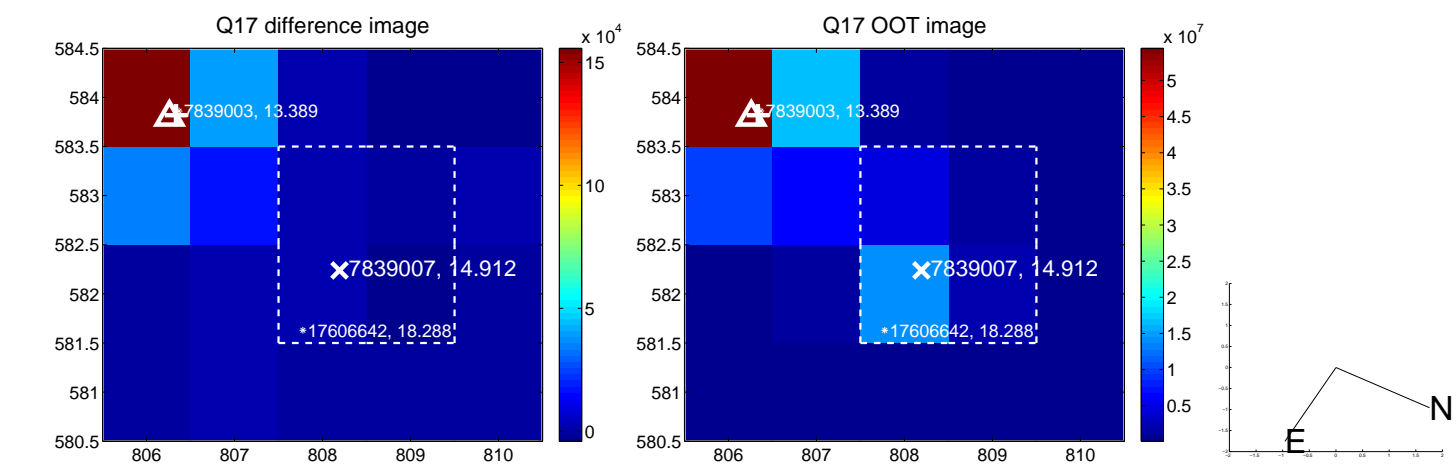
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



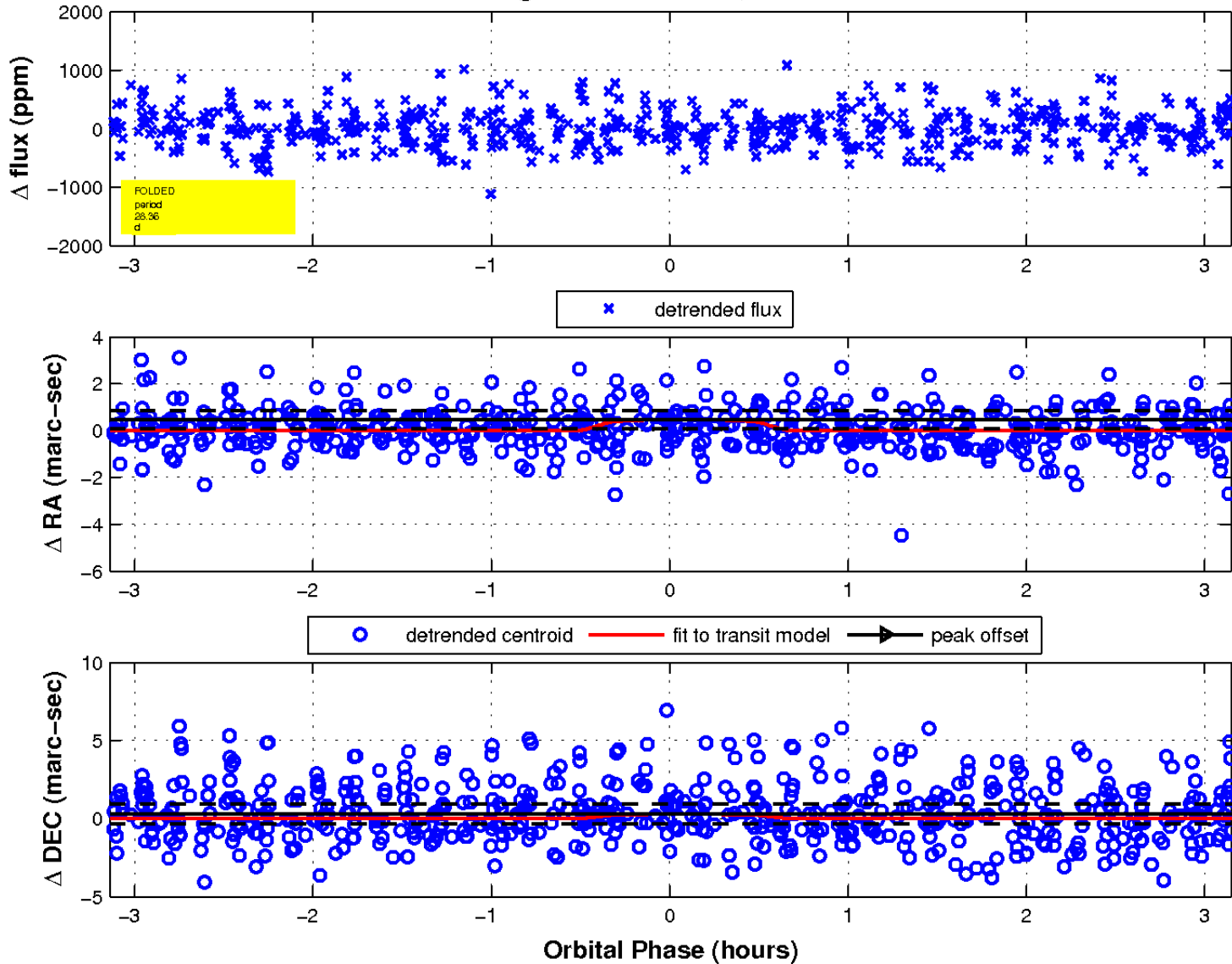
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

