

KIC 011071200

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})
011071200-01	OBS	2696.01	96.455491	214.752009	892.1	11.133	39.7	39.6	2.70	7029	8.78	66.08
011071200-02	OBS	2696.02	44.564631	143.436106	331.5	7.949	21.8	21.6	2.70	7029	5.70	184.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011071200-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011071200-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

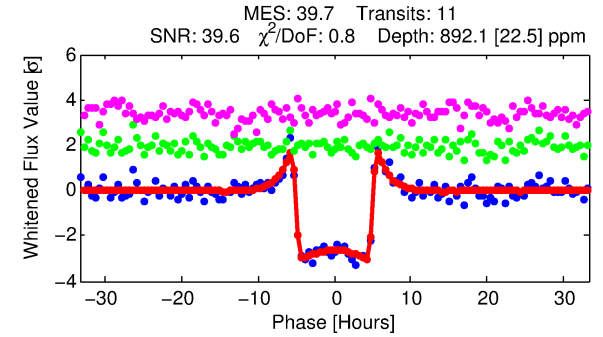
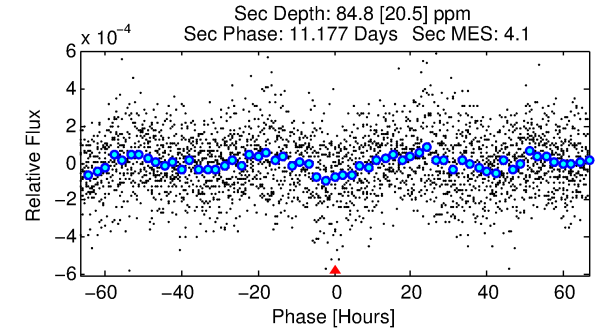
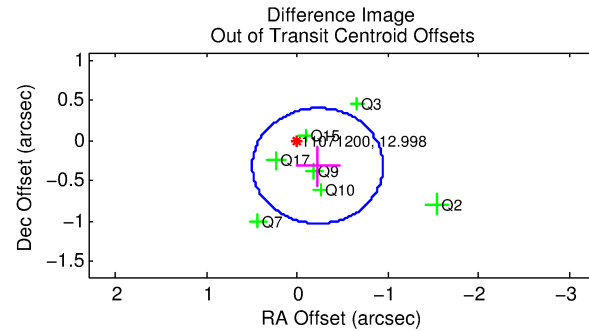
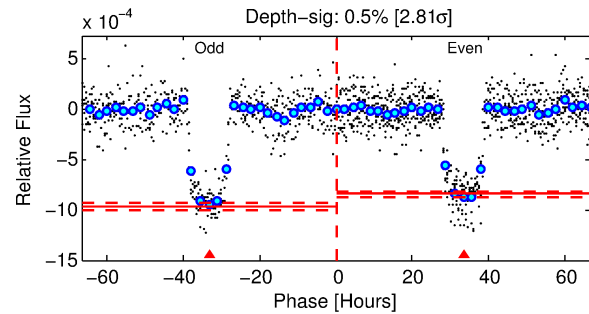
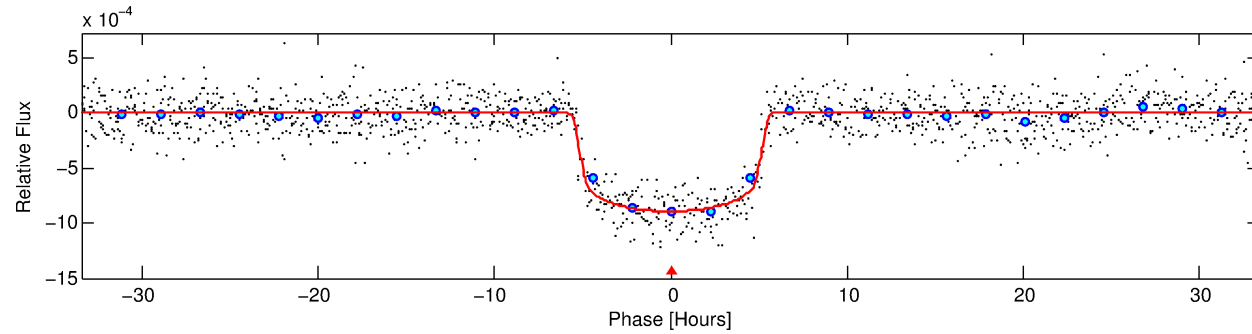
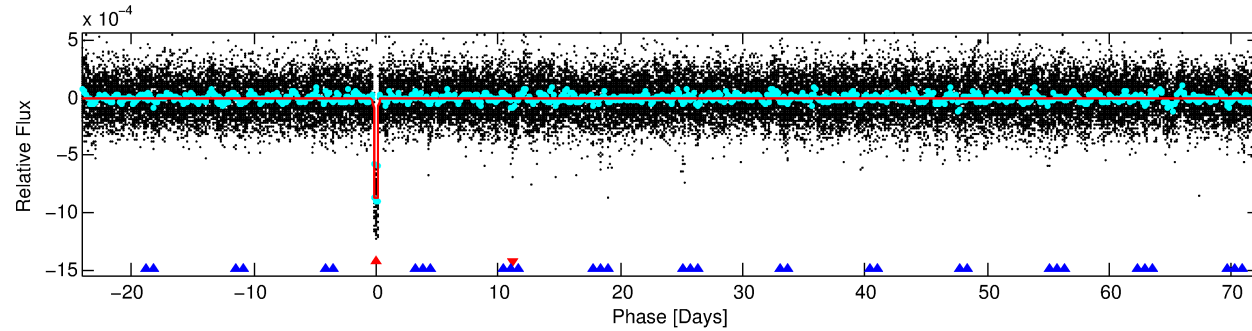
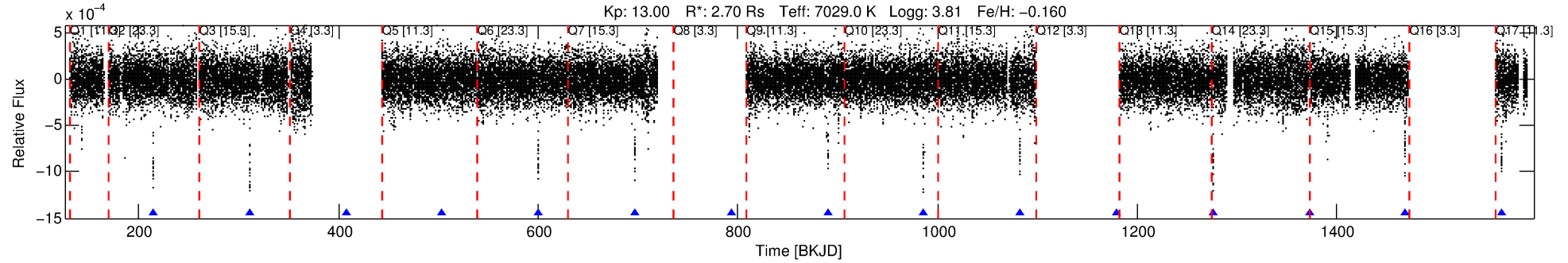
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011071200-01

No Significant Match Found

DV One-Page Summary

KIC: 11071200 Candidate: 1 of 2 Period: 96.455 d
KOI: K02696.01 Corr: 0.994



DV Fit Results:

Period = 96.45549 [0.00027] d
Epoch = 214.7520 [0.0023] BKJD
Rp/R* = 0.0297 [0.0008]
a/R* = 46.39 [5.41]
b = 0.75 [0.07]
Seff = 66.07 [32.75]
Teff = 727 [90] K
Rp = 8.78 [2.93] Re
a = 0.4919 [0.1513] AU
Ag = 146.60 [79.09] [1.84 σ]
Teffp = 3911 [270] K [11.17 σ]

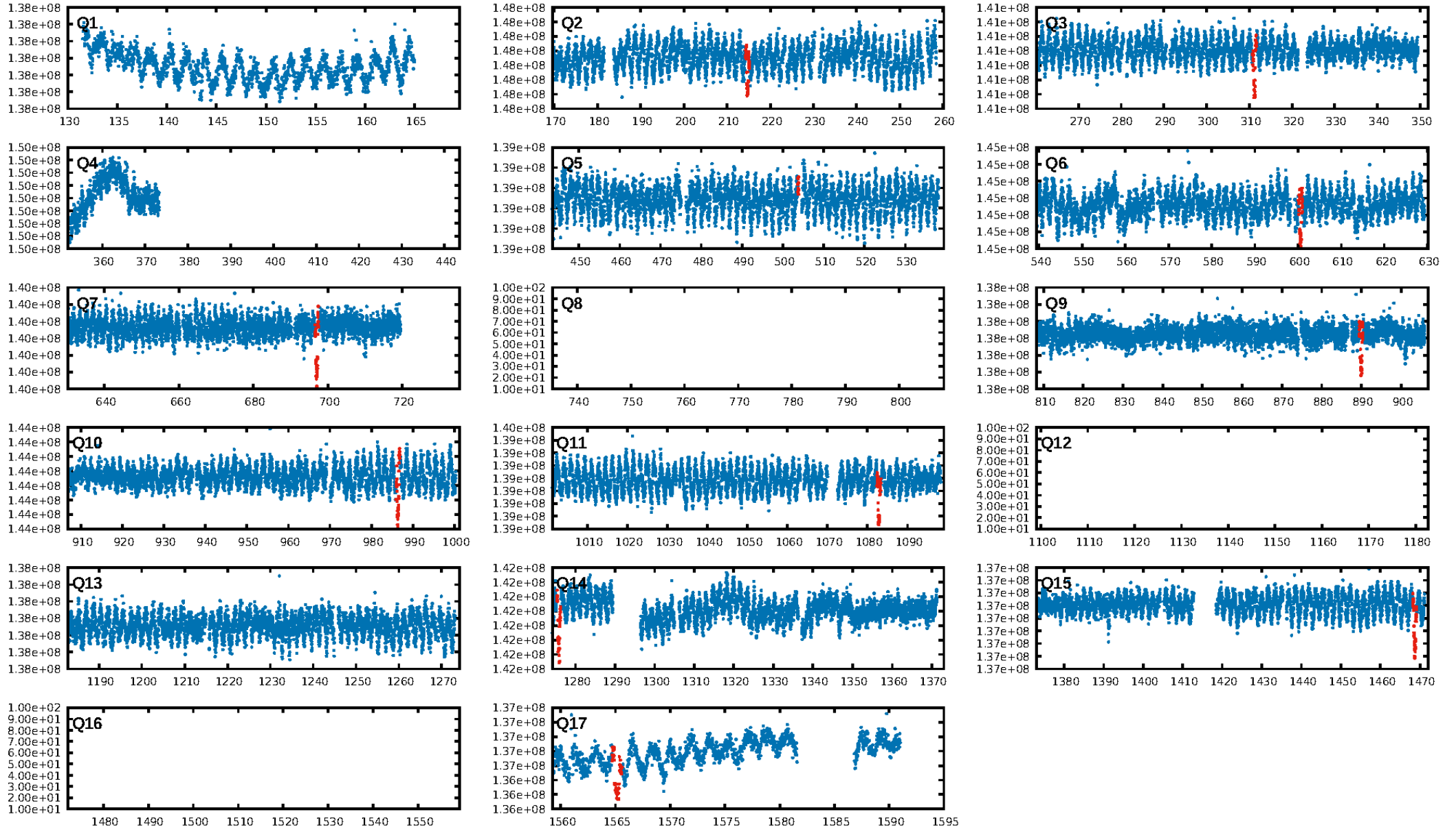
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [91.04 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 58.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.12e-308
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: 4.691
Centroid-sig: 39.7%
Centroid-so: 0.183 arcsec [1.04 σ]
OotOffset-rm: 0.388 arcsec [1.62 σ]
OotOffset-st: 2/3/0/2 [7]
KicOffset-rm: 0.476 arcsec [1.91 σ]
KicOffset-st: 2/3/0/2 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

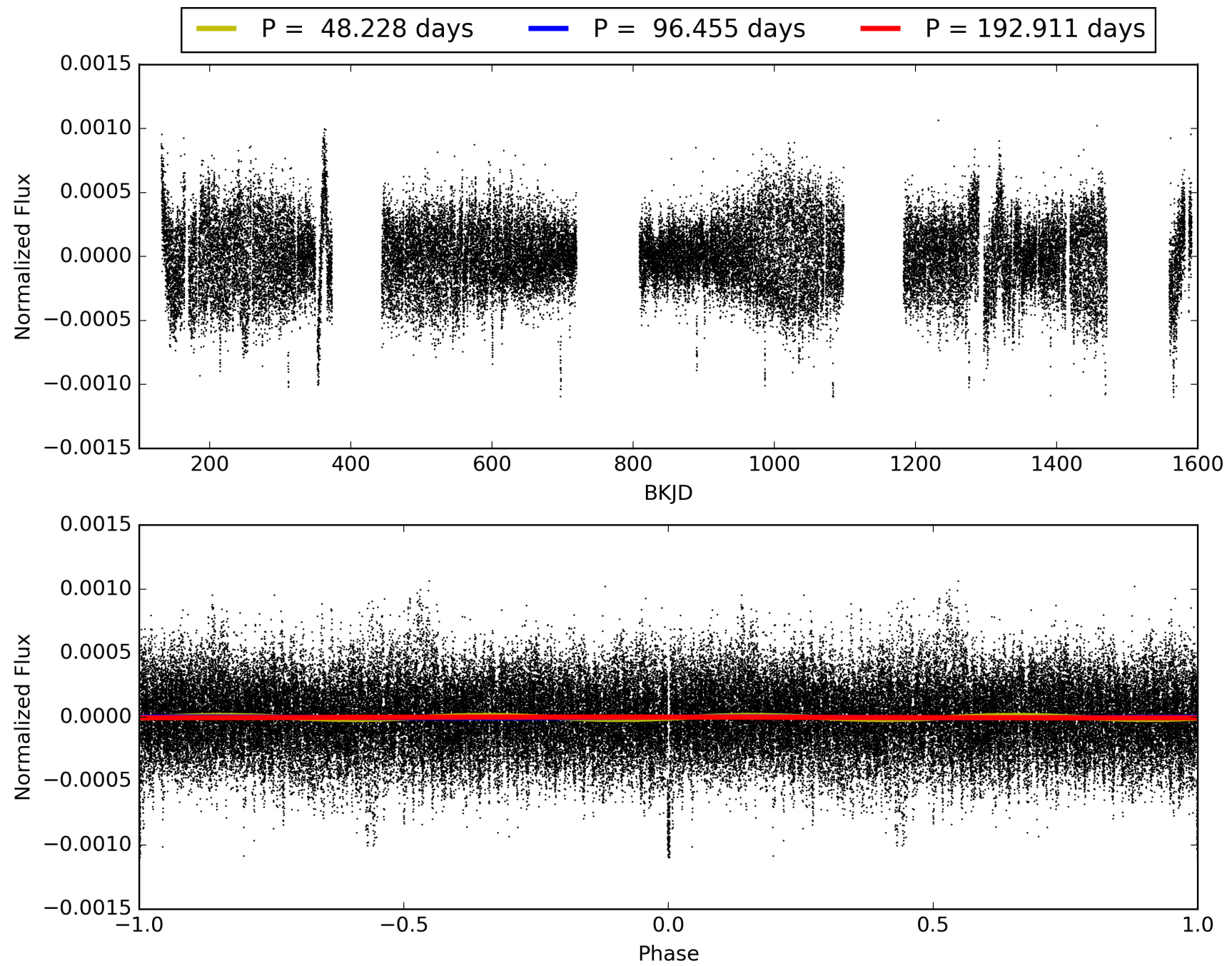
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:46:12 Z

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

TCE 011071200-01, PDC Light Curves

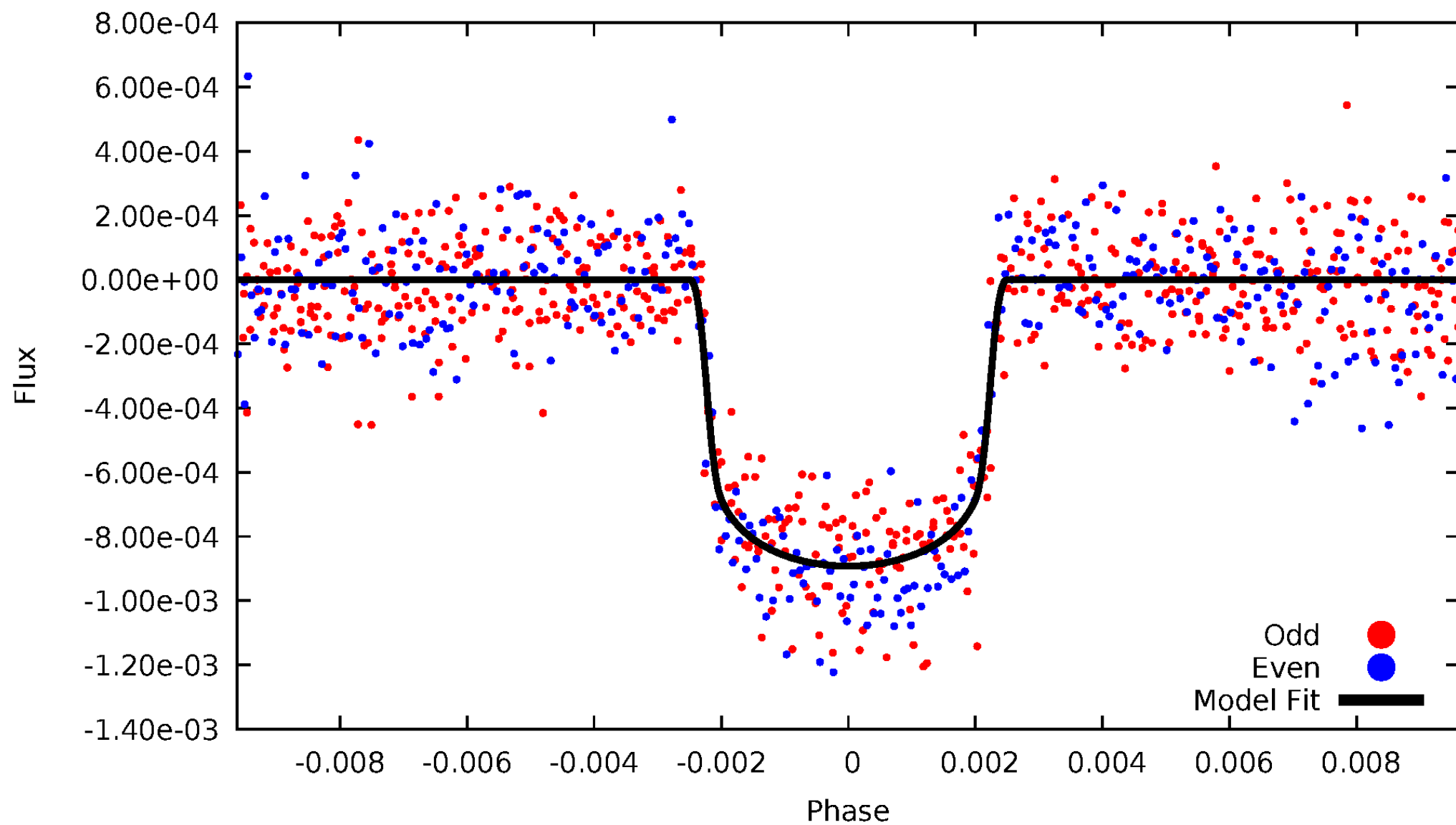


TCE 011071200-01



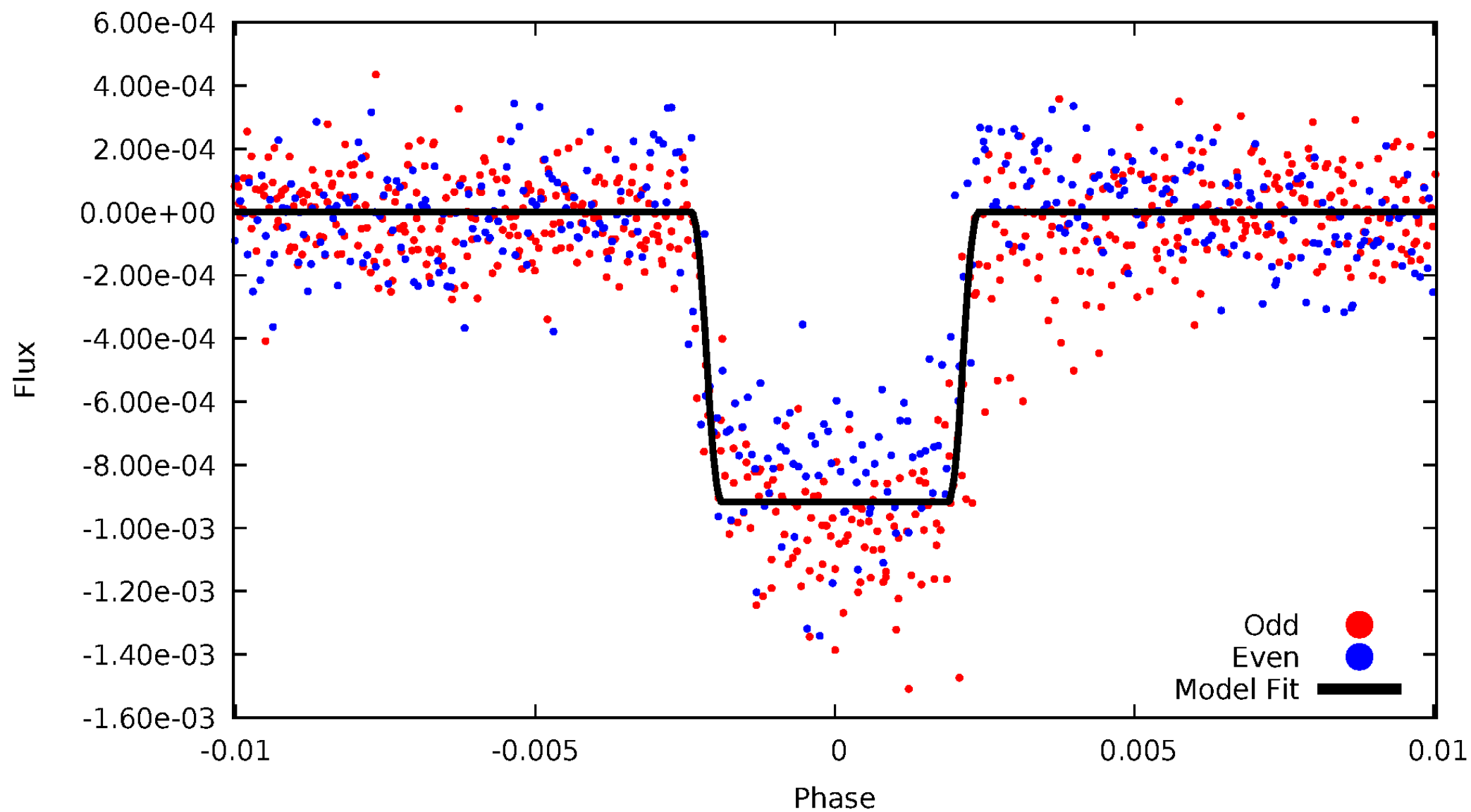
DV Odd/Even

TCE 011071200-01



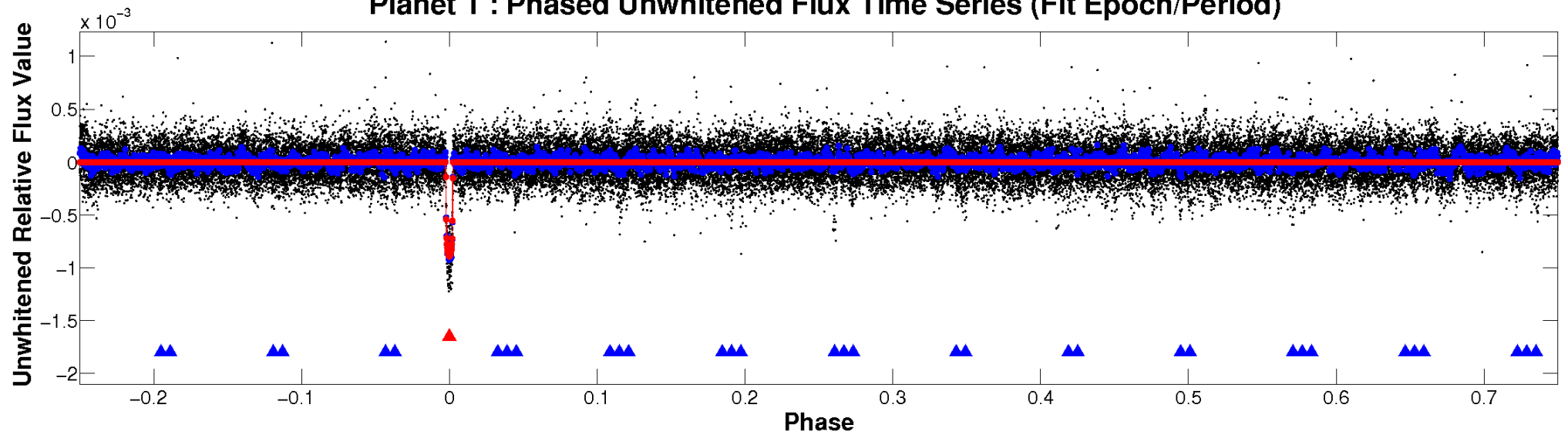
ALT Odd/Even

TCE 011071200-01

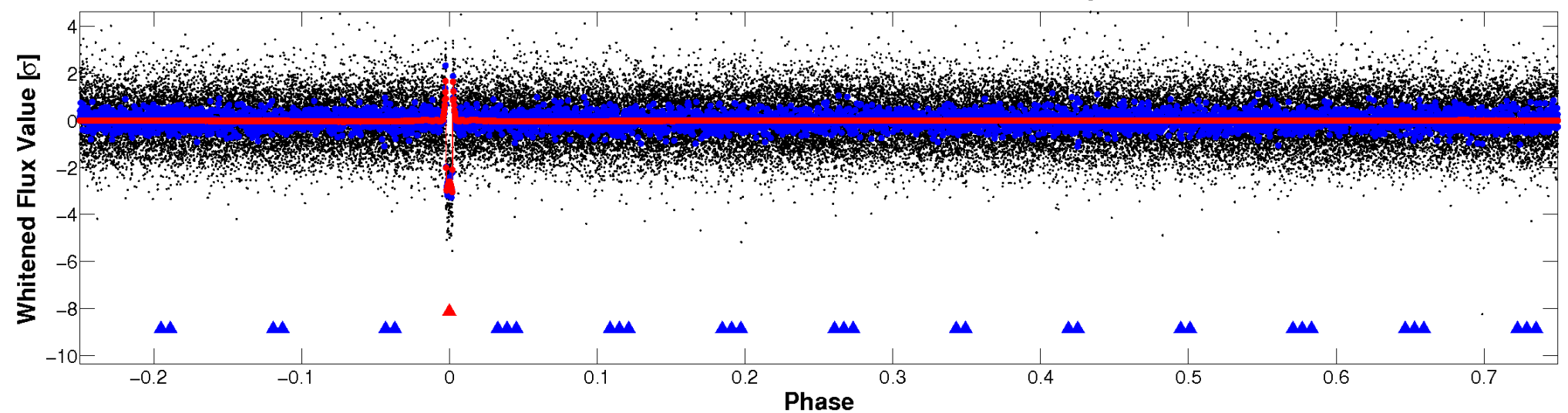


Non-Whitened Vs. Whitened Light Curve

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

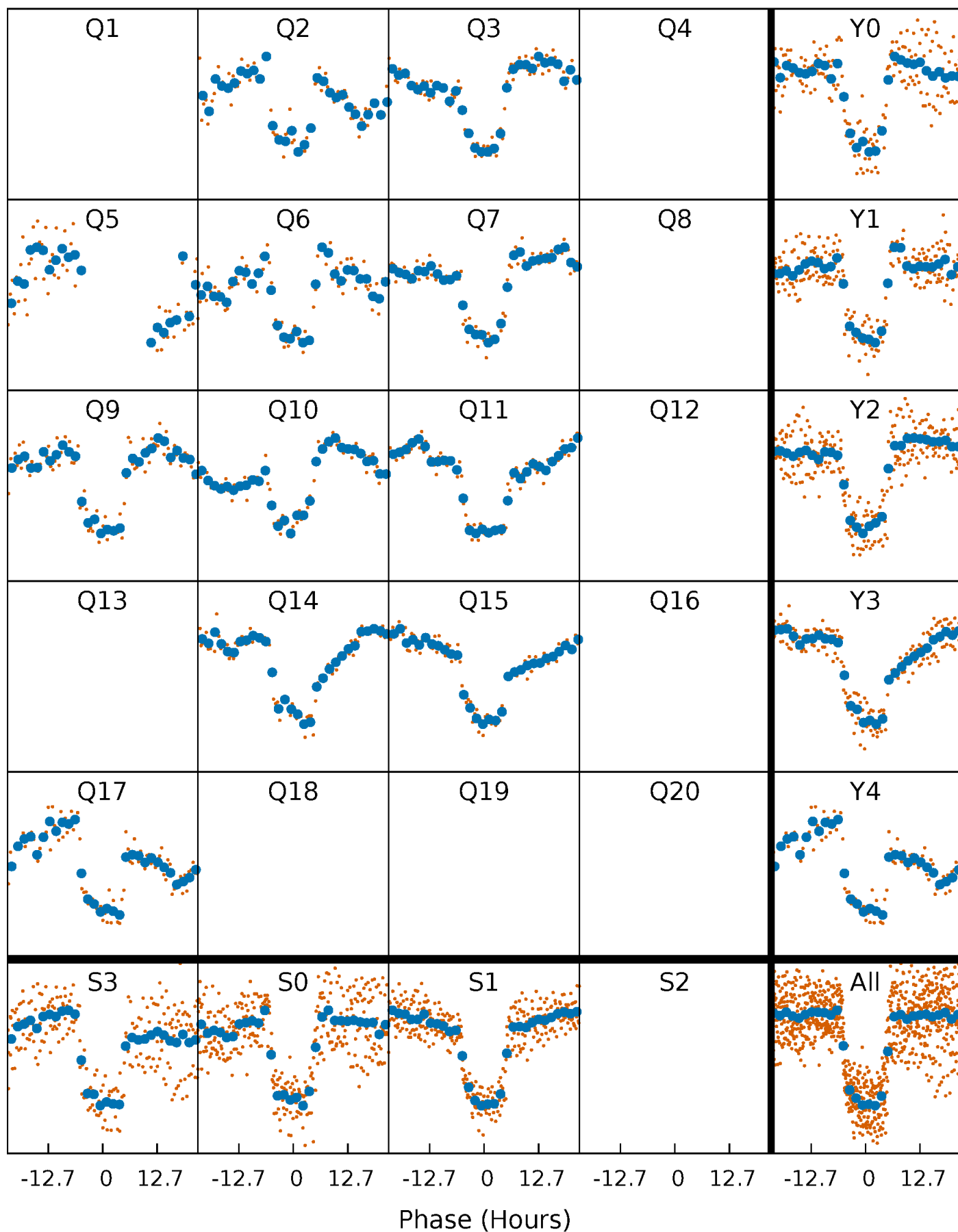


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



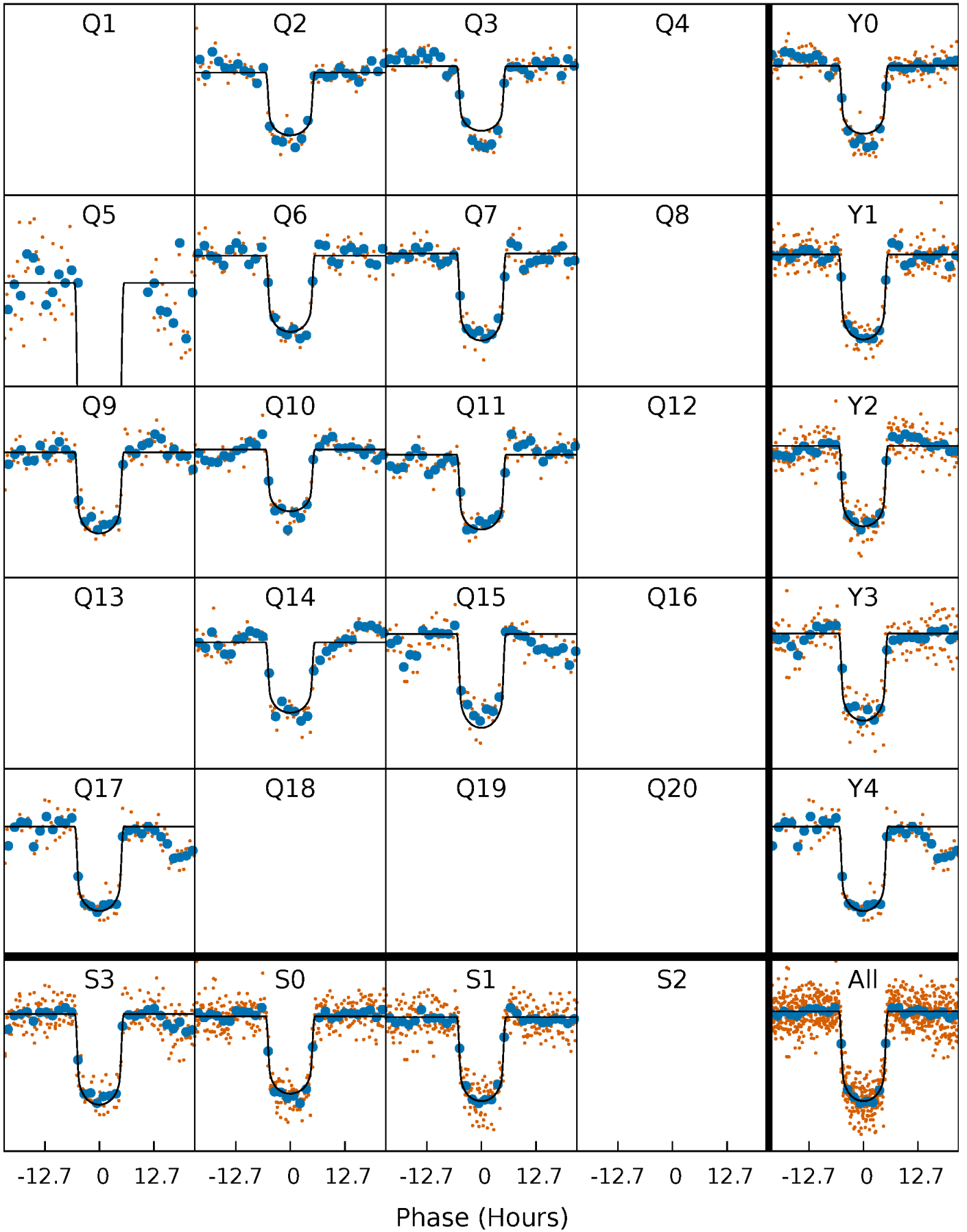
PDC Quarter-Phased Transit Curves

TCE 011071200-01 P= 96.455491 Days $T_0=214.752009$ (BKJD)



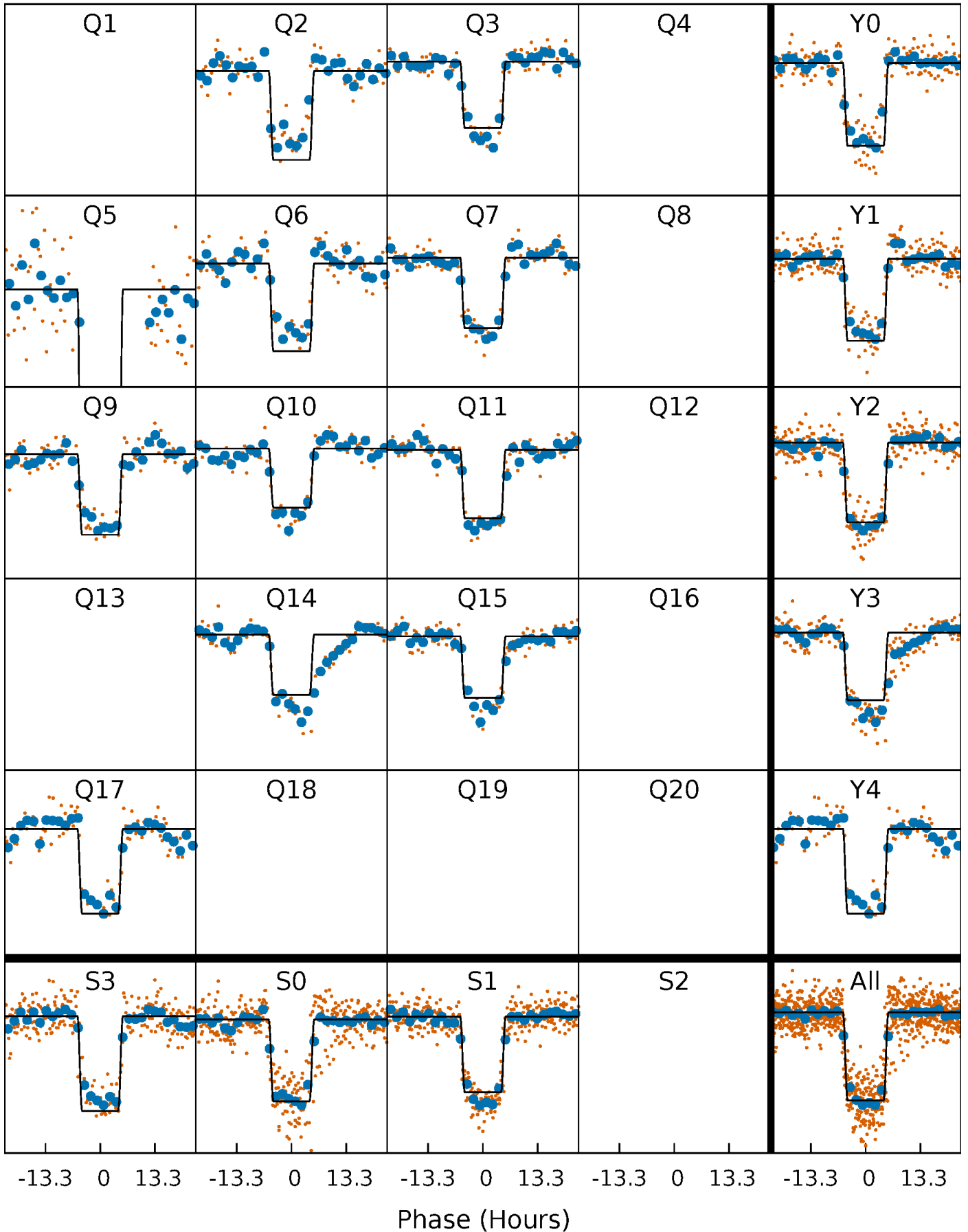
DV Quarter-Phased Transit Curves

TCE 011071200-01 P= 96.455491 Days $T_0=214.752009$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

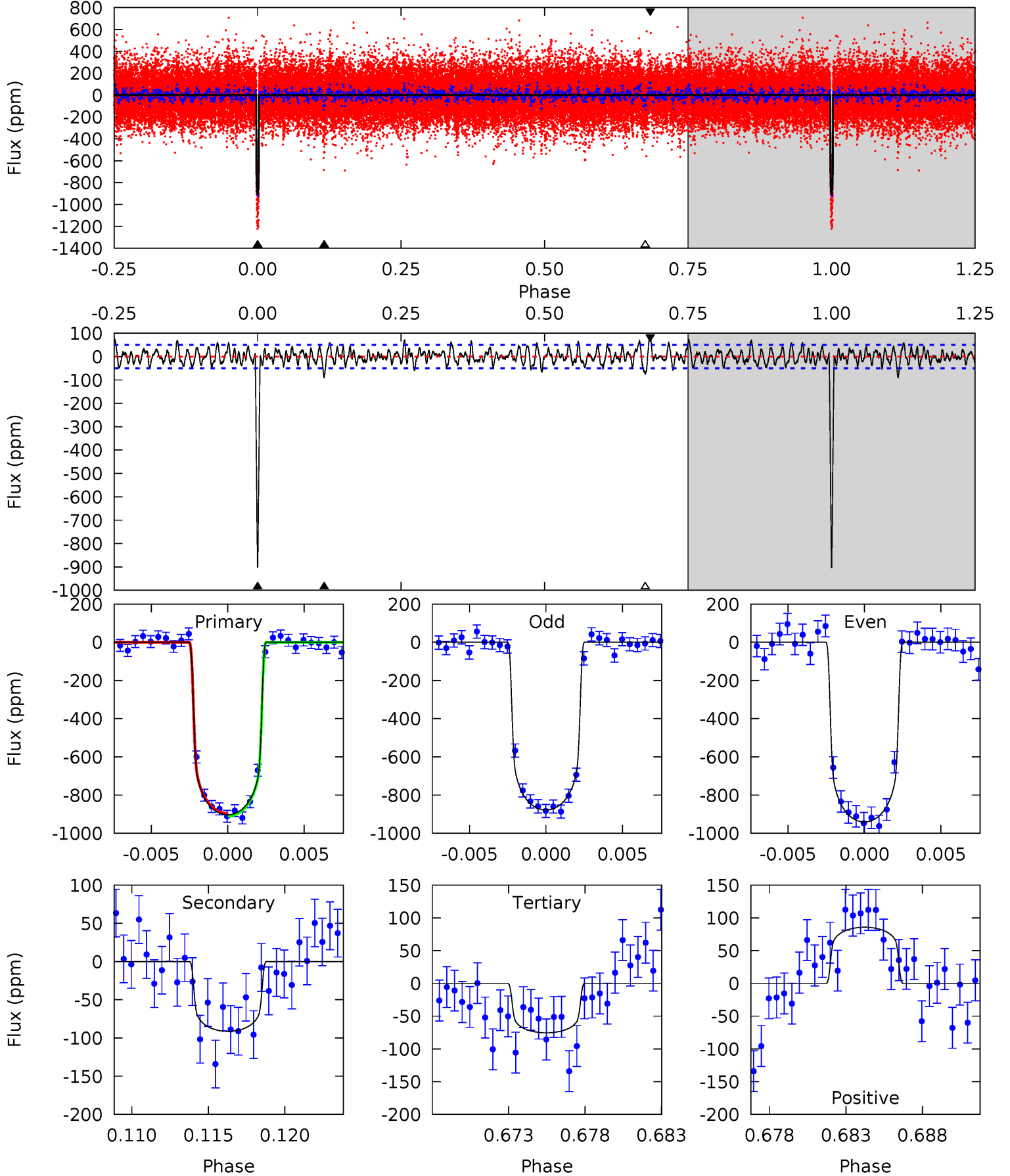
TCE 011071200-01 $P = 96.453289$ Days $T_0 = 214.771353$ (BKJD)



DV Model-Shift Uniqueness Test

011071200-01, $P = 96.455491$ Days, $E = 118.296518$ Days

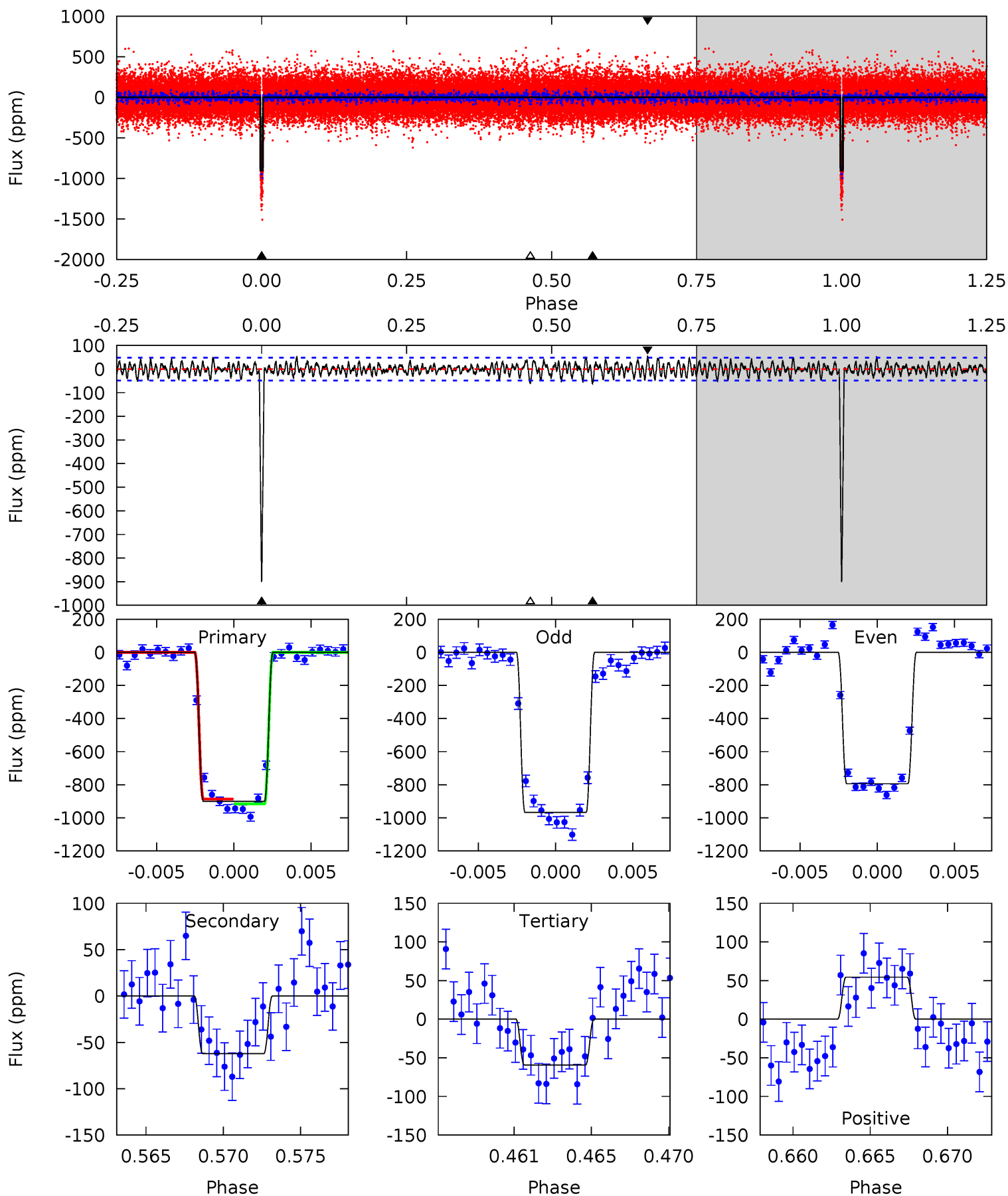
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
92.8	9.38	7.75	8.80	5.16	2.81	2.59	85.0	83.9	1.63	0.58	3.15	1.00	0.09	0.74



Alt Model-Shift Uniqueness Test

011071200-01, P = 96.453289 Days, E = 118.318064 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
96.4	6.64	6.34	5.82	5.17	2.82	2.03	90.1	90.6	0.30	0.82	9.01	0.96	0.06	1.48



Stellar Parameters For KIC 011071200

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7029^{+194}_{-219}	$3.806^{+0.277}_{-0.092}$	$-0.160^{+0.300}_{-0.300}$	$2.704^{+0.485}_{-0.901}$	$1.704^{+0.174}_{-0.349}$	$0.121^{+0.210}_{-0.043}$
	+3%/-3%	+7%/-2%	+188%/-188%	+18%/-33%	+10%/-20%	+173%/-36%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 011071200-01 / KOI 2696.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-91 ± 10	$8.42^{+1.08}_{-1.47}$	997^{+58}_{-93}	4208^{+135}_{-129}	171^{+72}_{-38}
Alt.	-62 ± 9	$8.56^{+1.11}_{-1.37}$	994^{+58}_{-81}	3907^{+121}_{-132}	113^{+43}_{-26}

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

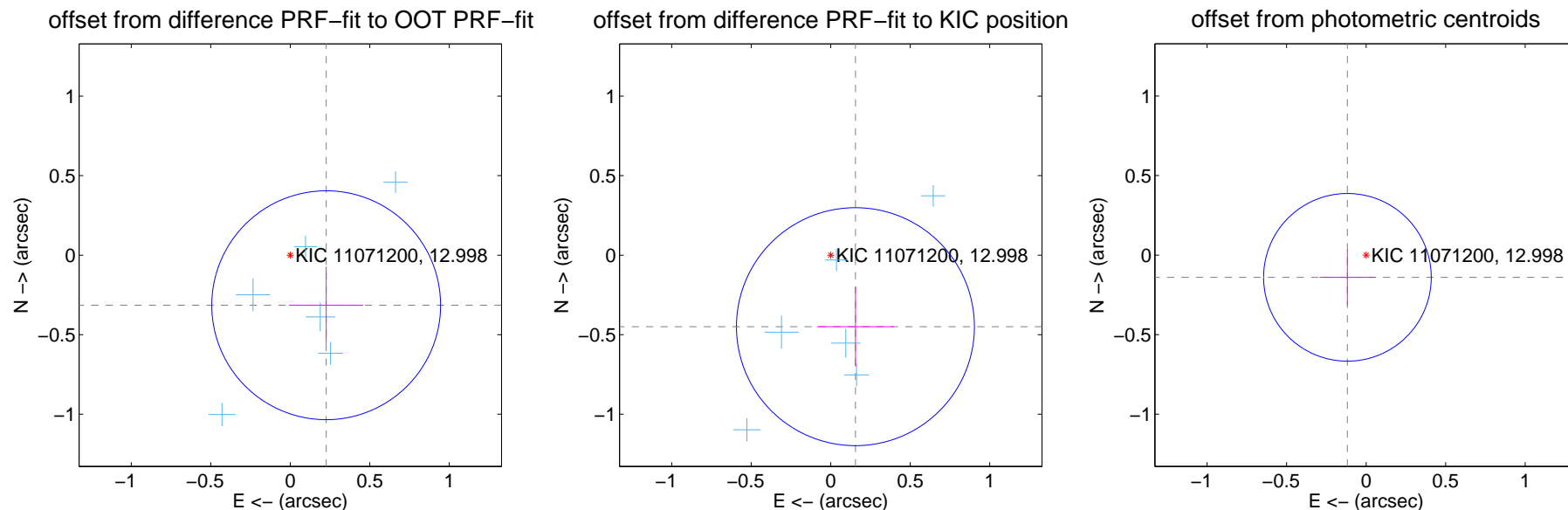
DV Centroid Data

Supplemental centroid analysis for 011071200-01. Kepler magnitude: 13.00. Transit SNR 39.62

There are 7 quarters with good PRF difference image offsets

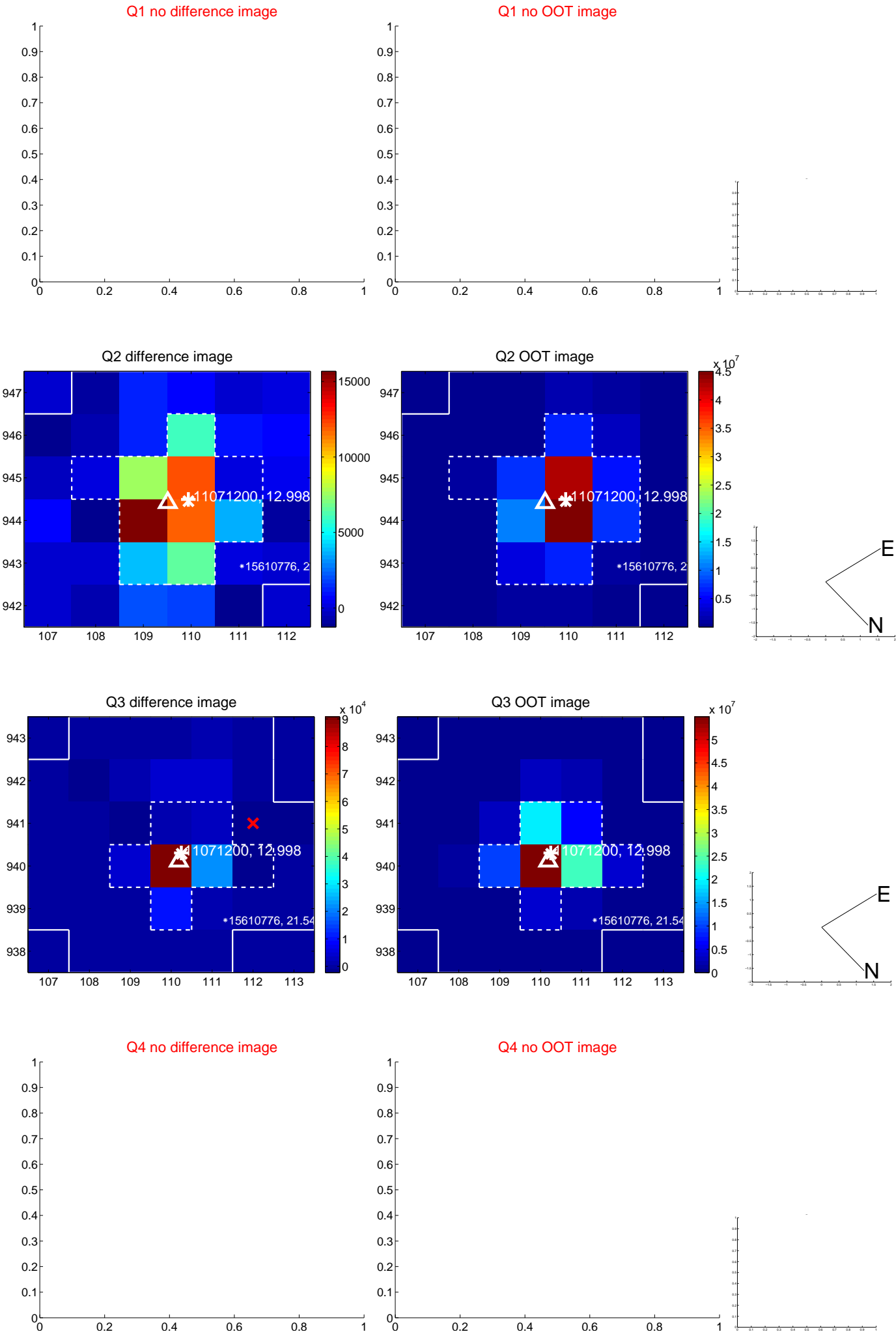
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.388 ± 0.240	1.62	-0.226 ± 0.234	-0.315 ± 0.243
PRF-fit source offset from KIC position	0.476 ± 0.249	1.91	-0.155 ± 0.241	-0.450 ± 0.250
photometric centroid source offset	0.18 ± 0.18	1.04	0.12 ± 0.18	-0.14 ± 0.18

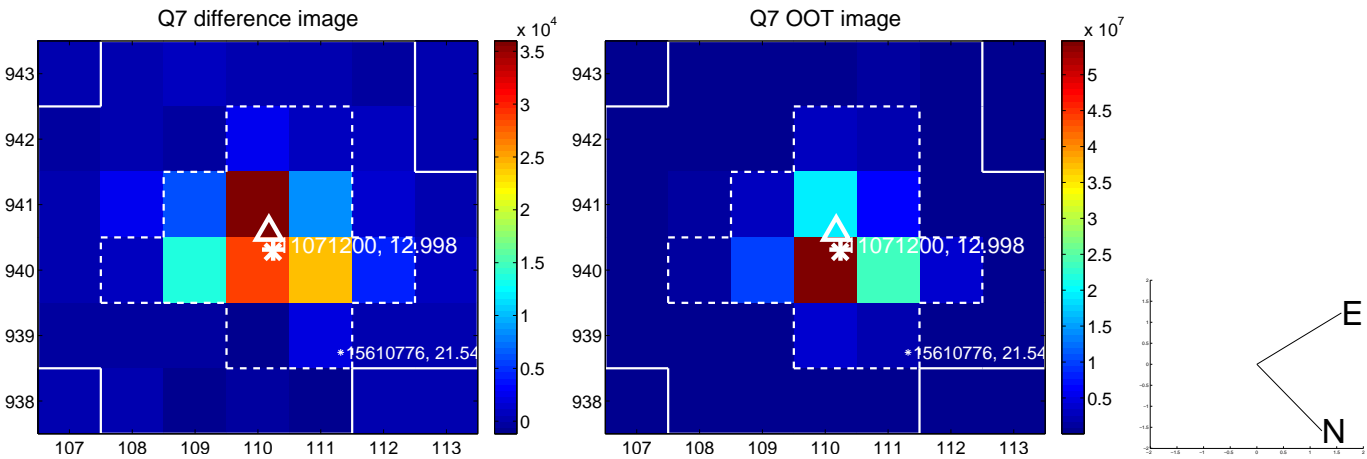


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

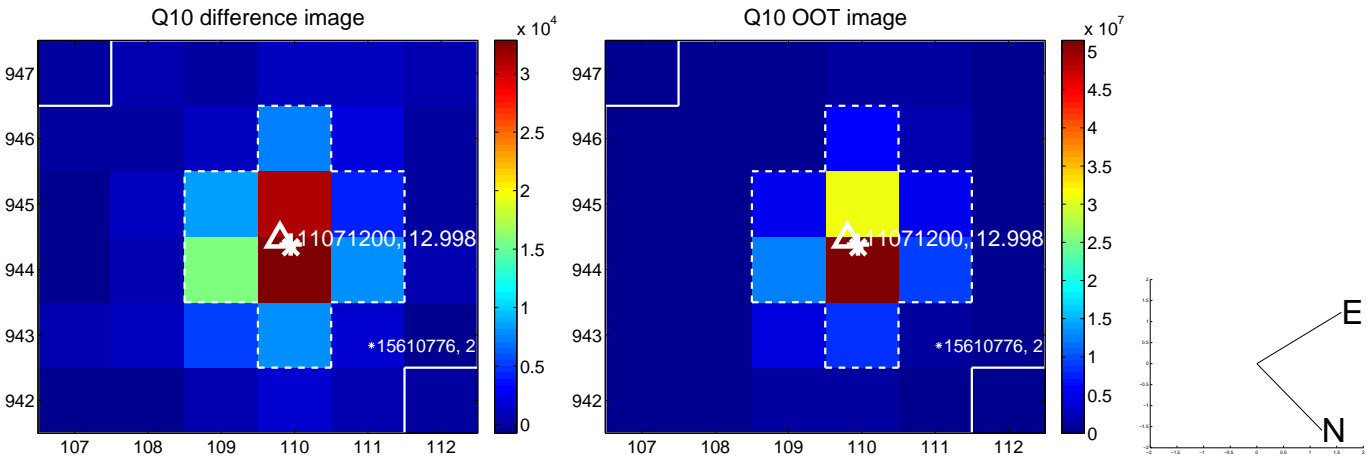
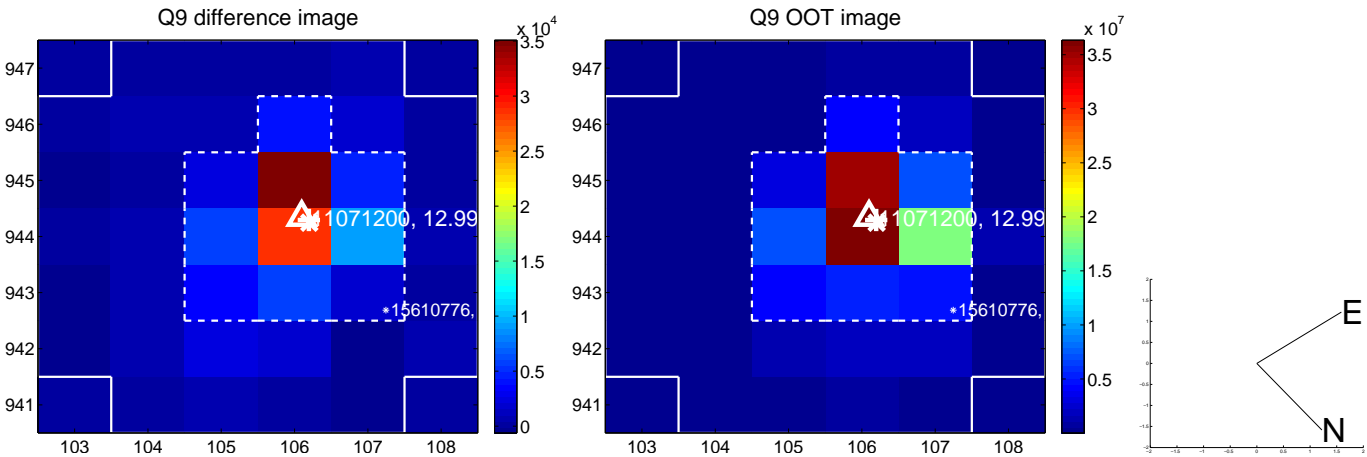
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



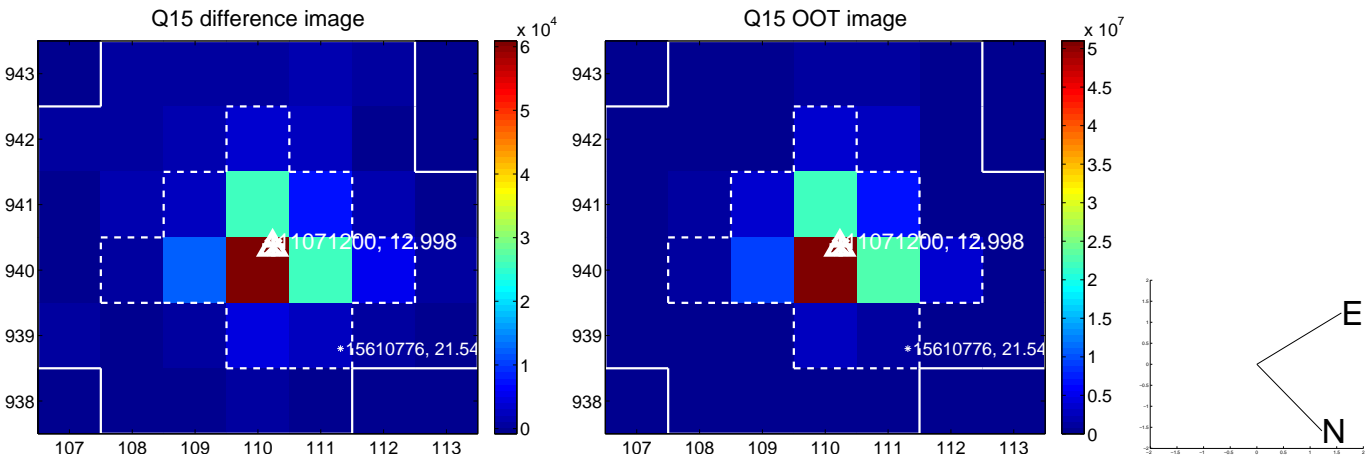
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



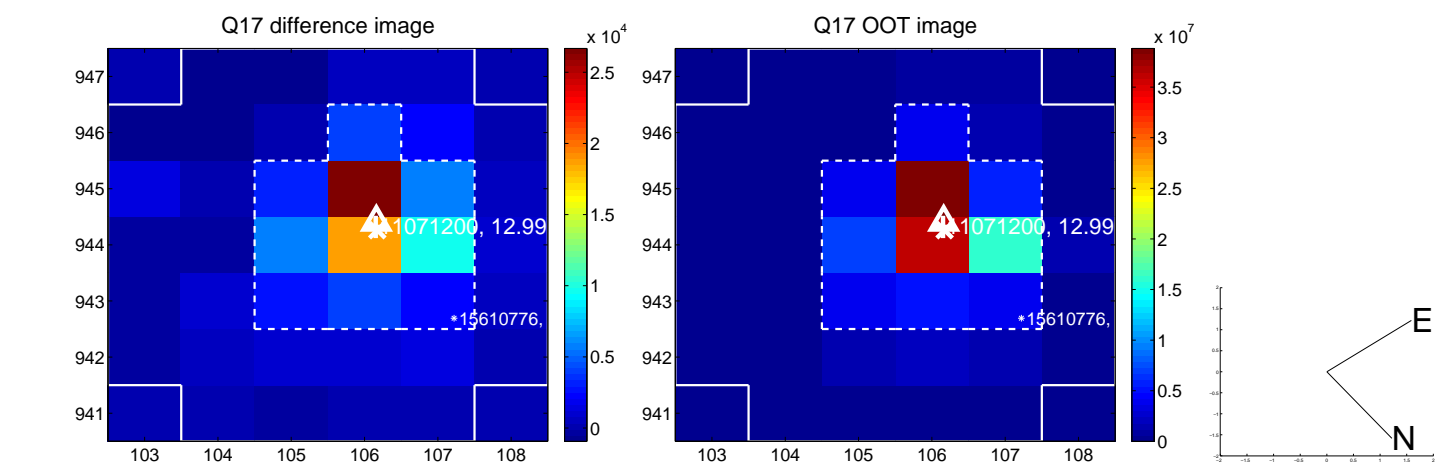
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



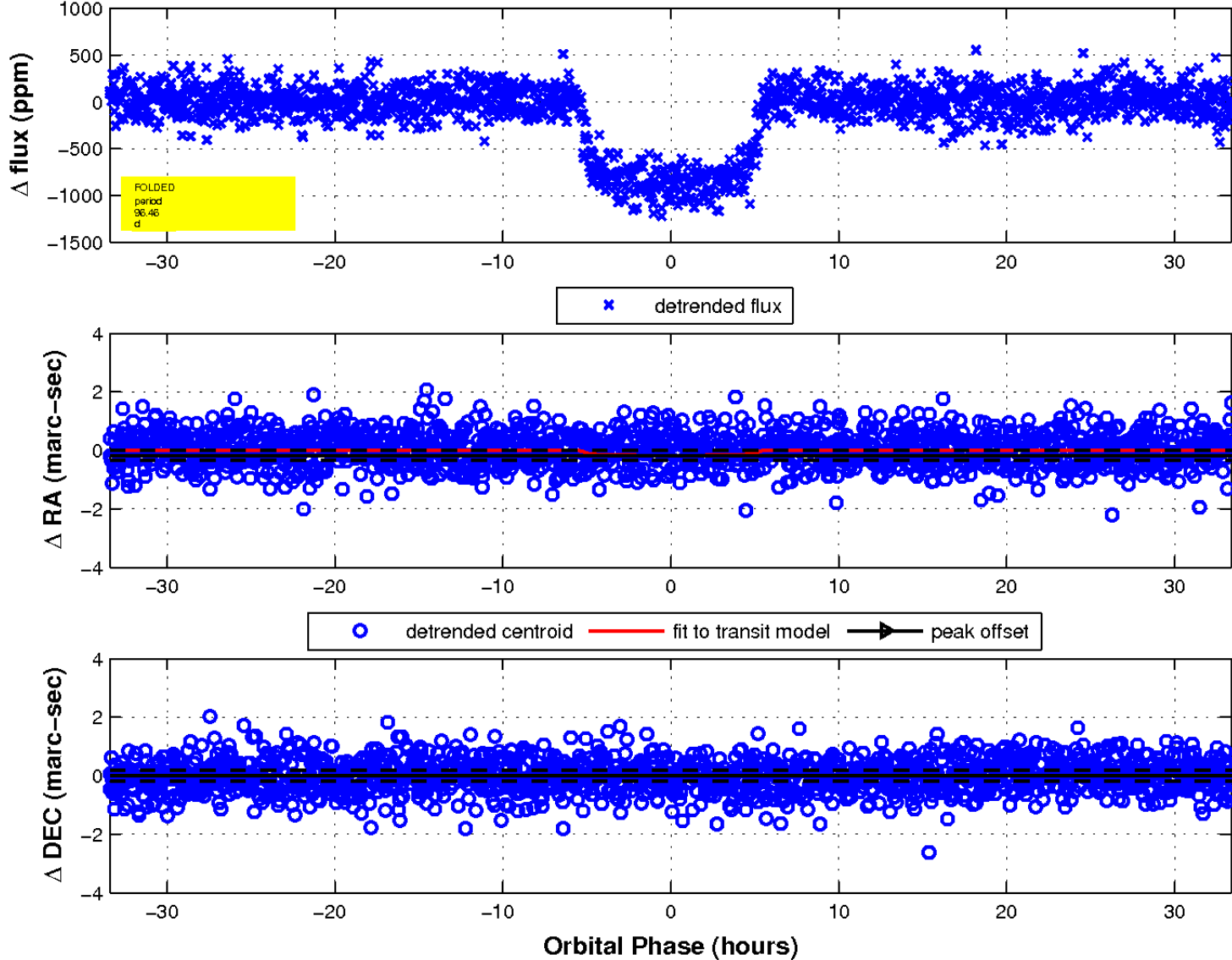
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

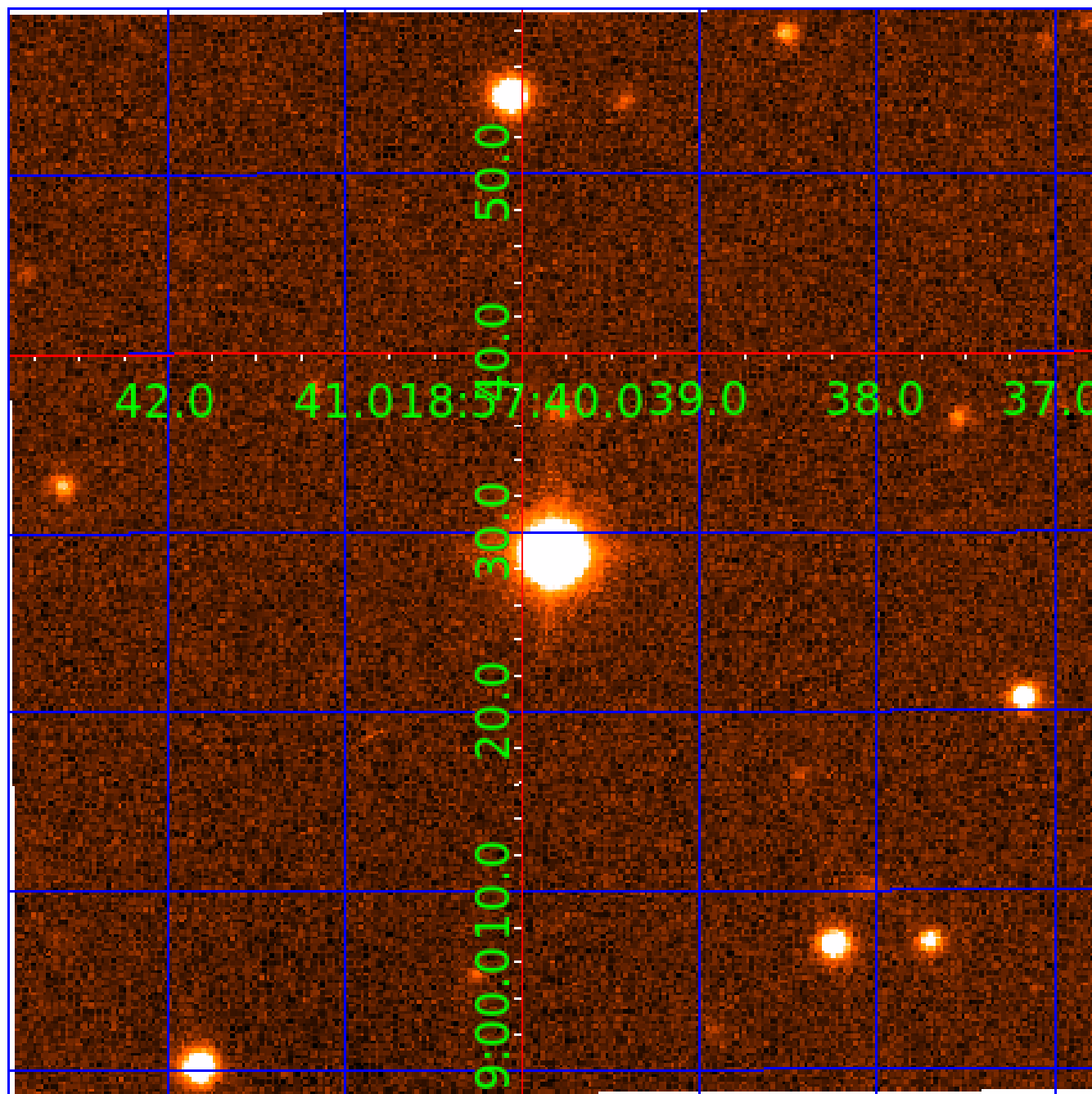


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 011071200

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})
011071200-01	OBS	2696.01	96.455491	214.752009	892.1	11.133	39.7	39.6	2.70	7029	8.78	66.08
011071200-02	OBS	2696.02	44.564631	143.436106	331.5	7.949	21.8	21.6	2.70	7029	5.70	184.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011071200-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011071200-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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.

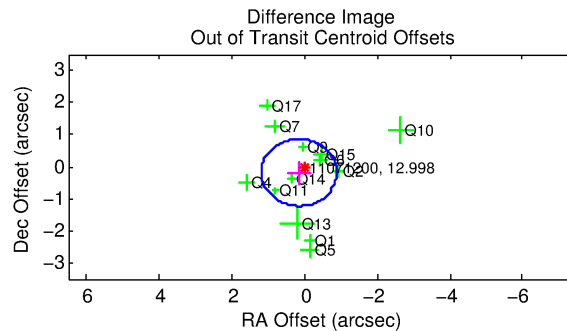
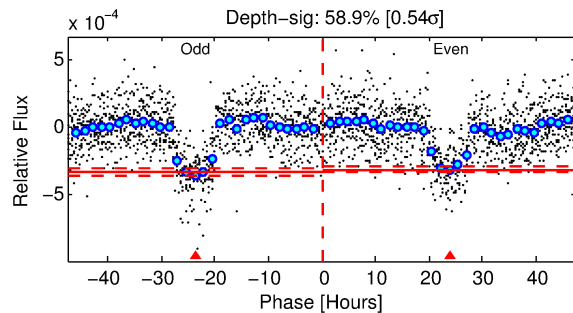
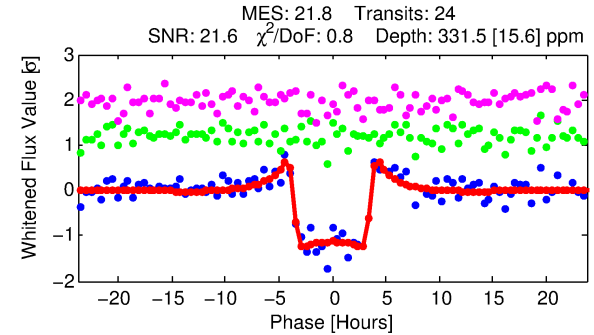
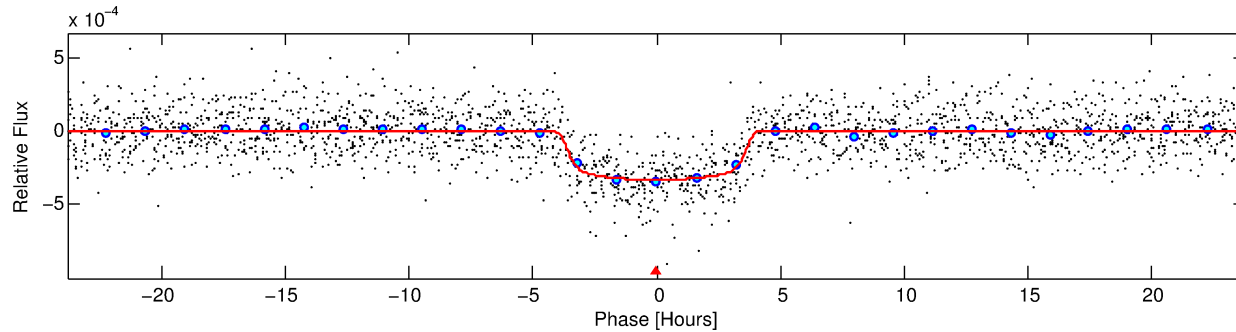
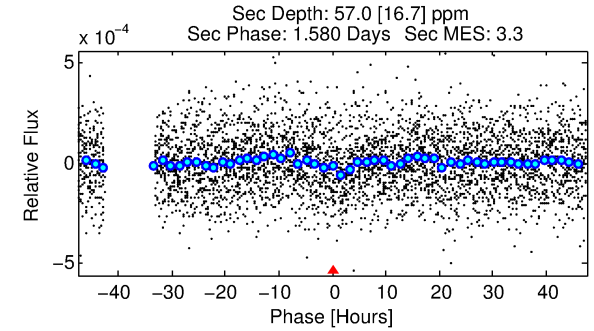
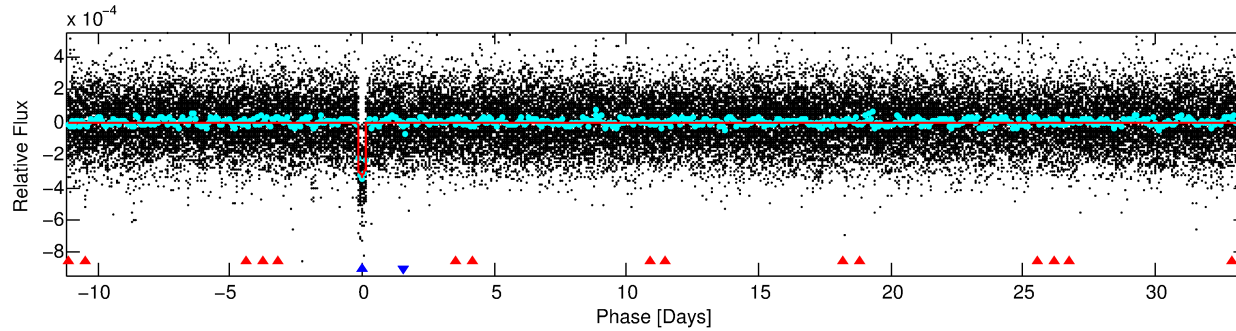
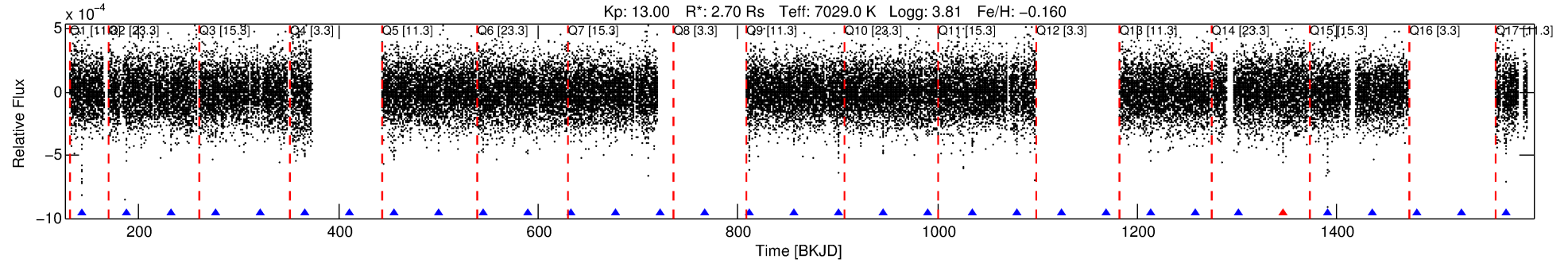
Ephemeris Match Information For 011071200-02

No Significant Match Found

DV One-Page Summary

KIC: 11071200 Candidate: 2 of 2 Period: 44.565 d

KOI: K02696.02 Corr: 0.976



DV Fit Results:

Period = 44.56463 [0.00021] d
Epoch = 143.4361 [0.0038] BKJD
Rp/R* = 0.0193 [0.0008]
a/R* = 21.05 [4.02]
b = 0.89 [0.04]
Seff = 184.99 [91.69]
Teq = 940 [117] K
Rp = 5.70 [1.92] Re
a = 0.2940 [0.0904] AU
Ag = 83.39 [47.43] [1.74σ]
Teffp = 4394 [362] K [9.07σ]

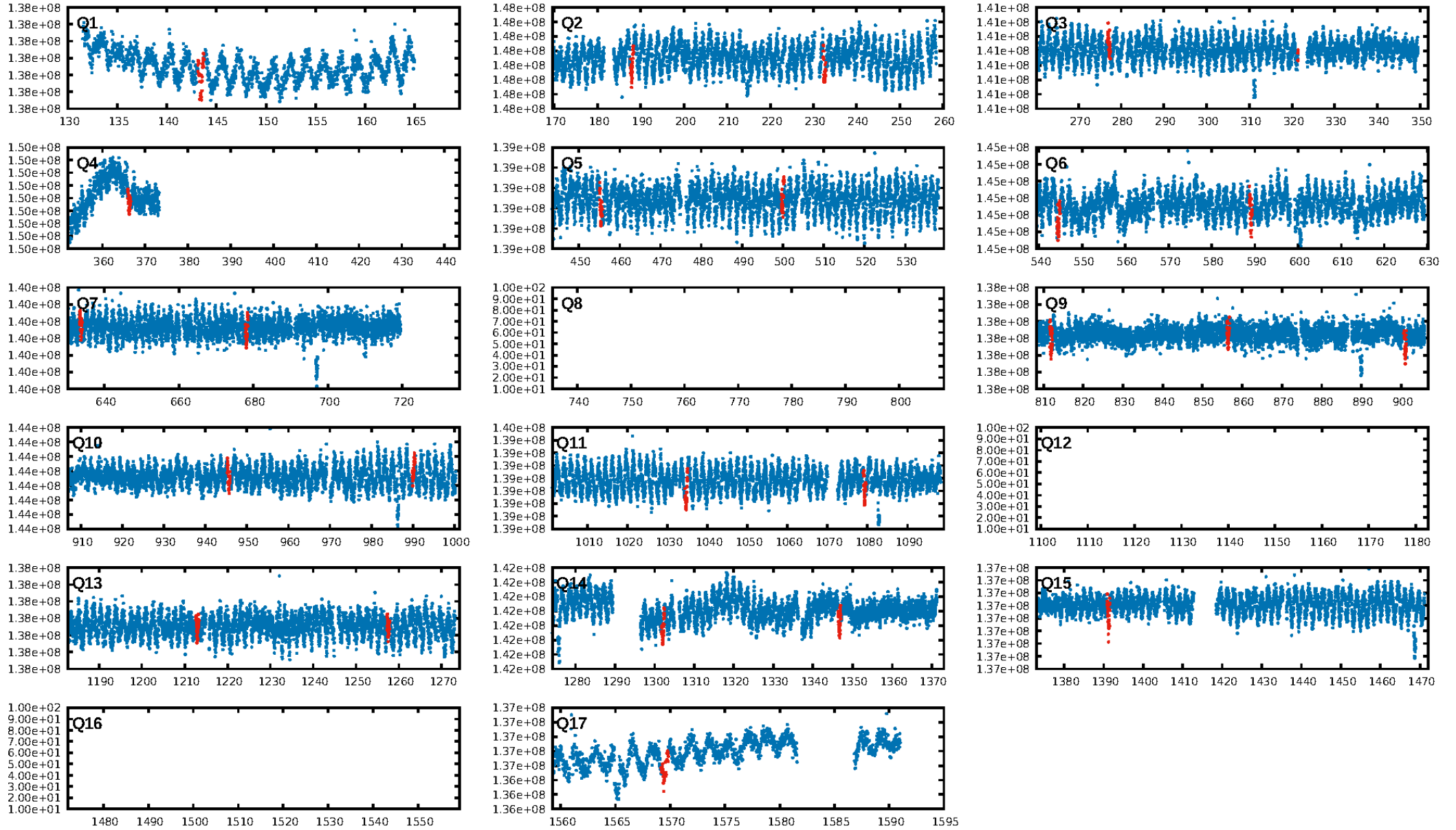
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [91.04σ]
ModelChiSquare2-sig: 73.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.41e-97
RollingBand-fgt: 0.95 [20/21]
GhostDiagnostic-chr: 3.642
Centroid-sig: 6.7%
Centroid-so: 0.575 arcsec [1.80σ]
OotOffset-rm: 0.243 arcsec [0.70σ]
KicOffset-rm: 0.414 arcsec [1.11σ]
OotOffset-st: 4/3/1/5 [13]
KicOffset-st: 4/3/1/5 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 1.00 [14/14]

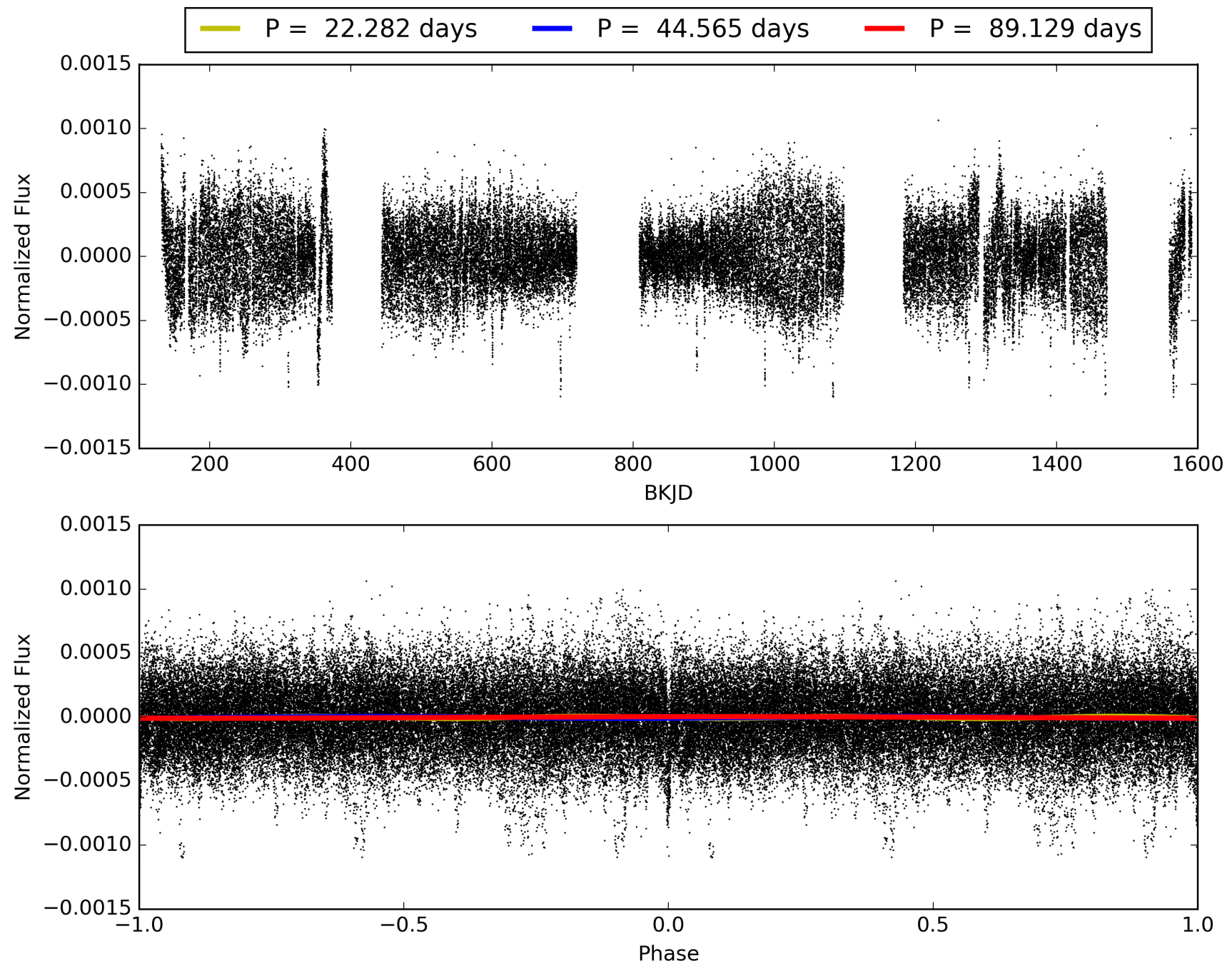
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:46:18 Z

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

TCE 011071200-02, PDC Light Curves

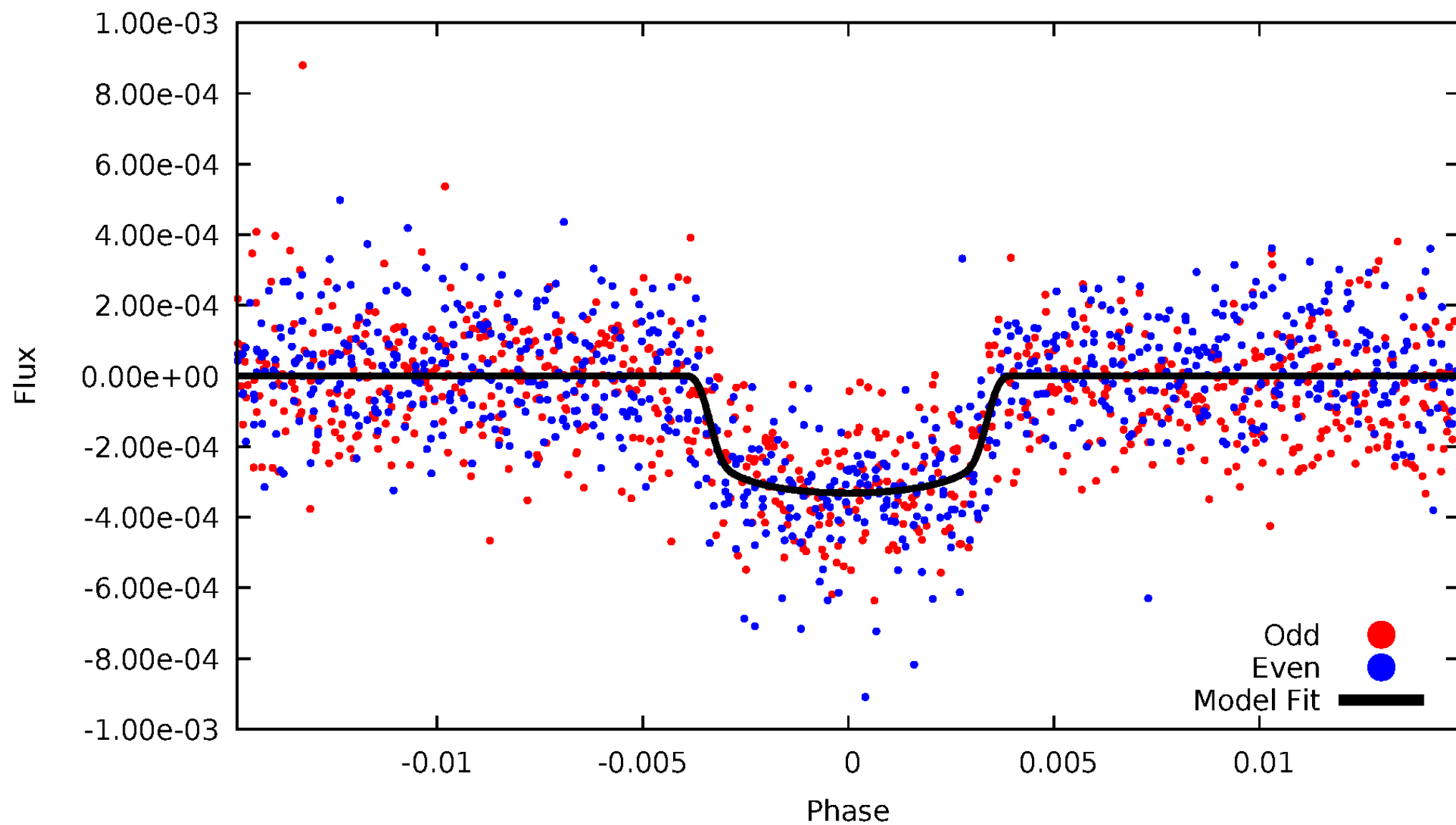


TCE 011071200-02



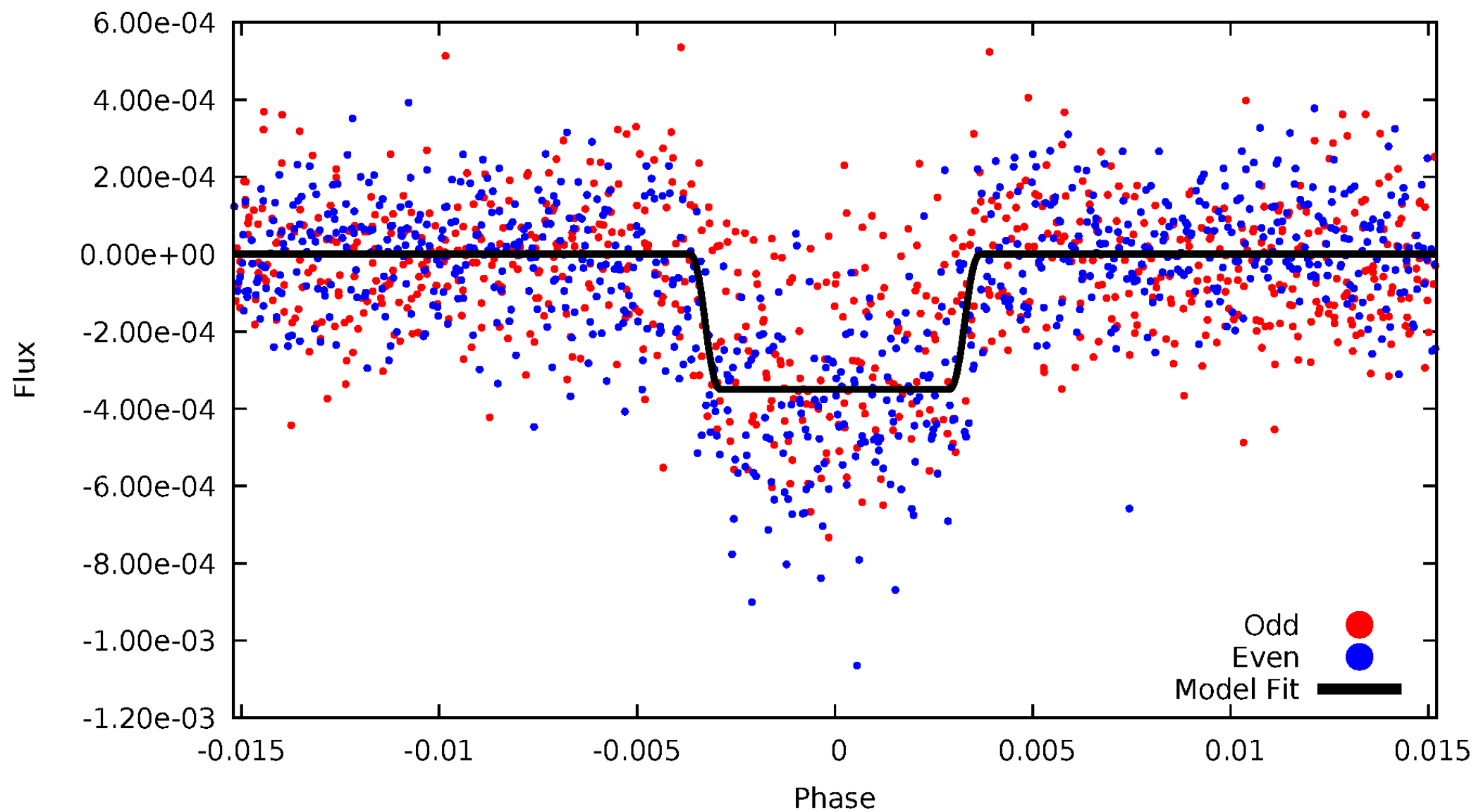
DV Odd/Even

TCE 011071200-02



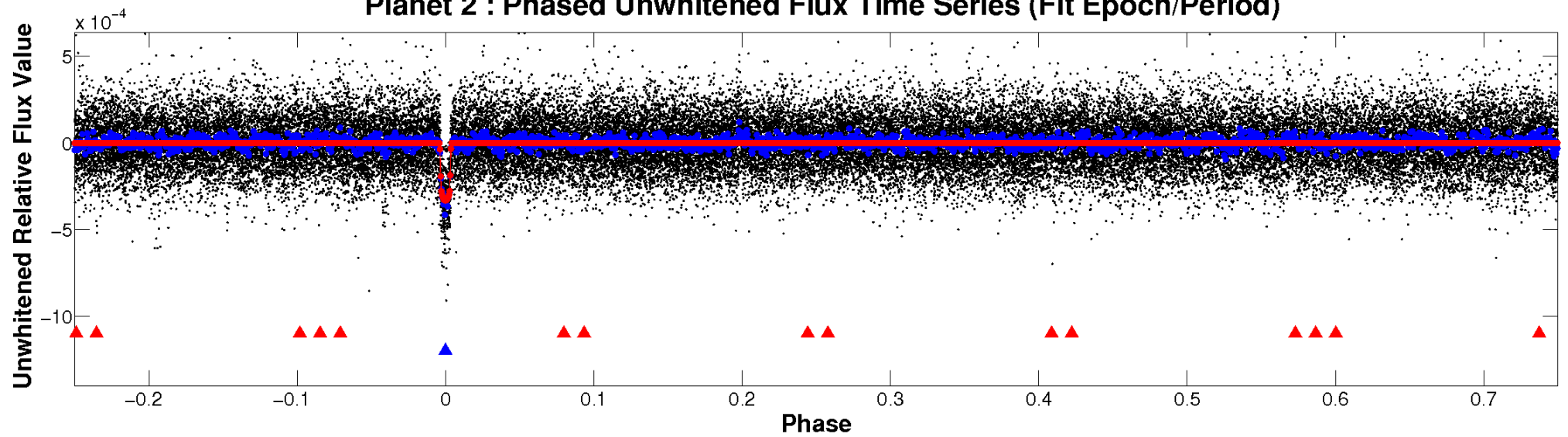
ALT Odd/Even

TCE 011071200-02

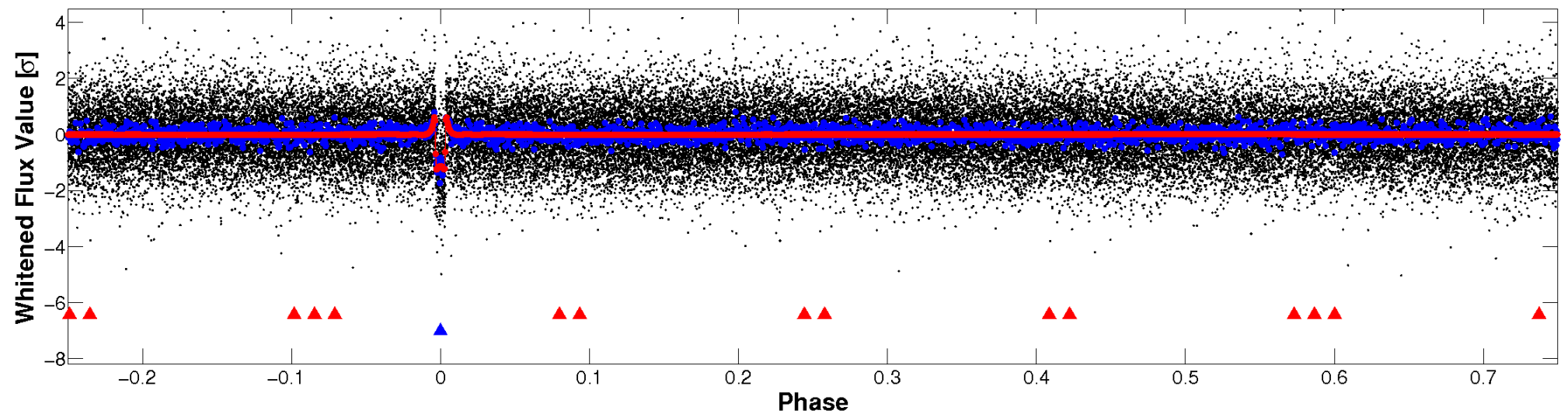


Non-Whitened Vs. Whitened Light Curve

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

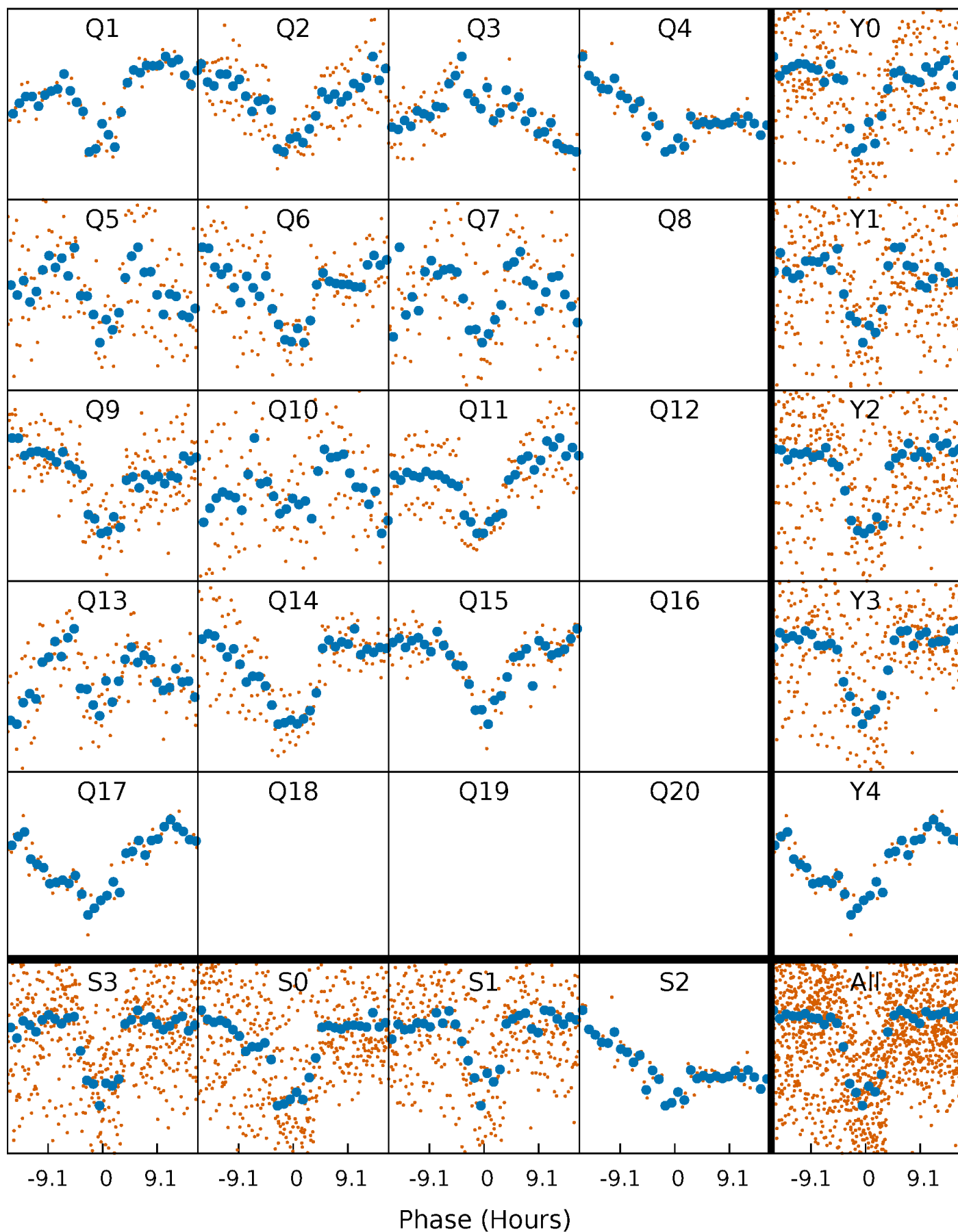


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



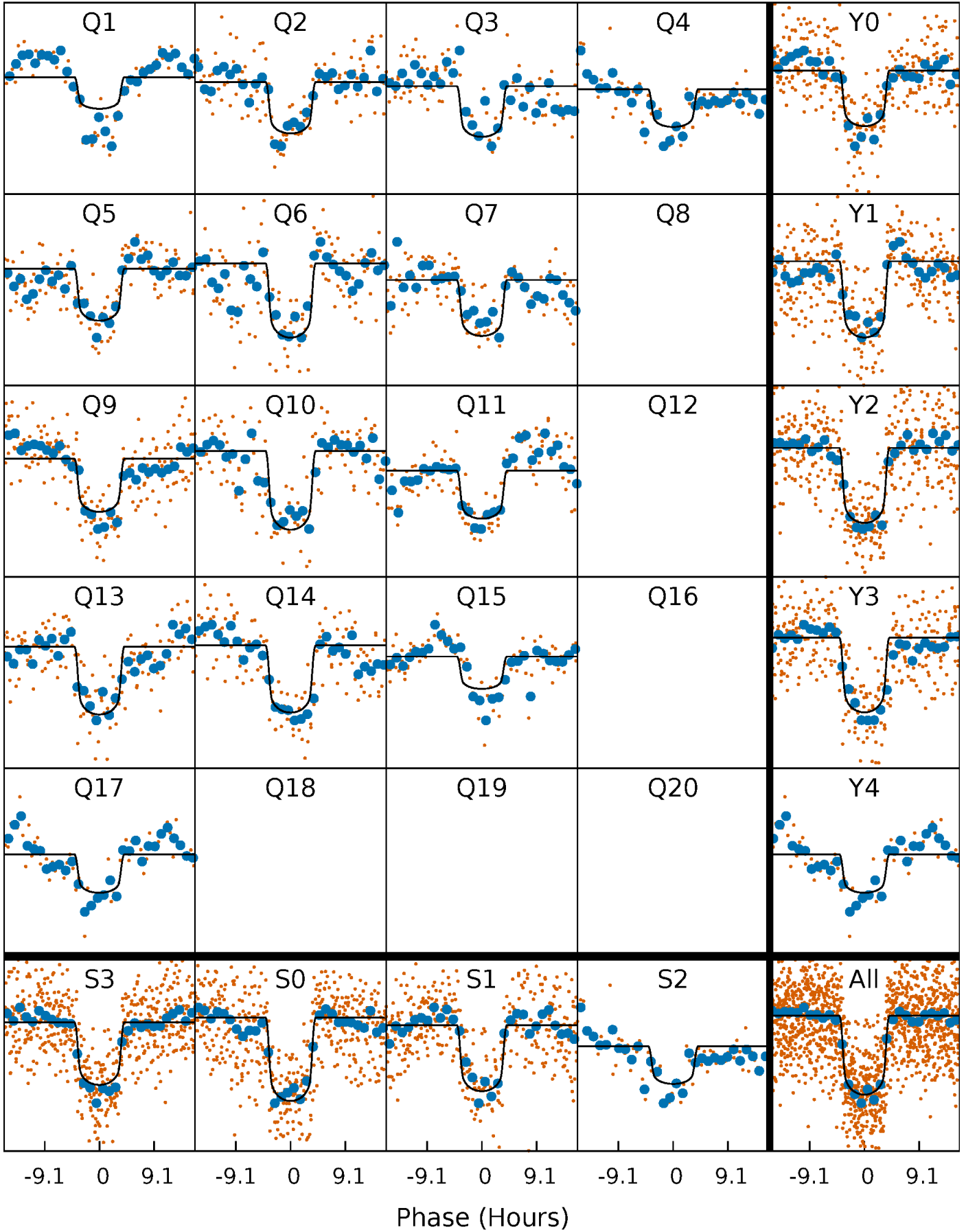
PDC Quarter-Phased Transit Curves

TCE 011071200-02 P= 44.564631 Days $T_0=143.436106$ (BKJD)



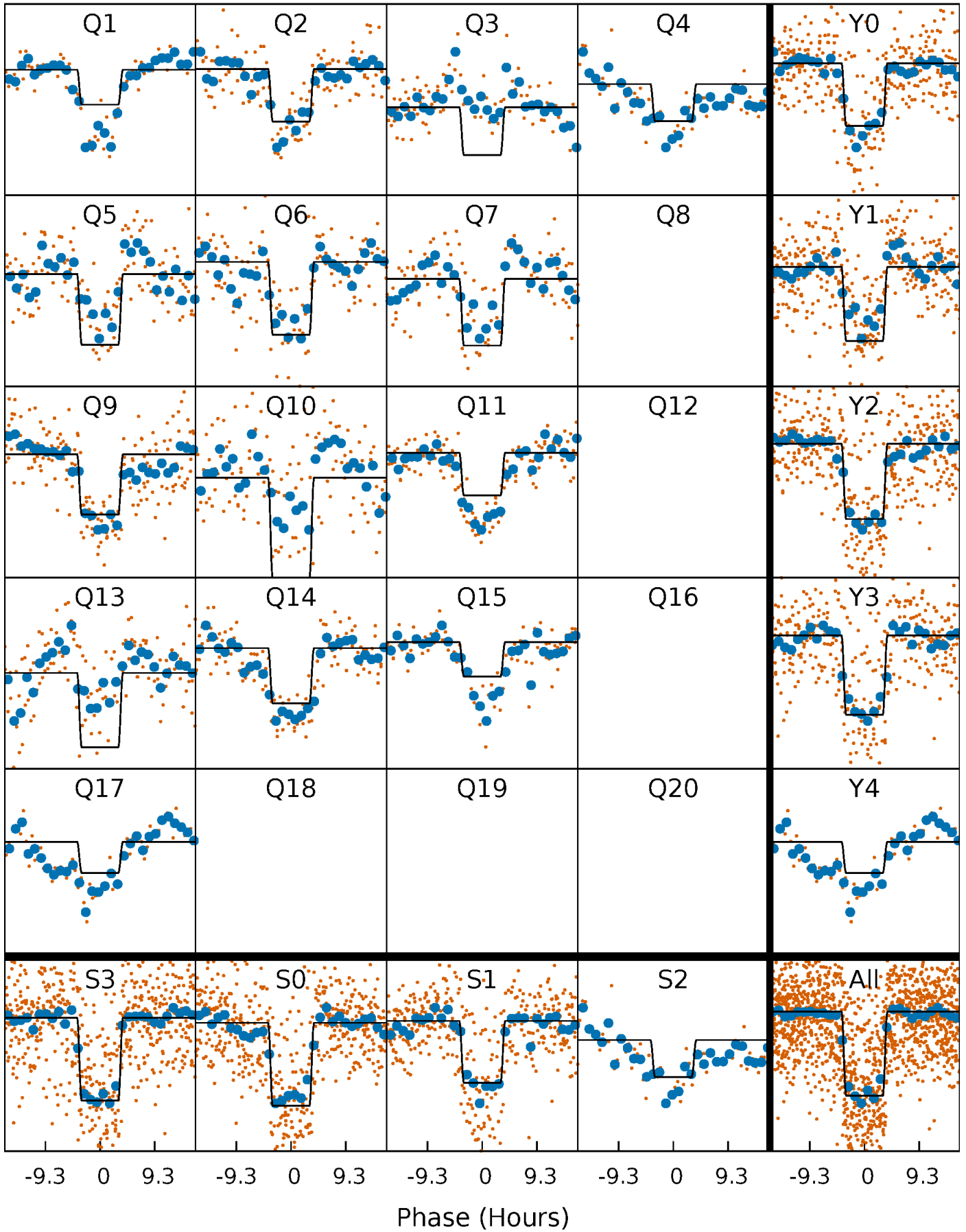
DV Quarter-Phased Transit Curves

TCE 011071200-02 P= 44.564631 Days $T_0=143.436106$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

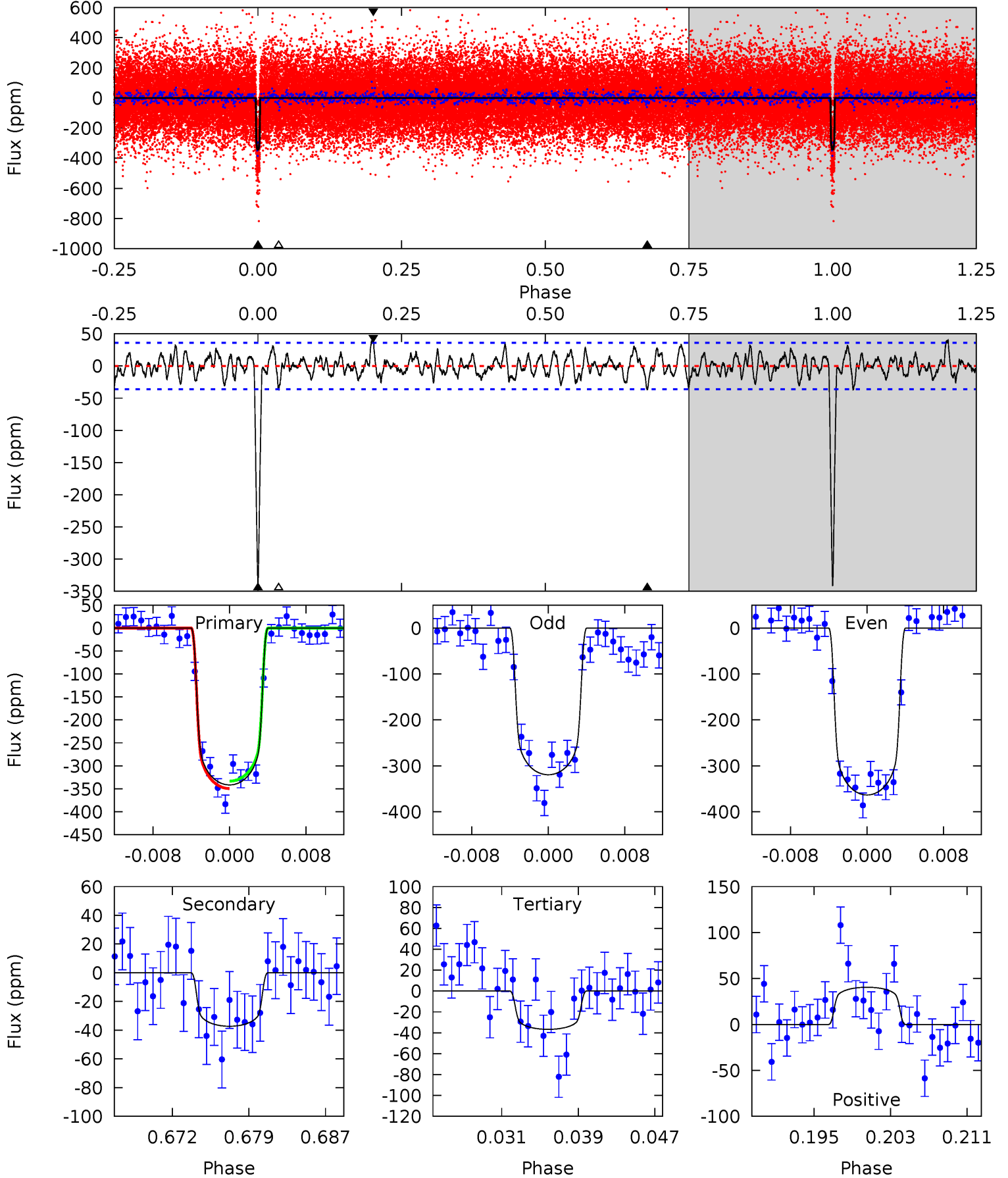
TCE 011071200-02 $P = 44.564285$ Days $T_0 = 143.439273$ (BKJD)



DV Model-Shift Uniqueness Test

011071200-02, P = 44.564631 Days, E = 98.871475 Days

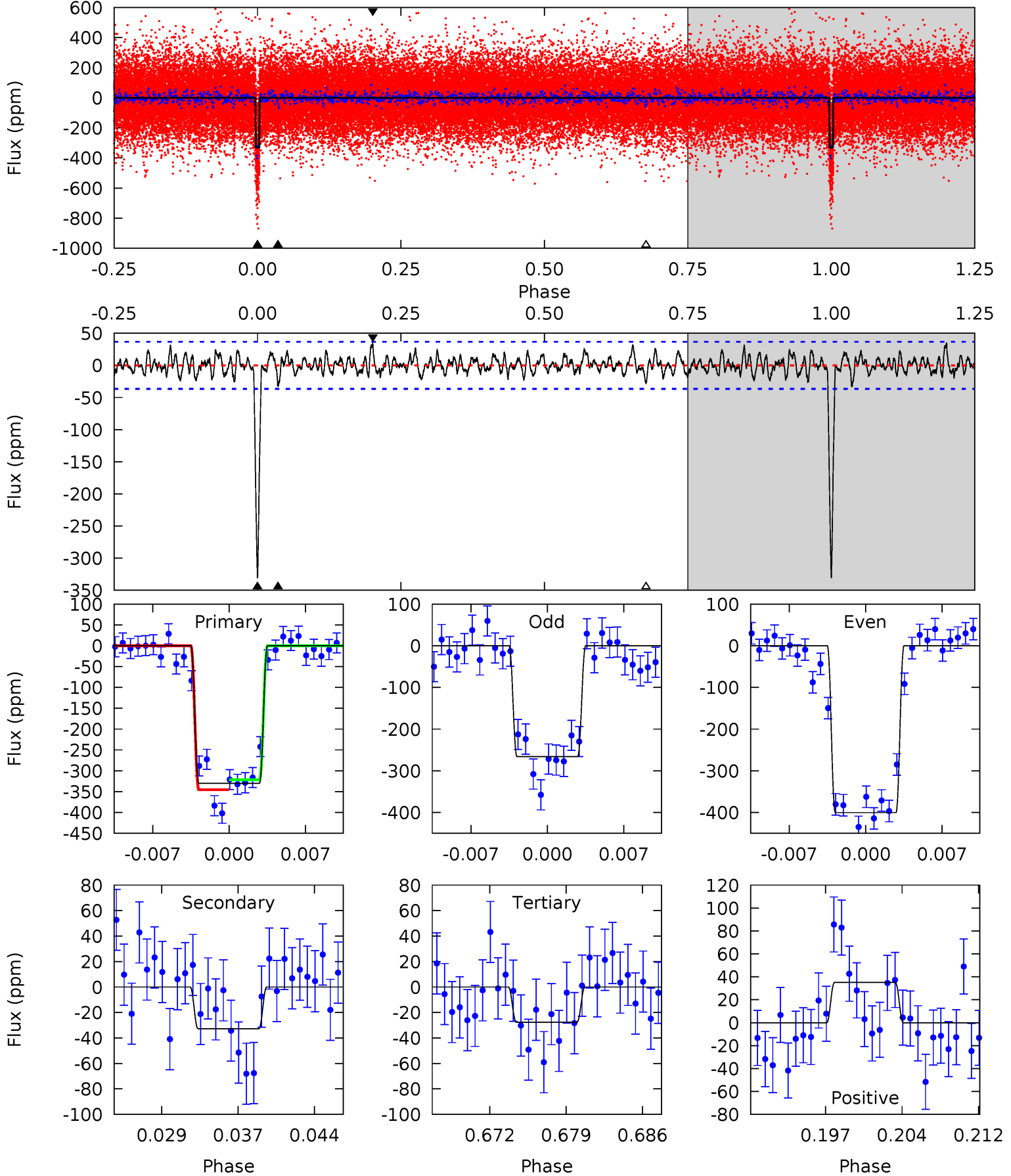
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.1	5.25	5.17	5.70	5.07	2.66	1.83	42.9	42.4	0.08	-0.45	3.11	0.98	0.11	1.14



Alt Model-Shift Uniqueness Test

011071200-02, P = 44.564285 Days, E = 98.874988 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.8	4.55	3.83	4.88	5.09	2.68	1.44	42.0	41.0	0.72	-0.34	9.35	0.92	0.10	1.65



Stellar Parameters For KIC 011071200

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7029^{+194}_{-219}	$3.806^{+0.277}_{-0.092}$	$-0.160^{+0.300}_{-0.300}$	$2.704^{+0.485}_{-0.901}$	$1.704^{+0.174}_{-0.349}$	$0.121^{+0.210}_{-0.043}$
	+3%/-3%	+7%/-2%	+188%/-188%	+18%/-33%	+10%/-20%	+173%/-36%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 011071200-02 / KOI 2696.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-37 ± 7	$5.47^{+0.73}_{-0.91}$	1286^{+79}_{-103}	4188^{+169}_{-193}	59^{+25}_{-15}
Alt.	-33 ± 7	$5.34^{+0.67}_{-0.92}$	1290^{+80}_{-103}	4129^{+182}_{-222}	55^{+26}_{-17}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

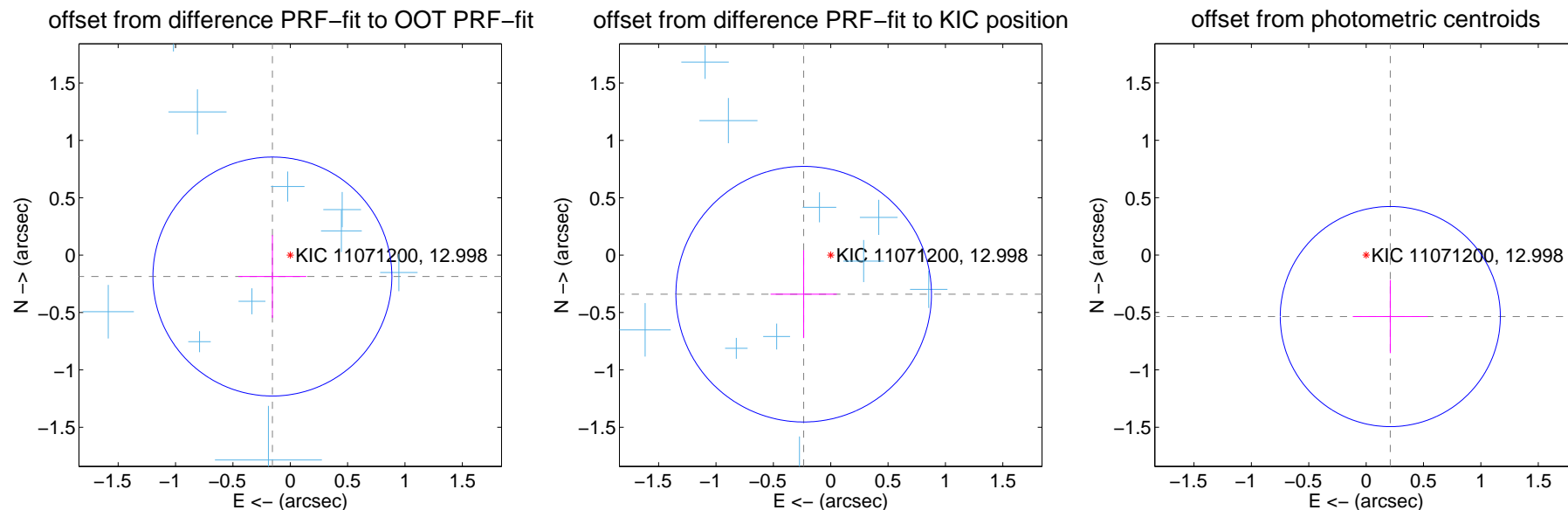
DV Centroid Data

Supplemental centroid analysis for 011071200-02. Kepler magnitude: 13.00. Transit SNR 21.65

There are 12 quarters with good PRF difference image offsets

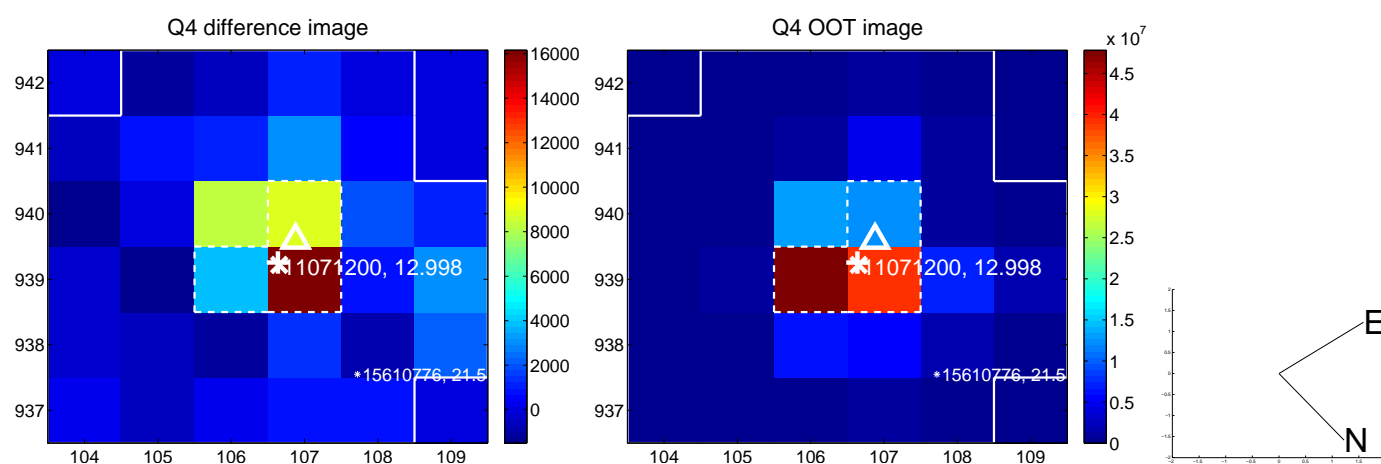
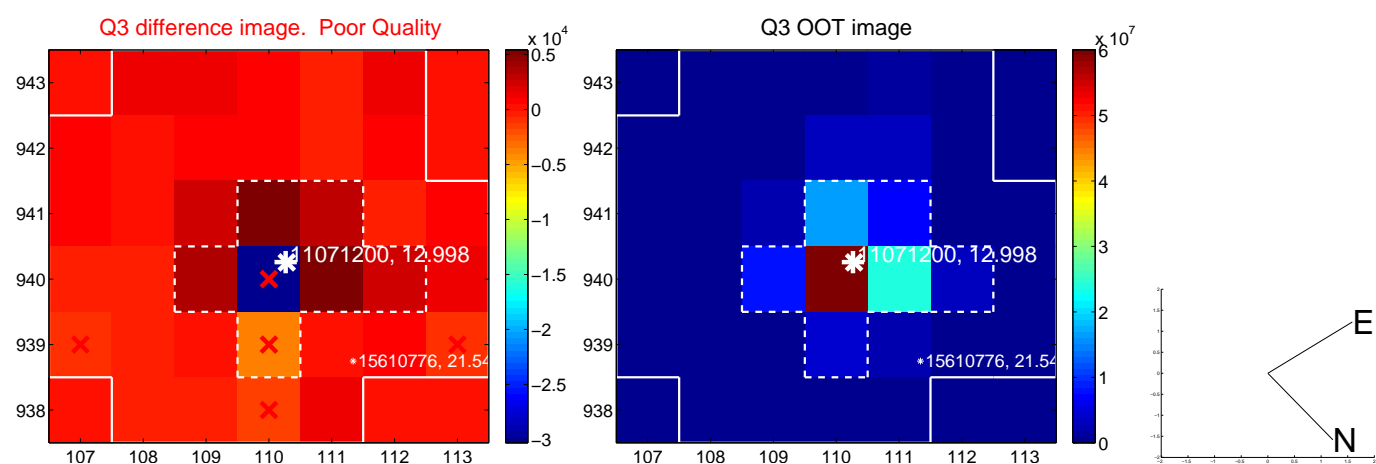
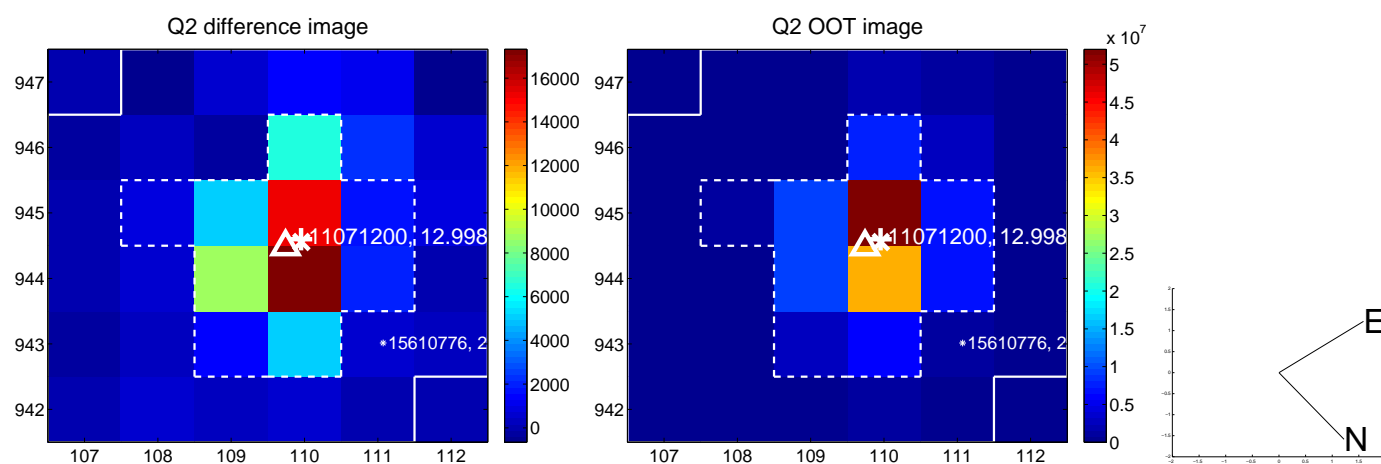
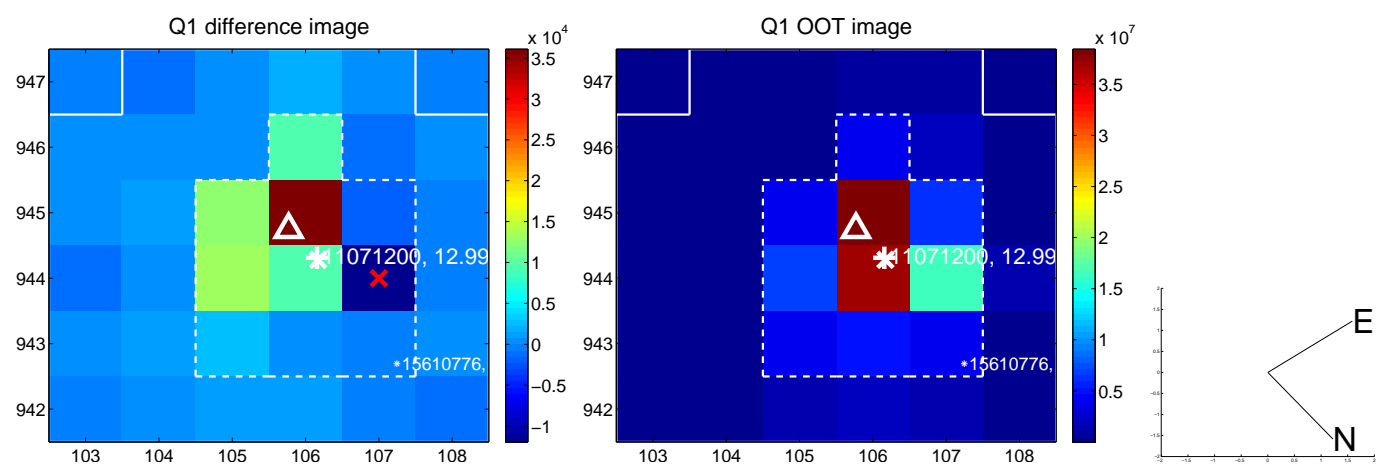
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.243 ± 0.347	0.70	0.156 ± 0.296	-0.186 ± 0.361
PRF-fit source offset from KIC position	0.414 ± 0.371	1.11	0.236 ± 0.288	-0.340 ± 0.383
photometric centroid source offset	0.58 ± 0.32	1.80	-0.21 ± 0.33	-0.54 ± 0.32

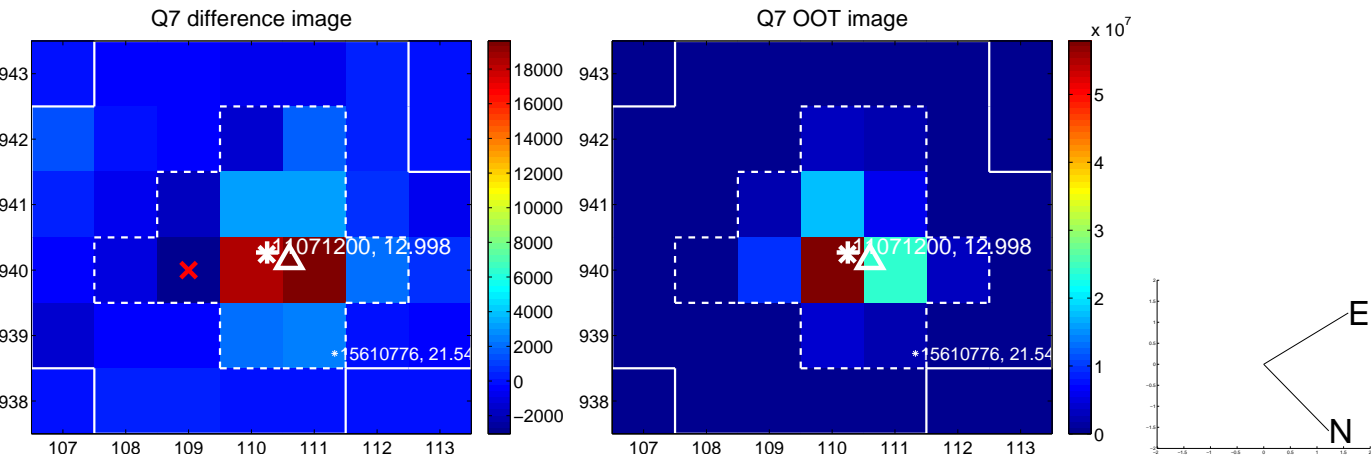
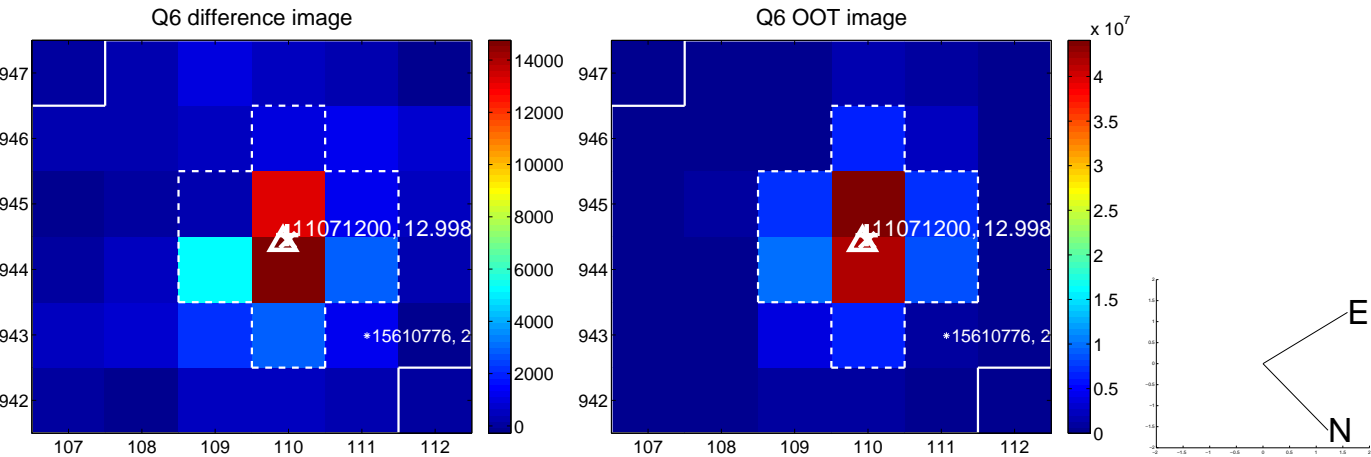
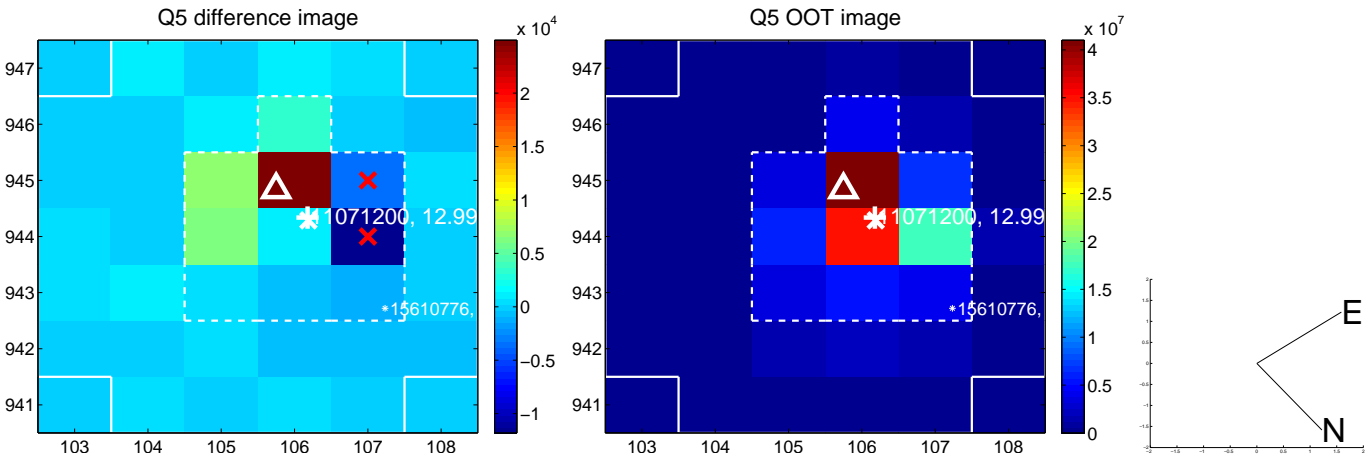


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

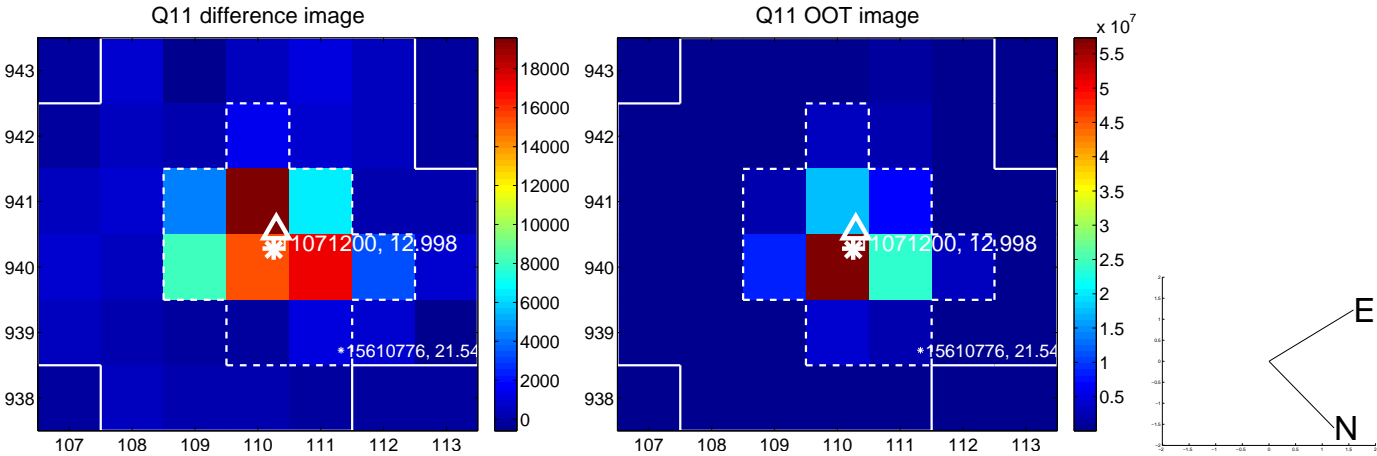
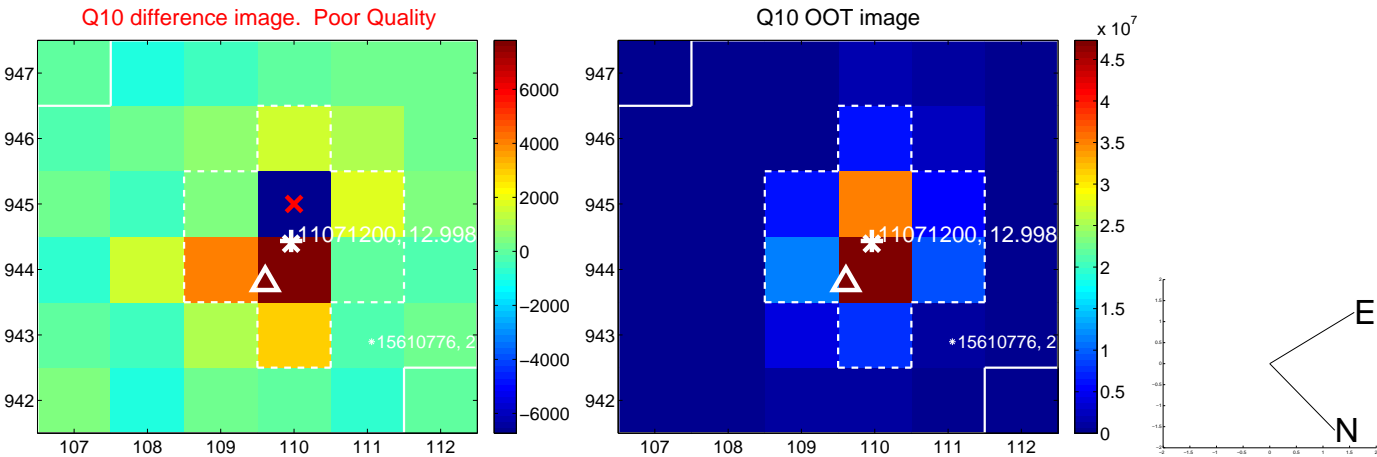
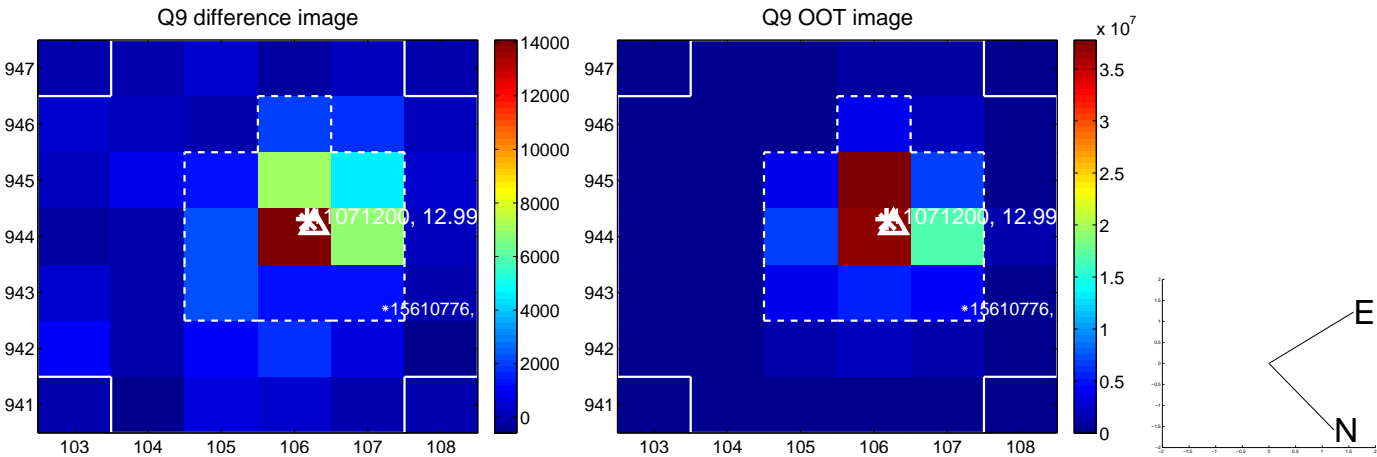
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



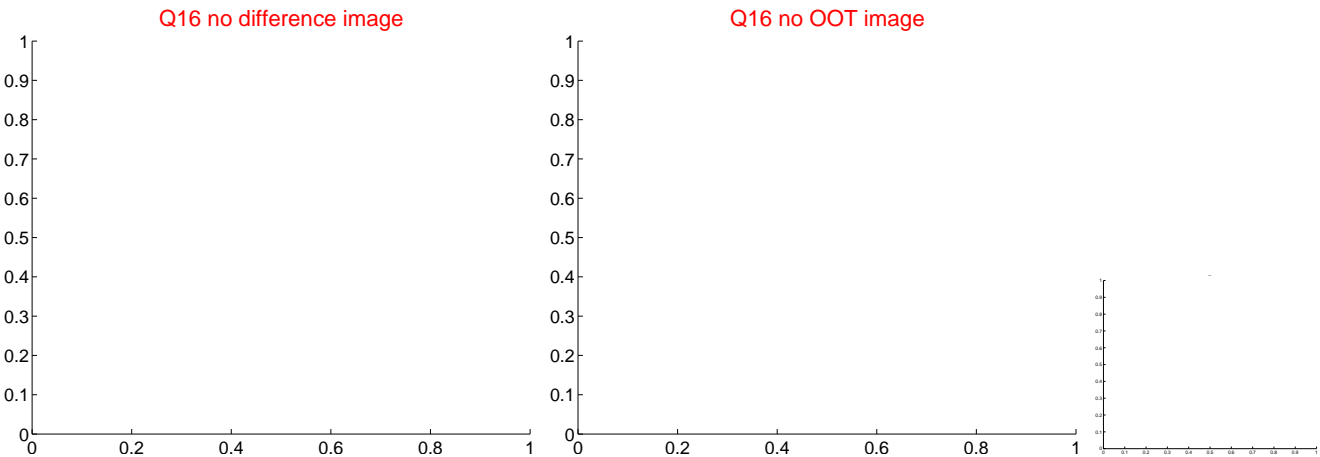
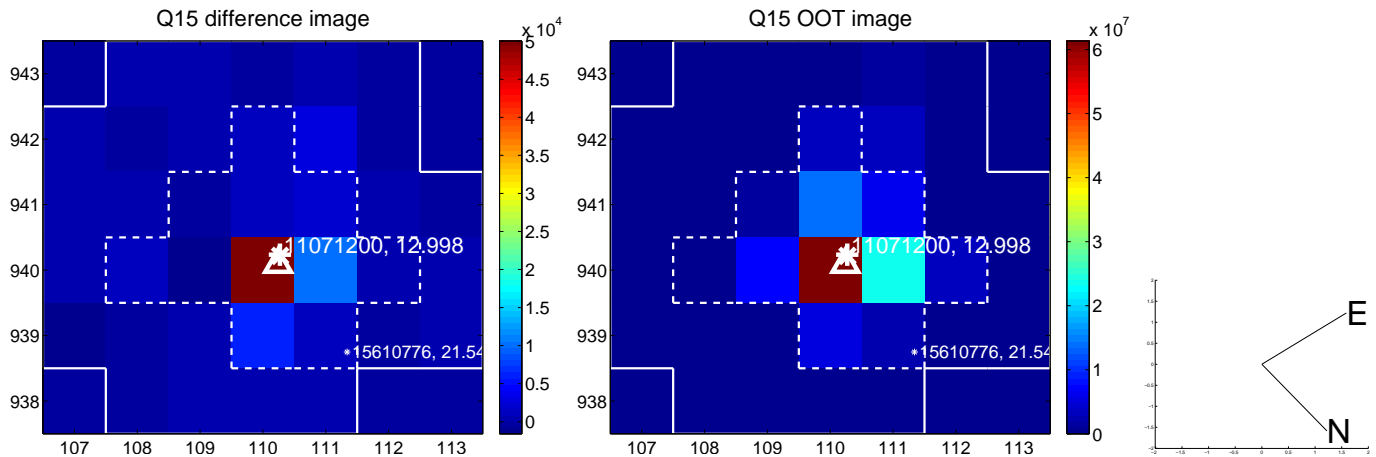
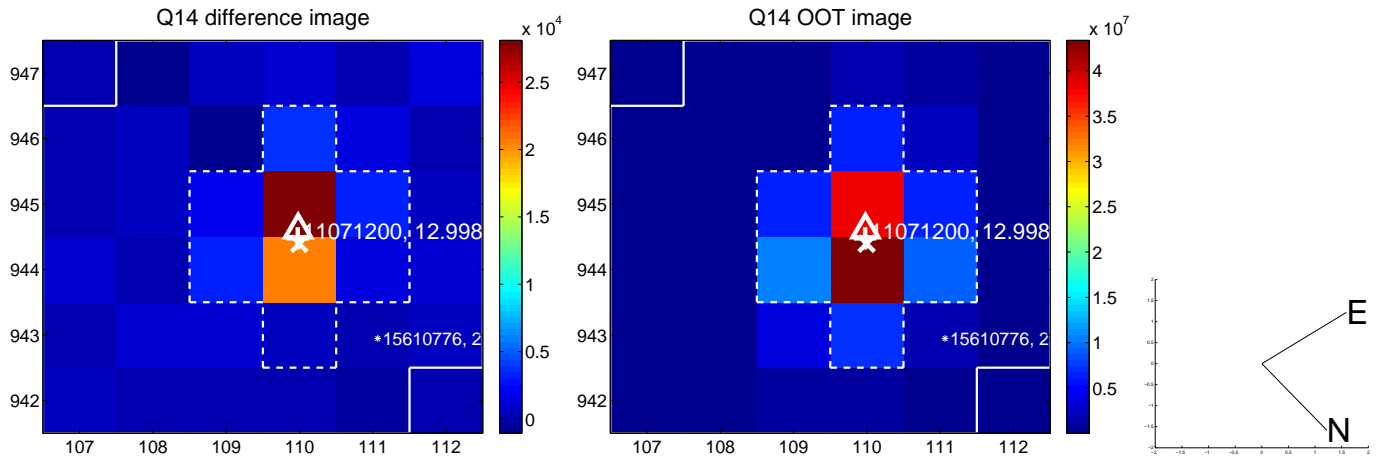
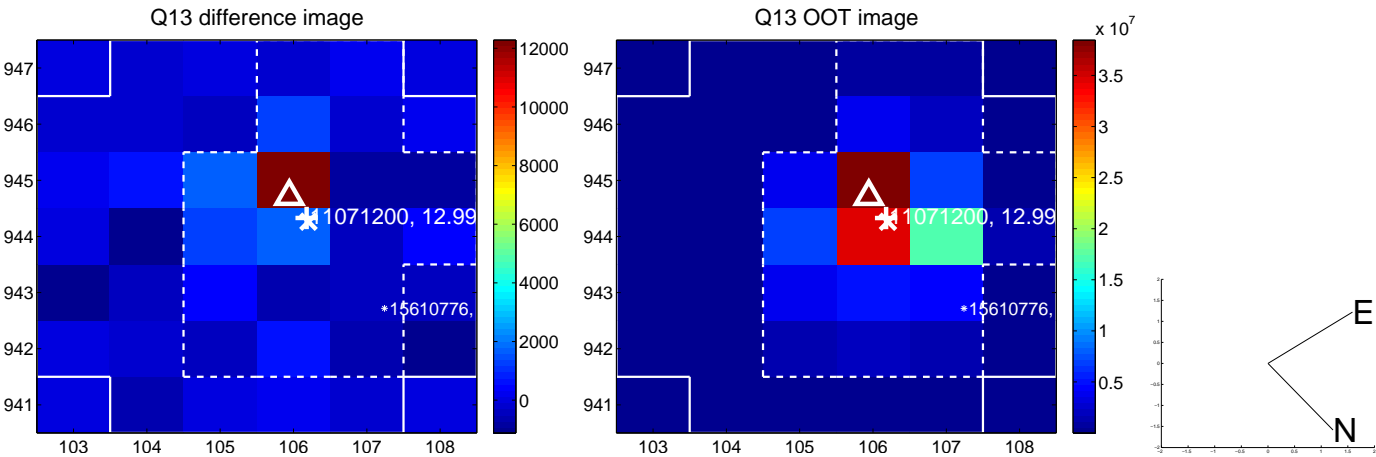
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



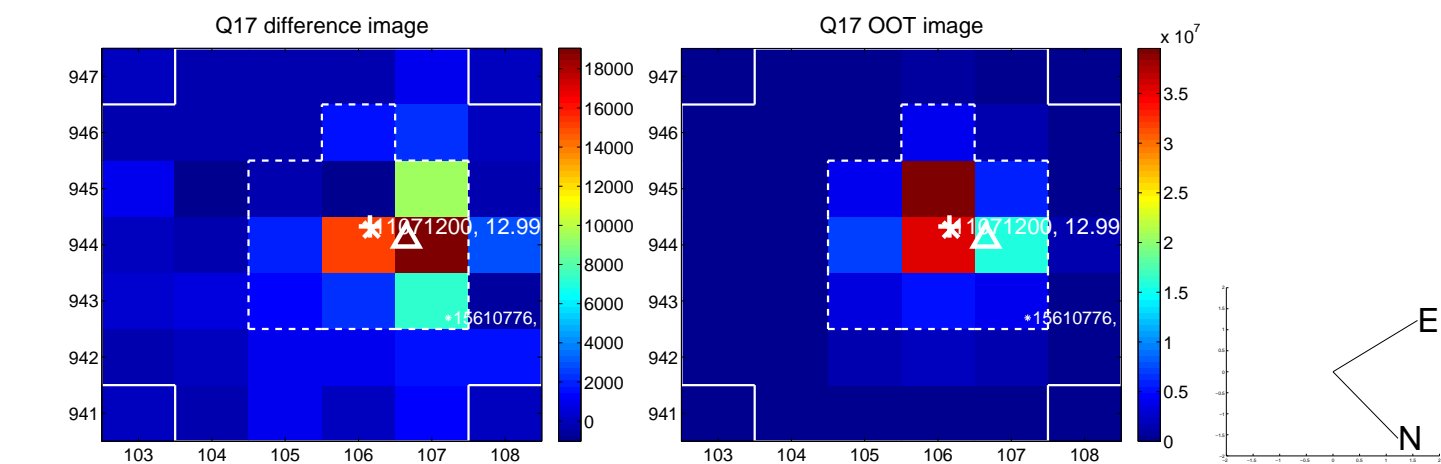
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



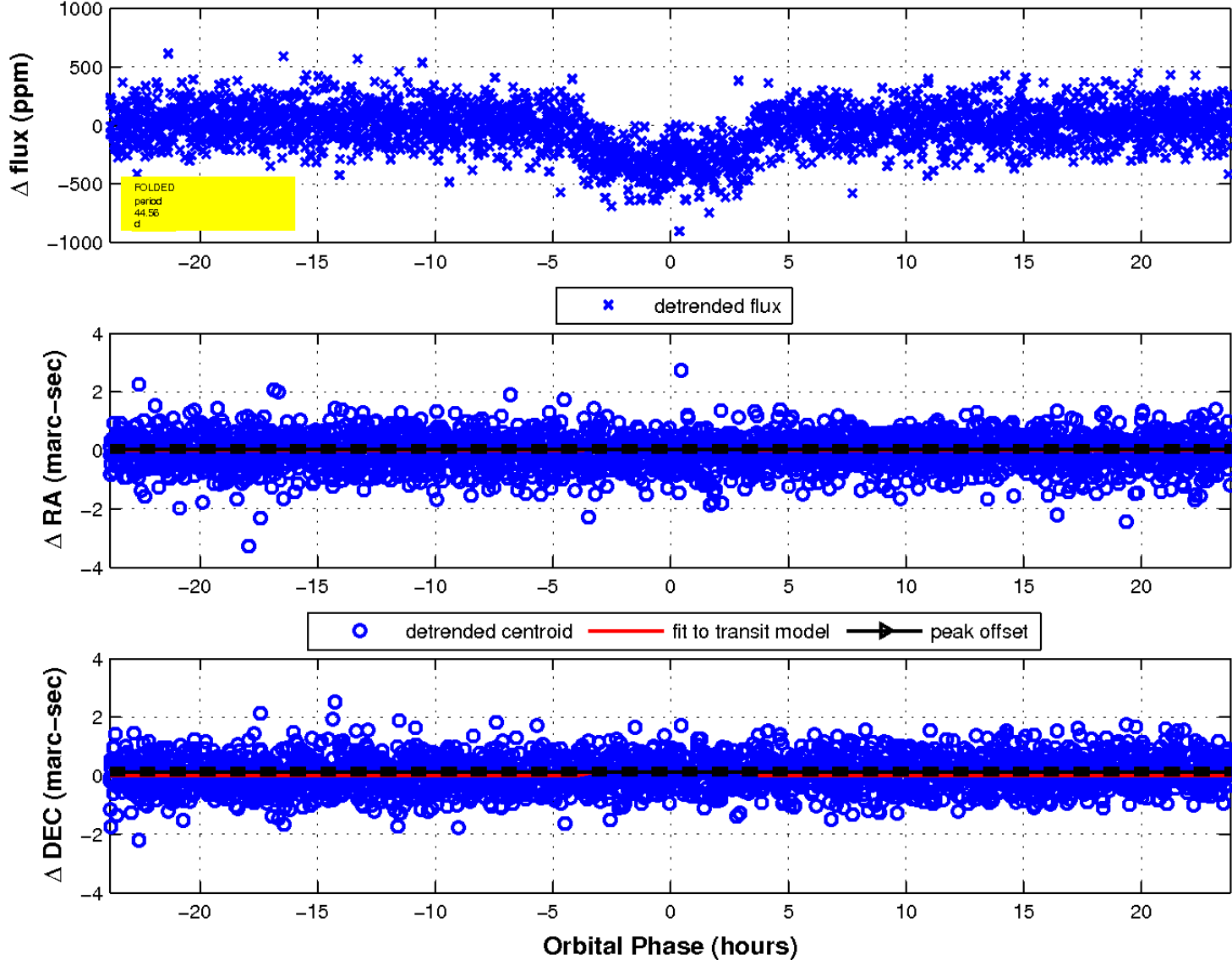
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

