

KIC 006851425

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})
006851425-01	OBS	0163.01	11.119901	139.753552	628.9	3.432	87.5	91.0	0.77	5078	2.19	42.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006851425-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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

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

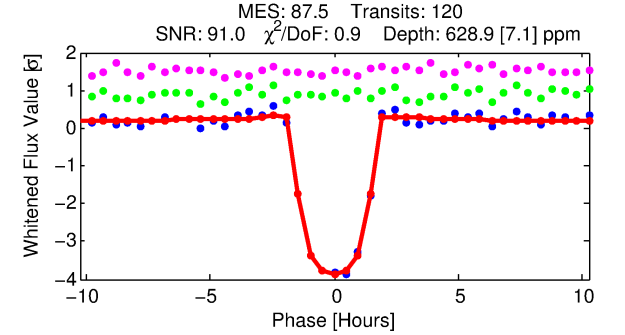
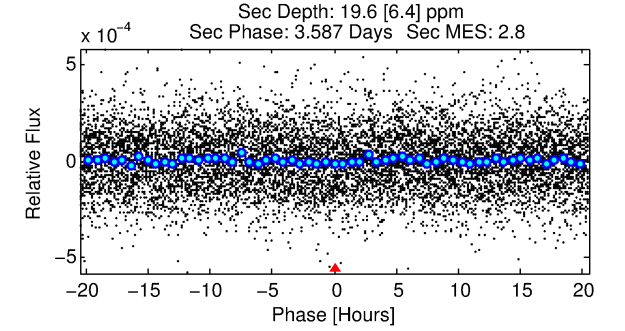
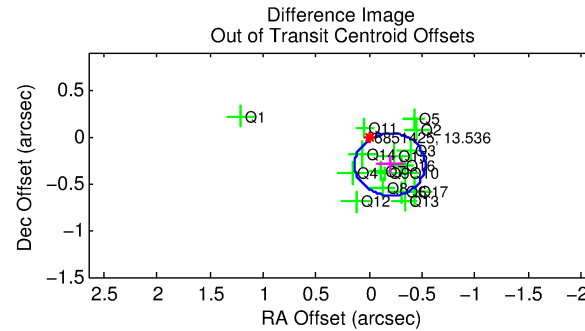
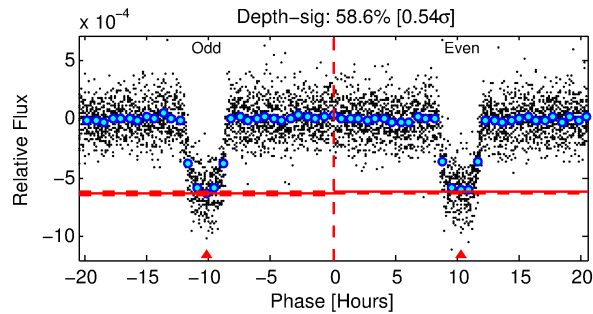
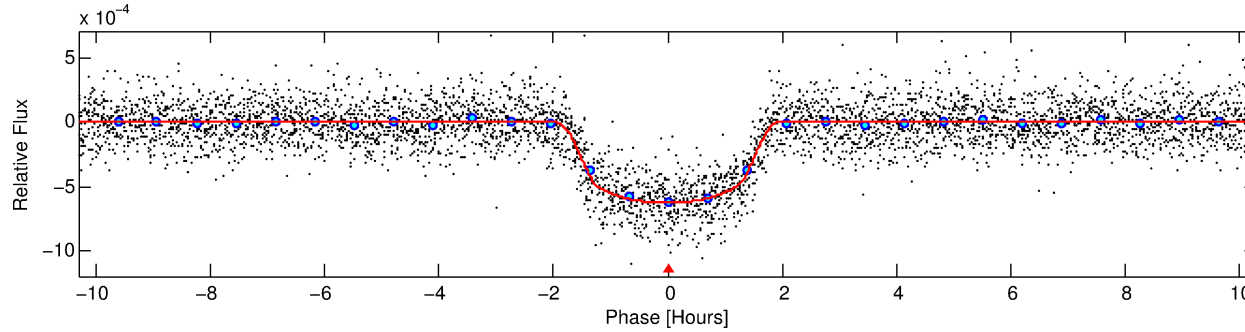
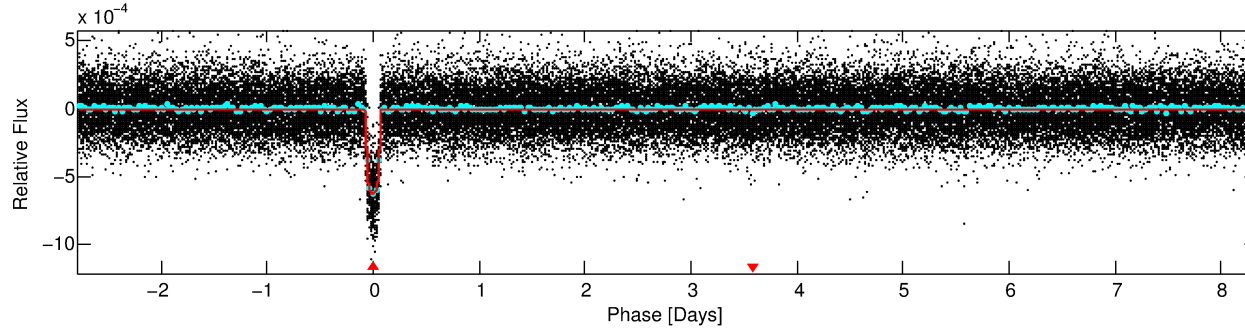
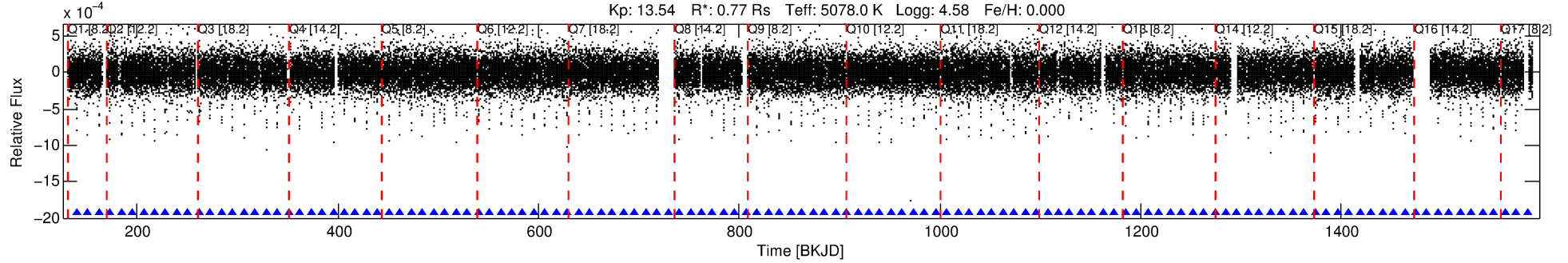
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006851425-01

No Significant Match Found

DV One-Page Summary

KIC: 6851425 Candidate: 1 of 1 Period: 11.120 d
KOI: K00163.01 Corr: 0.985



DV Fit Results:

Period = 11.11990 [0.00001] d
Epoch = 139.7536 [0.0008] BKJD
Rp/R* = 0.0262 [0.0021]
a/R* = 14.99 [4.45]
b = 0.83 [0.12]
Seff = 42.11 [5.16]
Teff = 650 [20] K
Rp = 2.19 [0.23] Re
a = 0.0911 [0.0055] AU
Ag = 18.60 [7.01] [2.51 σ]
Teffp = 2086 [195] K [7.33 σ]

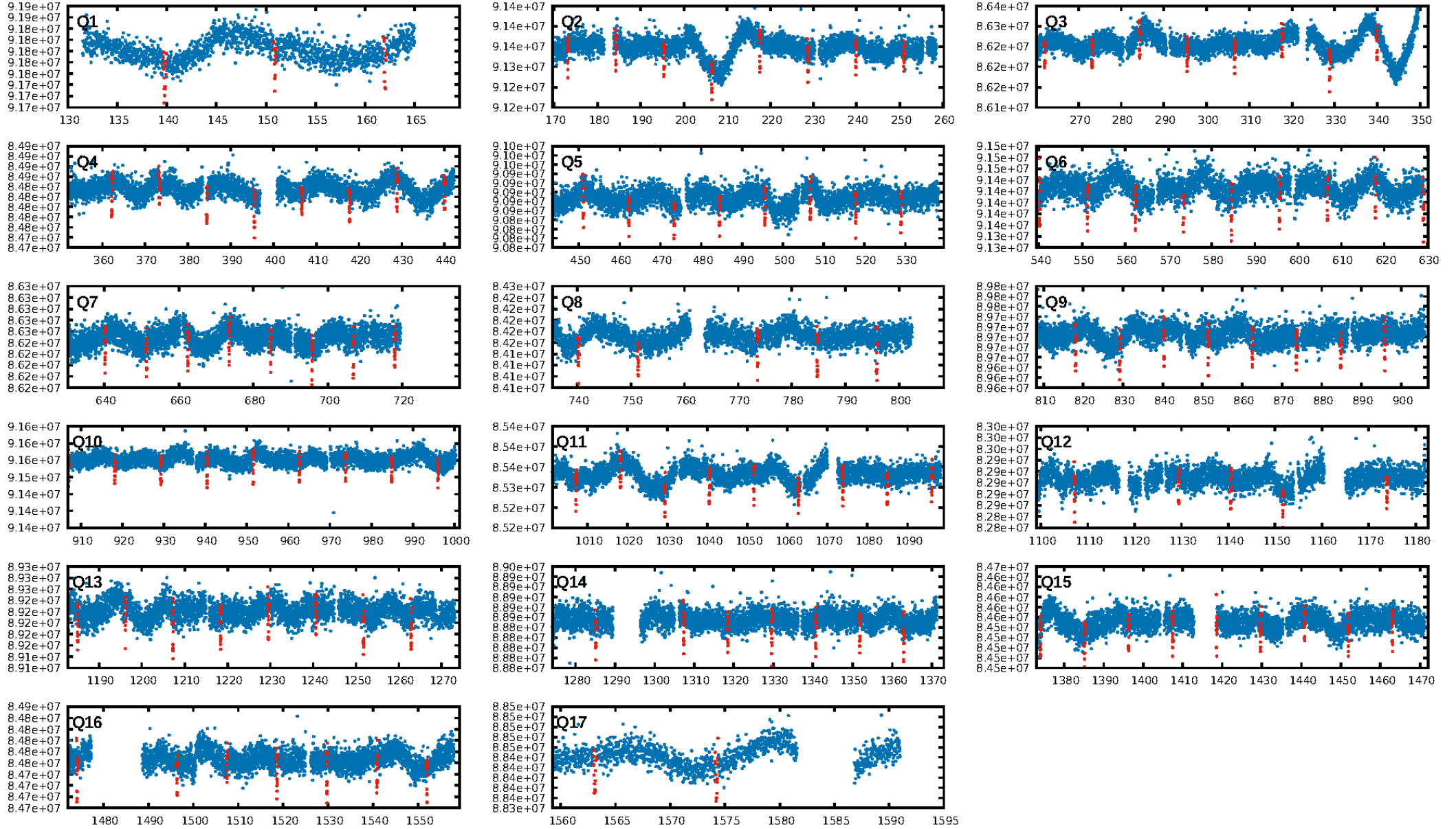
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [115/115]
GhostDiagnostic-chr: 10.28
Centroid-sig: 0.1%
Centroid-so: 0.513 arcsec [4.21 σ]
OotOffset-rm: 0.358 arcsec [3.23 σ]
KicOffset-rm: 0.703 arcsec [5.90 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

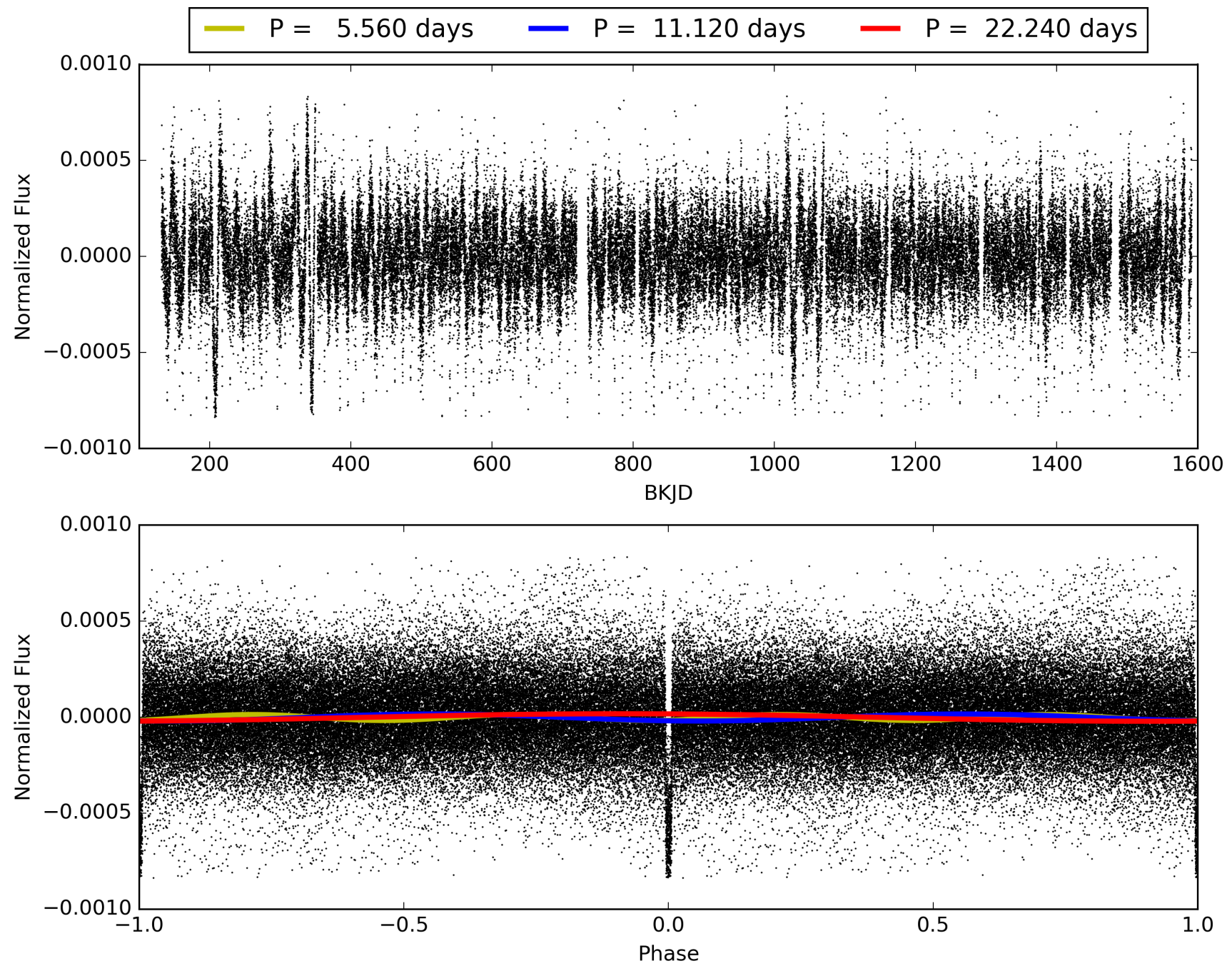
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:27:26 Z

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

TCE 006851425-01, PDC Light Curves

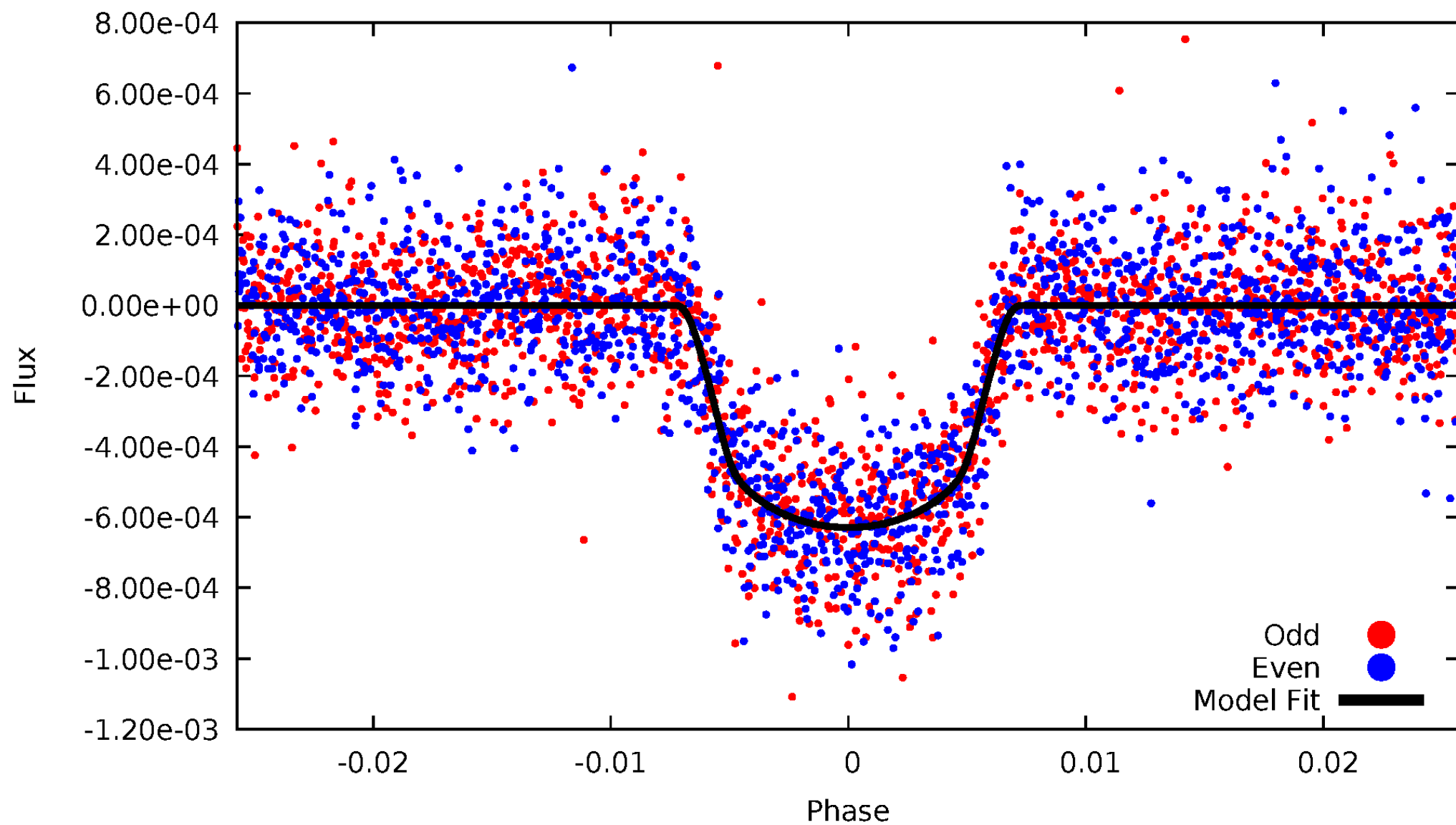


TCE 006851425-01



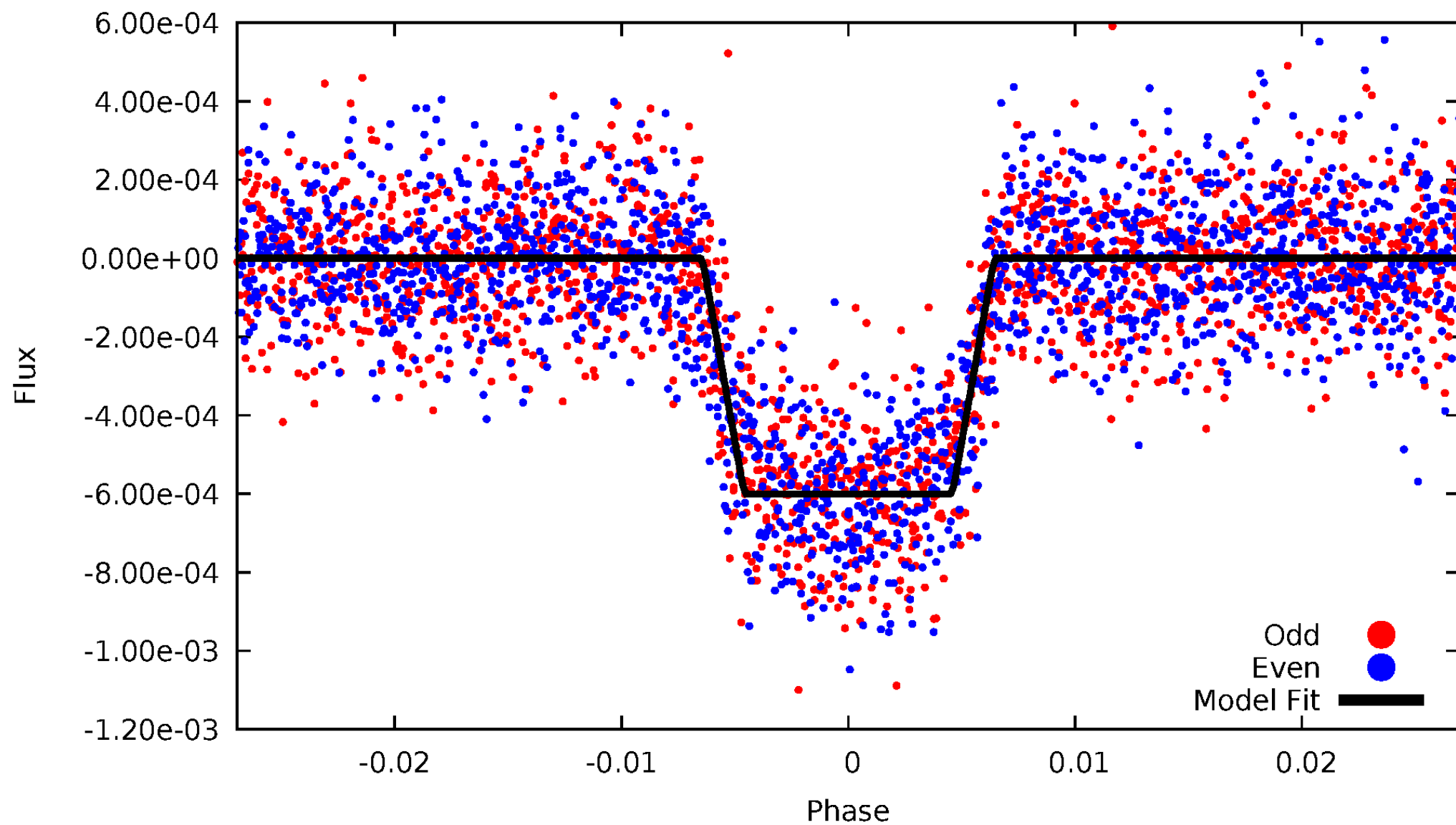
DV Odd/Even

TCE 006851425-01

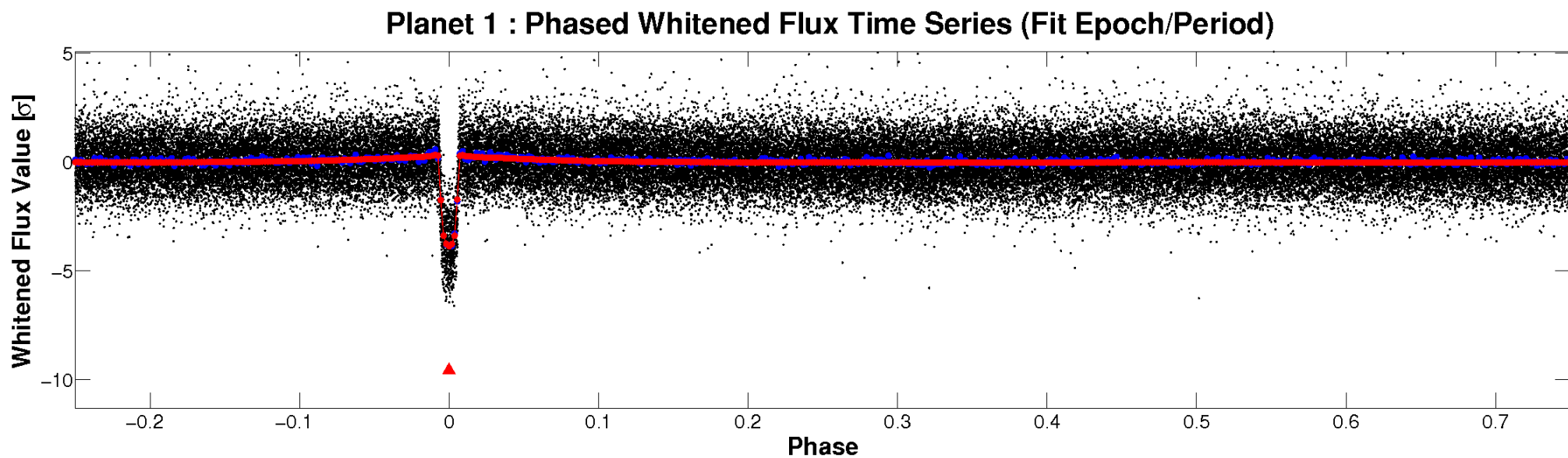
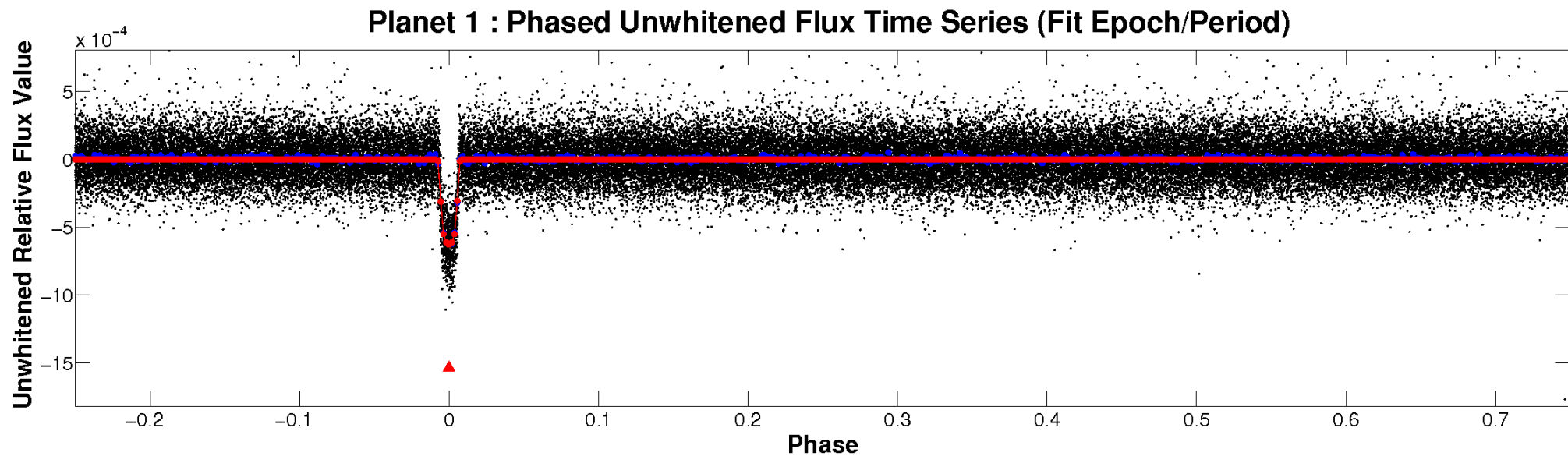


ALT Odd/Even

TCE 006851425-01

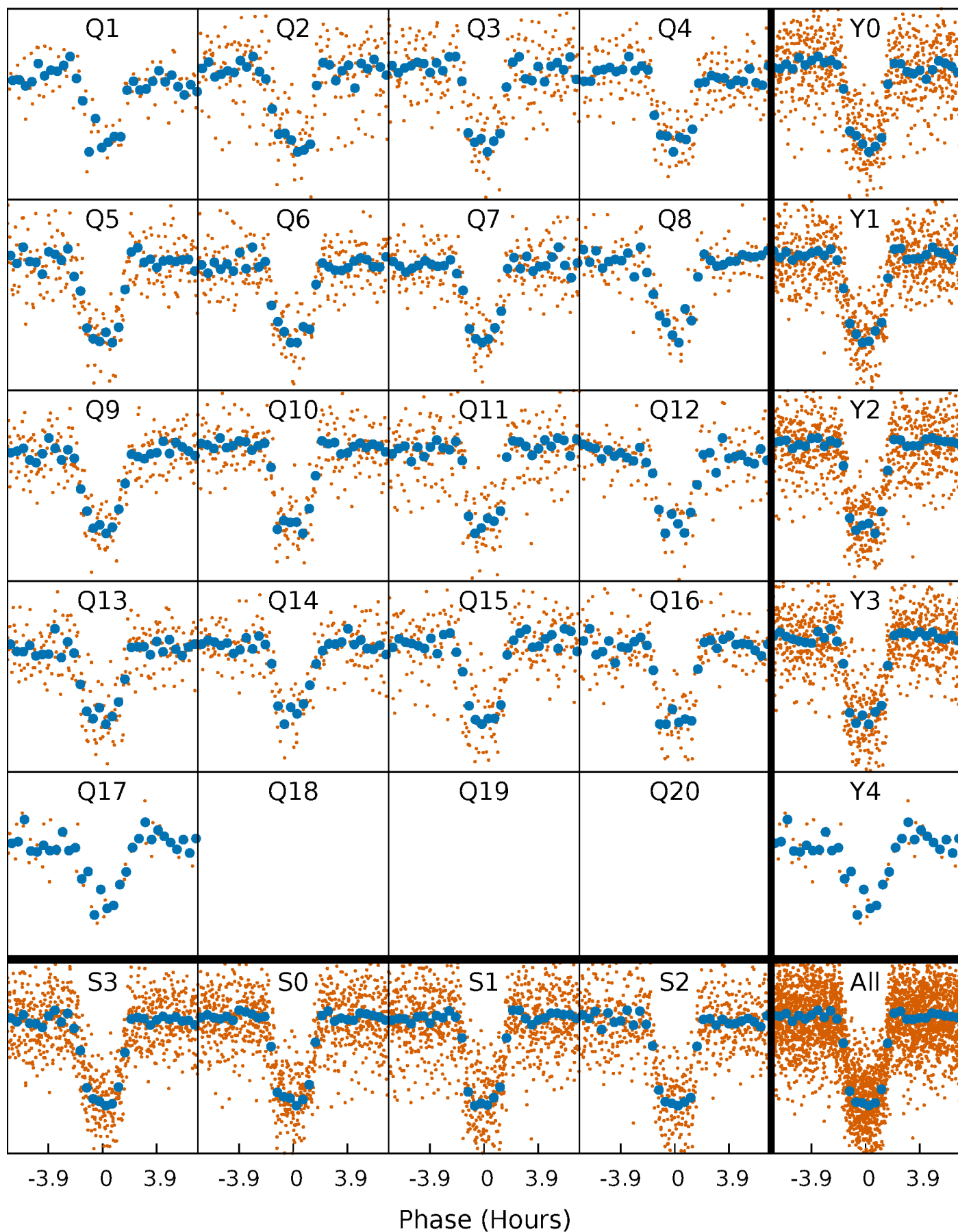


Non-Whitened Vs. Whitened Light Curve



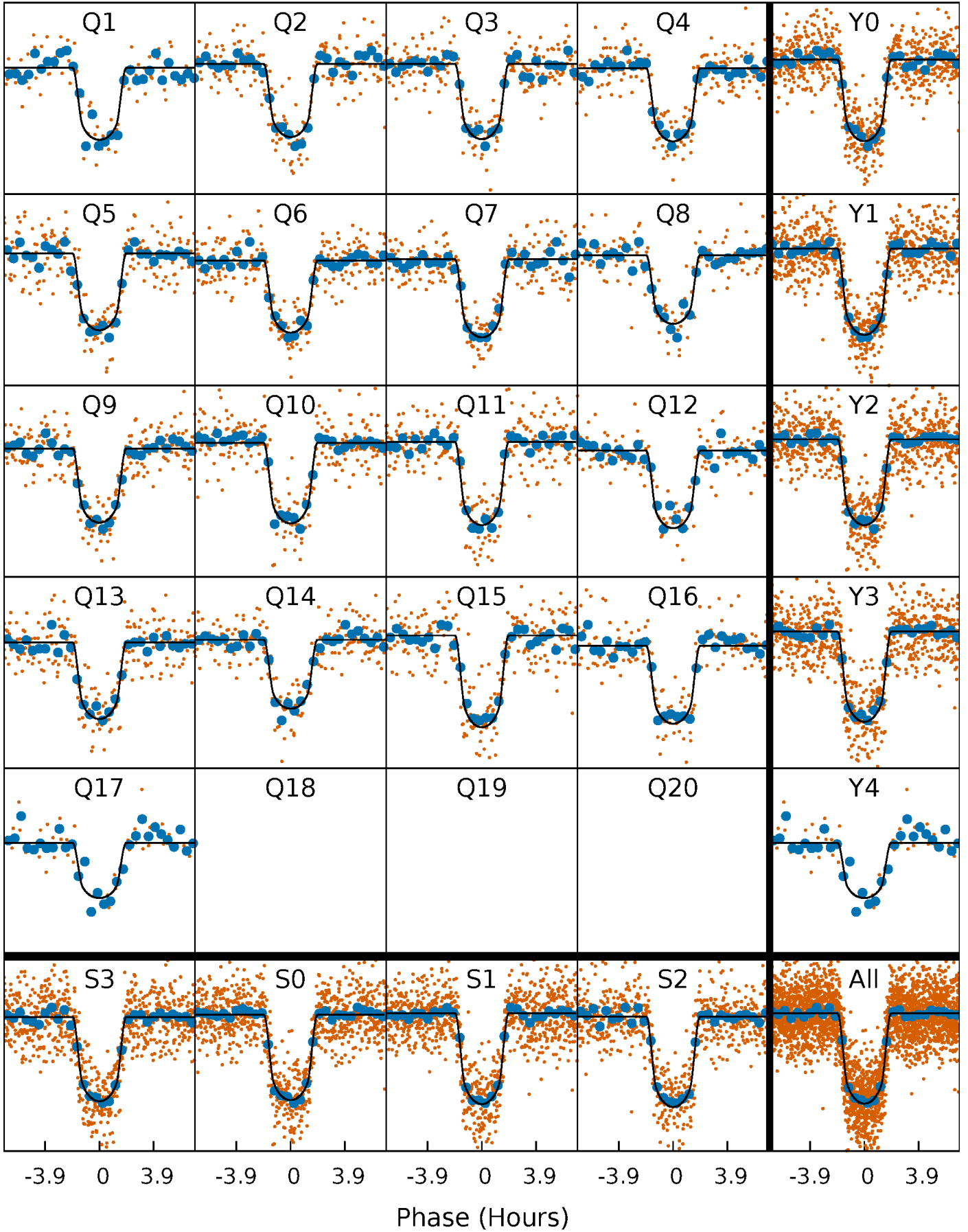
PDC Quarter-Phased Transit Curves

TCE 006851425-01 P= 11.119901 Days $T_0=139.753552$ (BKJD)



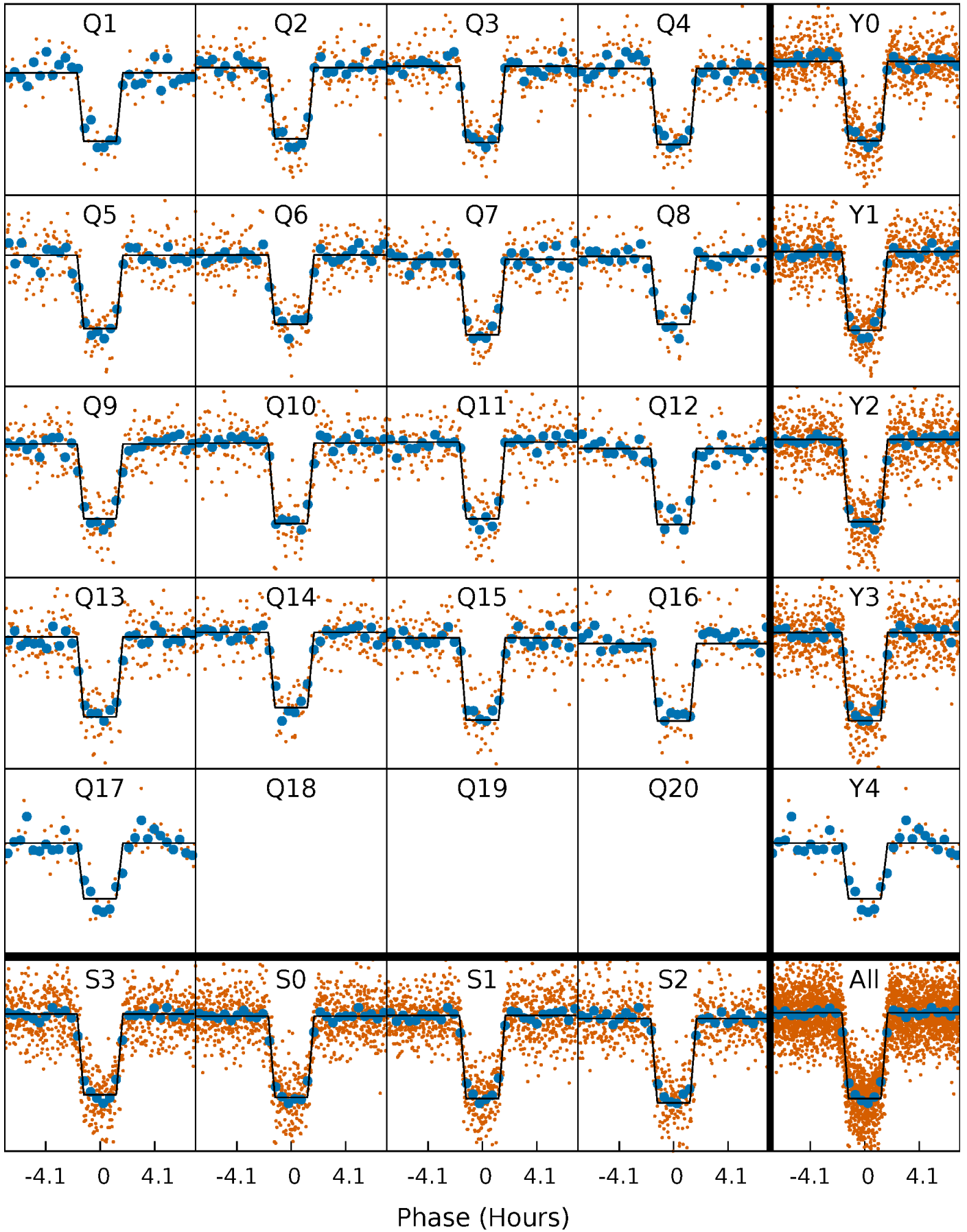
DV Quarter-Phased Transit Curves

TCE 006851425-01 P= 11.119901 Days $T_0=139.753552$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

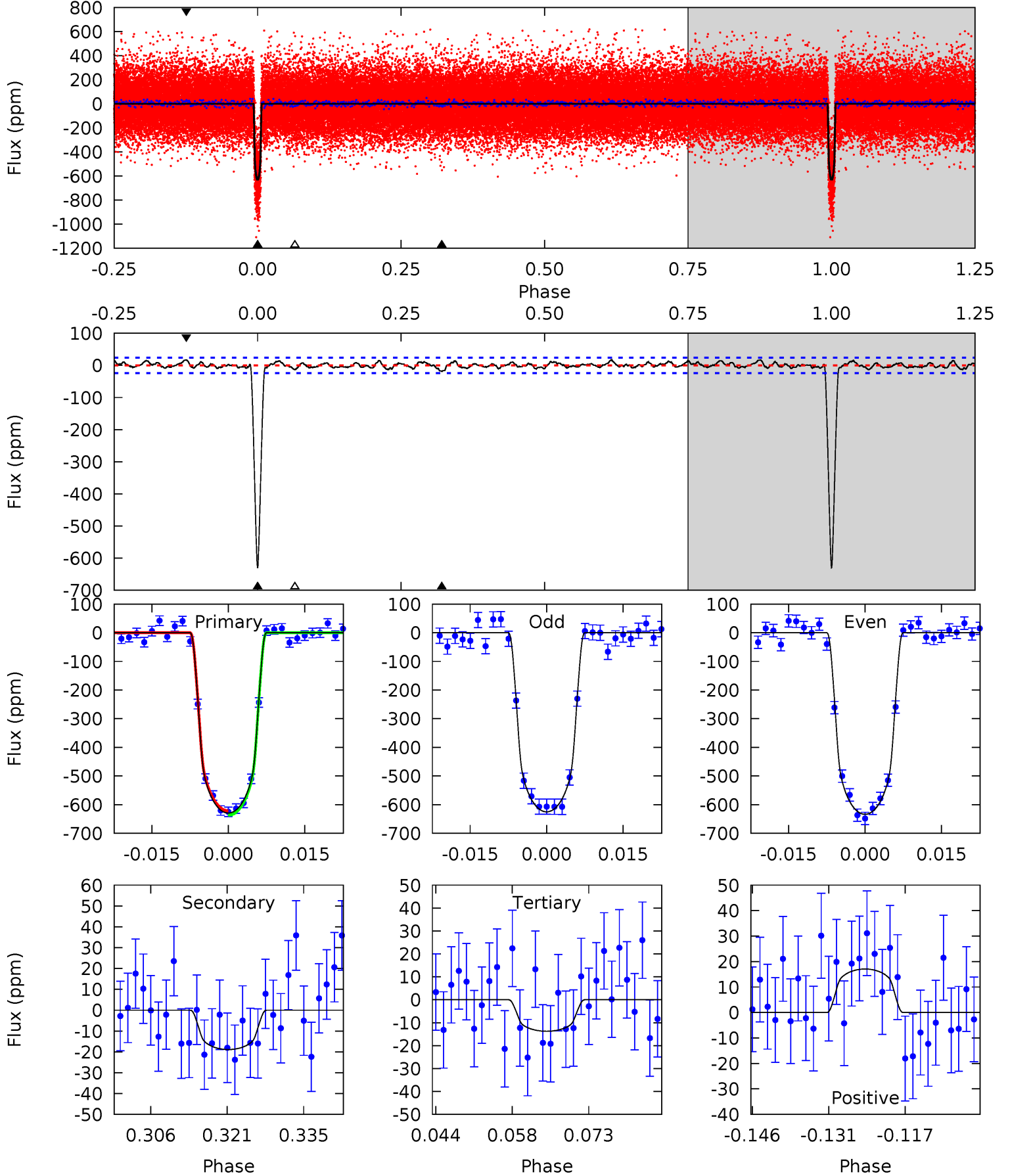
TCE 006851425-01 P= 11.119860 Days $T_0=139.756152$ (BKJD)



DV Model-Shift Uniqueness Test

006851425-01, P = 11.119901 Days, E = 128.633651 Days

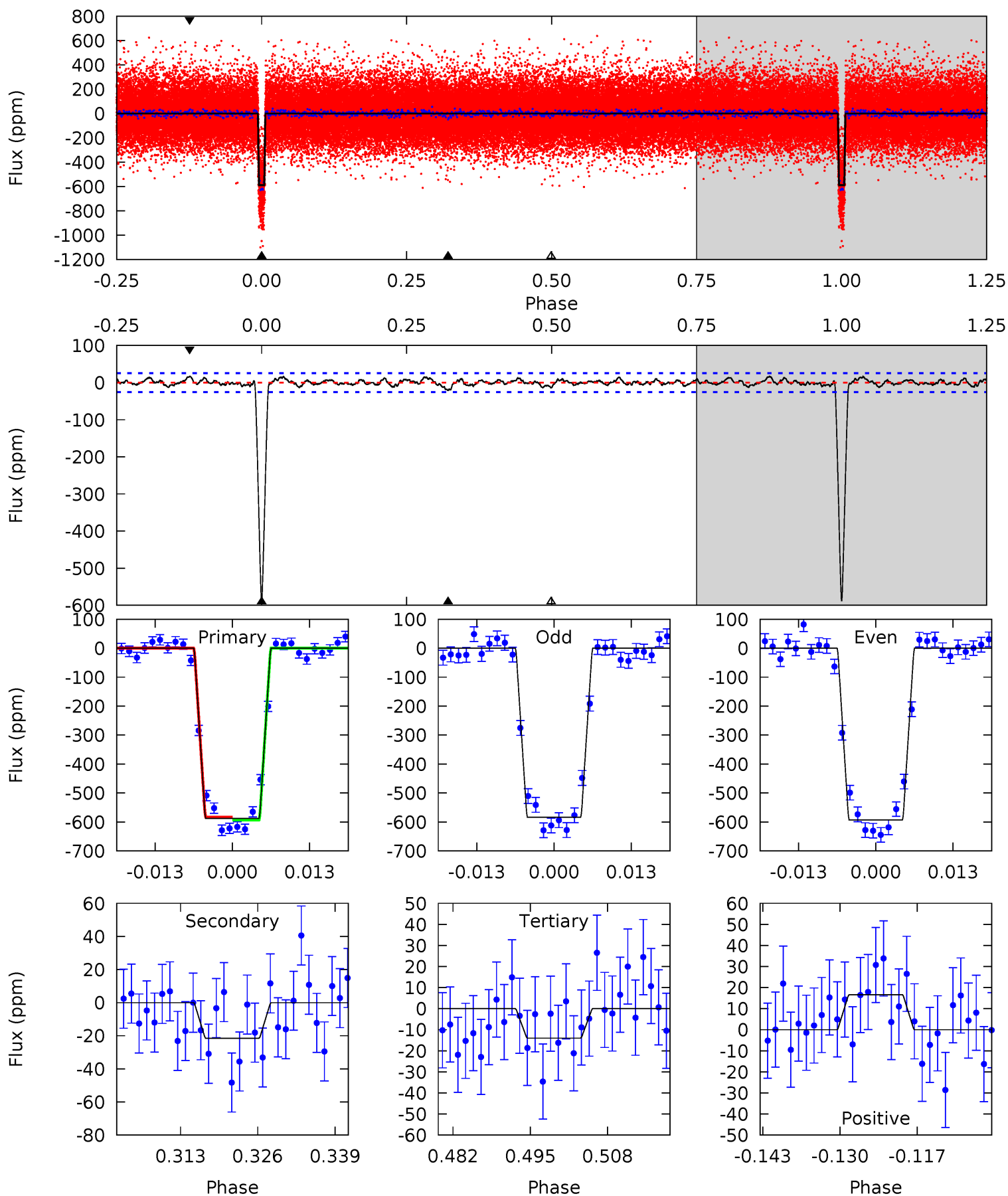
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
130.0	3.90	2.84	3.52	4.95	2.44	1.27	127.1	126.4	1.06	0.38	0.89	1.00	0.03	1.56



Alt Model-Shift Uniqueness Test

006851425-01, $P = 11.119860$ Days, $E = 128.636292$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
115.5	4.22	2.75	3.26	4.98	2.48	1.15	112.8	112.3	1.48	0.97	0.95	1.01	0.03	0.98



Stellar Parameters For KIC 006851425

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5078^{+101}_{-101}	$4.581^{+0.025}_{-0.053}$	$0.000^{+0.150}_{-0.150}$	$0.766^{+0.052}_{-0.033}$	$0.816^{+0.041}_{-0.047}$	$2.557^{+0.297}_{-0.418}$
	+2%/-2%	+1%/-1%	+inf%/-inf%	+7%/-4%	+5%/-6%	+12%/-16%
Source	SPE57	SPE57	SPE57	DSEP		

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

Secondary Eclipse Parameters for KIC 006851425-01 / KOI 0163.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-19 ± 5	$2.20^{+0.20}_{-0.19}$	911^{+23}_{-21}	2780^{+132}_{-123}	18^{+6}_{-5}
Alt.	-21 ± 5	$2.07^{+0.19}_{-0.19}$	913^{+23}_{-22}	2879^{+119}_{-113}	23^{+8}_{-6}

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

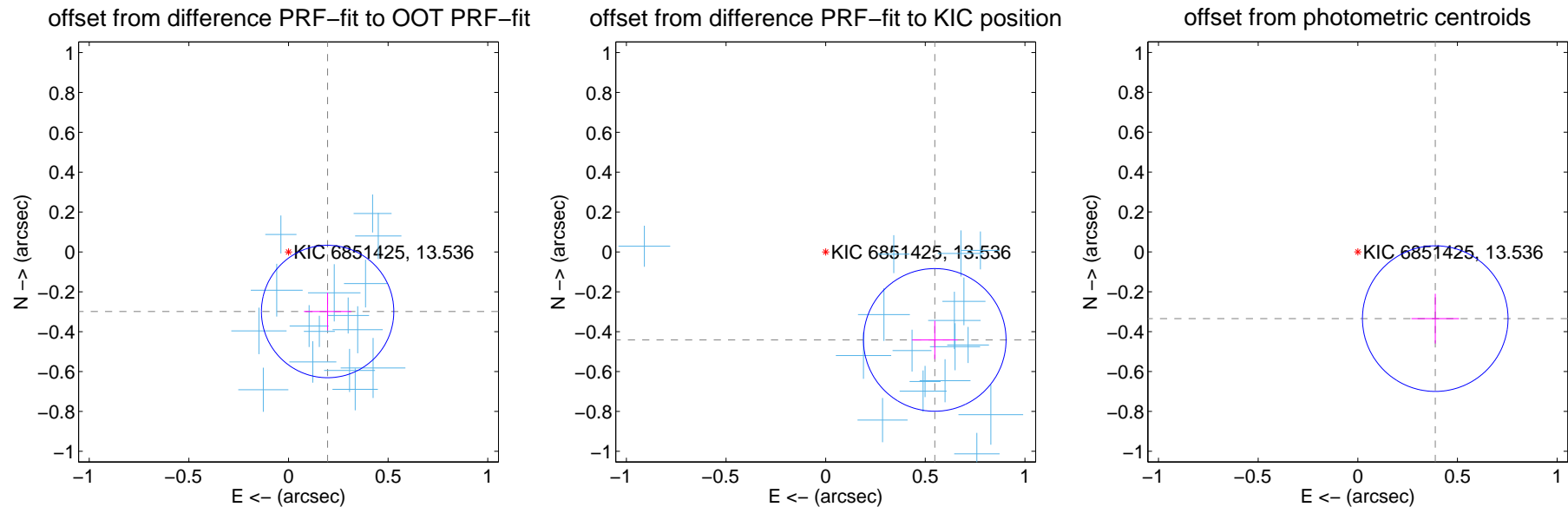
DV Centroid Data

Supplemental centroid analysis for 006851425-01. Kepler magnitude: 13.54. Transit SNR 90.99

There are 17 quarters with good PRF difference image offsets

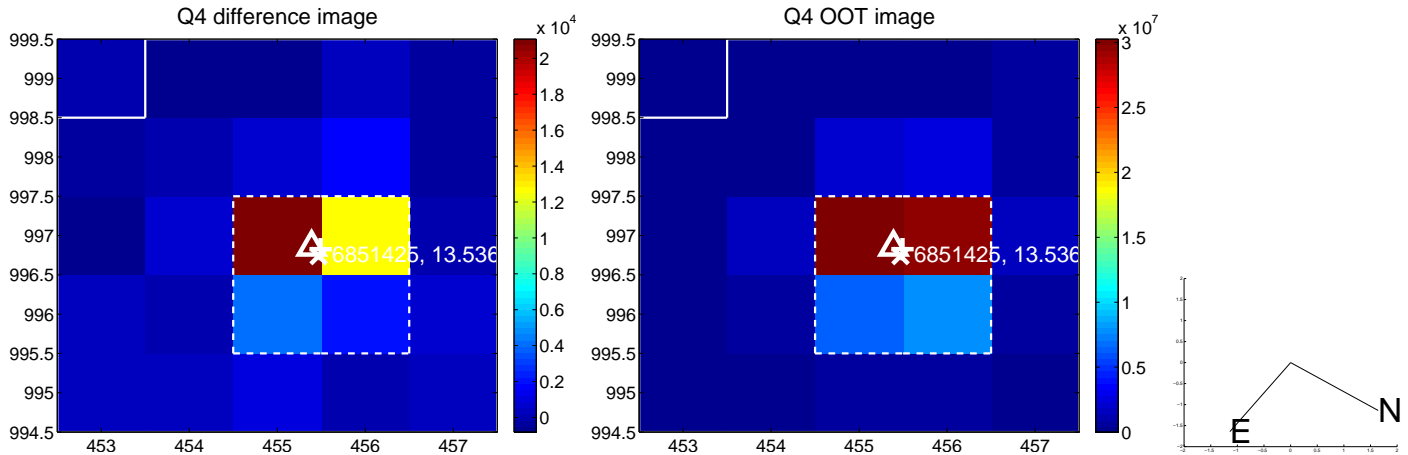
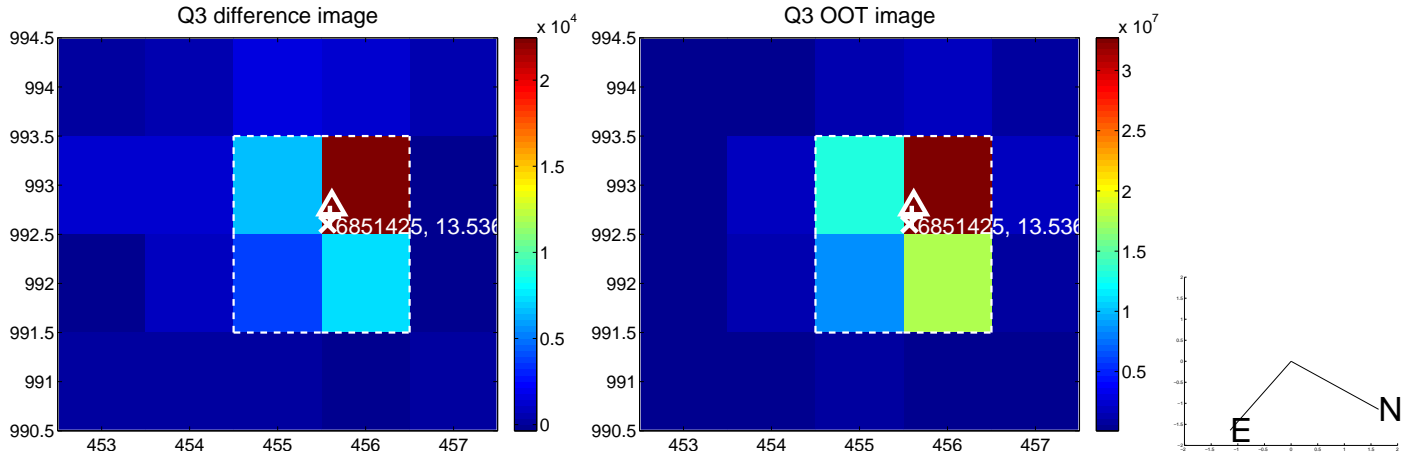
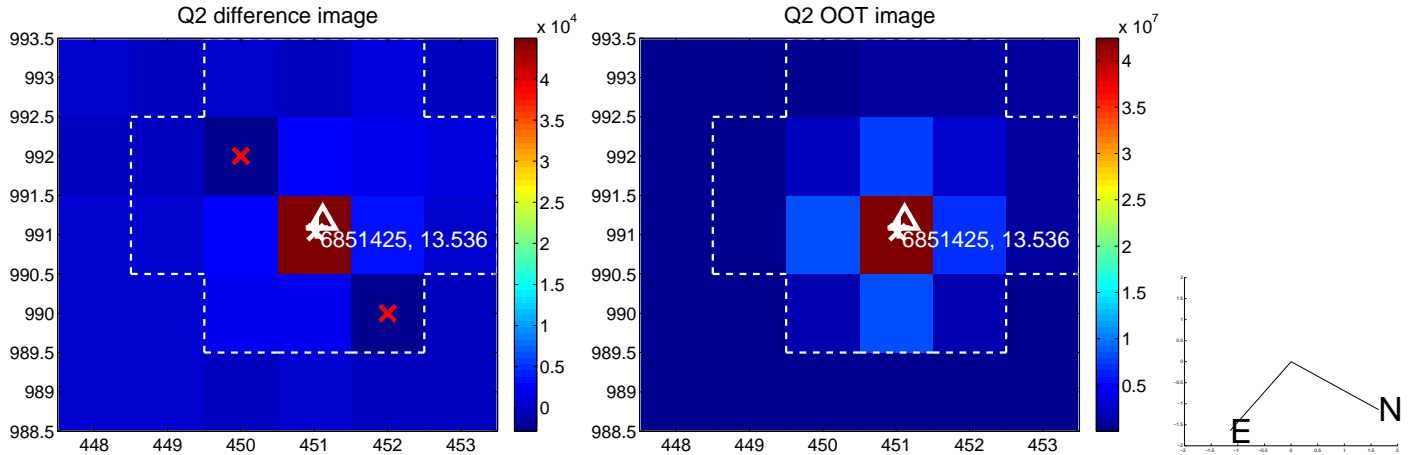
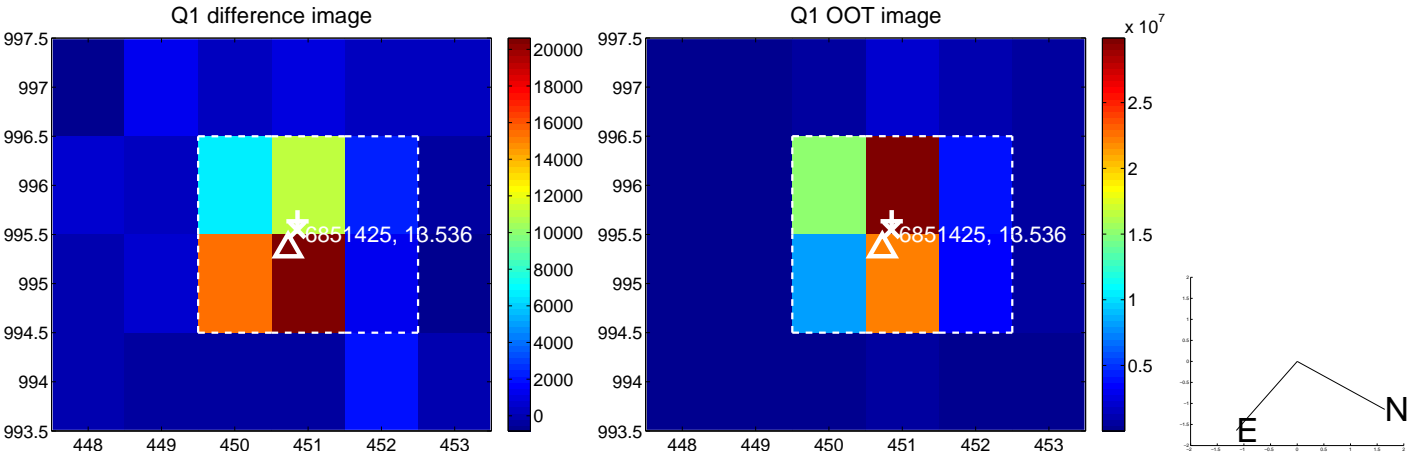
The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.358 ± 0.111	3.23	-0.196 ± 0.119	-0.299 ± 0.094
PRF-fit source offset from KIC position	0.703 ± 0.119	5.90	-0.548 ± 0.115	-0.441 ± 0.096
photometric centroid source offset	0.51 ± 0.12	4.21	-0.39 ± 0.12	-0.33 ± 0.12

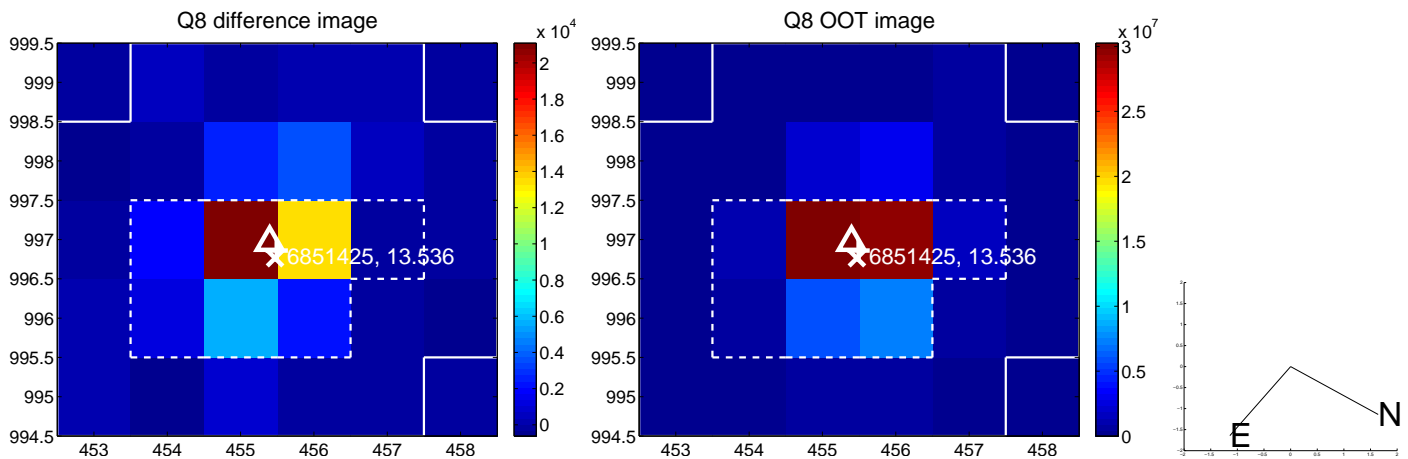
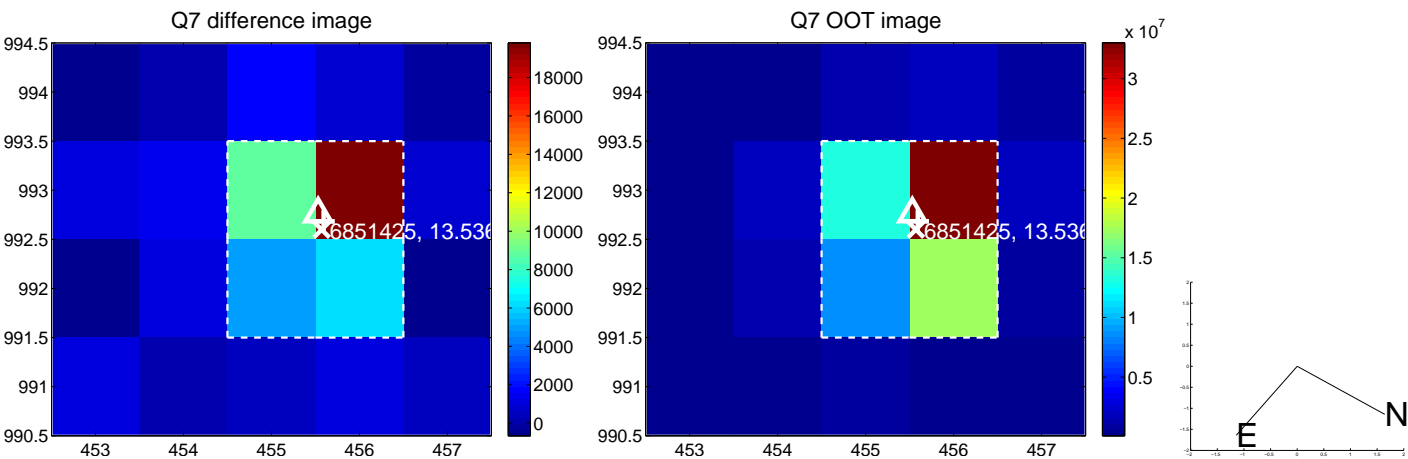
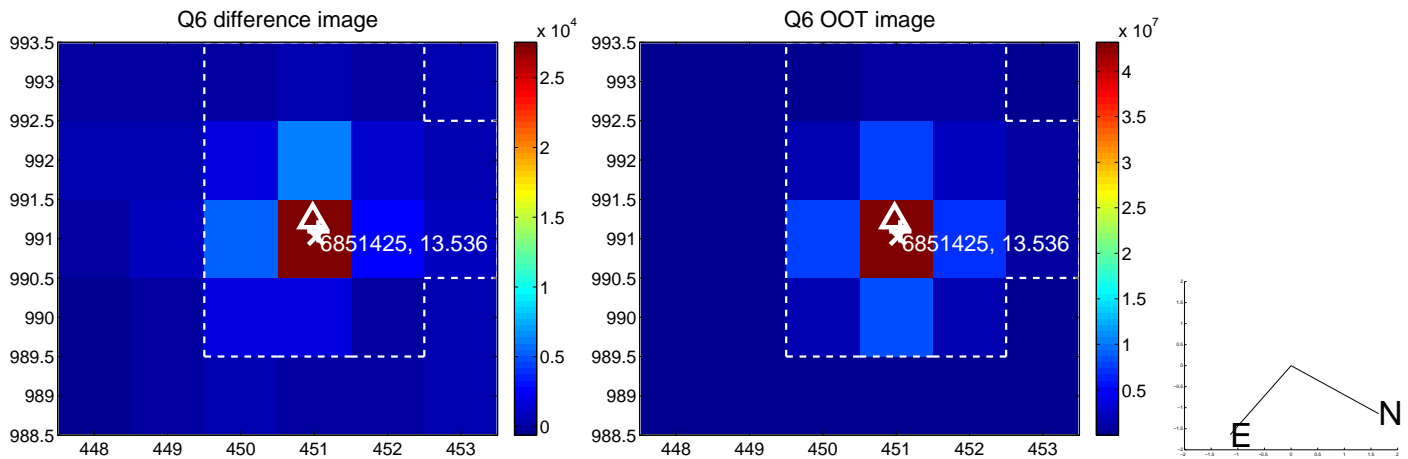
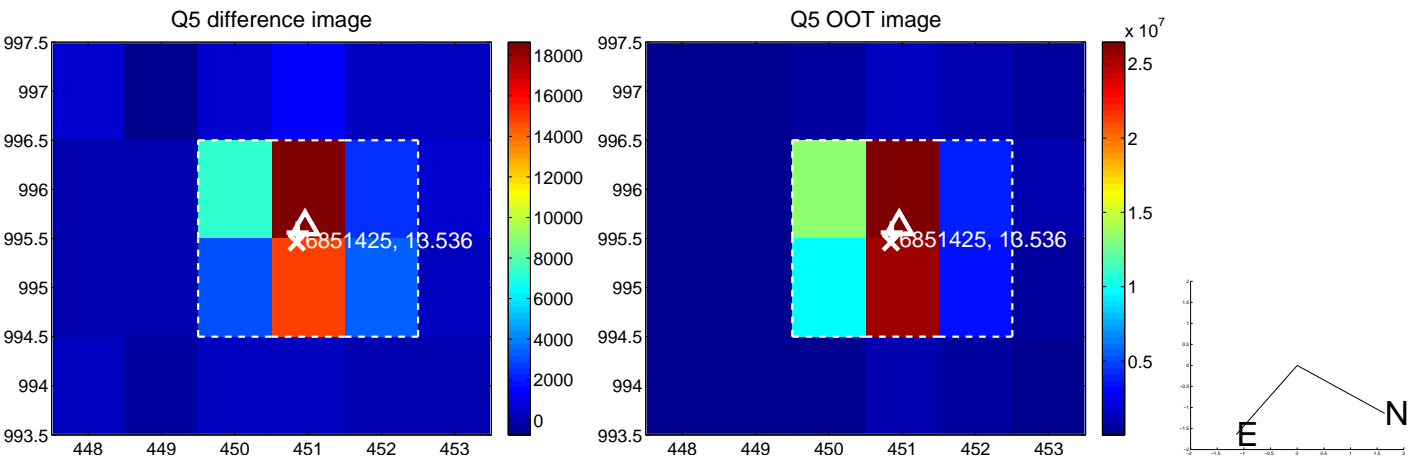


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

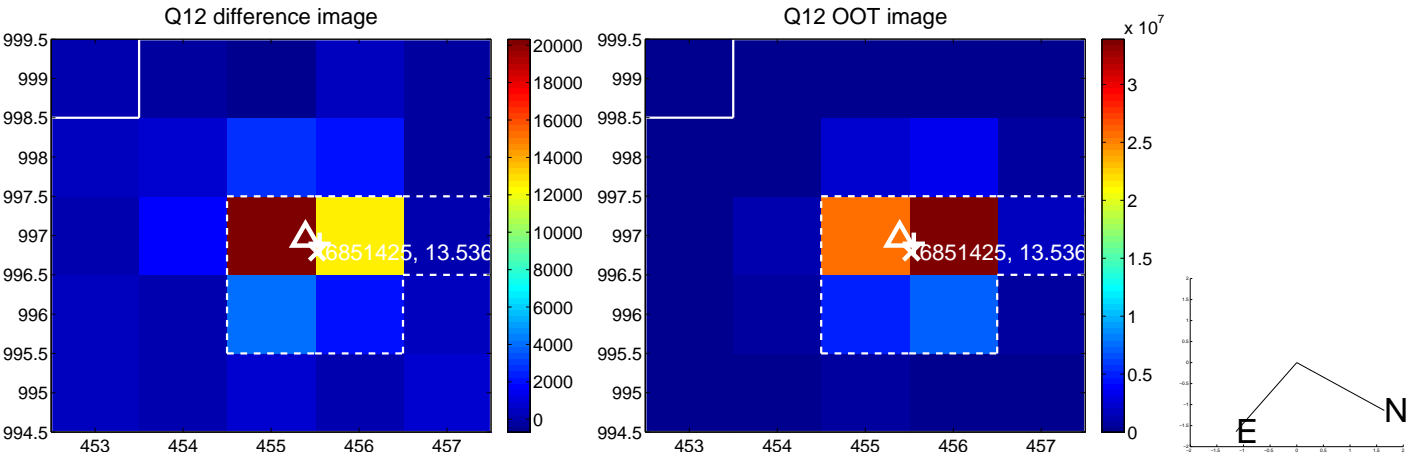
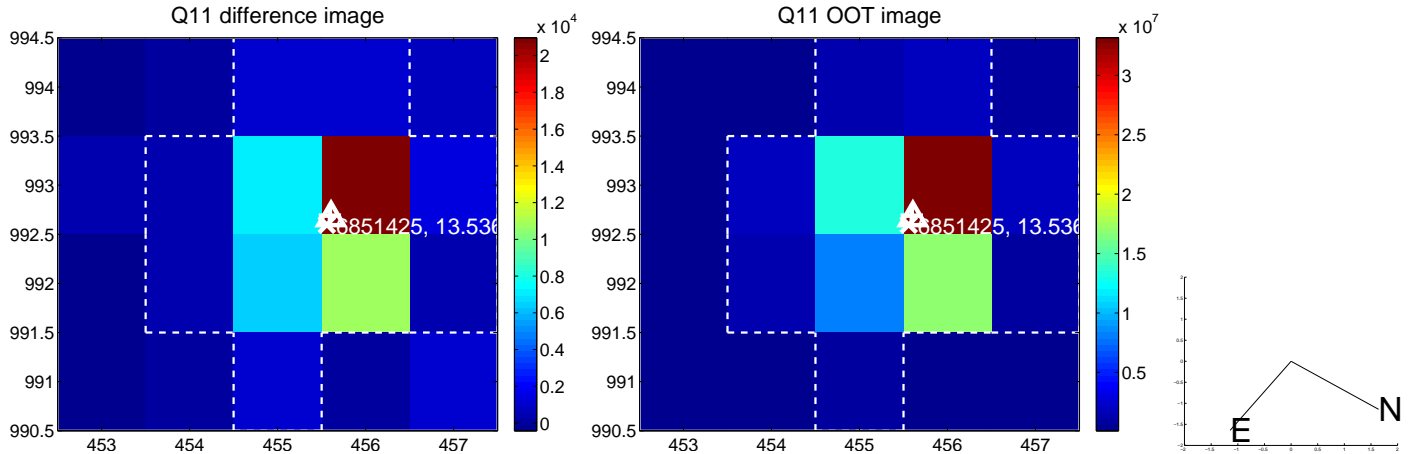
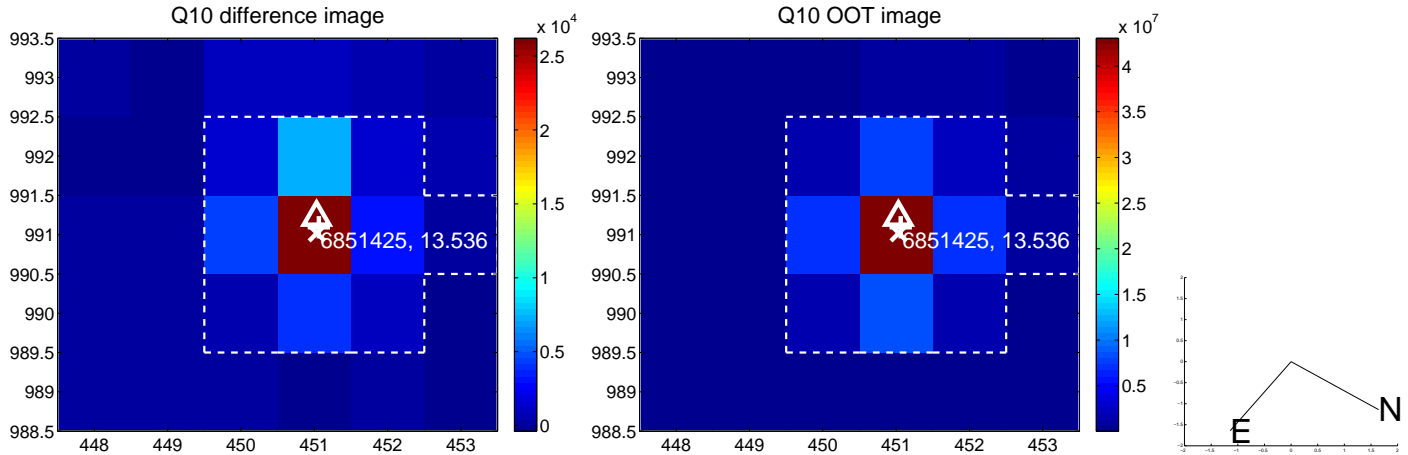
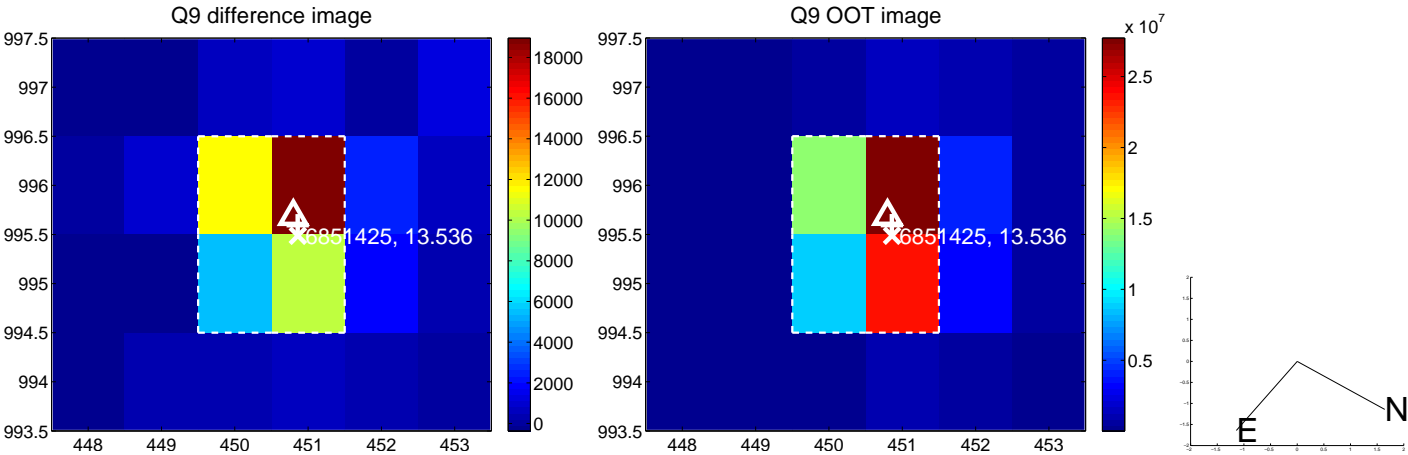
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



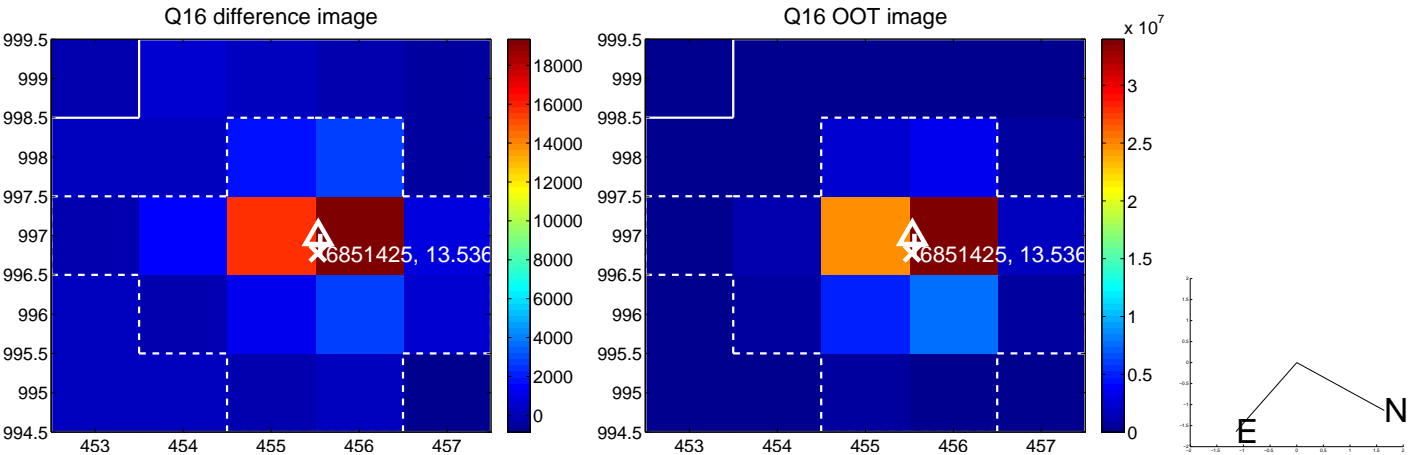
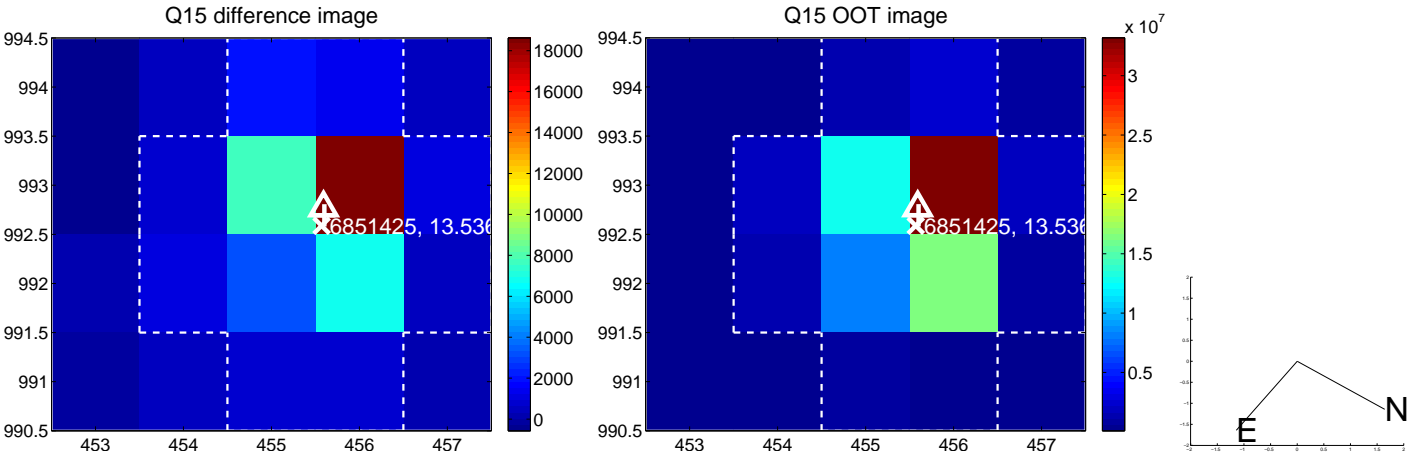
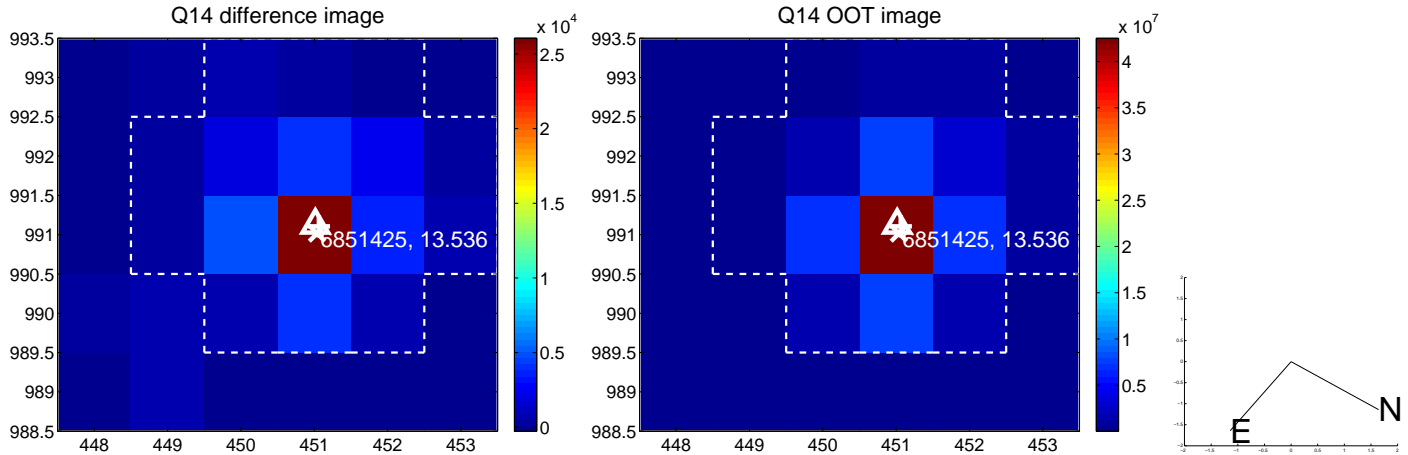
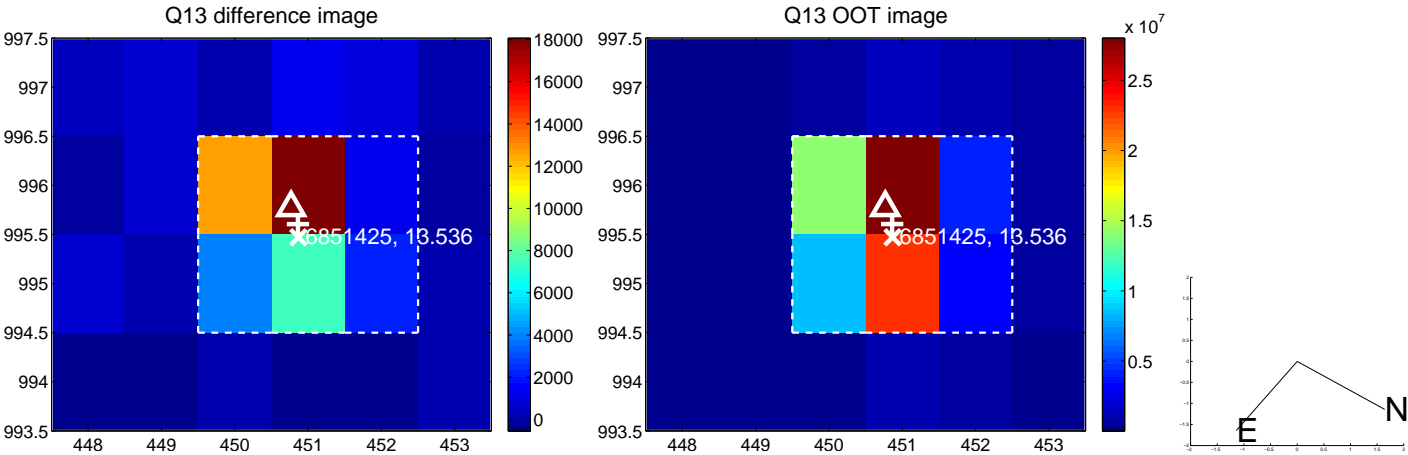
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



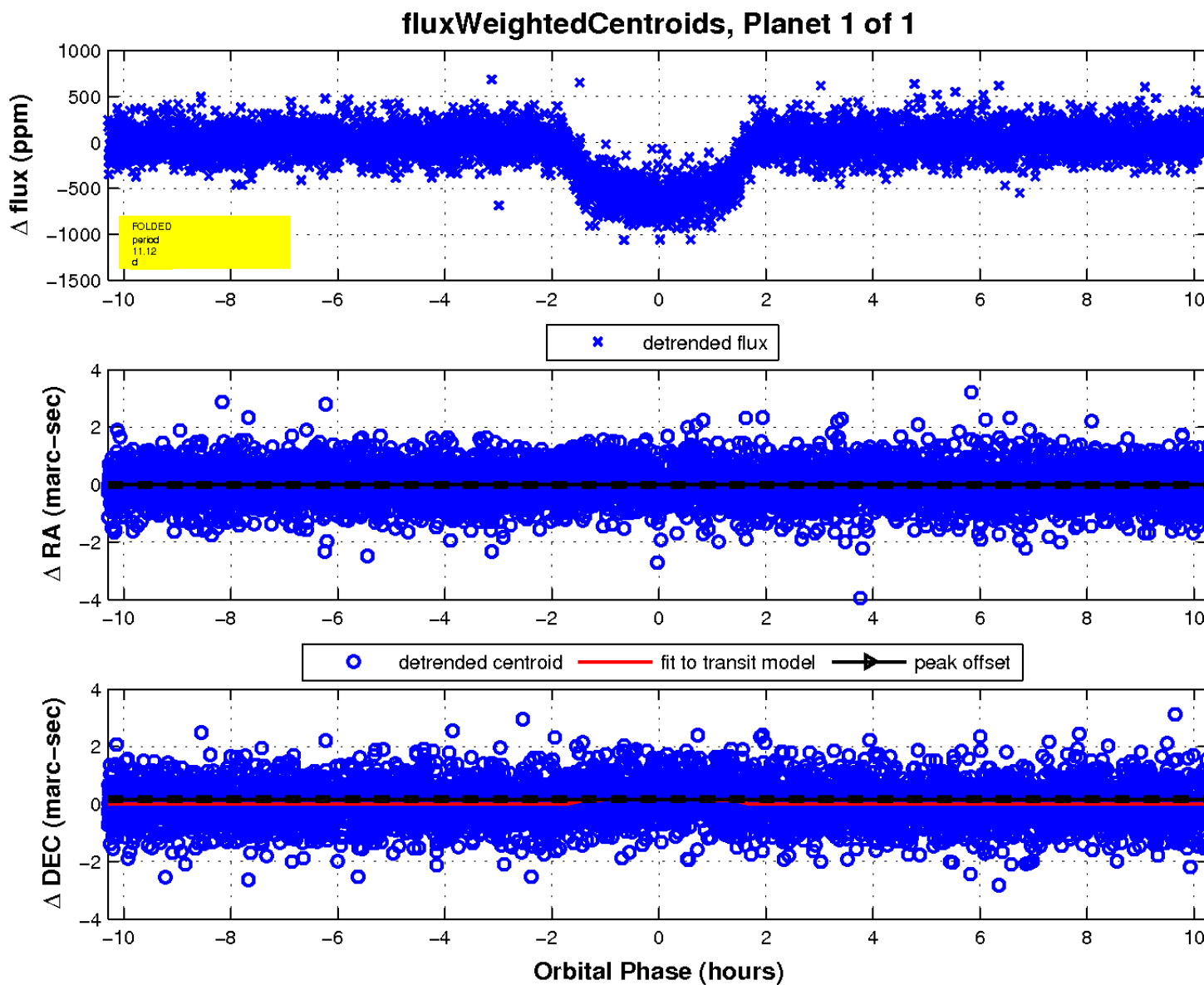
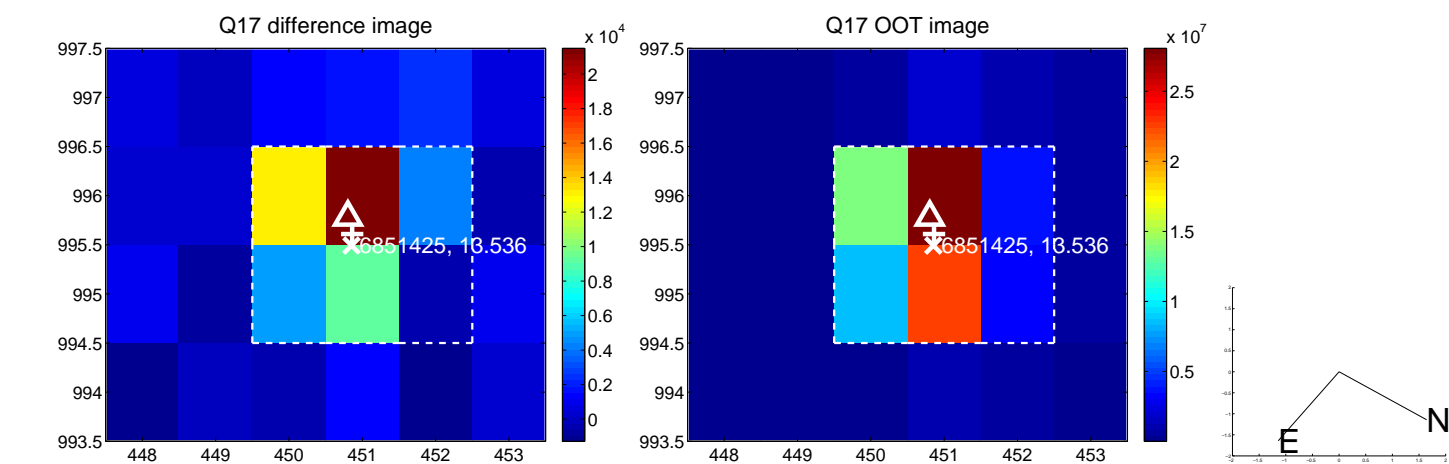
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

