

KIC 009964801

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})
009964801-01	OBS	0721.01	13.724609	139.476190	281.1	7.027	37.4	42.0	1.17	5817	2.24	113.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009964801-01	OBS	PC	1.00	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.

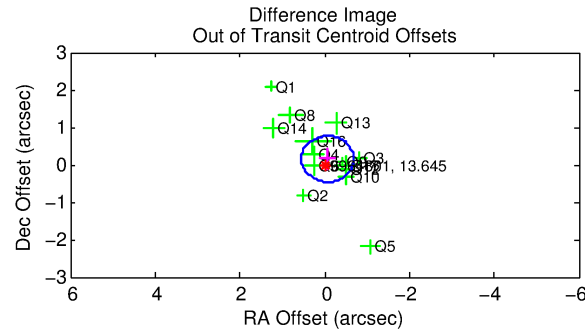
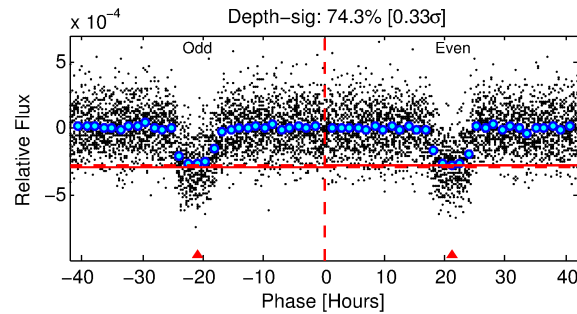
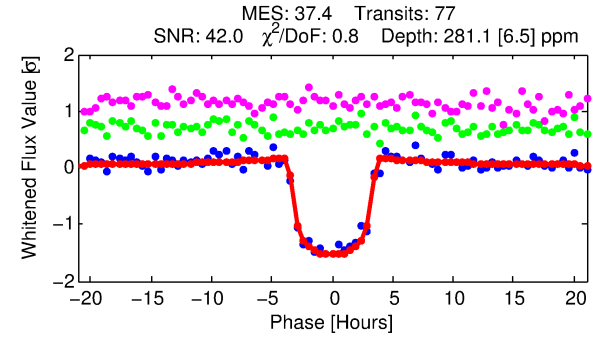
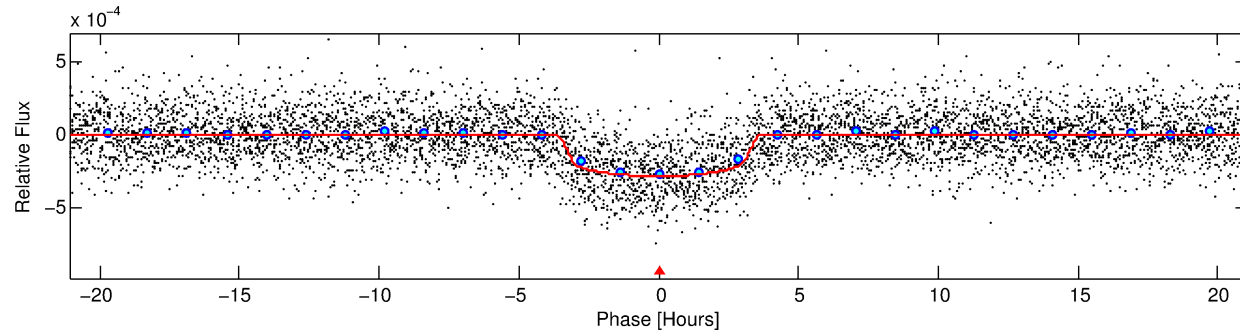
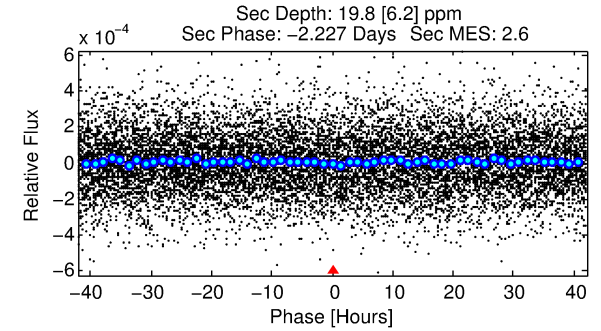
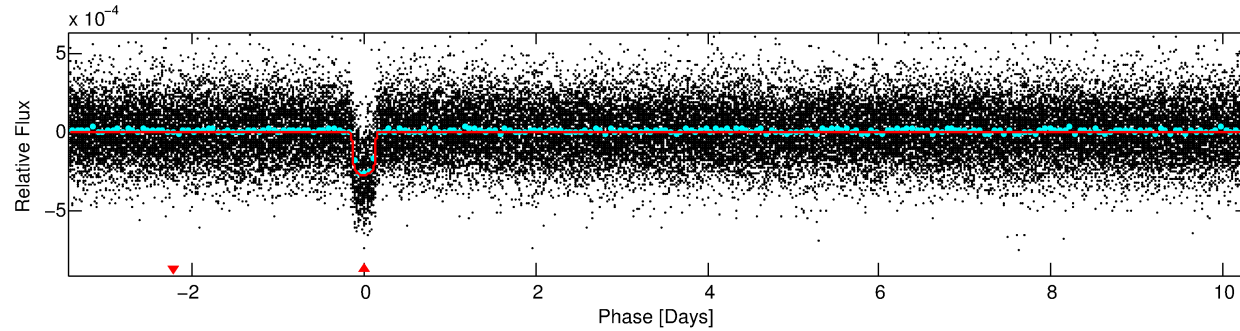
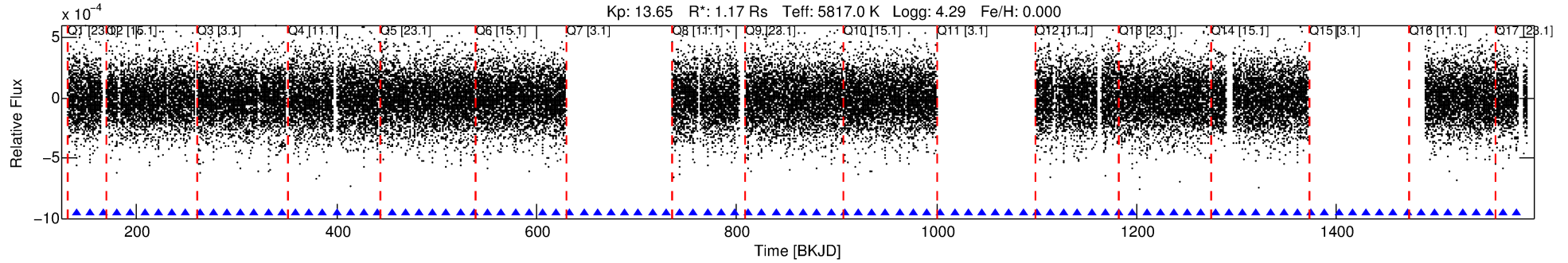
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009964801-01

No Significant Match Found

DV One-Page Summary

KIC: 9964801 Candidate: 1 of 1 Period: 13.725 d
KOI: K00721.01 Corr: 0.992



DV Fit Results:

Period = 13.72461 [0.00005] d
Epoch = 139.4762 [0.0027] BKJD
Rp/R* = 0.0175 [0.0014]
a/R* = 8.46 [3.15]
b = 0.85 [0.13]
Seff = 113.08 [28.79]
Teq = 832 [53] K
Rp = 2.24 [0.39] Re
a = 0.1115 [0.0167] AU
Ag = 27.09 [11.57] [2.25σ]
Teffp = 2933 [265] K [7.78σ]

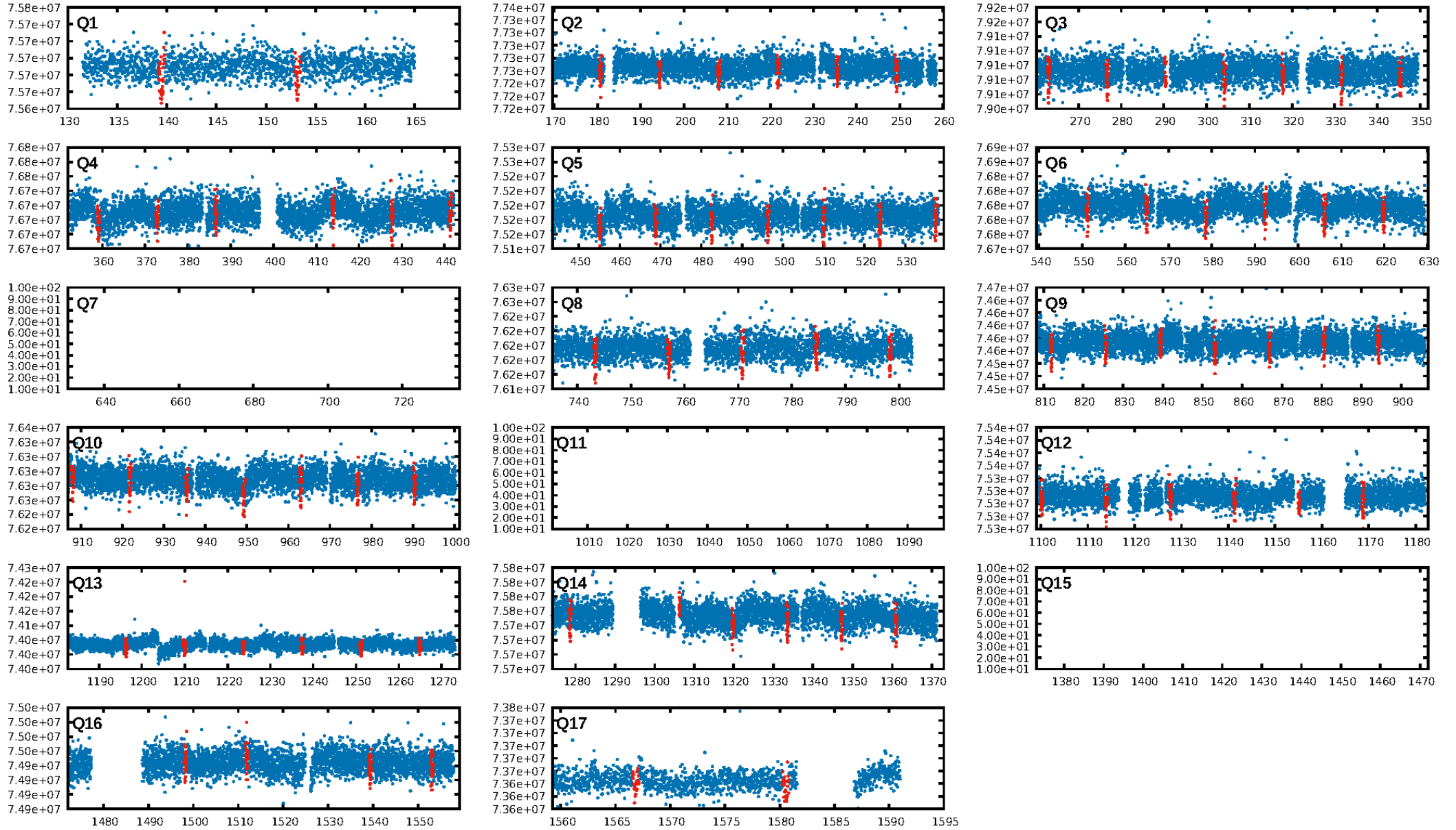
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 93.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.54e-291
RollingBand-fgt: 1.00 [73/73]
GhostDiagnostic-chr: 5.237
Centroid-sig: 0.0%
Centroid-so: 0.151 arcsec [0.61σ]
OotOffset-rm: 0.168 arcsec [0.82σ]
KicOffset-rm: 0.096 arcsec [0.34σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

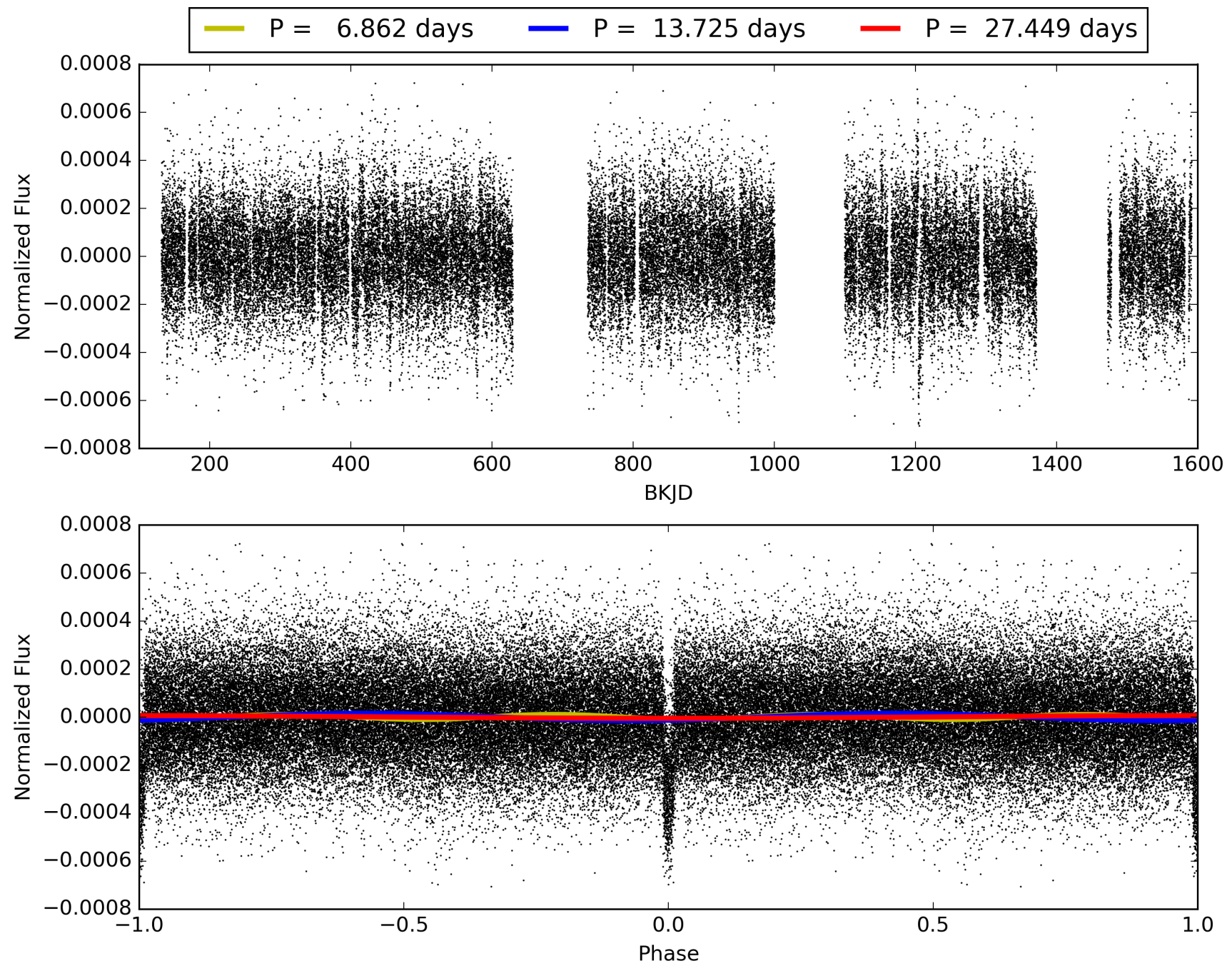
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:48:06 Z

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

TCE 009964801-01, PDC Light Curves

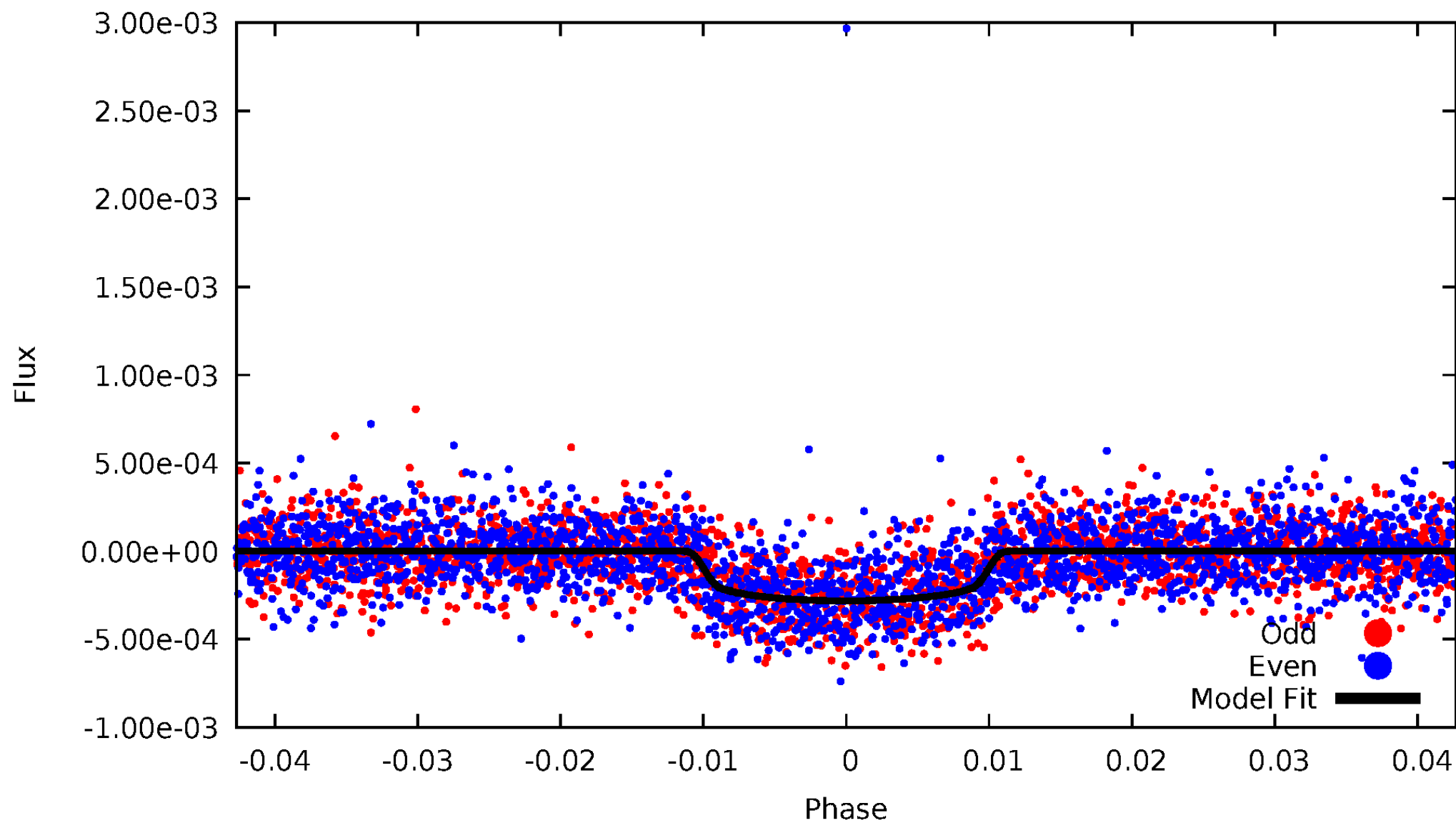


TCE 009964801-01



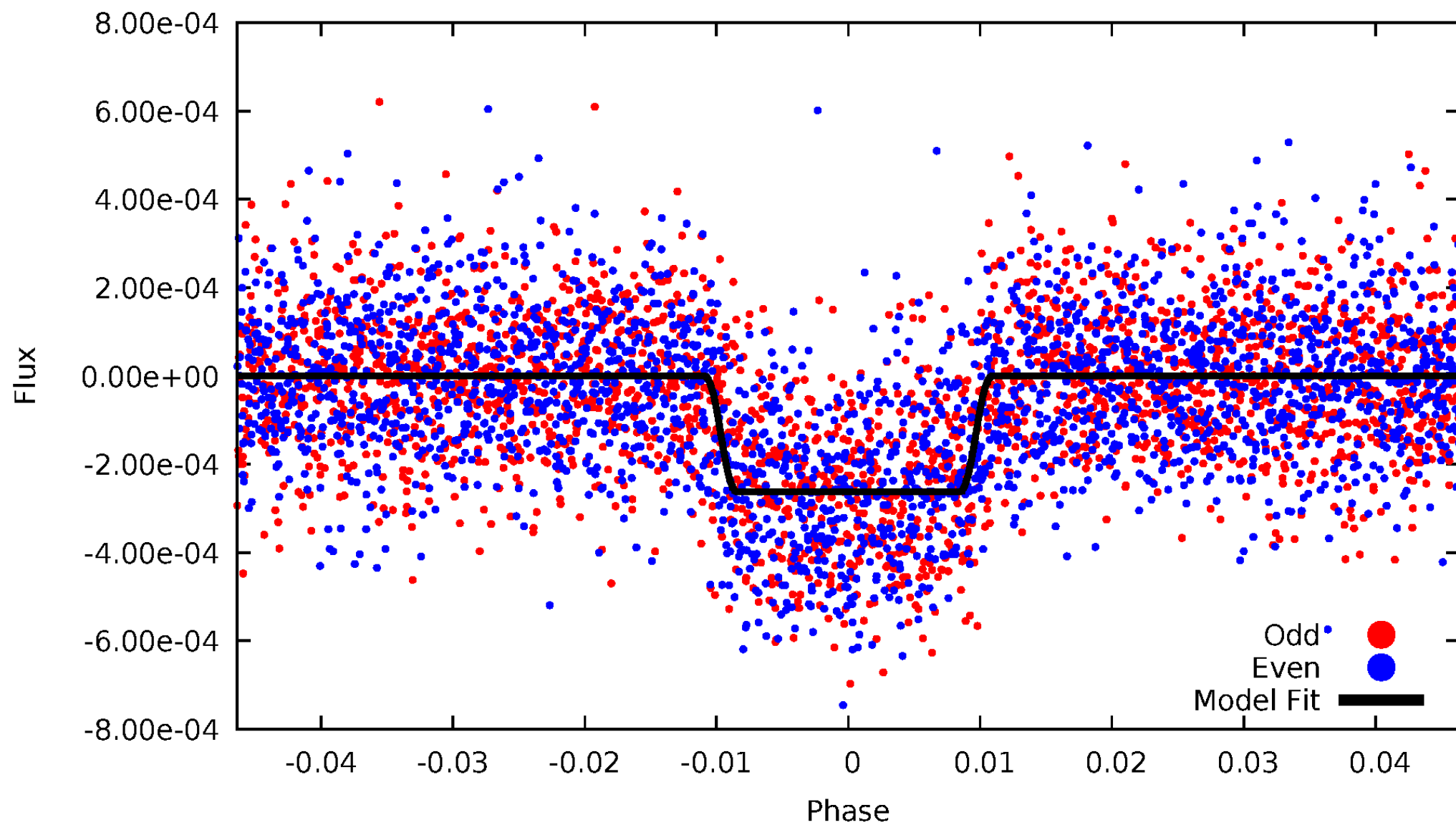
DV Odd/Even

TCE 009964801-01

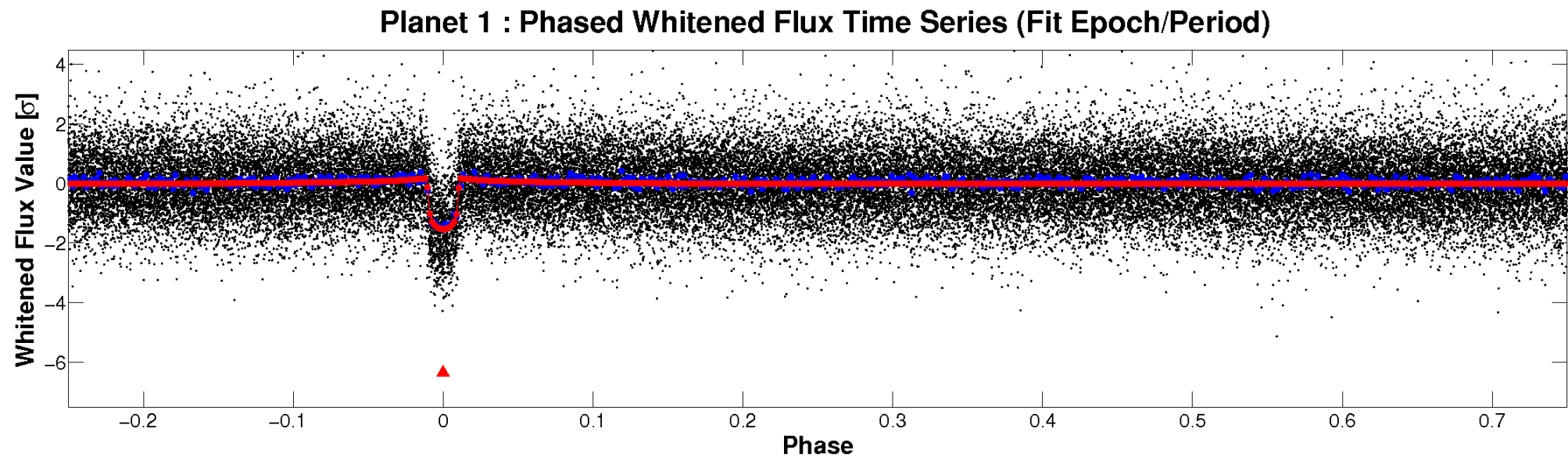
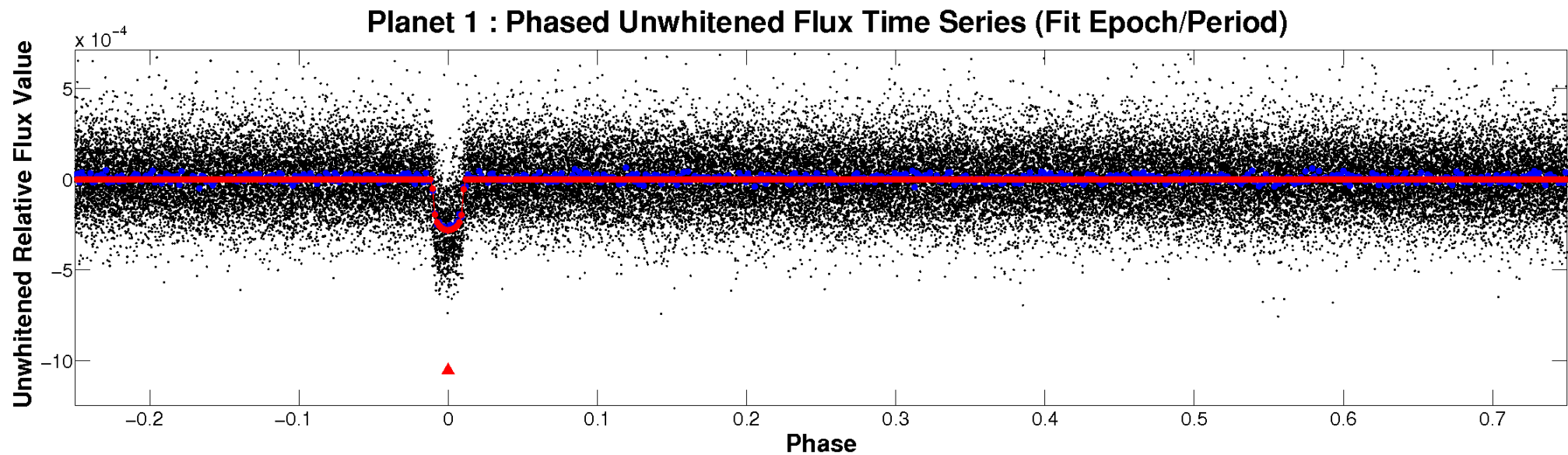


ALT Odd/Even

TCE 009964801-01

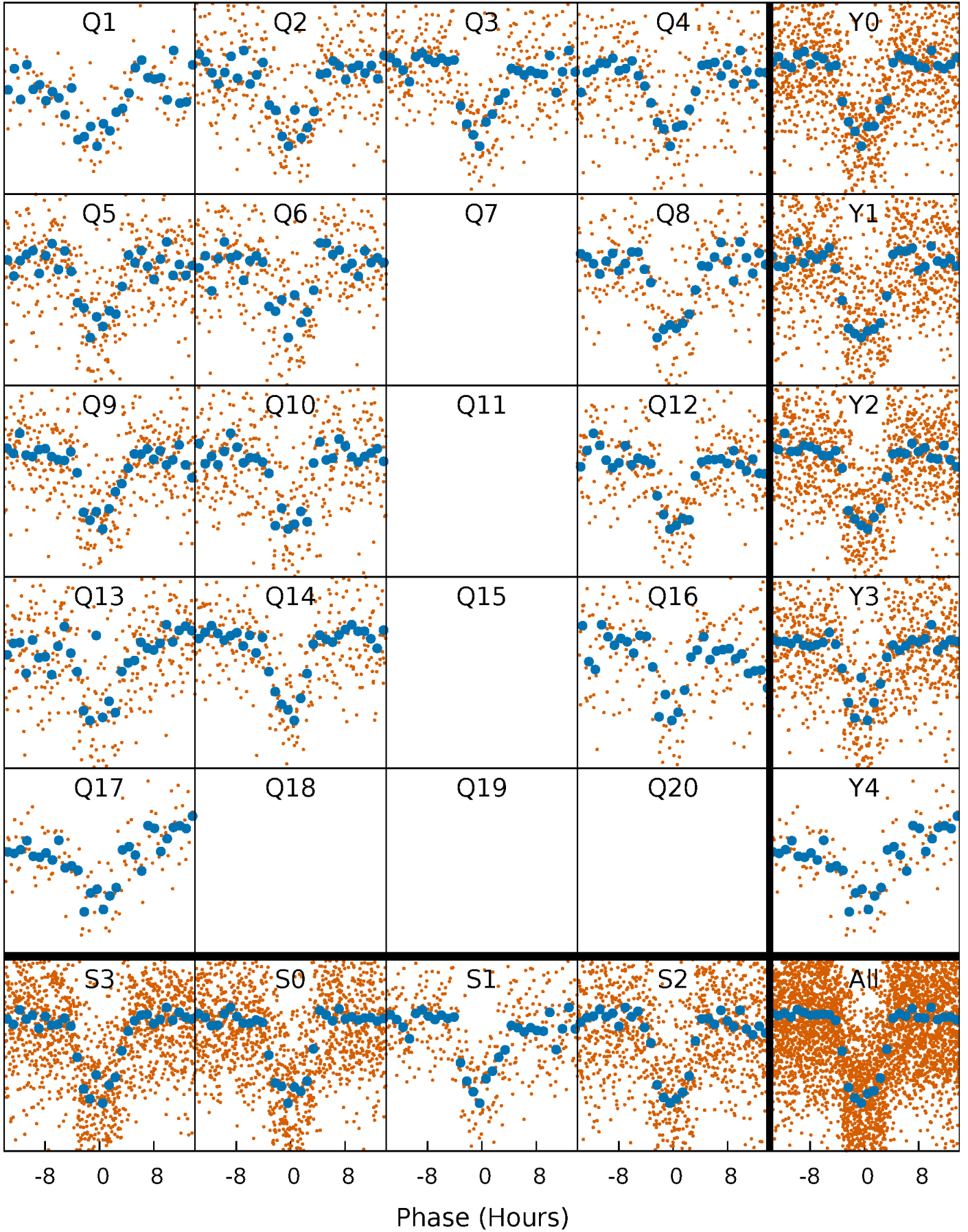


Non-Whitened Vs. Whitened Light Curve



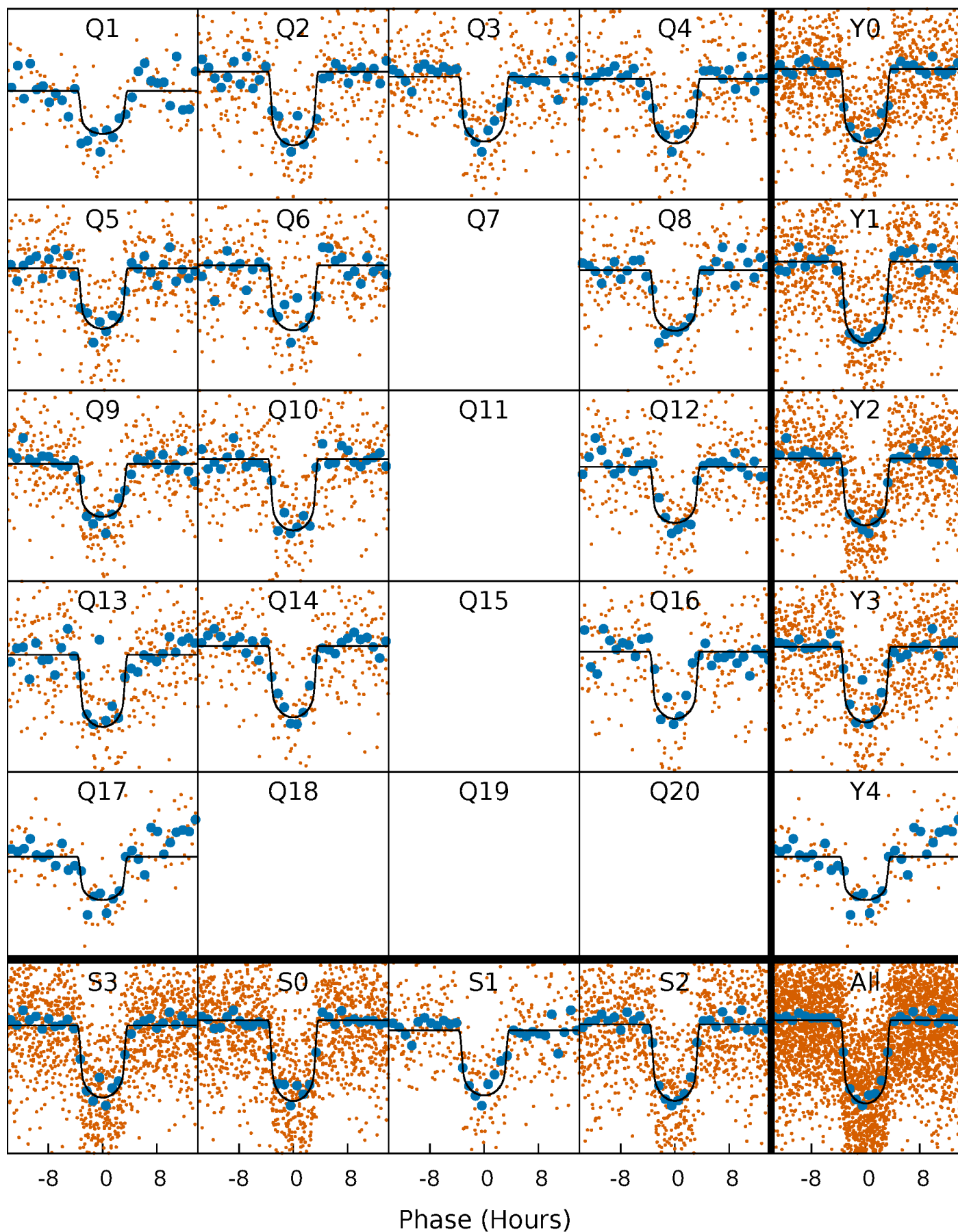
PDC Quarter-Phased Transit Curves

TCE 009964801-01 P= 13.724609 Days $T_0=139.476190$ (BKJD)



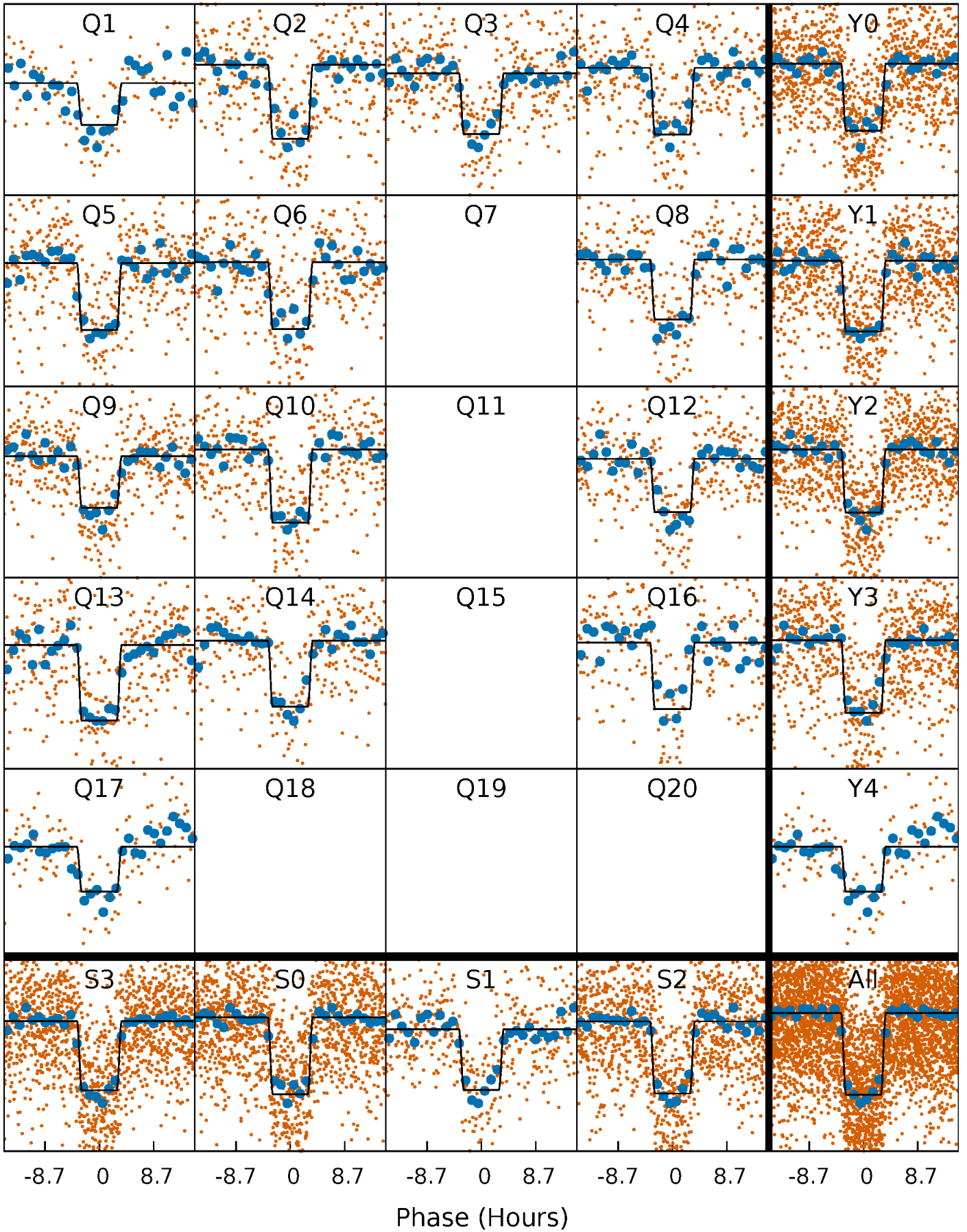
DV Quarter-Phased Transit Curves

TCE 009964801-01 P= 13.724609 Days $T_0=139.476190$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

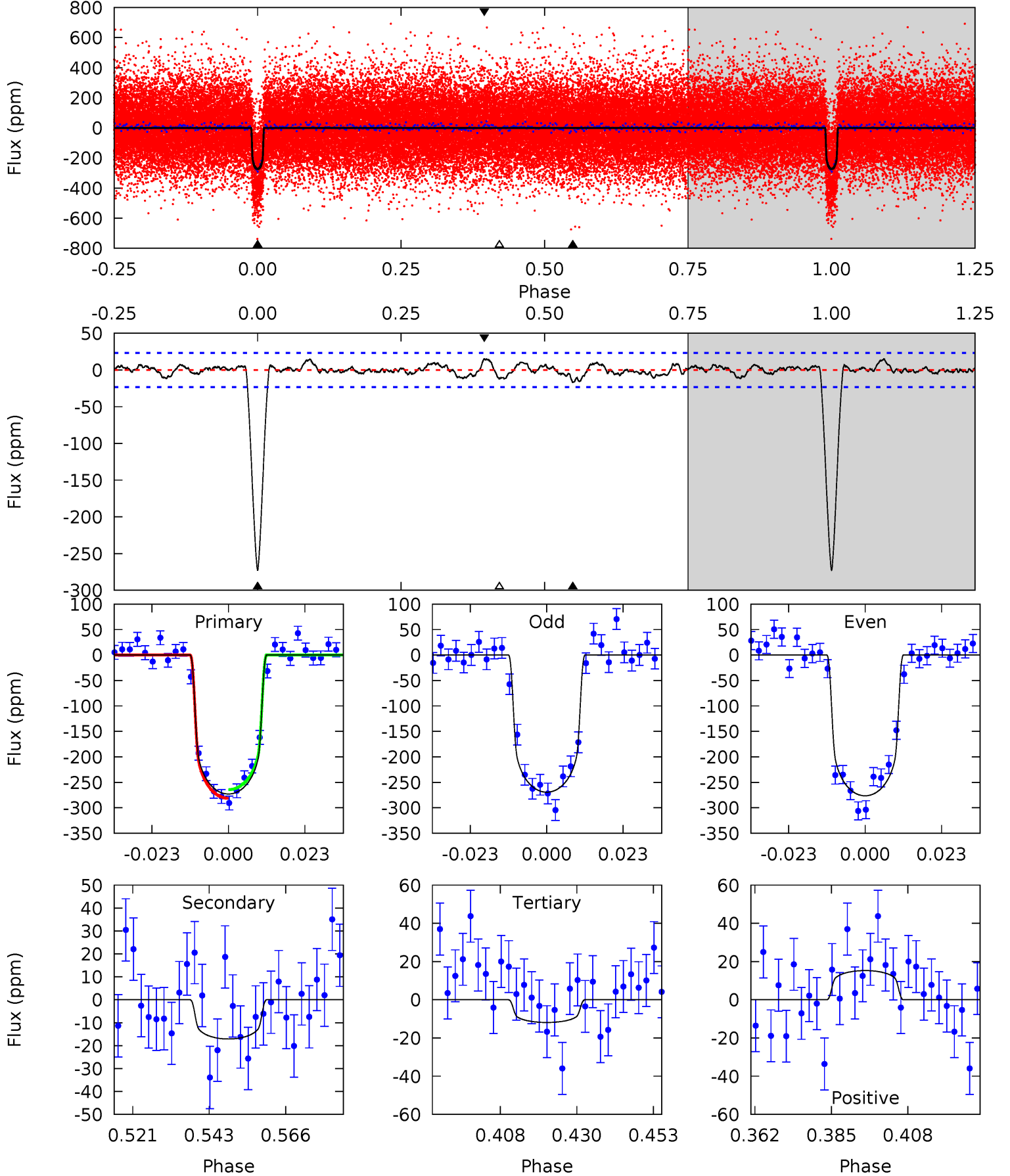
TCE 009964801-01 P= 13.724559 Days $T_0=139.477204$ (BKJD)



DV Model-Shift Uniqueness Test

009964801-01, P = 13.724609 Days, E = 125.751581 Days

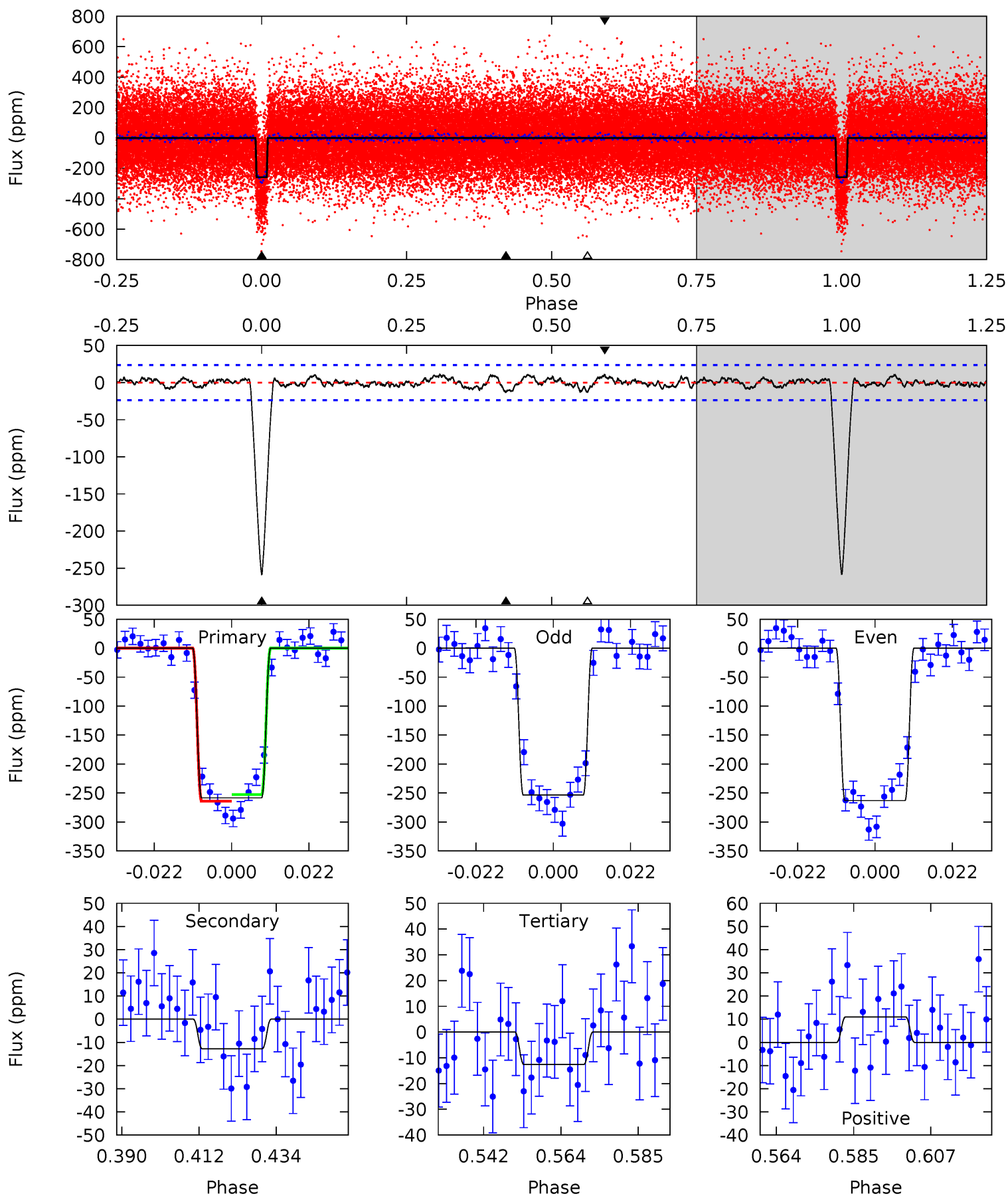
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
57.0	3.58	2.49	3.19	4.87	2.28	1.13	54.5	53.8	1.09	0.39	0.74	0.98	0.05	1.77



Alt Model-Shift Uniqueness Test

009964801-01, P = 13.724559 Days, E = 125.752645 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.3	2.63	2.59	2.26	4.88	2.30	0.96	50.7	51.0	0.04	0.37	0.99	0.99	0.04	1.18



Stellar Parameters For KIC 009964801

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5817^{+104}_{-116}	$4.293^{+0.143}_{-0.104}$	$0.000^{+0.150}_{-0.150}$	$1.171^{+0.178}_{-0.178}$	$0.982^{+0.081}_{-0.066}$	$0.861^{+0.532}_{-0.280}$
	+2%/-2%	+3%/-2%	+inf%/-inf%	+15%/-15%	+8%/-7%	+62%/-33%
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 009964801-01 / KOI 0721.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-17 ± 5	$2.21^{+0.28}_{-0.24}$	1158^{+49}_{-58}	3348^{+183}_{-180}	24^{+10}_{-7}
Alt.	-13 ± 5	$2.06^{+0.28}_{-0.26}$	1159^{+52}_{-58}	3298^{+204}_{-241}	21^{+11}_{-9}

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

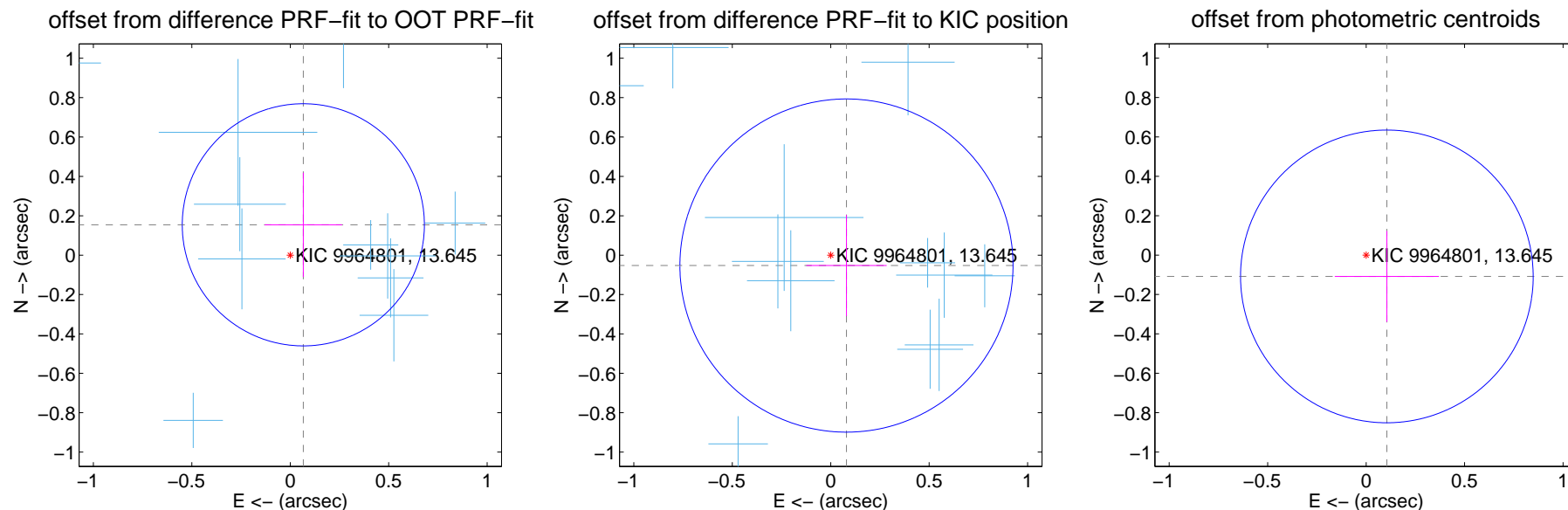
DV Centroid Data

Supplemental centroid analysis for 009964801-01. Kepler magnitude: 13.64. Transit SNR 42.00

There are 14 quarters with good PRF difference image offsets

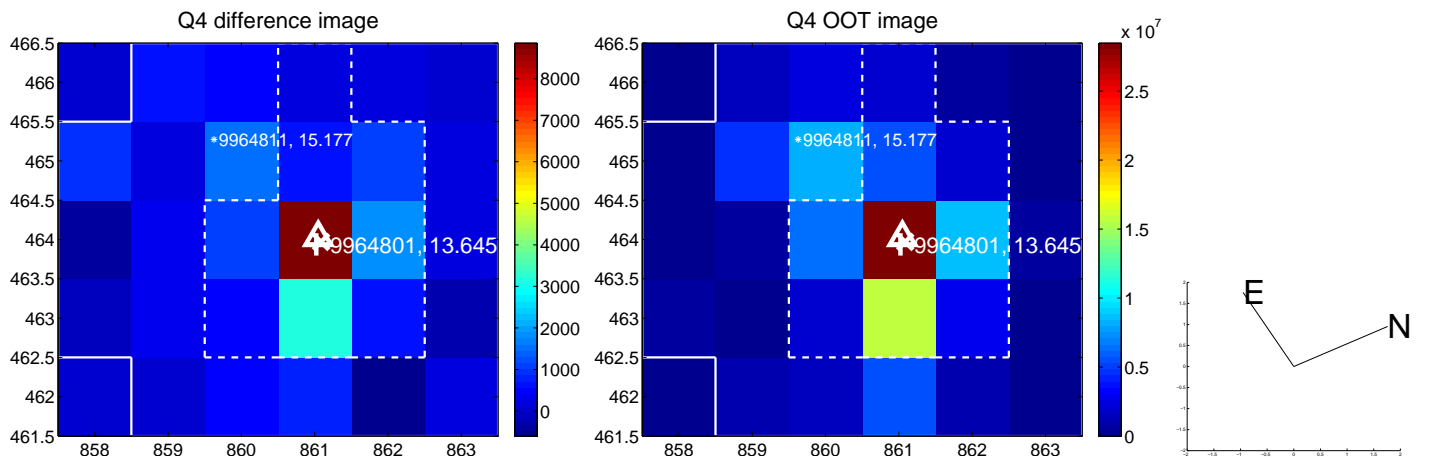
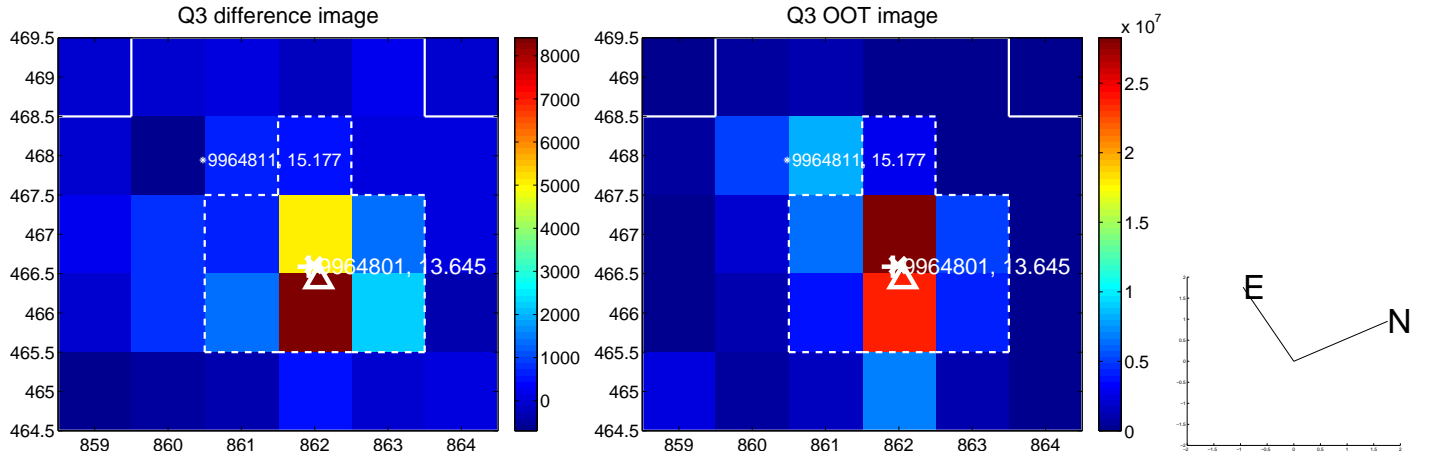
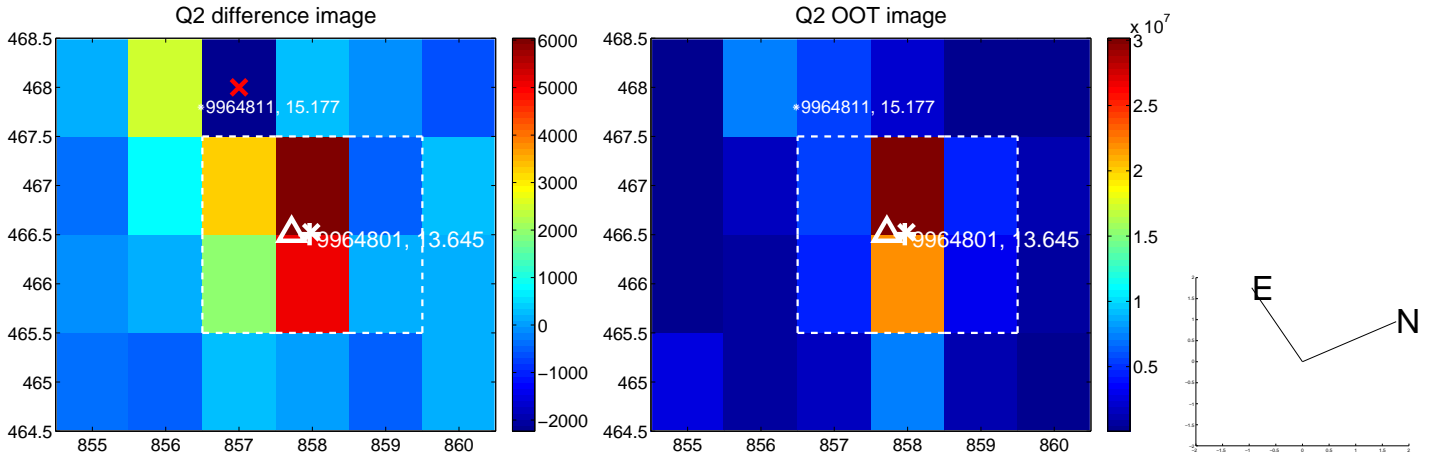
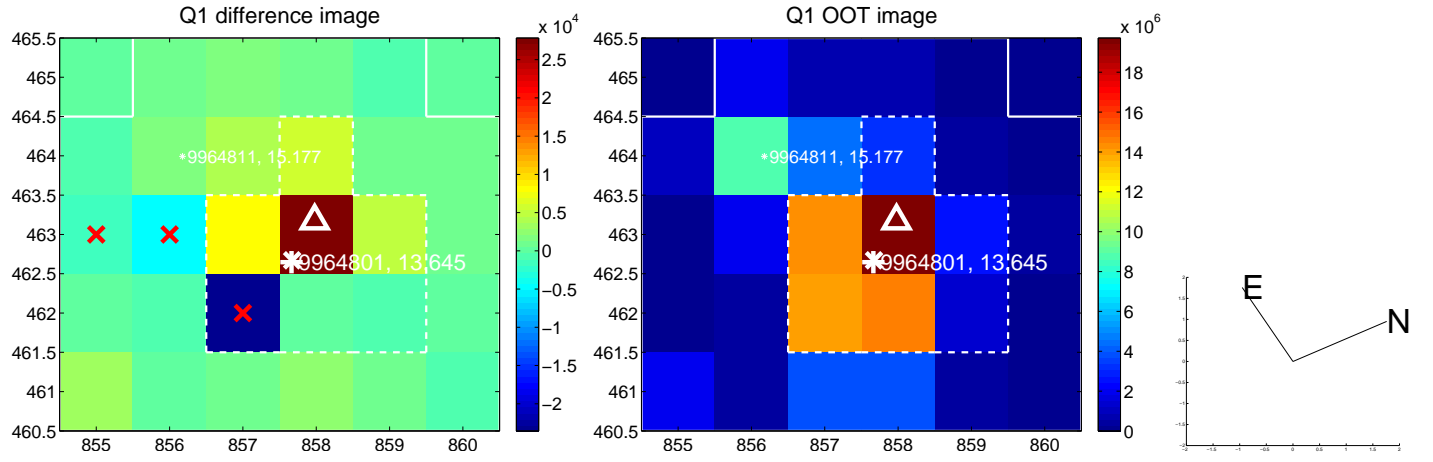
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.168 ± 0.205	0.82	-0.066 ± 0.196	0.154 ± 0.265
PRF-fit source offset from KIC position	0.096 ± 0.282	0.34	-0.080 ± 0.204	-0.053 ± 0.257
photometric centroid source offset	0.15 ± 0.25	0.61	-0.11 ± 0.26	-0.11 ± 0.23

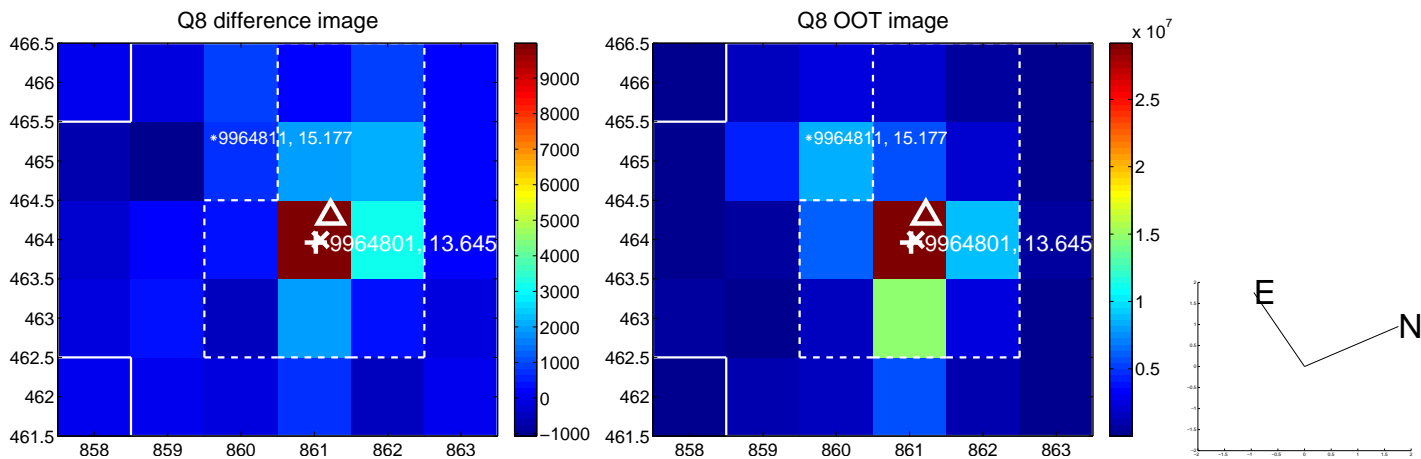
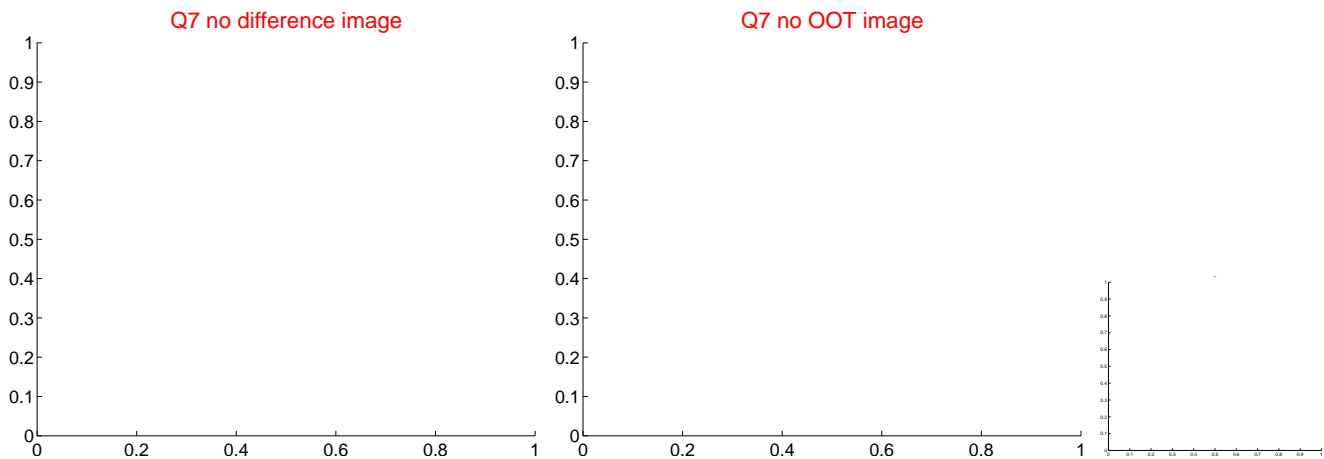
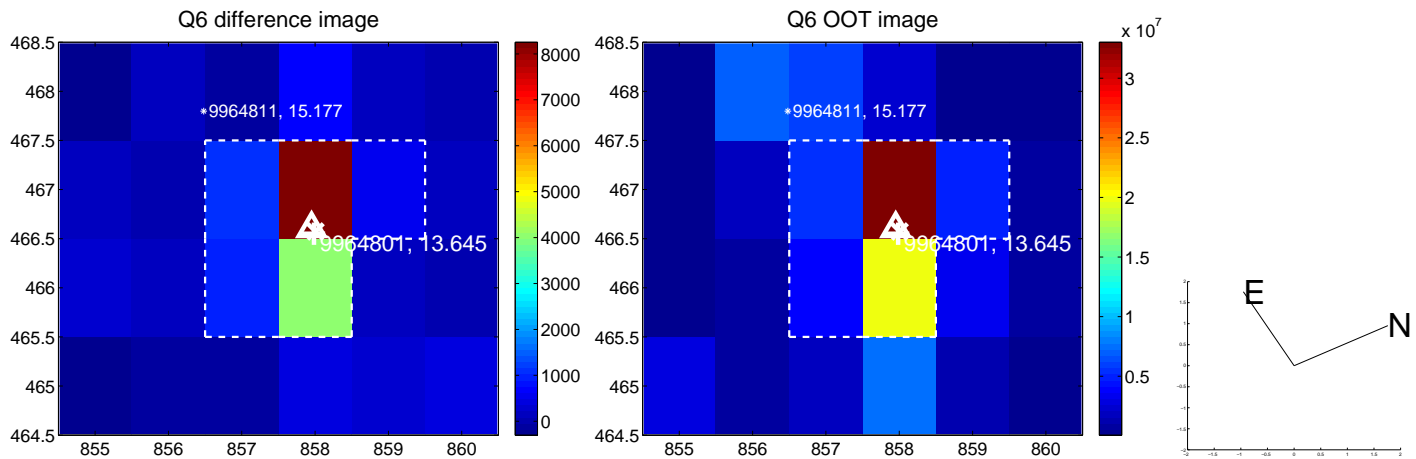
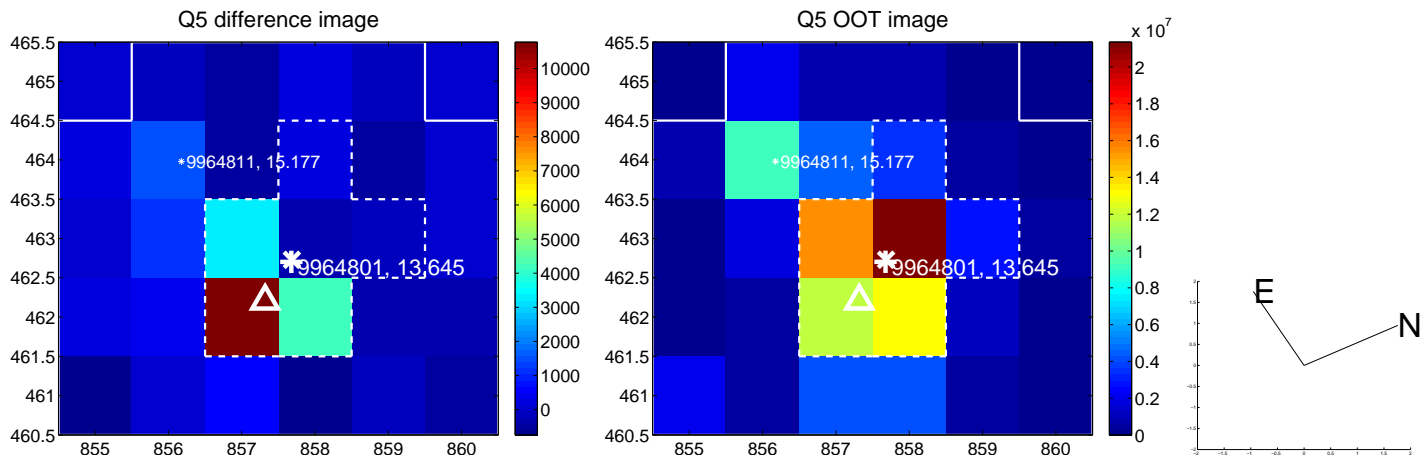


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

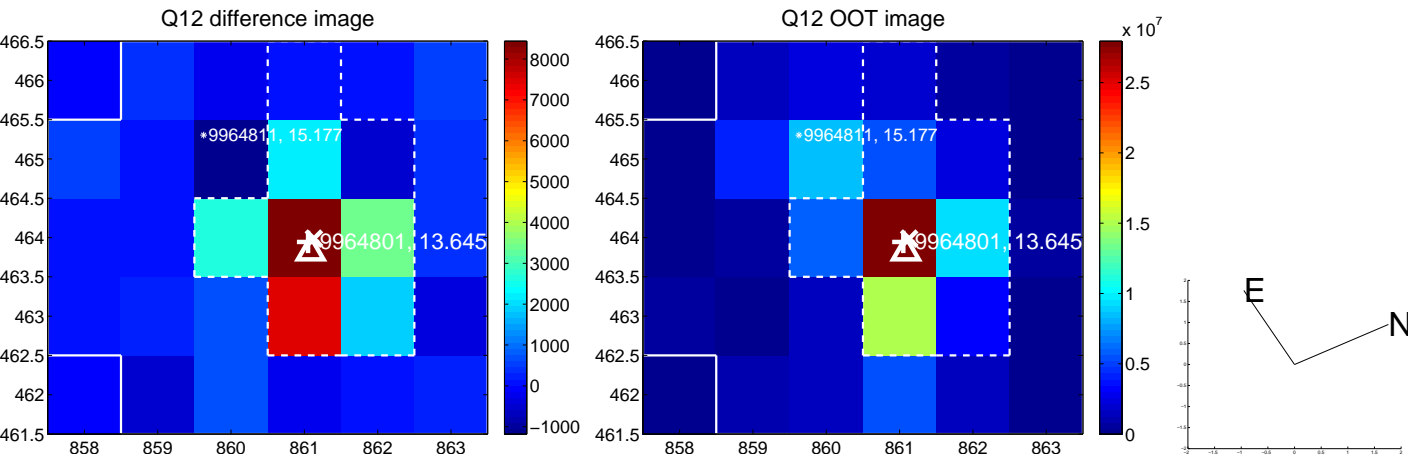
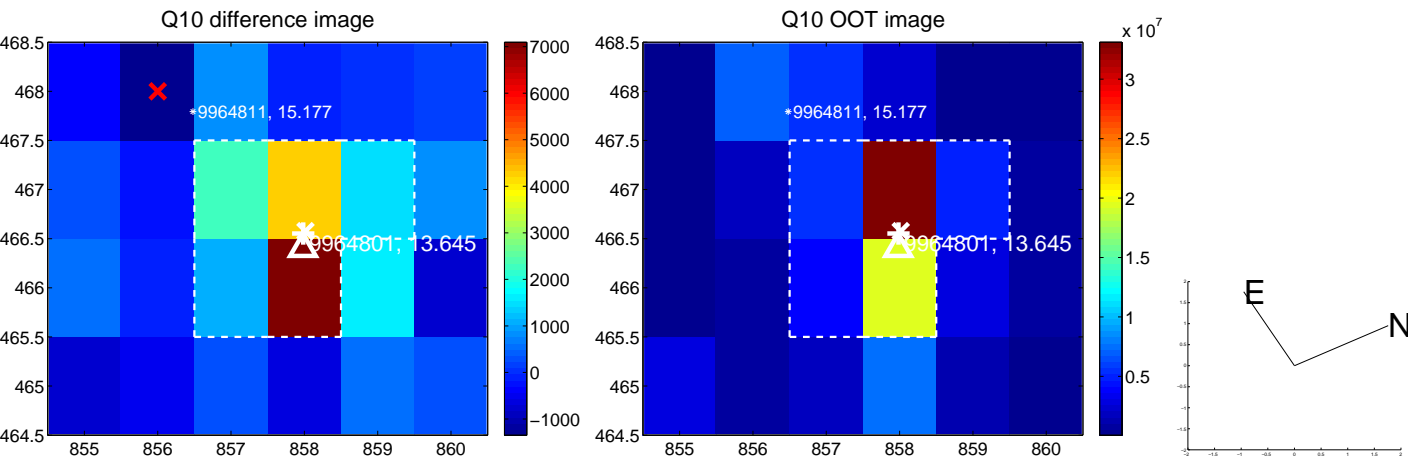
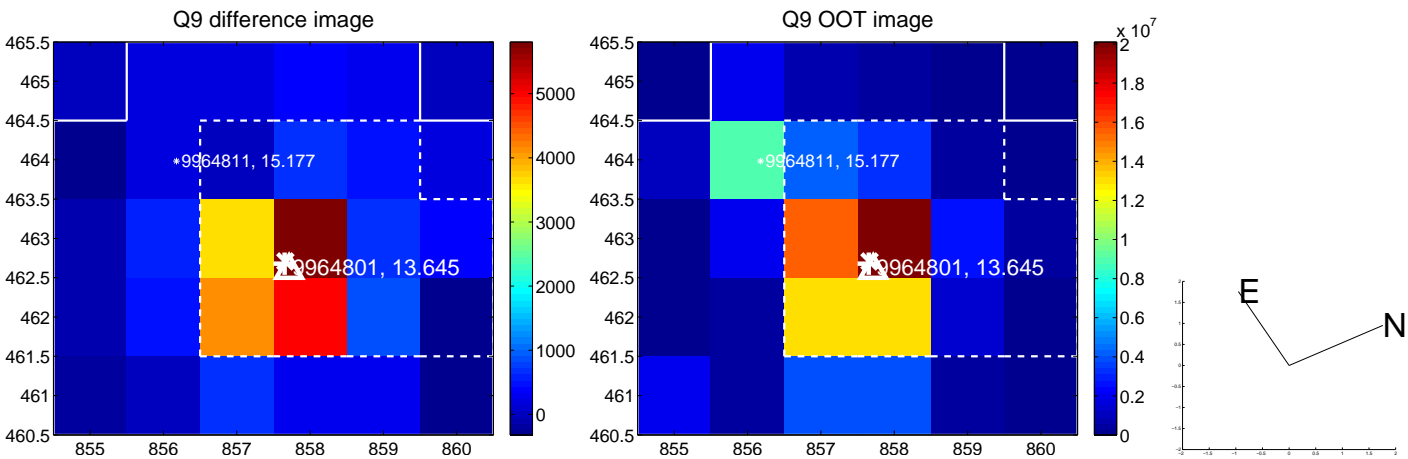
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



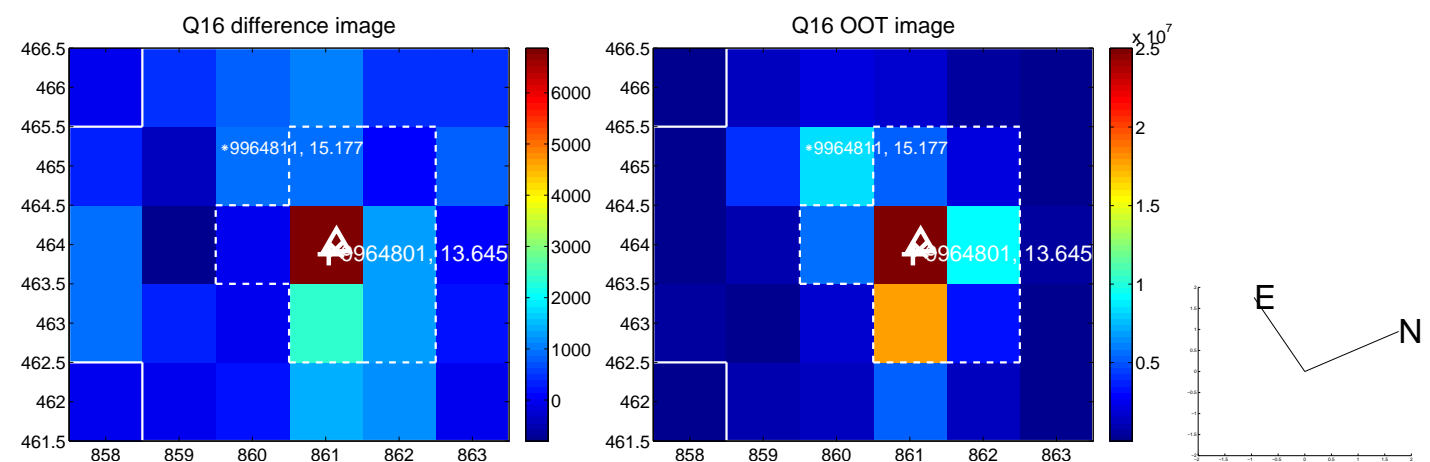
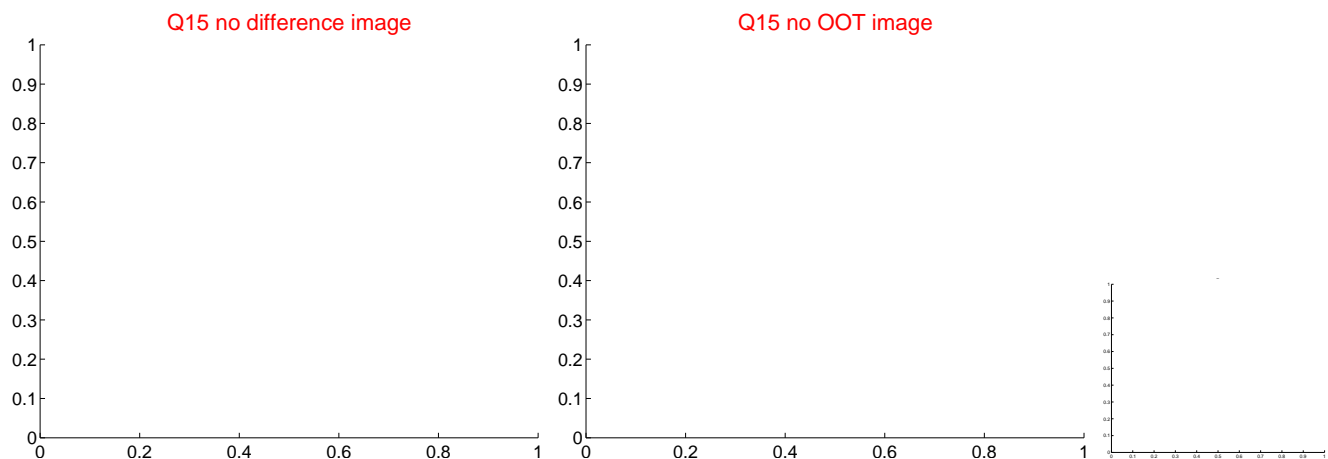
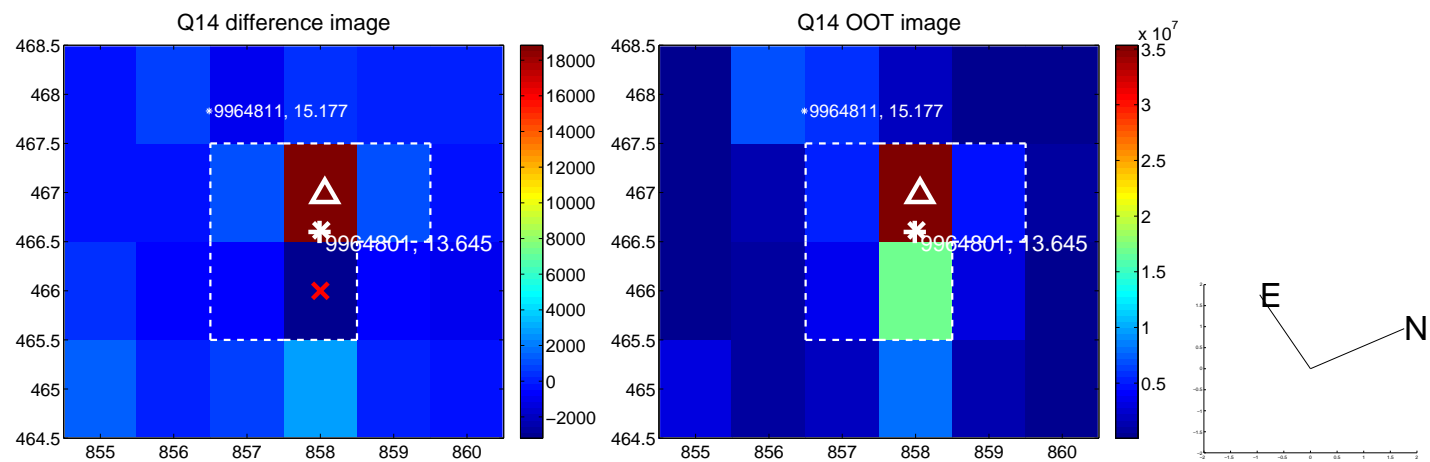
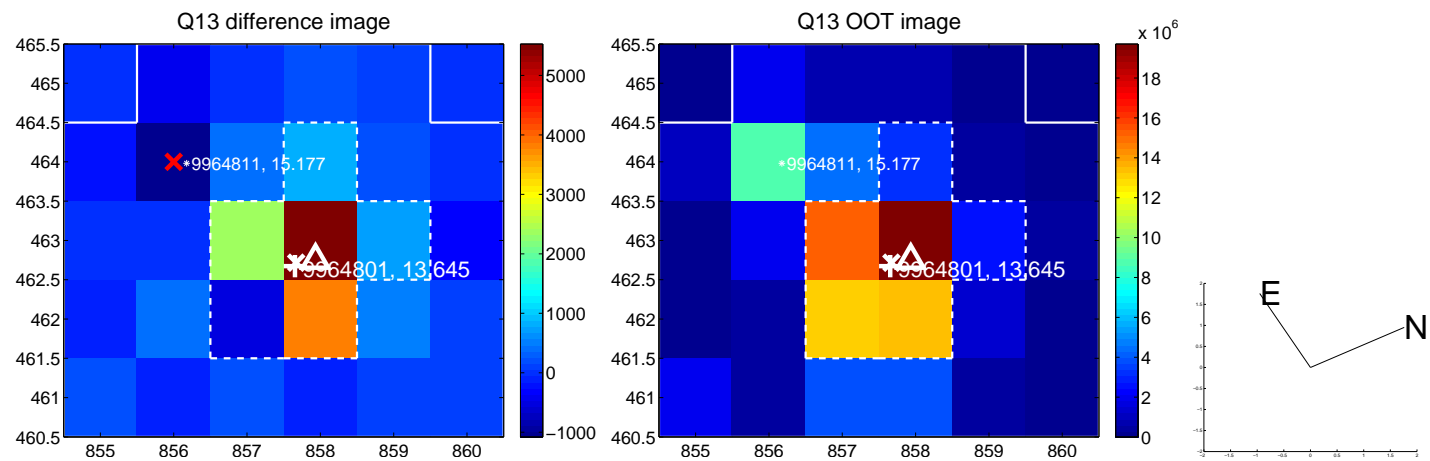
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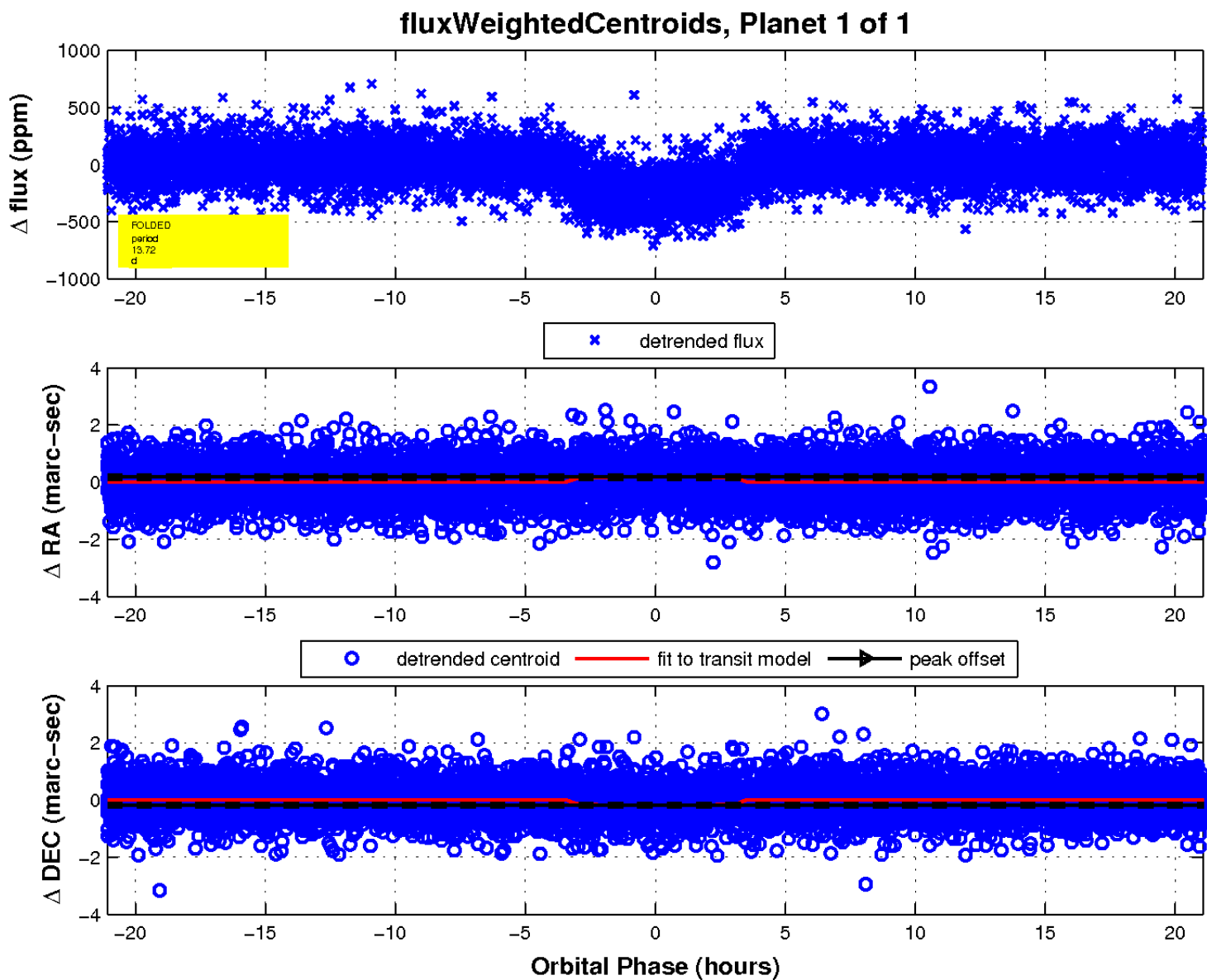
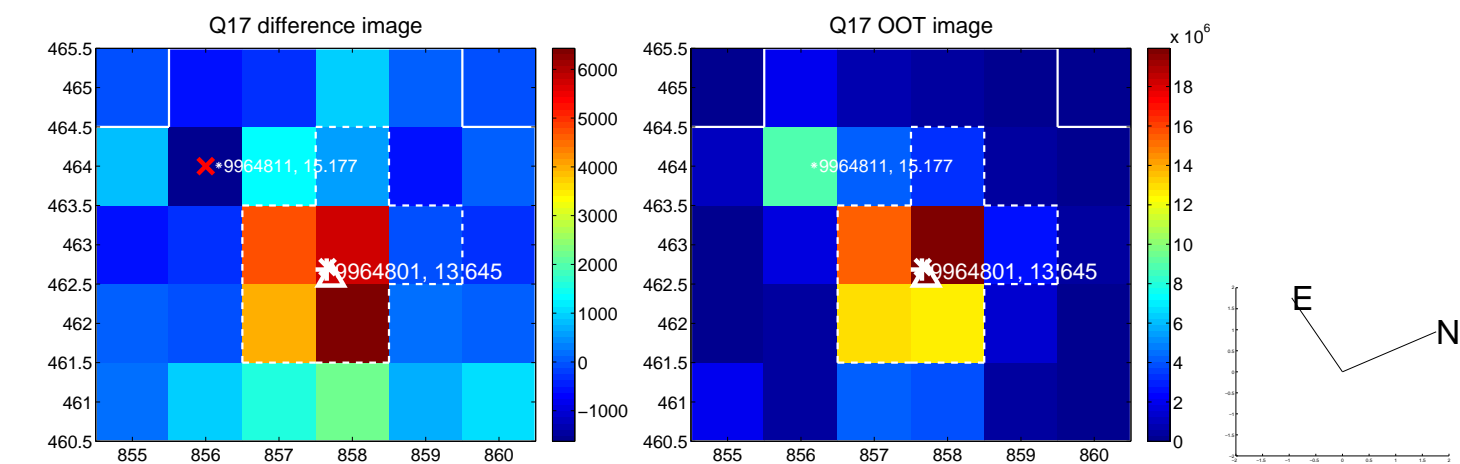
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UKIRT Image

Declination

