

KIC 005481416

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})
005481416-01	OBS	0836.01	2.384055	133.438338	1239.0	2.972	44.6	51.0	0.70	4794	4.56	246.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005481416-01	OBS	FP	0.00	0	1	1	1	MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH

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.

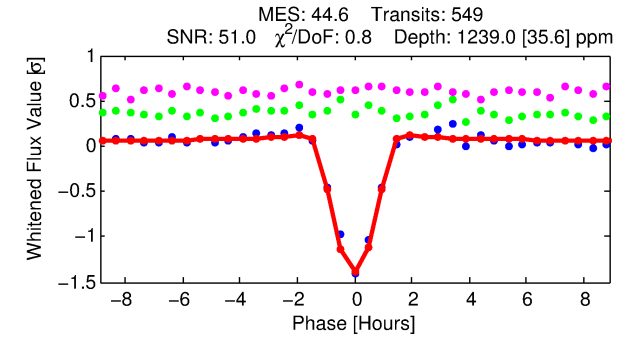
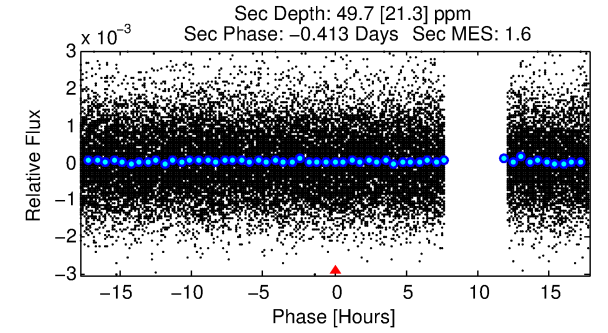
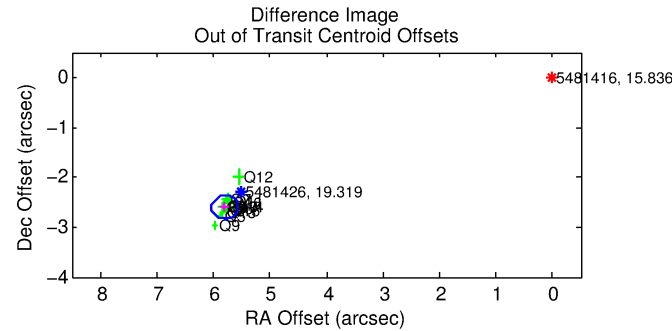
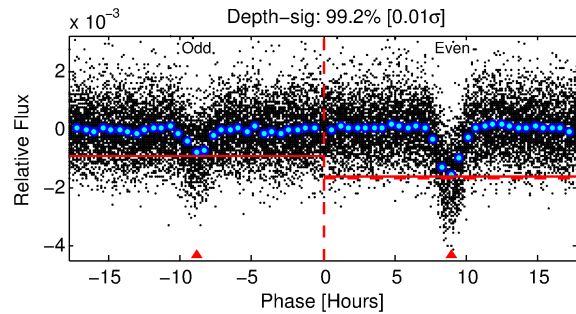
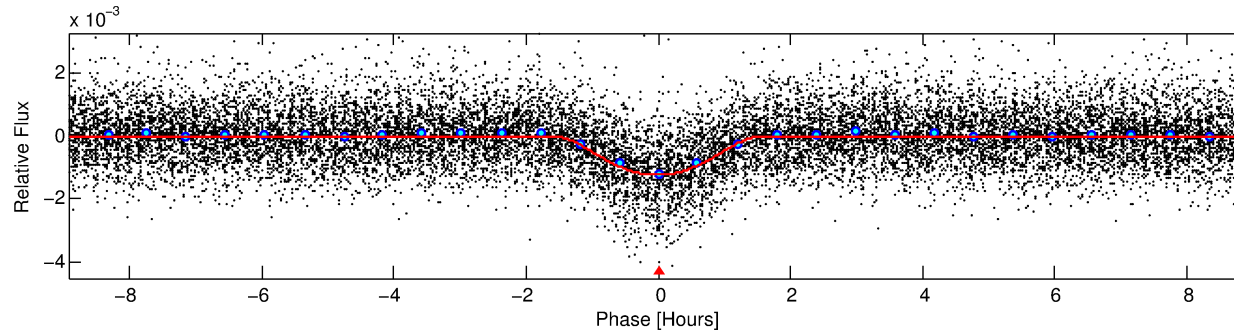
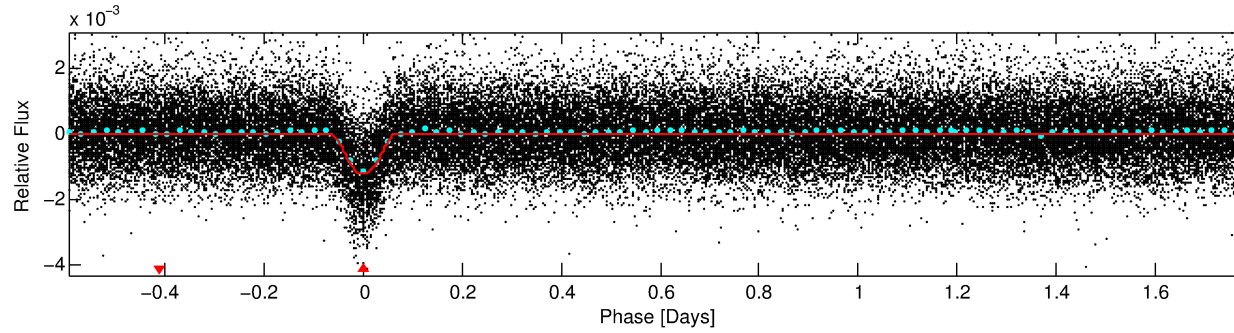
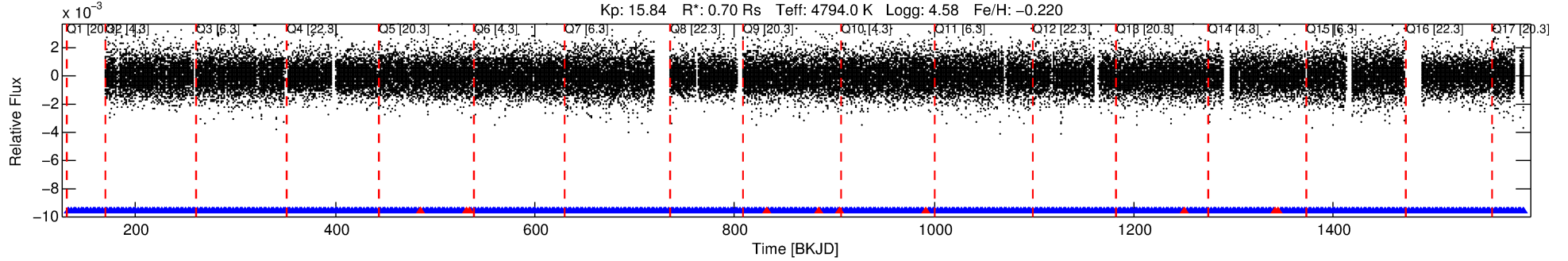
Ephemeris Match Information For 005481416-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005481416-01	5481416	3772.01	5481426	1:1	6.0	1	1	19.32	15.84	290.84	Direct-PRF	0	0.12	0.07

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5481416 Candidate: 1 of 1 Period: 2.384 d
KOI: K00836.01 Corr: 0.969



DV Fit Results:

Period = 2.38406 [0.00000] d
Epoch = 133.4383 [0.0009] BKJD
Rp/R* = 0.0596 [0.0382]
a/R* = 2.52 [0.34]
b = 0.99 [0.06]
Seff = 246.08 [40.98]
Teq = 1010 [42] K
Rp = 4.56 [2.95] Re
a = 0.0307 [0.0024] AU
Ag = 1.24 [1.68] [0.14 σ]
Teffp = 1648 [559] K [1.14 σ]

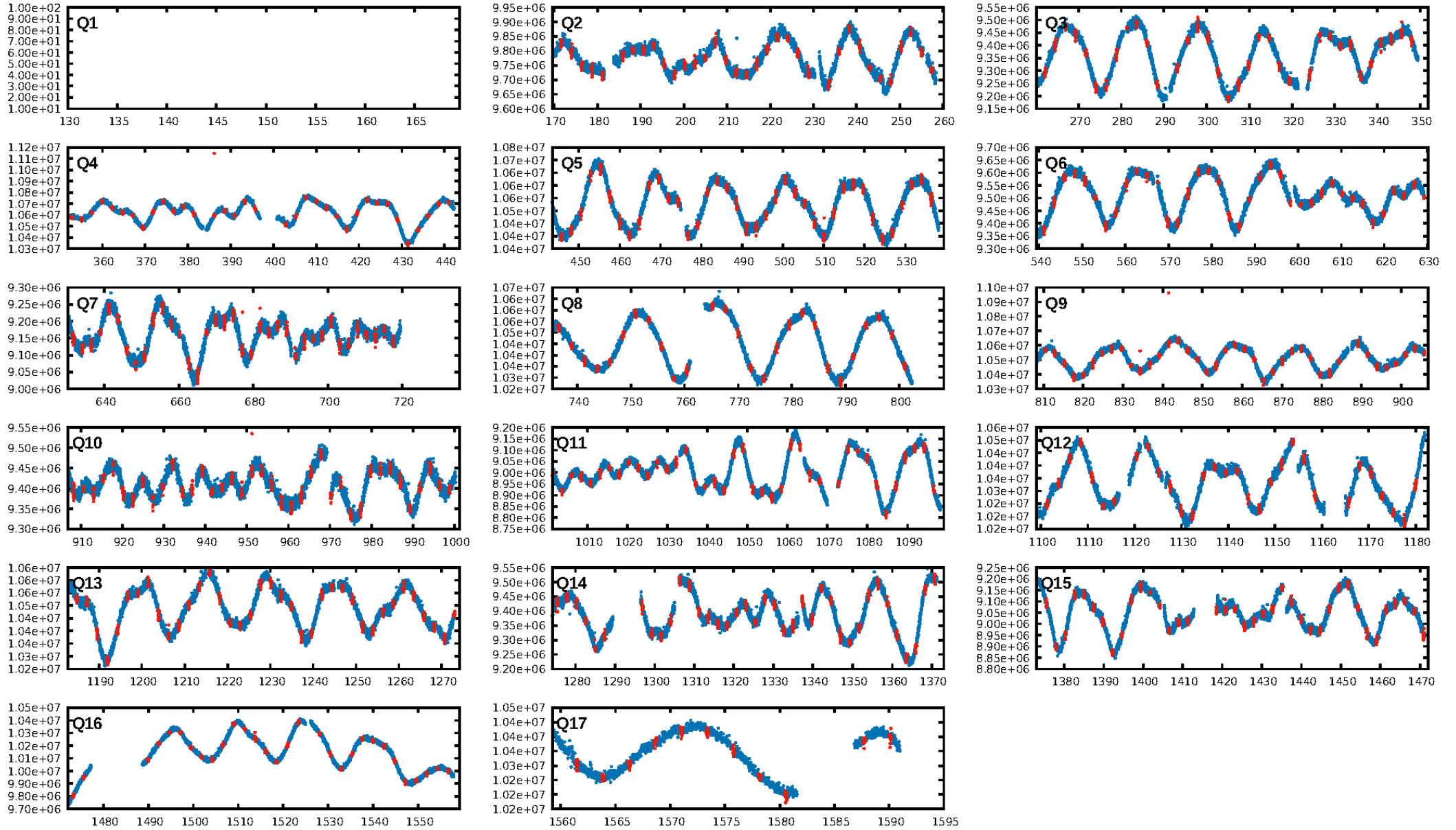
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.98 [528/538]
GhostDiagnostic-chr: -0.2473
Centroid-sig: 0.0%
Centroid-so: 22.113 arcsec [75.55 σ]
OotOffset-rm: 6.355 arcsec [81.29 σ]
KicOffset-rm: 6.483 arcsec [79.69 σ]
OotOffset-st: 4/4/2/4 [14]
KicOffset-st: 4/4/2/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [16/16]

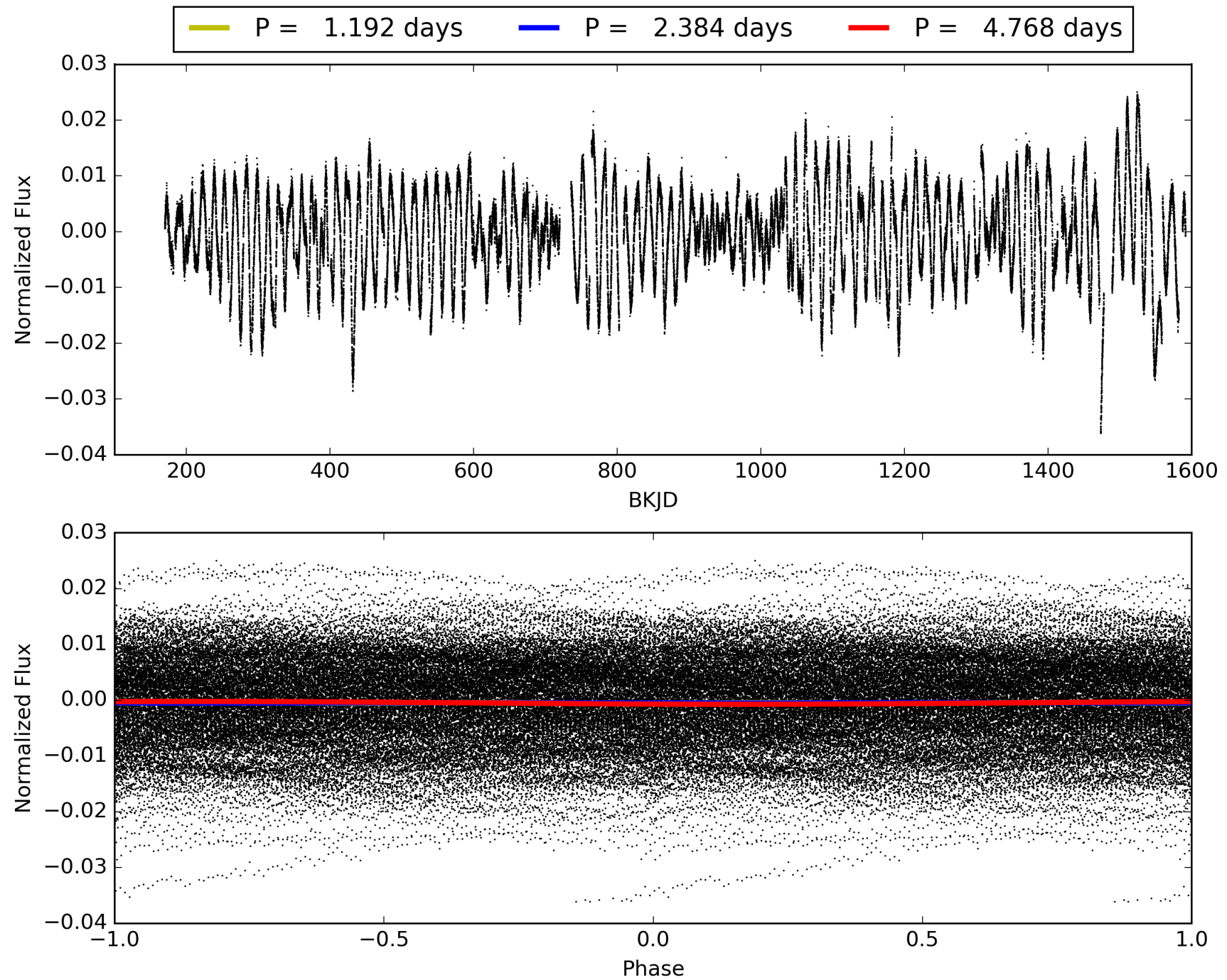
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 14:28:52 Z

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

TCE 005481416-01, PDC Light Curves

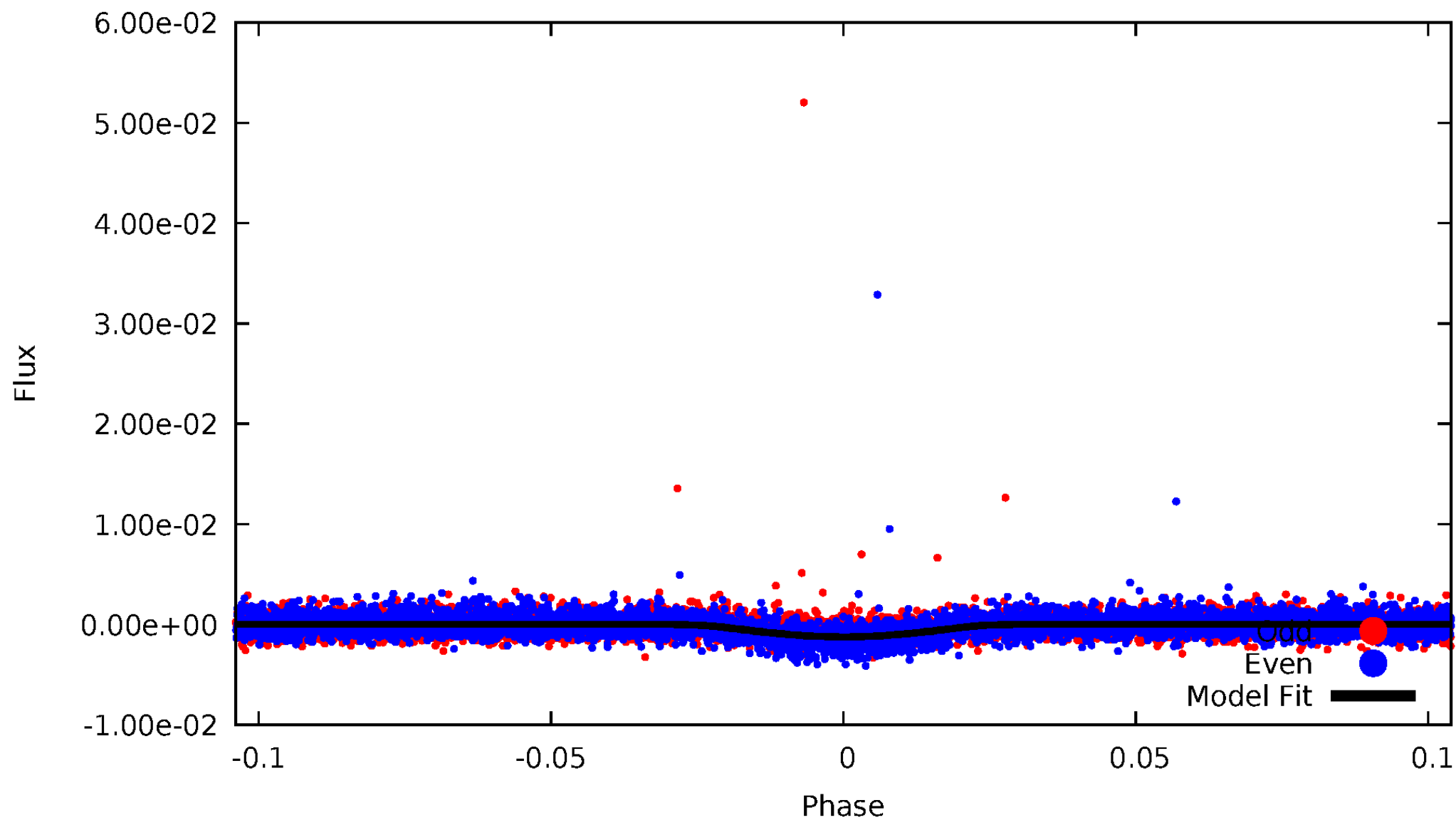


TCE 005481416-01



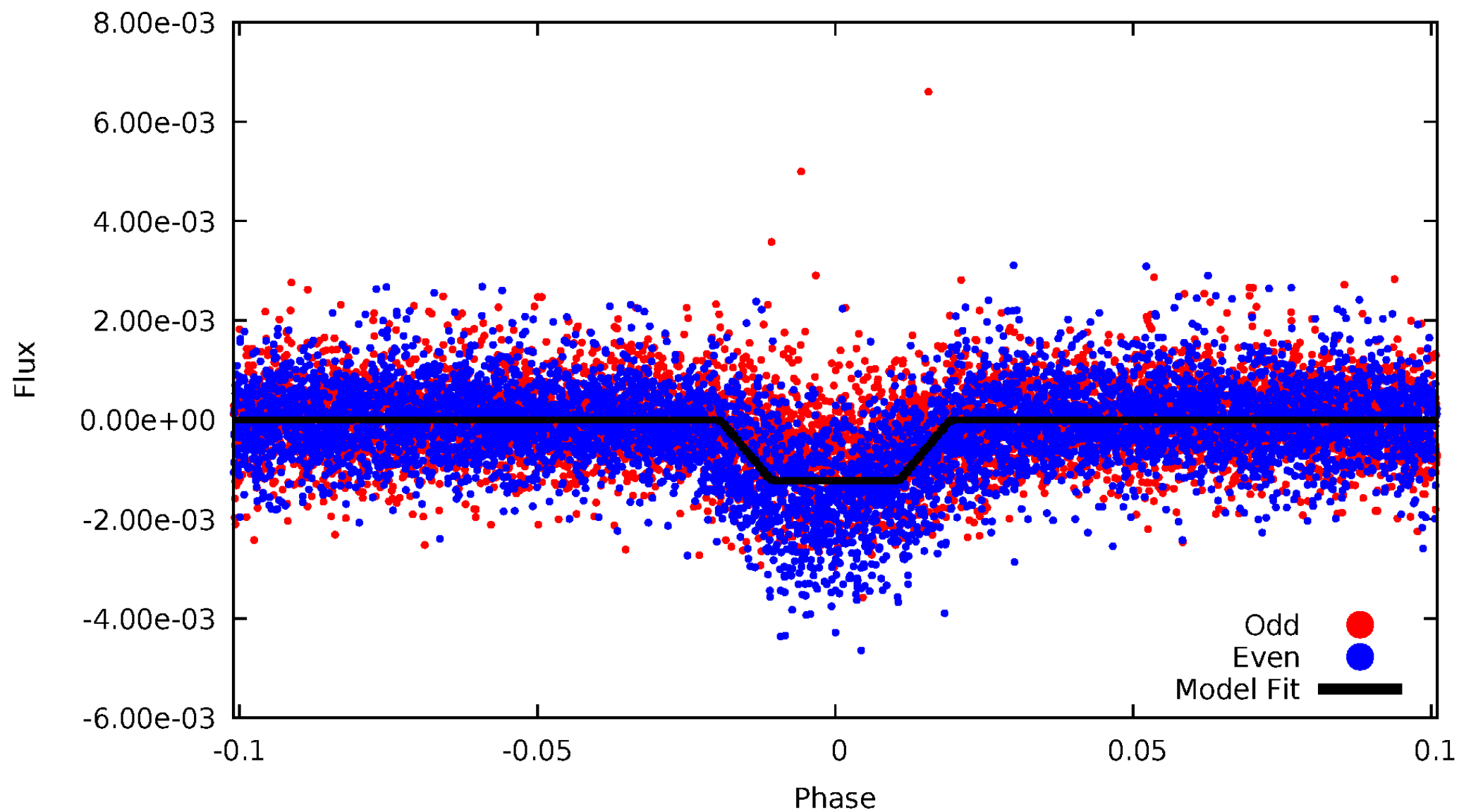
DV Odd/Even

TCE 005481416-01

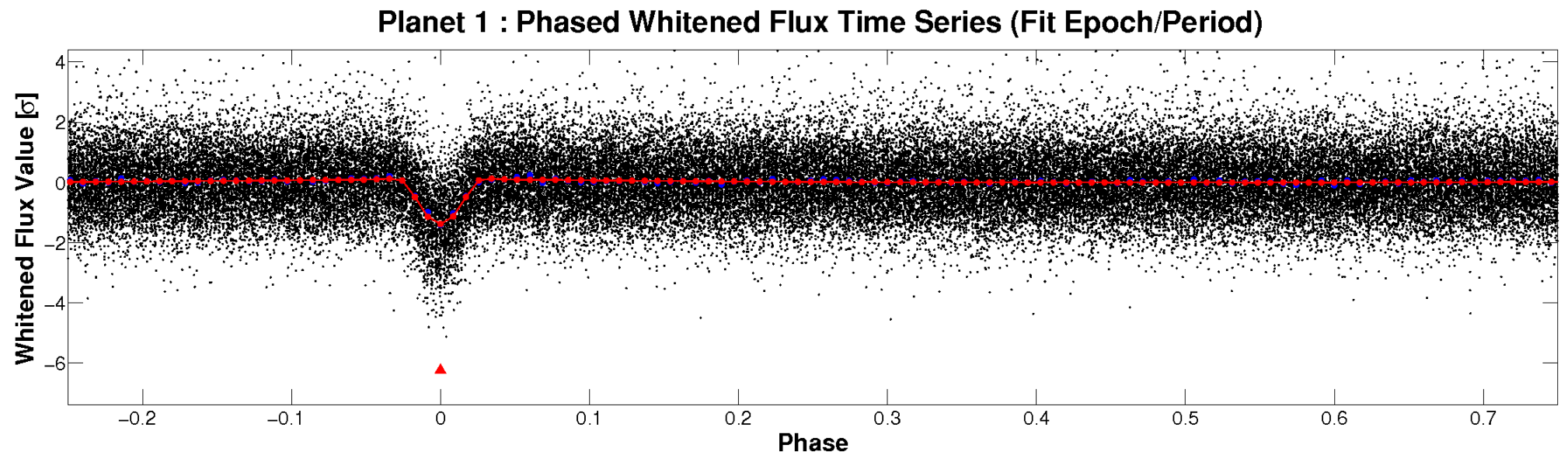
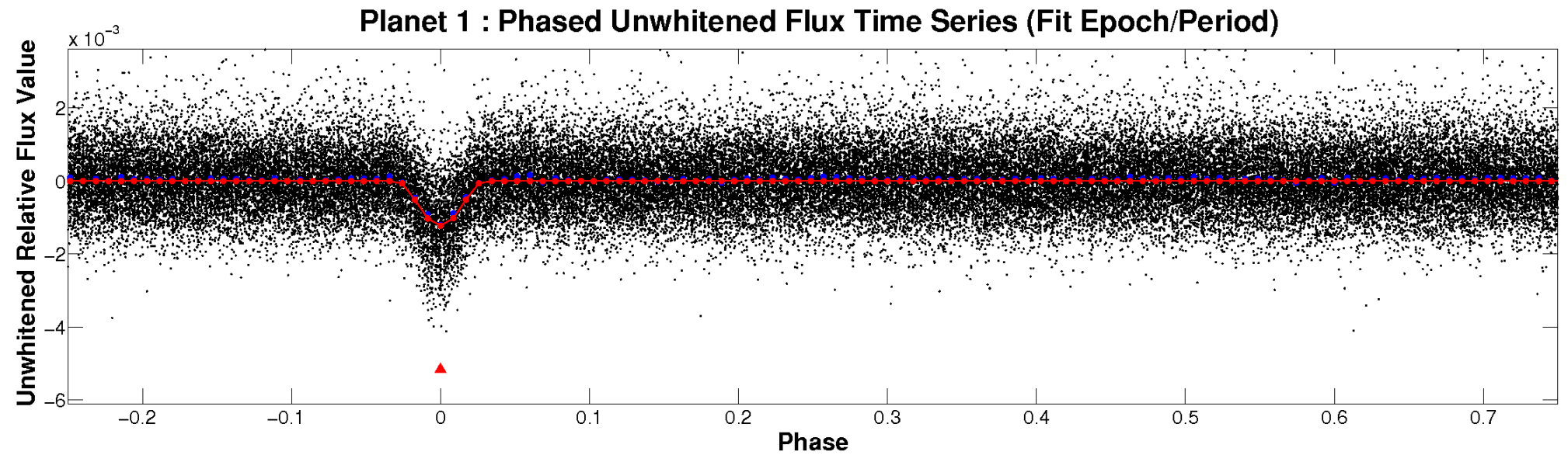


ALT Odd/Even

TCE 005481416-01

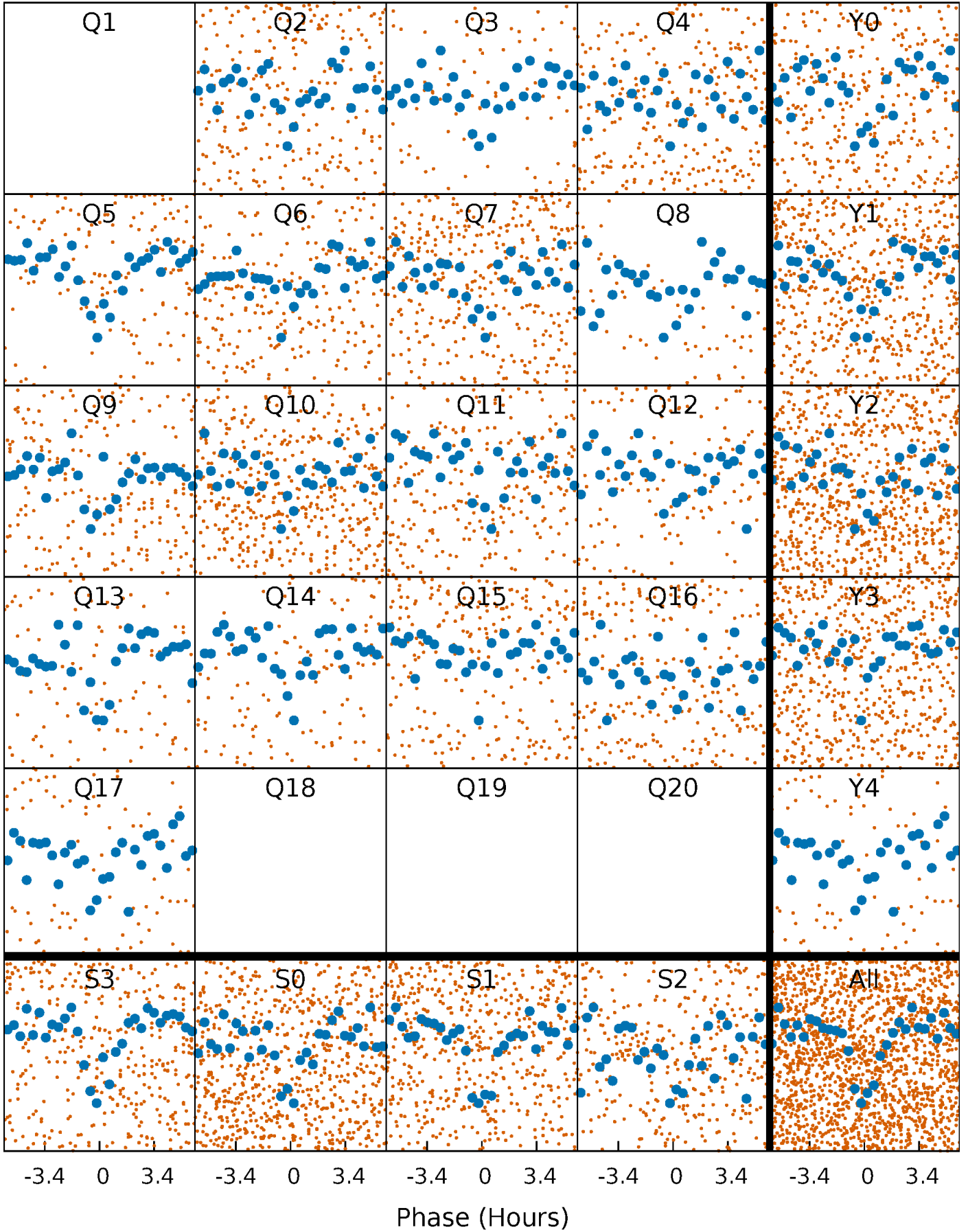


Non-Whitened Vs. Whitened Light Curve



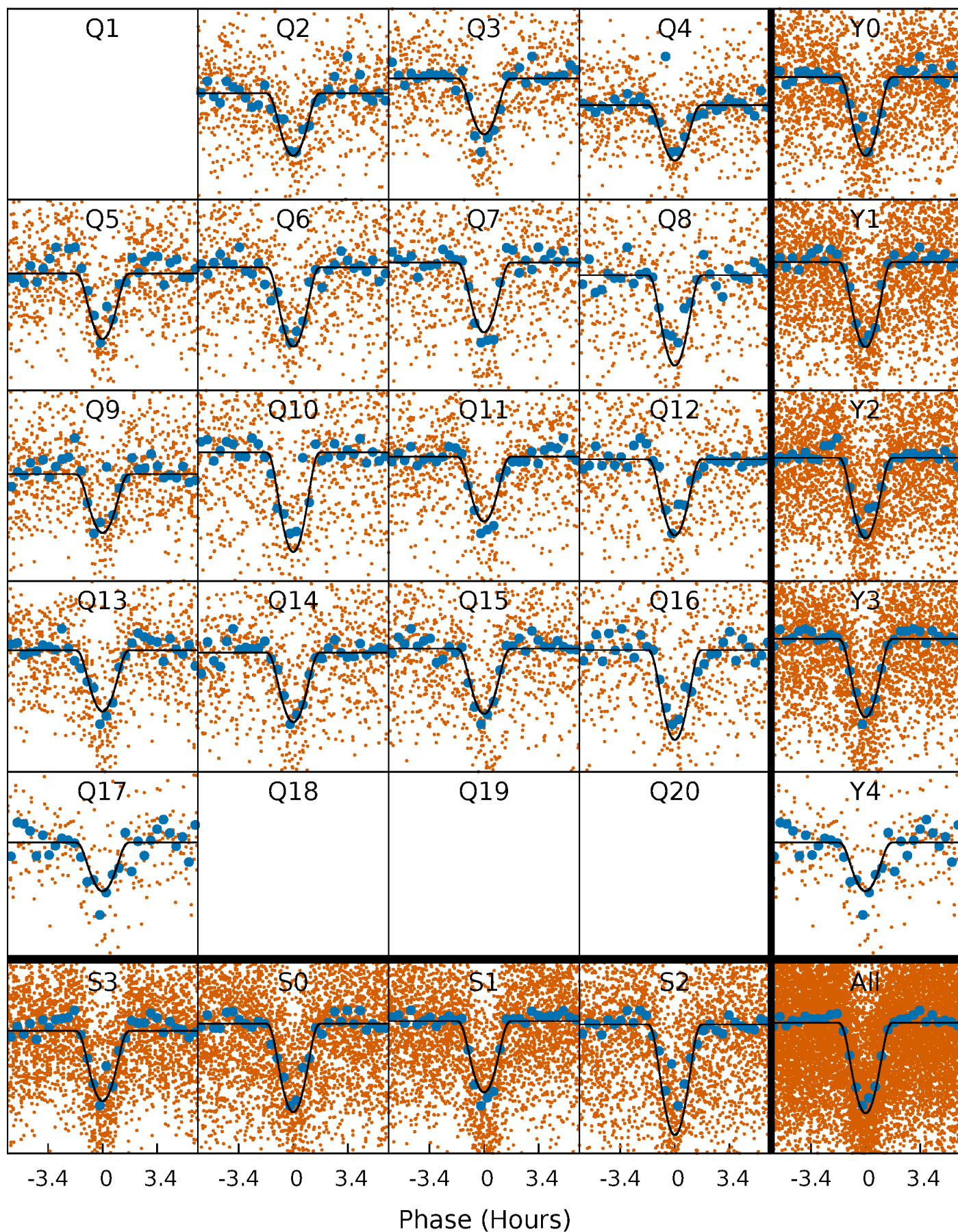
PDC Quarter-Phased Transit Curves

TCE 005481416-01 P= 2.384055 Days $T_0=133.438338$ (BKJD)



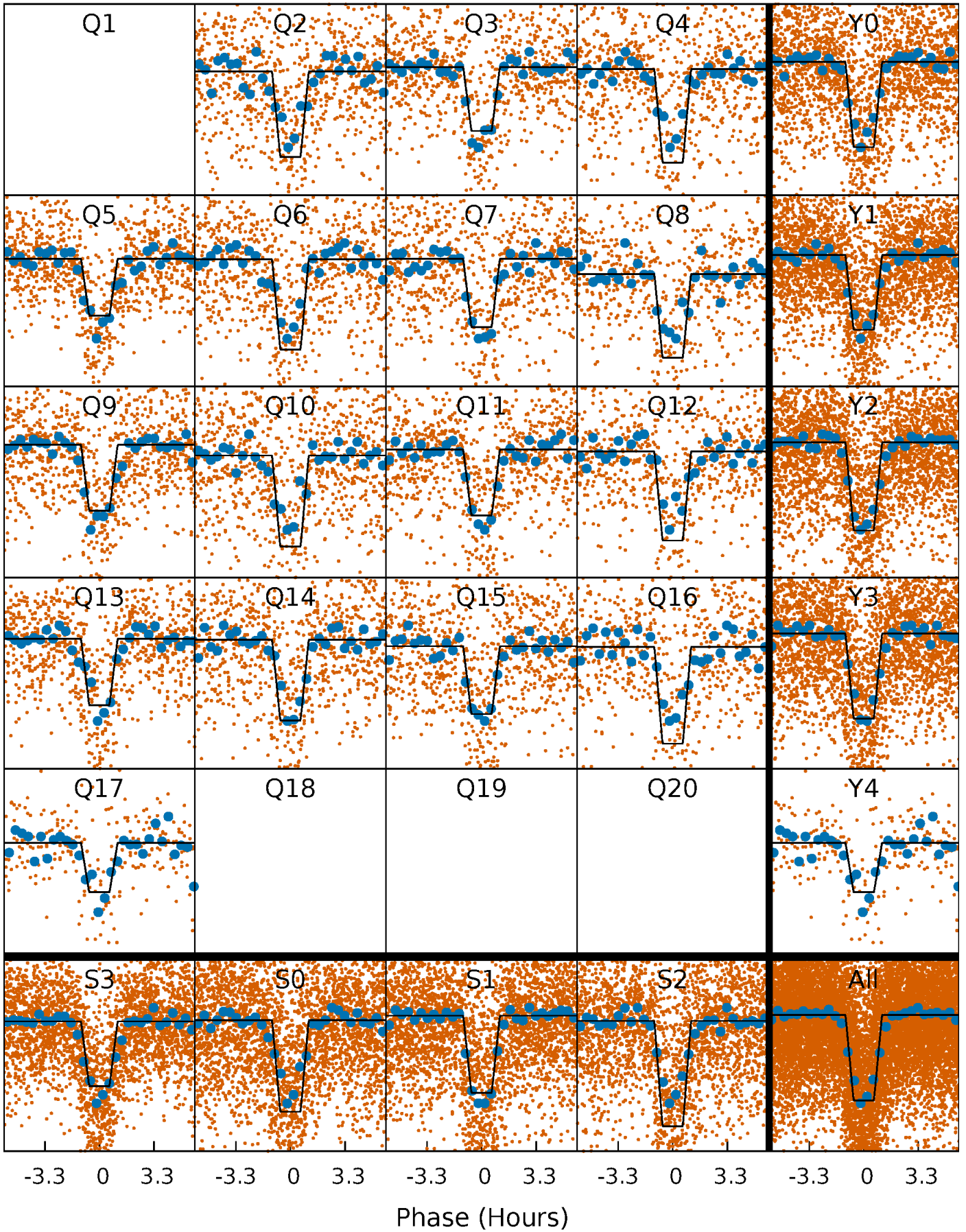
DV Quarter-Phased Transit Curves

TCE 005481416-01 P= 2.384055 Days $T_0=133.438338$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

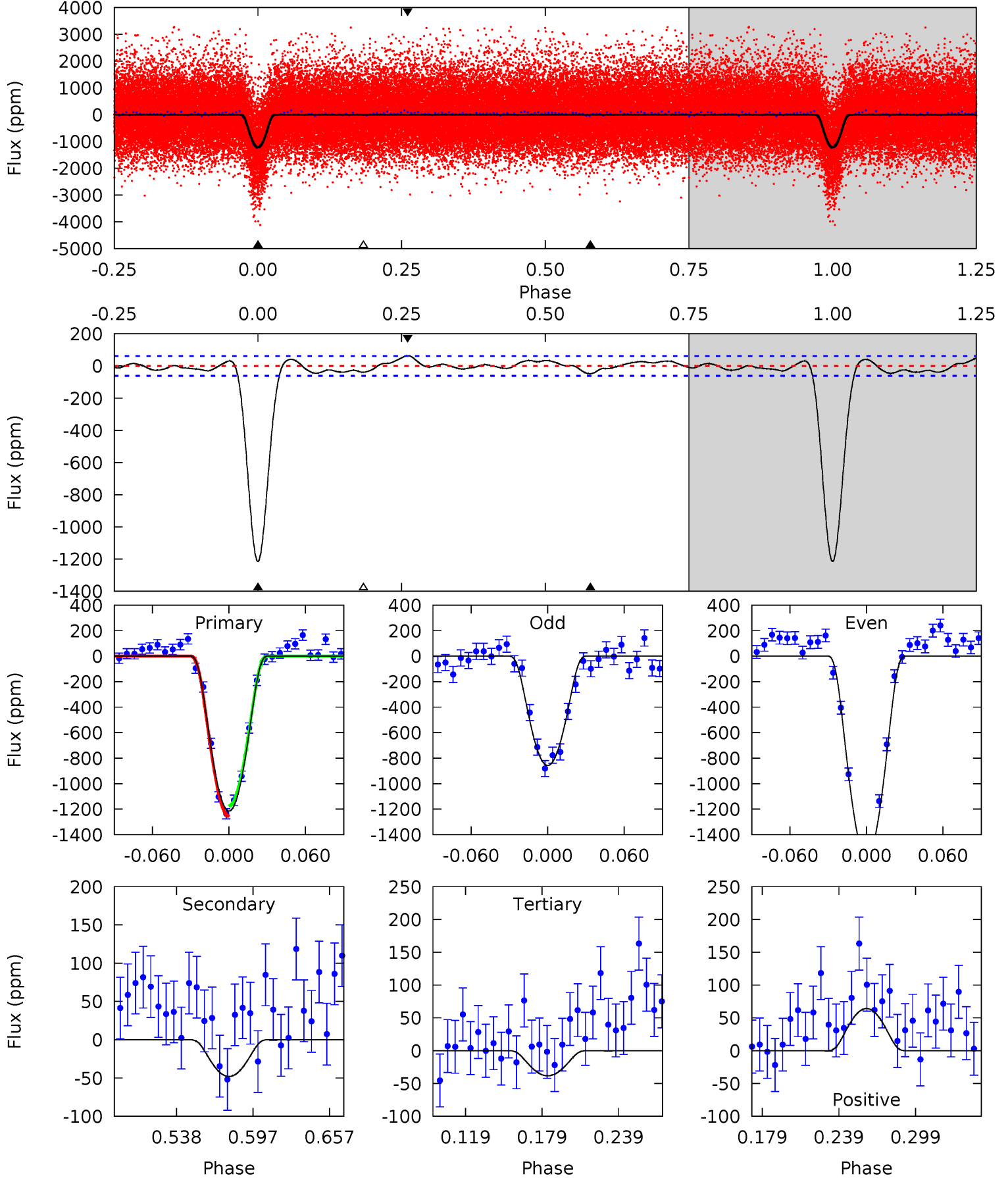
TCE 005481416-01 P= 2.384041 Days $T_0=133.442652$ (BKJD)



DV Model-Shift Uniqueness Test

005481416-01, P = 2.384055 Days, E = 133.438338 Days

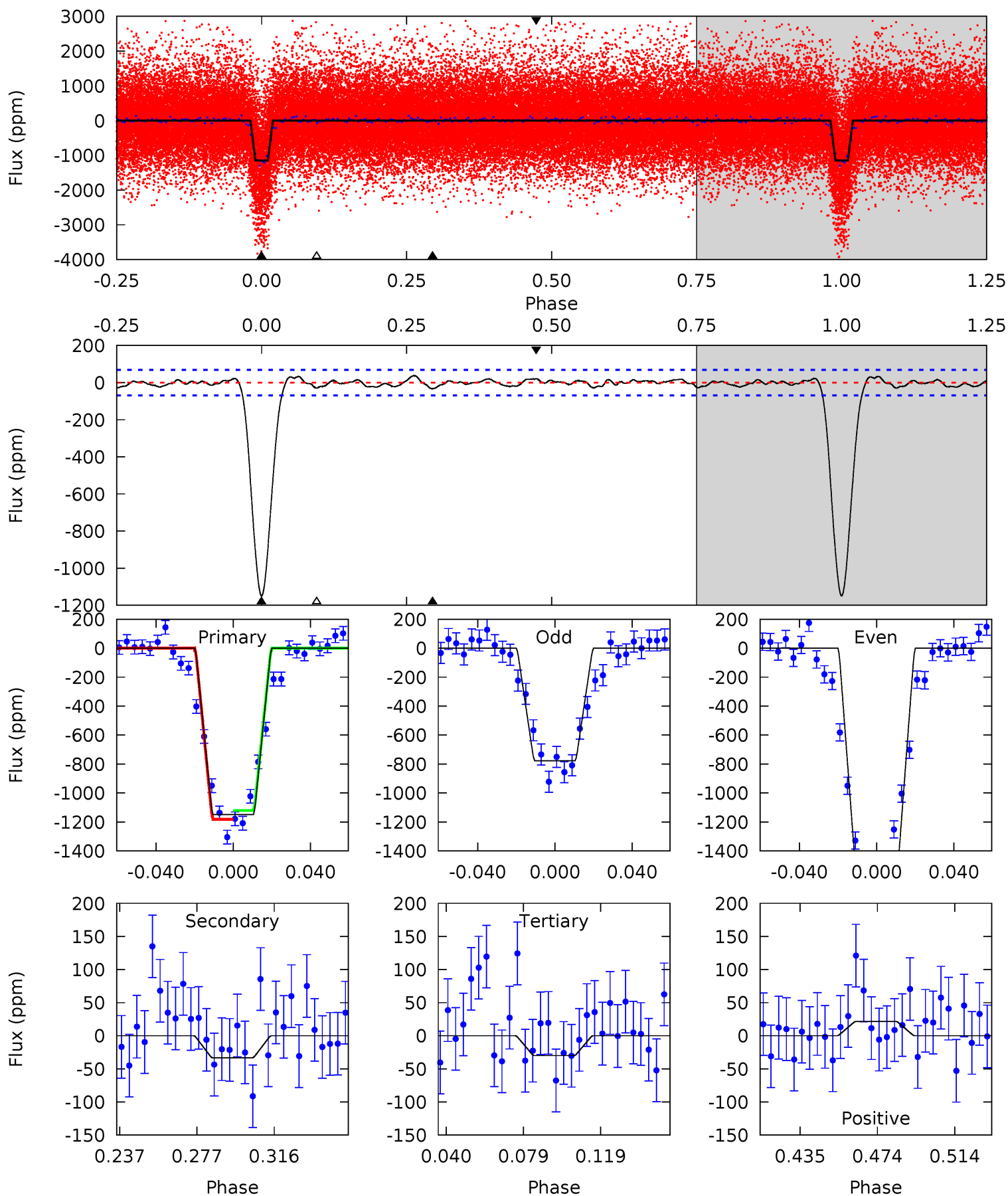
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
92.0	3.63	2.90	4.86	4.67	1.88	1.82	89.1	87.1	0.73	-1.22	27.0	1.02	0.05	3.09



Alt Model-Shift Uniqueness Test

005481416-01, P = 2.384041 Days, E = 133.442652 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
79.3	2.29	2.07	1.49	4.76	2.06	0.91	77.3	77.8	0.22	0.80	26.2	1.01	0.03	2.14



Stellar Parameters For KIC 005481416

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4794^{+130}_{-144}	$4.580^{+0.063}_{-0.032}$	$-0.220^{+0.300}_{-0.300}$	$0.701^{+0.054}_{-0.066}$	$0.683^{+0.086}_{-0.053}$	$2.789^{+0.759}_{-0.384}$
	+3%/-3%	+1%/-1%	+136%/-136%	+8%/-9%	+13%/-8%	+27%/-14%
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 005481416-01 / KOI 0836.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-48 ± 13	$4.66^{+3.13}_{-2.61}$	1403^{+43}_{-49}	2352^{+633}_{-496}	$1.153^{+4.985}_{-0.767}$
Alt.	-33 ± 14	$3.54^{+2.45}_{-2.40}$	1403^{+48}_{-54}	2402^{+1004}_{-546}	$1.307^{+12.161}_{-0.923}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

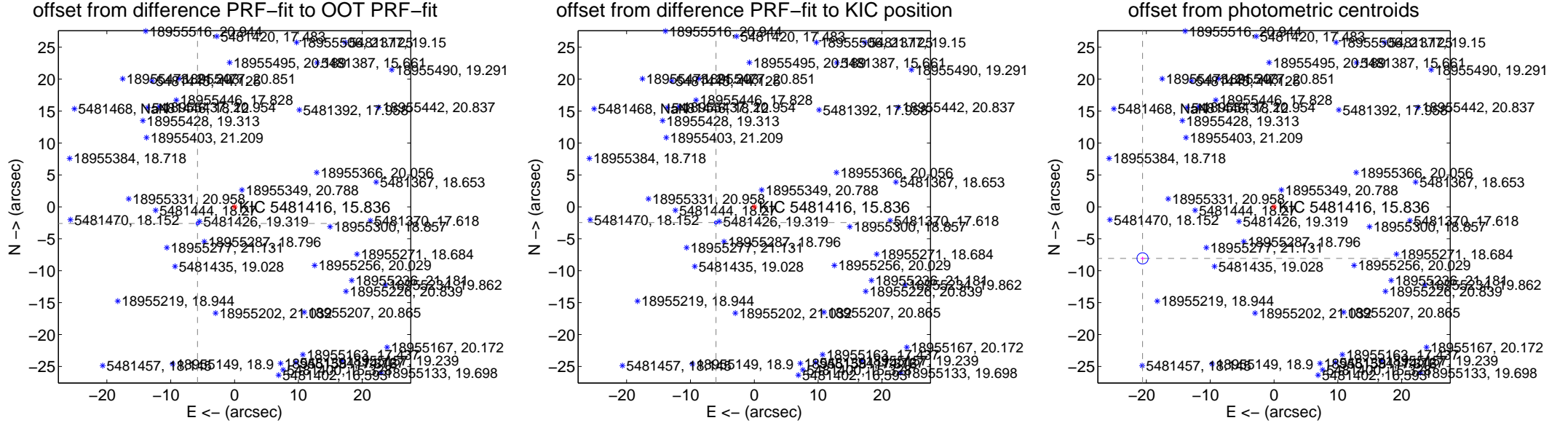
A_{obs} = Observed Albedo (Assuming T=0)

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

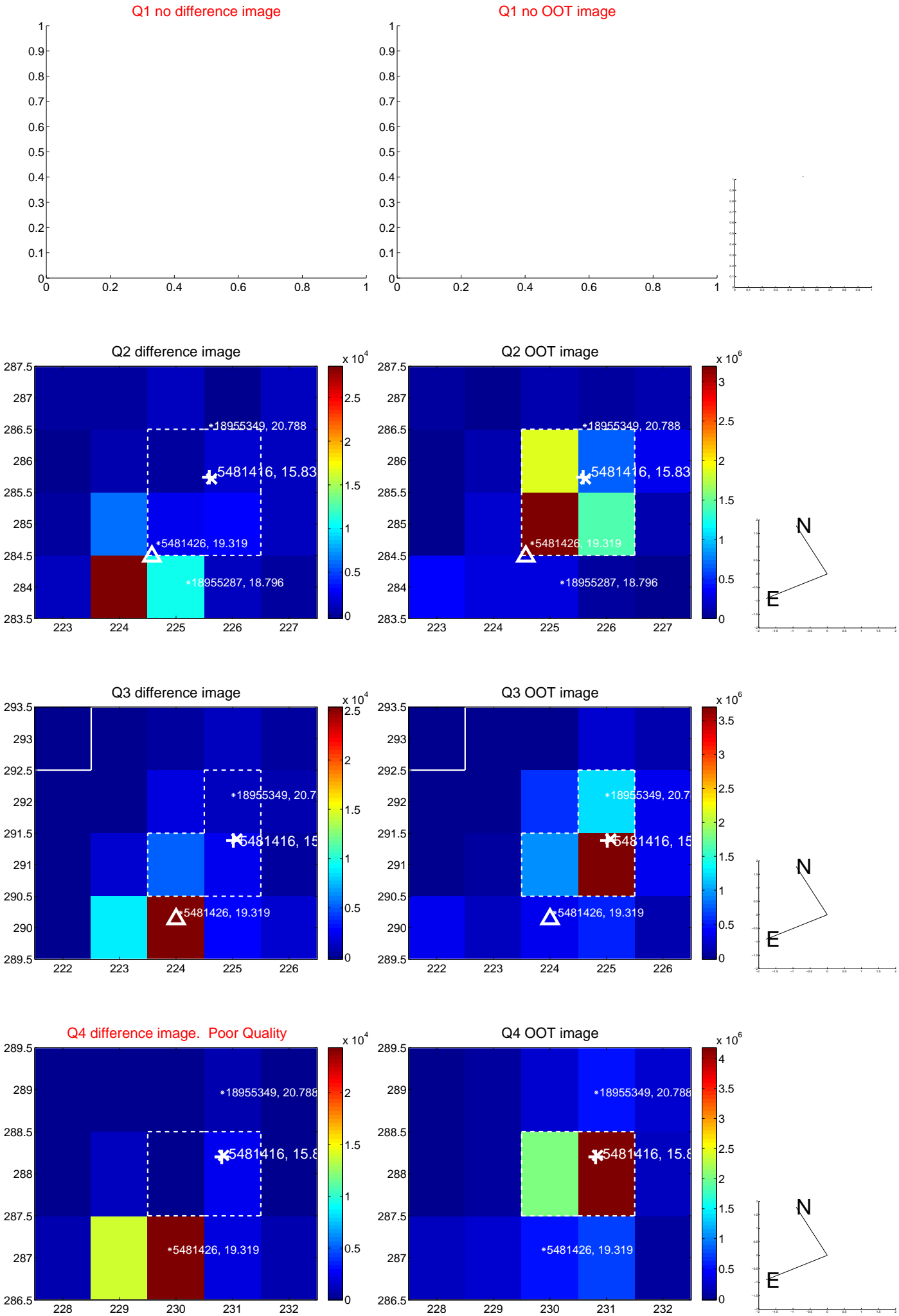
Supplemental centroid analysis for 005481416-01. Kepler magnitude: 15.84. Transit SNR 50.98
 There are 14 quarters with good PRF difference image offsets
 The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.355 \pm 0.078	81.29	5.798 \pm 0.071	-2.604 \pm 0.083
PRF-fit source offset from KIC position	6.483 \pm 0.081	79.69	5.999 \pm 0.074	-2.459 \pm 0.082
photometric centroid source offset	22.11 \pm 0.29	75.55	20.59 \pm 0.30	-8.07 \pm 0.25

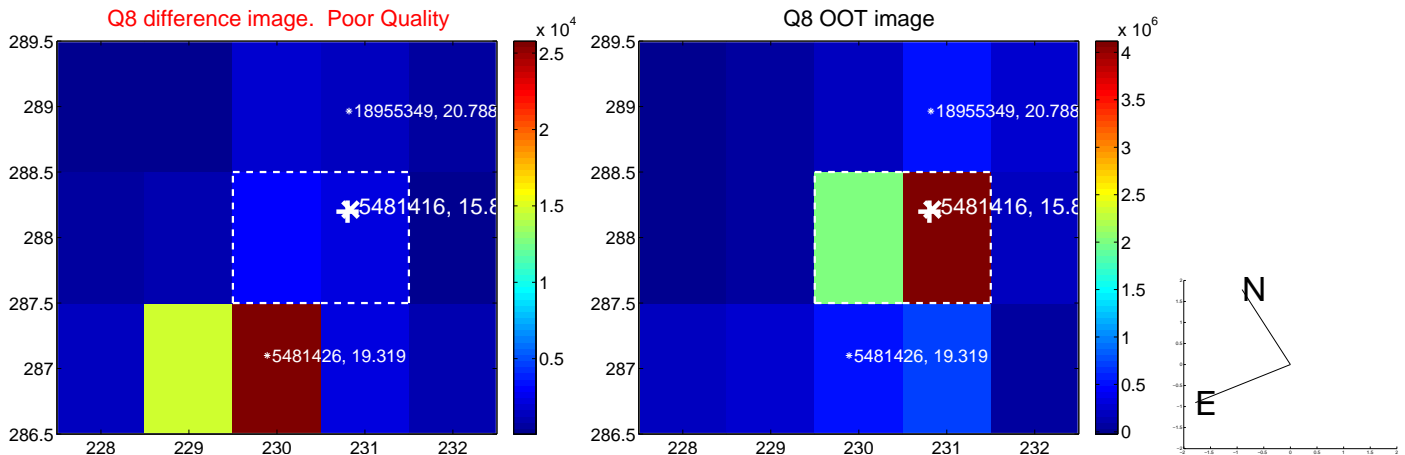
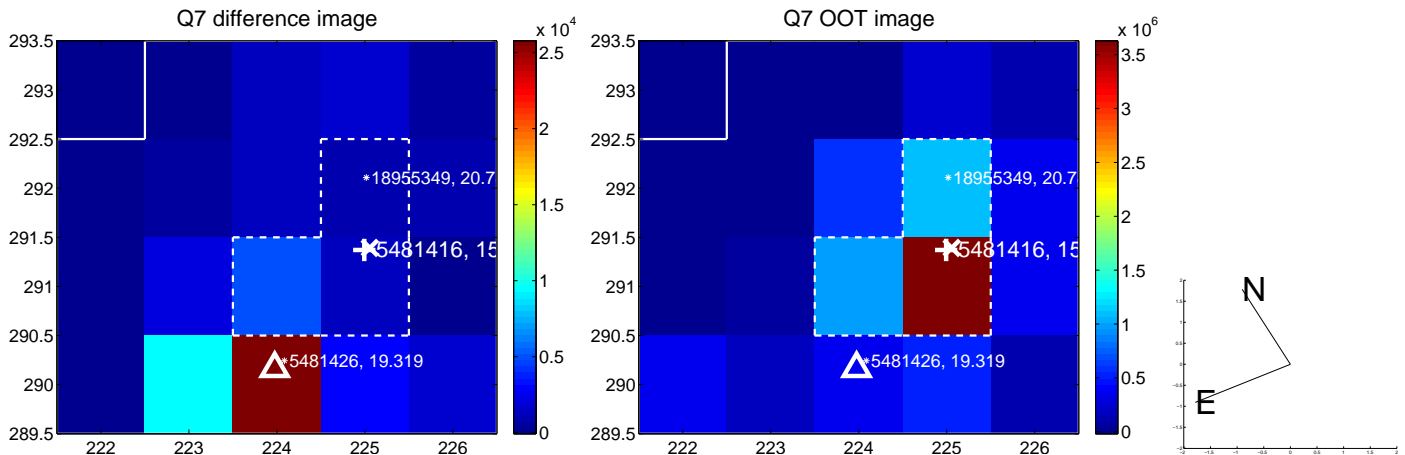
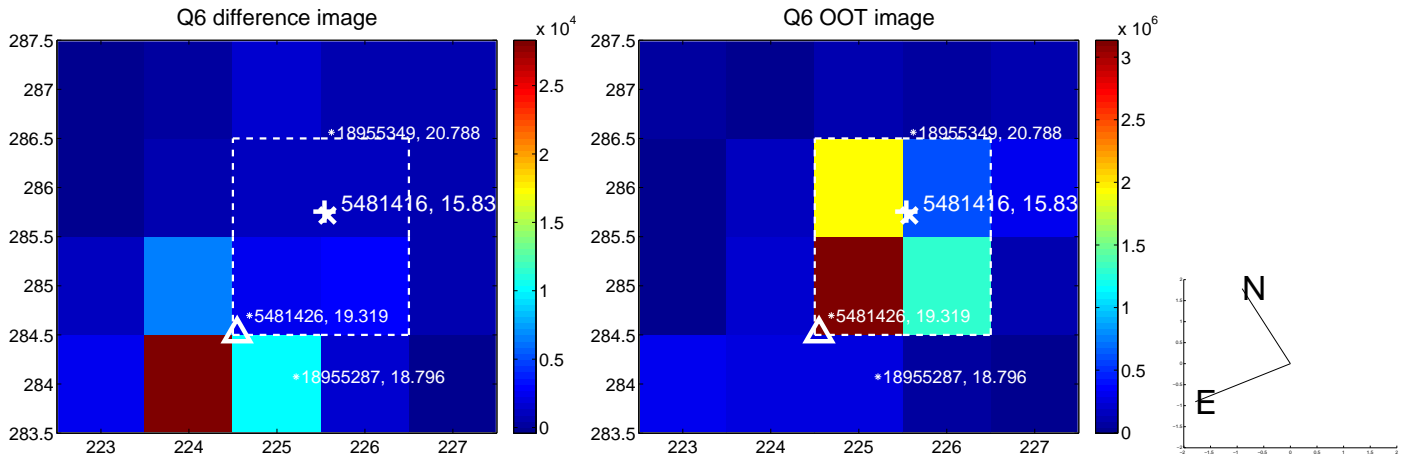
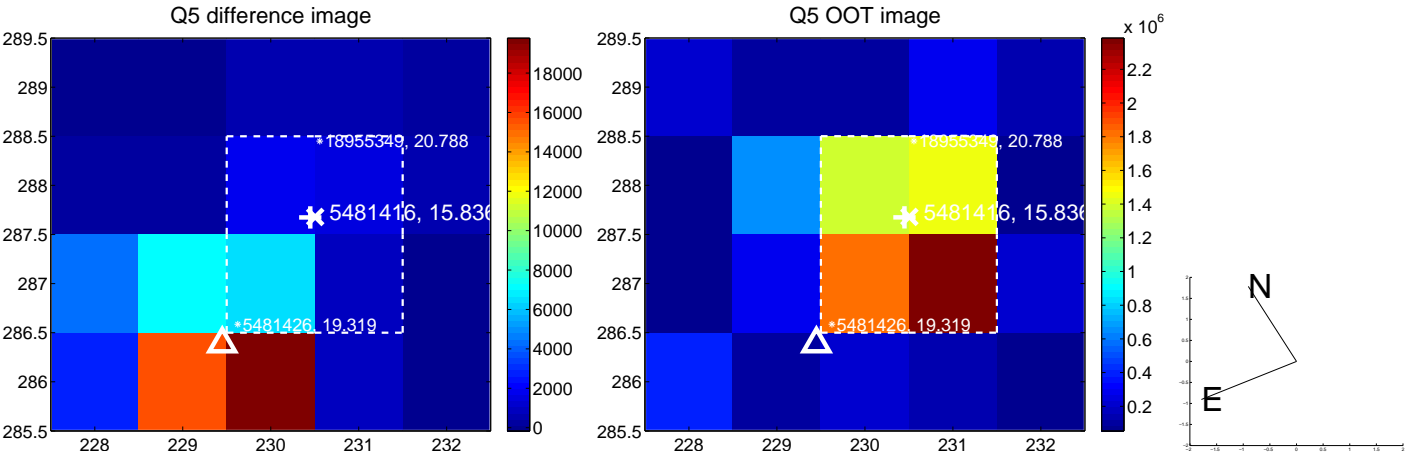


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

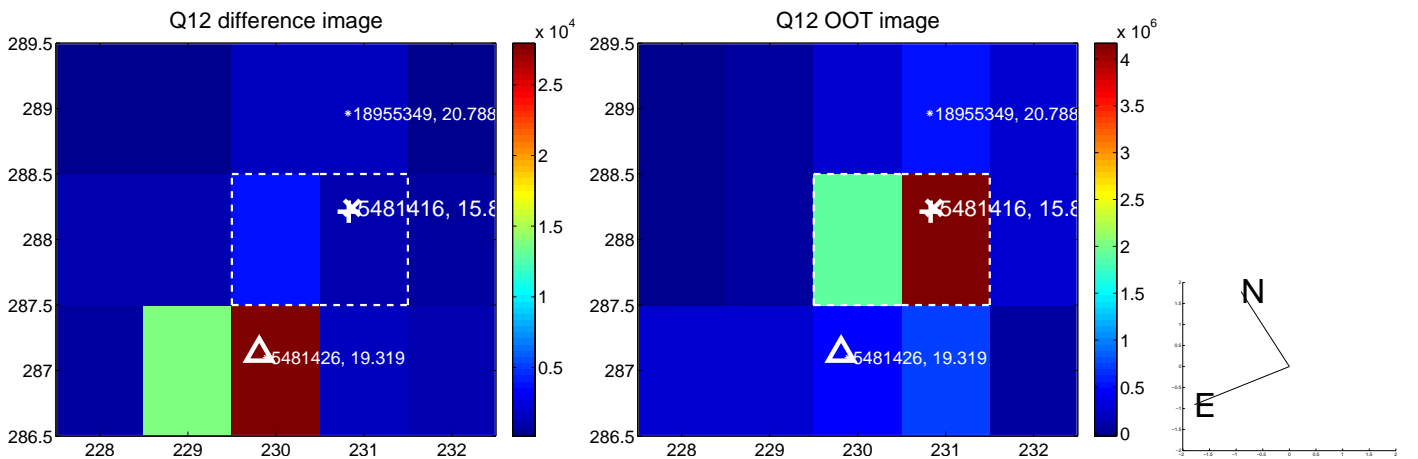
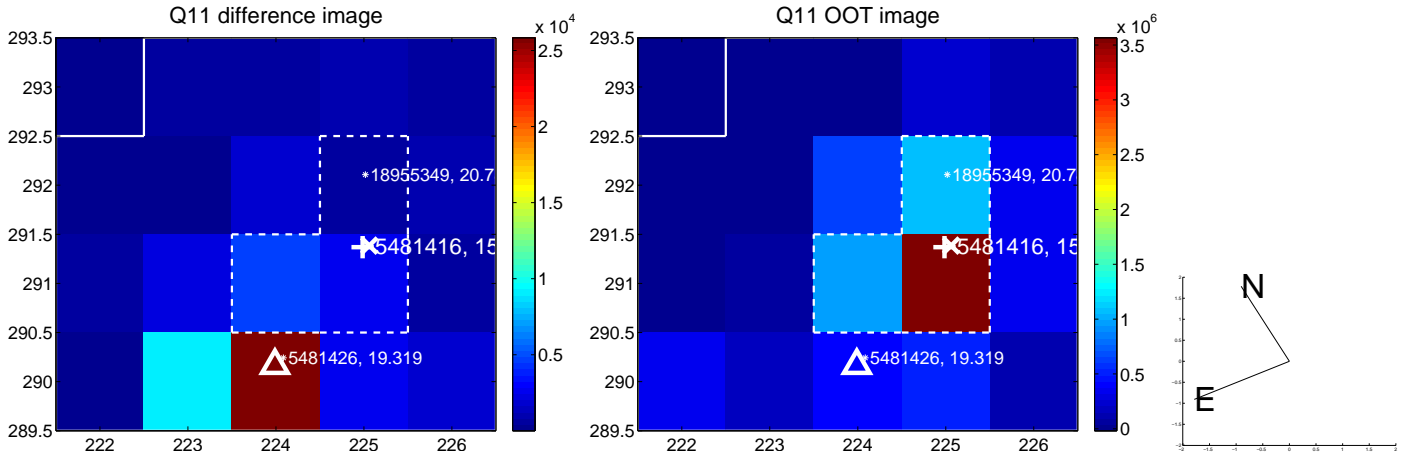
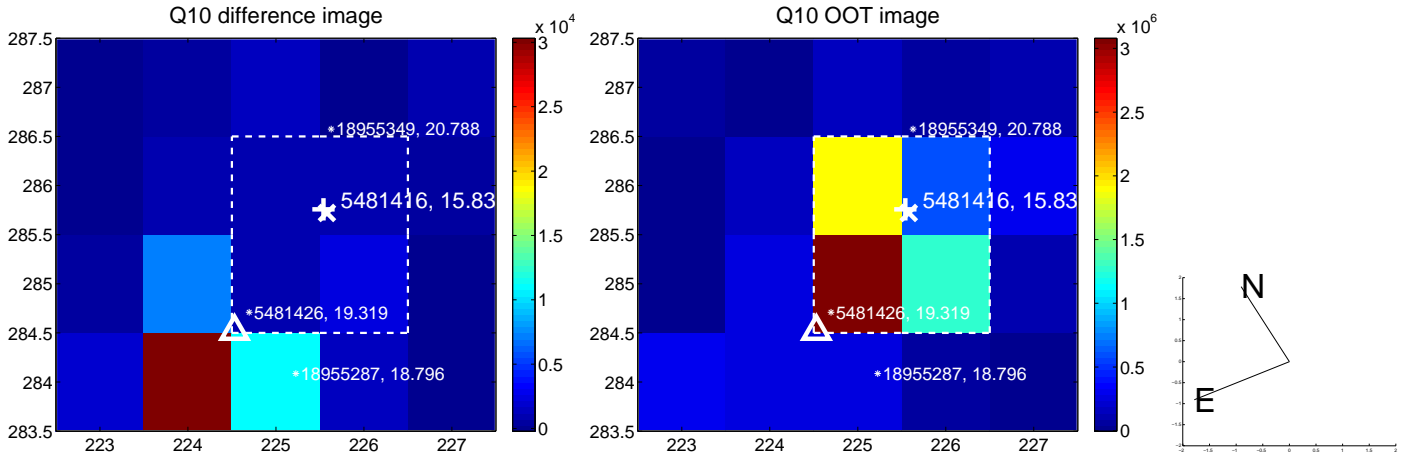
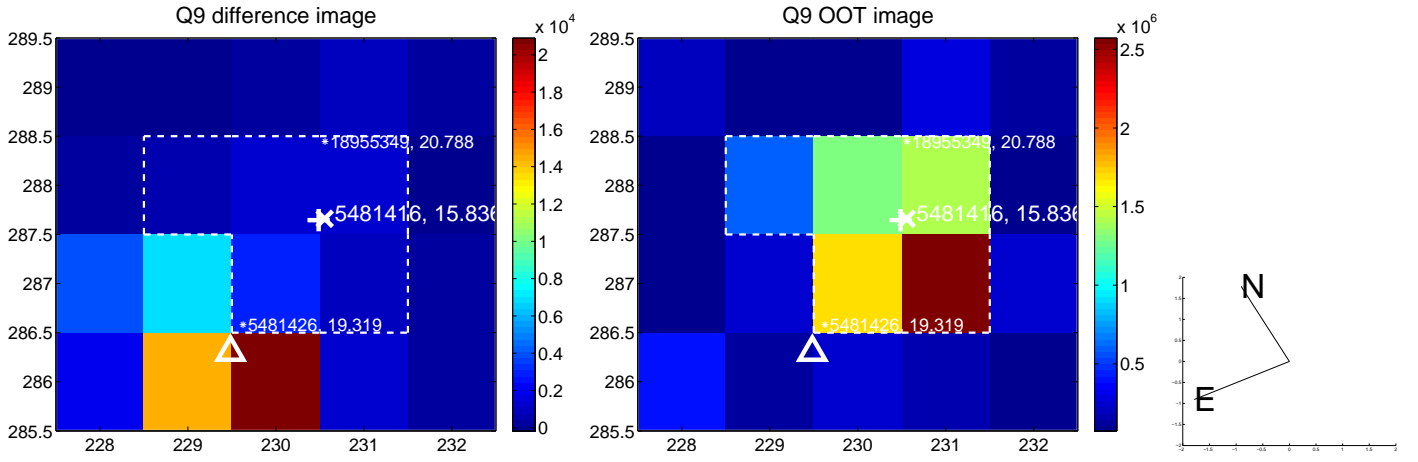
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



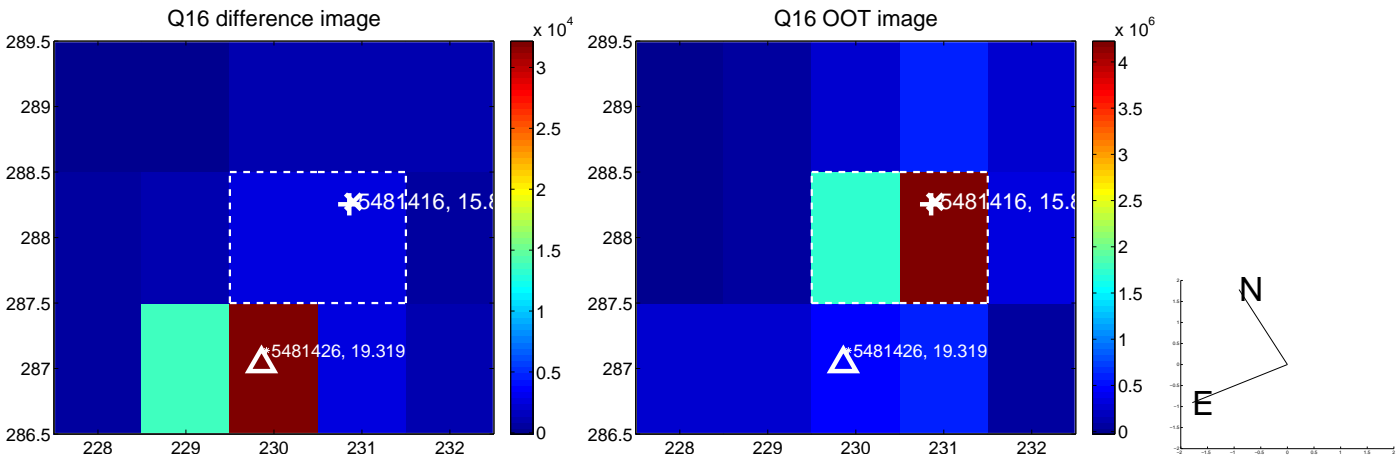
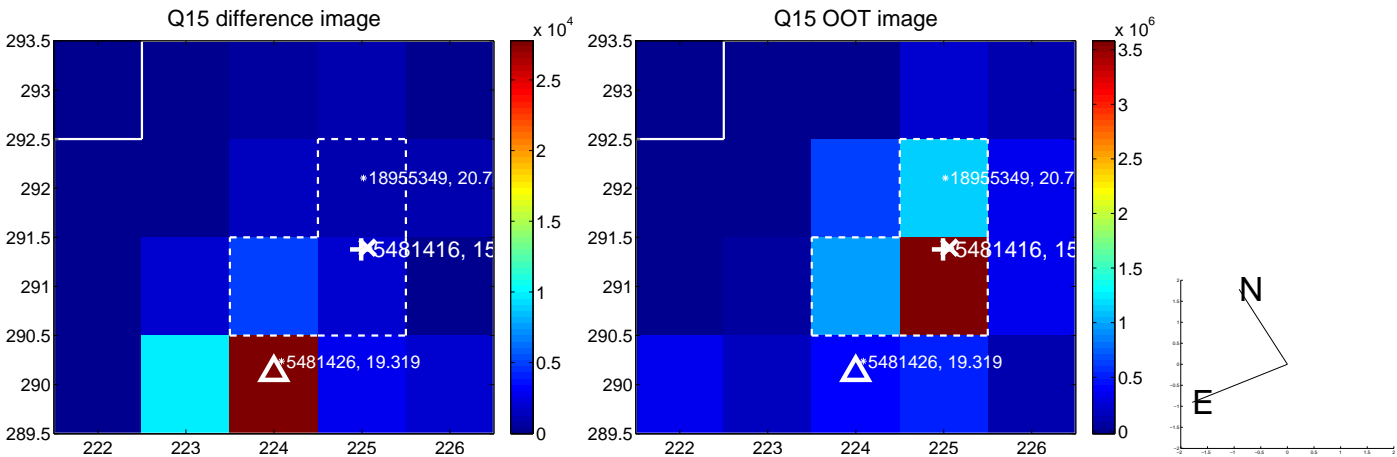
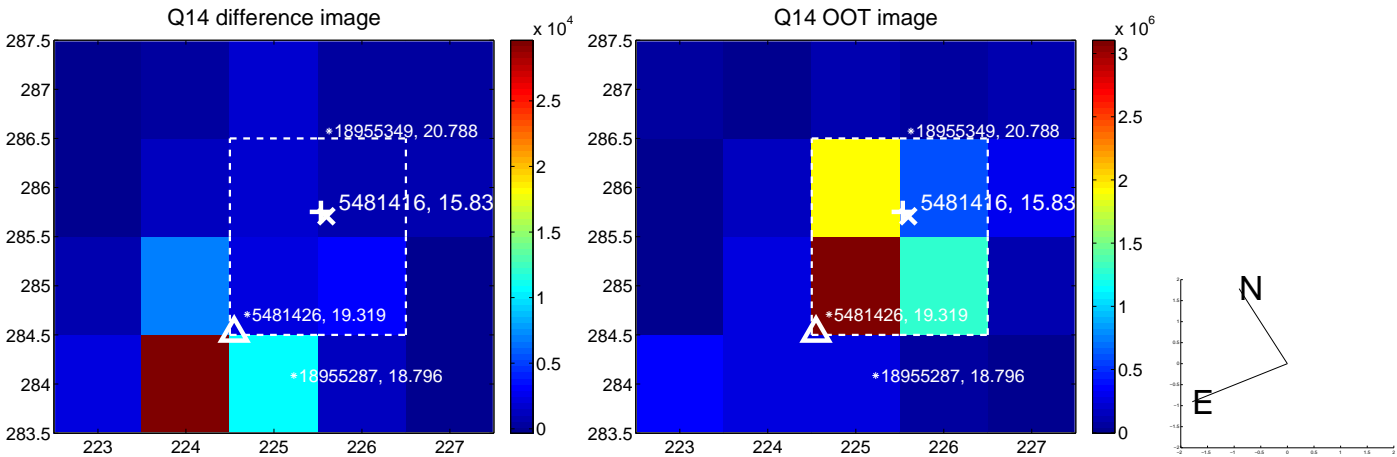
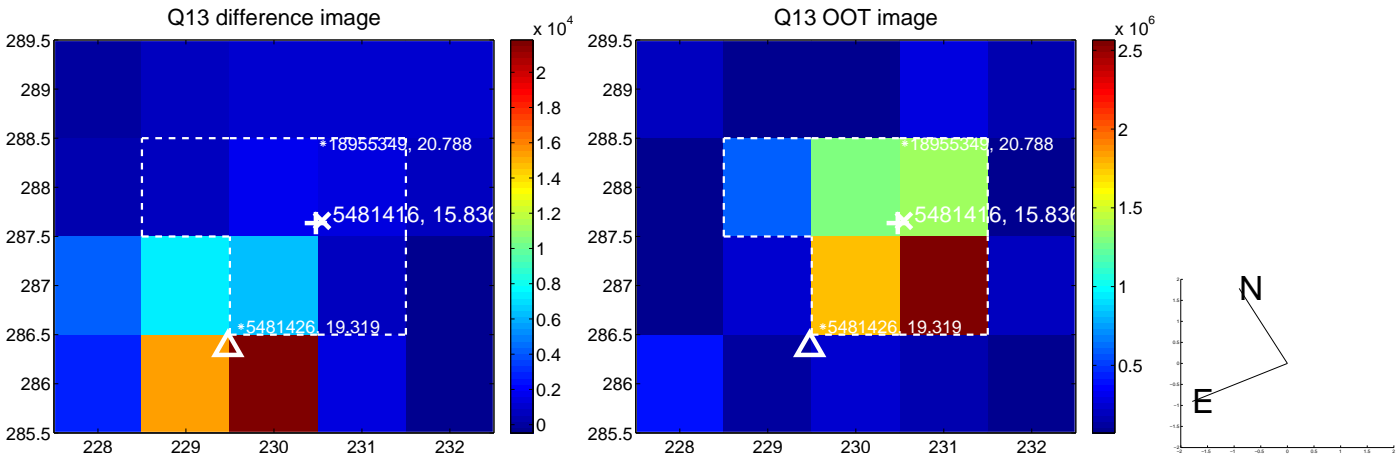
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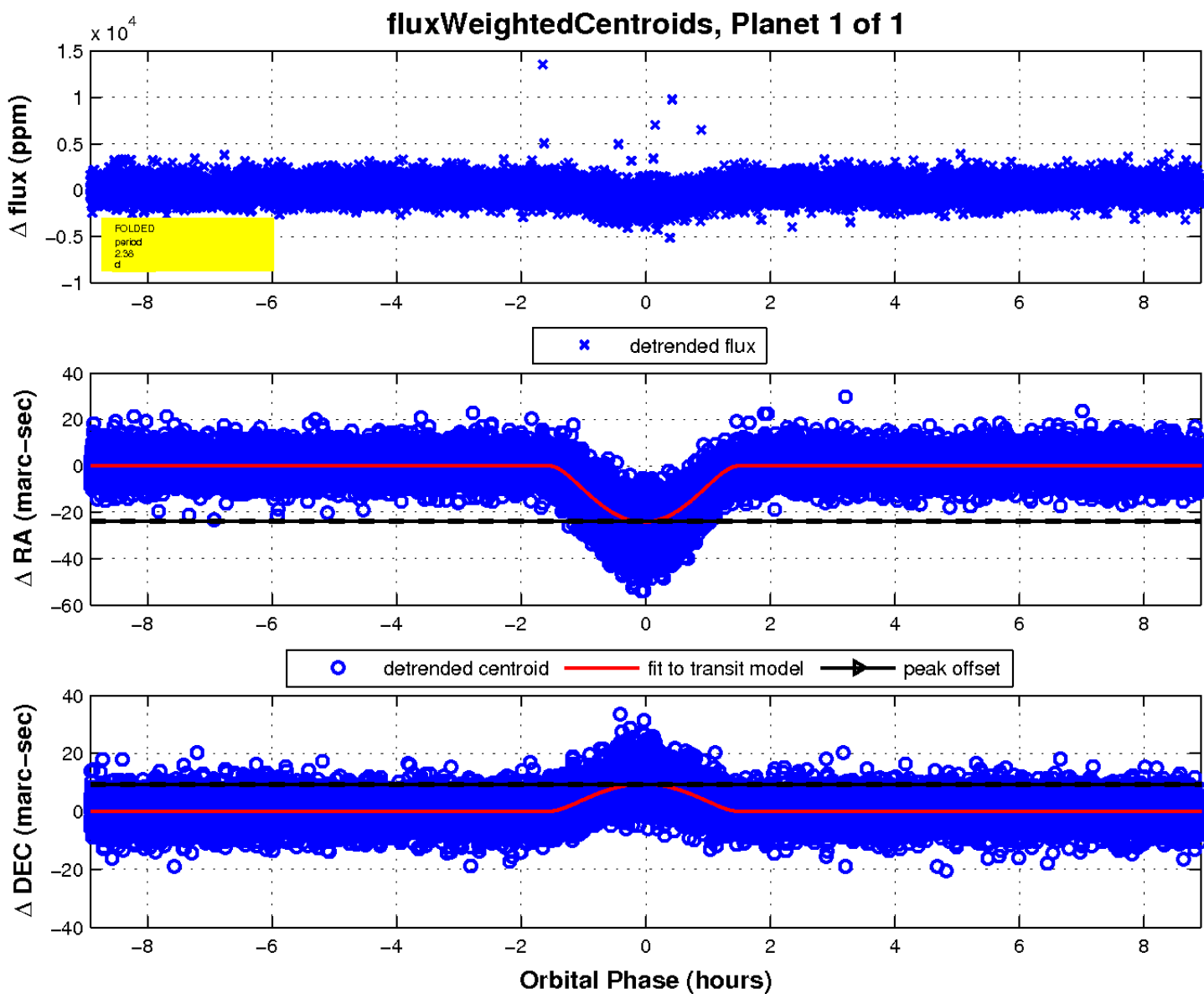
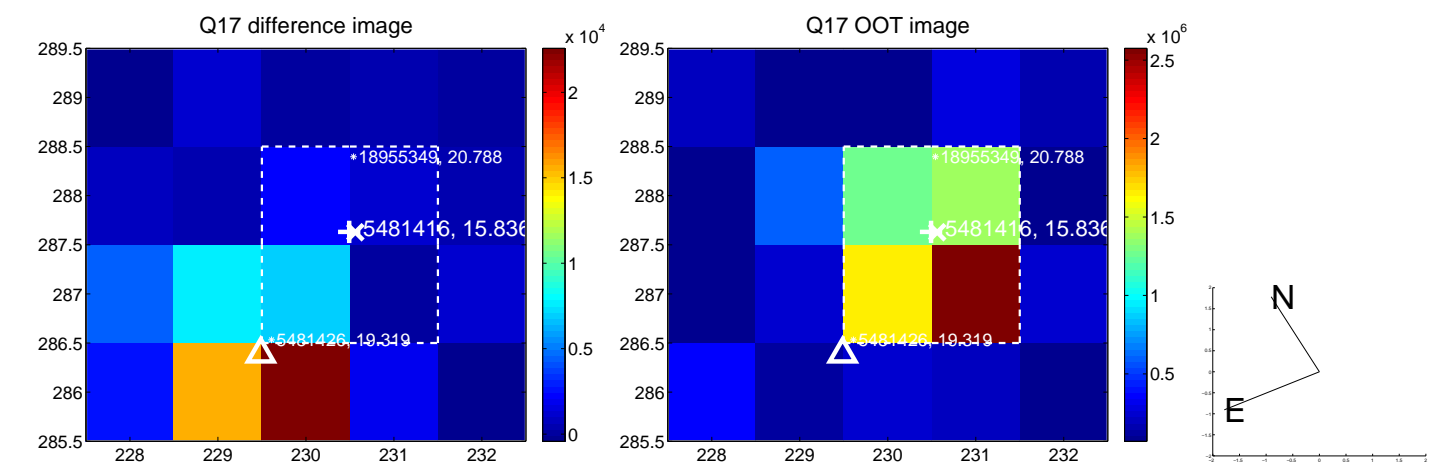
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UKIRT Image

Declination

