

KIC 007446631

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})
007446631-01	OBS	2598.01	29.225465	143.989280	171.5	5.467	11.9	13.3	1.01	6049	1.52	33.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007446631-01	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.

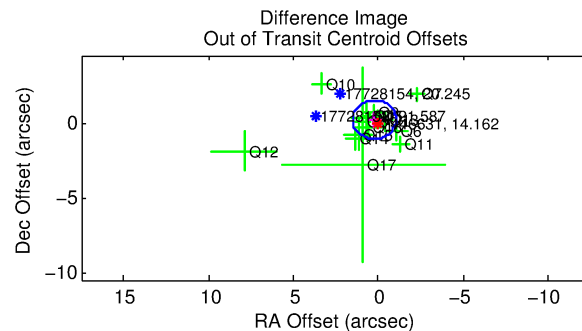
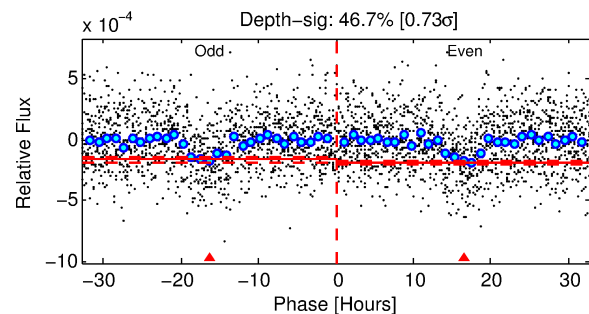
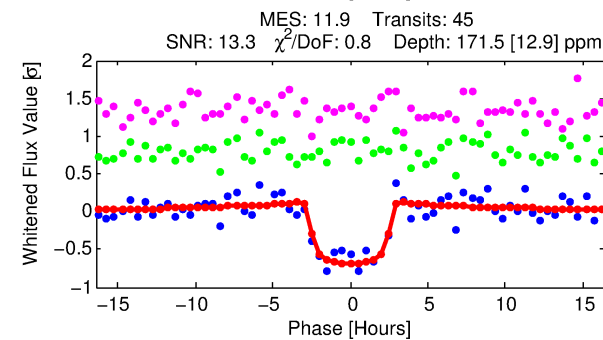
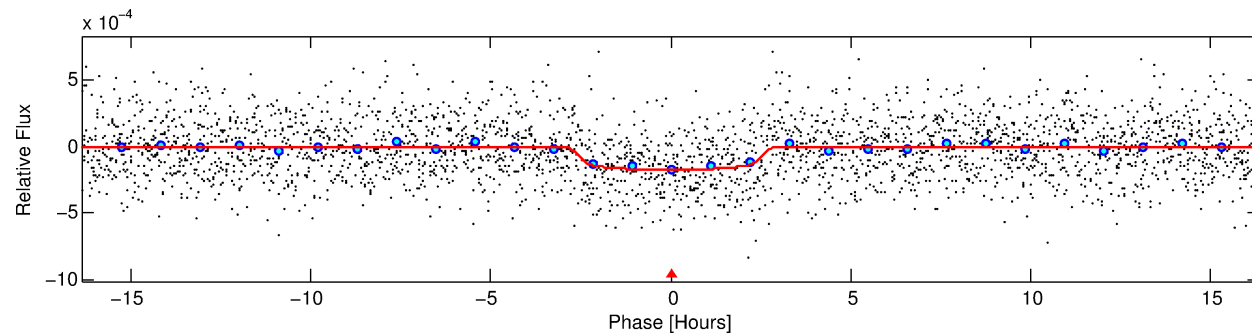
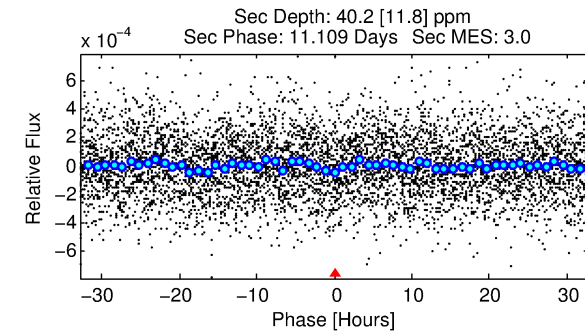
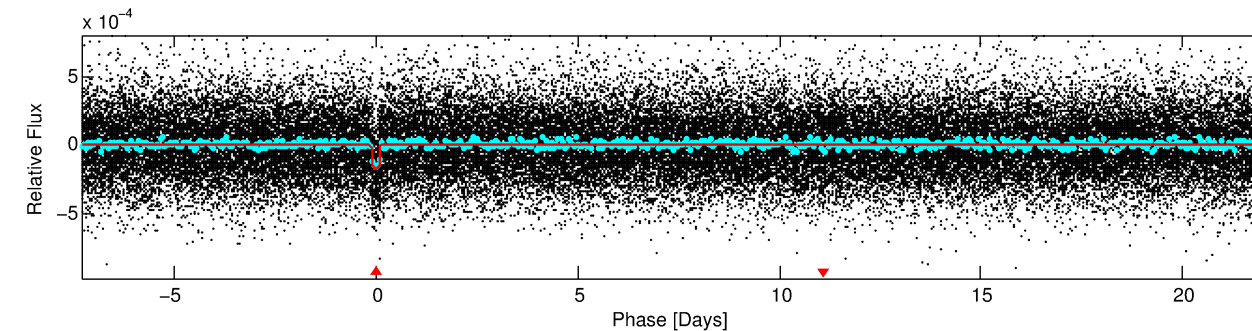
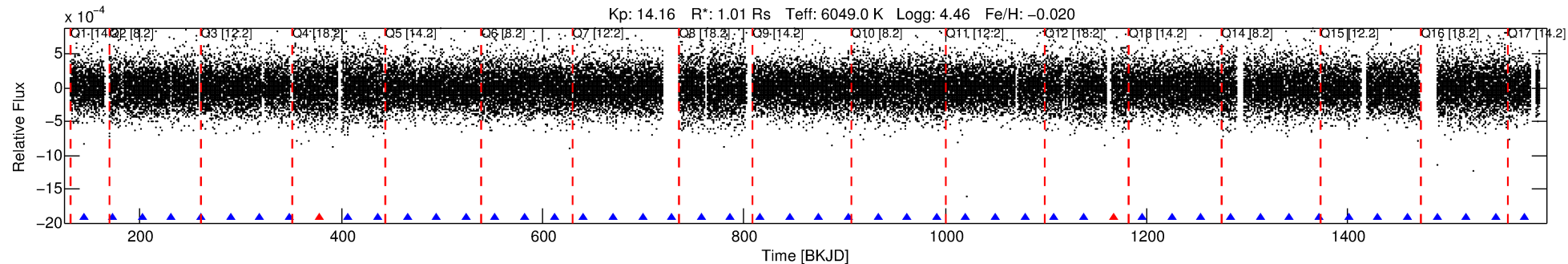
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007446631-01

No Significant Match Found

DV One-Page Summary

KIC: 7446631 Candidate: 1 of 1 Period: 29.225 d
KOI: K02598.01 Corr: 0.975



DV Fit Results:

Period = 29.22547 [0.00026] d
Epoch = 143.9893 [0.0071] BKJD
Rp/R* = 0.0138 [0.0042]
a/R* = 21.12 [31.65]
b = 0.87 [0.42]
Seff = 33.75 [14.90]
Teq = 615 [68] K
Rp = 1.52 [0.68] Re
a = 0.1900 [0.0538] AU
Ag = 344.30 [271.54] [1.26σ]
Teffp = 4093 [699] K [4.96σ]

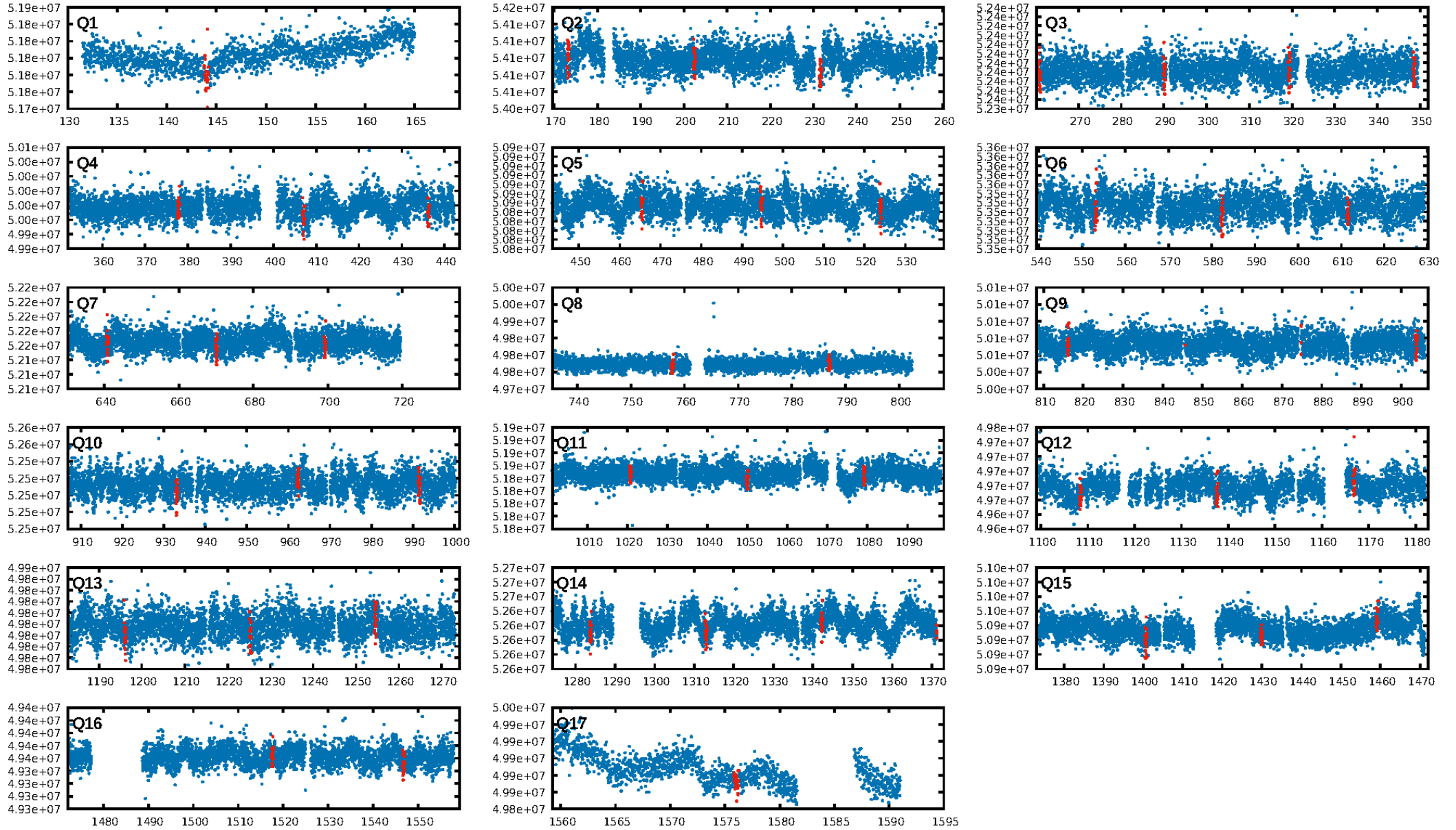
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.72e-31
RollingBand-fgt: 0.95 [41/43]
GhostDiagnostic-chr: 3.988
Centroid-sig: 0.5%
Centroid-so: 2.413 arcsec [2.34σ]
OotOffset-rm: 0.306 arcsec [0.72σ]
KicOffset-rm: 0.216 arcsec [0.37σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.73 [11/15]
DiffImageOverlap-fno: 1.00 [17/17]

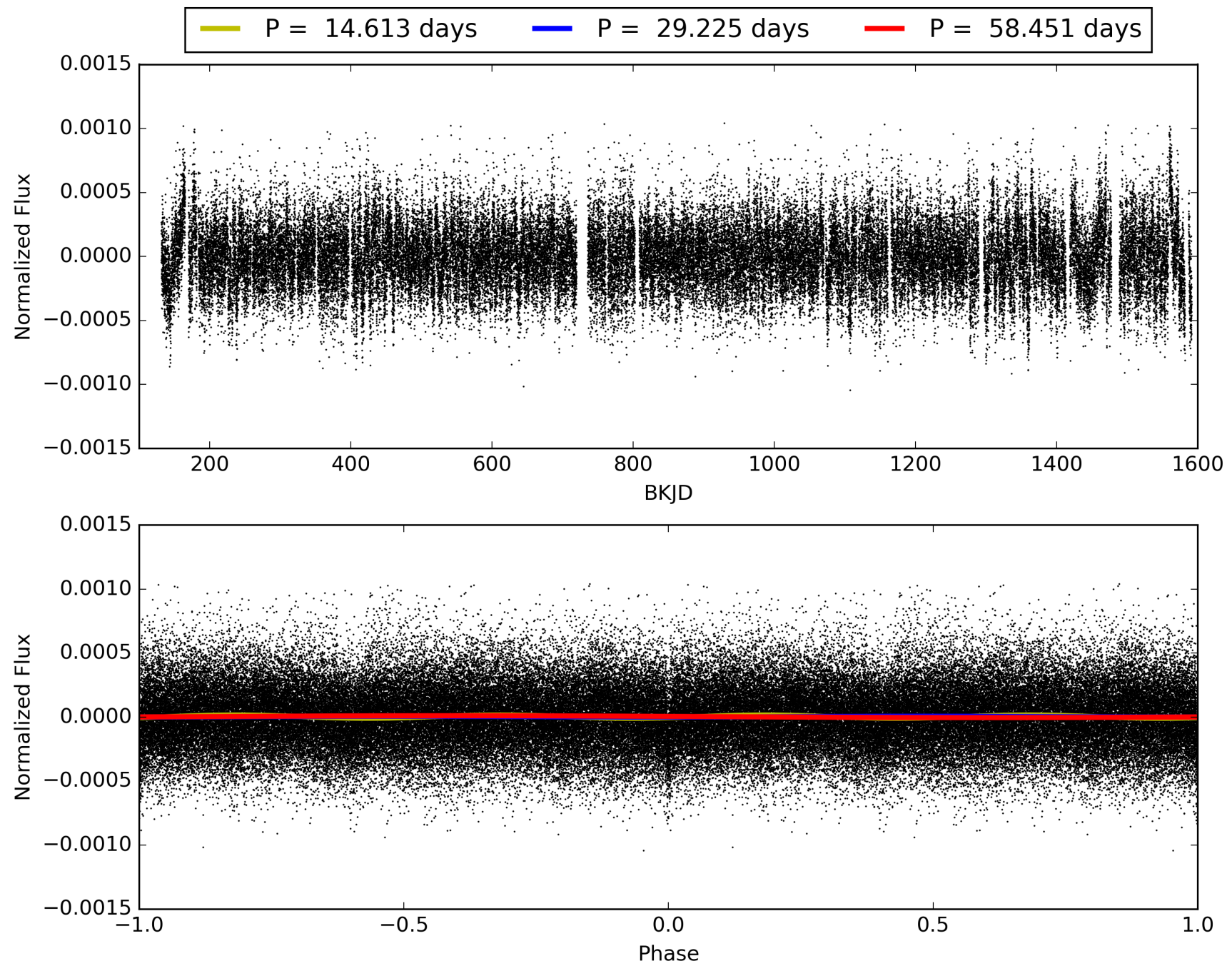
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:36:50 Z

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

TCE 007446631-01, PDC Light Curves

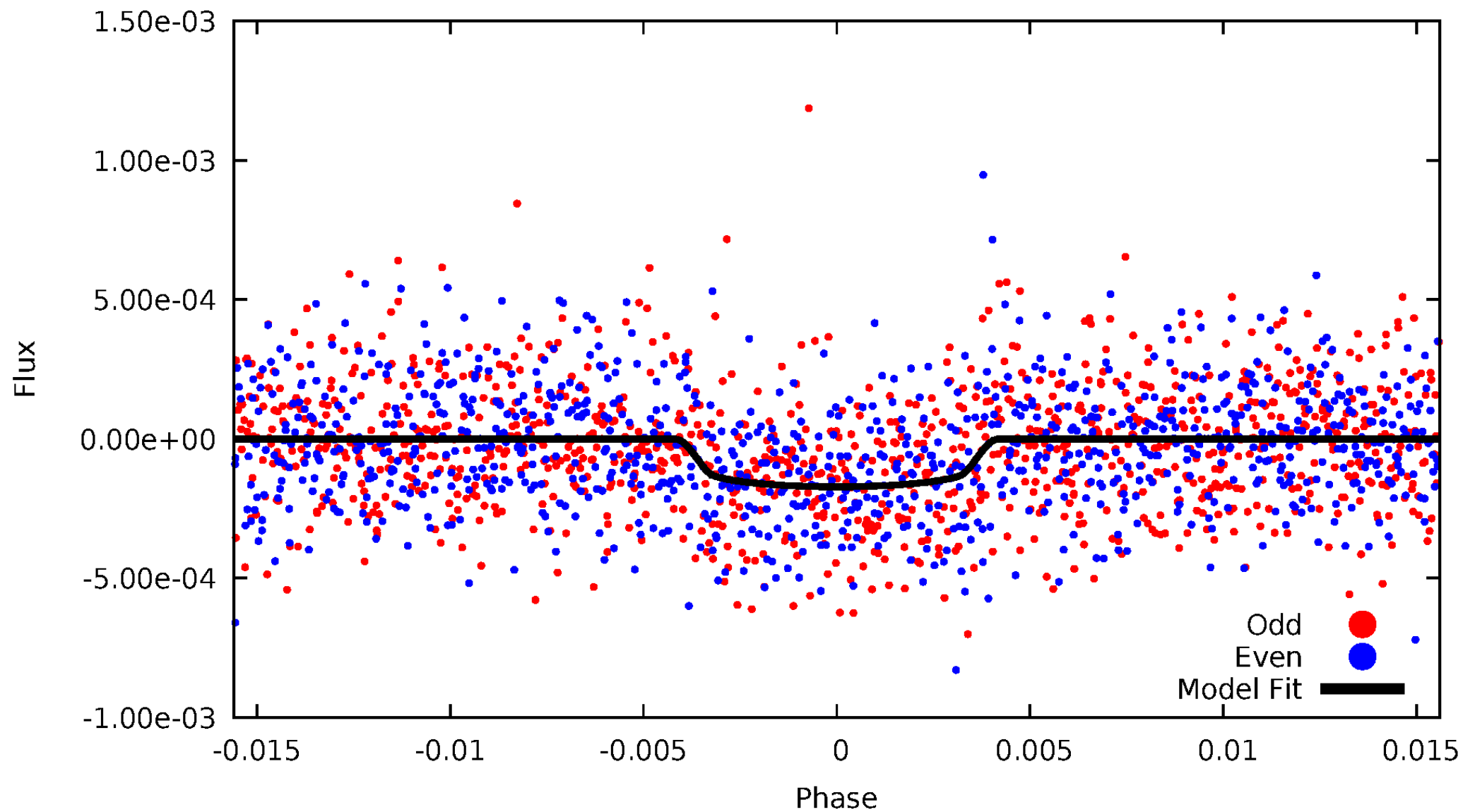


TCE 007446631-01



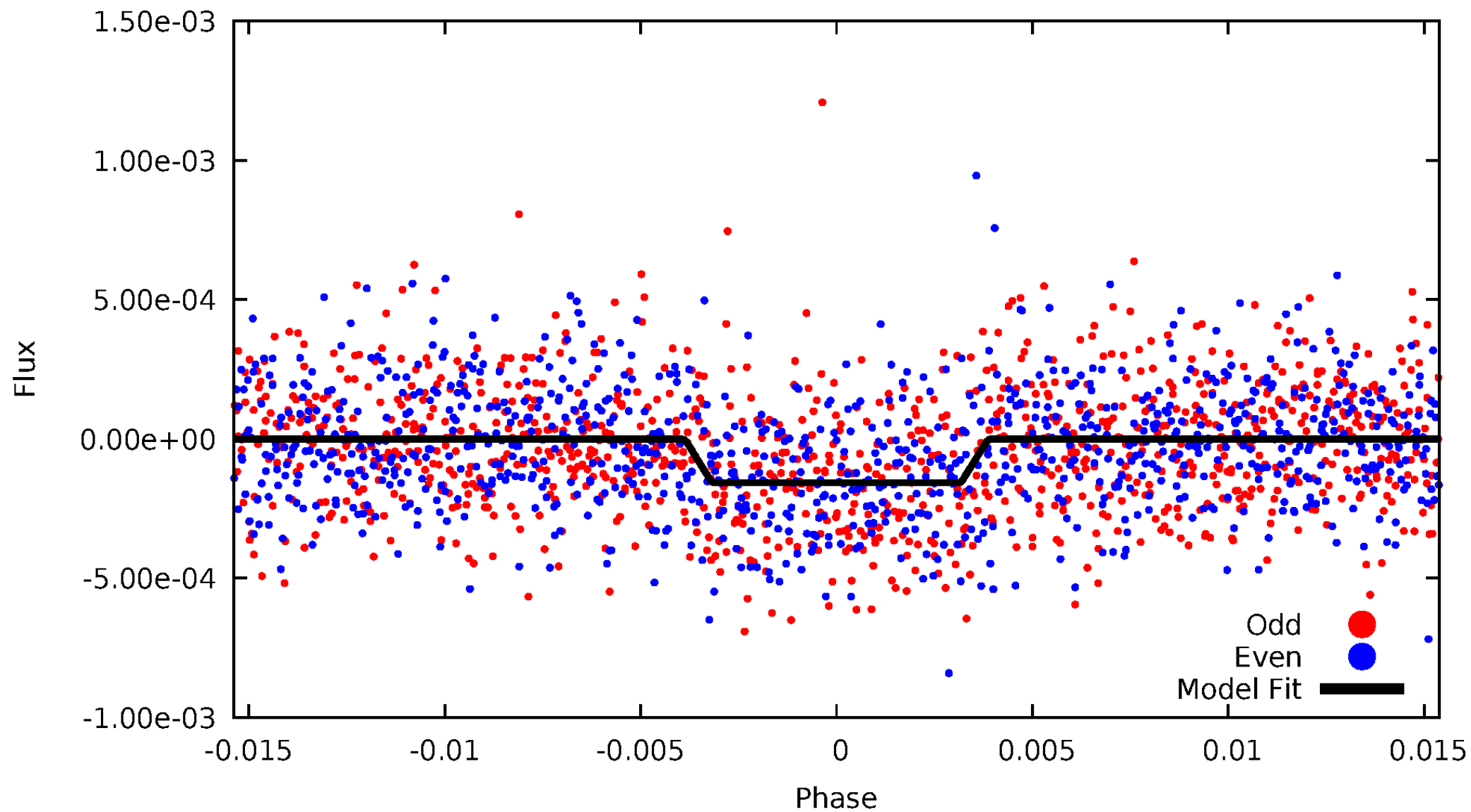
DV Odd/Even

TCE 007446631-01



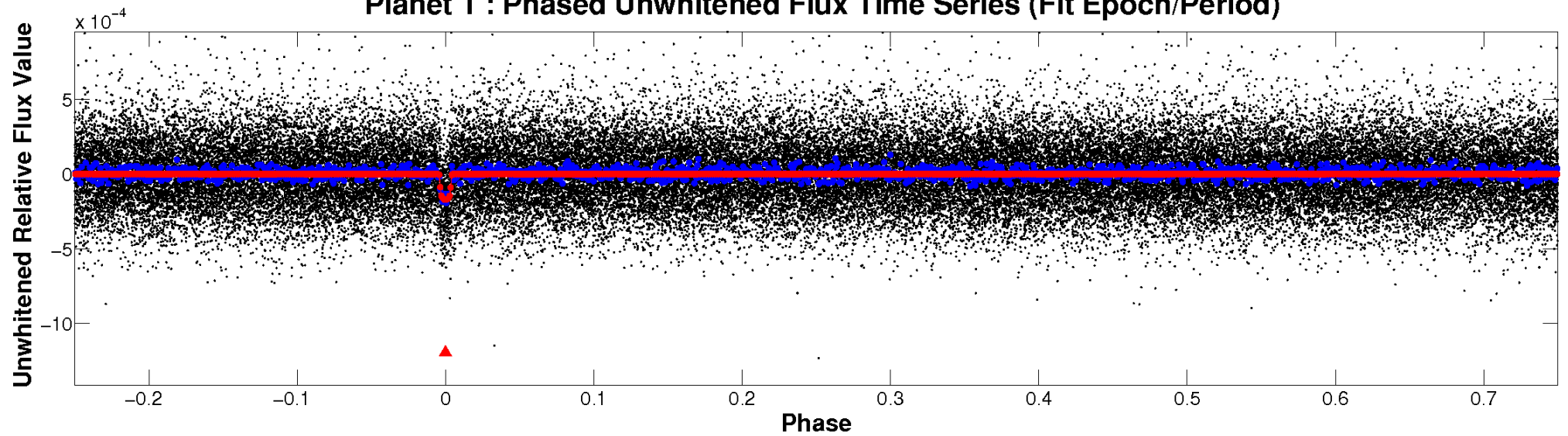
ALT Odd/Even

TCE 007446631-01

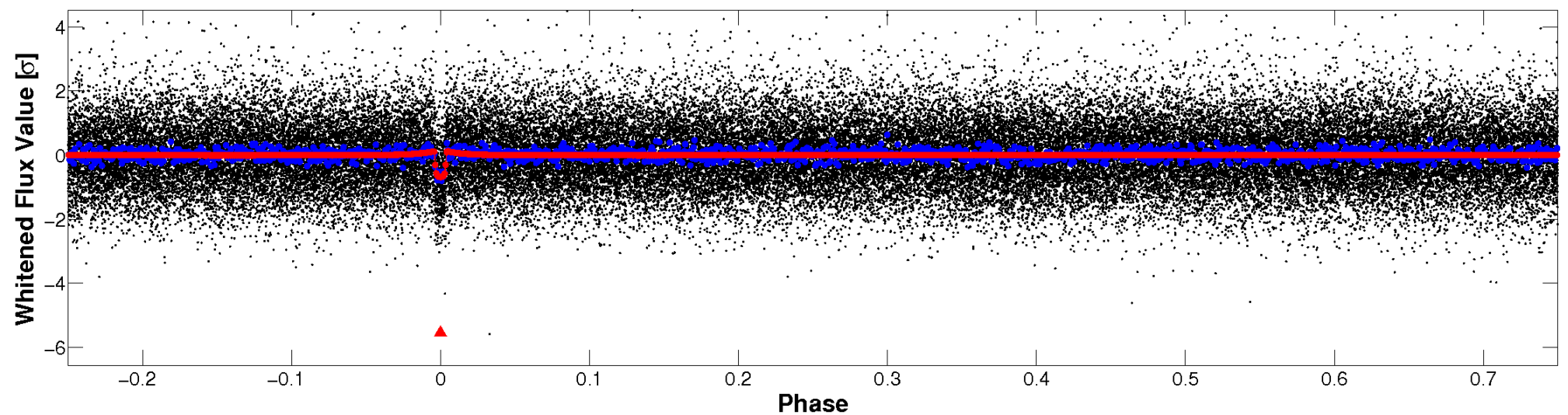


Non-Whitened Vs. Whitened Light Curve

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

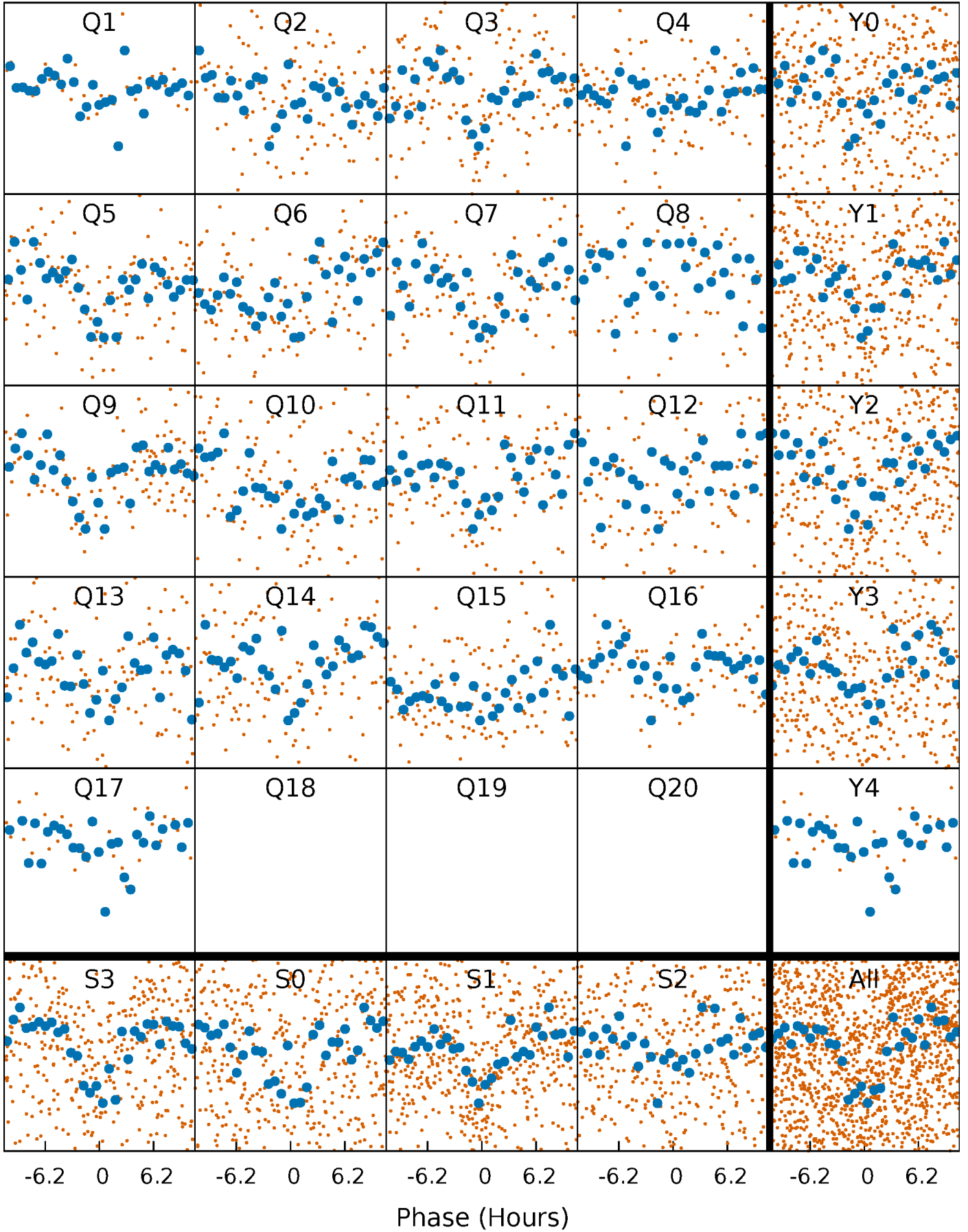


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



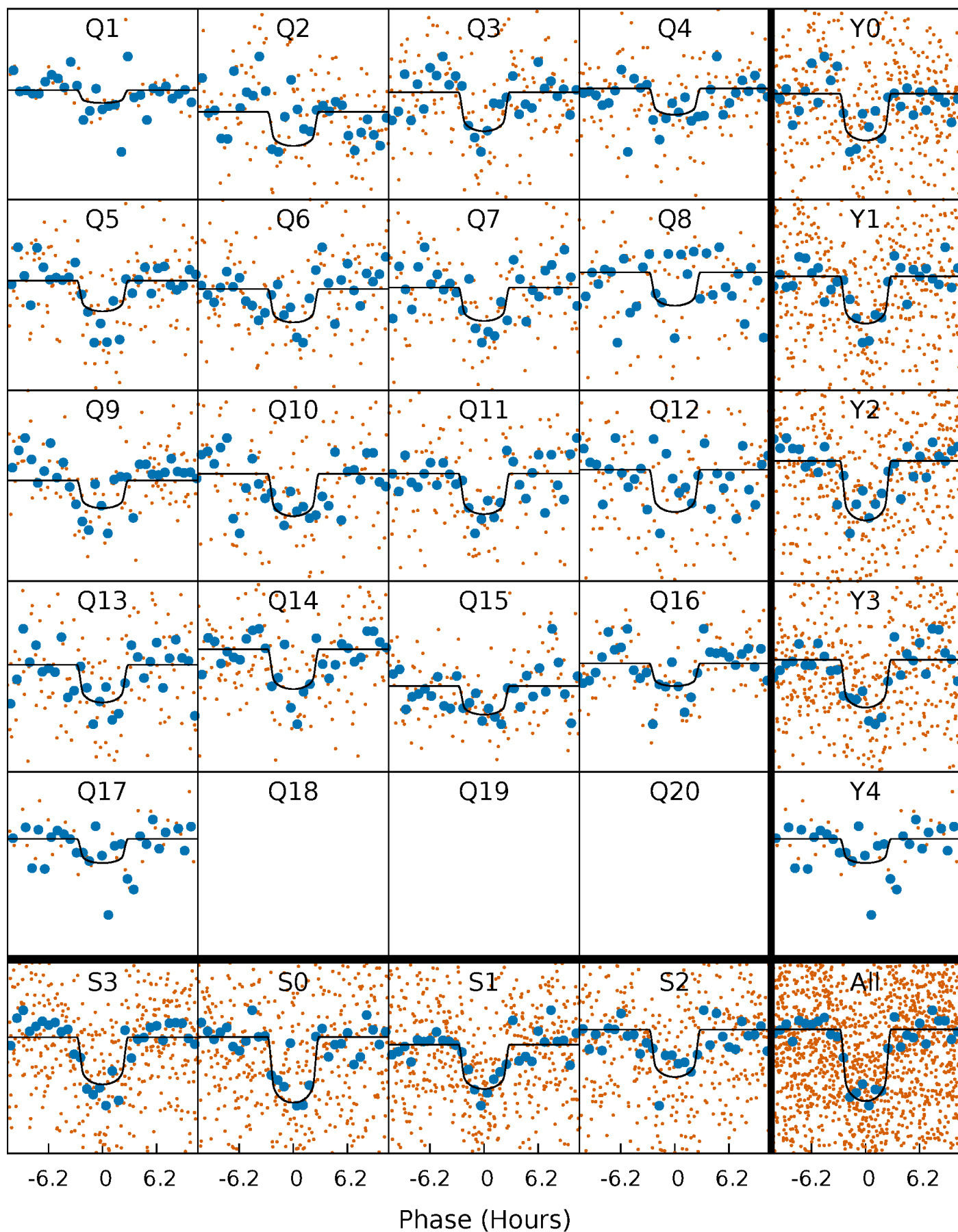
PDC Quarter-Phased Transit Curves

TCE 007446631-01 P= 29.225465 Days $T_0=143.989280$ (BKJD)



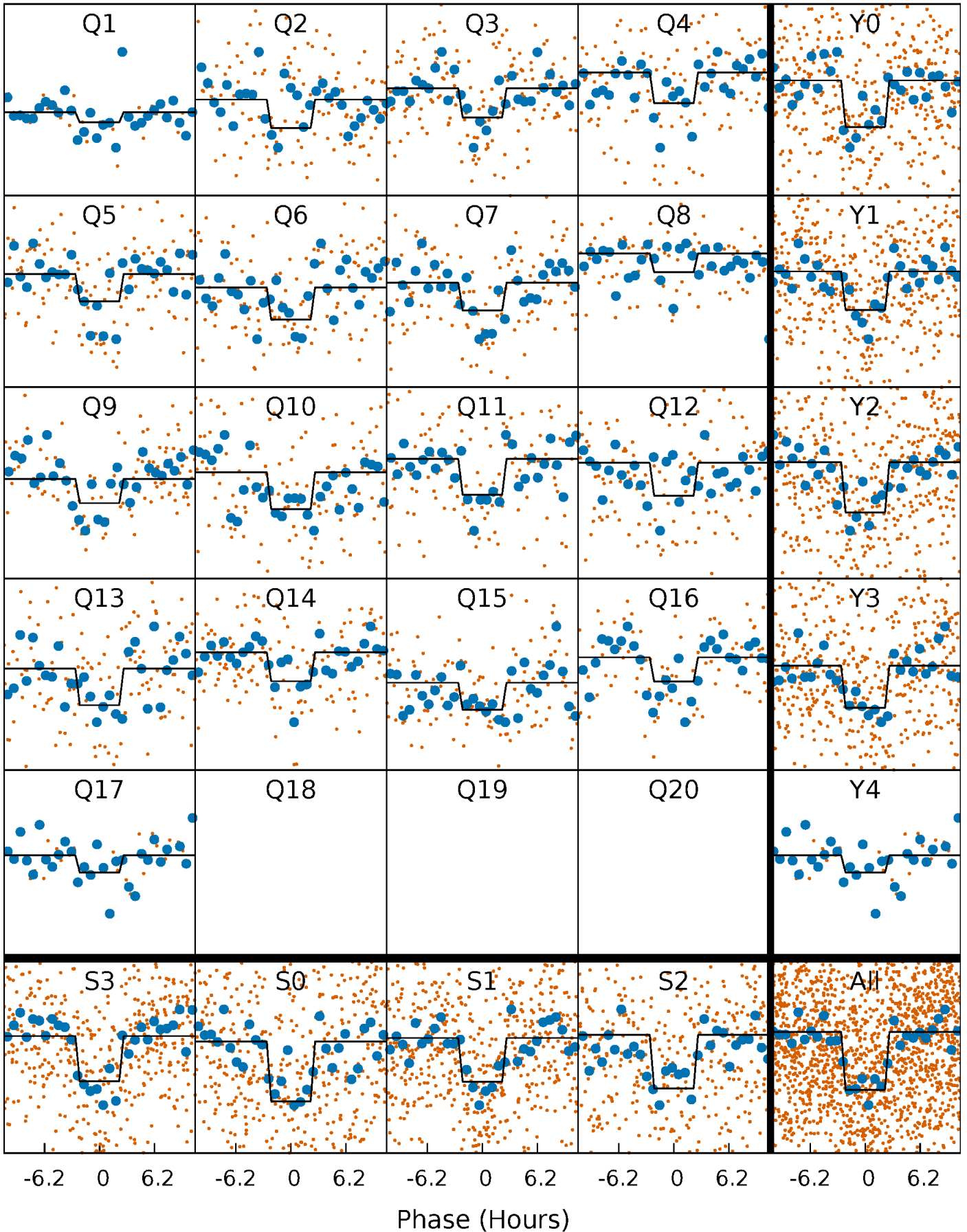
DV Quarter-Phased Transit Curves

TCE 007446631-01 P= 29.225465 Days $T_0=143.989280$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

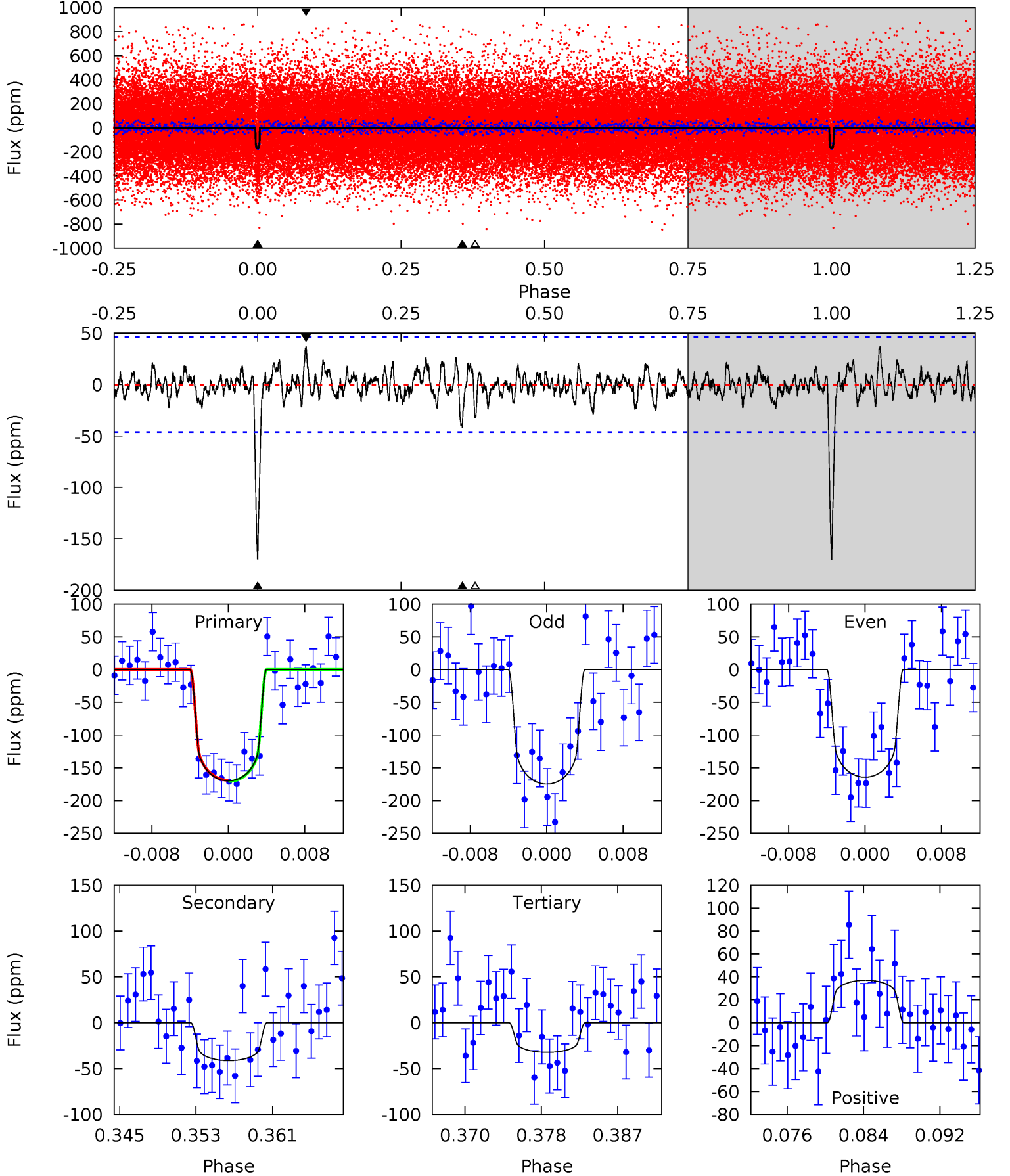
TCE 007446631-01 P= 29.224979 Days $T_0=143.995728$ (BKJD)



DV Model-Shift Uniqueness Test

007446631-01, P = 29.225465 Days, E = 114.763815 Days

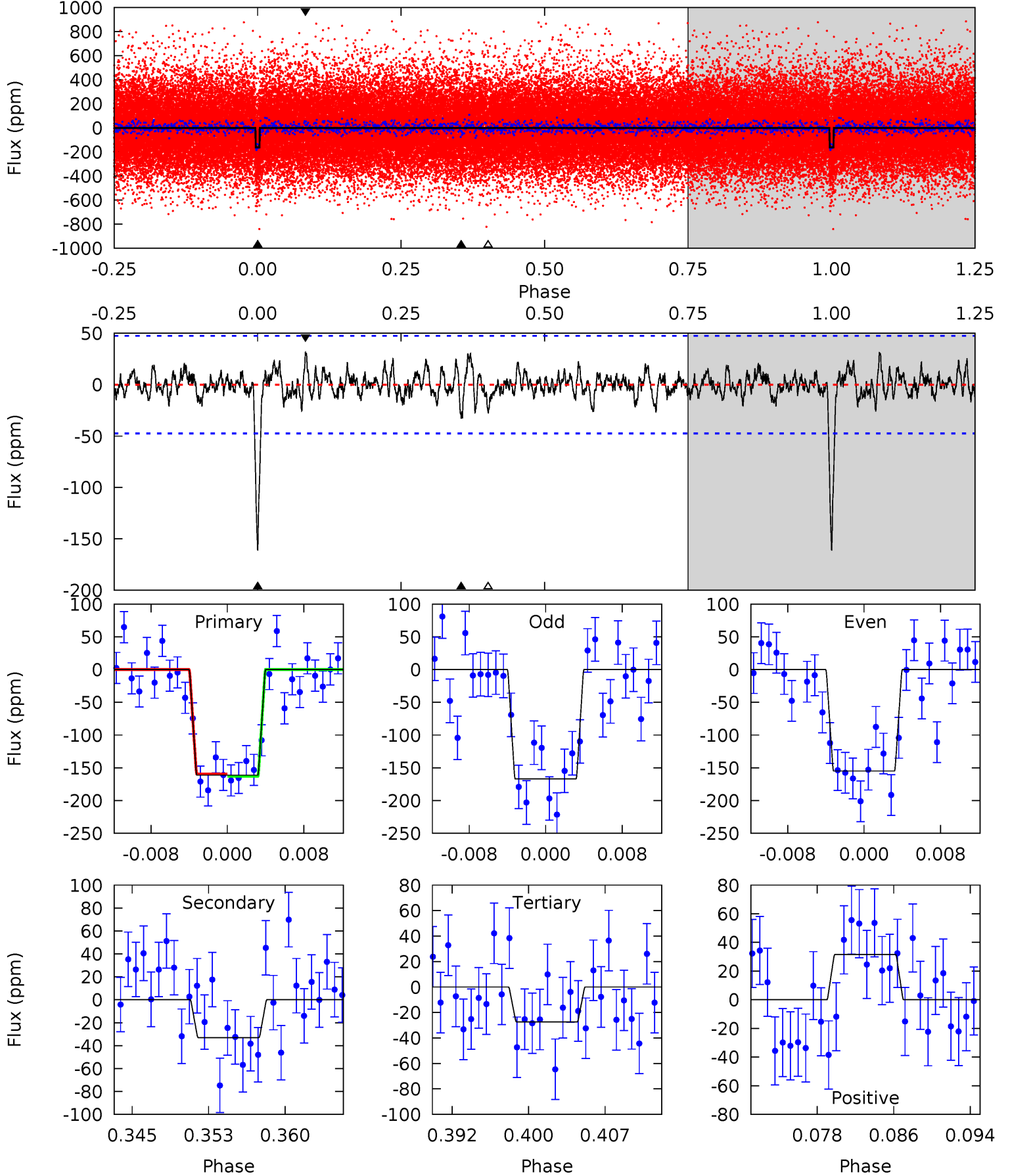
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	4.53	3.54	4.06	5.06	2.64	1.08	15.1	14.6	0.99	0.47	0.58	0.94	0.18	0.10



Alt Model-Shift Uniqueness Test

007446631-01, P = 29.224979 Days, E = 114.770749 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	3.52	2.92	3.37	5.07	2.66	1.02	14.3	13.9	0.60	0.15	0.65	1.02	0.16	0.20



Stellar Parameters For KIC 007446631

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6049^{+190}_{-211}	$4.461^{+0.058}_{-0.232}$	$-0.020^{+0.250}_{-0.300}$	$1.008^{+0.333}_{-0.111}$	$1.069^{+0.145}_{-0.145}$	$1.471^{+0.426}_{-0.778}$
	+3%/-3%	+1%/-5%	+1250%/-1500%	+33%/-11%	+14%/-14%	+29%/-53%
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 007446631-01 / KOI 2598.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-41 ± 9	$1.62^{+0.59}_{-0.51}$	882^{+66}_{-49}	4309^{+669}_{-439}	301^{+338}_{-141}
Alt.	-33 ± 9	$1.44^{+0.59}_{-0.48}$	881^{+72}_{-49}	4296^{+791}_{-476}	295^{+408}_{-149}

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

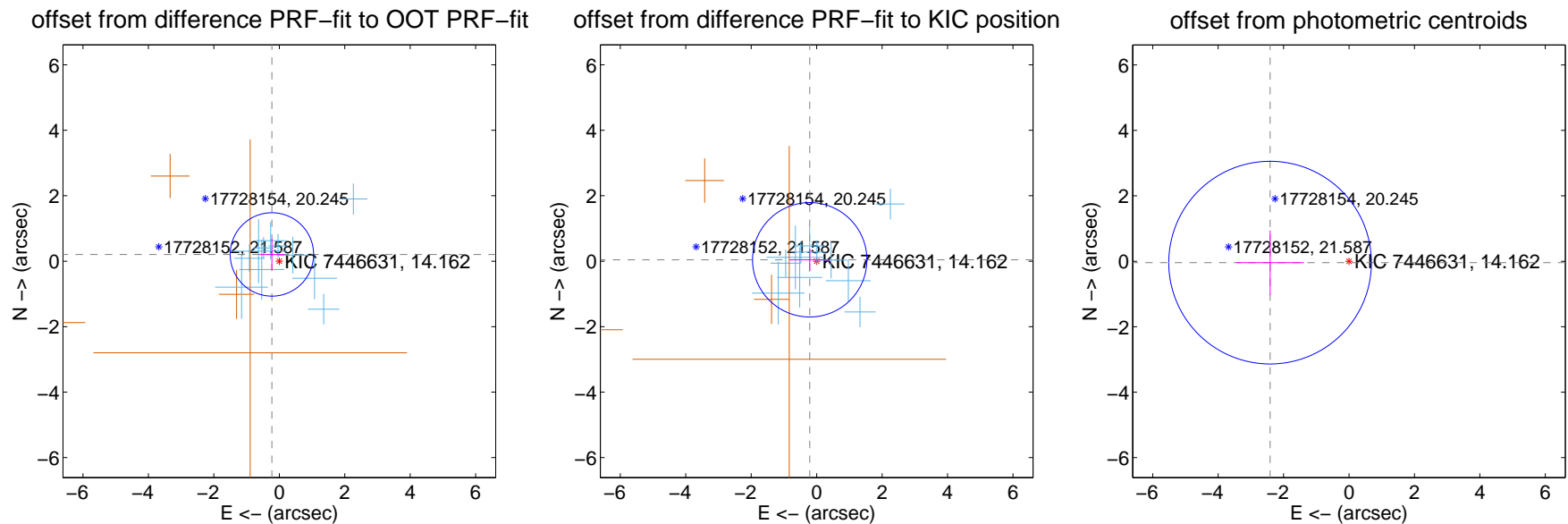
DV Centroid Data

Supplemental centroid analysis for 007446631-01. Kepler magnitude: 14.16. Transit SNR 13.27

There are 11 quarters with good PRF difference image offsets

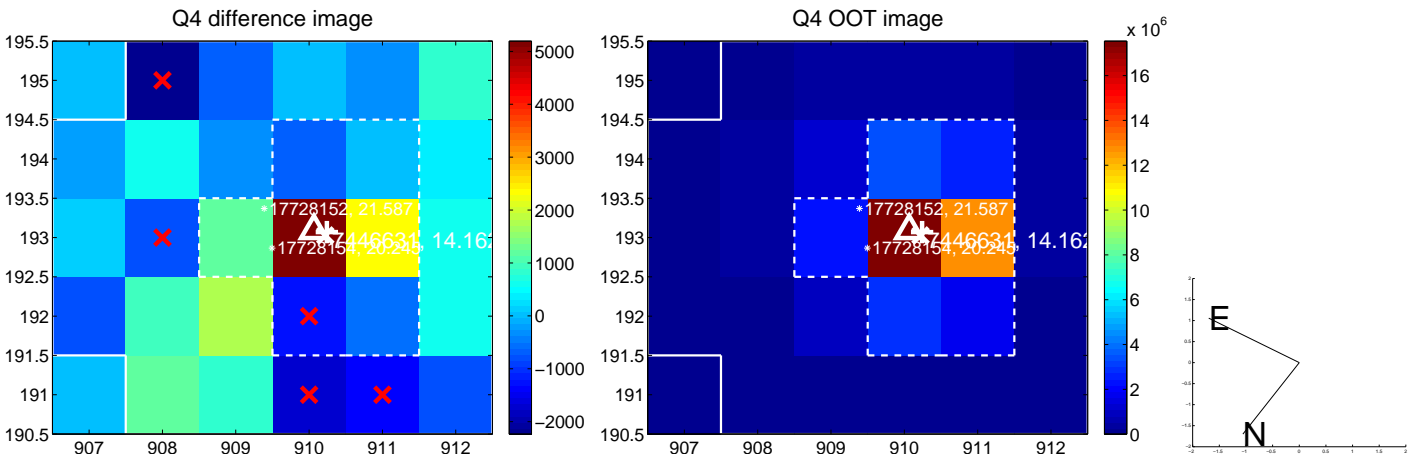
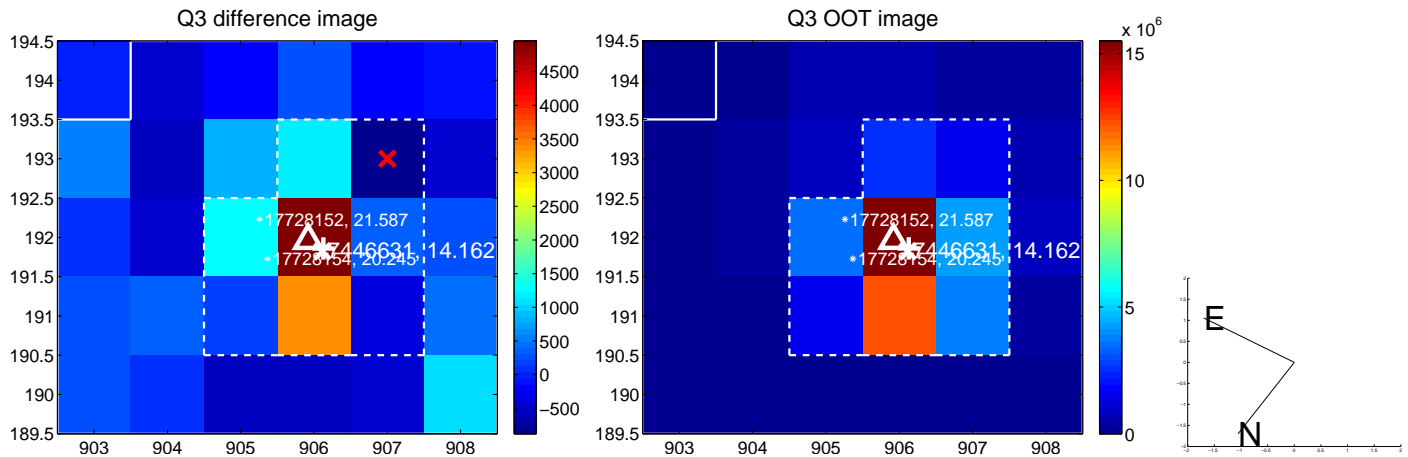
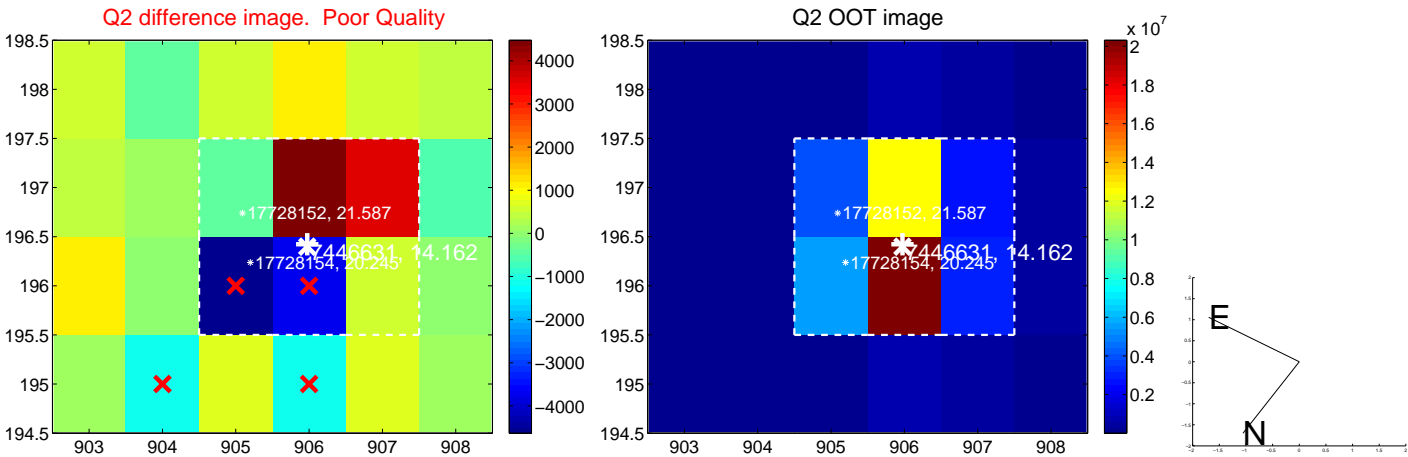
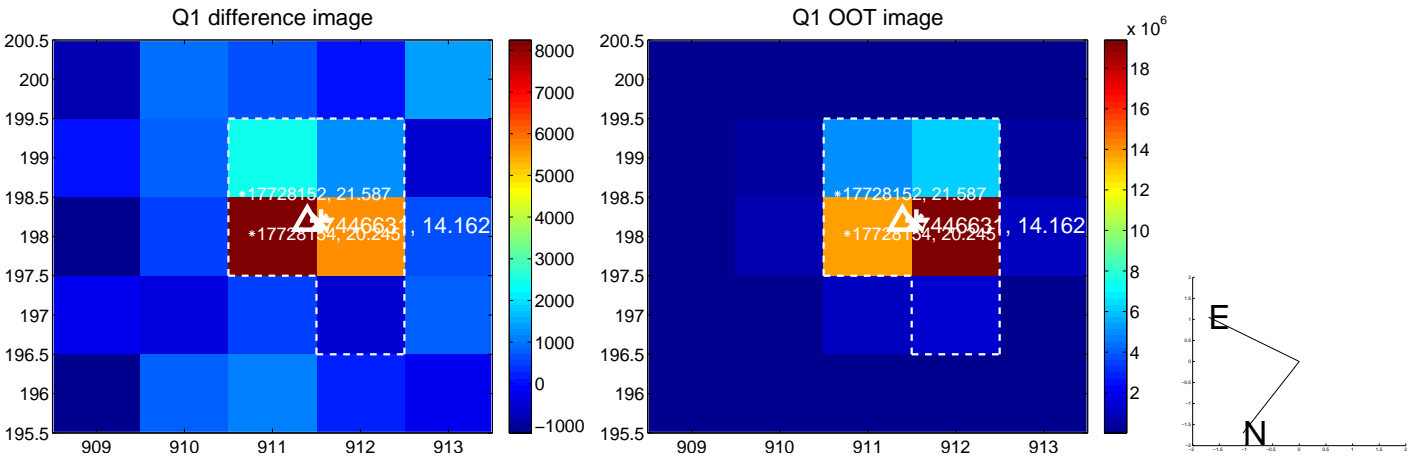
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.306 ± 0.425	0.72	0.226 ± 0.377	0.206 ± 0.476
PRF-fit source offset from KIC position	0.216 ± 0.583	0.37	0.212 ± 0.609	0.043 ± 0.344
photometric centroid source offset	2.41 ± 1.03	2.34	2.41 ± 1.03	-0.04 ± 0.98

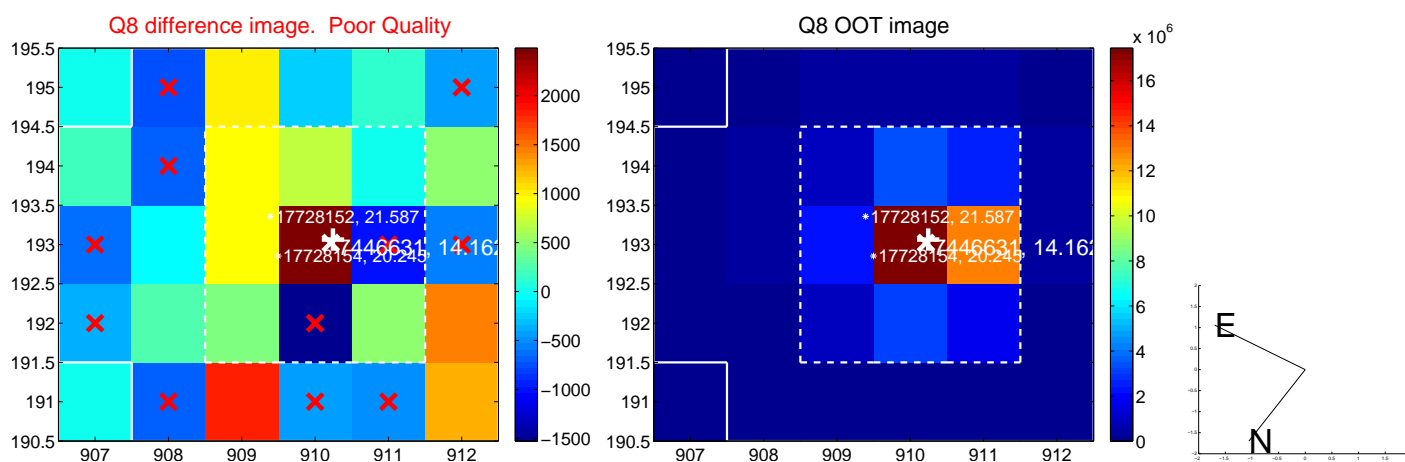
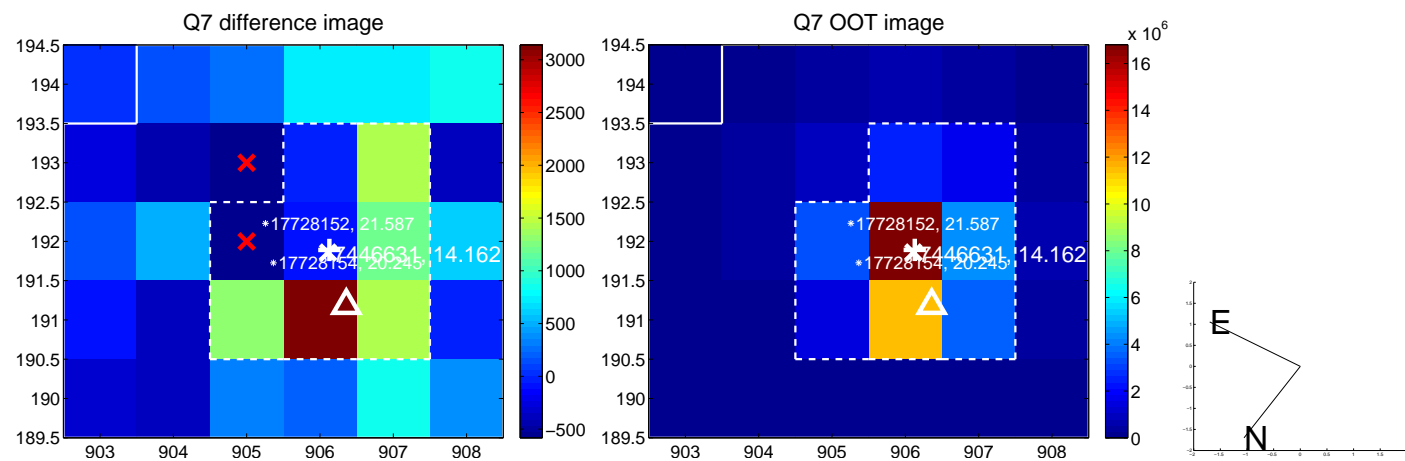
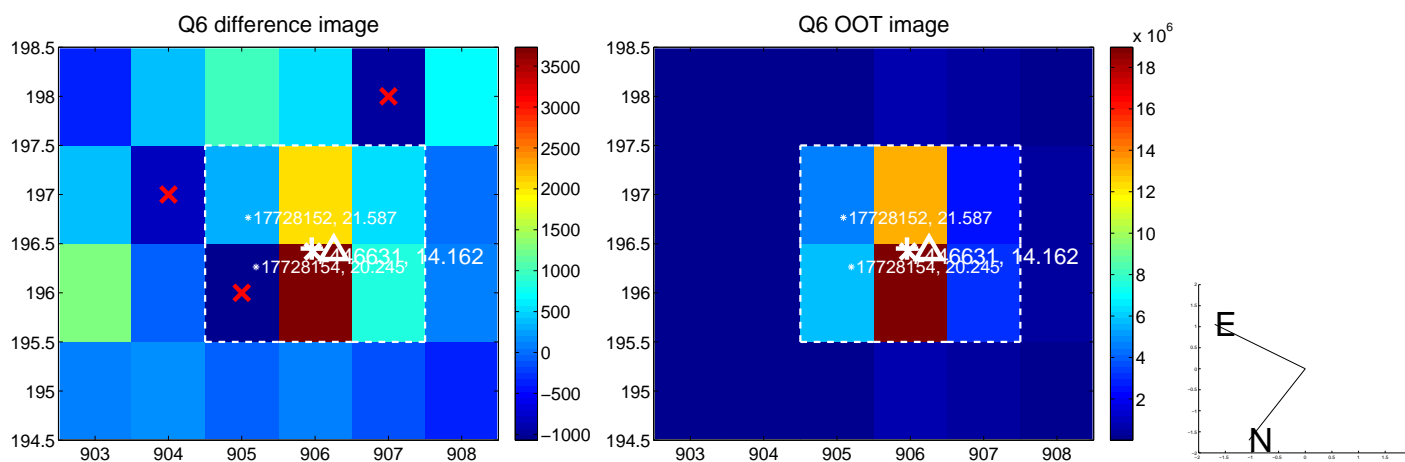
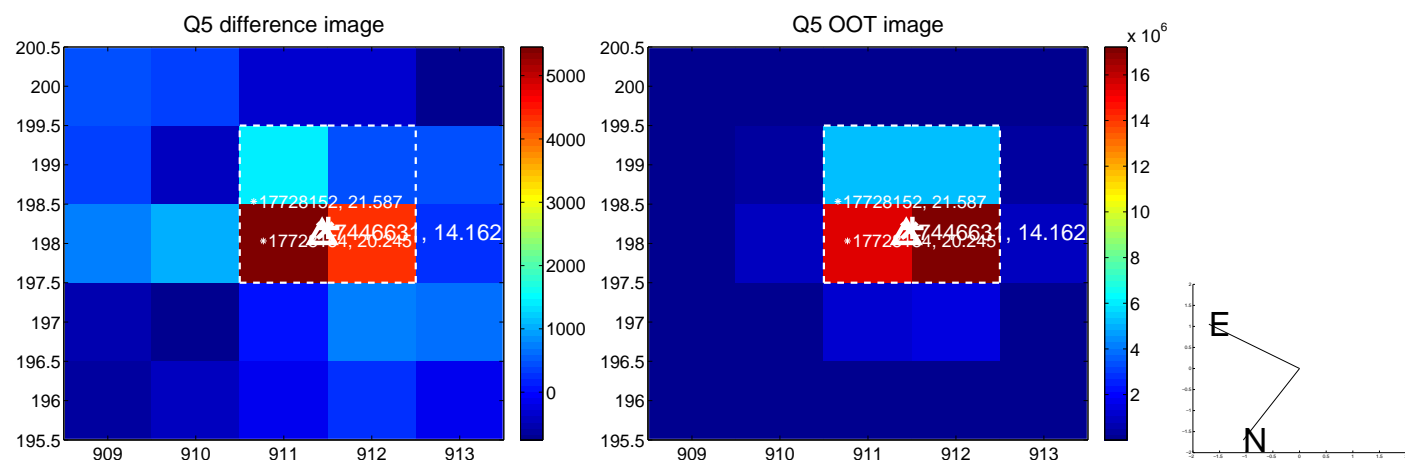


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

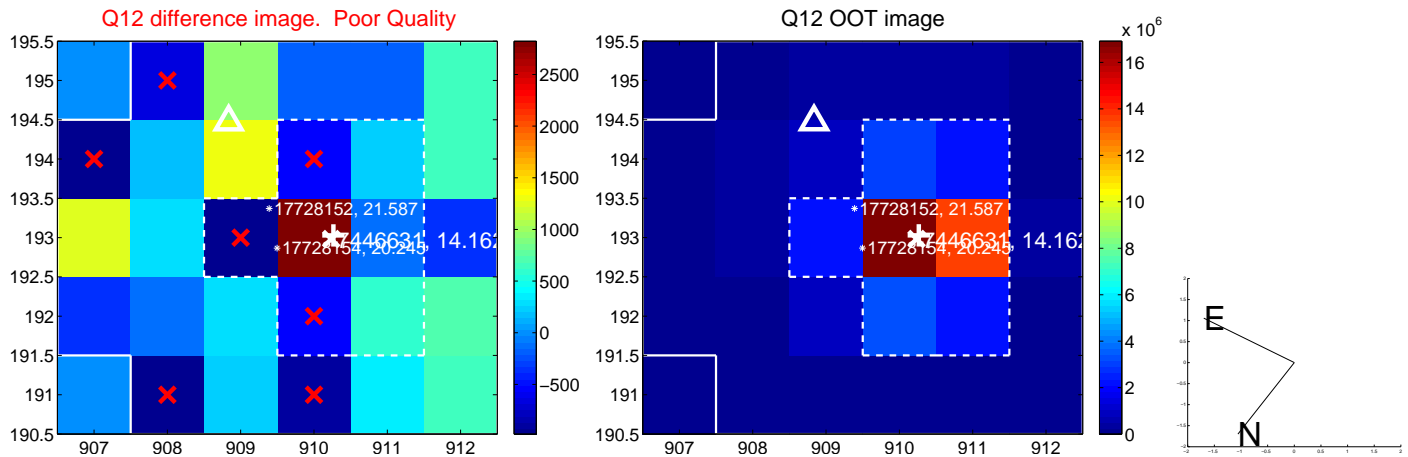
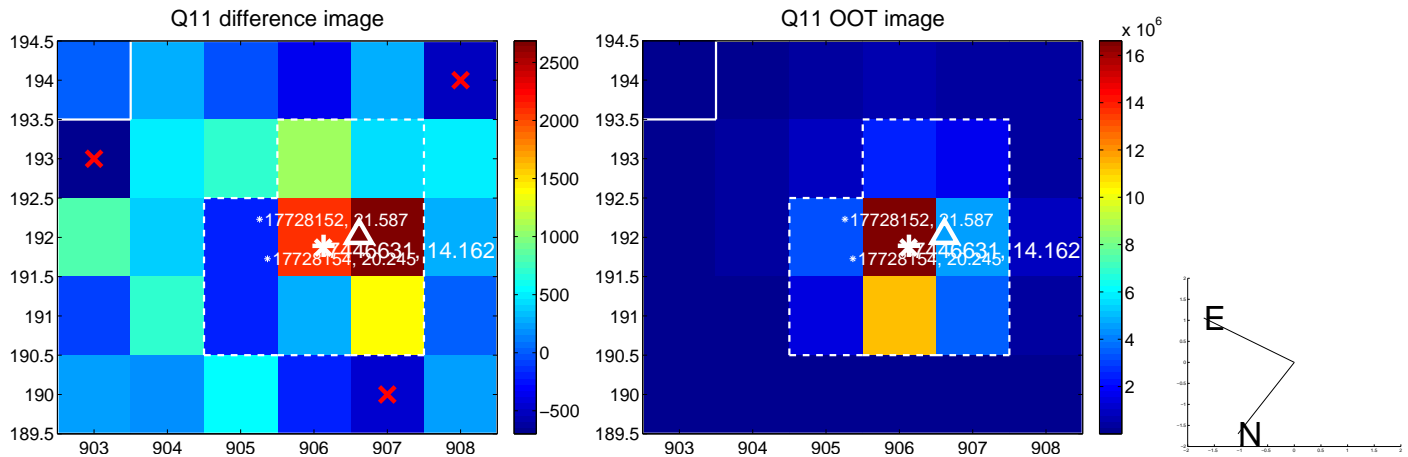
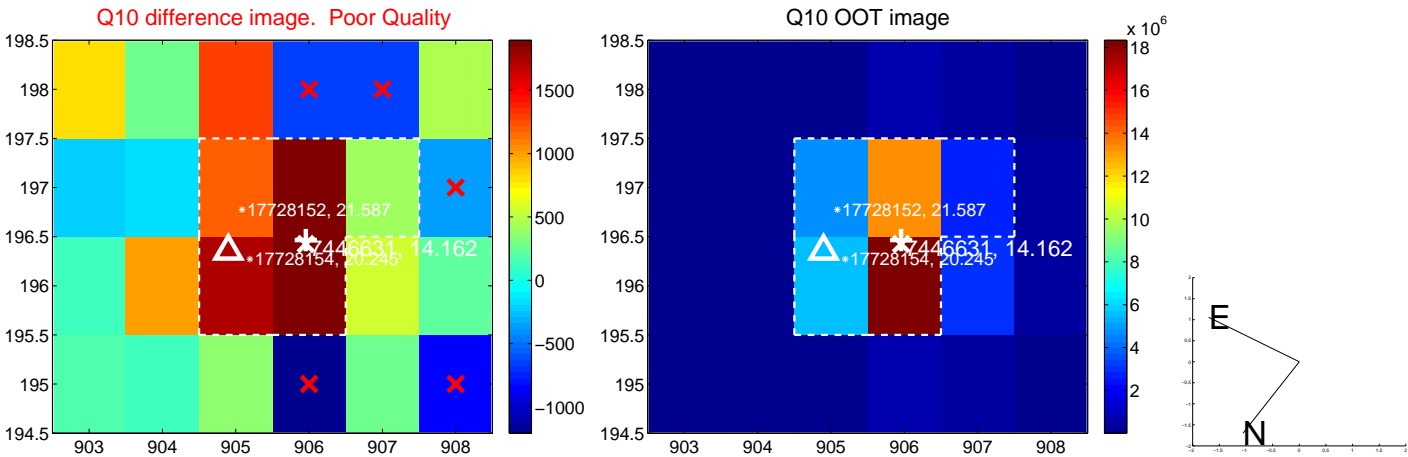
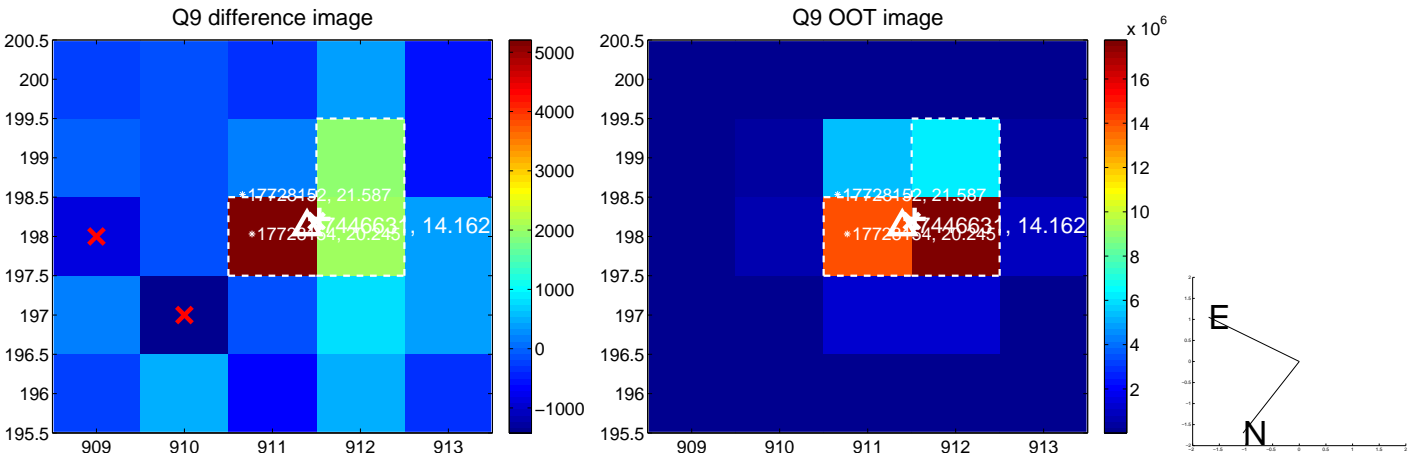
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



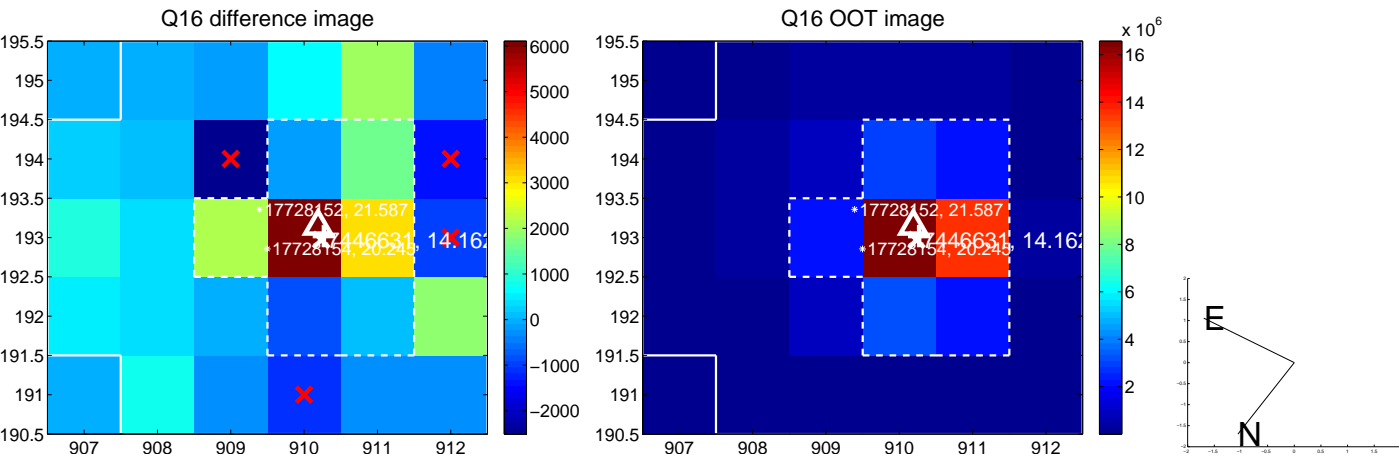
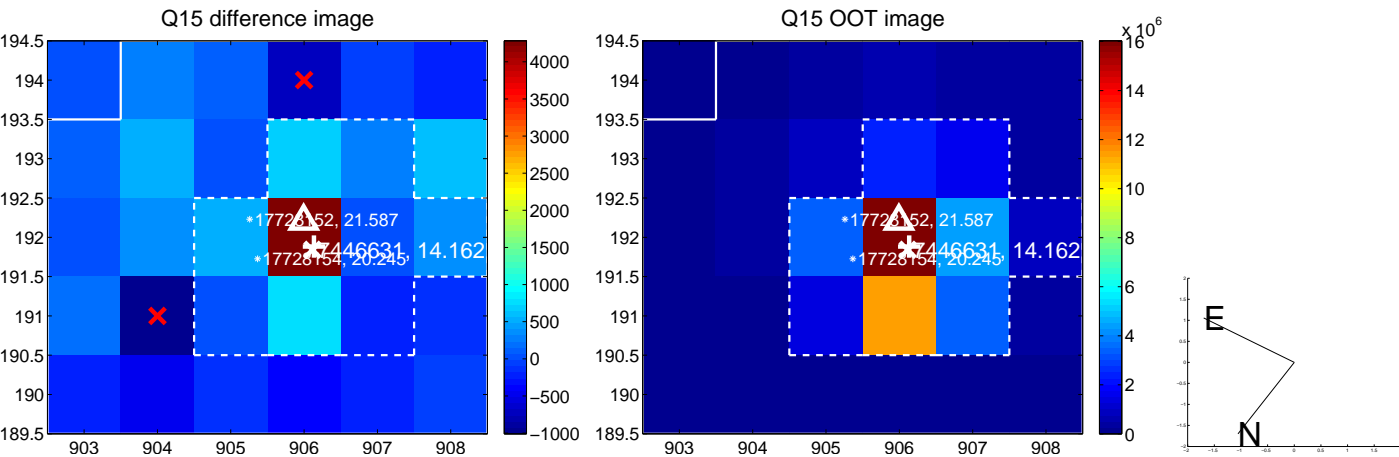
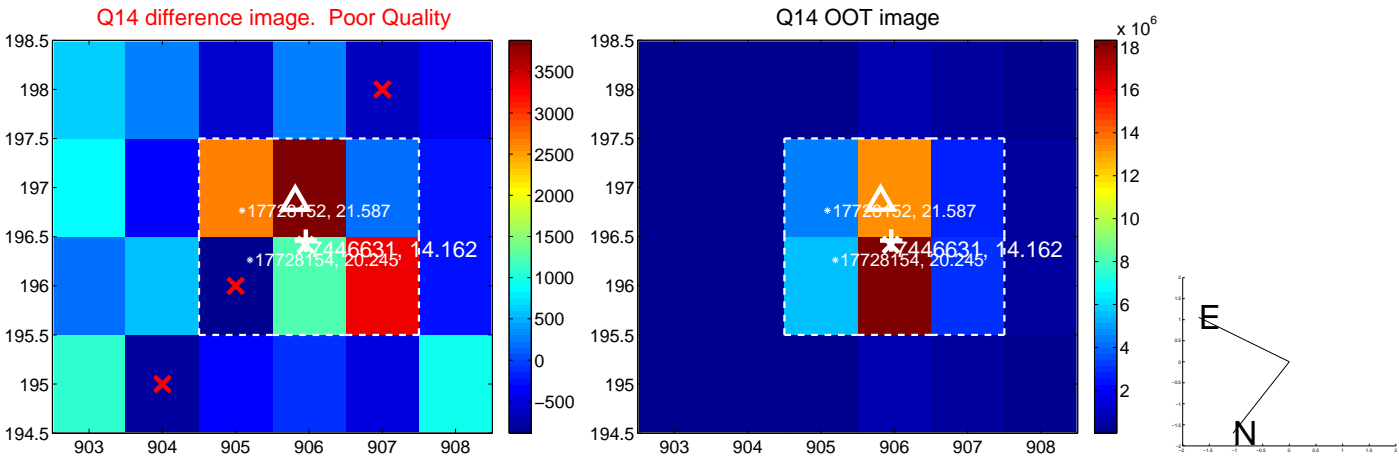
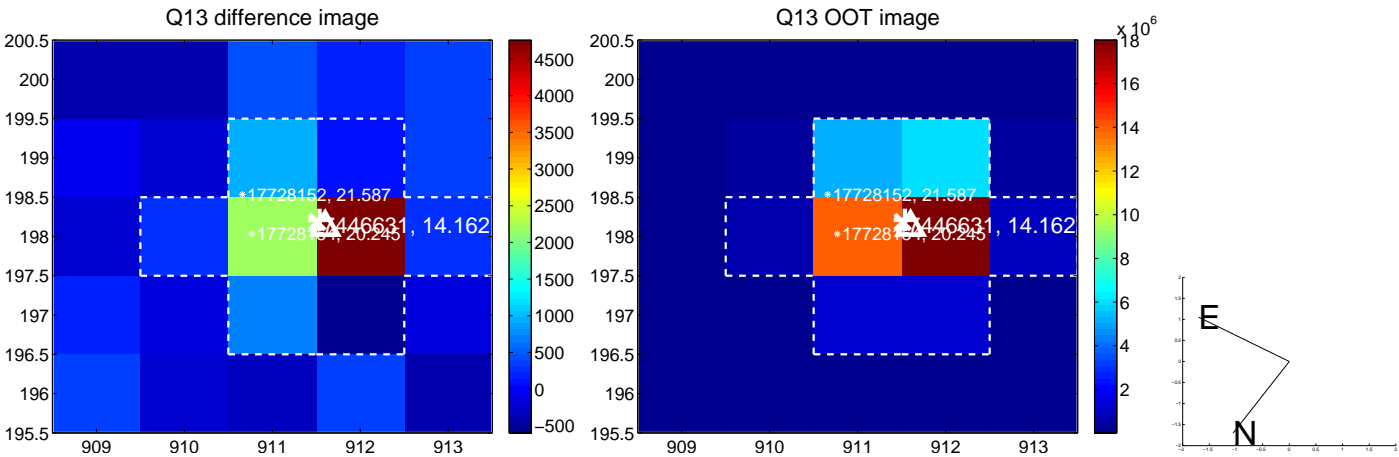
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



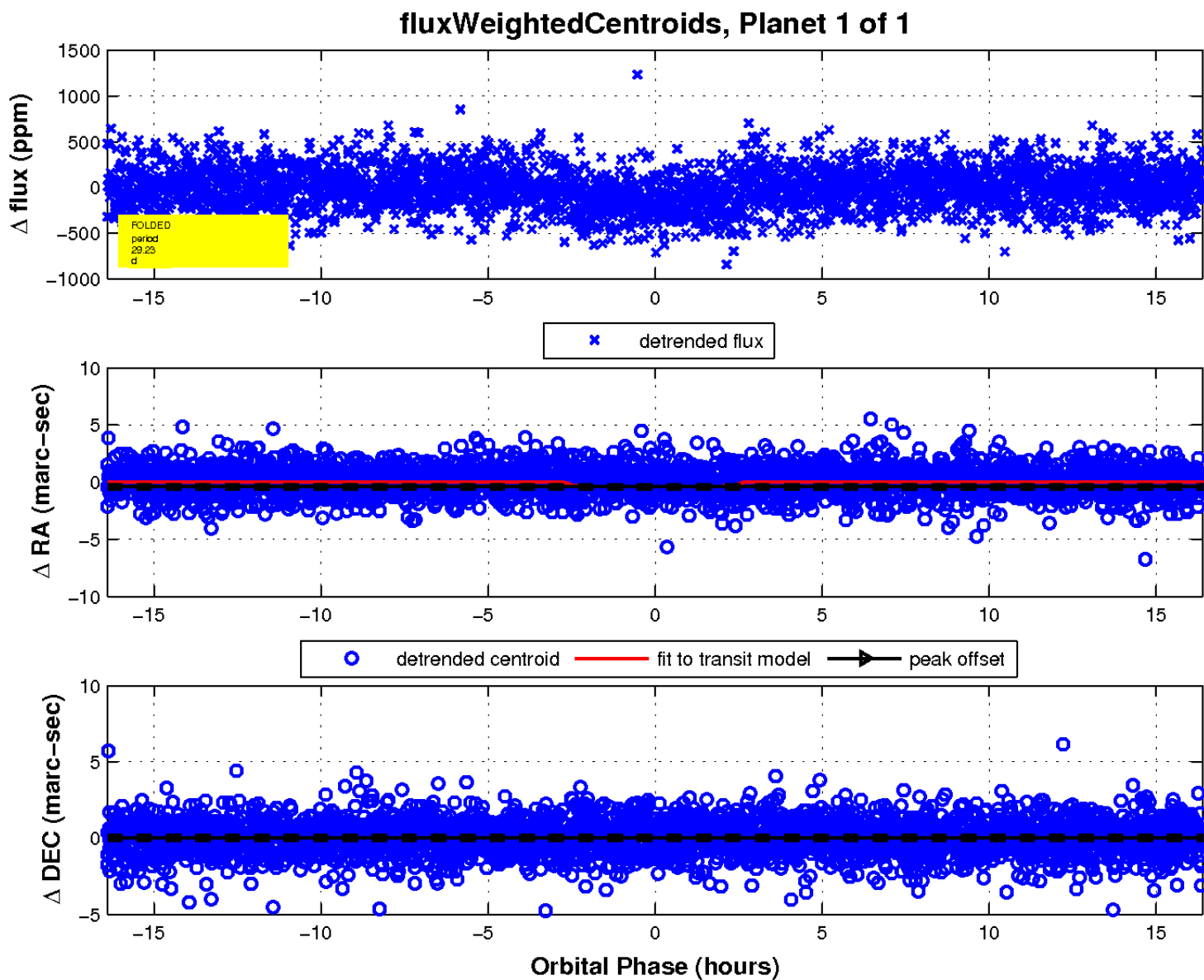
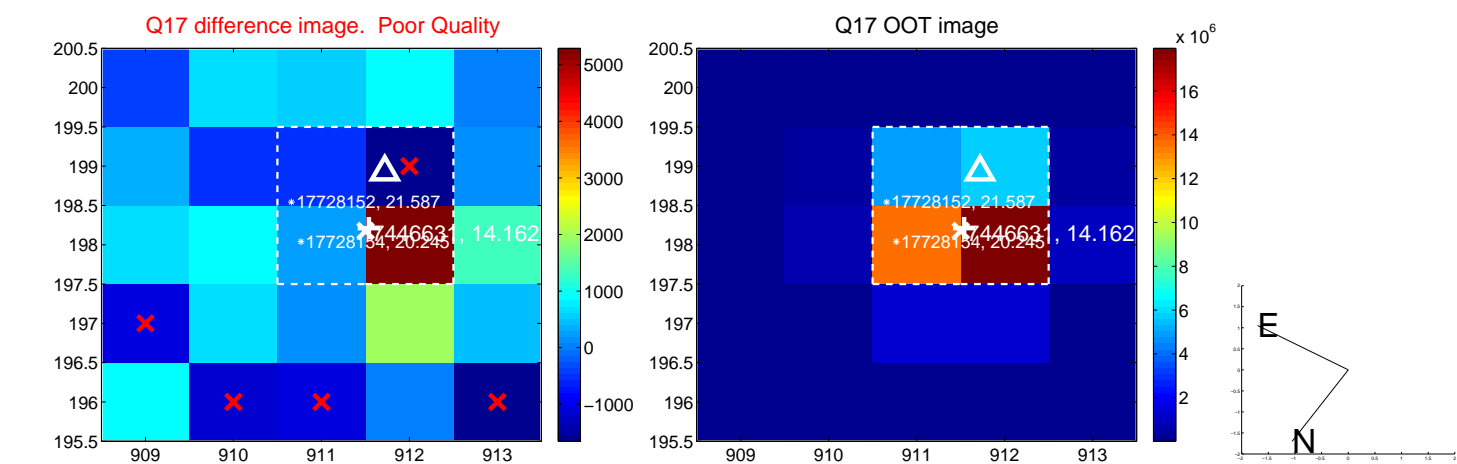
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UKIRT Image

Declination

