

KIC 006451461

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})
006451461-01	OBS	No	354.963800	158.880951	1481.0	3.935	131.3	44.9	149.38	3296	1253.36	2218.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006451461-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

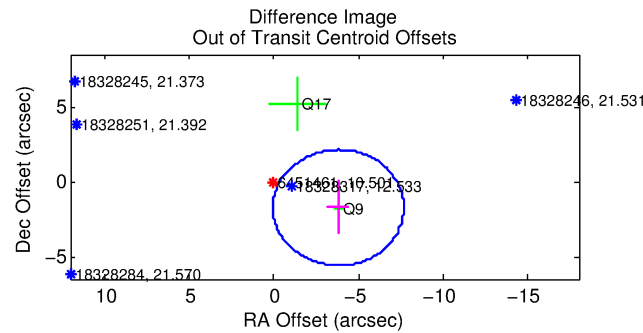
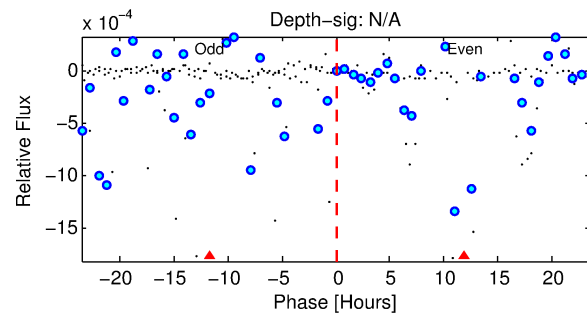
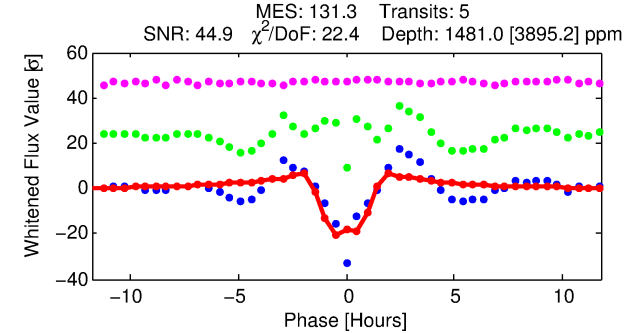
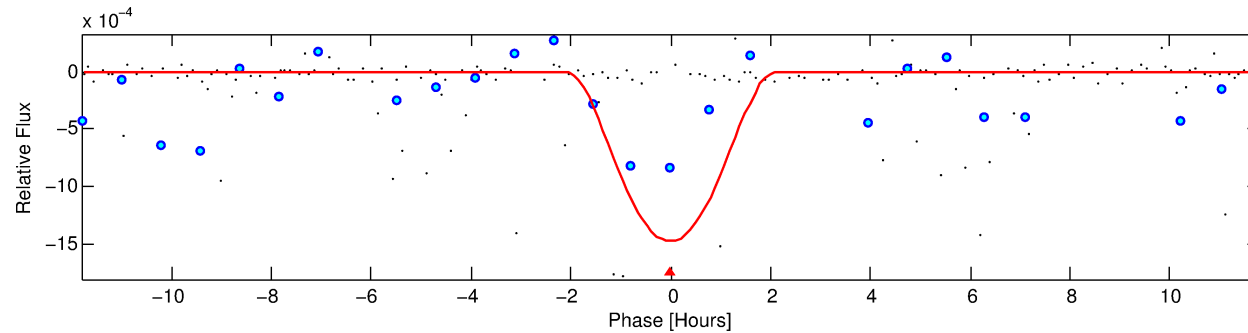
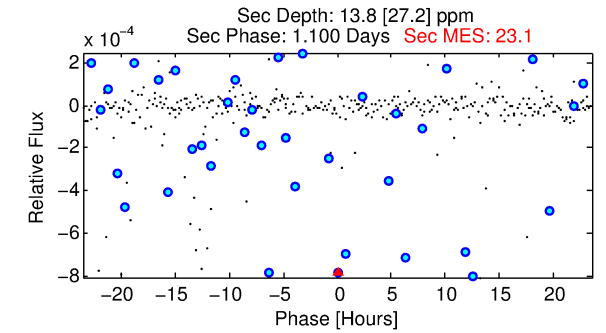
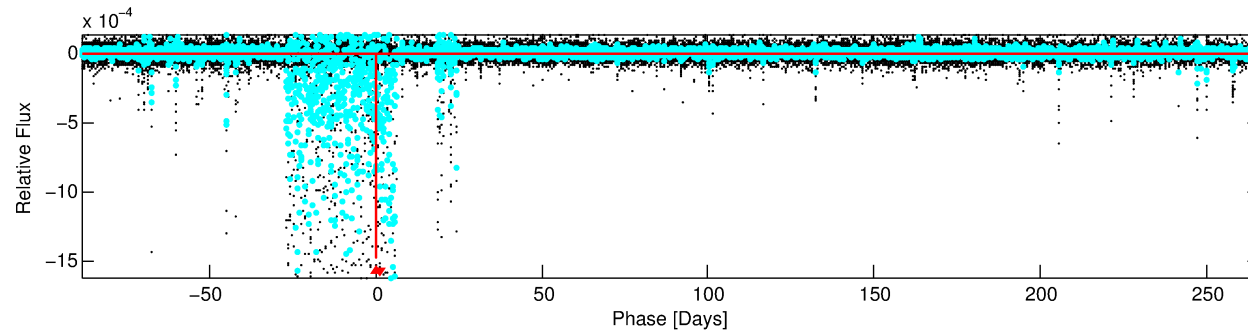
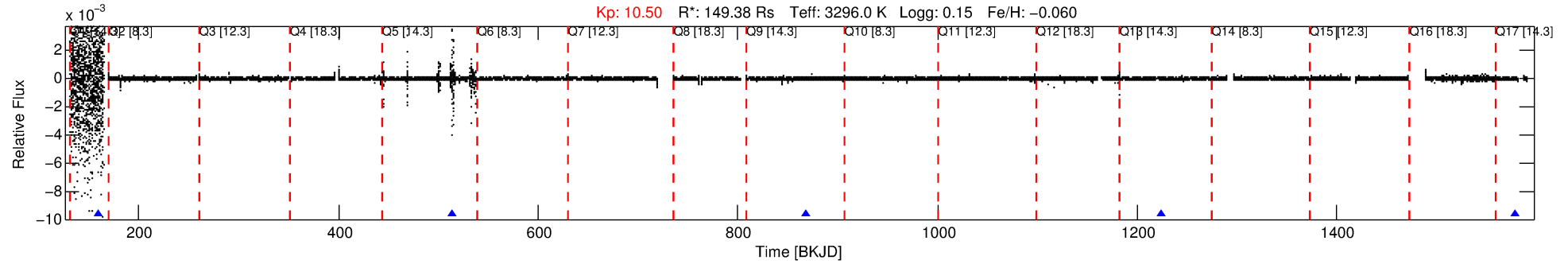
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006451461-01

No Significant Match Found

DV One-Page Summary

KIC: 6451461 Candidate: 1 of 1 Period: 354.964 d



DV Fit Results:

Period = 354.96380 [0.00249] d
Epoch = 158.8810 [0.0069] BKJD
Rp/R* = 0.0769 [0.2009]
a/R* = 275.37 [143.29]
b = 1.00 [0.15]
Seff = 2218.88 [808.30]
Teq = 1750 [159] K
Rp = 1253.36 [3284.17] Re
a = 1.0312 [0.2121] AU
Ag = 0.01 [0.03] [-34.65σ]
Teffp = 724 [1011] K [-1.00σ]

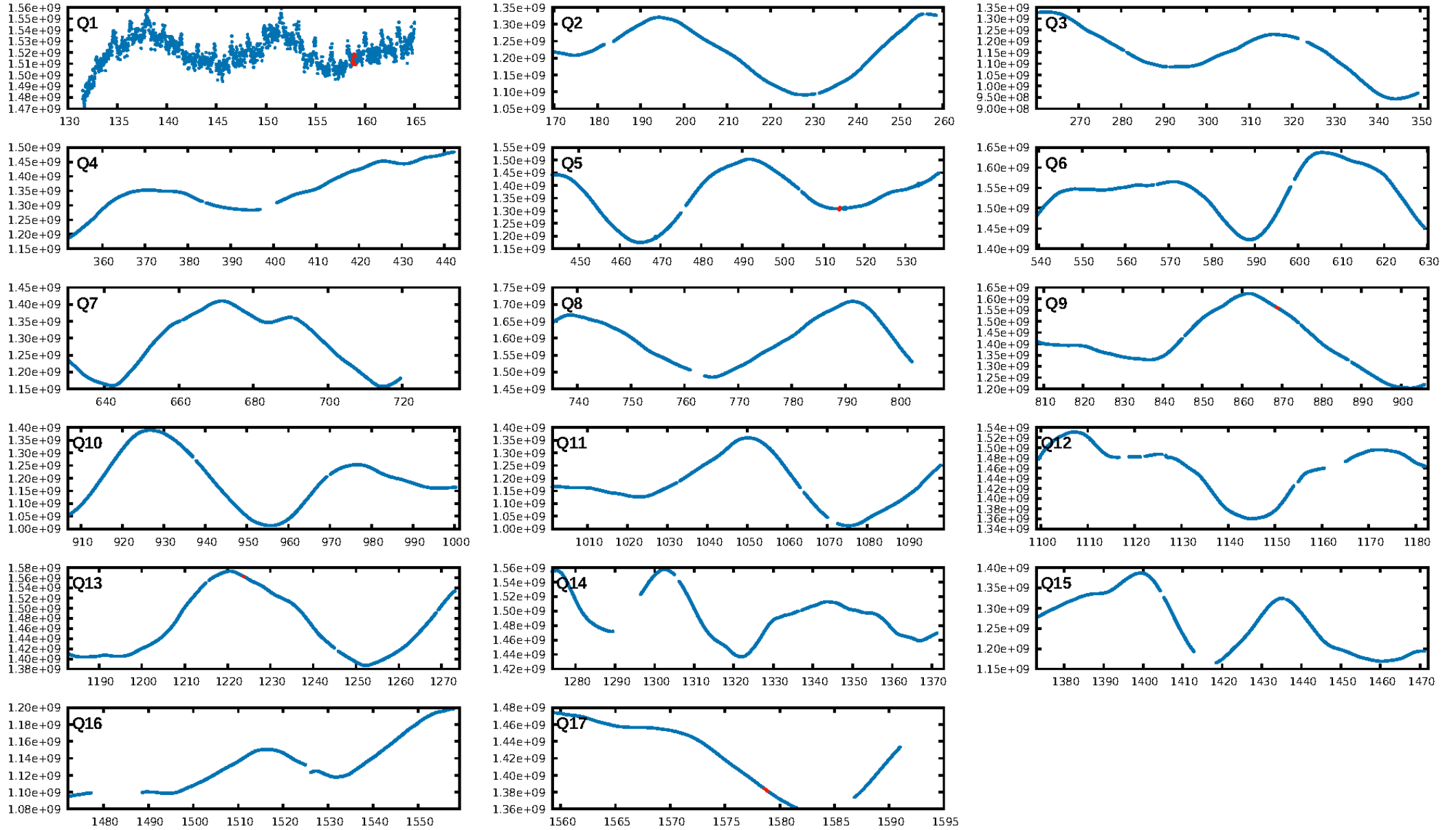
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.2%
Bootstrap-pfa: 1.51e-36
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 98.3%
Centroid-so: 0.199 arcsec [0.90σ]
OotOffset-rm: 4.183 arcsec [3.25σ]
KicOffset-rm: 4.614 arcsec [3.56σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [5/5]

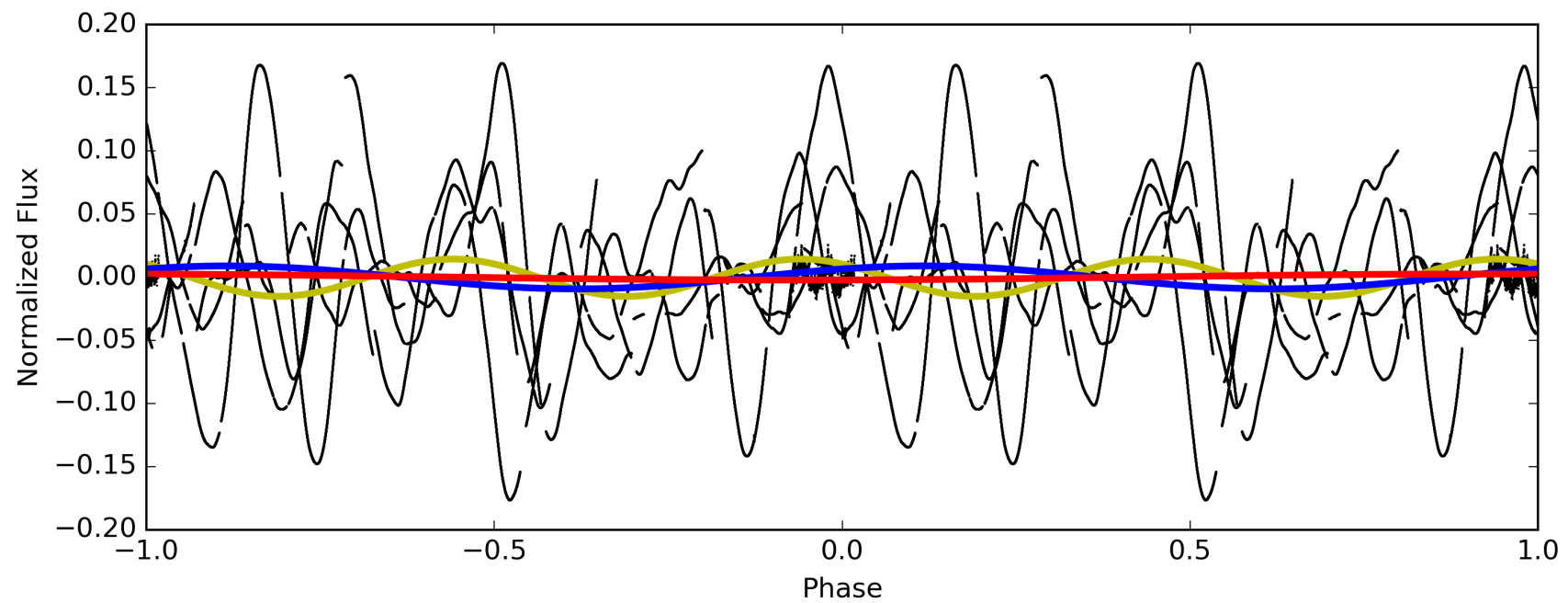
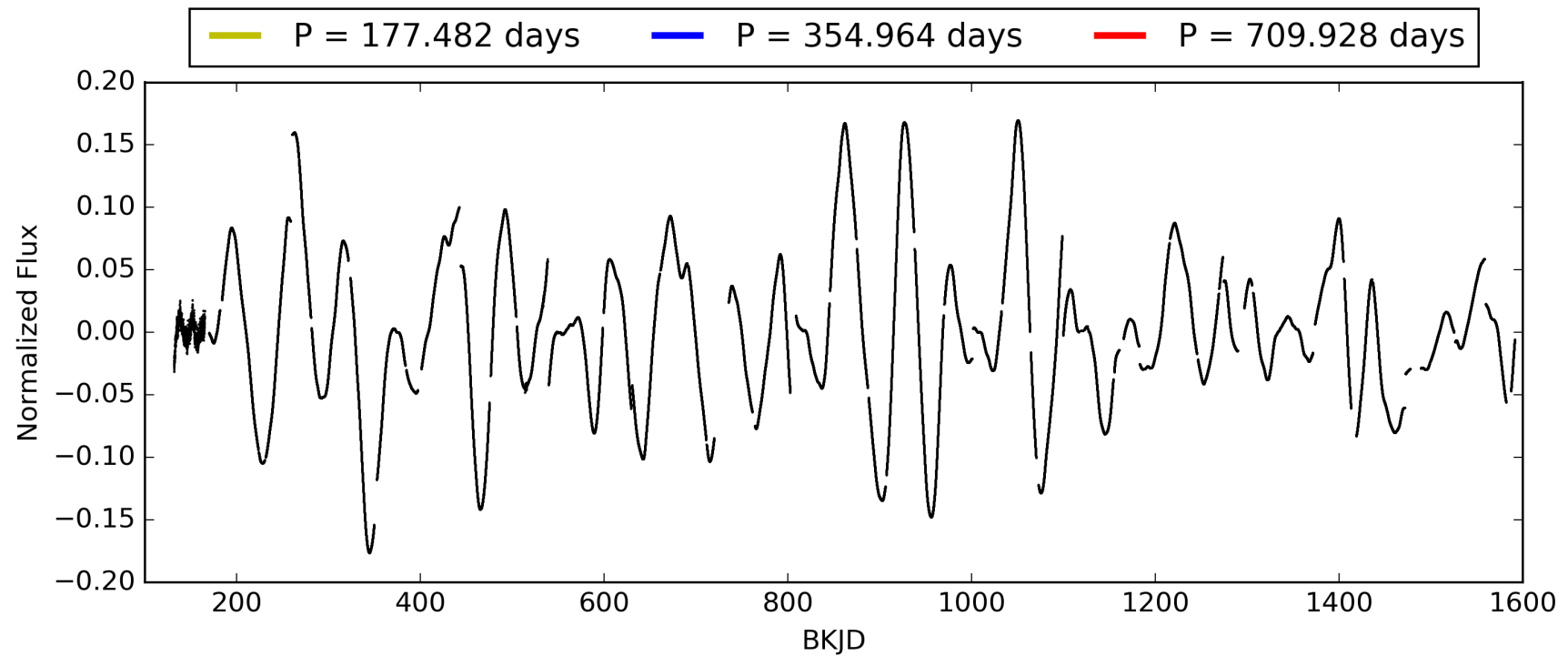
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 03:12:34 Z

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

TCE 006451461-01, PDC Light Curves

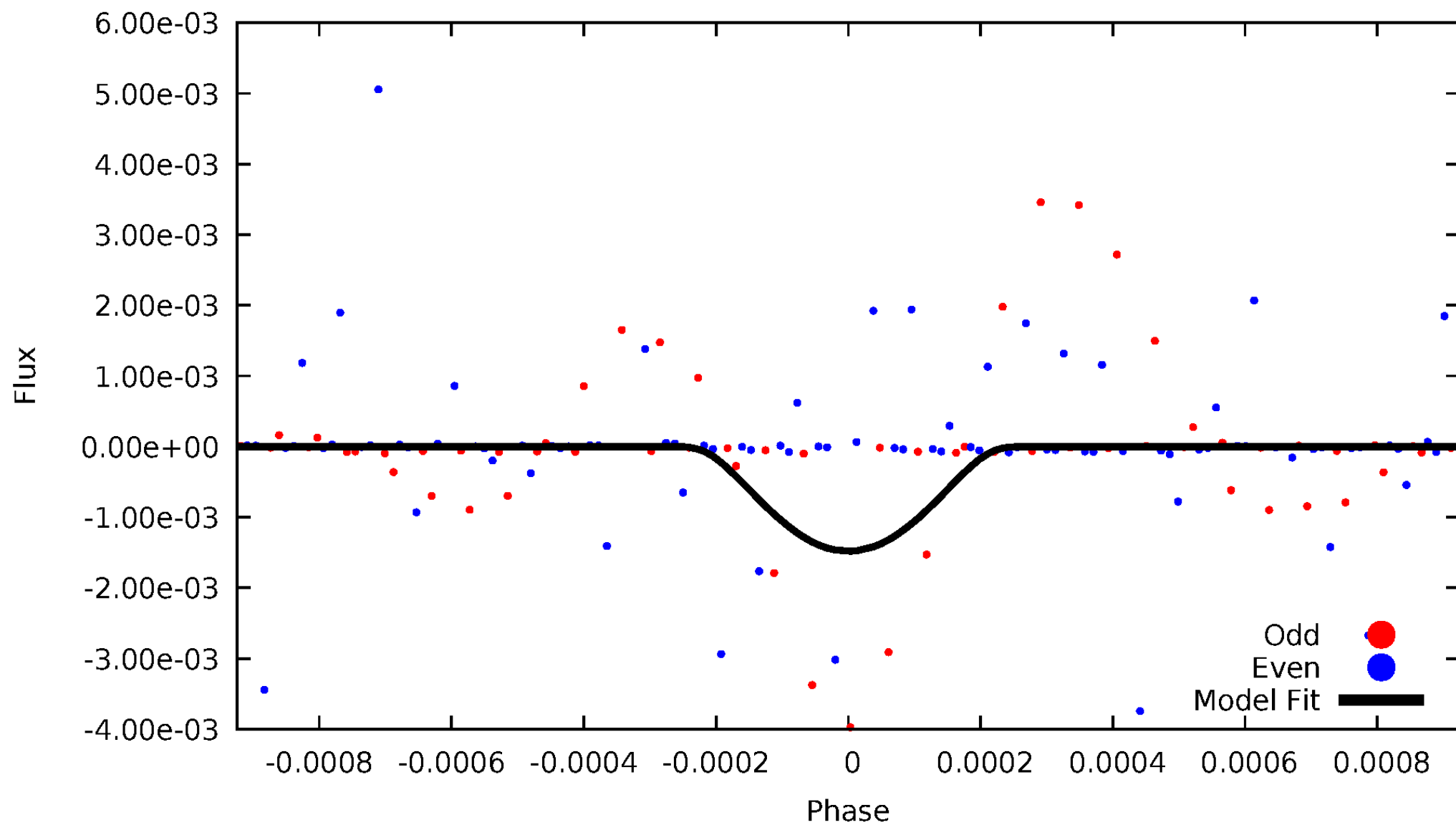


TCE 006451461-01



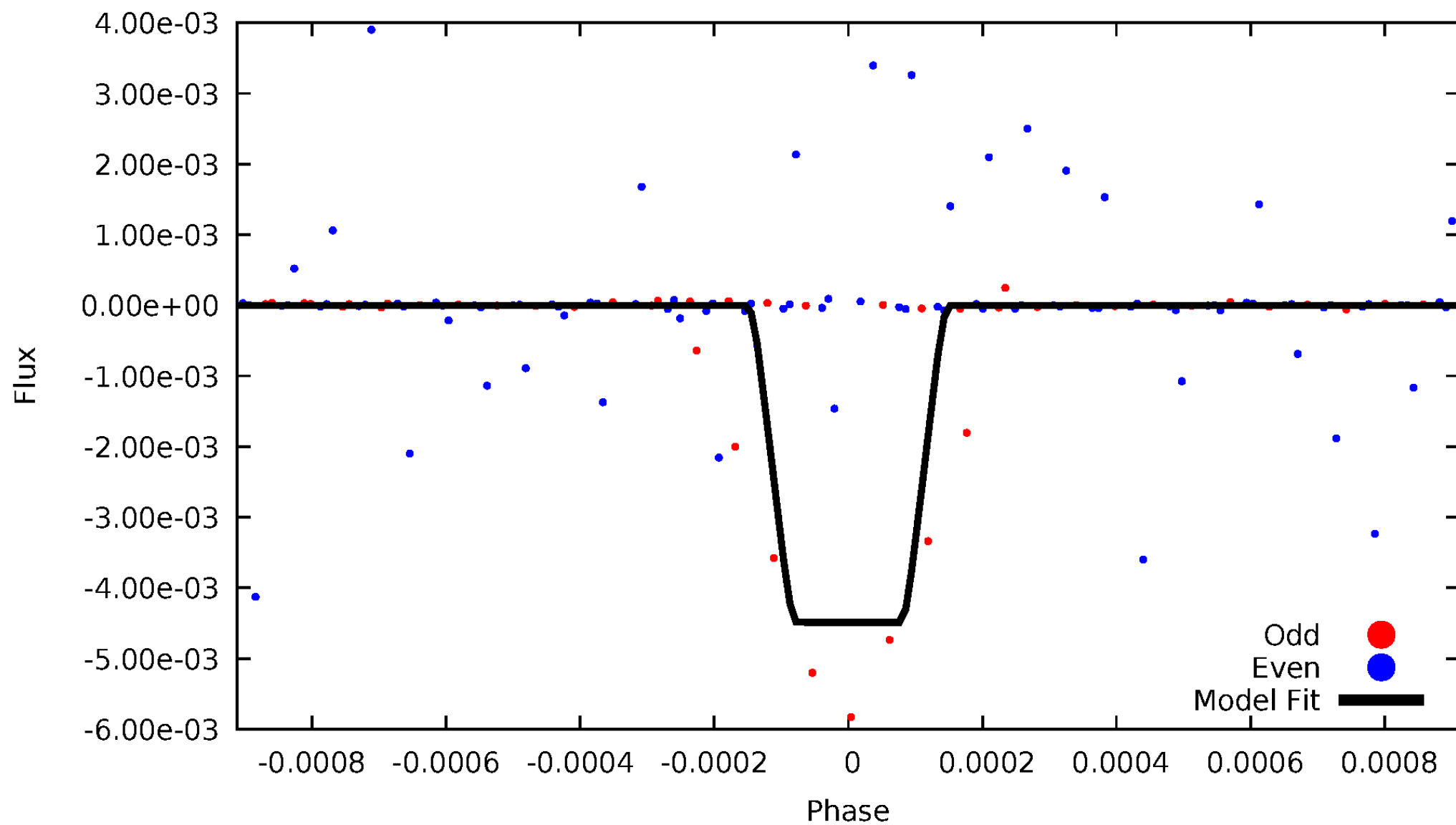
DV Odd/Even

TCE 006451461-01



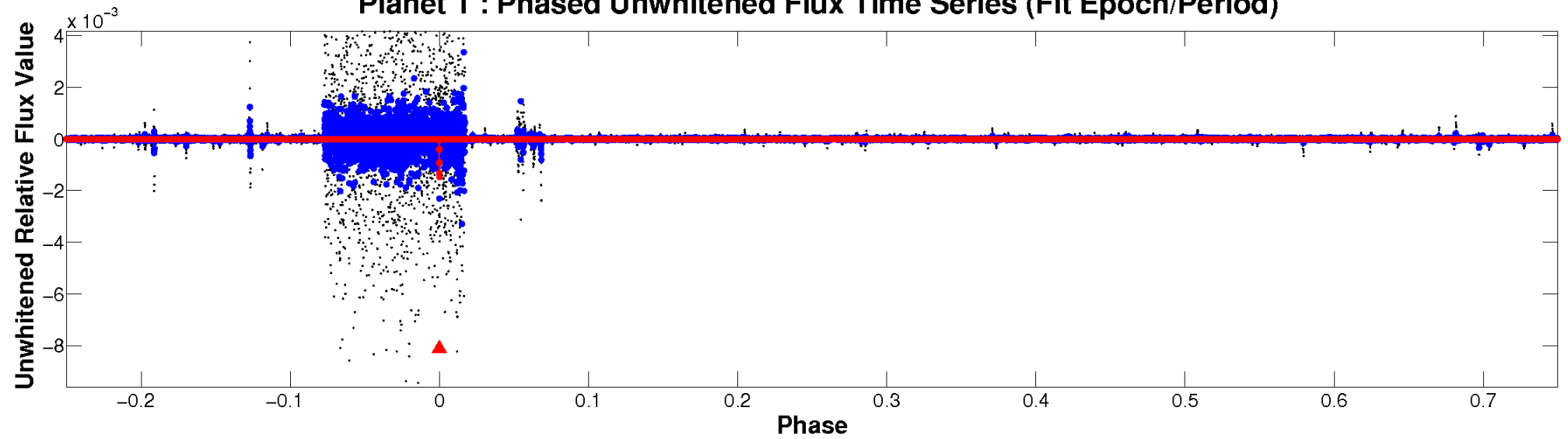
ALT Odd/Even

TCE 006451461-01

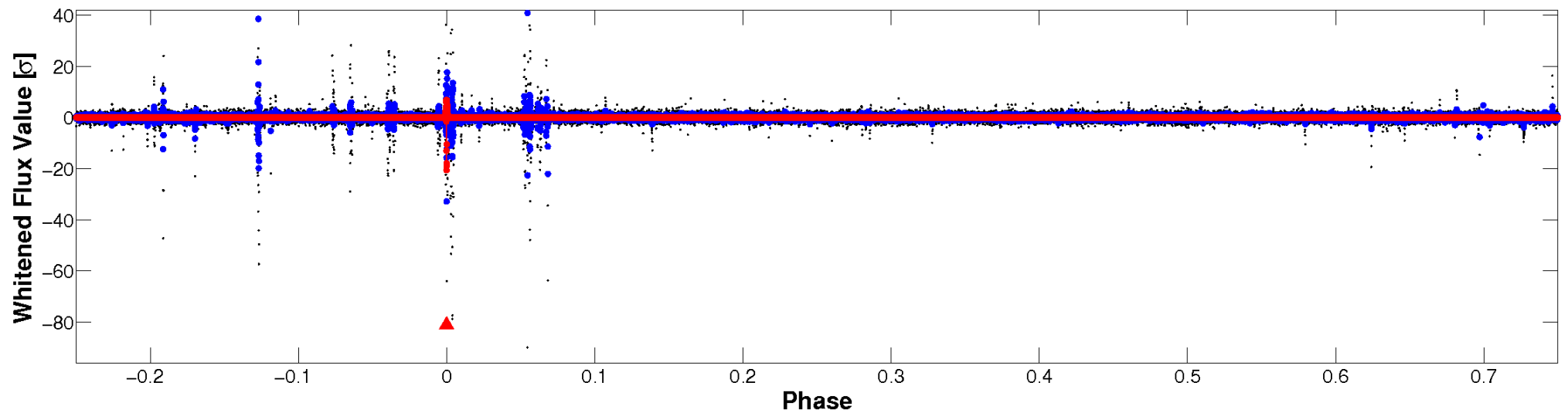


Non-Whitened Vs. Whitened Light Curve

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

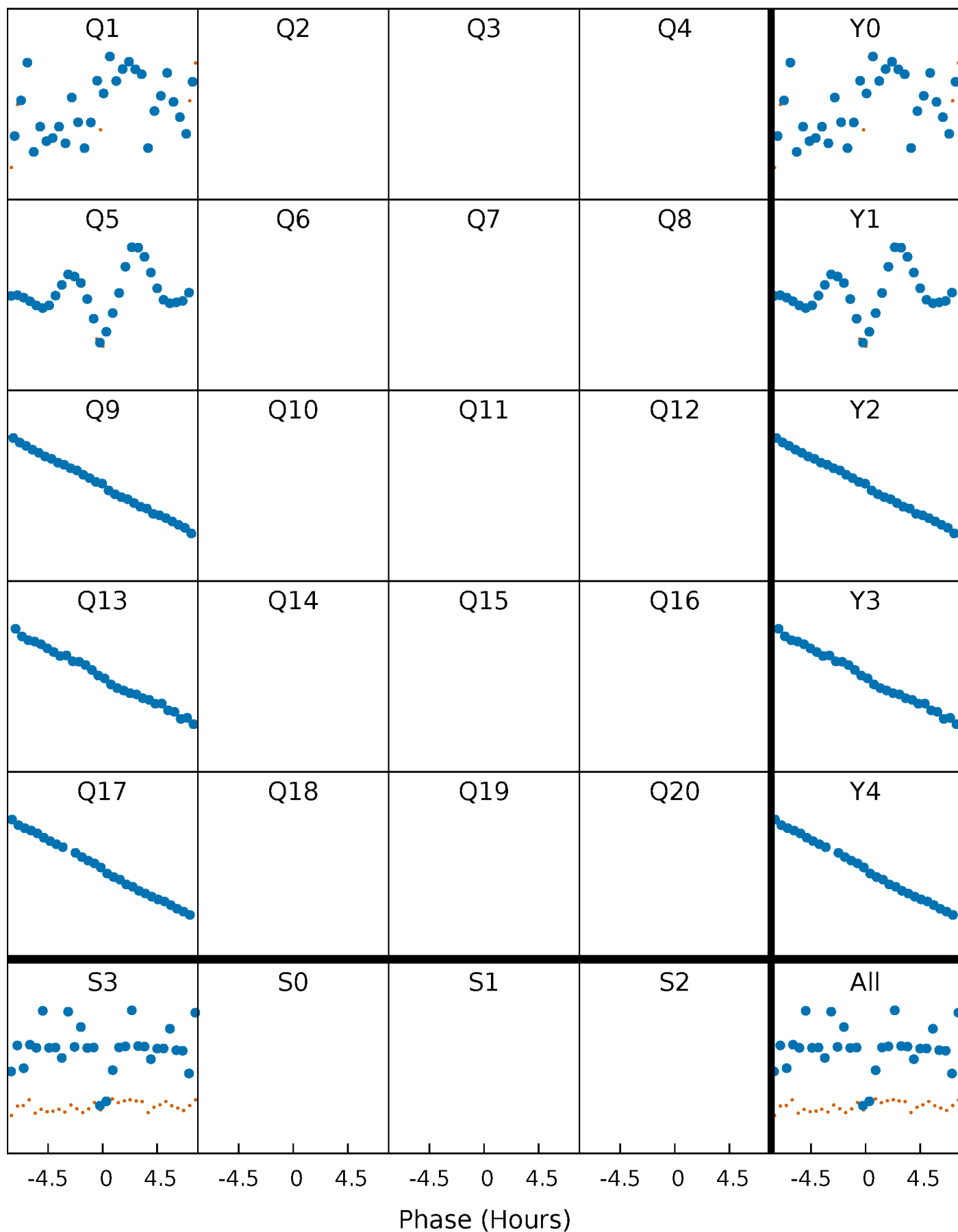


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



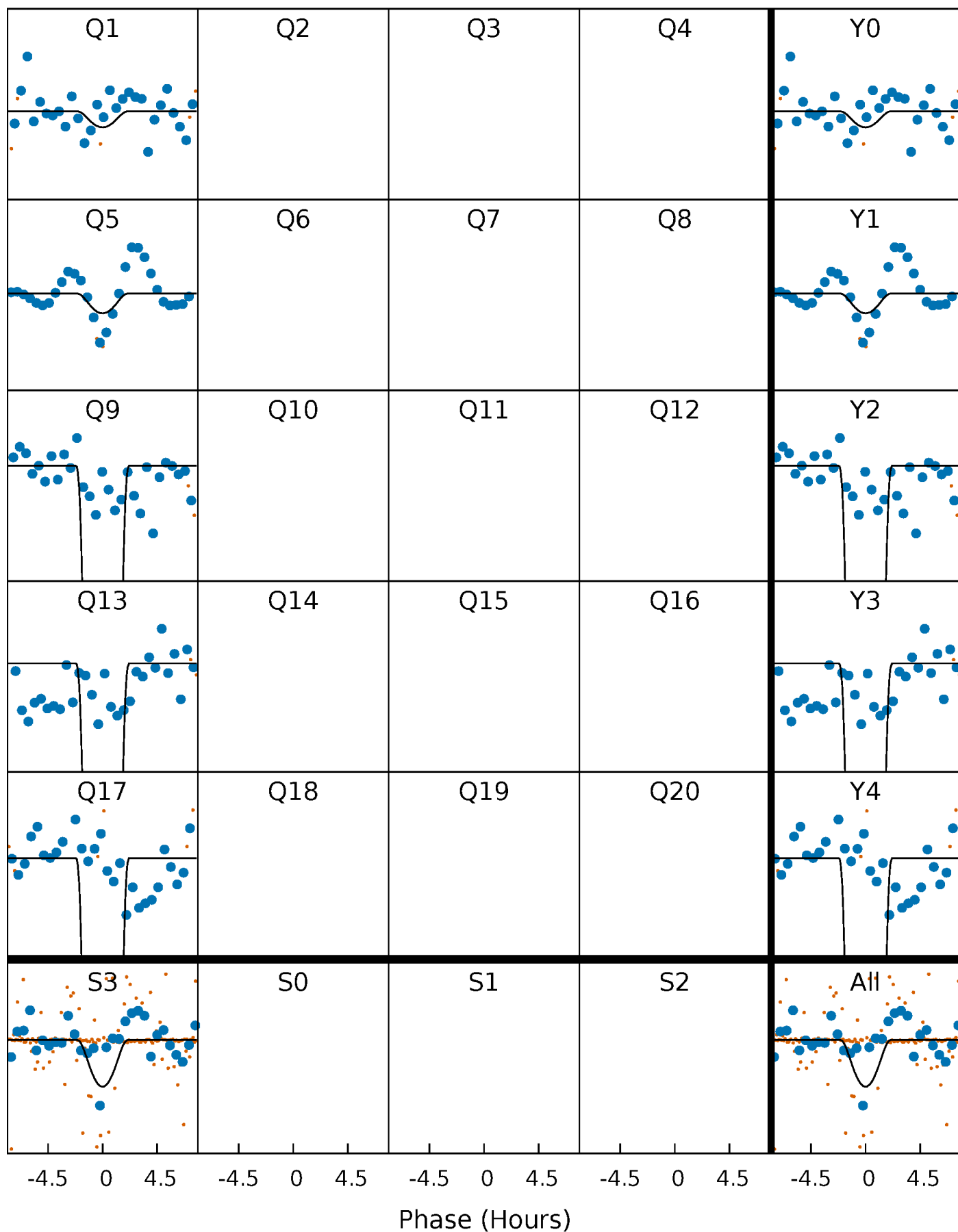
PDC Quarter-Phased Transit Curves

TCE 006451461-01 P=354.963800 Days $T_0=158.880951$ (BKJD)



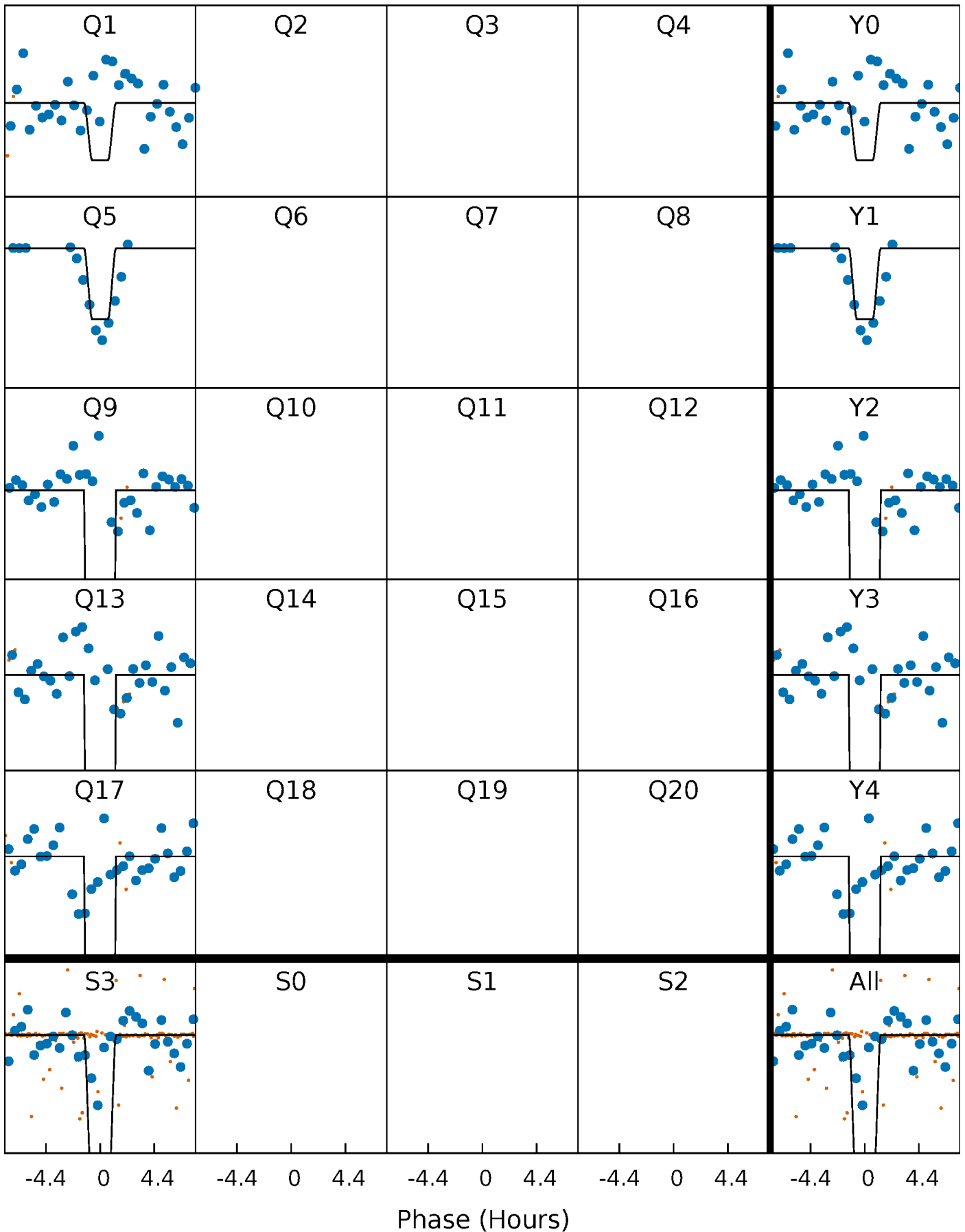
DV Quarter-Phased Transit Curves

TCE 006451461-01 P=354.963800 Days $T_0=158.880951$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

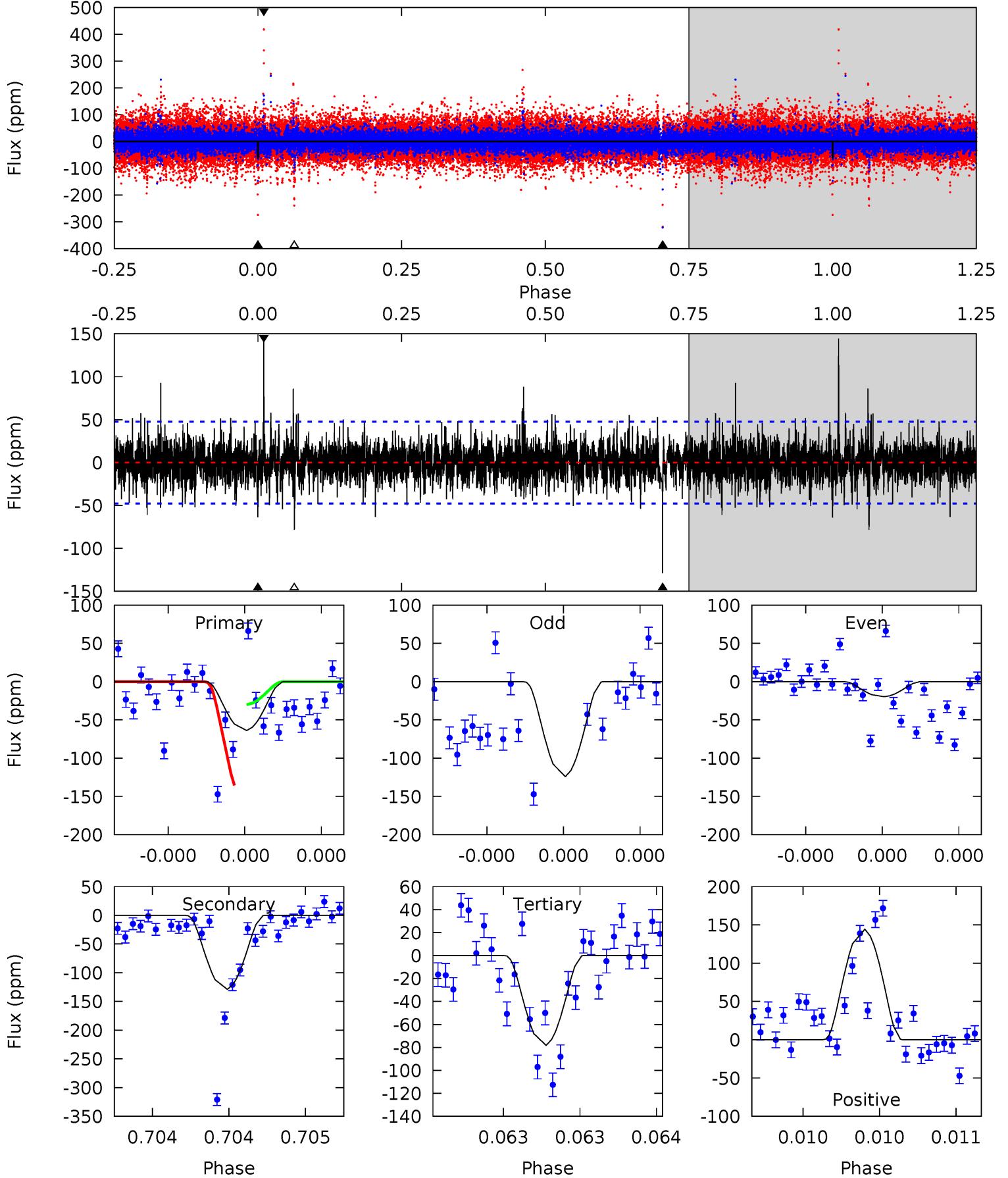
TCE 006451461-01 P=354.963184 Days $T_0=158.881292$ (BKJD)



DV Model-Shift Uniqueness Test

006451461-01, P = 354.963800 Days, E = 158.880951 Days

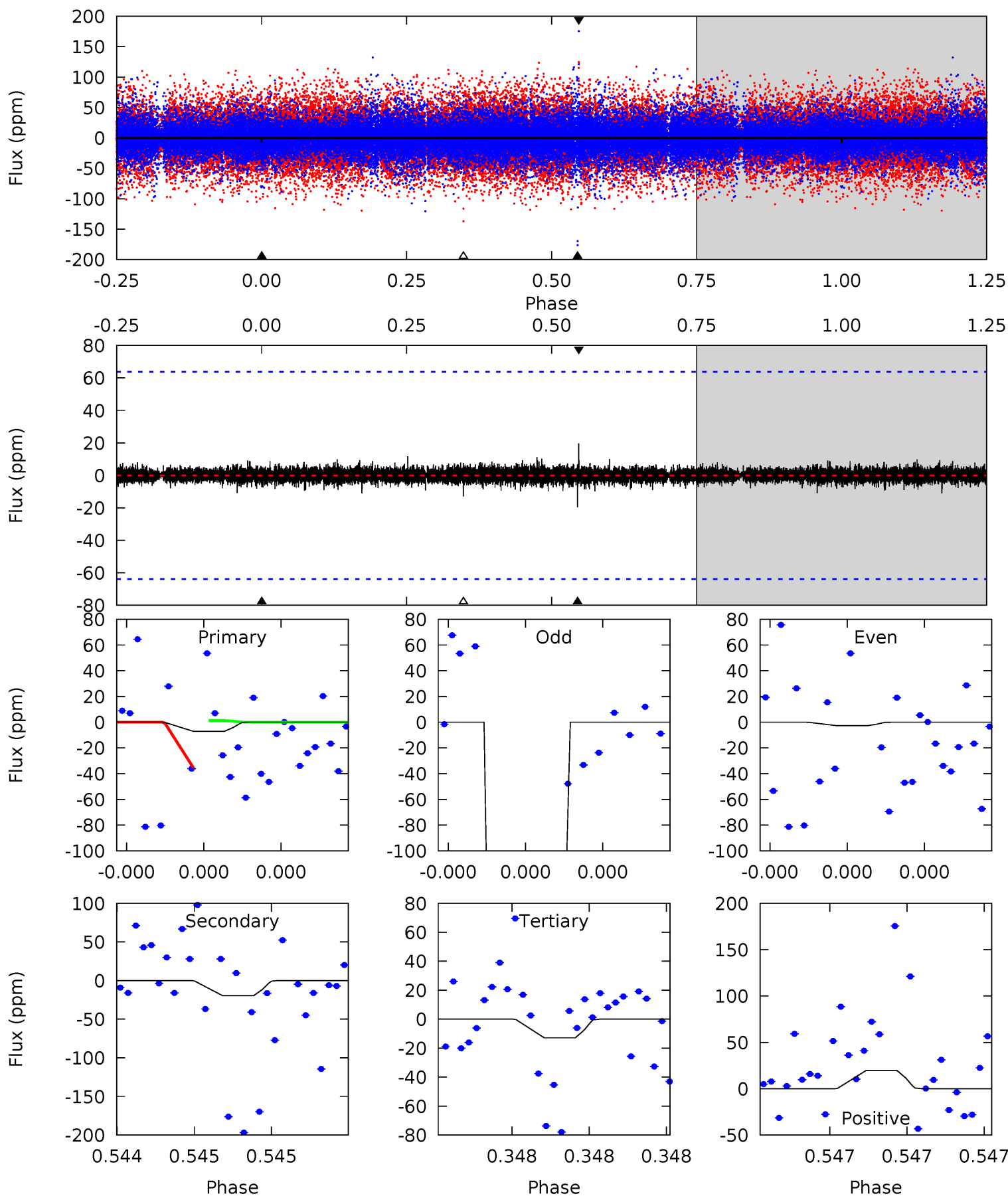
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.46	15.1	9.13	16.9	5.57	3.48	1.69	-1.68	-9.41	5.92	-1.80	3.41	8.42	0.53	0



Alt Model-Shift Uniqueness Test

006451461-01, P = 354.963184 Days, E = 158.881292 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.63	1.74	1.15	1.75	5.67	3.63	0.19	-0.52	-1.12	0.60	-0.01	201.5	152.5	0.50	0



Stellar Parameters For KIC 006451461

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	3296^{+107}_{-88}	$0.154^{+0.204}_{-0.048}$	$-0.060^{+0.250}_{-0.150}$	$149.384^{+9.958}_{-29.874}$	$1.160^{+0.189}_{-0.155}$	$0.000^{+0.000}_{-0.000}$
	+3%/-3%	+132%/-31%	+417%/-250%	+7%/-20%	+16%/-13%	+98%/-16%
Source	KIC0	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 006451461-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-129 ± 9	$2696.65^{+2572.72}_{-1918.54}$	2404^{+100}_{-134}	-2455^{+209}_{-78}	$0.011^{+0.123}_{-0.008}$
Alt.	-20 ± 11	$2555.09^{+2510.96}_{-1823.47}$	2400^{+109}_{-136}	-2473^{+113}_{-83}	$0.002^{+0.016}_{-0.001}$

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 $A_{obs} \gg 1.0$

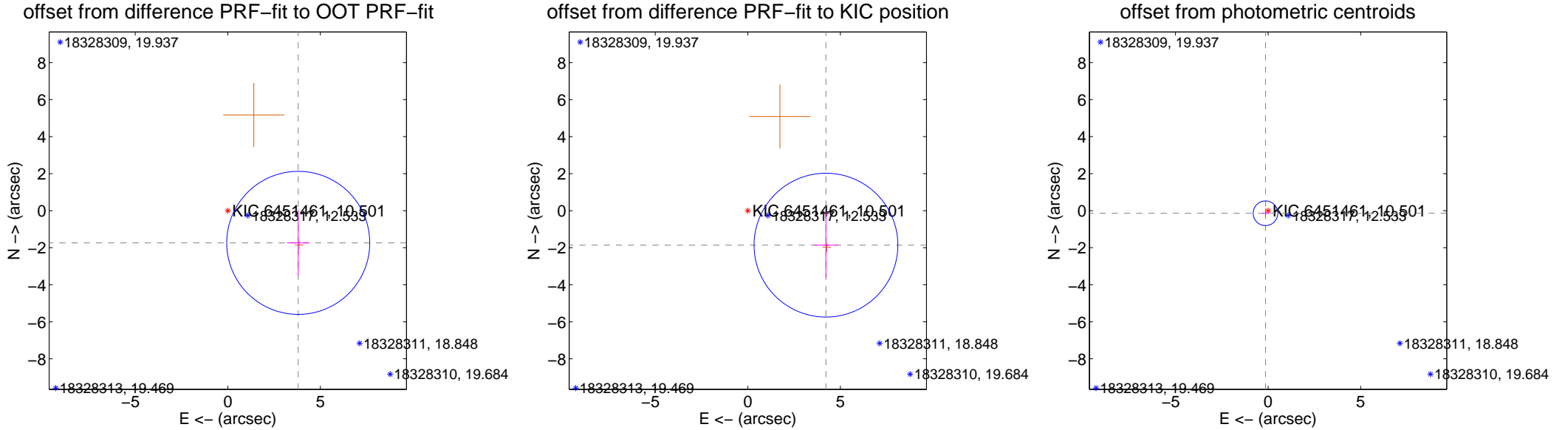
DV Centroid Data

Supplemental centroid analysis for 006451461-01. **Kepler magnitude: 10.50.** Transit SNR 44.95

There are 0 quarters with good PRF difference image offsets

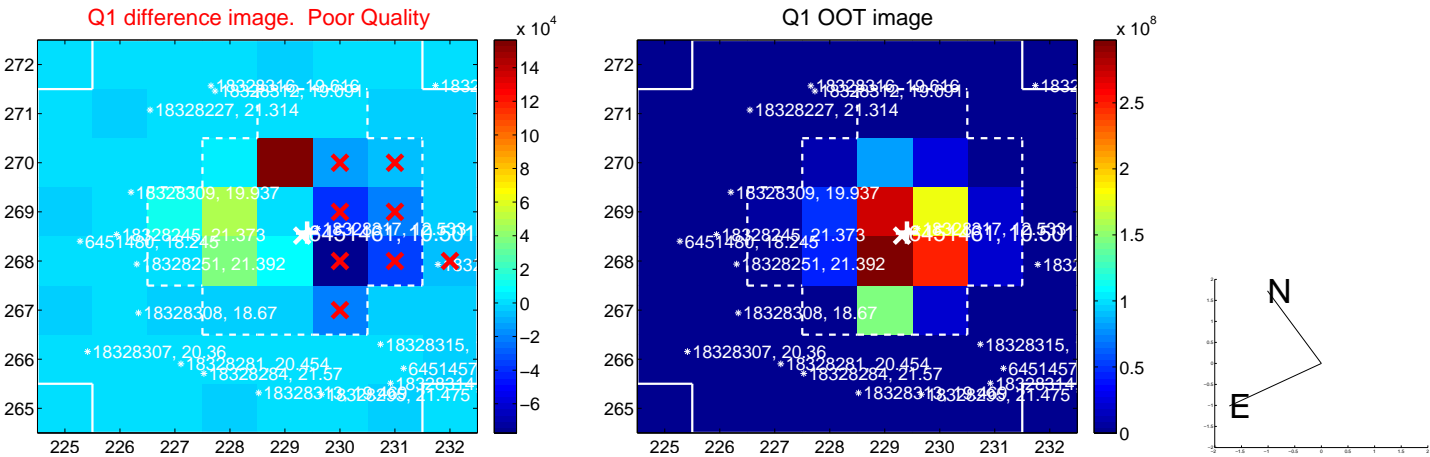
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.183 ± 1.288	3.25	-3.805 ± 0.615	-1.738 ± 1.757
PRF-fit source offset from KIC position	4.614 ± 1.295	3.56	-4.222 ± 0.638	-1.861 ± 1.769
photometric centroid source offset	0.20 ± 0.22	0.90	0.14 ± 0.20	-0.14 ± 0.24

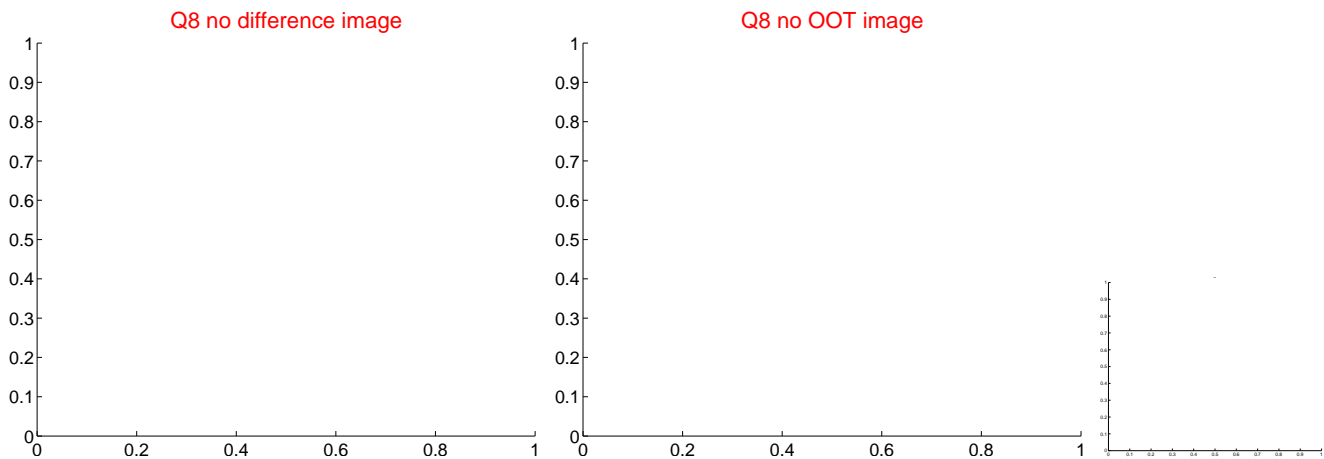
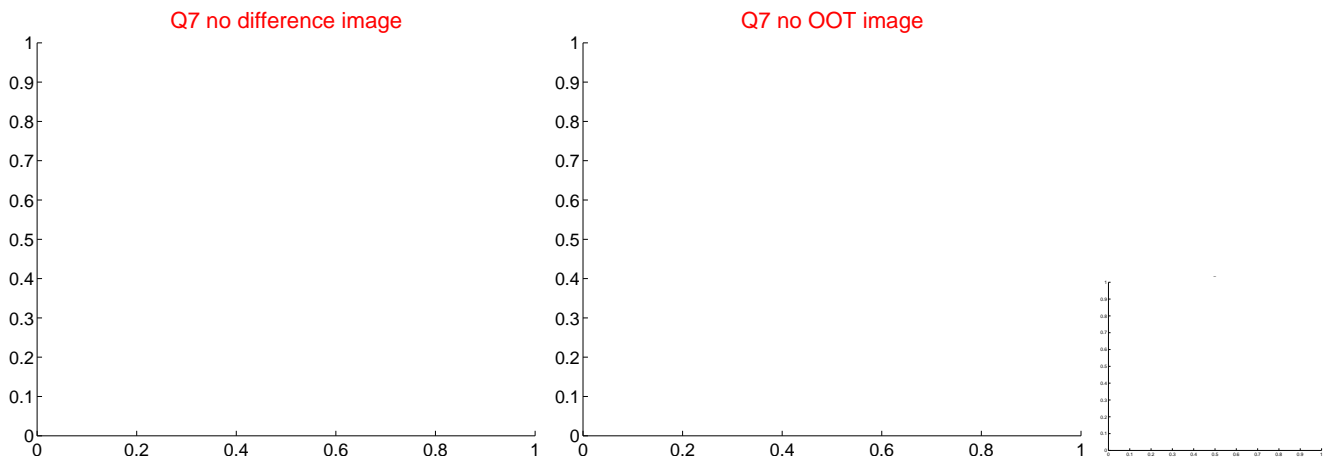
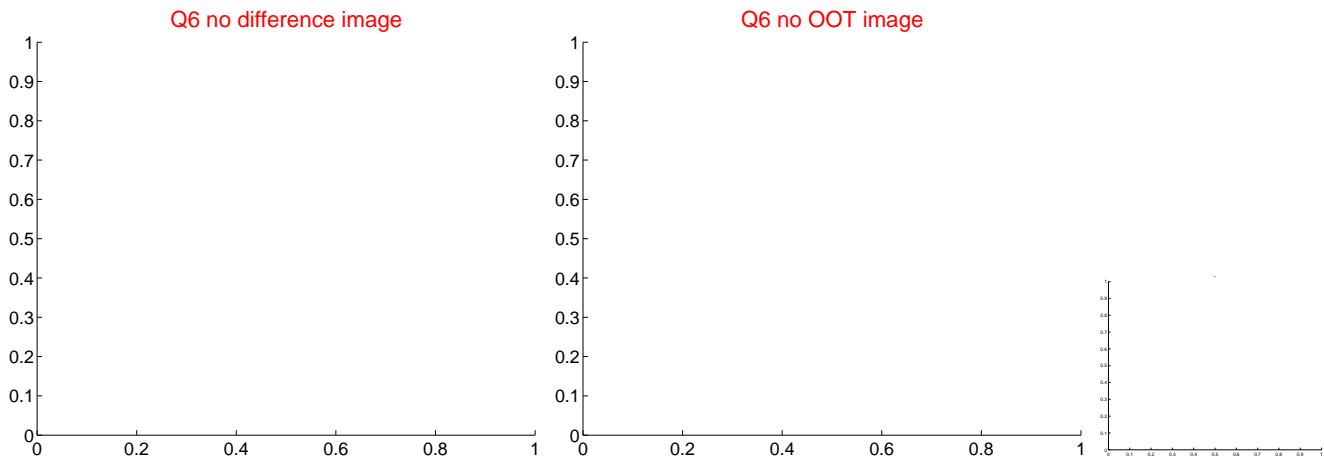
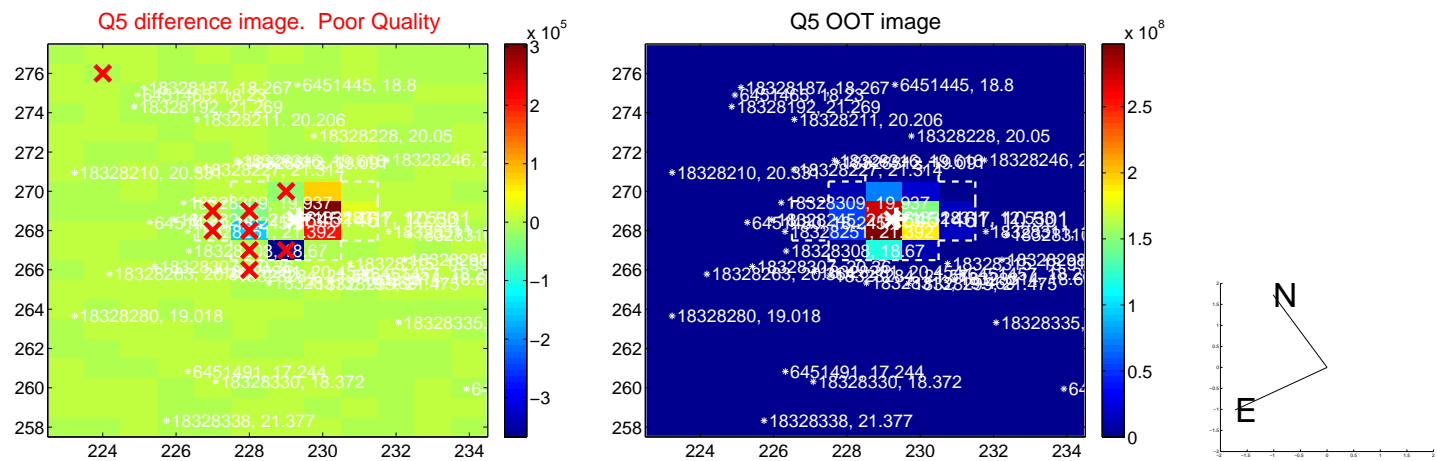


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

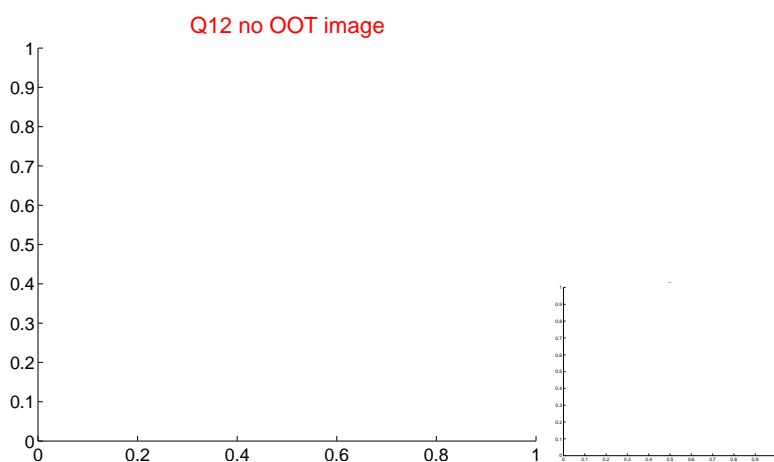
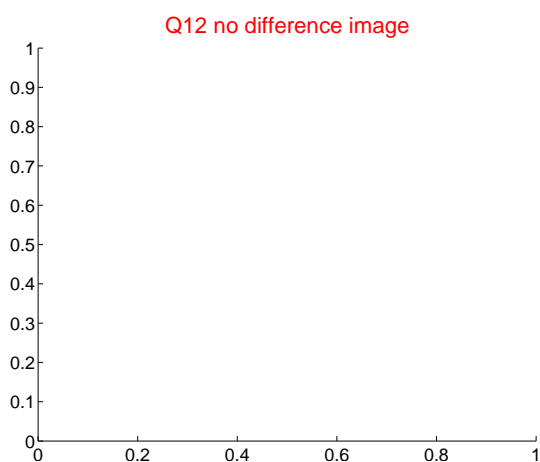
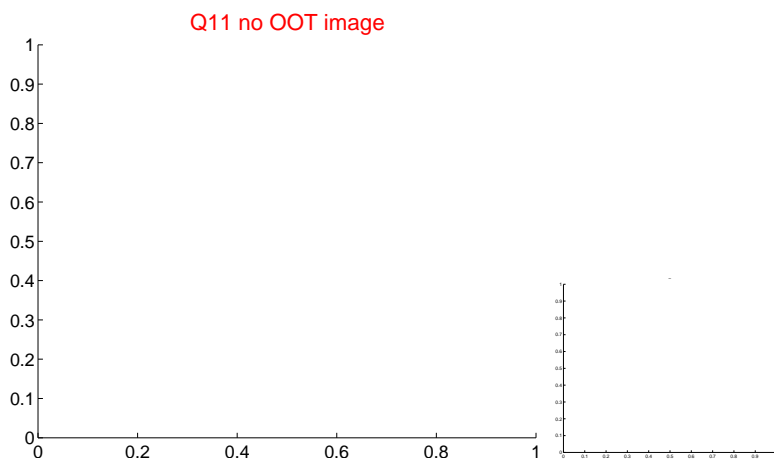
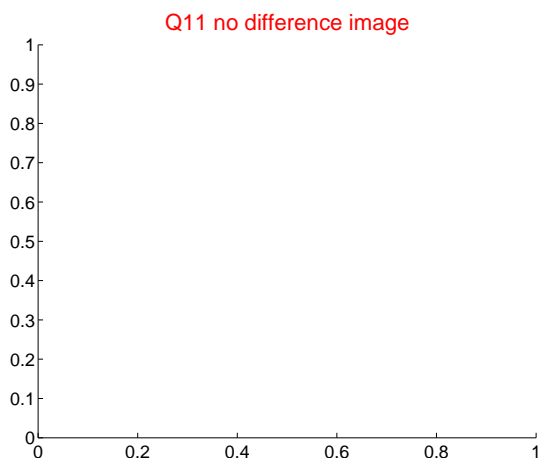
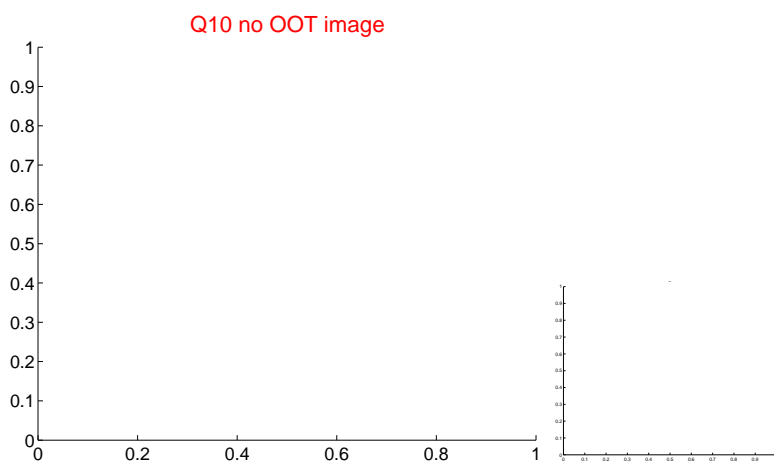
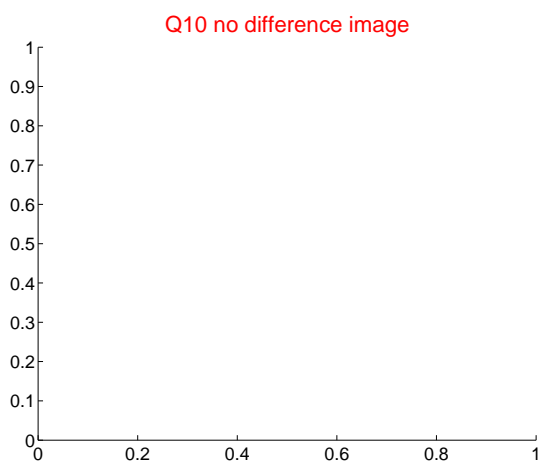
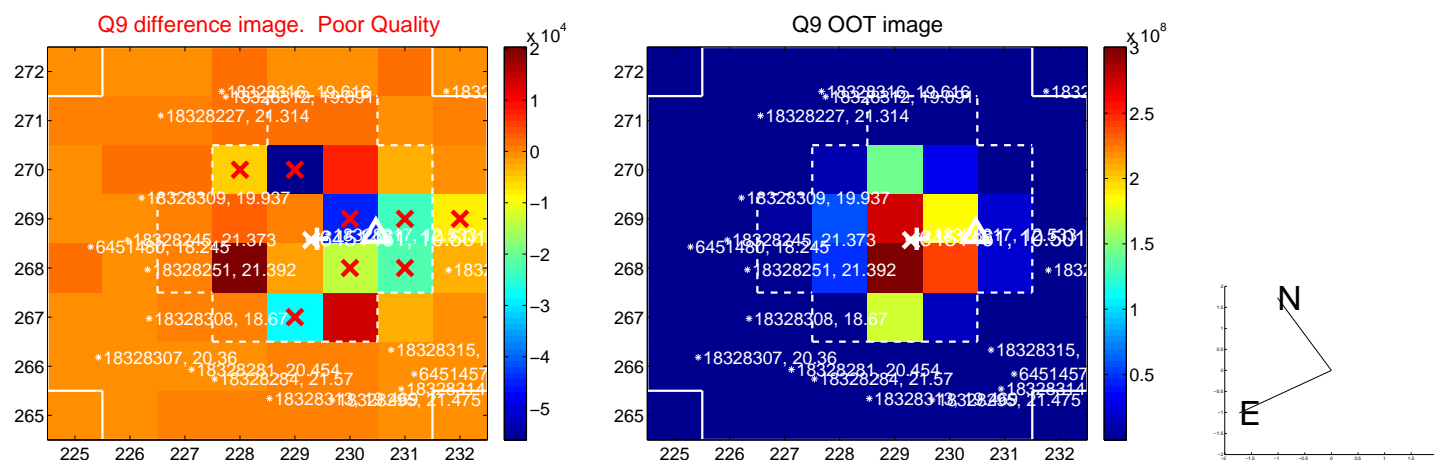
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



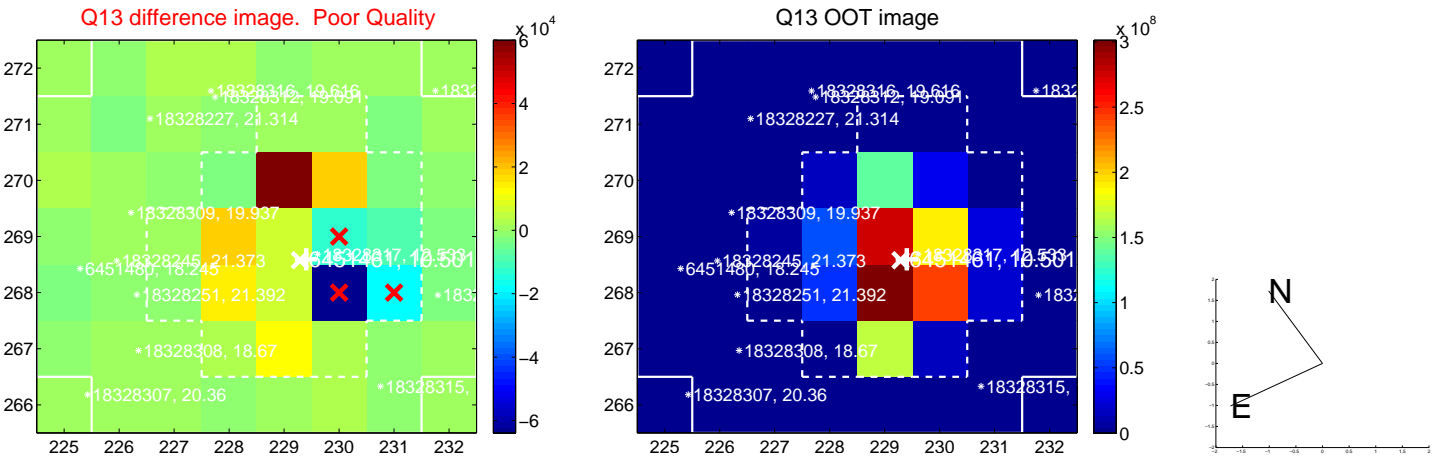
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



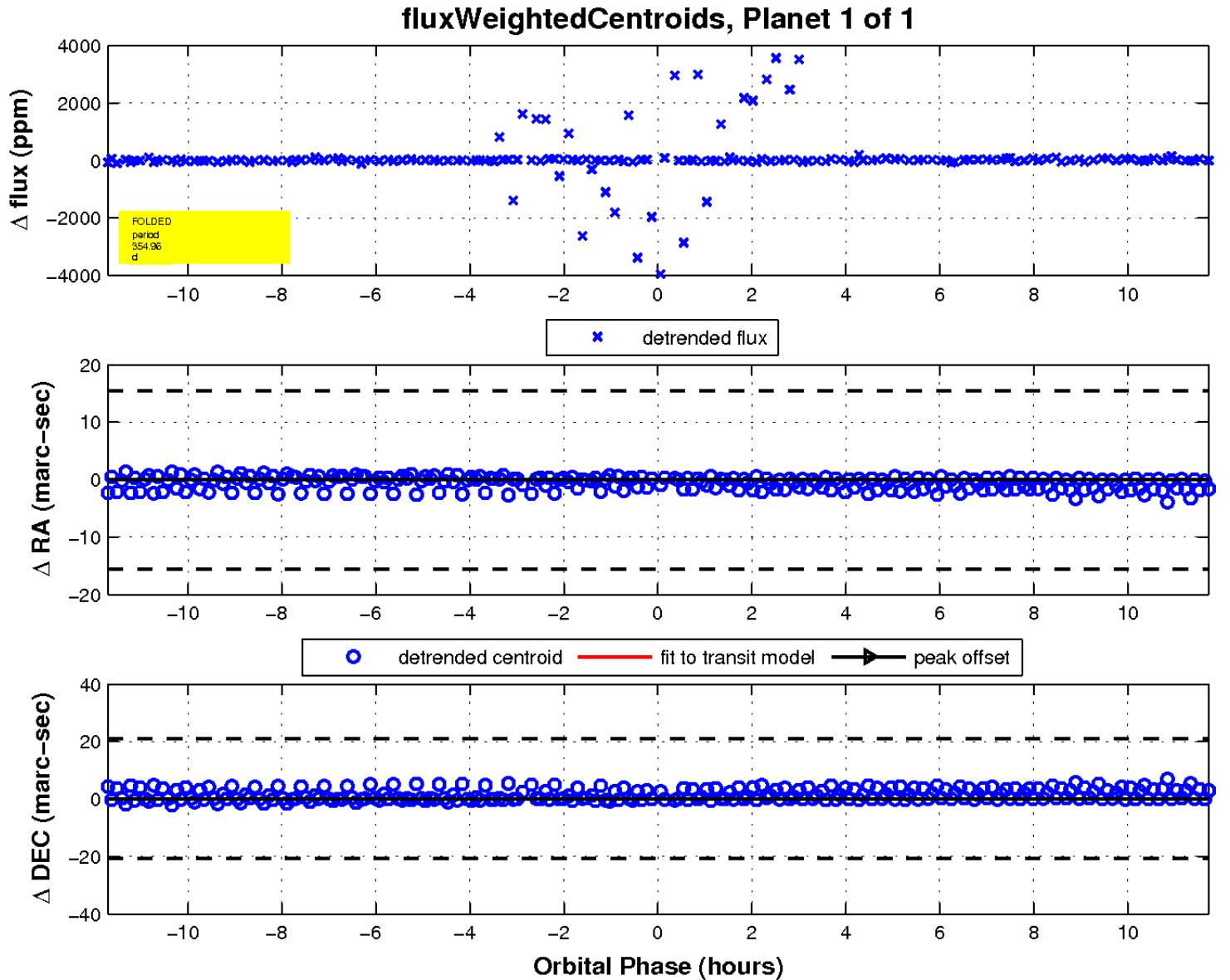
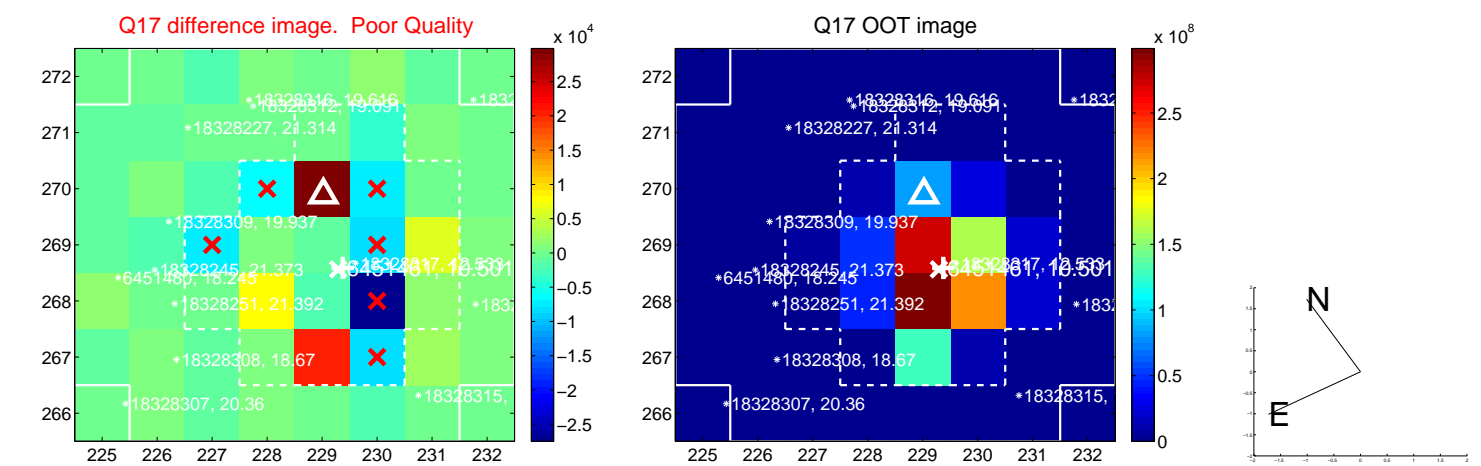
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UKIRT Image

