

KIC 007501646

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})
007501646-01	OBS	2572.01	6.377016	136.921888	509.9	3.005	15.8	17.5	0.96	5672	3.66	180.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007501646-01	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 007501646-01

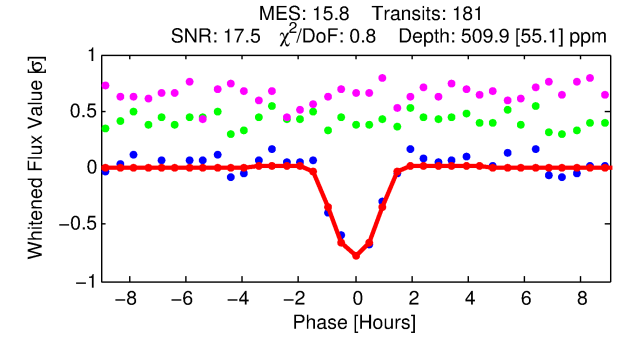
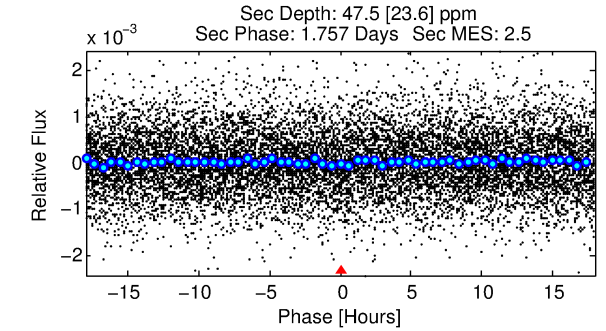
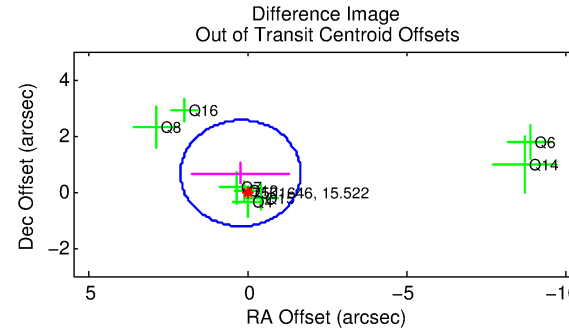
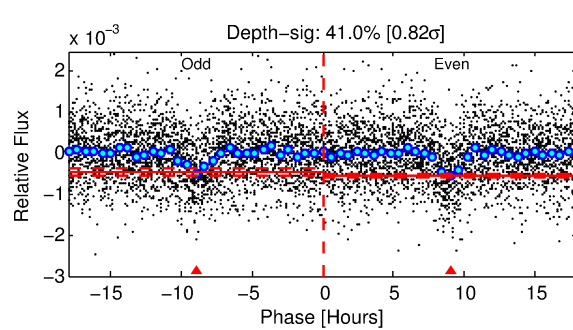
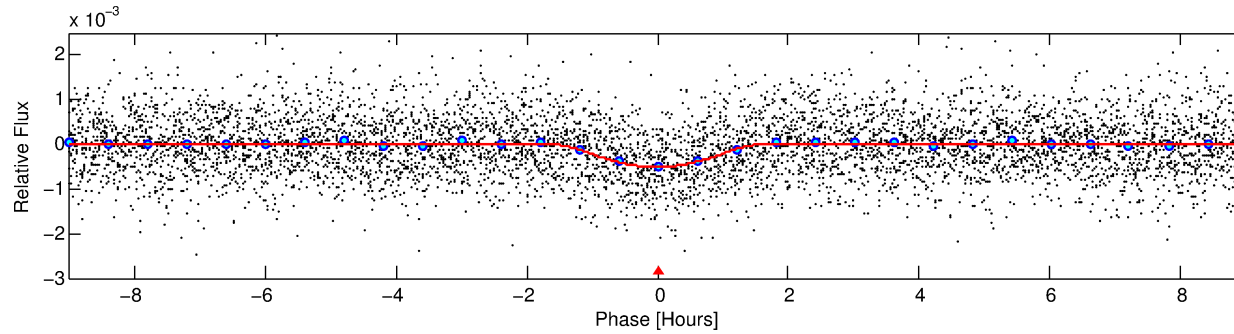
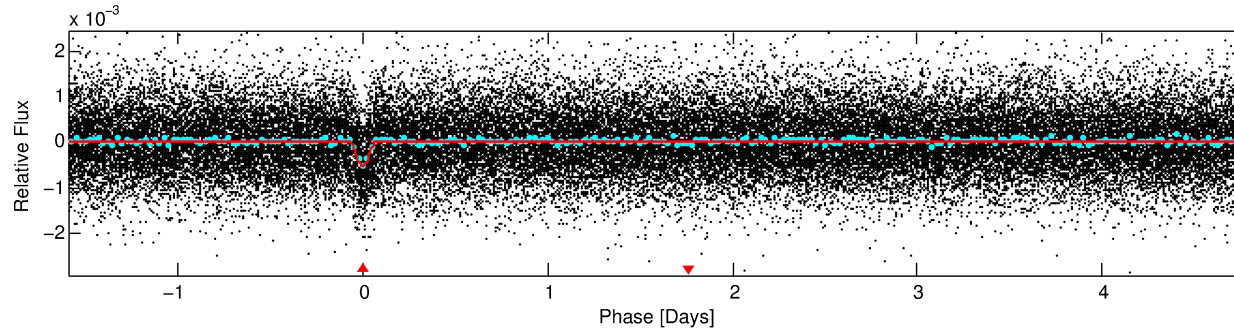
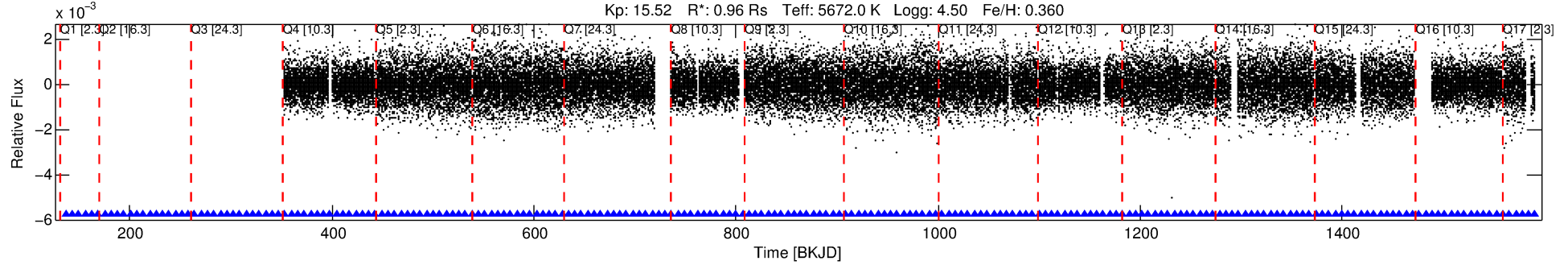
No Significant Match Found

DV One-Page Summary

KIC: 7501646 Candidate: 1 of 1 Period: 6.377 d

KOI: K02572.01 Corr: 0.804

Kp: 15.52 R*: 0.96 Rs Teff: 5672.0 K Logg: 4.50 Fe/H: 0.360



DV Fit Results:

Period = 6.37702 [0.00004] d
Epoch = 136.9219 [0.0048] BKJD
Rp/R* = 0.0347 [0.0418]
a/R* = 5.09 [2.12]
b = 0.99 [0.08]
Seff = 180.87 [62.34]
Teq = 935 [81] K
Rp = 3.66 [4.49] Re
a = 0.0691 [0.0145] AU
Ag = 9.33 [23.15] [0.36σ]
Teffp = 2527 [1557] K [1.02σ]

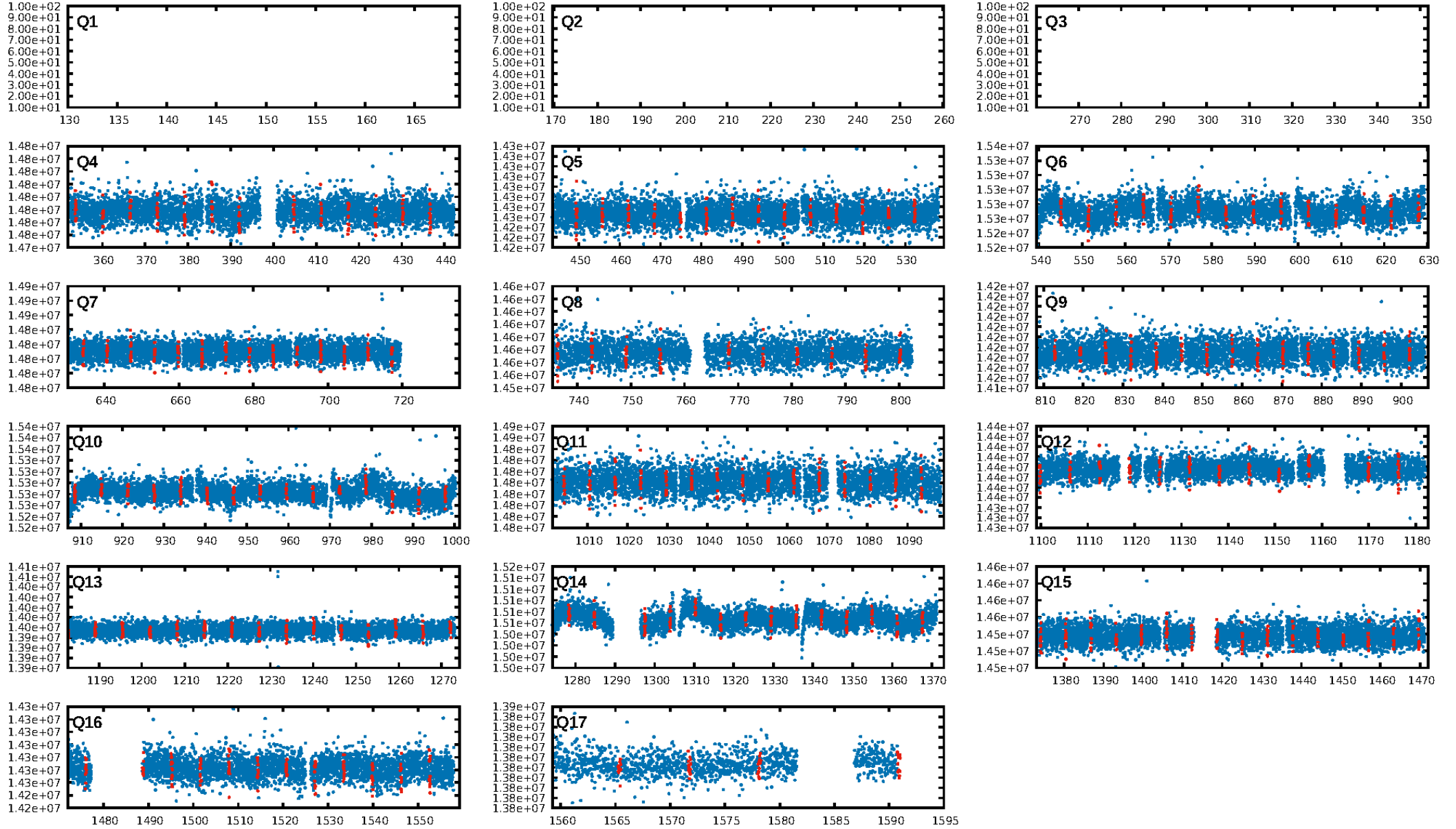
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.81e-56
RollingBand-fgt: 1.00 [177/177]
GhostDiagnostic-chr: -7.829
Centroid-sig: 0.8%
Centroid-so: 1.185 arcsec [2.31σ]
OotOffset-rm: 0.698 arcsec [1.11σ]
KicOffset-rm: 0.251 arcsec [0.86σ]
OotOffset-st: 2/2/4/0 [8]
KicOffset-st: 2/2/4/2 [10]
DiffImageQuality-fgm: 0.60 [6/10]
DiffImageOverlap-fno: 1.00 [14/14]

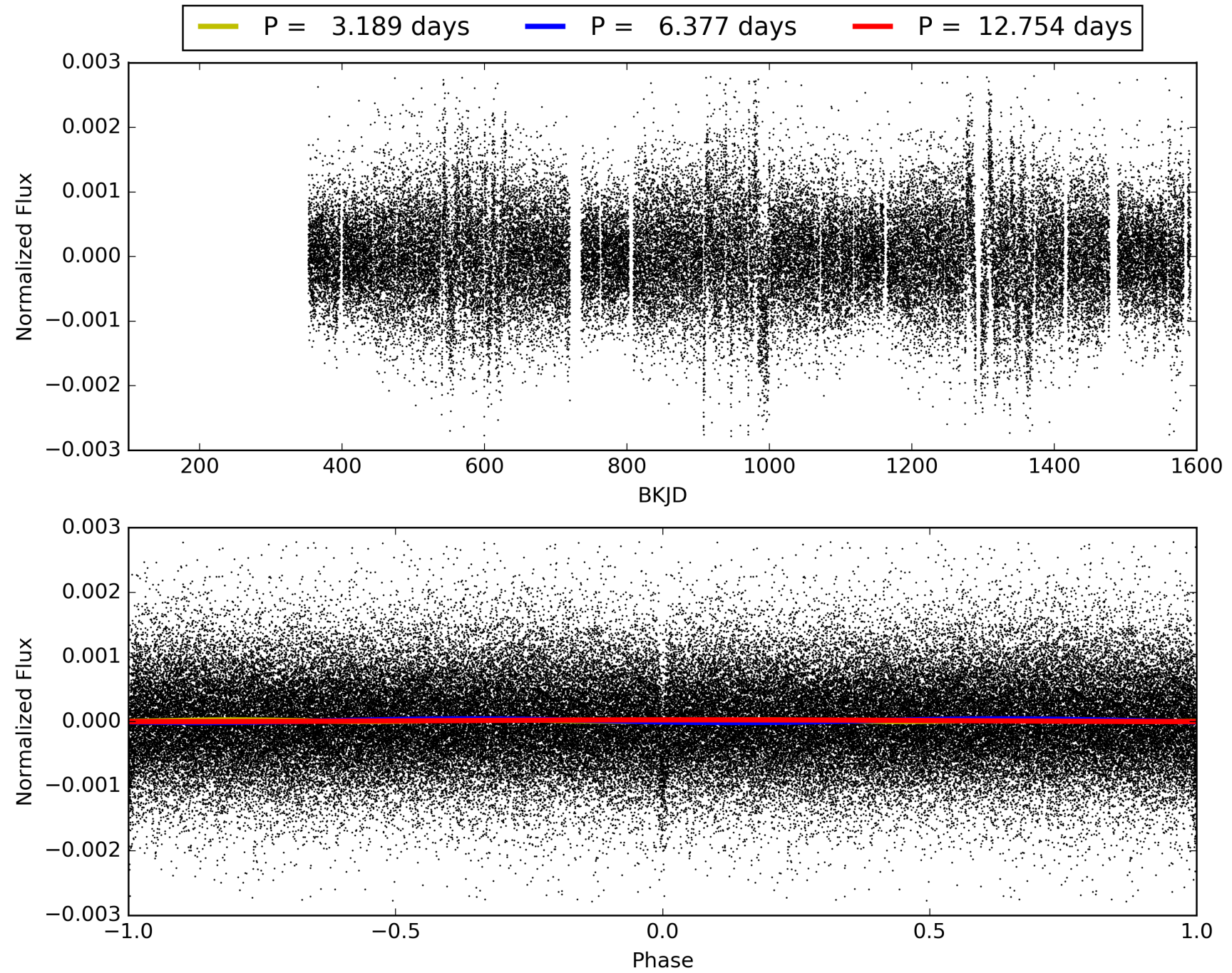
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:12:29 Z

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

TCE 007501646-01, PDC Light Curves

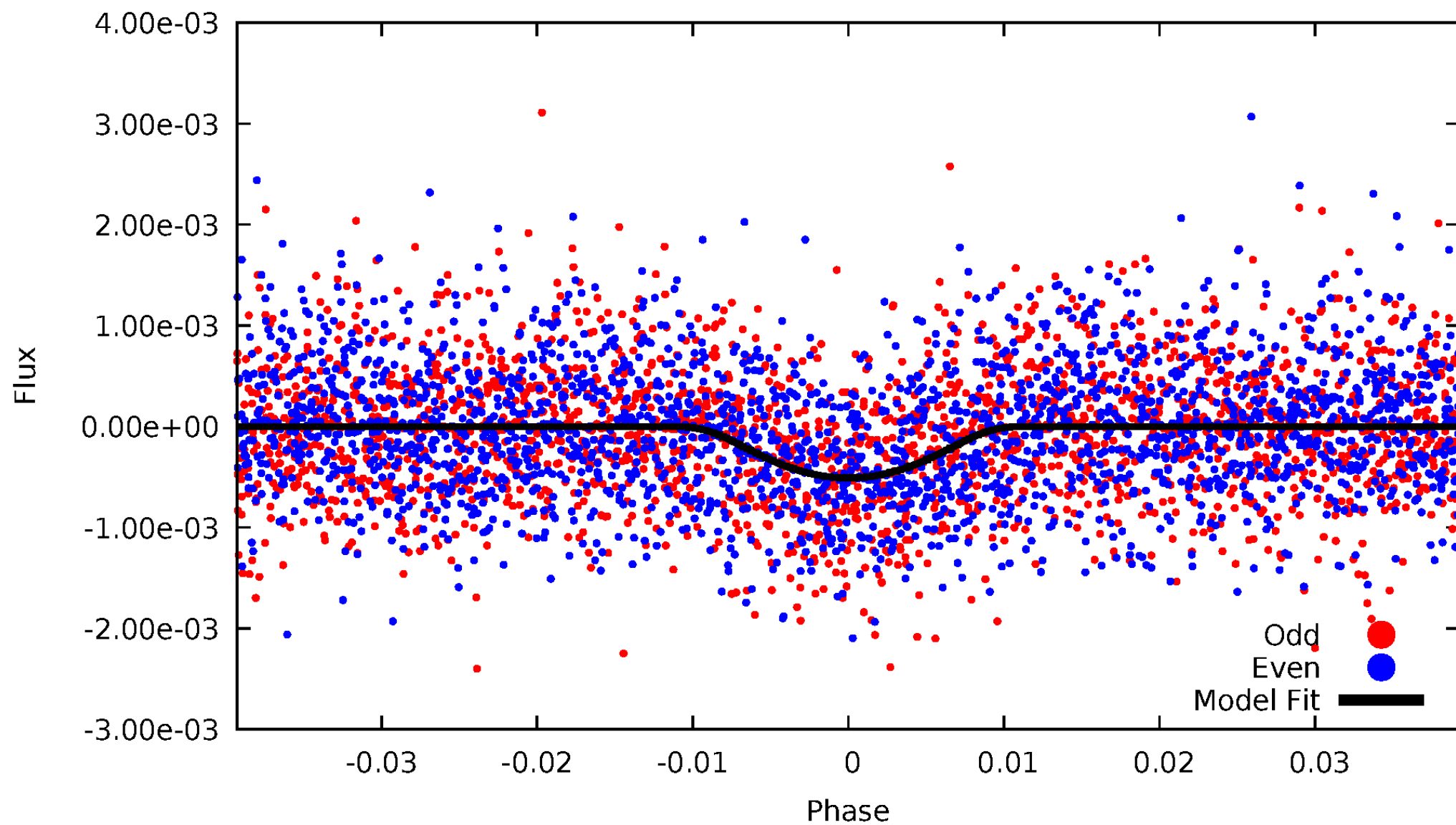


TCE 007501646-01



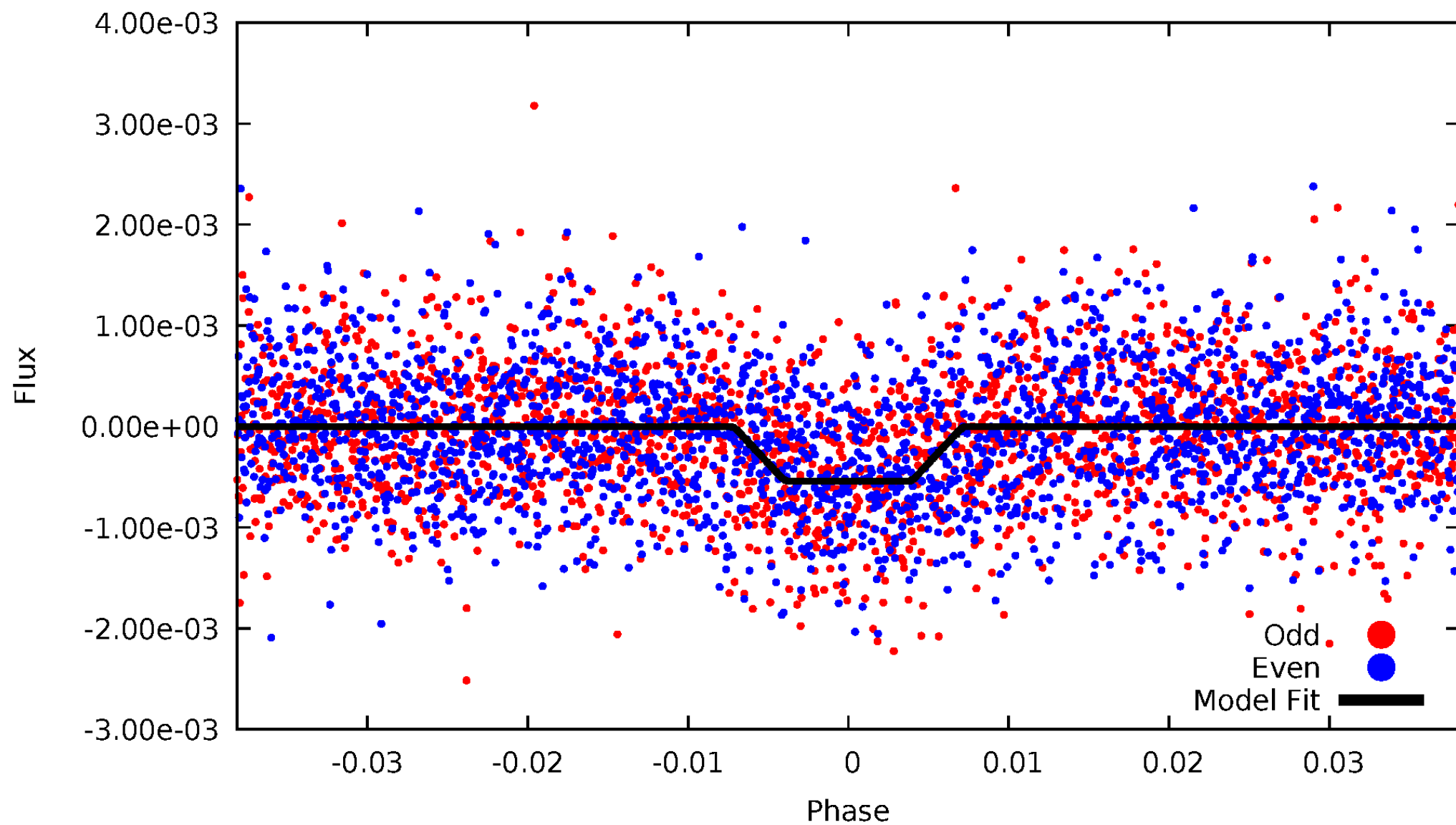
DV Odd/Even

TCE 007501646-01



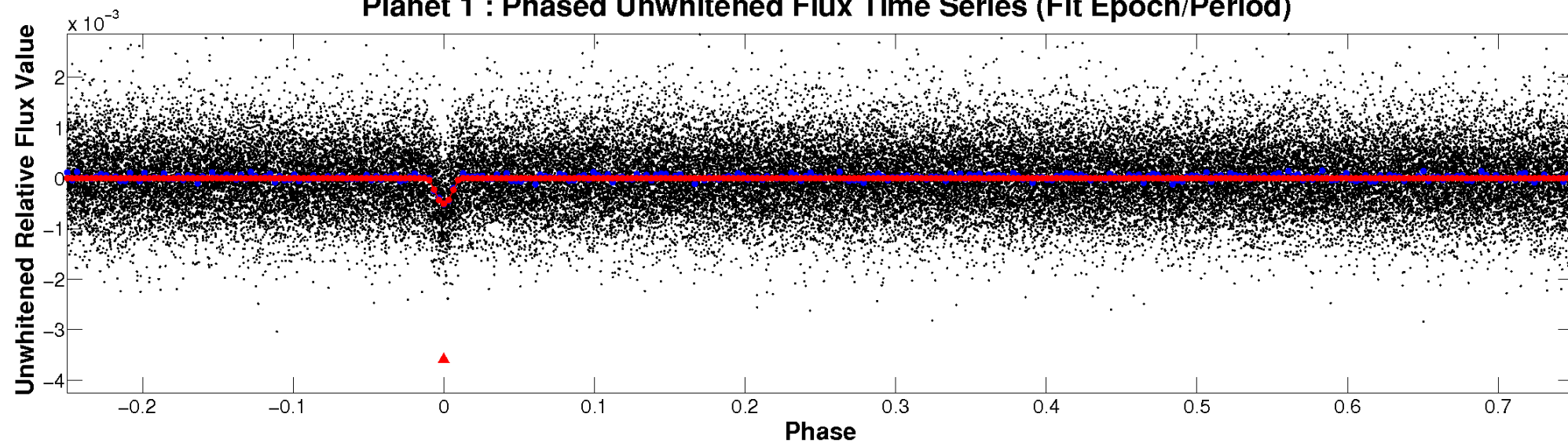
ALT Odd/Even

TCE 007501646-01

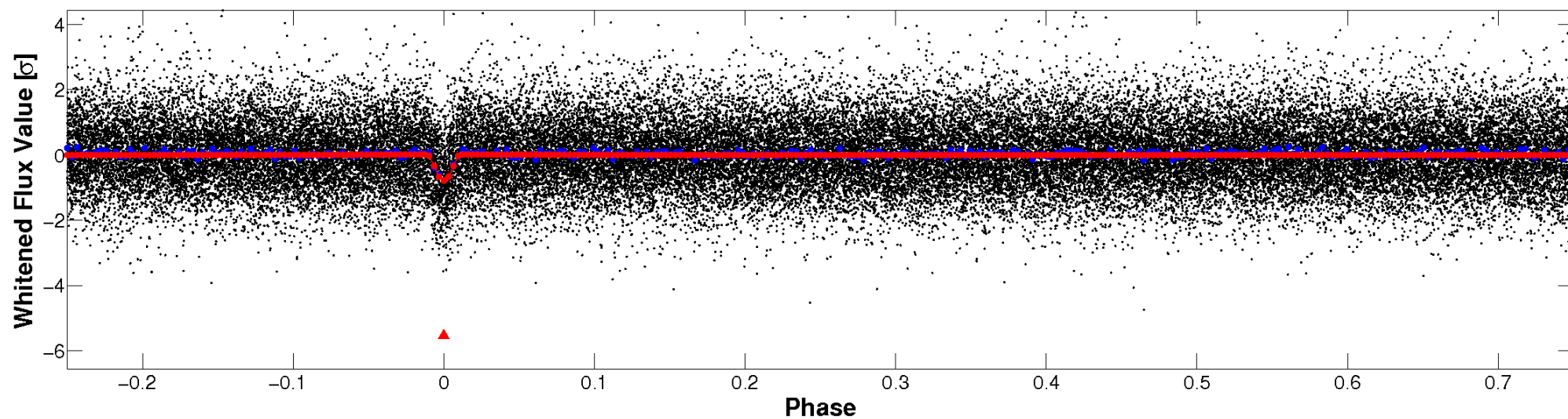


Non-Whitened Vs. Whitened Light Curve

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

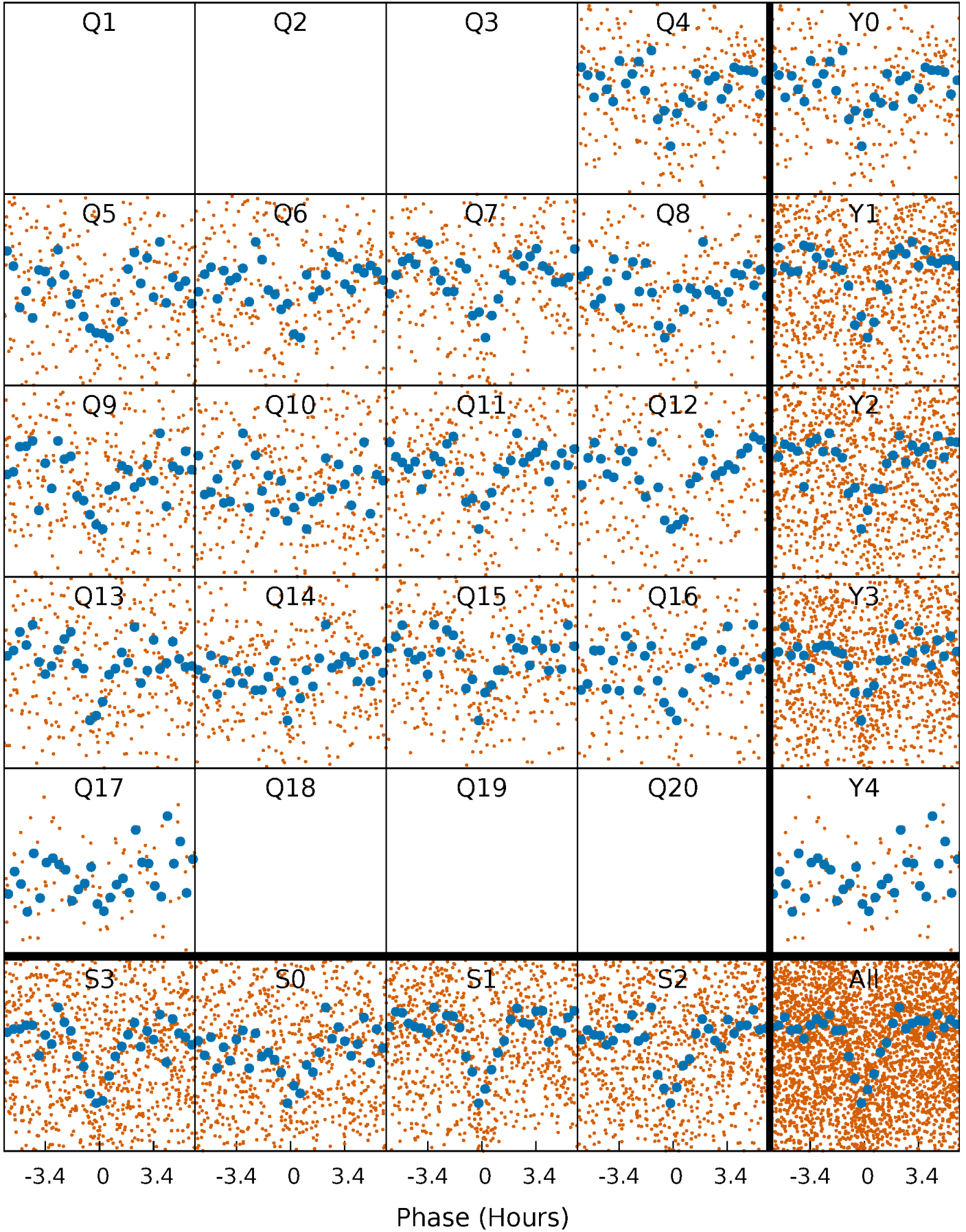


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



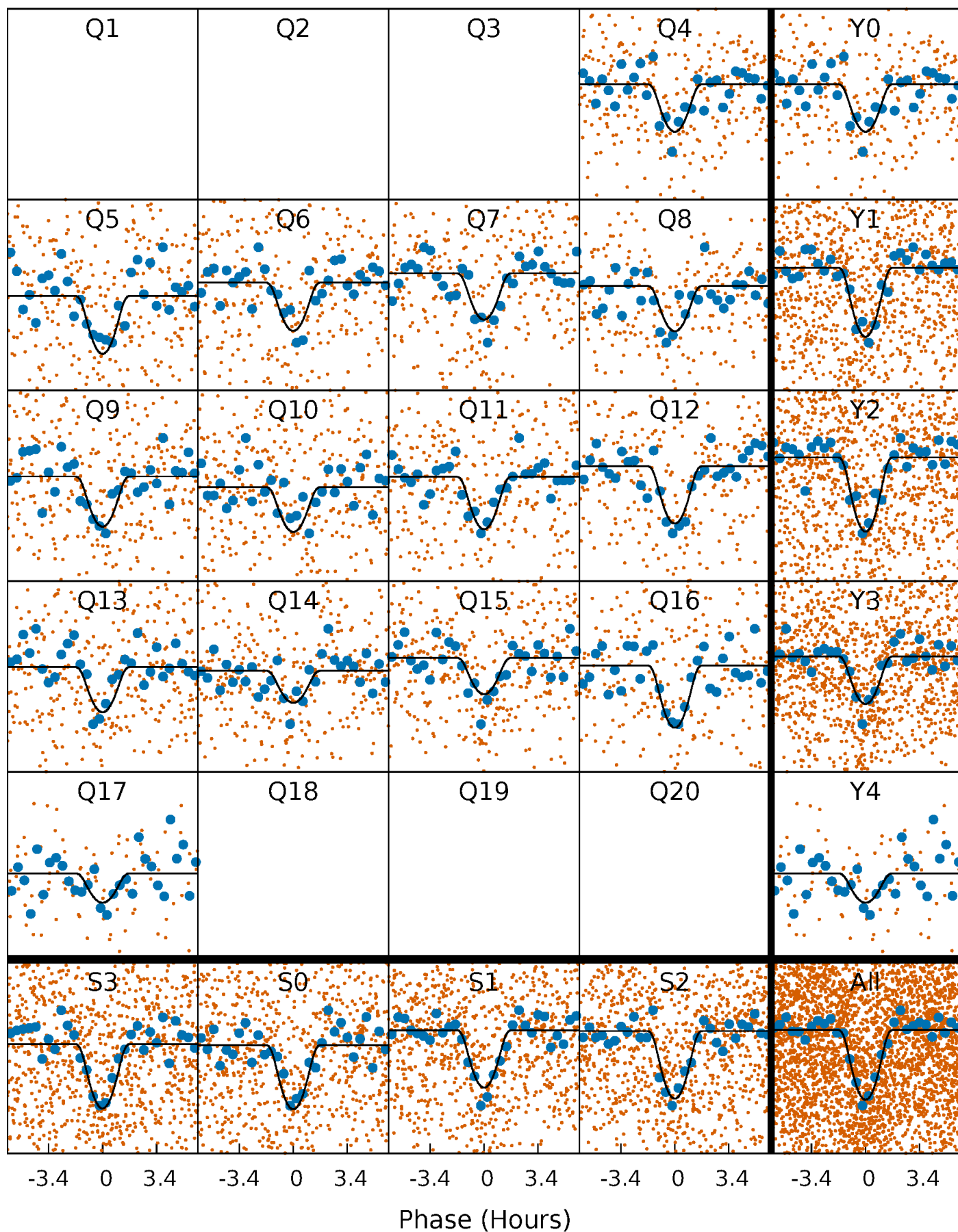
PDC Quarter-Phased Transit Curves

TCE 007501646-01 P= 6.377016 Days $T_0=136.921888$ (BKJD)



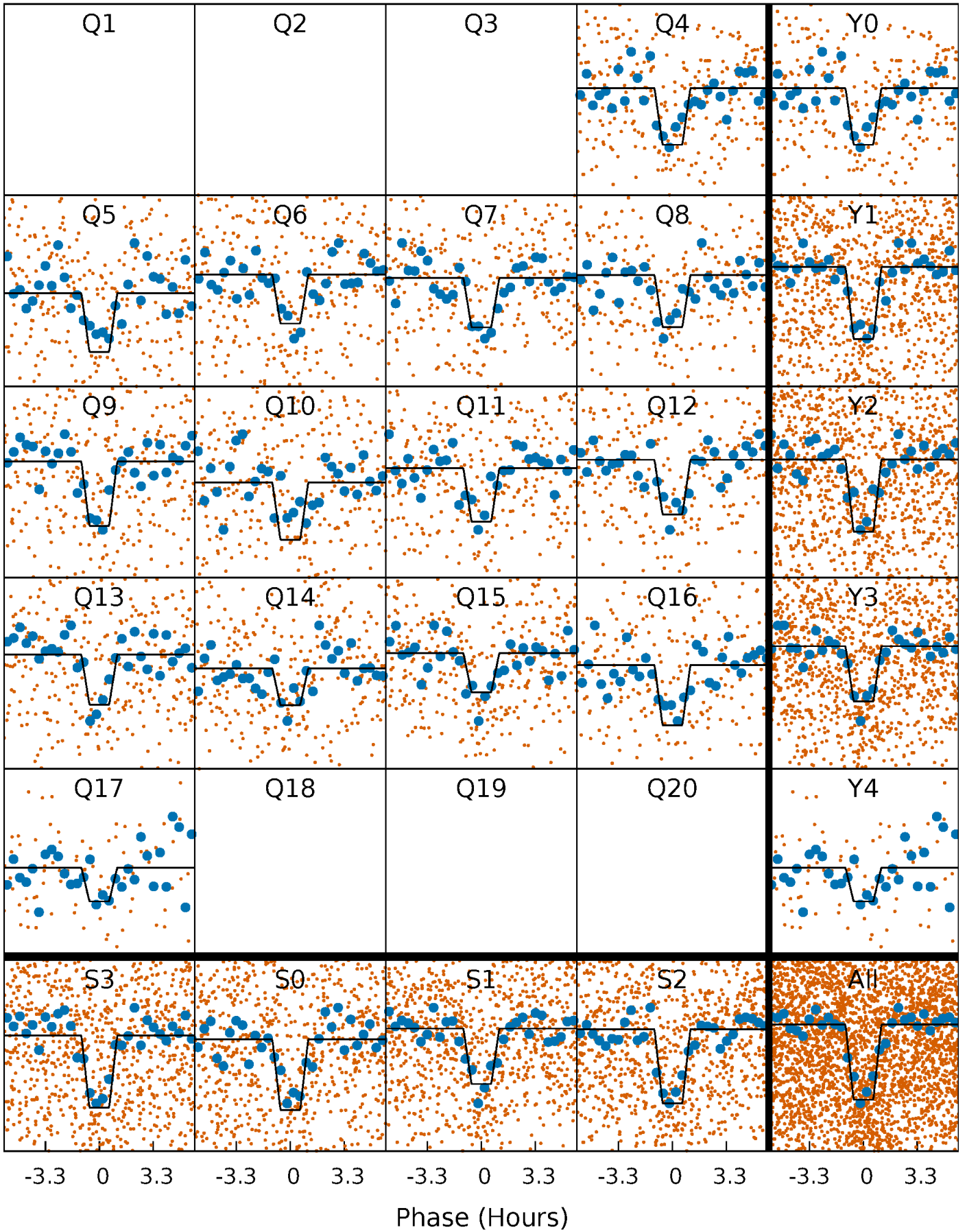
DV Quarter-Phased Transit Curves

TCE 007501646-01 P= 6.377016 Days $T_0=136.921888$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

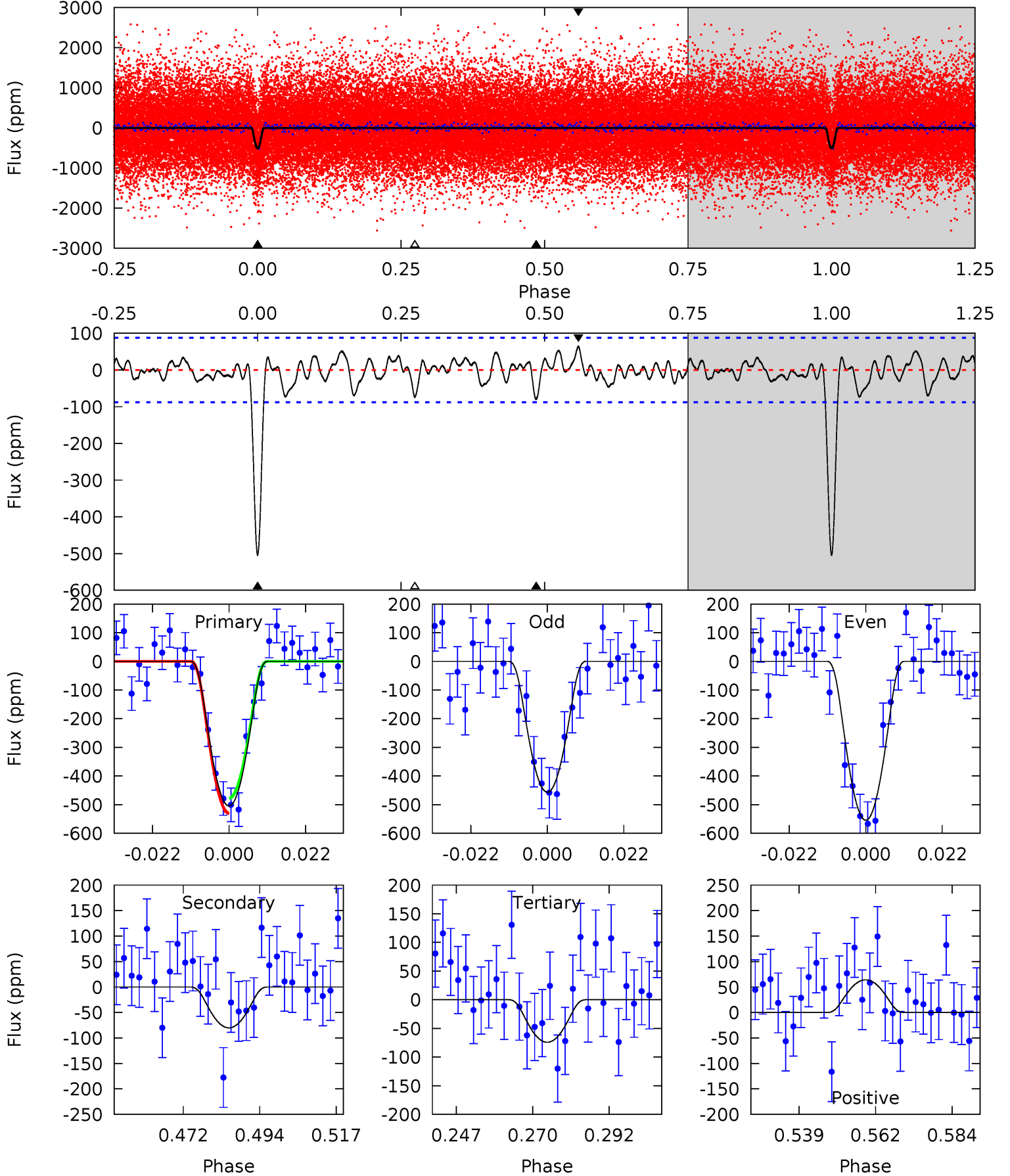
TCE 007501646-01 P= 6.377021 Days $T_0=136.920615$ (BKJD)



DV Model-Shift Uniqueness Test

007501646-01, P = 6.377016 Days, E = 136.921888 Days

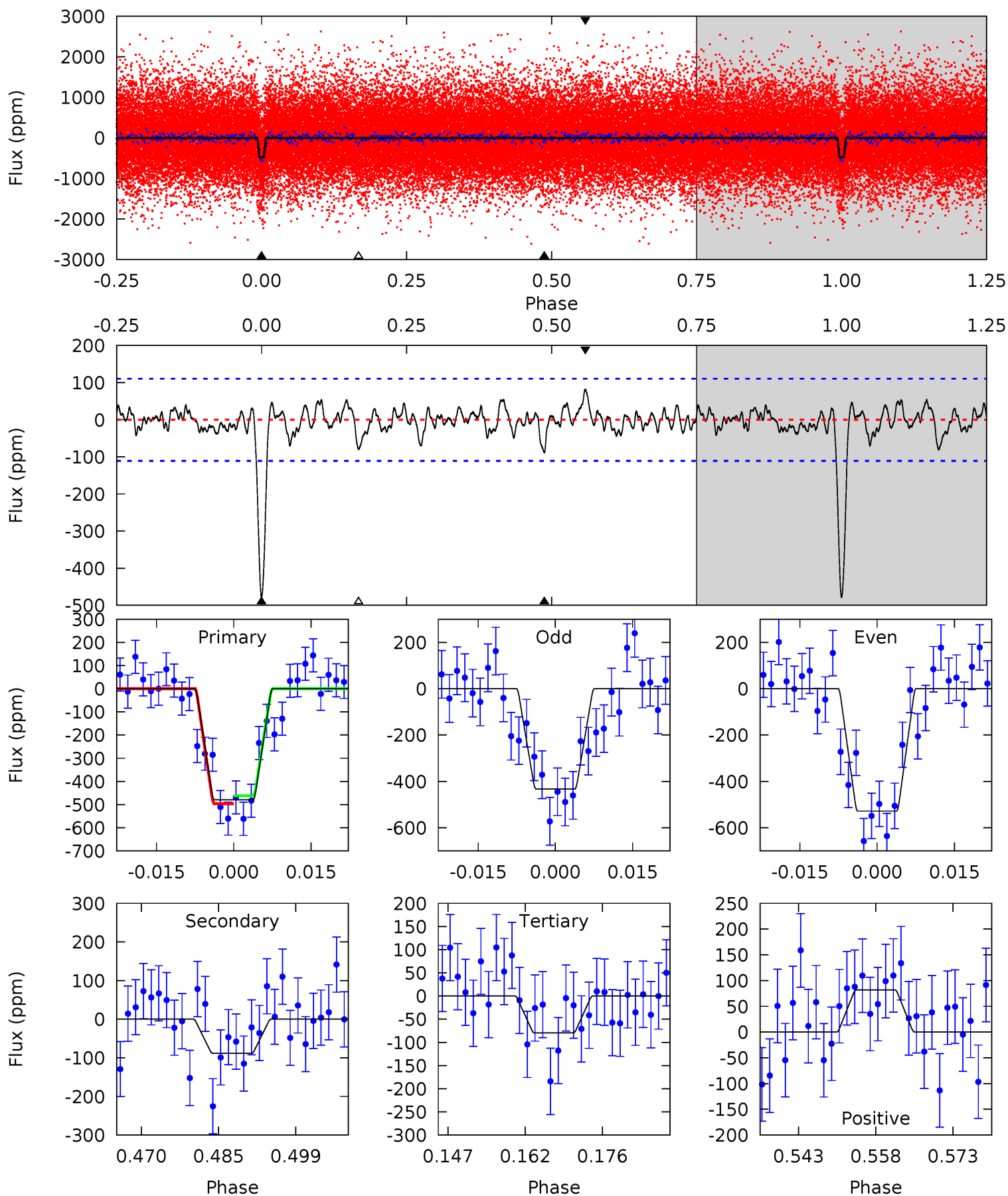
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.9	4.44	4.11	3.55	4.87	2.28	1.36	23.8	24.4	0.33	0.89	2.72	0.96	0.11	1.46



Alt Model-Shift Uniqueness Test

007501646-01, P = 6.377021 Days, E = 136.920615 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.4	3.96	3.57	3.66	4.95	2.44	1.11	17.9	17.8	0.39	0.30	2.15	1.01	0.15	0.76



Stellar Parameters For KIC 007501646

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5672^{+160}_{-200}	$4.503^{+0.044}_{-0.176}$	$0.360^{+0.100}_{-0.300}$	$0.965^{+0.233}_{-0.093}$	$1.080^{+0.089}_{-0.133}$	$1.694^{+0.370}_{-0.753}$
	+3%/-4%	+1%/-4%	+28%/-83%	+24%/-10%	+8%/-12%	+22%/-44%
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 007501646-01 / KOI 2572.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-80 ± 18	$4.85^{+3.93}_{-3.30}$	1331^{+81}_{-62}	3116^{+1451}_{-487}	$8.298^{+68.134}_{-5.705}$
Alt.	-88 ± 22	$4.33^{+4.06}_{-2.76}$	1331^{+82}_{-61}	3294^{+1308}_{-584}	12^{+79}_{-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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

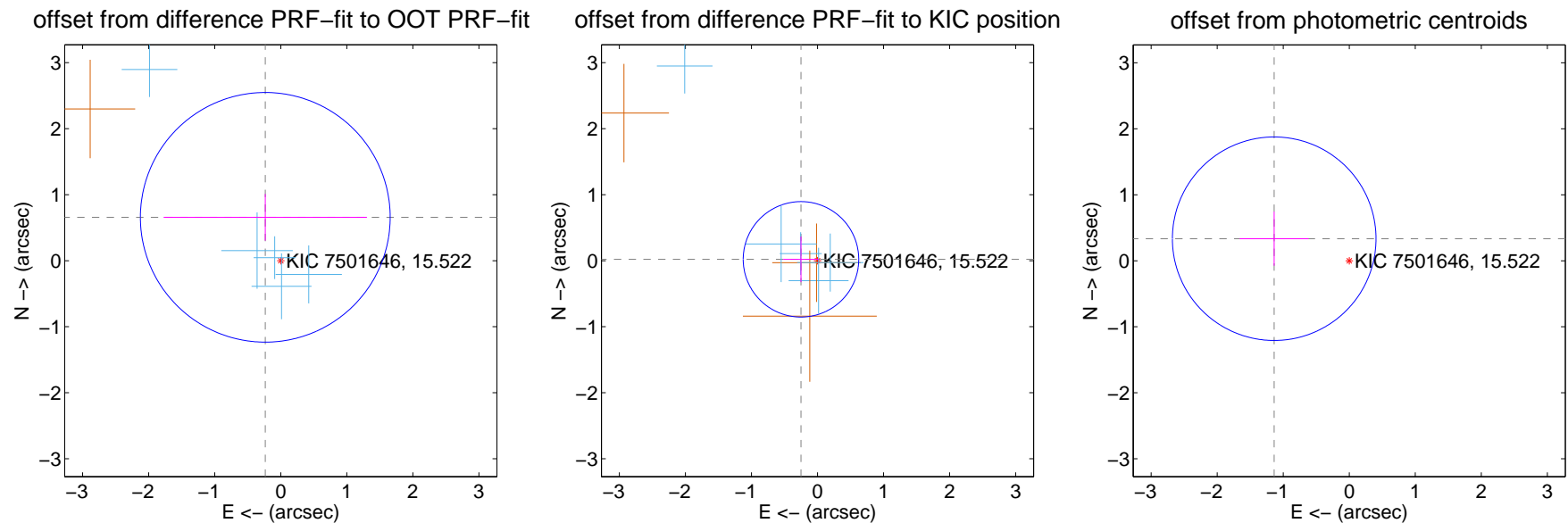
DV Centroid Data

Supplemental centroid analysis for 007501646-01. Kepler magnitude: 15.52. Transit SNR 17.50

There are 6 quarters with good PRF difference image offsets

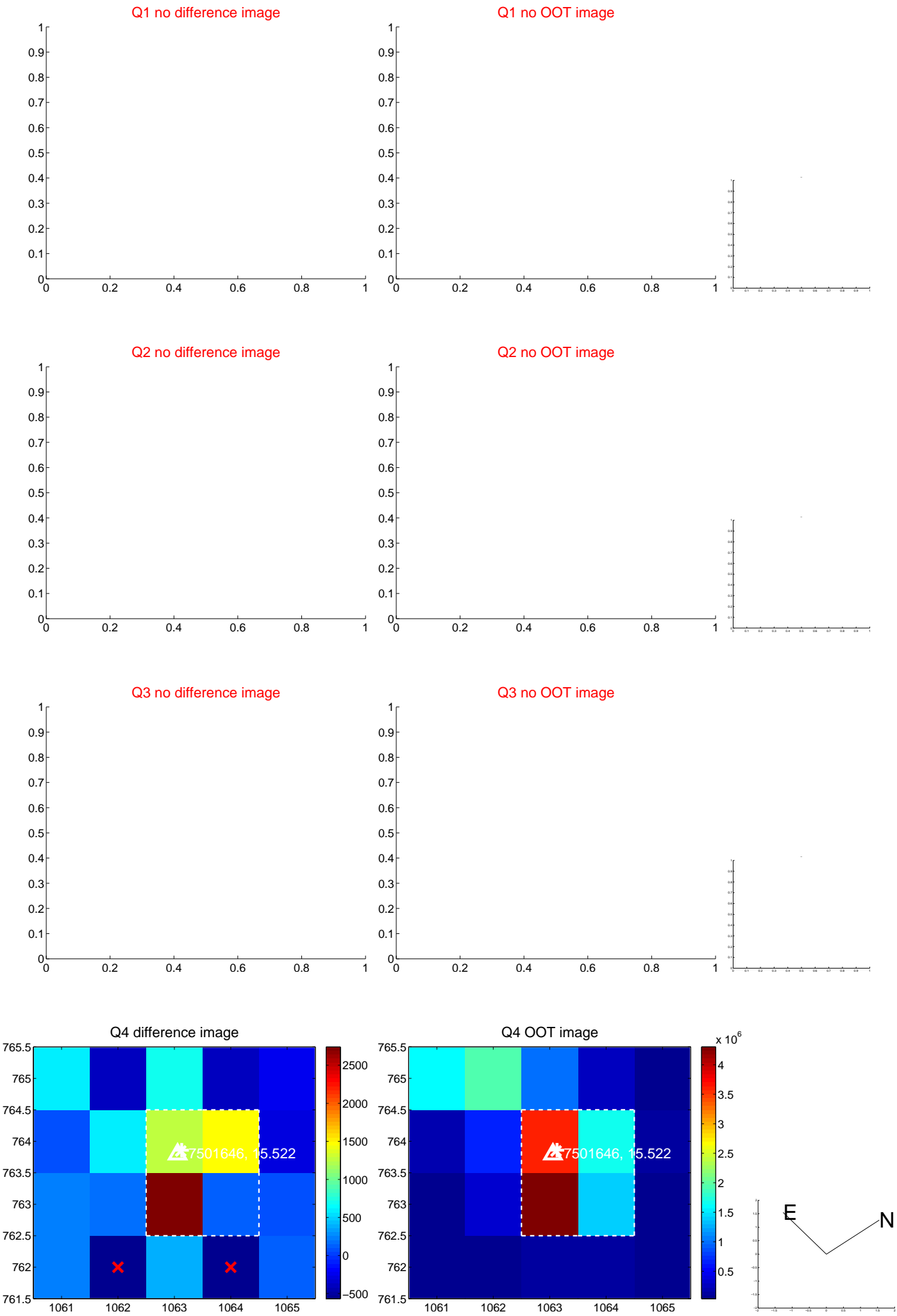
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.698 ± 0.630	1.11	0.234 ± 1.539	0.657 ± 0.353
PRF-fit source offset from KIC position	0.251 ± 0.291	0.86	0.250 ± 0.269	0.021 ± 0.345
photometric centroid source offset	1.18 ± 0.51	2.31	1.14 ± 0.52	0.33 ± 0.41

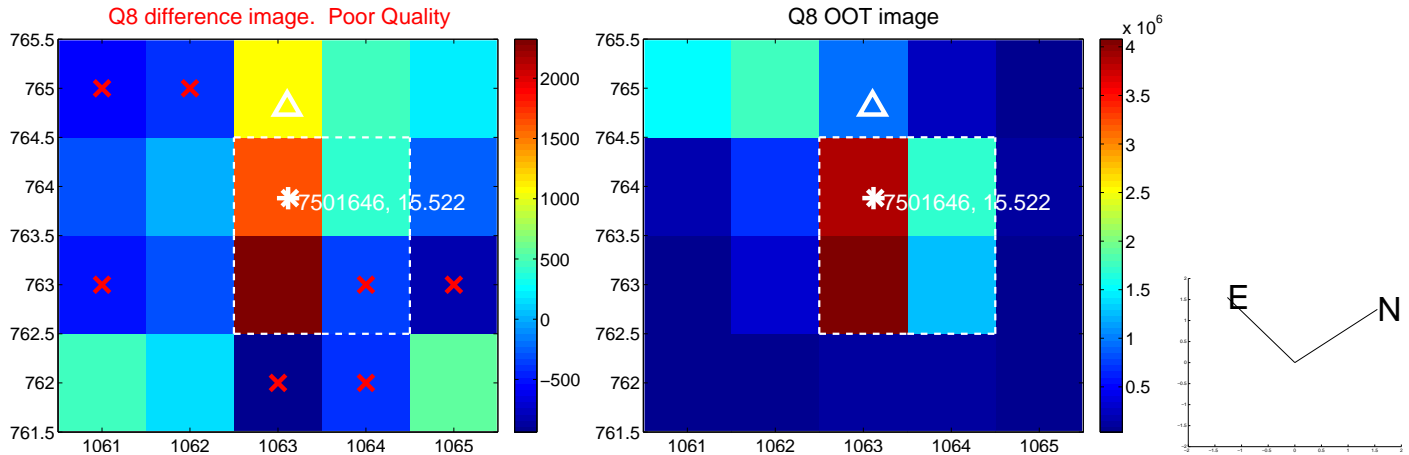
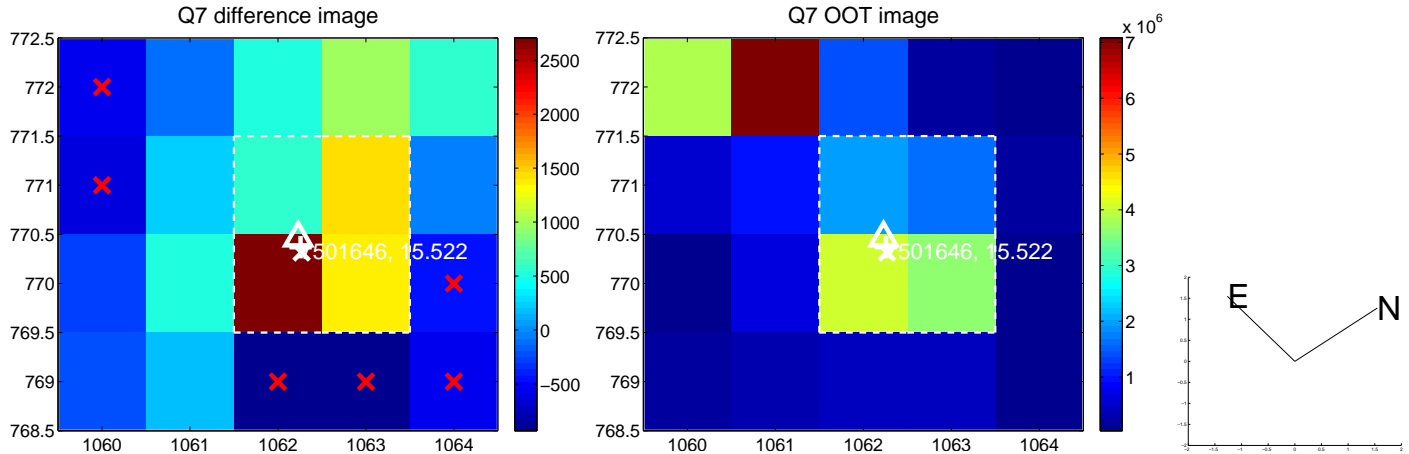
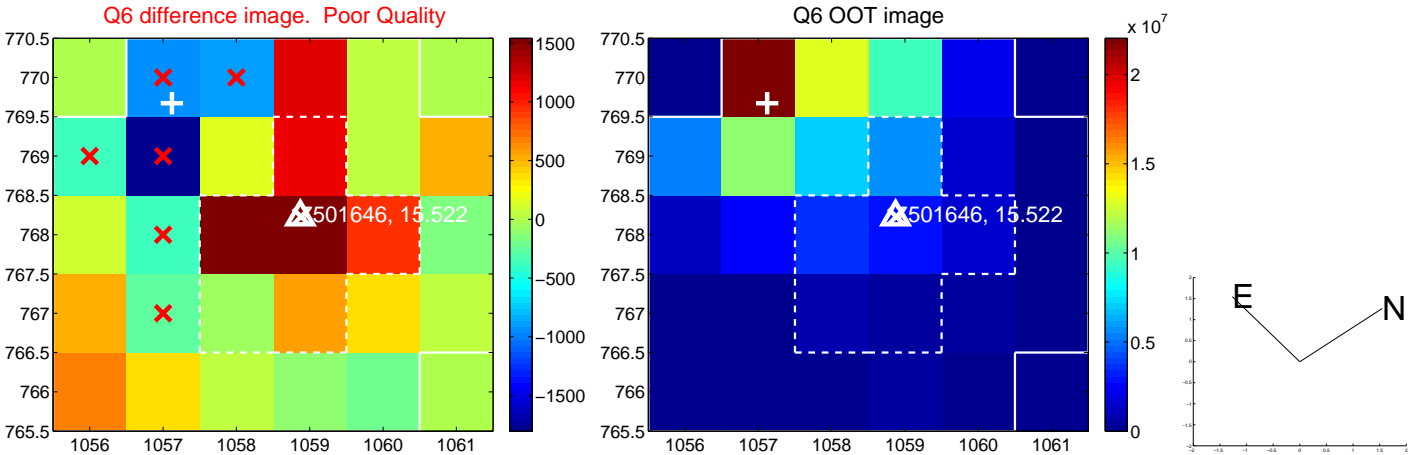
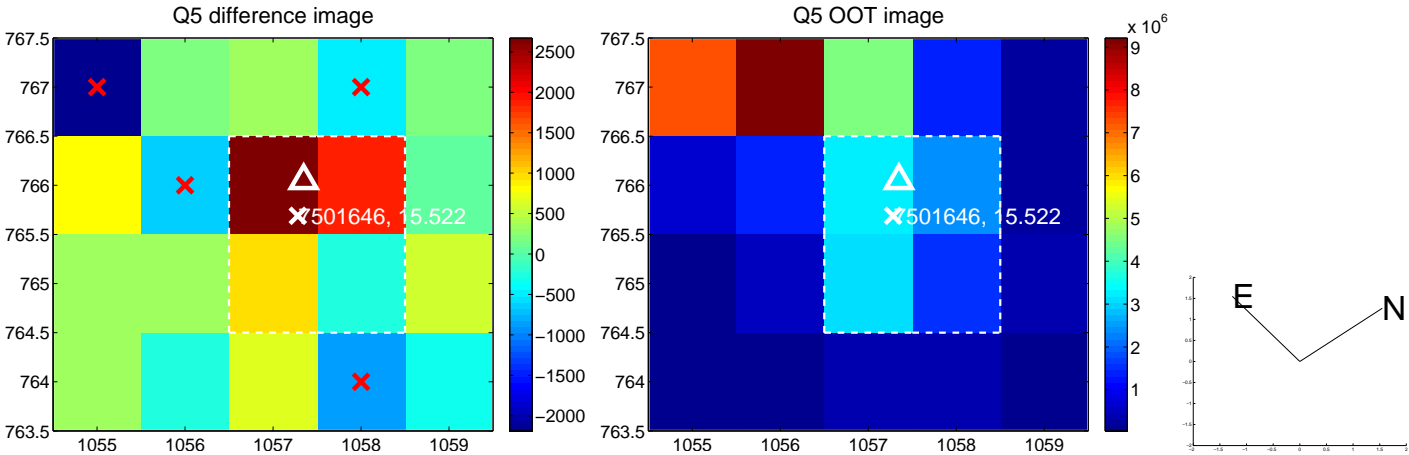


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

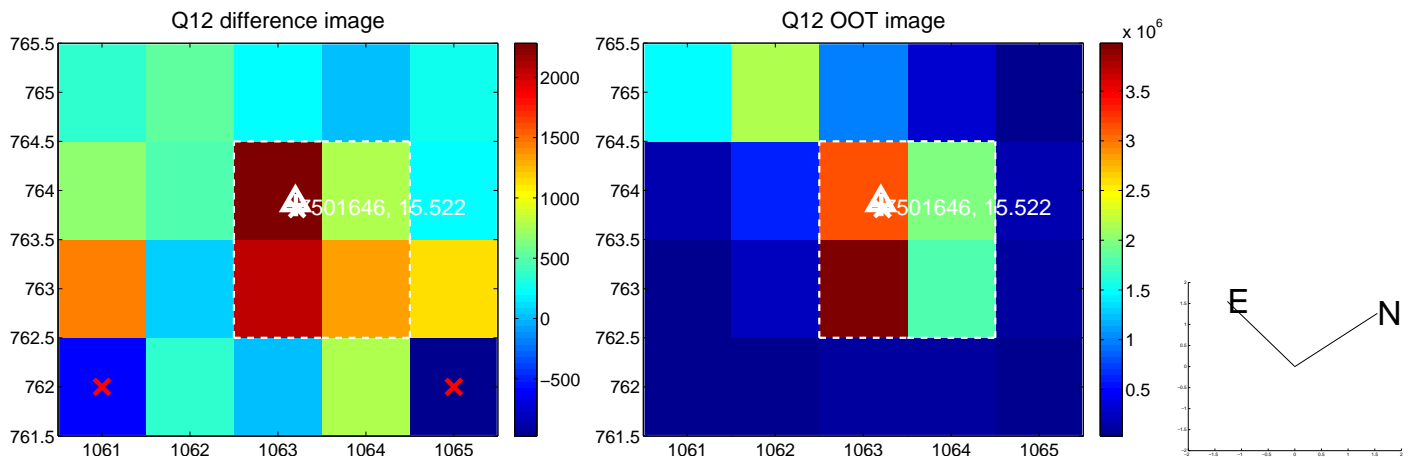
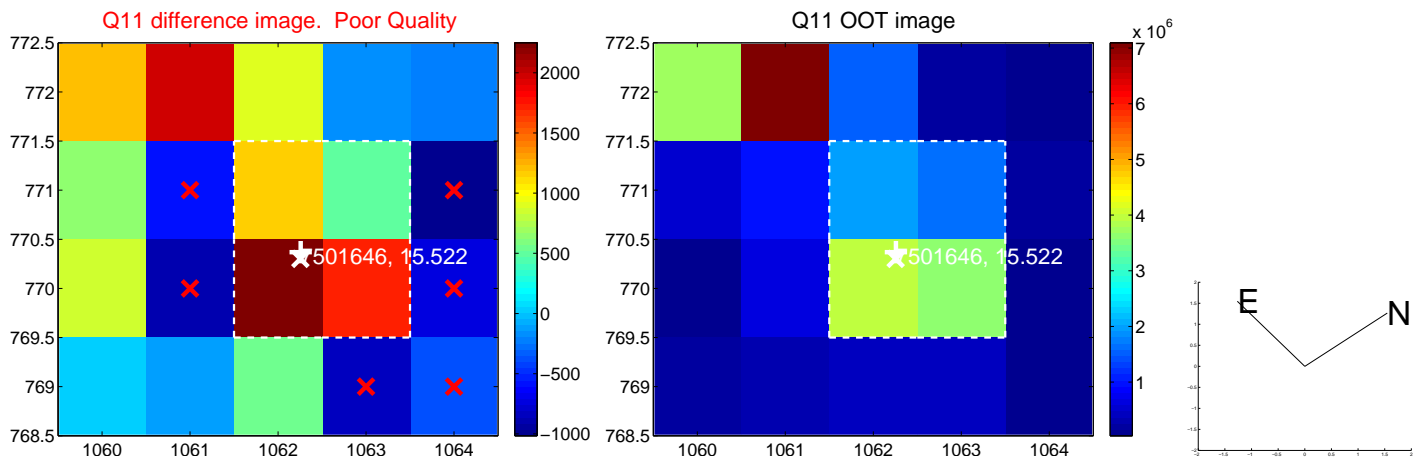
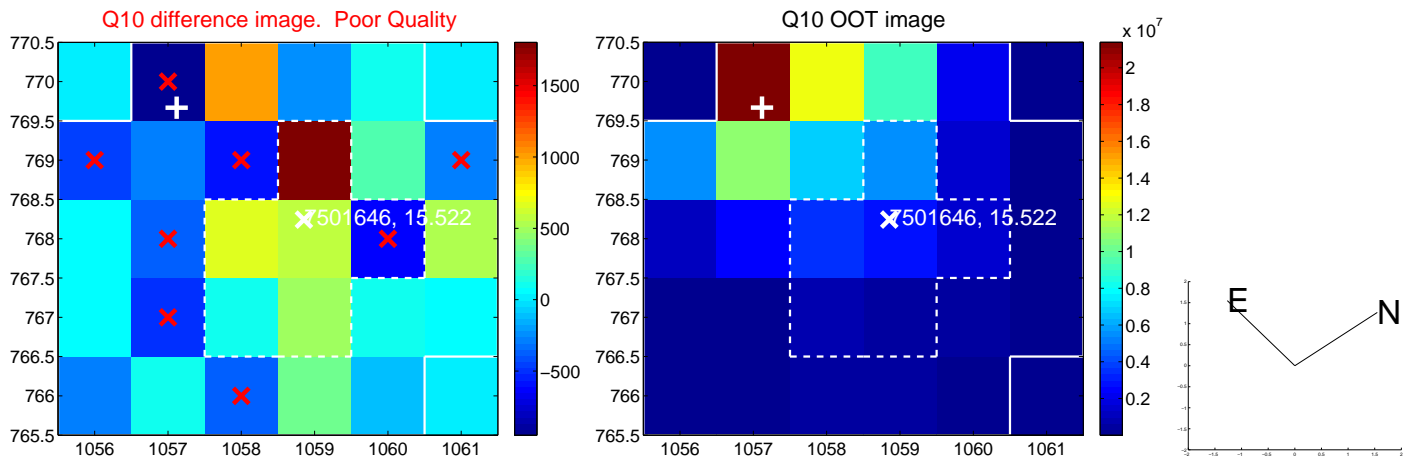
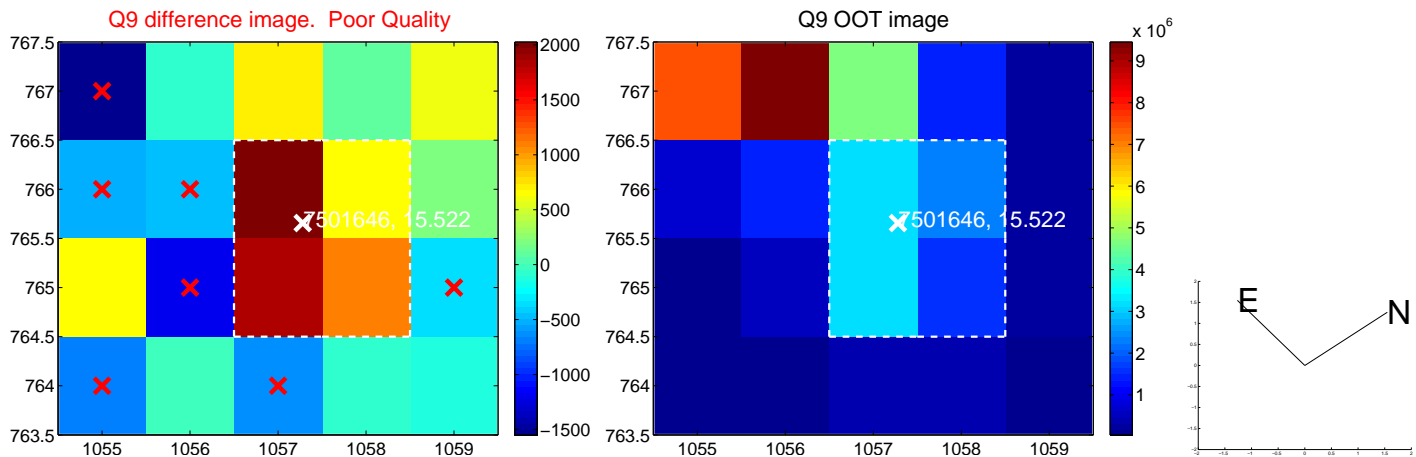
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



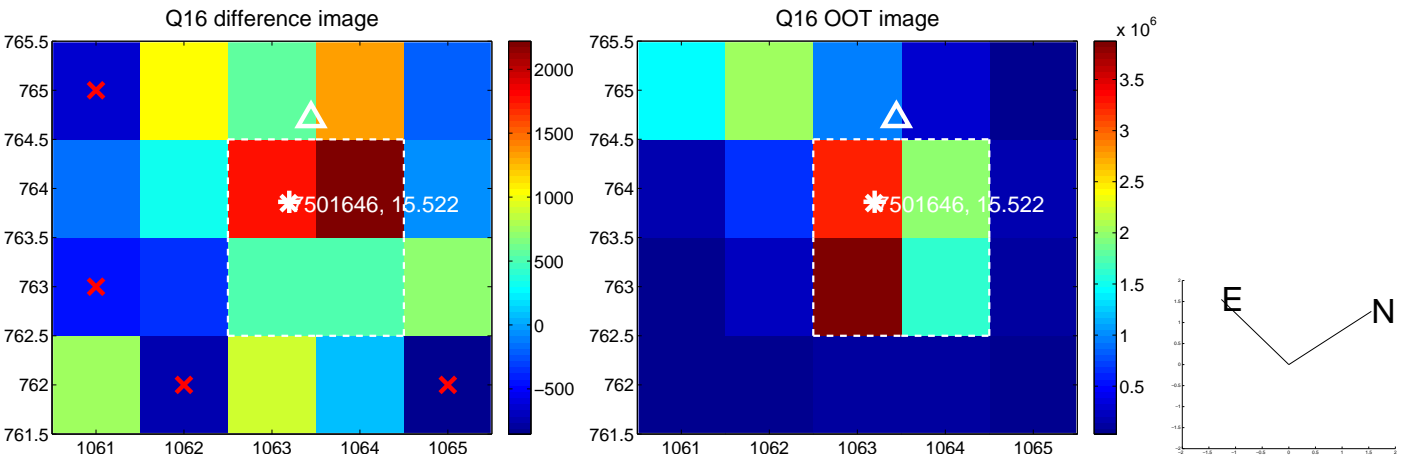
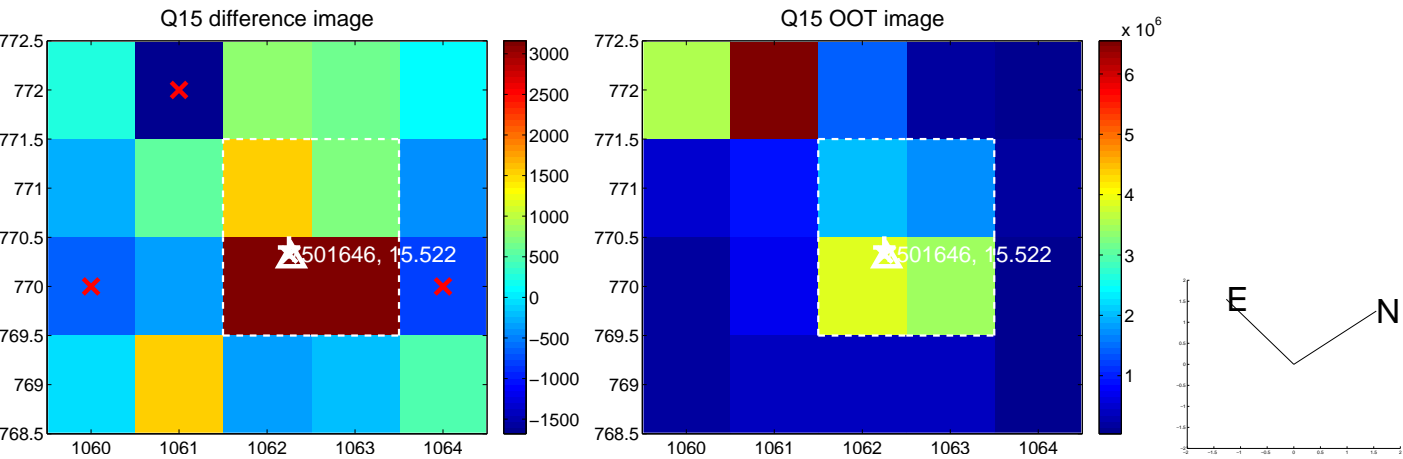
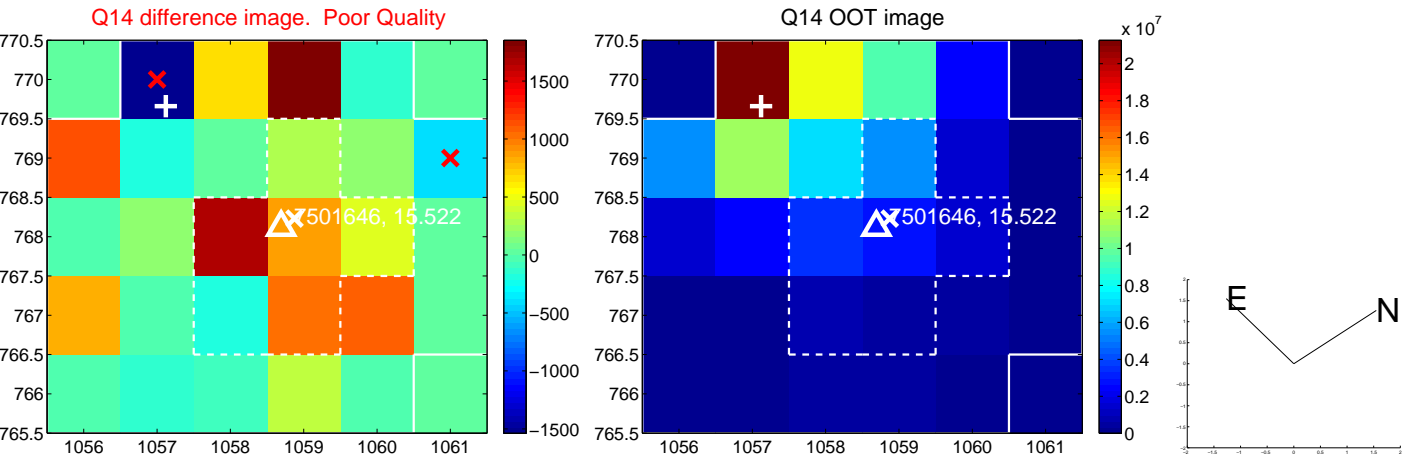
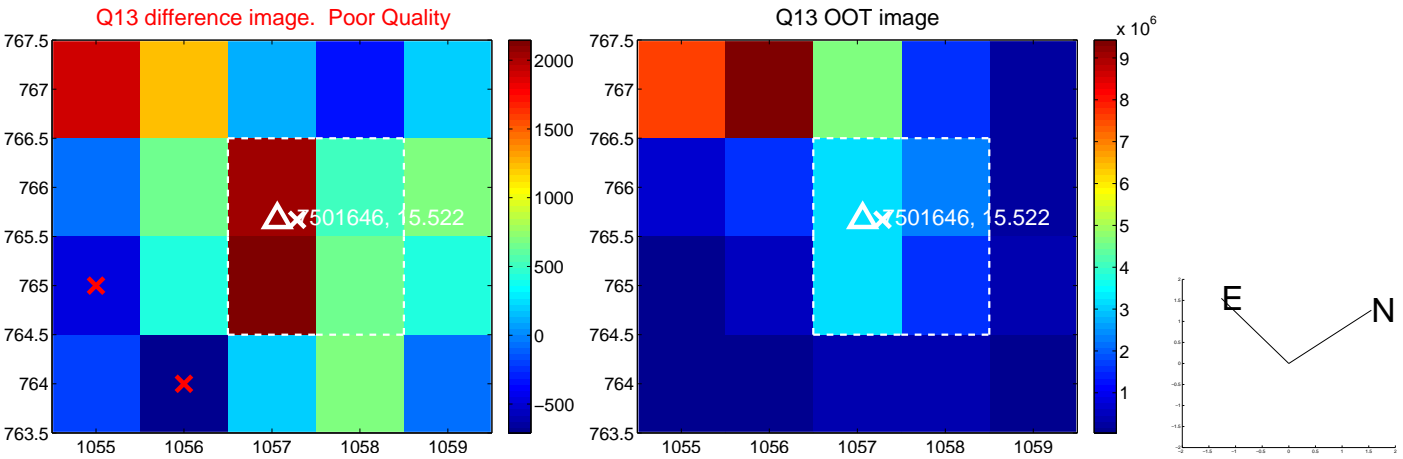
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



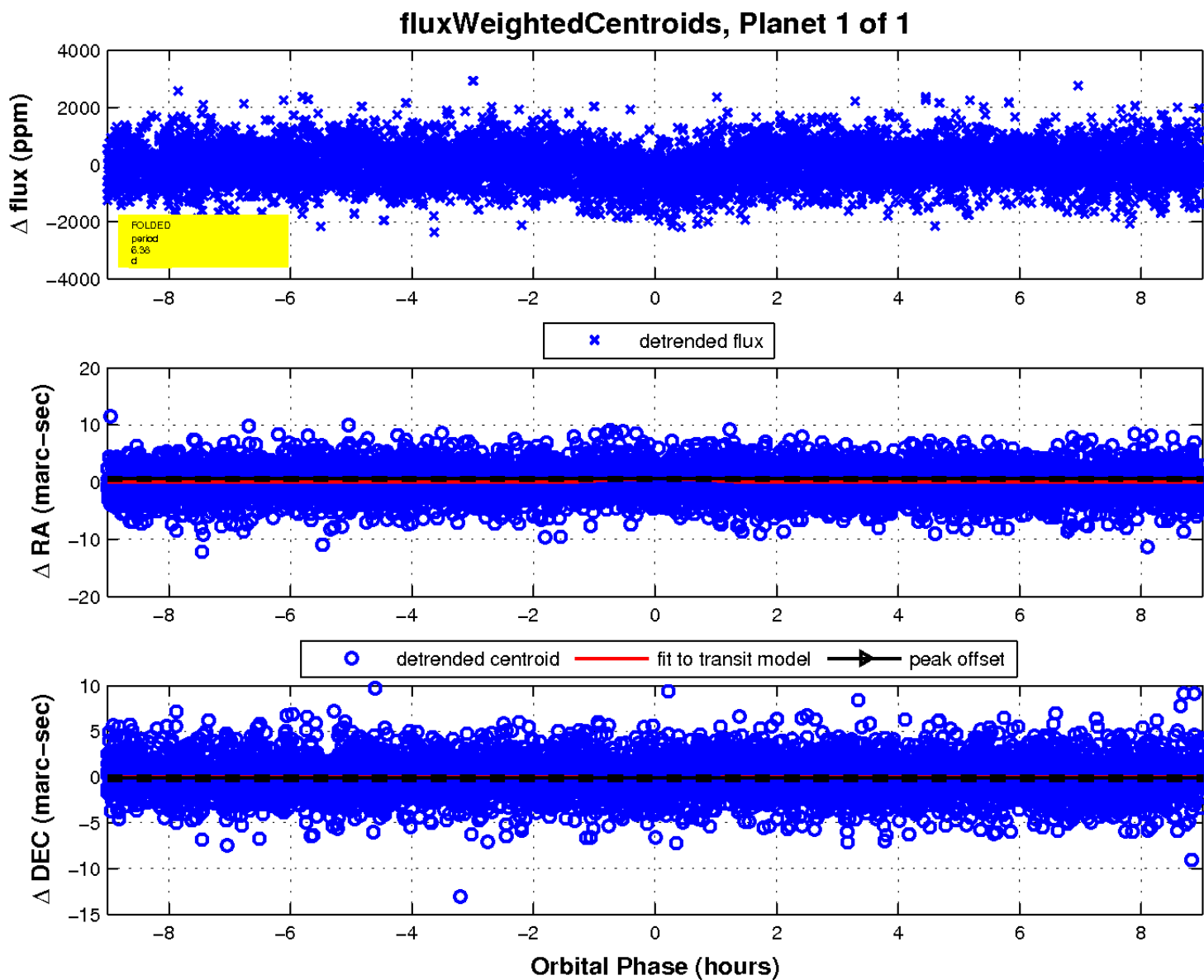
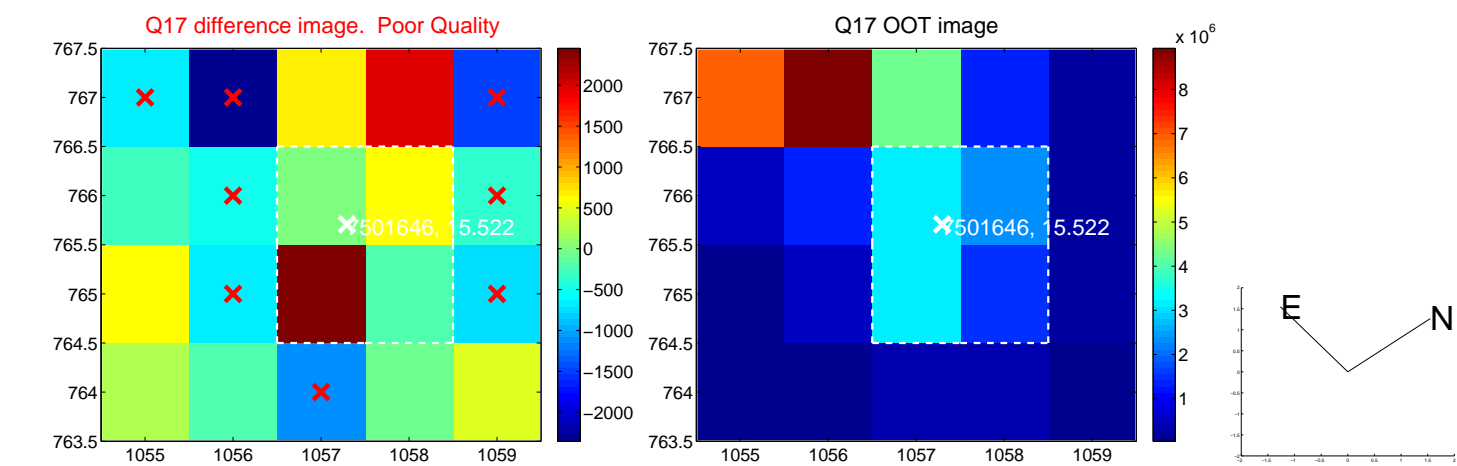
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

