

KIC 006441398

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})
006441398-01	OBS	No	1.279967	132.449998	20.1	0.649	8.3	3.6	1.79	5475	0.88	5053.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006441398-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

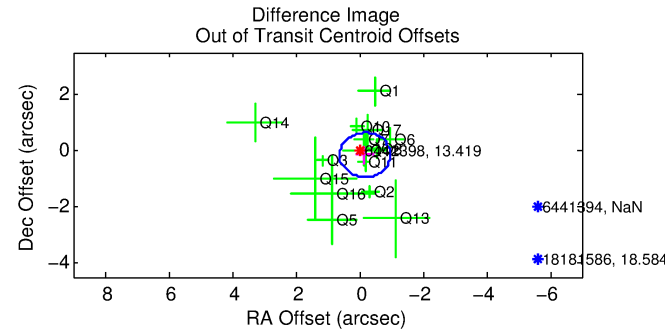
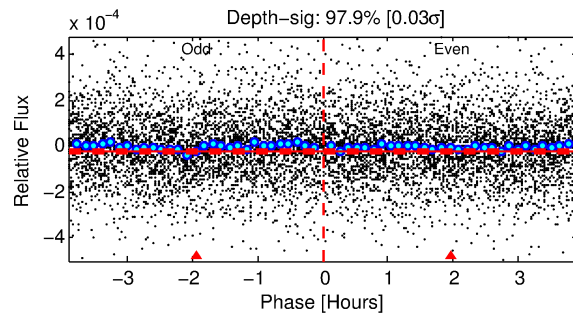
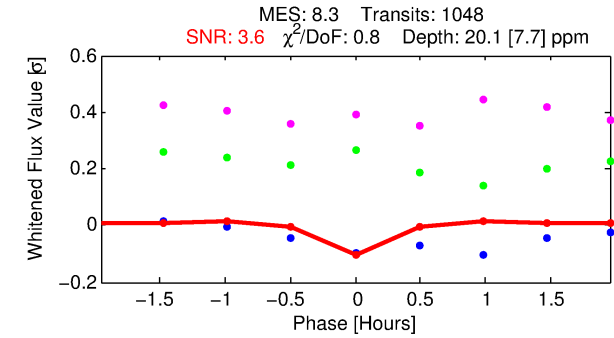
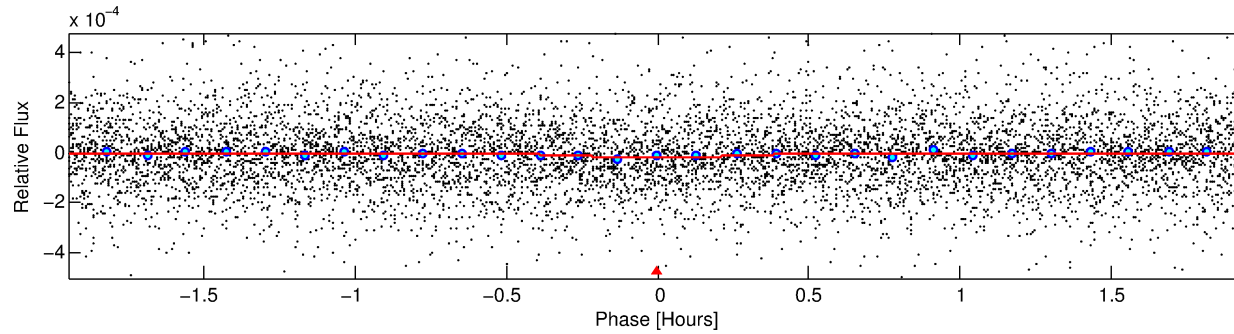
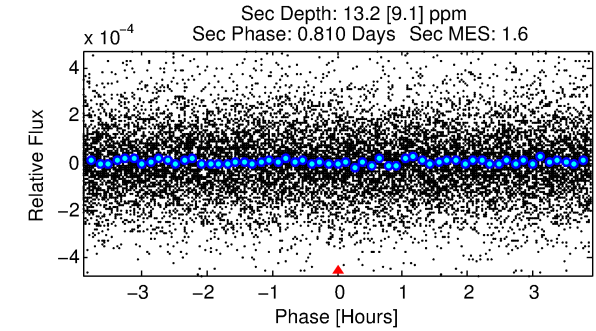
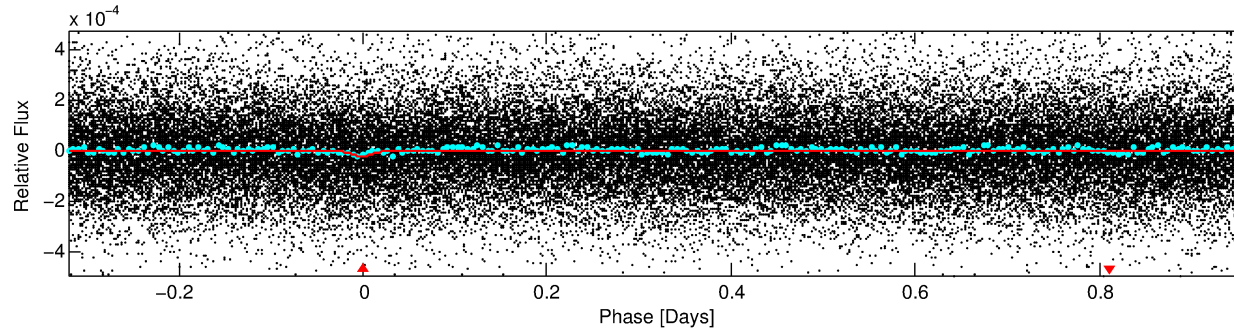
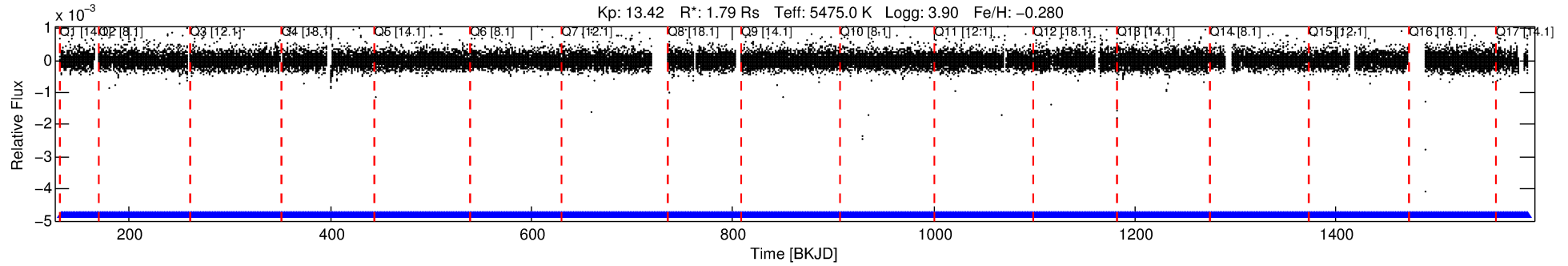
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006441398-01

No Significant Match Found

DV One-Page Summary

KIC: 6441398 Candidate: 1 of 1 Period: 1.280 d



DV Fit Results:

Period = 1.27997 [0.00003] d
Epoch = 132.4500 [0.0032] BKJD
Rp/R* = 0.0045 [0.0028]
a/R* = 11.06 [27.84]
b = 0.69 [1.96]
Seff = 5053.16 [4974.67]
Teq = 2150 [529] K
Rp = 0.88 [0.70] Re
a = 0.0226 [0.0129] AU
Ag = 4.82 [8.28] [0.46σ]
Teff = 4925 [1750] K [1.52σ]

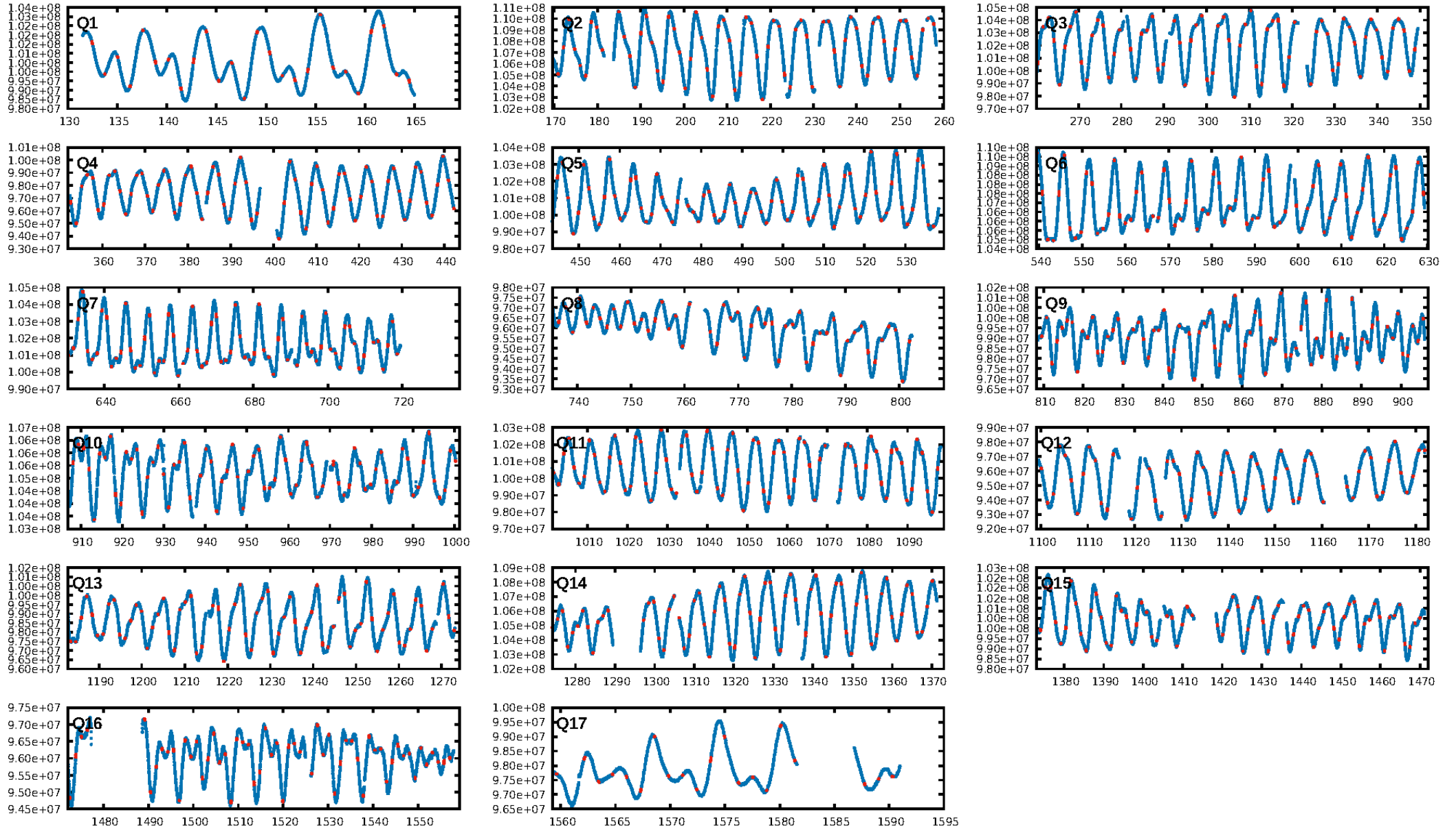
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.34e-14
RollingBand-fgt: 1.00 [1002/1002]
GhostDiagnostic-chr: 0.9776
Centroid-sig: 0.6%
Centroid-so: 5.021 arcsec [2.22σ]
OotOffset-rm: 0.231 arcsec [0.87σ]
KicOffset-rm: 0.233 arcsec [0.78σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.40 [6/15]
DiffImageOverlap-fno: 1.00 [17/17]

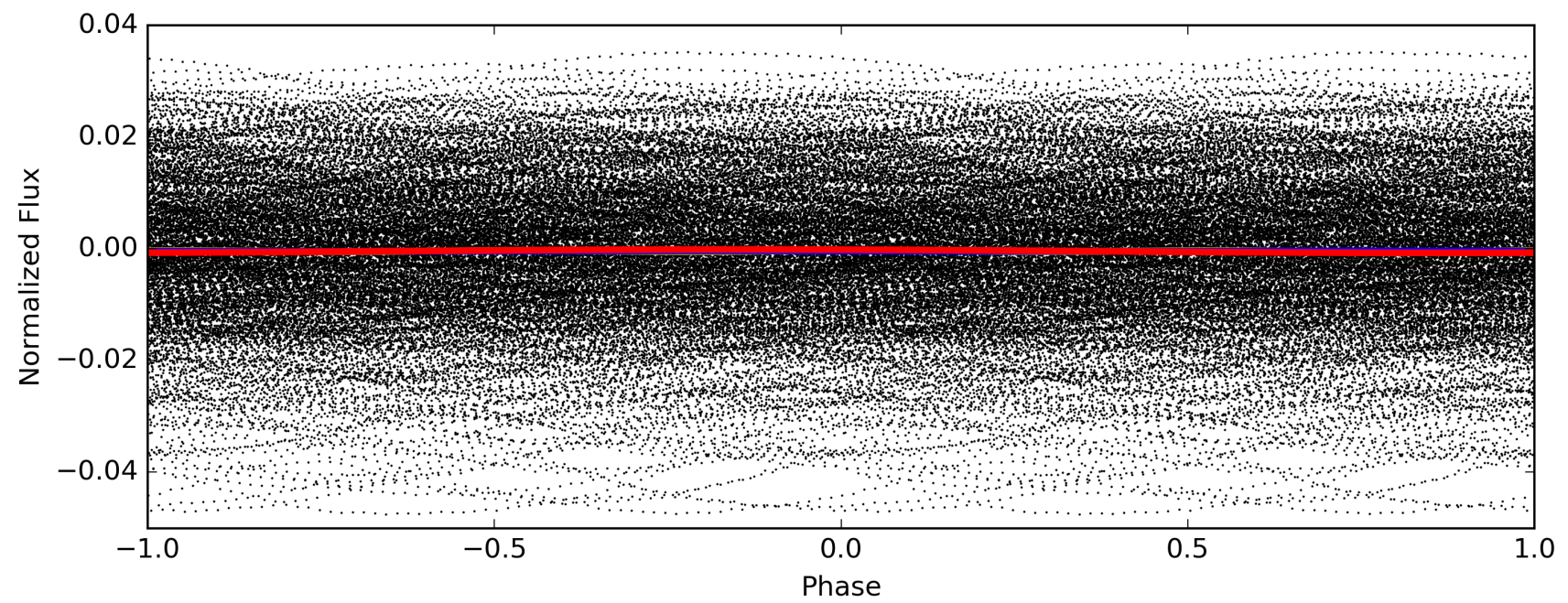
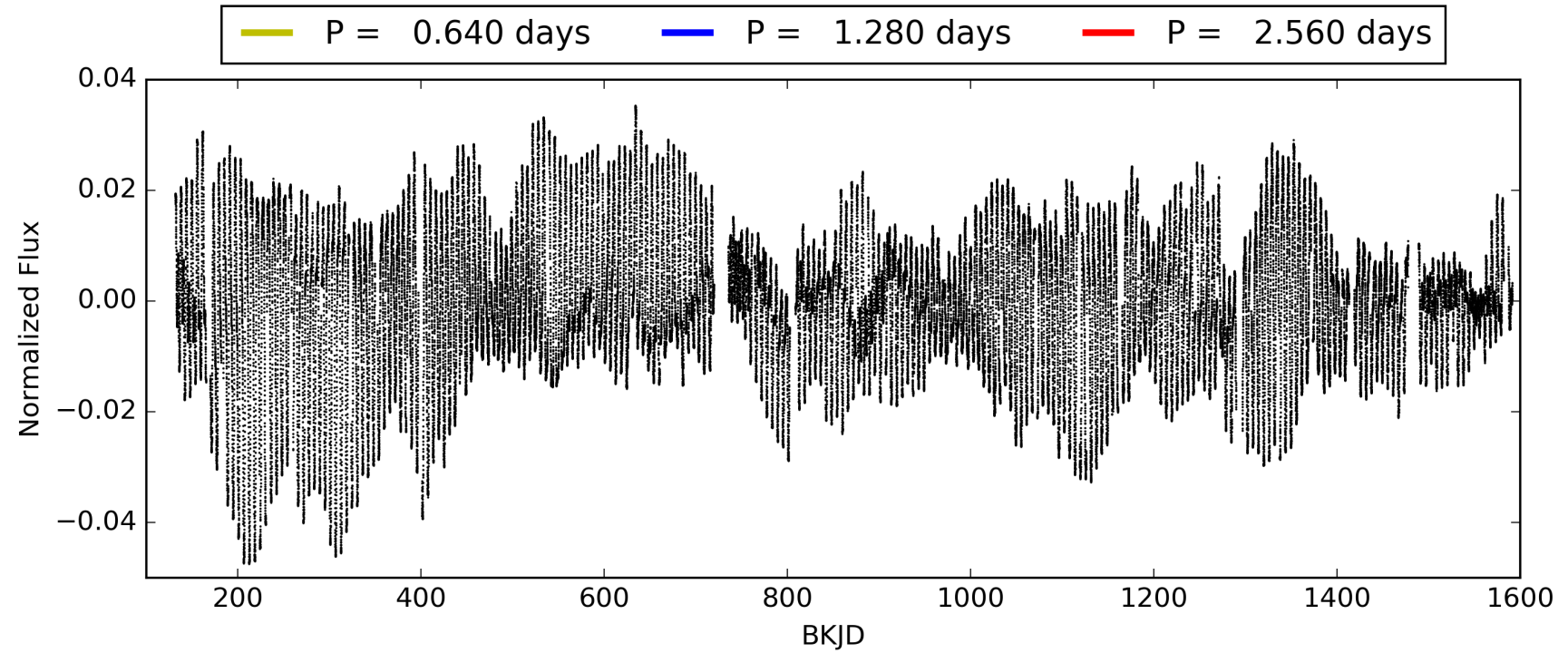
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:06:18 Z

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

TCE 006441398-01, PDC Light Curves

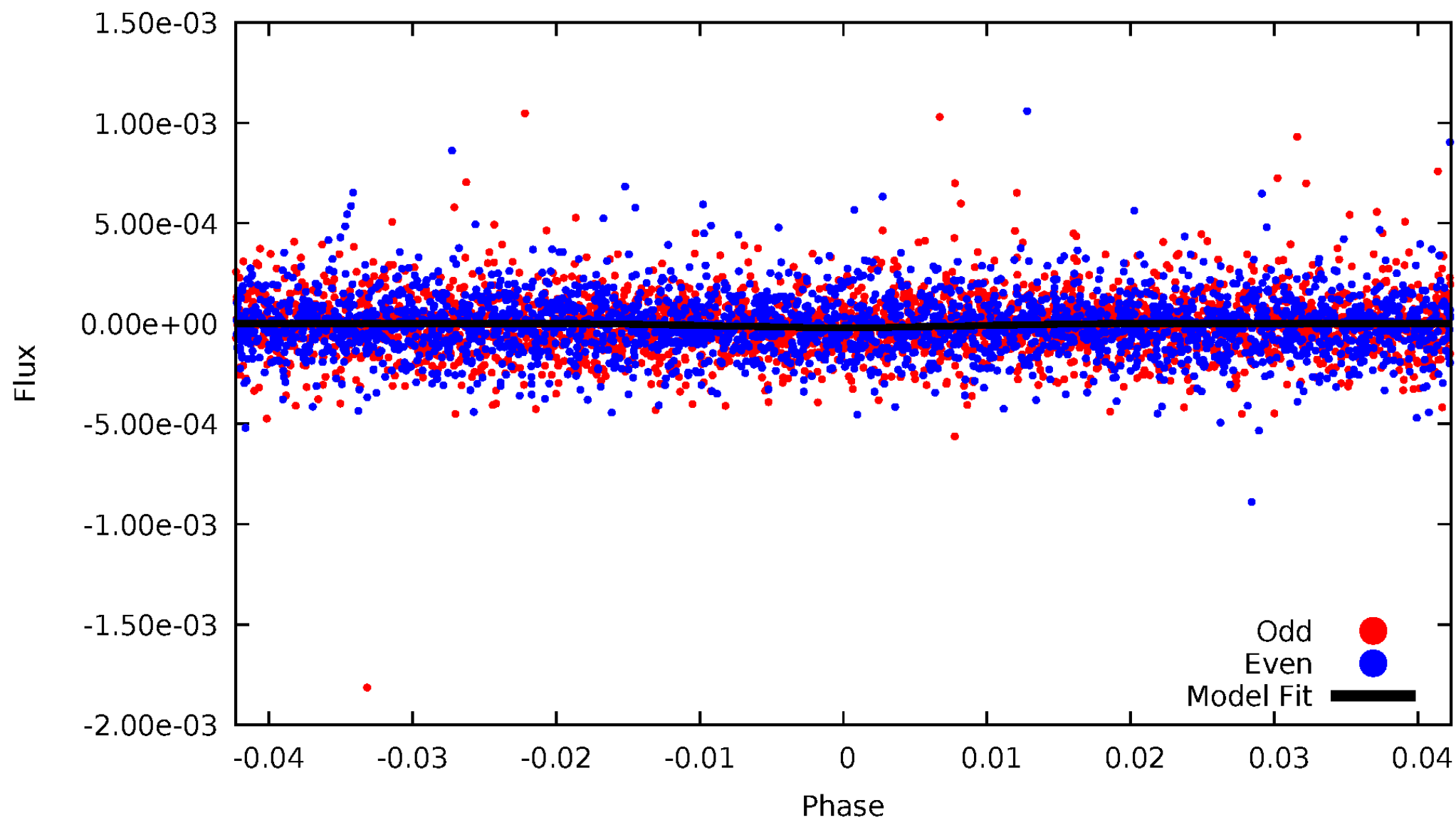


TCE 006441398-01



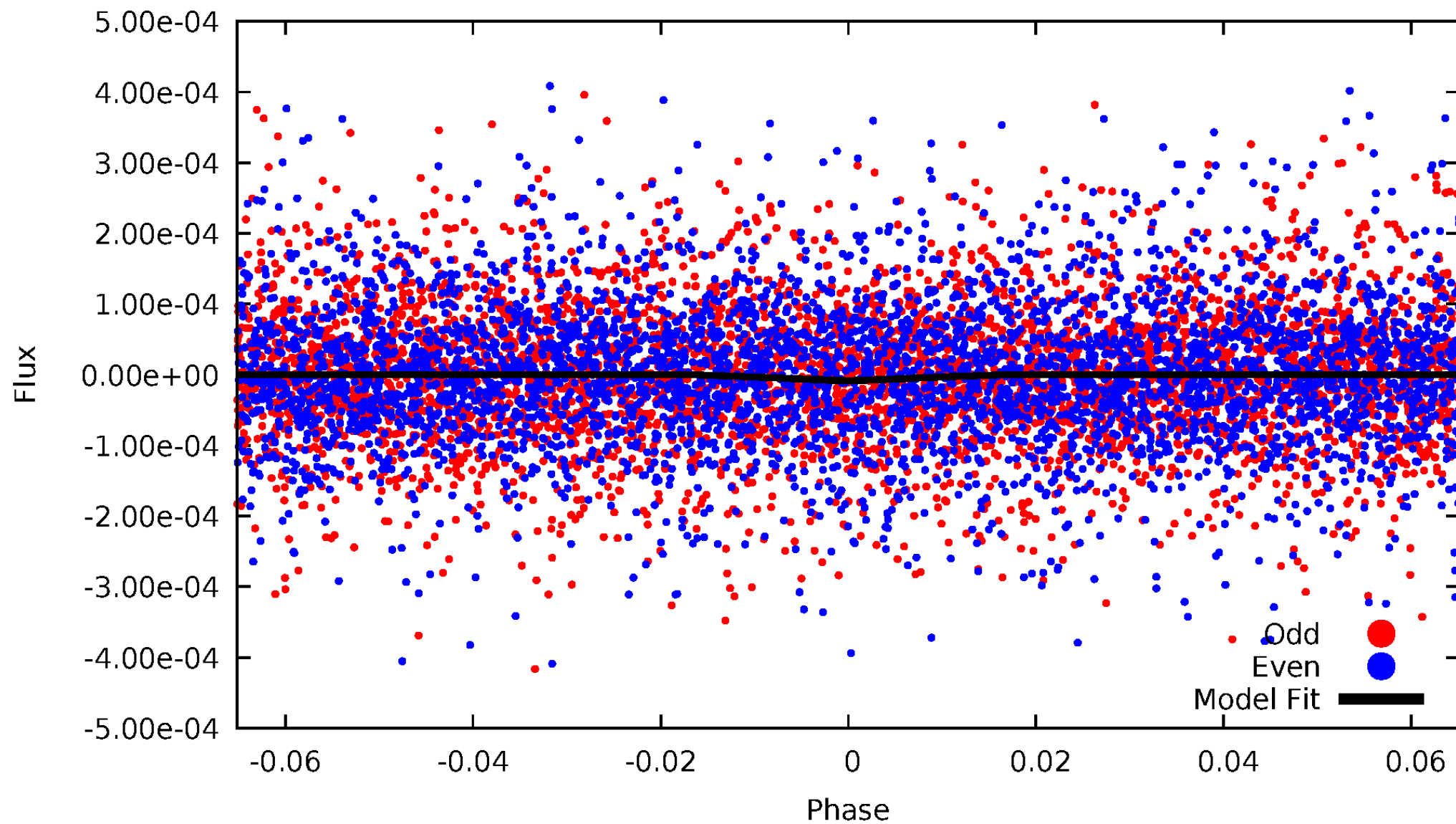
DV Odd/Even

TCE 006441398-01



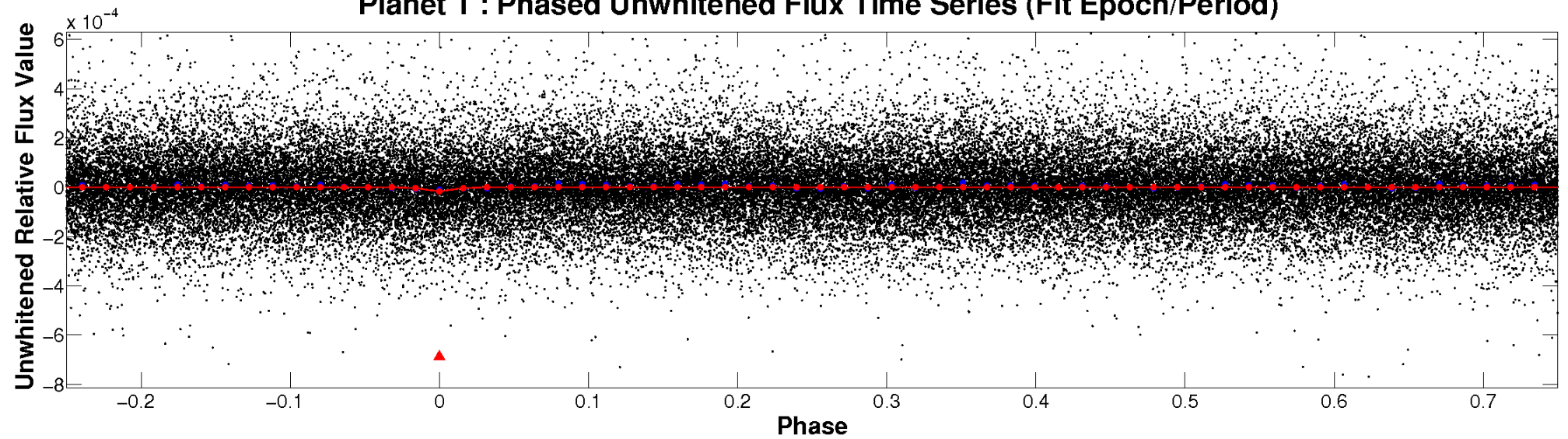
ALT Odd/Even

TCE 006441398-01

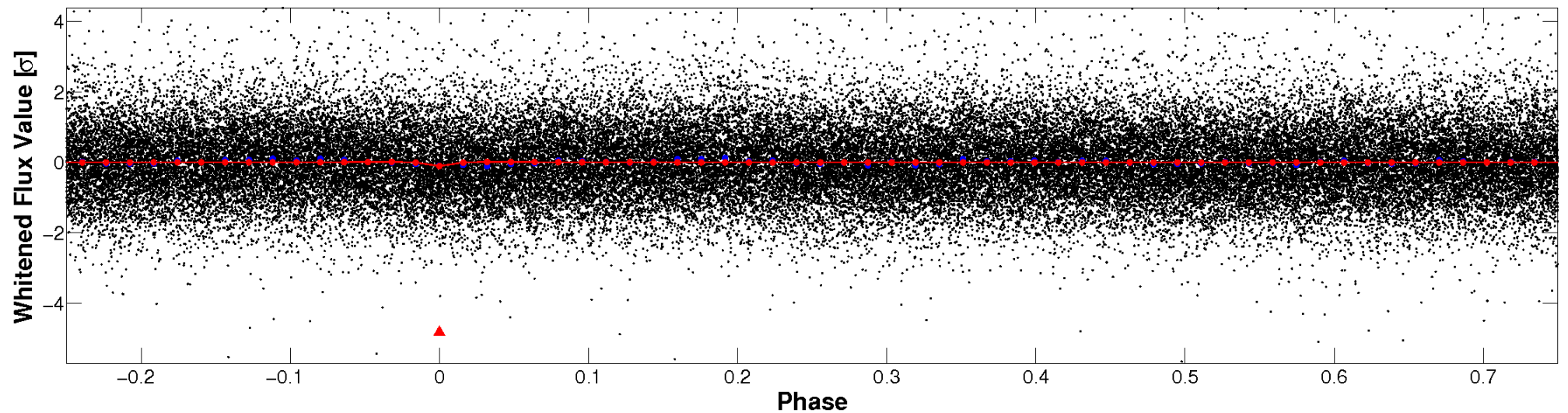


Non-Whitened Vs. Whitened Light Curve

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

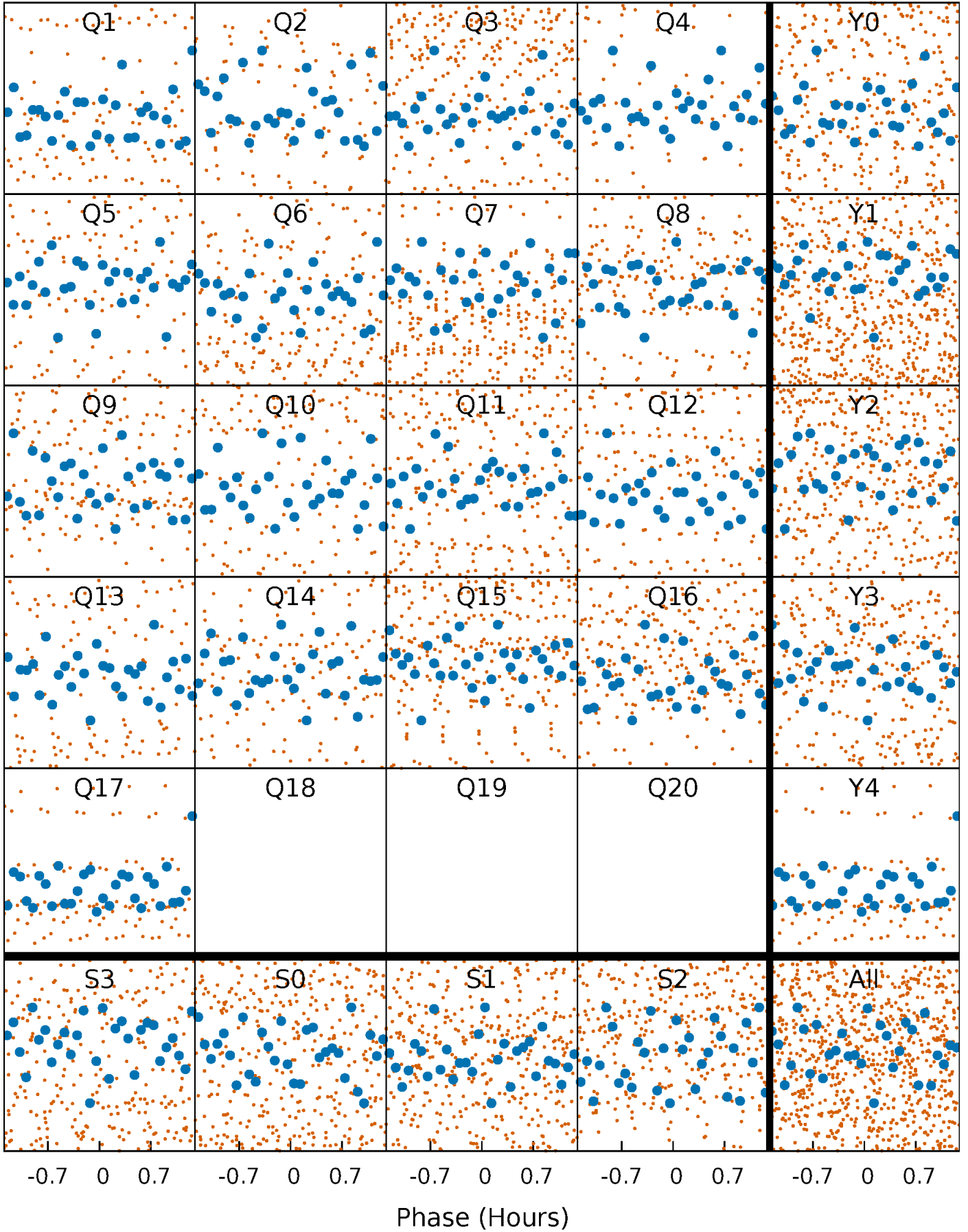


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



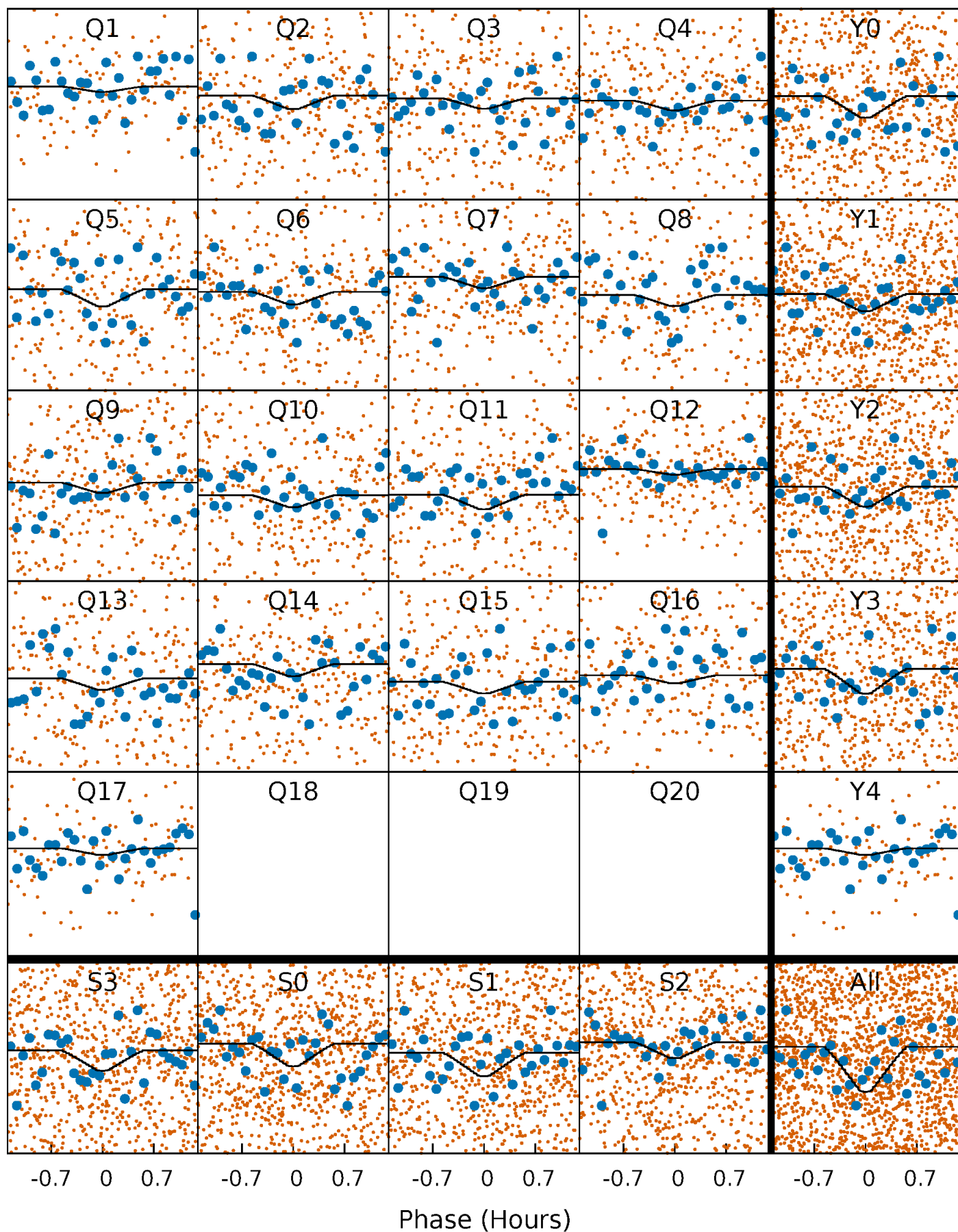
PDC Quarter-Phased Transit Curves

TCE 006441398-01 P= 1.279967 Days $T_0=132.449998$ (BKJD)



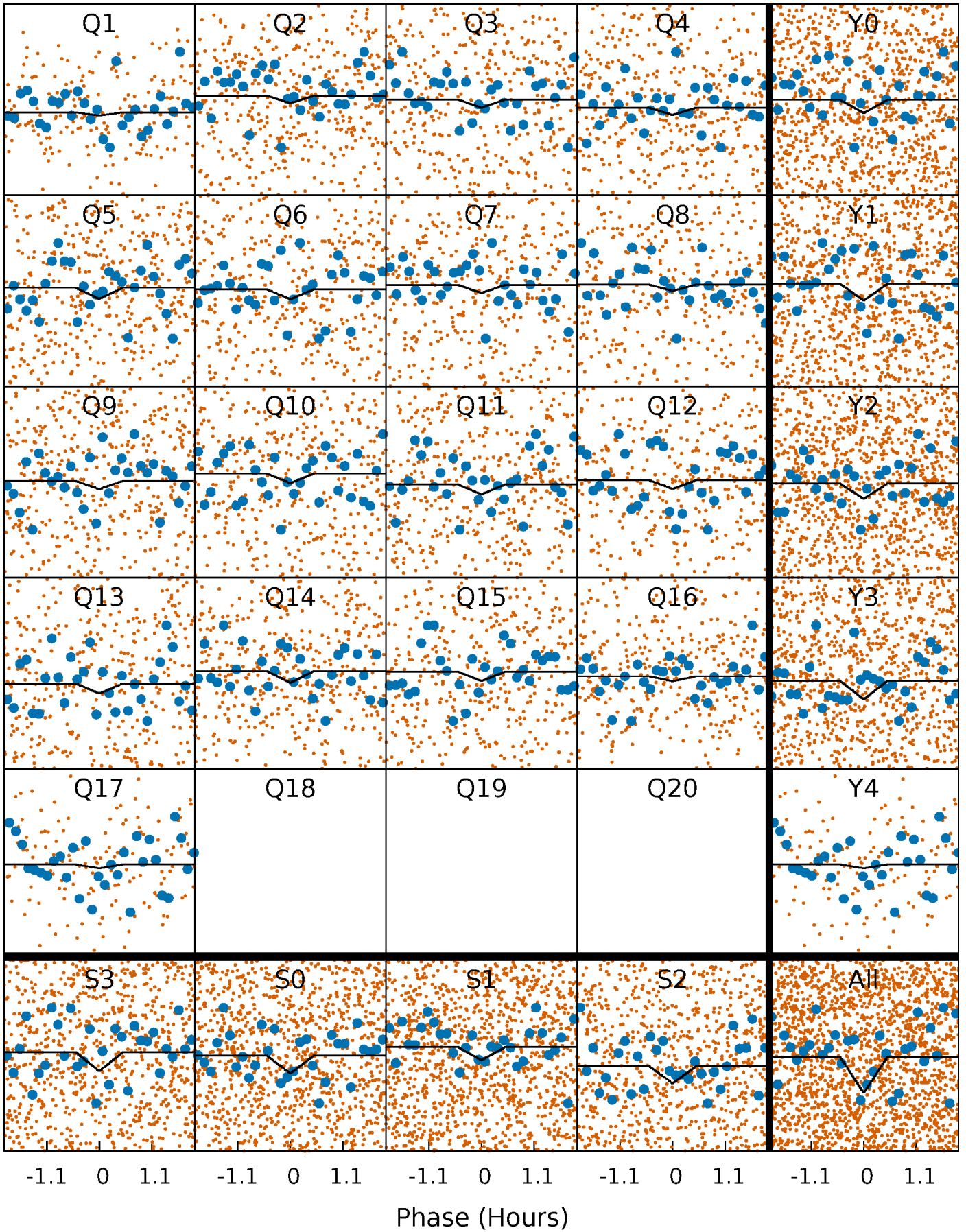
DV Quarter-Phased Transit Curves

TCE 006441398-01 P= 1.279967 Days $T_0=132.449998$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

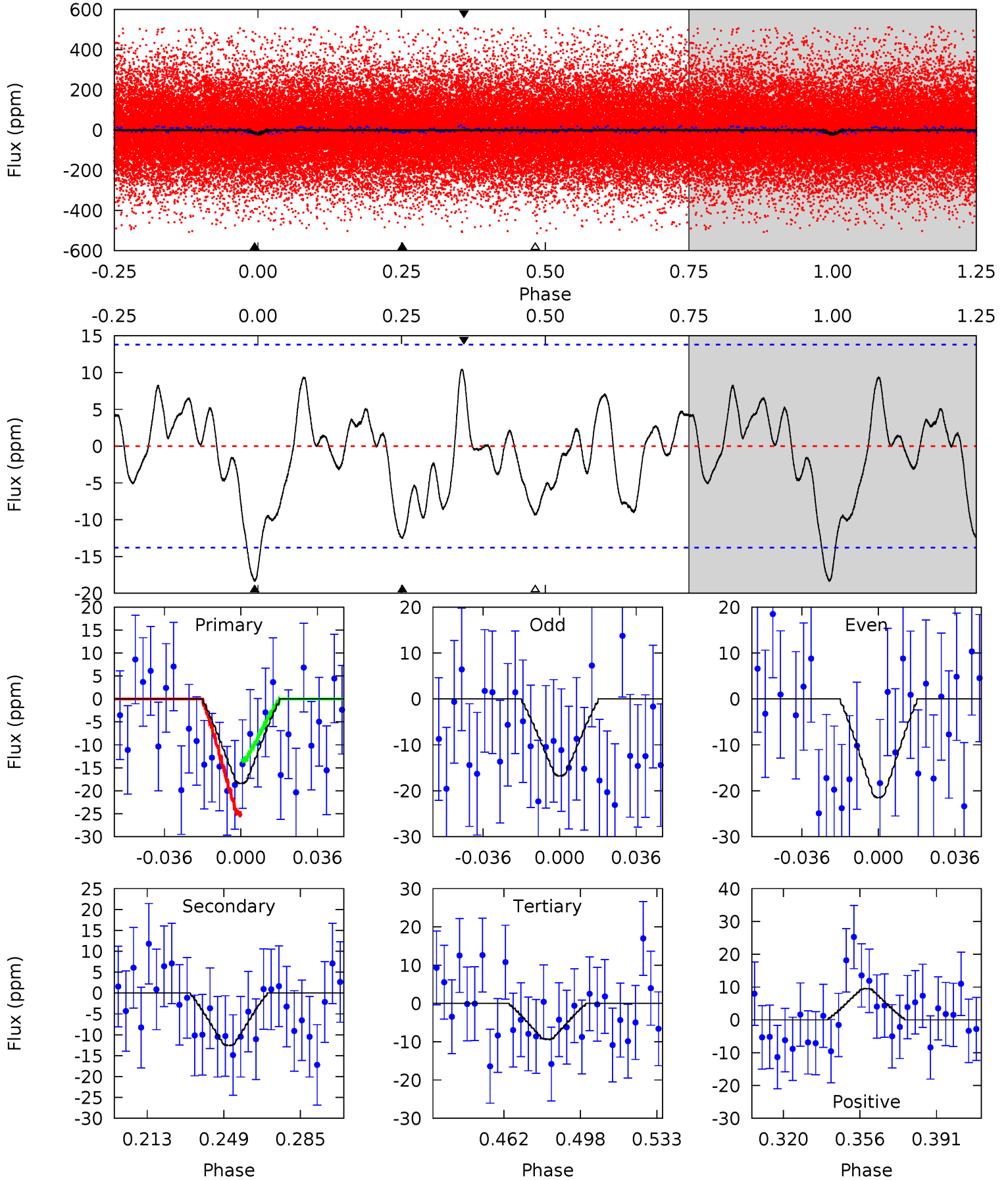
TCE 006441398-01 P= 1.279626 Days $T_0=132.415176$ (BKJD)



DV Model-Shift Uniqueness Test

006441398-01, P = 1.279967 Days, E = 131.170031 Days

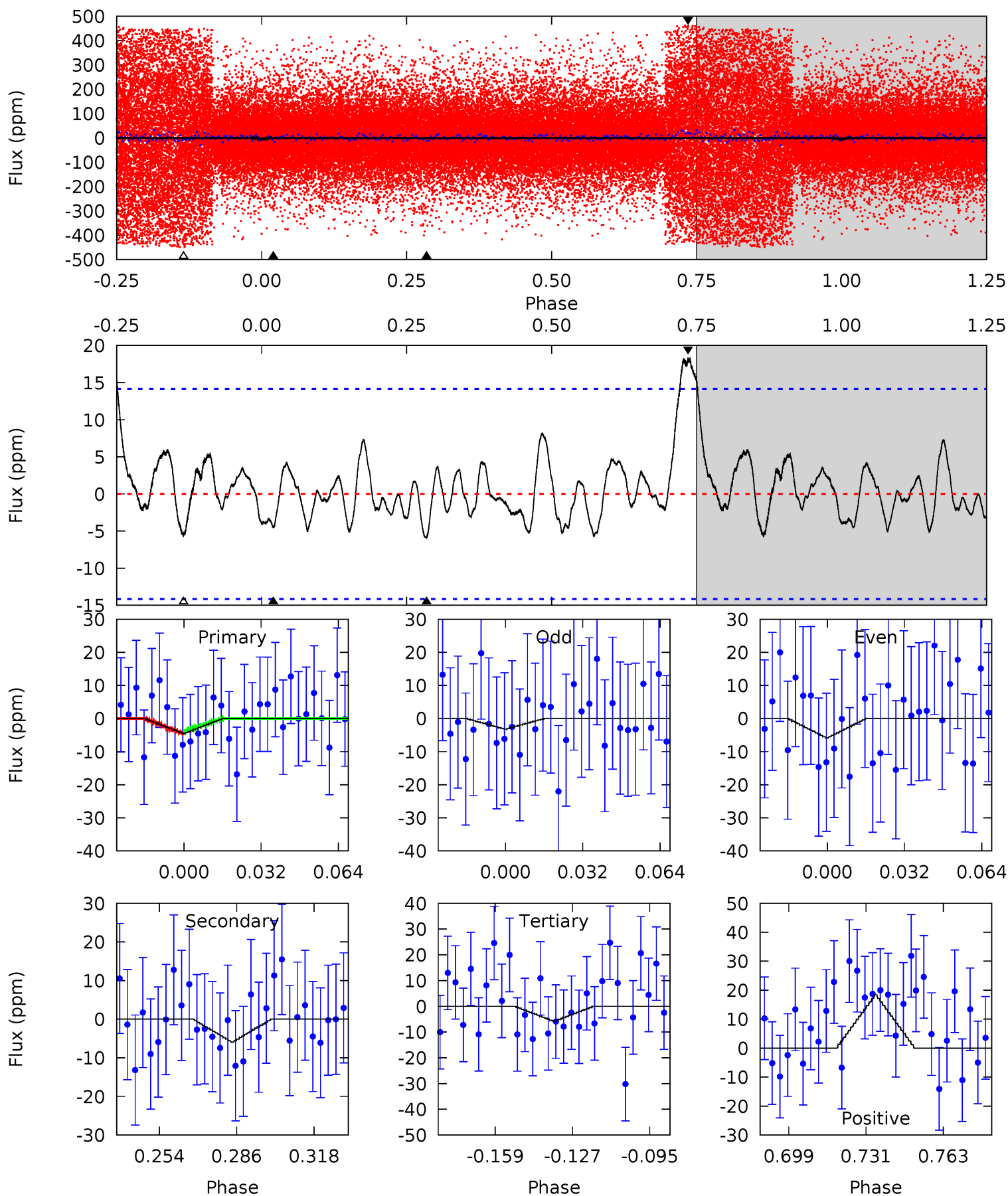
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.38	4.35	3.25	3.29	4.78	2.10	1.56	3.13	3.08	1.10	1.06	0.83	0.62	0.36	2.04



Alt Model-Shift Uniqueness Test

006441398-01, P = 1.279626 Days, E = 131.135550 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.54	2.01	1.97	6.23	4.80	2.15	1.49	-0.43	-4.69	0.04	-4.21	0.48	2.15	0.76	0.13



Stellar Parameters For KIC 006441398

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5475^{+182}_{-149}	$3.905^{+0.595}_{-0.255}$	$-0.280^{+0.350}_{-0.250}$	$1.791^{+0.753}_{-0.920}$	$0.941^{+0.116}_{-0.129}$	$0.231^{+1.935}_{-0.130}$
	+3%/-3%	+15%/-7%	+125%/-89%	+42%/-51%	+12%/-14%	+838%/-56%
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 006441398-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-13 ± 3	$0.84^{+0.63}_{-0.49}$	2958^{+353}_{-438}	4760^{+2157}_{-852}	$5.050^{+23.318}_{-3.424}$
Alt.	-6 ± 3	$0.63^{+0.50}_{-0.38}$	2967^{+358}_{-442}	4510^{+2900}_{-1075}	$3.837^{+22.364}_{-2.961}$

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

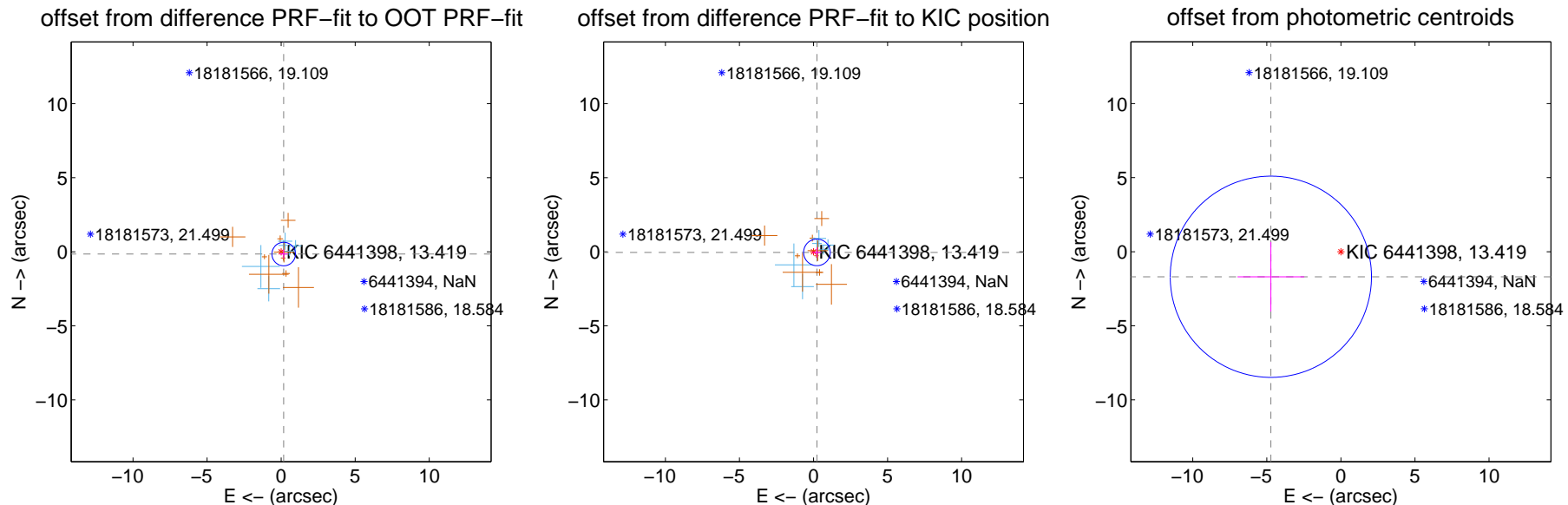
DV Centroid Data

Supplemental centroid analysis for 006441398-01. Kepler magnitude: 13.42. Transit SNR 3.61

There are 6 quarters with good PRF difference image offsets

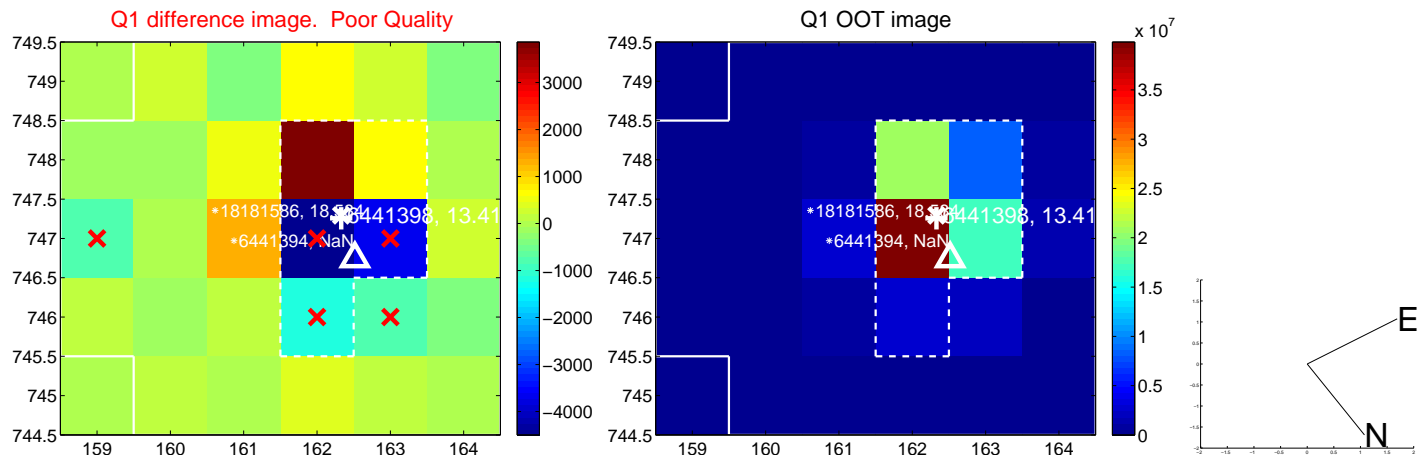
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.231 ± 0.265	0.87	-0.173 ± 0.274	-0.153 ± 0.308
PRF-fit source offset from KIC position	0.233 ± 0.299	0.78	-0.229 ± 0.284	-0.041 ± 0.340
photometric centroid source offset	5.02 ± 2.26	2.22	4.73 ± 2.25	-1.69 ± 2.35

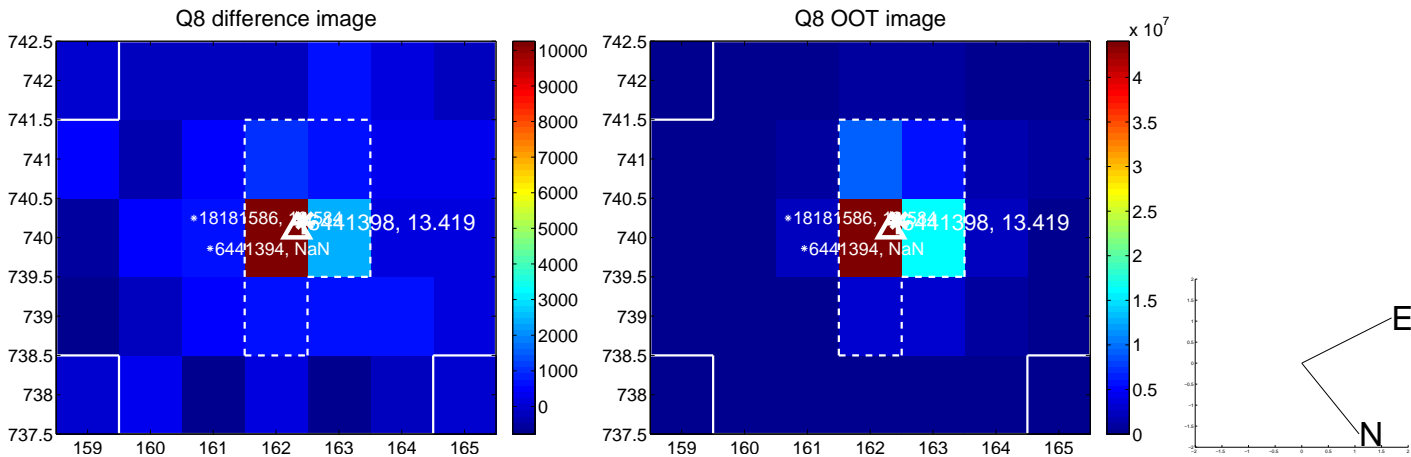
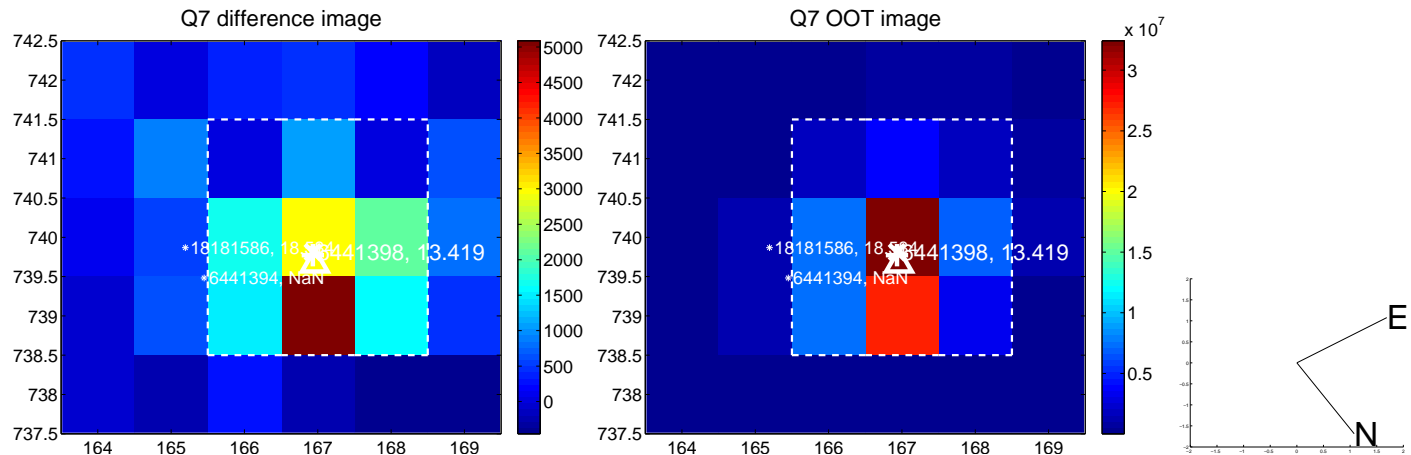
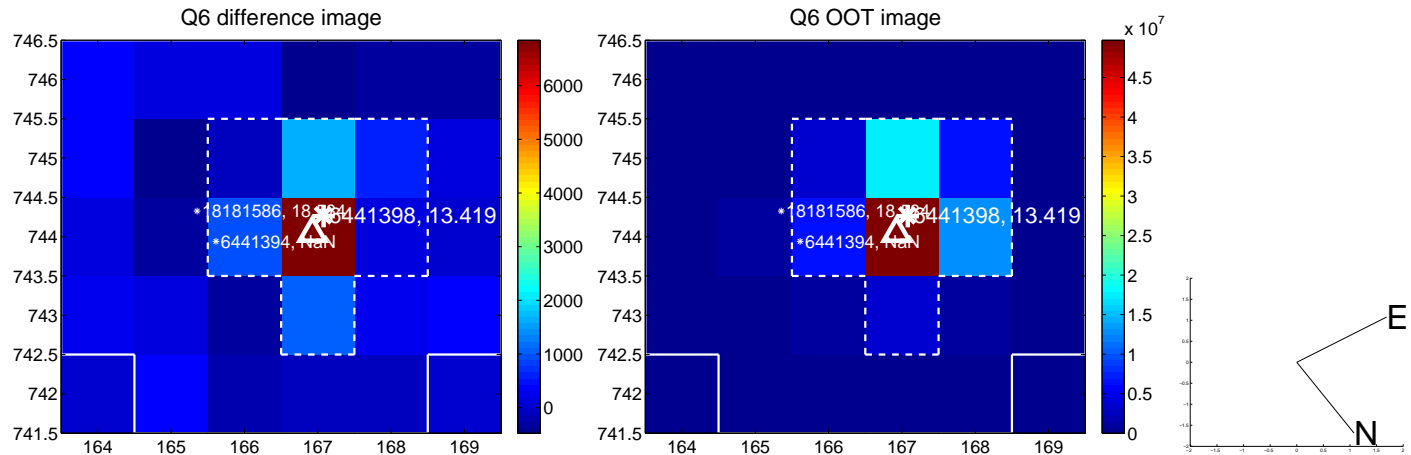
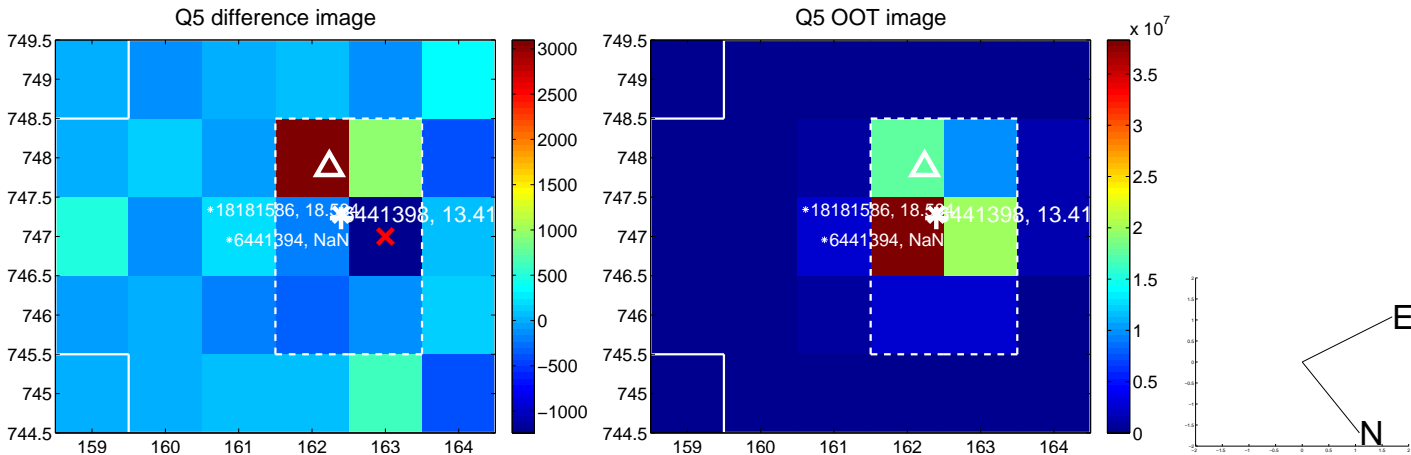


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

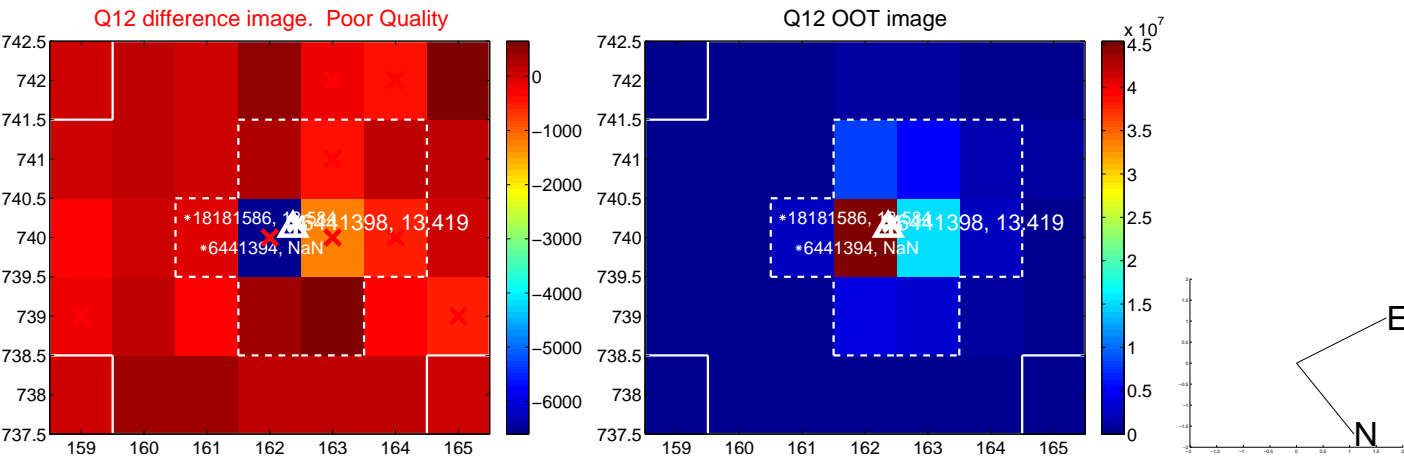
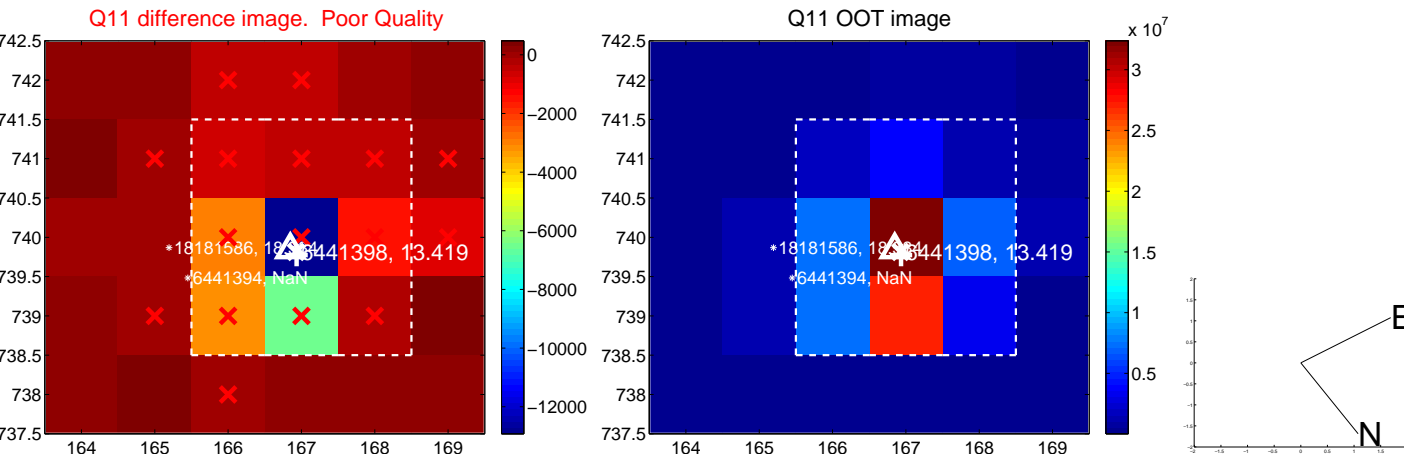
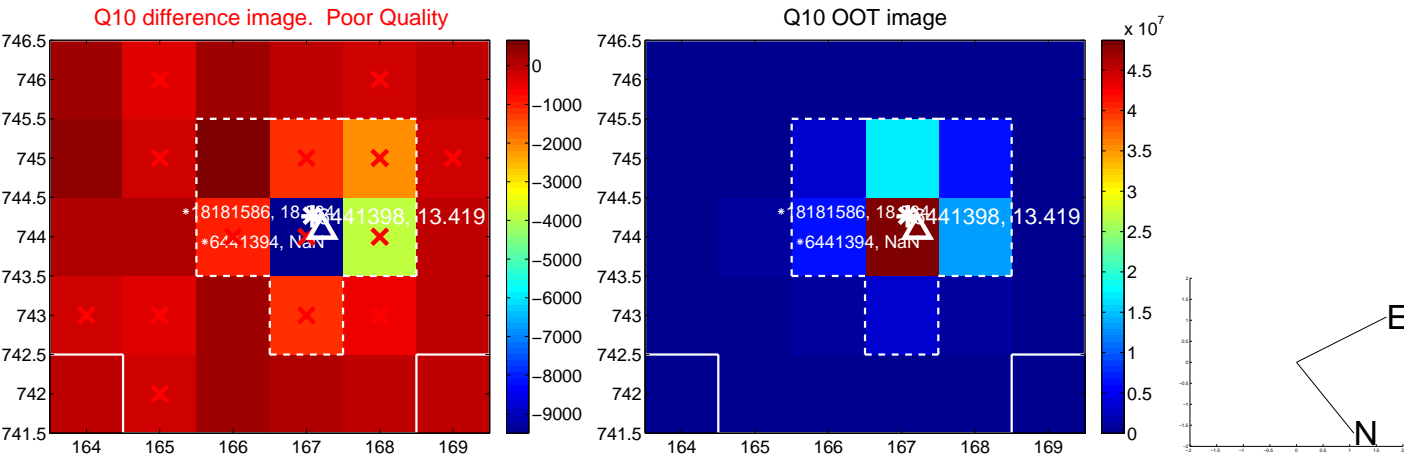
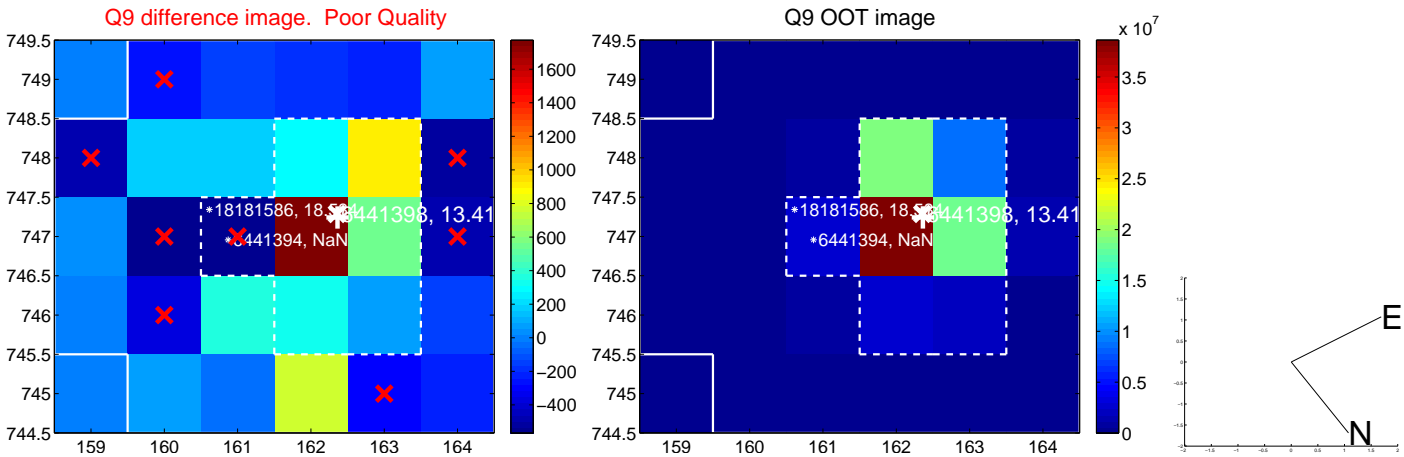
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



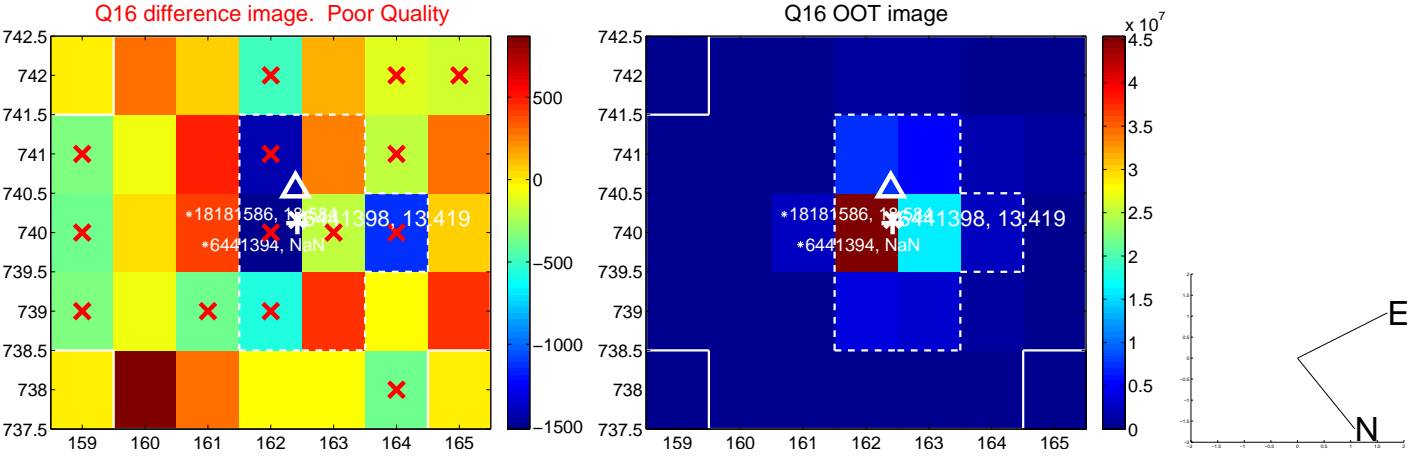
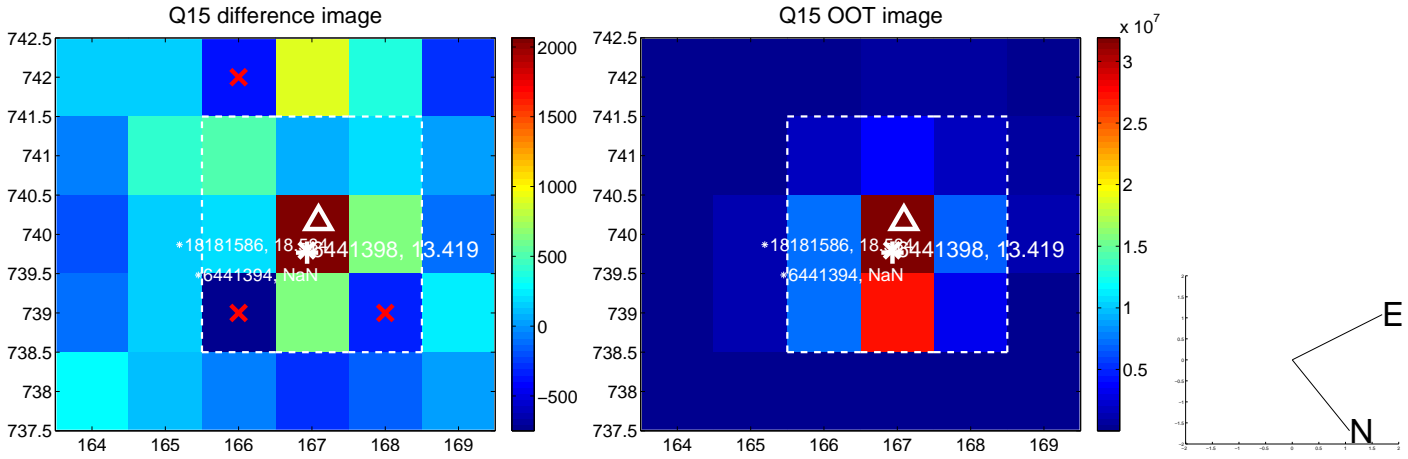
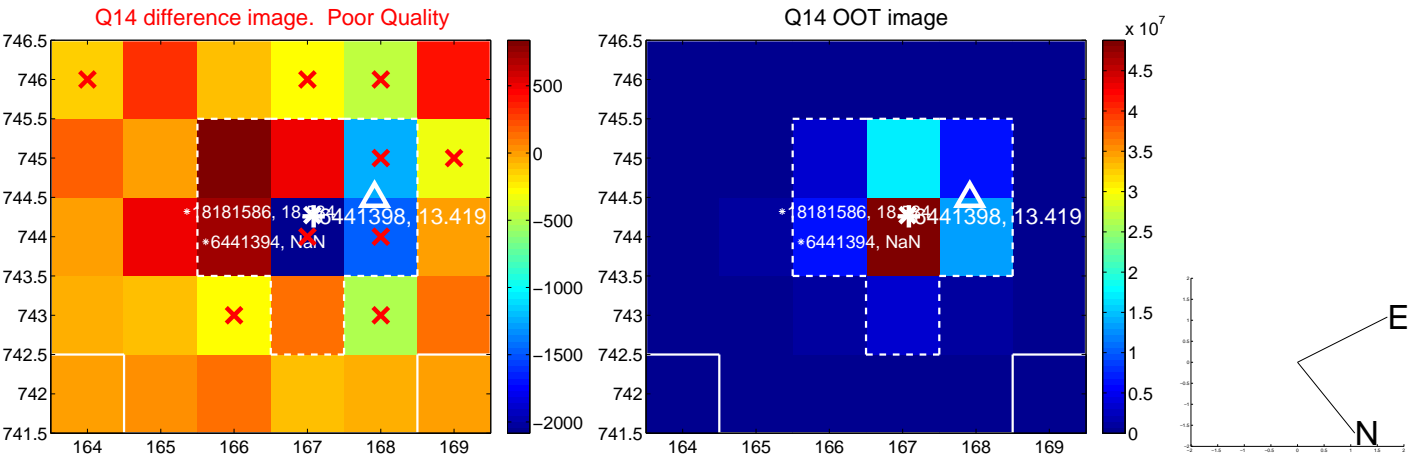
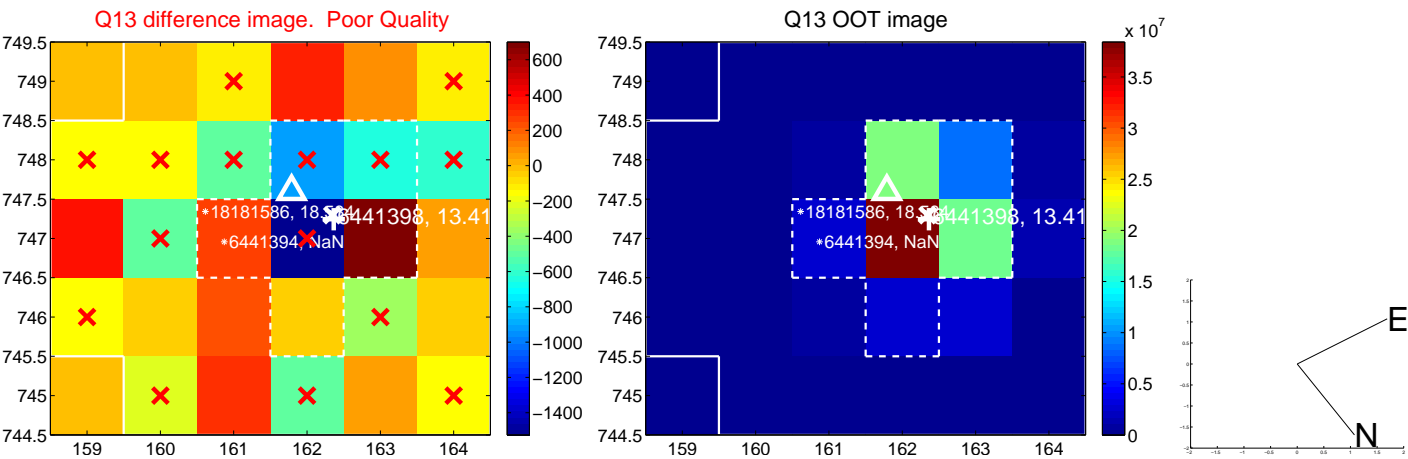
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



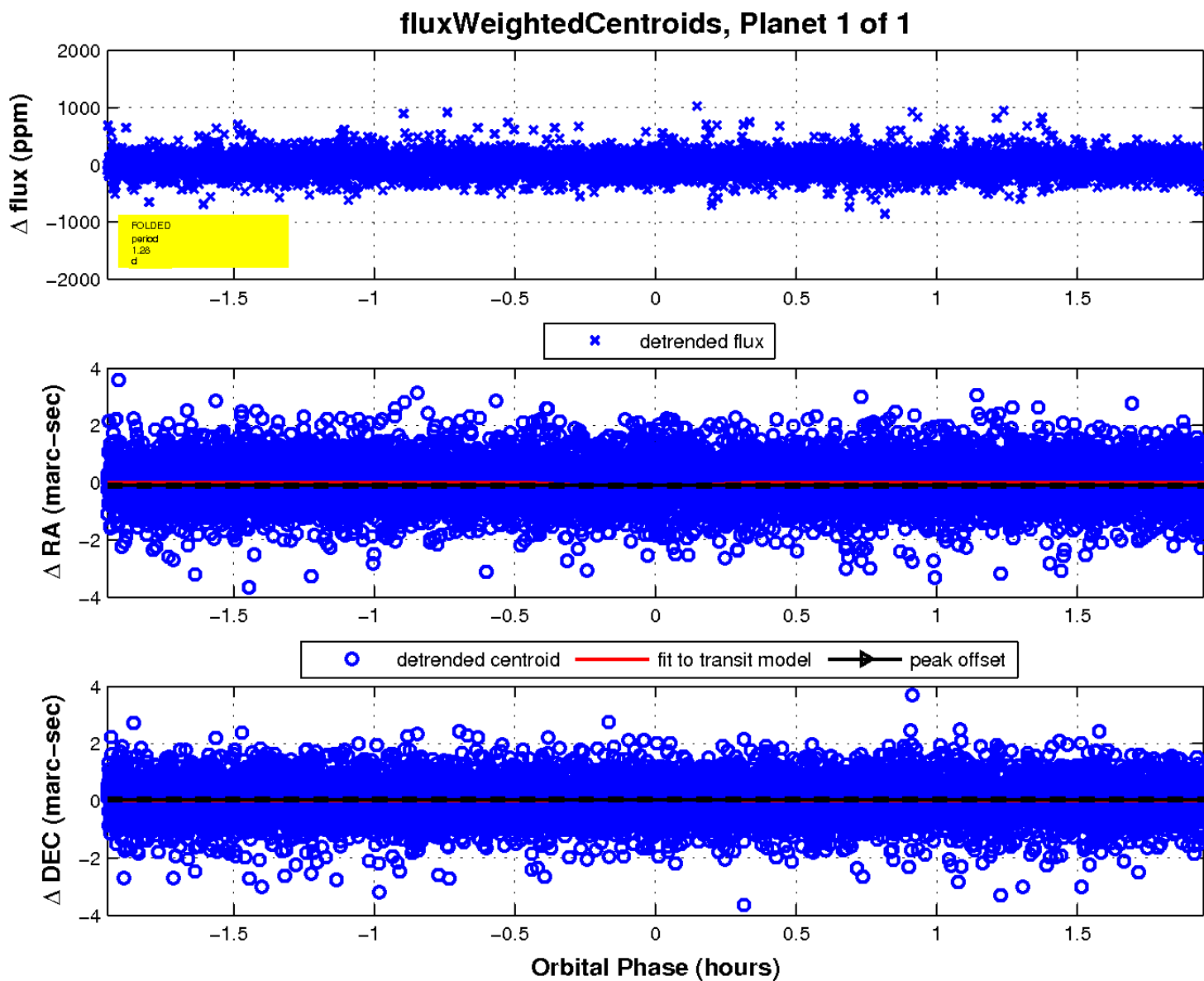
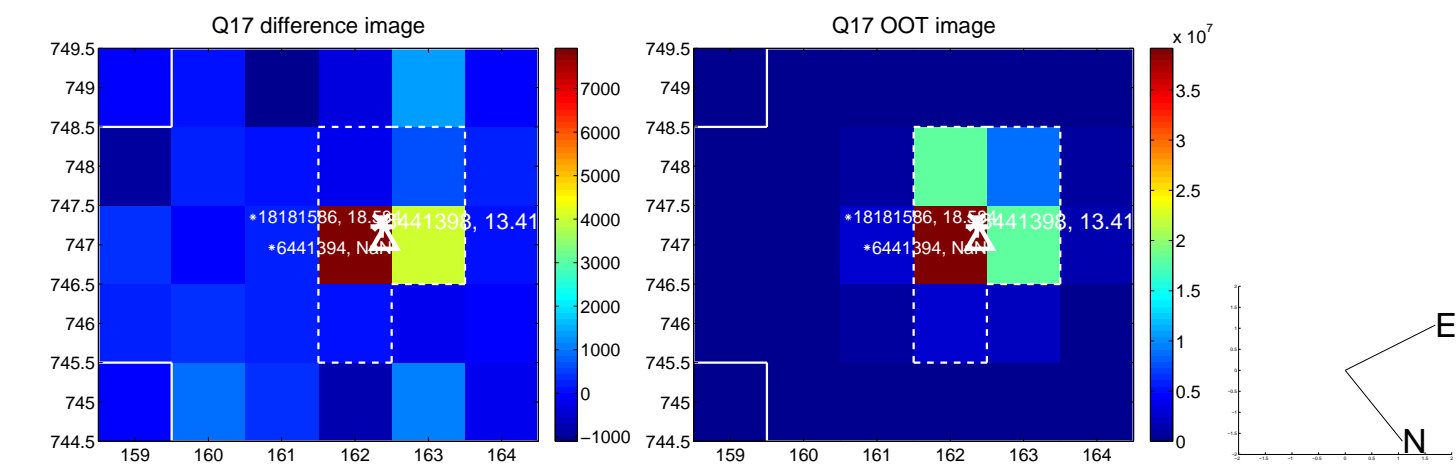
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

