

KIC 004274730

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})
004274730-01	OBS	No	0.712131	131.688888	25.6	4.248	11.1	7.0	3.81	8562	2.07	160897.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004274730-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV

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

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

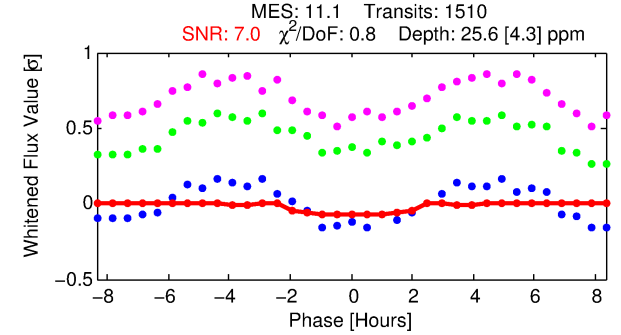
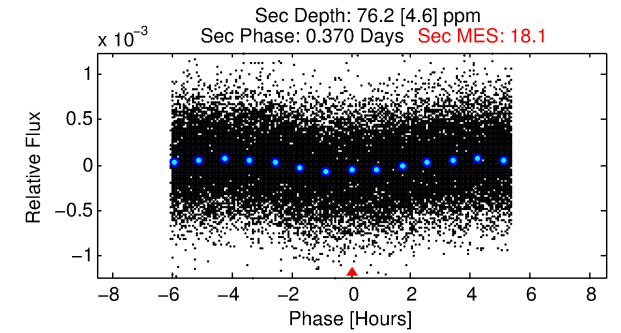
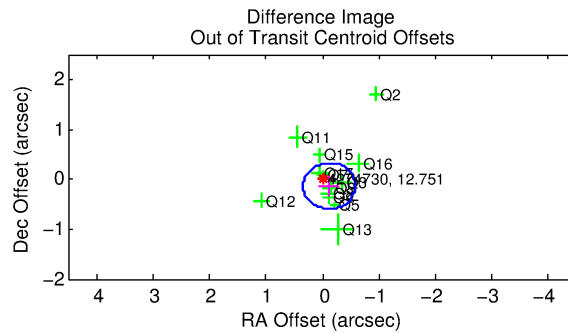
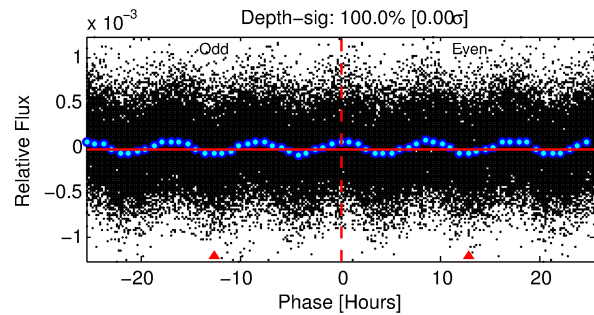
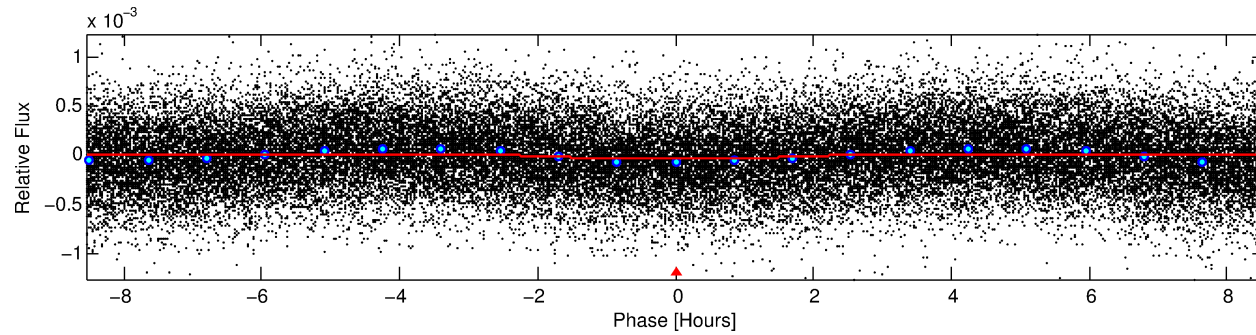
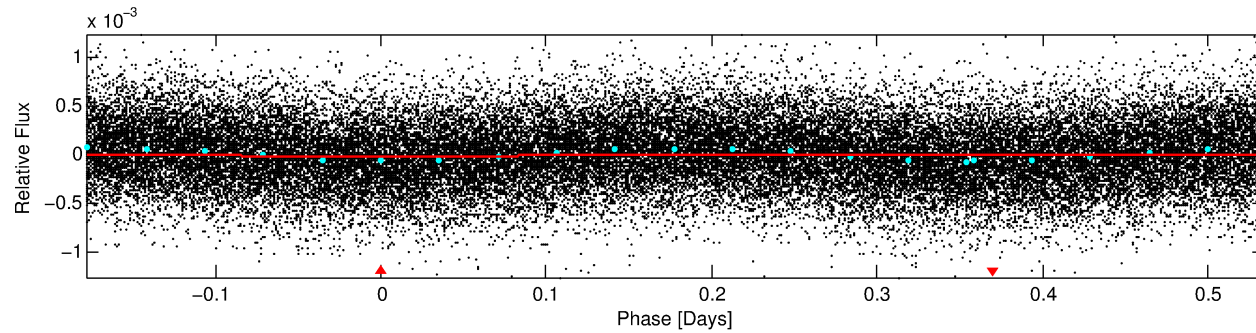
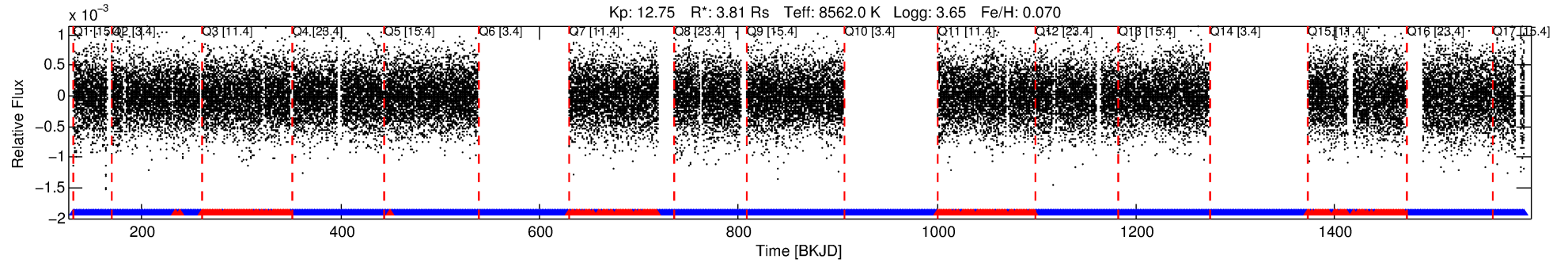
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004274730-01

No Significant Match Found

DV One-Page Summary

KIC: 4274730 Candidate: 1 of 1 Period: 0.712 d



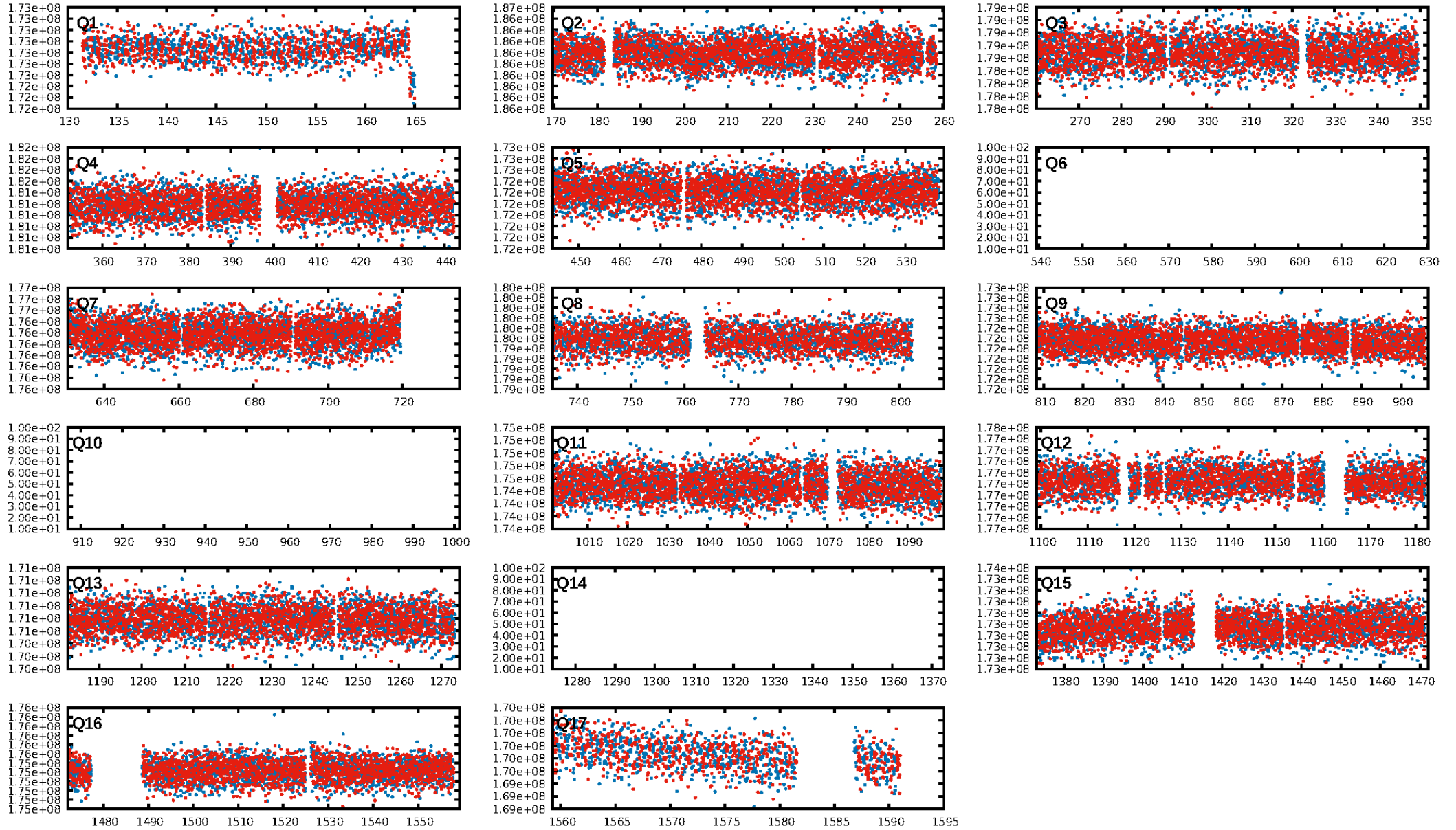
DV Fit Results:

Period = 0.71213 [0.00002] d
Epoch = 131.6889 [0.0062] BKJD
Rp/R* = 0.0050 [0.0034]
a/R* = 1.24 [1.88]
b = 0.70 [3.18]
Seff = 160897.96 [145969.95]
Teff = 5107 [1158] K
Rp = 2.07 [1.81] Re
a = 0.0209 [0.0106] AU
Ag = 4.26 [6.83] [0.48σ]
Teffp = 11345 [4095] K [1.47σ]

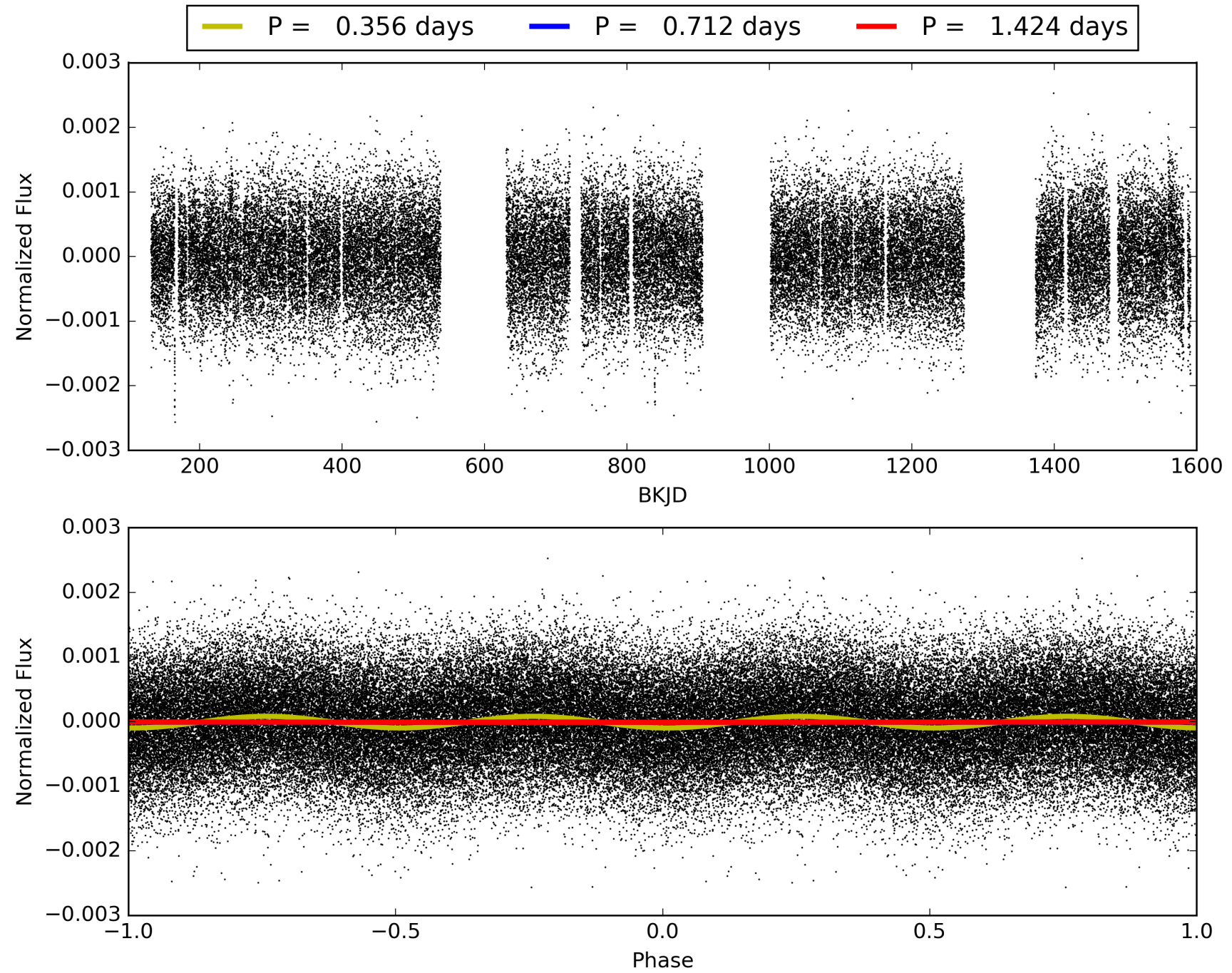
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.33e-16
RollingBand-fgt: 0.80 [1135/1425]
GhostDiagnostic-chr: 2.104
Centroid-sig: 0.4%
Centroid-so: 1.342 arcsec [2.28σ]
OotOffset-rm: 0.181 arcsec [1.18σ]
KicOffset-rm: 0.059 arcsec [0.43σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 004274730-01, PDC Light Curves

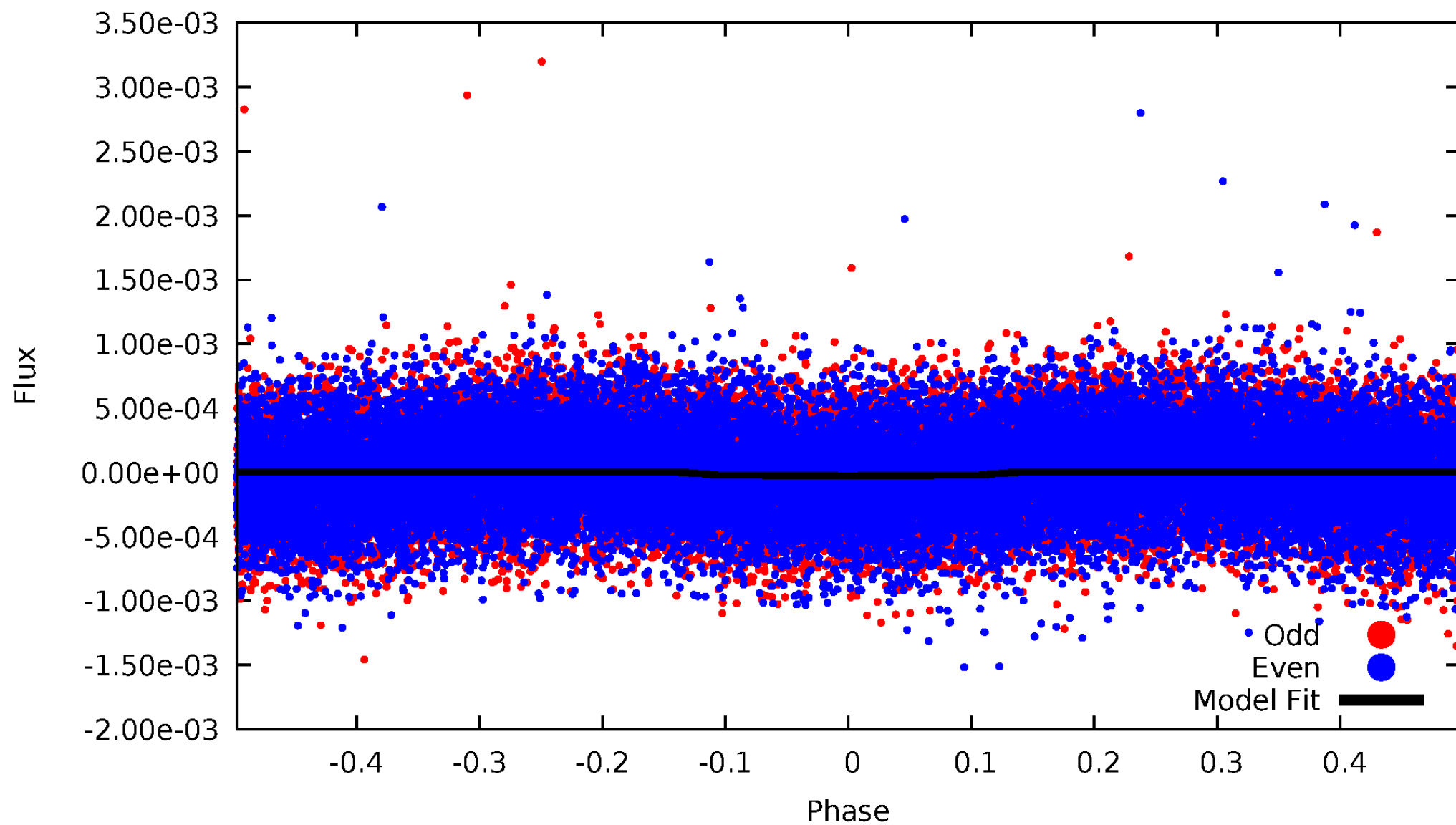


TCE 004274730-01



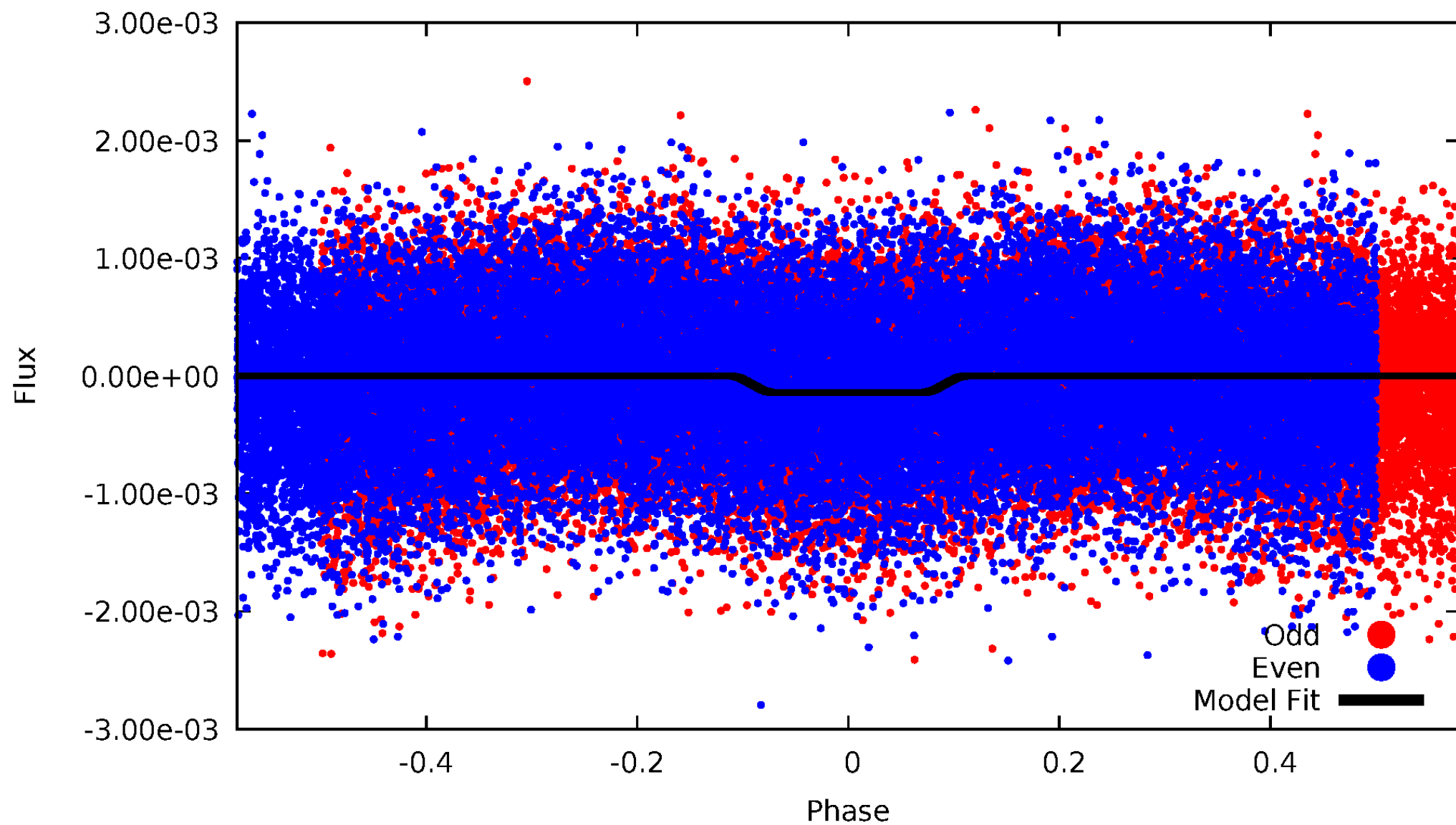
DV Odd/Even

TCE 004274730-01



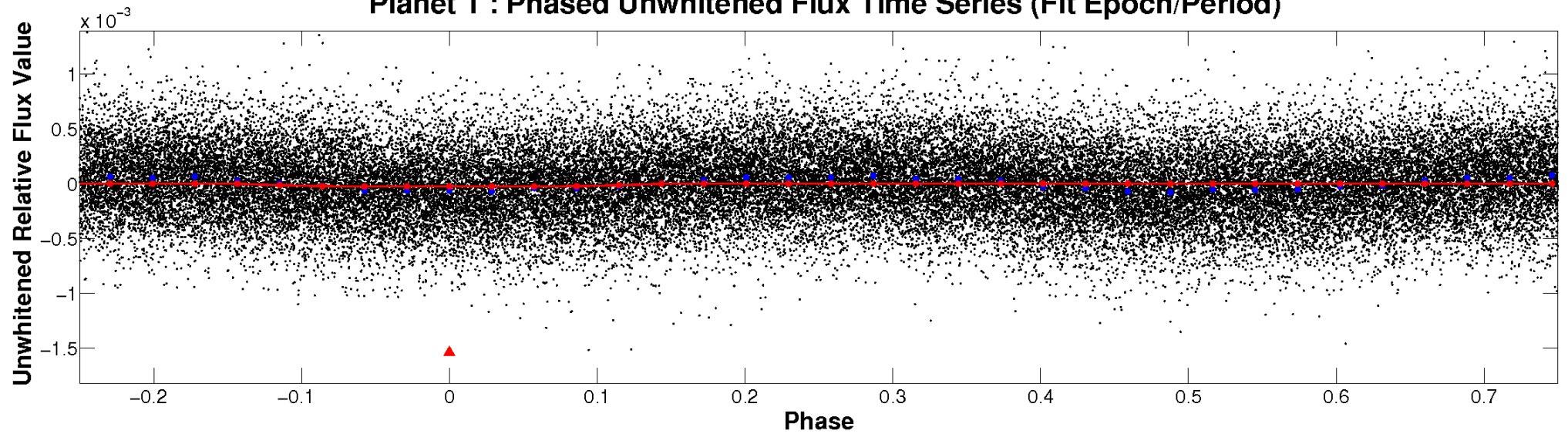
ALT Odd/Even

TCE 004274730-01

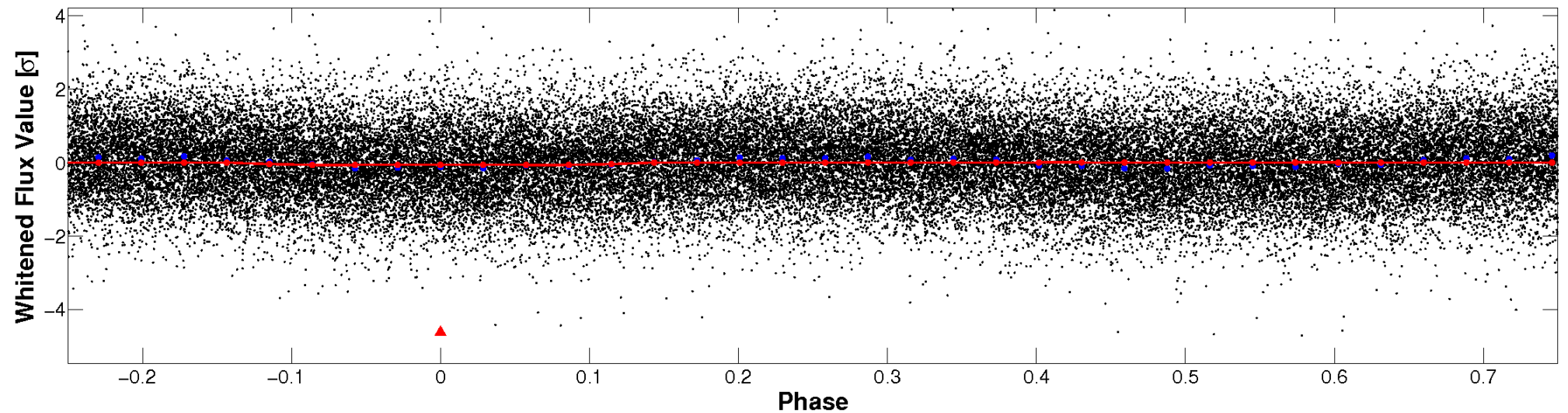


Non-Whitened Vs. Whitened Light Curve

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

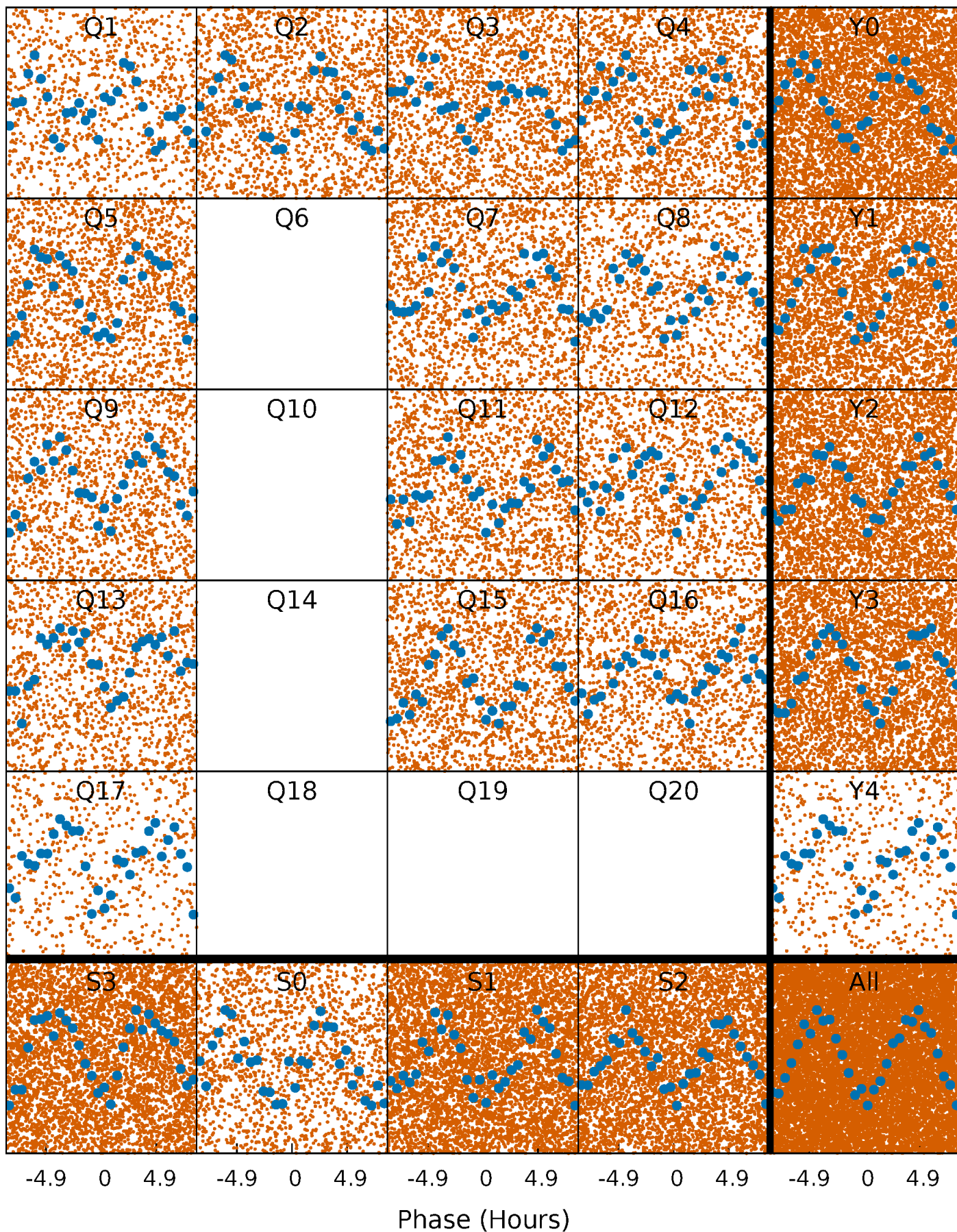


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



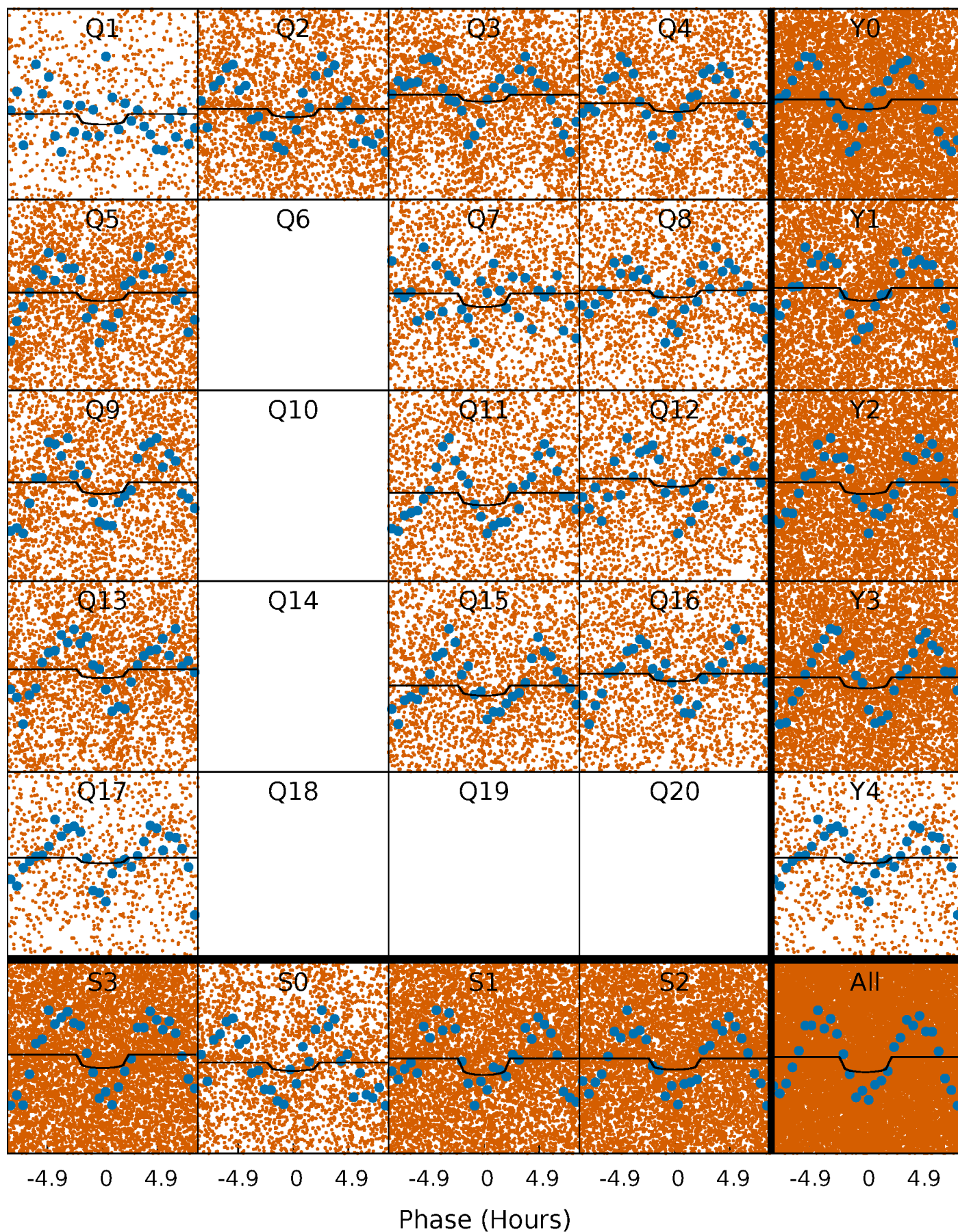
PDC Quarter-Phased Transit Curves

TCE 004274730-01 P= 0.712131 Days $T_0=131.688888$ (BKJD)



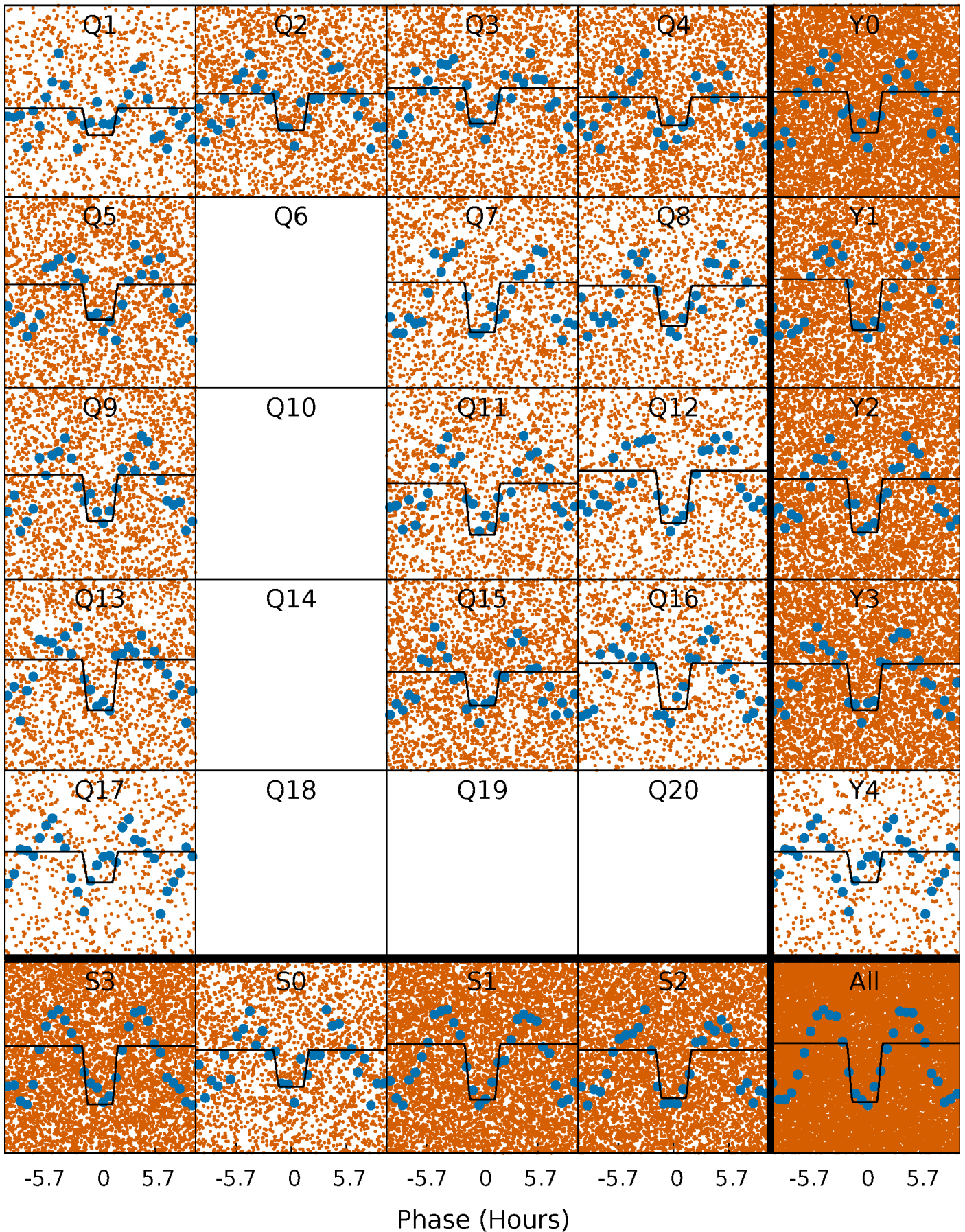
DV Quarter-Phased Transit Curves

TCE 004274730-01 P= 0.712131 Days $T_0=131.688888$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

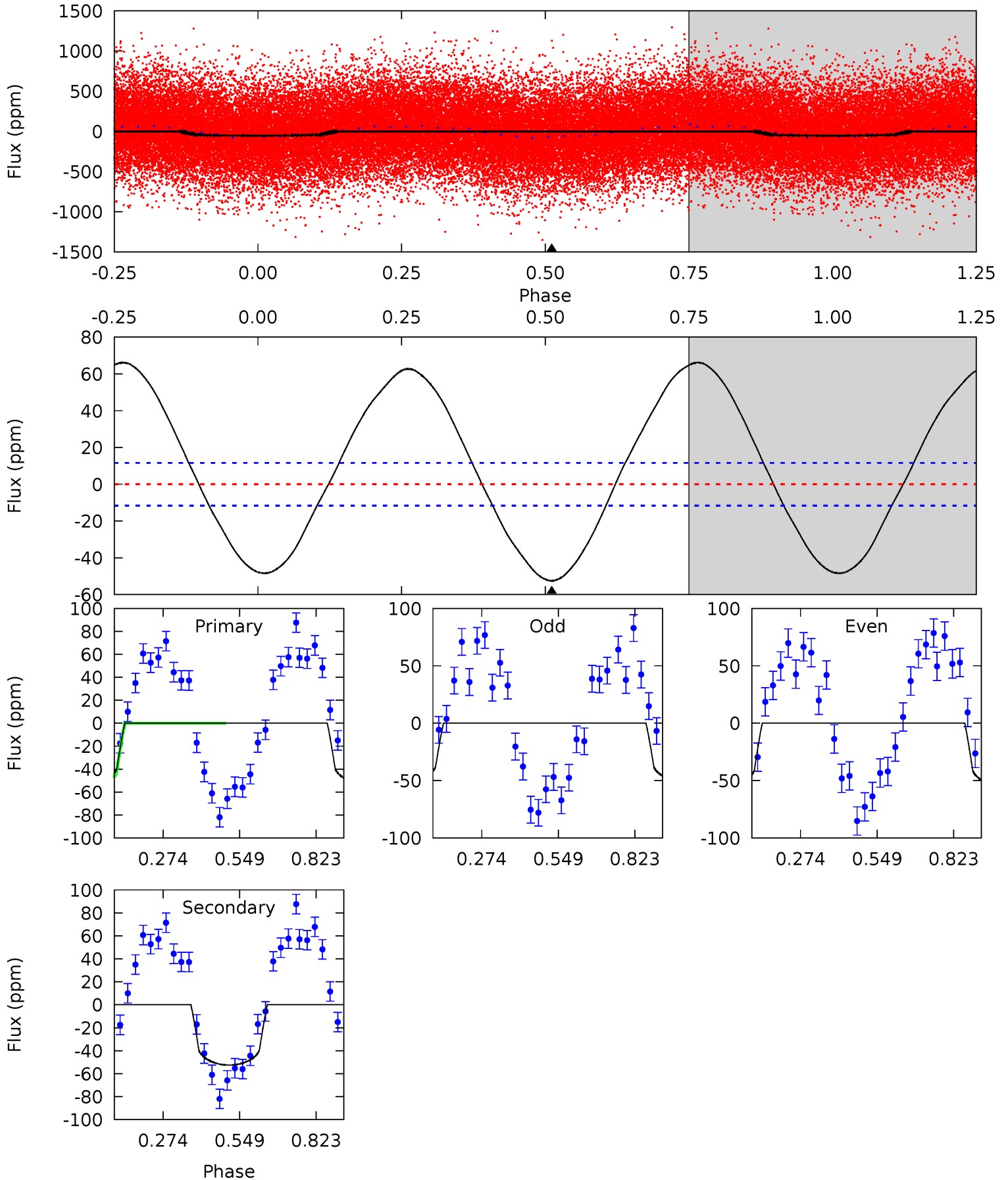
TCE 004274730-01 P= 0.712205 Days $T_0=131.621088$ (BKJD)



DV Model-Shift Uniqueness Test

004274730-01, P = 0.712131 Days, E = 130.976757 Days

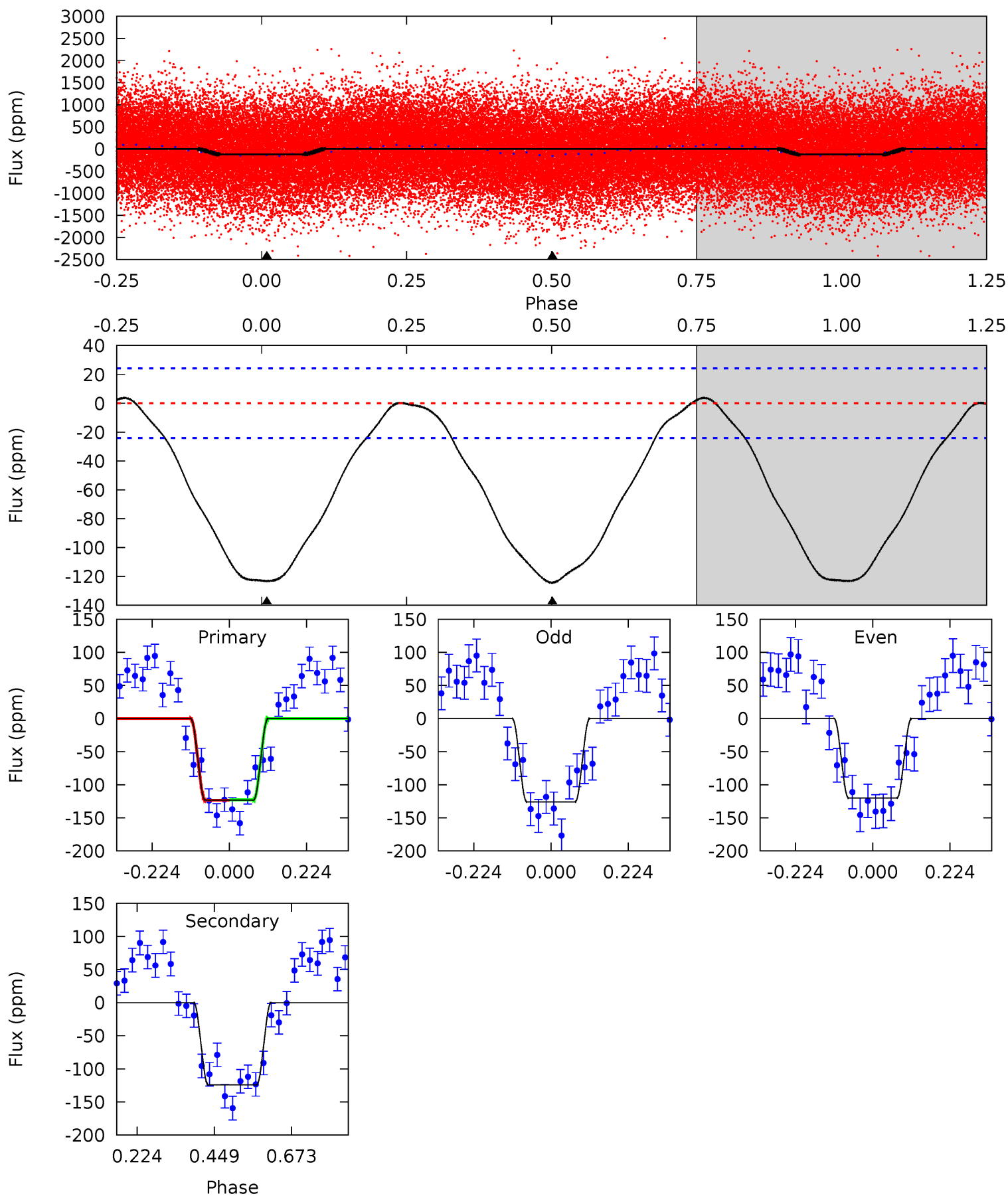
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.6	19.6	0	0	4.35	1.09	13.6	19.6	19.6	19.6	19.6	0.74	1.07	0.56	0.95



Alt Model-Shift Uniqueness Test

004274730-01, P = 0.712205 Days, E = 130.908883 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.4	22.6	0	0	4.39	1.22	0.39	22.4	22.4	22.6	22.6	0.54	1.09	0.03	0.06



Stellar Parameters For KIC 004274730

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8562^{+407}_{-883}	$3.653^{+0.472}_{-0.118}$	$0.070^{+0.150}_{-0.250}$	$3.812^{+0.682}_{-2.045}$	$2.385^{+0.310}_{-0.722}$	$0.061^{+0.320}_{-0.023}$
	+5%/-10%	+13%/-3%	+214%/-357%	+18%/-54%	+13%/-30%	+527%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004274730-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-52 ± 3	$1.93^{+1.48}_{-1.16}$	6803^{+742}_{-996}	9931^{+14845}_{-3171}	$3.177^{+17.102}_{-2.091}$
Alt.	-124 ± 6	$4.61^{+1.83}_{-1.56}$	6885^{+685}_{-992}	7466^{+2248}_{-1612}	$1.372^{+1.744}_{-0.647}$

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

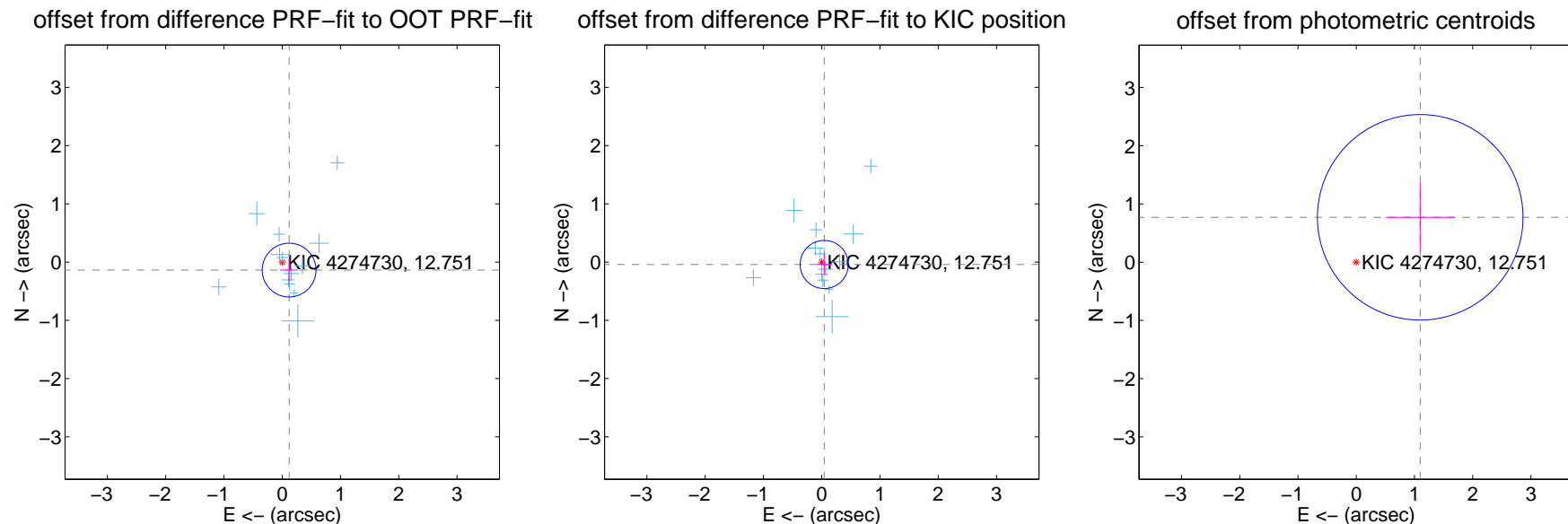
DV Centroid Data

Supplemental centroid analysis for 004274730-01. Kepler magnitude: 12.75. Transit SNR 7.04

There are 13 quarters with good PRF difference image offsets

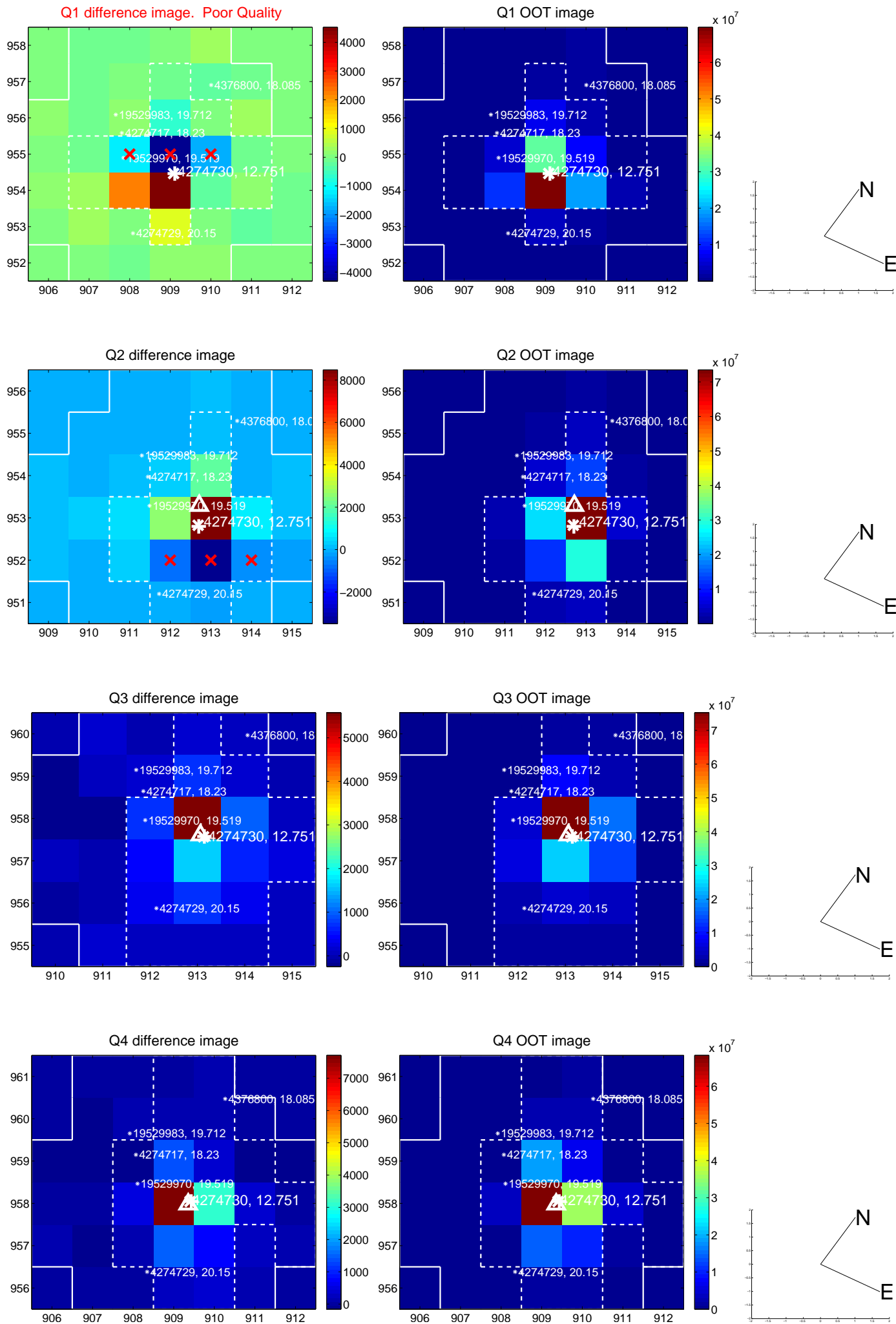
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.181 ± 0.154	1.18	-0.118 ± 0.155	-0.137 ± 0.191
PRF-fit source offset from KIC position	0.059 ± 0.138	0.43	-0.043 ± 0.131	-0.041 ± 0.184
photometric centroid source offset	1.34 ± 0.59	2.28	-1.10 ± 0.59	0.77 ± 0.59

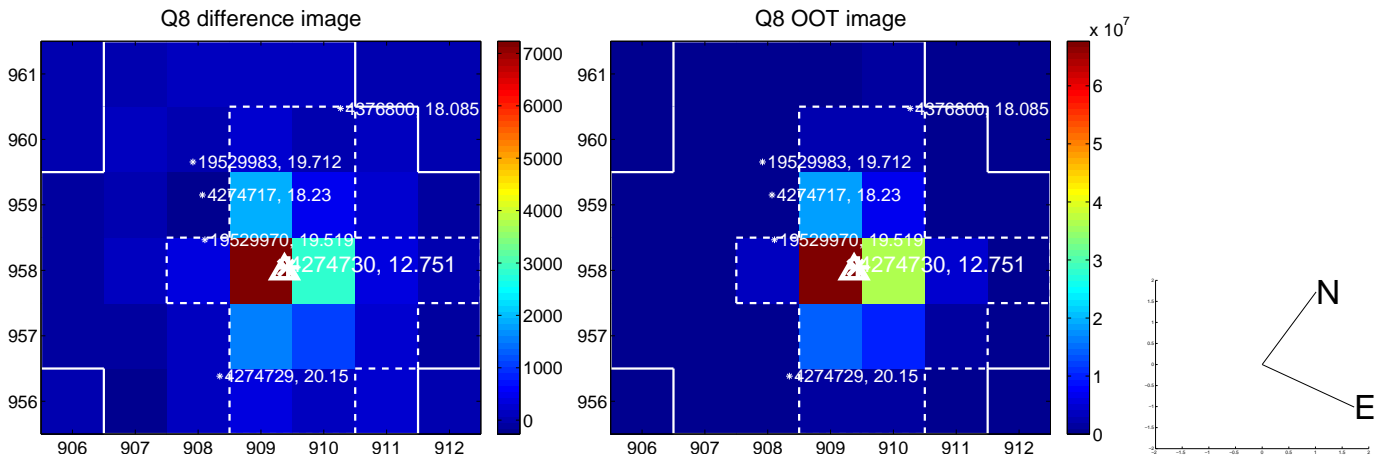
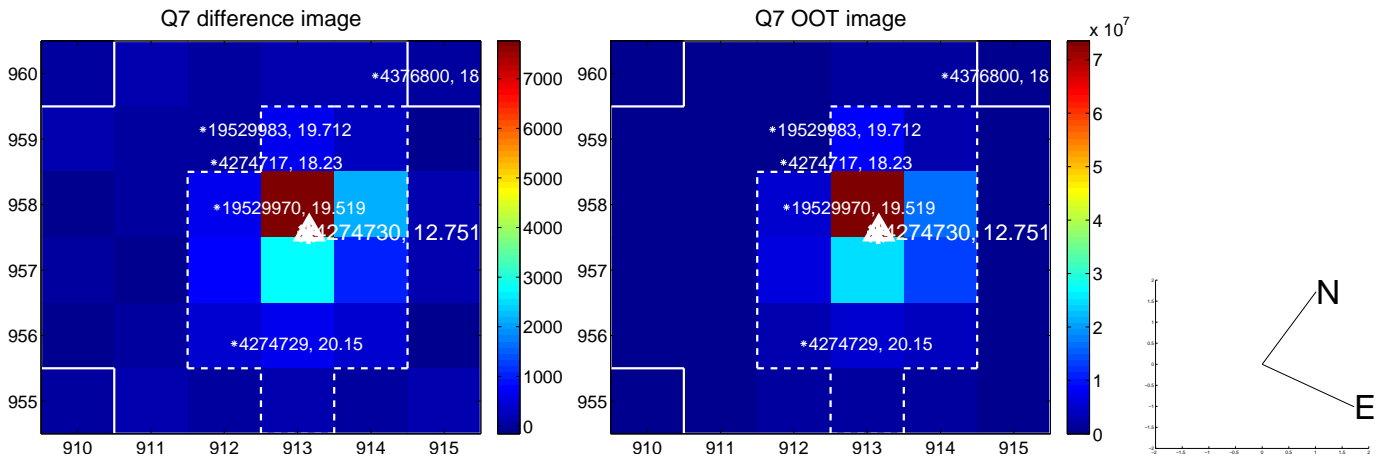
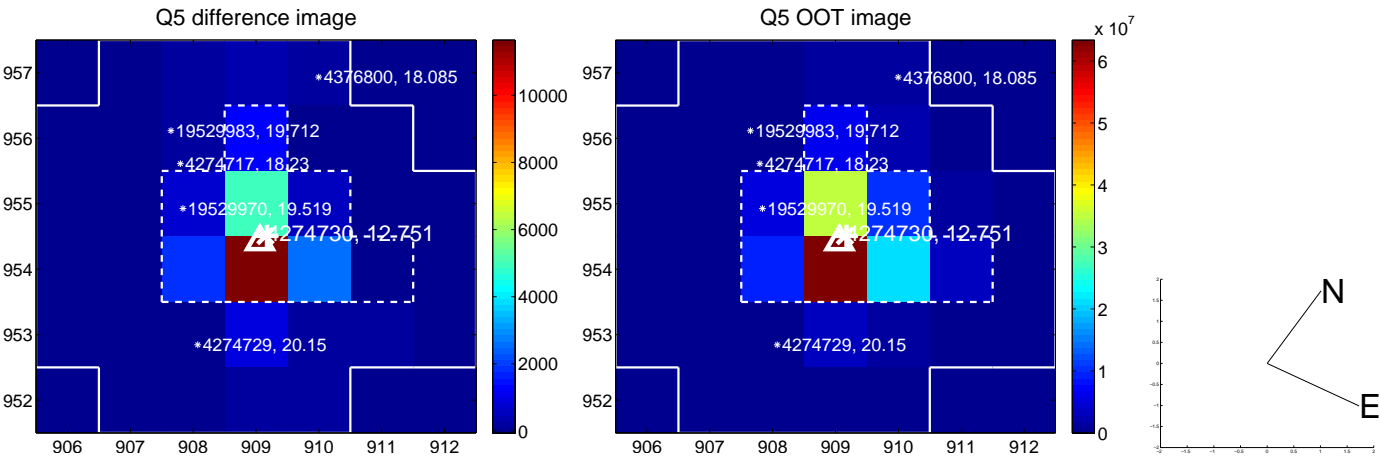


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

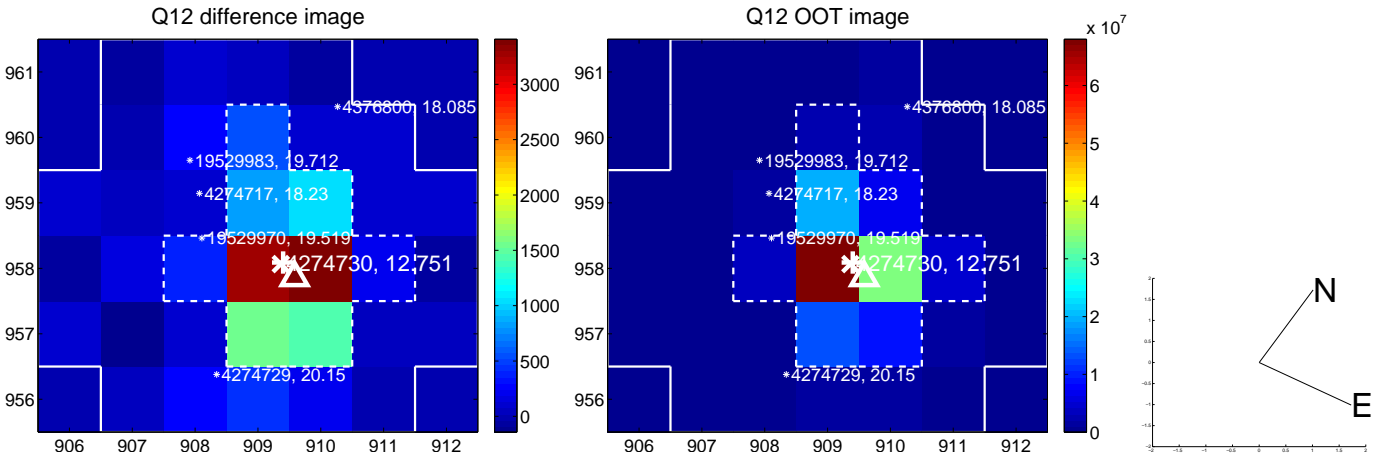
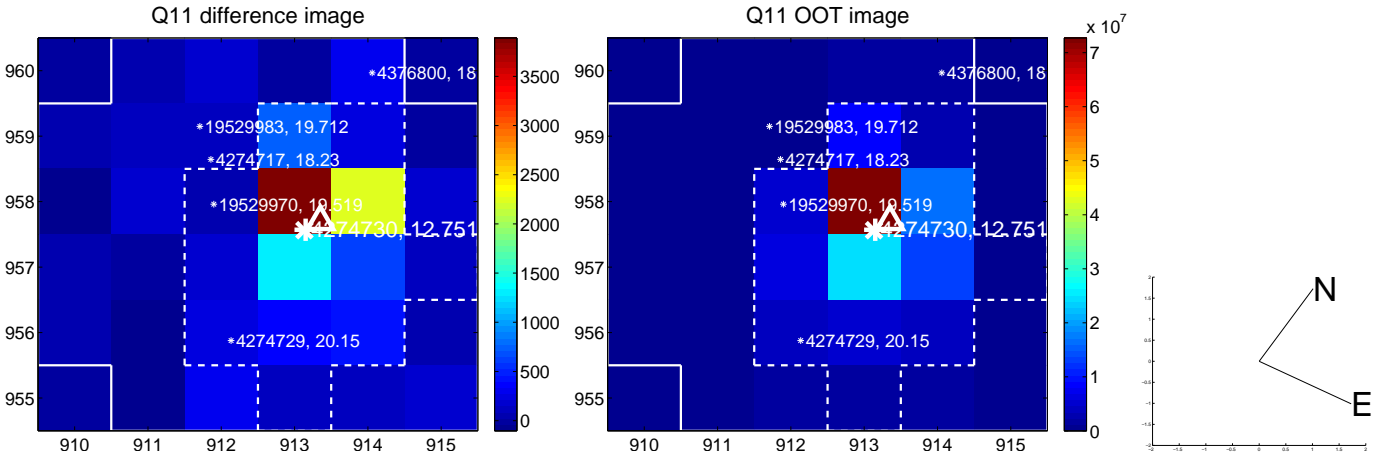
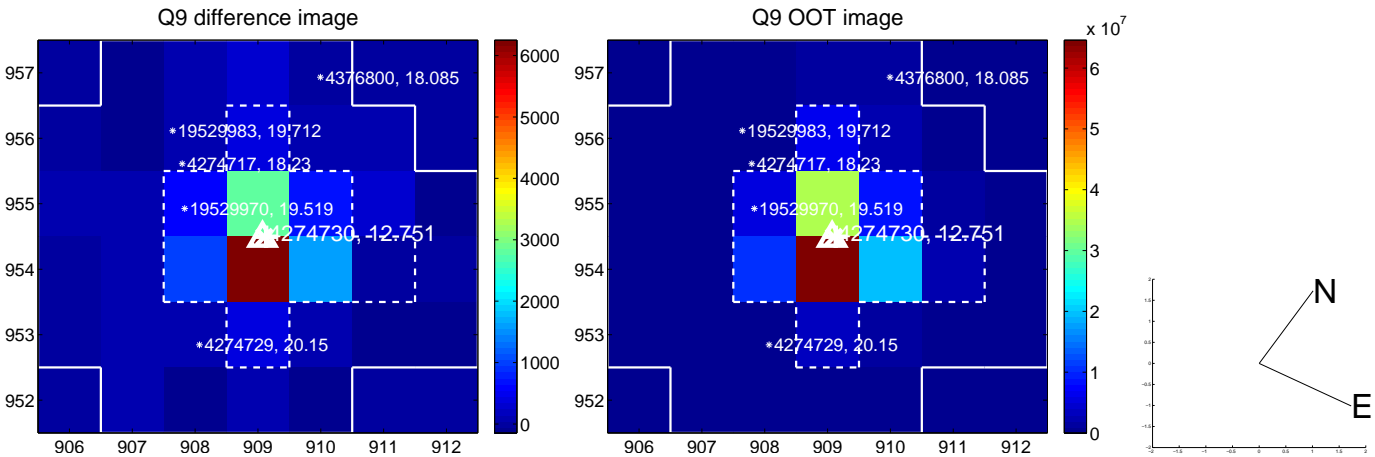
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



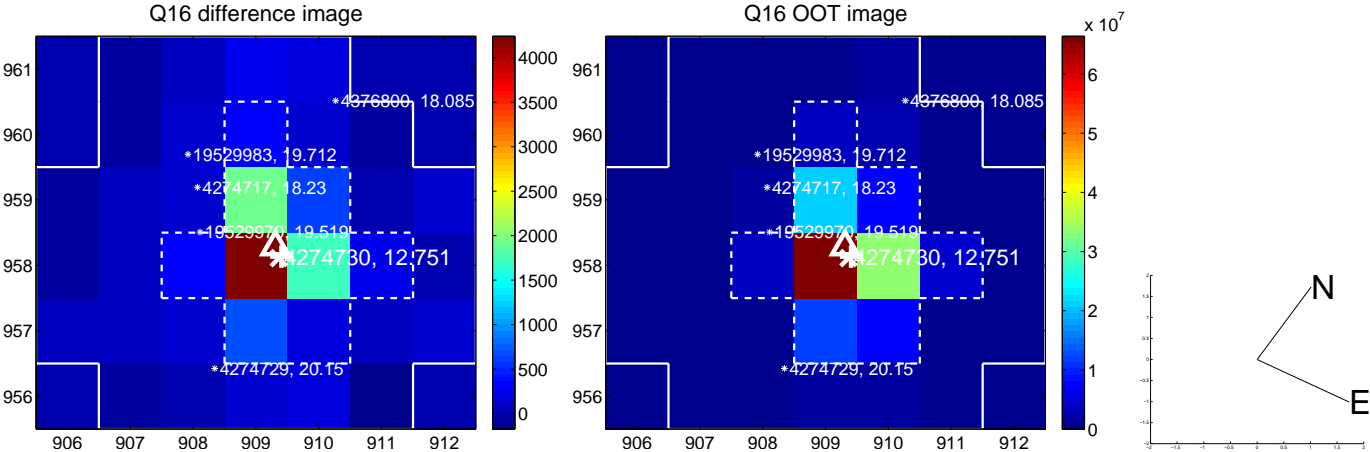
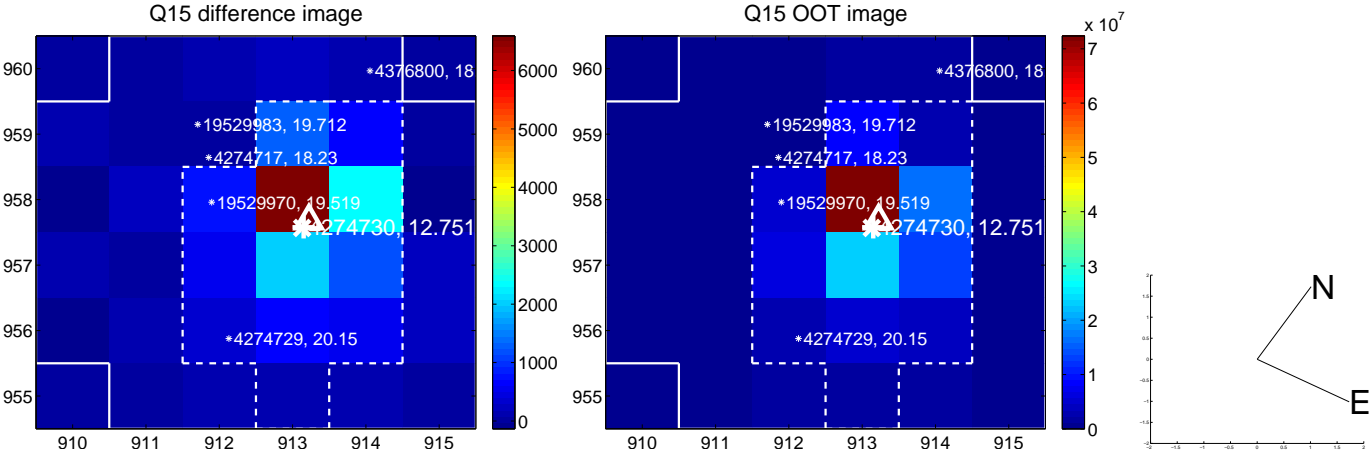
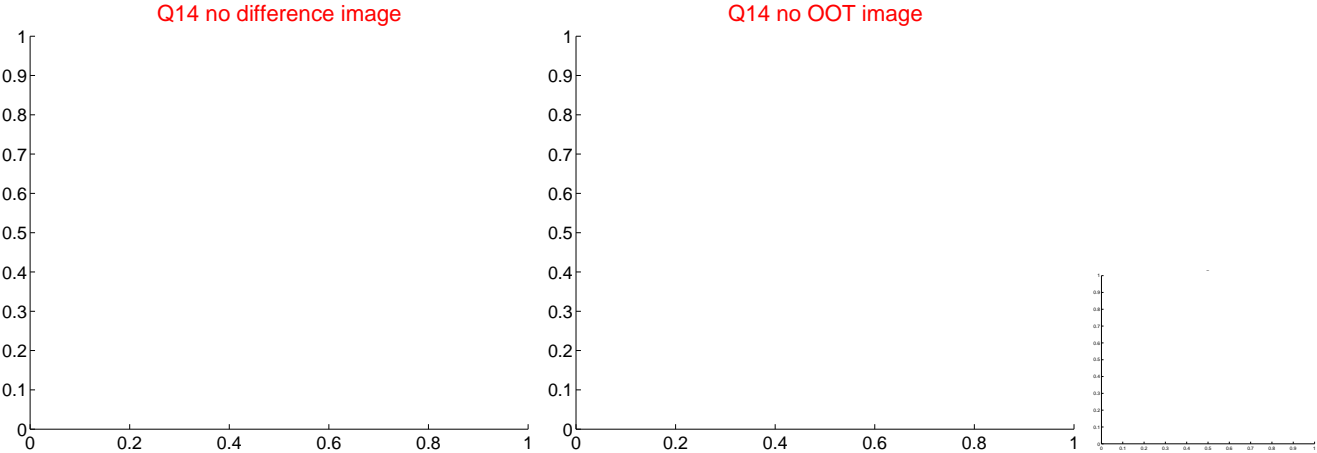
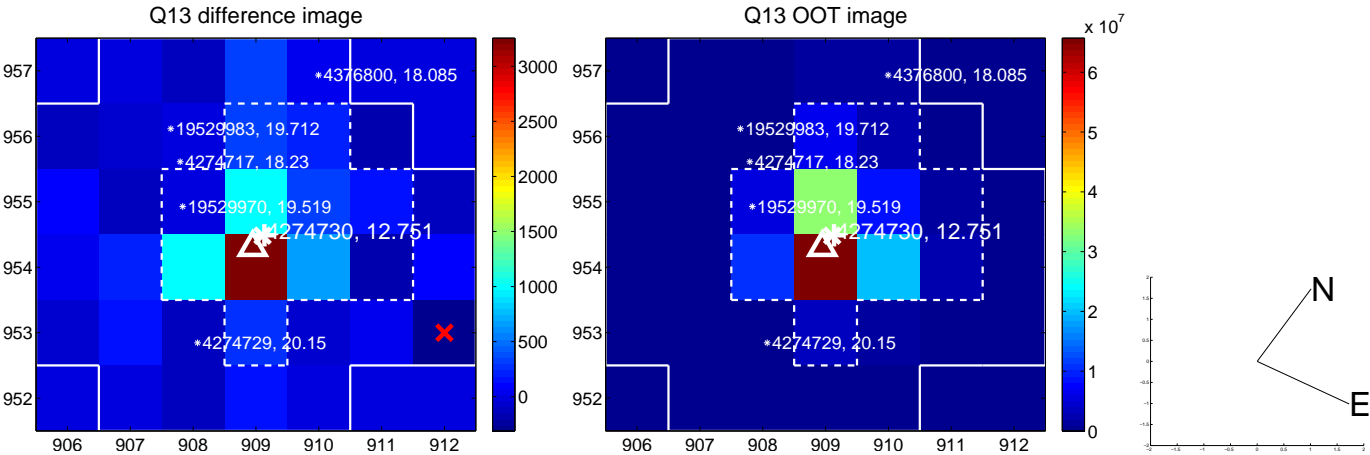
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



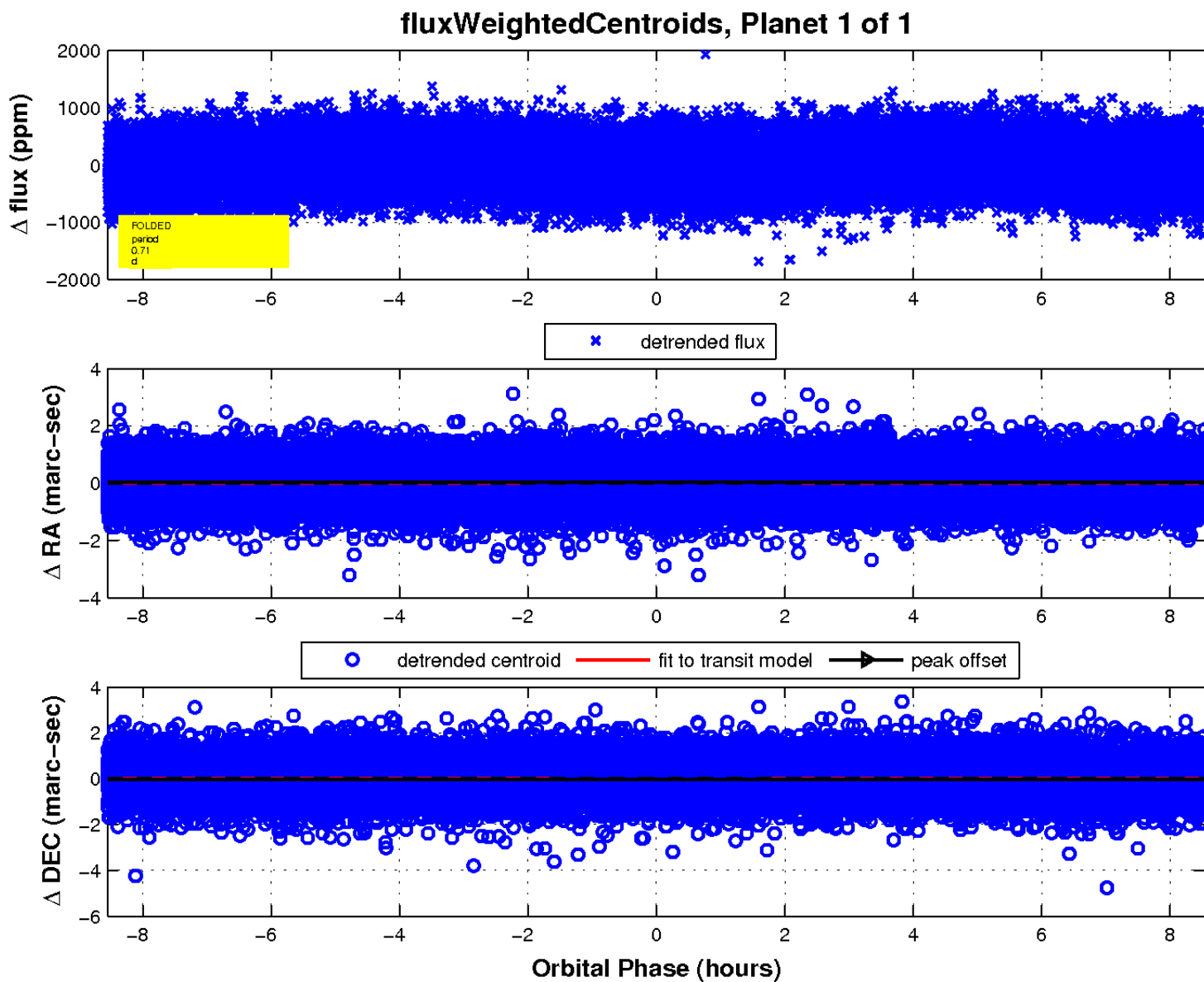
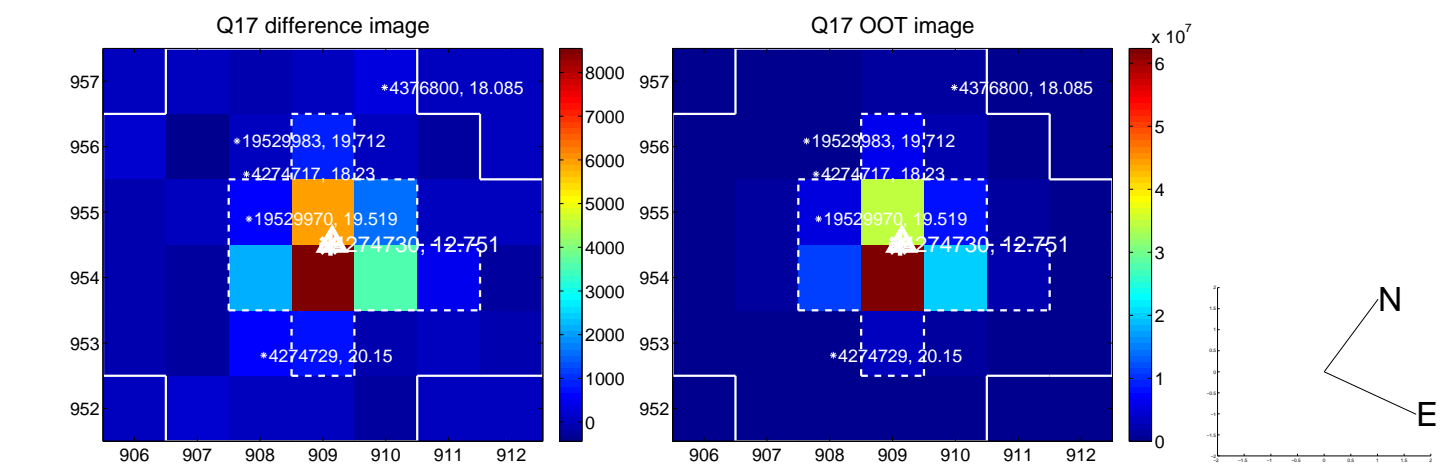
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UKIRT Image

Declination

