

KIC 004374812

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})
004374812-01	OBS	No	1.283293	132.358726	51.2	2.690	9.0	10.7	3.19	7053	2.52	26148.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004374812-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—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.

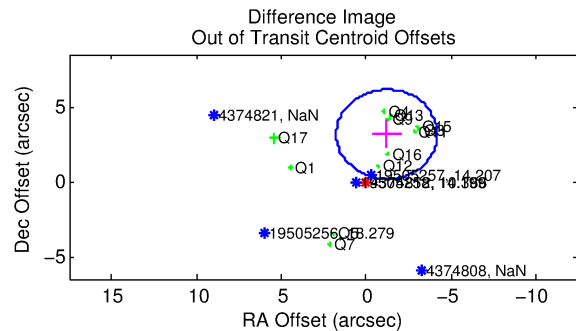
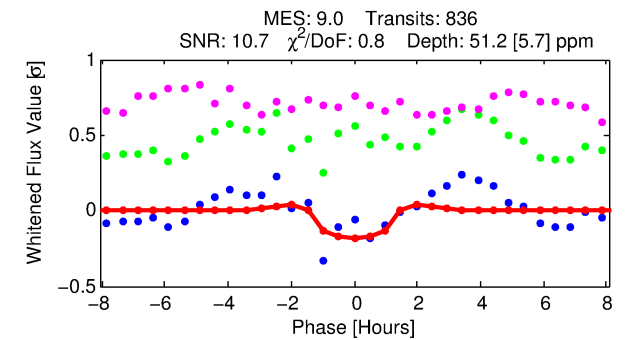
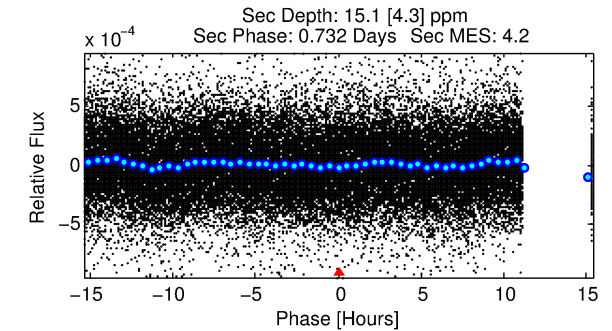
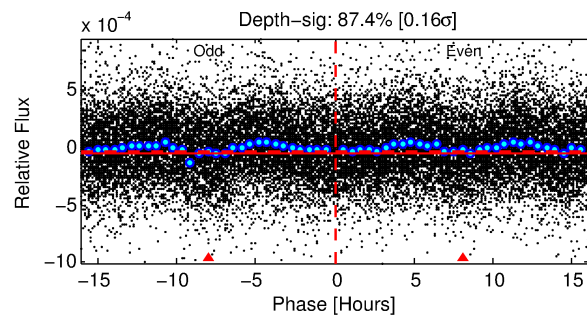
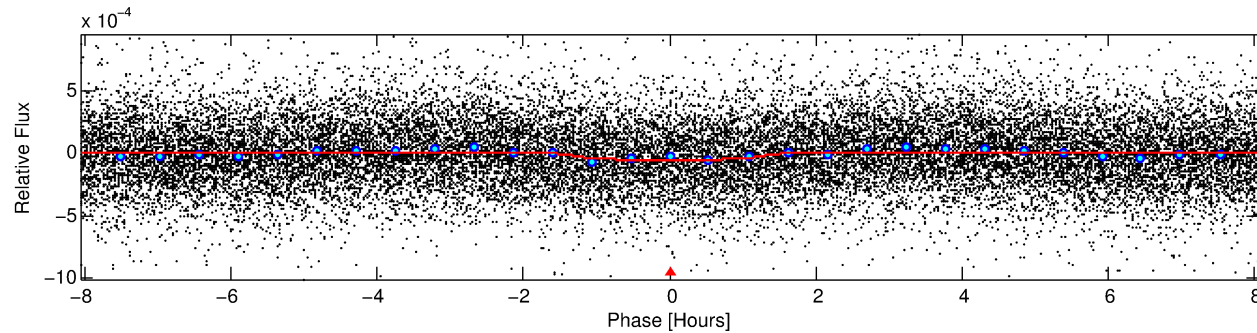
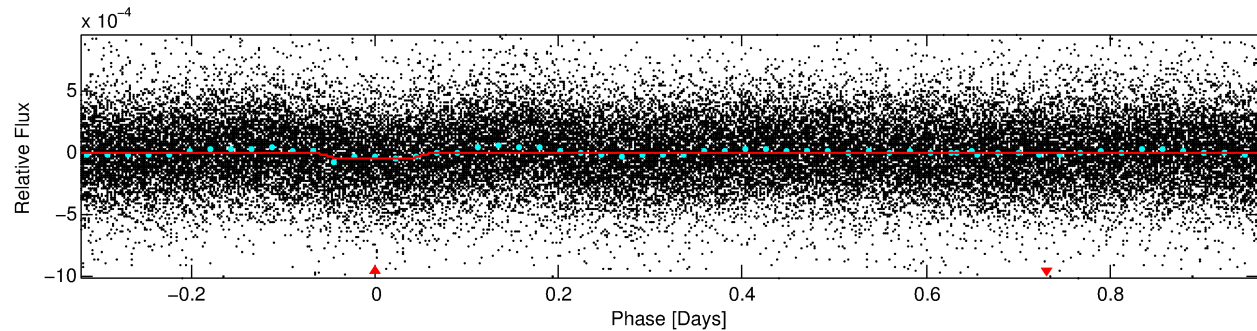
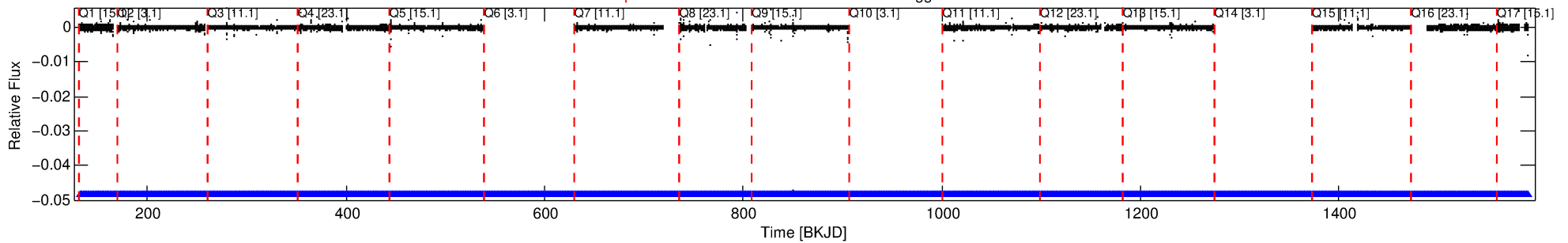
Ephemeris Match Information For 004374812-01

No Significant Match Found

DV One-Page Summary

KIC: 4374812 Candidate: 1 of 1 Period: 1.283 d

Kp: 10.37 R*: 3.19 Rs Teff: 7053.0 K Logg: 3.74 Fe/H: 0.300



DV Fit Results:

Period = 1.28329 [0.00001] d
Epoch = 132.3587 [0.0028] BKJD
Rp/R* = 0.0072 [0.0025]
a/R* = 2.39 [4.03]
b = 0.80 [0.92]
Seff = 26148.86 [10406.48]
Teff = 3243 [323] K
Rp = 2.52 [1.13] Re
a = 0.0293 [0.0076] AU
Ag = 1.13 [0.95] [0.14σ]
Teffp = 5170 [961] K [1.90σ]

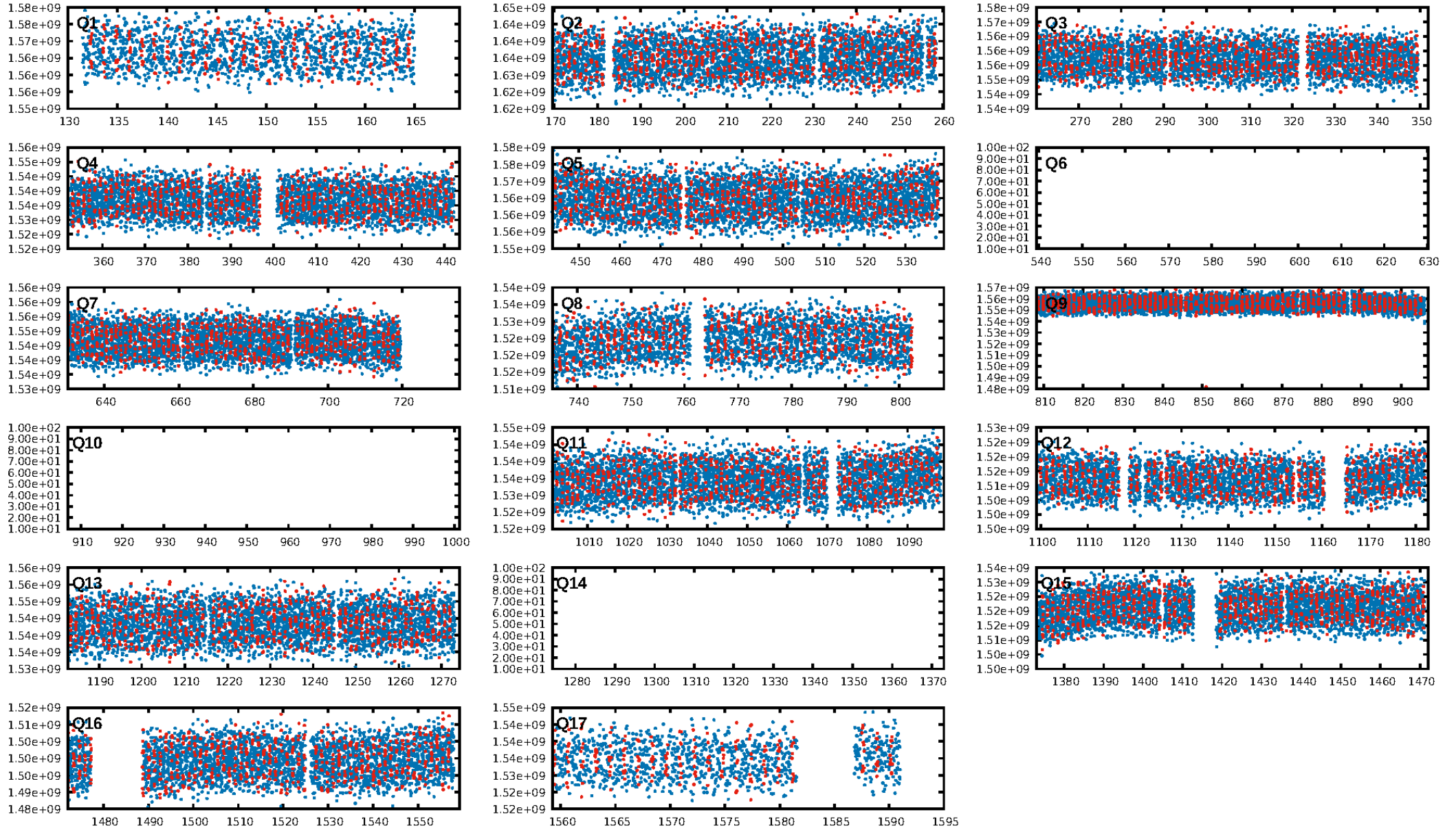
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.20e-15
RollingBand-fgt: 1.00 [789/789]
GhostDiagnostic-chr: -2.056
Centroid-sig: 6.9%
Centroid-so: 0.341 arcsec [0.93σ]
OotOffset-rm: 3.391 arcsec [3.41σ]
KicOffset-rm: 3.880 arcsec [3.52σ]
OotOffset-st: 0/4/3/5 [12]
KicOffset-st: 0/4/3/5 [12]
DiffImageQuality-fgm: 0.08 [1/12]
DiffImageOverlap-fno: 1.00 [14/14]

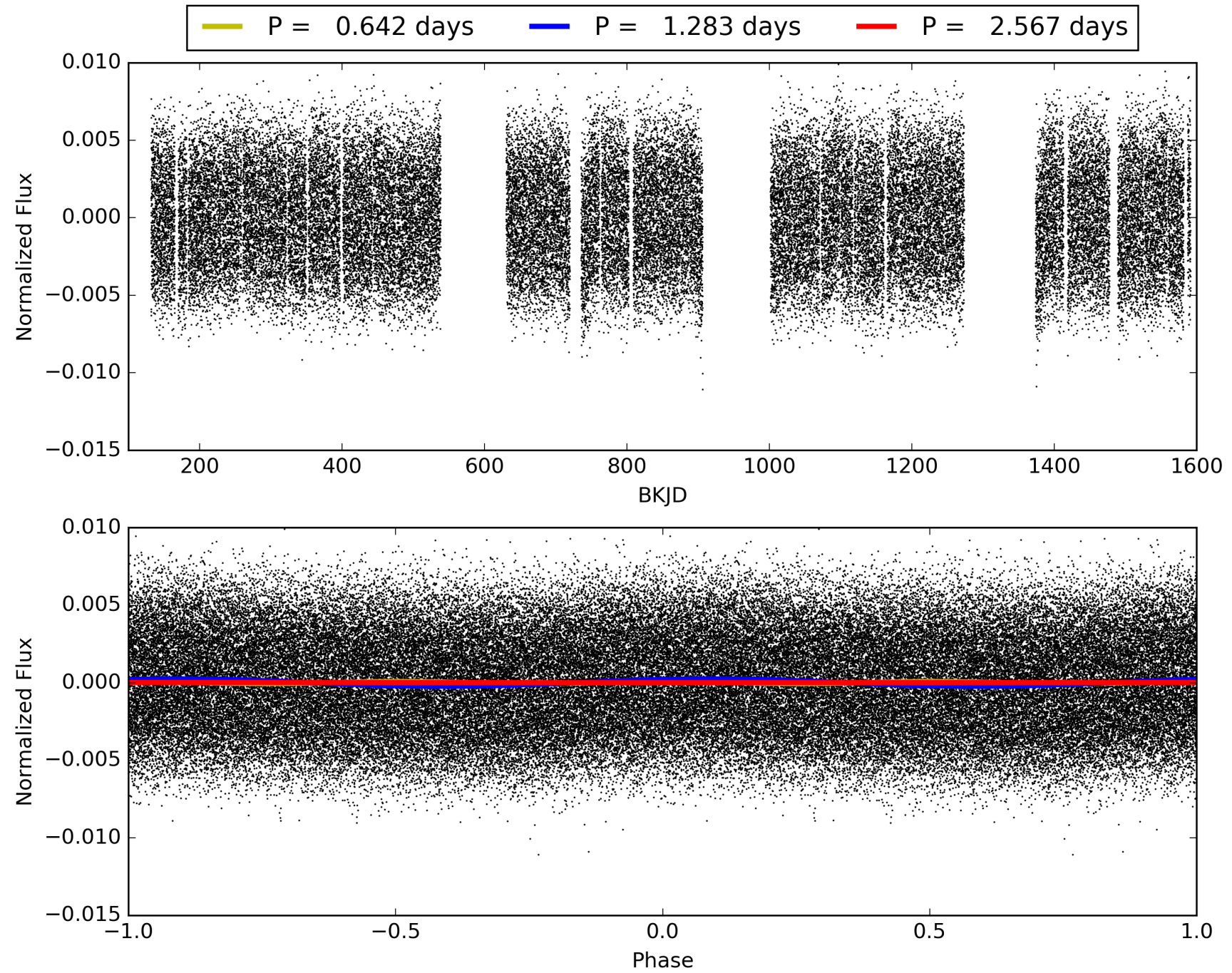
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:25:56 Z

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

TCE 004374812-01, PDC Light Curves

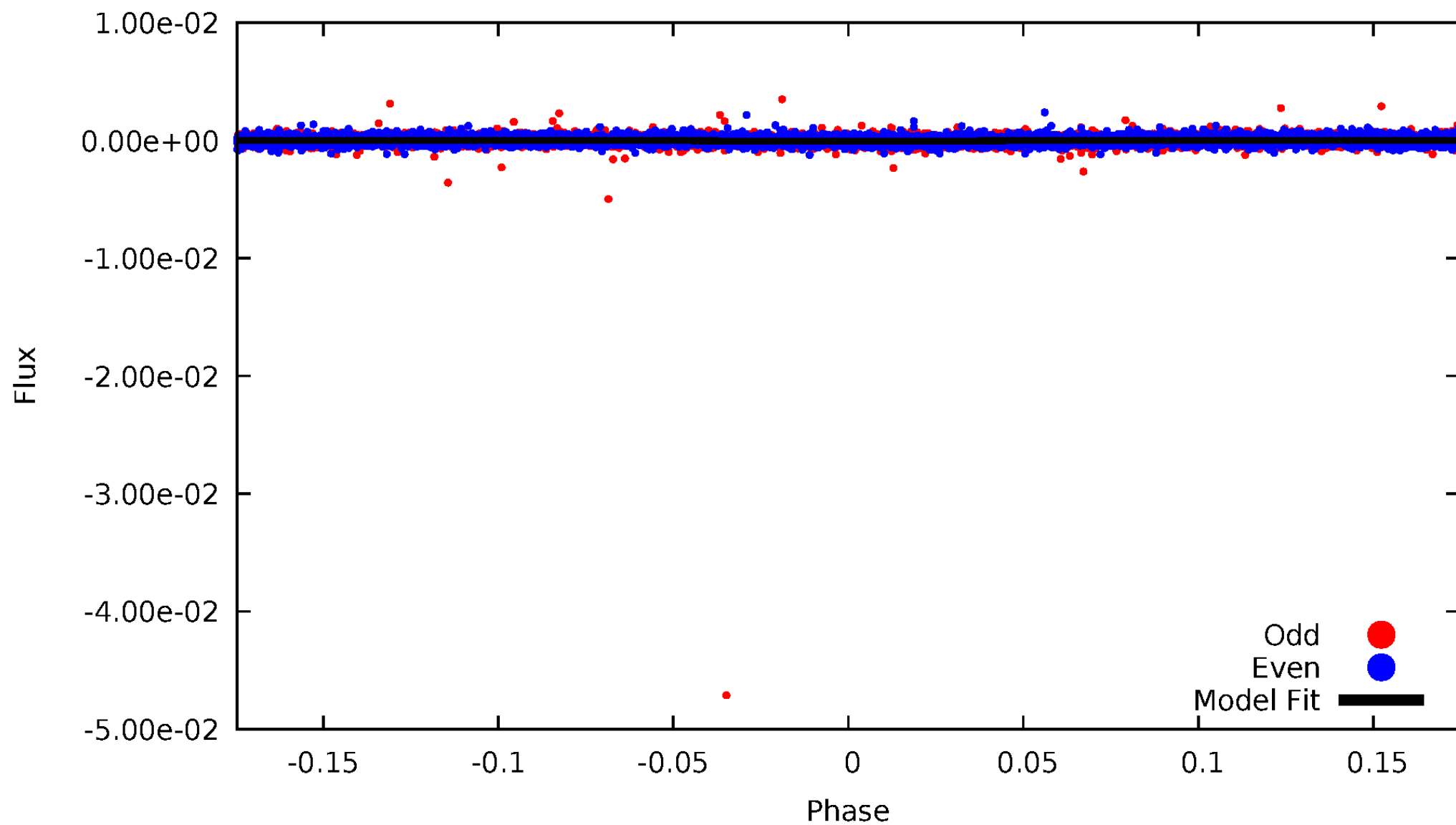


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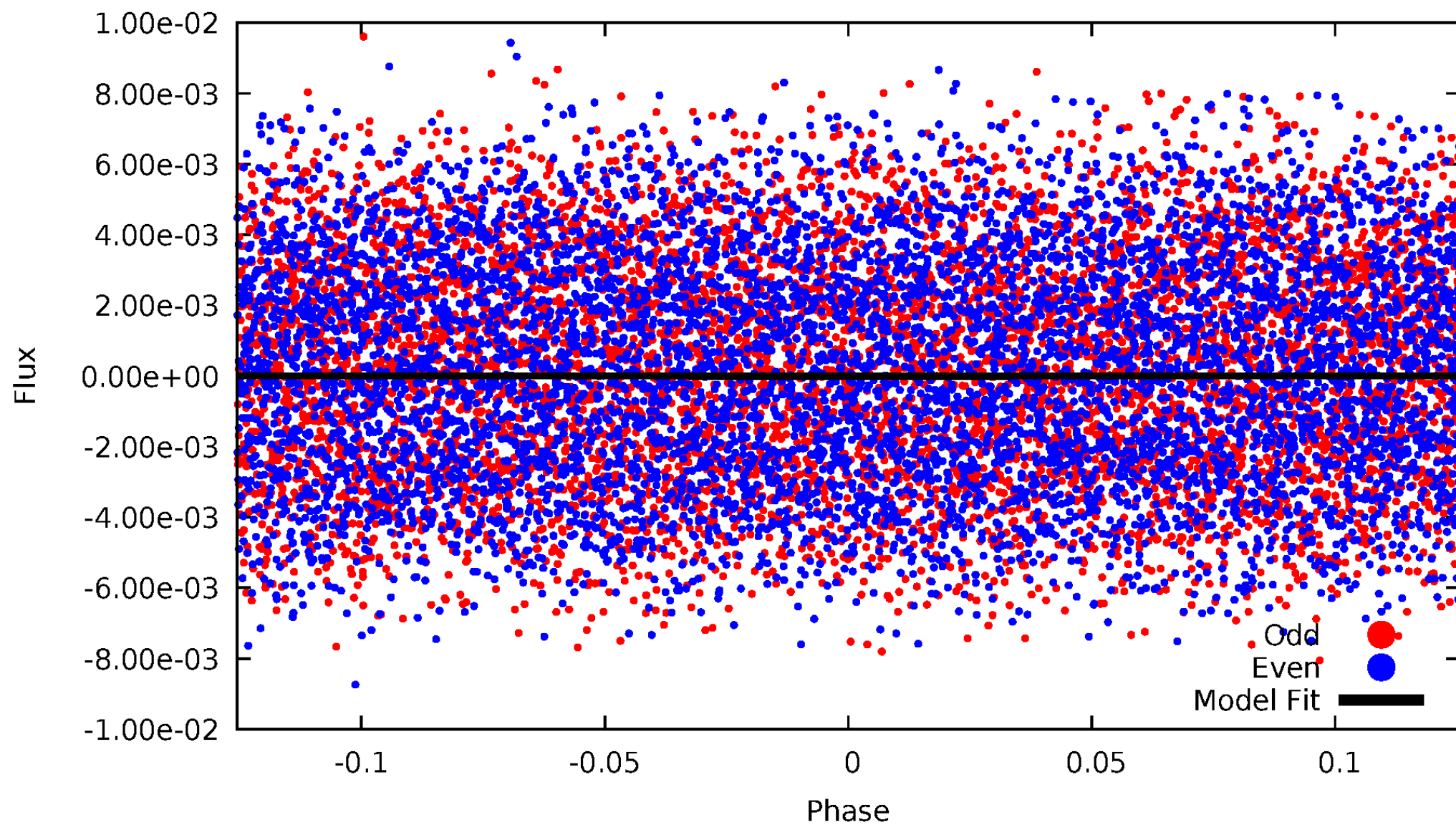
DV Odd/Even

TCE 004374812-01



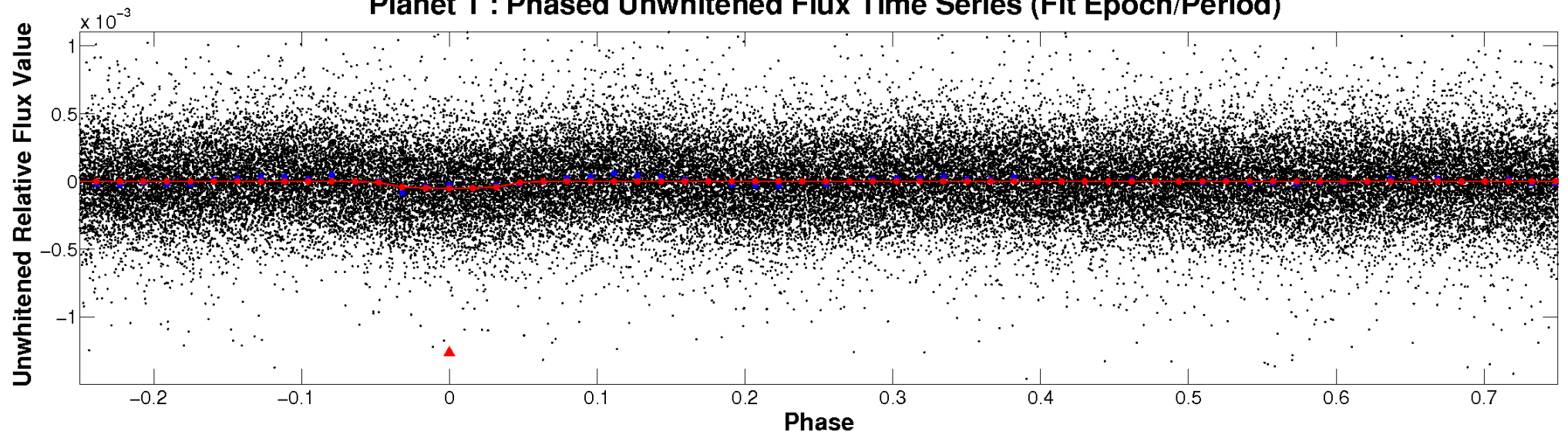
ALT Odd/Even

TCE 004374812-01

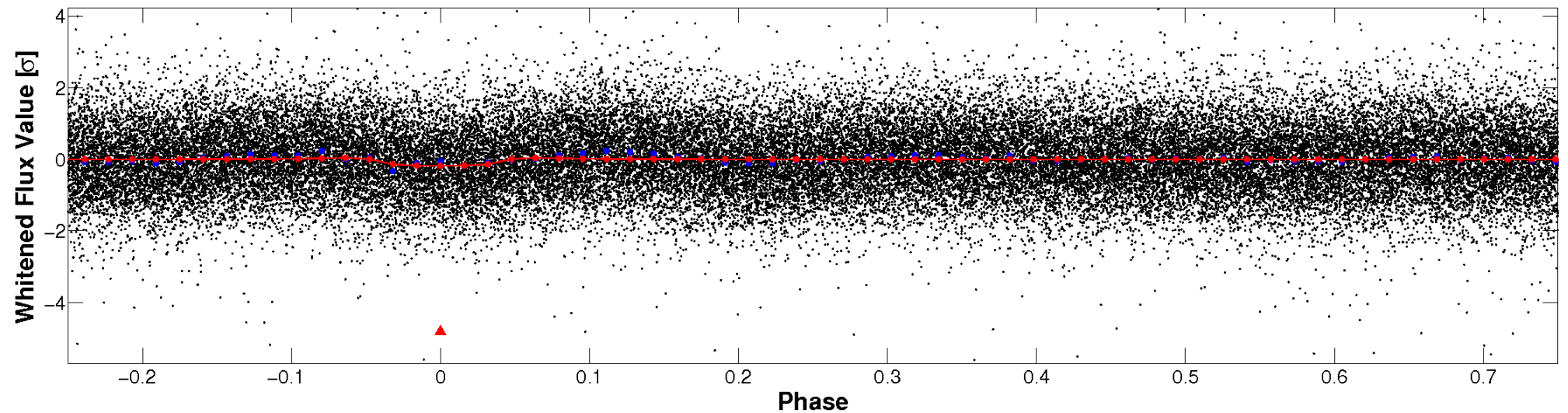


Non-Whitened Vs. Whitened Light Curve

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

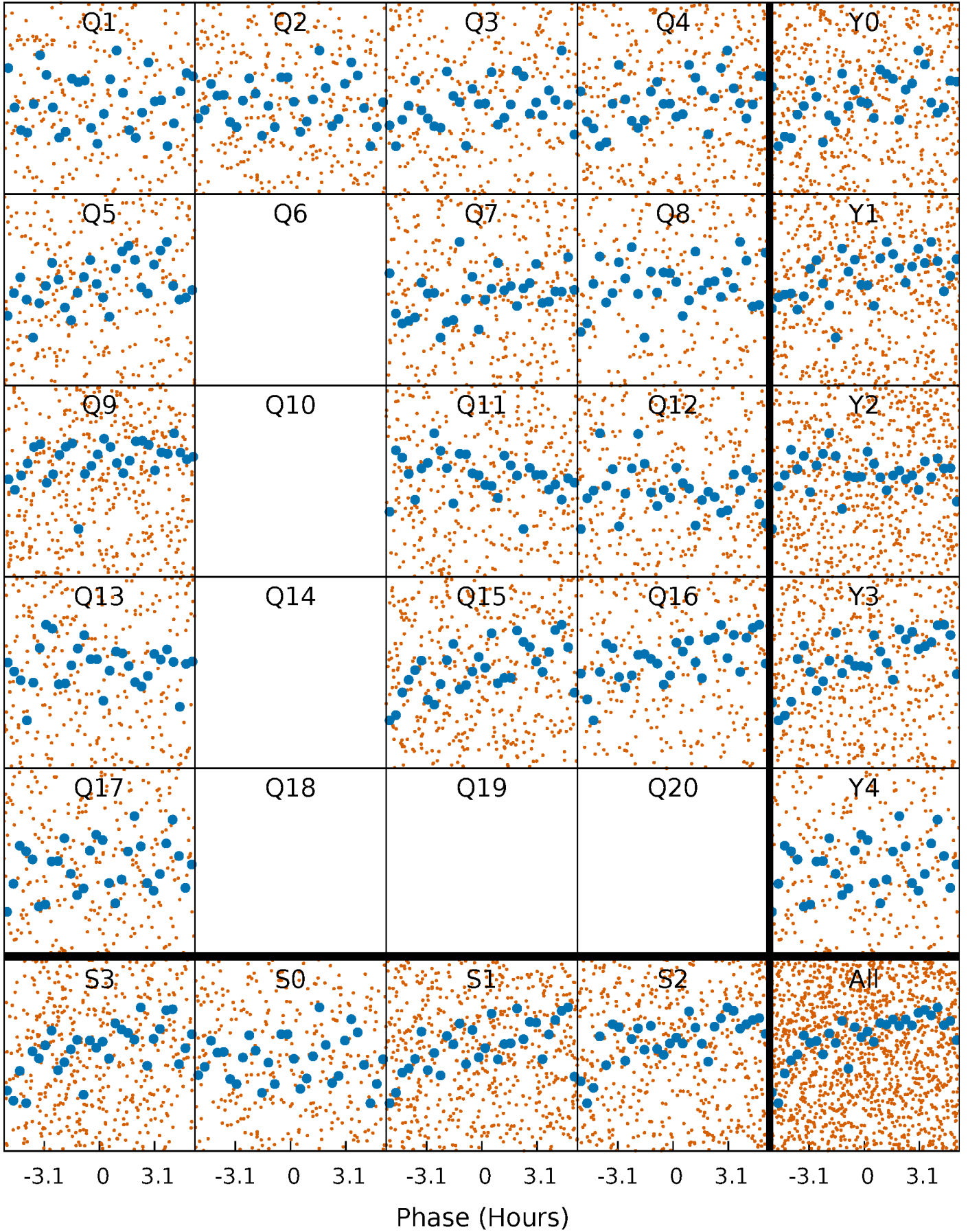


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



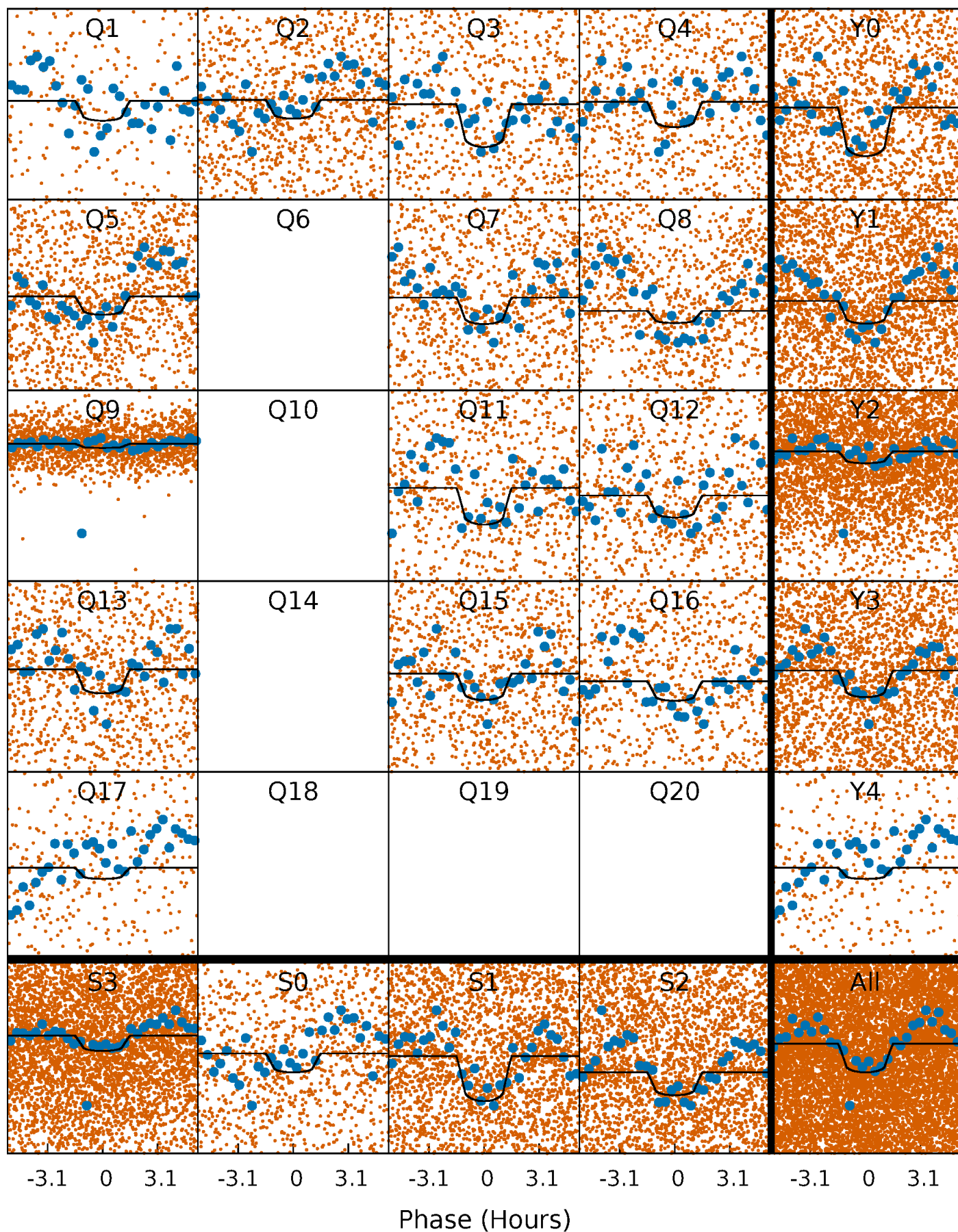
PDC Quarter-Phased Transit Curves

TCE 004374812-01 P= 1.283293 Days $T_0=132.358726$ (BKJD)



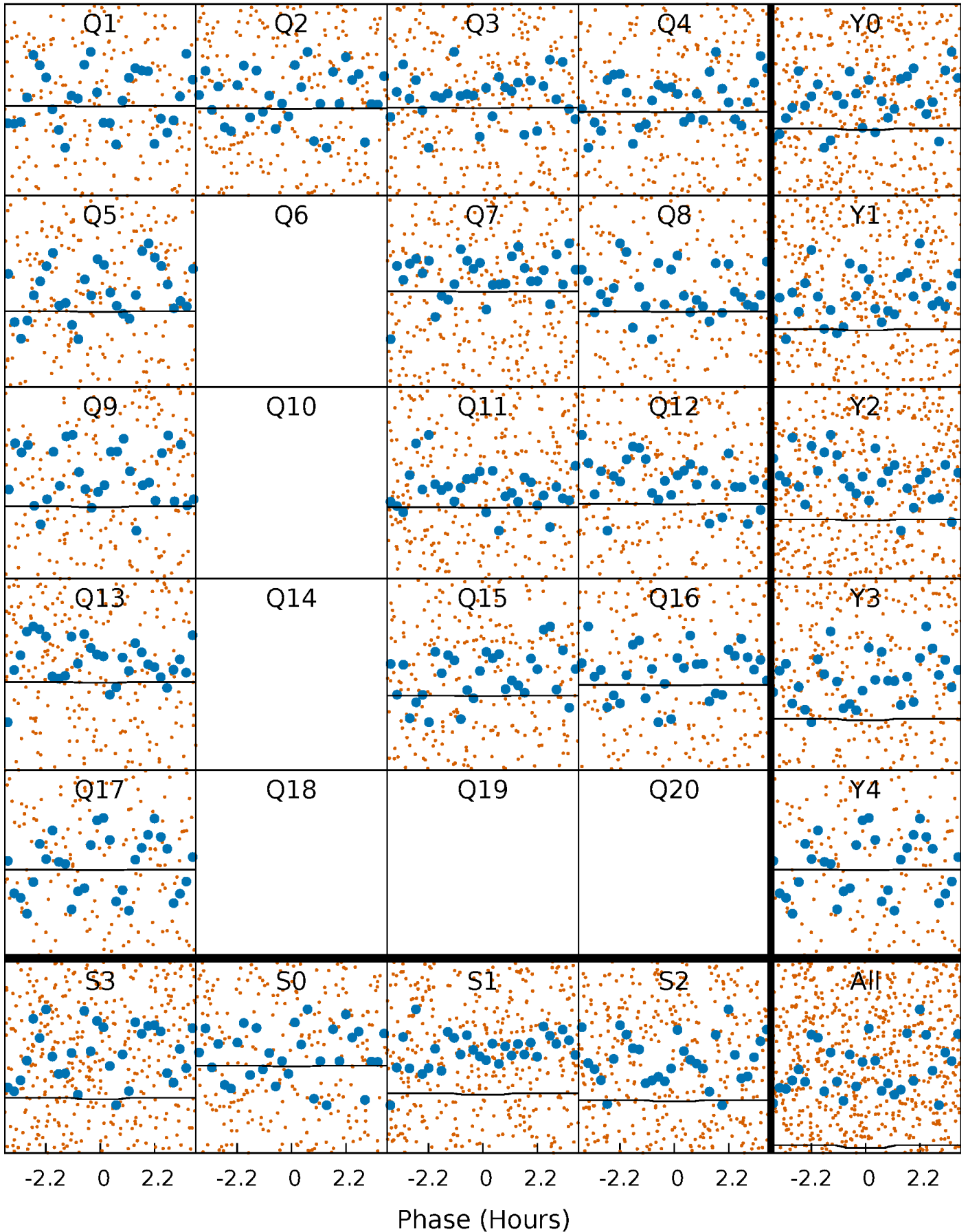
DV Quarter-Phased Transit Curves

TCE 004374812-01 P= 1.283293 Days $T_0=132.358726$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

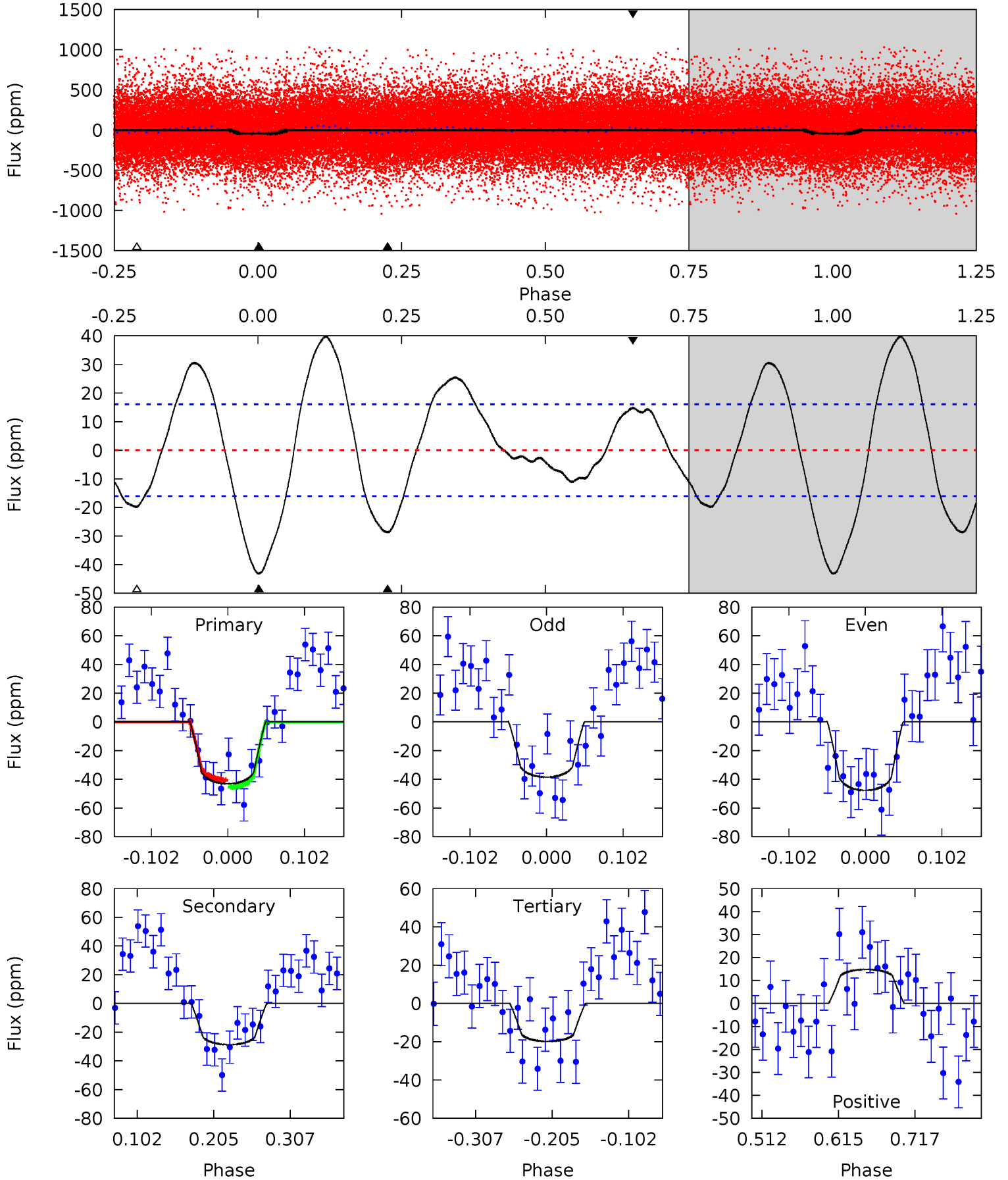
TCE 004374812-01 P= 1.283312 Days $T_0=132.330750$ (BKJD)



DV Model-Shift Uniqueness Test

004374812-01, P = 1.283293 Days, E = 131.075433 Days

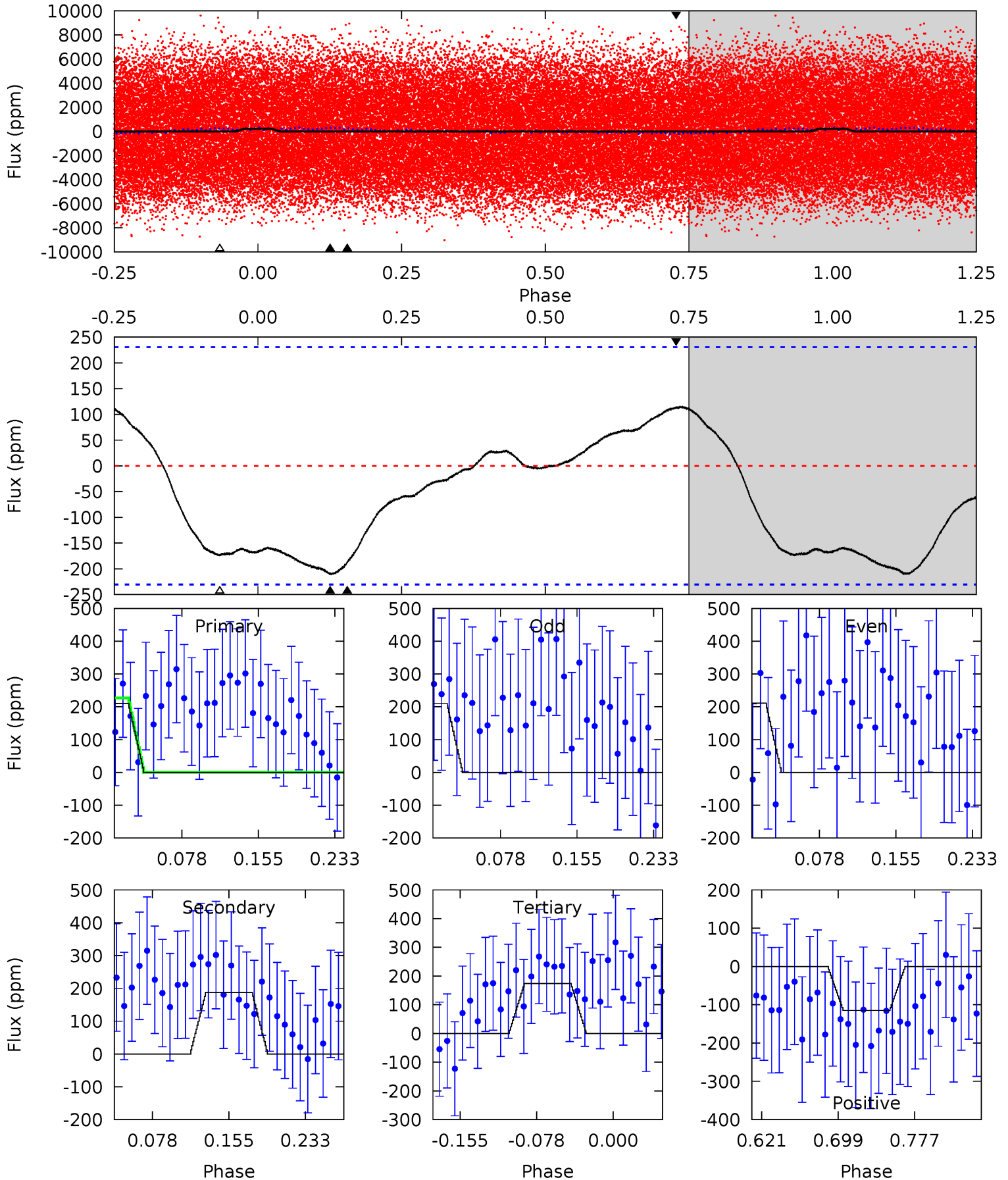
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	8.16	5.64	4.21	4.56	1.63	4.10	6.62	8.05	2.52	3.95	1.32	1.20	0.48	0.68



Alt Model-Shift Uniqueness Test

004374812-01, P = 1.283312 Days, E = 131.047438 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.21	3.76	3.49	2.30	4.62	1.76	1.77	0.72	1.91	0.27	1.46	0.01	0.97	0.35	0.34



Stellar Parameters For KIC 004374812

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7053^{+73}_{-84}	$3.742^{+0.225}_{-0.075}$	$0.300^{+0.150}_{-0.150}$	$3.186^{+0.306}_{-0.917}$	$2.045^{+0.033}_{-0.293}$	$0.089^{+0.118}_{-0.022}$
	+1%/-1%	+6%/-2%	+50%/-50%	+10%/-29%	+2%/-14%	+133%/-25%
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 004374812-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-29 ± 4	$2.35^{+0.95}_{-0.81}$	4498^{+176}_{-317}	5825^{+1614}_{-908}	$2.316^{+3.327}_{-1.124}$
Alt.	-188 ± 50	$1.05^{+0.75}_{-0.67}$	4506^{+148}_{-332}	23768^{+81675}_{-10707}	78^{+495}_{-53}

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

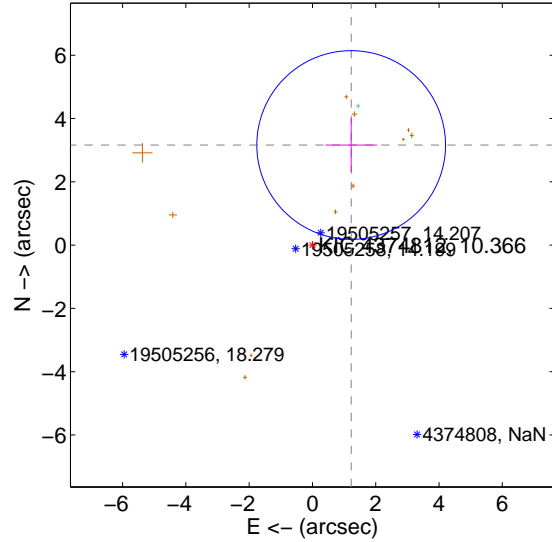
Supplemental centroid analysis for 004374812-01. **Kepler magnitude: 10.37.** Transit SNR 10.67

There are 1 quarters with good PRF difference image offsets

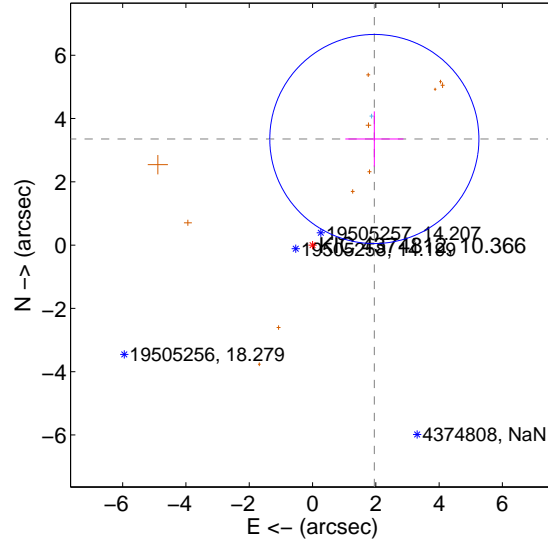
The direct PRF centroid is offset from the target star catalog position by about 0.61 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.391 ± 0.994	3.41	-1.224 ± 0.814	3.163 ± 0.851
PRF-fit source offset from KIC position	3.880 ± 1.101	3.52	-1.954 ± 0.918	3.353 ± 0.872
photometric centroid source offset	0.34 ± 0.37	0.93	0.29 ± 0.32	0.18 ± 0.48

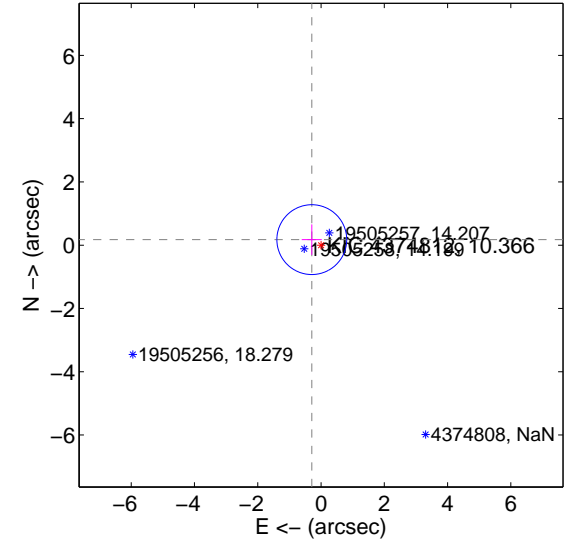
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

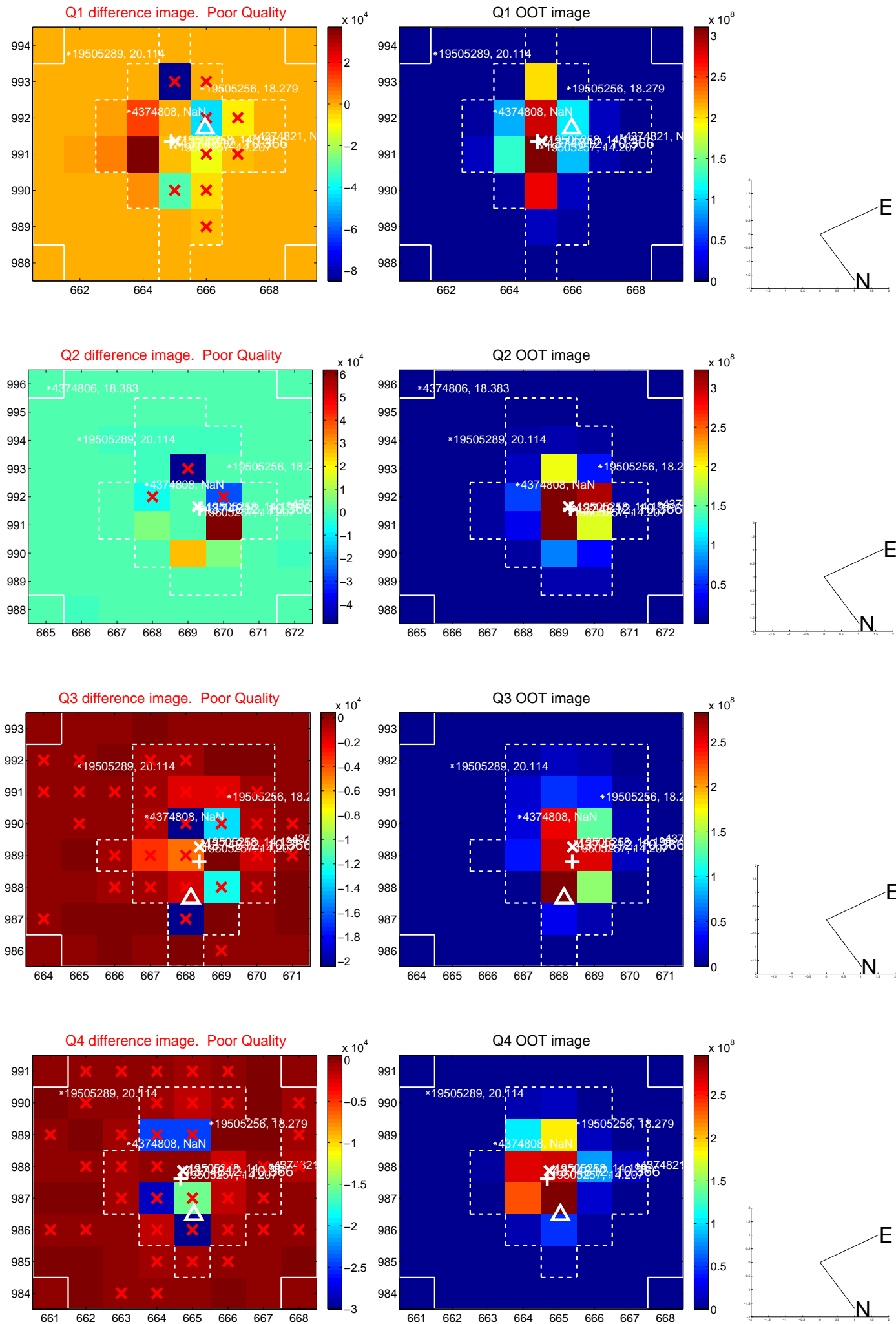


offset from photometric centroids

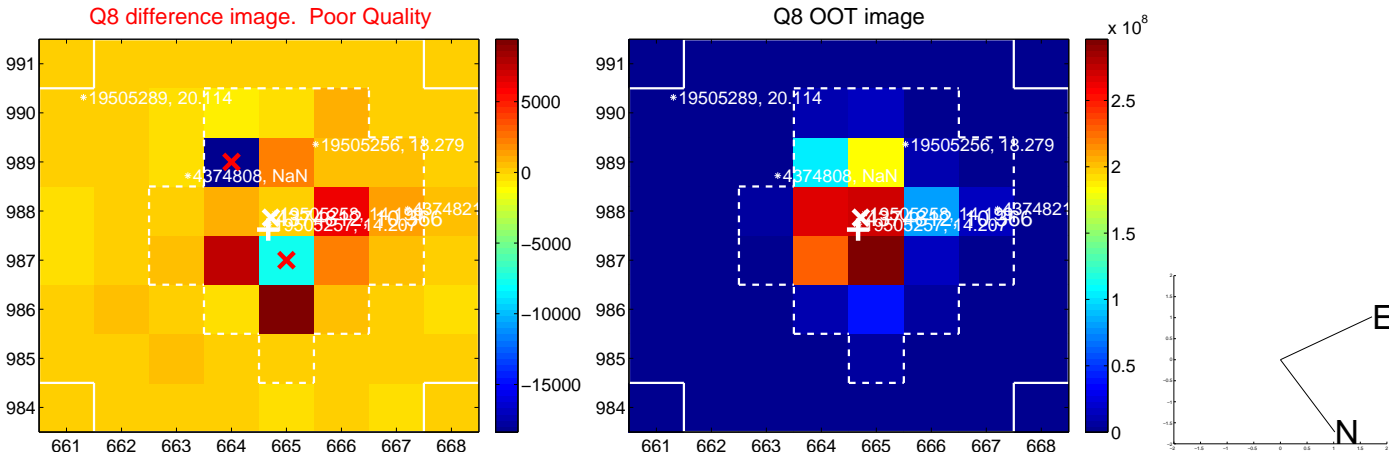
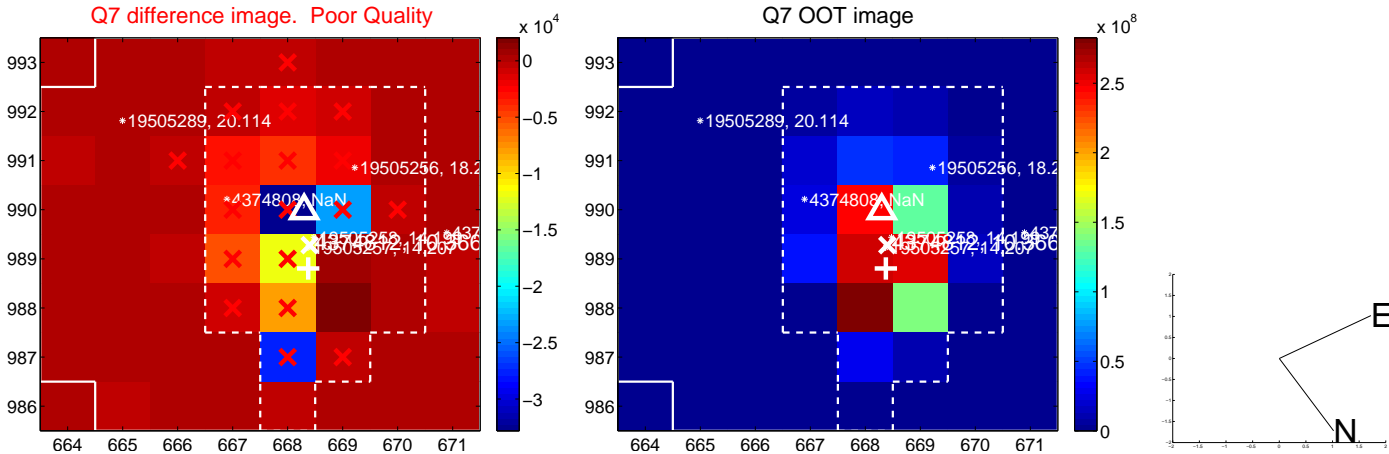
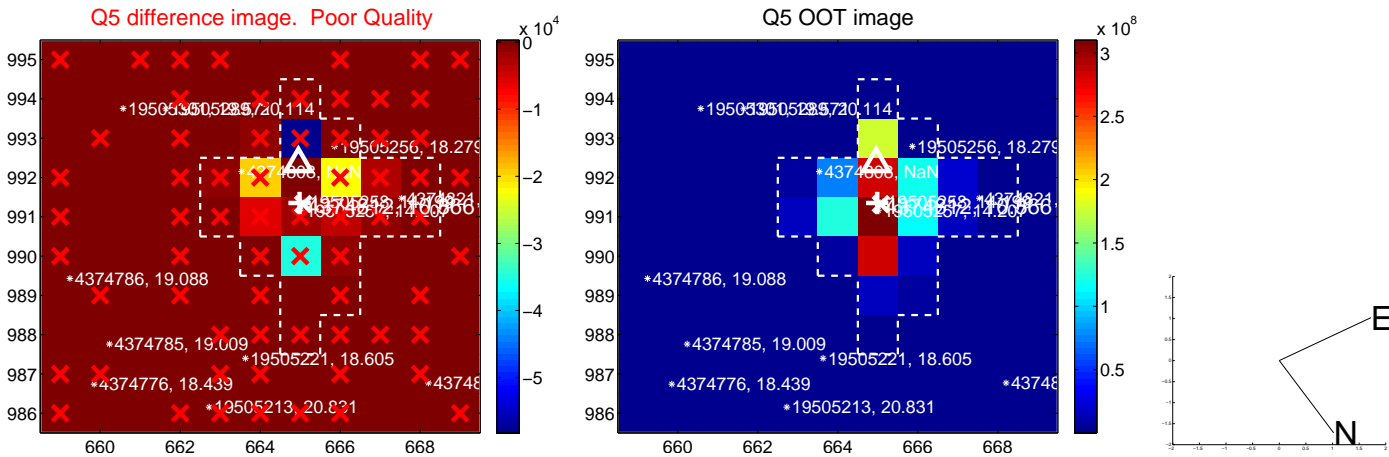


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

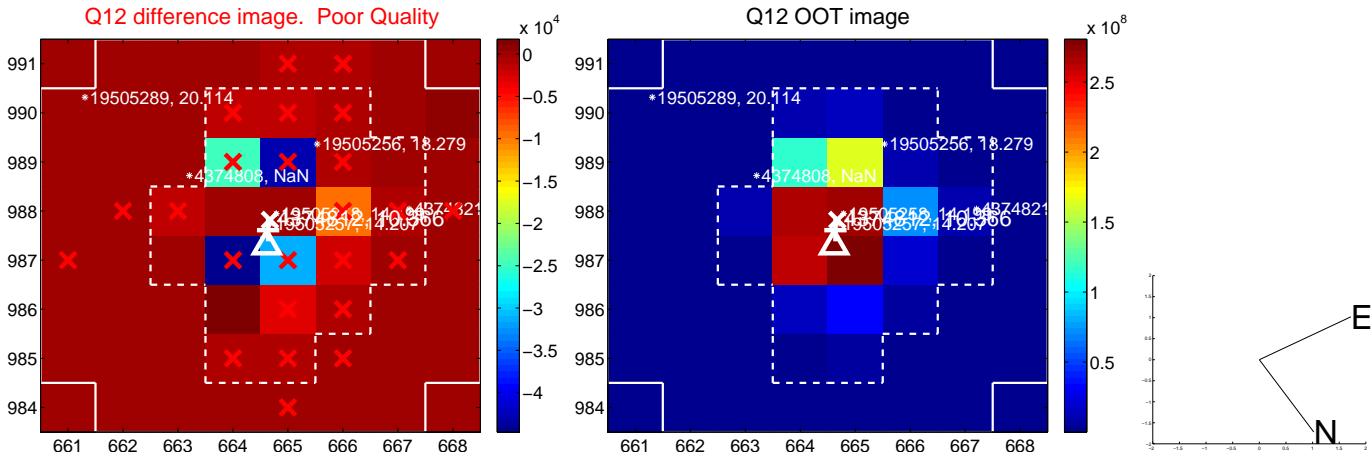
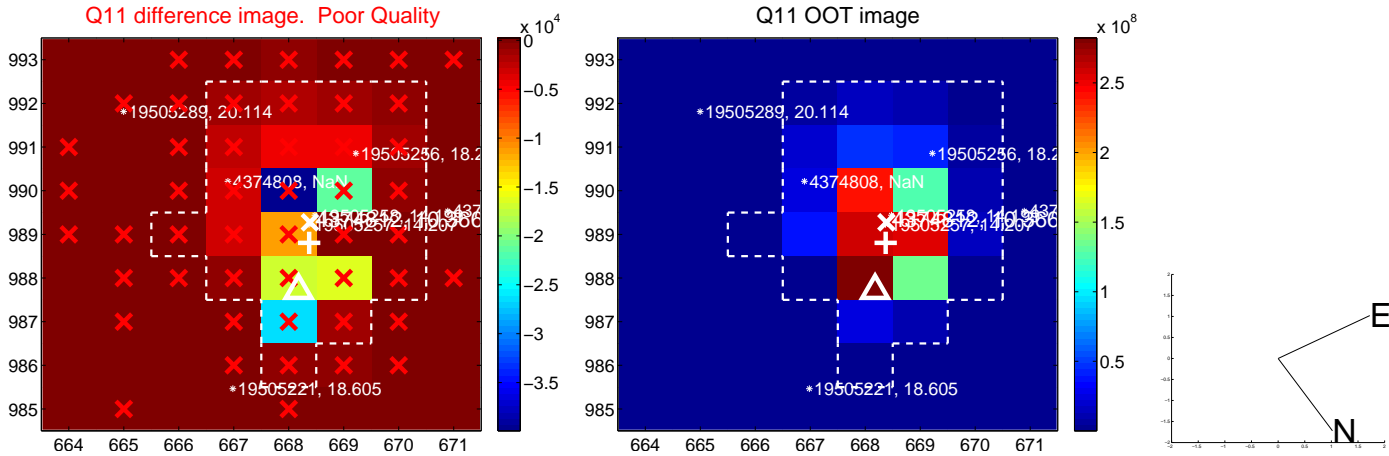
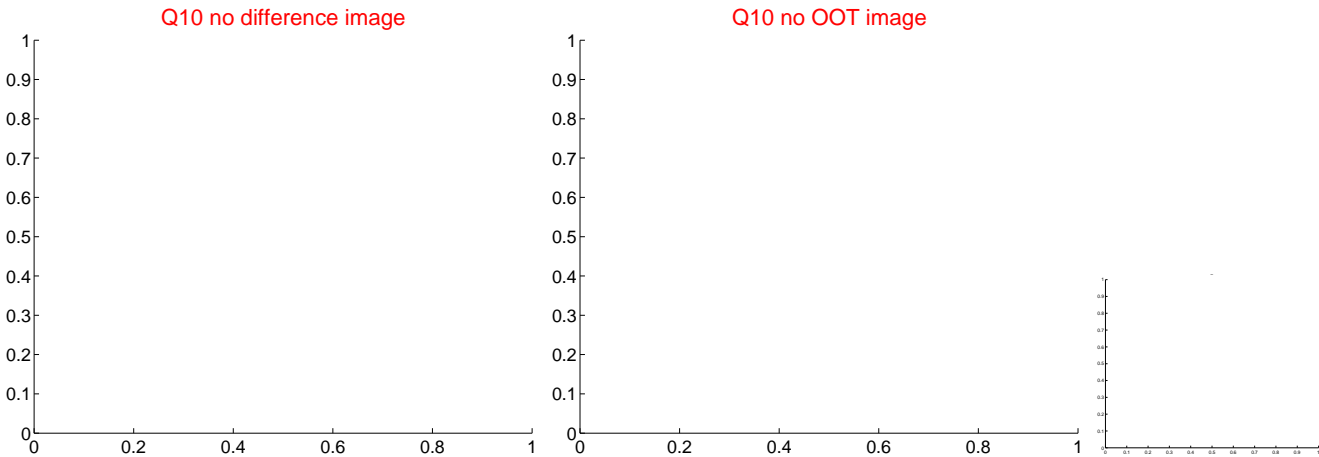
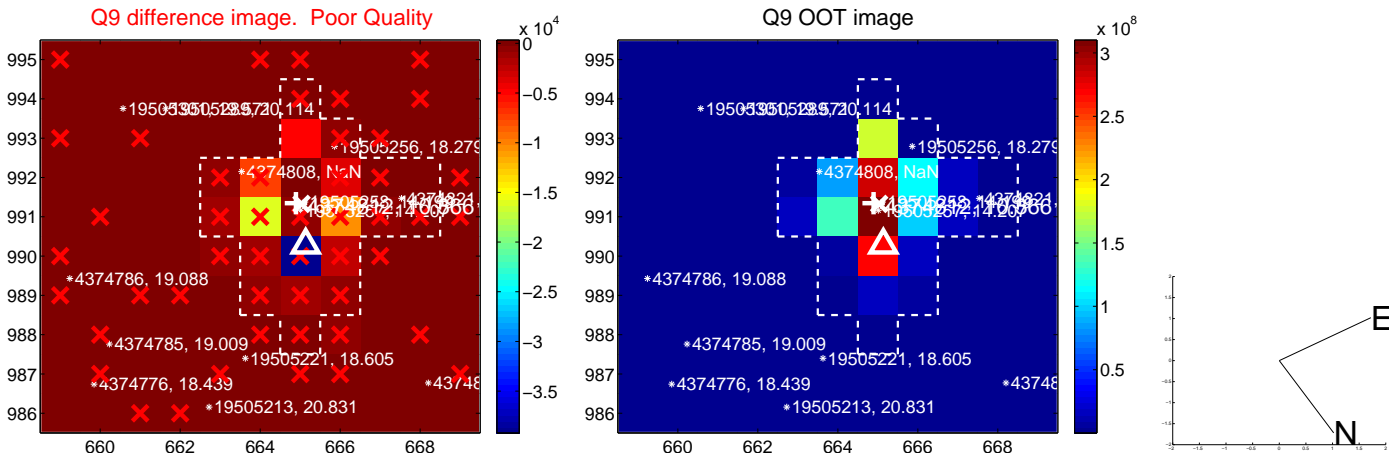
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



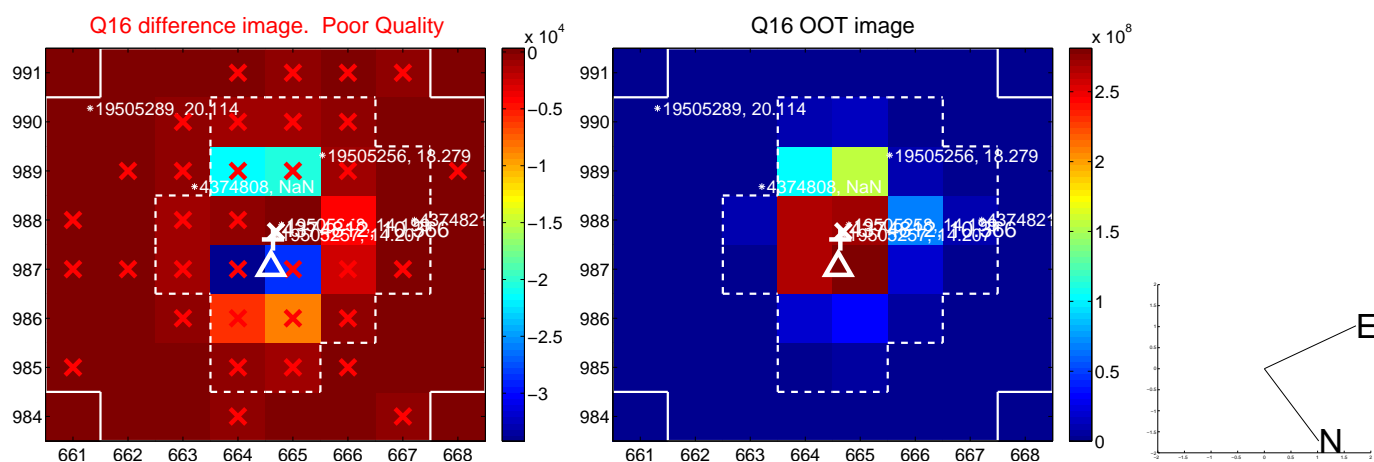
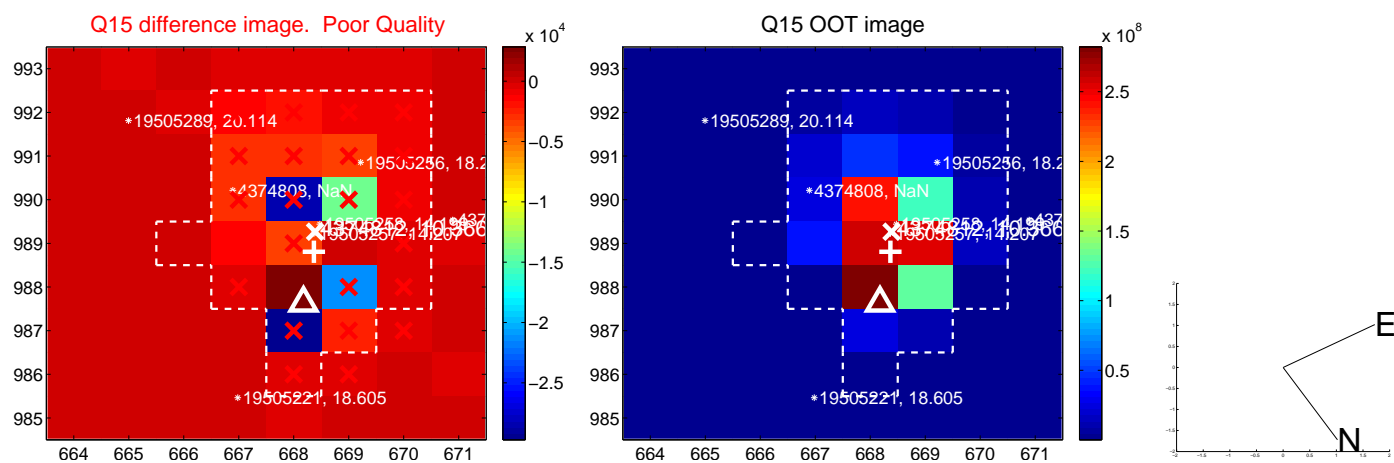
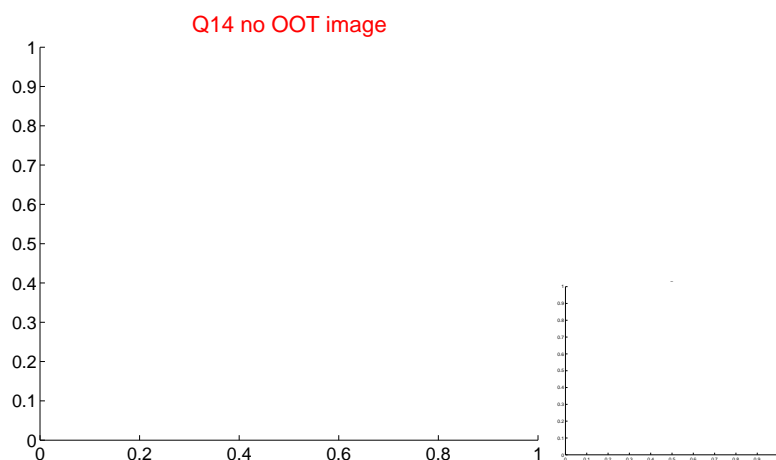
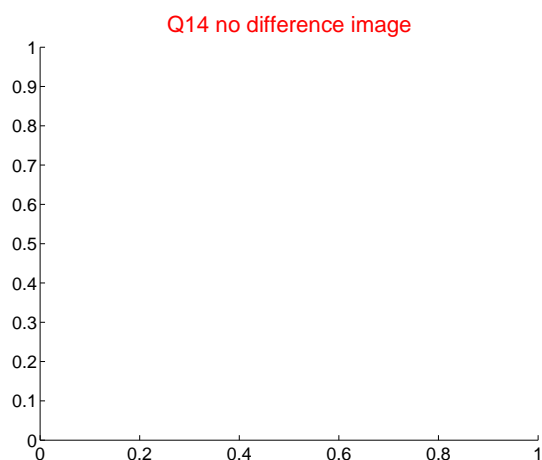
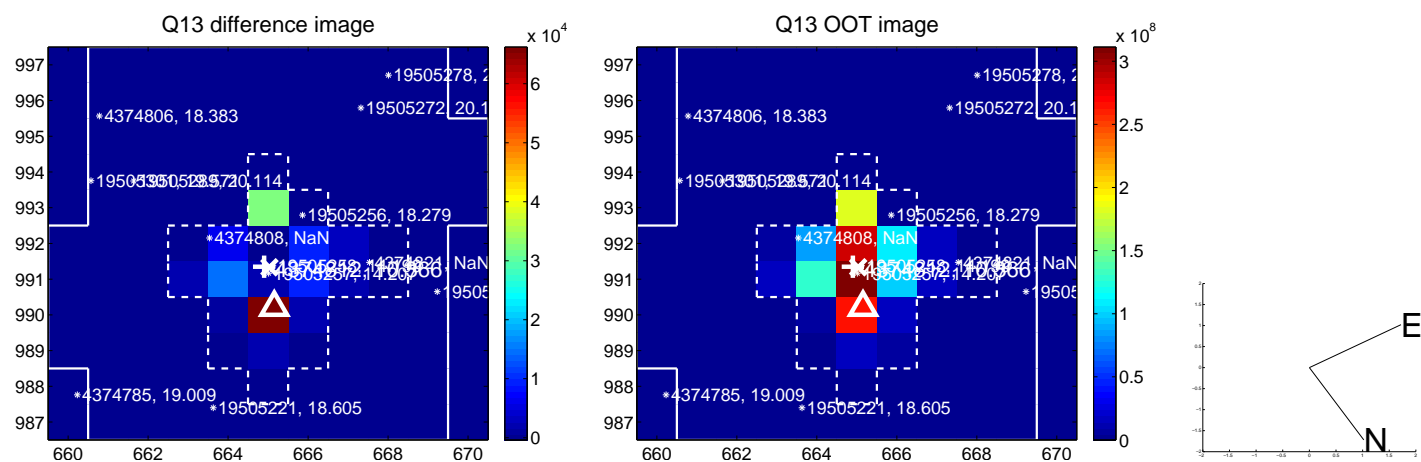
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



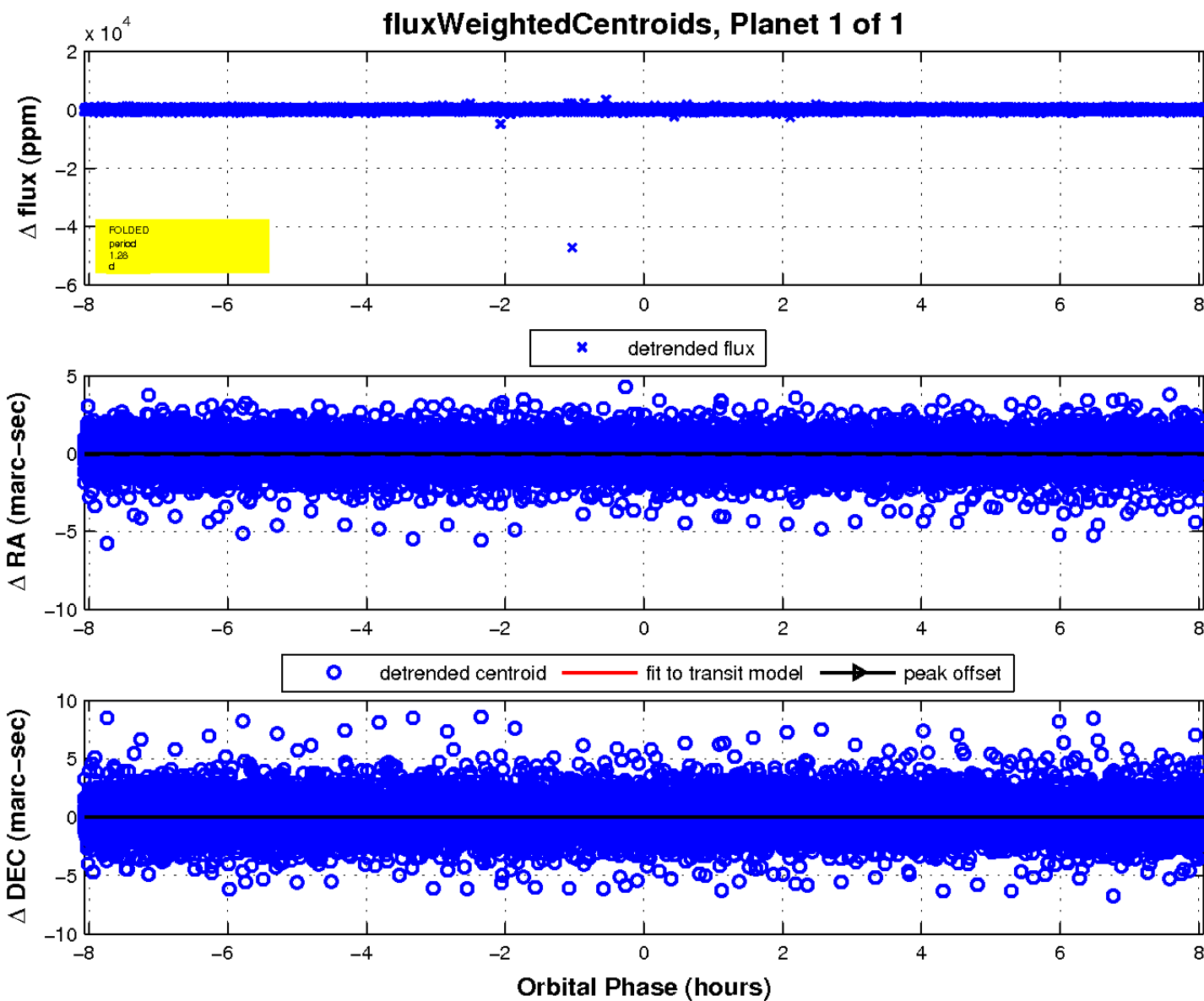
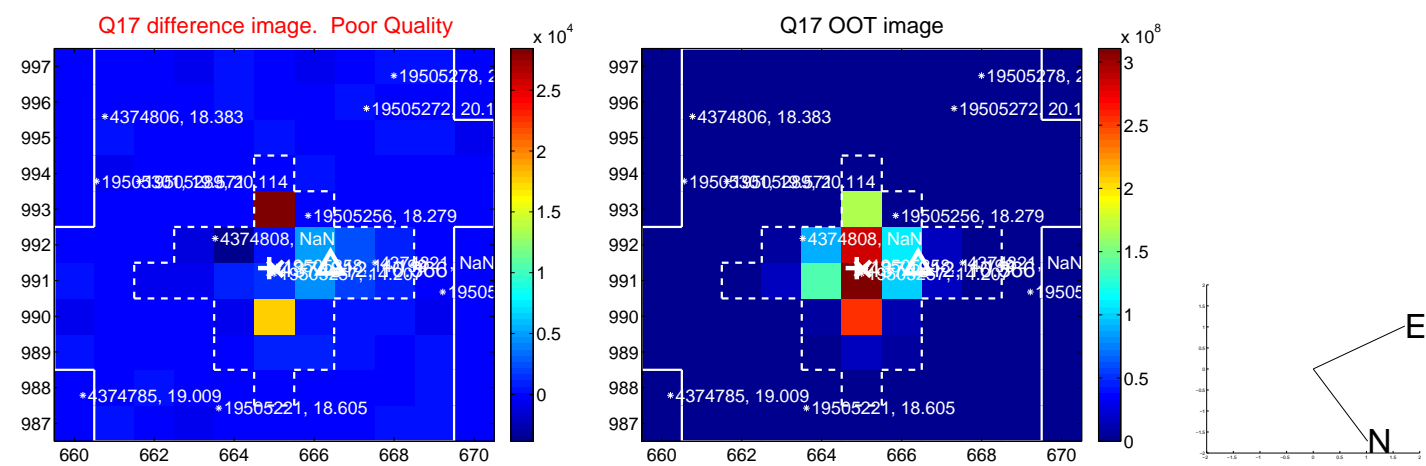
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UKIRT Image

