

KIC 005470851

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})
005470851-01	OBS	5172.01	12.425403	141.569766	174.4	28.048	9.5	10.2	0.94	5869	2.56	82.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005470851-01	OBS	FP	0.00	1	0	1	1	LPP_DV—LPP_ALT—HALO_GHOST—EPHEM_MATCH

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 005470851-01

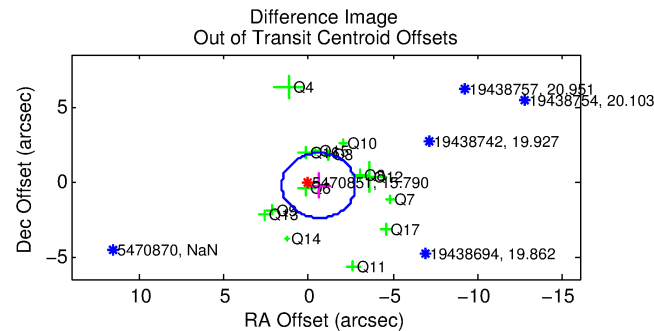
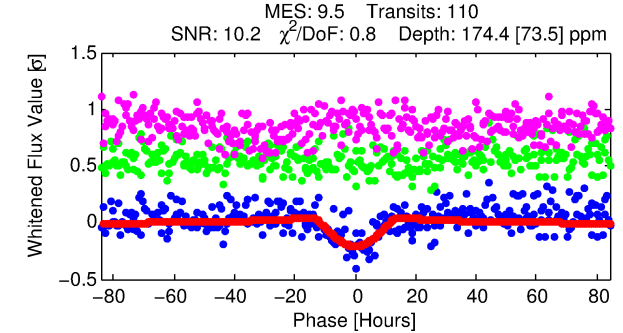
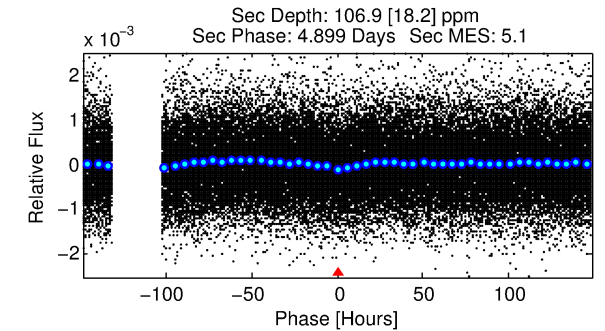
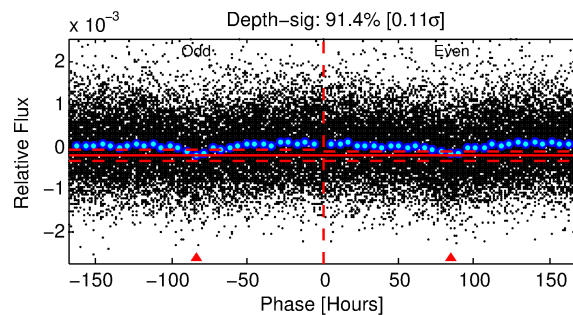
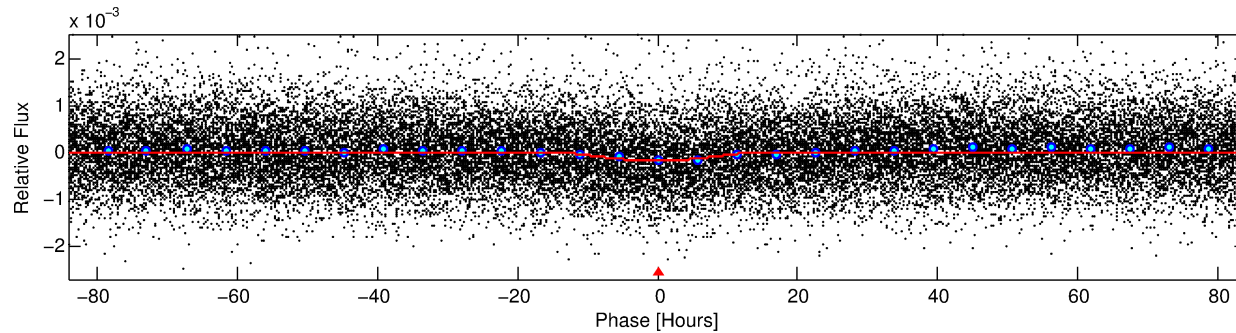
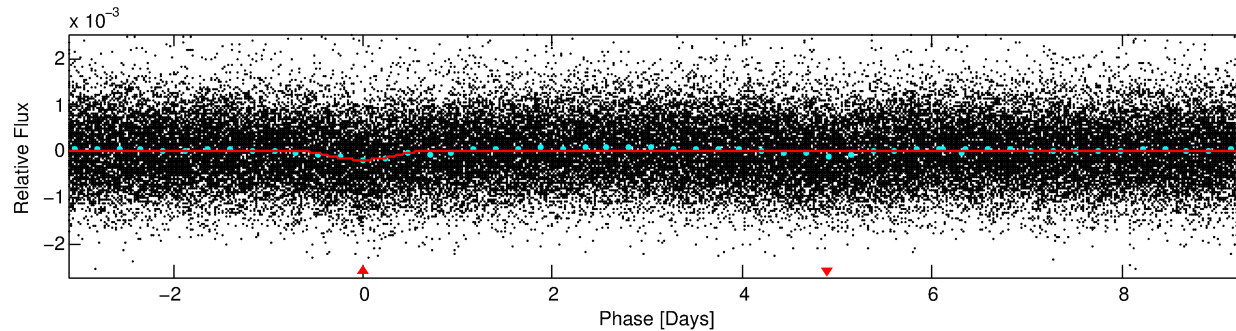
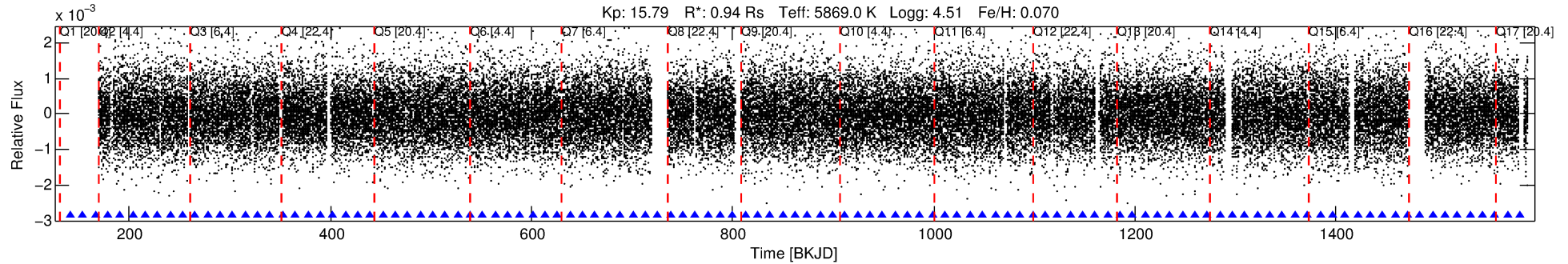
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005470851-01	5470851	V380-Cyg-pri	5385723	1:1	400.9	62	-79	5.77	15.79	832.95	Direct-PRF	0	0.91	0.82

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5470851 Candidate: 1 of 1 Period: 12.425 d

KOI: K05172.01 Corr: 0.844



DV Fit Results:

Period = 12.42540 [0.00087] d
Epoch = 141.5698 [0.0568] BKJD
Rp/R* = 0.0249 [0.0716]
a/R* = 1.26 [0.28]
b = 1.00 [0.10]
Seff = 82.56 [34.55]
Teq = 769 [80] K
Rp = 2.56 [7.40] Re
a = 0.1069 [0.0279] AU
Ag = 102.77 [593.54] [0.17 σ]
Teffp = 3784 [5453] K [0.55 σ]

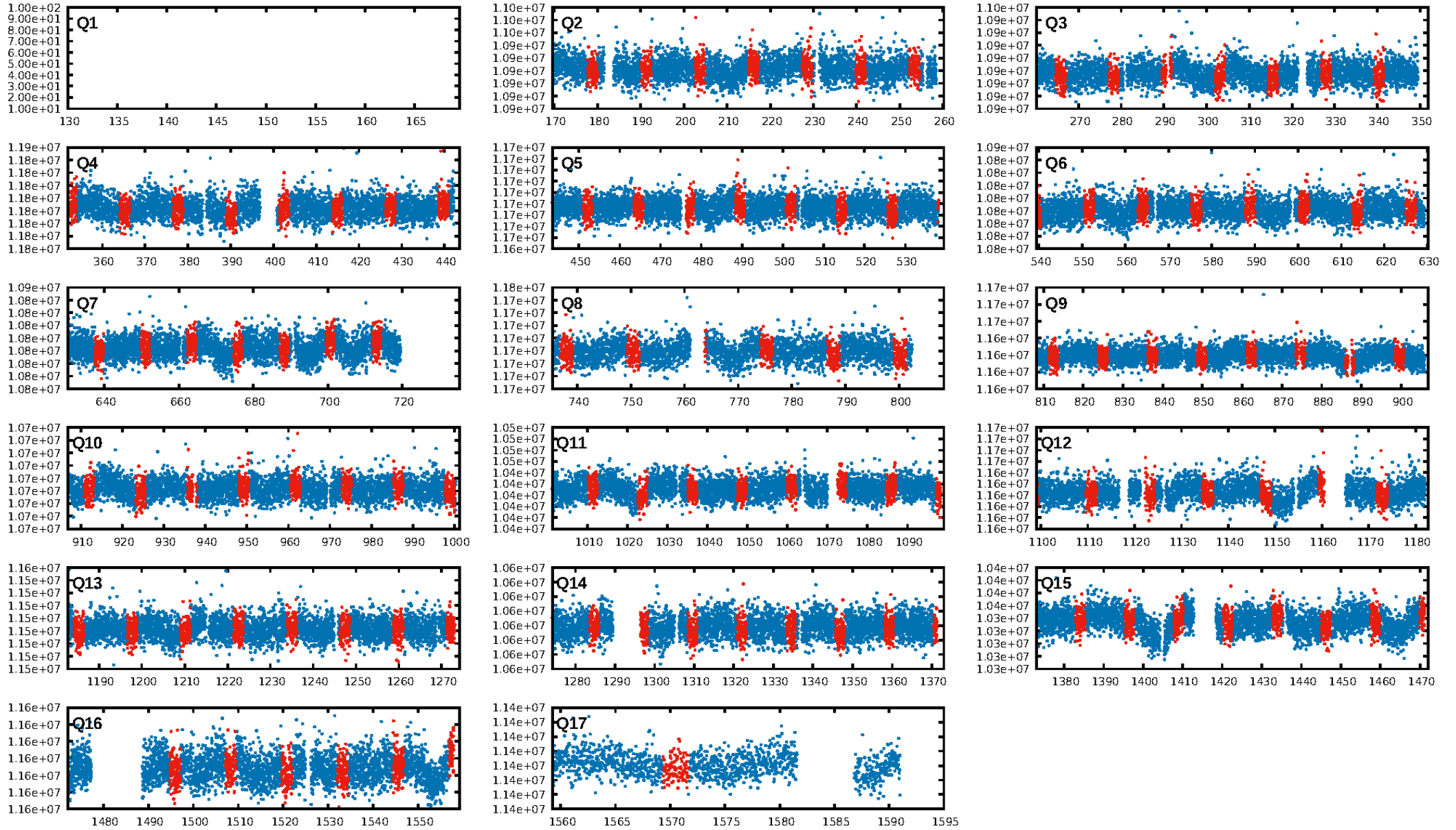
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 92.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.68e-21
RollingBand-fgt: 1.00 [109/109]
GhostDiagnostic-chr: 0.2292
Centroid-sig: 14.7%
Centroid-so: 1.371 arcsec [1.27 σ]
OotOffset-rm: 0.648 arcsec [0.90 σ]
KicOffset-rm: 0.733 arcsec [1.04 σ]
OotOffset-st: 3/4/4/3 [14]
KicOffset-st: 3/4/4/3 [14]
DiffImageQuality-fgm: 0.21 [3/14]
DiffImageOverlap-fno: 1.00 [16/16]

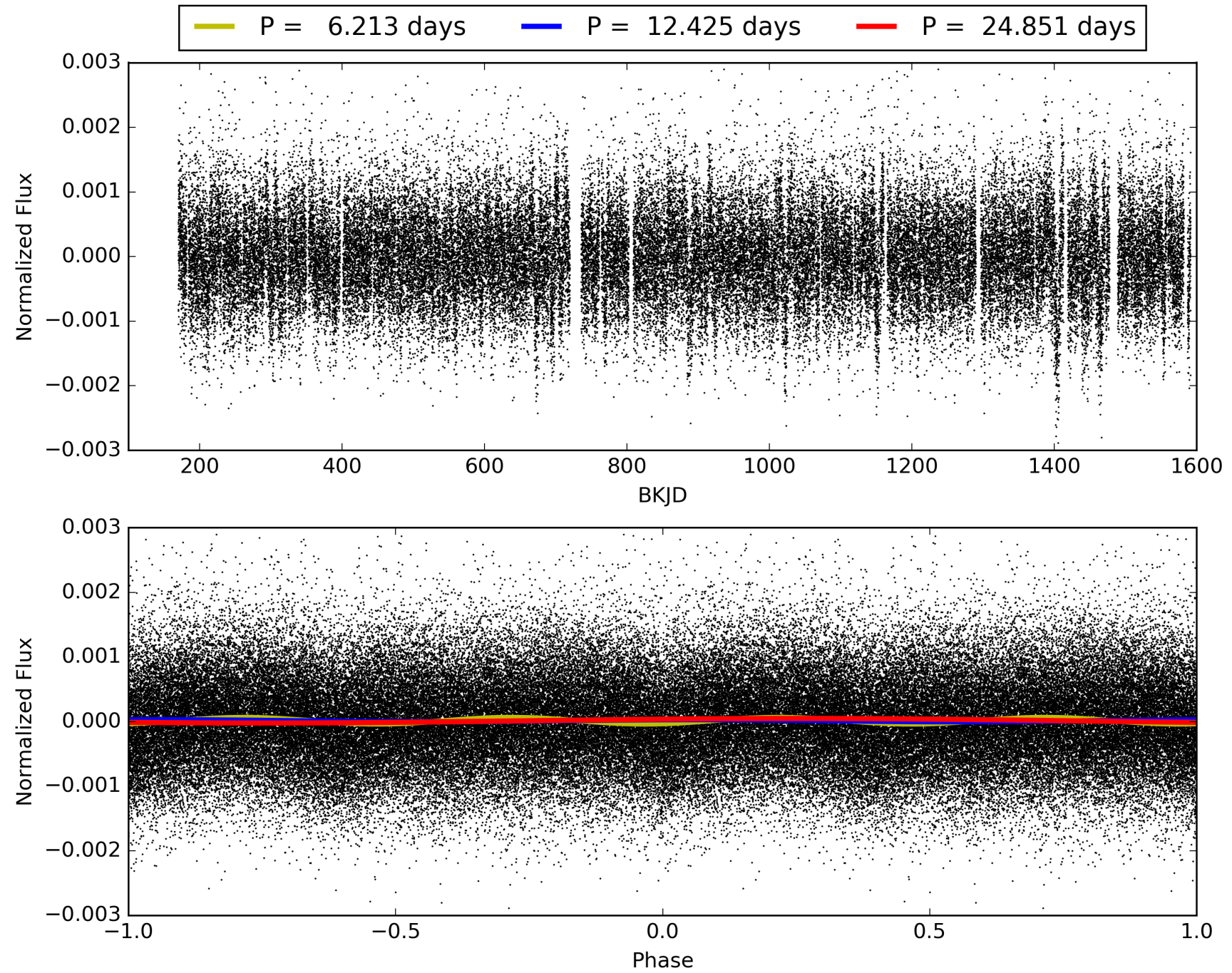
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:17:59 Z

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

TCE 005470851-01, PDC Light Curves

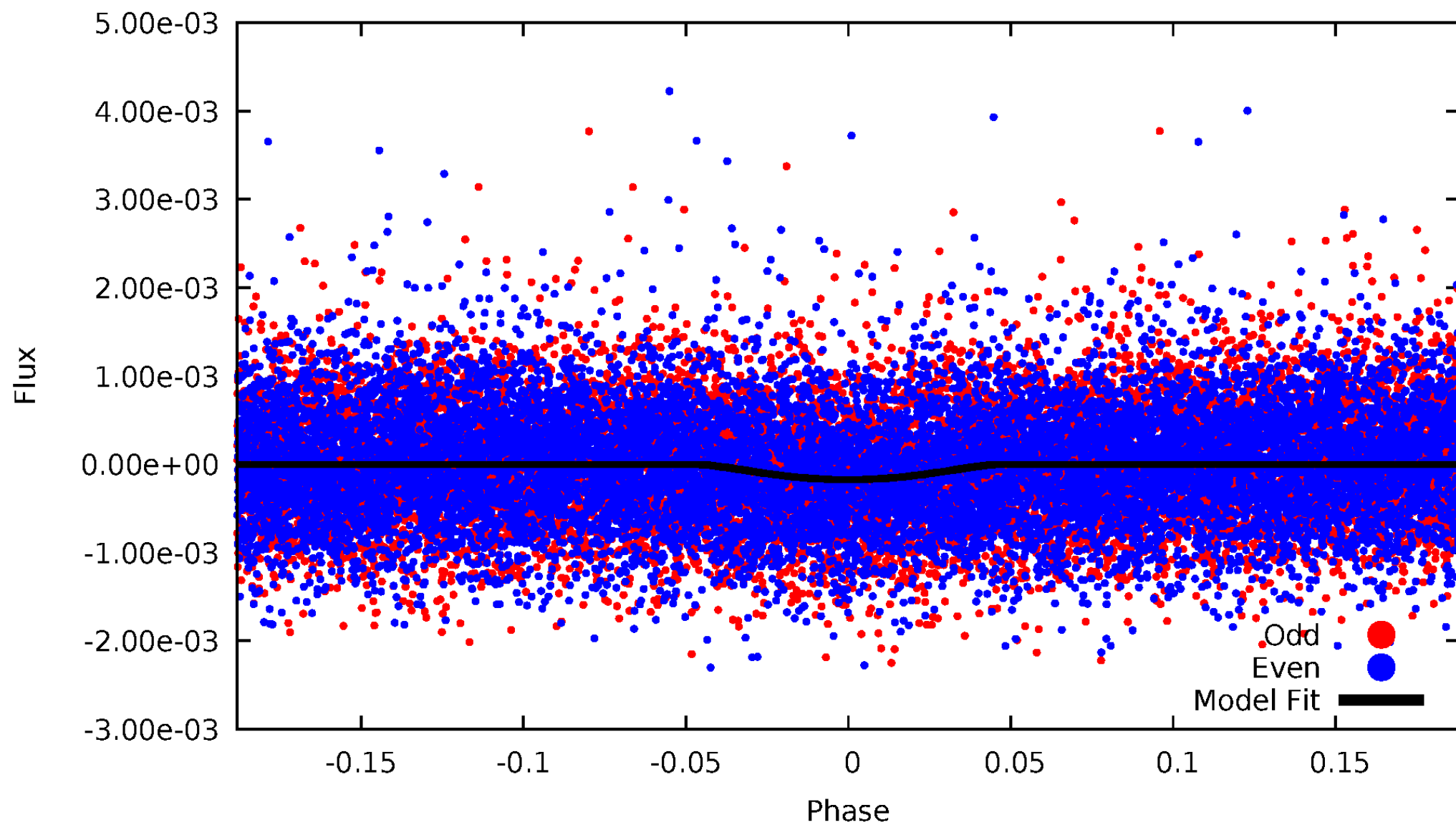


TCE 005470851-01



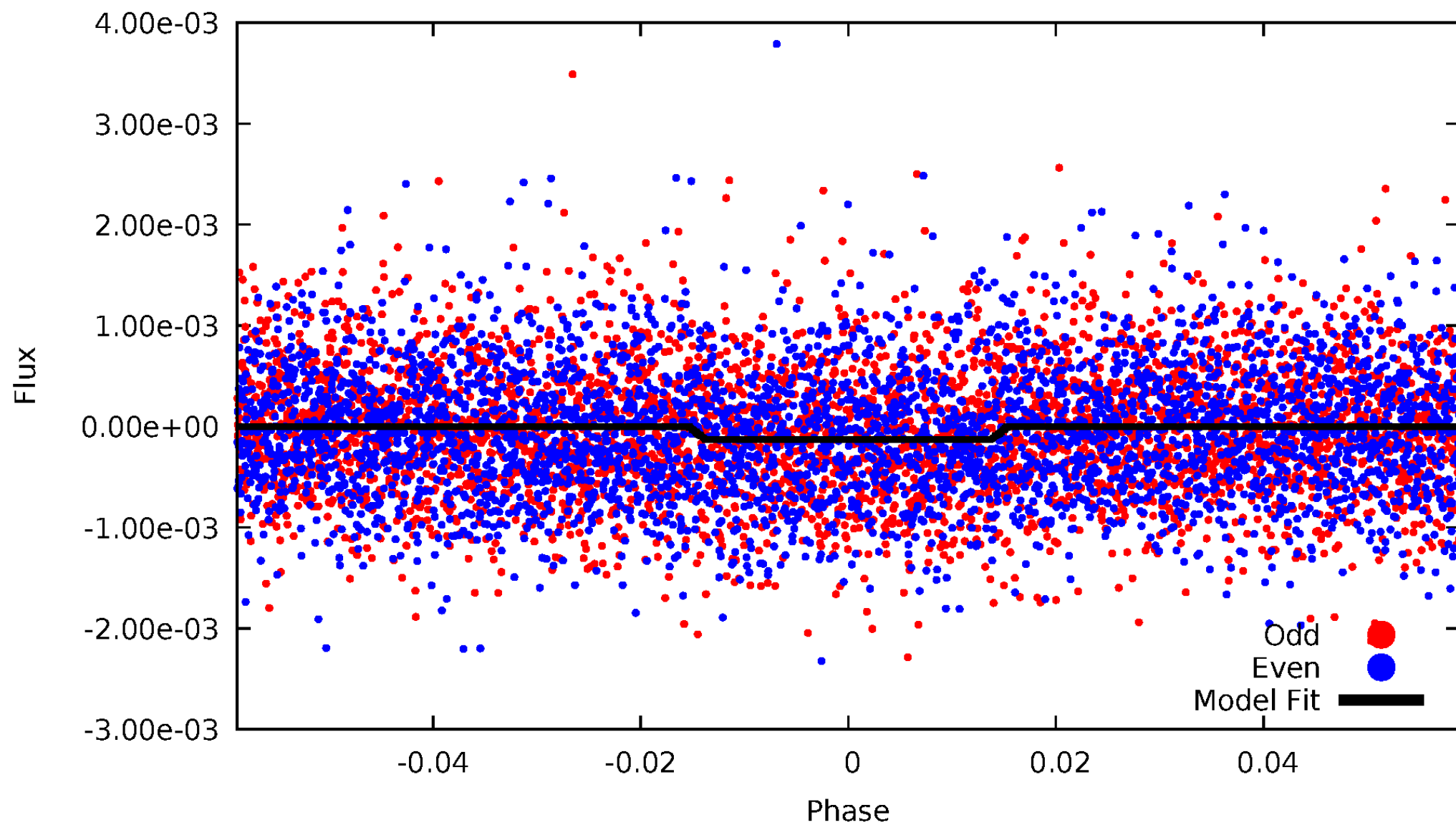
DV Odd/Even

TCE 005470851-01

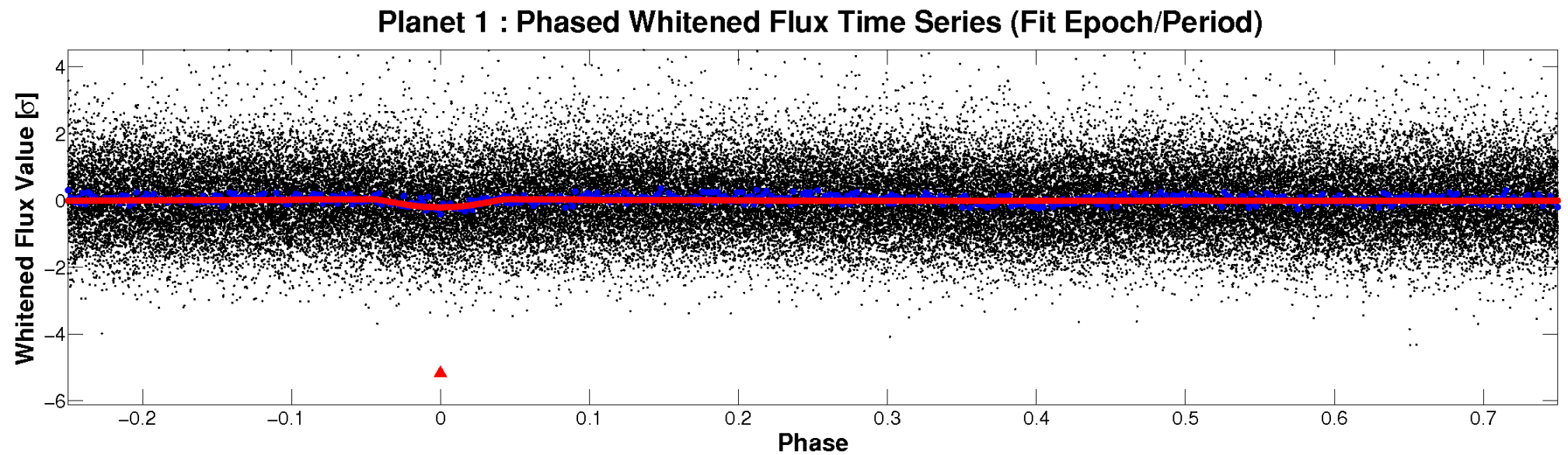
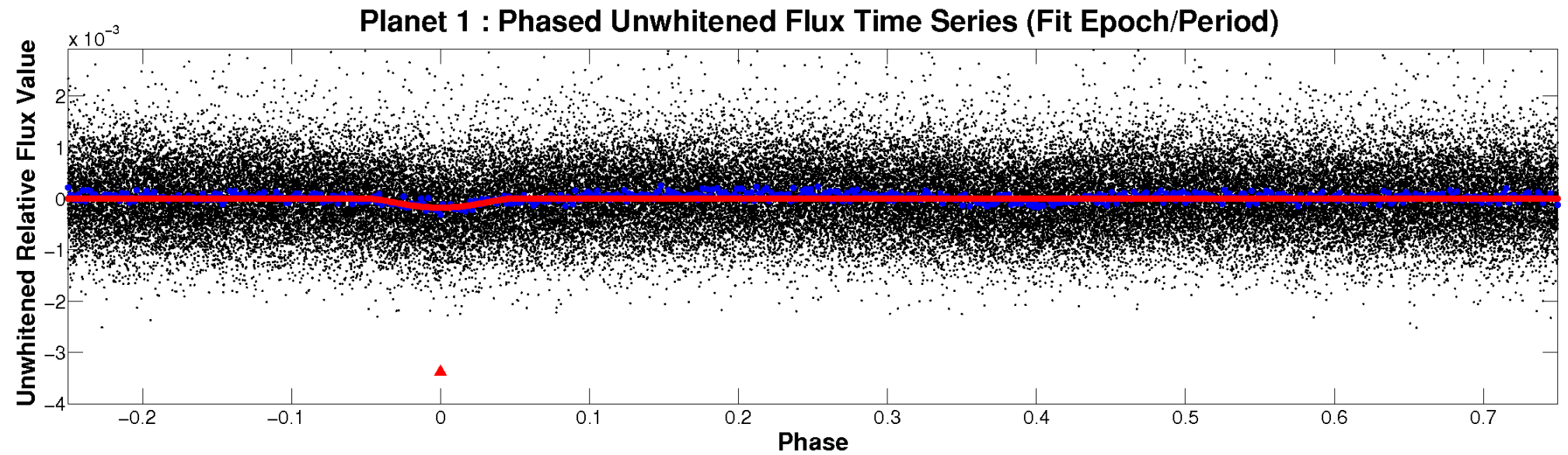


ALT Odd/Even

TCE 005470851-01

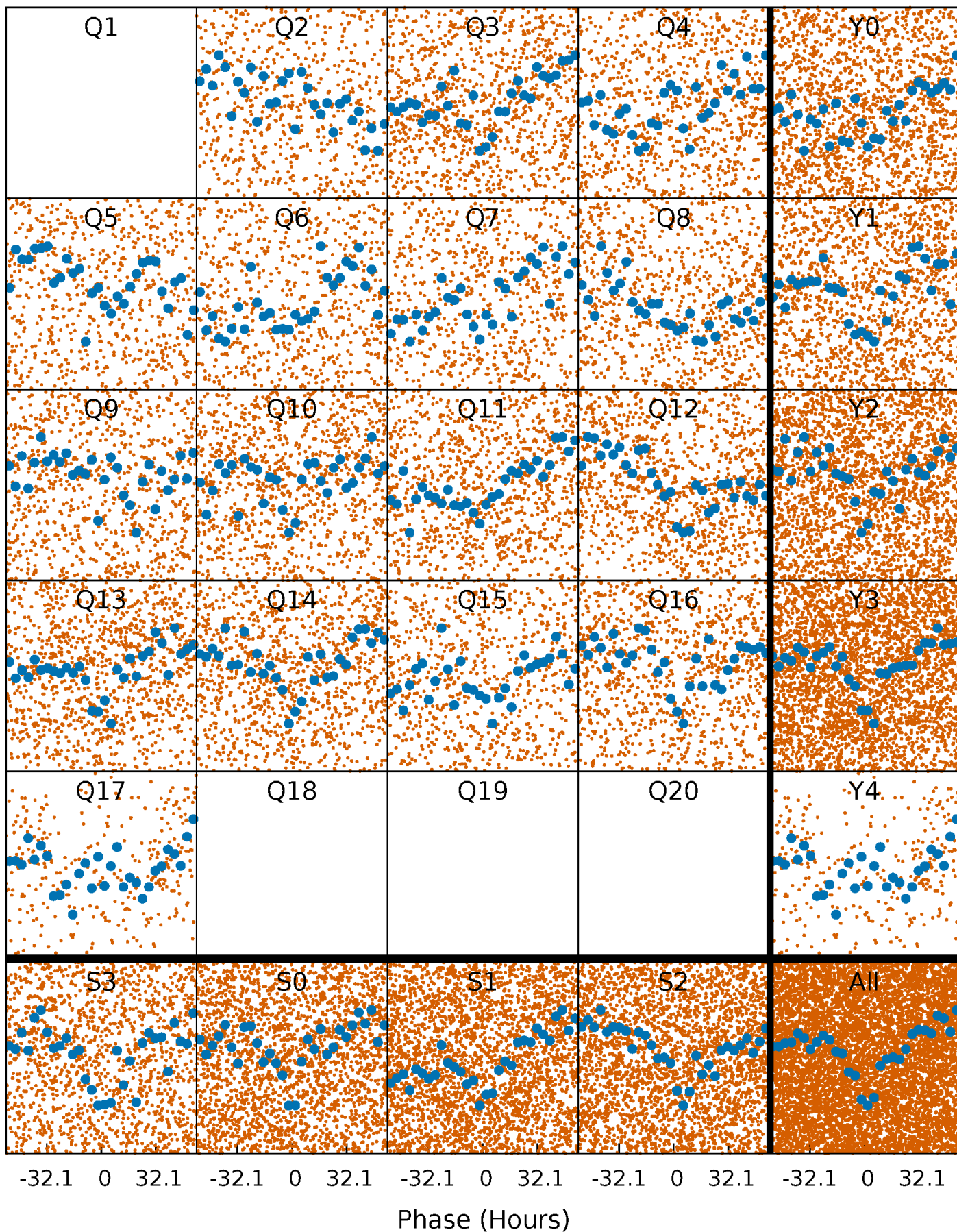


Non-Whitened Vs. Whitened Light Curve



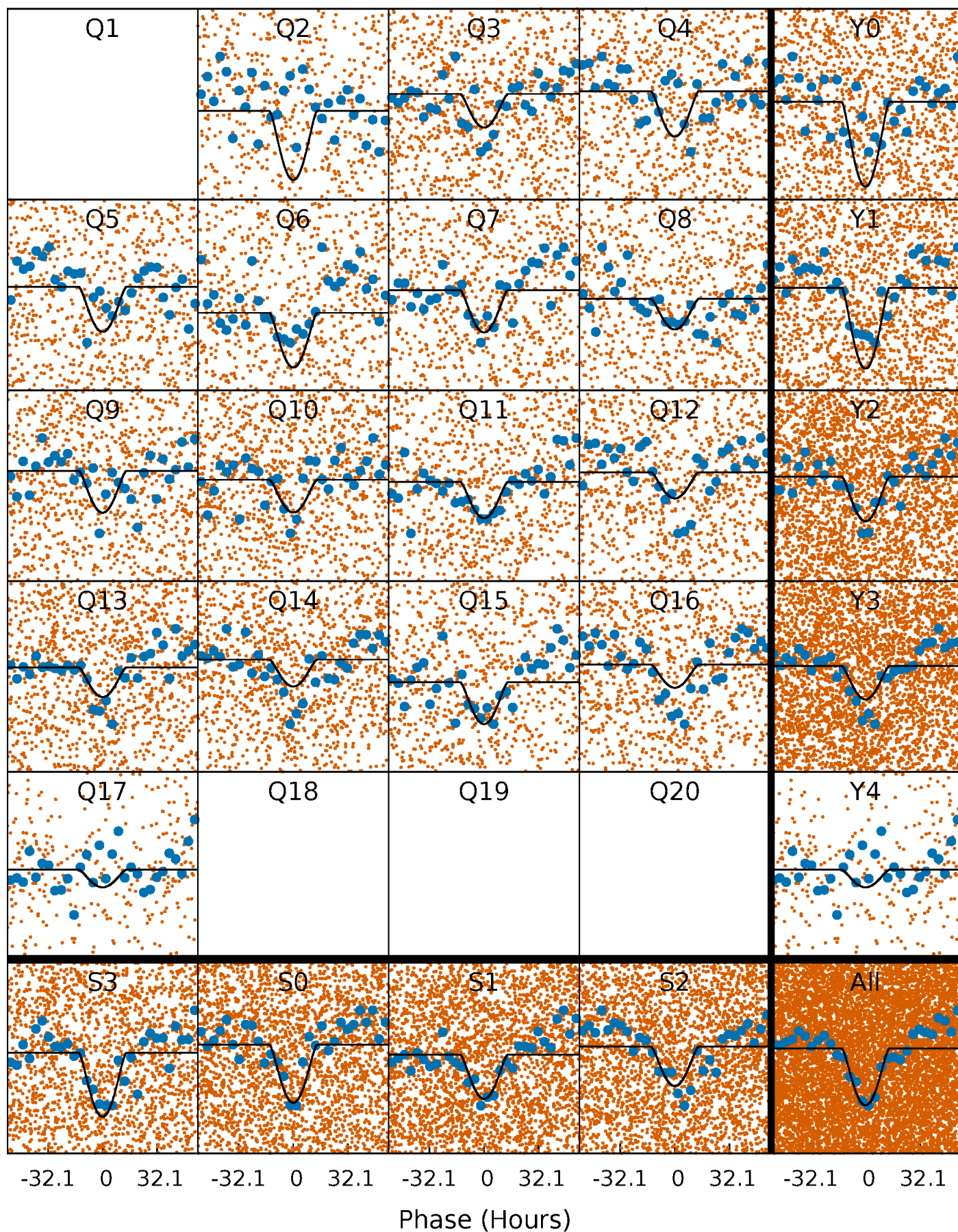
PDC Quarter-Phased Transit Curves

TCE 005470851-01 P= 12.425403 Days $T_0=141.569766$ (BKJD)



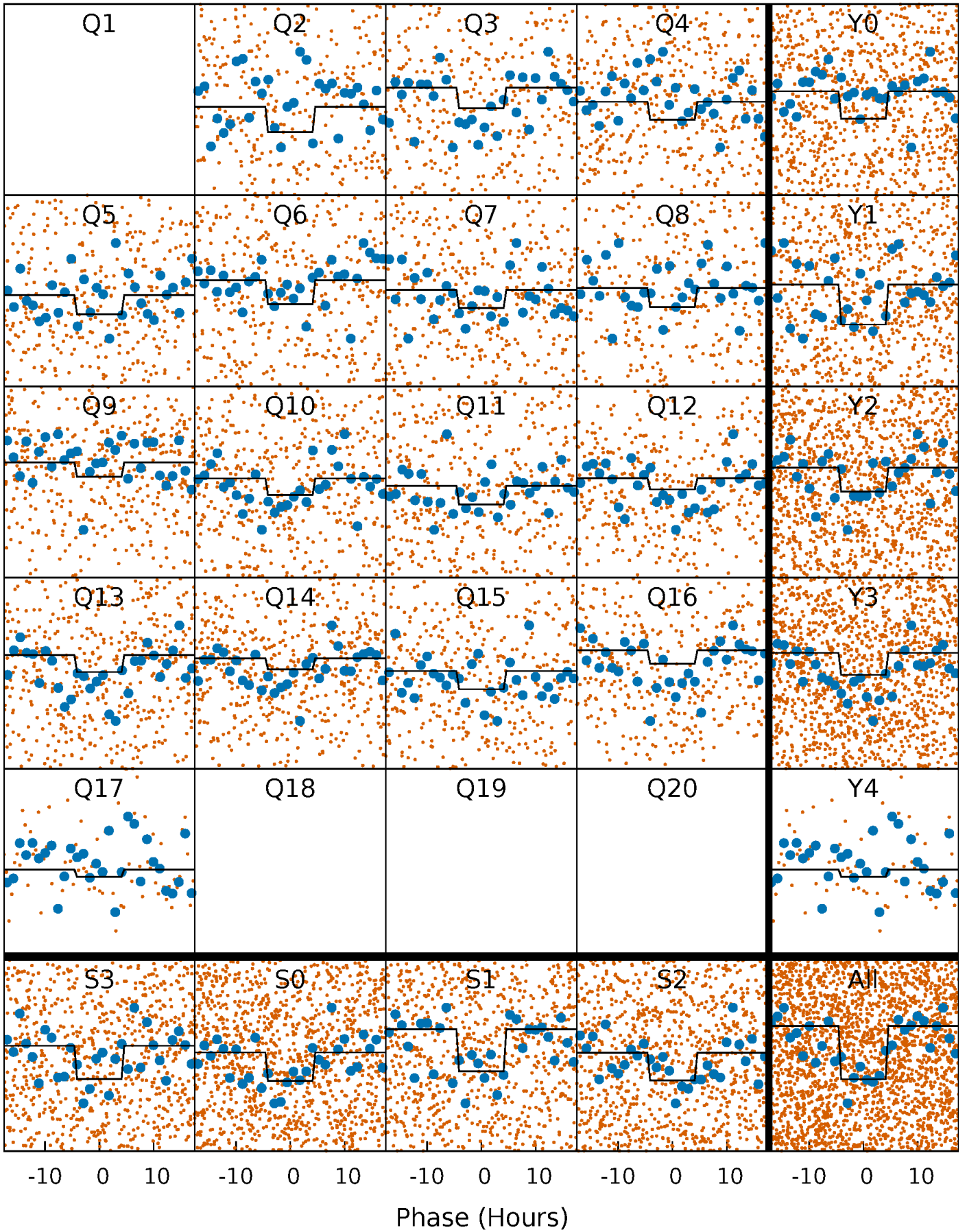
DV Quarter-Phased Transit Curves

TCE 005470851-01 P= 12.425403 Days $T_0=141.569766$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

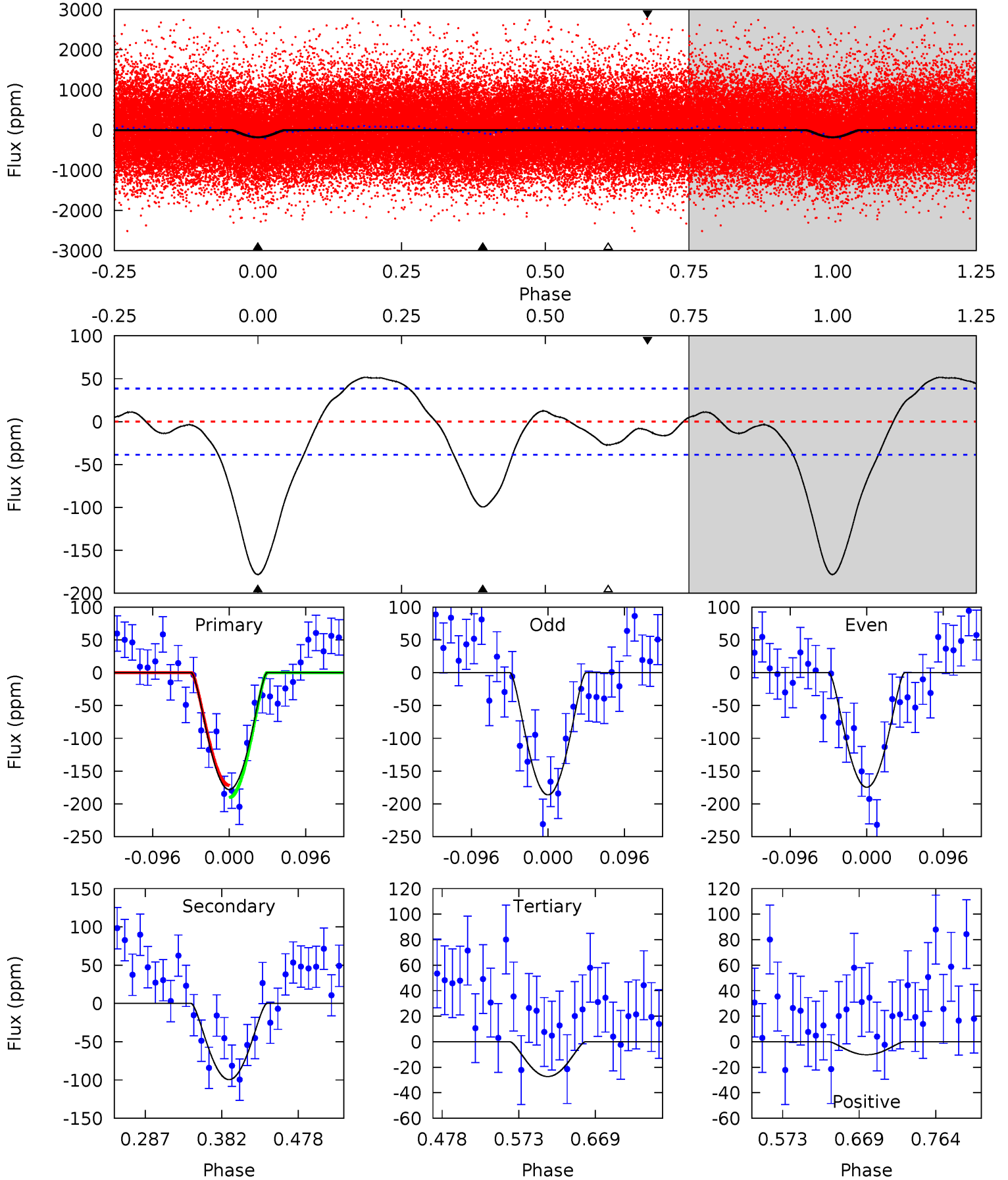
TCE 005470851-01 P= 12.425342 Days $T_0=141.668661$ (BKJD)



DV Model-Shift Uniqueness Test

005470851-01, P = 12.425403 Days, E = 141.569766 Days

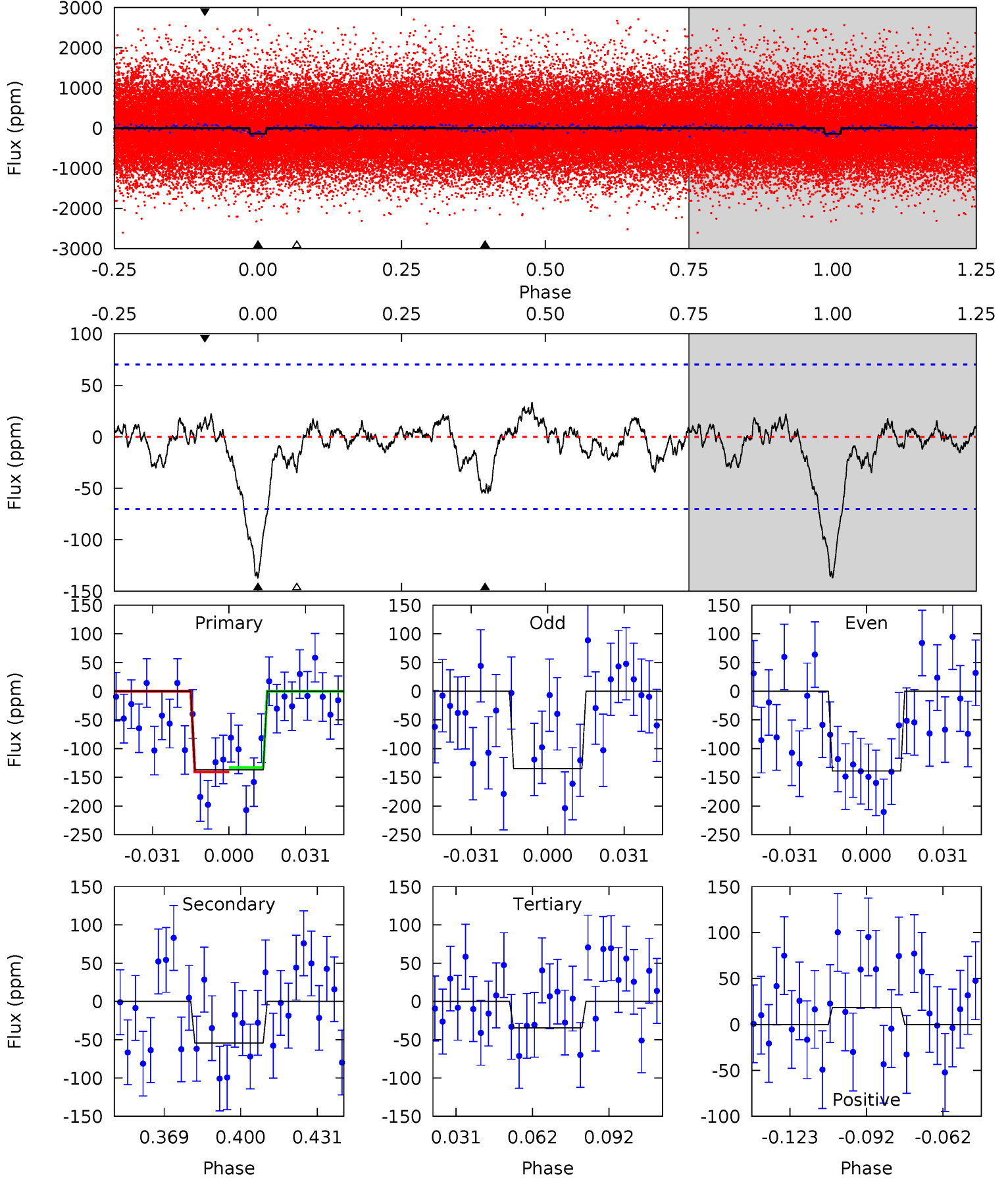
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.2	11.8	3.24	-1.21	4.57	1.67	2.77	17.9	22.4	8.57	13.0	0.69	0.66	0.22	1.10



Alt Model-Shift Uniqueness Test

005470851-01, P = 12.425342 Days, E = 141.668661 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.37	3.72	2.36	1.26	4.81	2.16	0.94	7.01	8.11	1.36	2.46	0.13	0.97	0.20	0.28



Stellar Parameters For KIC 005470851

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5869^{+182}_{-243}	$4.513^{+0.038}_{-0.212}$	$0.070^{+0.250}_{-0.300}$	$0.942^{+0.289}_{-0.096}$	$1.054^{+0.125}_{-0.150}$	$1.776^{+0.371}_{-0.946}$
	+3%/-4%	+1%/-5%	+357%/-429%	+31%/-10%	+12%/-14%	+21%/-53%
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 005470851-01 / KOI 5172.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-99 ± 8	$6.67^{+6.34}_{-4.72}$	1102^{+75}_{-57}	3021^{+1500}_{-536}	14^{+145}_{-10}
Alt.	-54 ± 15	$5.98^{+5.71}_{-4.25}$	1107^{+85}_{-61}	2860^{+1308}_{-489}	$9.674^{+91.276}_{-7.368}$

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

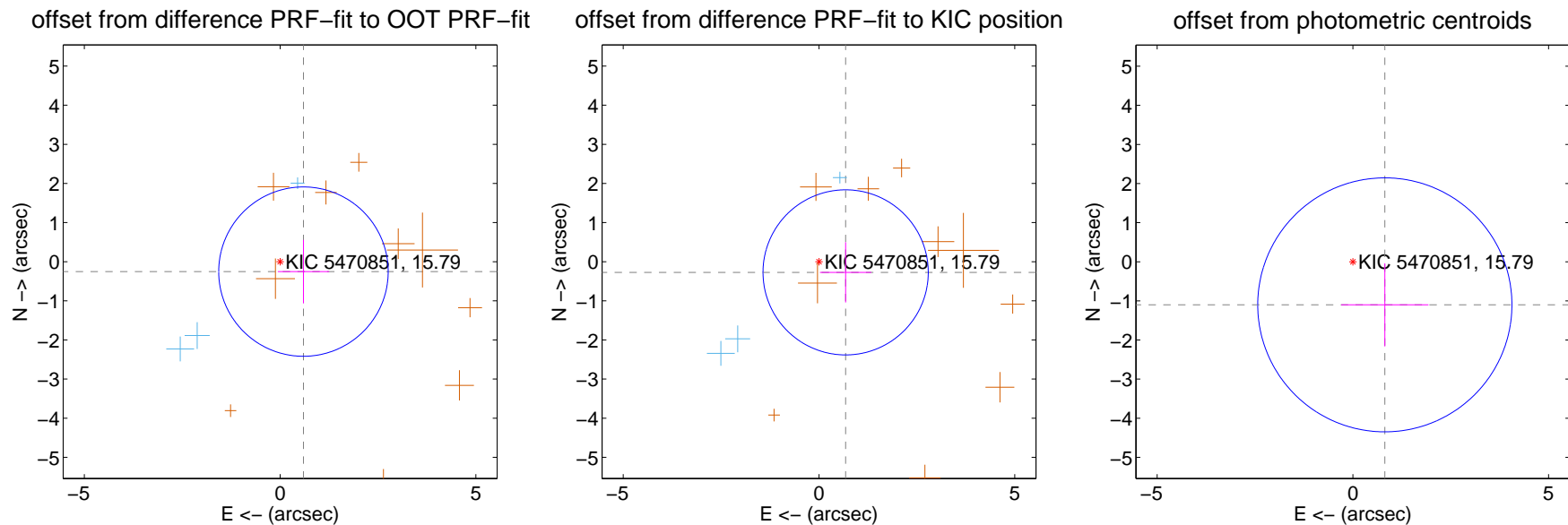
DV Centroid Data

Supplemental centroid analysis for 005470851-01. Kepler magnitude: 15.79. Transit SNR 10.23

There are 3 quarters with good PRF difference image offsets

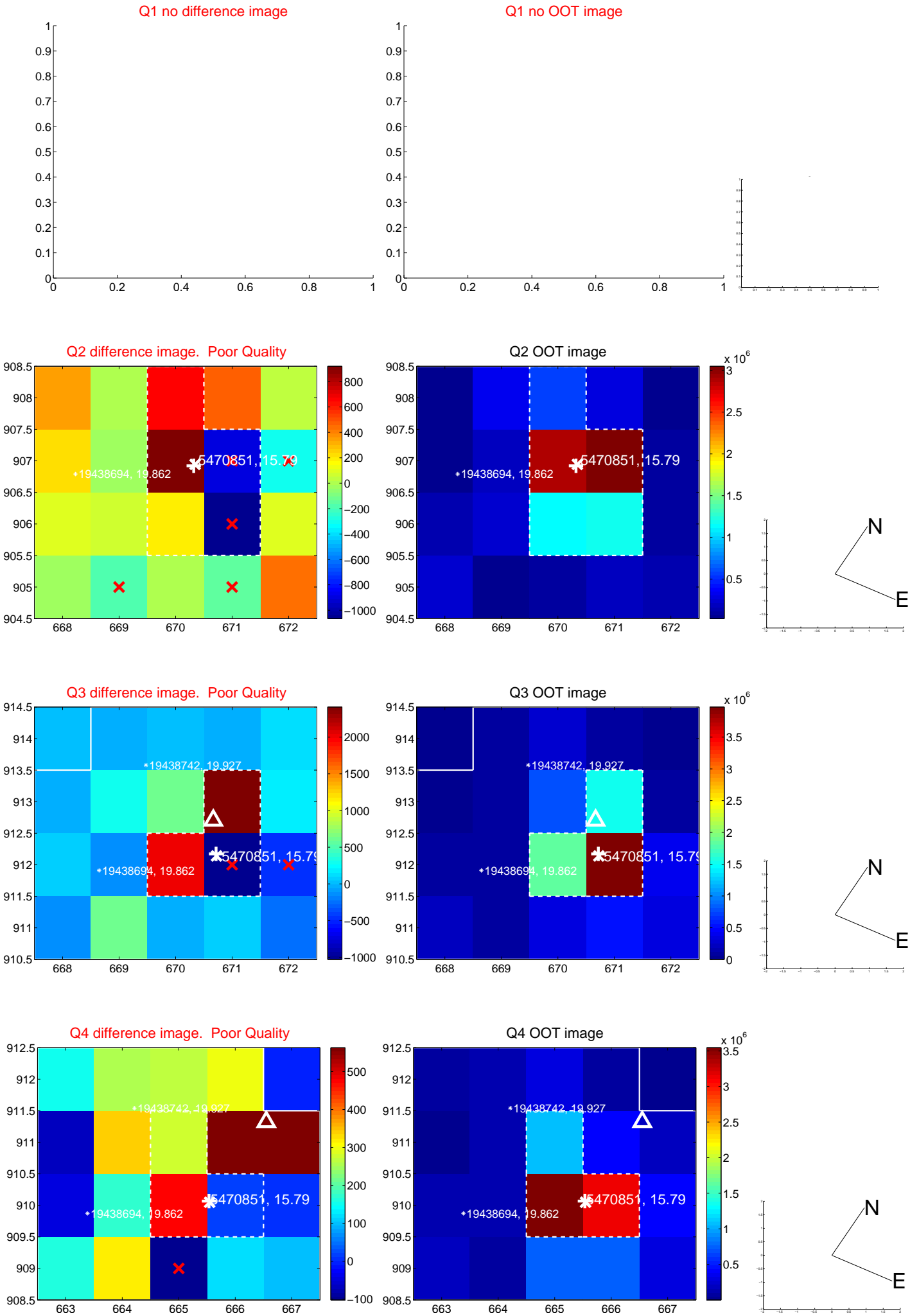
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.648 ± 0.722	0.90	-0.596 ± 0.656	-0.253 ± 0.812
PRF-fit source offset from KIC position	0.733 ± 0.703	1.04	-0.681 ± 0.656	-0.273 ± 0.769
photometric centroid source offset	1.37 ± 1.08	1.27	-0.82 ± 1.11	-1.10 ± 1.06

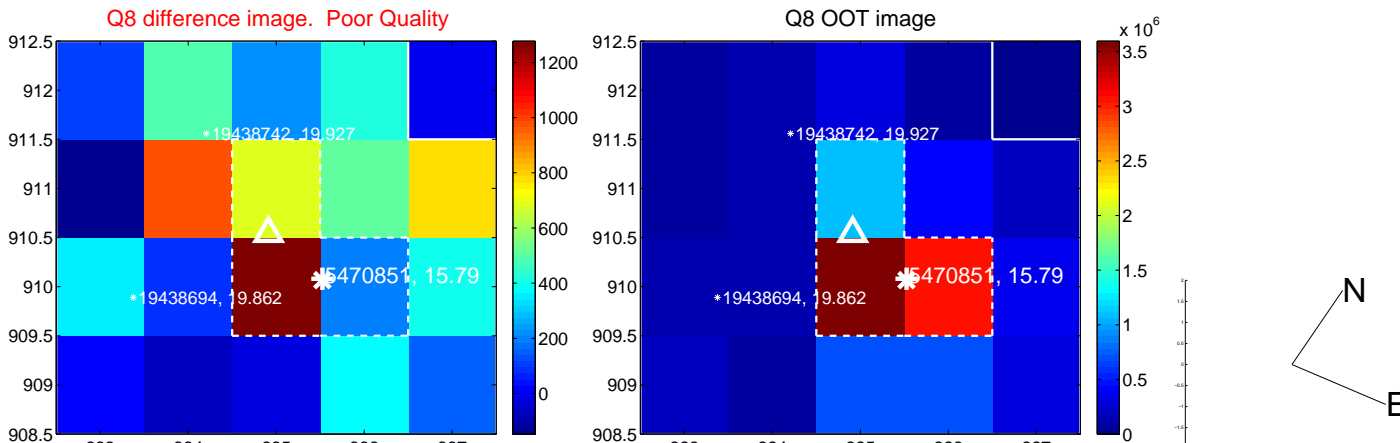
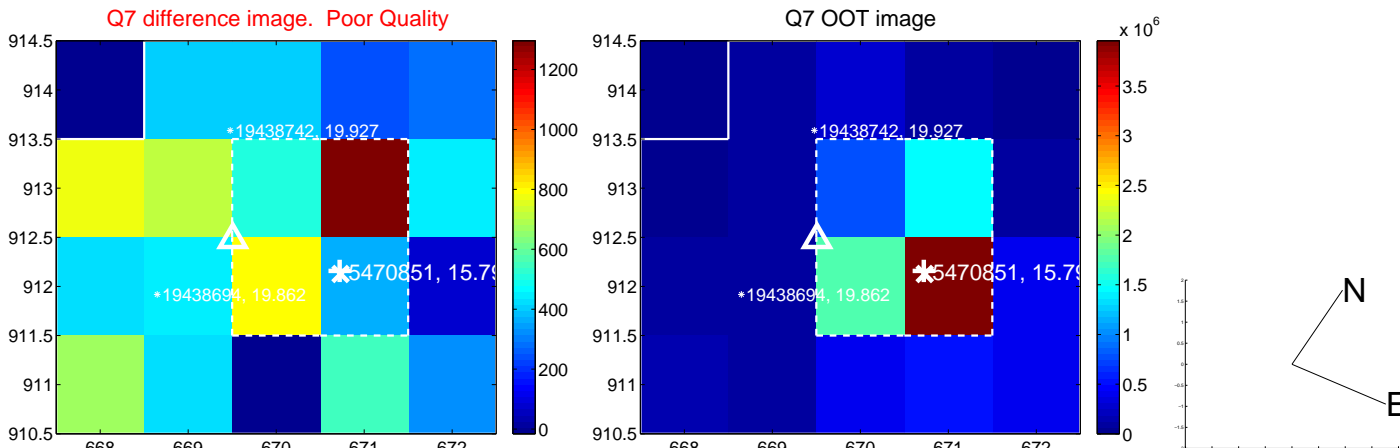
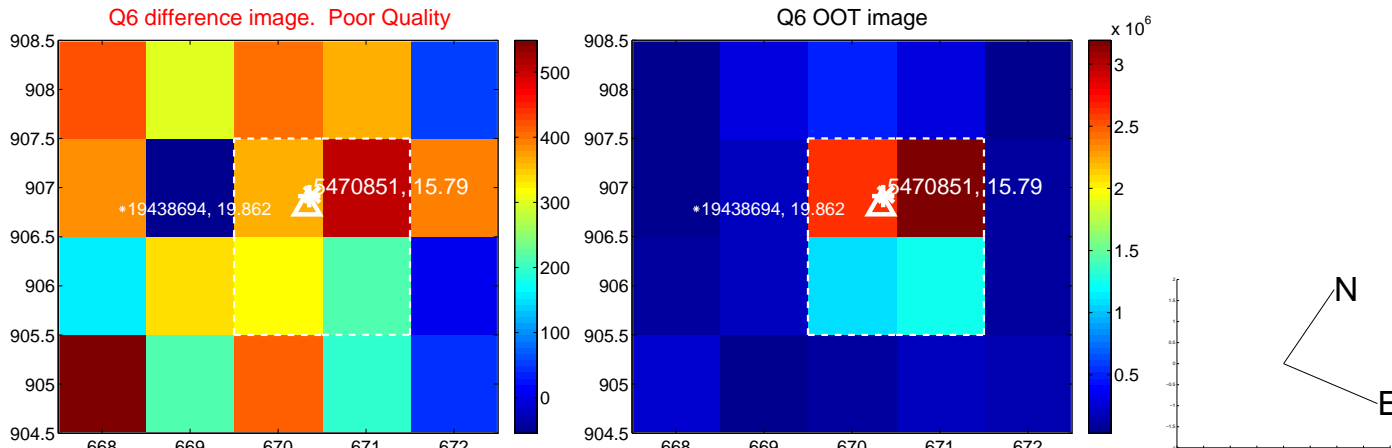
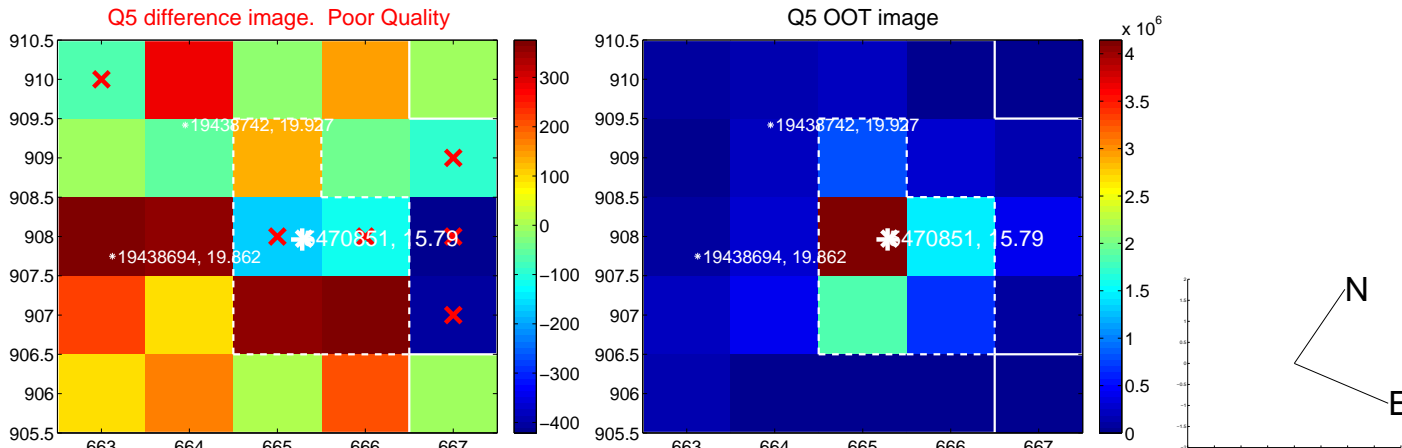


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

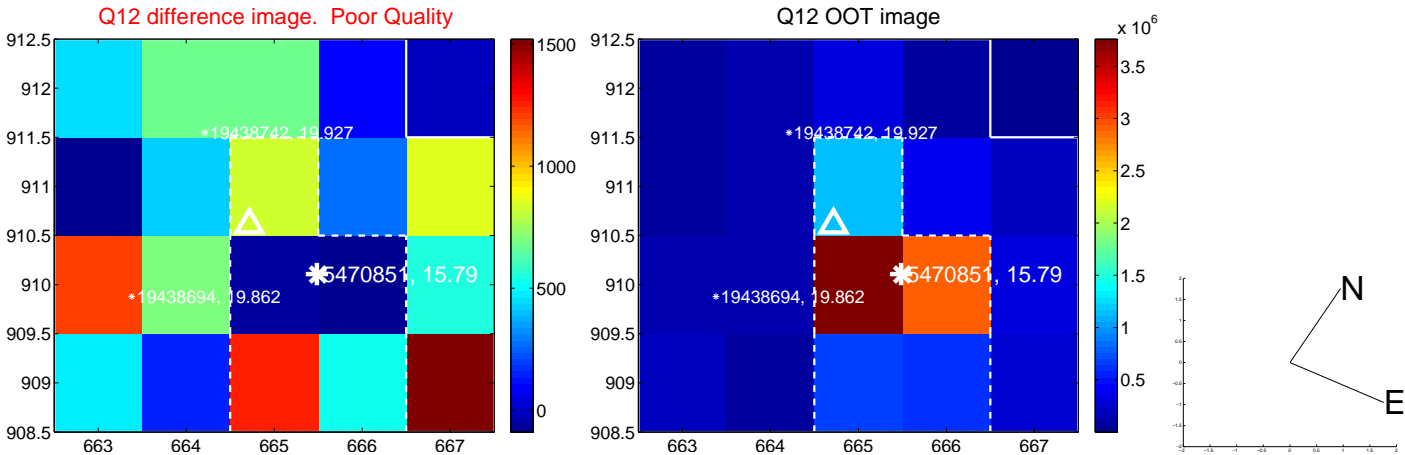
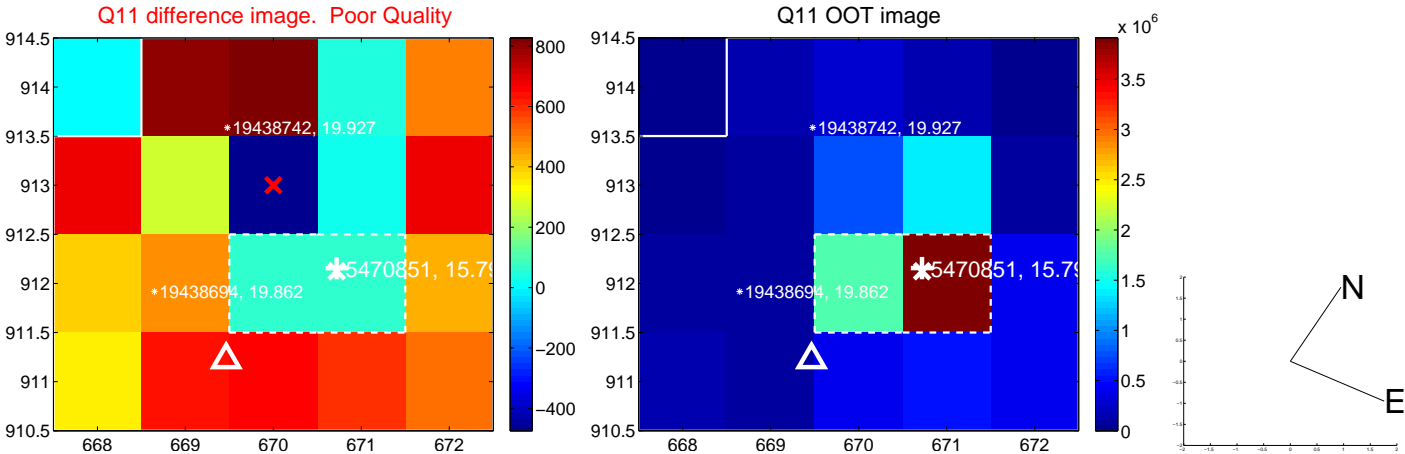
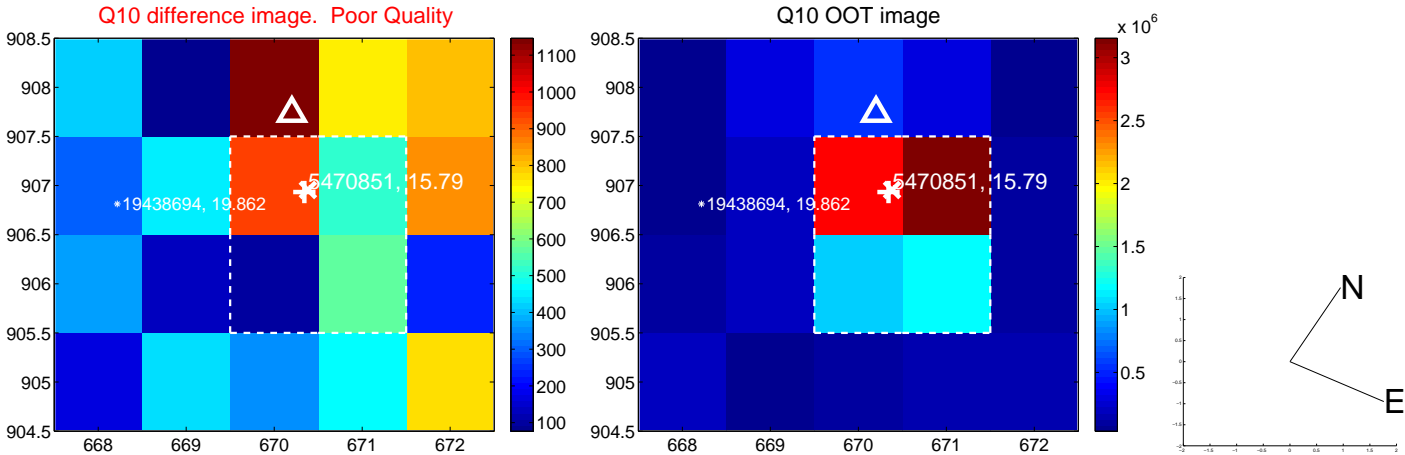
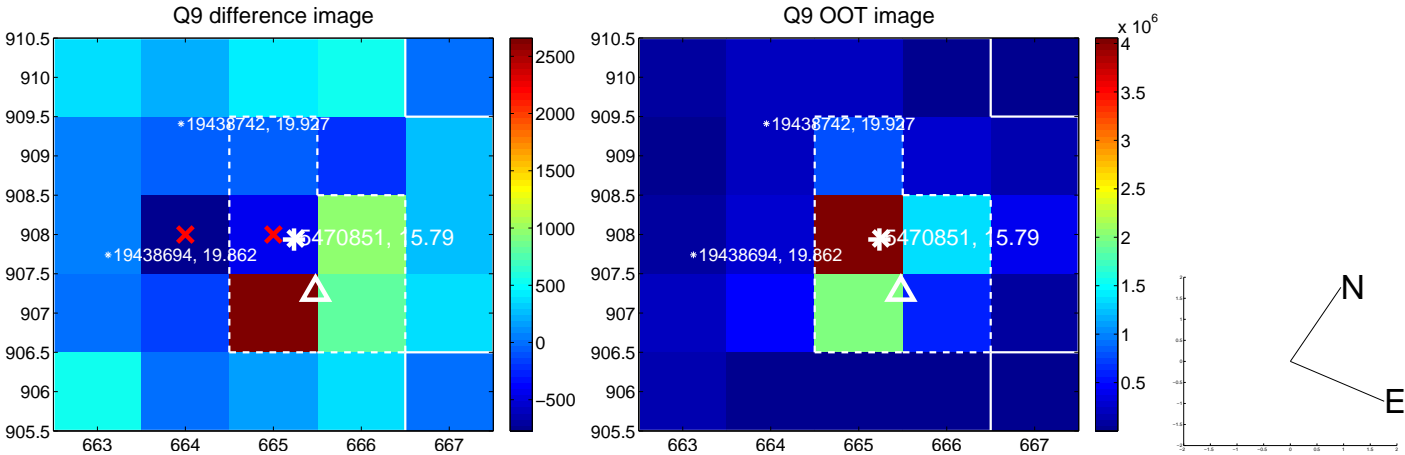
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



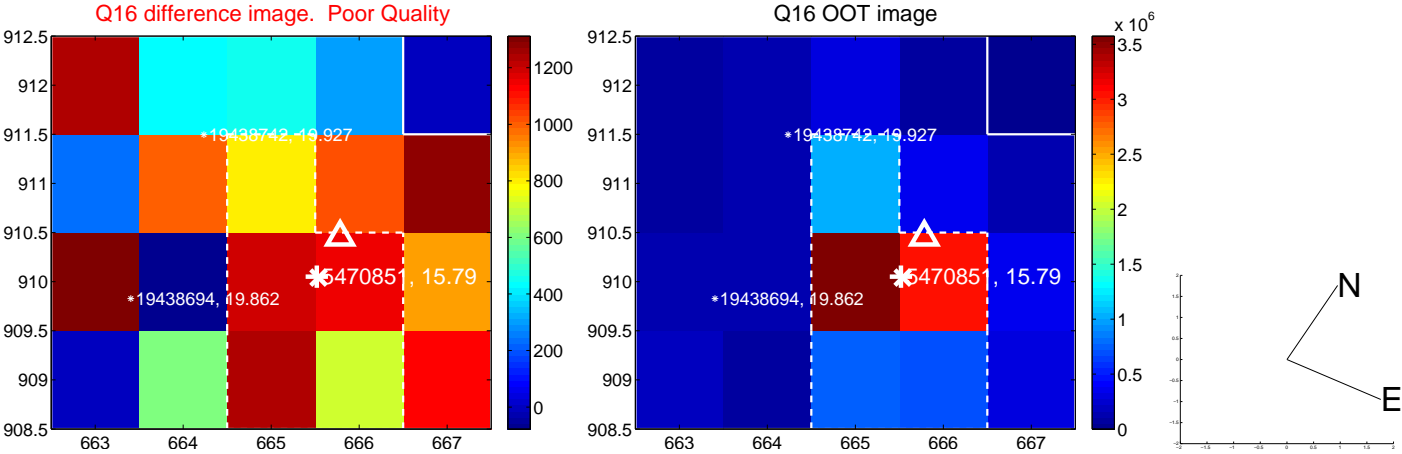
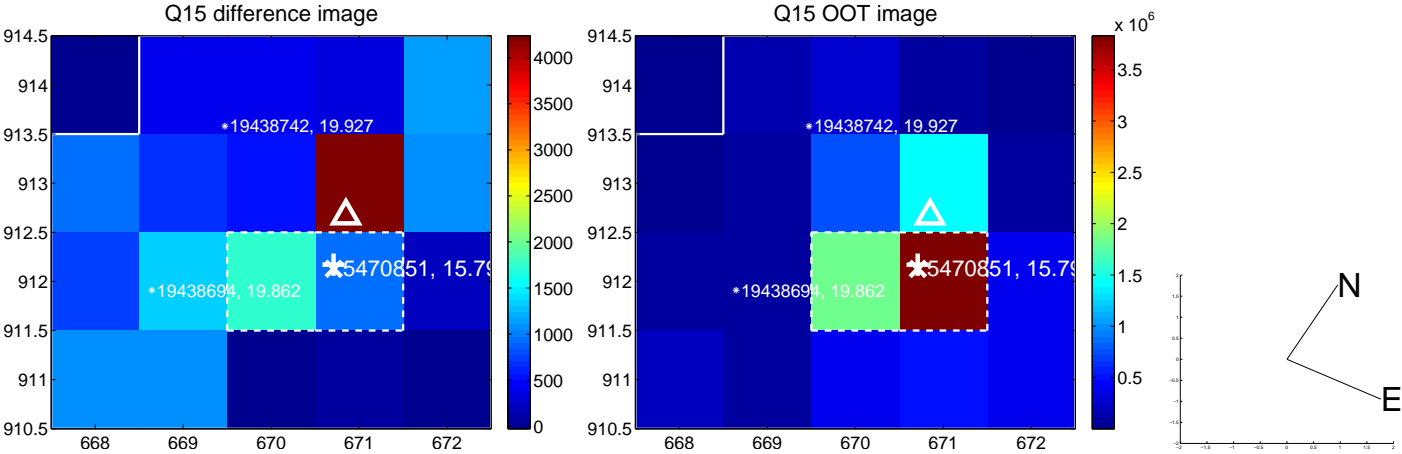
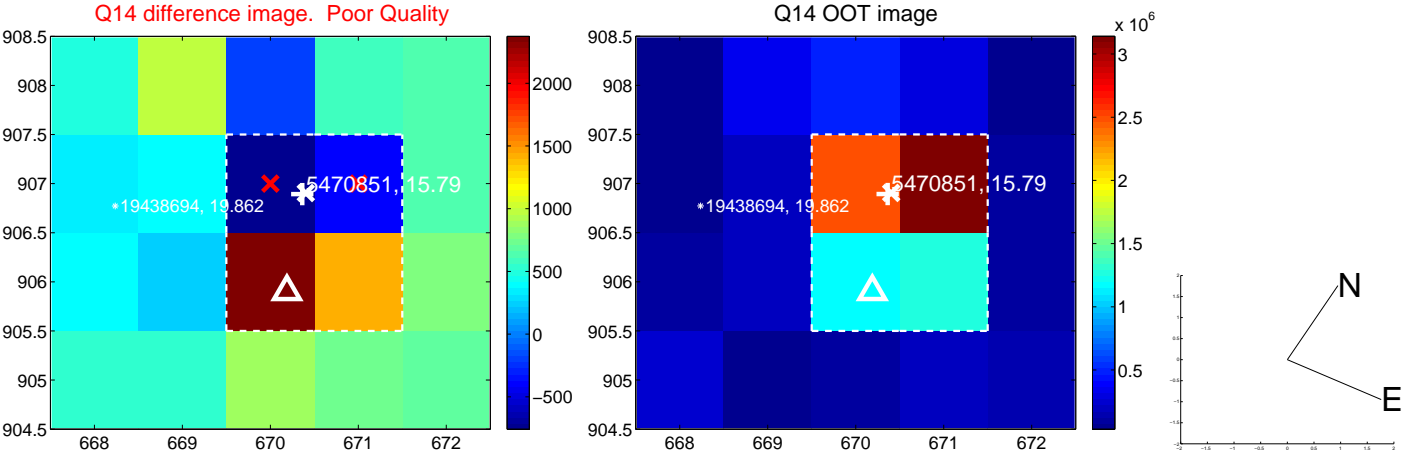
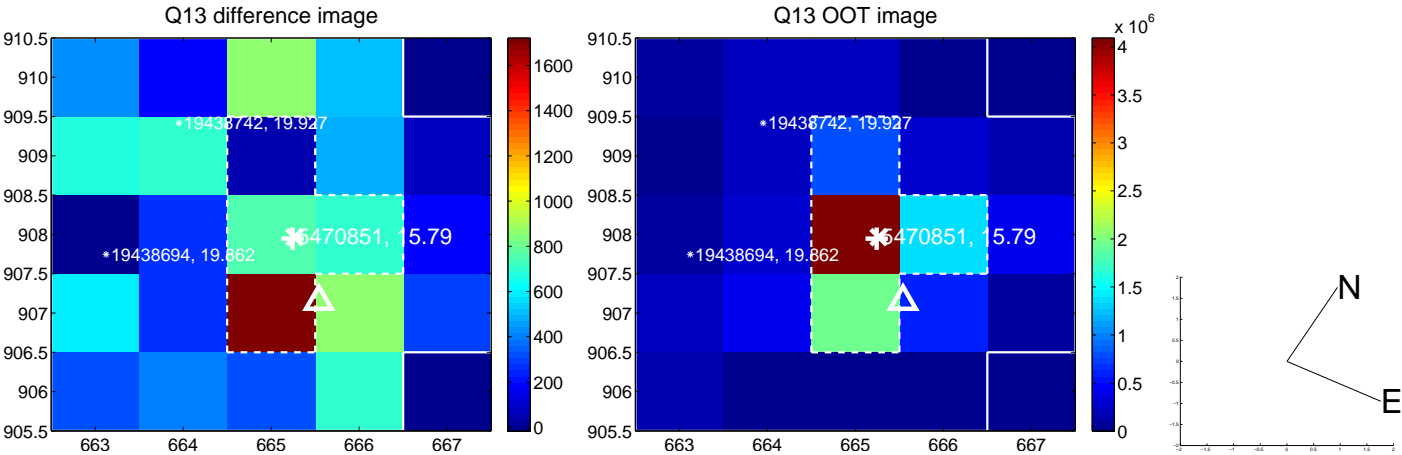
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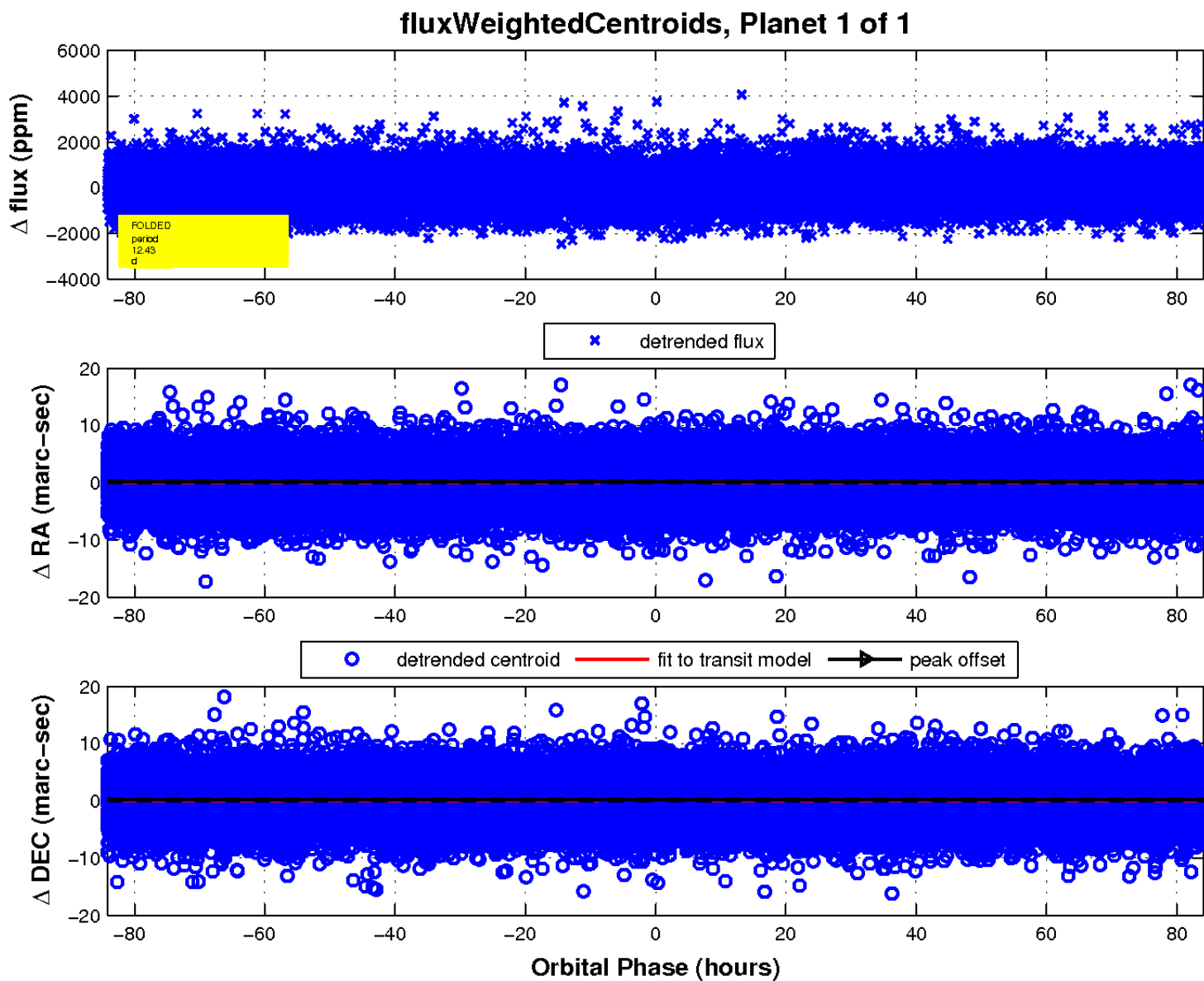
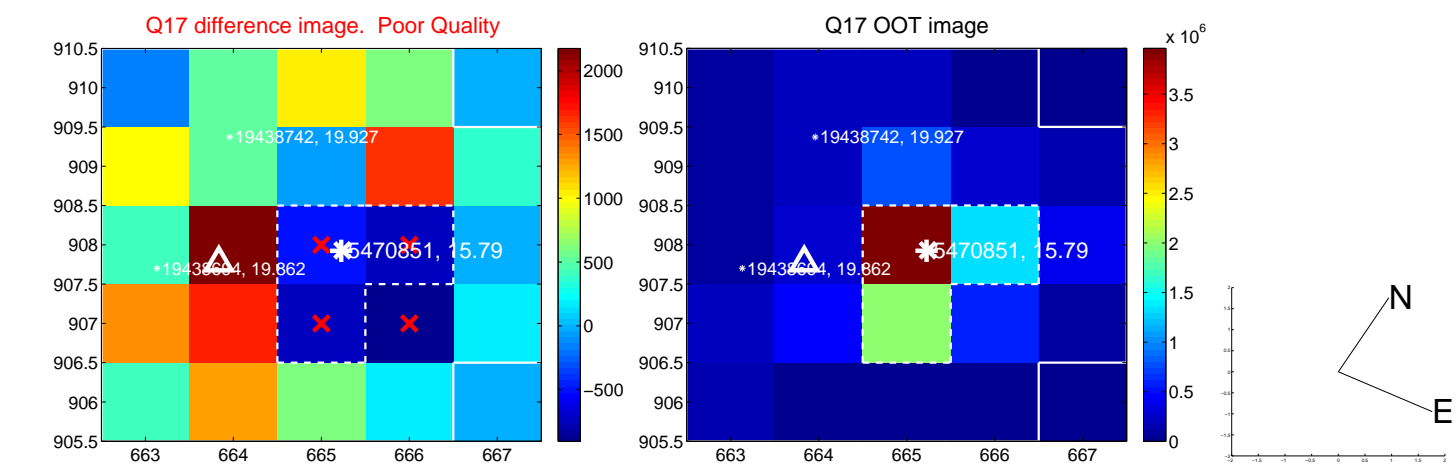
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UKIRT Image

Declination

