

KIC 005471992

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})
005471992-01	OBS	No	12.431287	141.037616	40.9	24.741	7.5	9.8	1.01	6274	0.75	135.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005471992-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET—HALO_GHOST

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

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

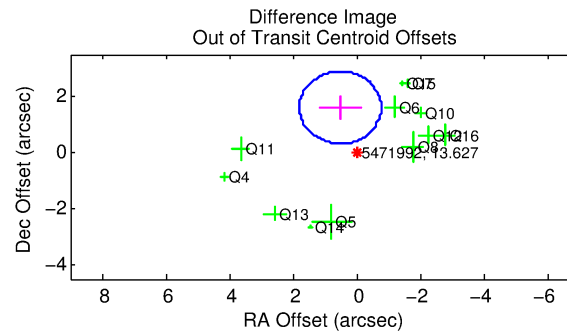
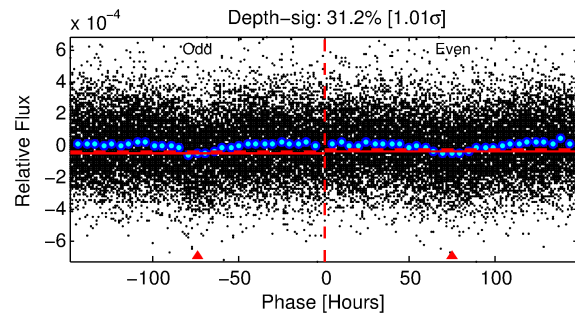
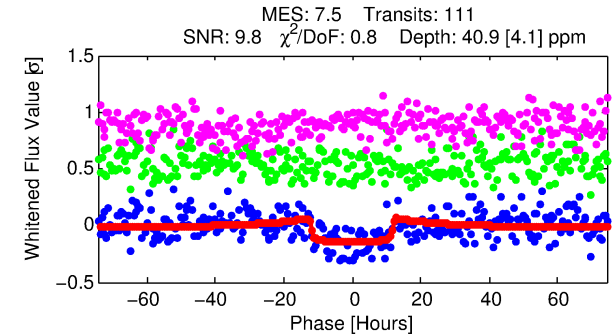
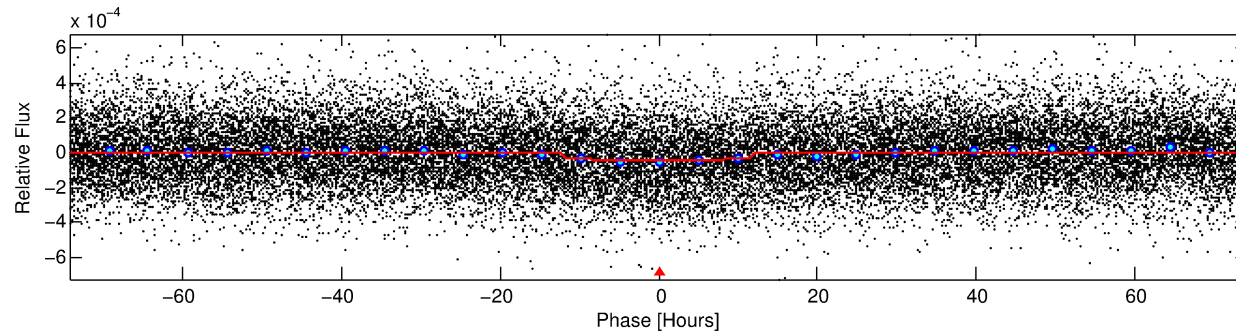
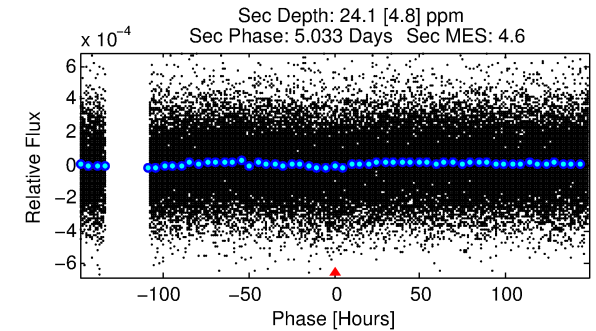
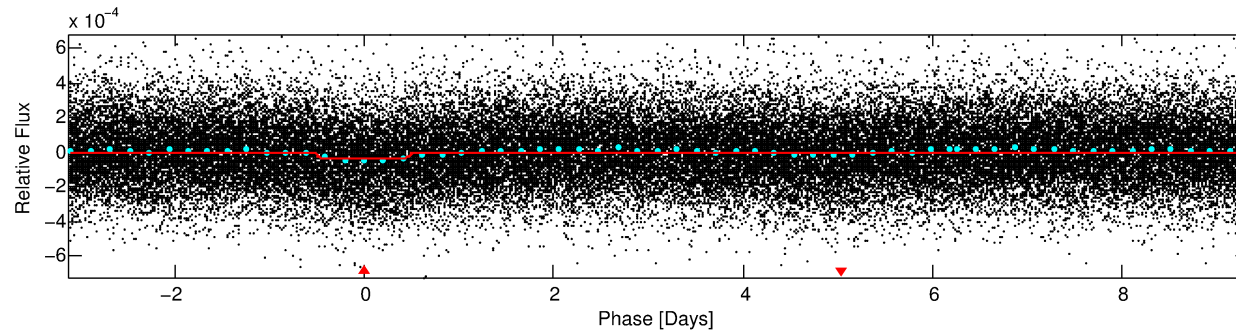
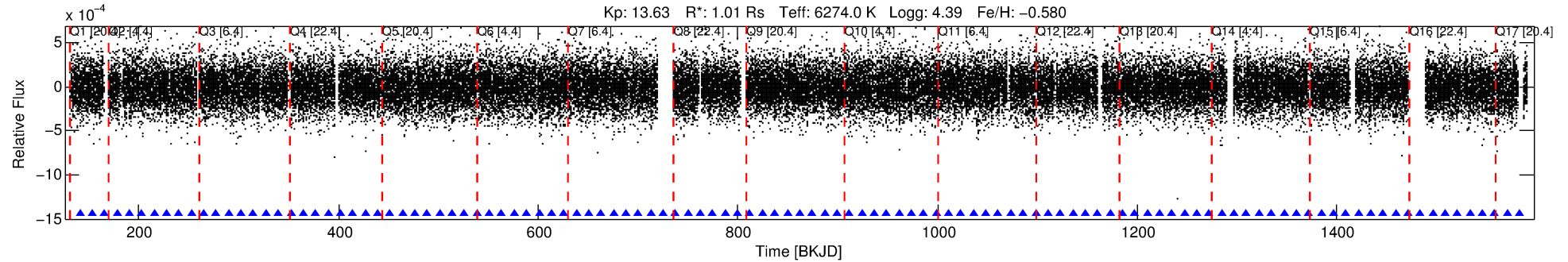
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005471992-01

No Significant Match Found

DV One-Page Summary

KIC: 5471992 Candidate: 1 of 1 Period: 12.431 d



DV Fit Results:

Period = 12.43129 [0.00036] d
Epoch = 141.0376 [0.0236] BKJD
Rp/R* = 0.0068 [0.0007]
a/R* = 2.04 [0.82]
b = 0.89 [0.13]
Seff = 135.88 [47.58]
Teq = 871 [76] K
Rp = 0.75 [0.22] Re
a = 0.1023 [0.0231] AU
Ag = 247.14 [108.61] [2.27σ]
Teffp = 5337 [420] K [10.45σ]

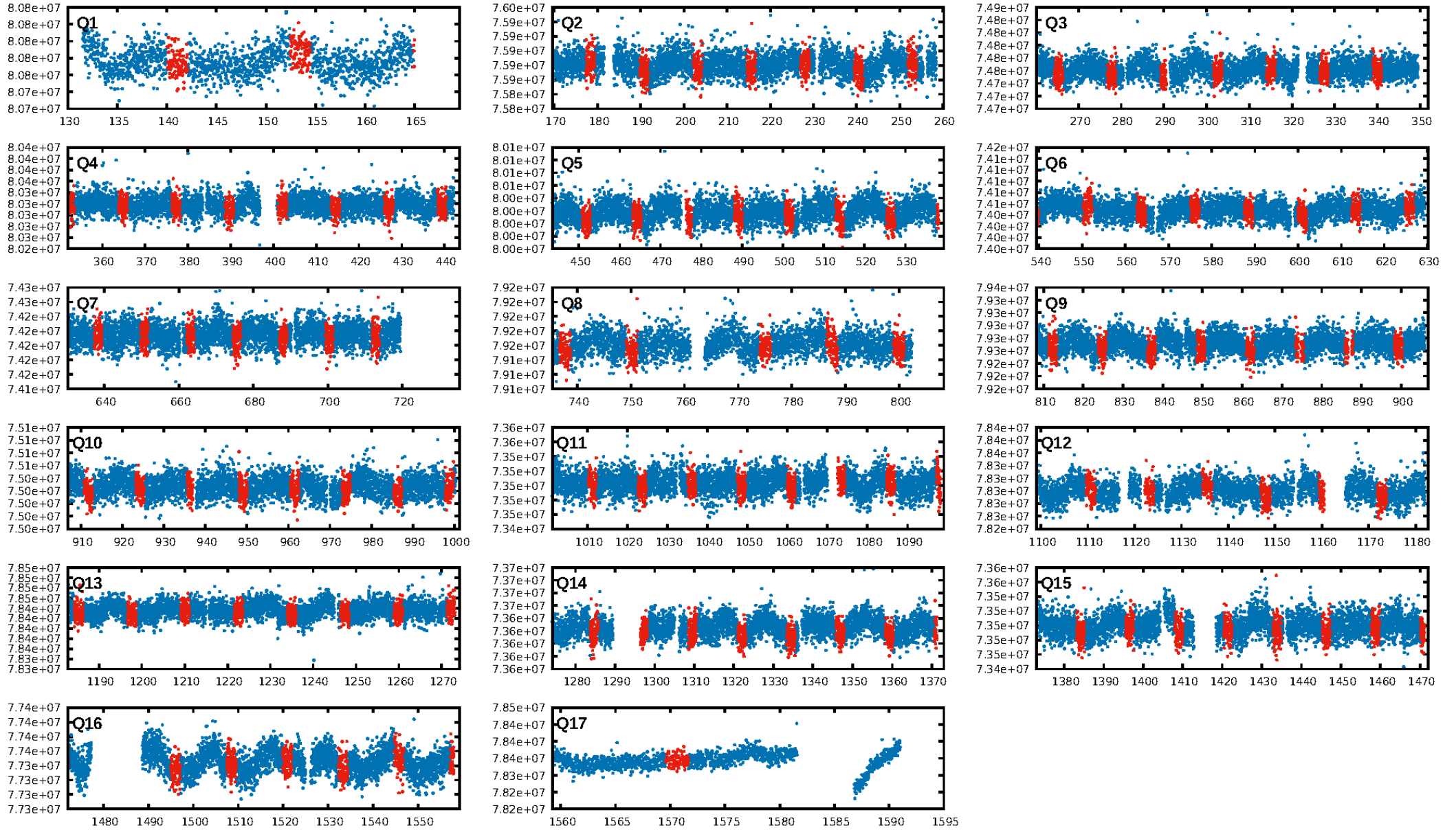
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.45e-14
RollingBand-fgt: 1.00 [108/108]
GhostDiagnostic-chr: -0.19
Centroid-sig: 1.2%
Centroid-so: 1.749 arcsec [1.47σ]
OotOffset-rm: 1.682 arcsec [3.92σ]
KicOffset-rm: 1.632 arcsec [3.71σ]
OotOffset-st: 3/3/4/2 [12]
KicOffset-st: 3/3/4/2 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 1.00 [17/17]

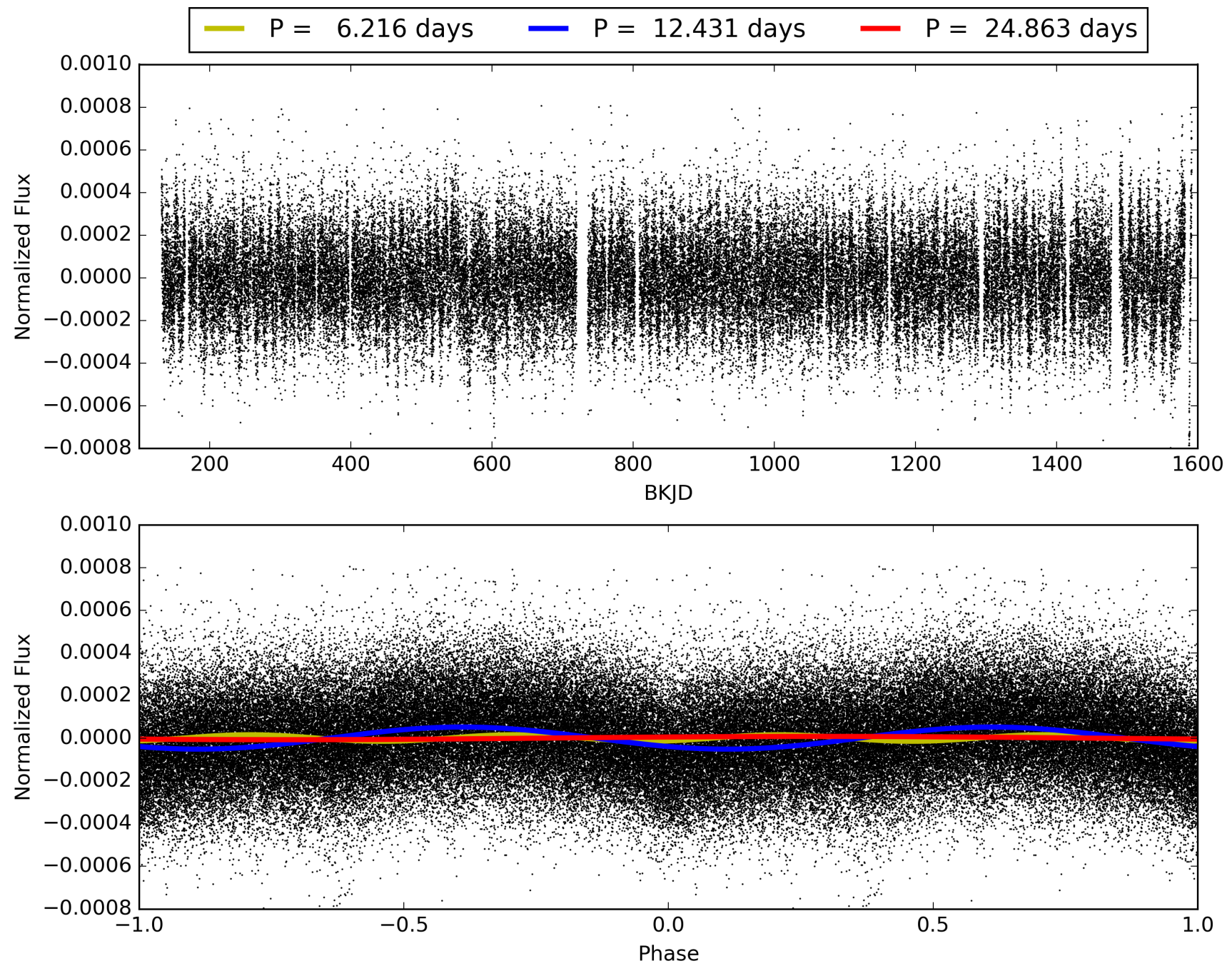
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:59:48 Z

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

TCE 005471992-01, PDC Light Curves

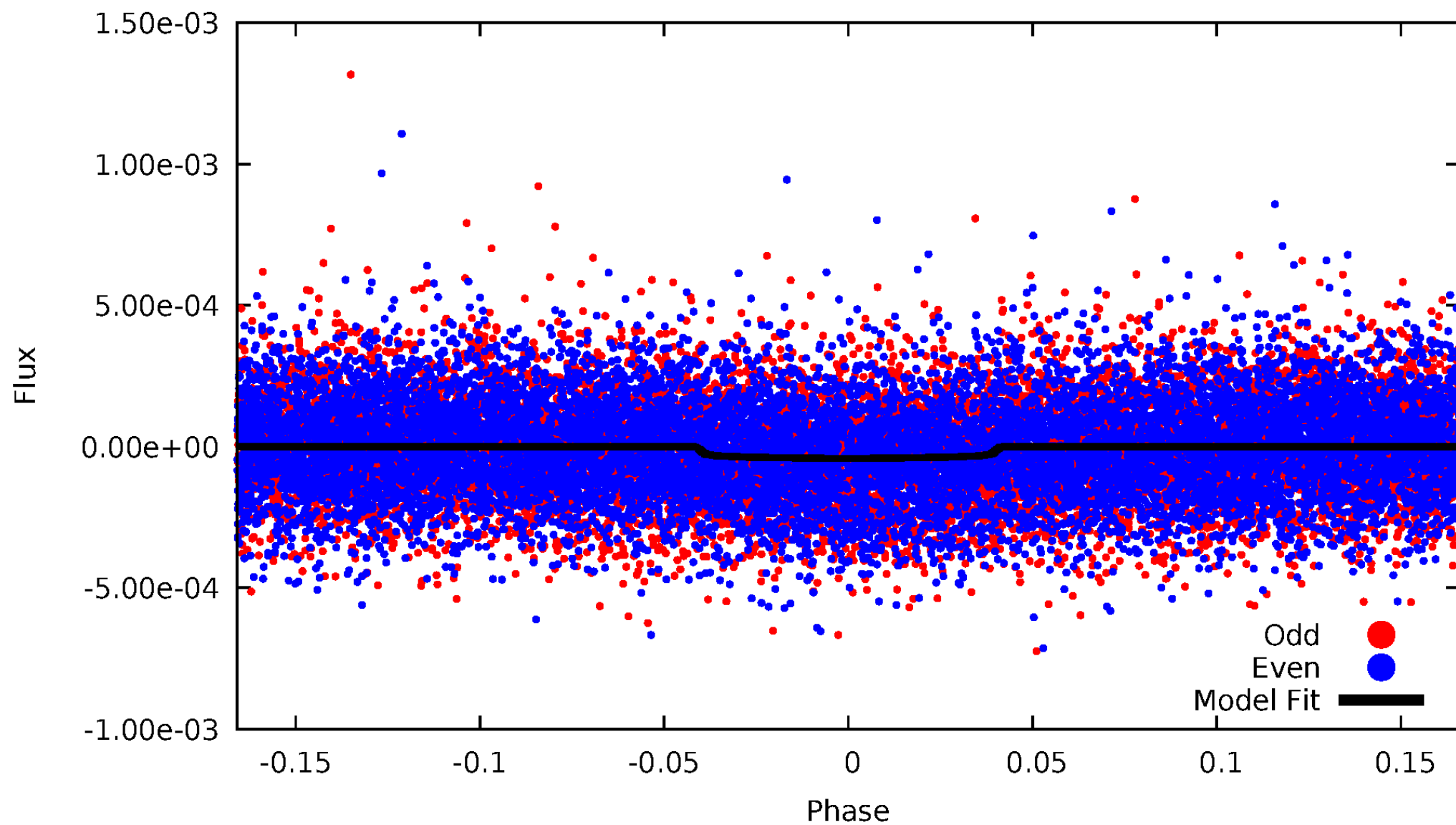


TCE 005471992-01



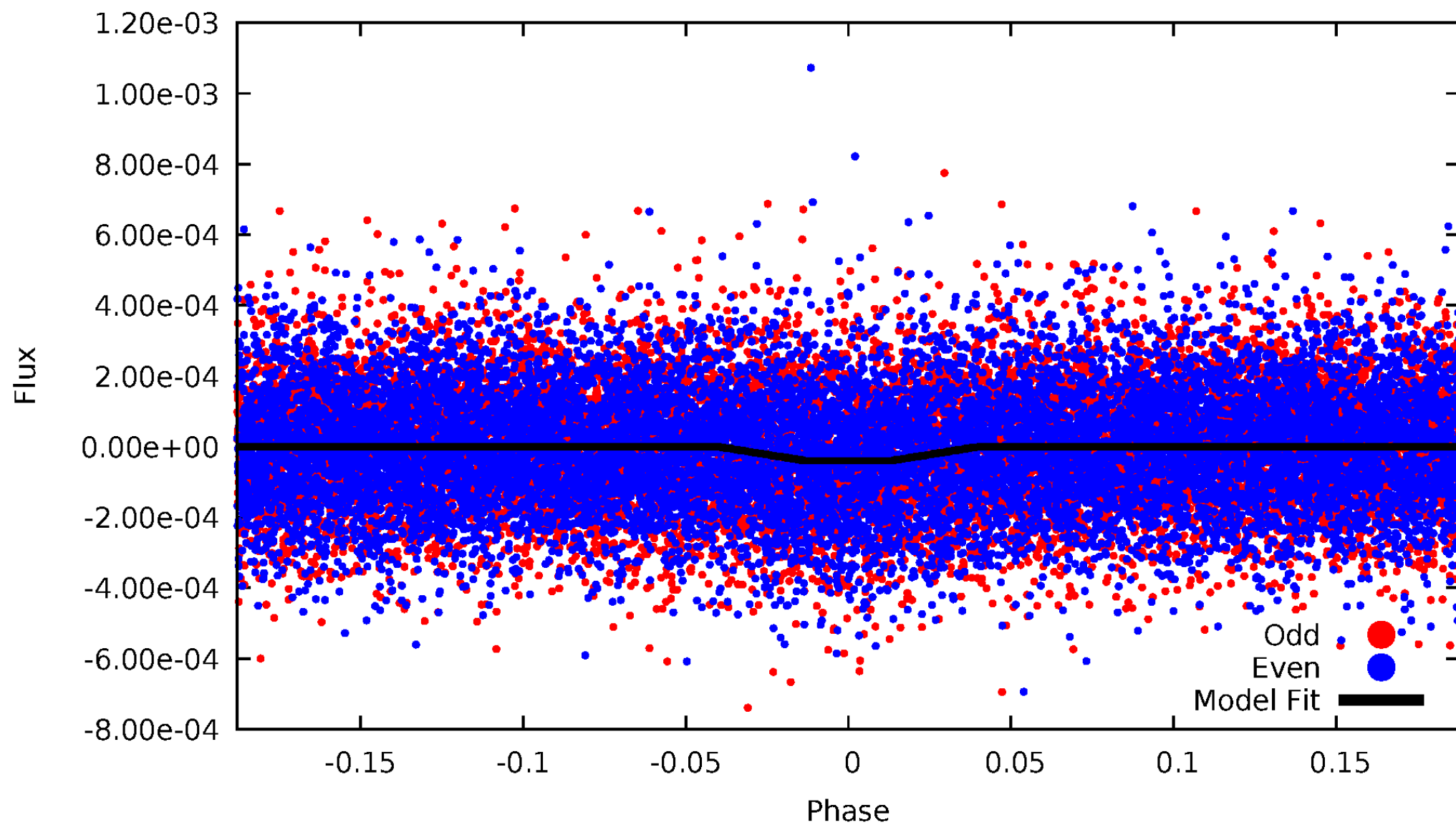
DV Odd/Even

TCE 005471992-01

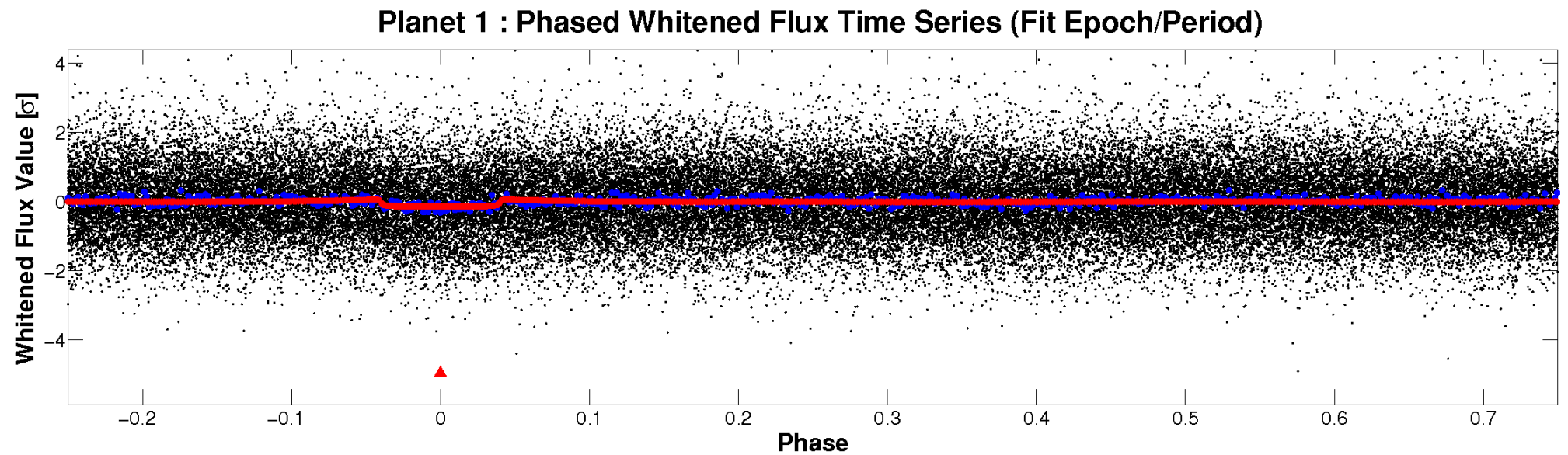
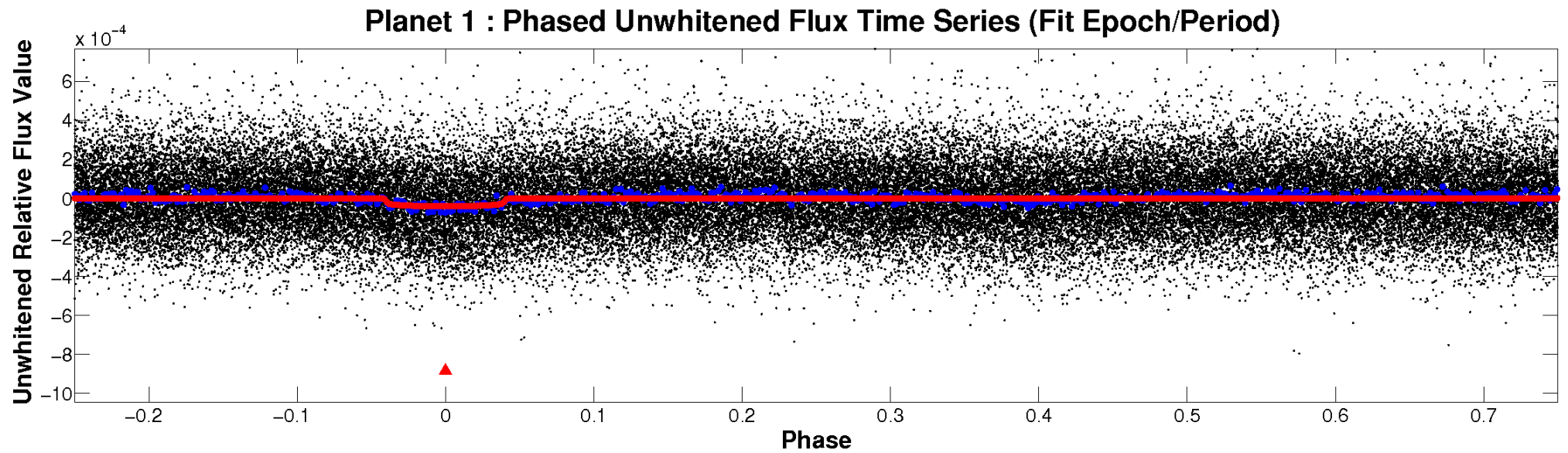


ALT Odd/Even

TCE 005471992-01

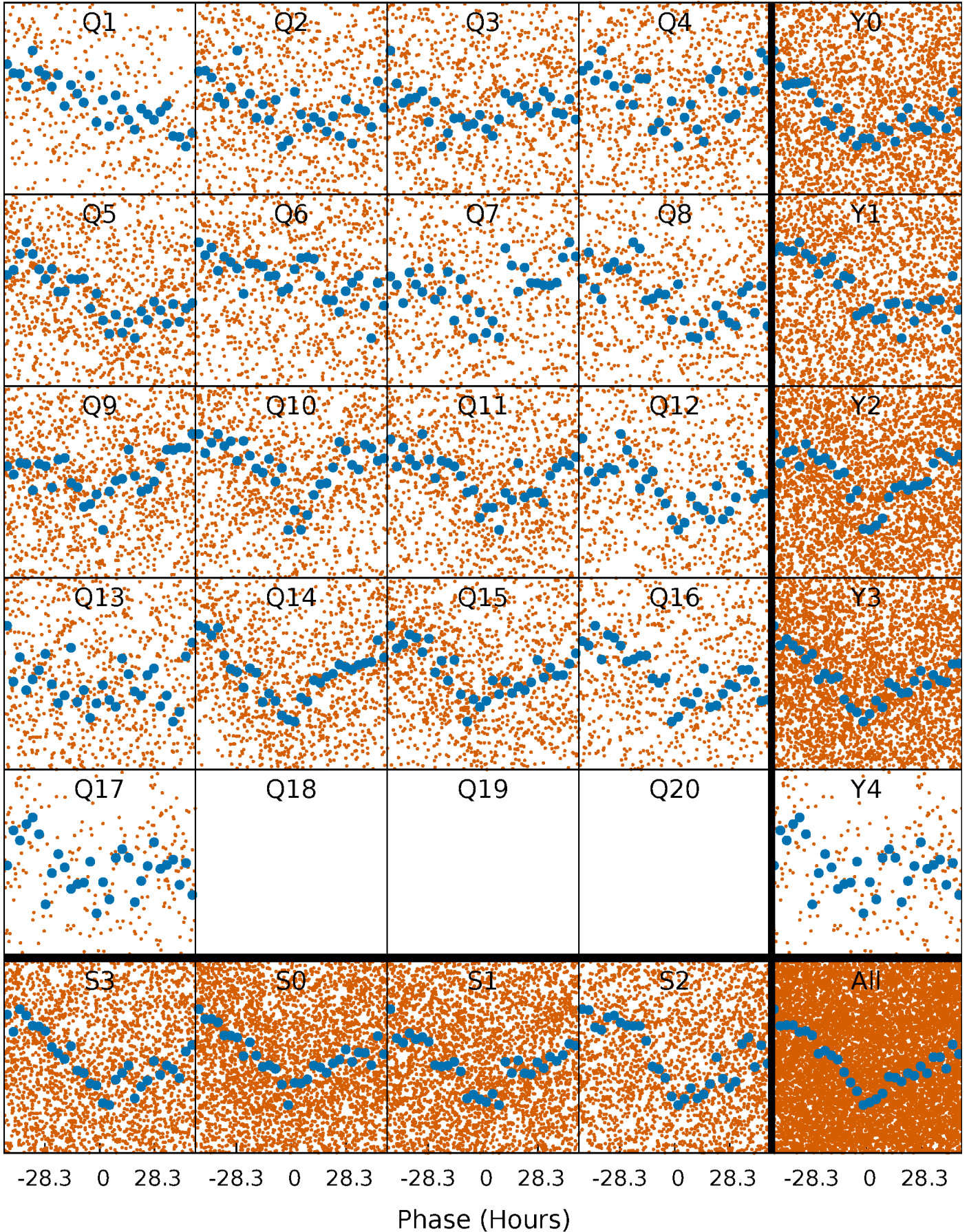


Non-Whitened Vs. Whitened Light Curve



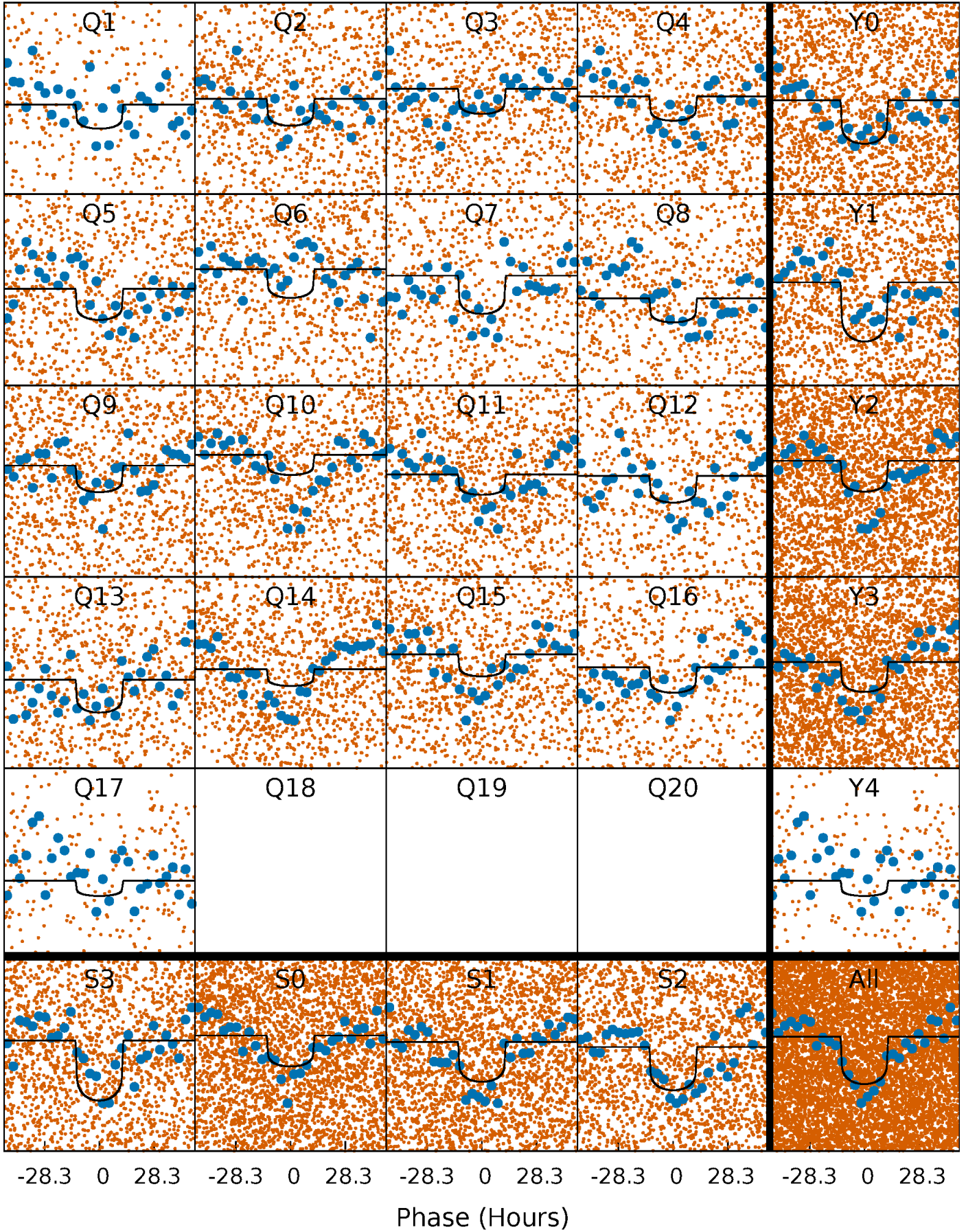
PDC Quarter-Phased Transit Curves

TCE 005471992-01 P= 12.431287 Days $T_0=141.037615$ (BKJD)



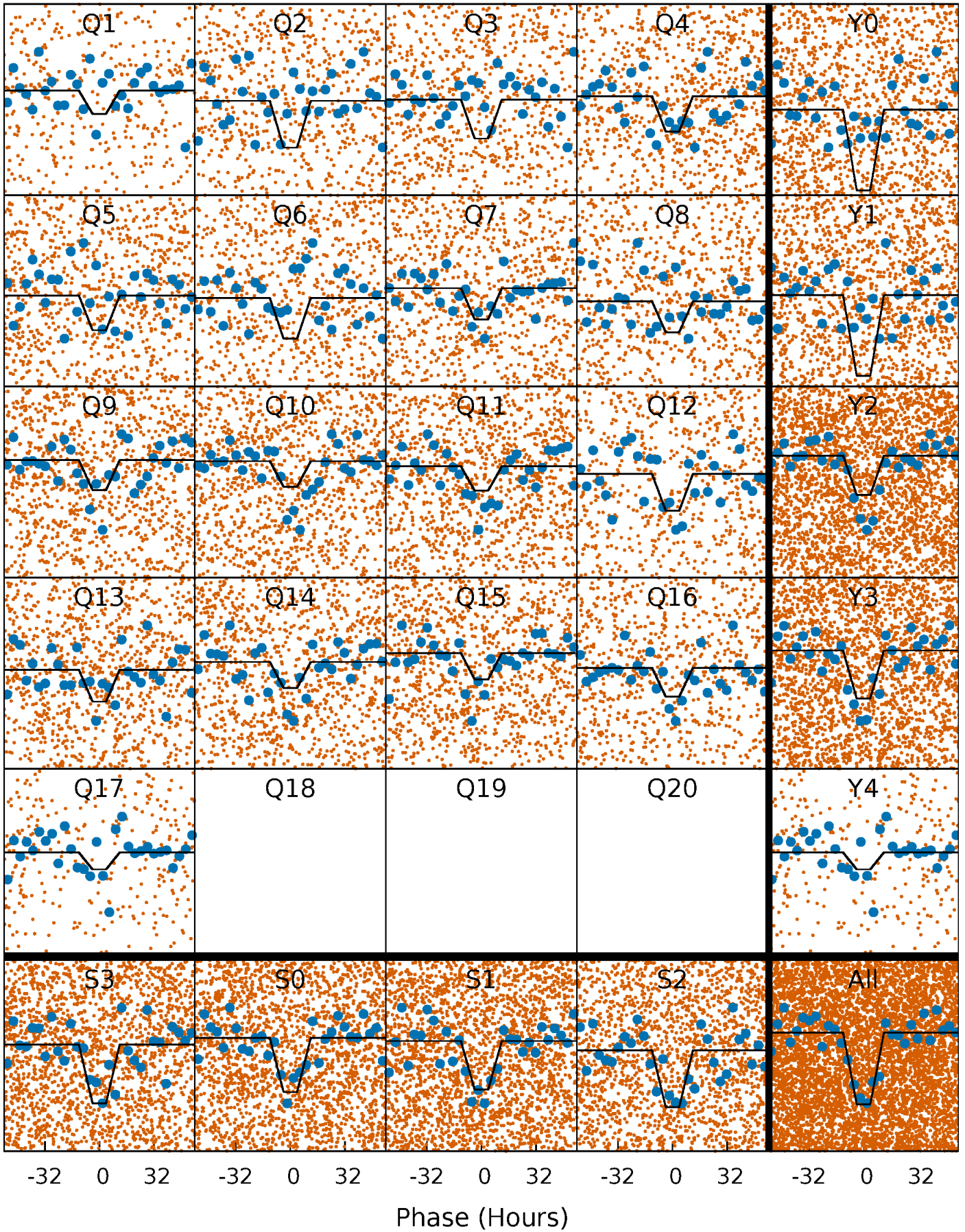
DV Quarter-Phased Transit Curves

TCE 005471992-01 P= 12.431287 Days $T_0=141.037615$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

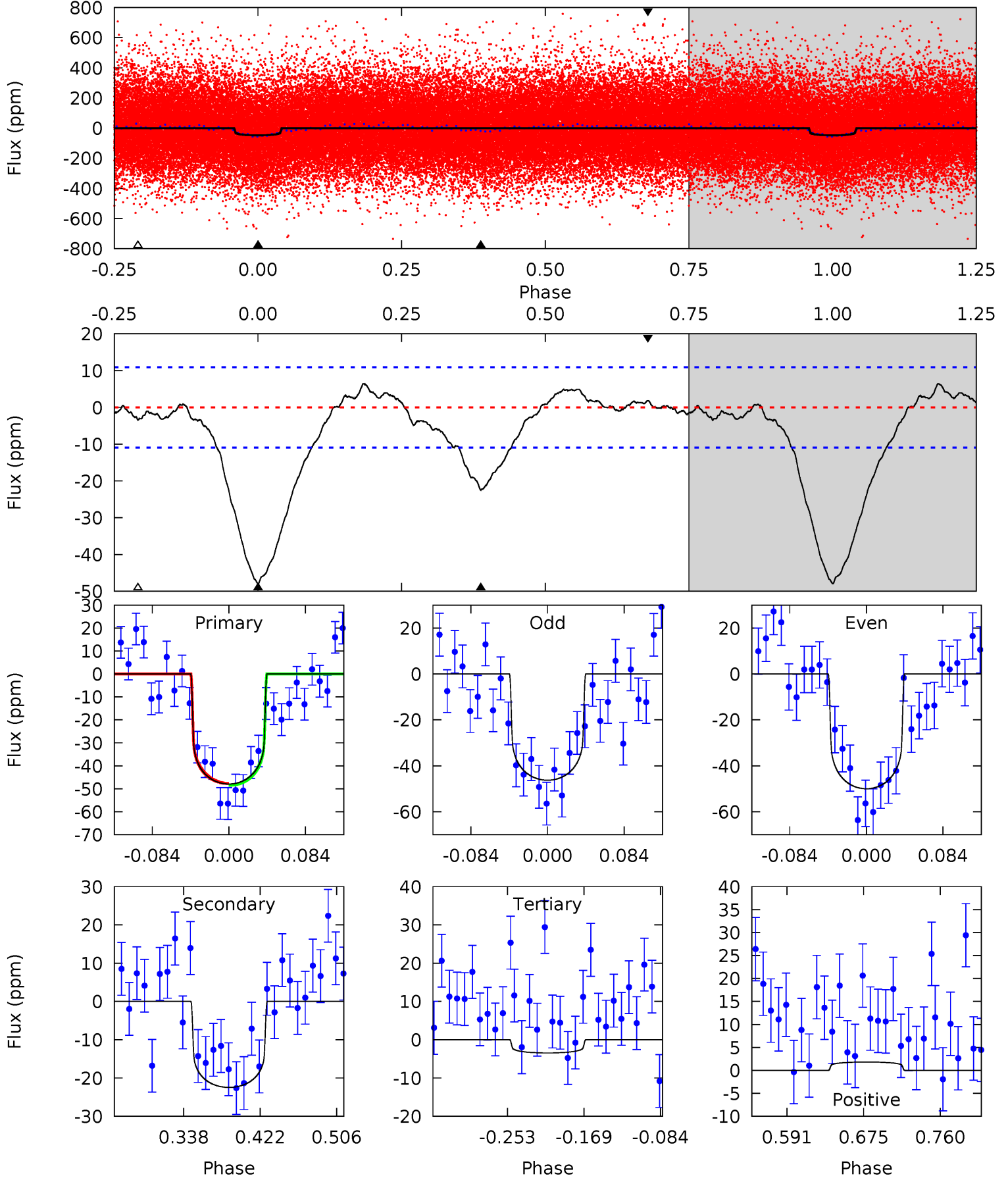
TCE 005471992-01 P= 12.429910 Days $T_0=141.116209$ (BKJD)



DV Model-Shift Uniqueness Test

005471992-01, $P = 12.431287$ Days, $E = 128.606328$ Days

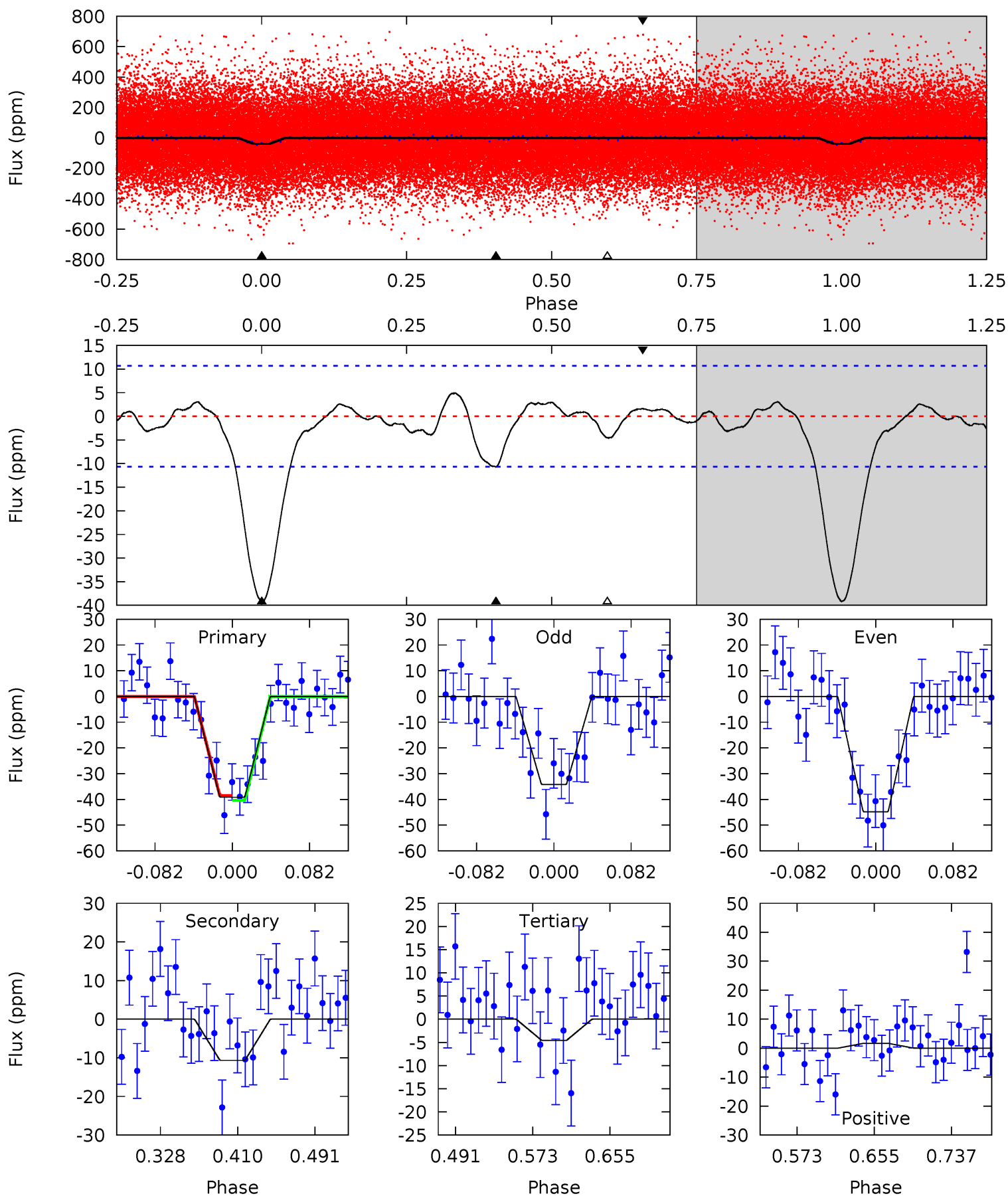
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	9.45	1.46	0.76	4.60	1.73	1.42	18.7	19.4	8.00	8.69	0.78	0.99	0.12	0.16



Alt Model-Shift Uniqueness Test

005471992-01, P = 12.429910 Days, E = 128.686299 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.9	4.60	1.97	0.71	4.61	1.74	0.84	14.9	16.2	2.63	3.89	2.29	1.03	0.11	0.39



Stellar Parameters For KIC 005471992

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6274^{+169}_{-188}	$4.393^{+0.120}_{-0.180}$	$-0.580^{+0.300}_{-0.300}$	$1.012^{+0.271}_{-0.146}$	$0.922^{+0.117}_{-0.096}$	$1.255^{+0.692}_{-0.610}$
	+3%/-3%	+3%/-4%	+52%/-52%	+27%/-14%	+13%/-10%	+55%/-49%
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 005471992-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-22 ± 2	$0.76^{+0.15}_{-0.11}$	1224^{+81}_{-69}	5269^{+340}_{-291}	218^{+88}_{-60}
Alt.	-11 ± 2	$0.70^{+0.13}_{-0.10}$	1221^{+83}_{-64}	4660^{+333}_{-291}	123^{+60}_{-41}

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

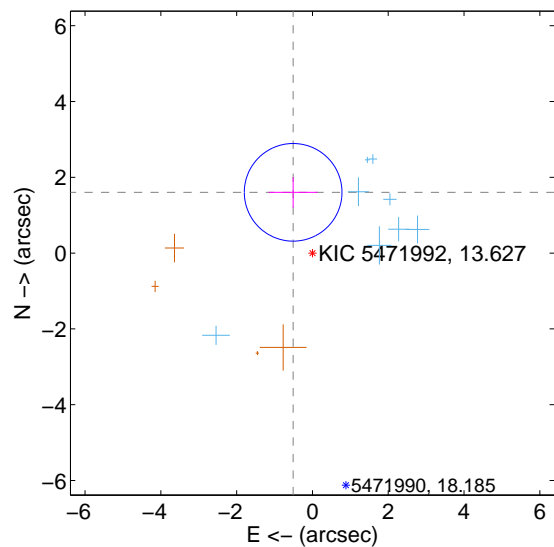
Supplemental centroid analysis for 005471992-01. Kepler magnitude: 13.63. Transit SNR 9.76

There are 8 quarters with good PRF difference image offsets

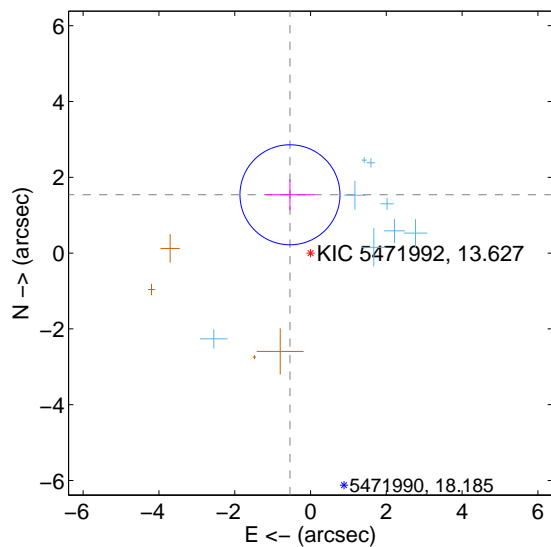
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.682 \pm 0.429	3.92	0.509 \pm 0.644	1.604 \pm 0.402
PRF-fit source offset from KIC position	1.632 \pm 0.440	3.71	0.542 \pm 0.644	1.539 \pm 0.407
photometric centroid source offset	1.75 \pm 1.19	1.47	-0.73 \pm 1.26	1.59 \pm 1.18

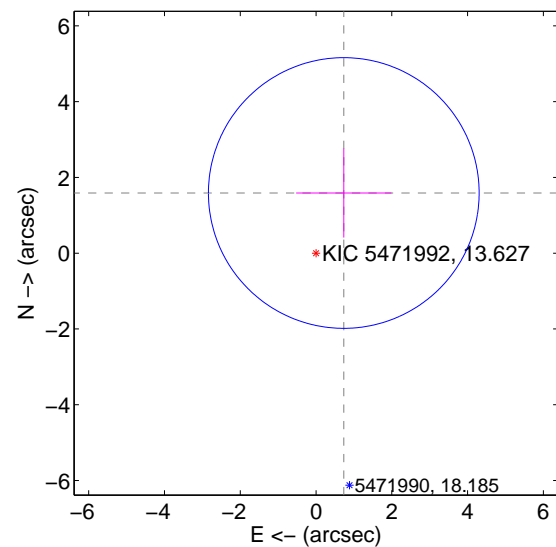
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

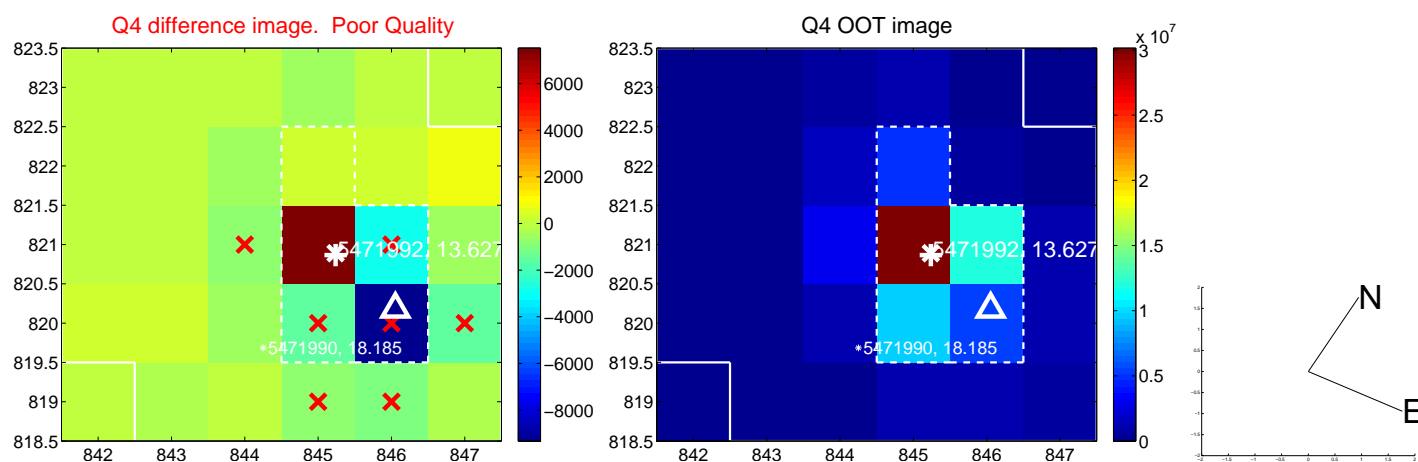
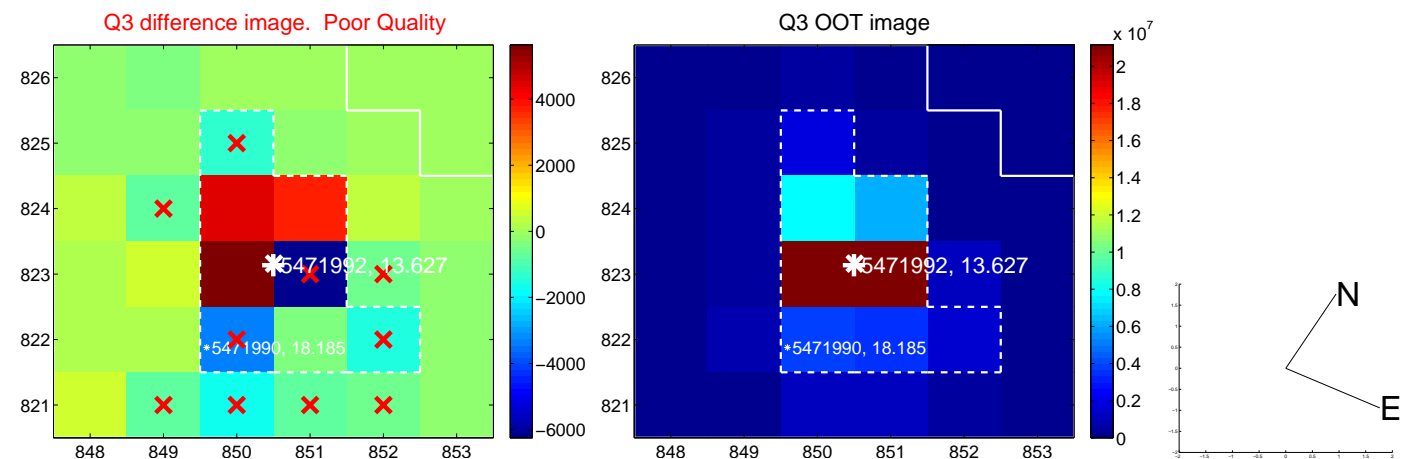
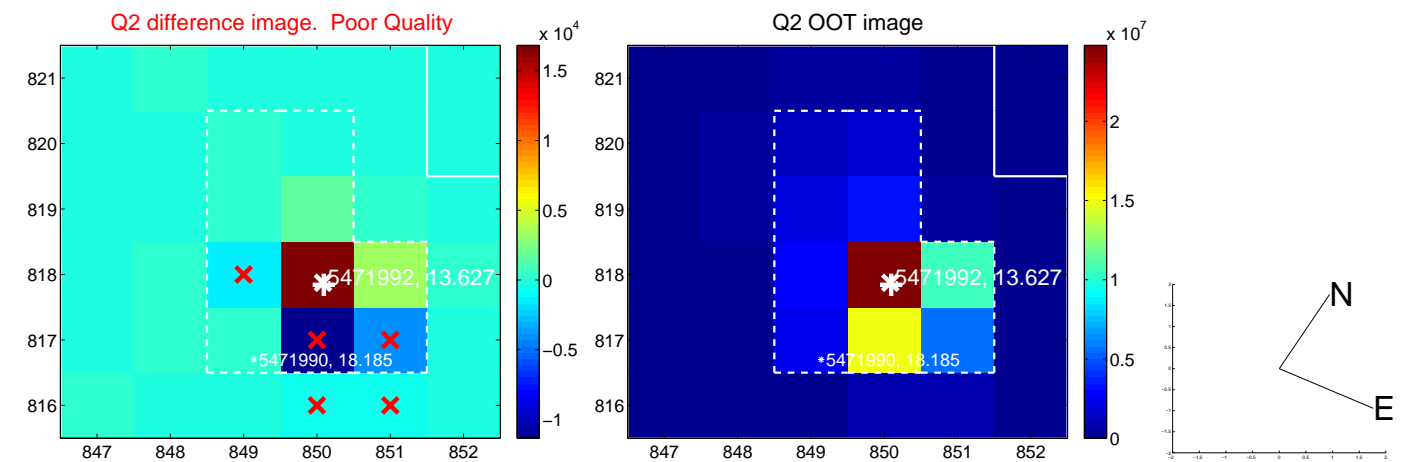
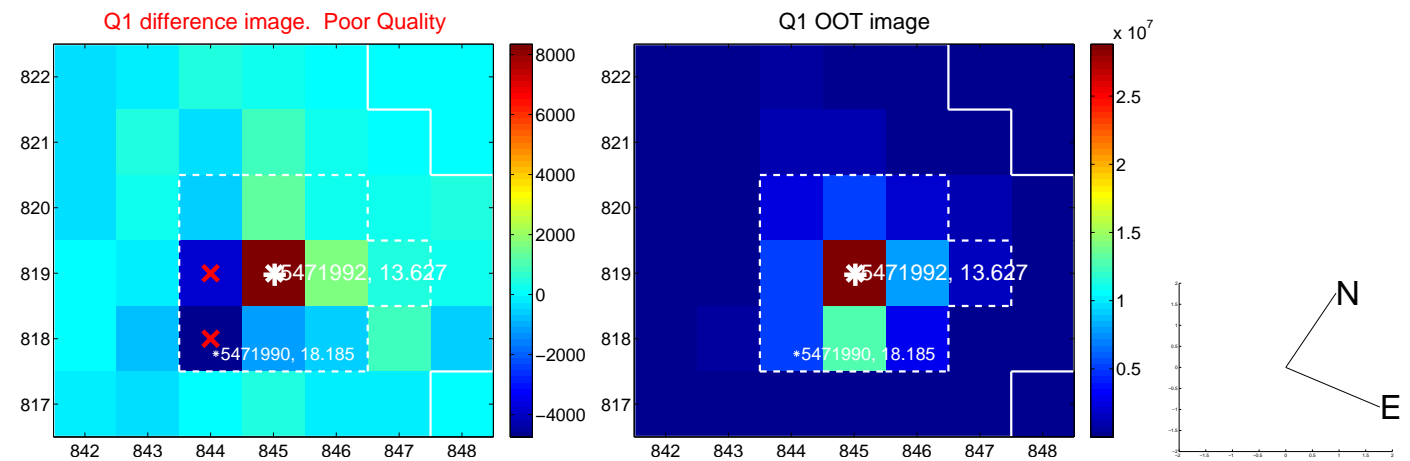


offset from photometric centroids

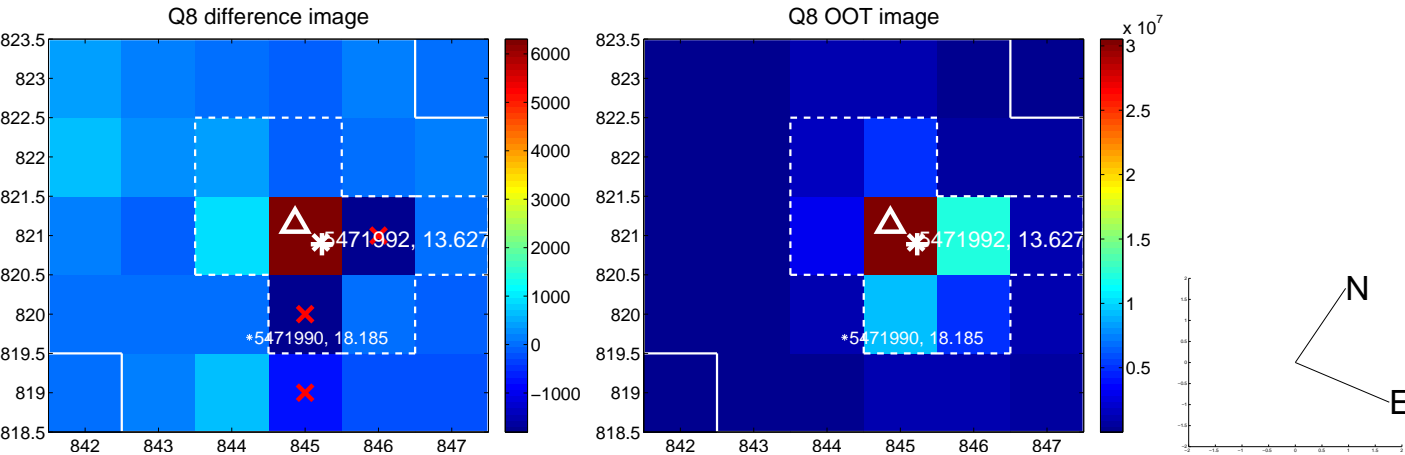
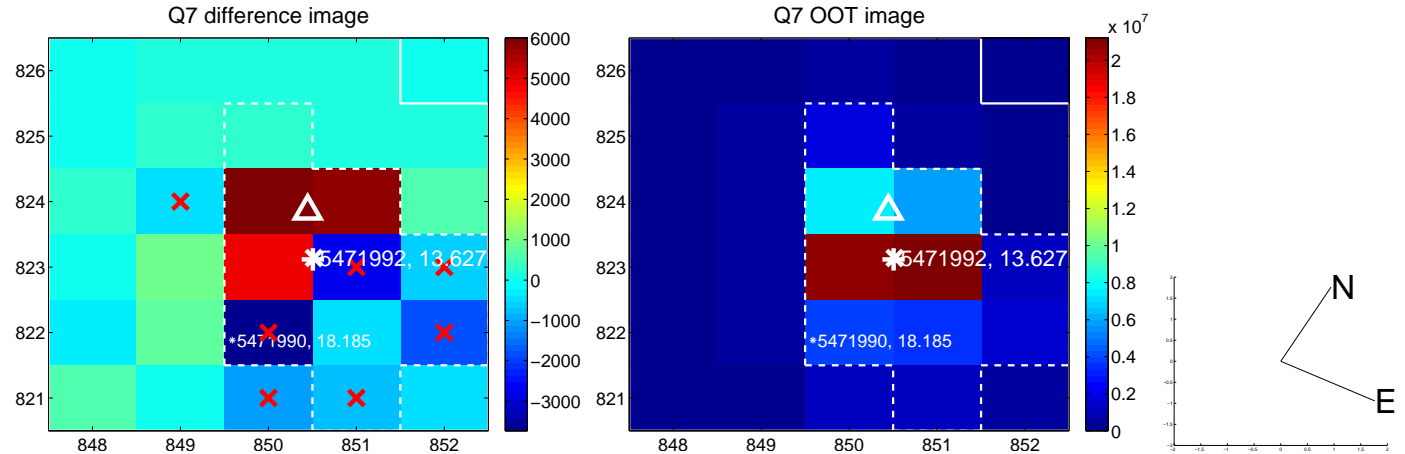
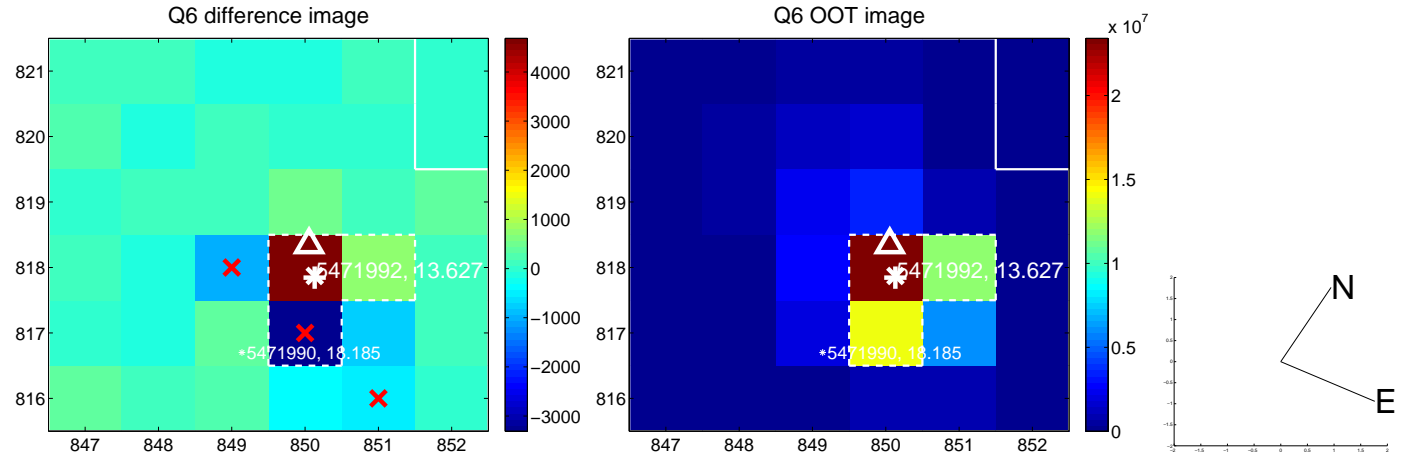
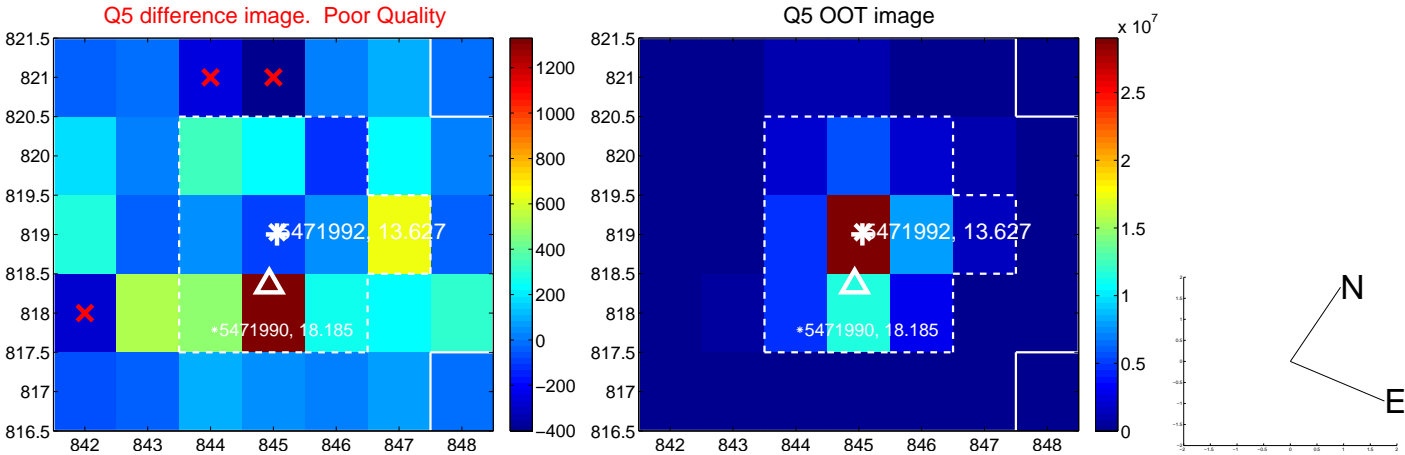


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

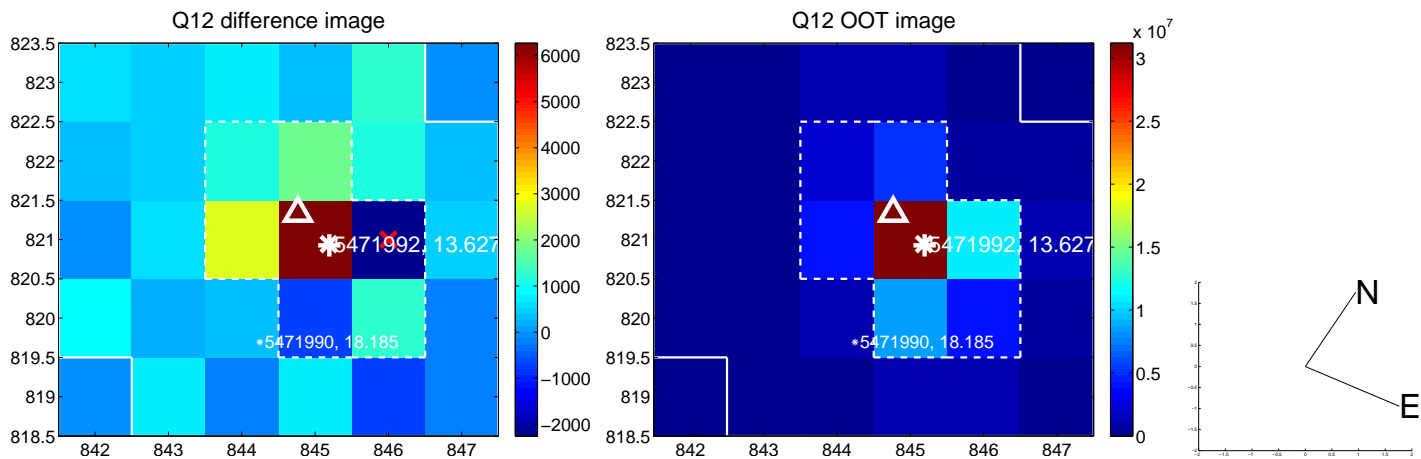
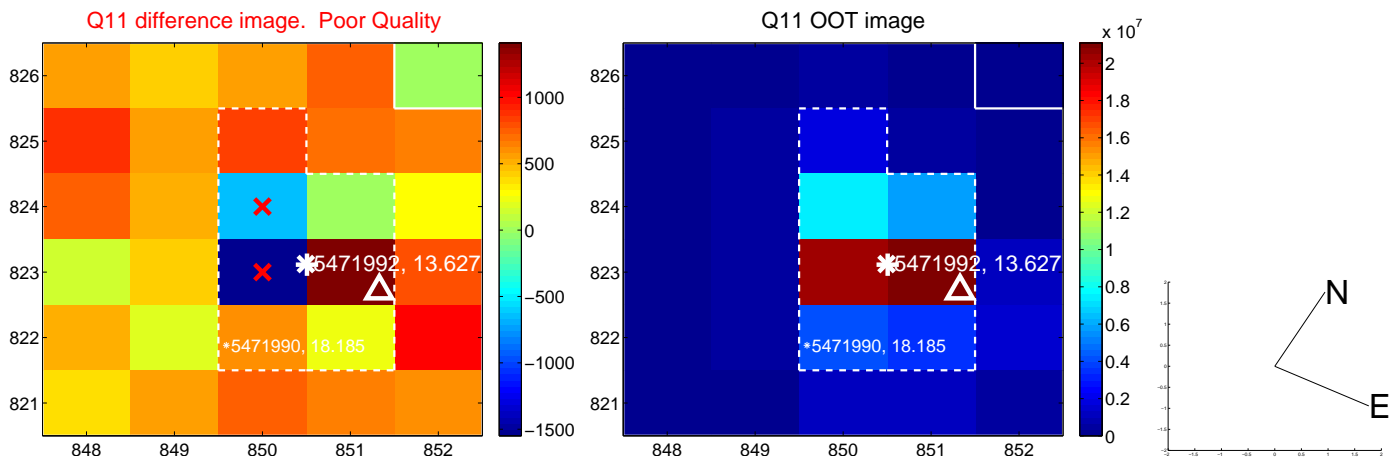
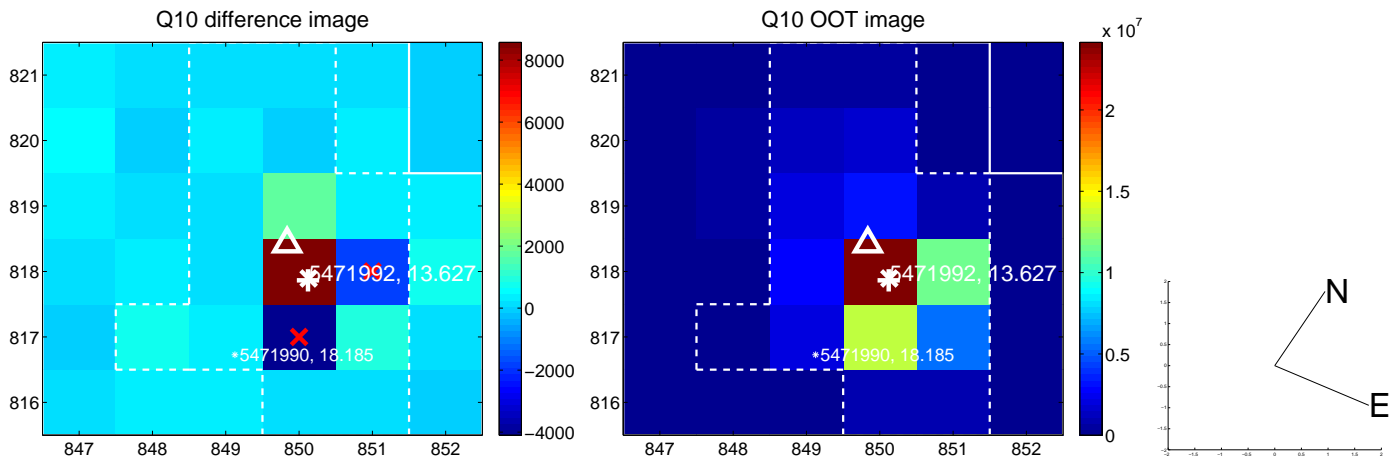
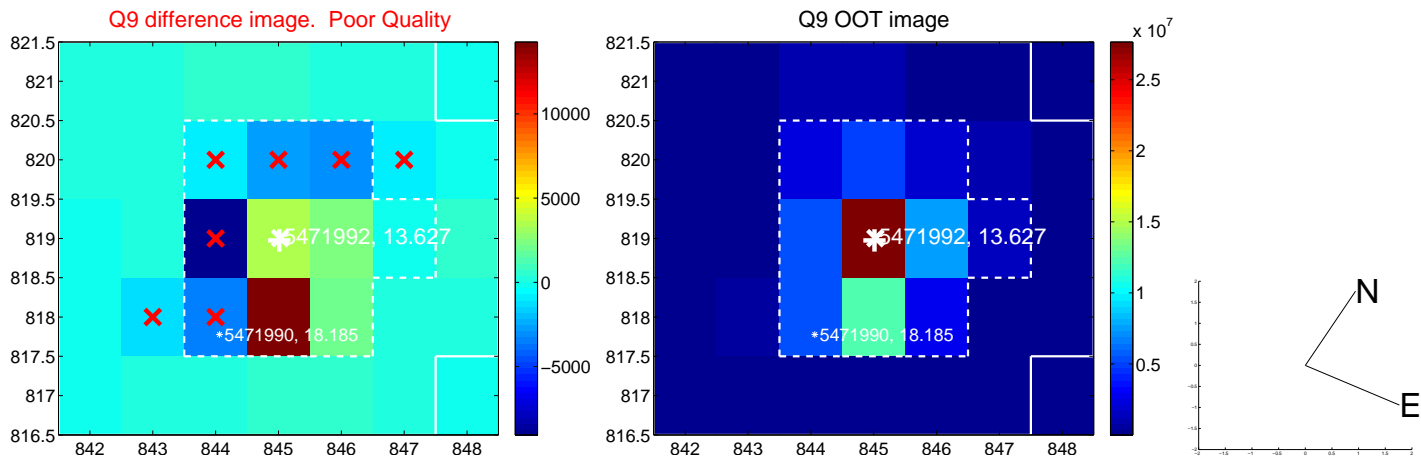
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



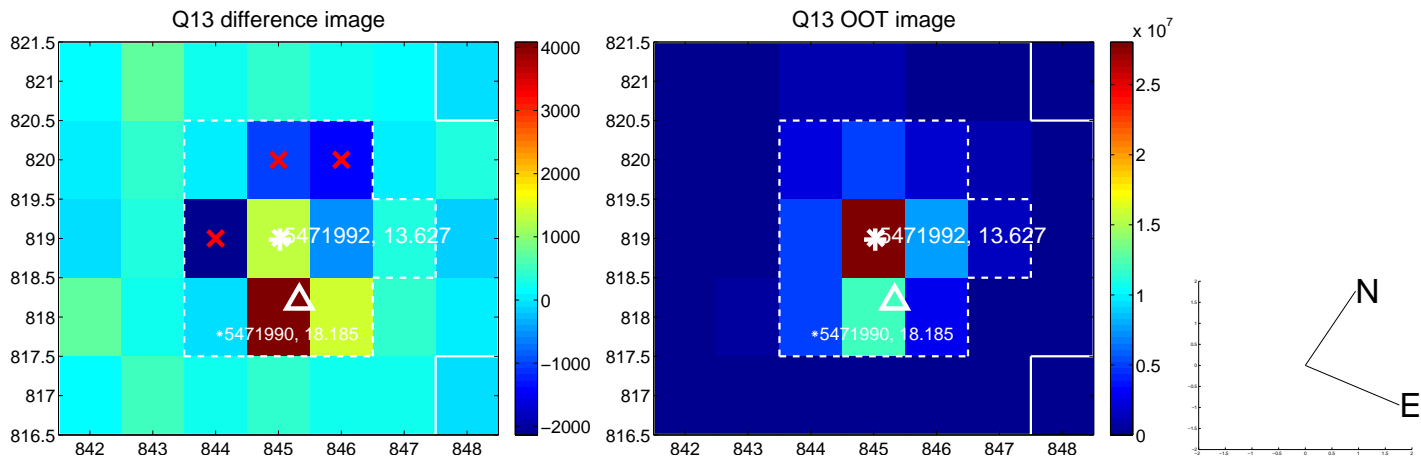
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



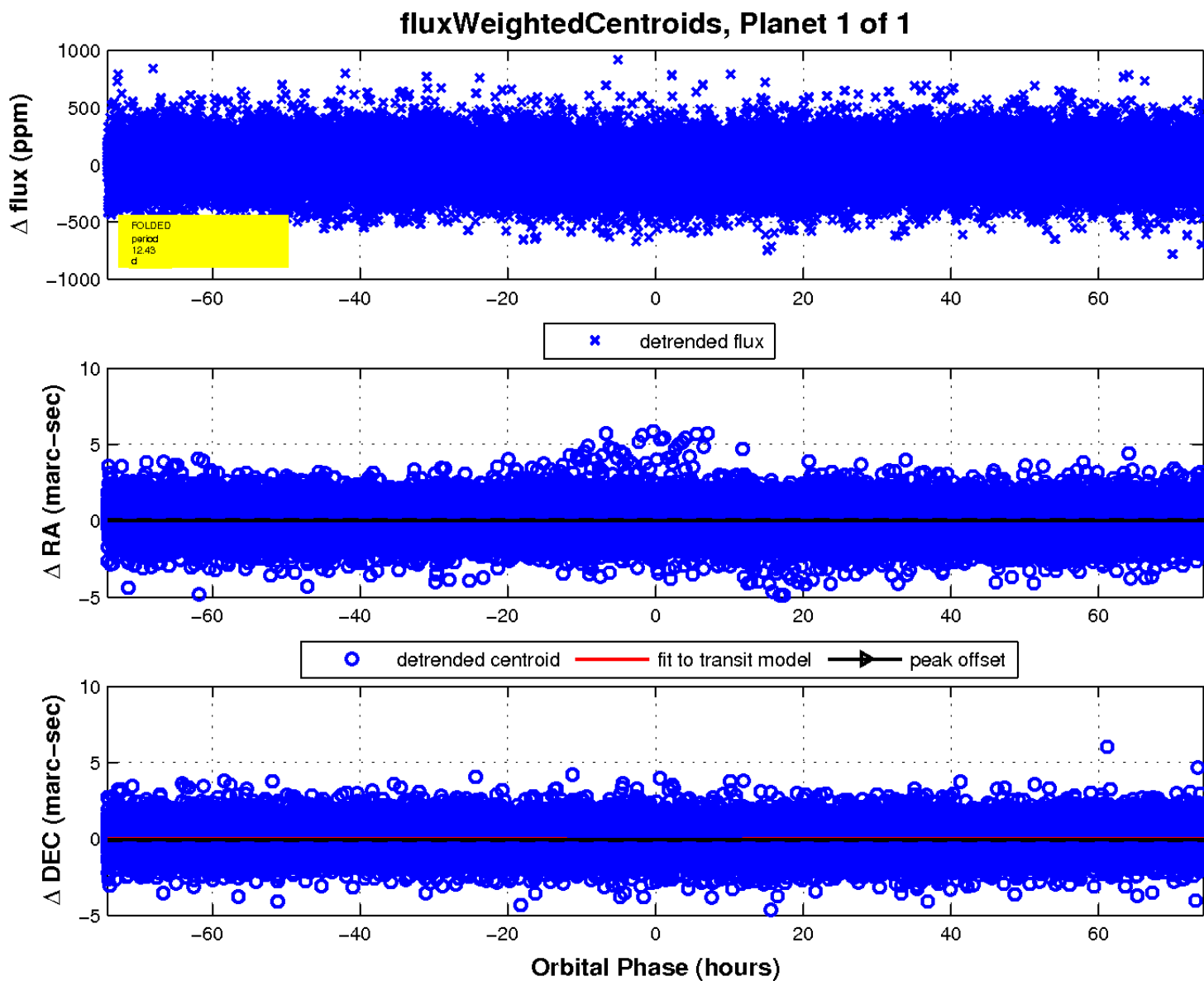
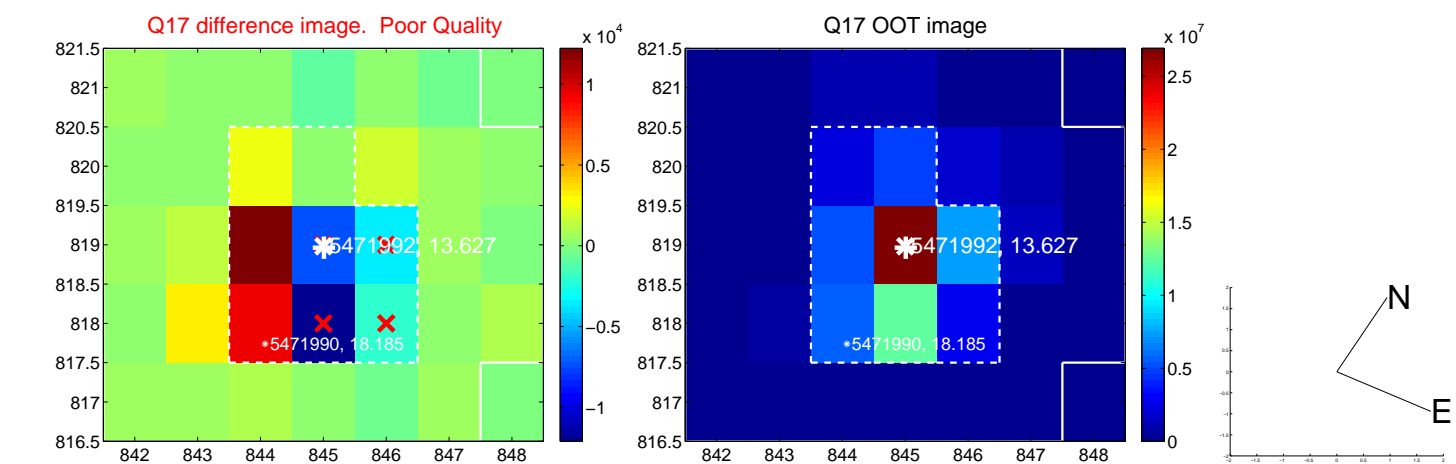
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

