

KIC 005529560

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
005529560-01	OBS	6593.01	0.759705	131.838029	33.3	4.274	12.9	9.0	1.07	6090	0.61	4790.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005529560-01	OBS	FP	0.00	0	0	1	1	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 005529560-01

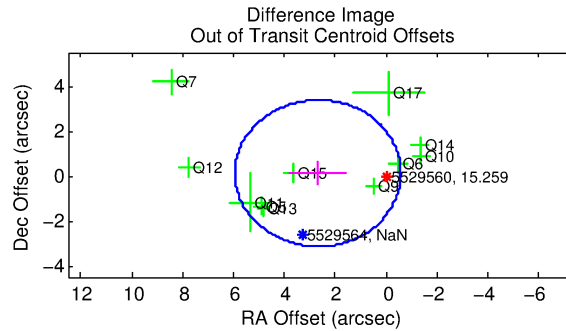
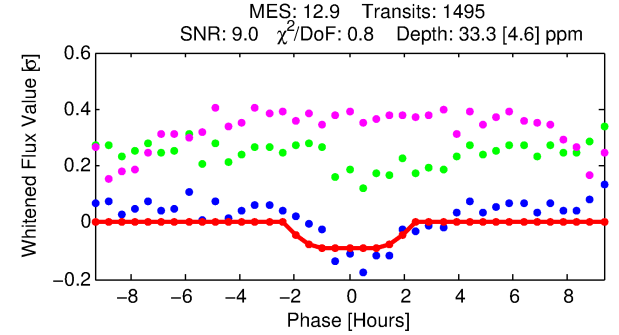
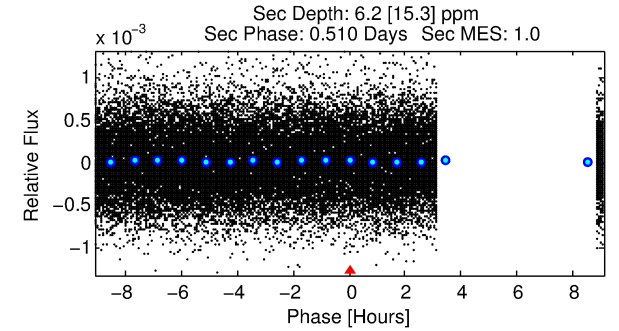
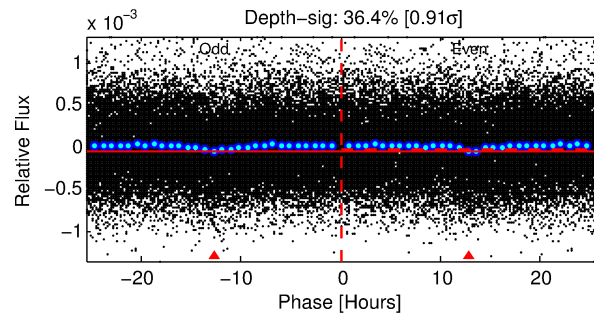
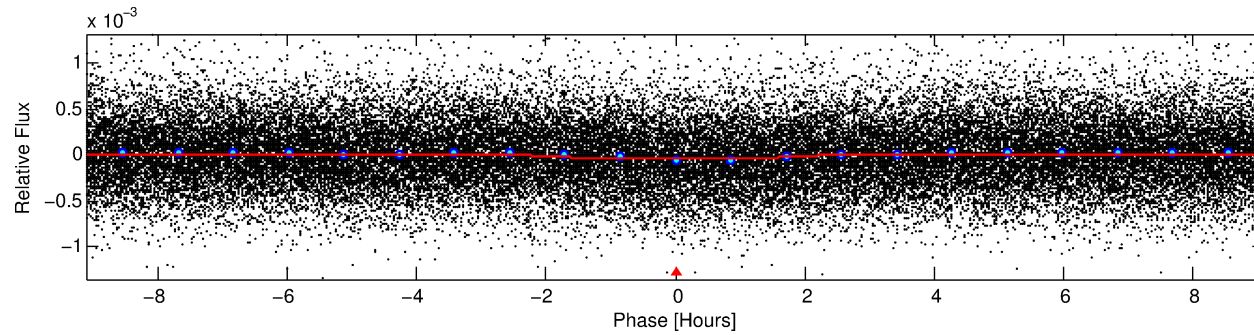
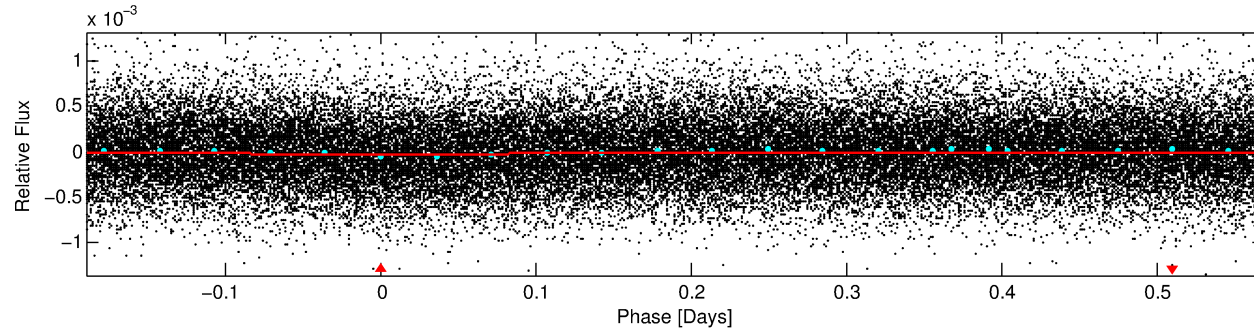
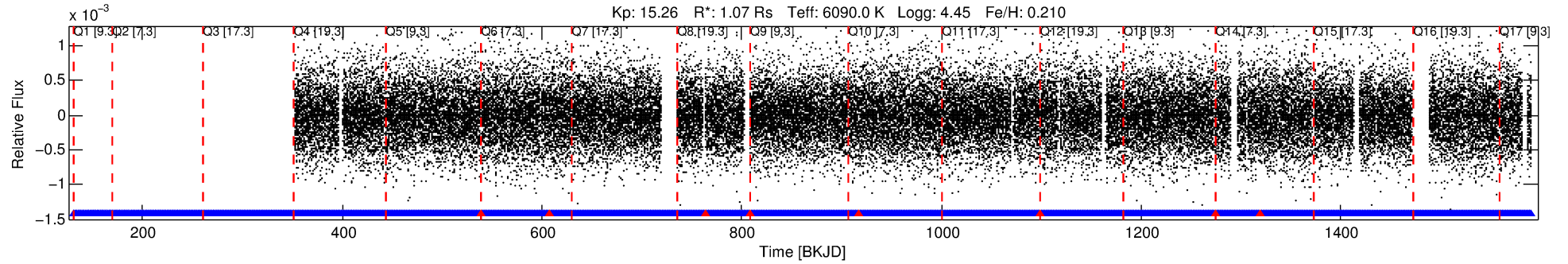
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
005529560-01	5529560	005529643-01	5529643	1:1	74.4	18	5	15.93	15.26	3.27	Col-Anomaly	1	3.81	2.59

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ 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 σ_P < 5.0 and σ_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: 5529560 Candidate: 1 of 1 Period: 0.760 d

KOI: K06593.01 Corr: 0.759



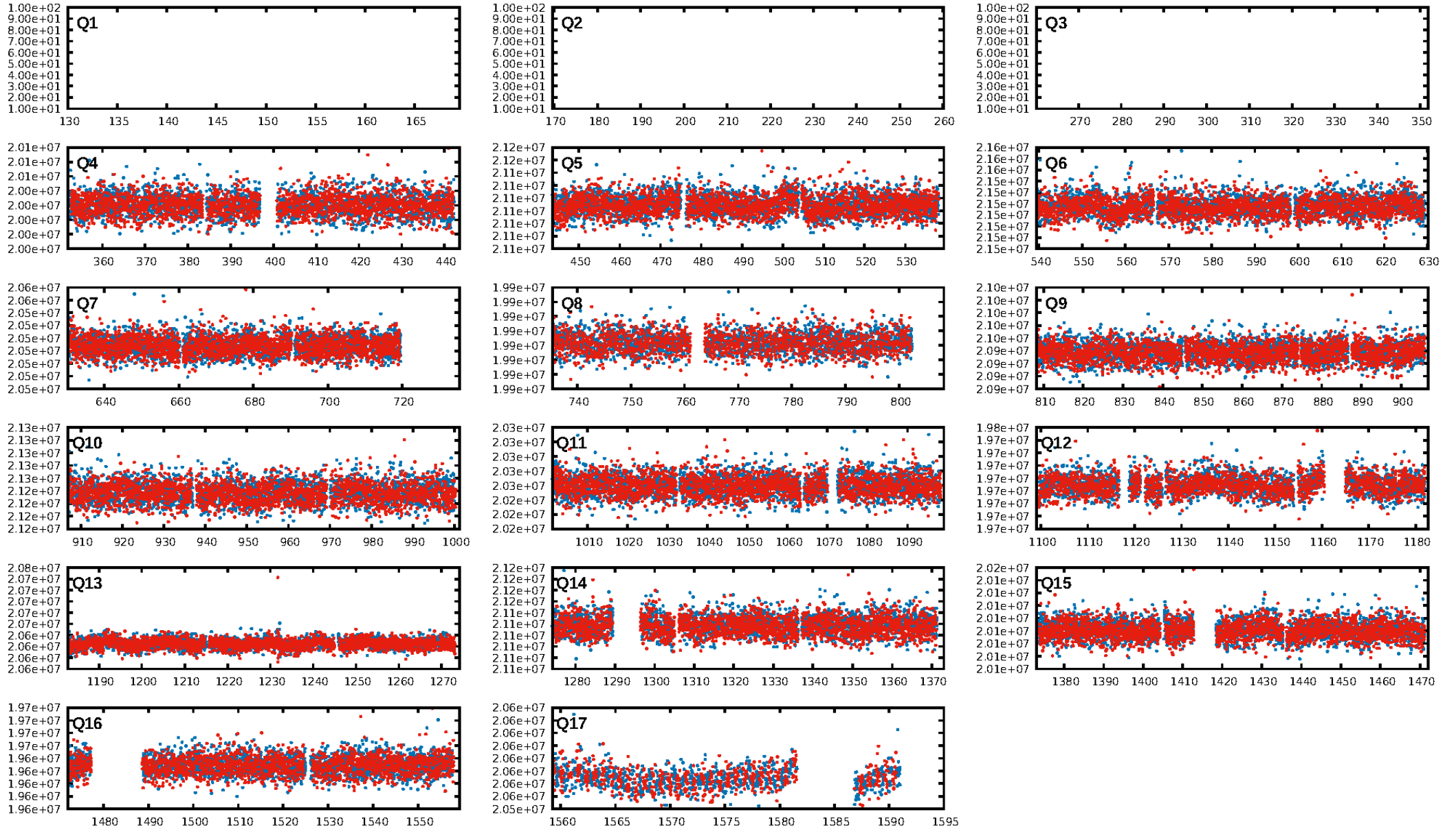
DV Fit Results:

Period = 0.75970 [0.00001] d
Epoch = 131.8380 [0.0057] BKJD
Rp/R* = 0.0053 [0.0093]
a/R* = 1.50 [6.84]
b = 0.04 [217.48]
Seff = 4790.31 [2194.19]
Teff = 2121 [243] K
Rp = 0.61 [1.11] Re
a = 0.0172 [0.0051] AU
Ag = 2.66 [11.56] [0.14 σ]
Teffp = 4189 [4530] K [0.46 σ]

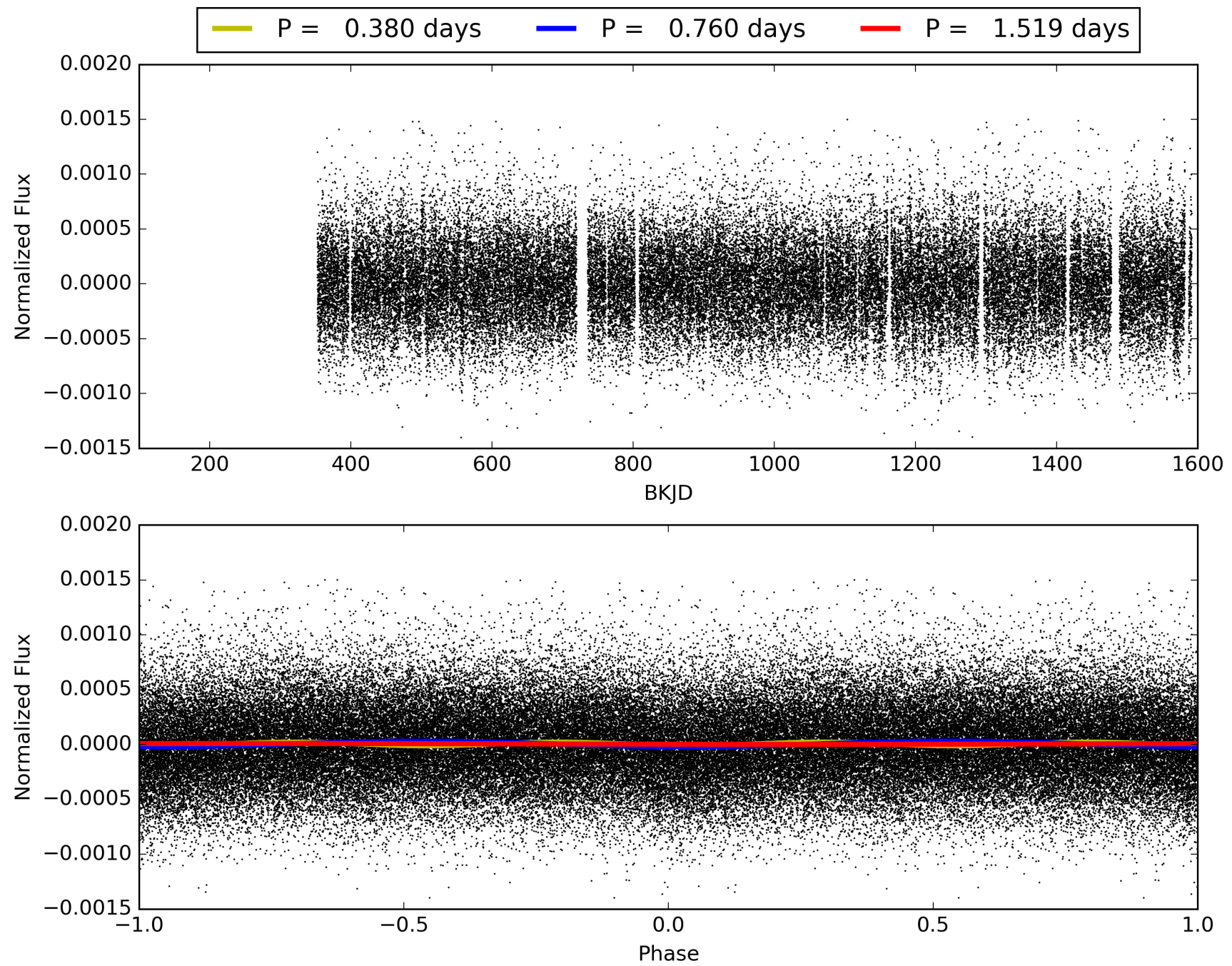
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.13e-30
RollingBand-fgt: 0.99 [1452/1460]
GhostDiagnostic-chr: 0.08723
Centroid-sig: 16.5%
Centroid-so: 2.264 arcsec [1.61 σ]
OotOffset-rm: 2.684 arcsec [2.47 σ]
KicOffset-rm: 2.858 arcsec [2.54 σ]
OotOffset-st: 3/3/1/4 [11]
KicOffset-st: 3/3/1/4 [11]
DiffImageQuality-fgm: 0.09 [1/11]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005529560-01, PDC Light Curves

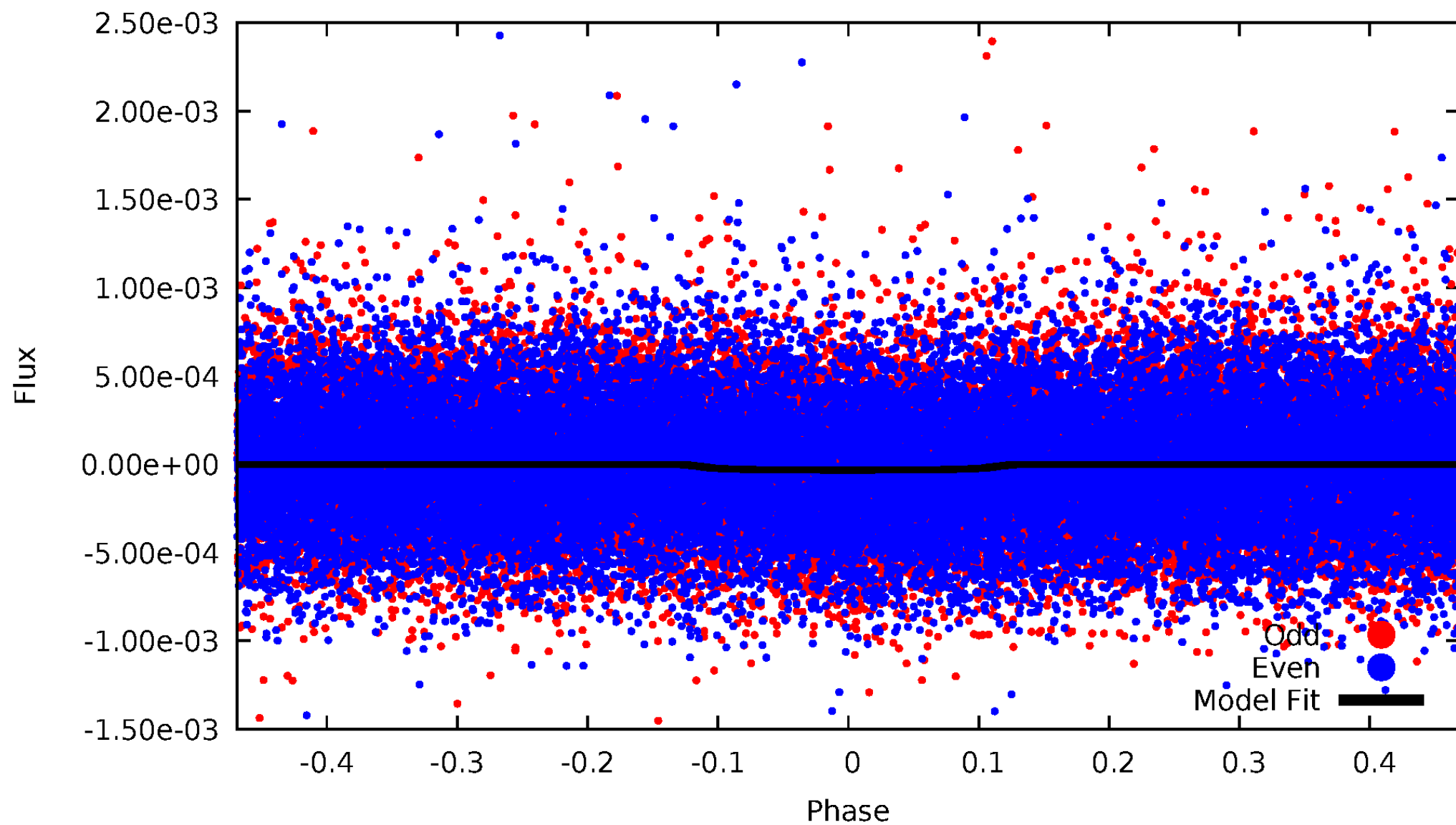


TCE 005529560-01



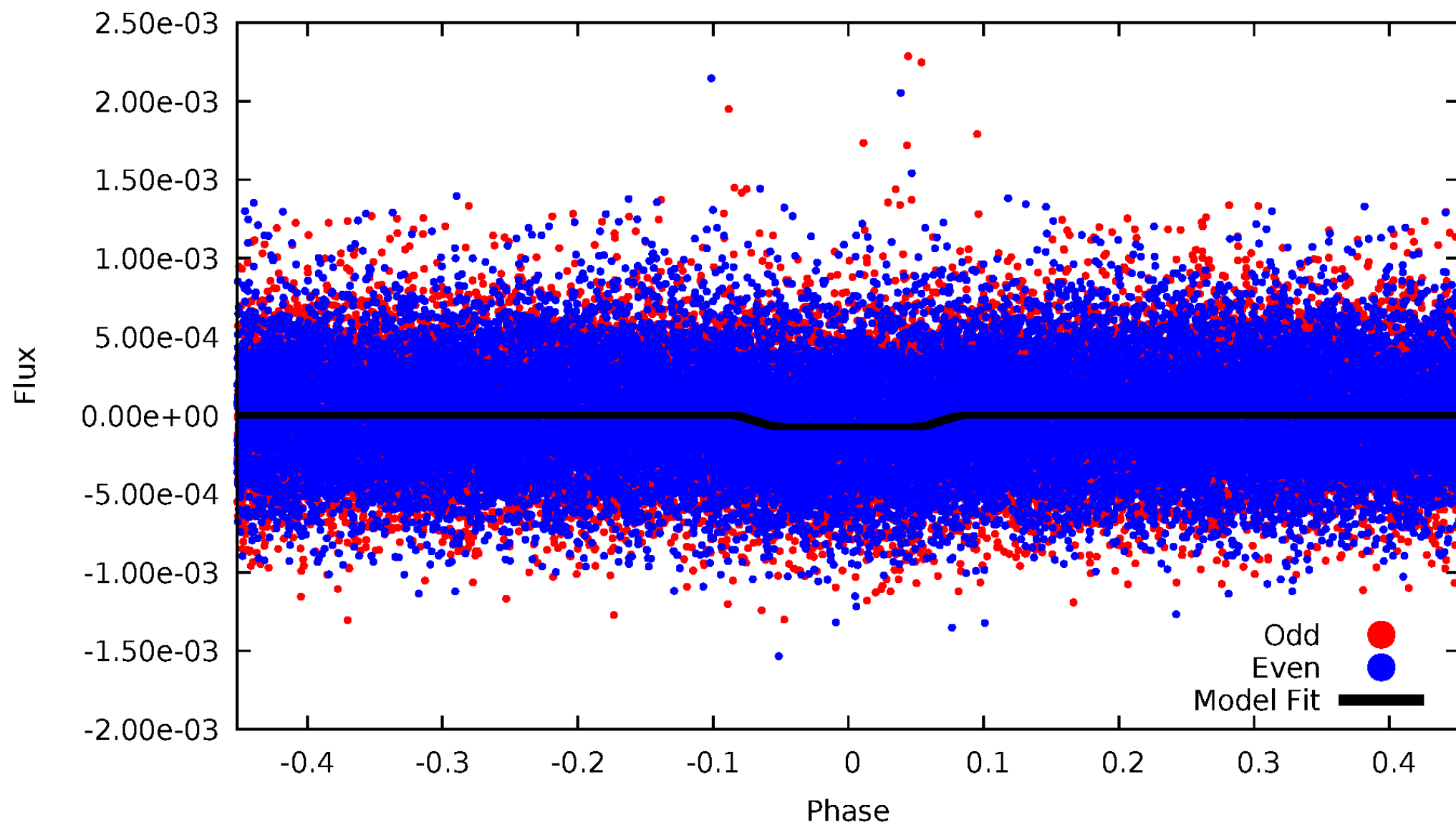
DV Odd/Even

TCE 005529560-01

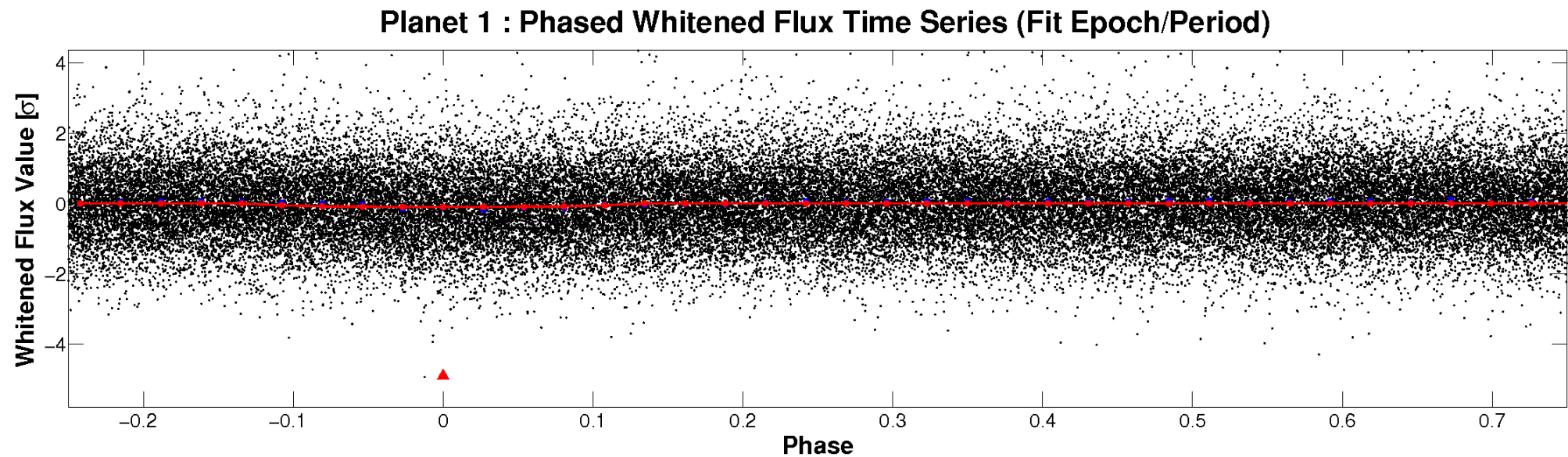
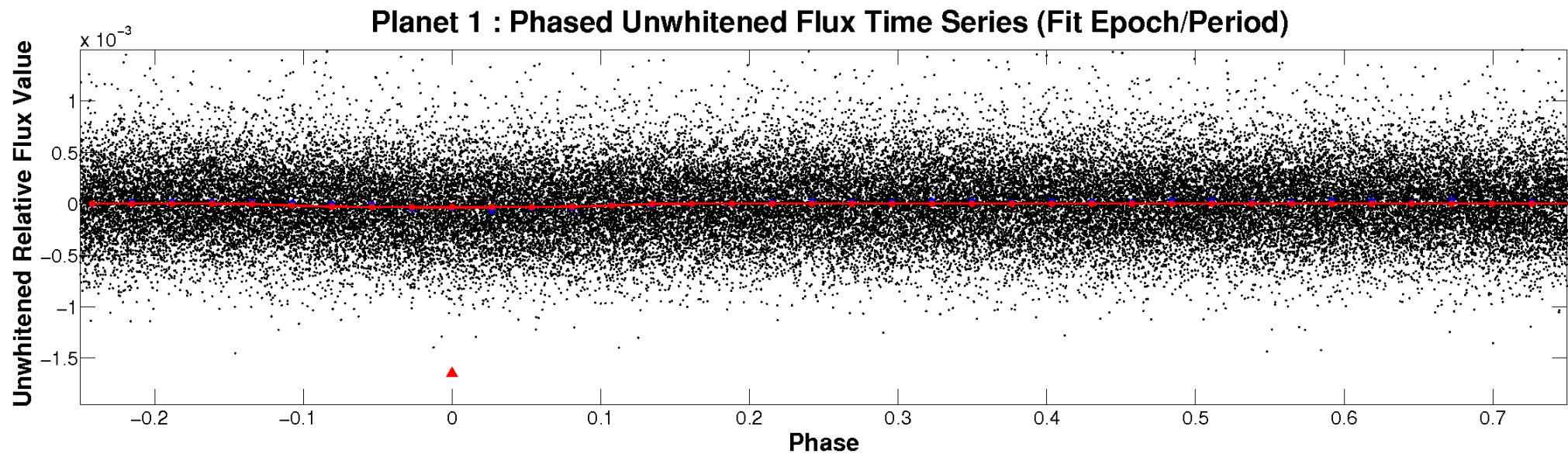


ALT Odd/Even

TCE 005529560-01

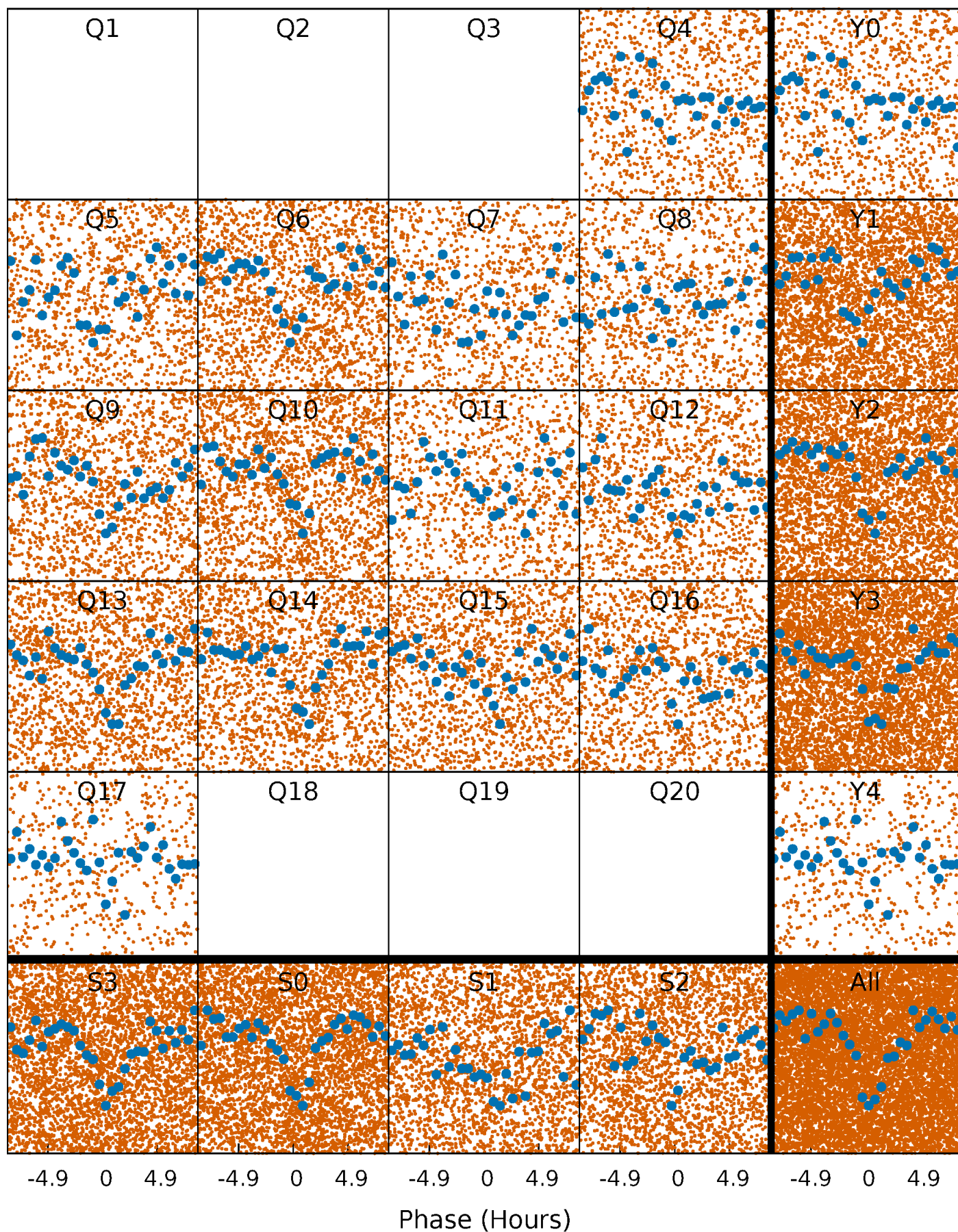


Non-Whitened Vs. Whitened Light Curve



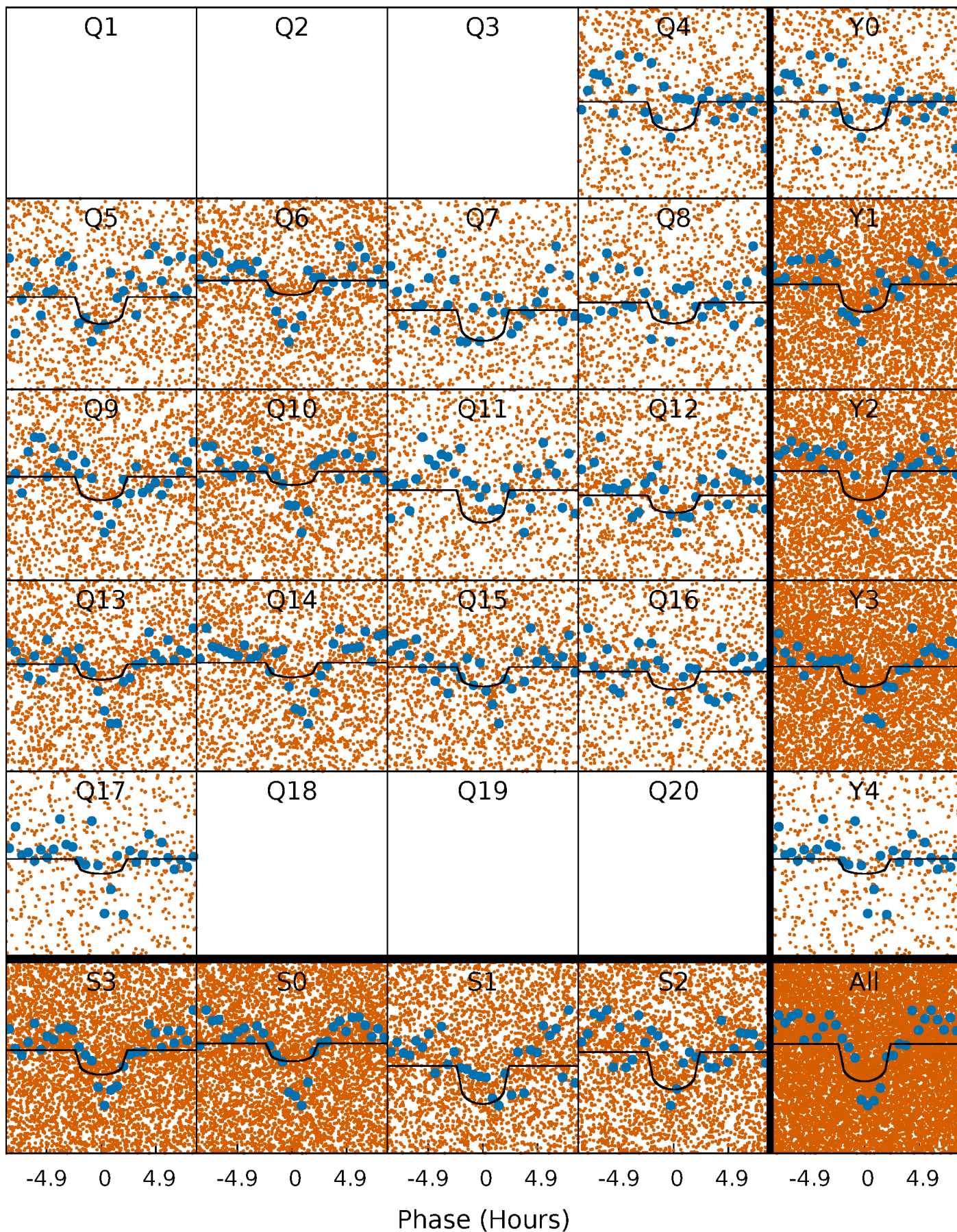
PDC Quarter-Phased Transit Curves

TCE 005529560-01 P= 0.759705 Days $T_0=131.838029$ (BKJD)



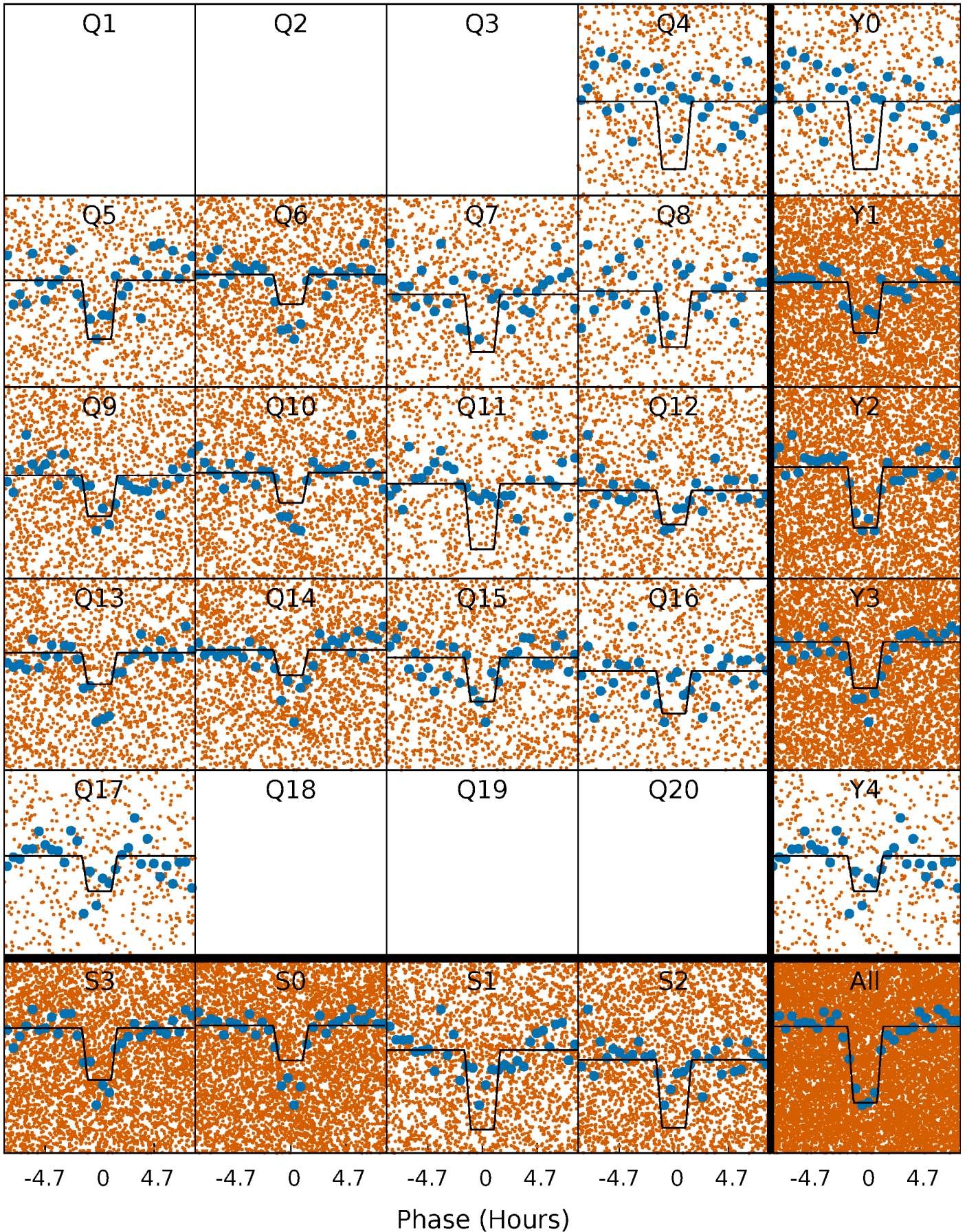
DV Quarter-Phased Transit Curves

TCE 005529560-01 P= 0.759705 Days $T_0=131.838029$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

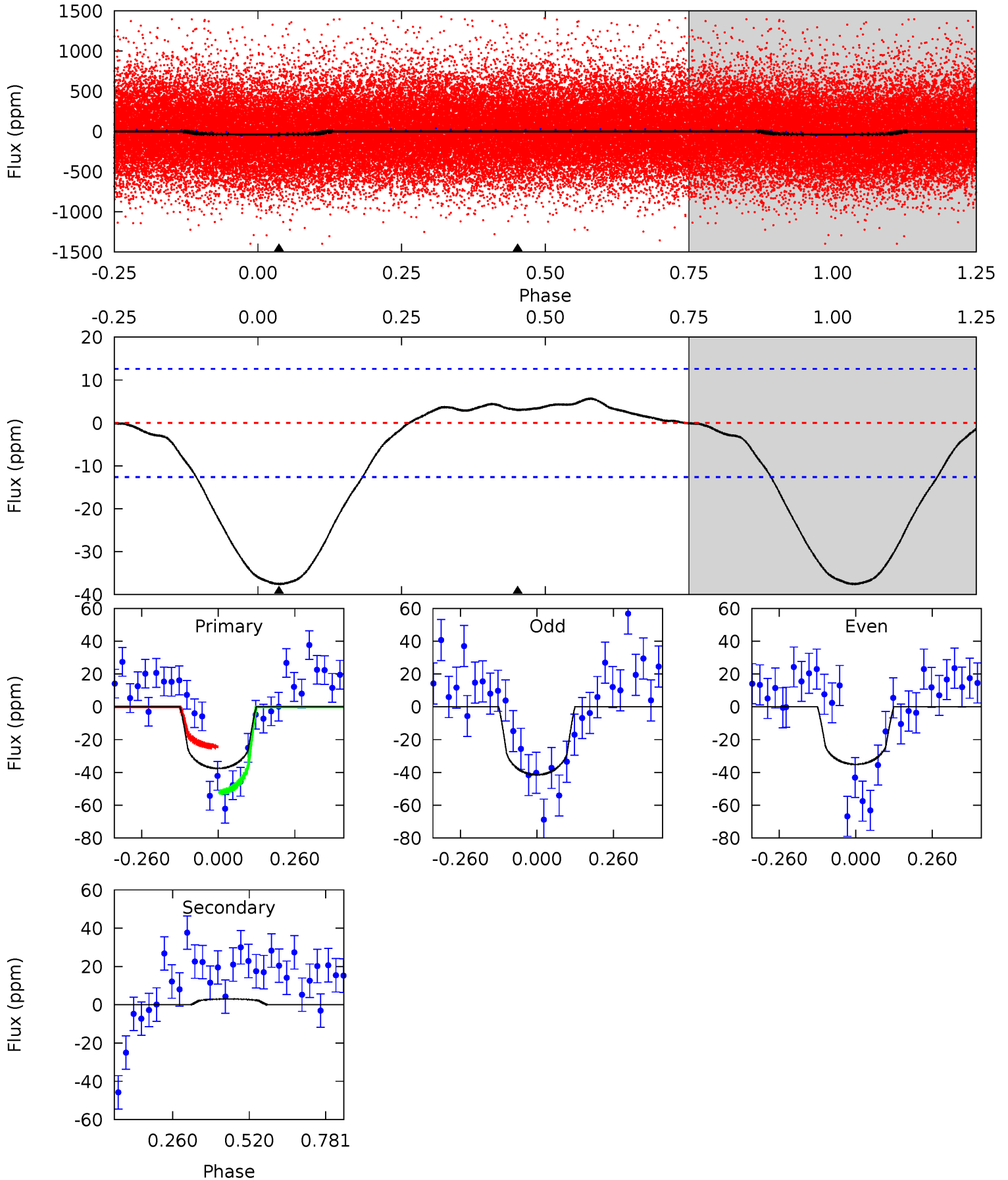
TCE 005529560-01 P= 0.759756 Days $T_0=131.799137$ (BKJD)



DV Model-Shift Uniqueness Test

005529560-01, P = 0.759705 Days, E = 131.838029 Days

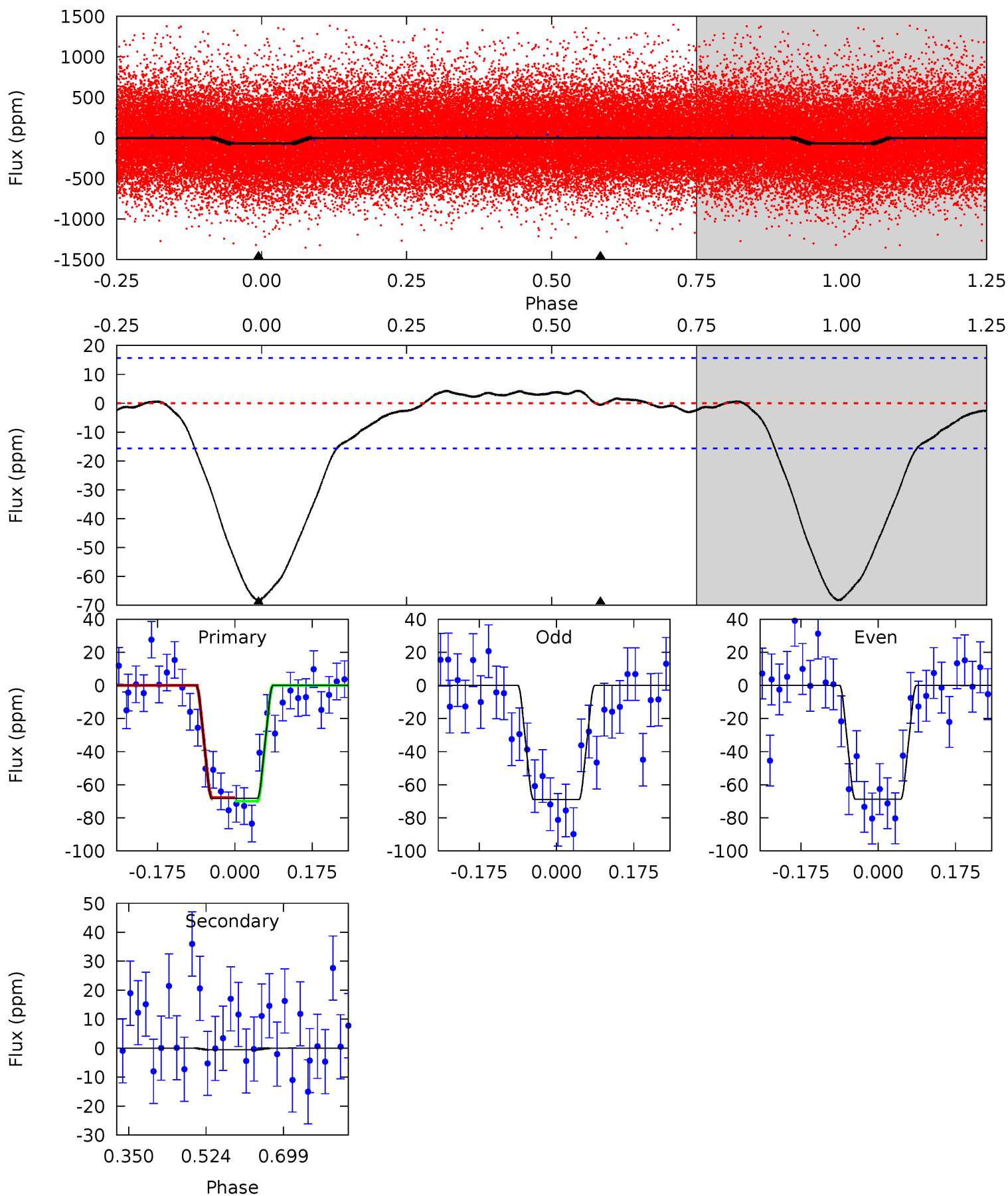
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	-1.04	0	0	4.36	1.13	0.20	13.0	13.0	-1.04	-1.04	1.10	0.88	0.13	4.75



Alt Model-Shift Uniqueness Test

005529560-01, P = 0.759756 Days, E = 131.799137 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	0.16	0	0	4.45	1.36	1.03	19.4	19.4	0.16	0.16	0.03	0.97	0.06	0.30



Stellar Parameters For KIC 005529560

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6090^{+190}_{-253}	$4.447^{+0.044}_{-0.232}$	$0.210^{+0.200}_{-0.300}$	$1.071^{+0.378}_{-0.118}$	$1.173^{+0.151}_{-0.166}$	$1.345^{+0.318}_{-0.770}$
	+3%/-4%	+1%/-5%	+95%/-143%	+35%/-11%	+13%/-14%	+24%/-57%
Source	KIC0	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 005529560-01 / KOI 6593.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	3 ± 3	$1.09^{+0.98}_{-0.69}$	3061^{+232}_{-197}	-3491^{+387}_{-1142}	$-0.279^{+0.278}_{-2.362}$
Alt.	-1 ± 4	$1.30^{+1.05}_{-0.79}$	3042^{+238}_{-154}	-3066^{+6385}_{-490}	$0.031^{+0.720}_{-0.351}$

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

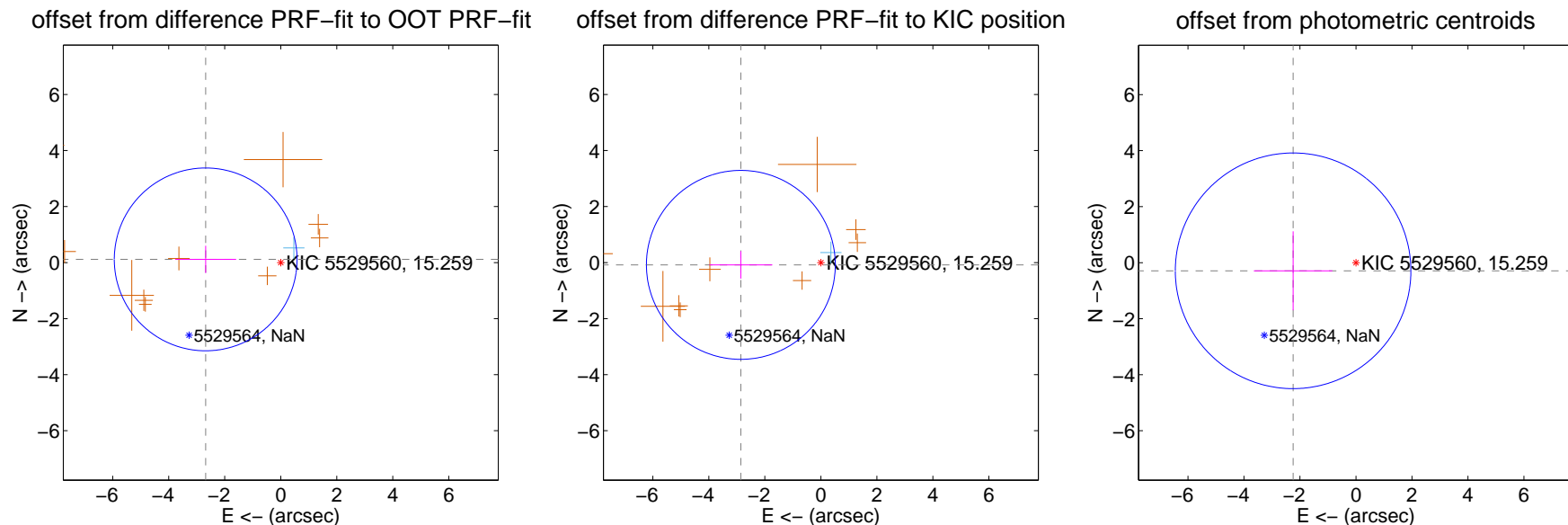
DV Centroid Data

Supplemental centroid analysis for 005529560-01. Kepler magnitude: 15.26. Transit SNR 8.99

There are 1 quarters with good PRF difference image offsets

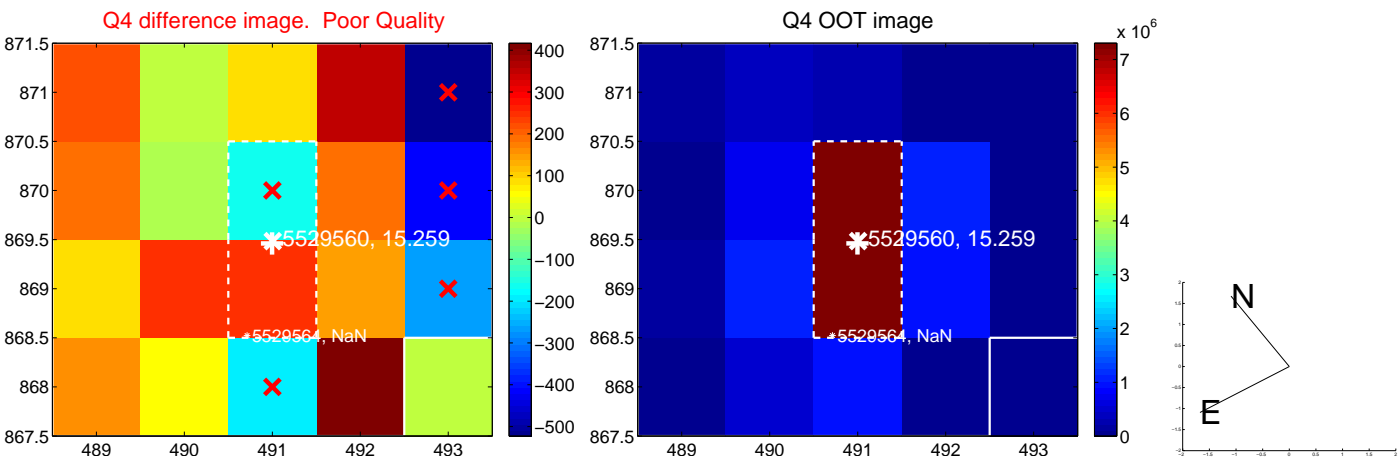
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.684 ± 1.088	2.47	2.681 ± 1.088	0.114 ± 0.487
PRF-fit source offset from KIC position	2.858 ± 1.124	2.54	2.857 ± 1.123	-0.081 ± 0.489
photometric centroid source offset	2.26 ± 1.40	1.61	2.25 ± 1.40	-0.29 ± 1.41

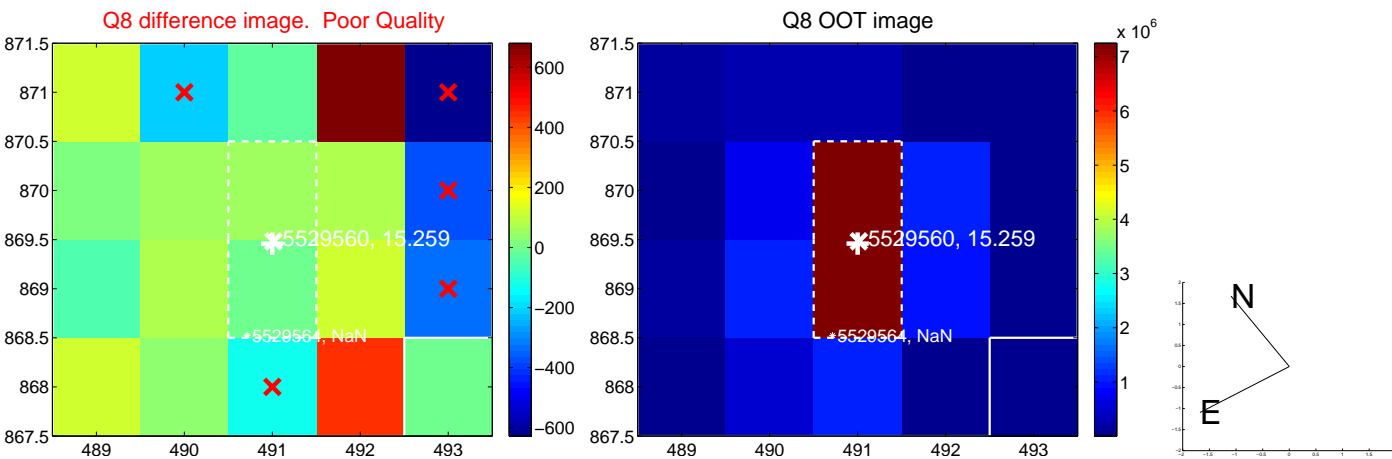
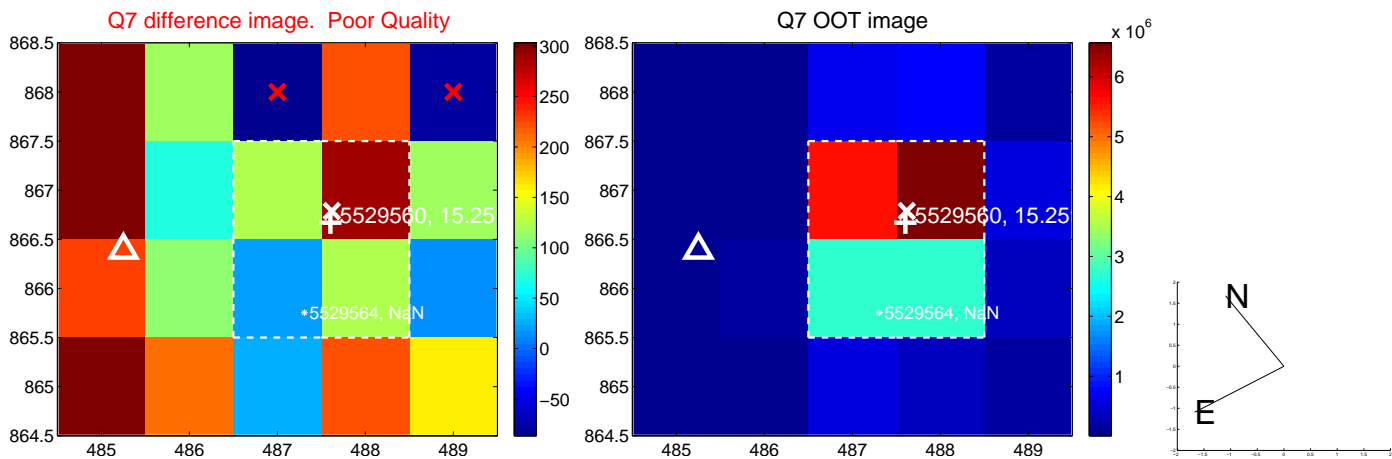
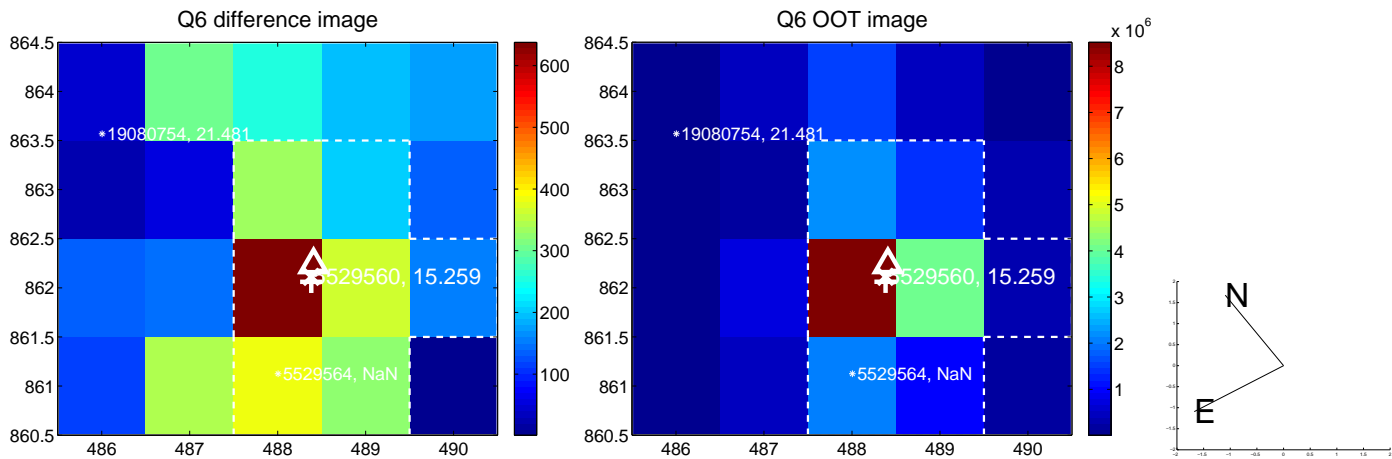
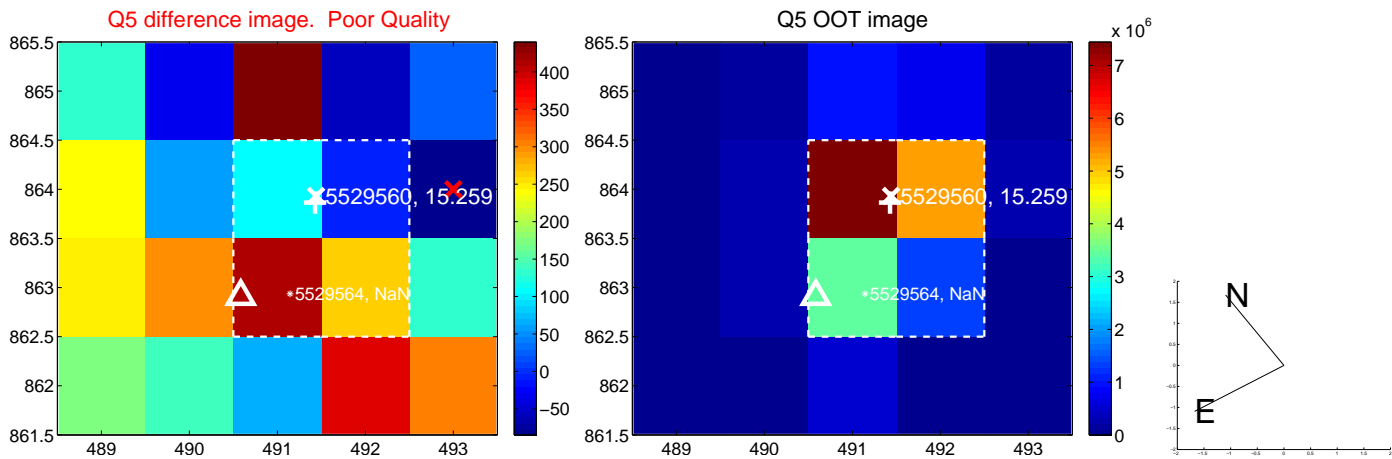


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

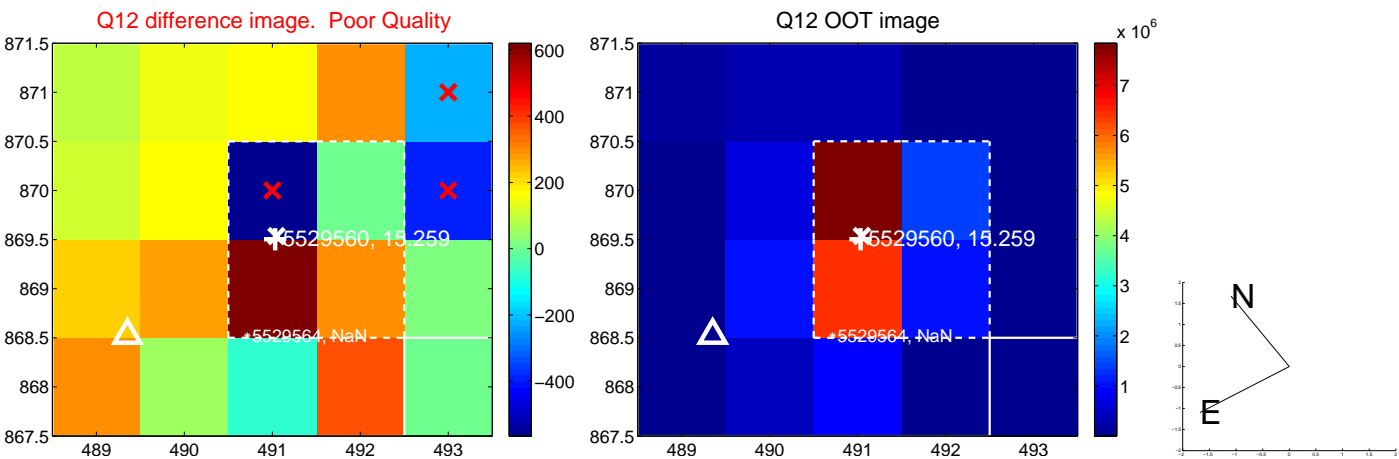
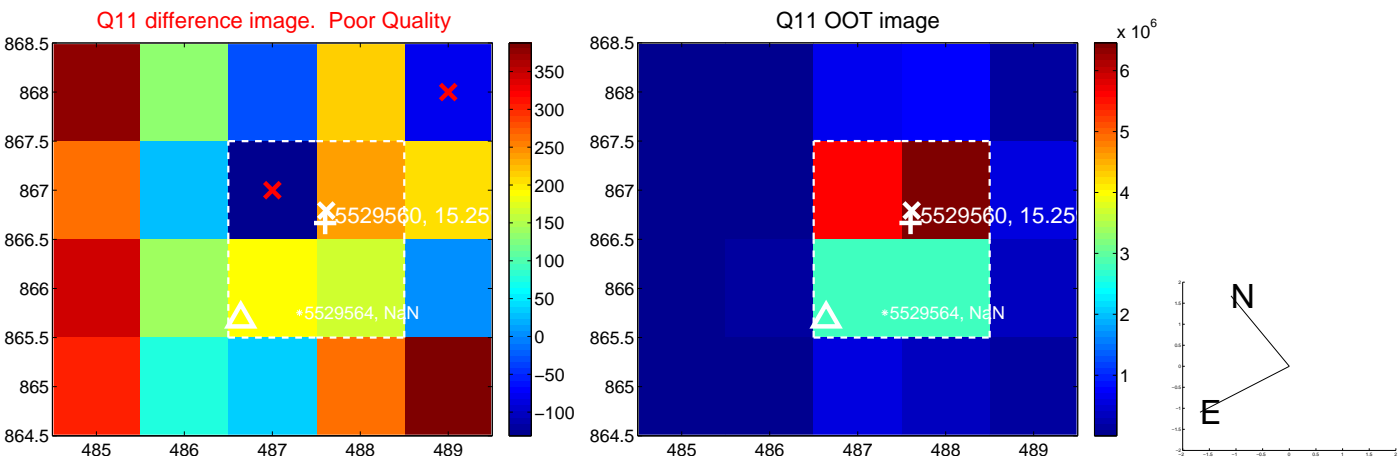
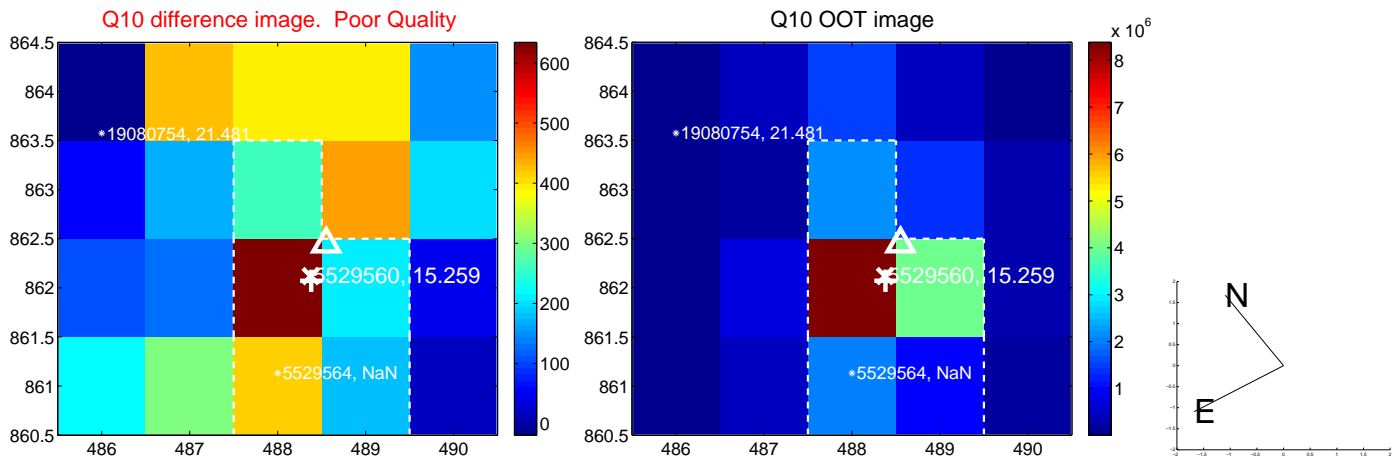
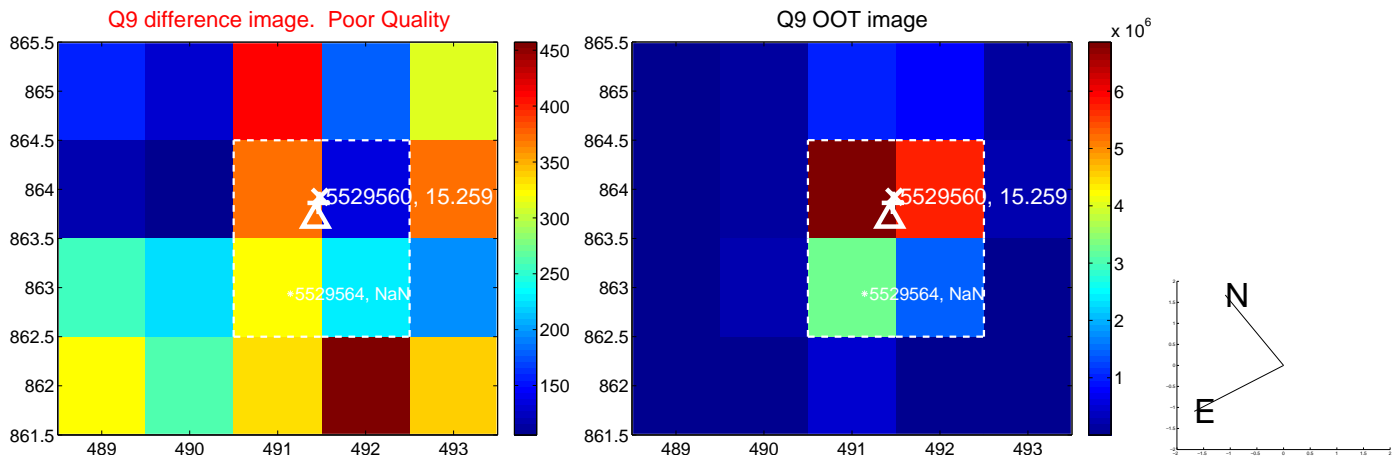
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



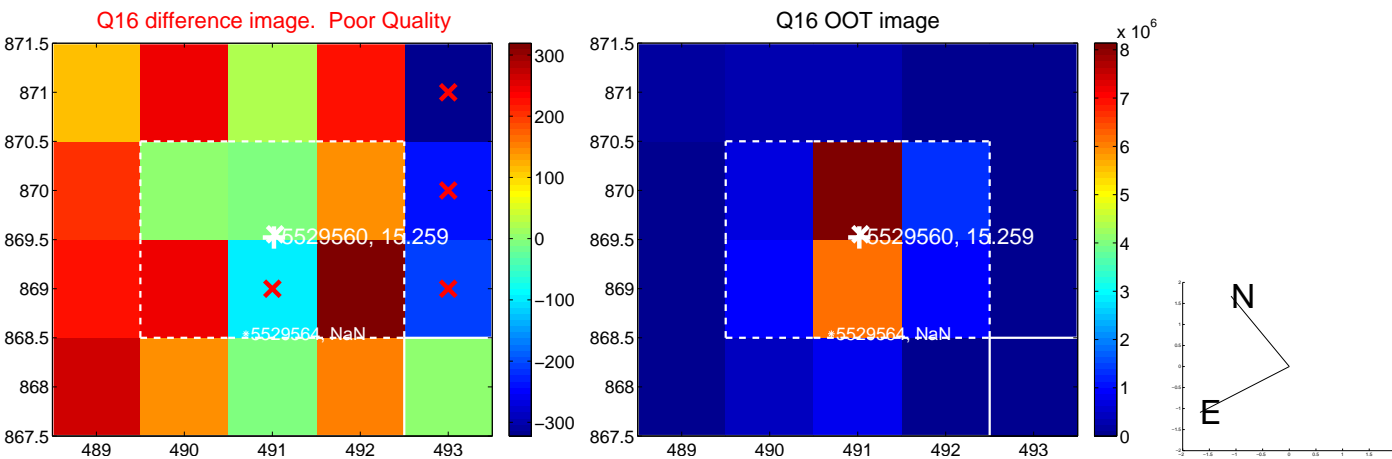
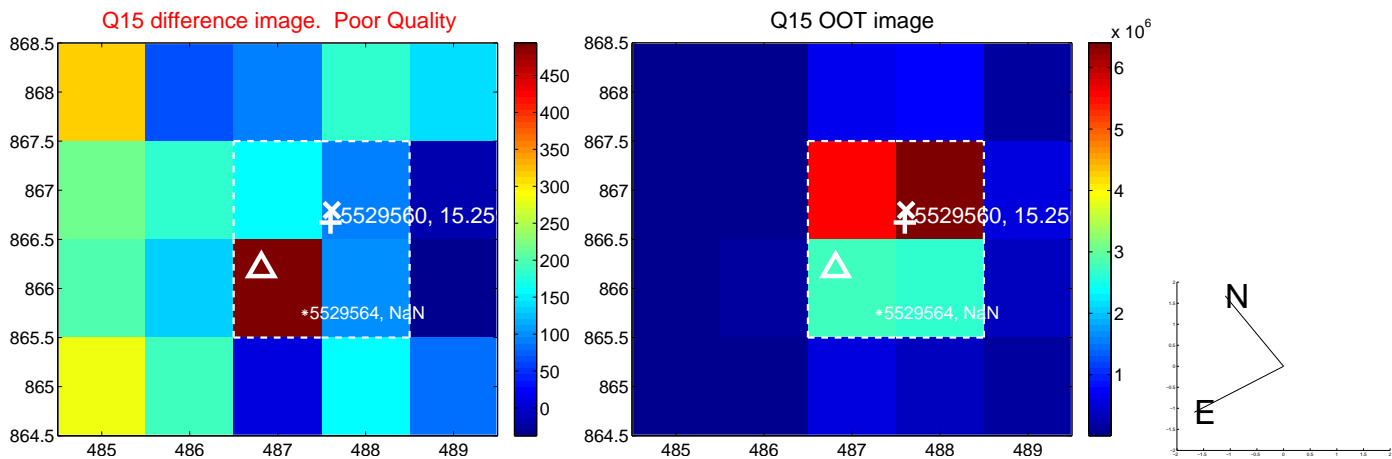
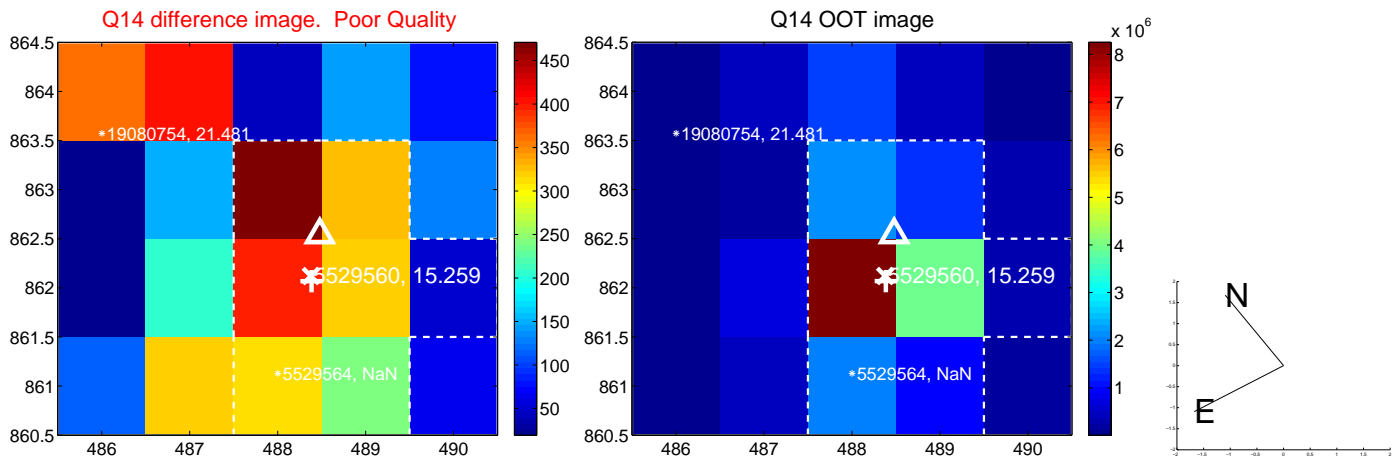
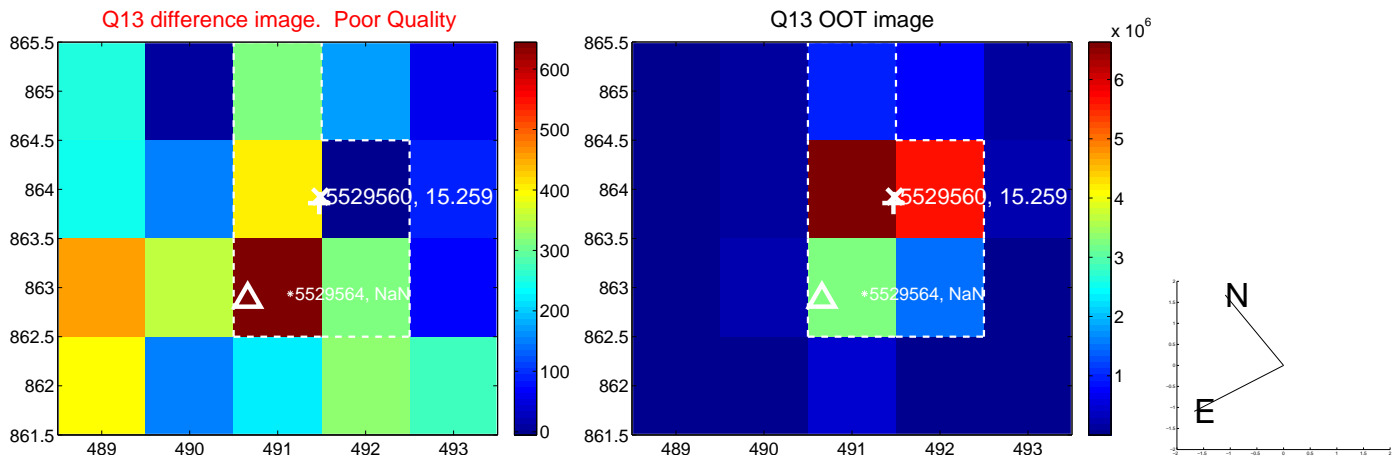
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



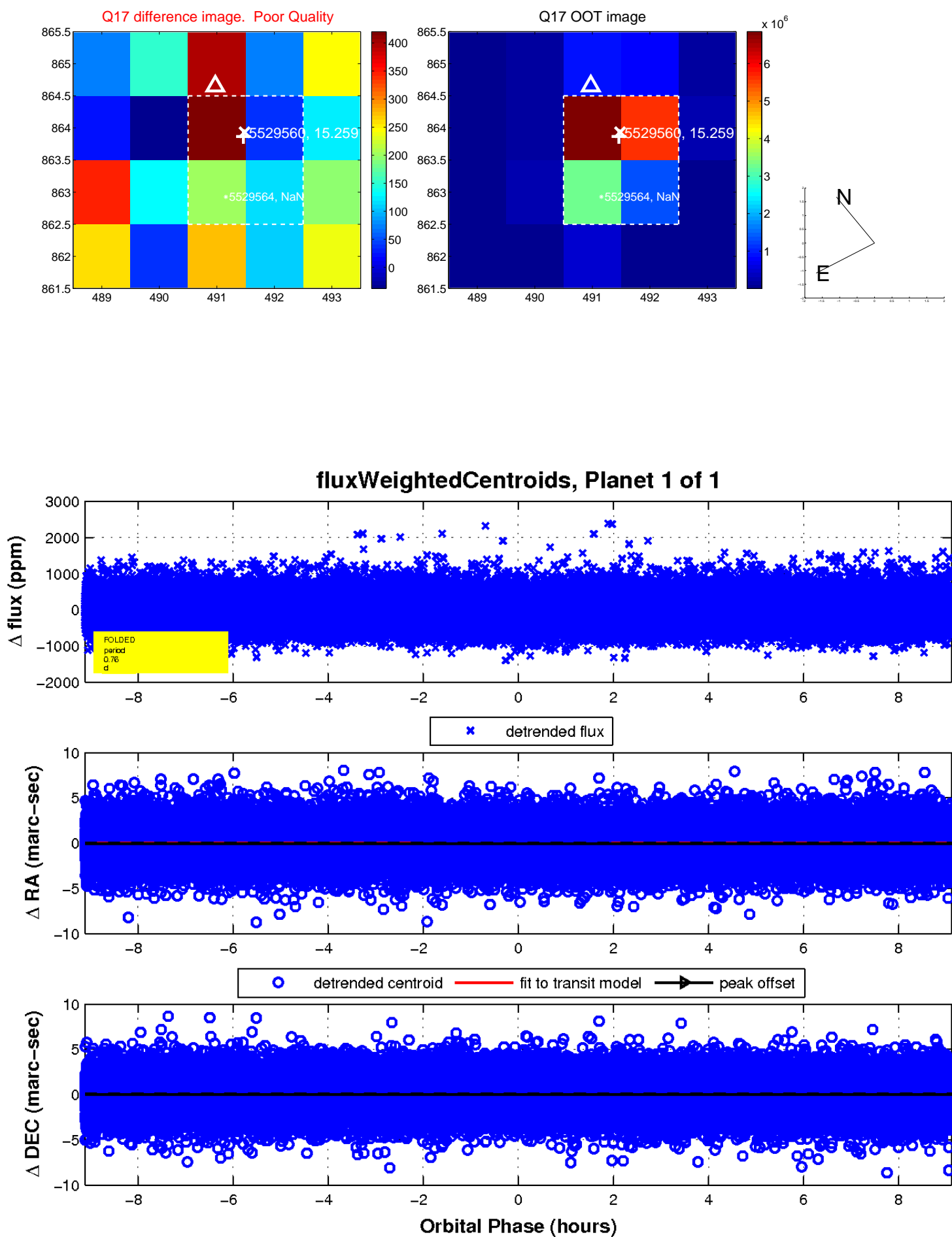
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

