

KIC 011656721

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})
011656721-01	OBS	0541.01	13.646135	139.413001	605.2	3.745	38.7	40.9	0.83	5569	2.45	50.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011656721-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

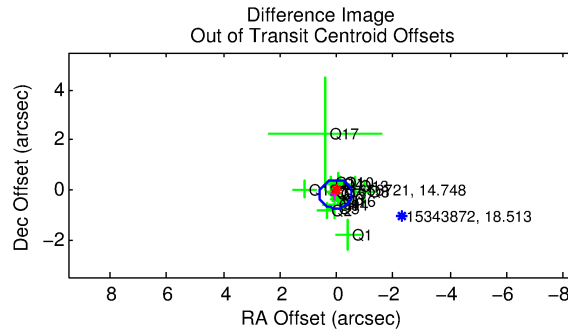
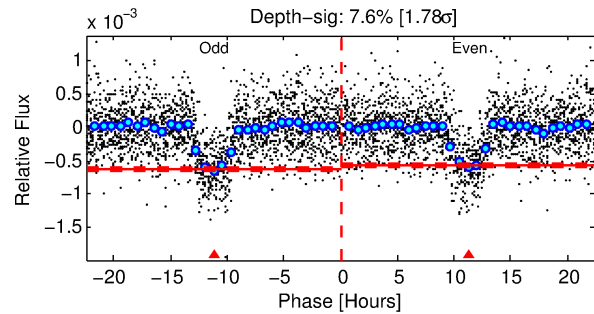
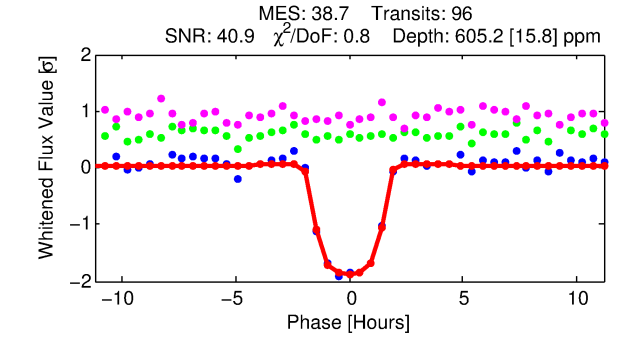
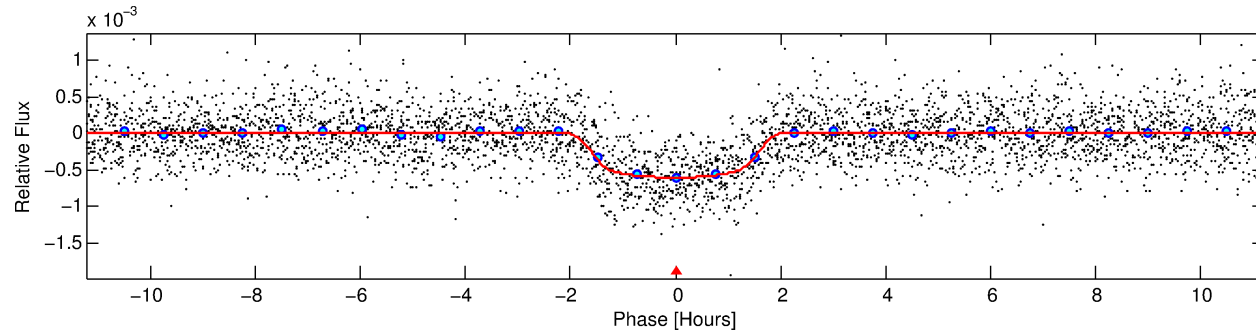
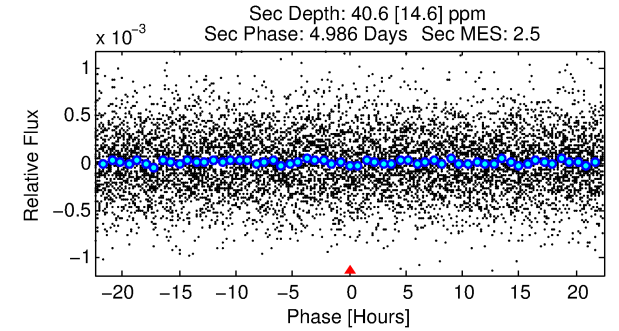
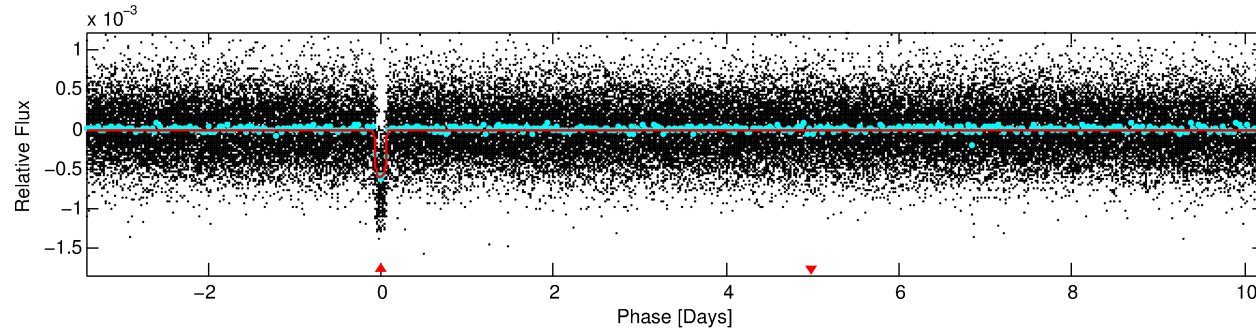
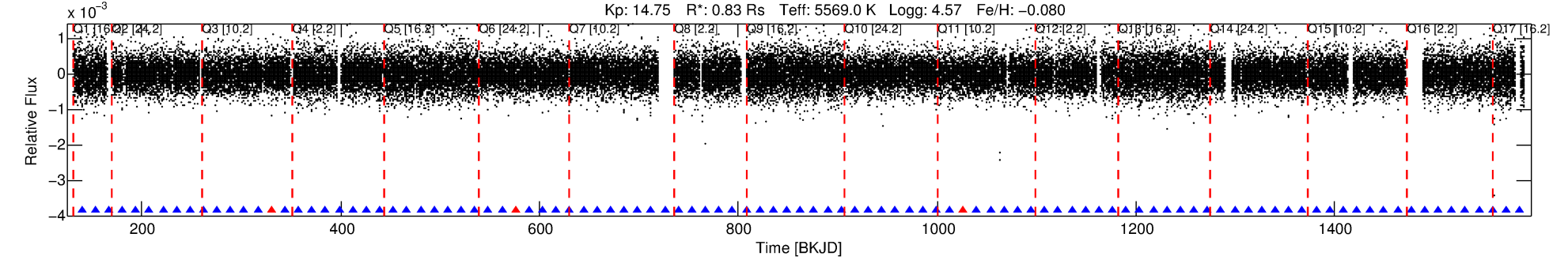
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011656721-01

No Significant Match Found

DV One-Page Summary

KIC: 11656721 Candidate: 1 of 1 Period: 13.646 d
KOI: K00541.01 Corr: 0.949



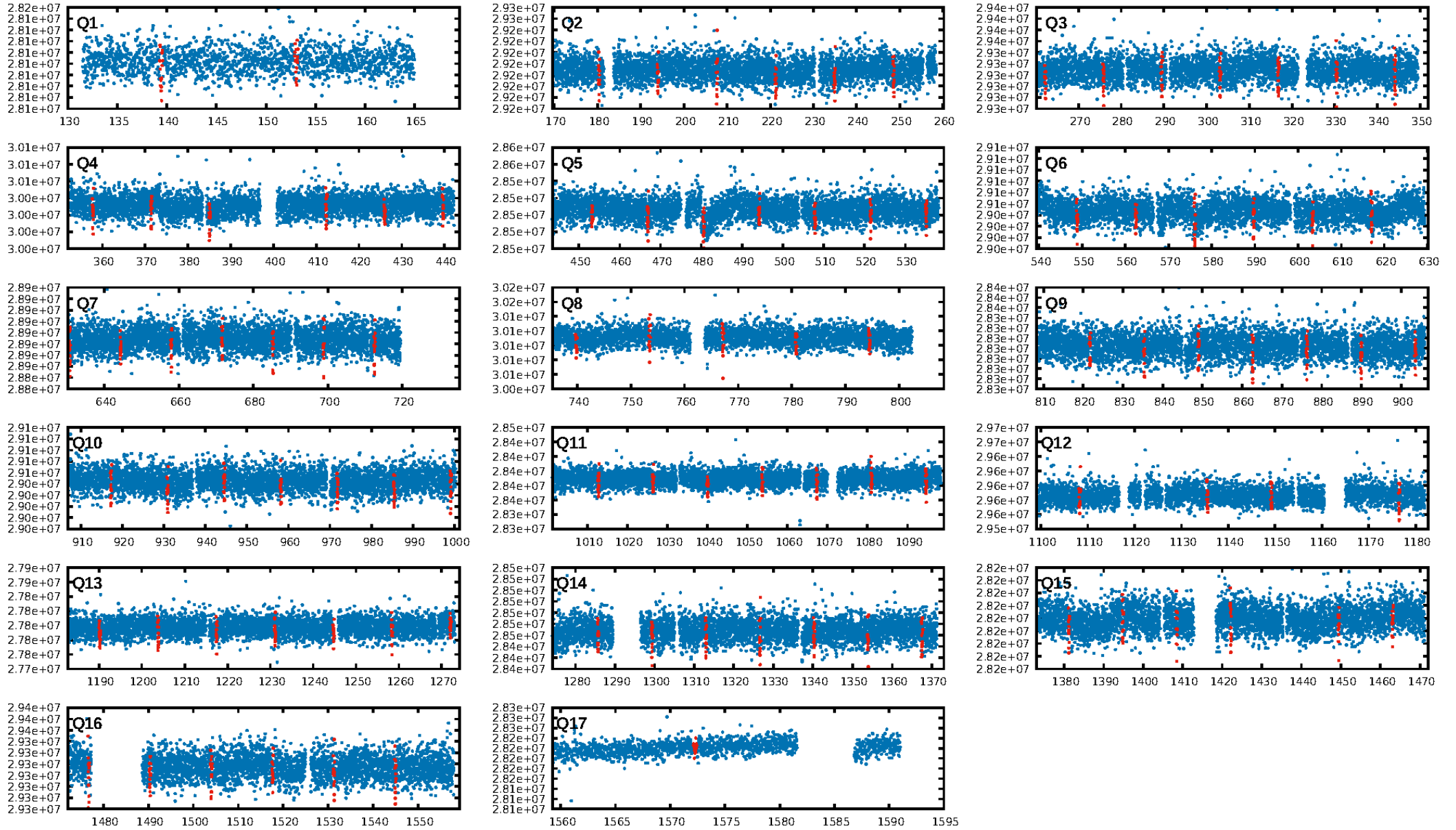
DV Fit Results:

Period = 13.64614 [0.00004] d
Epoch = 139.4130 [0.0021] BKJD
Rp/R* = 0.0271 [0.0016]
a/R* = 13.63 [3.50]
b = 0.90 [0.05]
Seff = 50.01 [15.11]
Teff = 678 [51] K
Rp = 2.45 [0.57] Re
a = 0.1088 [0.0207] AU
Ag = 44.12 [20.79] [2.07σ]
Teffp = 2702 [269] K [7.38σ]

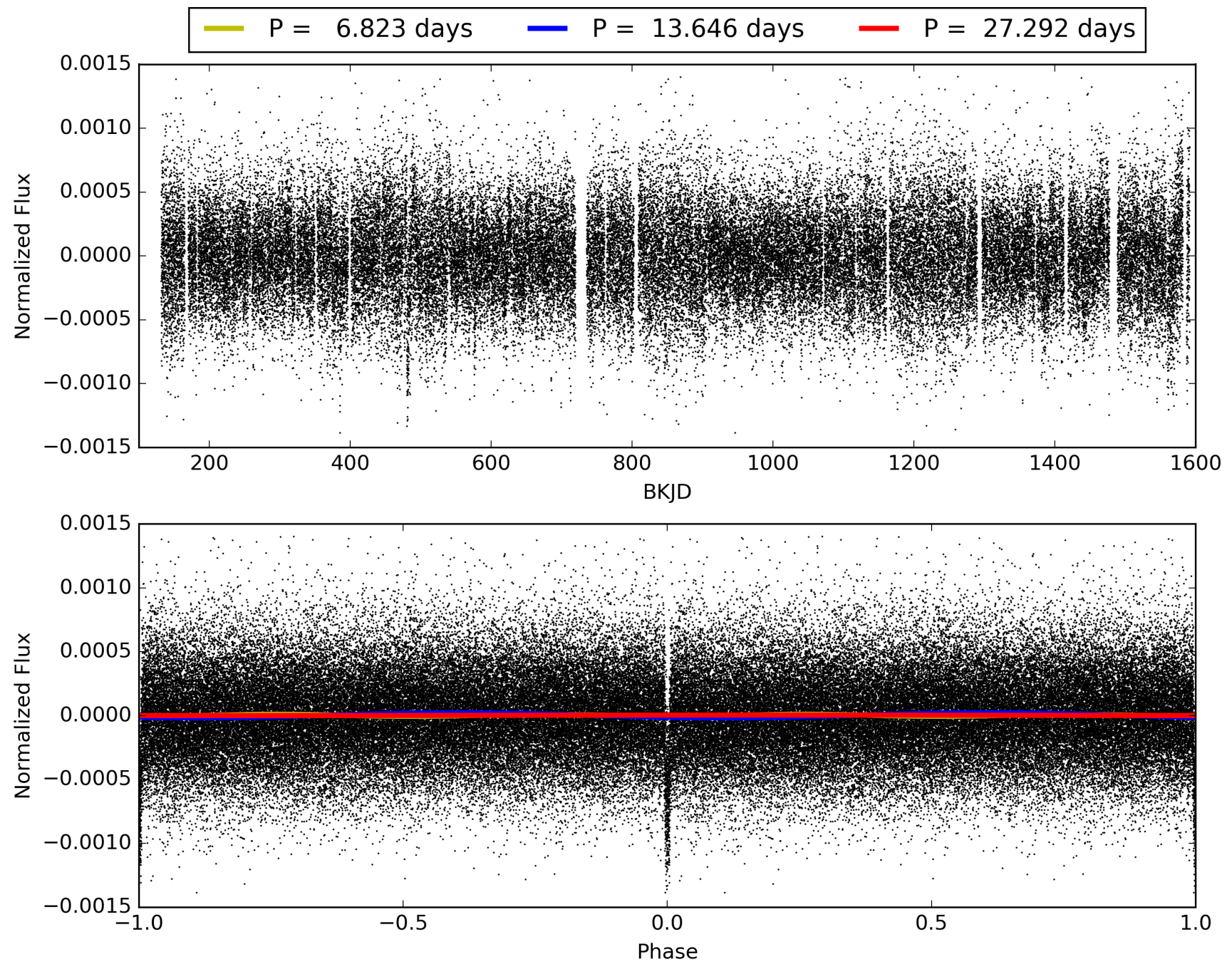
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.97 [90/93]
GhostDiagnostic-chr: 7.785
Centroid-sig: 0.5%
Centroid-so: 0.685 arcsec [1.95σ]
OotOffset-rm: 0.184 arcsec [0.96σ]
KicOffset-rm: 0.291 arcsec [1.81σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 011656721-01, PDC Light Curves

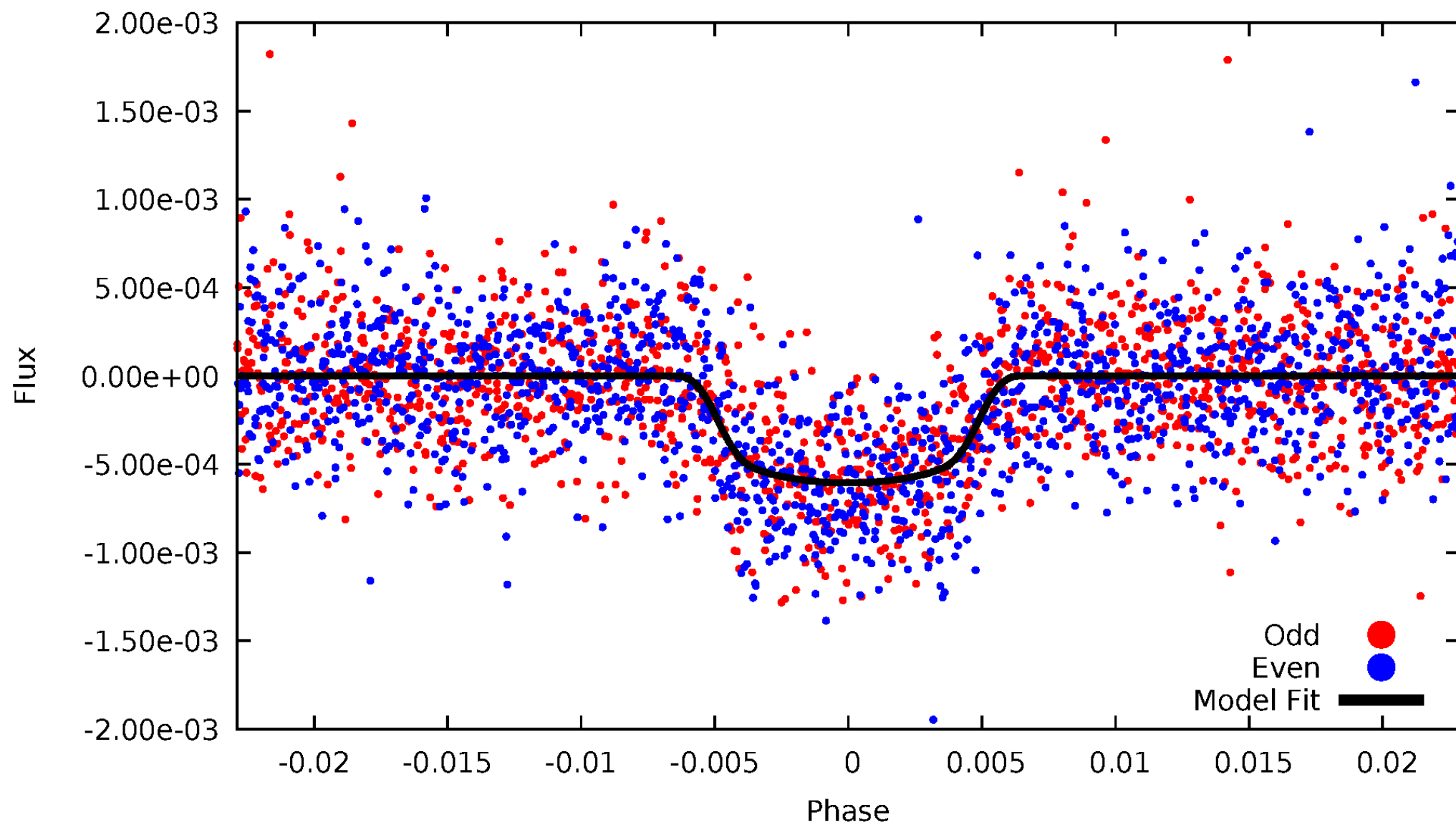


TCE 011656721-01



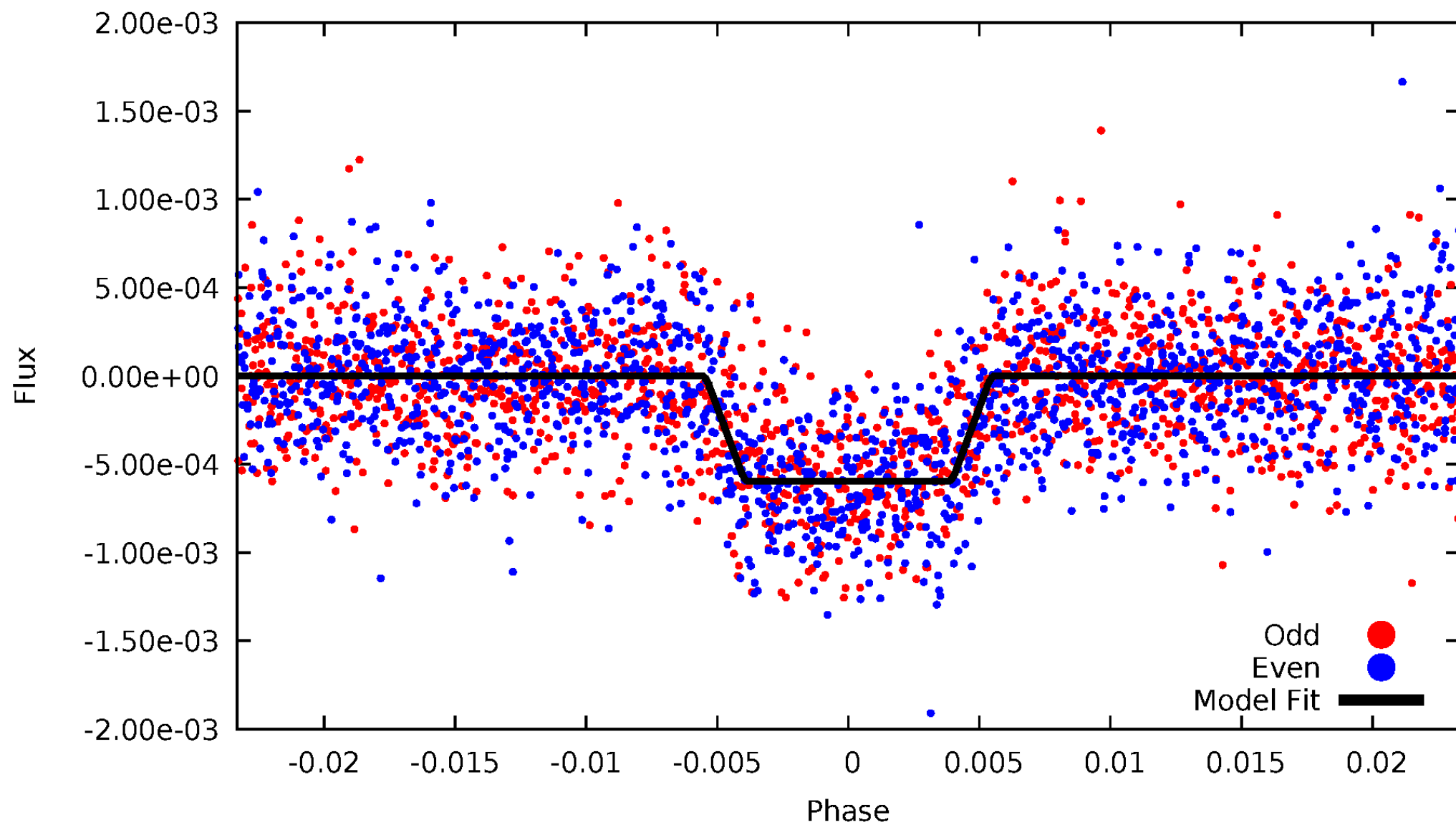
DV Odd/Even

TCE 011656721-01



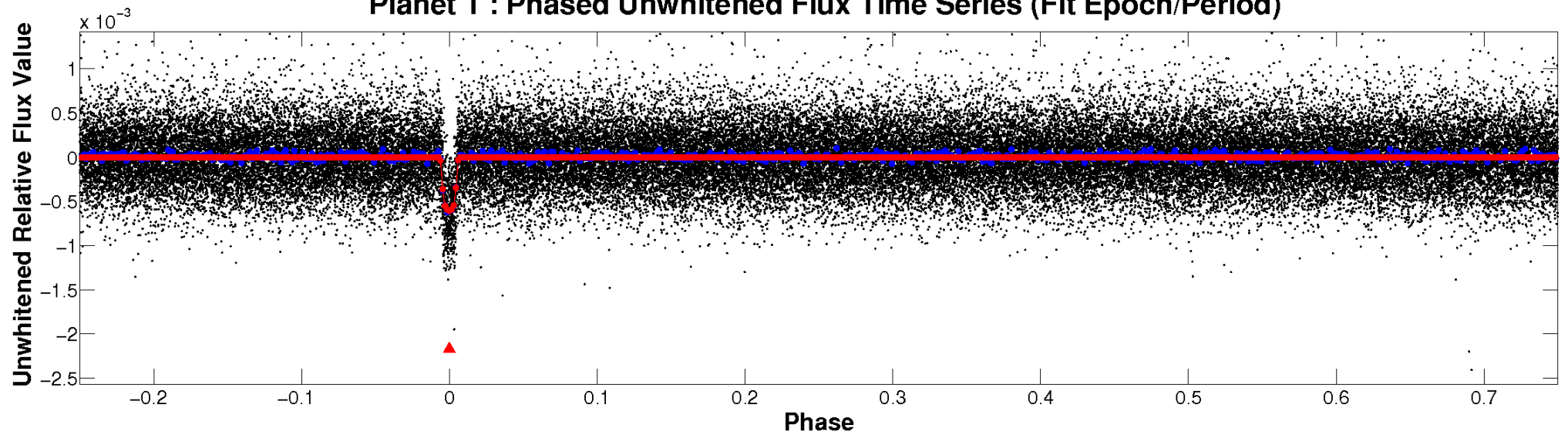
ALT Odd/Even

TCE 011656721-01

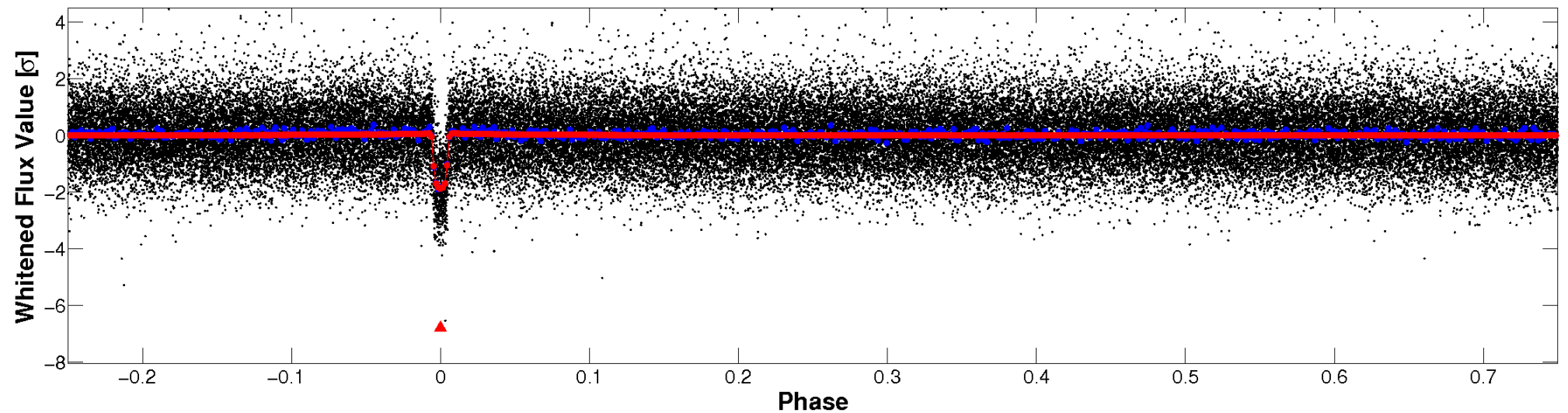


Non-Whitened Vs. Whitened Light Curve

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

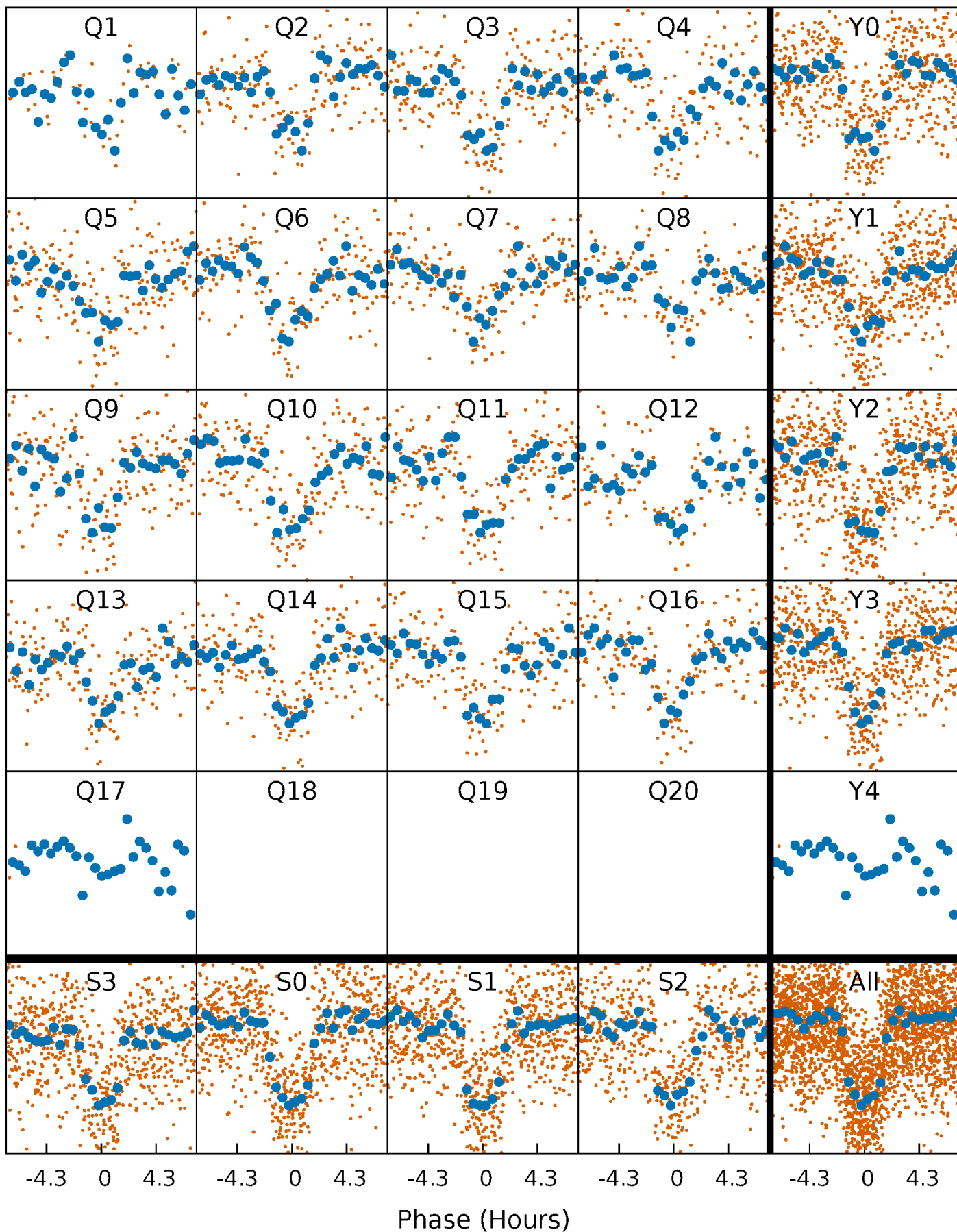


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



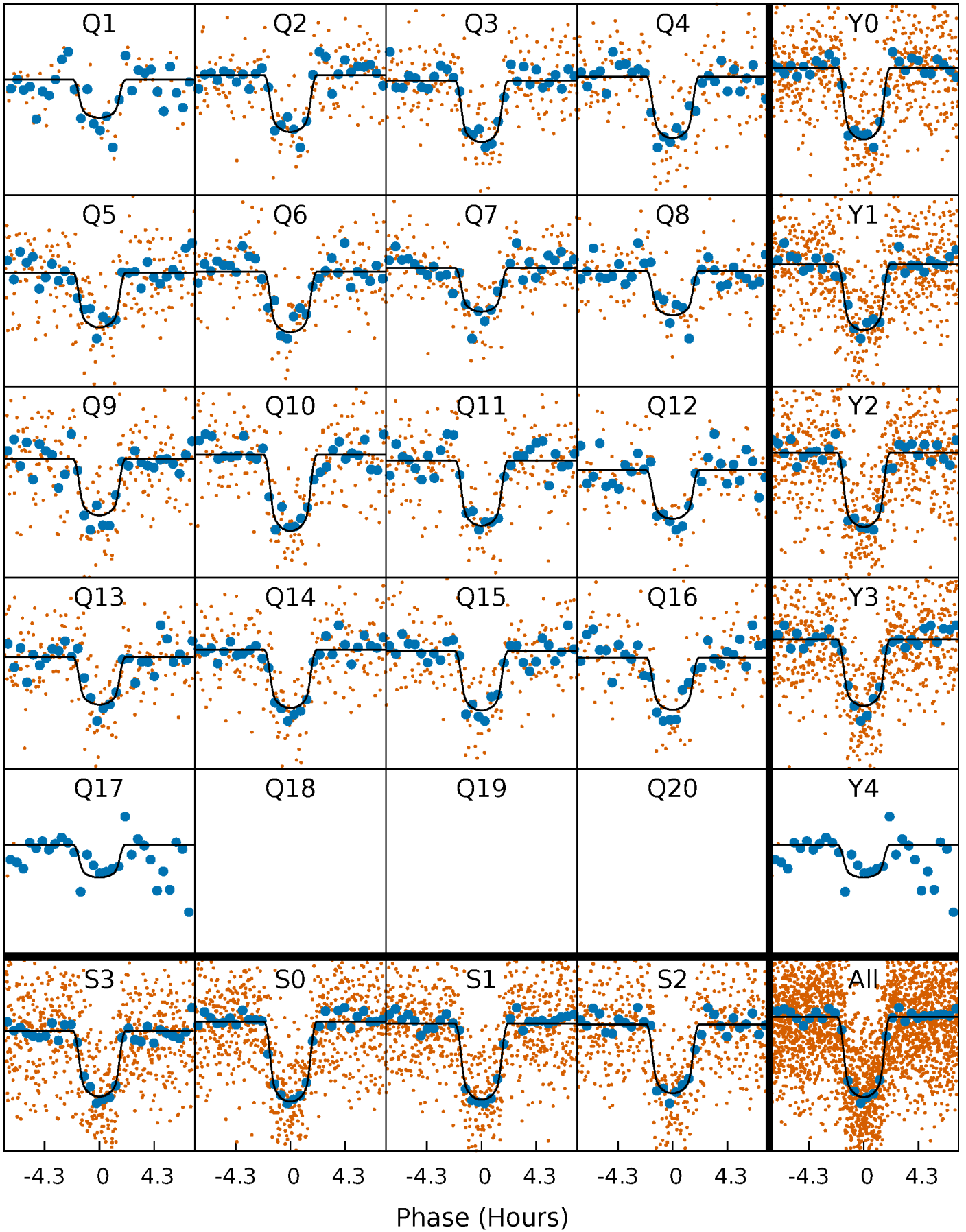
PDC Quarter-Phased Transit Curves

TCE 011656721-01 P= 13.646135 Days $T_0=139.413001$ (BKJD)



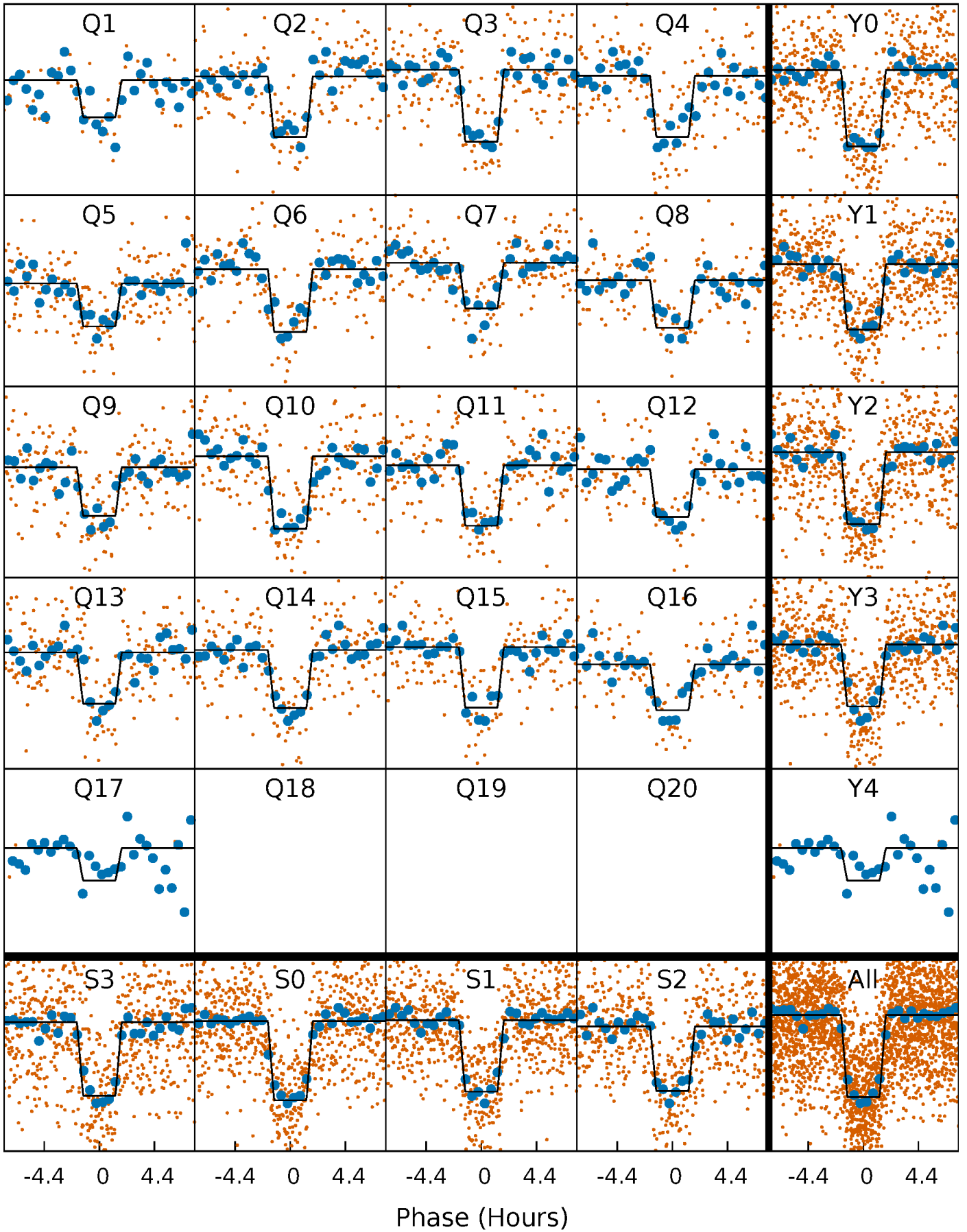
DV Quarter-Phased Transit Curves

TCE 011656721-01 P= 13.646135 Days $T_0=139.413001$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

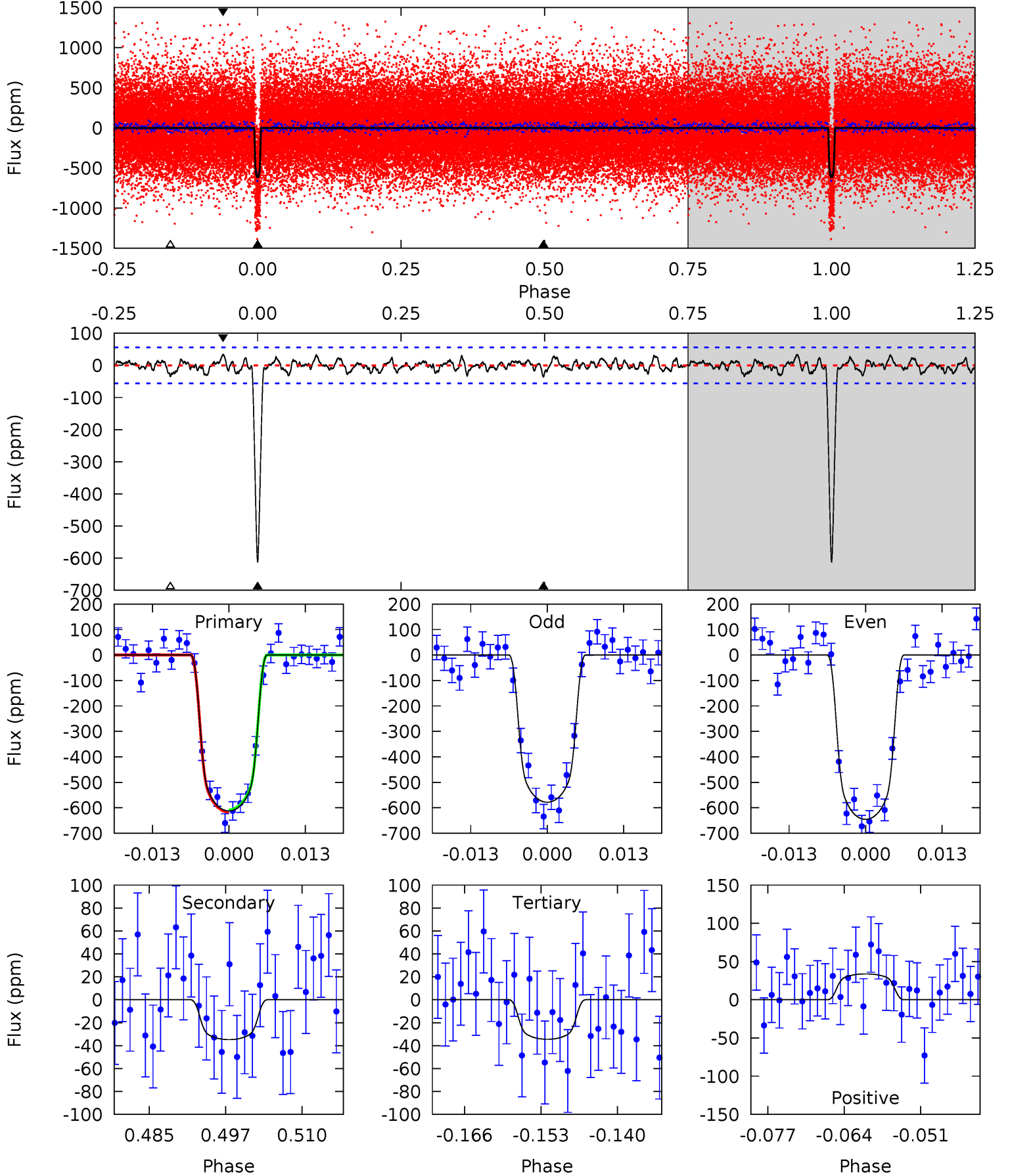
TCE 011656721-01 P= 13.646104 Days $T_0=139.414972$ (BKJD)



DV Model-Shift Uniqueness Test

011656721-01, $P = 13.646135$ Days, $E = 125.766866$ Days

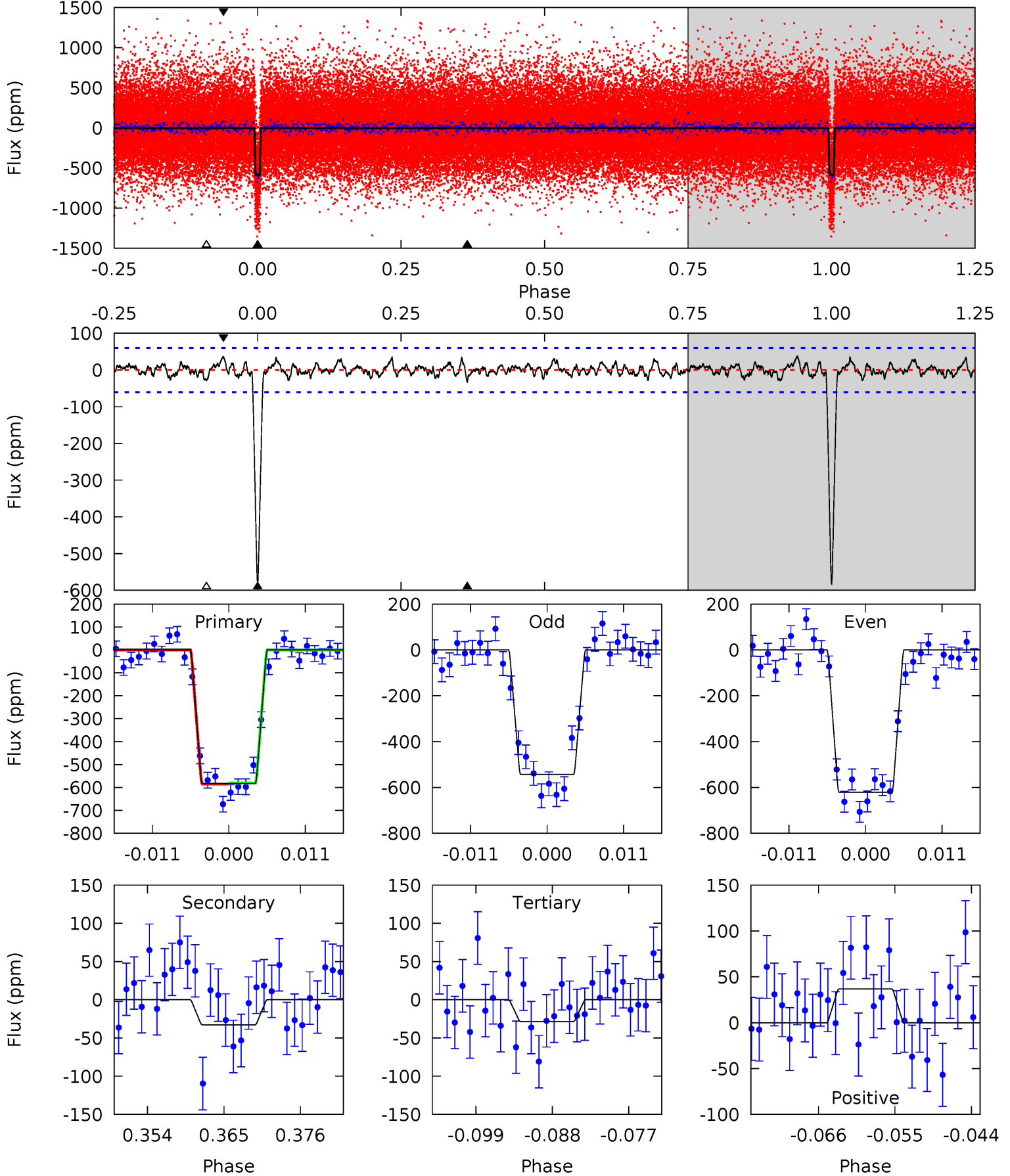
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.5	3.10	3.07	3.01	4.98	2.49	1.11	51.5	51.5	0.03	0.09	3.01	1.01	0.05	0.38



Alt Model-Shift Uniqueness Test

011656721-01, $P = 13.646104$ Days, $E = 125.768868$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.4	2.72	2.36	3.05	5.01	2.54	0.97	46.0	45.3	0.36	-0.33	3.21	1.01	0.06	0.20



Stellar Parameters For KIC 011656721

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5569^{+149}_{-166}	$4.566^{+0.038}_{-0.152}$	$-0.080^{+0.300}_{-0.300}$	$0.829^{+0.187}_{-0.067}$	$0.928^{+0.083}_{-0.111}$	$2.295^{+0.468}_{-0.983}$
	+3%/-3%	+1%/-3%	+375%/-375%	+23%/-8%	+9%/-12%	+20%/-43%
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 011656721-01 / KOI 0541.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-35 ± 11	$2.52^{+0.31}_{-0.24}$	965^{+53}_{-40}	3181^{+174}_{-191}	34^{+14}_{-12}
Alt.	-33 ± 12	$2.27^{+0.29}_{-0.21}$	966^{+52}_{-40}	3246^{+197}_{-256}	38^{+20}_{-16}

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

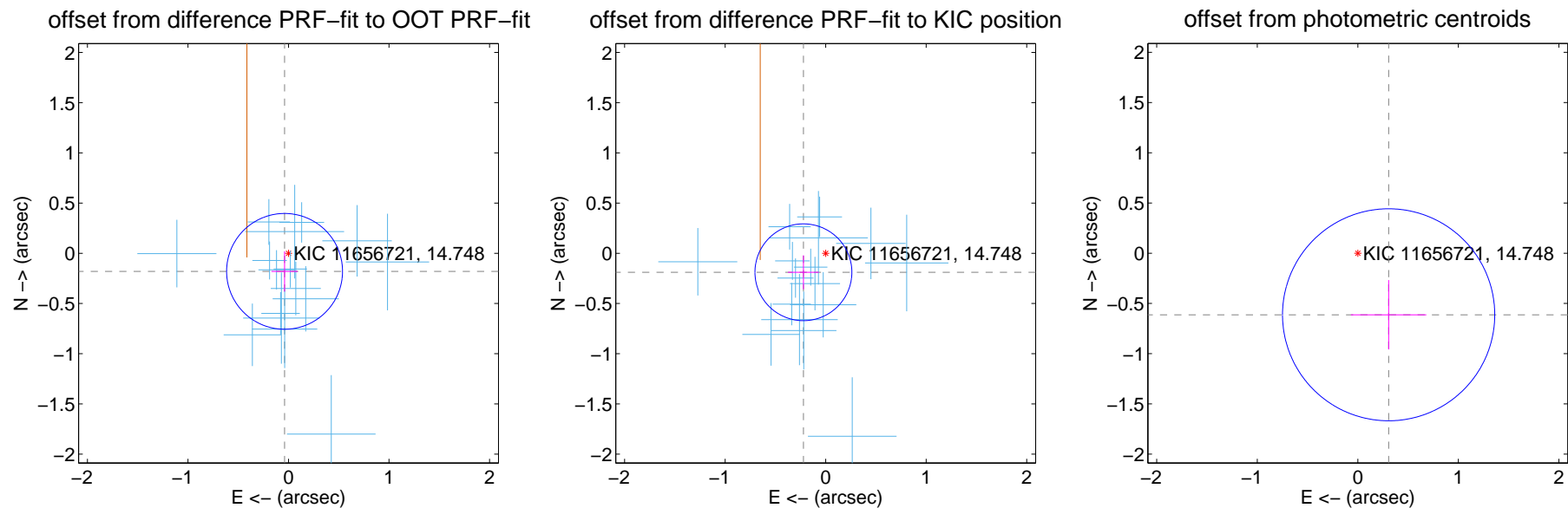
DV Centroid Data

Supplemental centroid analysis for 011656721-01. Kepler magnitude: 14.75. Transit SNR 40.92

There are 16 quarters with good PRF difference image offsets

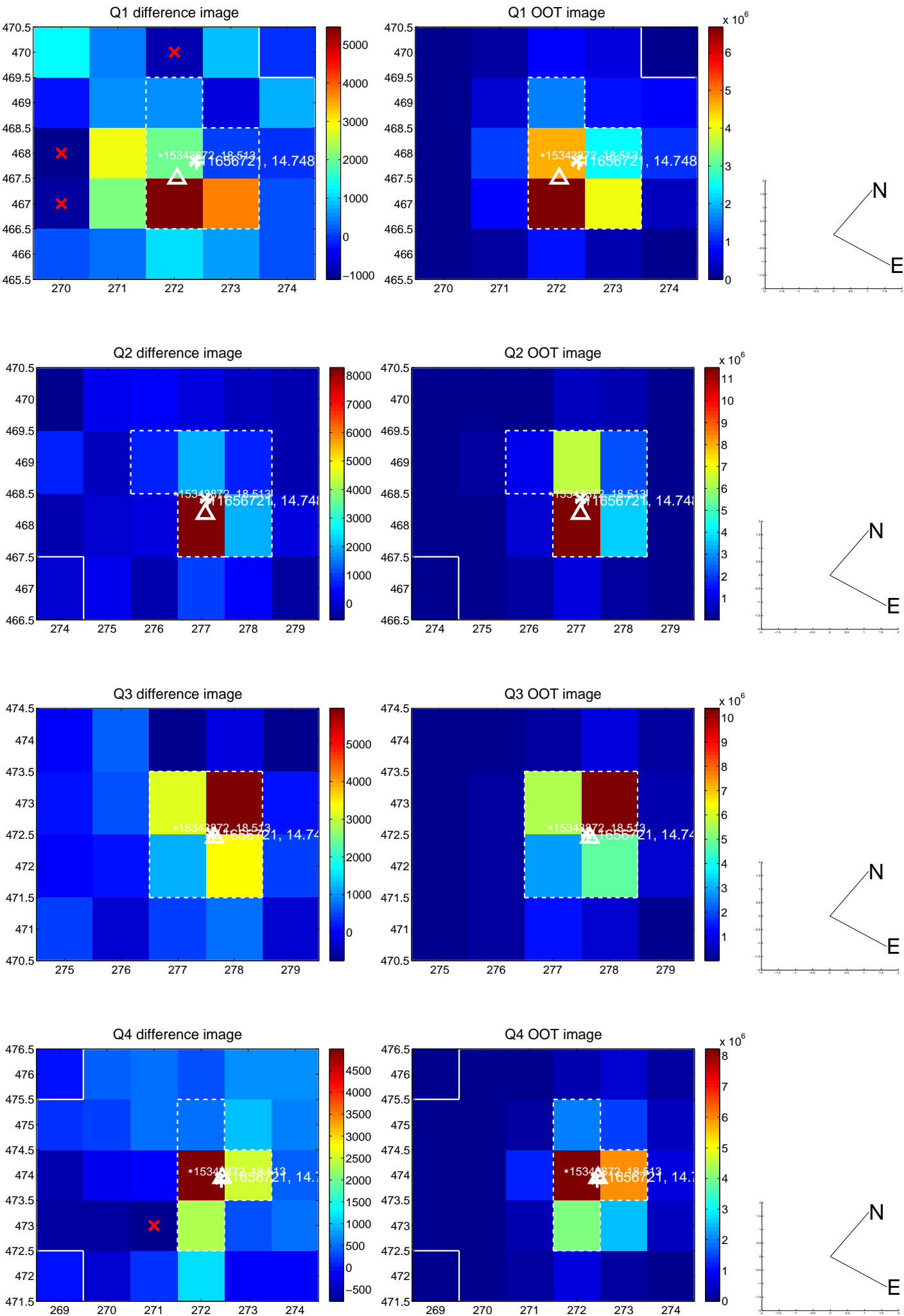
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.184 ± 0.192	0.96	0.039 ± 0.130	-0.180 ± 0.201
PRF-fit source offset from KIC position	0.291 ± 0.161	1.81	0.221 ± 0.154	-0.189 ± 0.169
photometric centroid source offset	0.69 ± 0.35	1.95	-0.31 ± 0.37	-0.61 ± 0.35

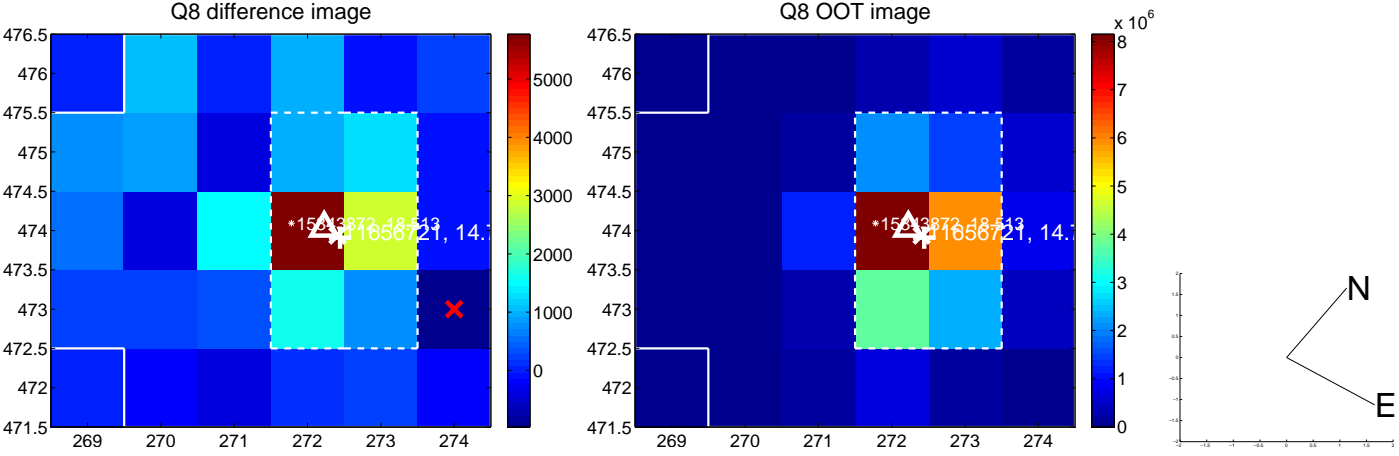
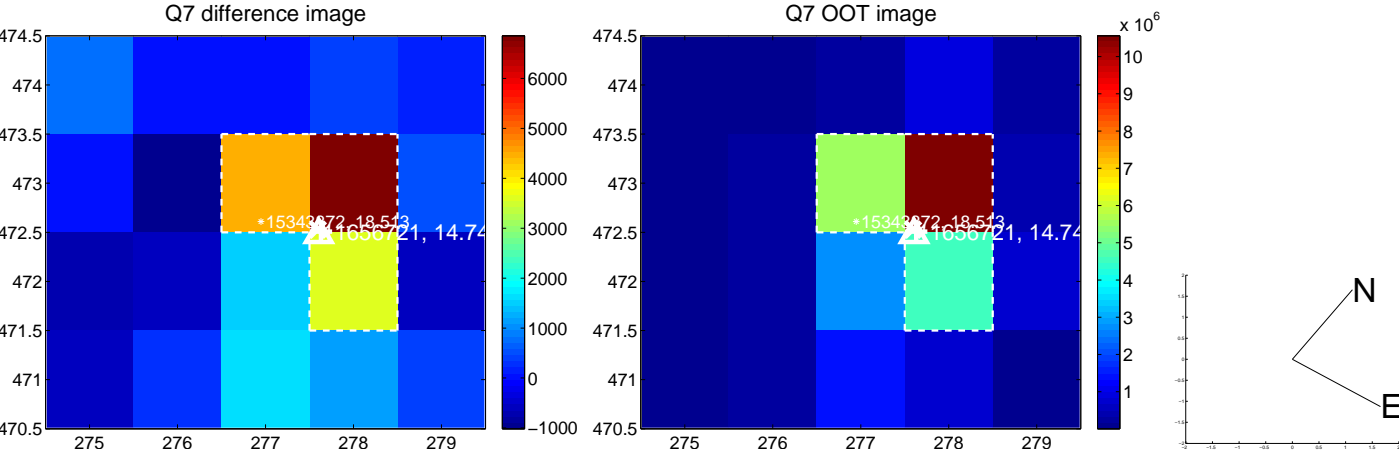
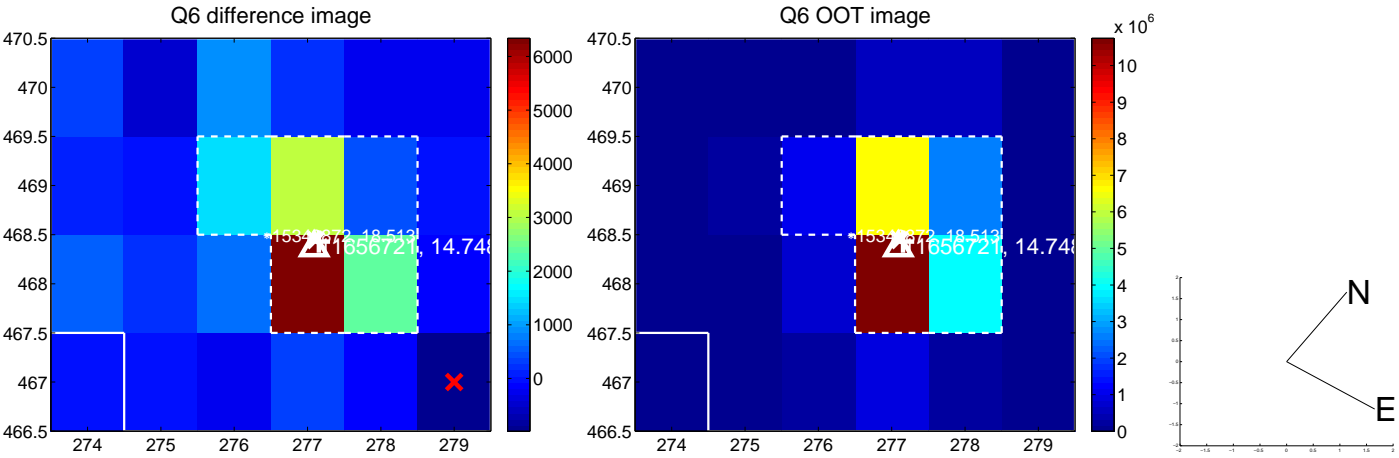
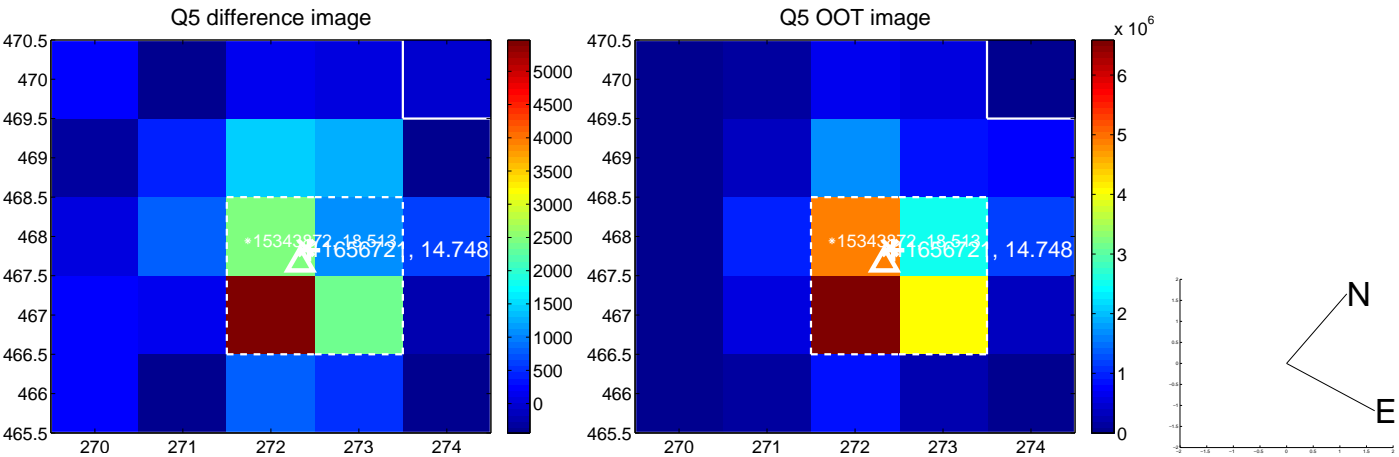


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

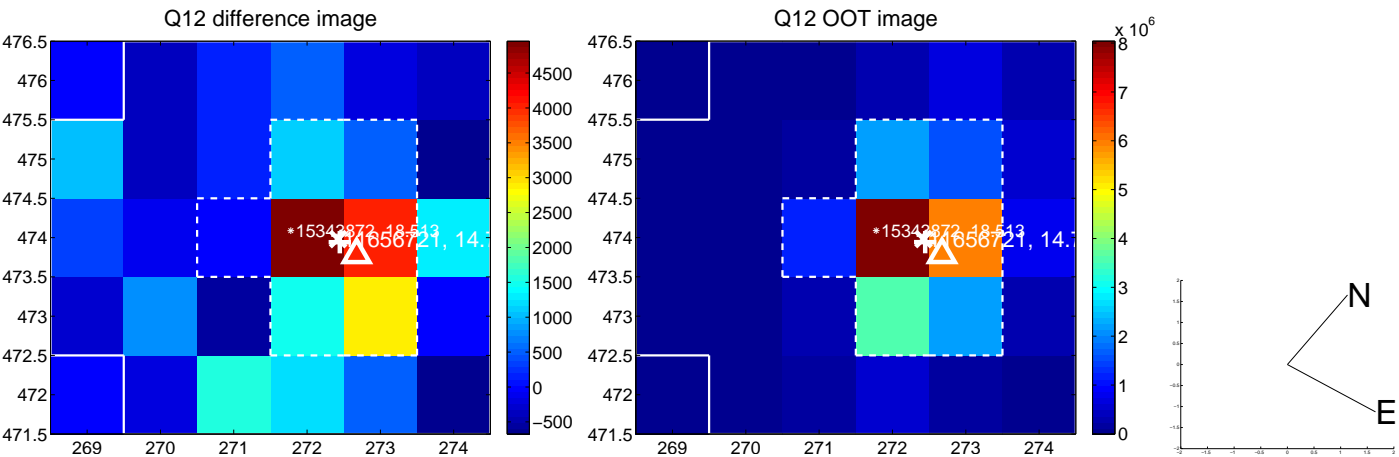
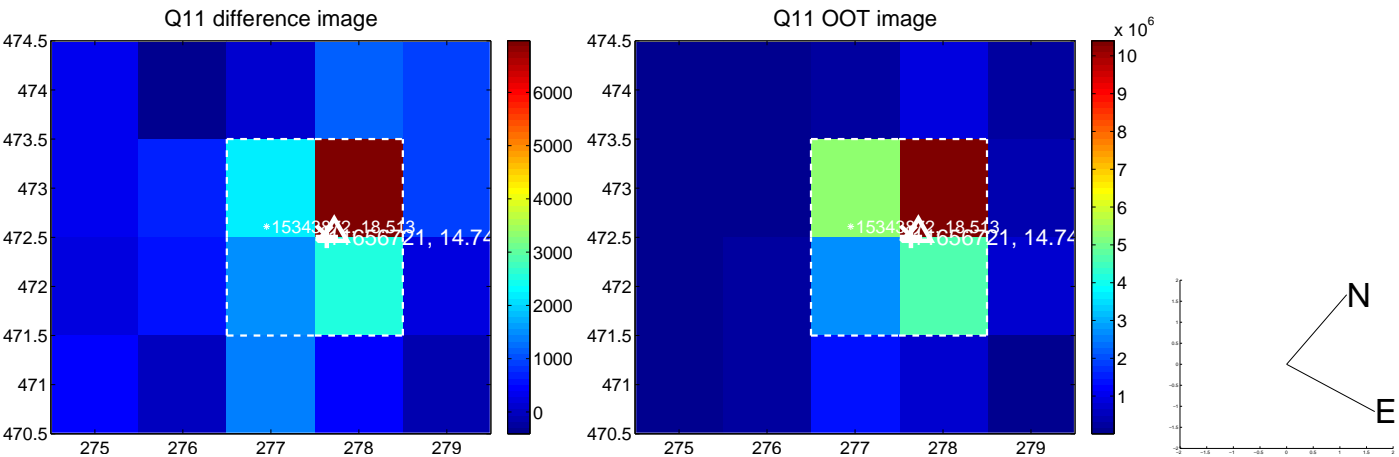
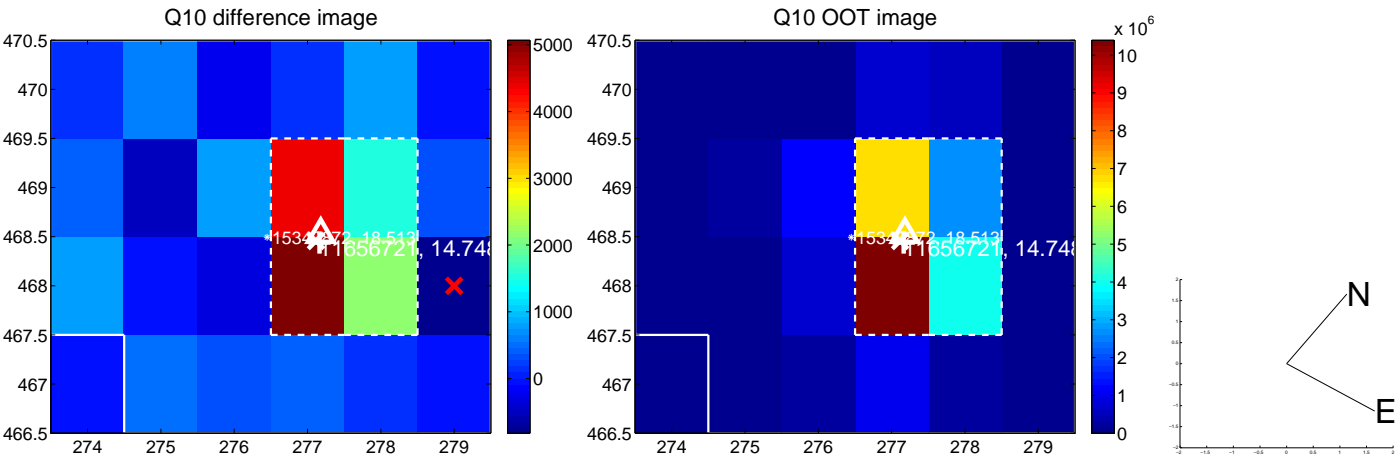
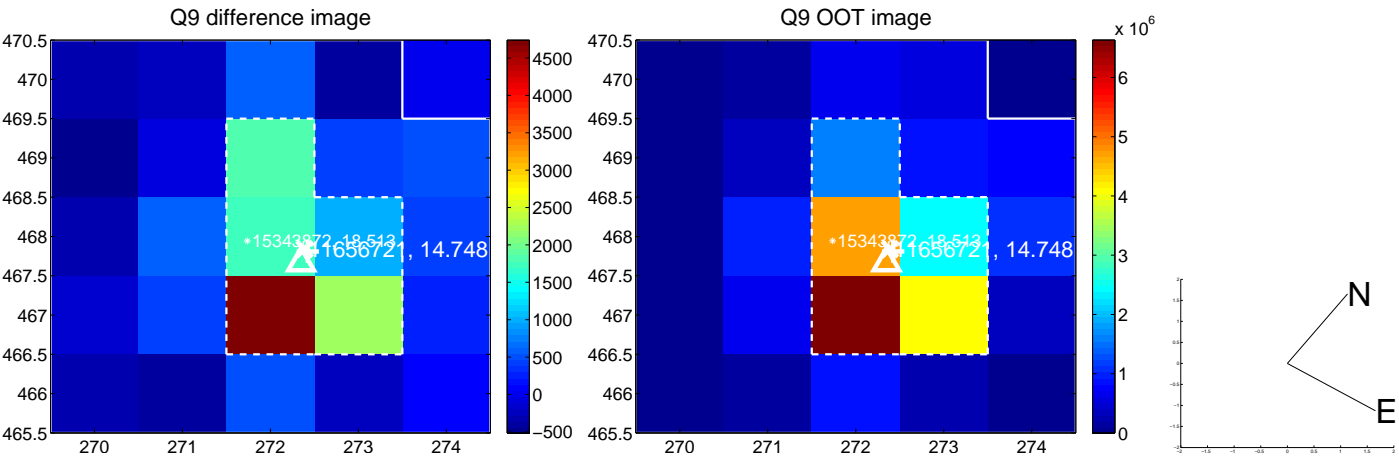
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



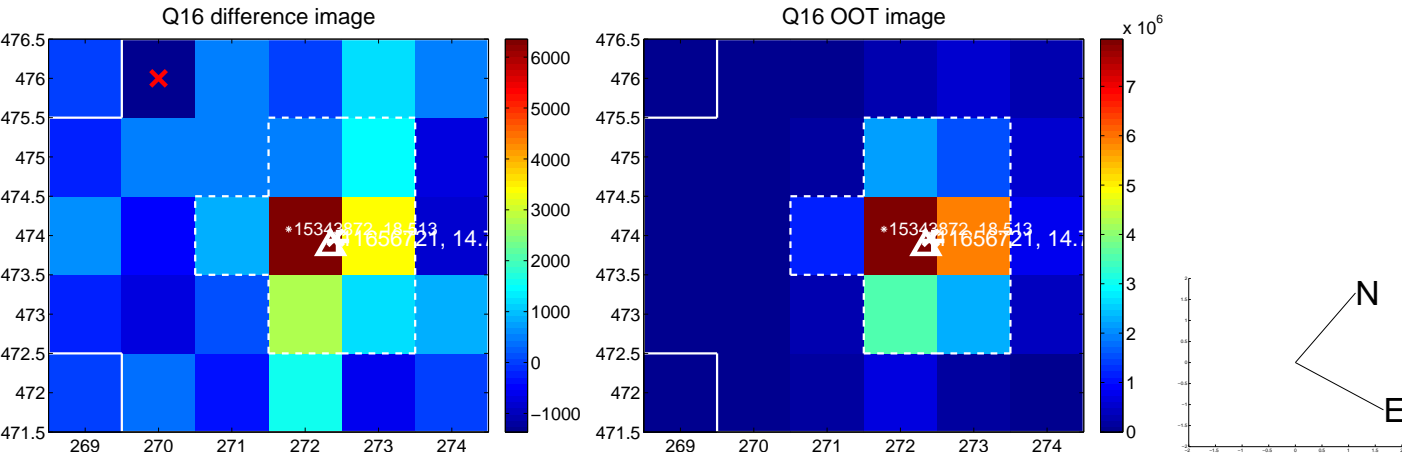
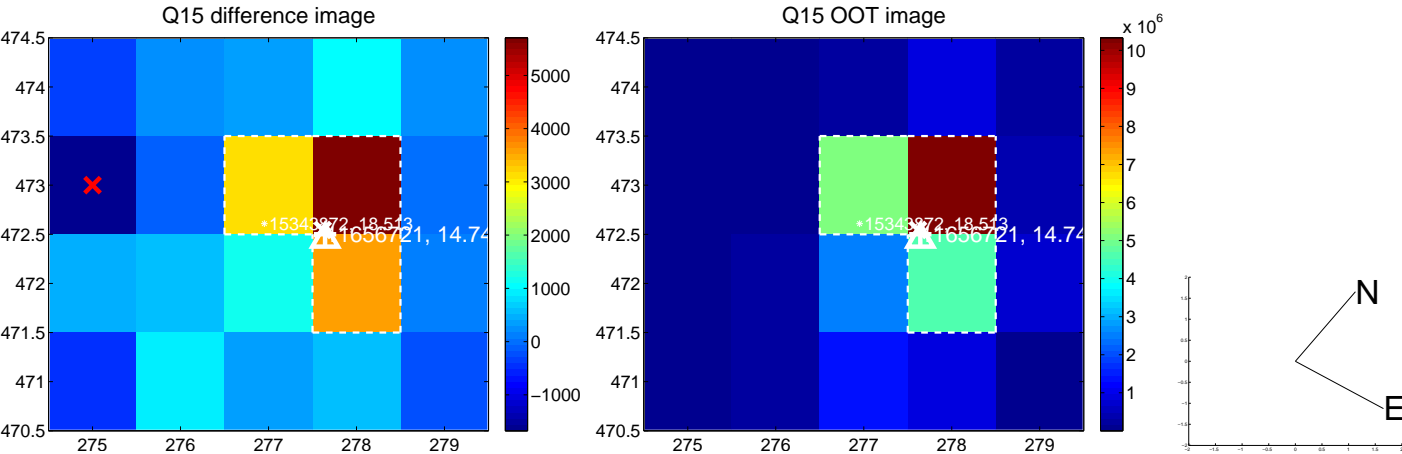
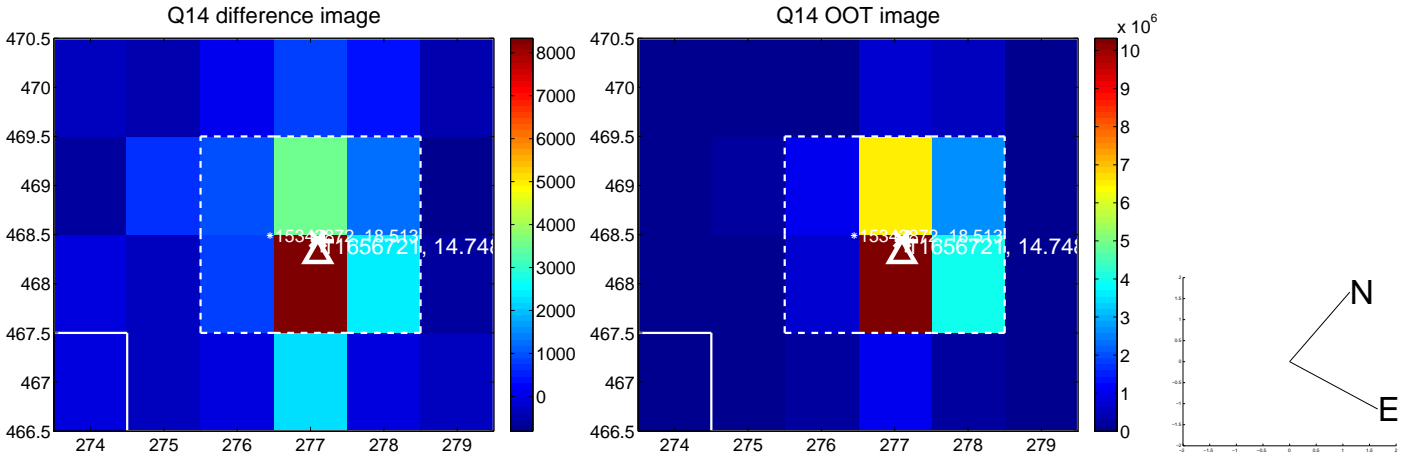
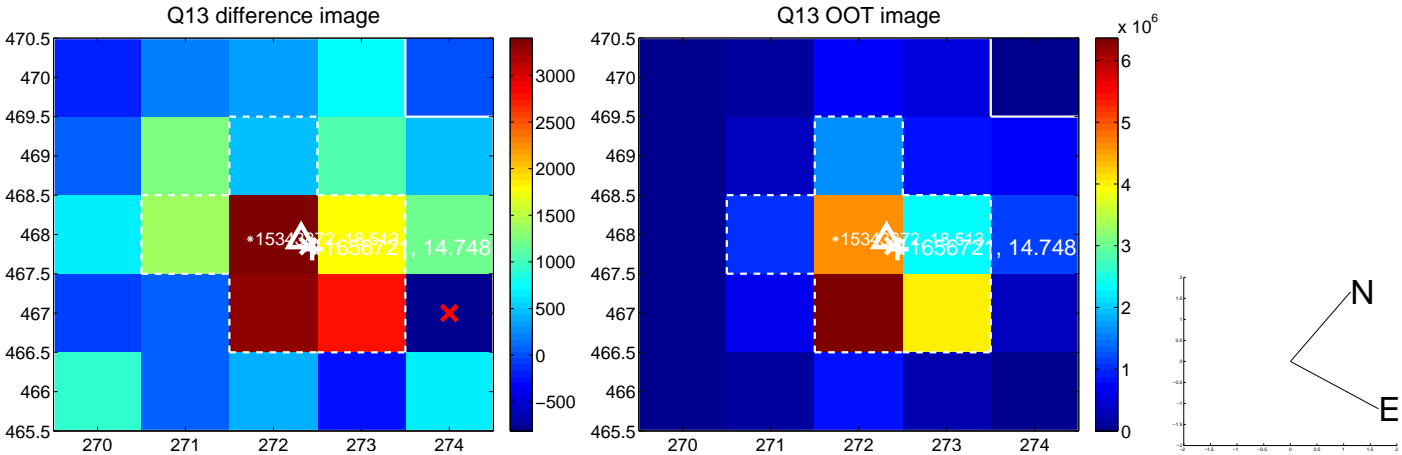
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



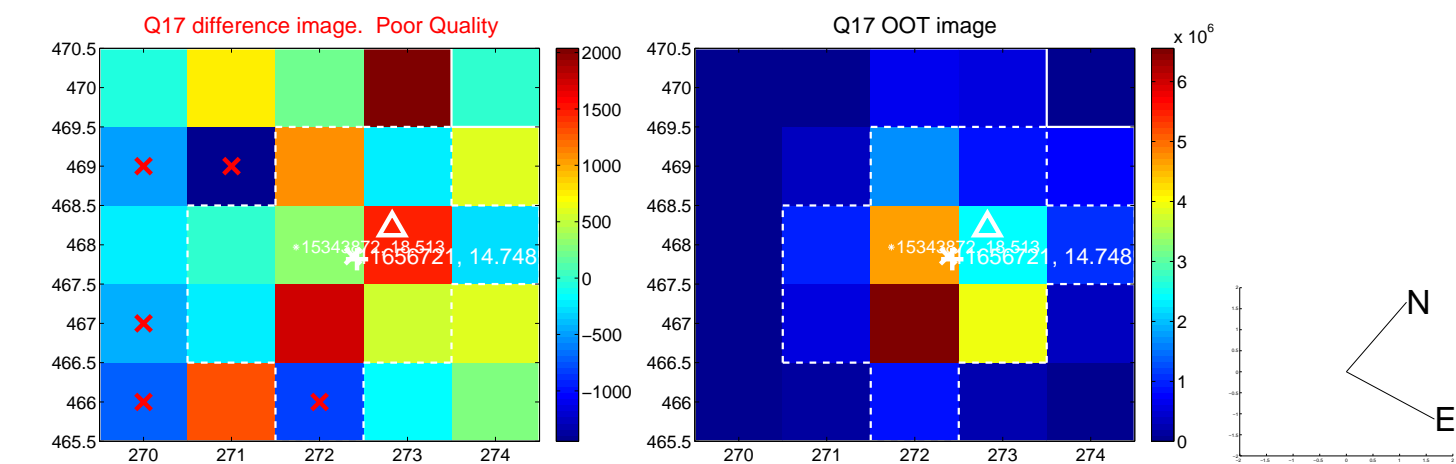
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



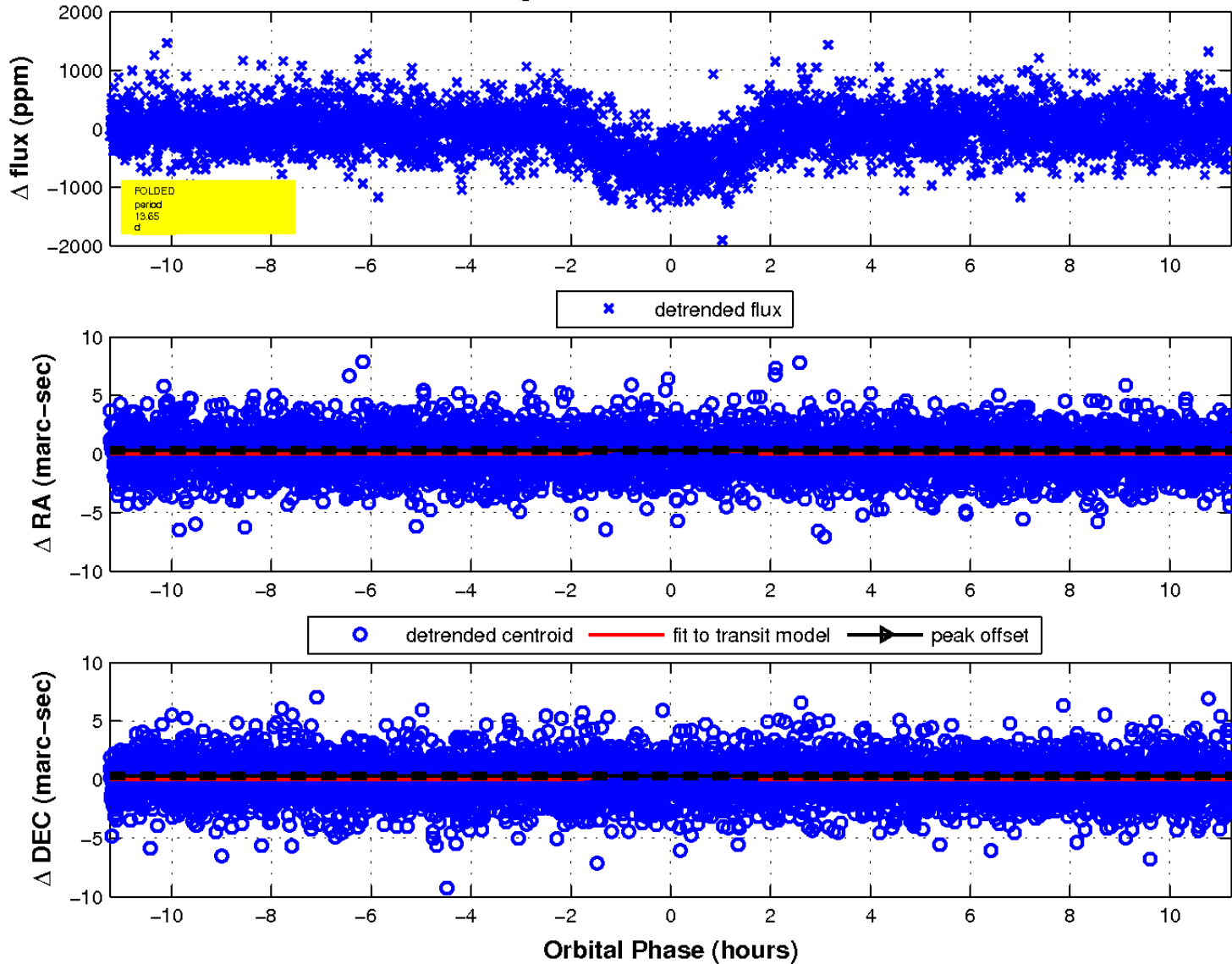
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

