

KIC 007427764

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})
007427764-01	OBS	4364.01	4.563838	132.258989	202.5	2.650	11.0	11.9	0.86	5408	1.49	218.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007427764-01	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.

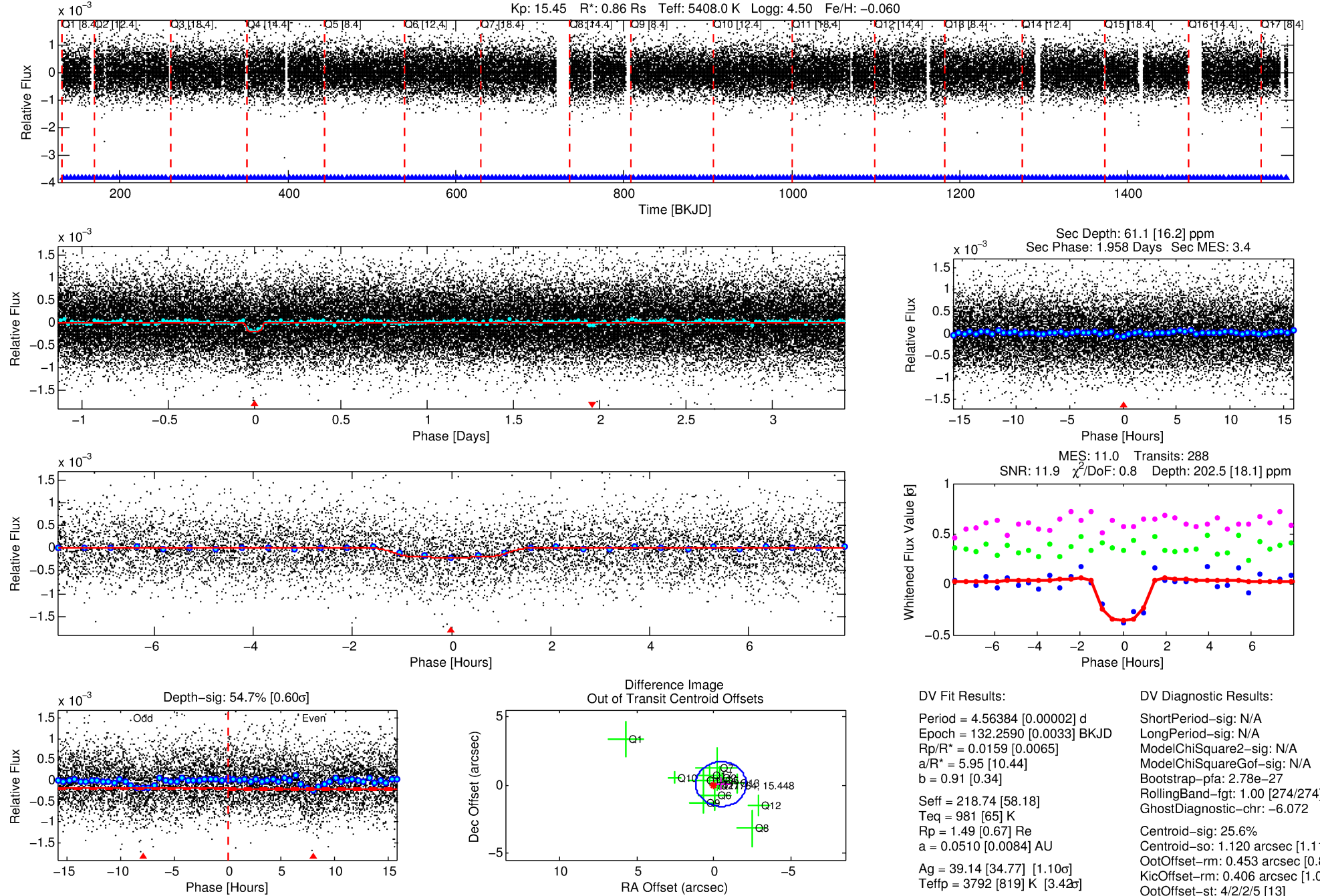
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007427764-01

No Significant Match Found

DV One-Page Summary

KIC: 7427764 Candidate: 1 of 1 Period: 4.564 d
KOI: K04364.01 Corr: 0.936



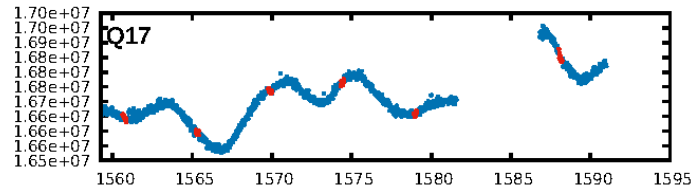
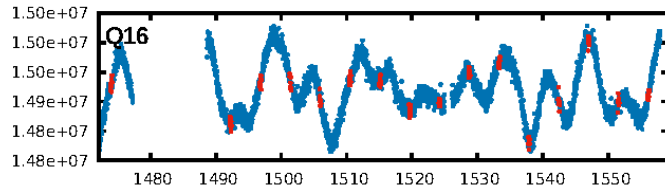
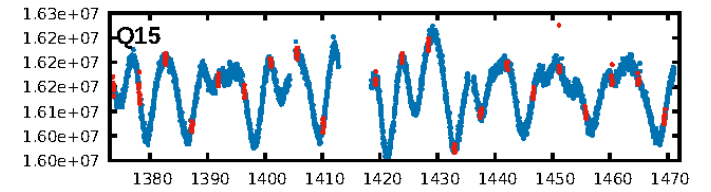
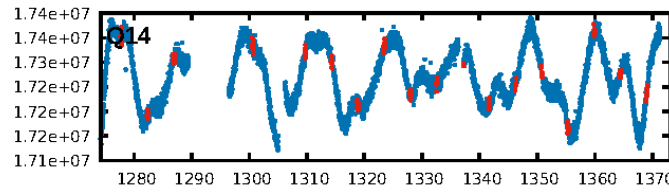
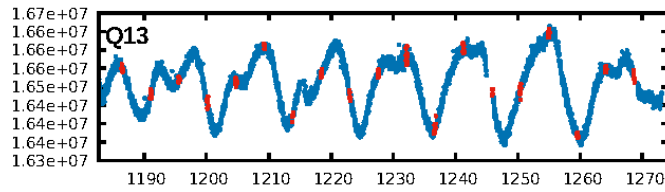
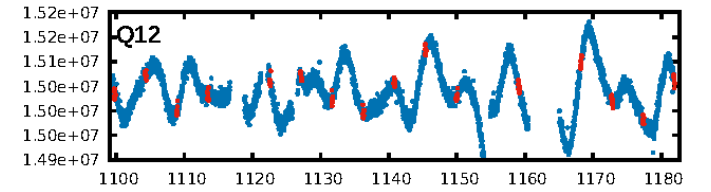
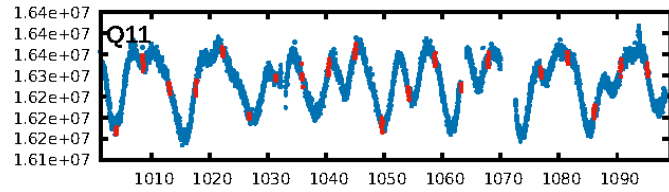
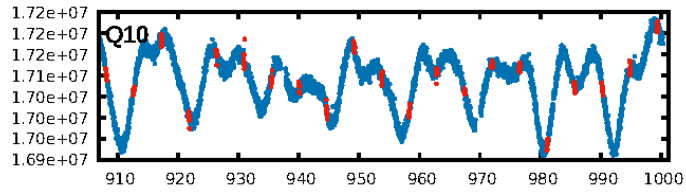
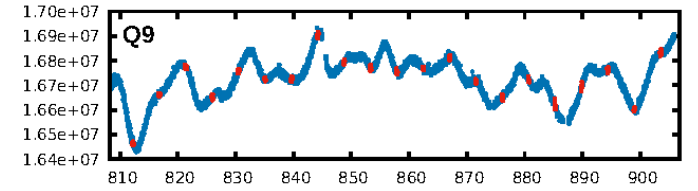
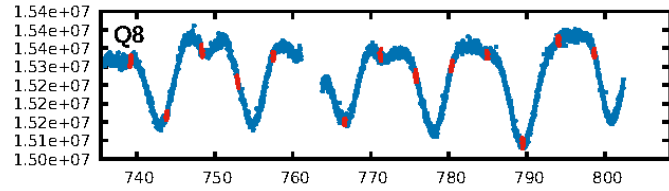
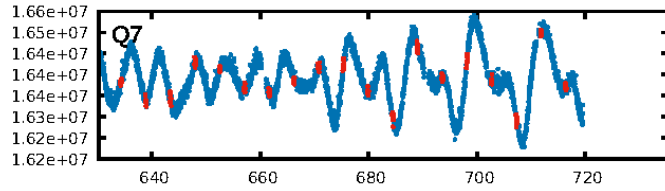
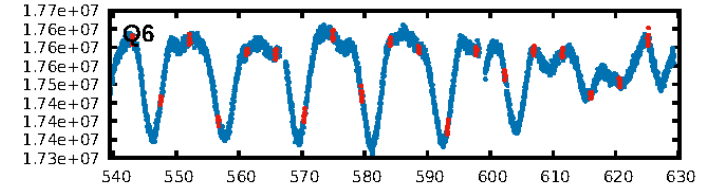
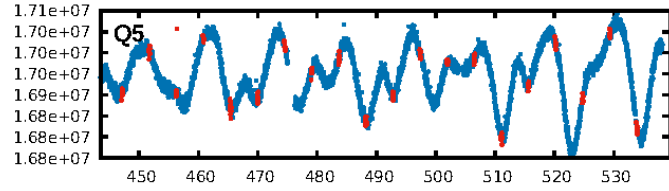
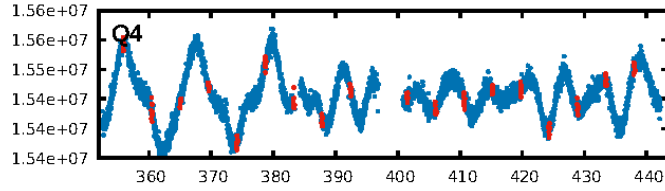
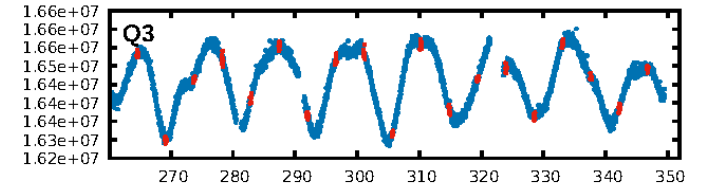
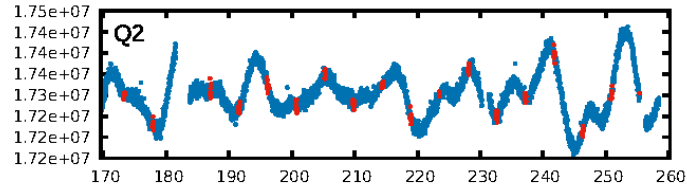
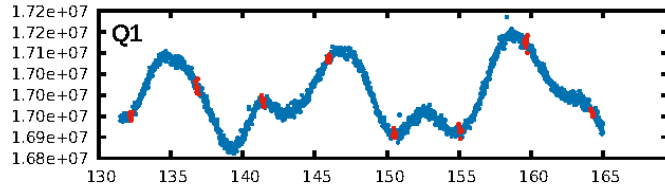
DV Fit Results:

Period = 4.56384 [0.00002] d
Epoch = 132.2590 [0.0033] BKJD
Rp/R* = 0.0159 [0.0065]
a/R* = 5.95 [10.44]
b = 0.91 [0.34]
Seff = 218.74 [58.18]
Teq = 981 [65] K
Rp = 1.49 [0.67] Re
a = 0.0510 [0.0084] AU
Ag = 39.14 [34.77] [1.10 σ]
Teffp = 3792 [819] K [3.42 σ]

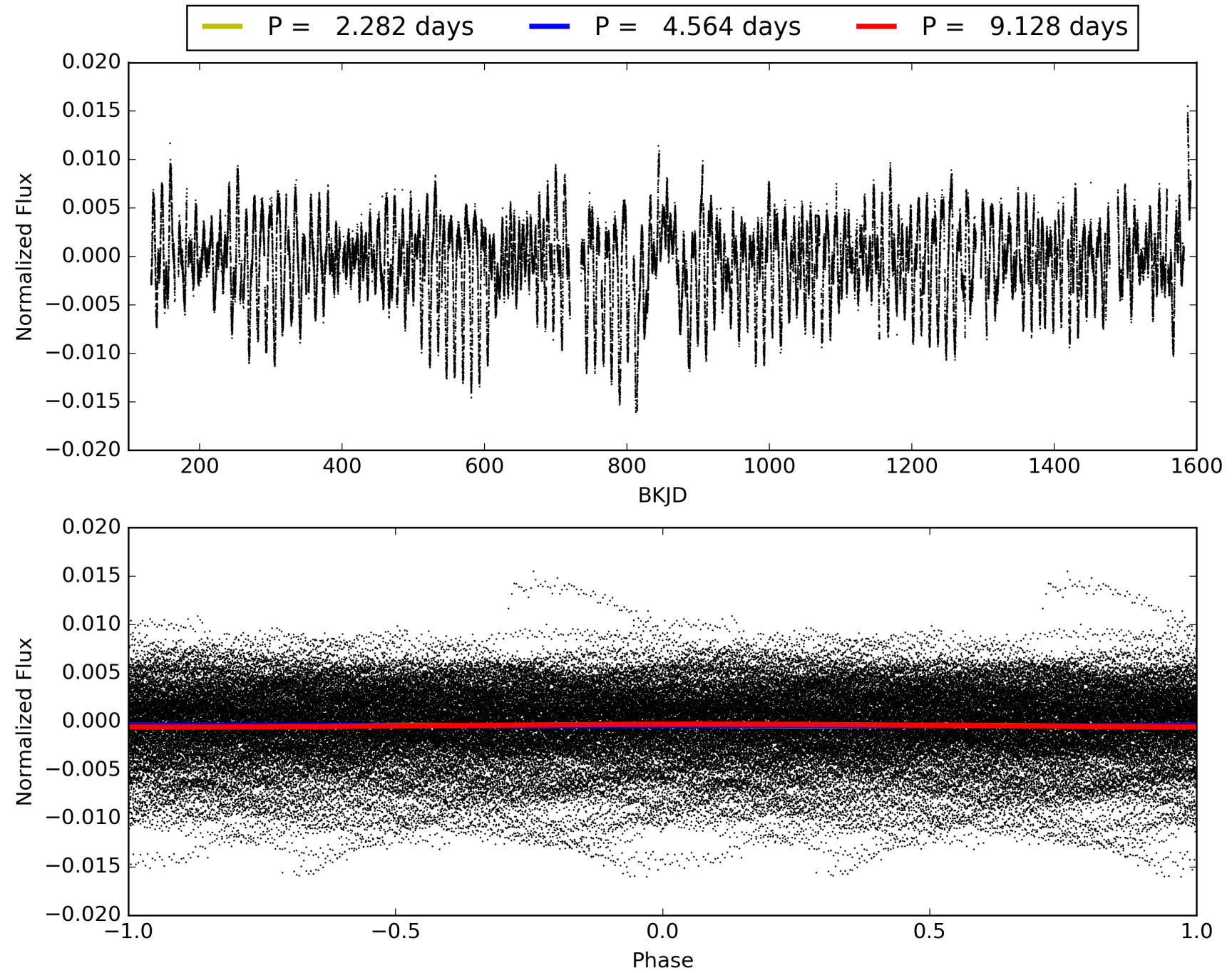
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.78e-27
RollingBand-fgt: 1.00 [274/274]
GhostDiagnostic-chr: -6.072
Centroid-sig: 25.6%
Centroid-so: 1.120 arcsec [1.11 σ]
OotOffset-rm: 0.453 arcsec [0.83 σ]
KicOffset-rm: 0.406 arcsec [1.06 σ]
OotOffset-st: 4/2/2/5 [13]
KicOffset-st: 4/2/2/5 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007427764-01, PDC Light Curves

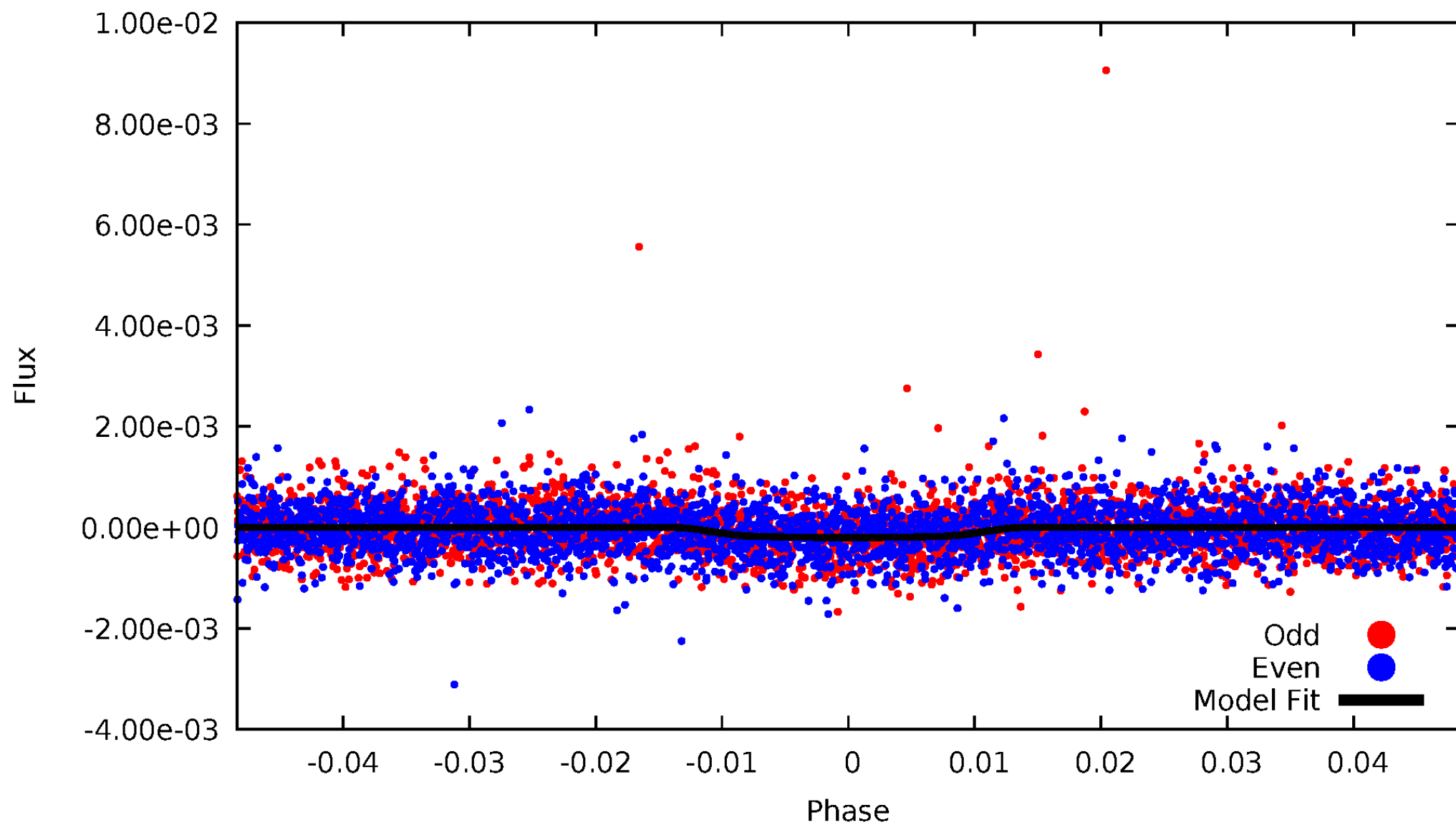


TCE 007427764-01



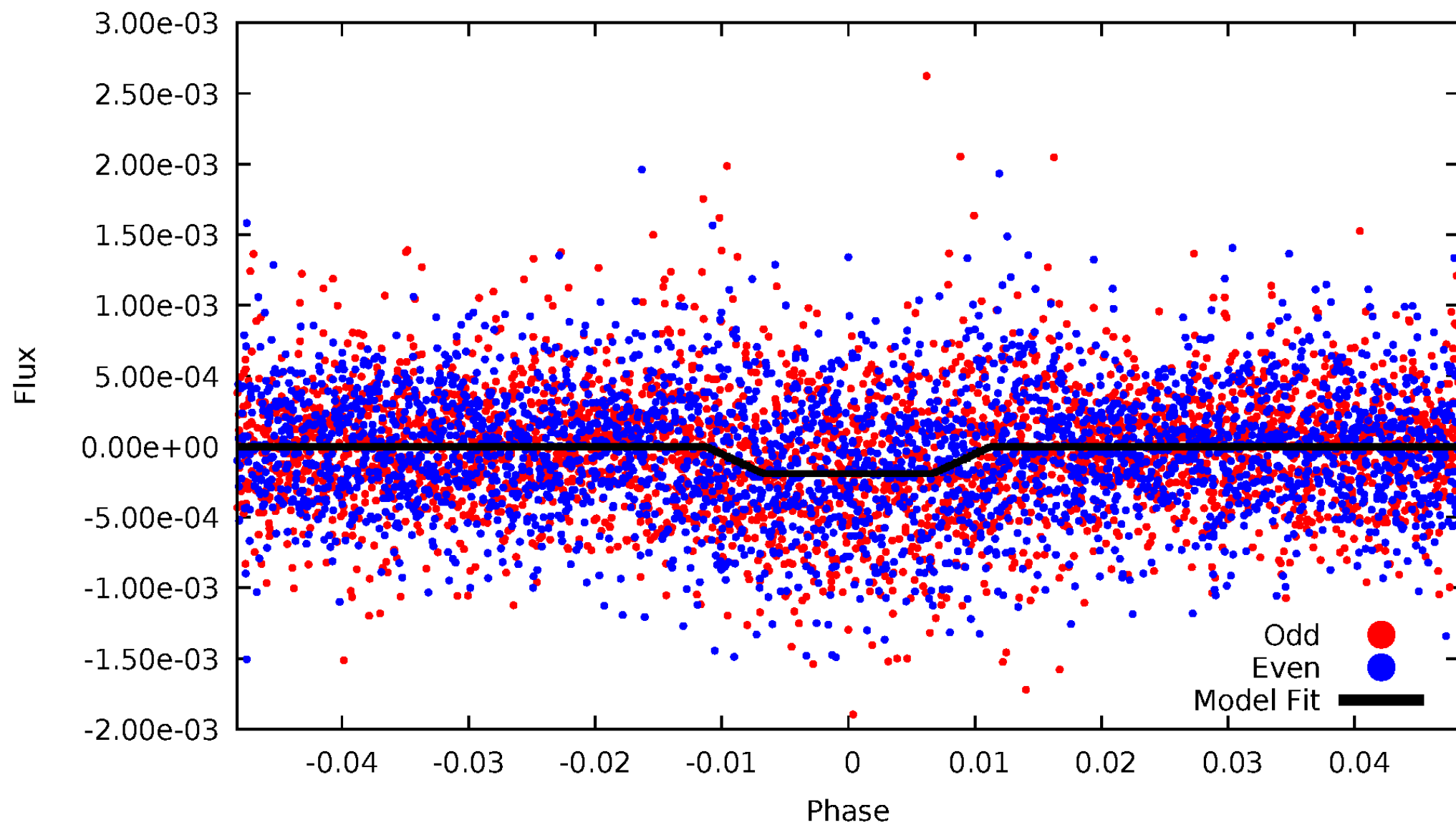
DV Odd/Even

TCE 007427764-01

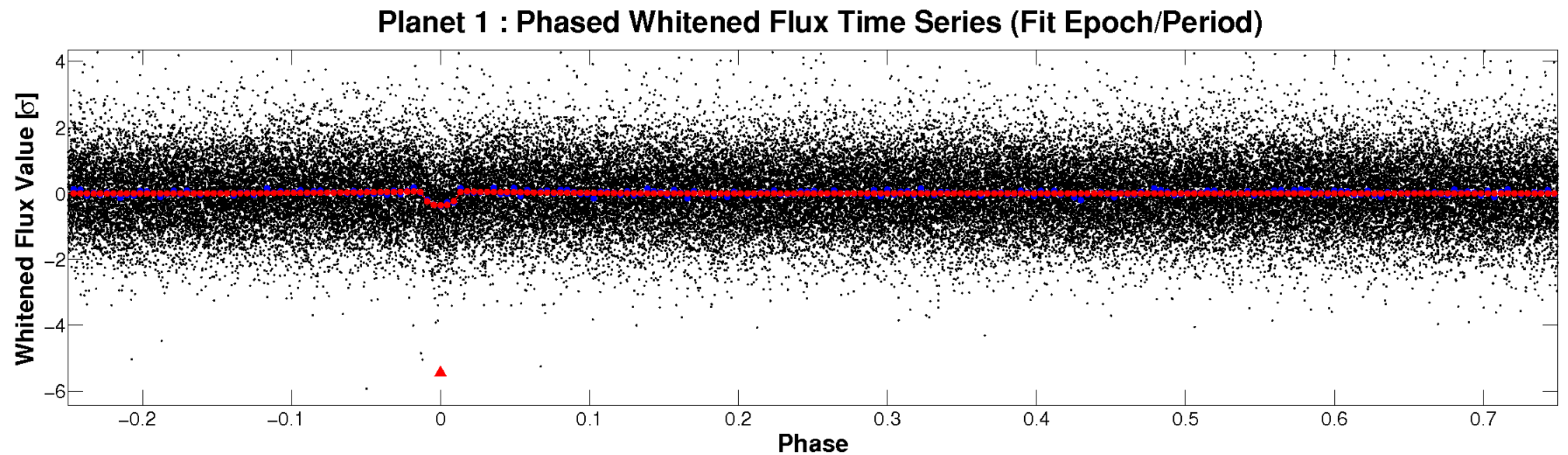
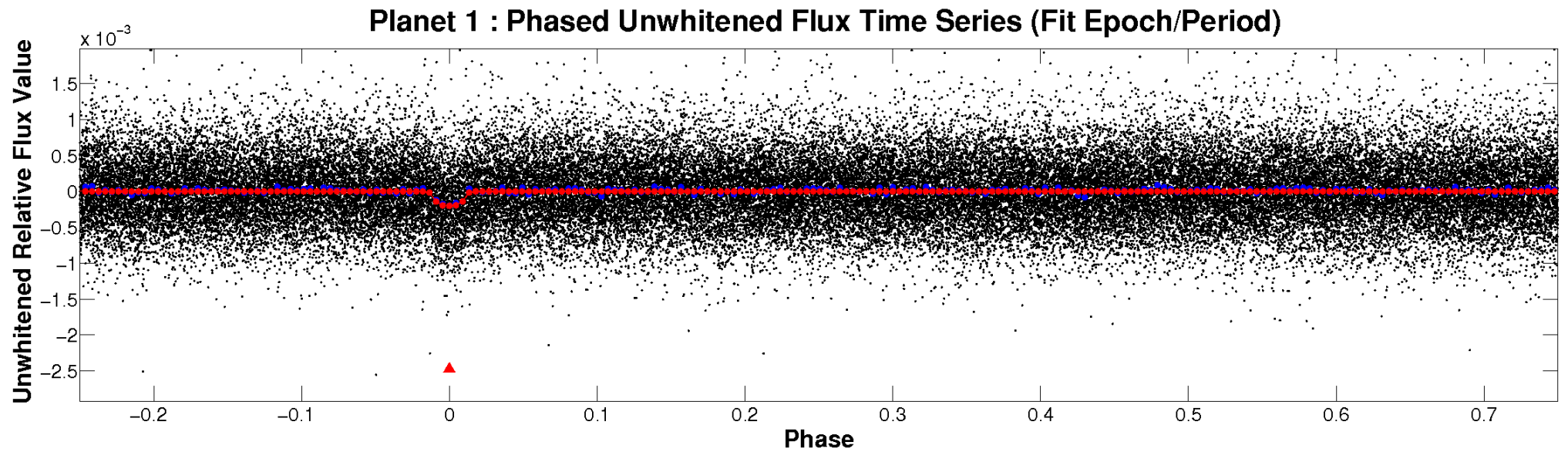


ALT Odd/Even

TCE 007427764-01

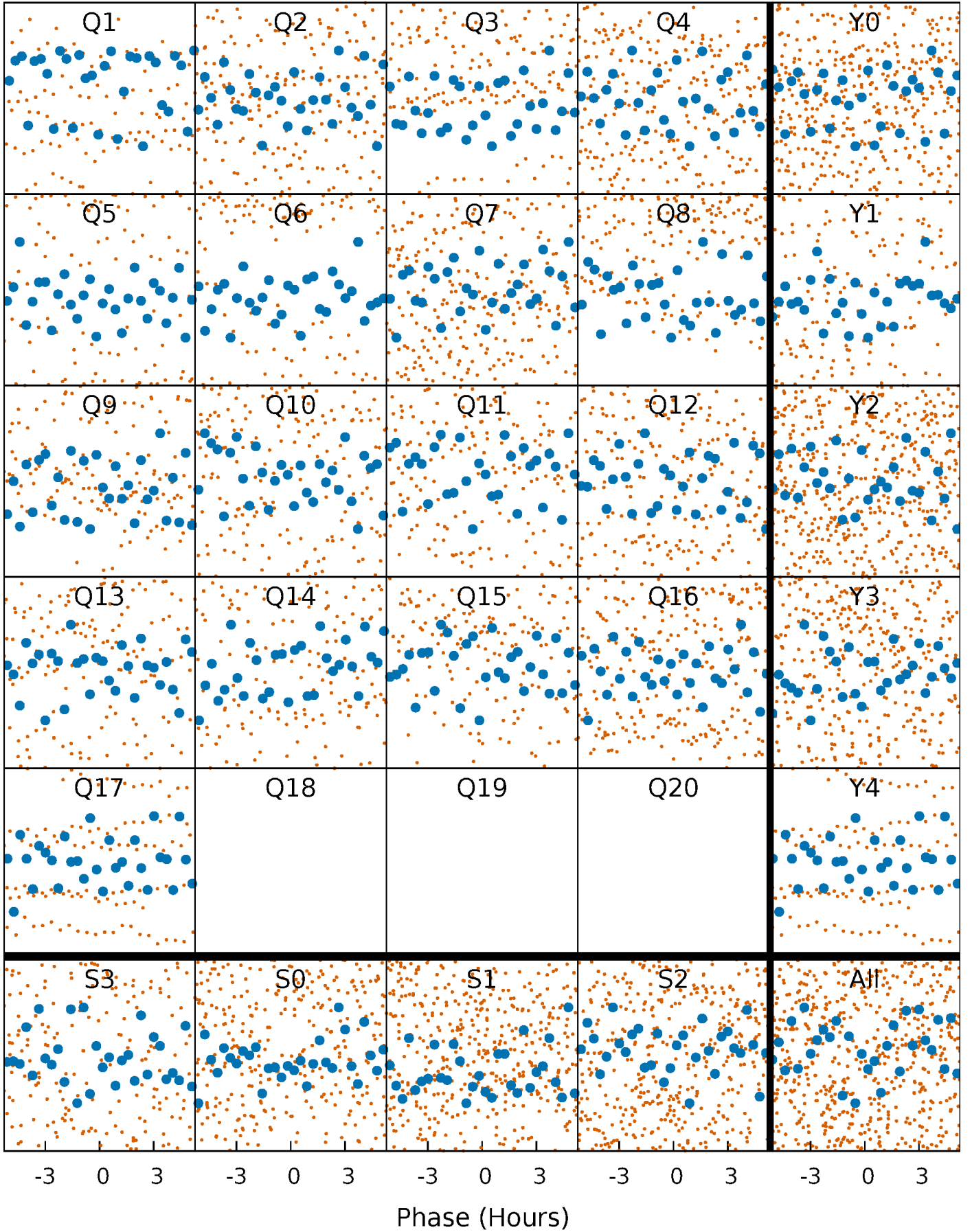


Non-Whitened Vs. Whitened Light Curve



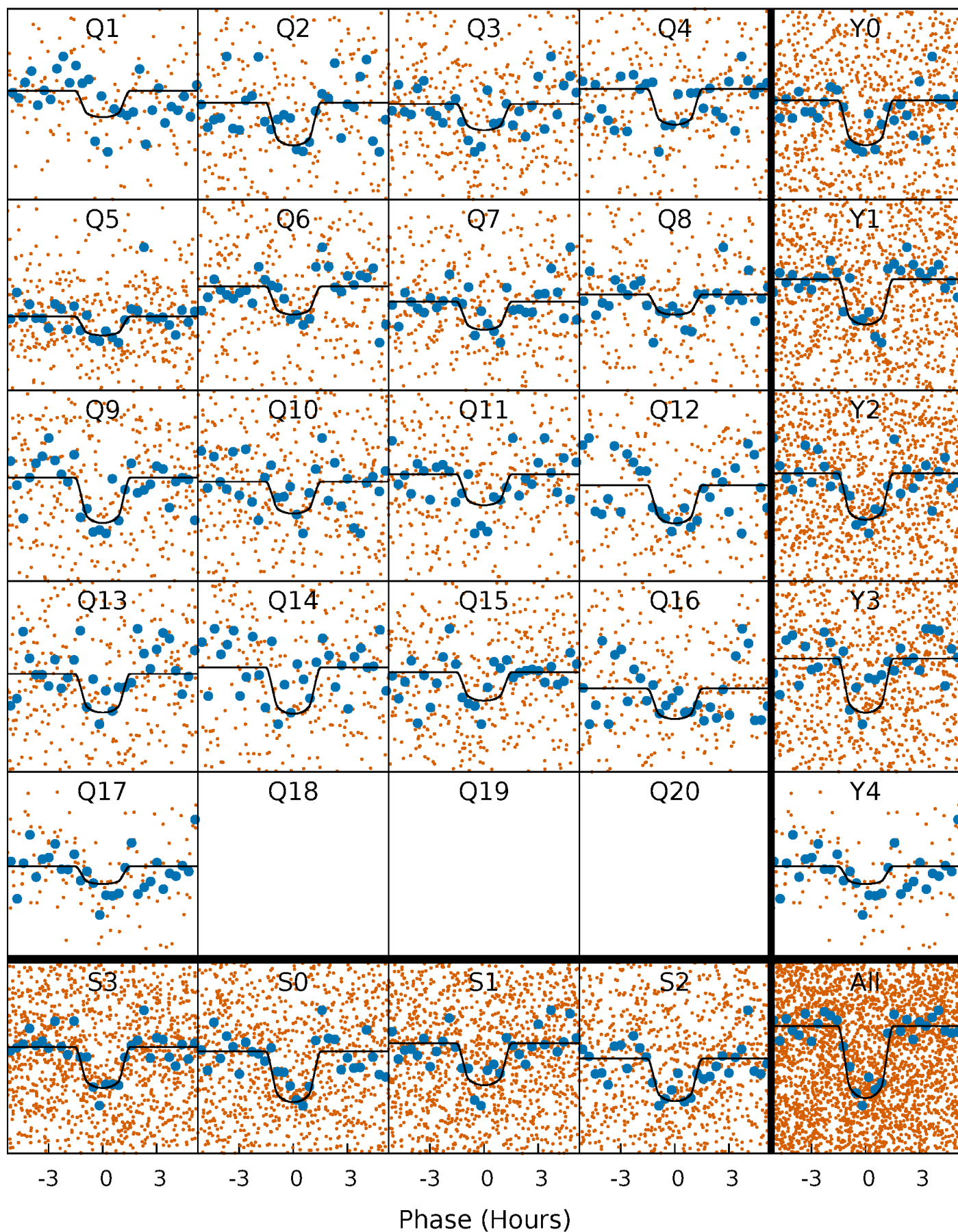
PDC Quarter-Phased Transit Curves

TCE 007427764-01 P= 4.563838 Days $T_0=132.258989$ (BKJD)



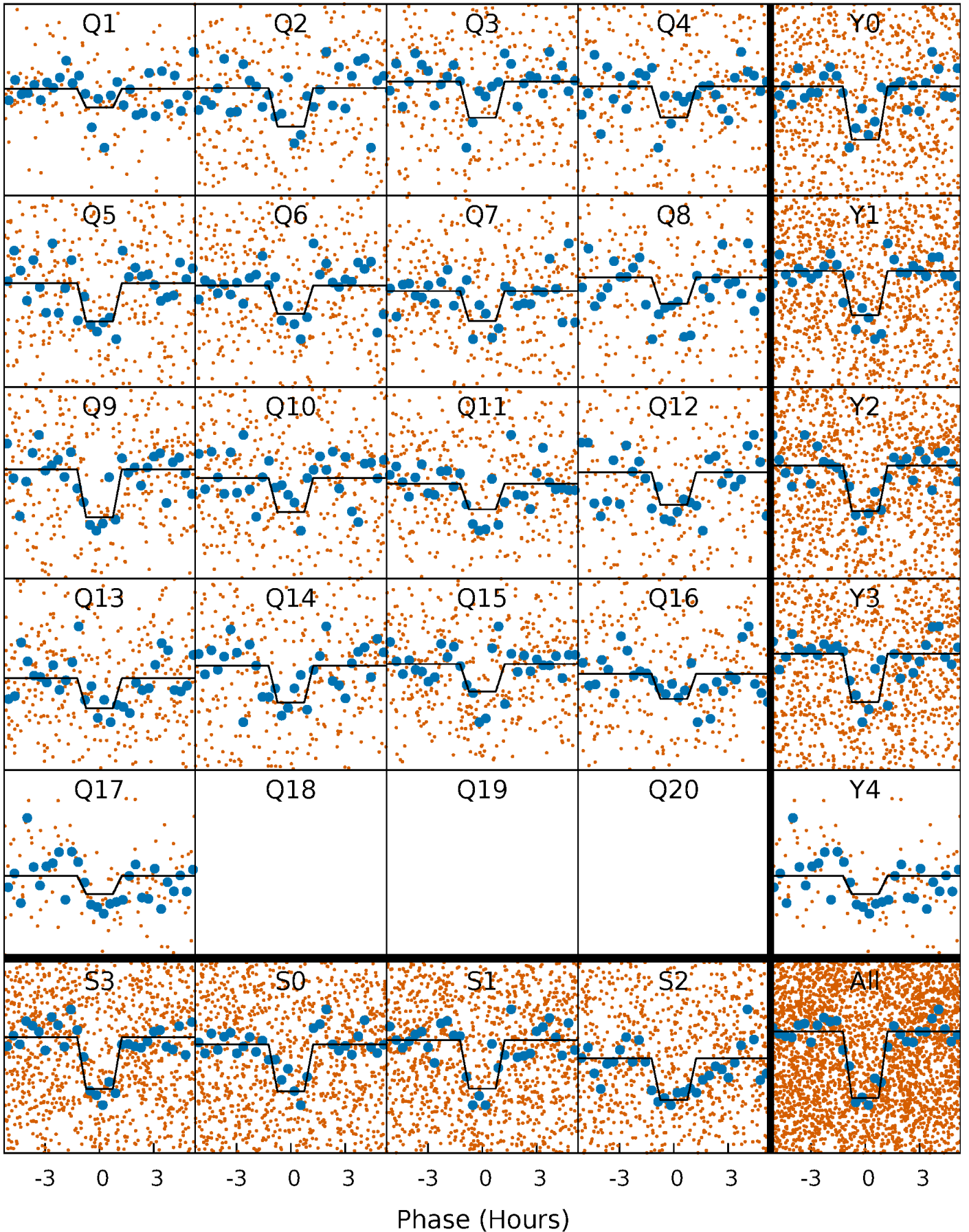
DV Quarter-Phased Transit Curves

TCE 007427764-01 P= 4.563838 Days $T_0=132.258989$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

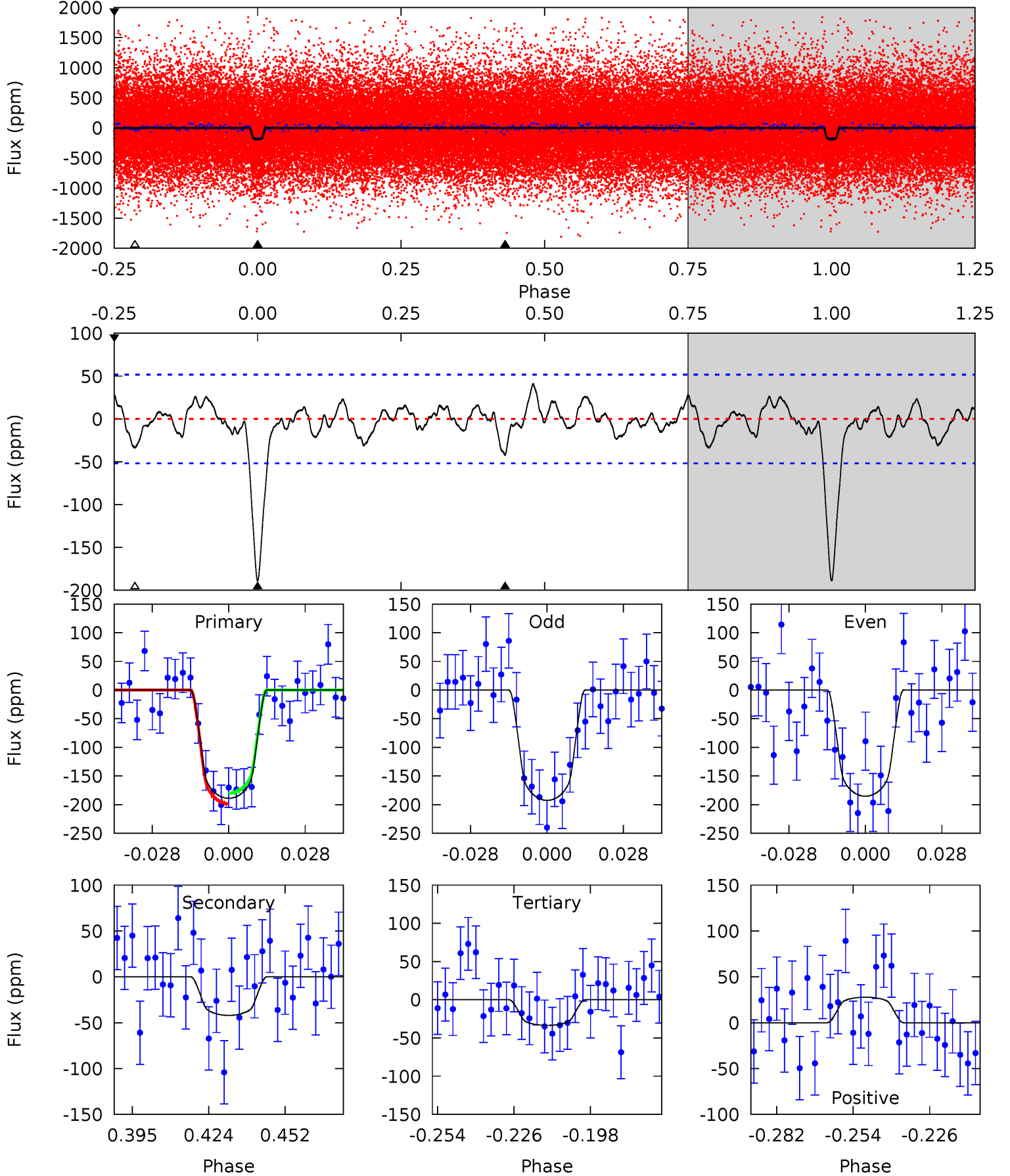
TCE 007427764-01 P= 4.563785 Days $T_0=132.266436$ (BKJD)



DV Model-Shift Uniqueness Test

007427764-01, P = 4.563838 Days, E = 127.695151 Days

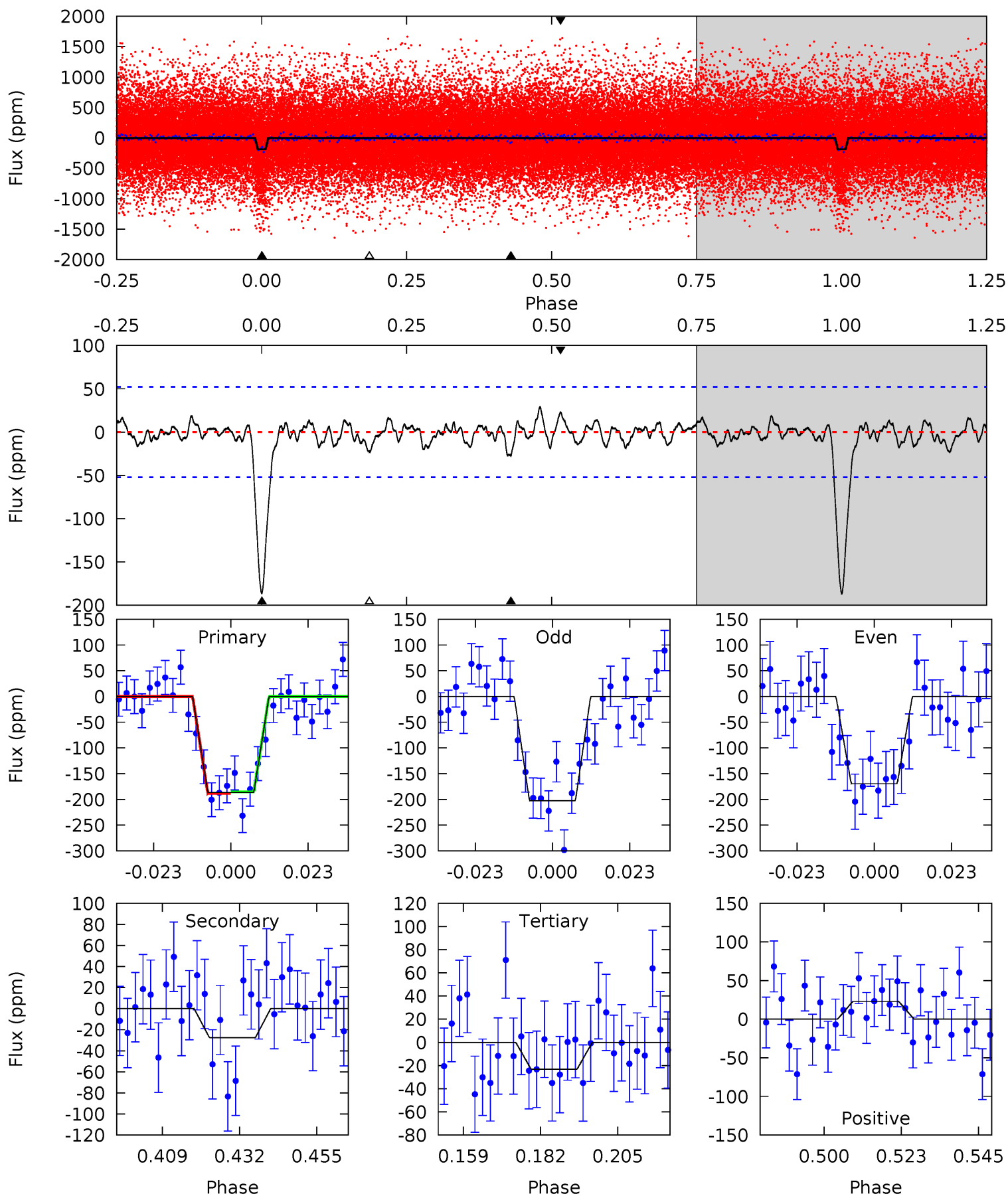
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	3.92	3.12	2.59	4.82	2.19	1.25	14.5	15.0	0.79	1.33	0.33	0.95	0.18	0.85



Alt Model-Shift Uniqueness Test

007427764-01, P = 4.563785 Days, E = 127.702651 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	2.57	2.16	2.14	4.87	2.28	0.82	15.2	15.2	0.41	0.43	1.53	1.07	0.14	0.13



Stellar Parameters For KIC 007427764

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5408^{+160}_{-160}	$4.496^{+0.070}_{-0.130}$	$-0.060^{+0.300}_{-0.300}$	$0.861^{+0.168}_{-0.090}$	$0.848^{+0.097}_{-0.073}$	$1.872^{+0.659}_{-0.724}$
	+3%/-3%	+2%/-3%	+500%/-500%	+20%/-10%	+11%/-9%	+35%/-39%
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 007427764-01 / KOI 4364.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-42 ± 11	$1.52^{+0.61}_{-0.58}$	1381^{+70}_{-60}	3798^{+803}_{-432}	26^{+44}_{-14}
Alt.	-28 ± 11	$1.37^{+0.62}_{-0.61}$	1385^{+74}_{-61}	3688^{+843}_{-508}	20^{+47}_{-12}

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 $A_{obs} \gg 1.0$

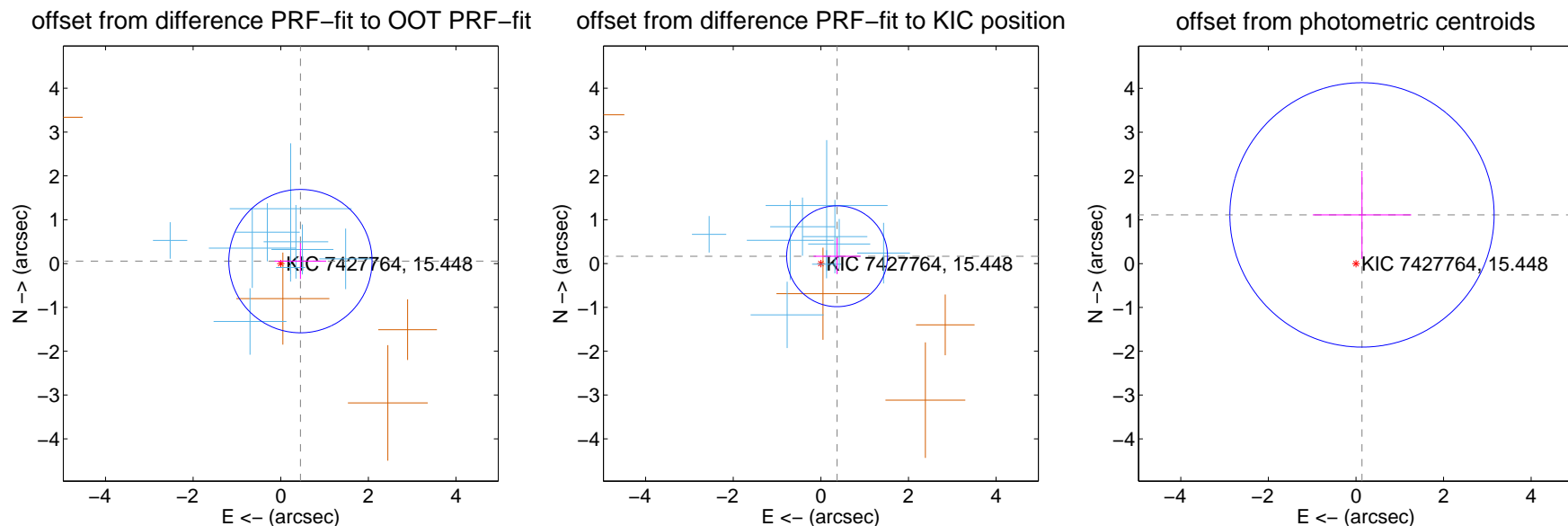
DV Centroid Data

Supplemental centroid analysis for 007427764-01. Kepler magnitude: 15.45. Transit SNR 11.91

There are 9 quarters with good PRF difference image offsets

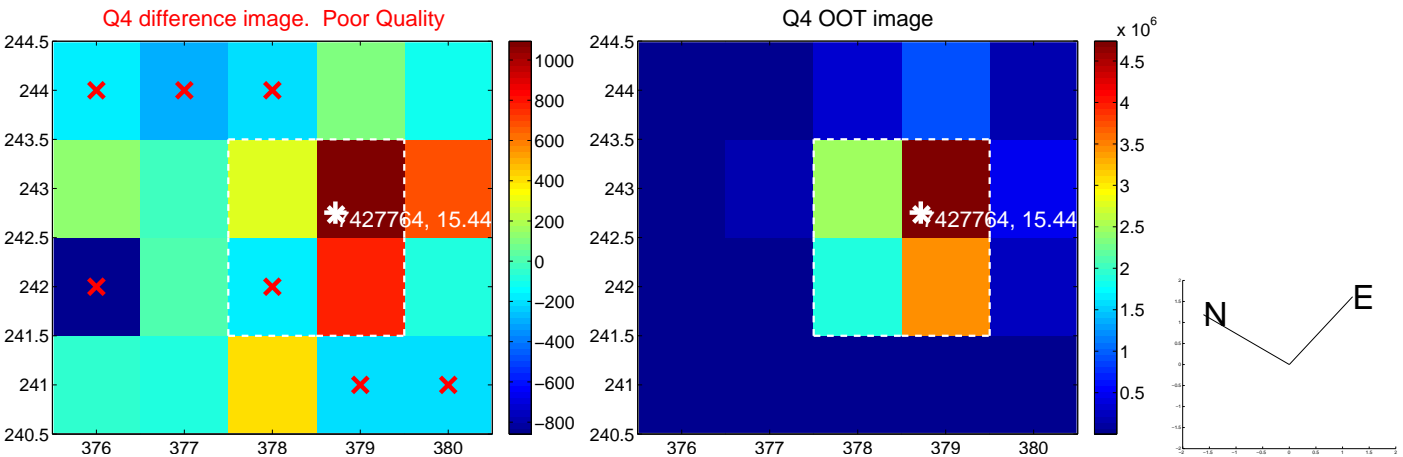
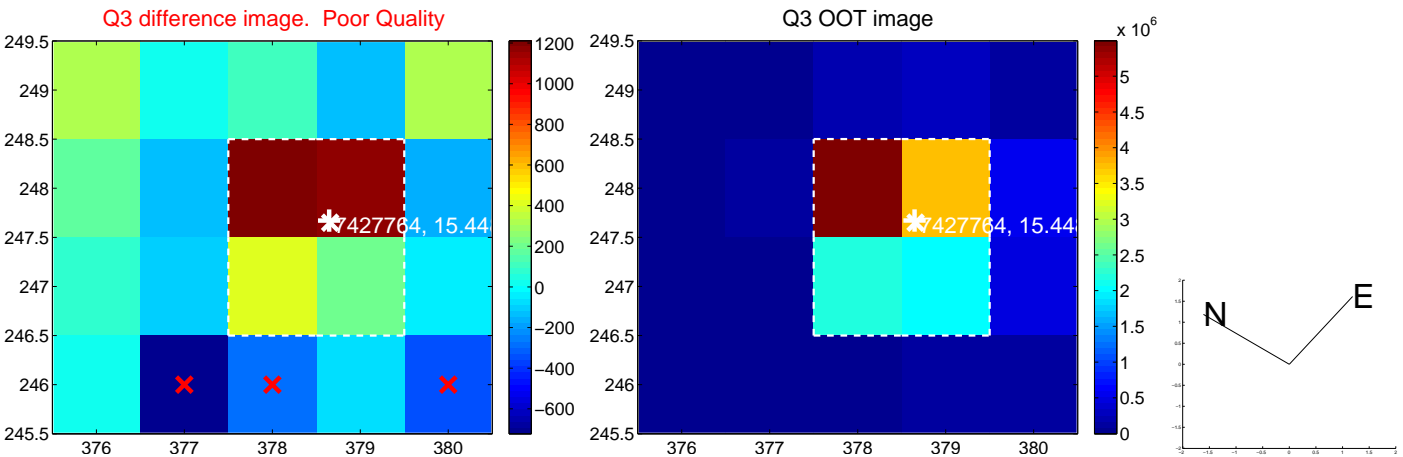
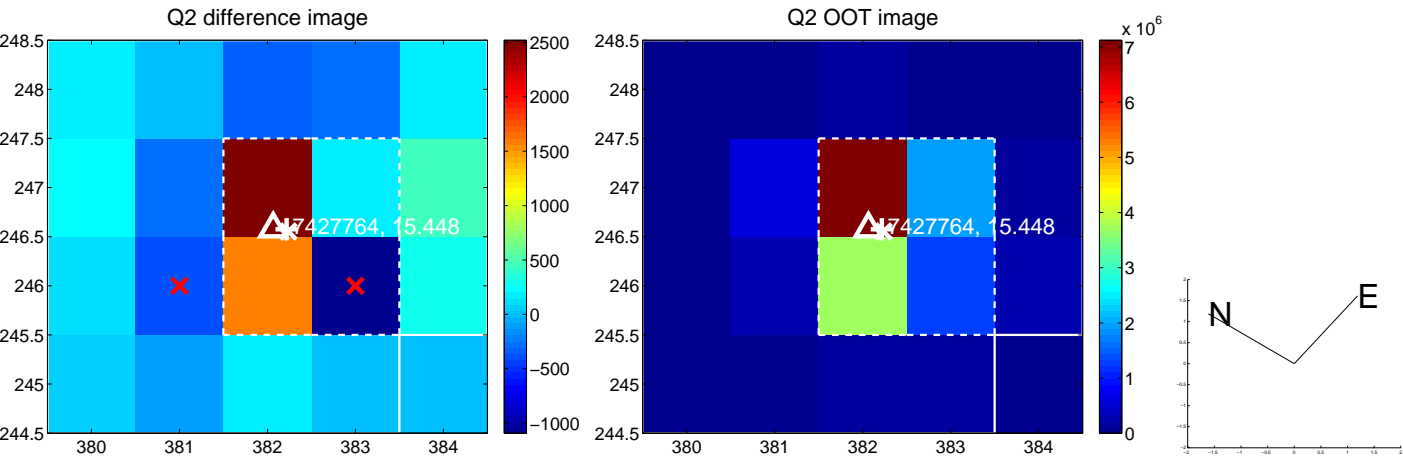
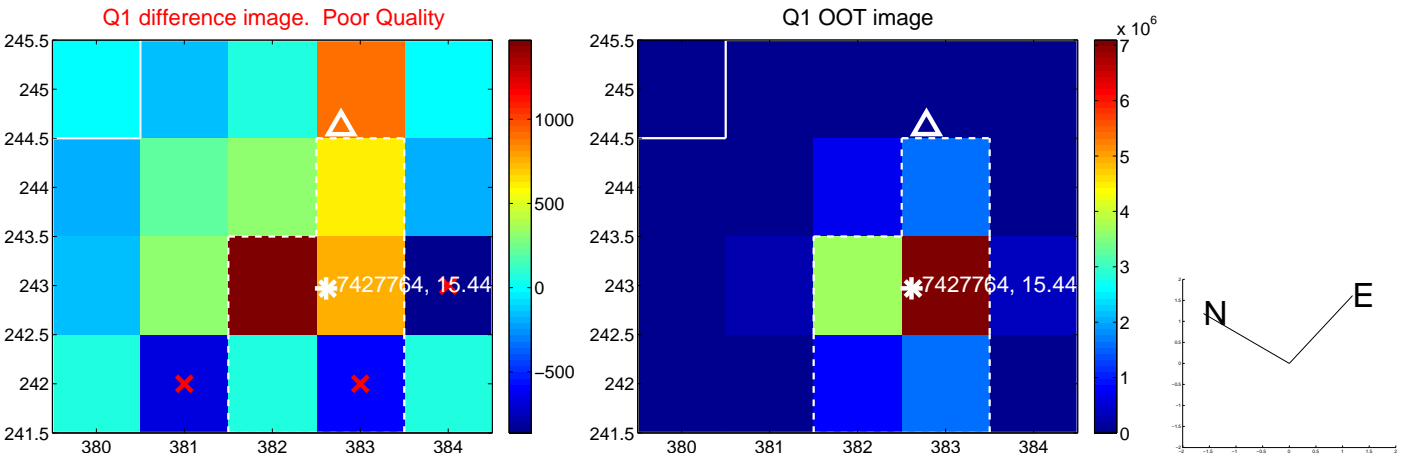
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.453 ± 0.545	0.83	-0.449 ± 0.588	0.055 ± 0.408
PRF-fit source offset from KIC position	0.406 ± 0.384	1.06	-0.370 ± 0.536	0.167 ± 0.407
photometric centroid source offset	1.12 ± 1.01	1.11	-0.14 ± 1.13	1.11 ± 1.00

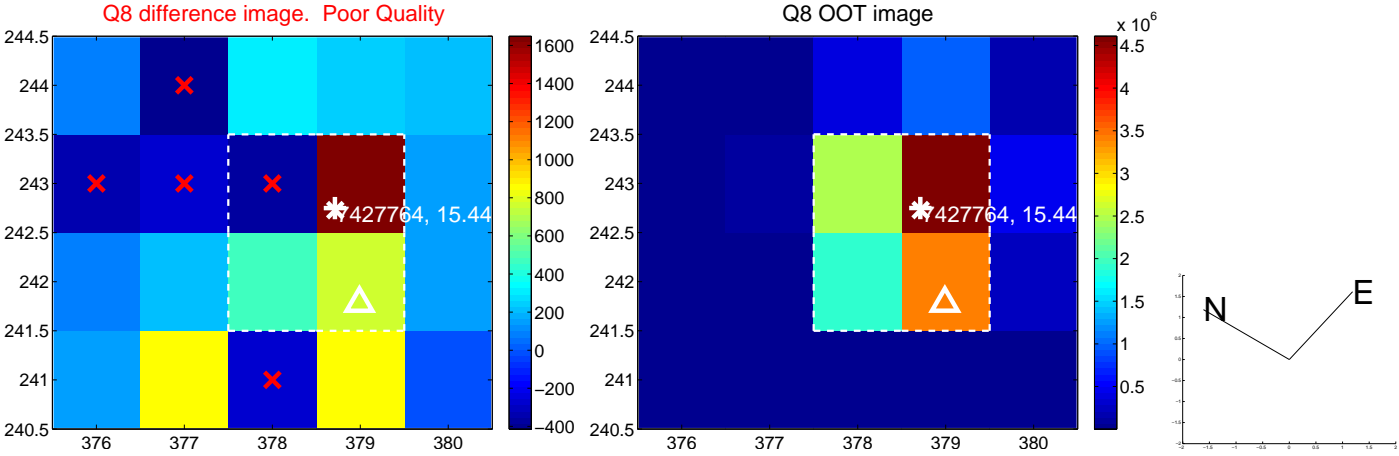
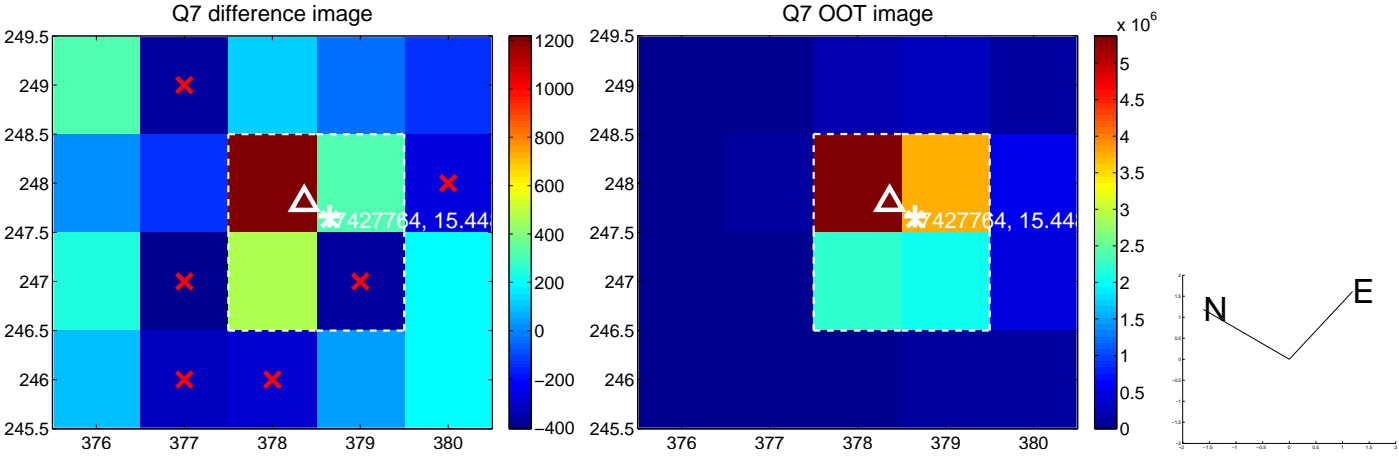
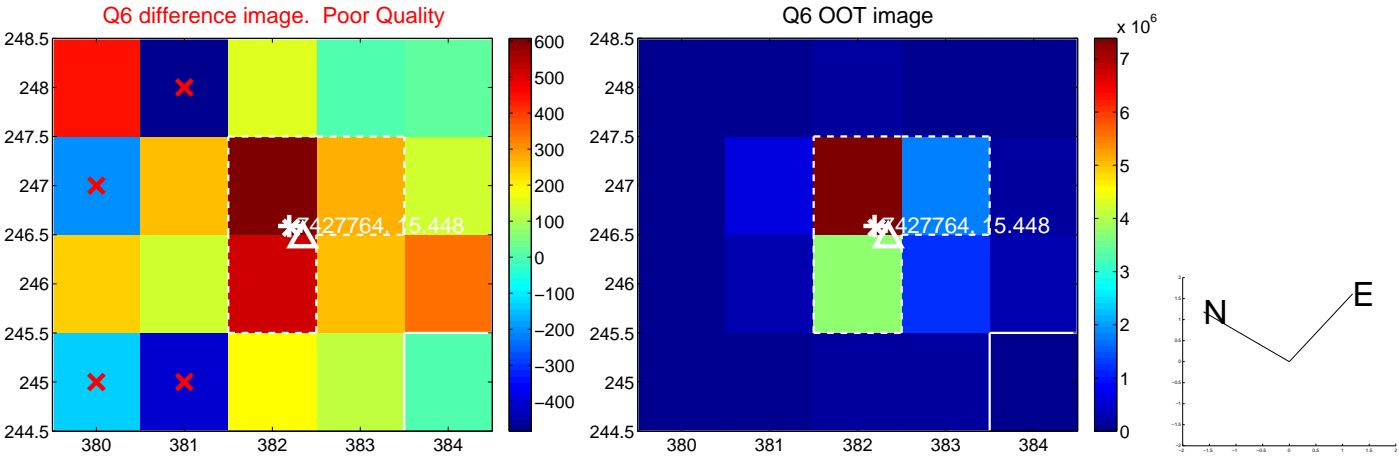
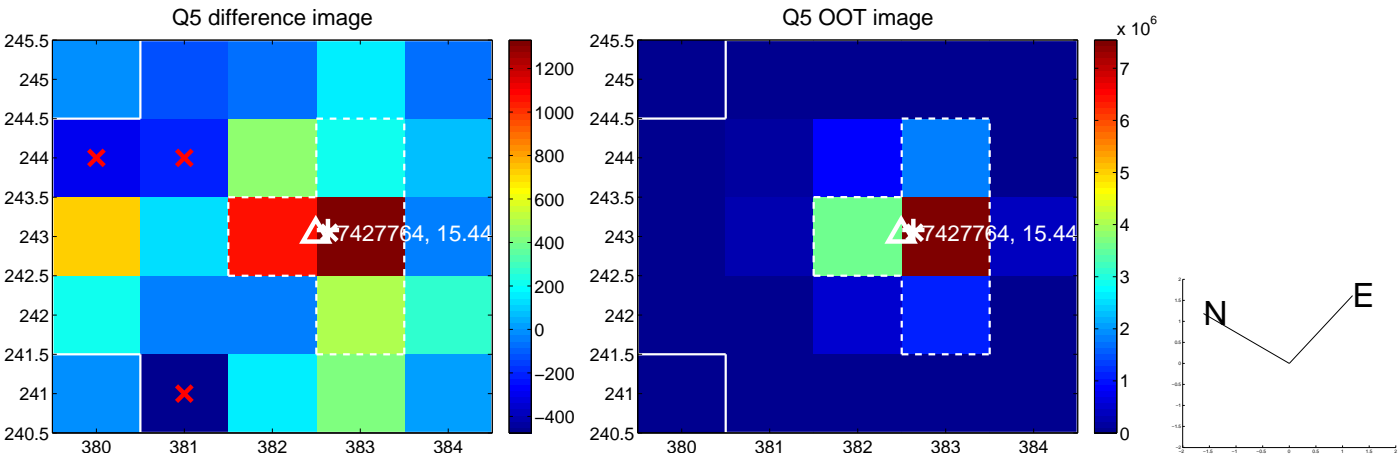


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

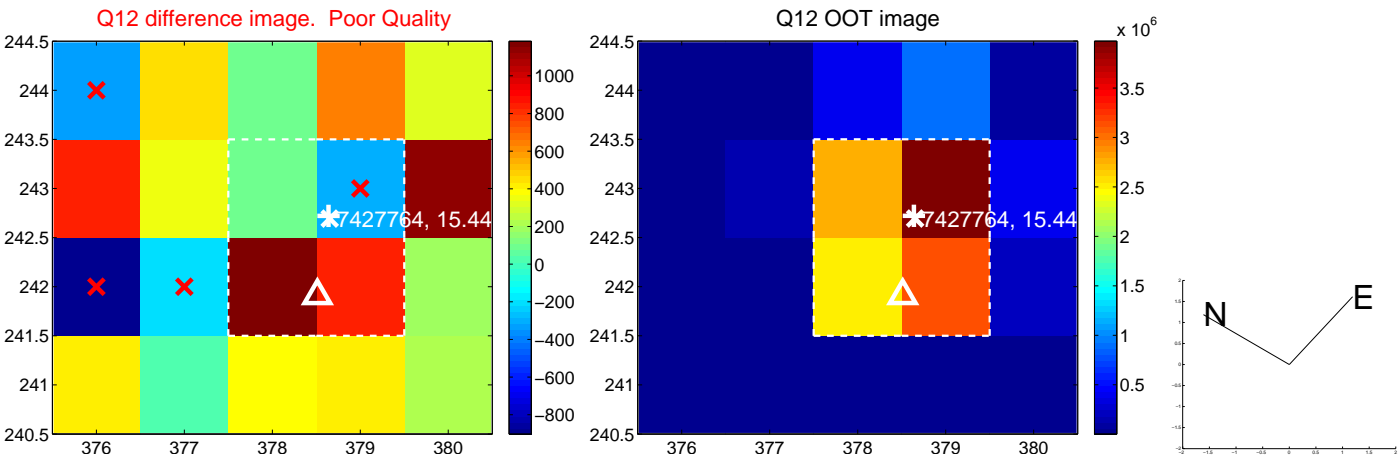
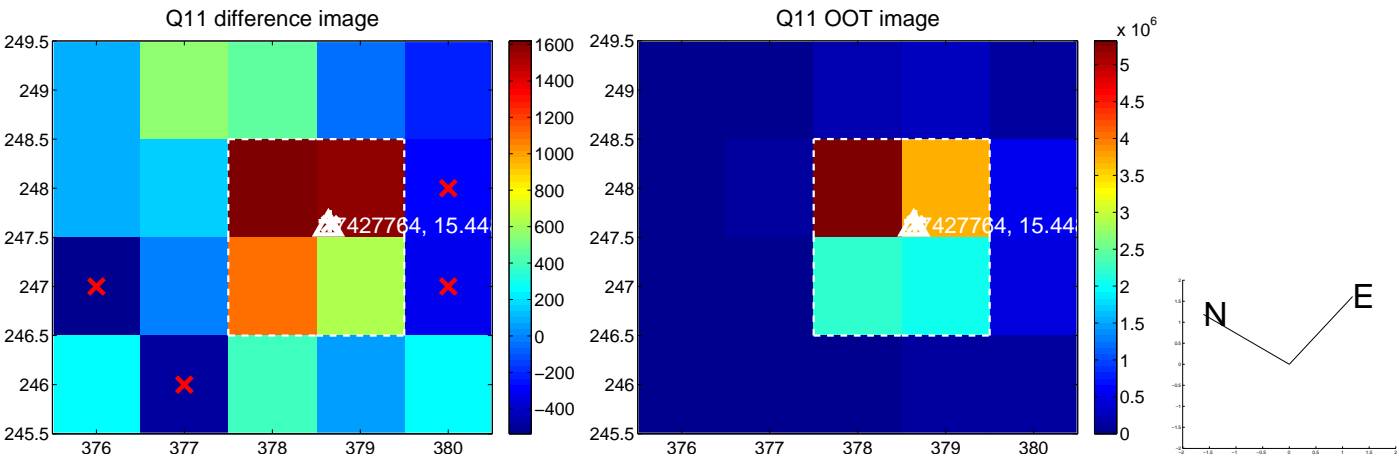
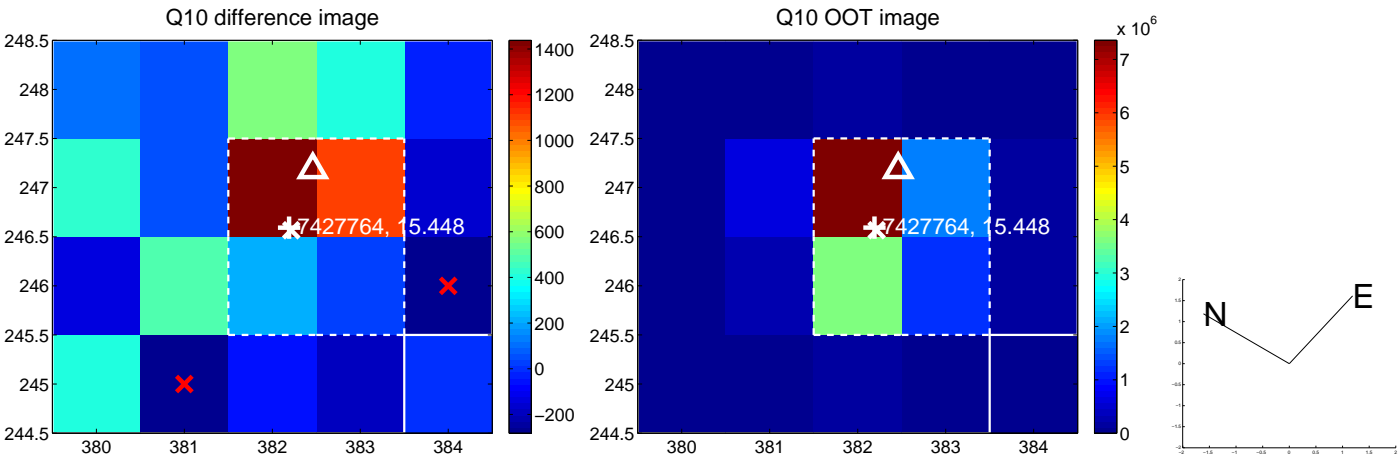
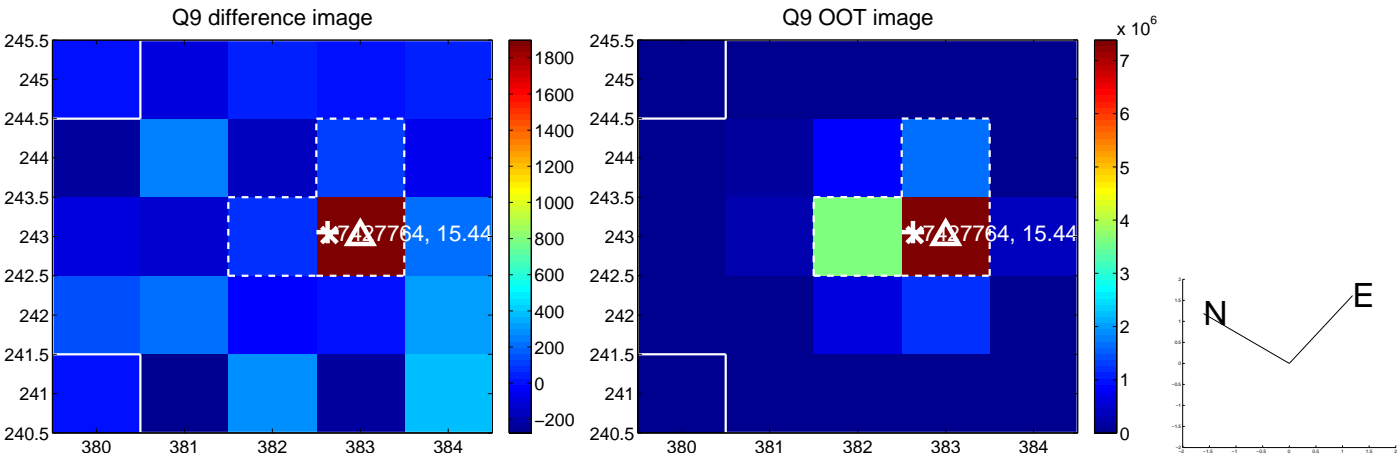
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



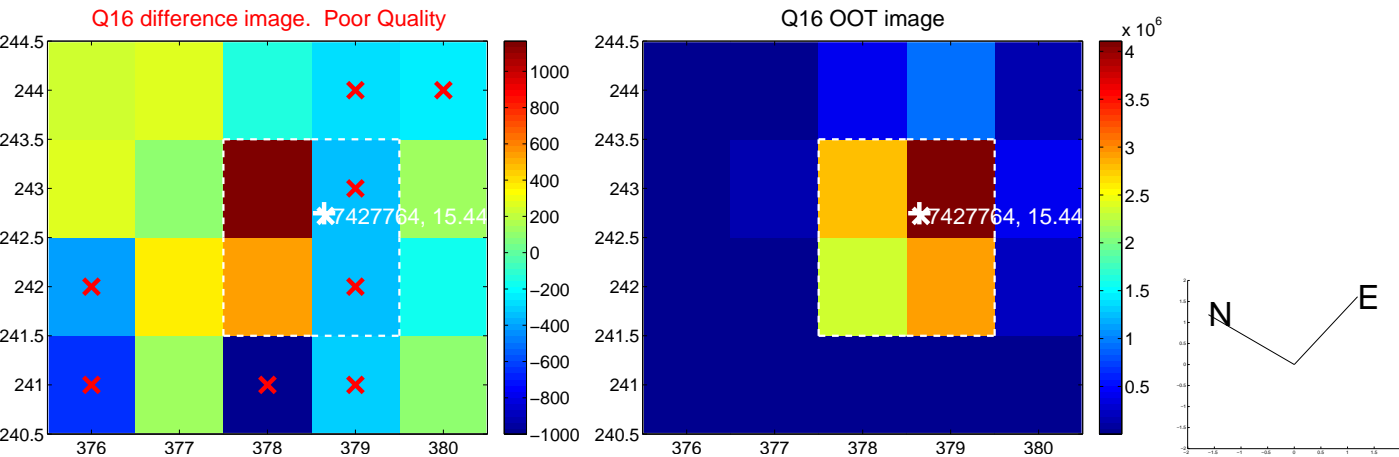
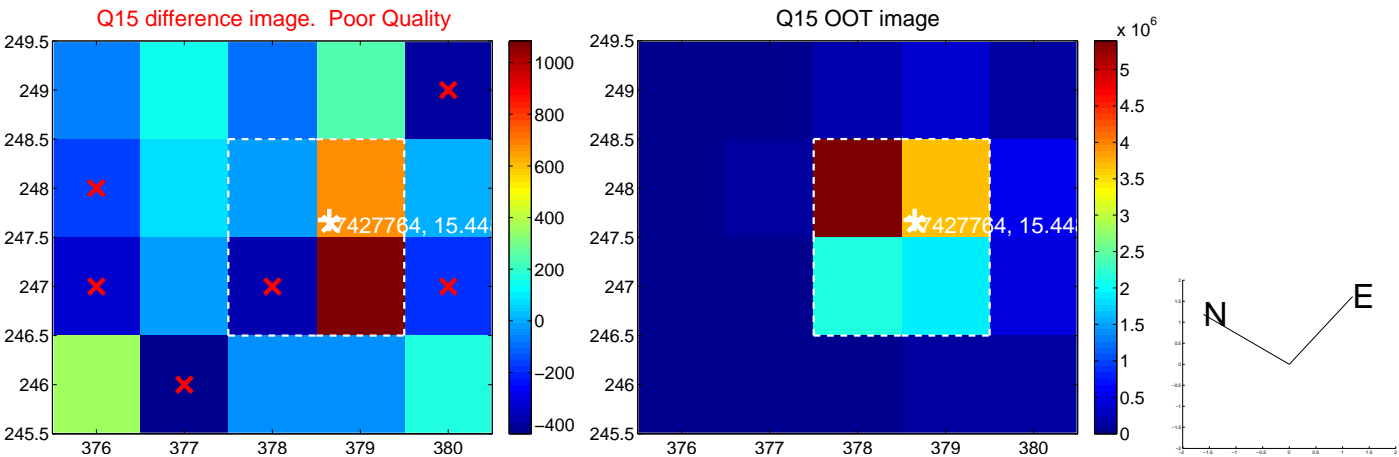
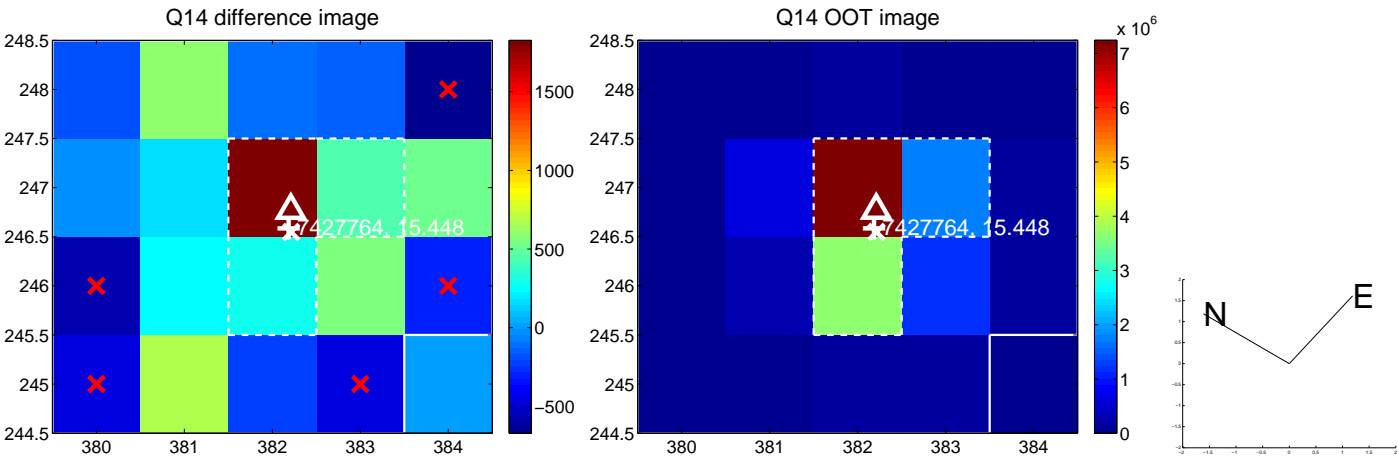
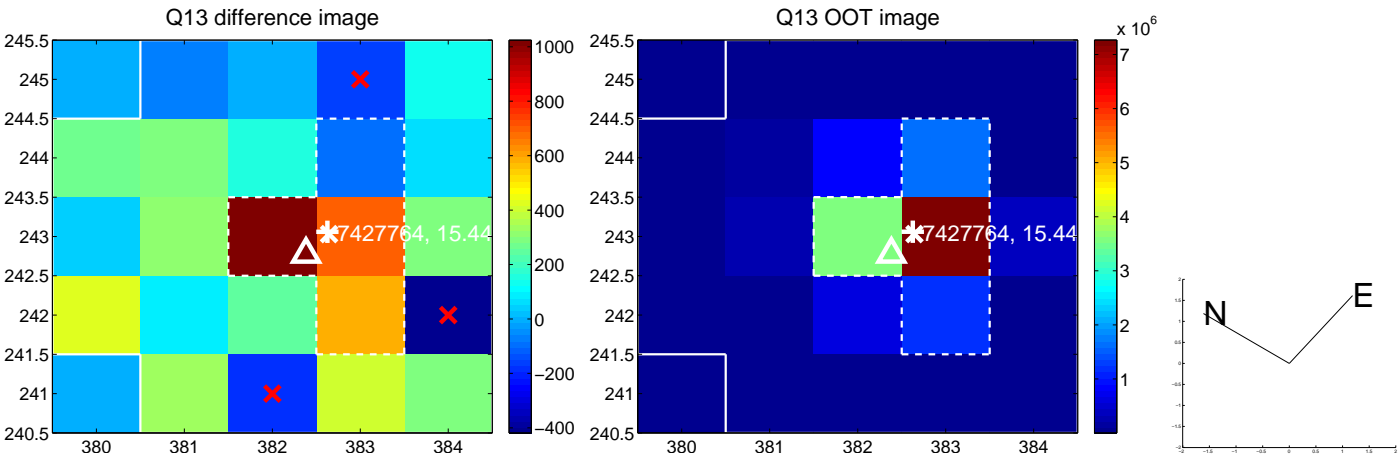
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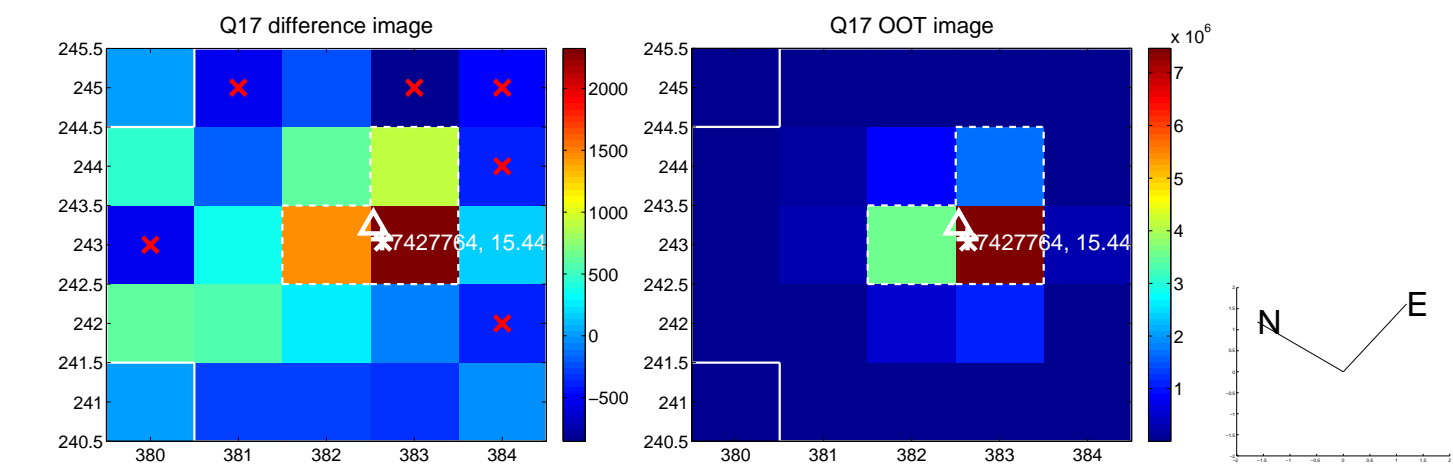
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



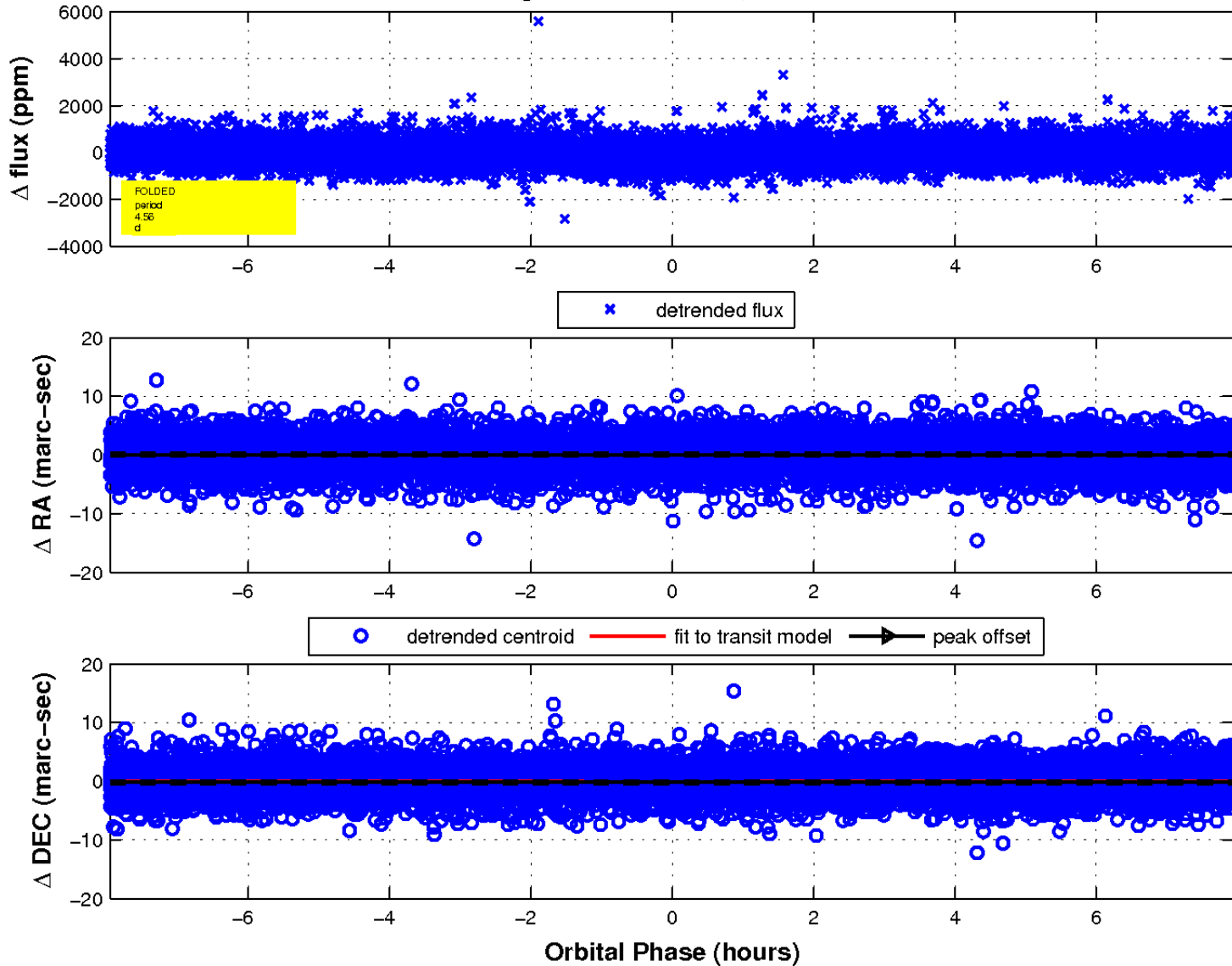
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

