

KIC 002861126

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})
002861126-01	OBS	4957.02	4.987845	133.667306	317.4	1.622	8.7	9.5	0.40	3606	0.70	13.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002861126-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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

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

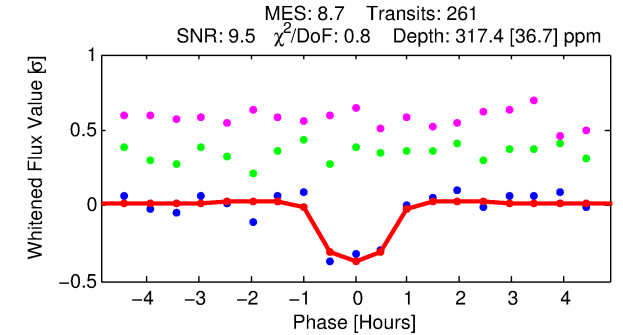
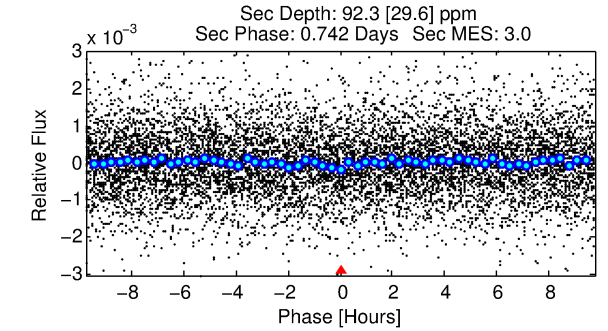
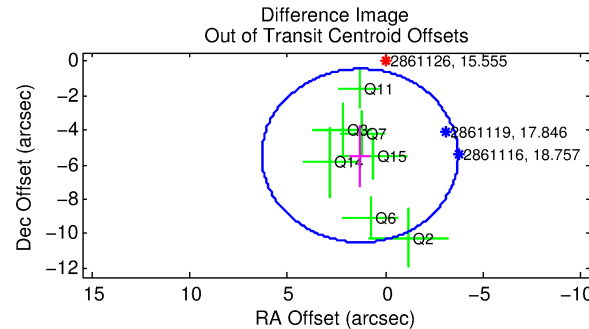
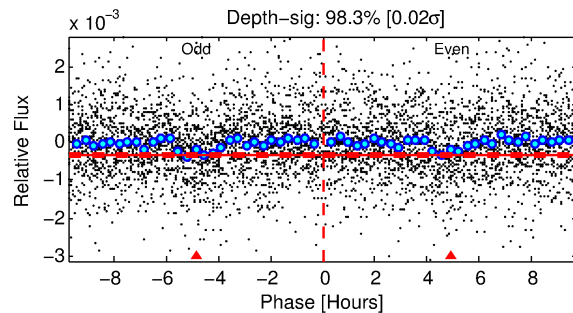
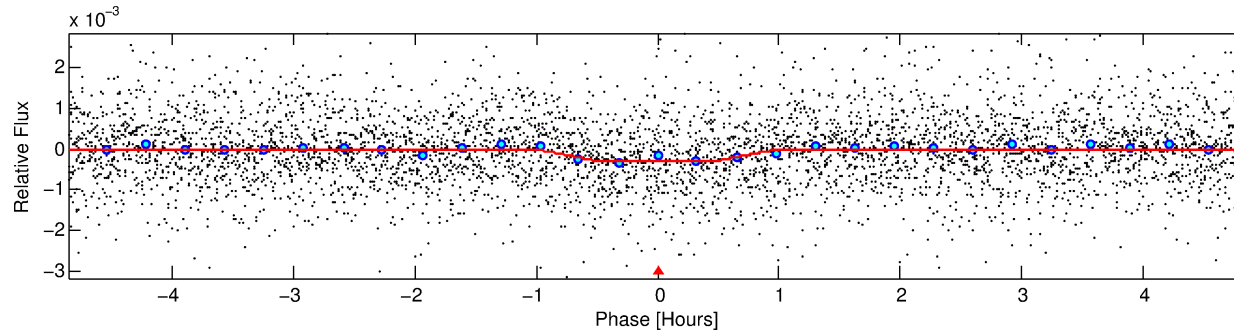
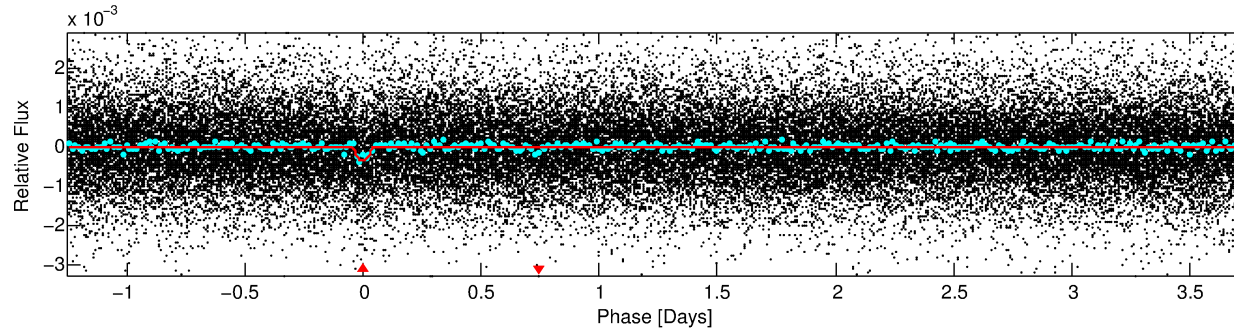
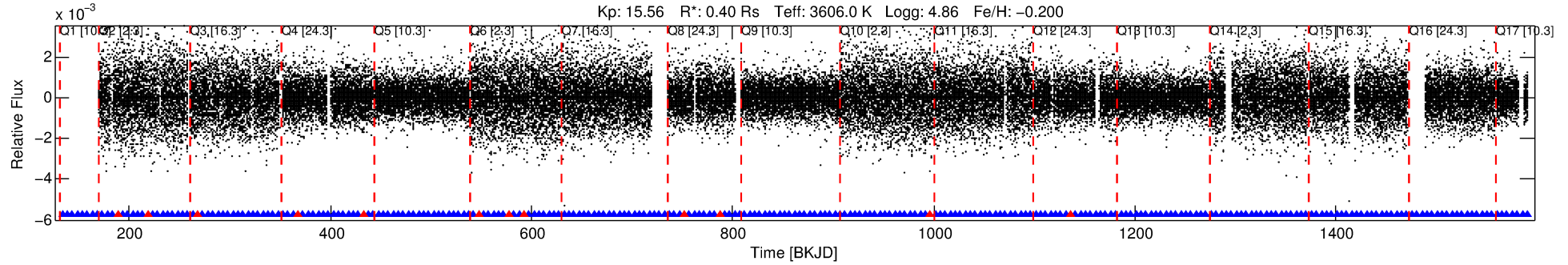
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002861126-01

No Significant Match Found

DV One-Page Summary

KIC: 2861126 Candidate: 1 of 1 Period: 4.988 d
KOI: K04957.02 Corr: 0.917



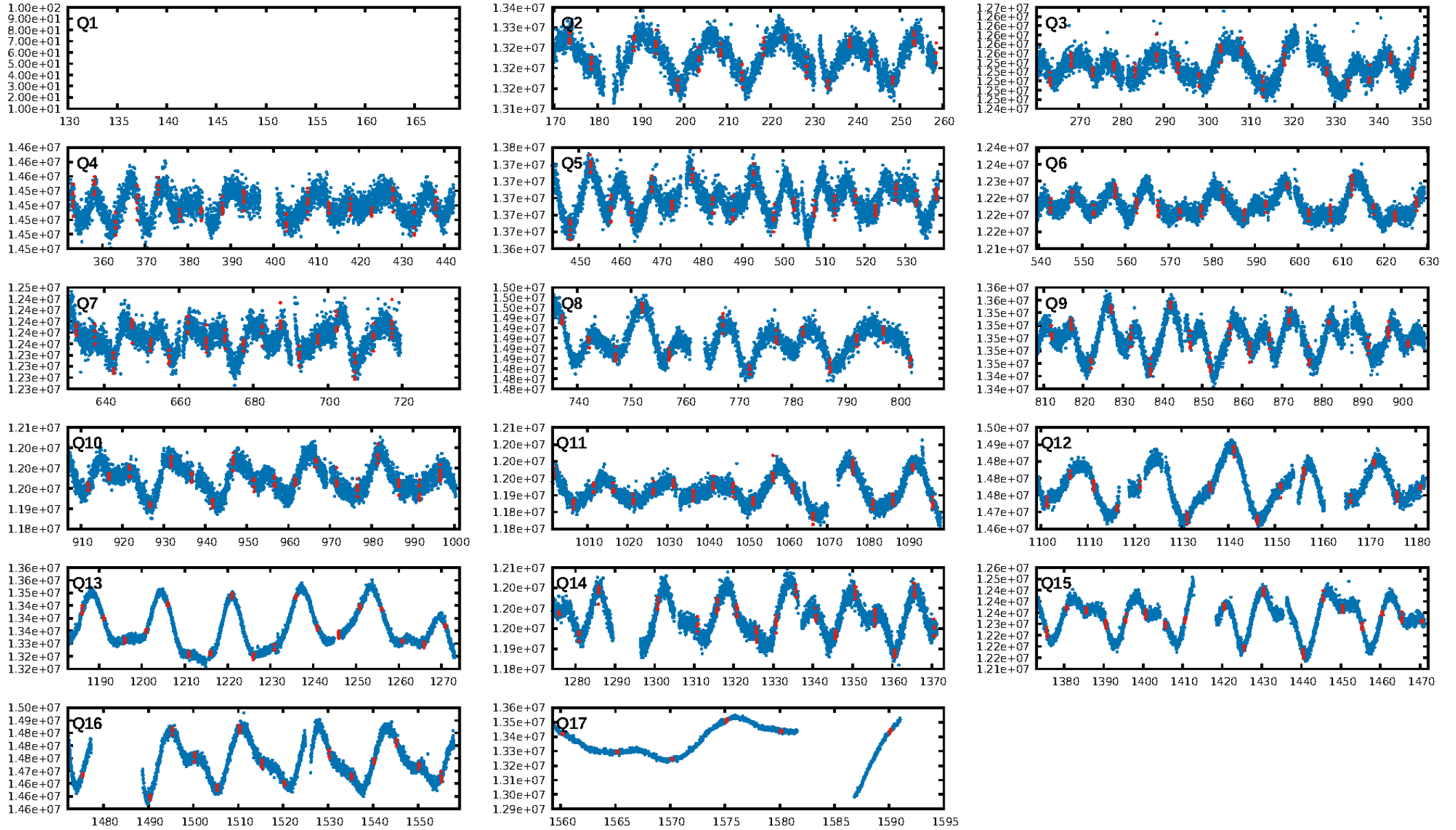
DV Fit Results:

Period = 4.98785 [0.00003] d
Epoch = 133.6673 [0.0036] BKJD
Rp/R* = 0.0162 [0.0258]
a/R* = 23.89 [176.47]
b = 0.01 [632.31]
Seff = 13.09 [1.69]
Teq = 485 [16] K
Rp = 0.70 [1.12] Re
a = 0.0425 [0.0035] AU
Ag = 187.15 [598.74] [0.31 σ]
Teffp = 2773 [2218] K [1.03 σ]

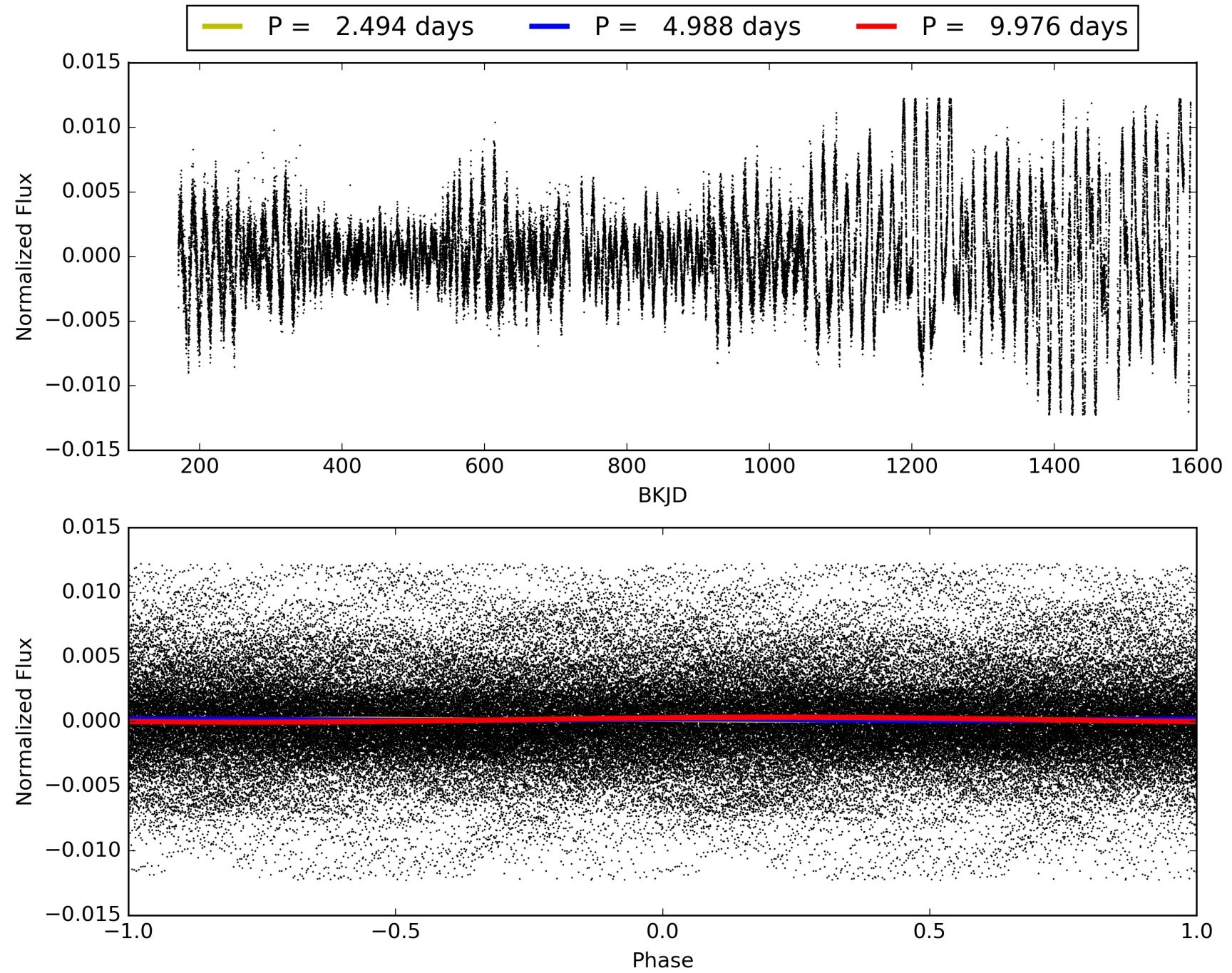
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.44e-18
RollingBand-fgt: 0.95 [243/255]
GhostDiagnostic-chr: 0.4846
Centroid-sig: 0.0%
Centroid-so: 0.687 arcsec [1.91 σ]
OotOffset-rm: 5.631 arcsec [3.37 σ]
KicOffset-rm: 0.392 arcsec [0.62 σ]
OotOffset-st: 3/4/0/0 [7]
KicOffset-st: 3/4/2/4 [13]
DiffImageQuality-fgm: 0.62 [8/13]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 002861126-01, PDC Light Curves

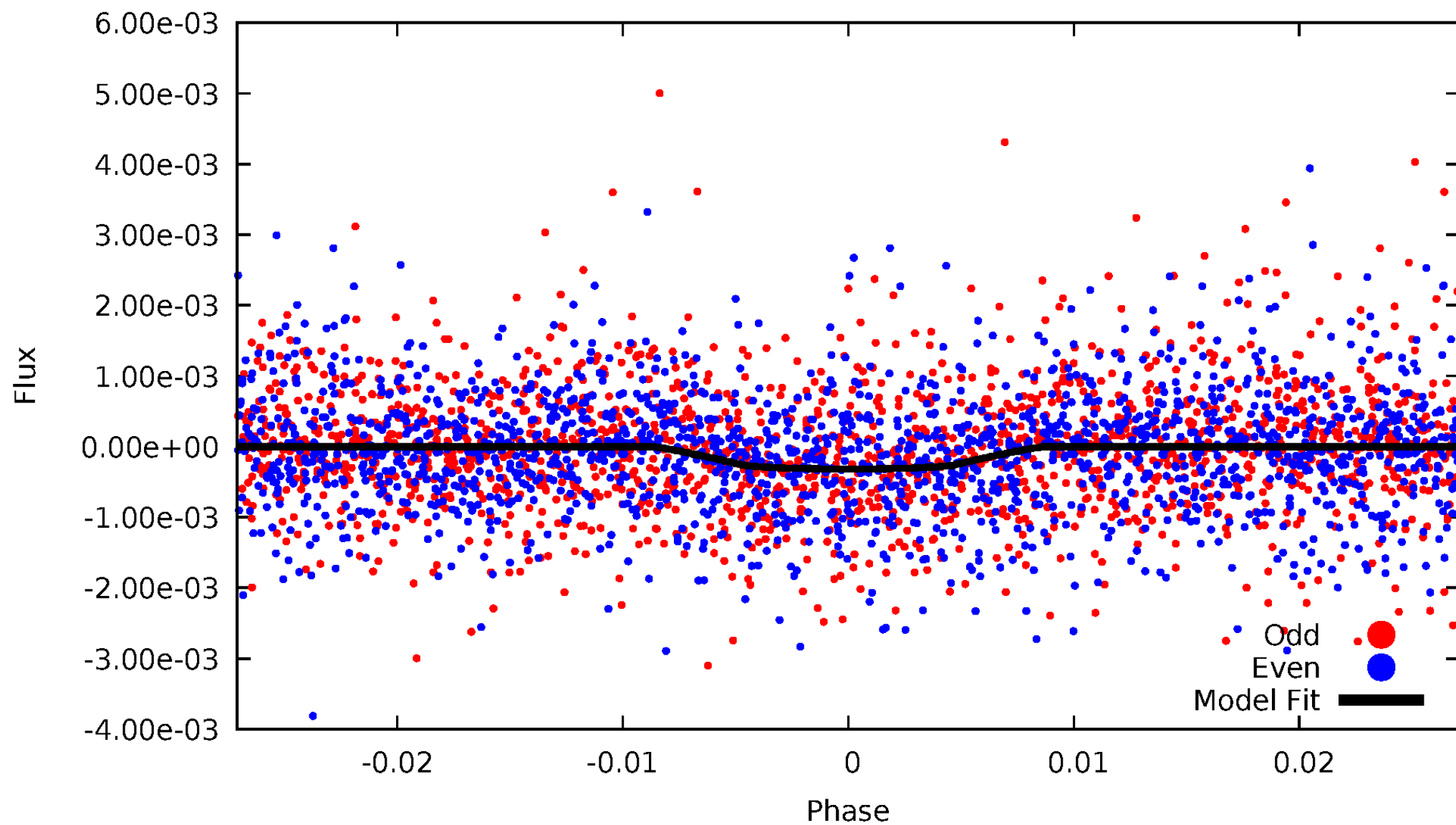


TCE 002861126-01



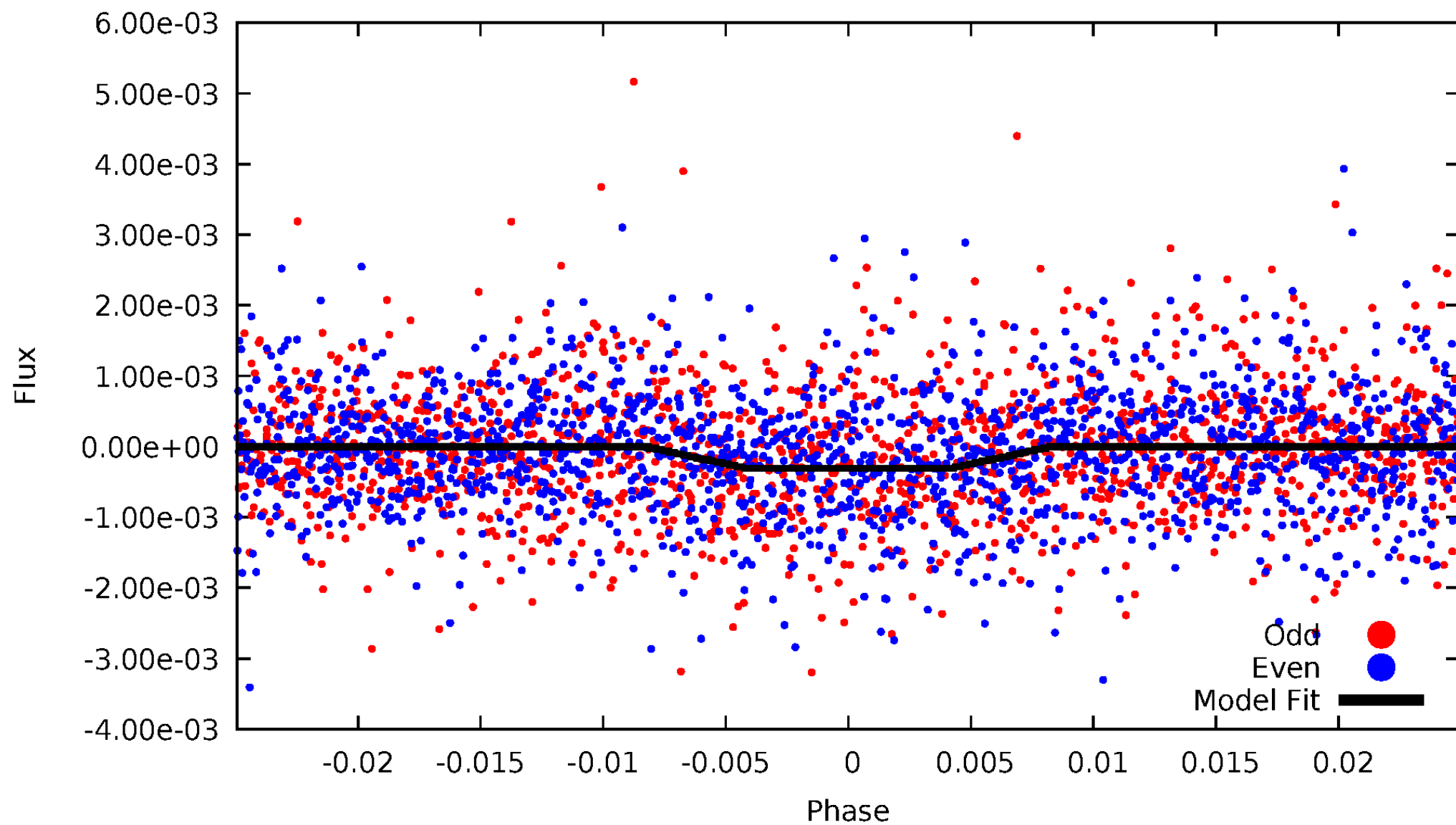
DV Odd/Even

TCE 002861126-01



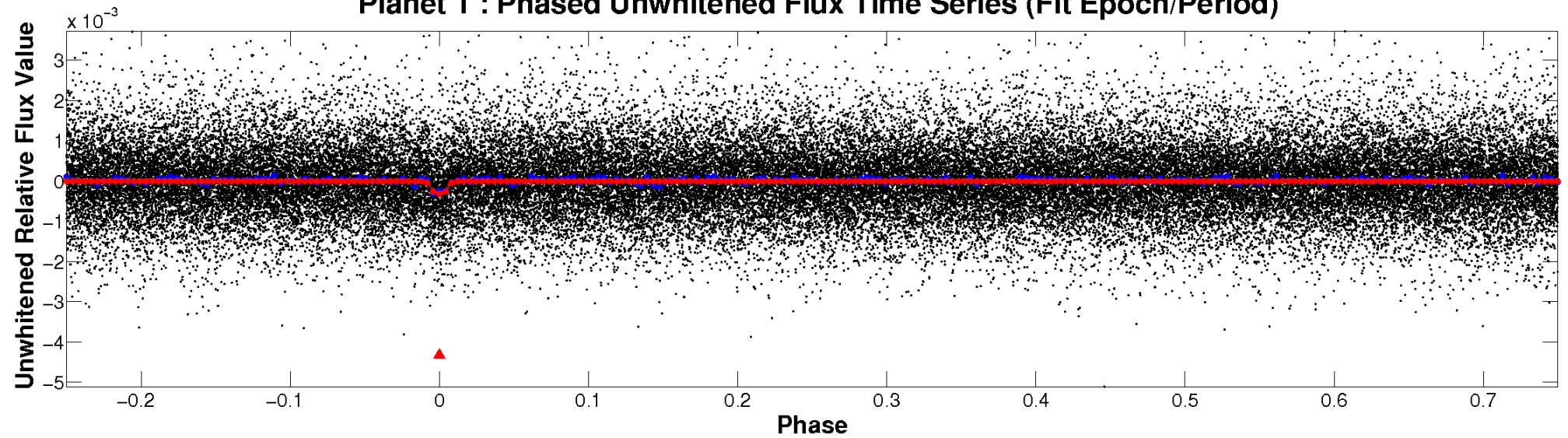
ALT Odd/Even

TCE 002861126-01

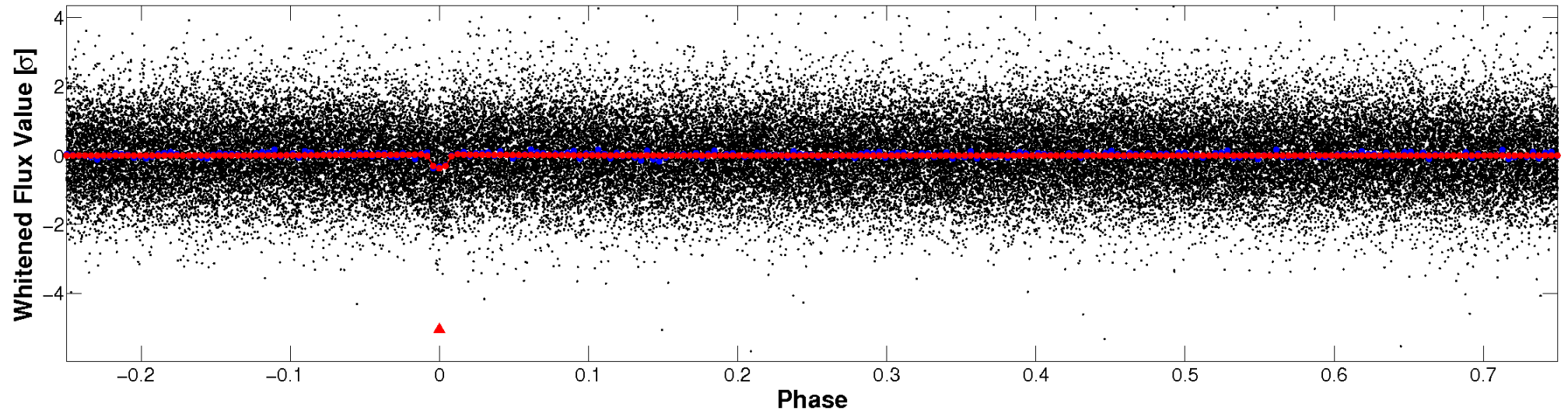


Non-Whitened Vs. Whitened Light Curve

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

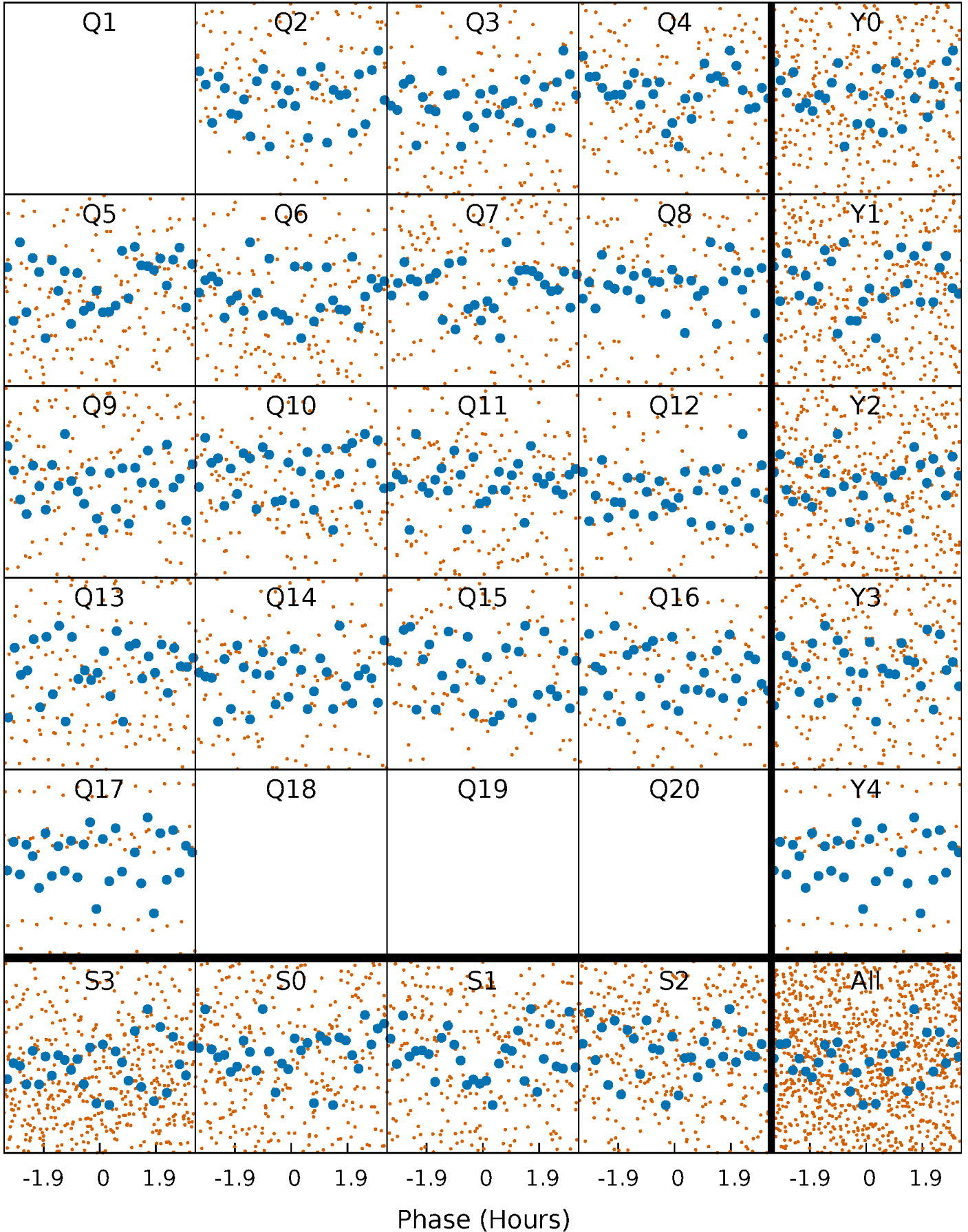


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



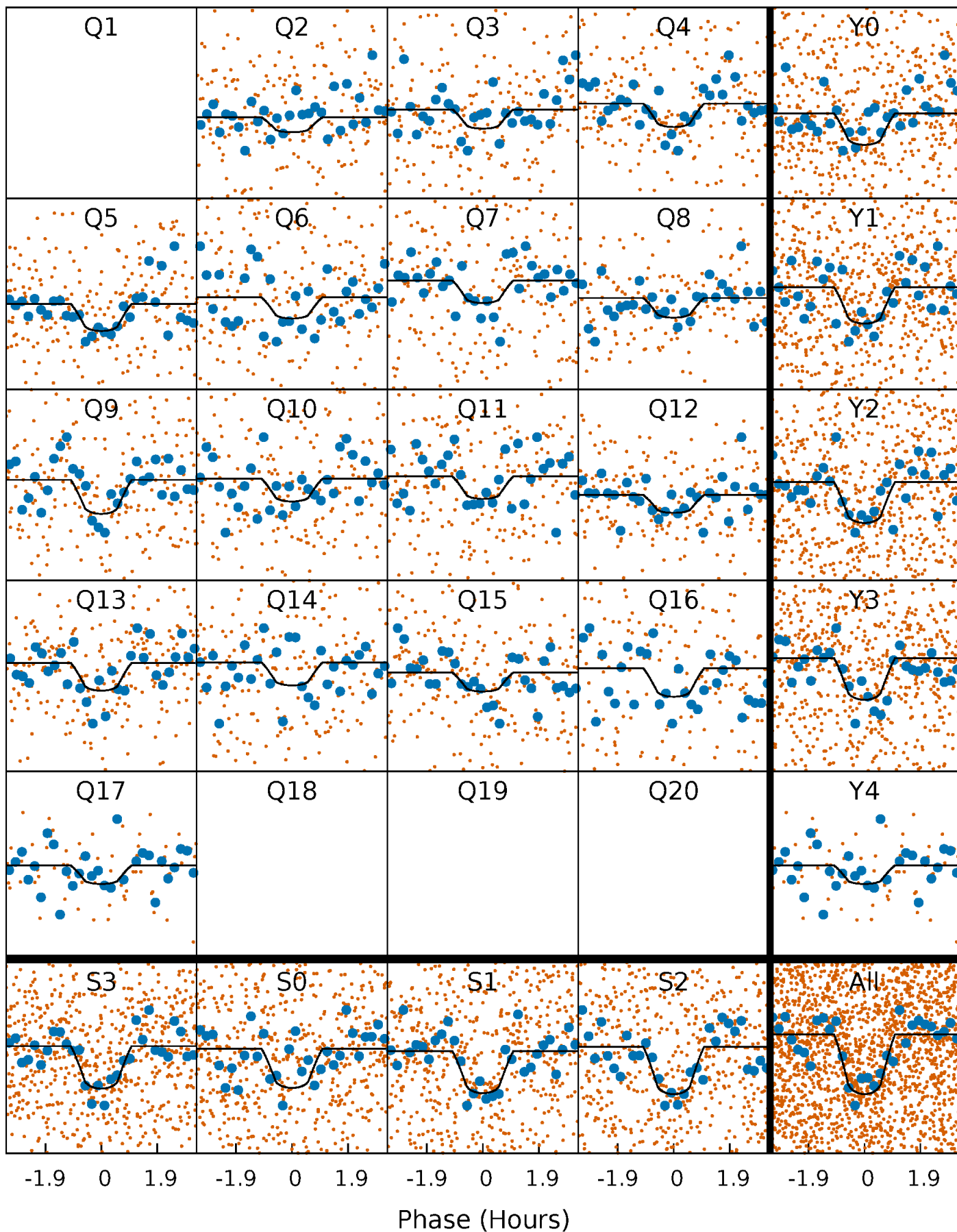
PDC Quarter-Phased Transit Curves

TCE 002861126-01 P= 4.987845 Days $T_0=133.667306$ (BKJD)



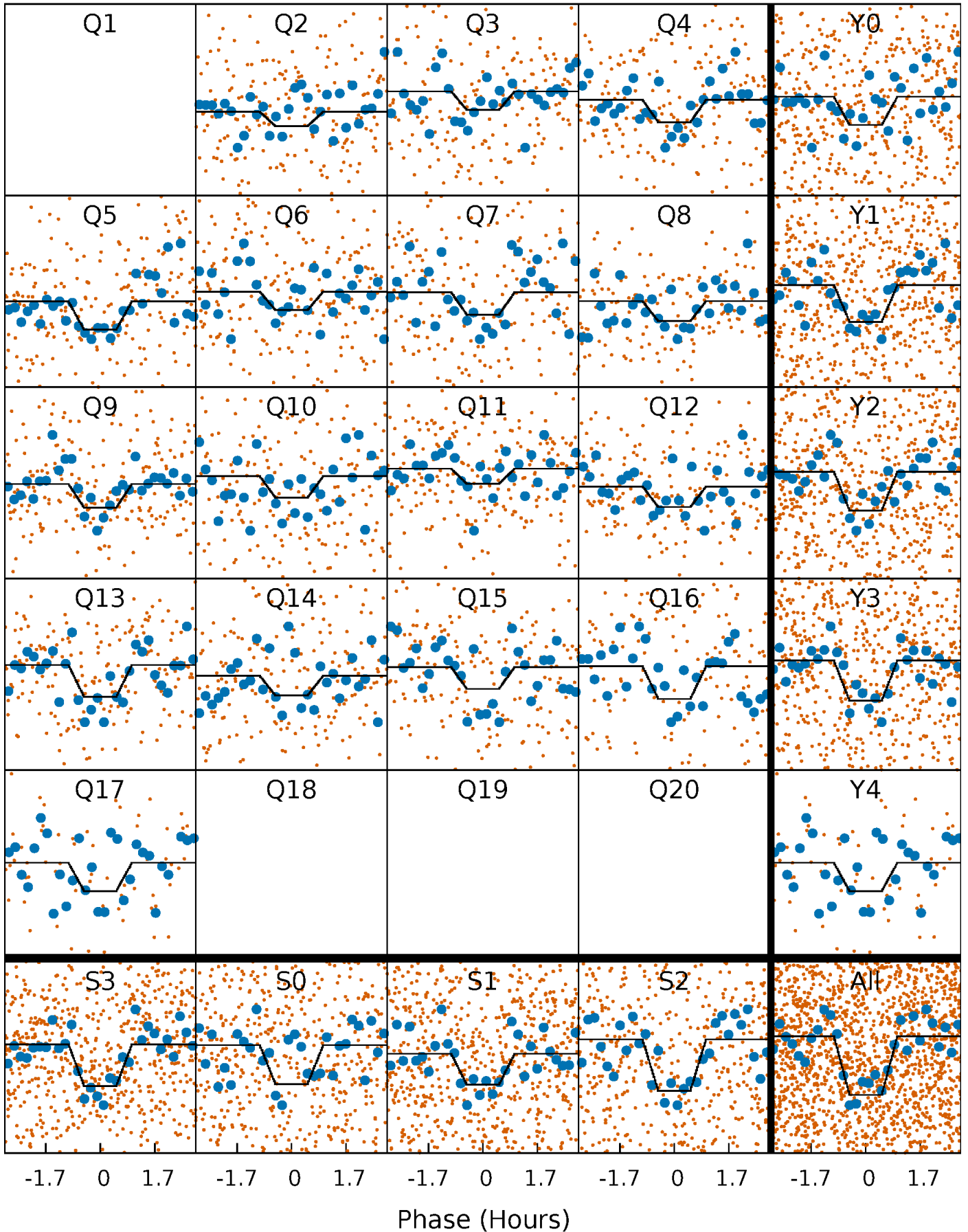
DV Quarter-Phased Transit Curves

TCE 002861126-01 P= 4.987845 Days $T_0=133.667306$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

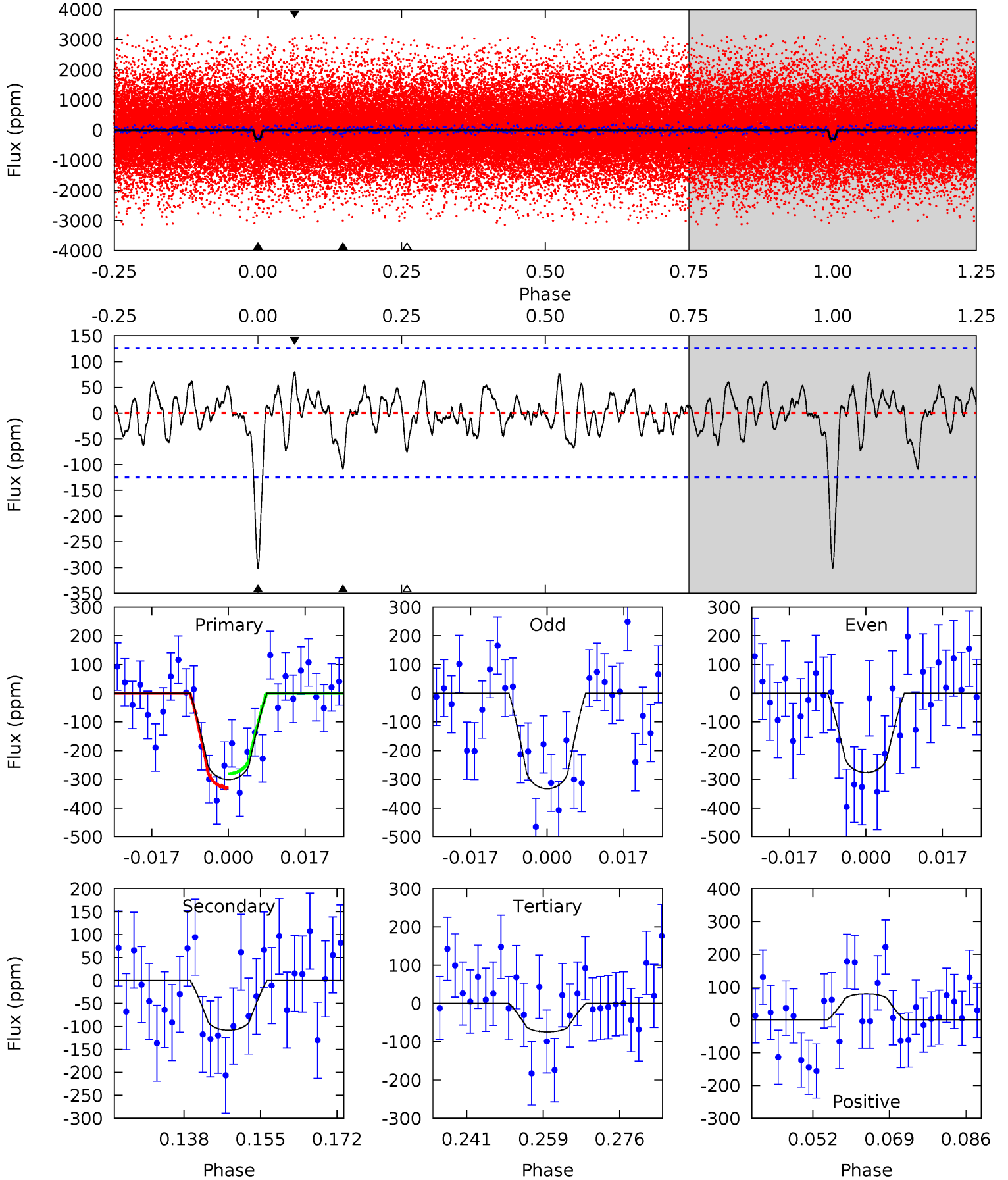
TCE 002861126-01 P= 4.987870 Days $T_0=133.664780$ (BKJD)



DV Model-Shift Uniqueness Test

002861126-01, P = 4.987845 Days, E = 133.667306 Days

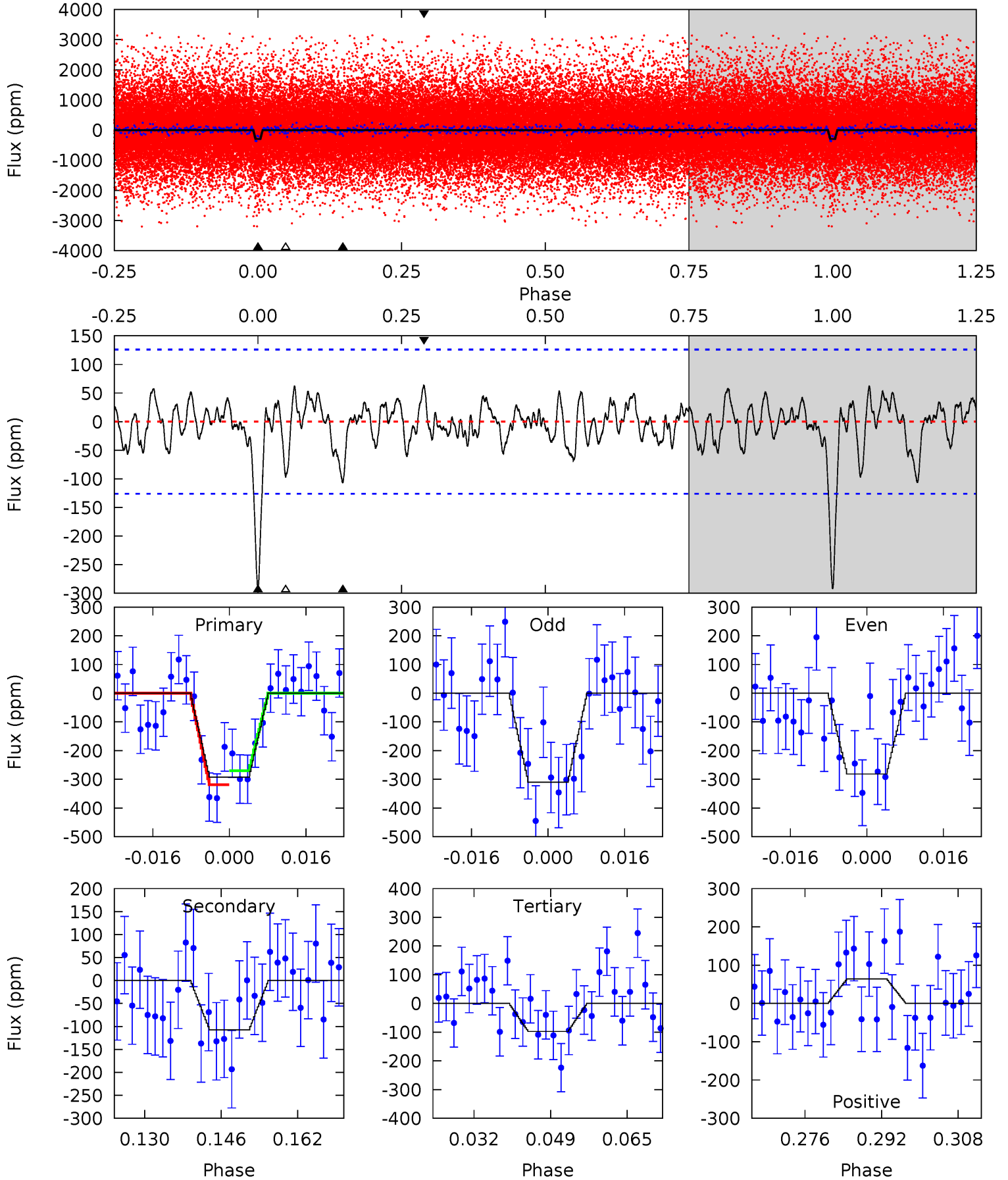
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	4.25	2.91	3.11	4.92	2.38	1.17	8.90	8.70	1.33	1.14	1.11	1.09	0.21	0.98



Alt Model-Shift Uniqueness Test

002861126-01, P = 4.987870 Days, E = 133.664780 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	4.20	3.83	2.52	4.93	2.40	1.10	7.62	8.93	0.37	1.68	0.56	0.99	0.18	0.97



Stellar Parameters For KIC 002861126

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3606^{+57}_{-72}	$4.859^{+0.045}_{-0.036}$	$-0.200^{+0.100}_{-0.100}$	$0.395^{+0.036}_{-0.044}$	$0.413^{+0.037}_{-0.047}$	$9.421^{+2.279}_{-1.532}$
	+2%/-2%	+1%/-1%	+50%/-50%	+9%/-11%	+9%/-11%	+24%/-16%
Source	PHO2	PHO2	PHO2	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 002861126-01 / KOI 4957.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-108 ± 25	$1.05^{+0.99}_{-0.71}$	677^{+15}_{-20}	2788^{+1120}_{-426}	93^{+766}_{-68}
Alt.	-107 ± 26	$1.08^{+0.97}_{-0.68}$	676^{+17}_{-17}	2767^{+1011}_{-407}	92^{+627}_{-67}

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

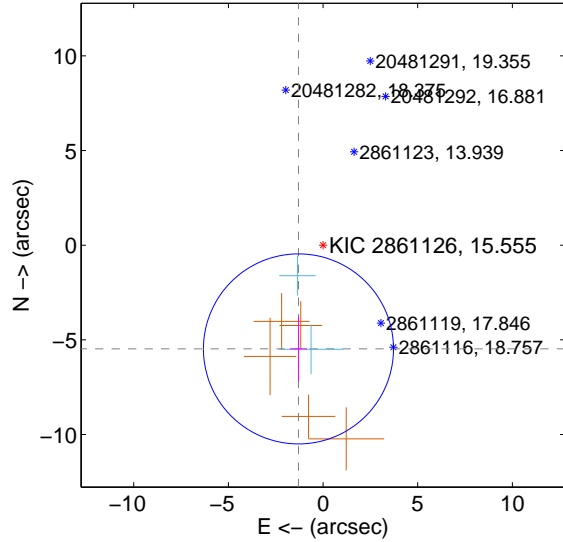
Supplemental centroid analysis for 002861126-01. Kepler magnitude: 15.55. Transit SNR 9.47

There are 8 quarters with good PRF difference image offsets

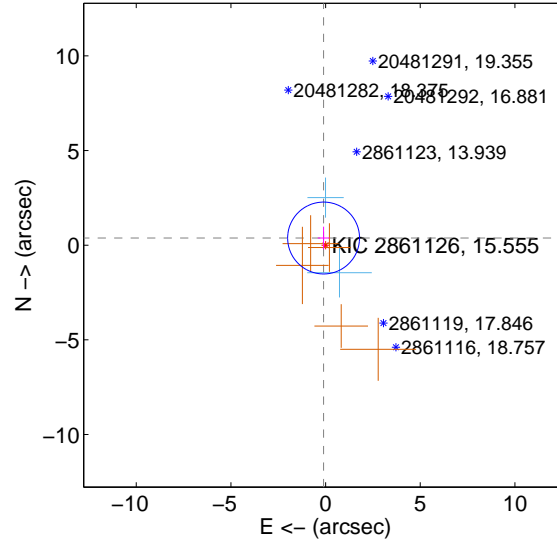
The OOT PRF centroid is offset from the target star catalog position by about 4.27 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.631 \pm 1.673	3.37	1.298 \pm 0.456	-5.480 \pm 1.716
PRF-fit source offset from KIC position	0.392 \pm 0.633	0.62	0.106 \pm 0.311	0.378 \pm 0.601
photometric centroid source offset	0.69 \pm 0.36	1.91	0.22 \pm 0.35	0.65 \pm 0.36

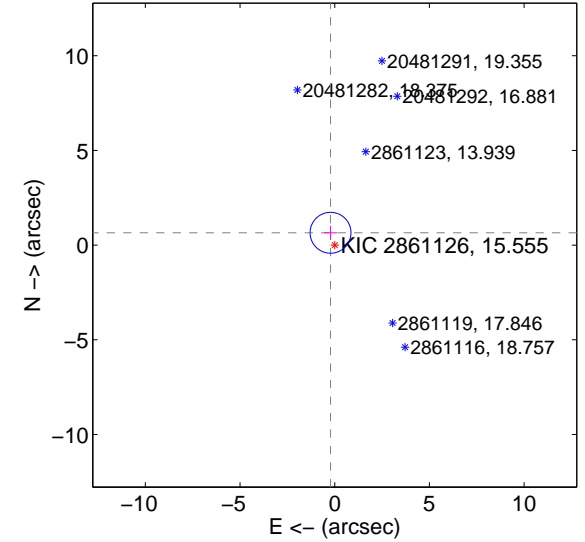
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



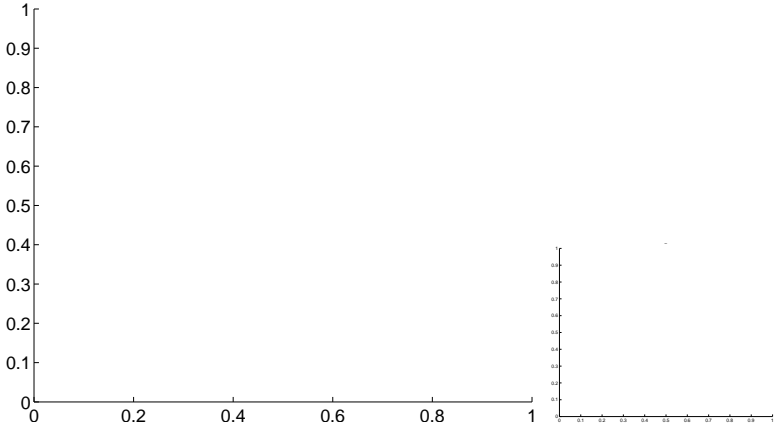
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

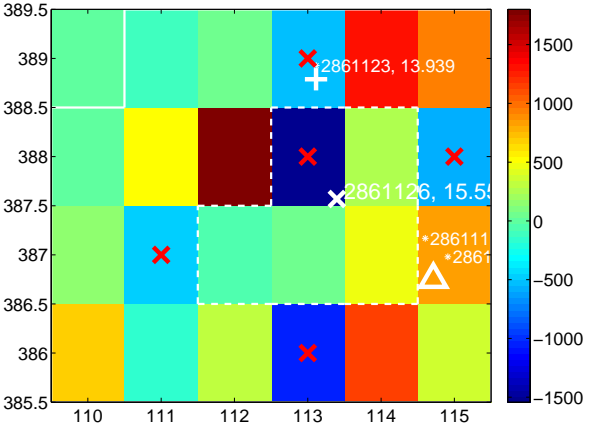
Q1 no difference image



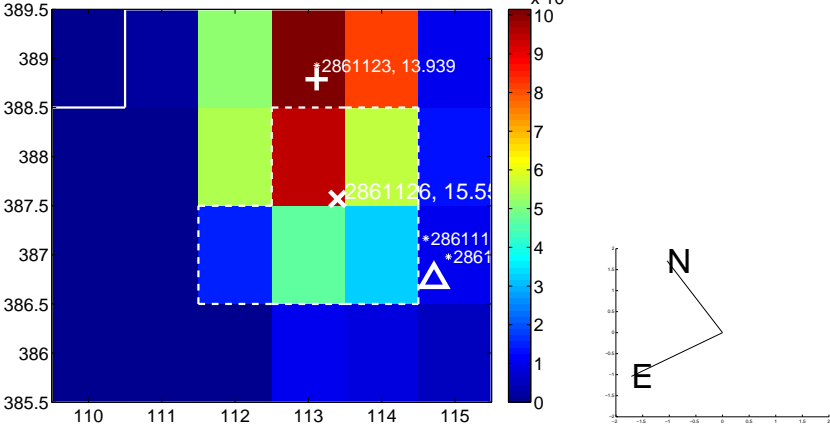
Q1 no OOT image



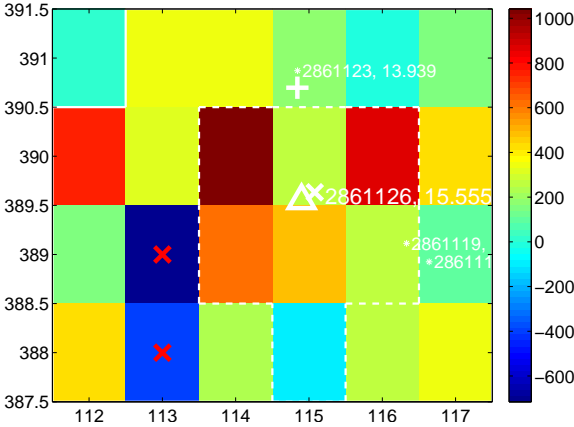
Q2 difference image. Poor Quality



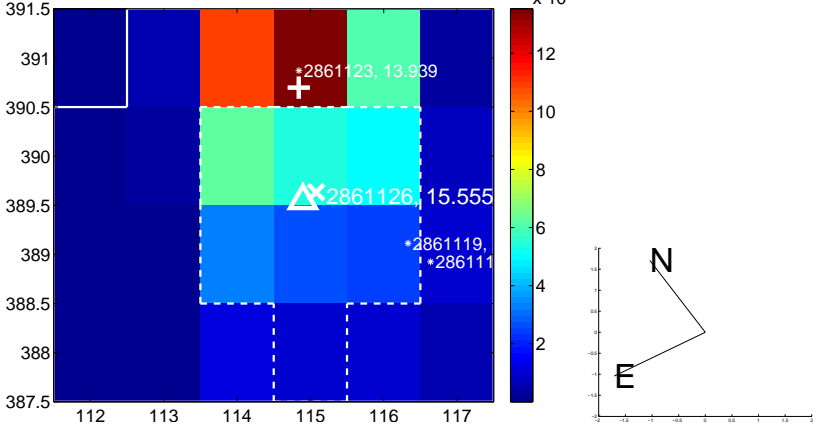
Q2 OOT image



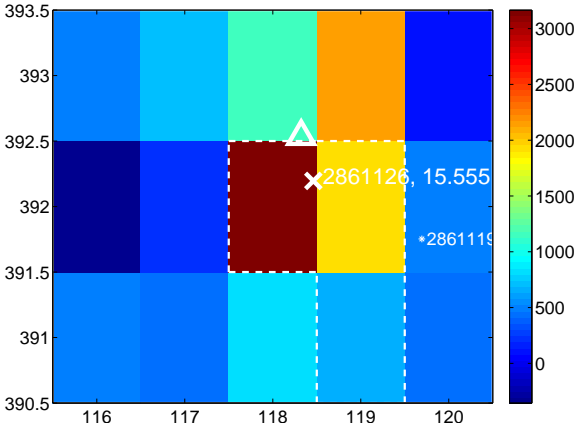
Q3 difference image. Poor Quality



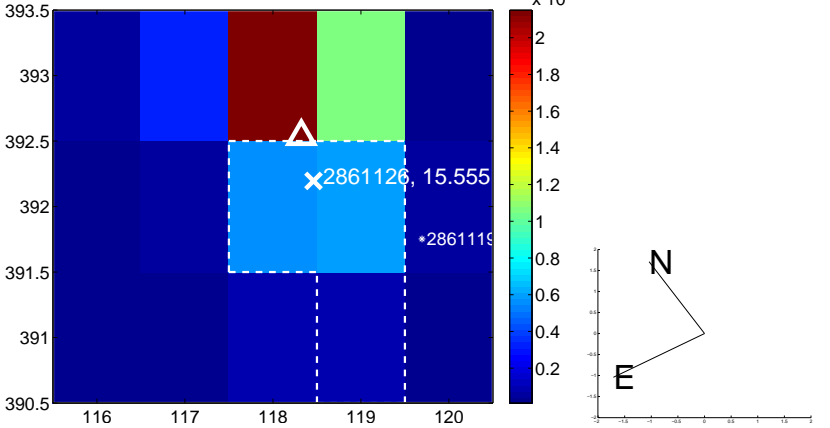
Q3 OOT image



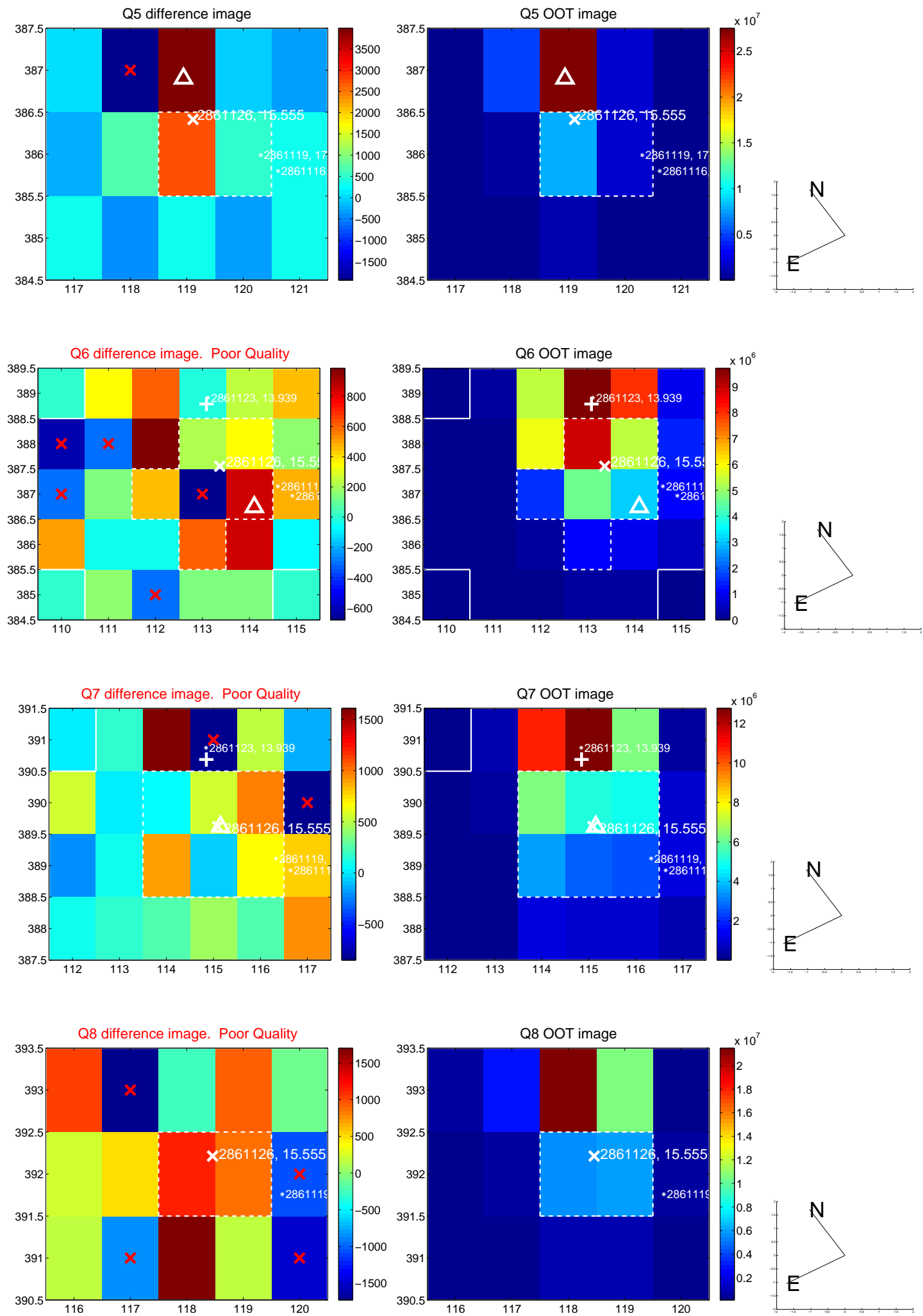
Q4 difference image



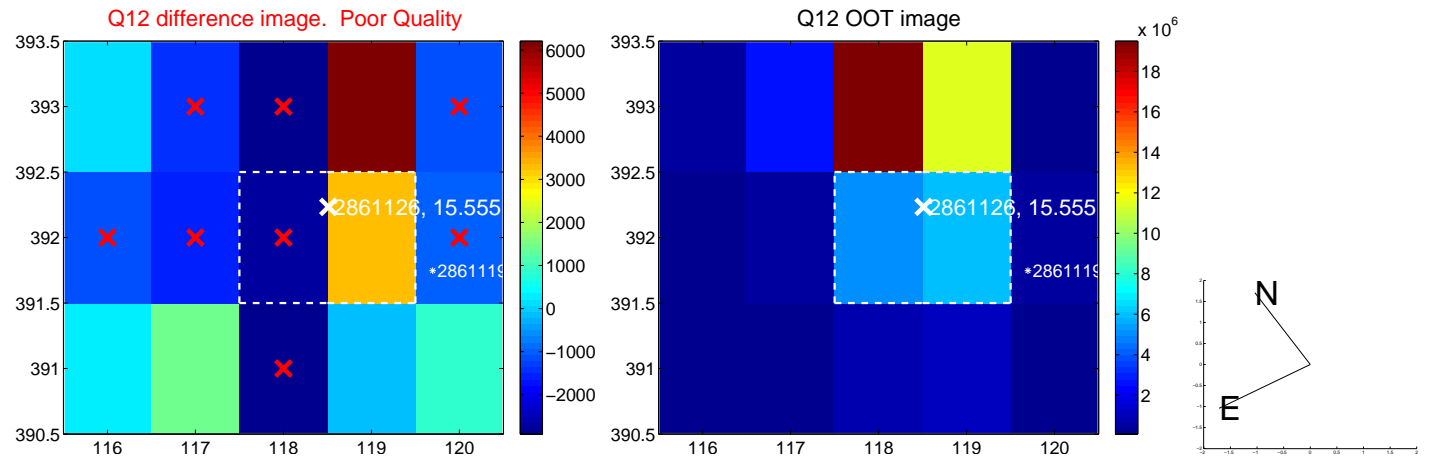
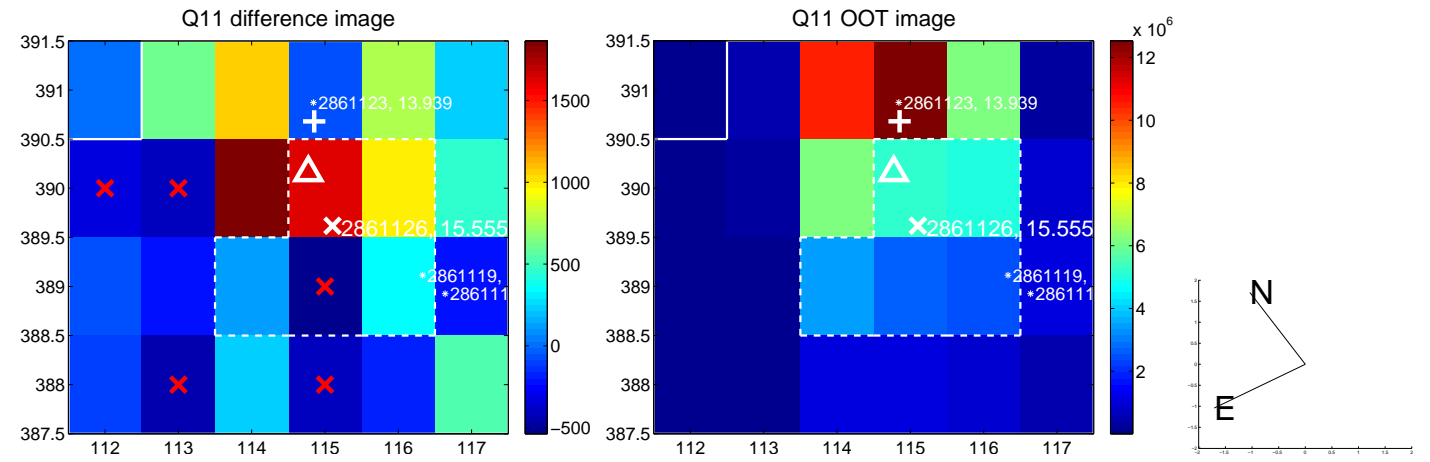
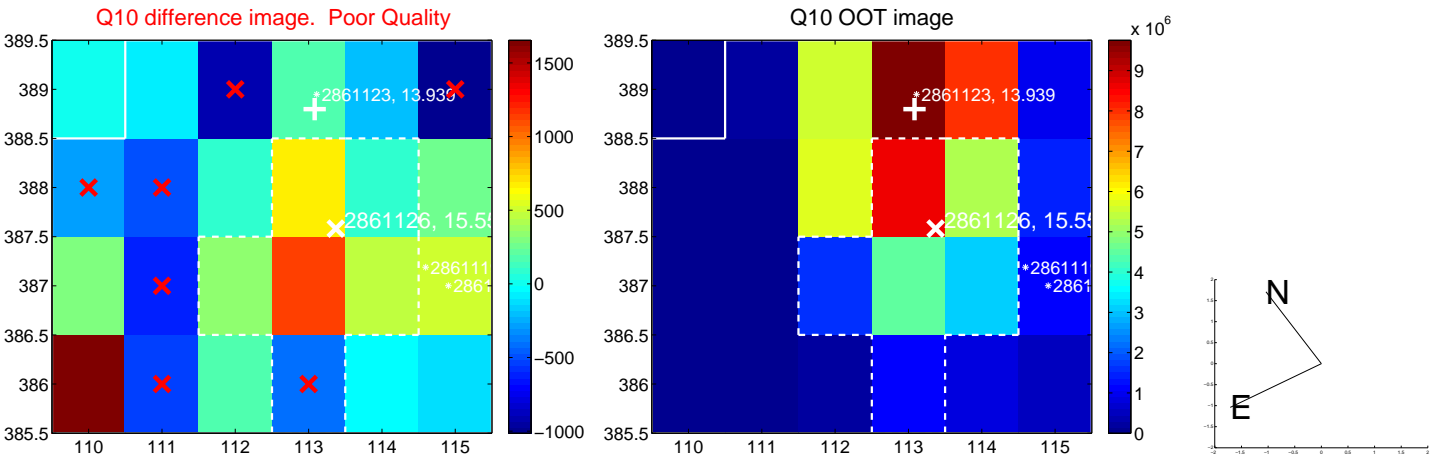
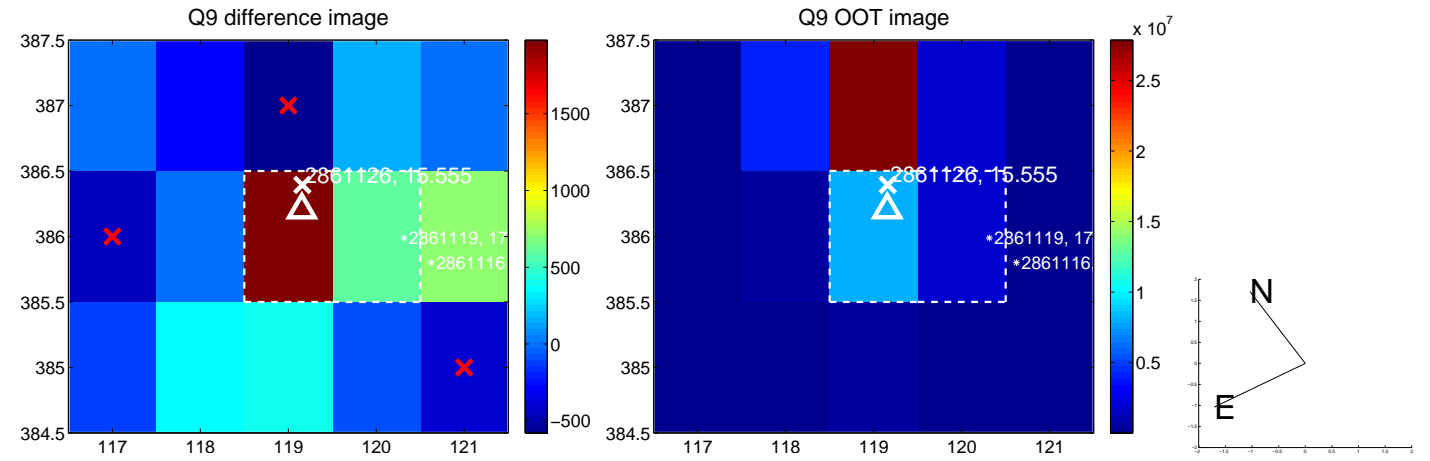
Q4 OOT image



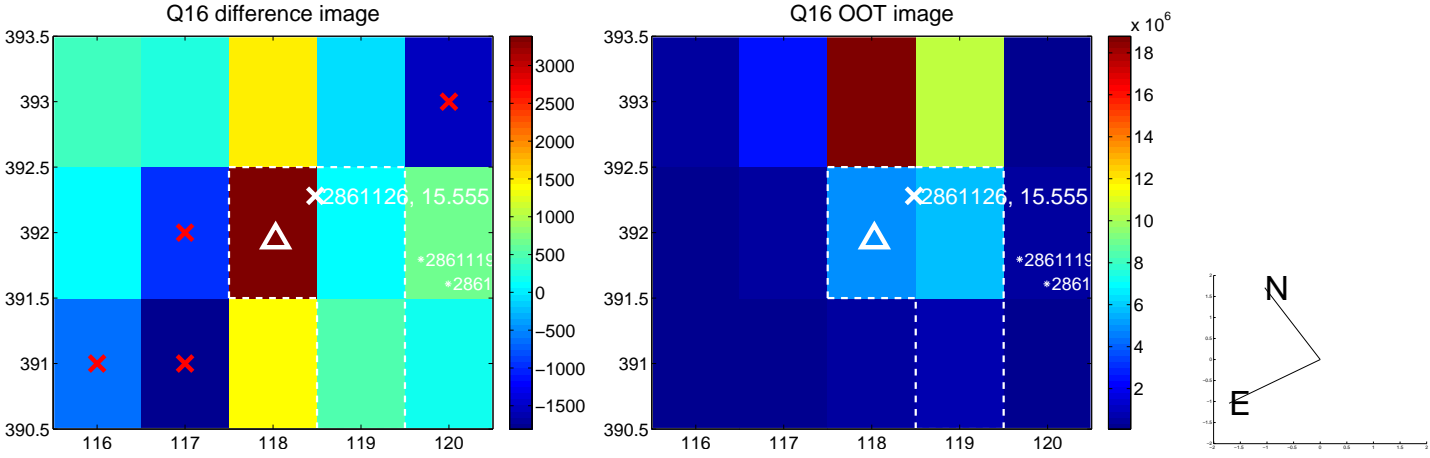
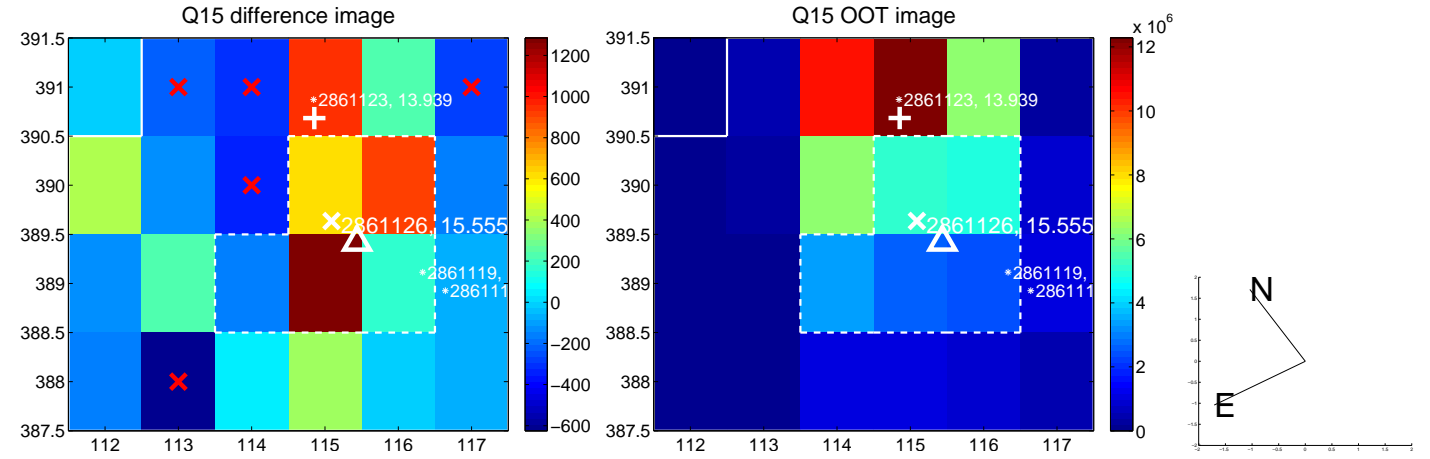
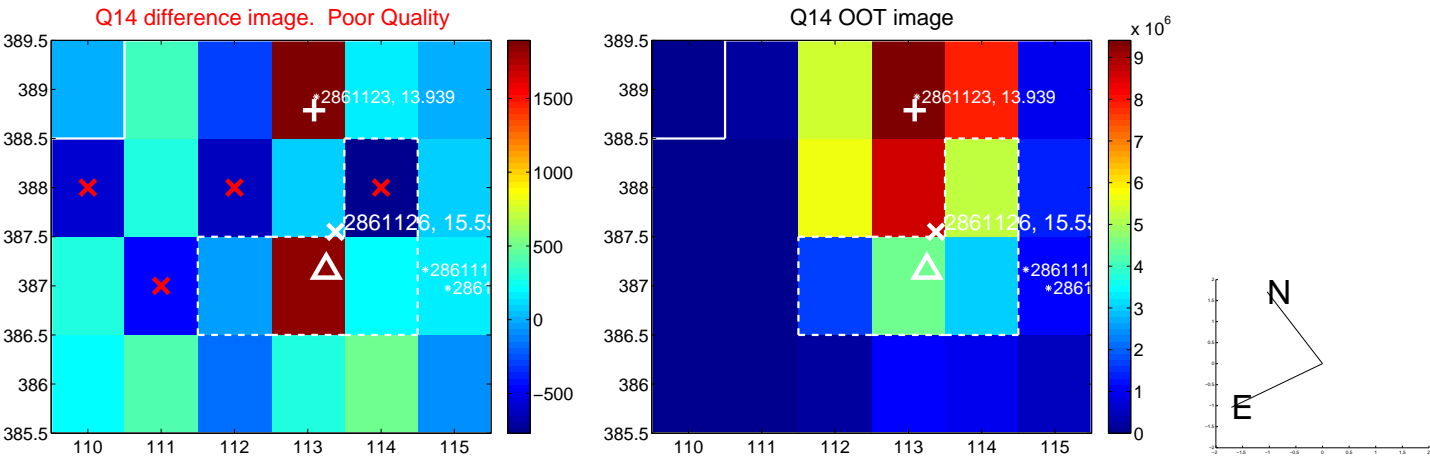
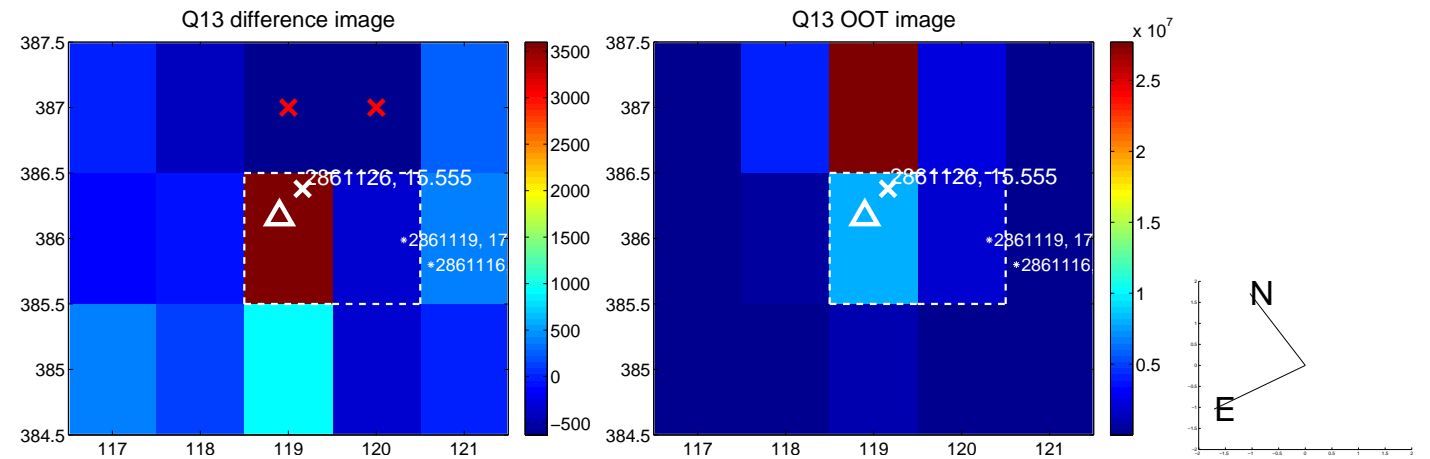
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



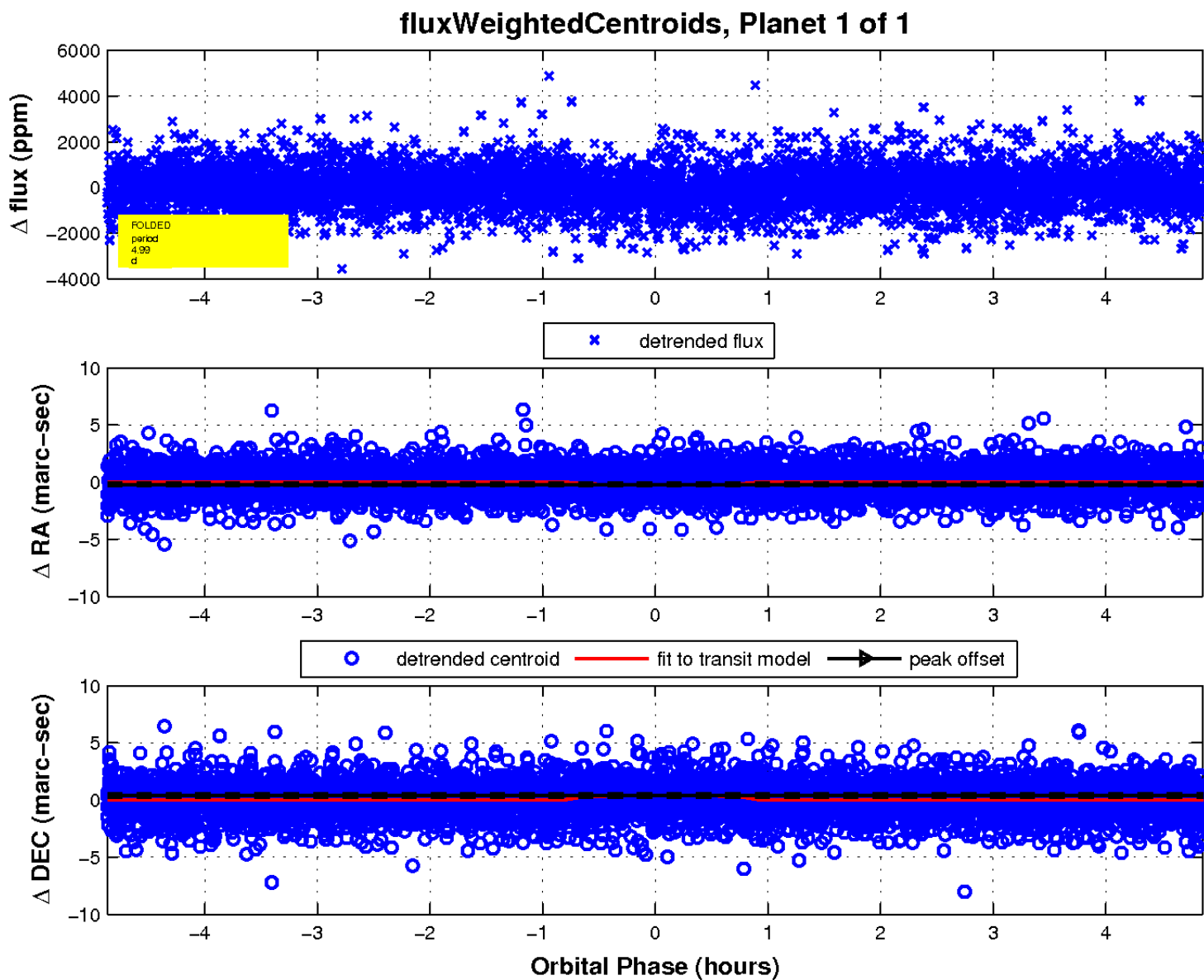
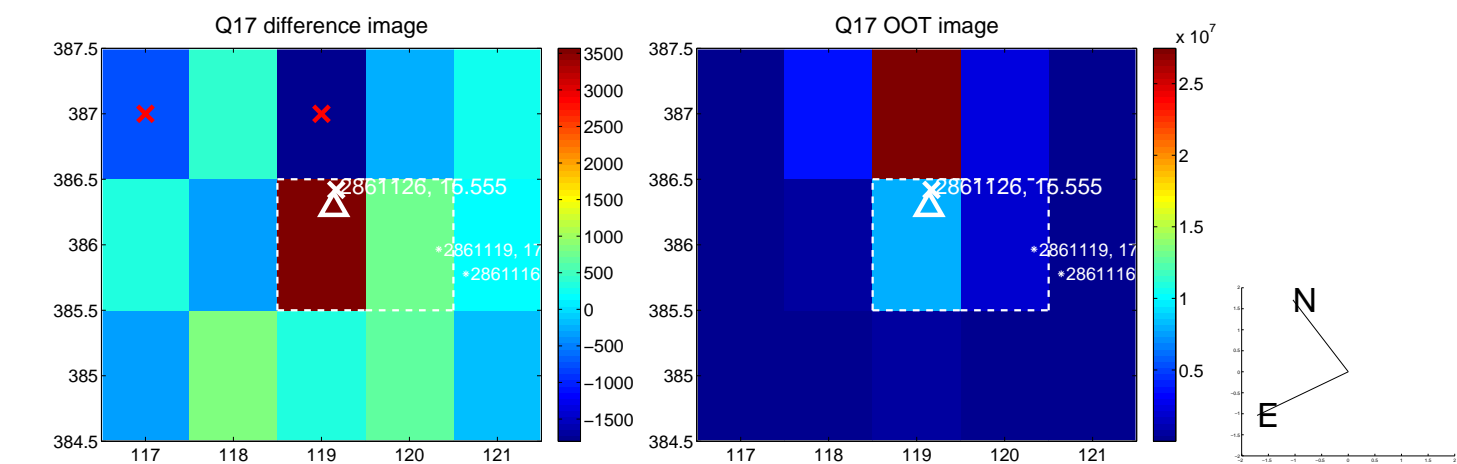
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

