

KIC 008822366

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})
008822366-01	OBS	1282.01	30.864050	132.015793	251.7	8.886	43.2	47.2	1.57	5977	2.97	72.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008822366-01	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.

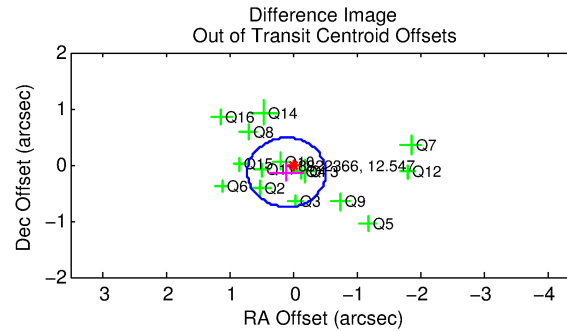
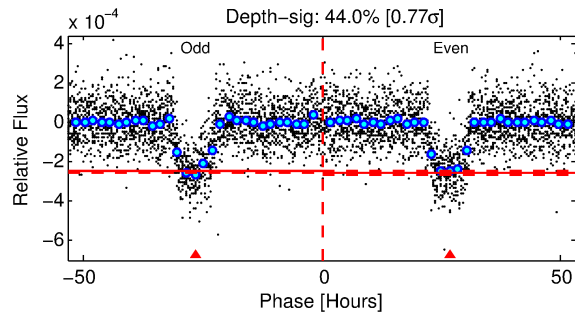
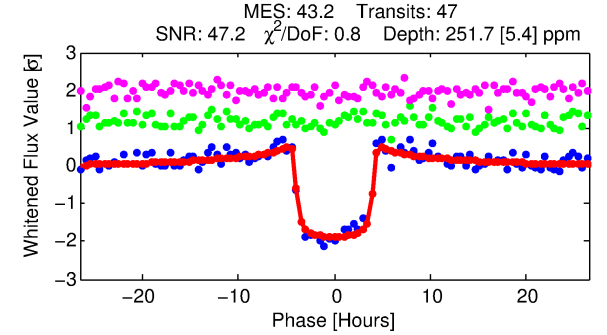
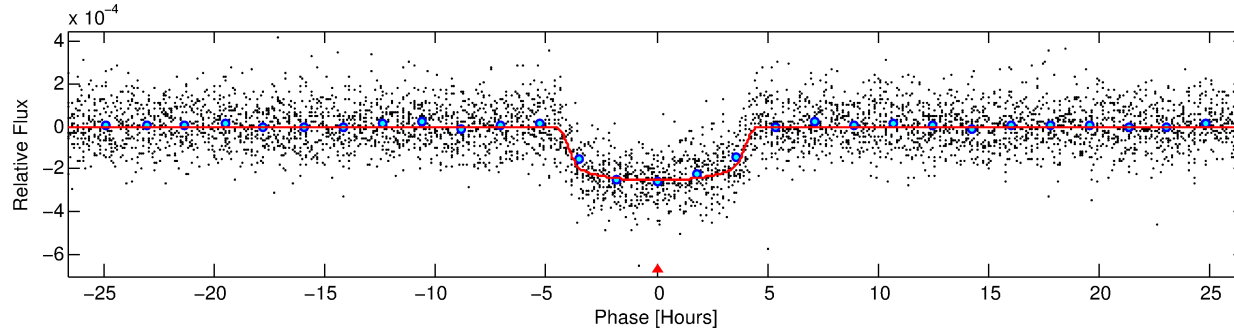
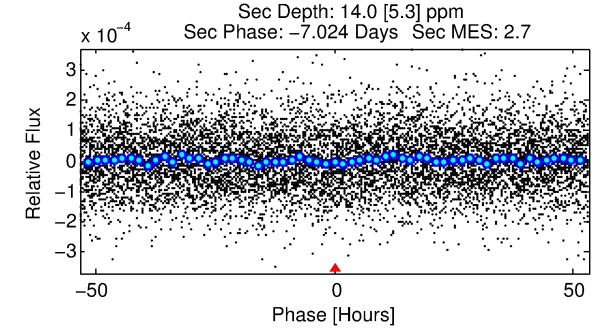
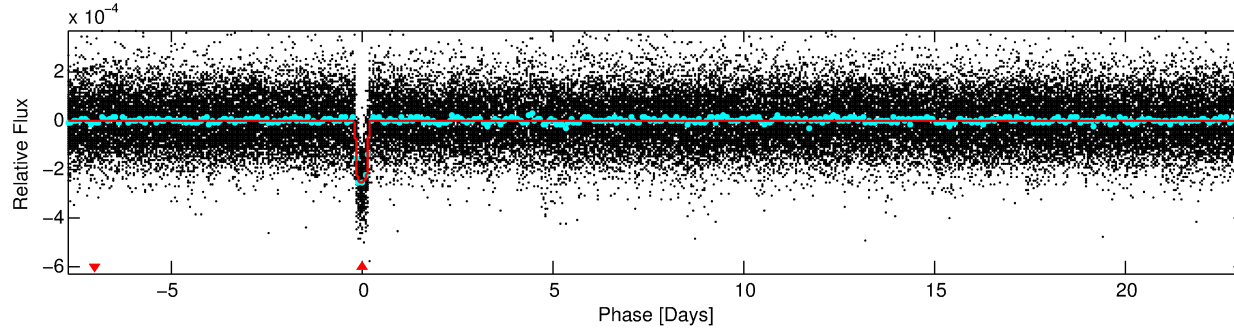
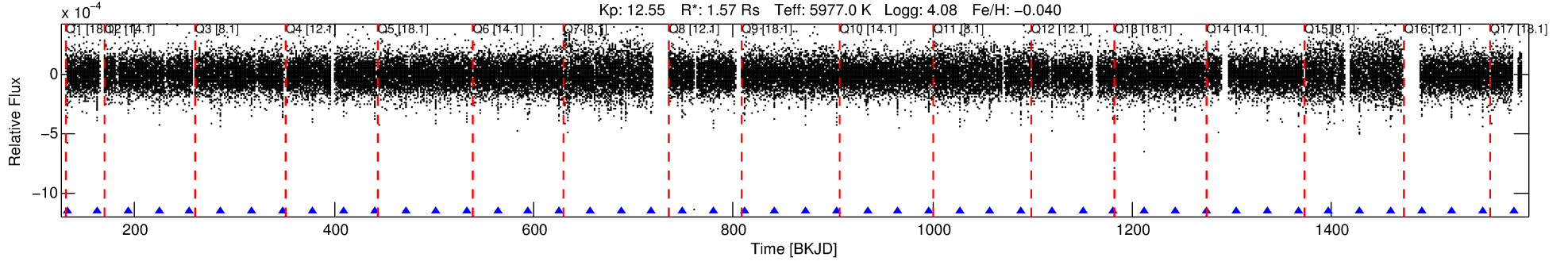
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008822366-01

No Significant Match Found

DV One-Page Summary

KIC: 8822366 Candidate: 1 of 1 Period: 30.864 d
KOI: K01282.01 Corr: 0.973



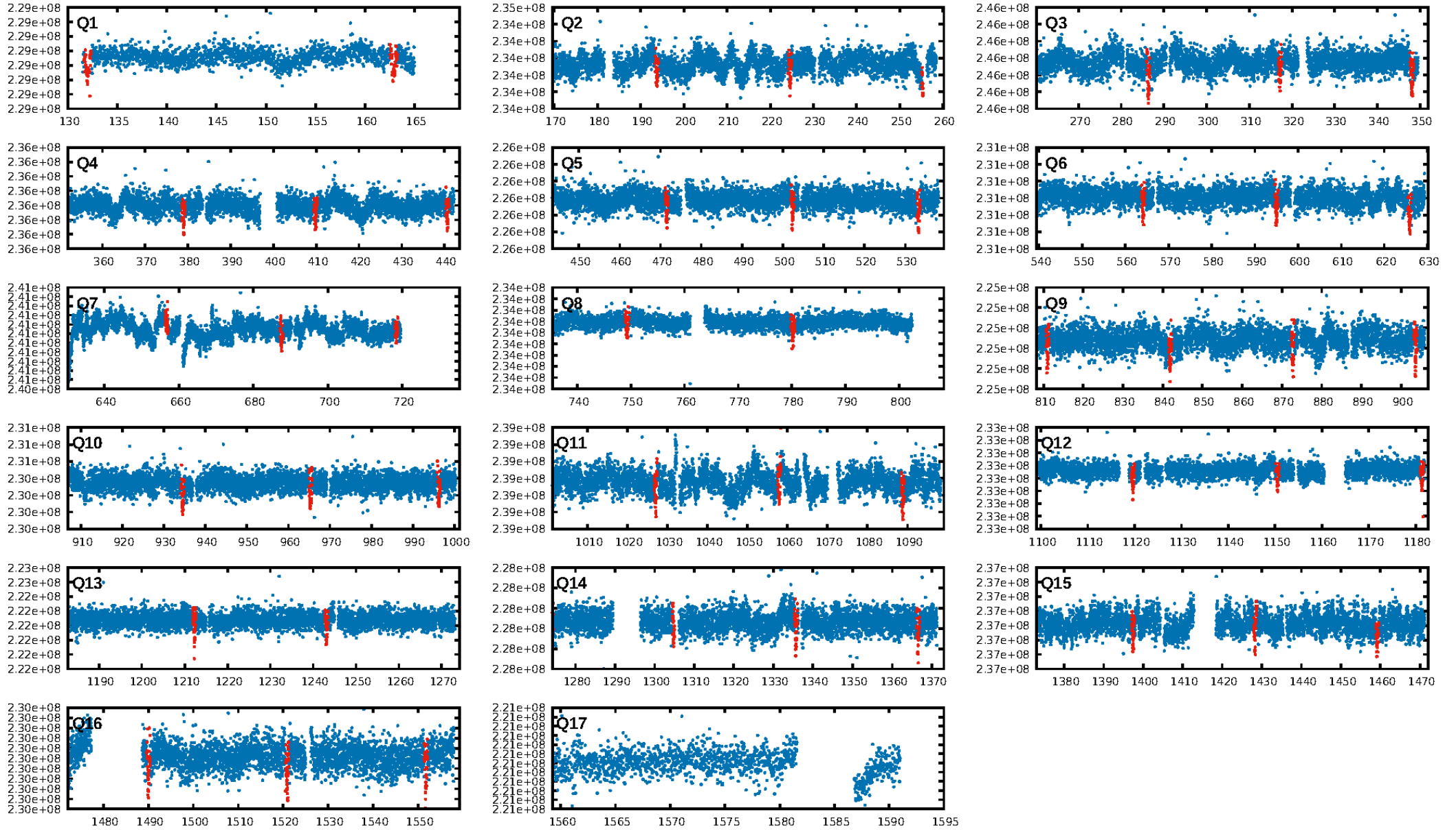
DV Fit Results:

Period = 30.86405 [0.00011] d
Epoch = 132.0158 [0.0028] BKJD
Rp/R* = 0.0173 [0.0005]
a/R* = 12.07 [1.42]
b = 0.91 [0.02]
Seff = 72.17 [5.17]
Teq = 743 [13] K
Rp = 2.97 [0.18] Re
a = 0.1978 [0.0078] AU
Ag = 33.96 [13.16] [2.51σ]
Teffp = 2774 [269] K [7.54σ]

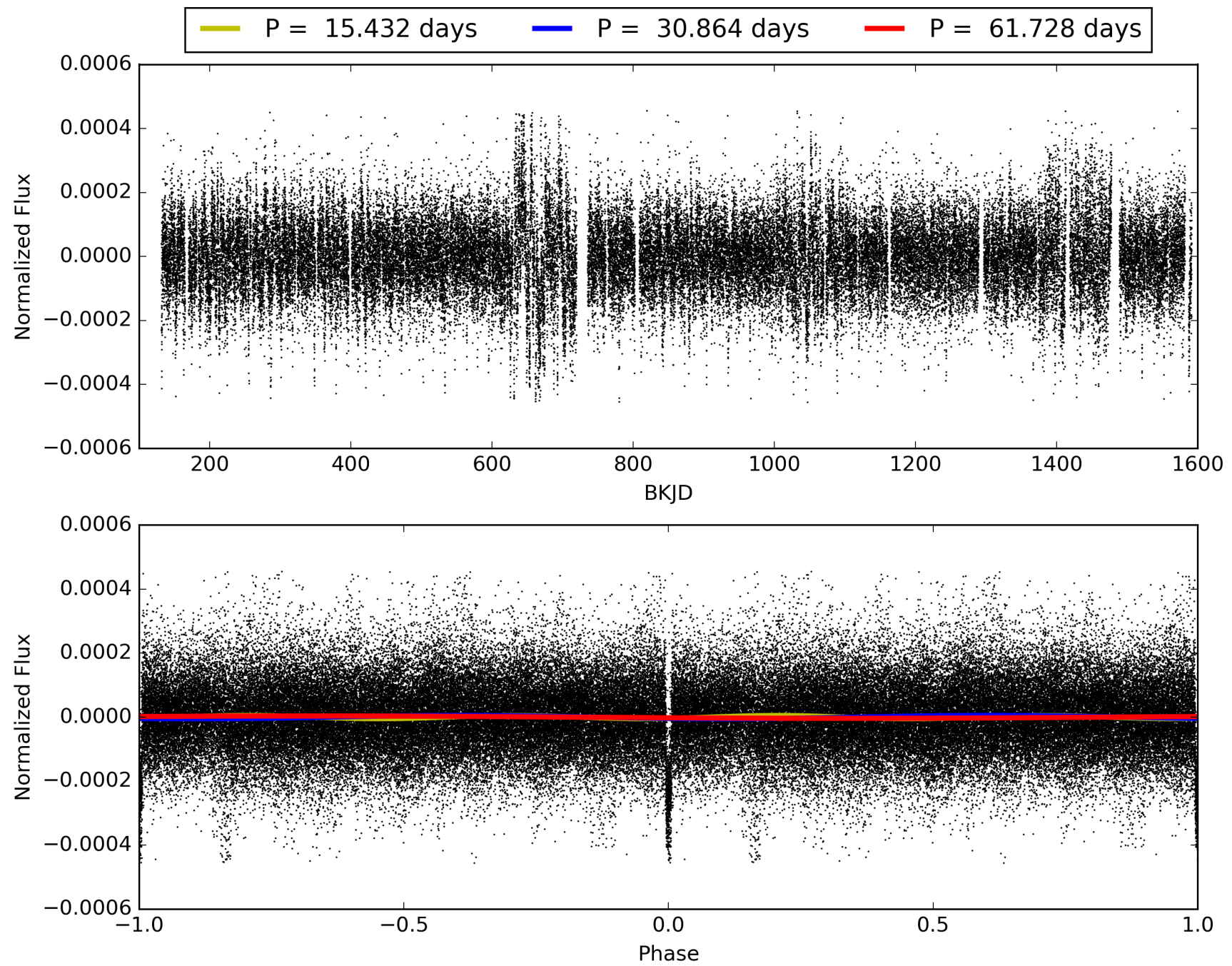
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 89.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [45/45]
GhostDiagnostic-chr: 38.15
Centroid-sig: 17.7%
Centroid-so: 0.376 arcsec [1.89σ]
OotOffset-rm: 0.171 arcsec [0.83σ]
KicOffset-rm: 0.220 arcsec [0.84σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 008822366-01, PDC Light Curves

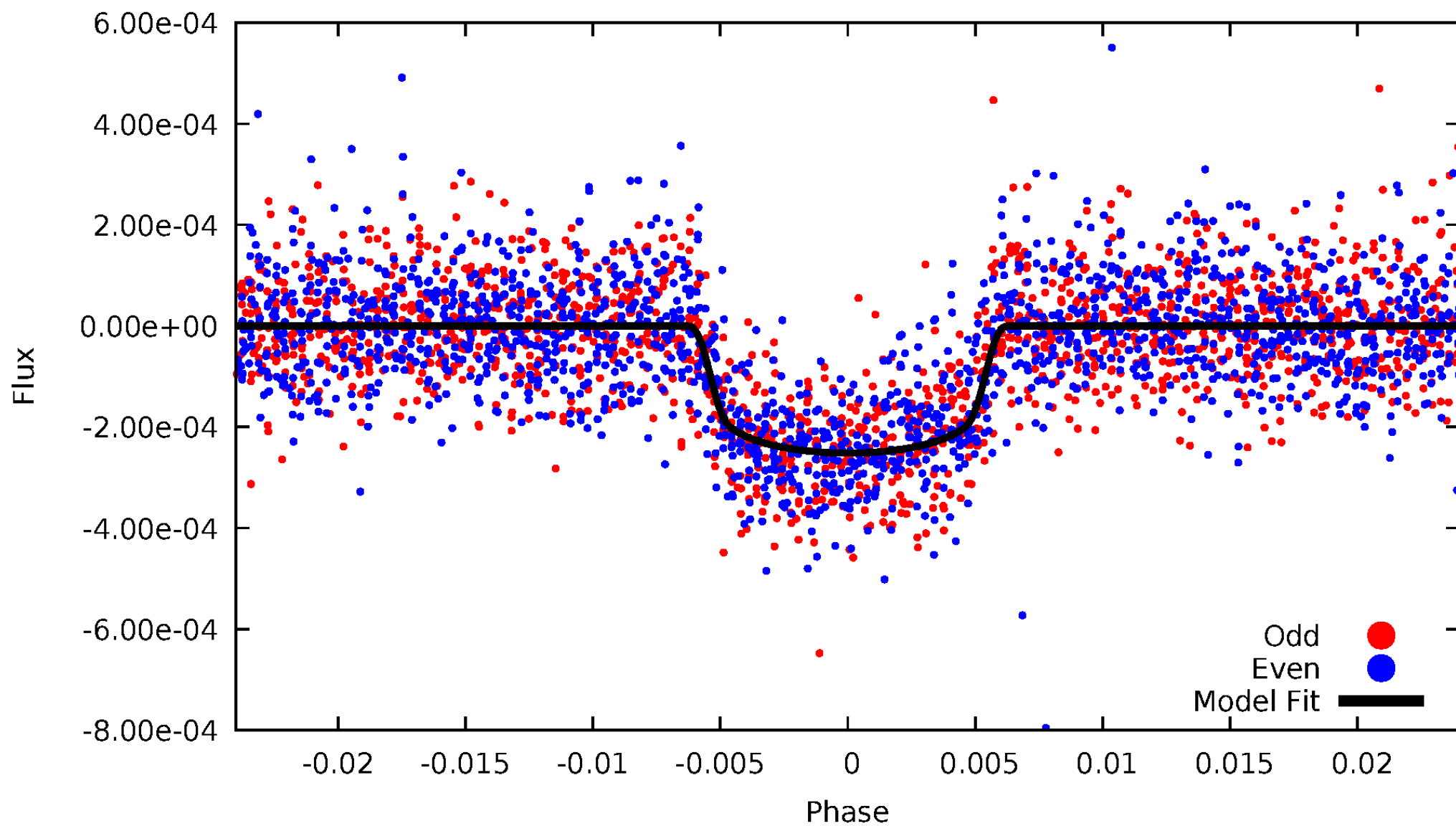


TCE 008822366-01



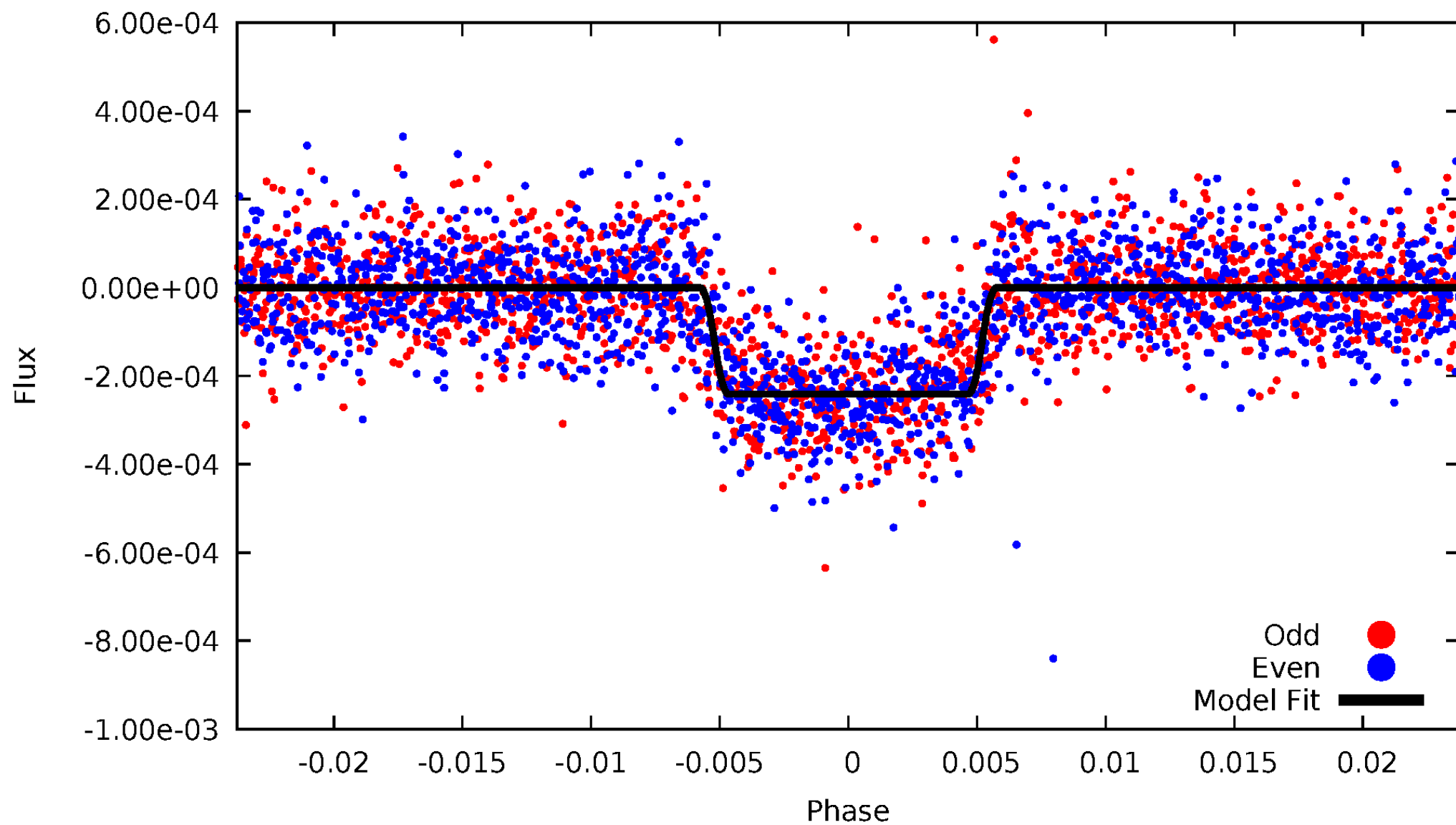
DV Odd/Even

TCE 008822366-01



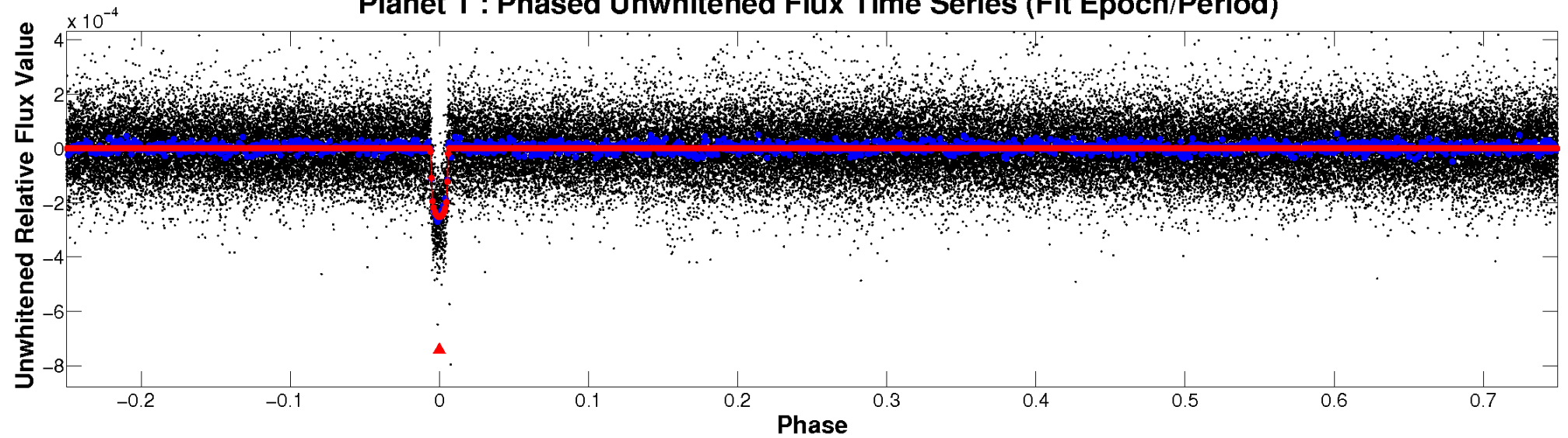
ALT Odd/Even

TCE 008822366-01

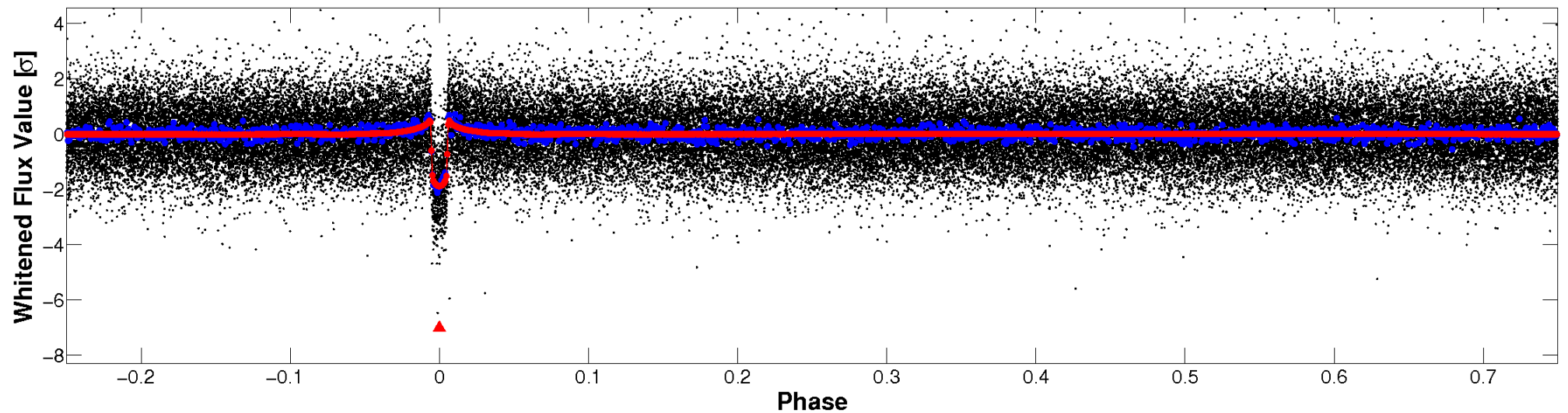


Non-Whitened Vs. Whitened Light Curve

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

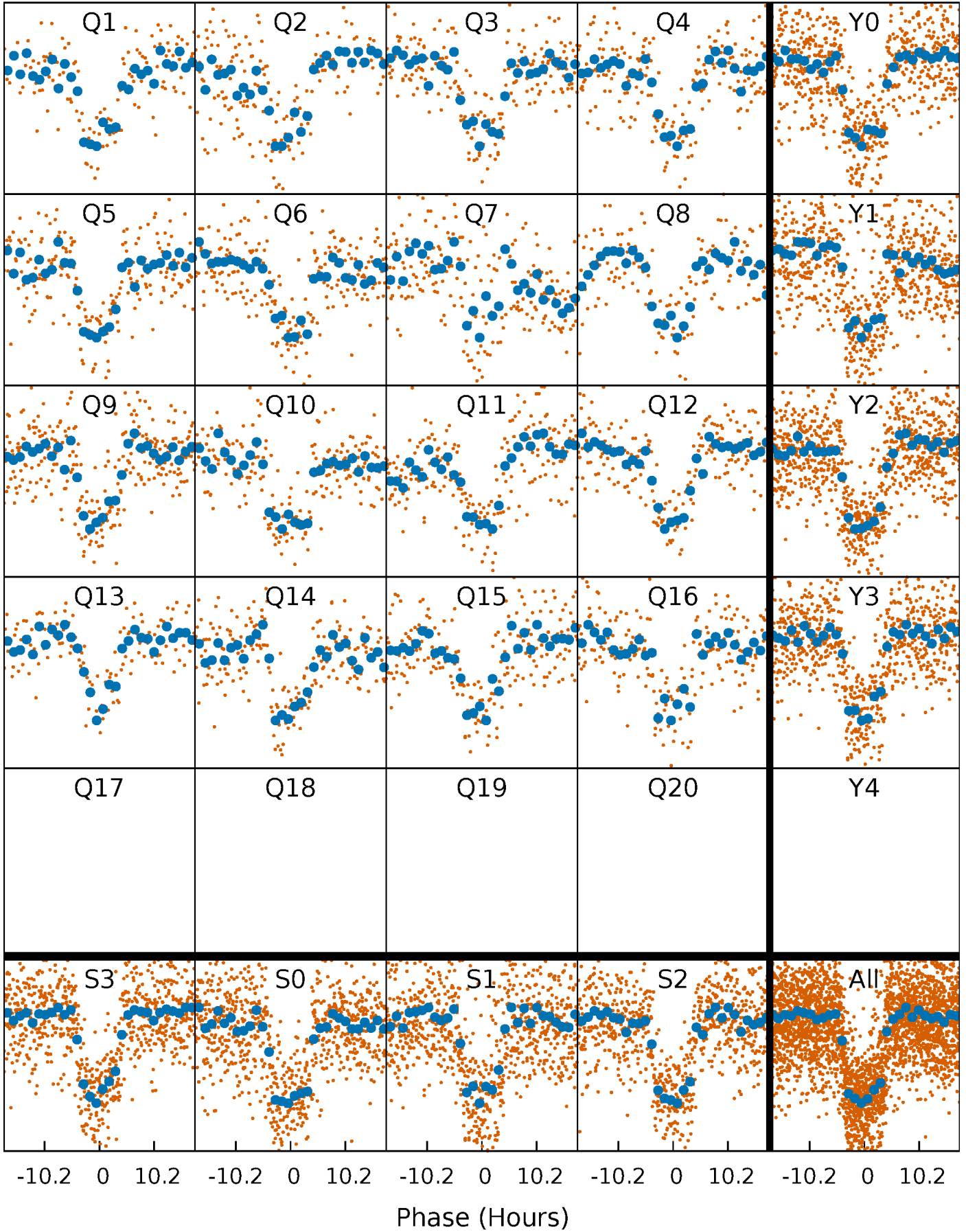


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



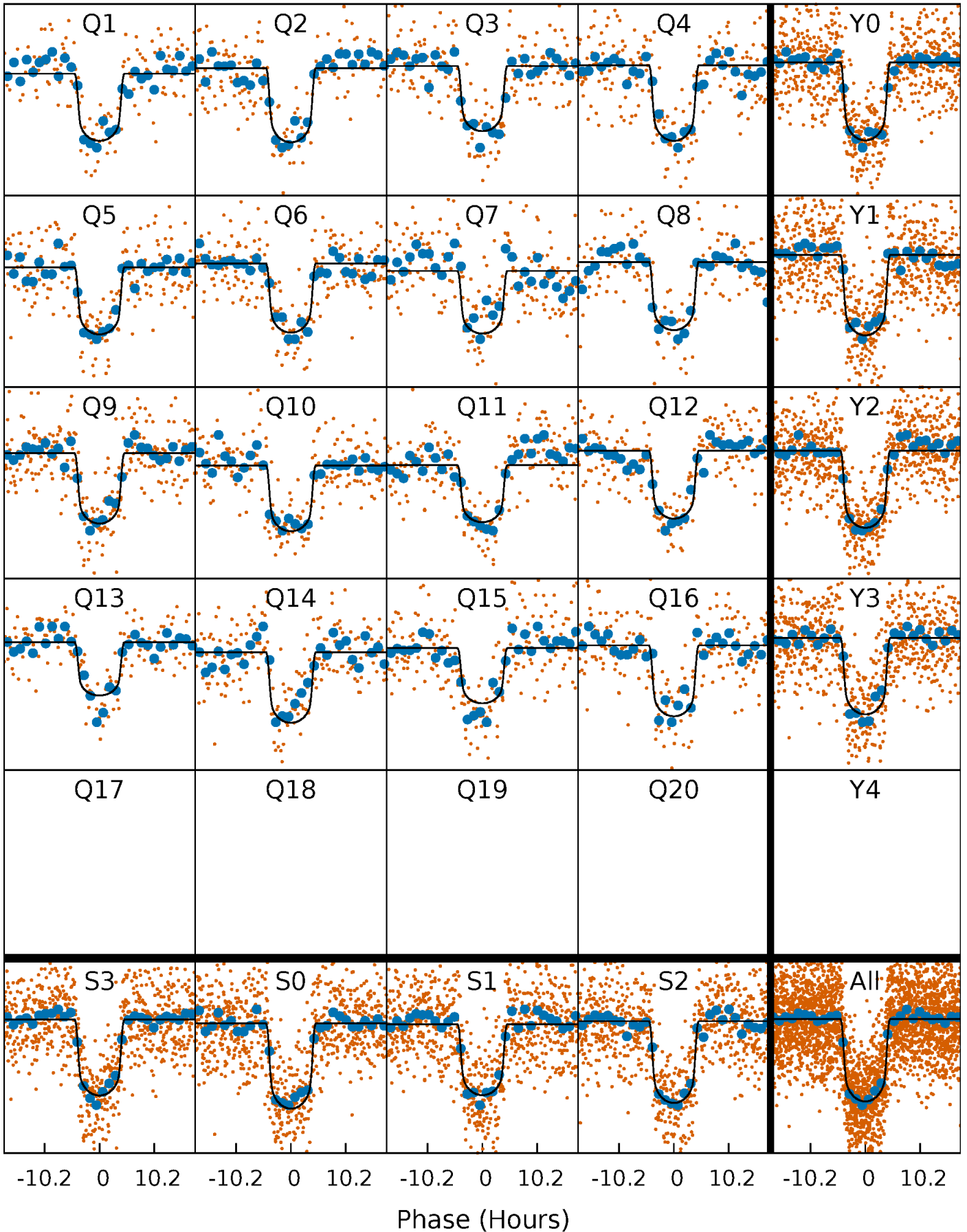
PDC Quarter-Phased Transit Curves

TCE 008822366-01 P= 30.864050 Days $T_0=132.015793$ (BKJD)



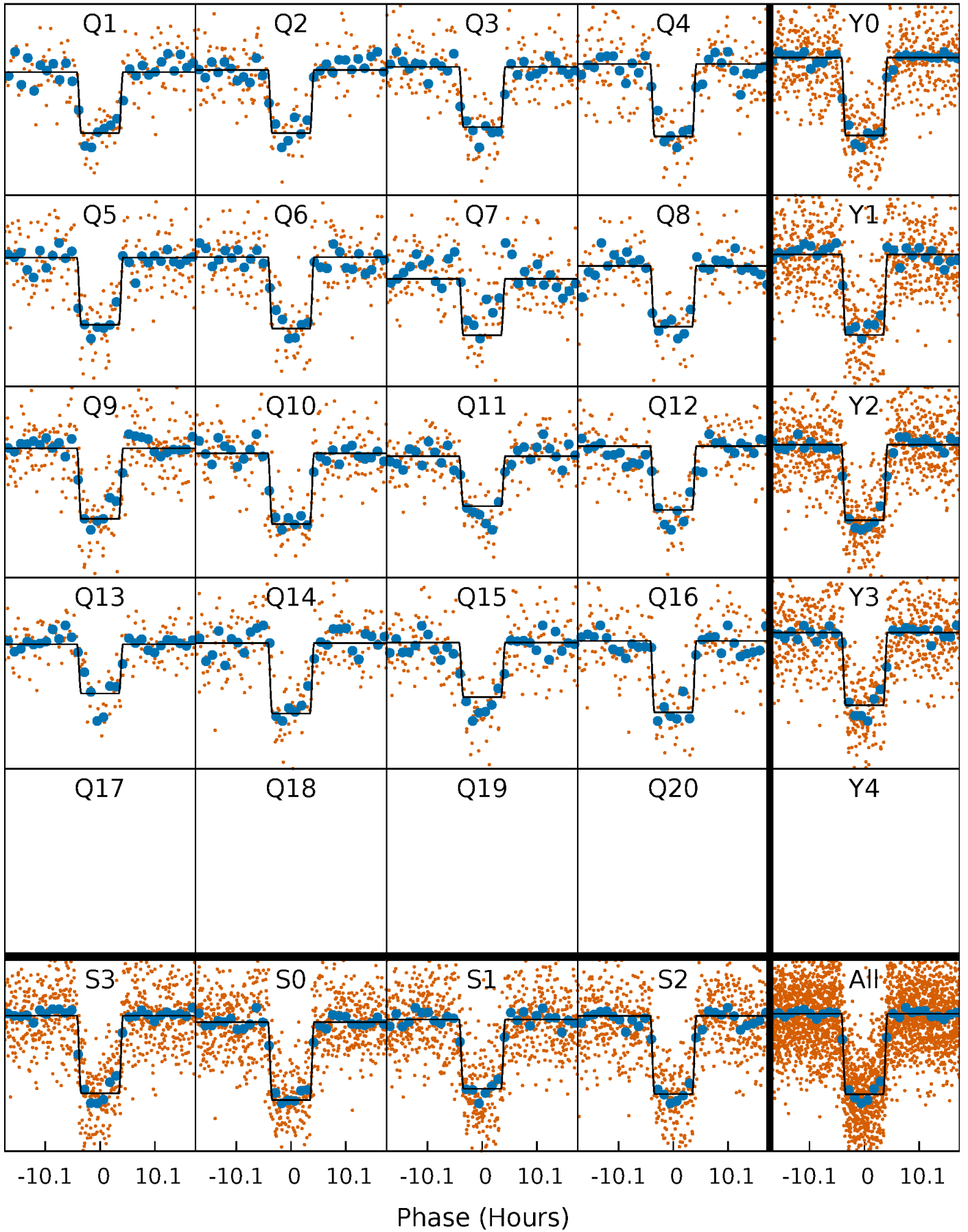
DV Quarter-Phased Transit Curves

TCE 008822366-01 P= 30.864050 Days $T_0=132.015793$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

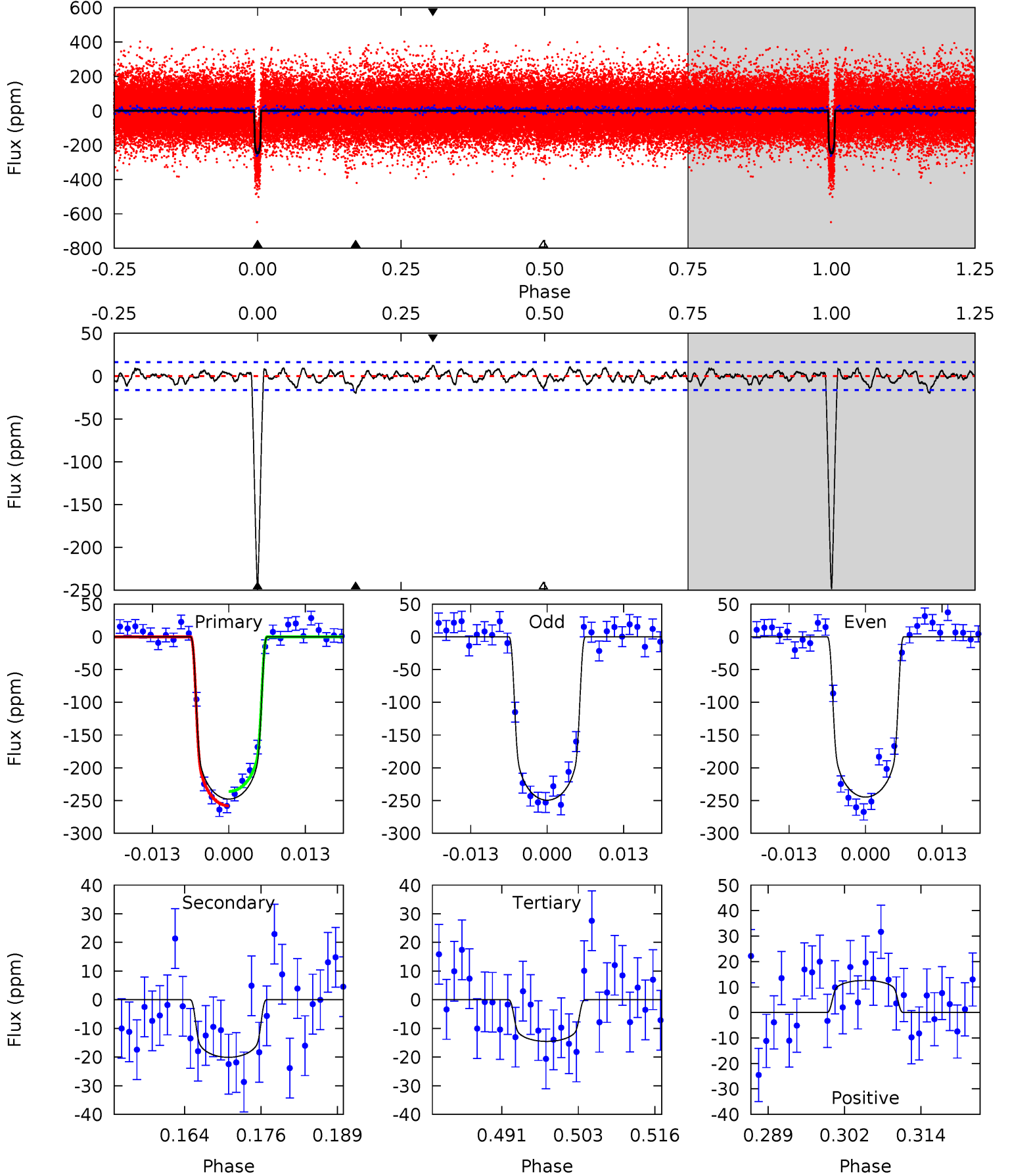
TCE 008822366-01 P= 30.863588 Days $T_0=132.025516$ (BKJD)



DV Model-Shift Uniqueness Test

008822366-01, $P = 30.864050$ Days, $E = 101.151743$ Days

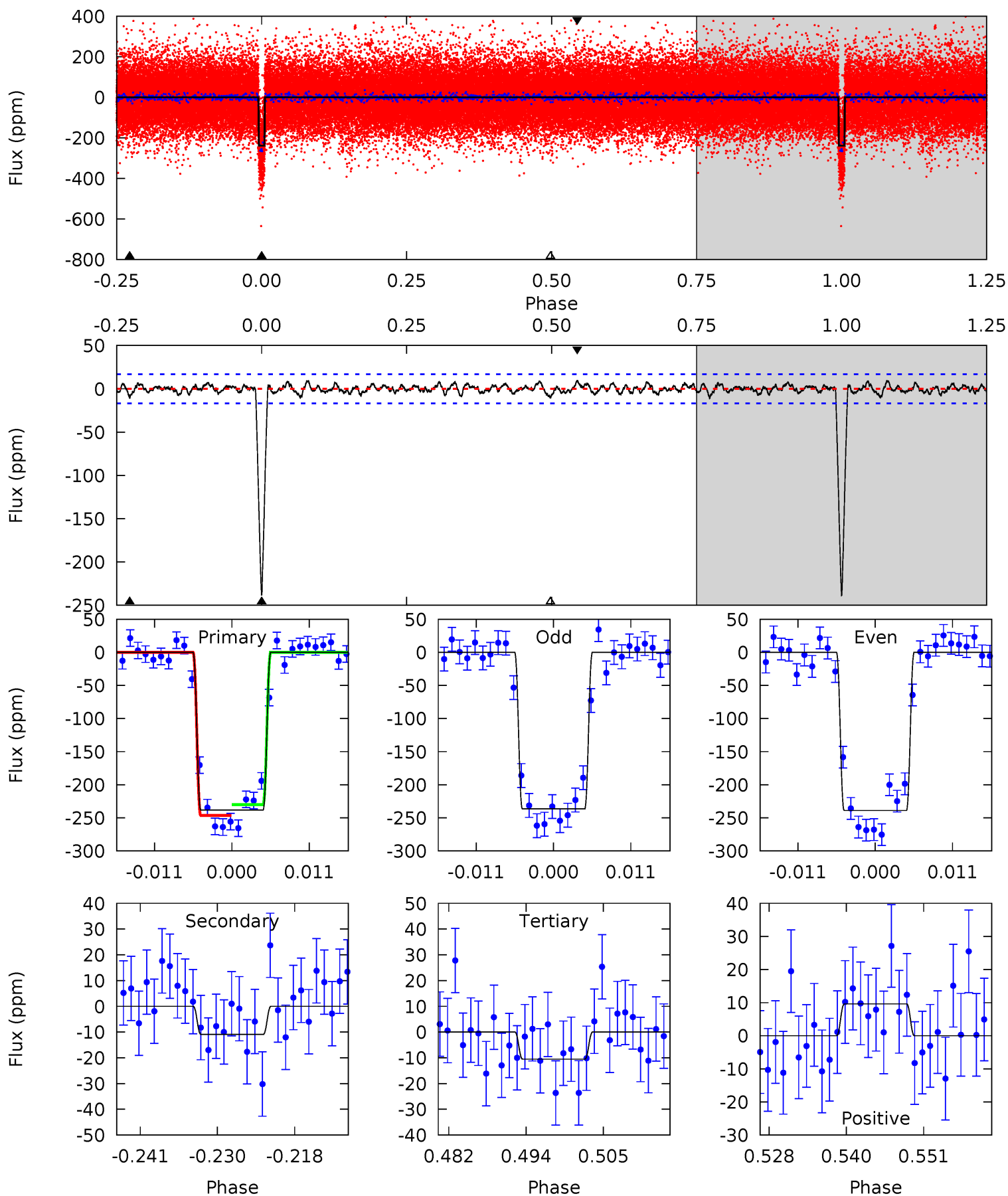
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
75.3	6.10	4.42	3.82	4.98	2.50	1.45	70.9	71.4	1.69	2.28	0.72	0.99	0.05	3.34



Alt Model-Shift Uniqueness Test

008822366-01, $P = 30.863588$ Days, $E = 101.161928$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
71.3	3.26	3.14	2.87	5.00	2.53	1.08	68.1	68.4	0.12	0.39	0.33	0.98	0.04	2.45



Stellar Parameters For KIC 008822366

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5977^{+80}_{-80}	$4.080^{+0.020}_{-0.018}$	$-0.040^{+0.200}_{-0.150}$	$1.571^{+0.086}_{-0.063}$	$1.081^{+0.104}_{-0.069}$	$0.393^{+0.033}_{-0.030}$
	+1%/-1%	+0%/-0%	+500%/-375%	+5%/-4%	+10%/-6%	+8%/-8%
Source	SPE72	AST8	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 008822366-01 / KOI 1282.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-20 ± 3	$2.98^{+0.13}_{-0.12}$	1039^{+17}_{-17}	3522^{+92}_{-108}	49^{+8}_{-9}
Alt.	-11 ± 3	$2.66^{+0.12}_{-0.11}$	1039^{+17}_{-16}	3308^{+147}_{-186}	33^{+10}_{-10}

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 $A_{obs} \gg 1.0$

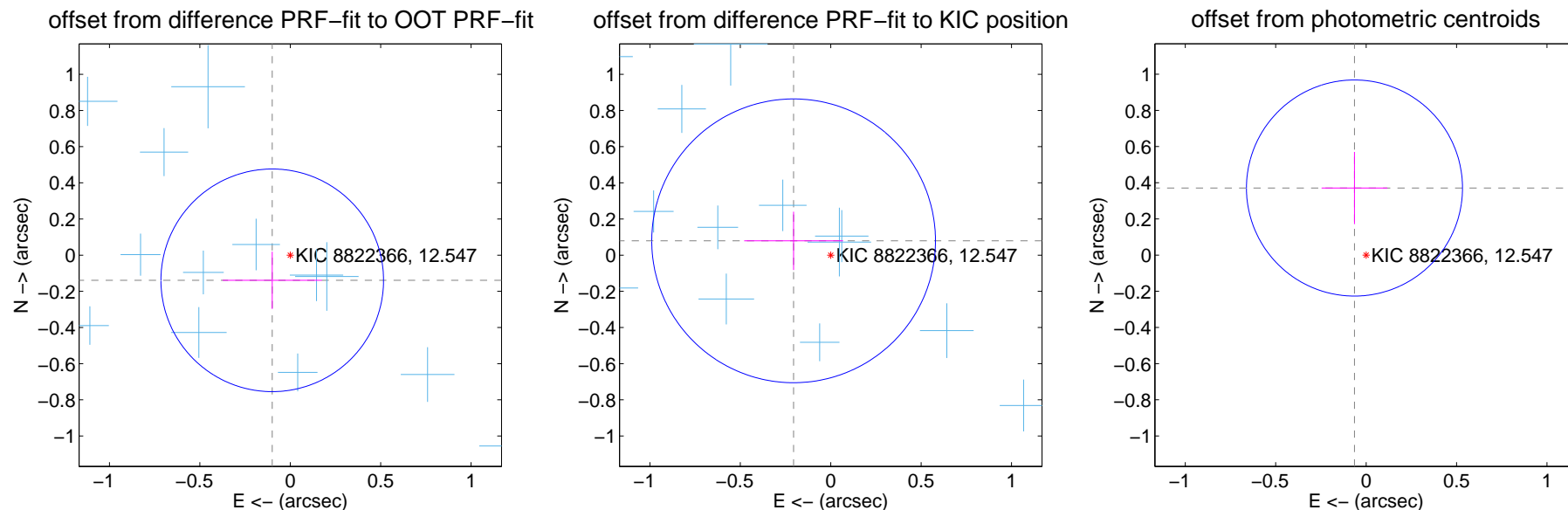
DV Centroid Data

Supplemental centroid analysis for 008822366-01. Kepler magnitude: 12.55. Transit SNR 47.25

There are 15 quarters with good PRF difference image offsets

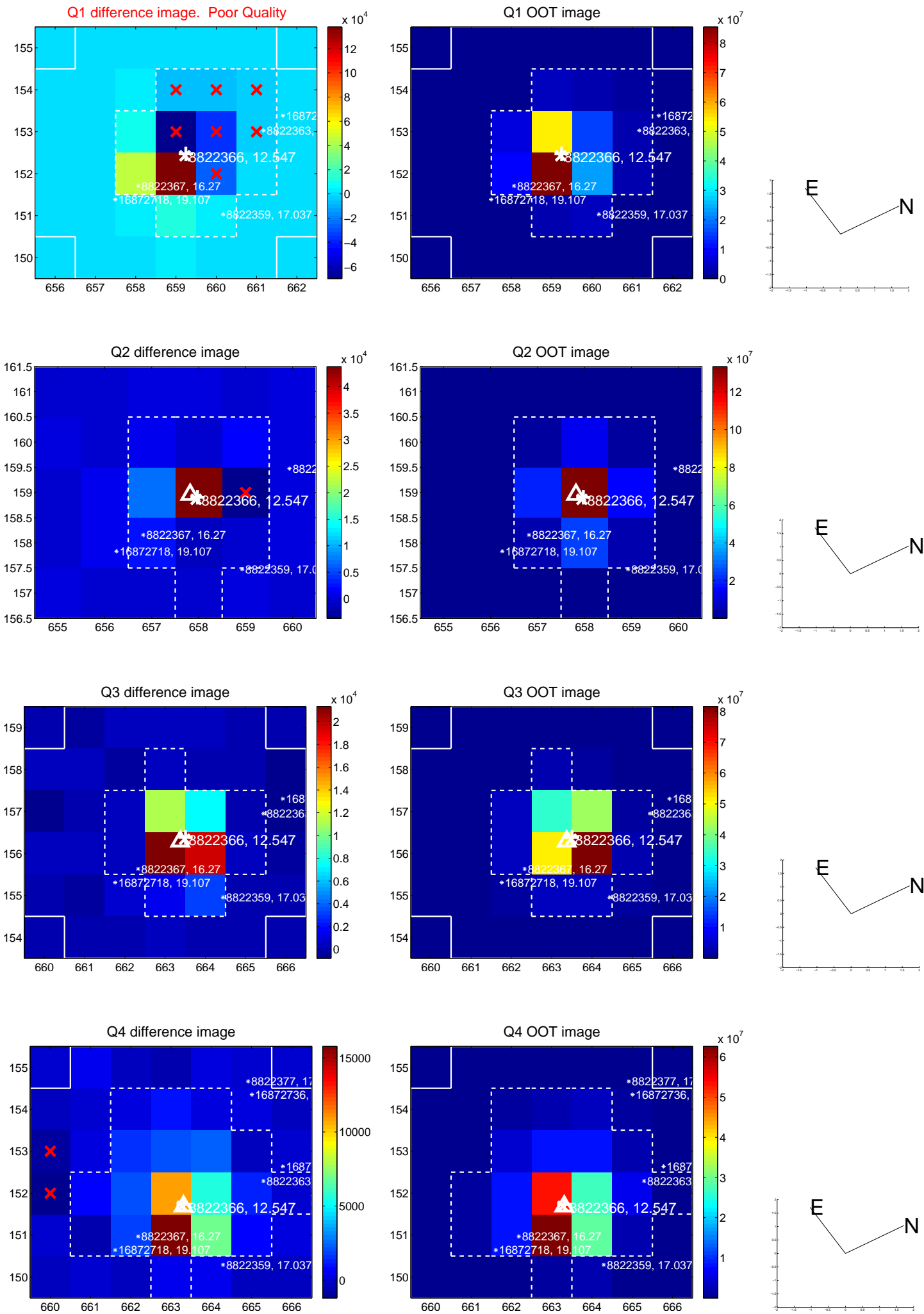
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.171 ± 0.205	0.83	0.100 ± 0.275	-0.139 ± 0.158
PRF-fit source offset from KIC position	0.220 ± 0.262	0.84	0.205 ± 0.273	0.079 ± 0.161
photometric centroid source offset	0.38 ± 0.20	1.89	0.06 ± 0.18	0.37 ± 0.20

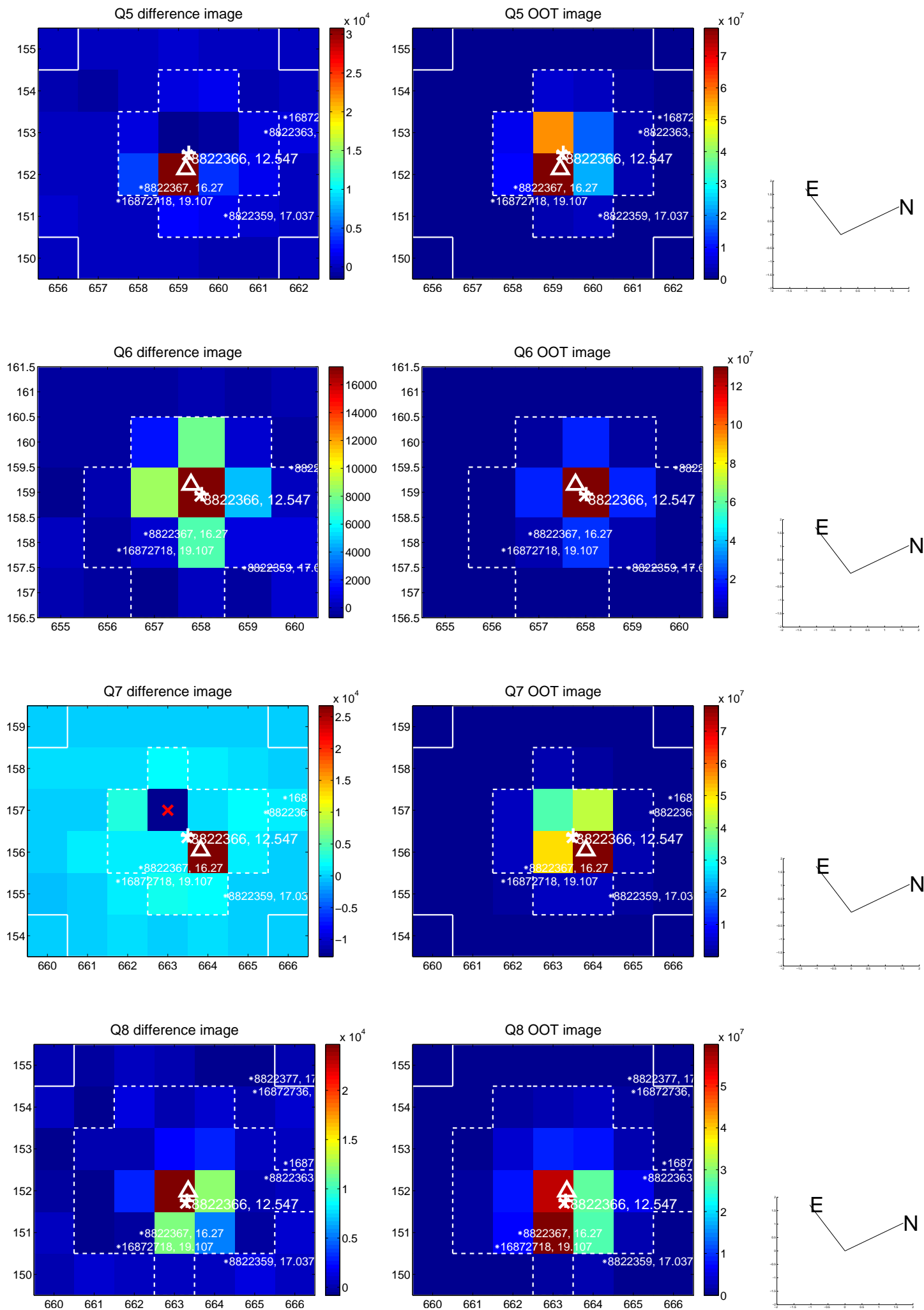


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

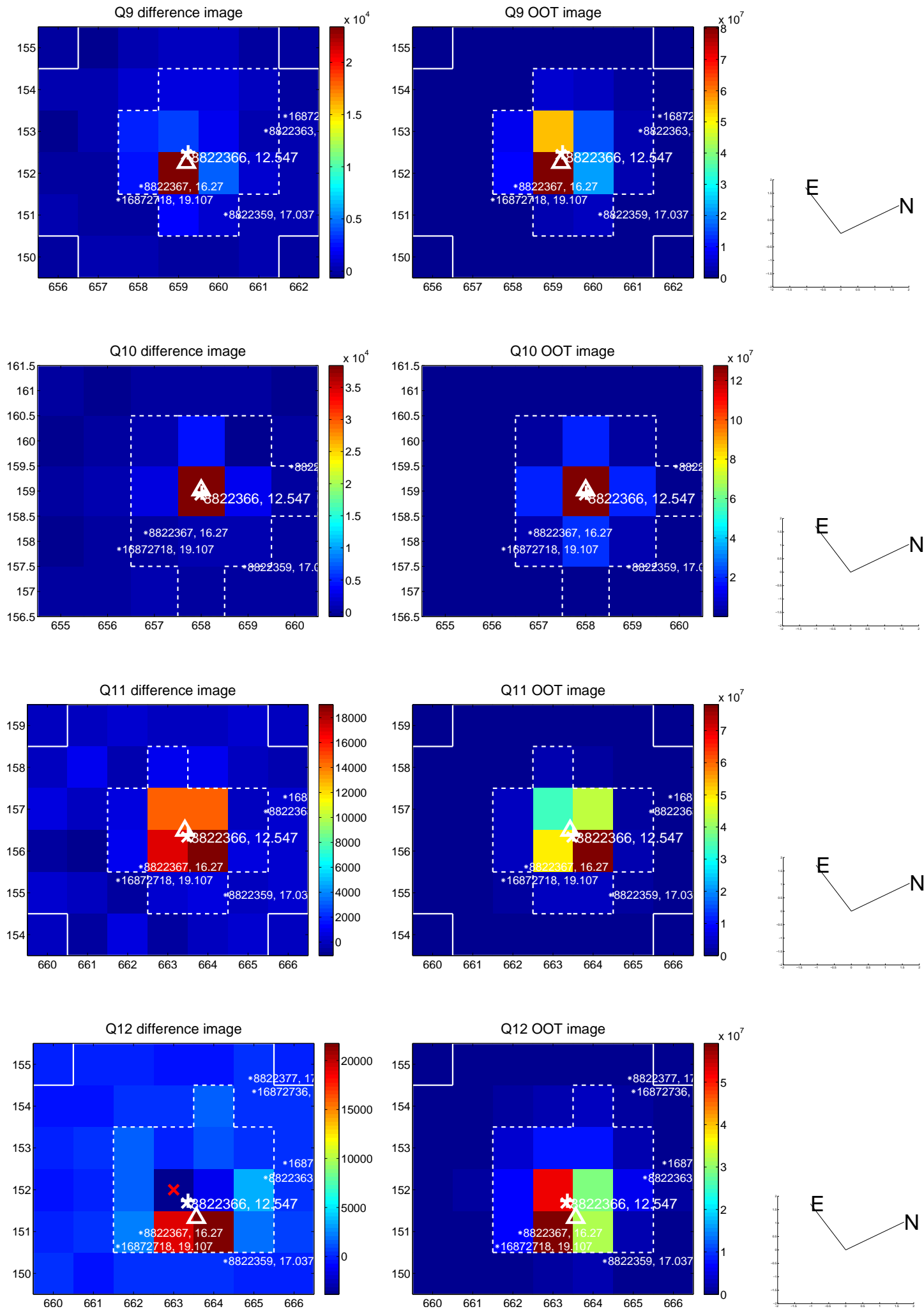
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



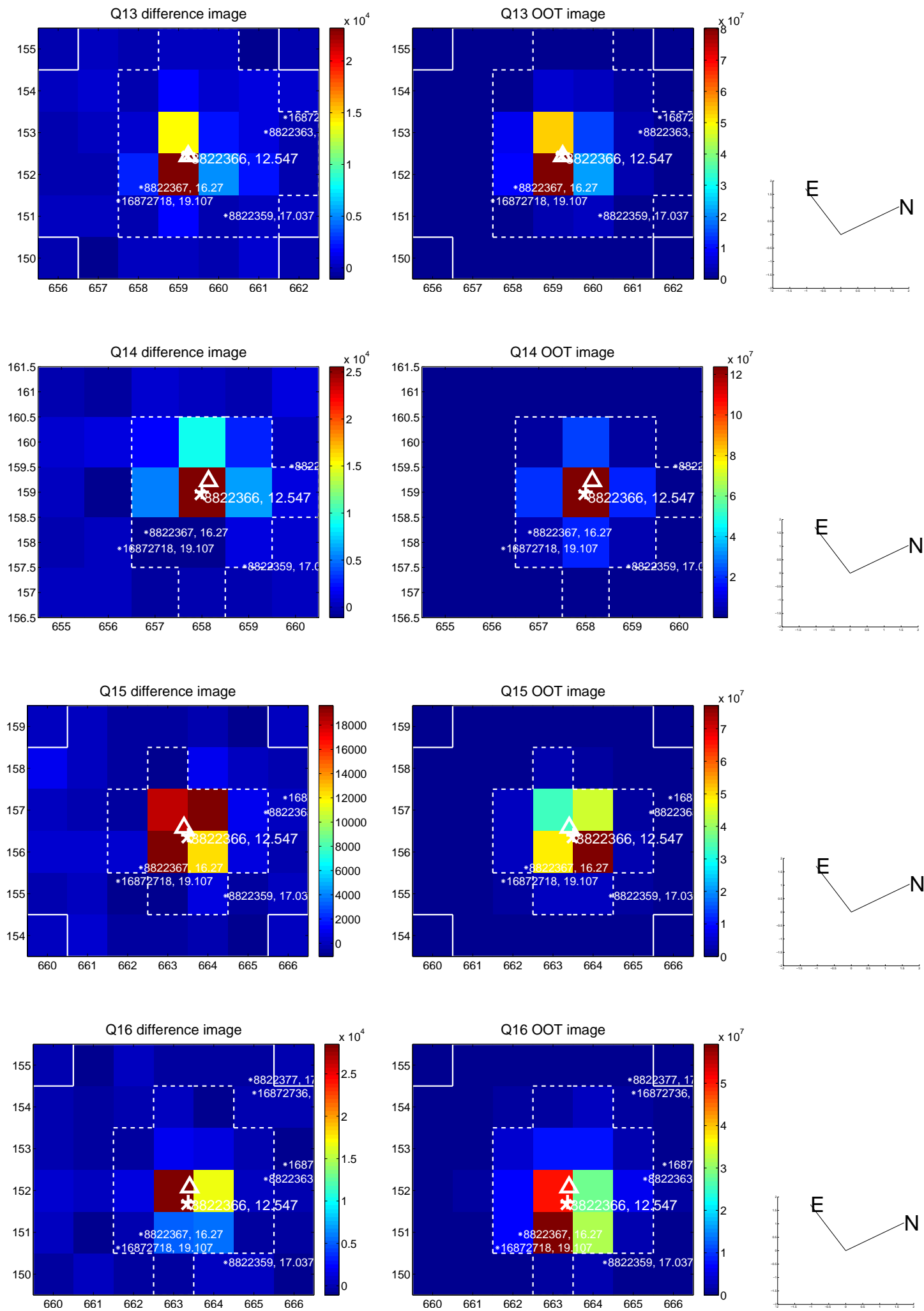
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



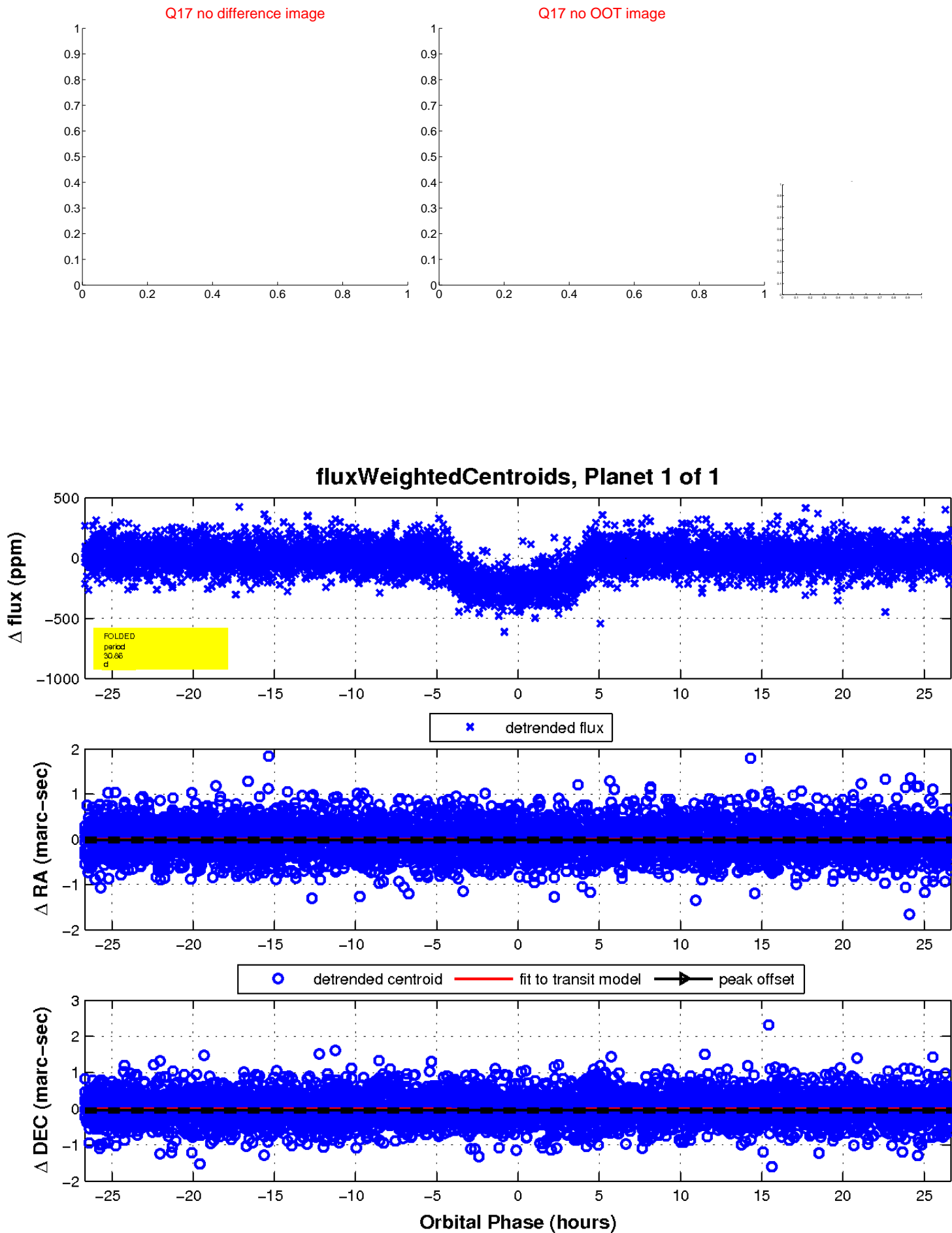
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

