

KIC 009181340

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})
009181340-01	OBS	7143.01	2.131170	133.319264	854.2	4.637	163.3	74.2	1.03	6181	4.99	1385.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009181340-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

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.

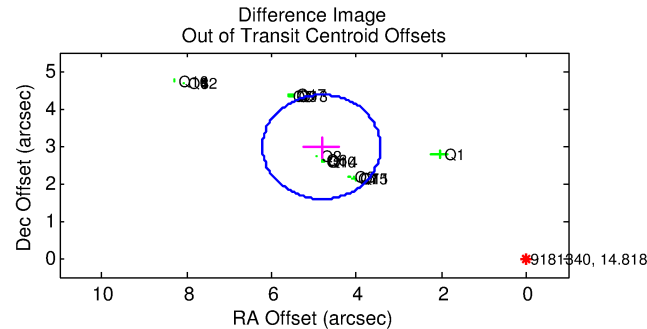
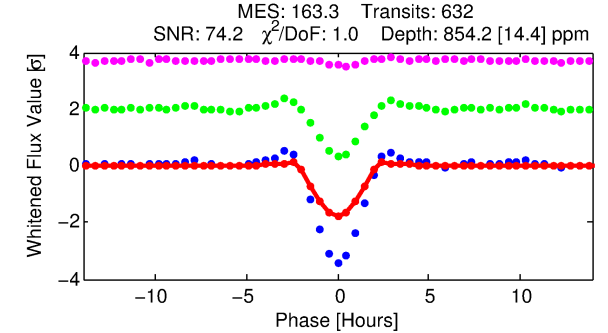
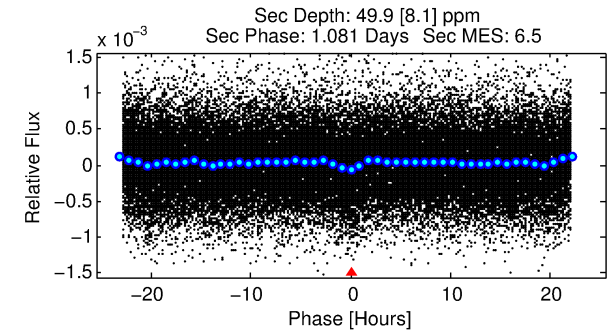
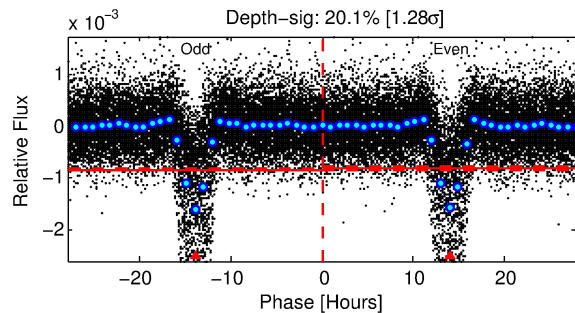
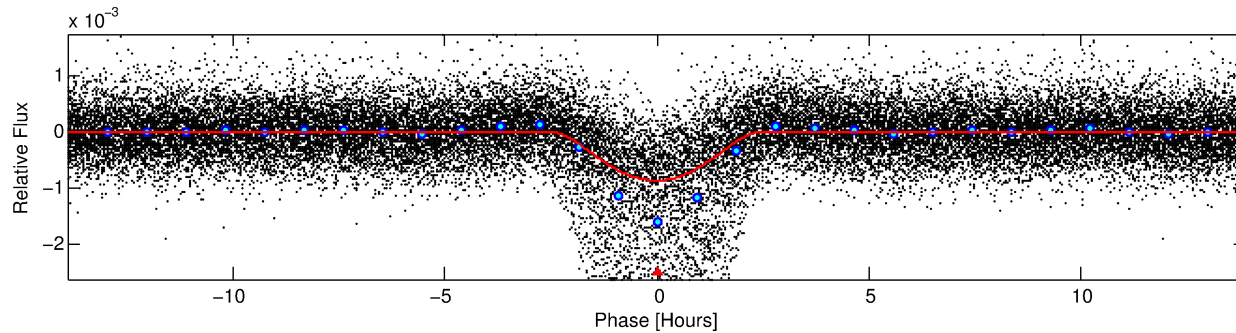
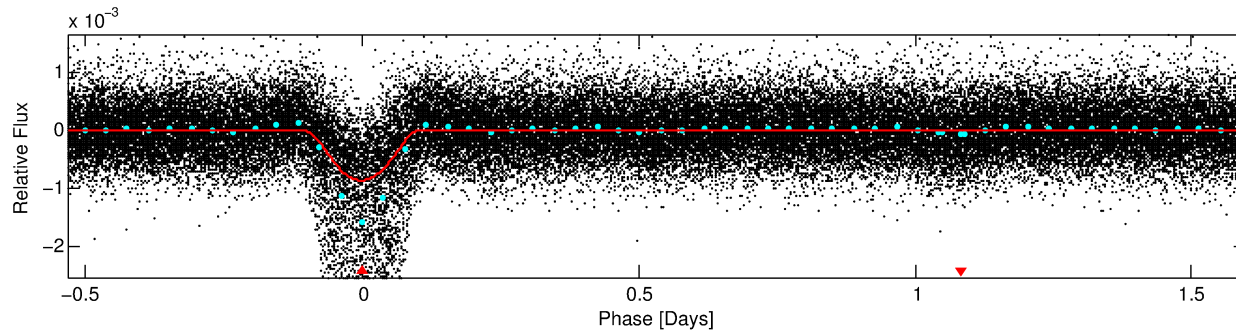
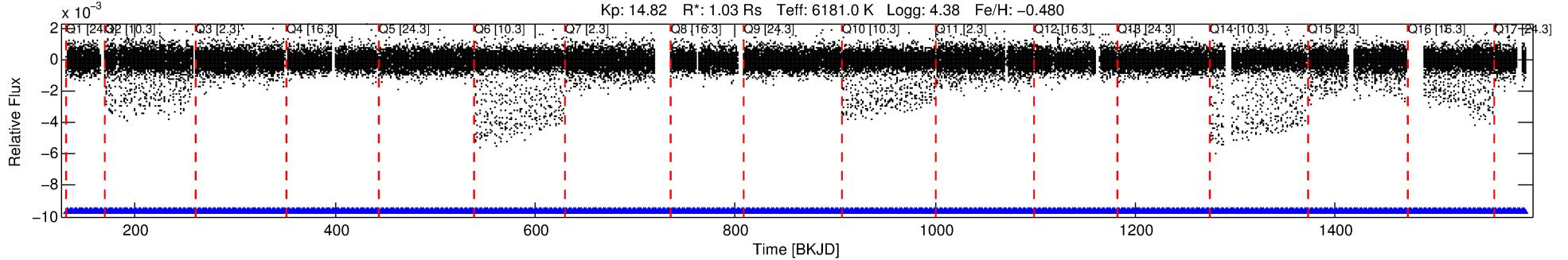
Ephemeris Match Information For 009181340-01

No Significant Match Found

DV One-Page Summary

KIC: 9181340 Candidate: 1 of 1 Period: 2.131 d
KOI: K07143.01 Corr: 0.918

Kp: 14.82 R*: 1.03 Rs Teff: 6181.0 K Logg: 4.38 Fe/H: -0.480



DV Fit Results:

Period = 2.13117 [0.00000] d
Epoch = 133.3193 [0.0010] BKJD
Rp/R* = 0.0444 [0.0113]
a/R* = 1.55 [0.06]
b = 0.99 [0.02]
Seff = 1385.59 [521.72]
Teq = 1556 [146] K
Rp = 4.99 [1.89] Re
a = 0.0316 [0.0075] AU
Ag = 1.10 [0.70] [0.14σ]
Teffp = 2464 [340] K [2.45σ]

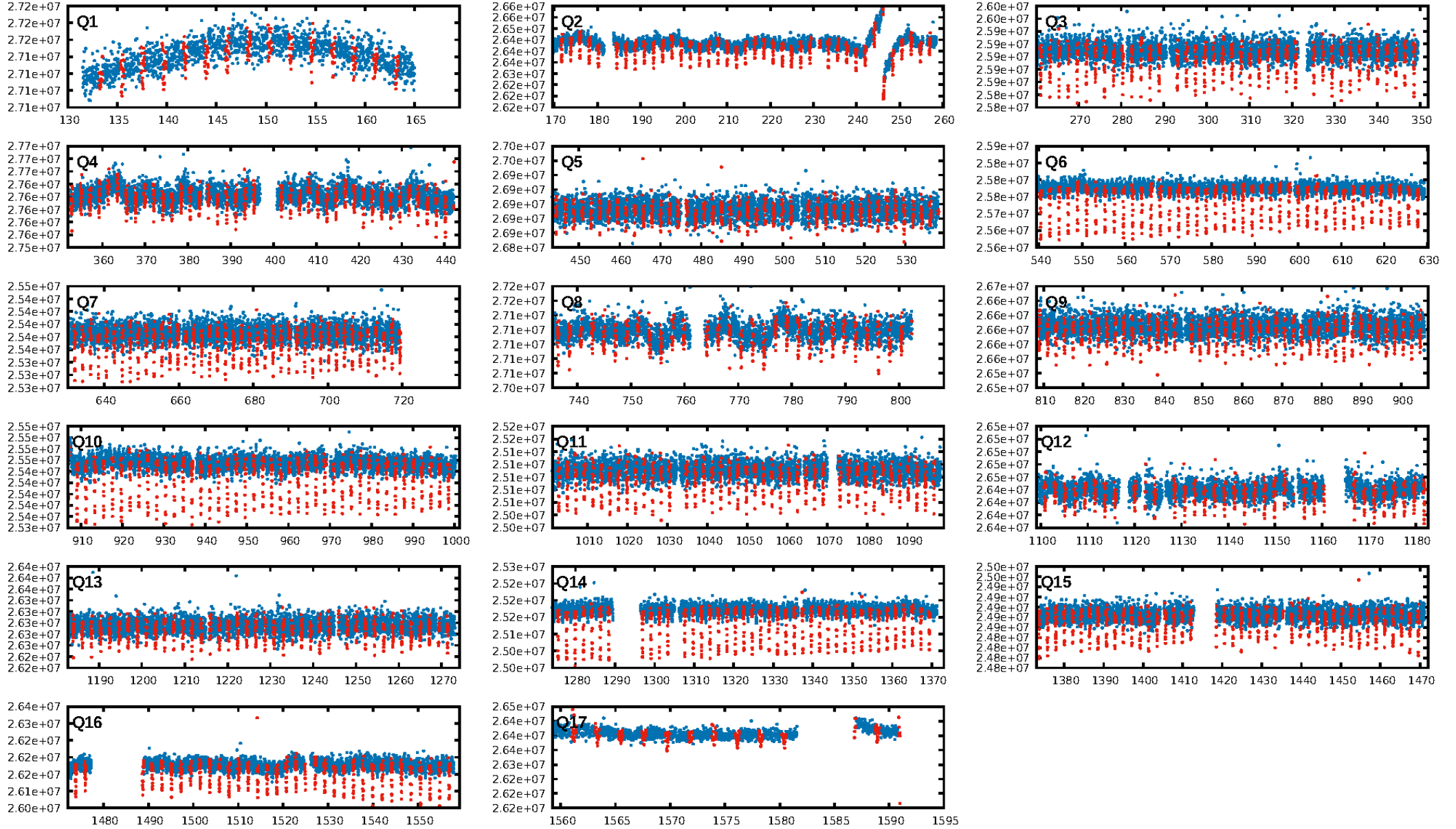
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [604/604]
GhostDiagnostic-chr: -0.1148
Centroid-sig: 0.0%
Centroid-so: 40.454 arcsec [245.49σ]
OotOffset-rm: 5.660 arcsec [12.21σ]
KicOffset-rm: 5.650 arcsec [12.07σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

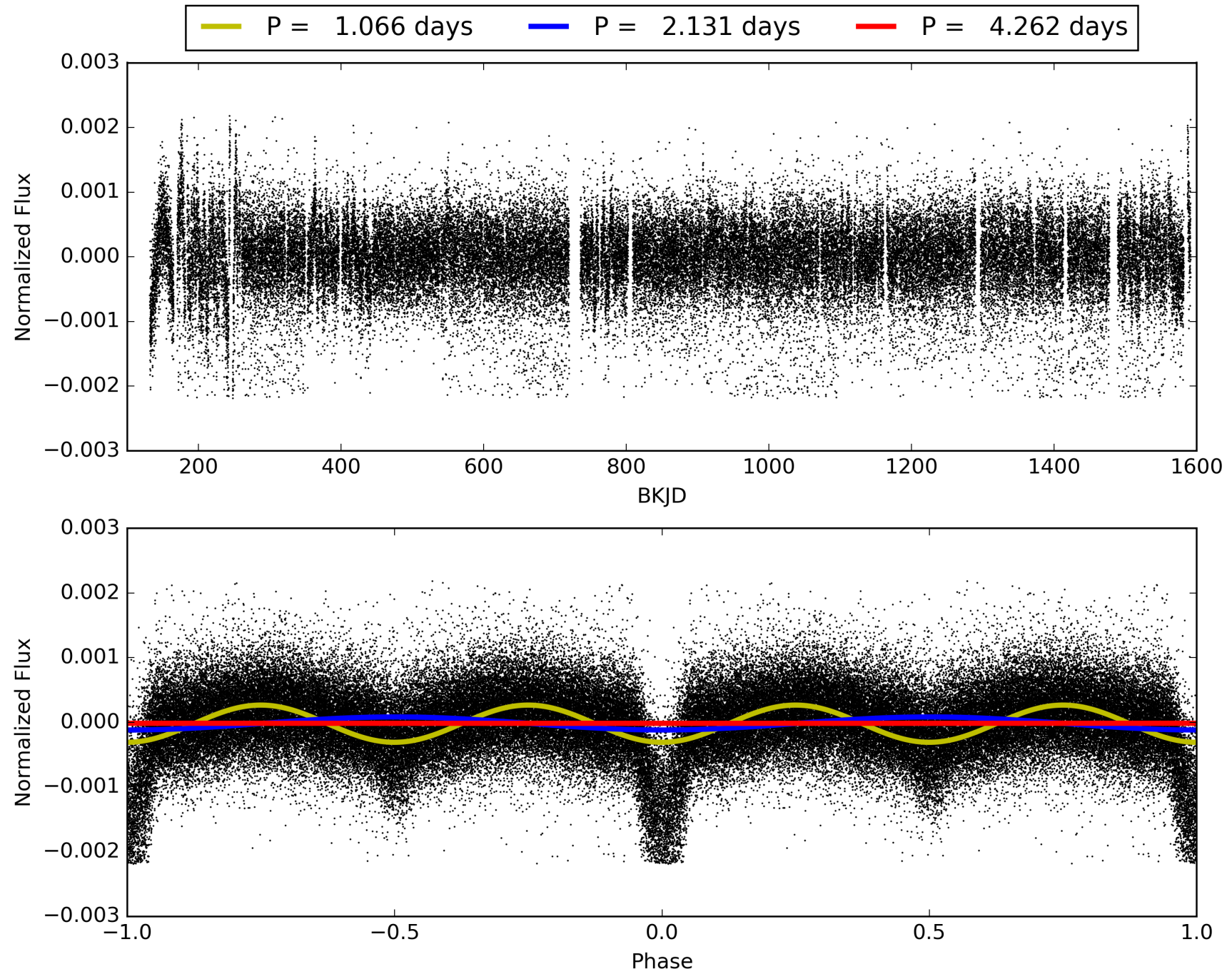
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:58:18 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009181340-01, PDC Light Curves

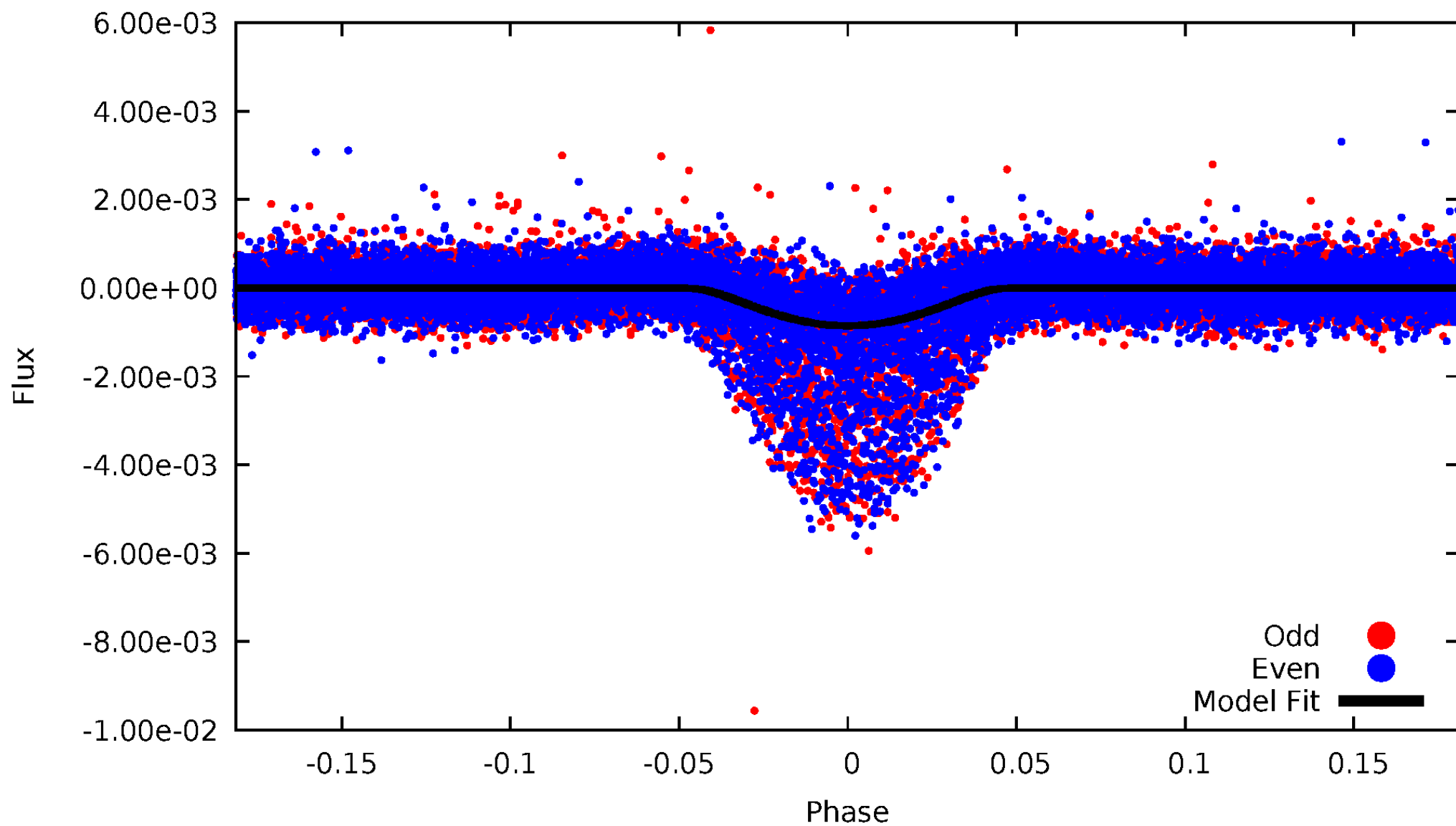


TCE 009181340-01



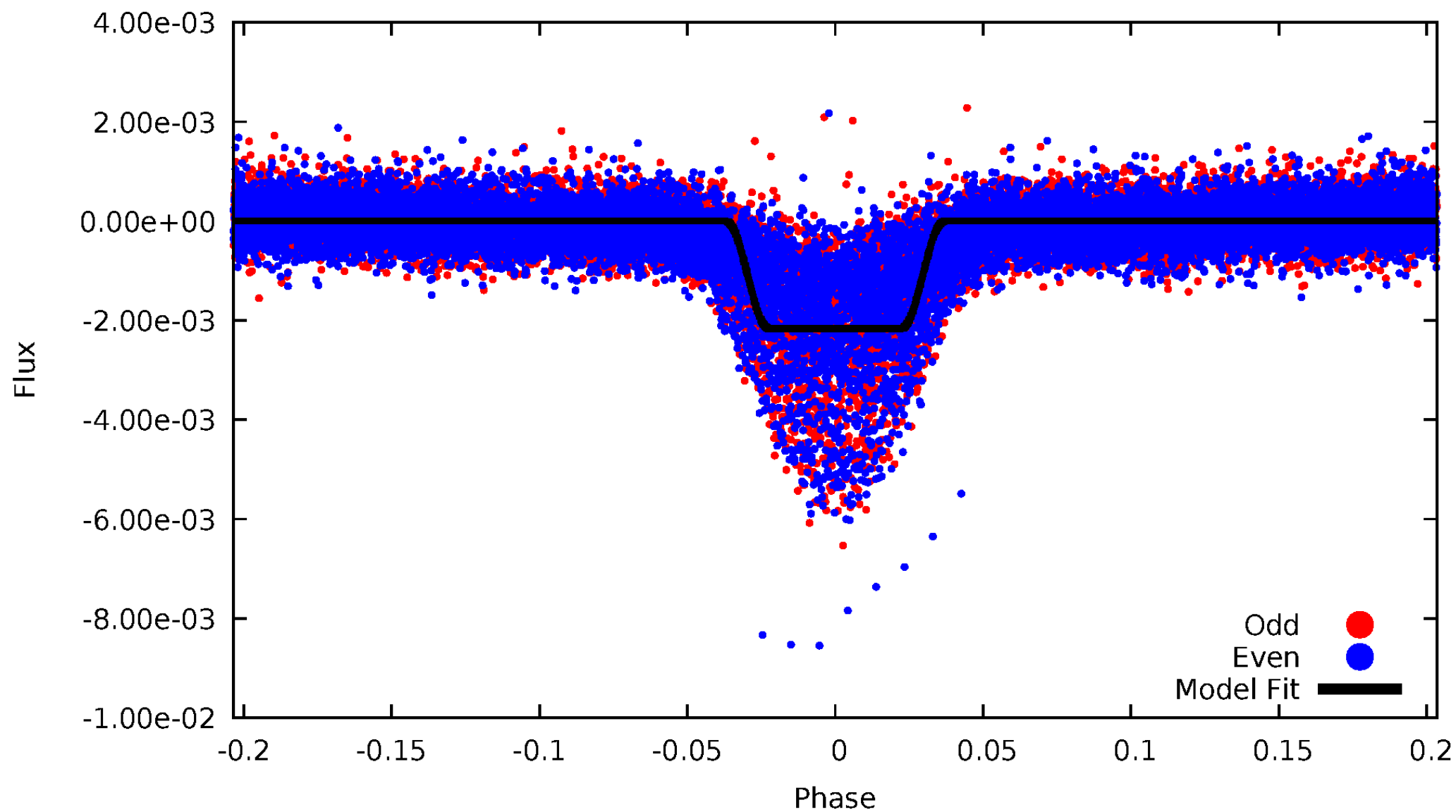
DV Odd/Even

TCE 009181340-01



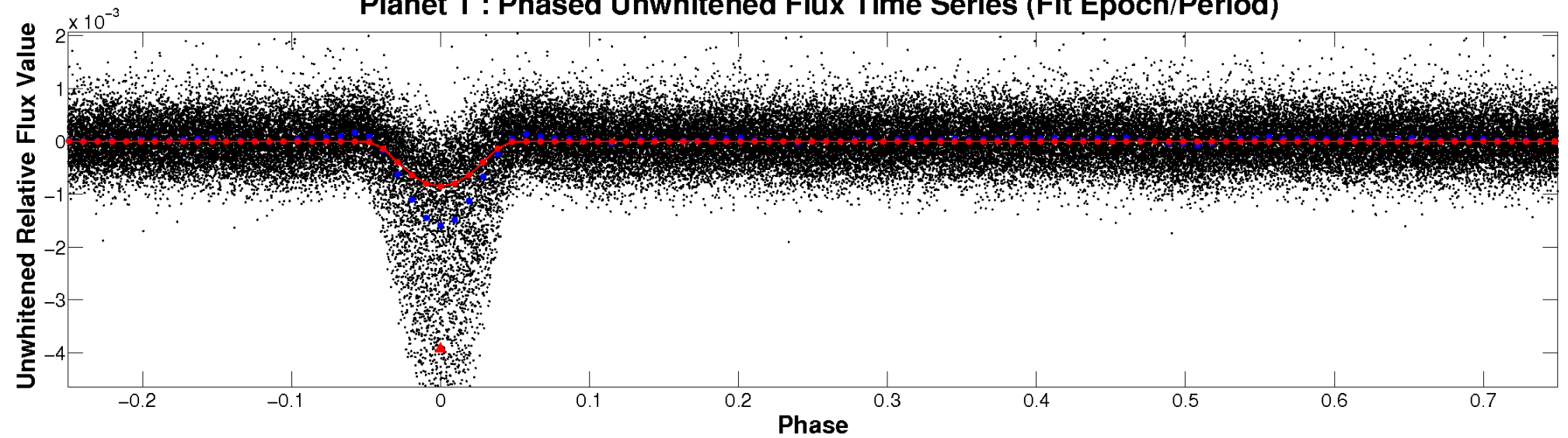
ALT Odd/Even

TCE 009181340-01

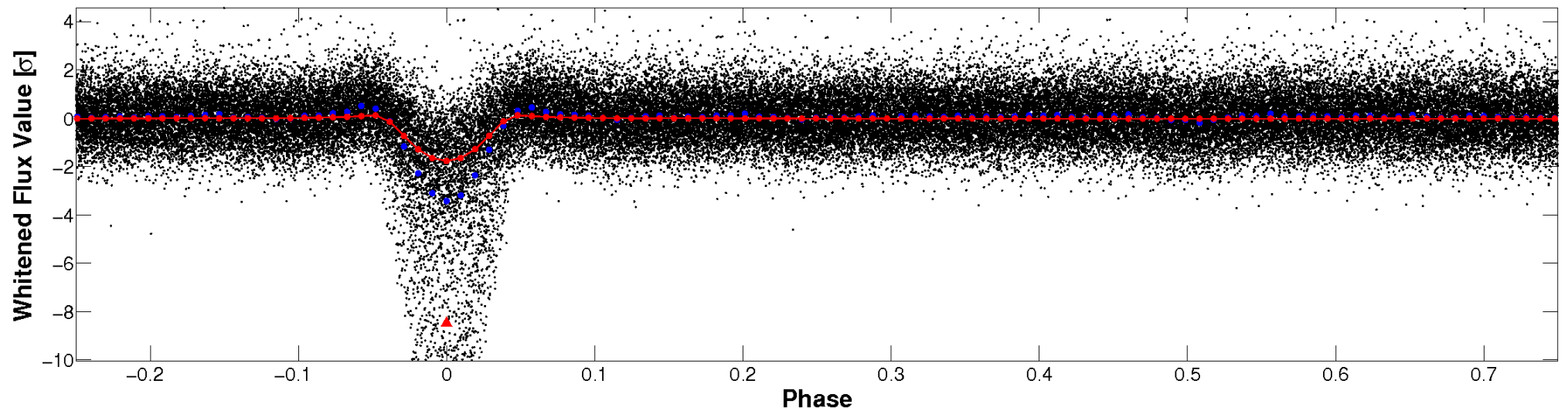


Non-Whitened Vs. Whitened Light Curve

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

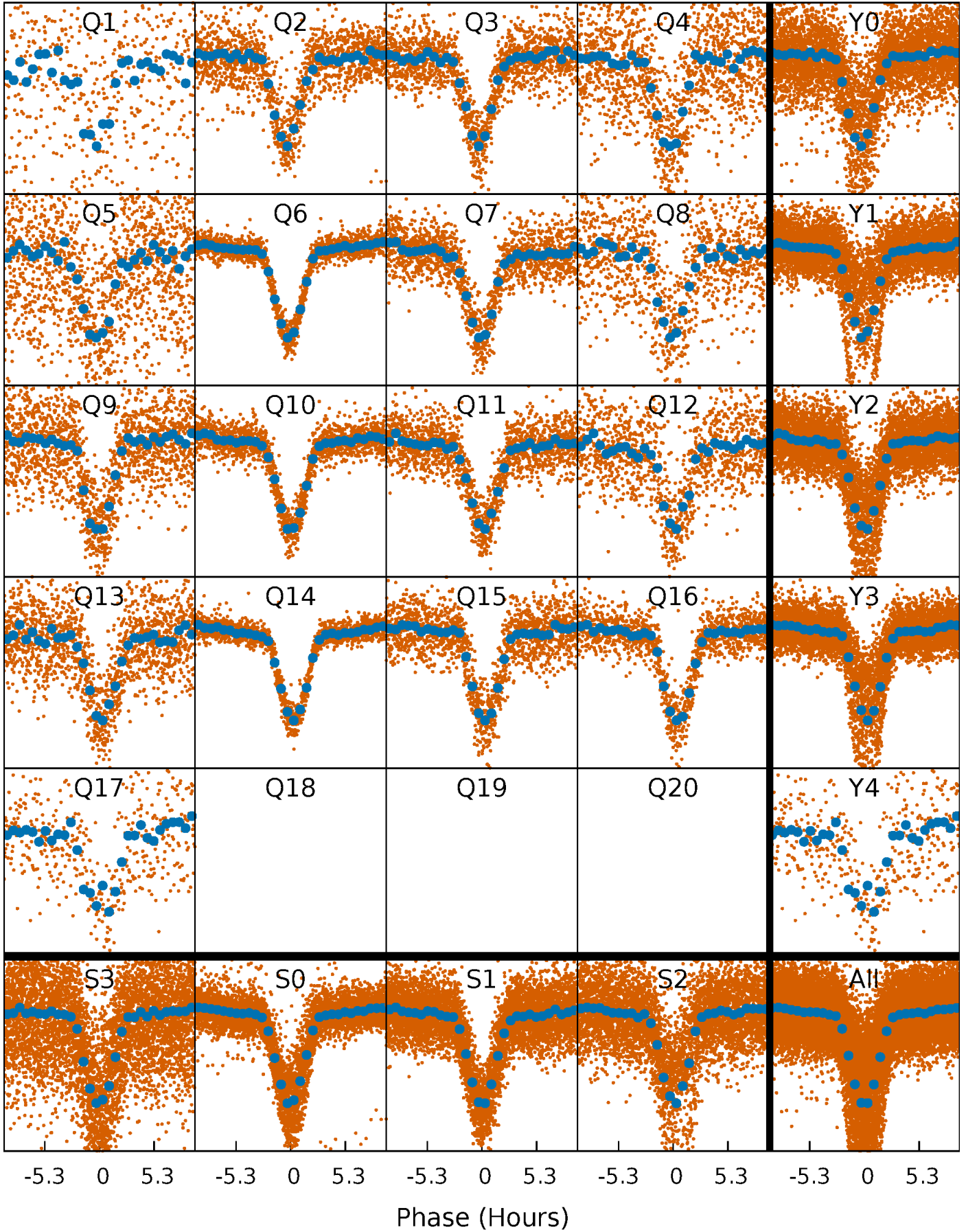


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



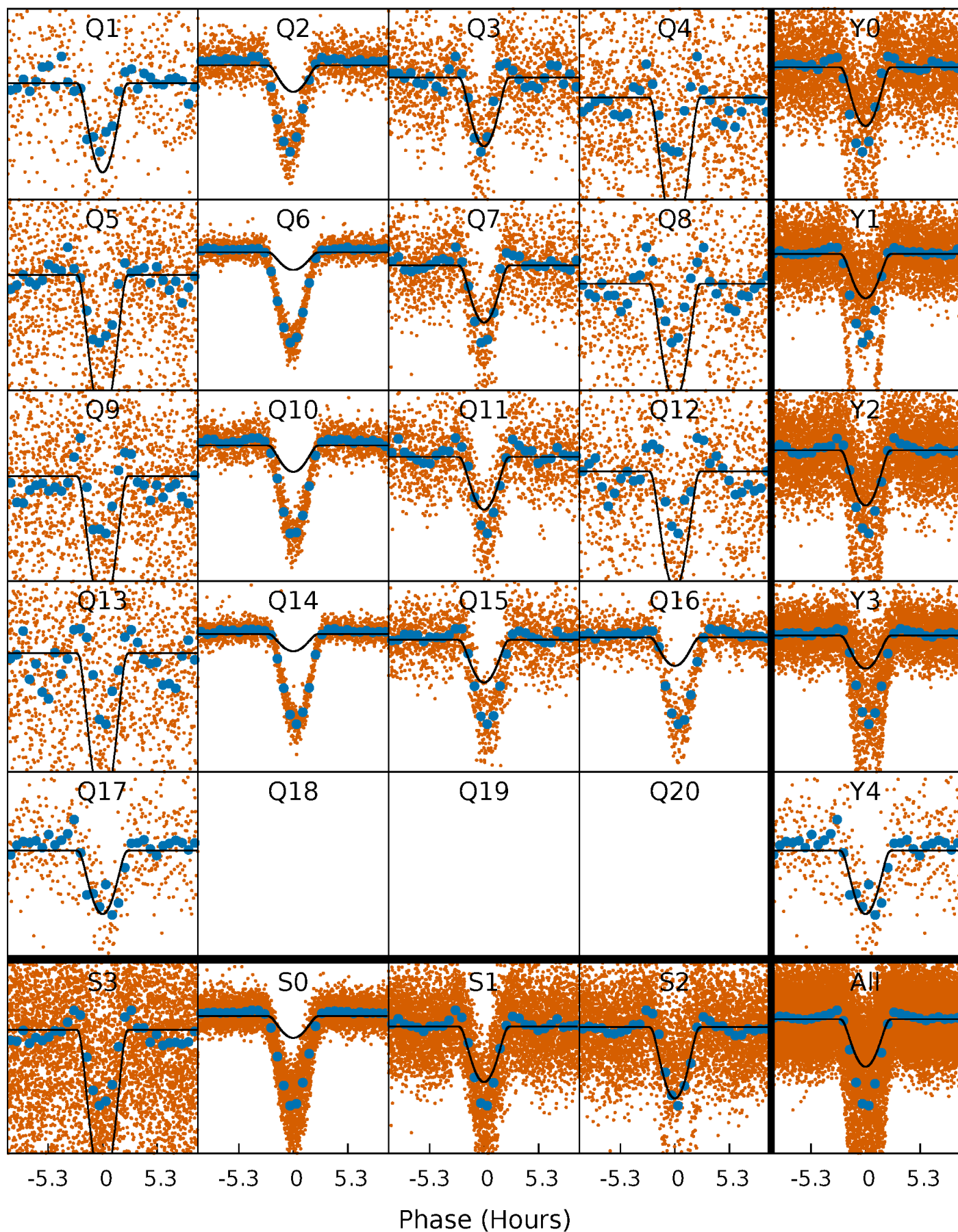
PDC Quarter-Phased Transit Curves

TCE 009181340-01 P= 2.131170 Days $T_0=133.319264$ (BKJD)



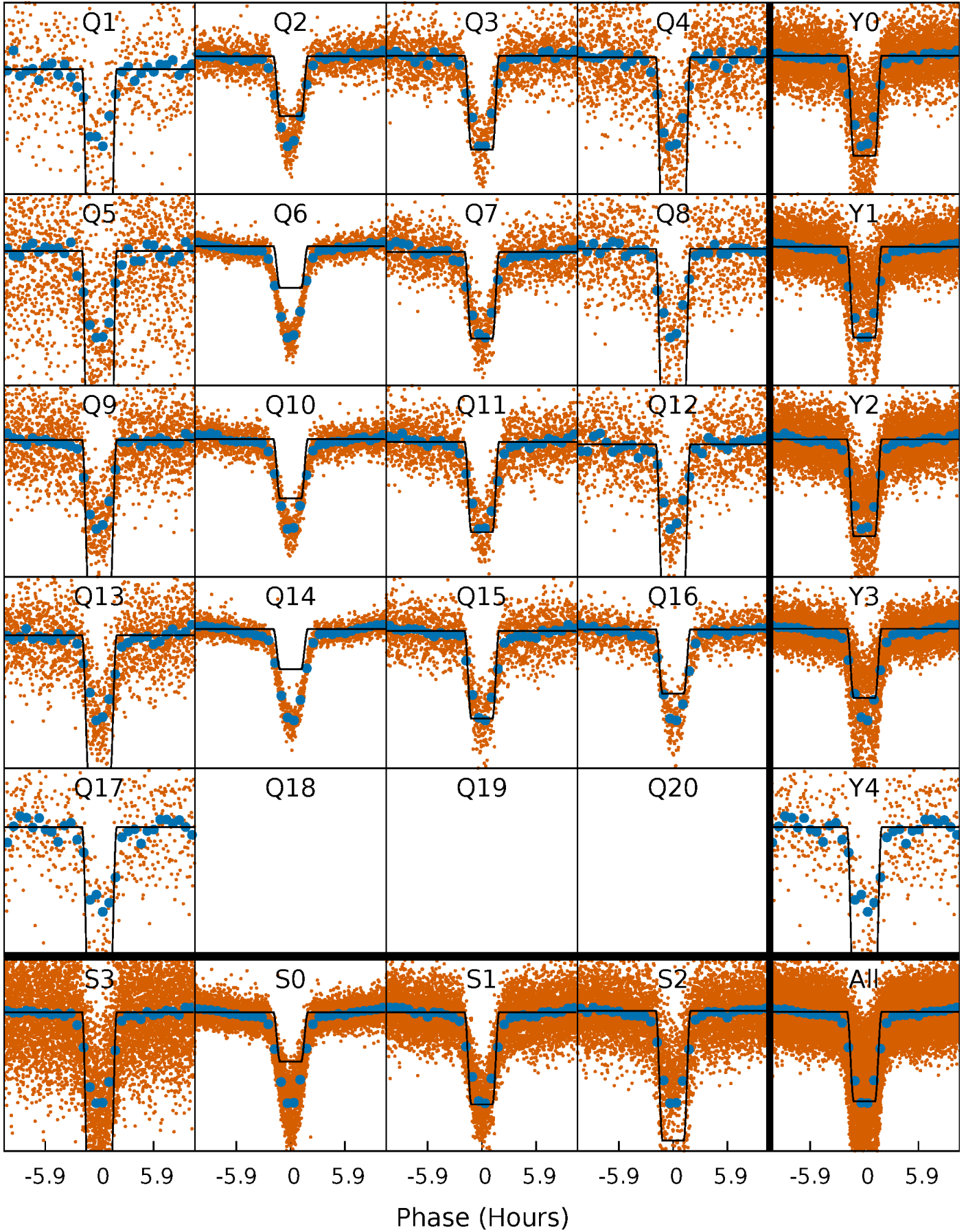
DV Quarter-Phased Transit Curves

TCE 009181340-01 P= 2.131170 Days $T_0=133.319264$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

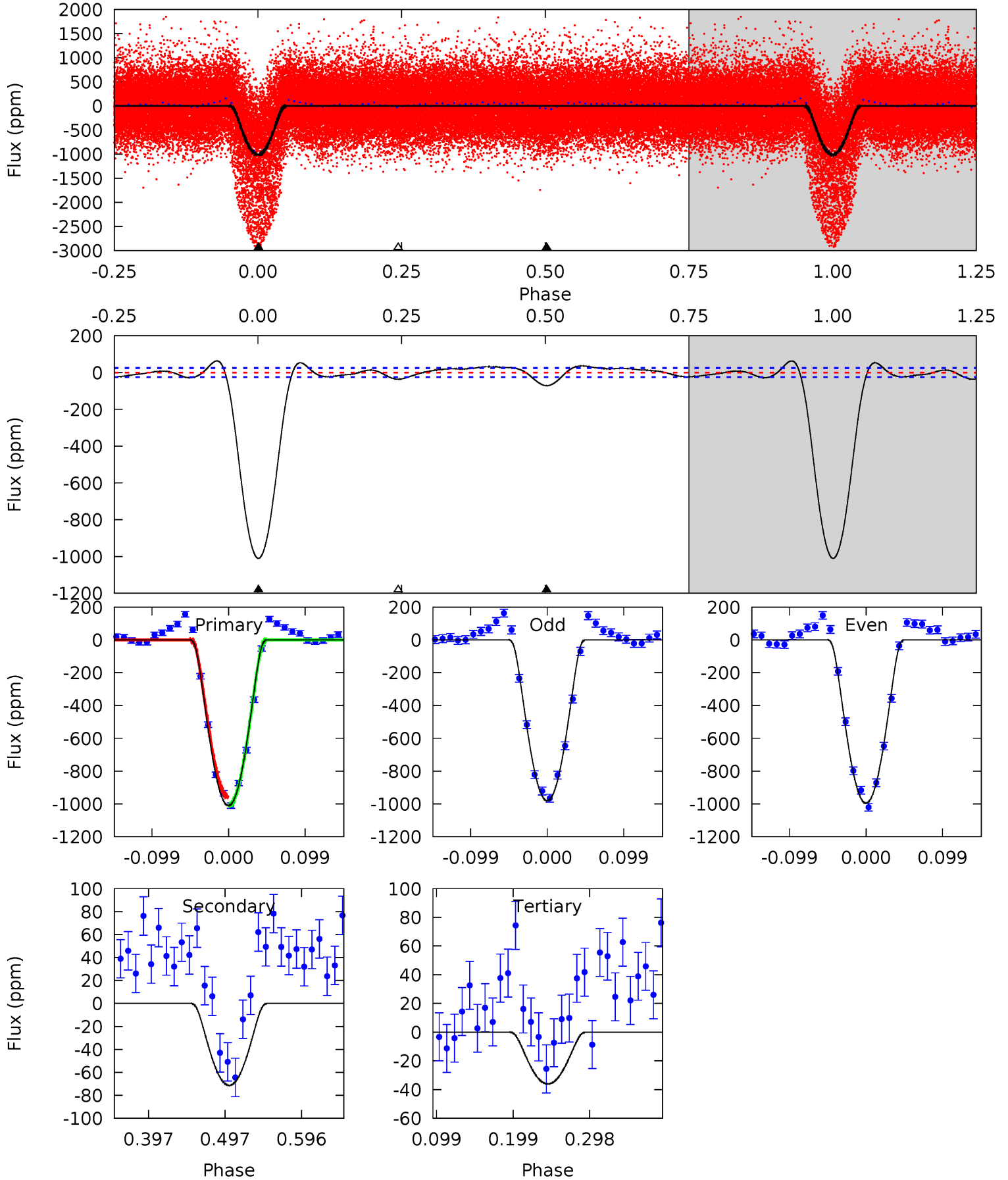
TCE 009181340-01 P= 2.131208 Days $T_0=133.306222$ (BKJD)



DV Model-Shift Uniqueness Test

009181340-01, P = 2.131170 Days, E = 131.188094 Days

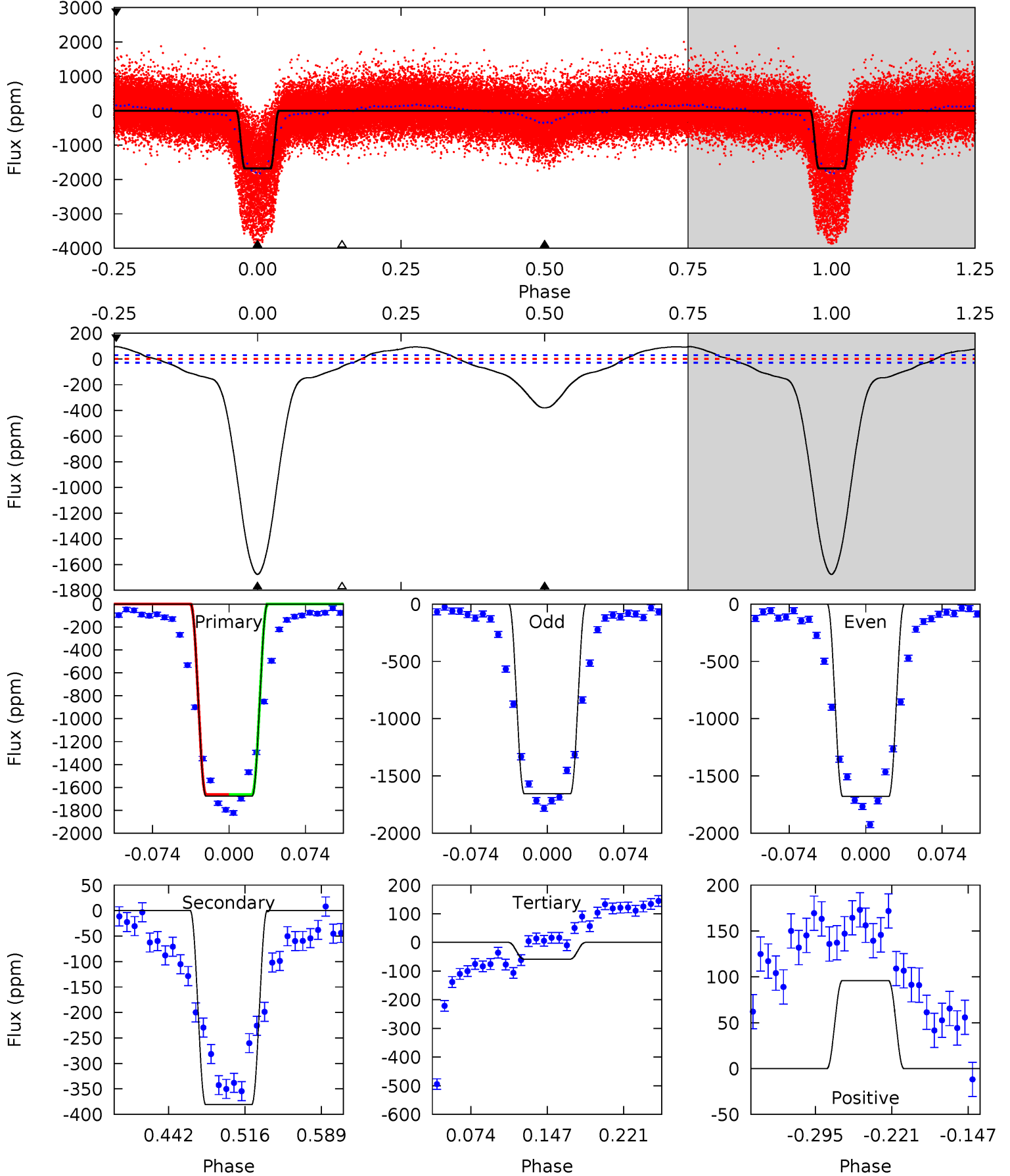
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
186.9	13.2	6.67	0	4.57	1.65	3.30	180.3	186.9	6.53	13.2	1.38	1.57	0.06	5.00



Alt Model-Shift Uniqueness Test

009181340-01, P = 2.131208 Days, E = 131.175014 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
263.3	59.8	9.18	15.1	4.63	1.79	12.6	254.1	248.2	50.6	44.7	1.89	1.13	0.05	0.03



Stellar Parameters For KIC 009181340

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6181^{+194}_{-216}	$4.380^{+0.128}_{-0.192}$	$-0.480^{+0.300}_{-0.300}$	$1.028^{+0.290}_{-0.179}$	$0.925^{+0.127}_{-0.104}$	$1.198^{+0.696}_{-0.600}$
	+3%/-3%	+3%/-4%	+62%/-62%	+28%/-17%	+14%/-11%	+58%/-50%
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 009181340-01 / KOI 7143.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-71 ± 5	$4.99^{+1.54}_{-1.33}$	2183^{+160}_{-127}	3170^{+359}_{-282}	$1.570^{+1.278}_{-0.652}$
Alt.	-381 ± 6	$5.18^{+1.65}_{-1.24}$	2198^{+164}_{-151}	4251^{+496}_{-378}	$7.786^{+5.730}_{-3.260}$

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

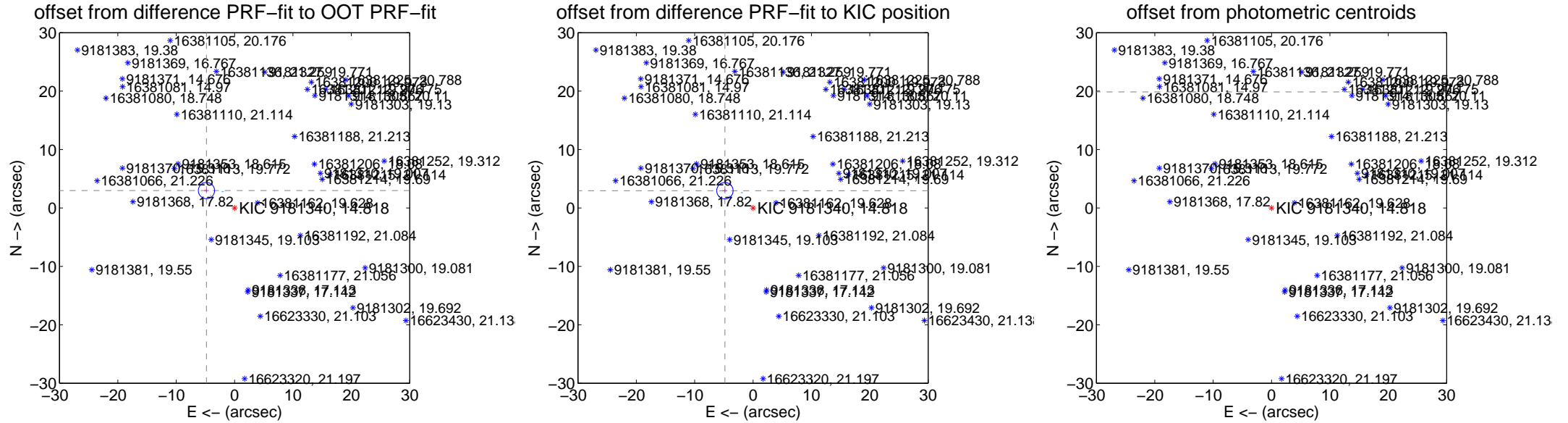
DV Centroid Data

Supplemental centroid analysis for 009181340-01. Kepler magnitude: 14.82. Transit SNR 74.25

There are 17 quarters with good PRF difference image offsets

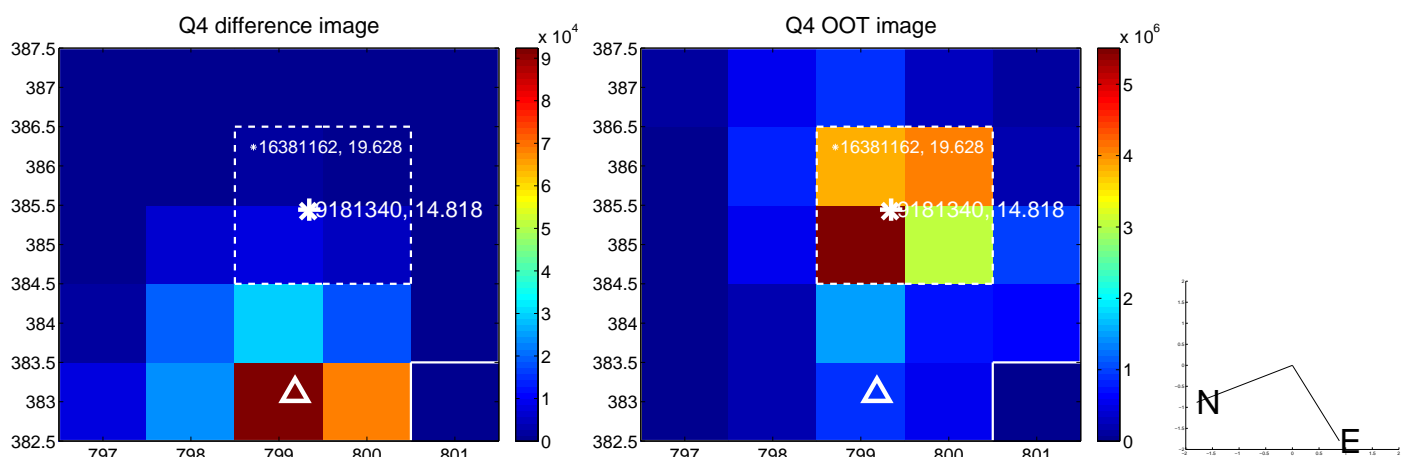
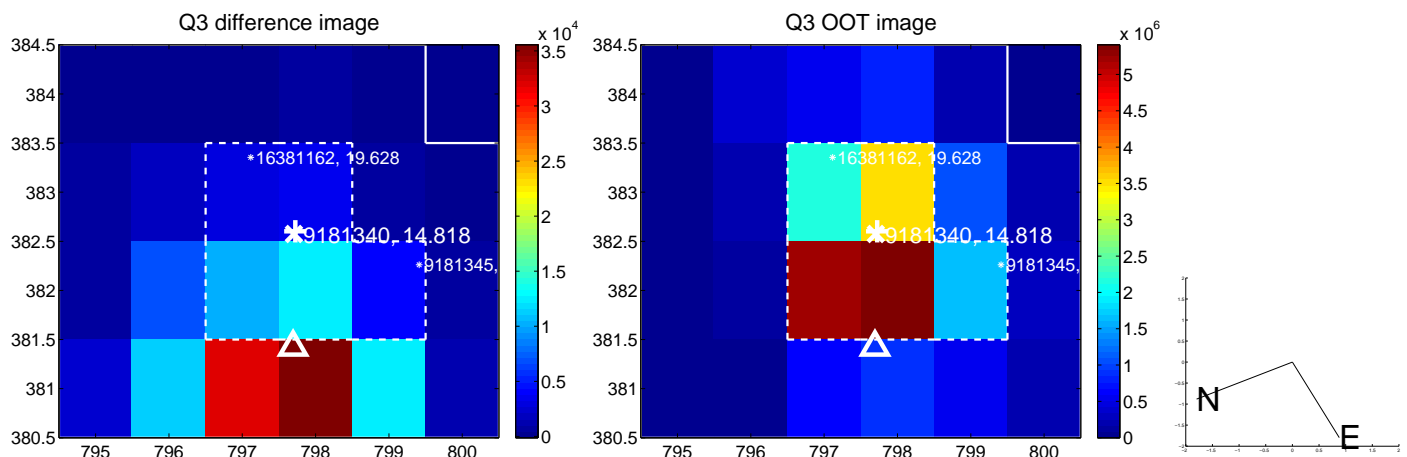
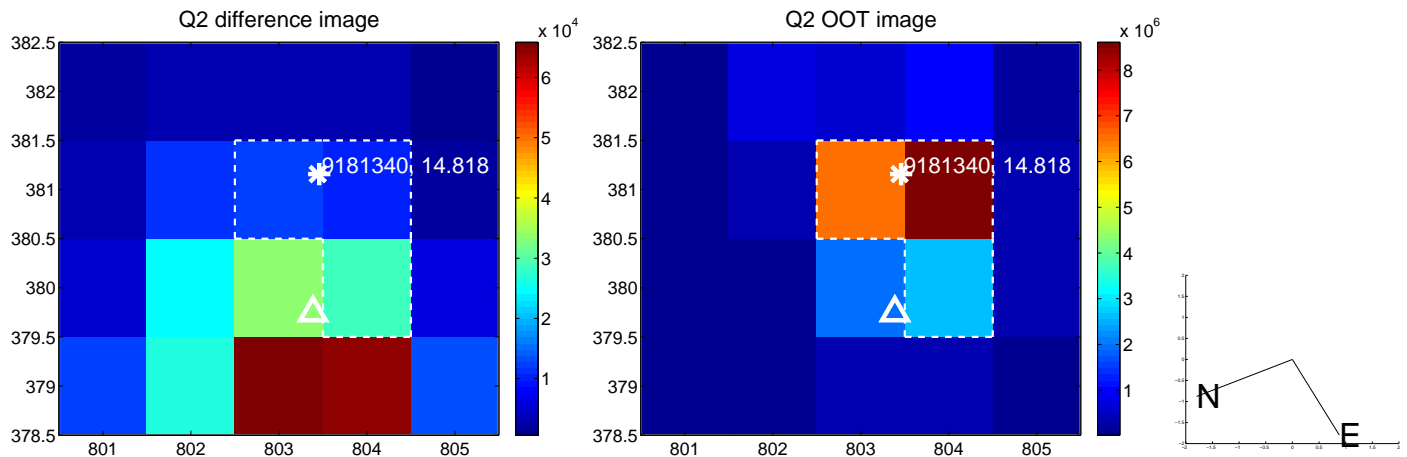
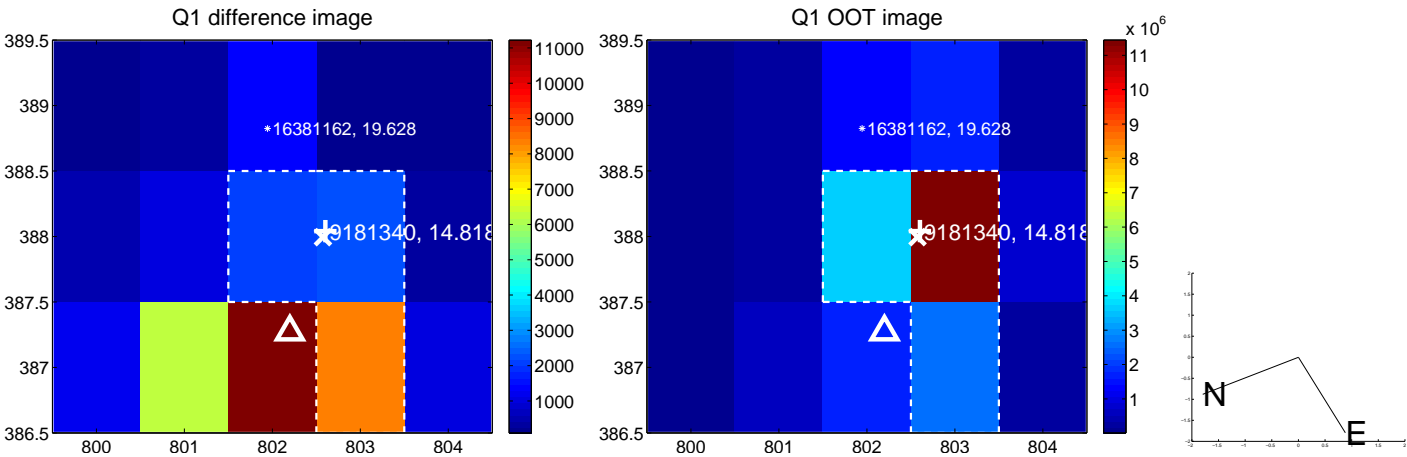
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.660 ± 0.464	12.21	4.817 ± 0.405	2.972 ± 0.274
PRF-fit source offset from KIC position	5.650 ± 0.468	12.07	4.820 ± 0.412	2.947 ± 0.268
photometric centroid source offset	40.45 ± 0.16	245.49	35.24 ± 0.17	19.86 ± 0.16

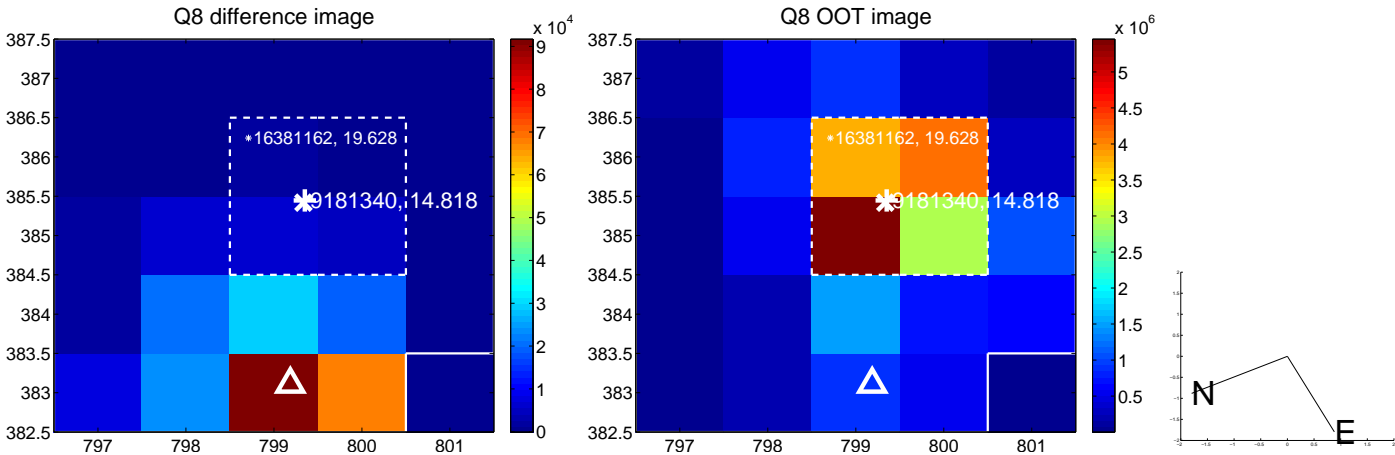
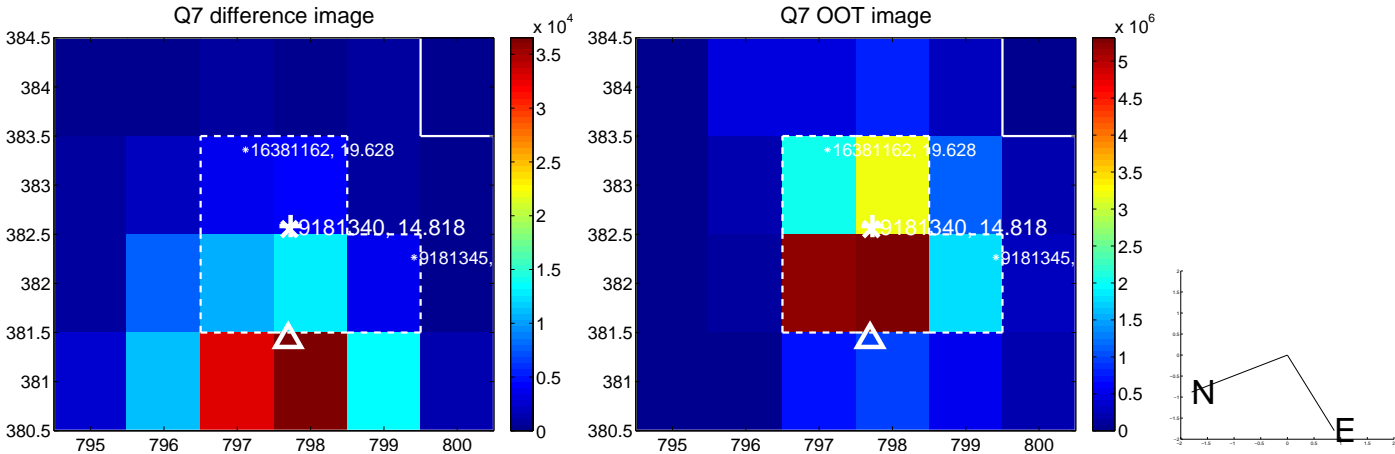
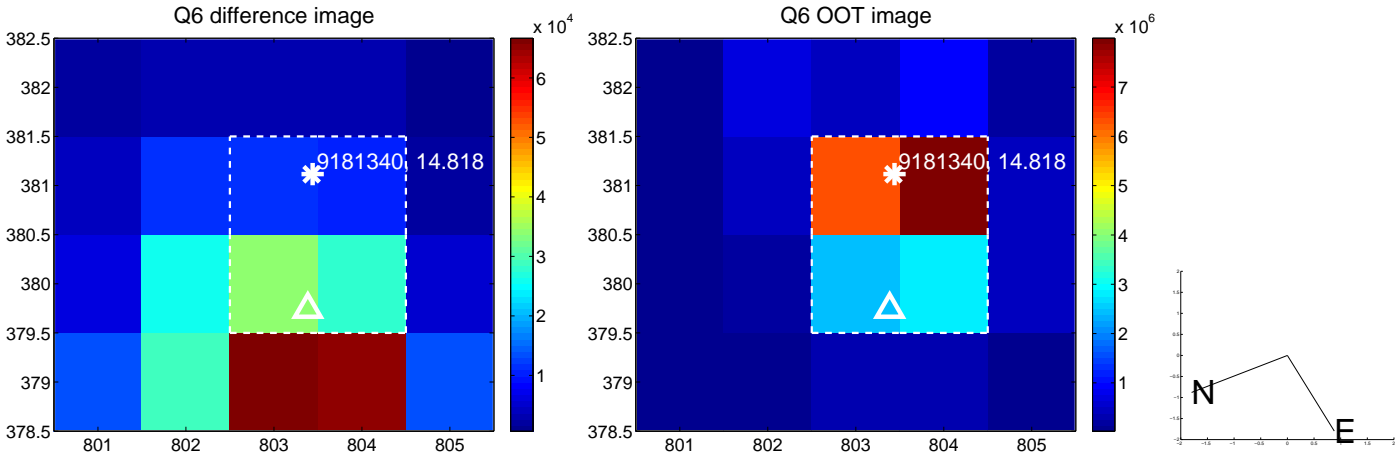
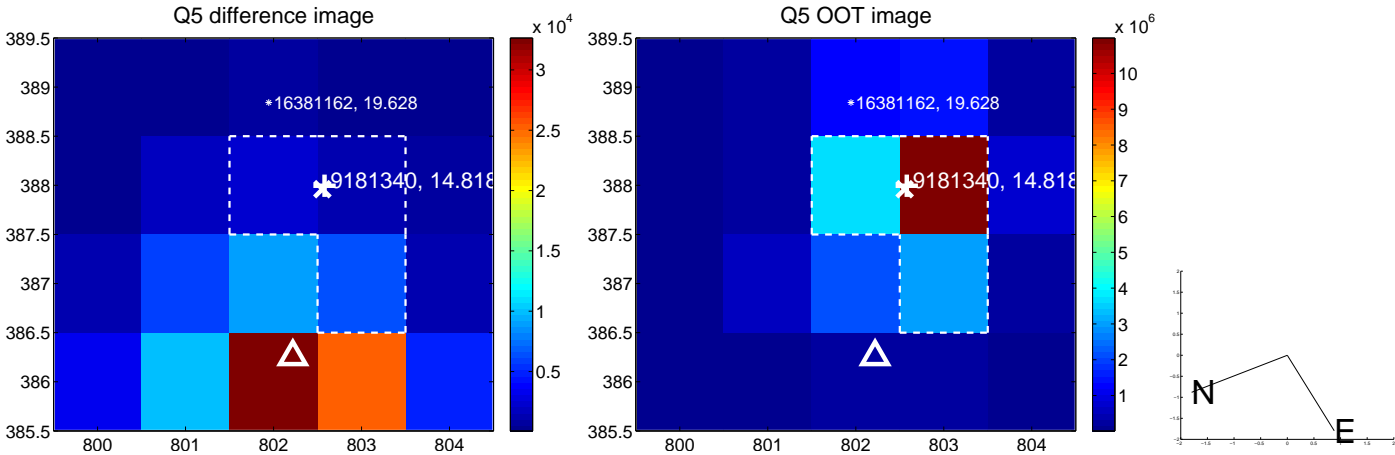


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

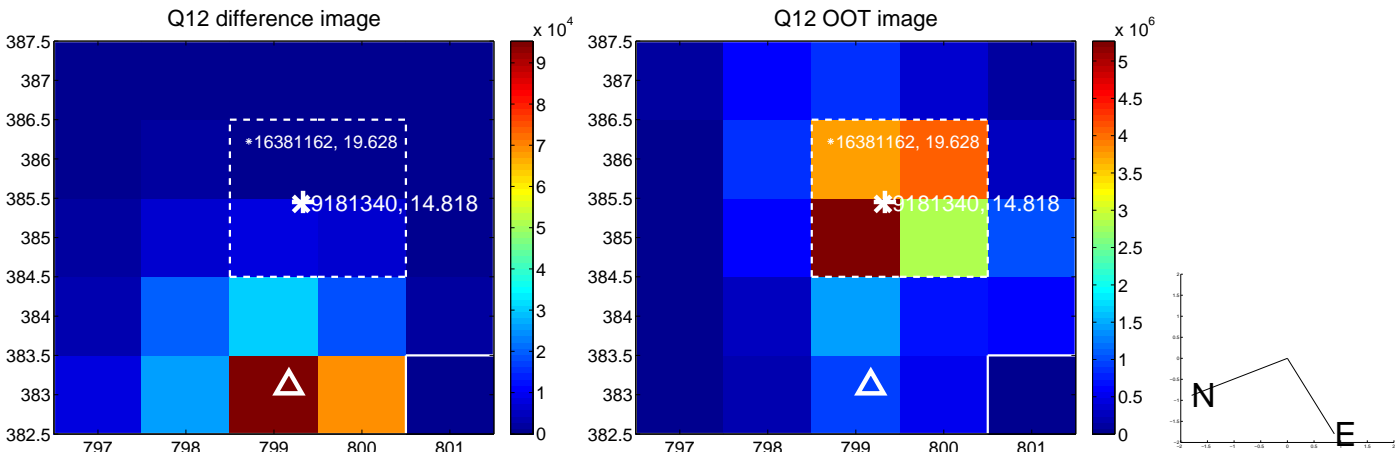
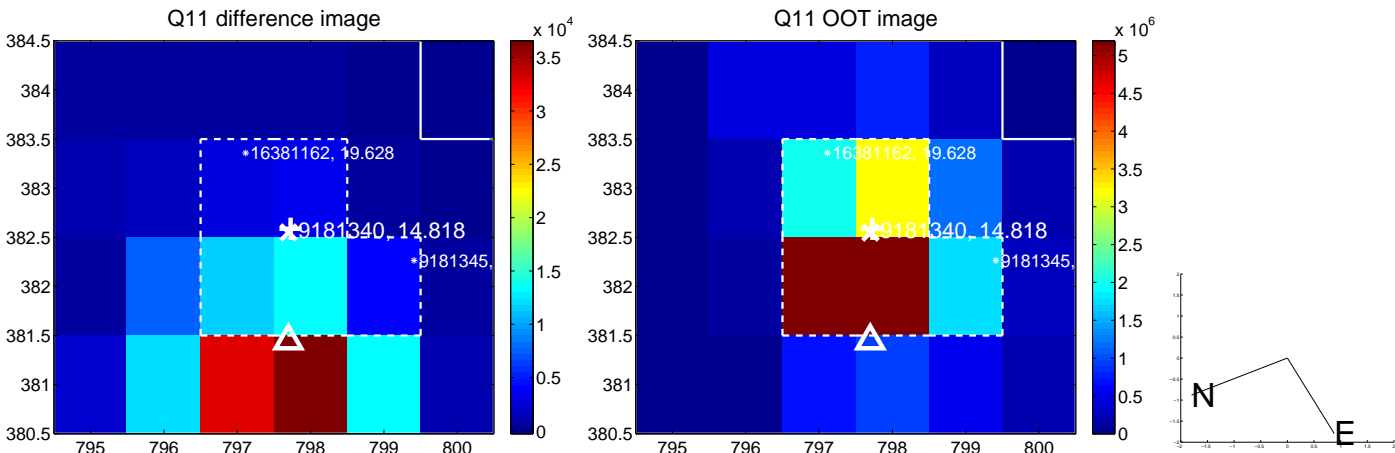
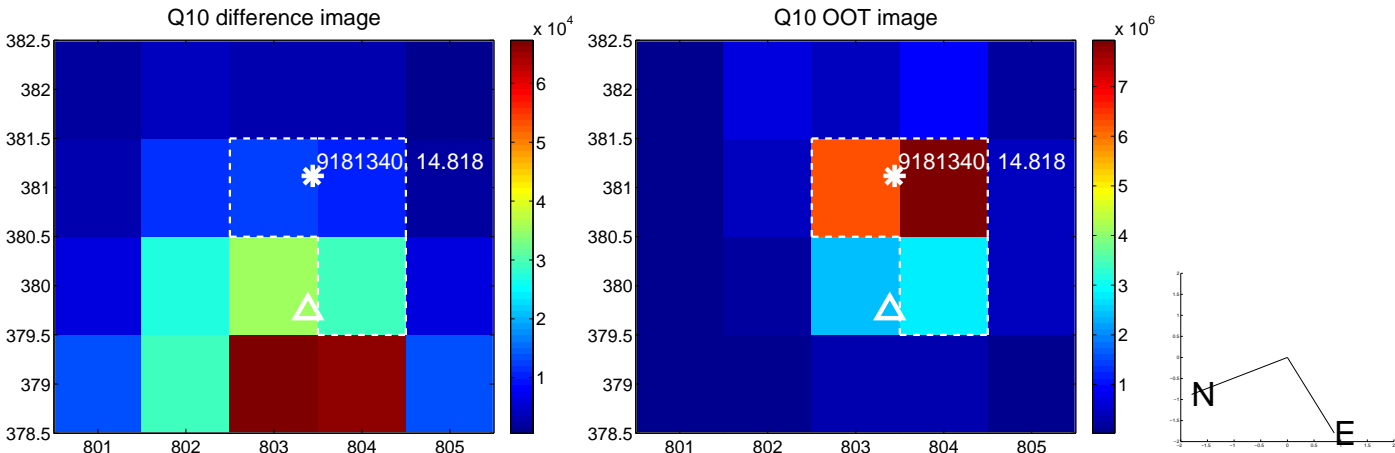
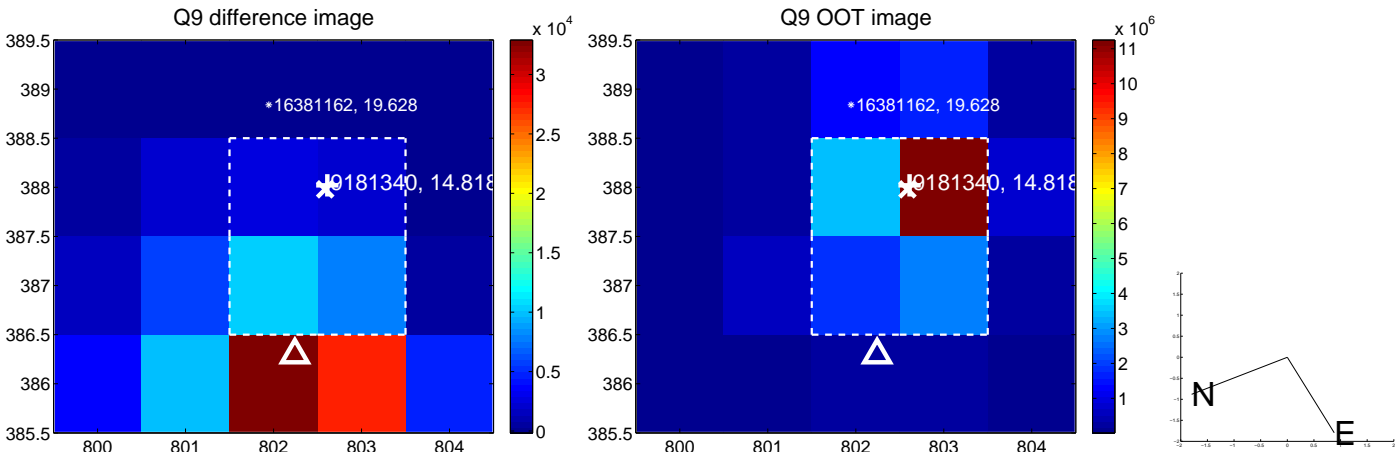
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



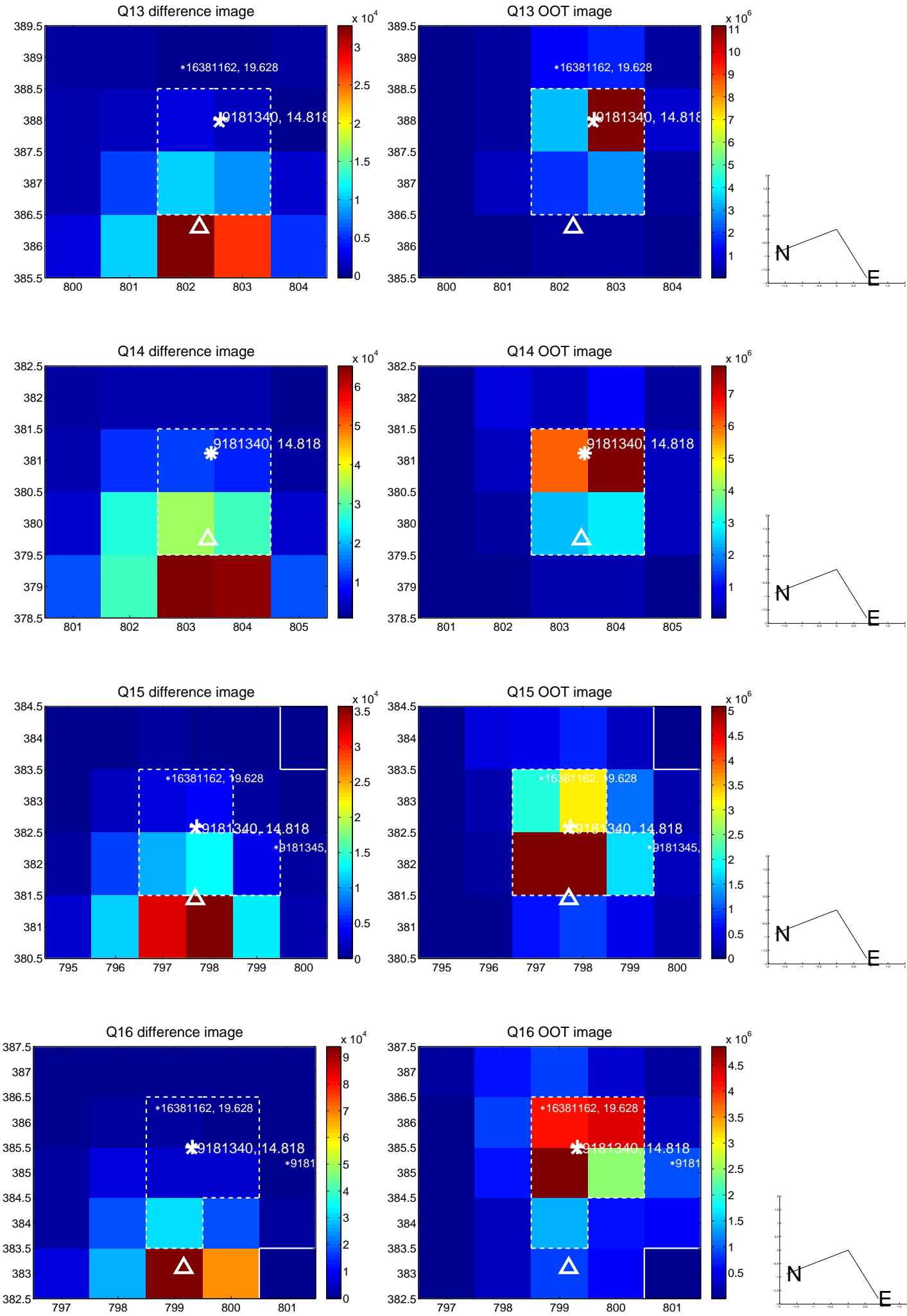
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



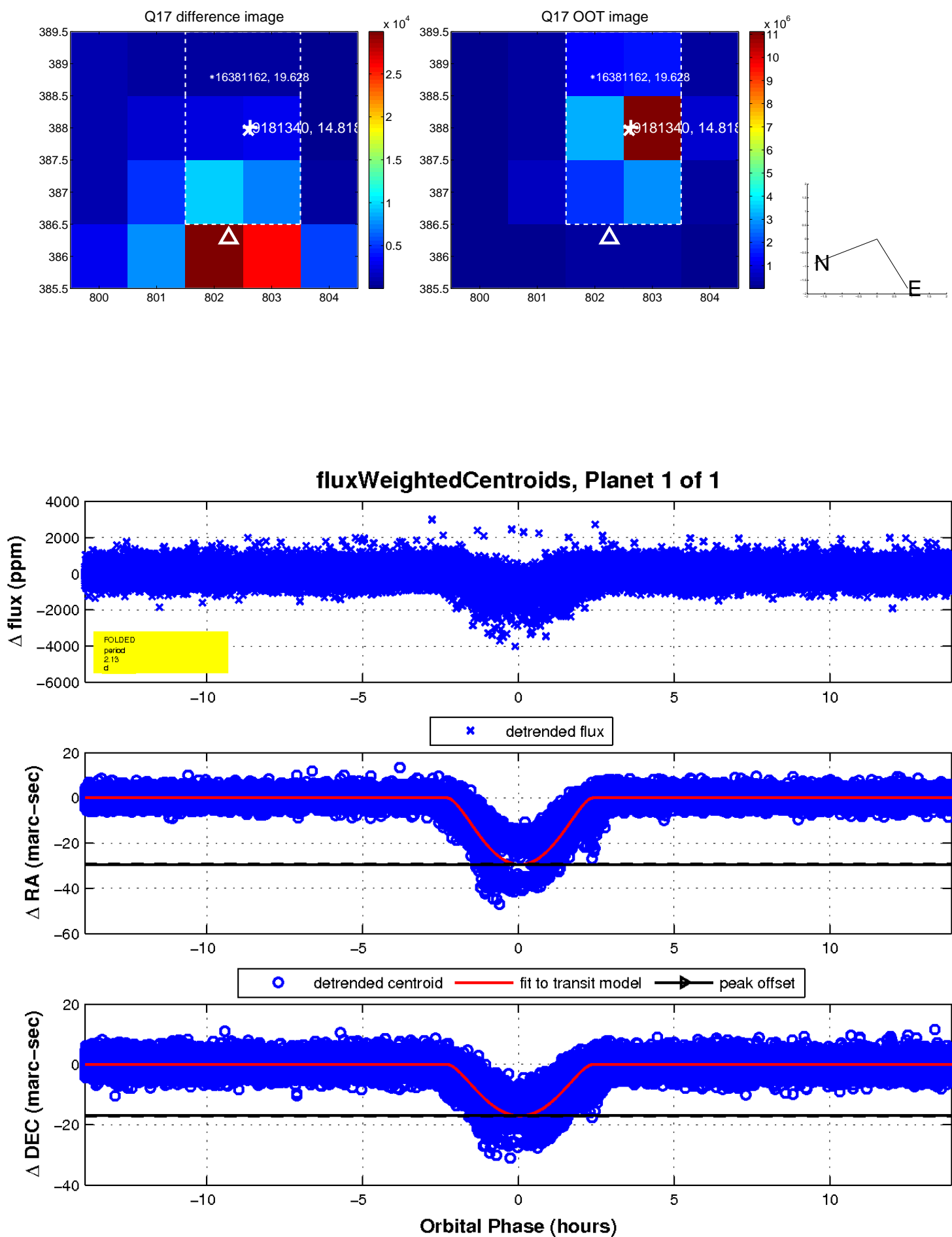
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

