

KIC 012602568

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})
012602568-01	OBS	1583.01	8.047258	137.209600	468.3	4.974	30.8	33.0	0.85	5840	2.25	126.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012602568-01	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.

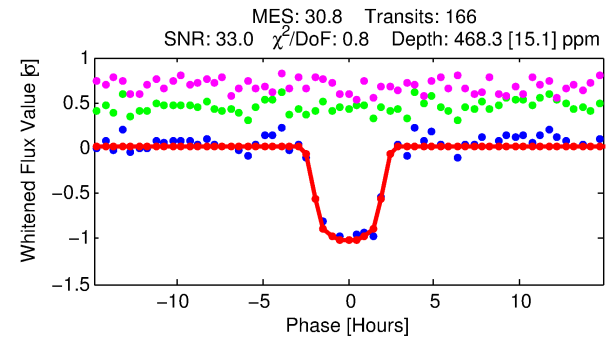
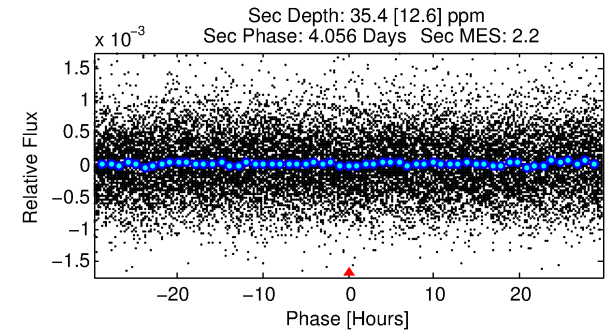
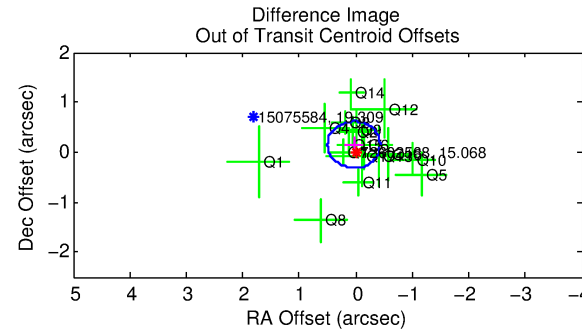
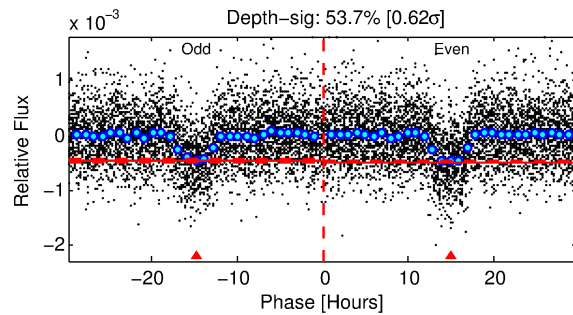
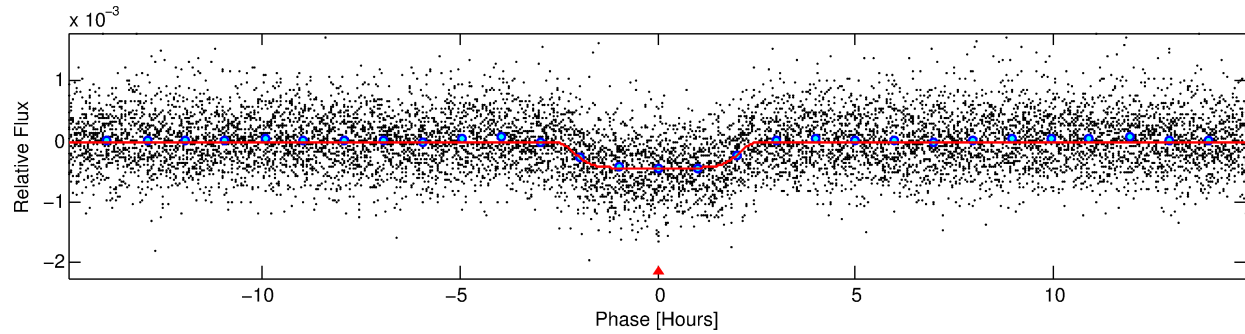
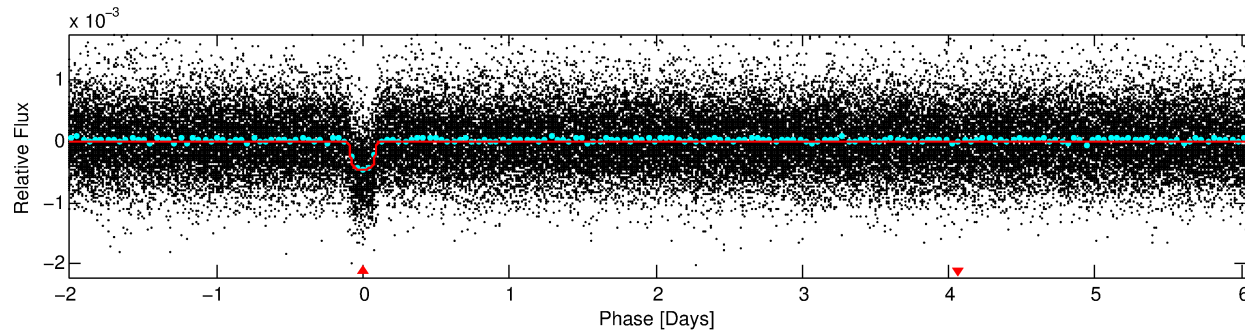
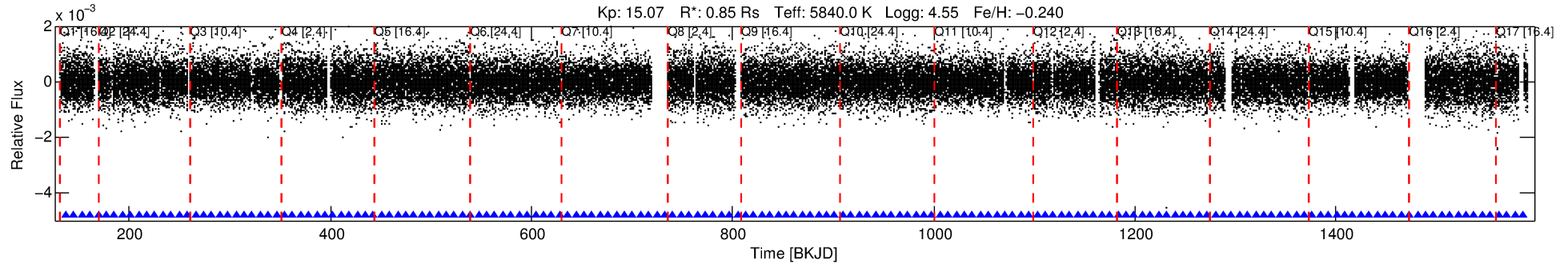
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012602568-01

No Significant Match Found

DV One-Page Summary

KIC: 12602568 Candidate: 1 of 1 Period: 8.047 d
KOI: K01583.01 Corr: 0.951



DV Fit Results:

Period = 8.04726 [0.00003] d
Epoch = 137.2096 [0.0032] BKJD
Rp/R* = 0.0242 [0.0010]
a/R* = 5.41 [0.96]
b = 0.93 [0.03]
Seff = 126.75 [46.74]
Teq = 856 [79] K
Rp = 2.25 [0.64] Re
a = 0.0770 [0.0183] AU
Ag = 22.89 [11.58] [1.89 σ]
Teffp = 2893 [279] K [7.04 σ]

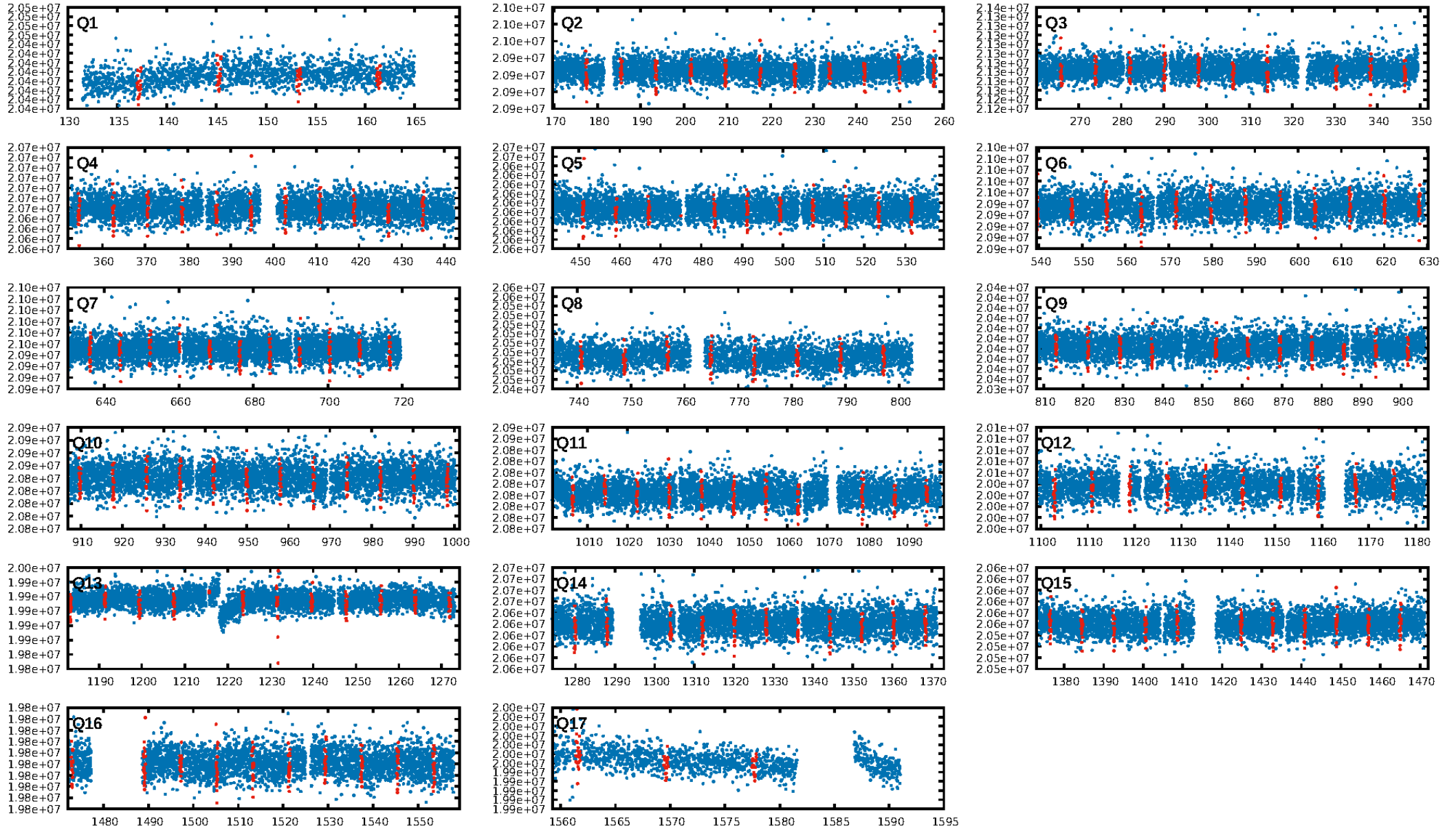
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.80e-207
RollingBand-fgt: 1.00 [159/159]
GhostDiagnostic-chr: 7.575
Centroid-sig: 41.2%
Centroid-so: 1.246 arcsec [3.02 σ]
OotOffset-rm: 0.152 arcsec [0.98 σ]
KicOffset-rm: 0.141 arcsec [0.85 σ]
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]

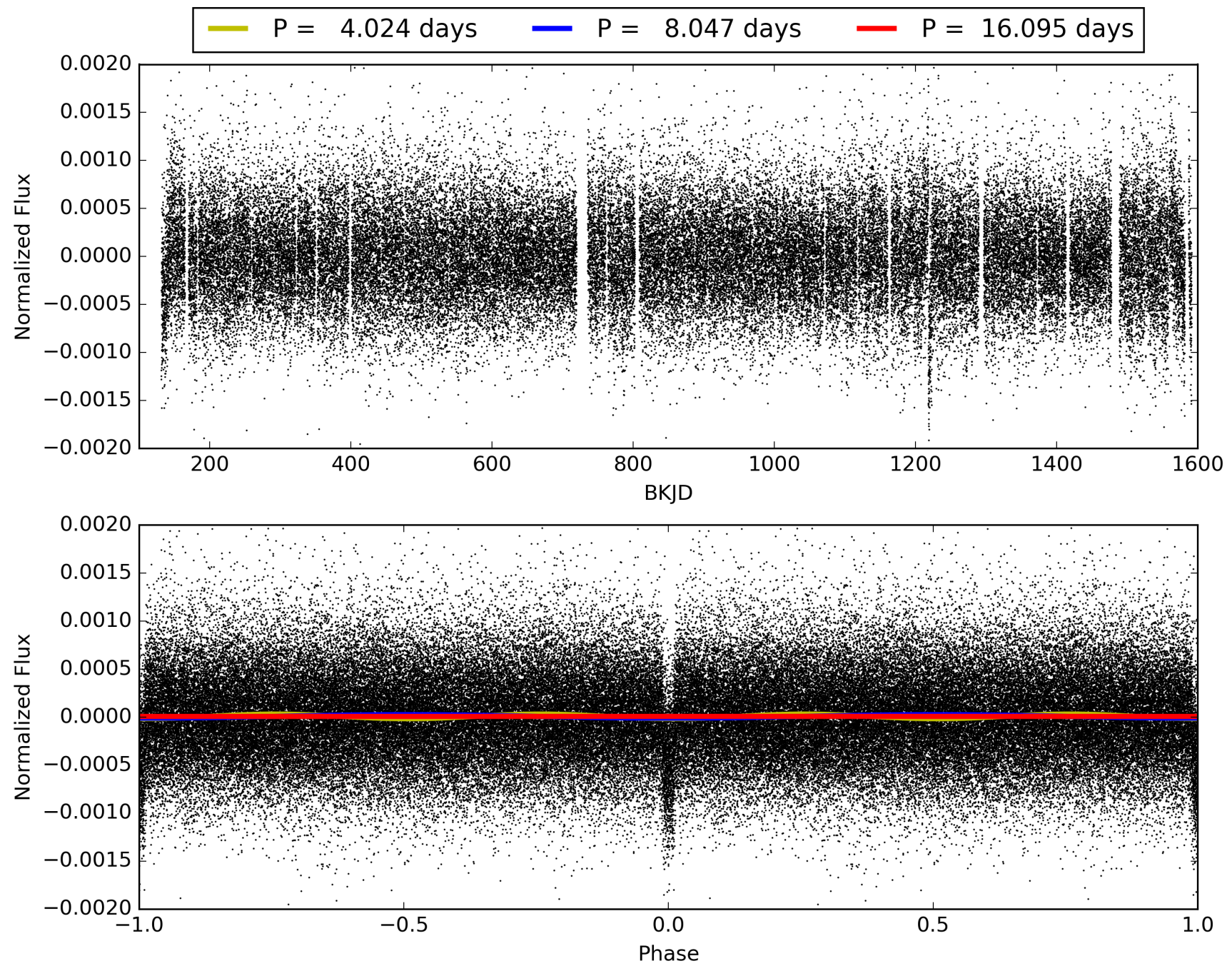
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:43:06 Z

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

TCE 012602568-01, PDC Light Curves

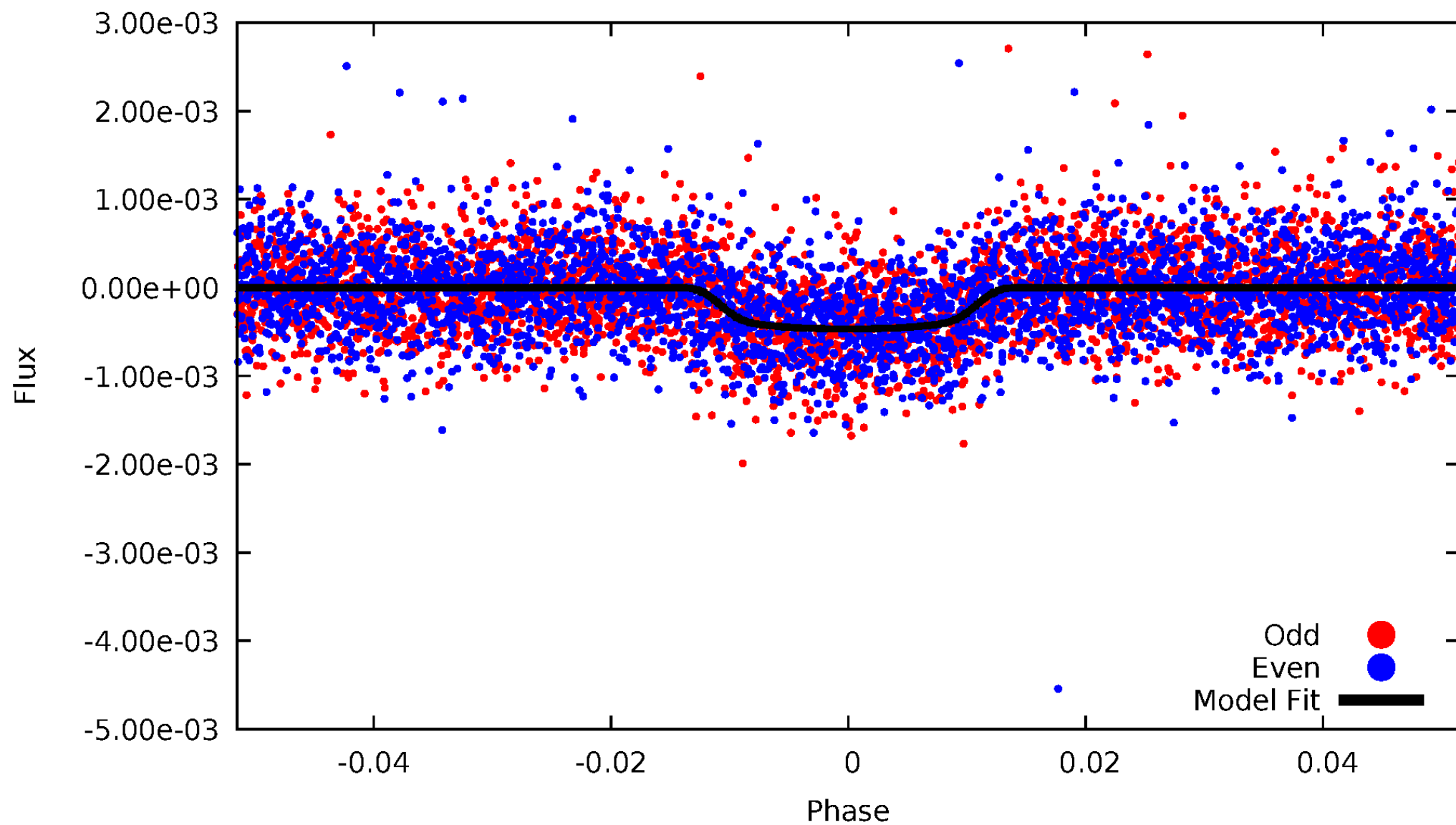


TCE 012602568-01



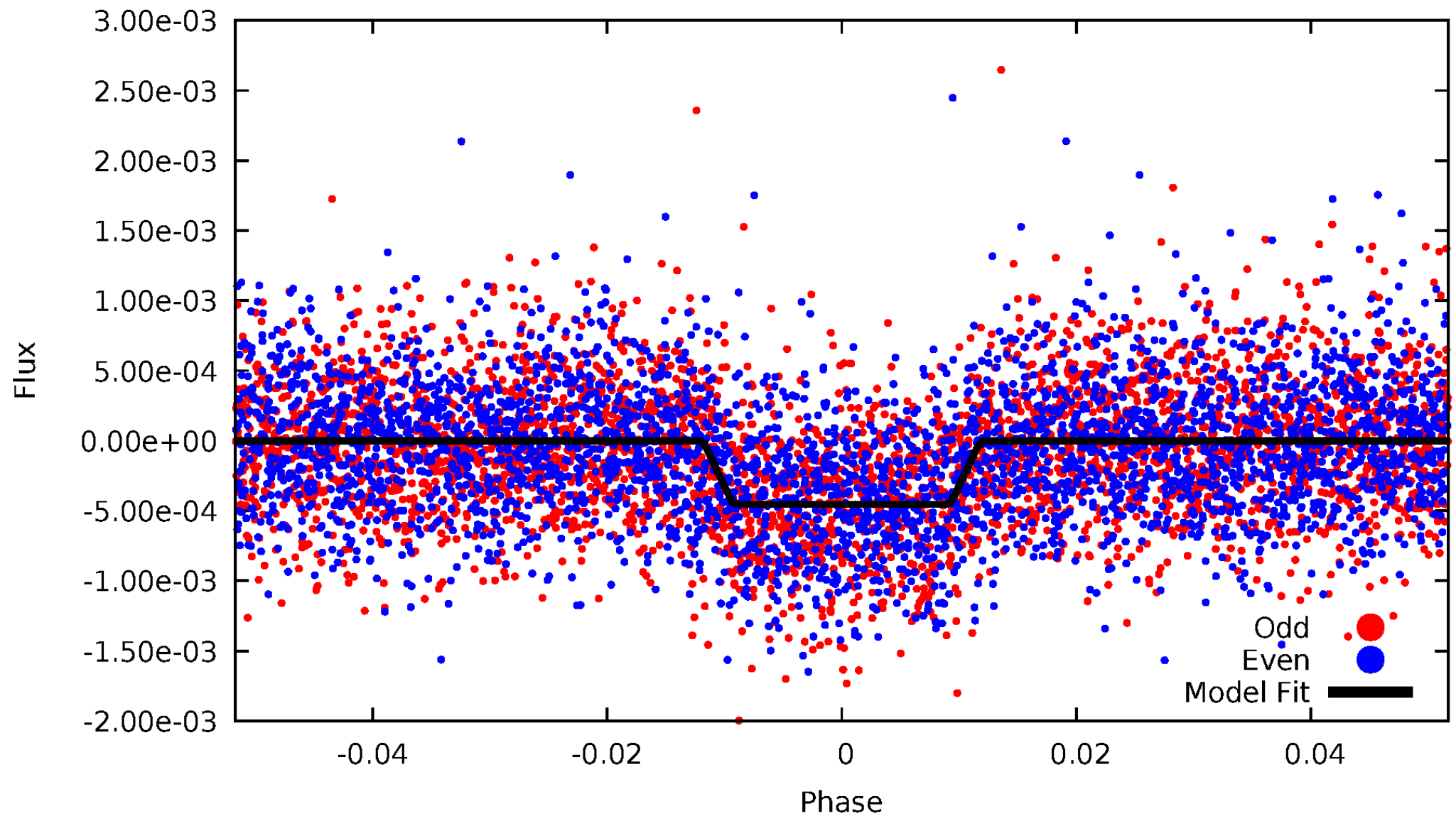
DV Odd/Even

TCE 012602568-01



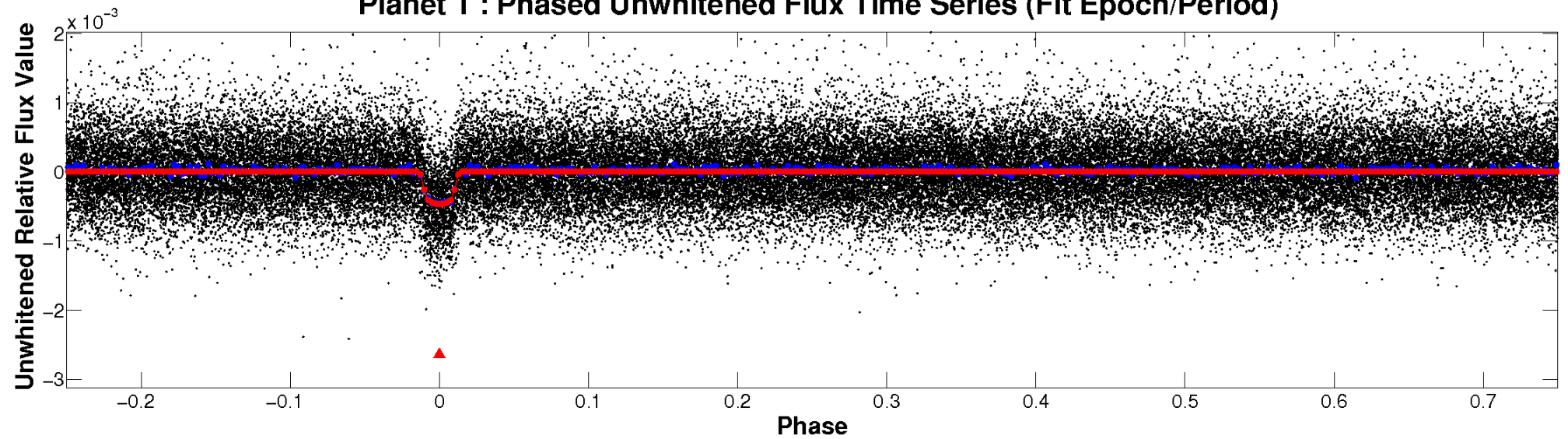
ALT Odd/Even

TCE 012602568-01

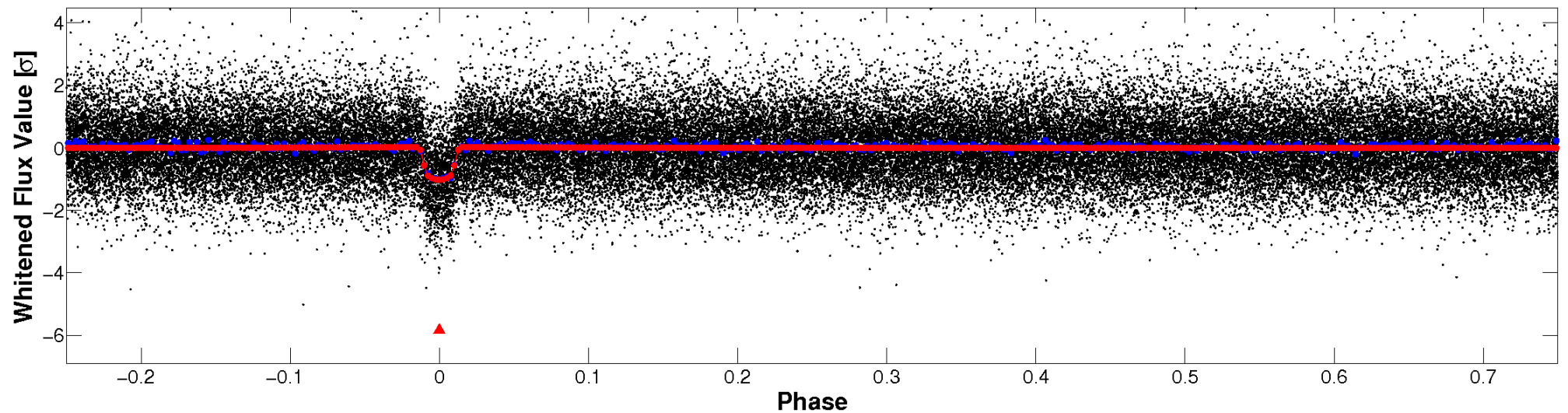


Non-Whitened Vs. Whitened Light Curve

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

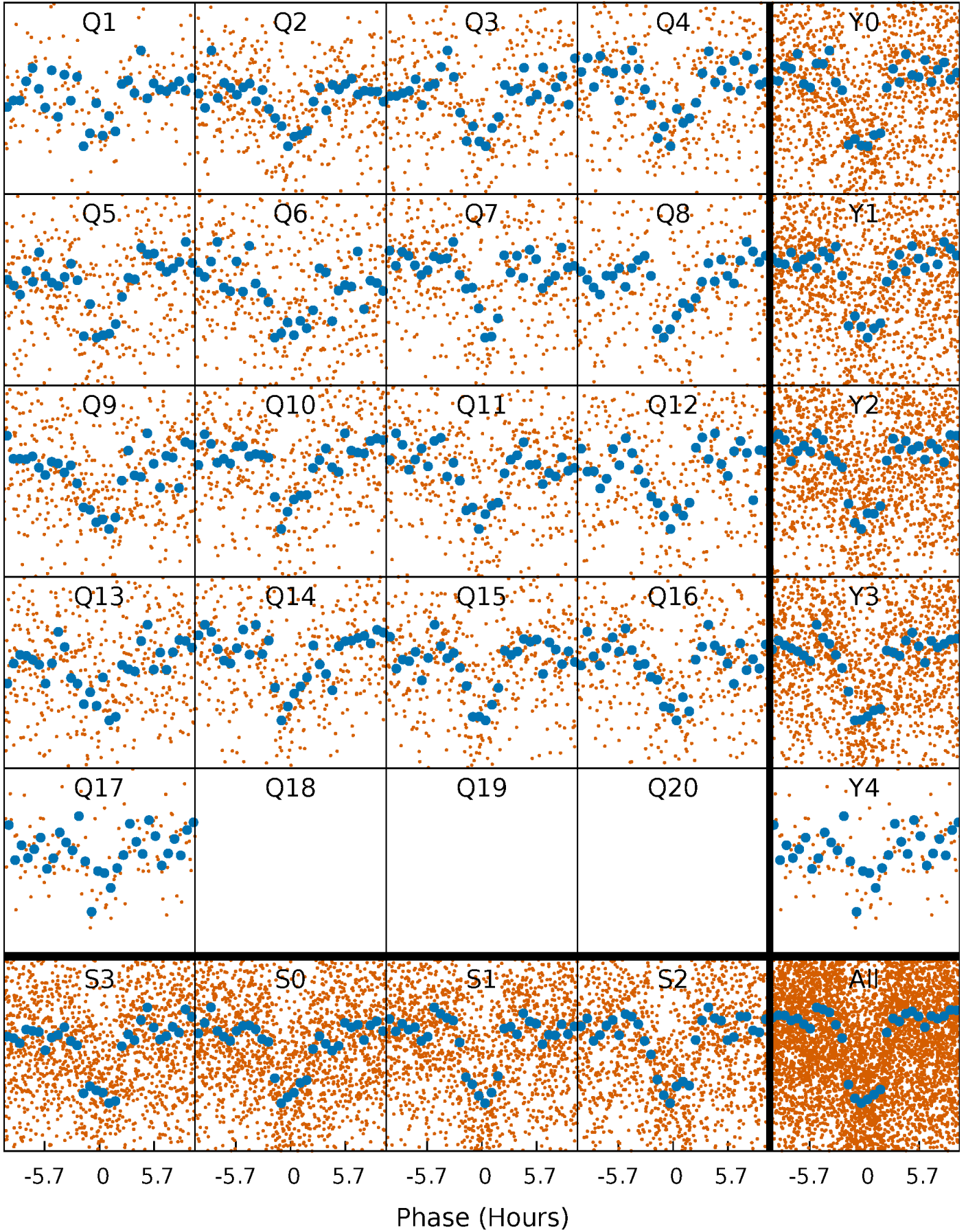


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



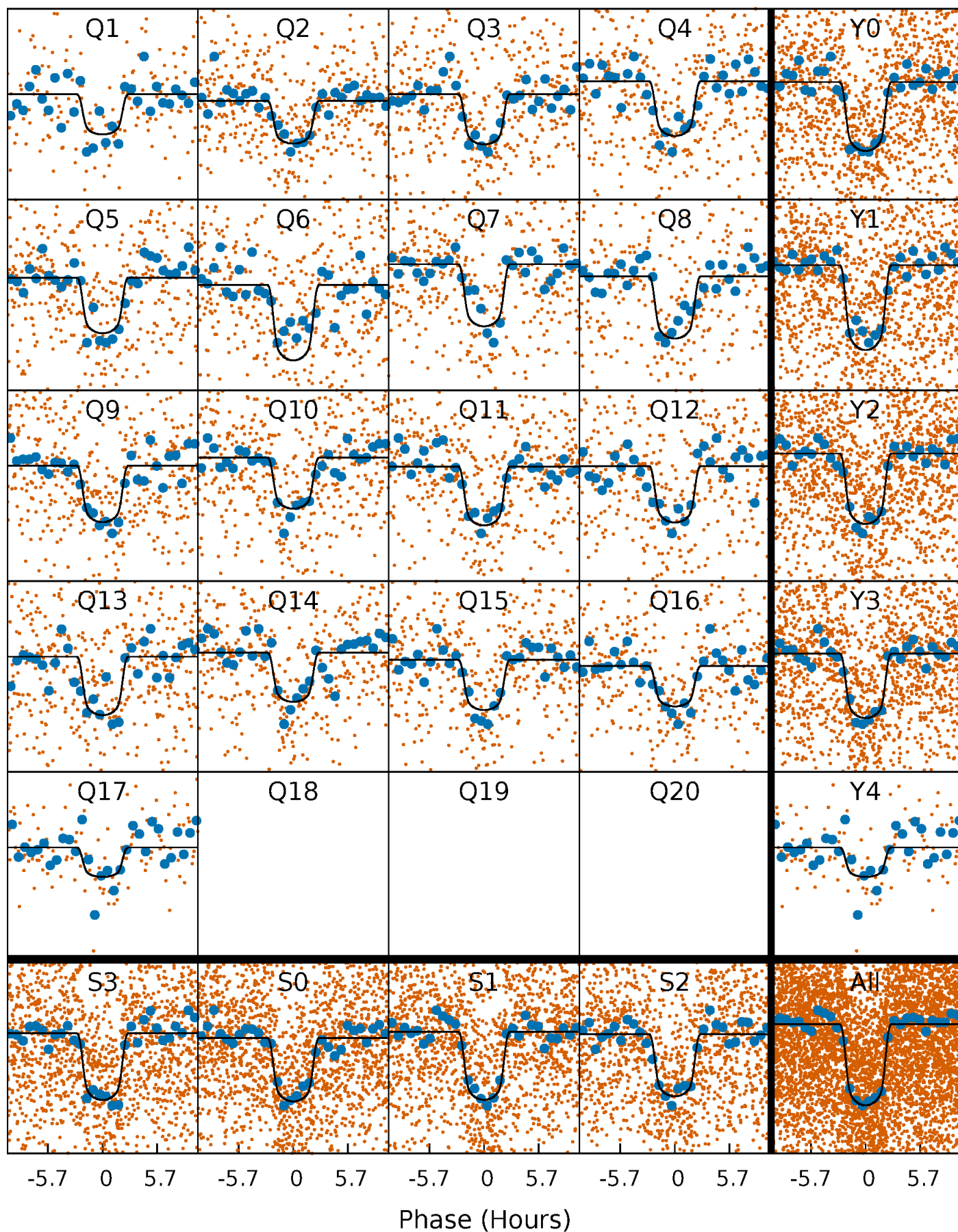
PDC Quarter-Phased Transit Curves

TCE 012602568-01 P= 8.047258 Days $T_0=137.209600$ (BKJD)



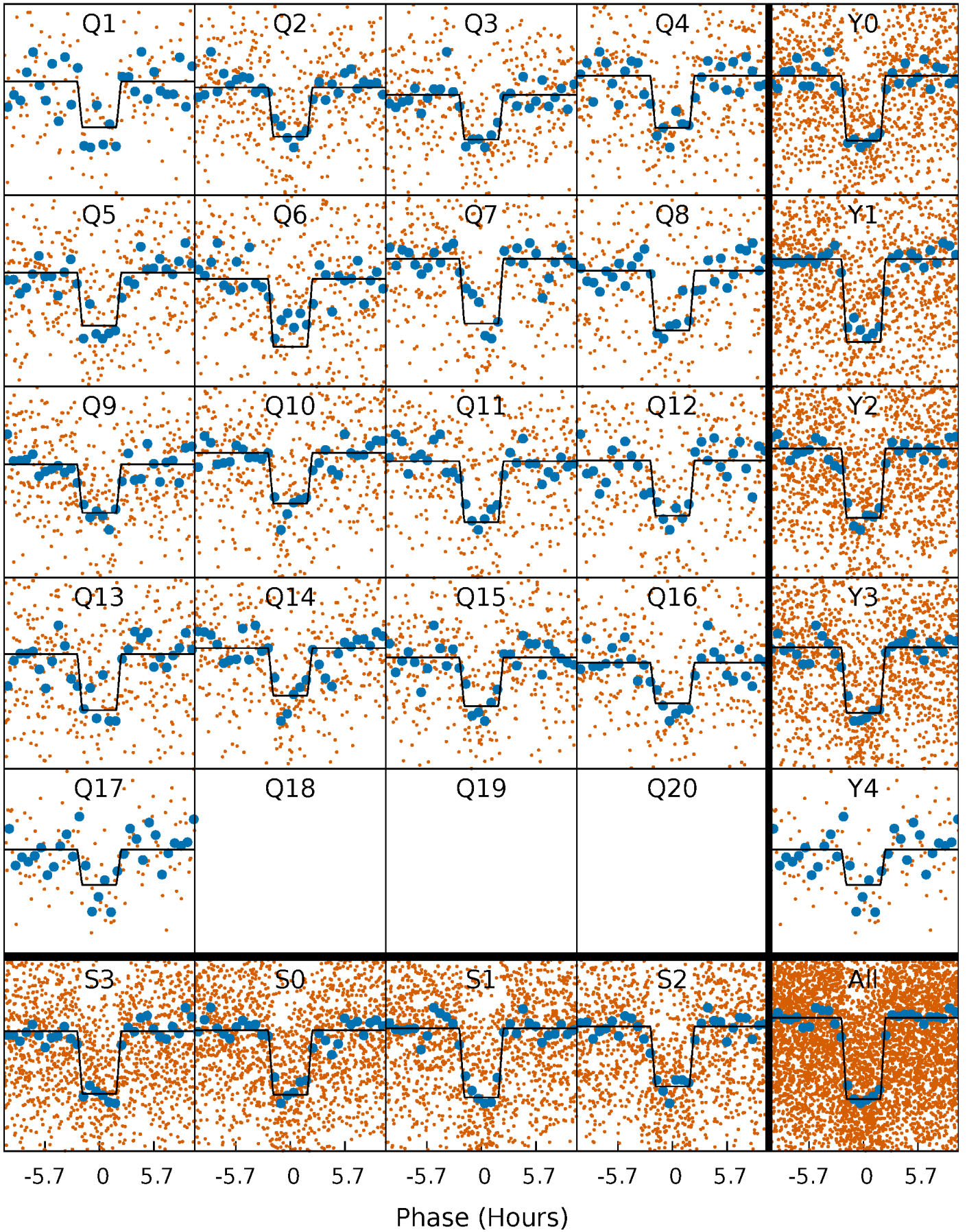
DV Quarter-Phased Transit Curves

TCE 012602568-01 P= 8.047258 Days $T_0=137.209600$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

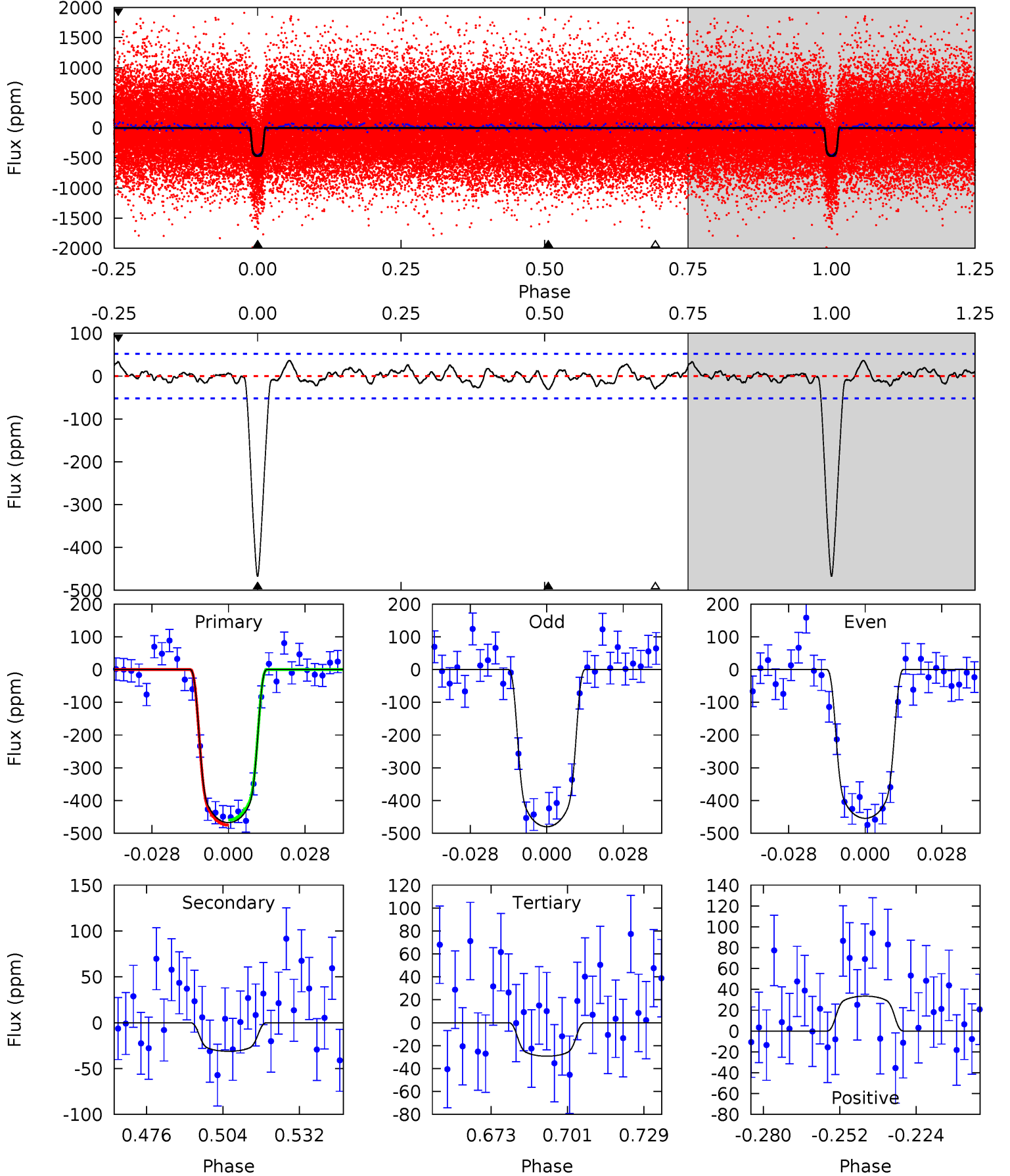
TCE 012602568-01 P= 8.047263 Days $T_0=137.208250$ (BKJD)



DV Model-Shift Uniqueness Test

012602568-01, P = 8.047258 Days, E = 129.162342 Days

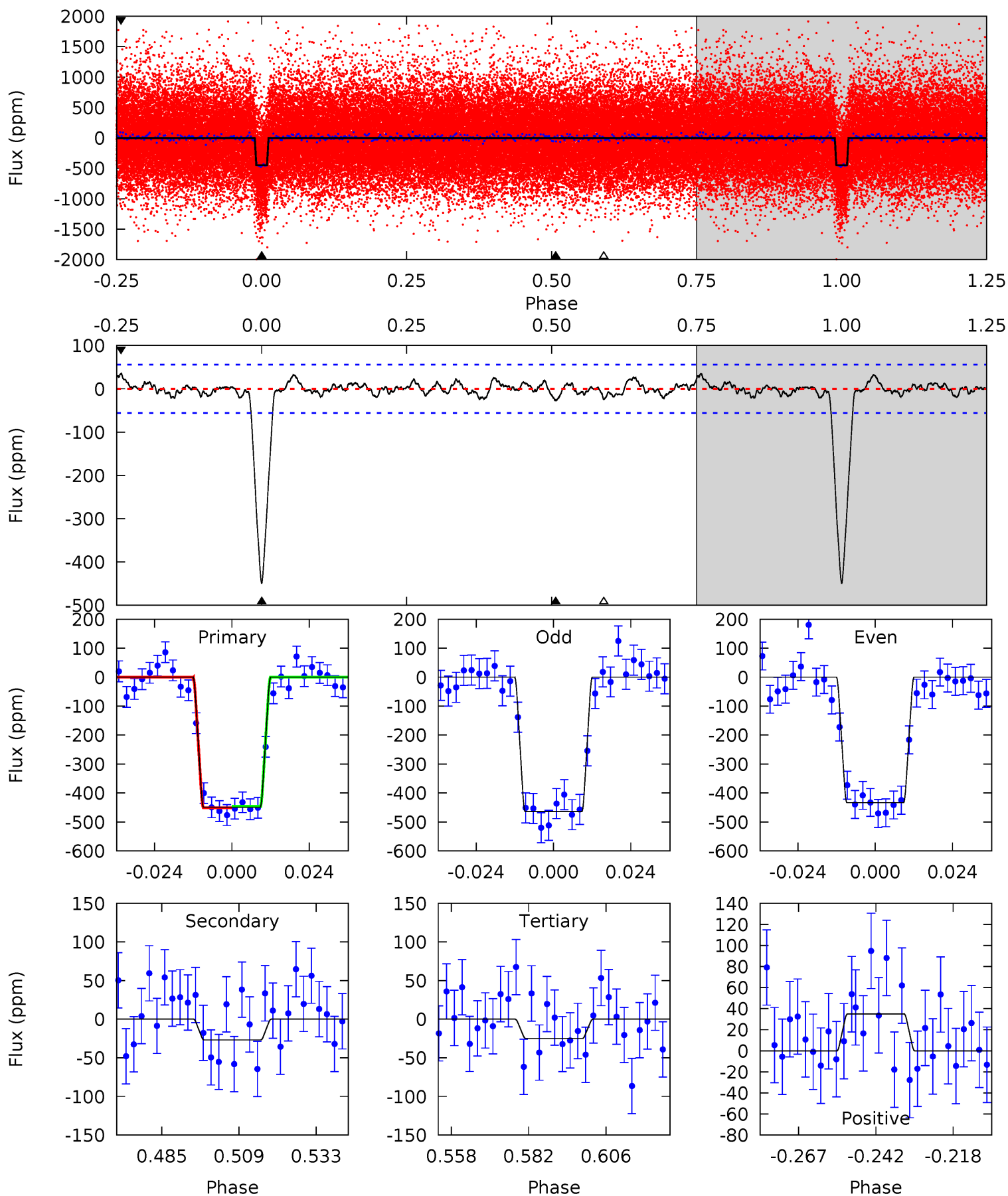
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.4	2.90	2.72	3.11	4.82	2.20	1.15	40.7	40.3	0.18	-0.21	1.19	1.00	0.07	0.71



Alt Model-Shift Uniqueness Test

012602568-01, P = 8.047263 Days, E = 129.160987 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.1	2.34	2.17	3.04	4.85	2.25	0.98	36.9	36.0	0.17	-0.69	1.34	0.99	0.07	0.21



Stellar Parameters For KIC 012602568

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5840^{+145}_{-174}	$4.553^{+0.036}_{-0.192}$	$-0.240^{+0.300}_{-0.300}$	$0.849^{+0.238}_{-0.079}$	$0.942^{+0.110}_{-0.110}$	$2.164^{+0.411}_{-1.082}$
	+2%/-3%	+1%/-4%	+125%/-125%	+28%/-9%	+12%/-12%	+19%/-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 012602568-01 / KOI 1583.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-31 ± 11	$2.35^{+0.36}_{-0.22}$	1224^{+81}_{-54}	3325^{+179}_{-213}	17^{+8}_{-6}
Alt.	-27 ± 11	$2.04^{+0.30}_{-0.17}$	1225^{+78}_{-52}	3383^{+231}_{-284}	20^{+10}_{-9}

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

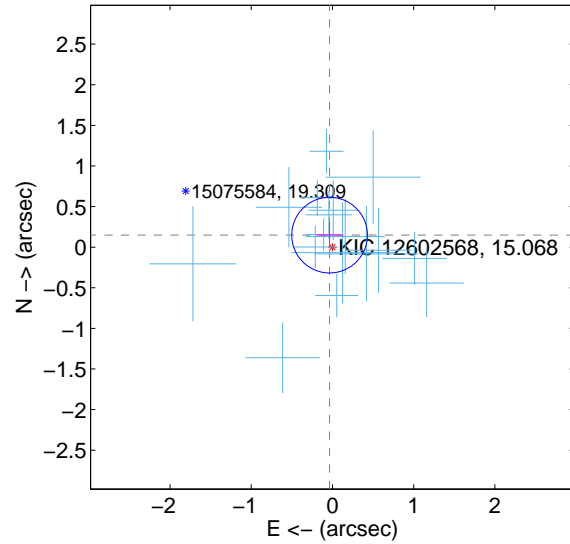
Supplemental centroid analysis for 012602568-01. Kepler magnitude: 15.07. Transit SNR 33.01

There are 17 quarters with good PRF difference image offsets

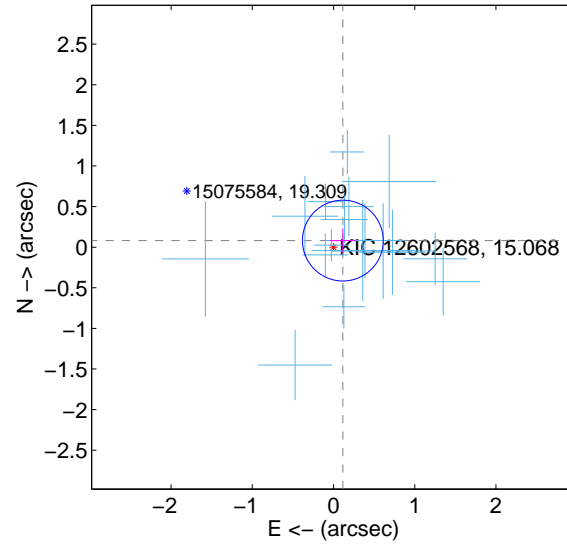
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.152 ± 0.155	0.98	0.036 ± 0.164	0.148 ± 0.155
PRF-fit source offset from KIC position	0.141 ± 0.166	0.85	-0.115 ± 0.162	0.081 ± 0.152
photometric centroid source offset	1.25 ± 0.41	3.02	-0.02 ± 0.48	1.25 ± 0.41

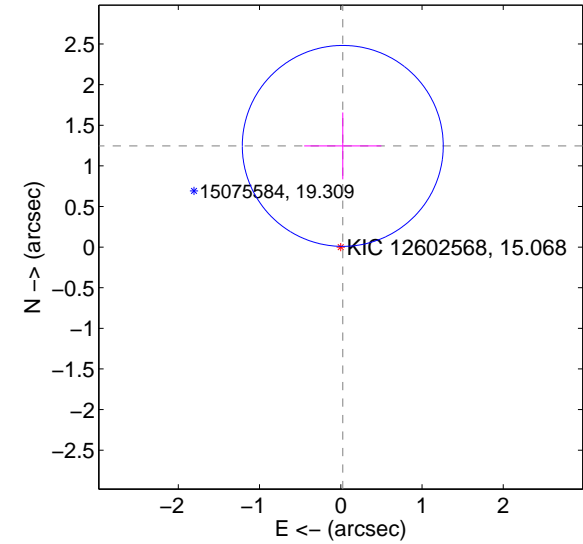
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

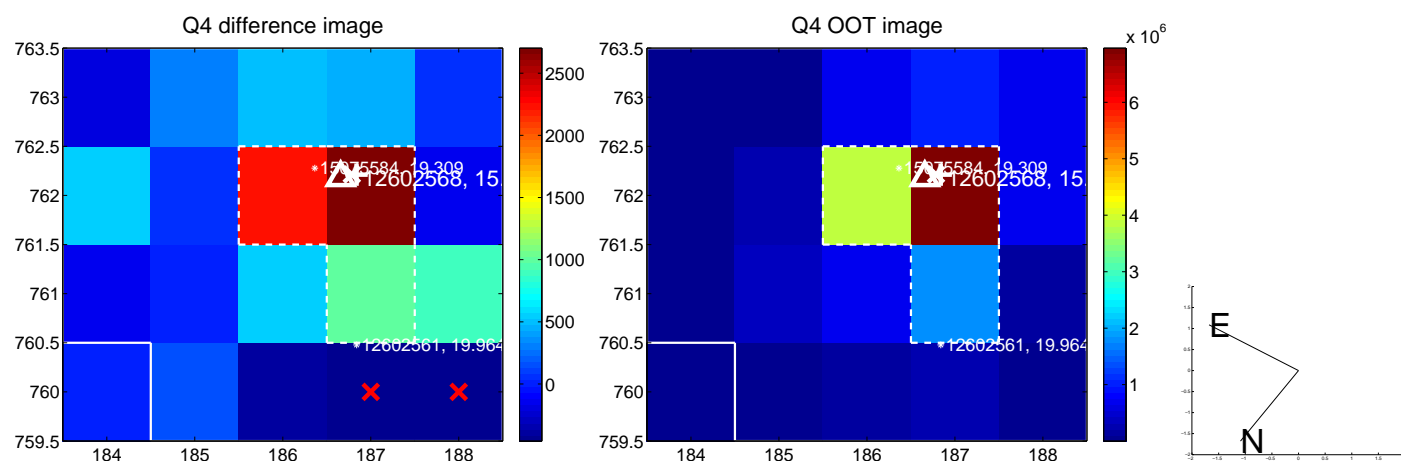
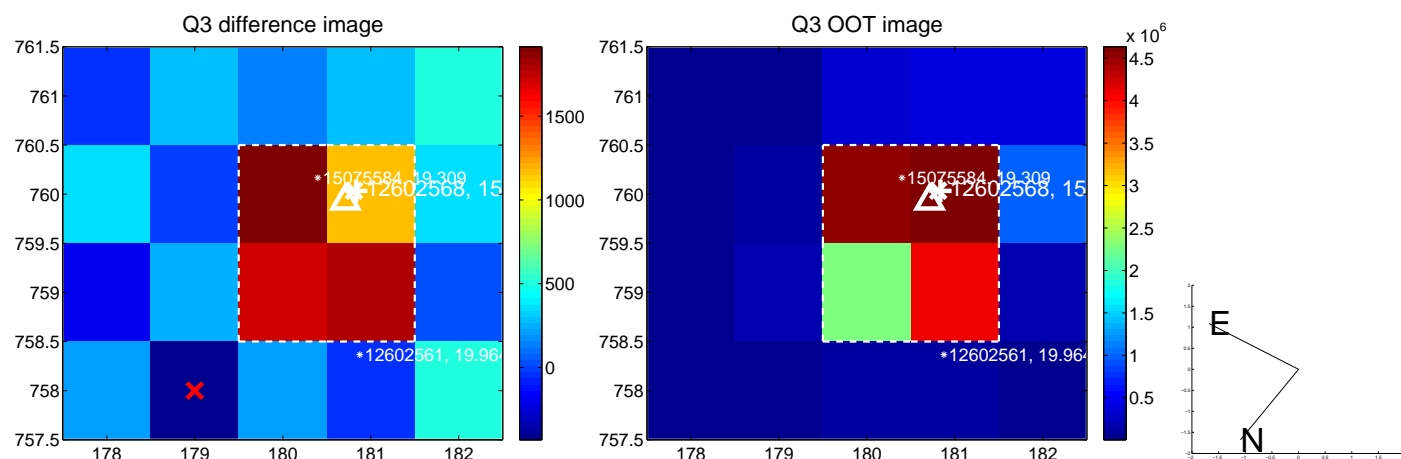
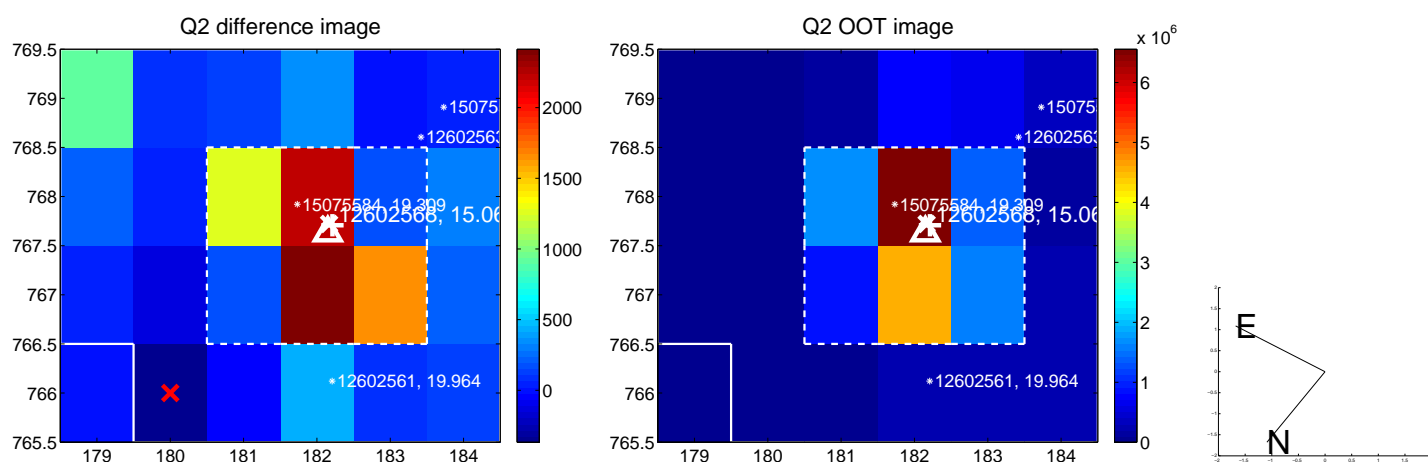
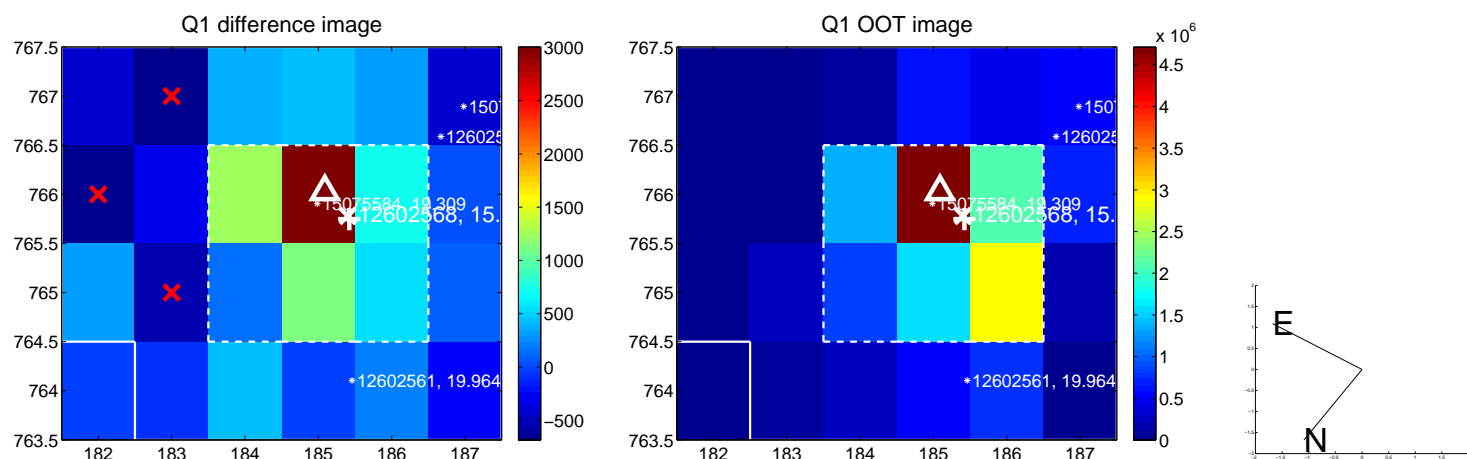


offset from photometric centroids

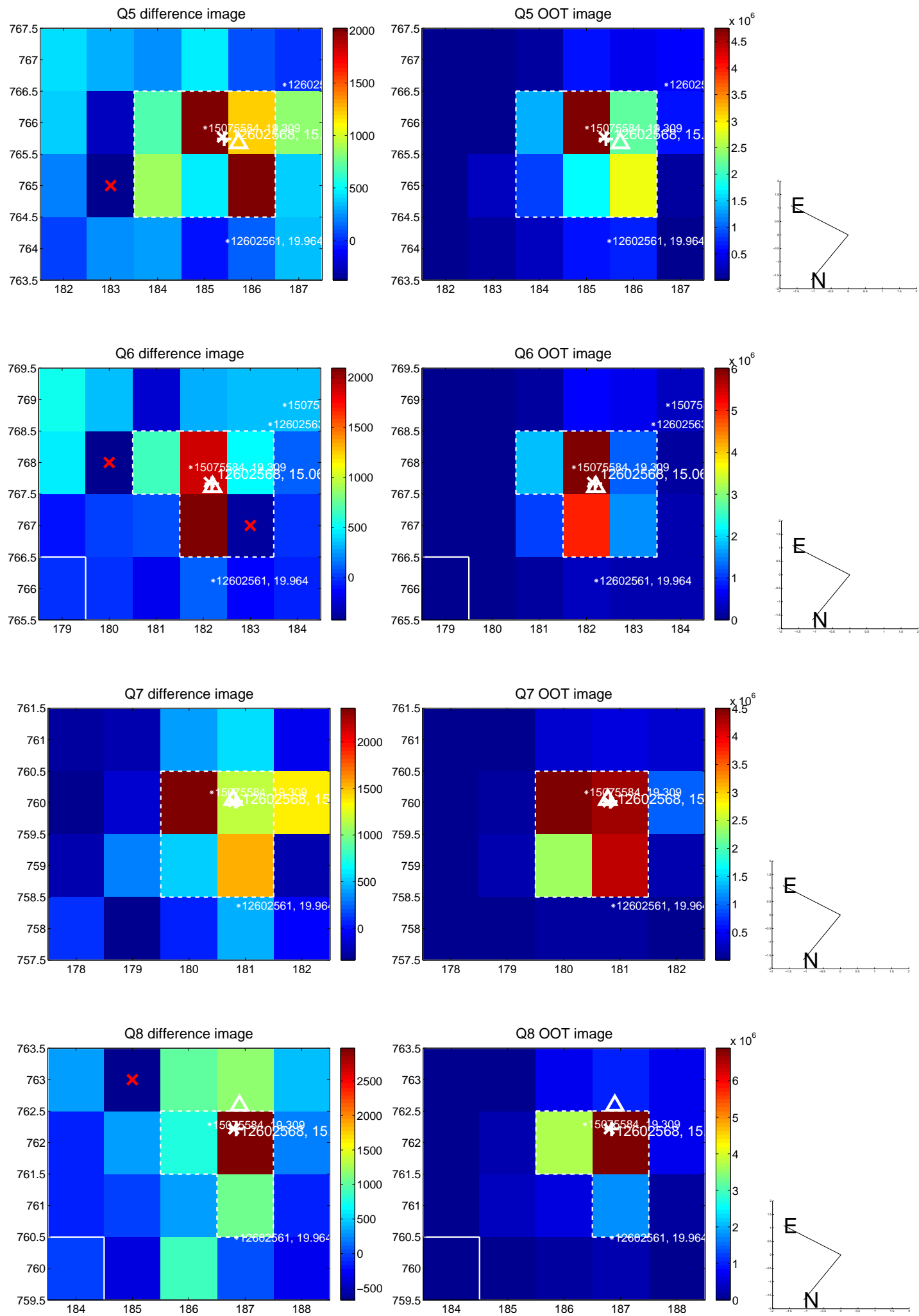


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

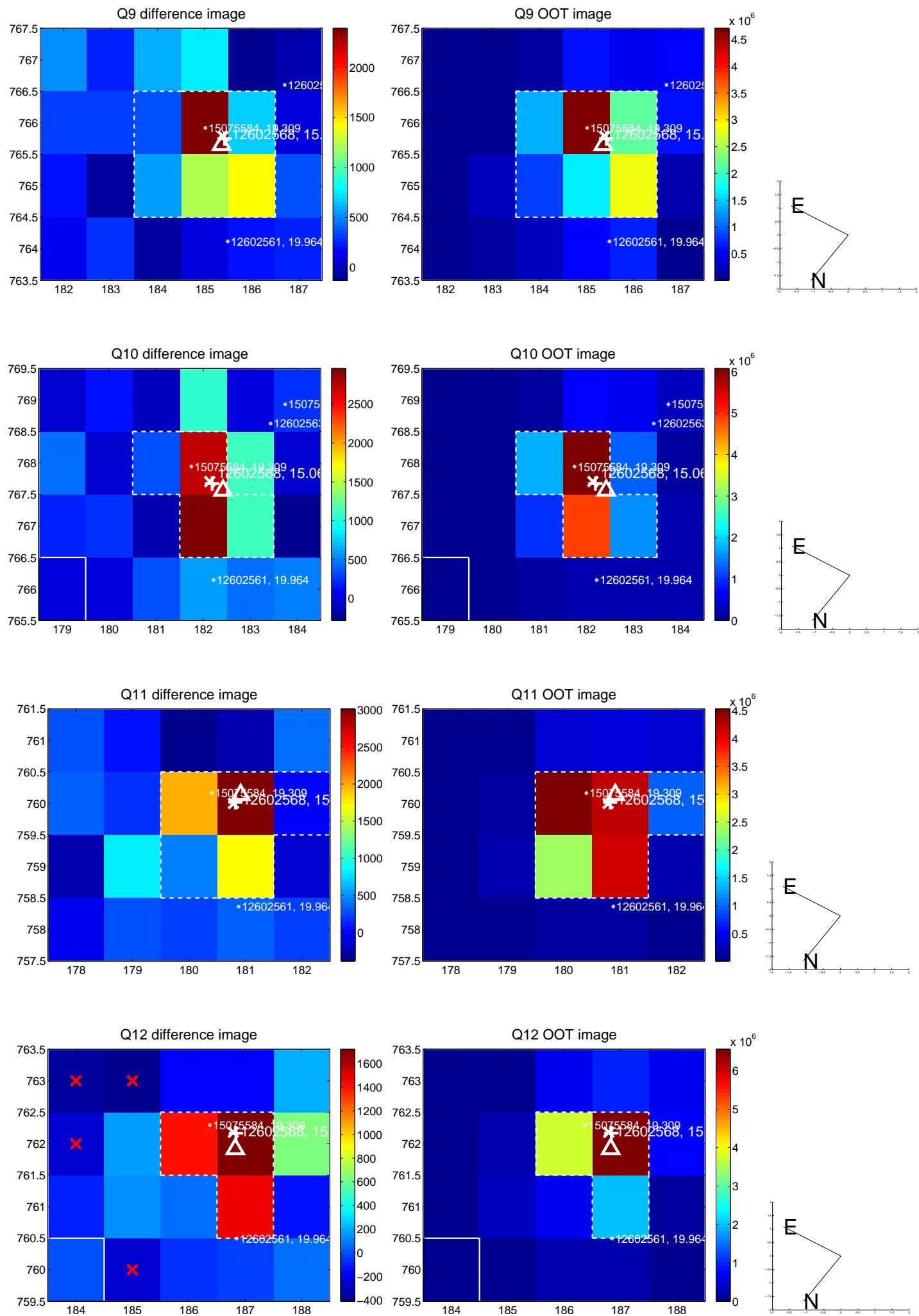
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



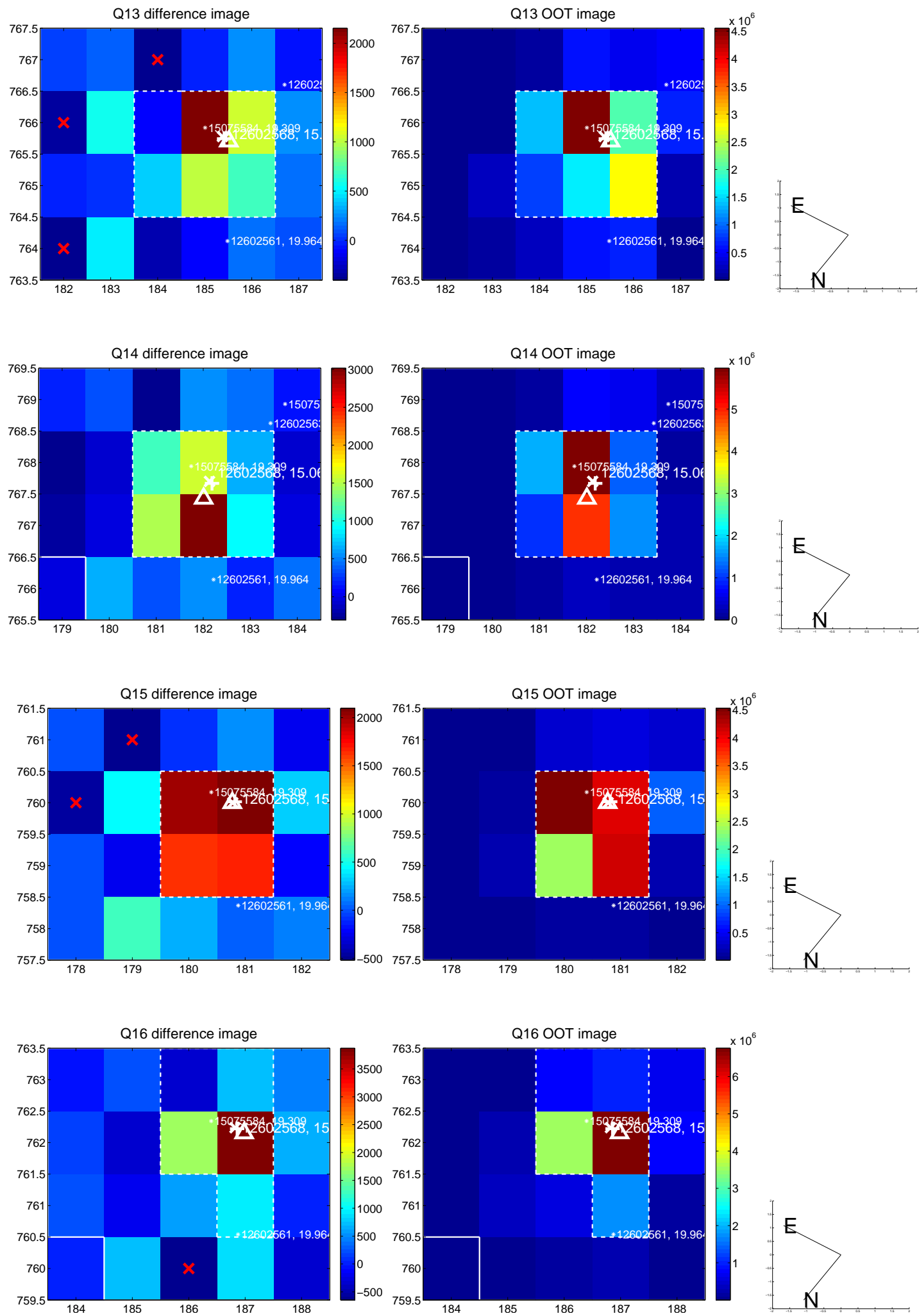
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



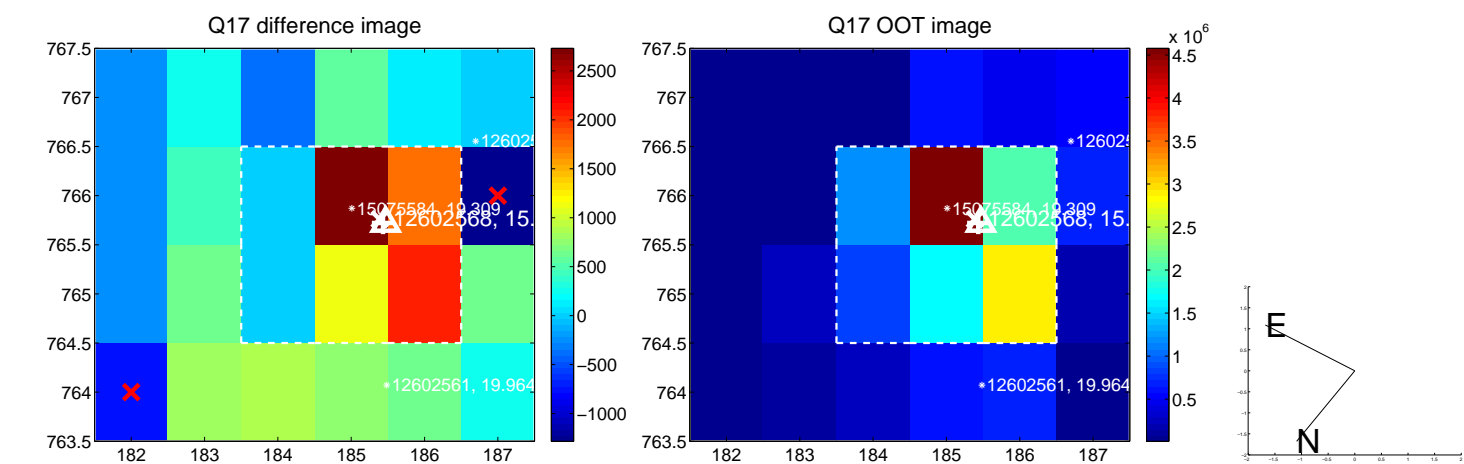
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



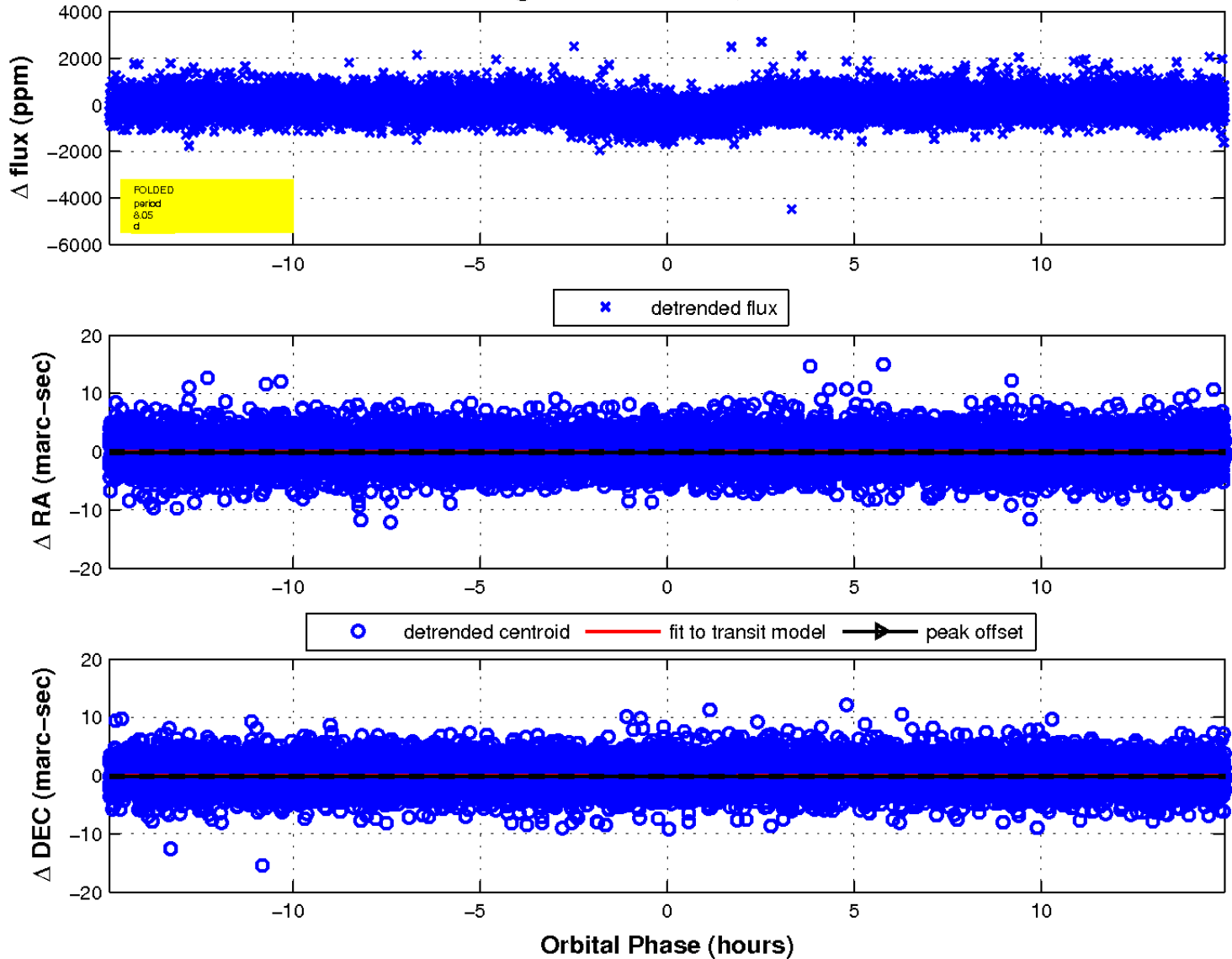
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

