

KIC 009351920

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})
009351920-01	OBS	2129.01	8.796125	135.680605	278.4	3.549	22.2	23.2	1.05	6142	2.06	183.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009351920-01	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.

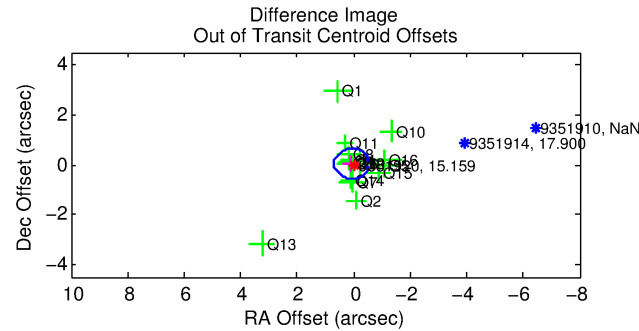
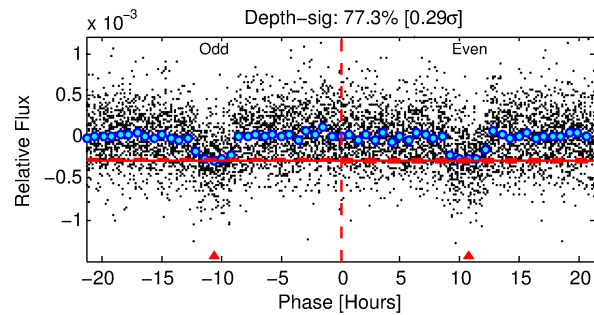
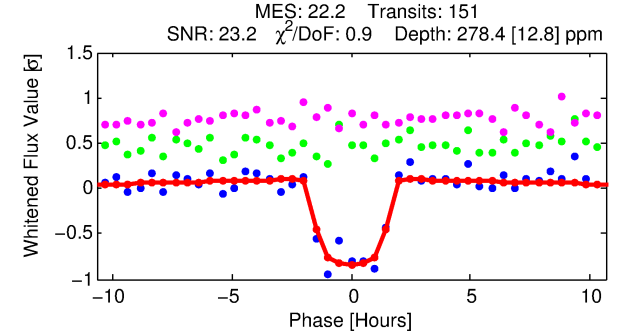
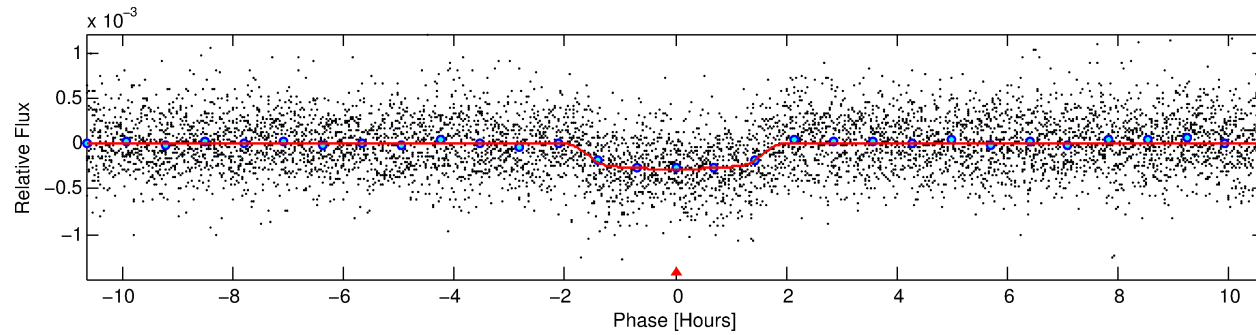
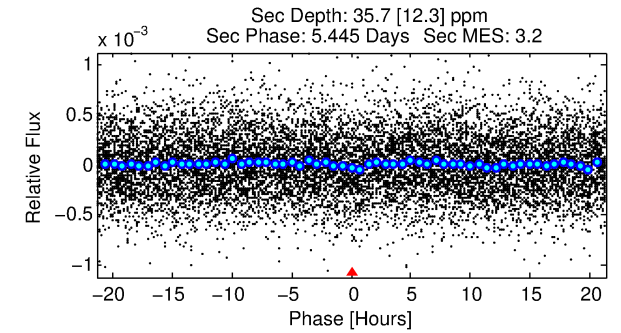
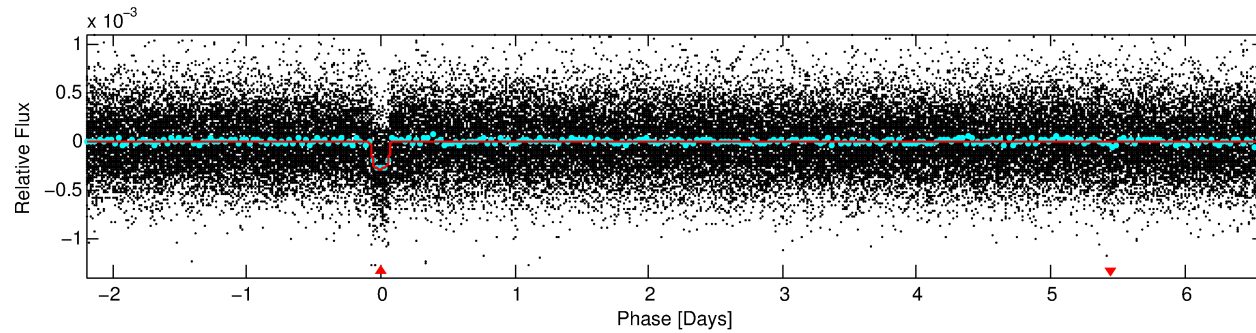
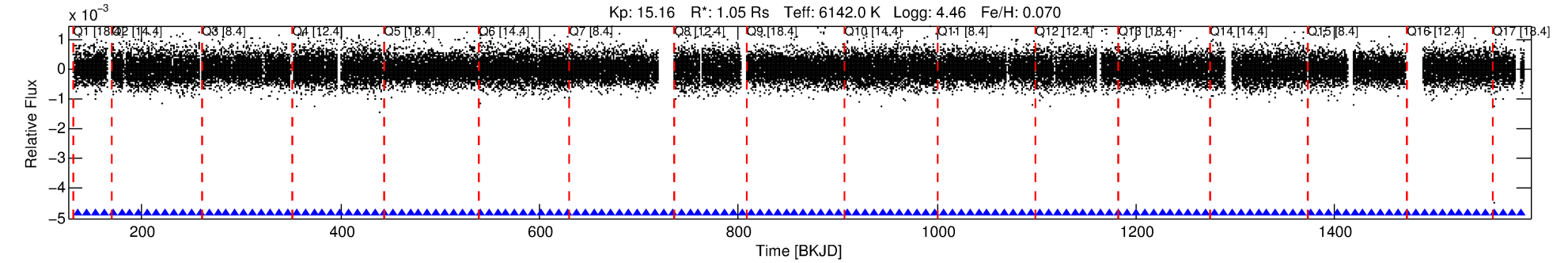
Ephemeris Match Information For 009351920-01

No Significant Match Found

DV One-Page Summary

KIC: 9351920 Candidate: 1 of 1 Period: 8.796 d

KOI: K02129.01 Corr: 0.977



DV Fit Results:

Period = 8.79612 [0.00003] d
Epoch = 135.6806 [0.0030] BKJD
Rp/R* = 0.0180 [0.0028]
a/R* = 9.06 [6.99]
b = 0.90 [0.17]
Seff = 183.70 [66.36]
Teff = 939 [85] K
Rp = 2.06 [0.65] Re
a = 0.0871 [0.0201] AU
Ag = 35.25 [20.13] [1.70σ]
Teffp = 3537 [425] K [6.00σ]

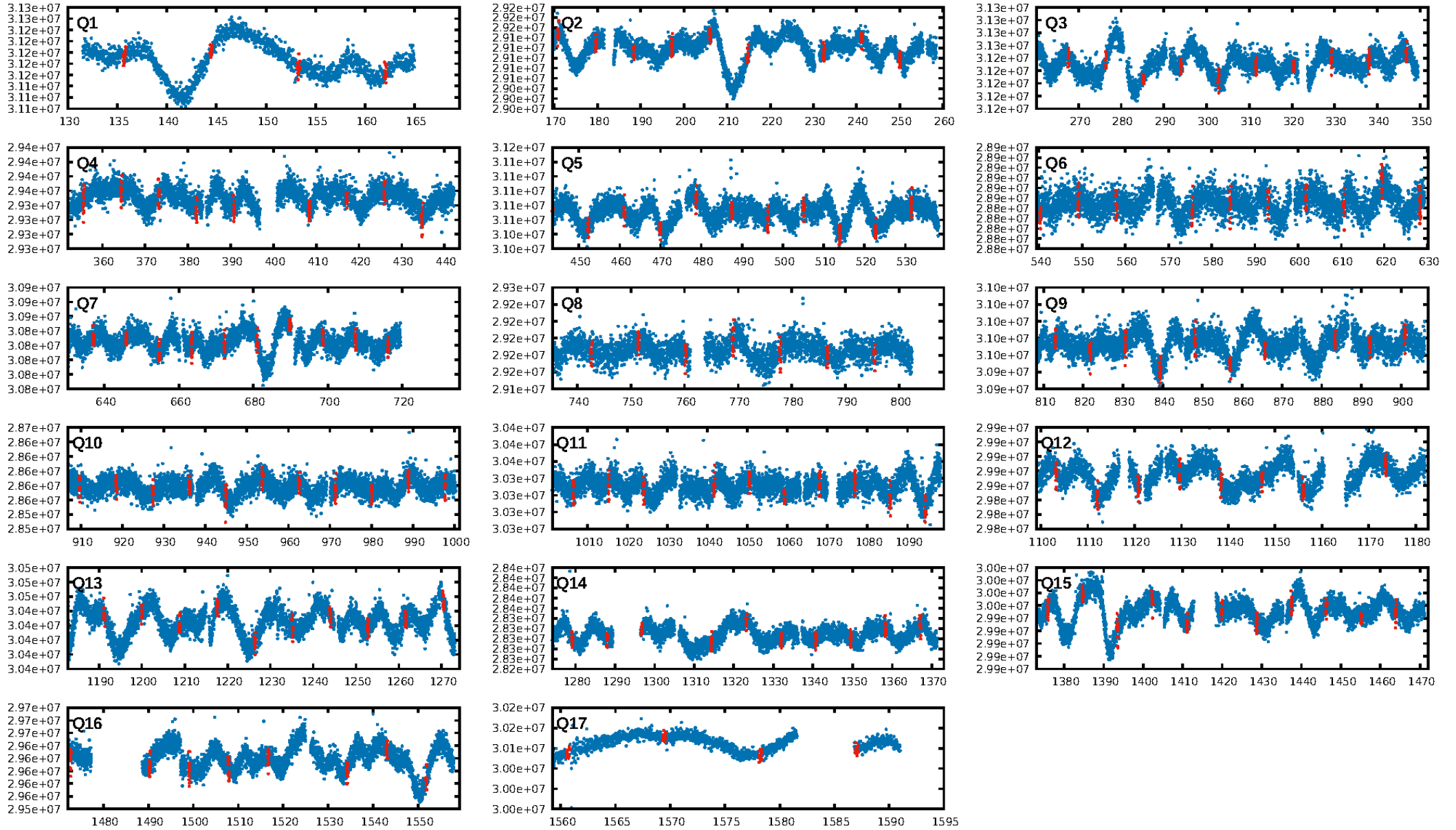
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.65e-107
RollingBand-fgt: 1.00 [143/143]
GhostDiagnostic-chr: 6.804
Centroid-sig: 1.9%
Centroid-so: 1.062 arcsec [2.01σ]
OotOffset-rm: 0.090 arcsec [0.45σ]
KicOffset-rm: 0.299 arcsec [1.41σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [17/17]

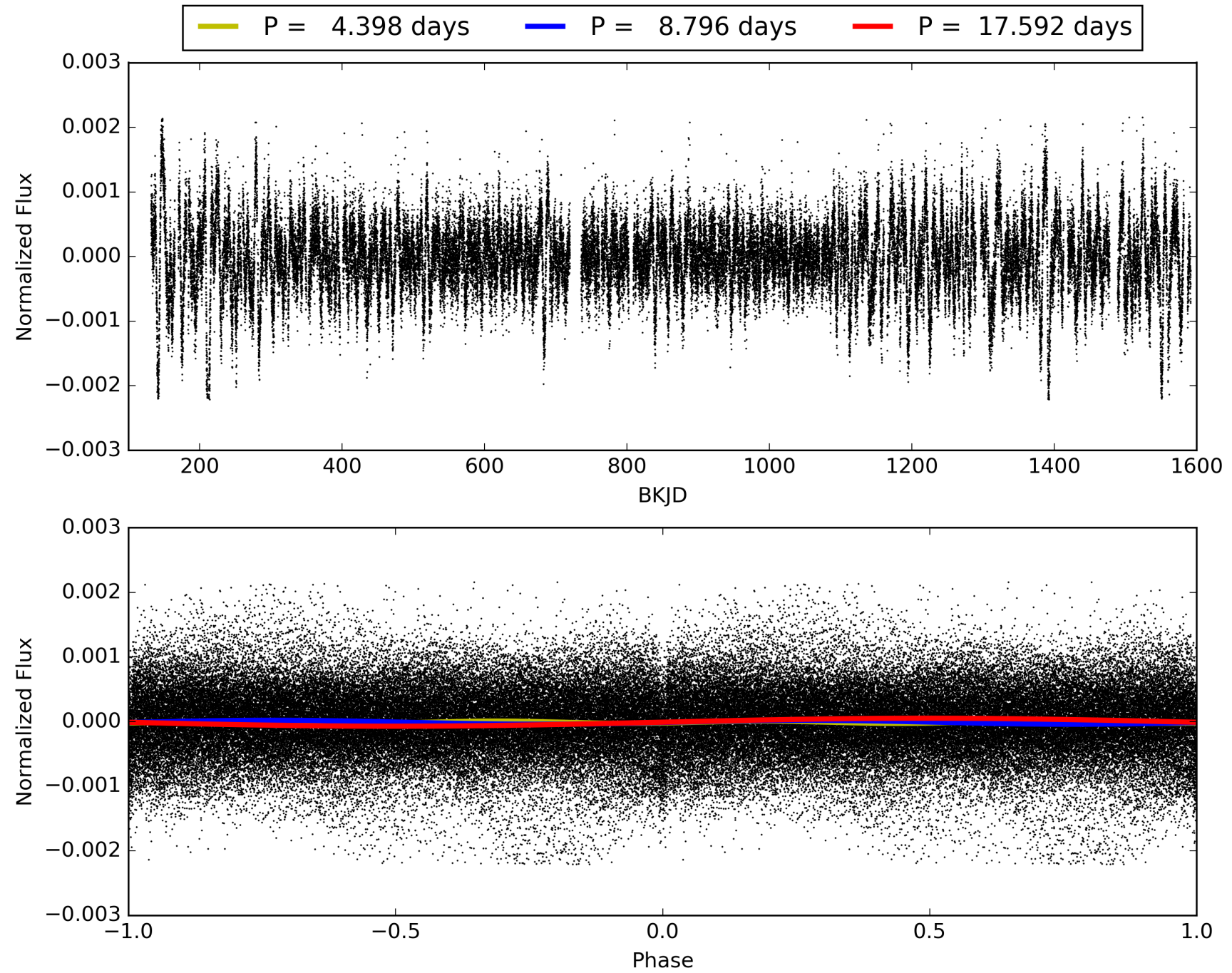
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:31:40 Z

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

TCE 009351920-01, PDC Light Curves

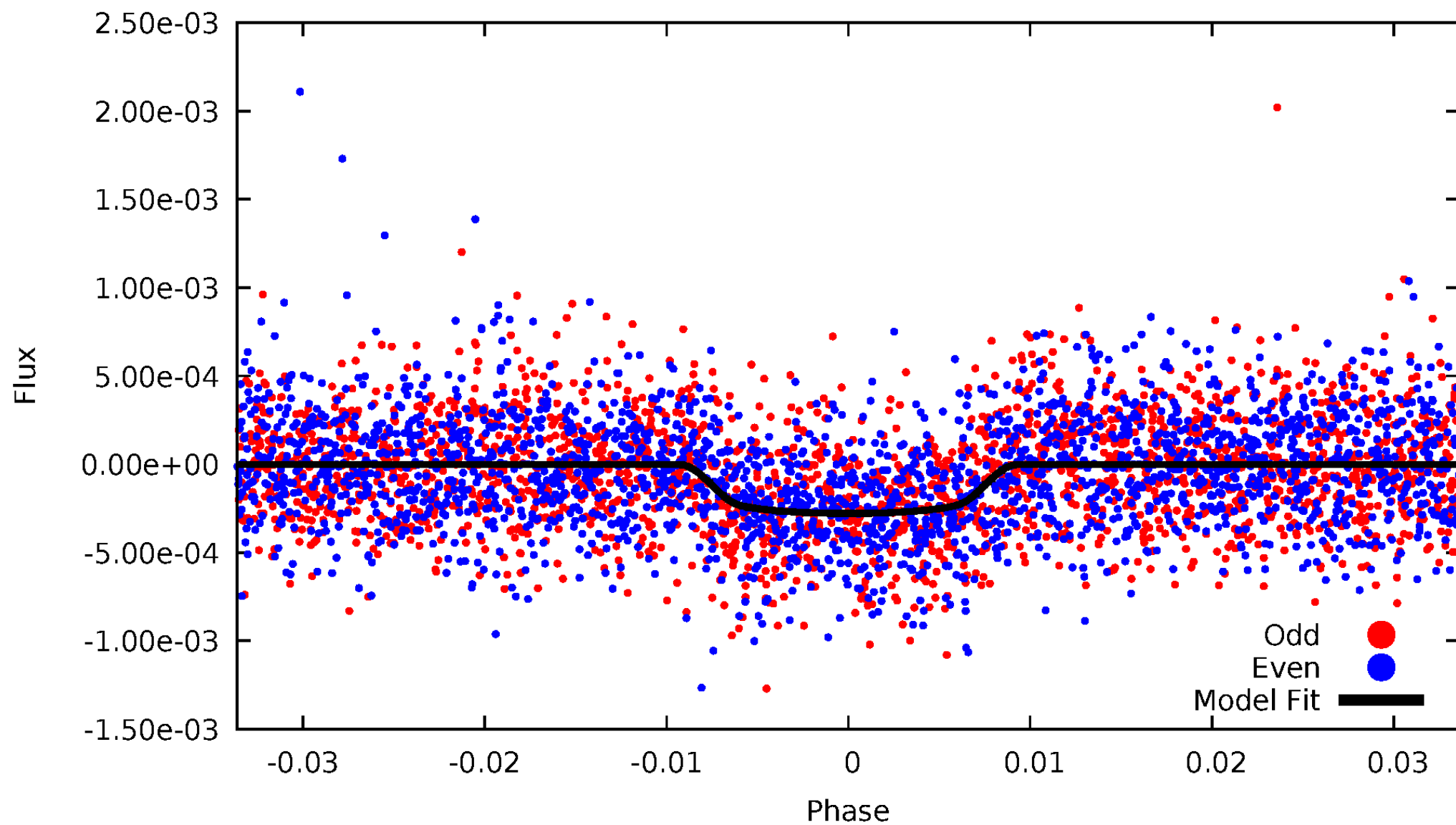


TCE 009351920-01



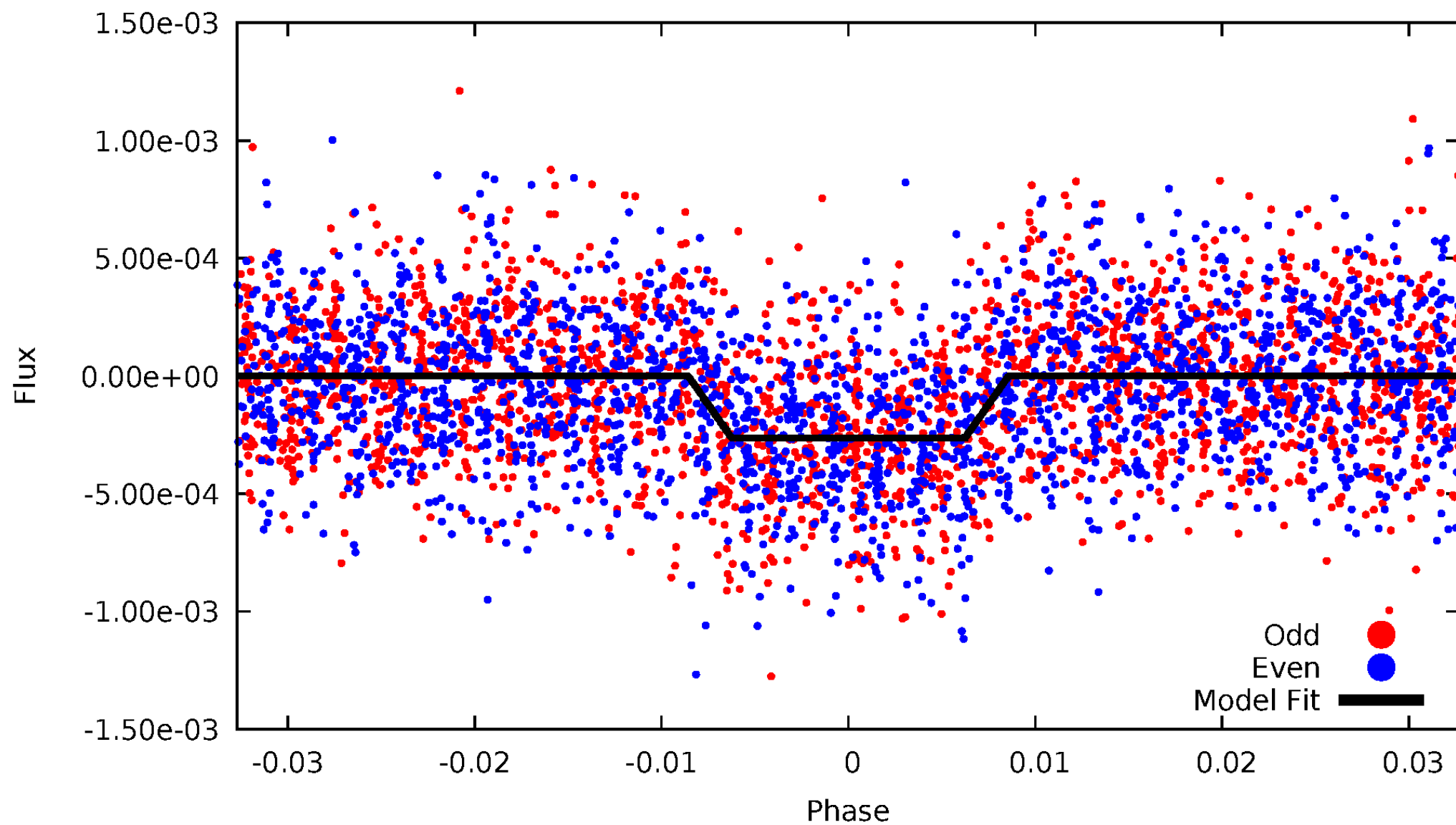
DV Odd/Even

TCE 009351920-01

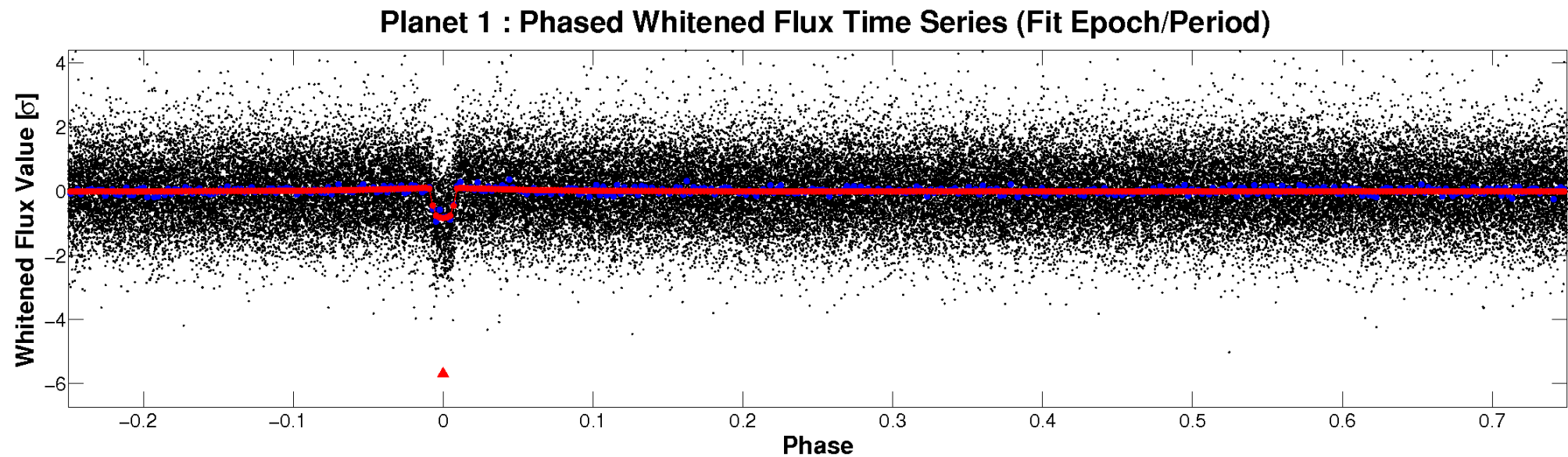
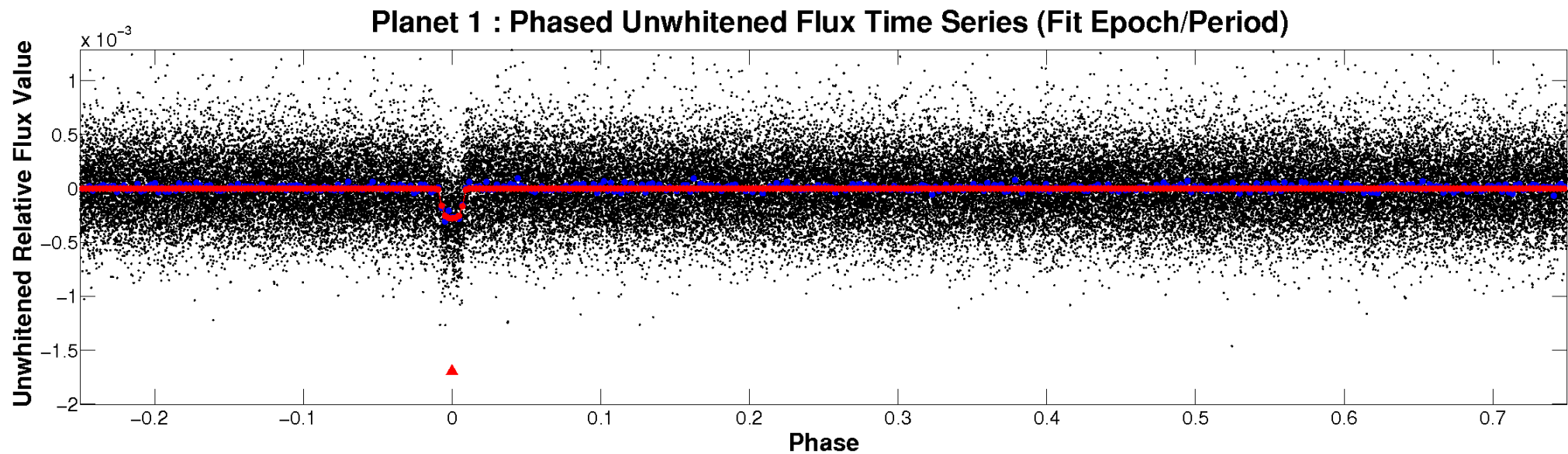


ALT Odd/Even

TCE 009351920-01

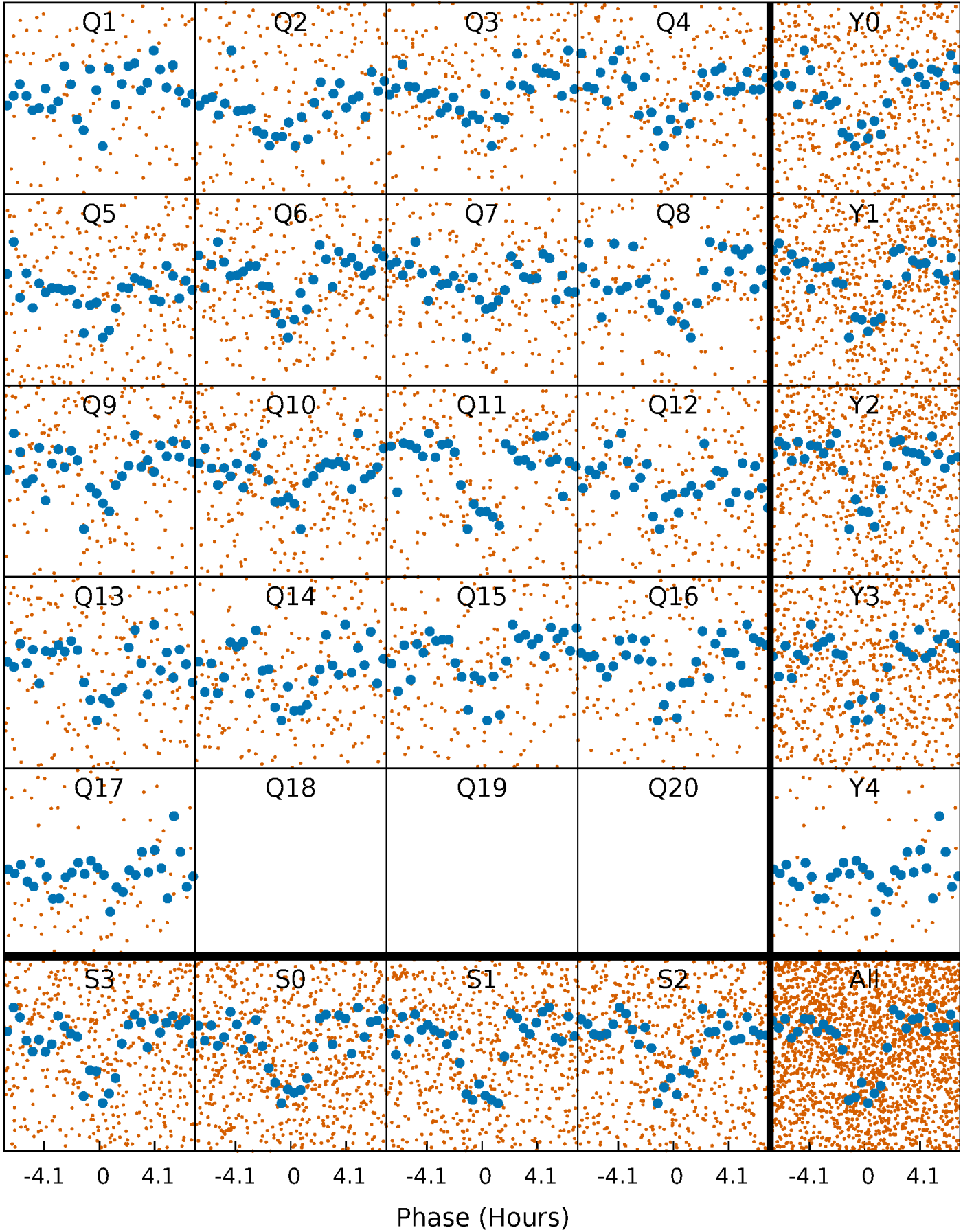


Non-Whitened Vs. Whitened Light Curve



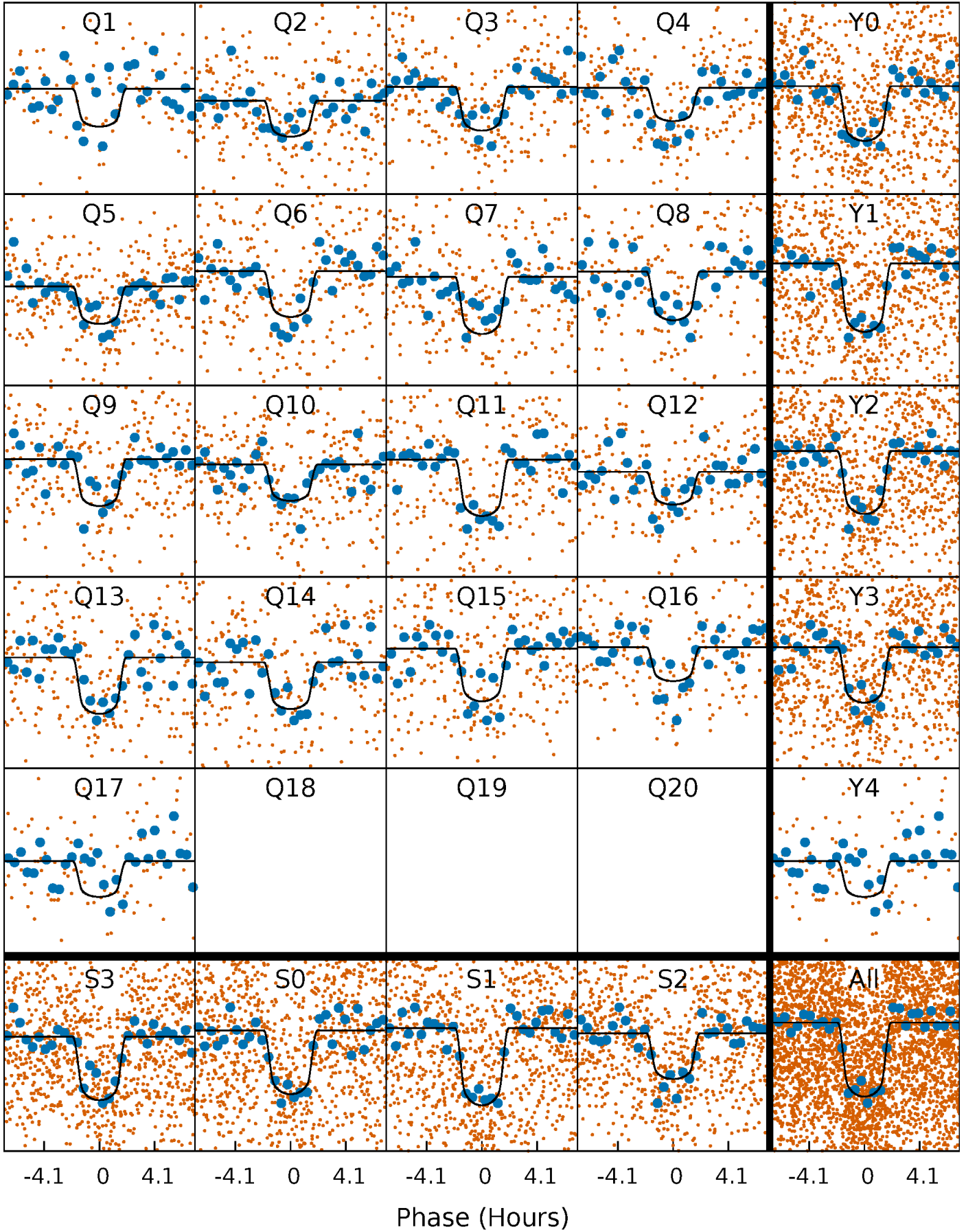
PDC Quarter-Phased Transit Curves

TCE 009351920-01 P= 8.796125 Days $T_0=135.680605$ (BKJD)



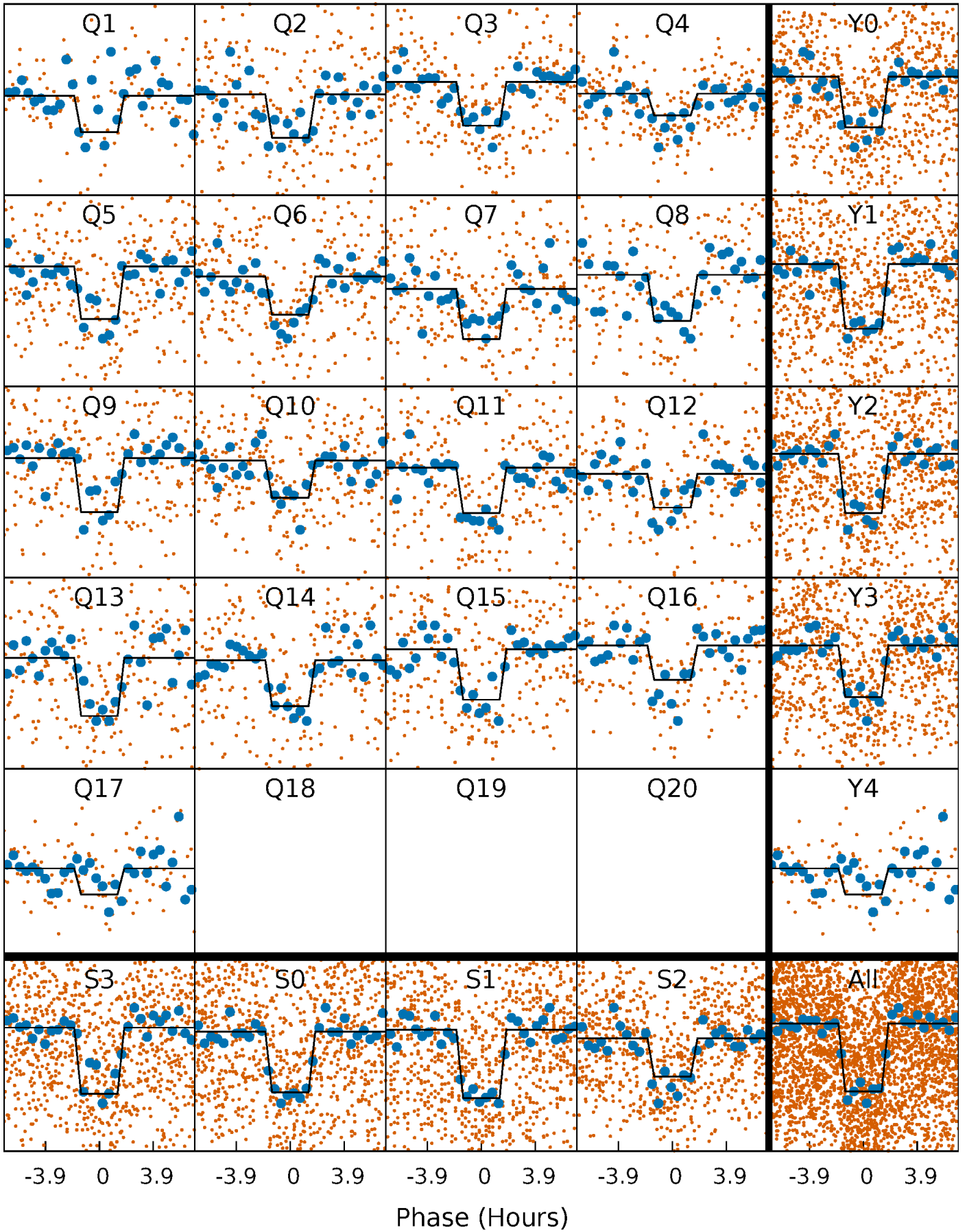
DV Quarter-Phased Transit Curves

TCE 009351920-01 P= 8.796125 Days $T_0=135.680605$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

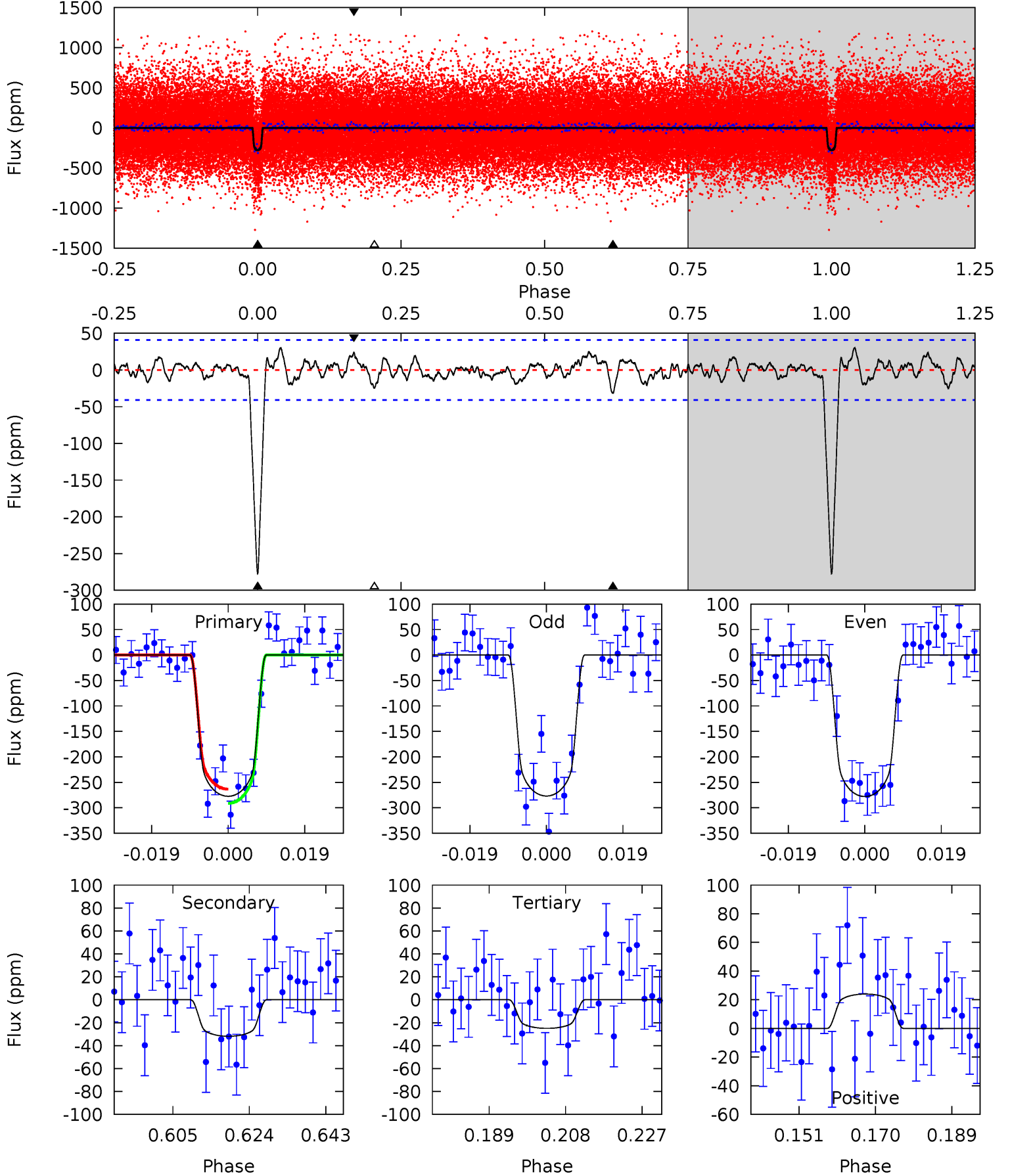
TCE 009351920-01 P= 8.796184 Days $T_0=135.675871$ (BKJD)



DV Model-Shift Uniqueness Test

009351920-01, P = 8.796125 Days, E = 126.884480 Days

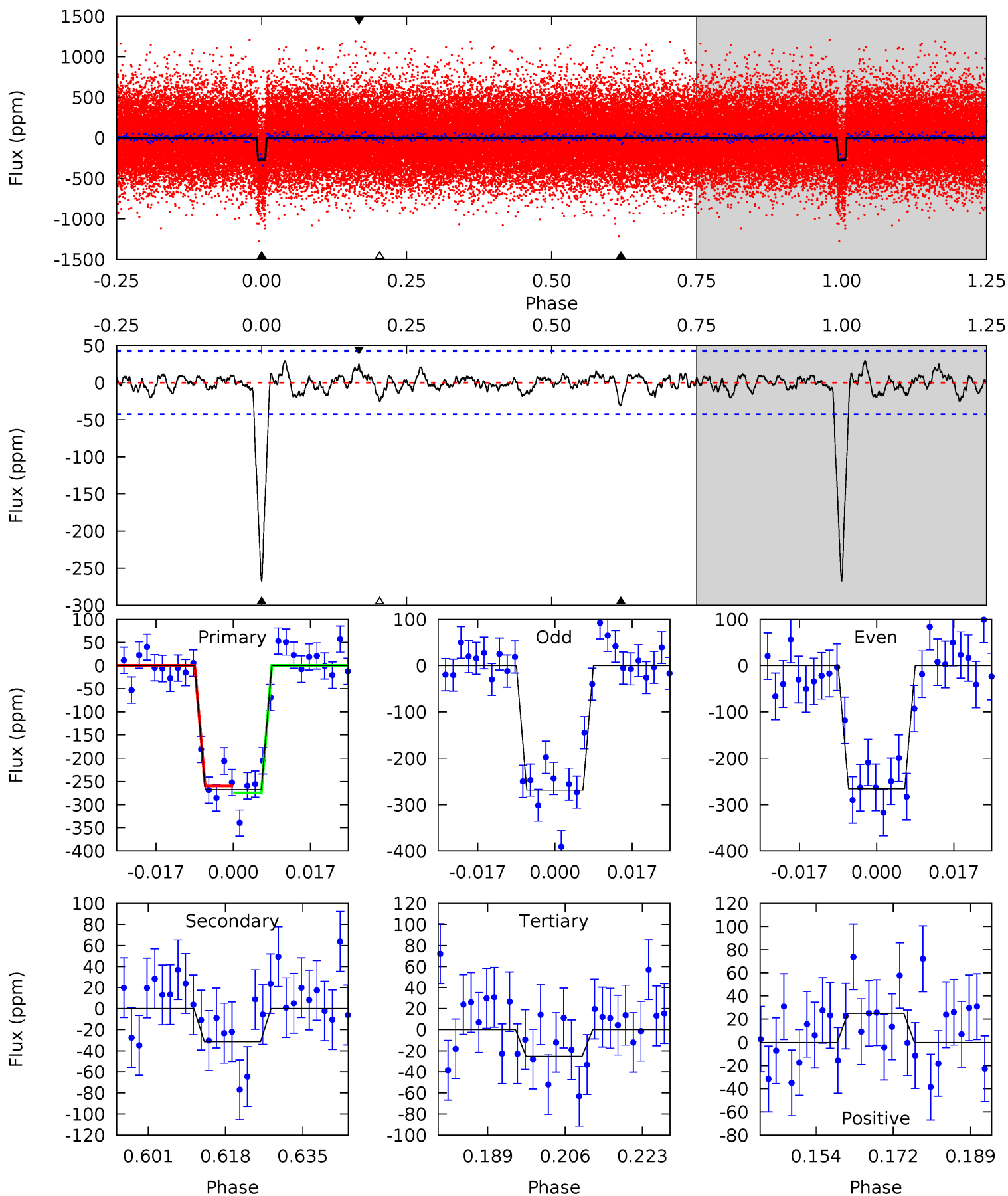
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.2	3.82	2.99	2.87	4.90	2.35	1.15	30.3	30.4	0.83	0.95	0.06	1.00	0.10	1.67



Alt Model-Shift Uniqueness Test

009351920-01, P = 8.796184 Days, E = 126.879687 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.9	3.62	2.90	2.88	4.92	2.38	0.99	28.0	28.0	0.72	0.73	0.16	1.02	0.10	0.87



Stellar Parameters For KIC 009351920

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6142^{+147}_{-203}	$4.456^{+0.046}_{-0.184}$	$0.070^{+0.250}_{-0.300}$	$1.046^{+0.286}_{-0.102}$	$1.143^{+0.130}_{-0.143}$	$1.407^{+0.345}_{-0.680}$
	+2%/-3%	+1%/-4%	+357%/-429%	+27%/-10%	+11%/-13%	+25%/-48%
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 009351920-01 / KOI 2129.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-32 ± 8	$2.11^{+0.45}_{-0.36}$	1336^{+78}_{-60}	3800^{+307}_{-262}	29^{+14}_{-11}
Alt.	-31 ± 9	$1.94^{+0.43}_{-0.38}$	1338^{+80}_{-59}	3926^{+372}_{-290}	34^{+22}_{-14}

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

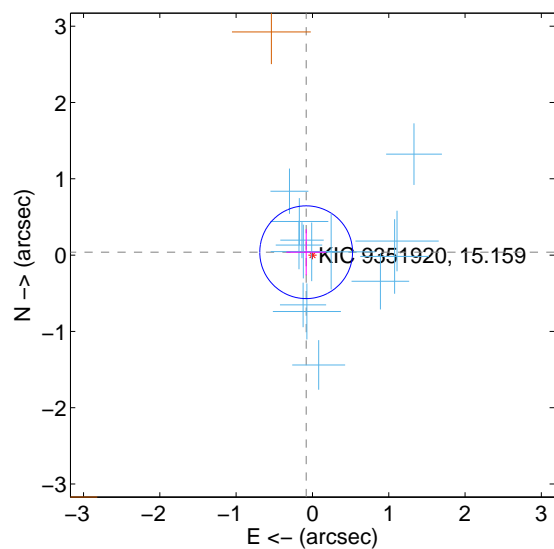
Supplemental centroid analysis for 009351920-01. Kepler magnitude: 15.16. Transit SNR 23.24

There are 14 quarters with good PRF difference image offsets

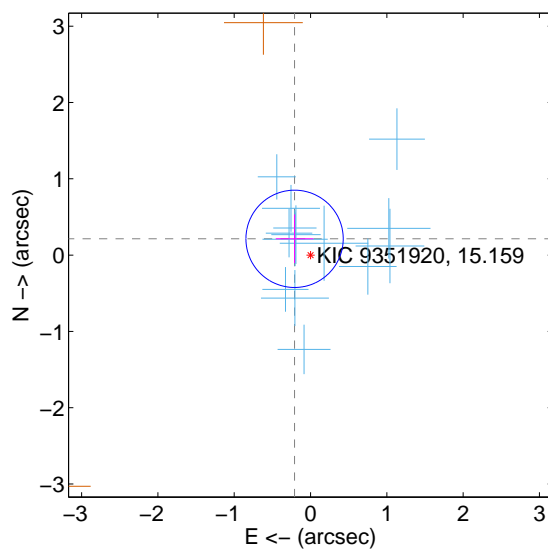
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.090 ± 0.203	0.45	0.082 ± 0.260	0.038 ± 0.301
PRF-fit source offset from KIC position	0.299 ± 0.213	1.41	0.209 ± 0.247	0.213 ± 0.318
photometric centroid source offset	1.06 ± 0.53	2.01	-0.89 ± 0.52	0.58 ± 0.54

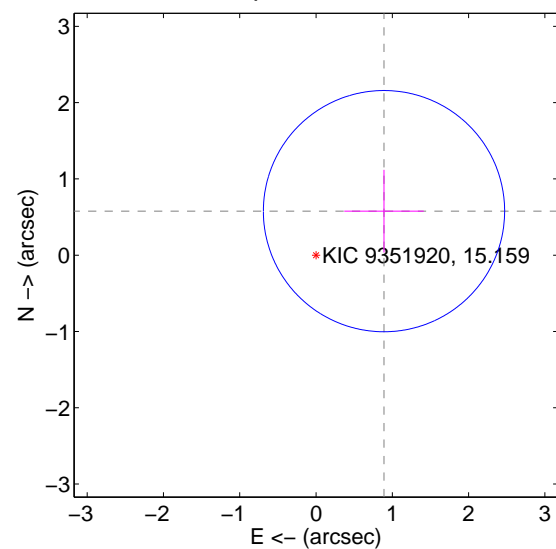
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

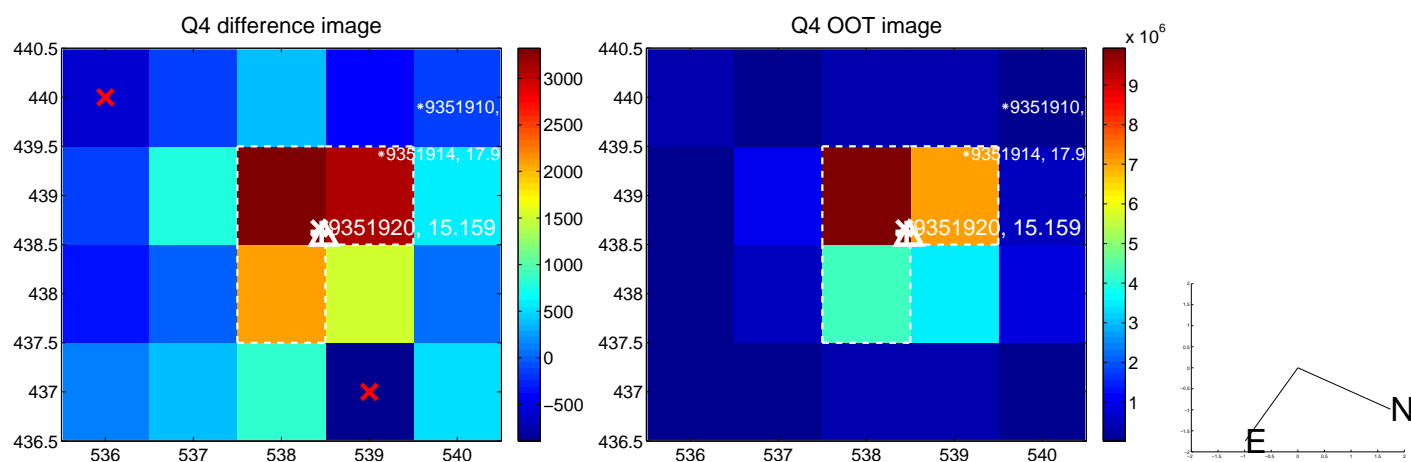
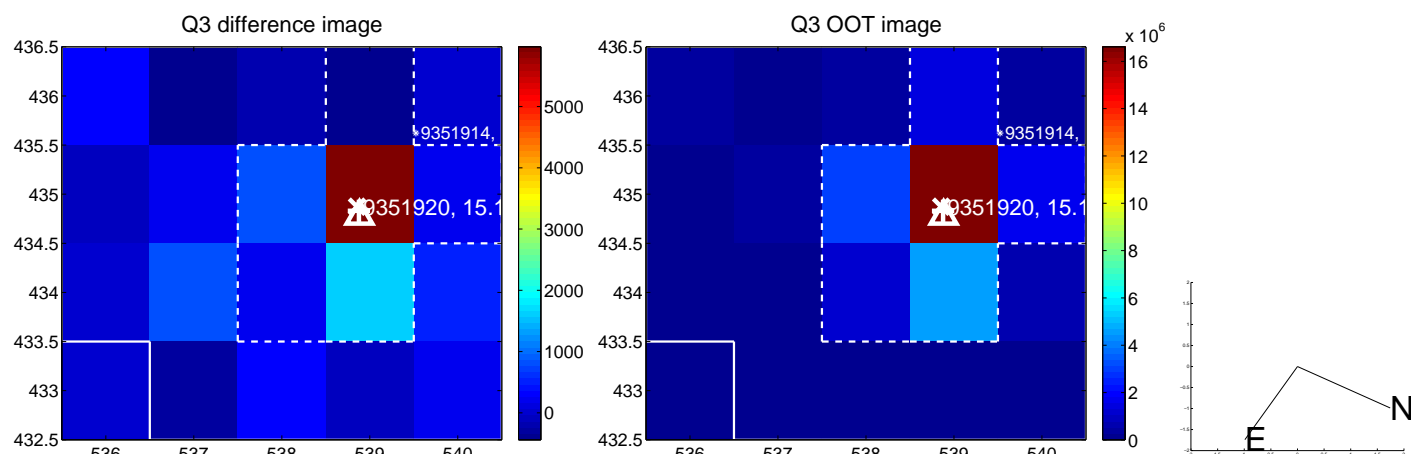
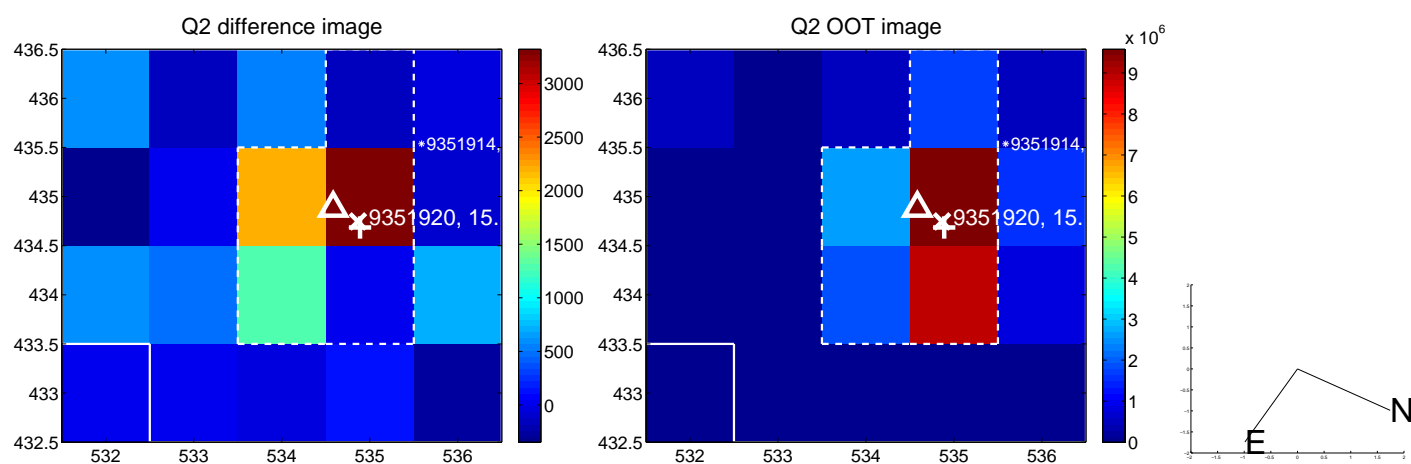
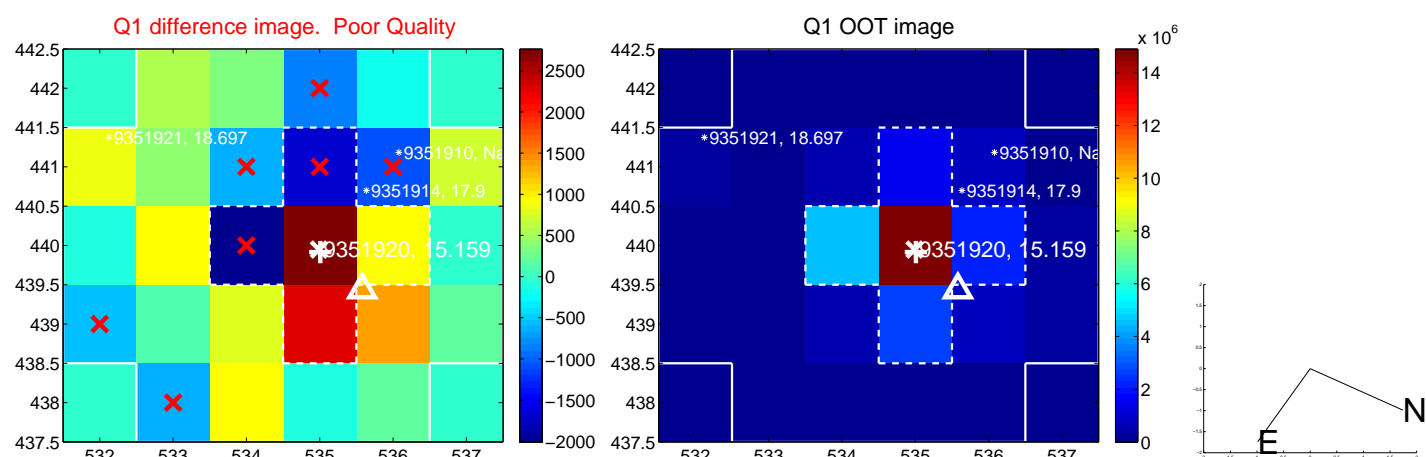


offset from photometric centroids

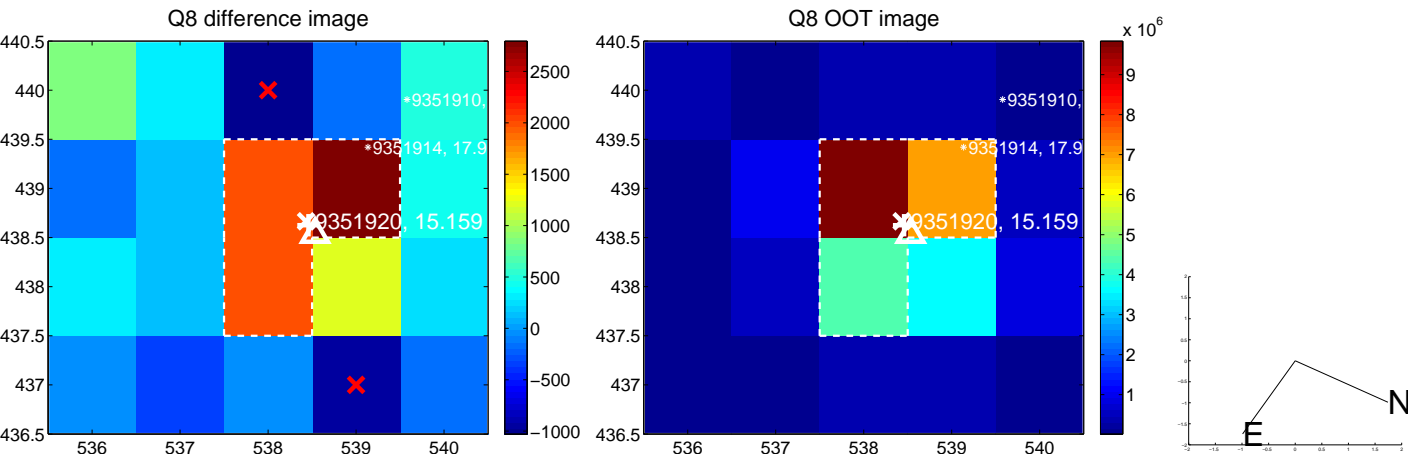
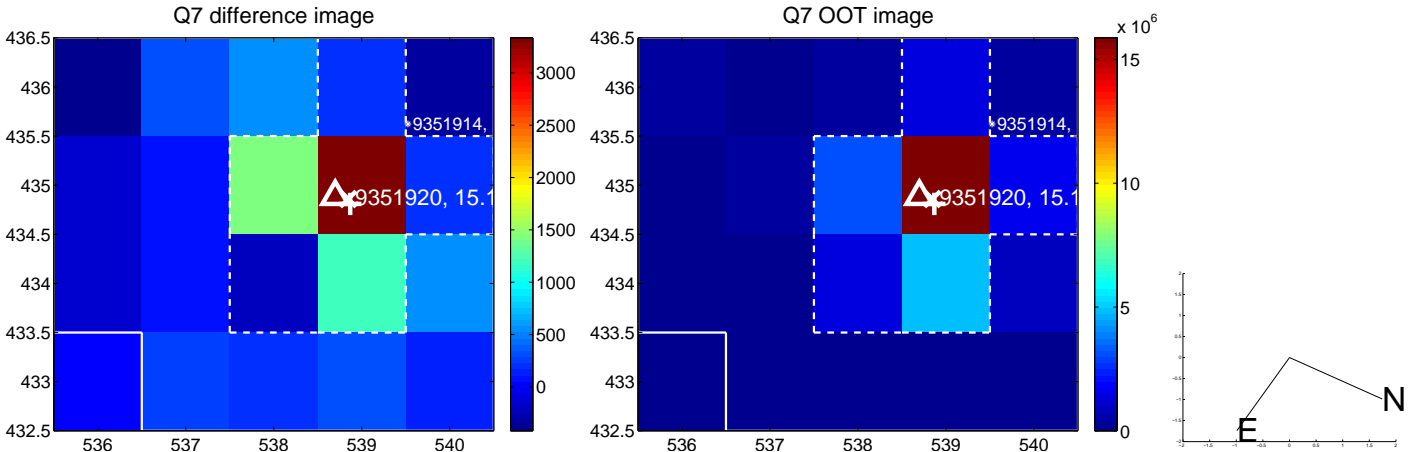
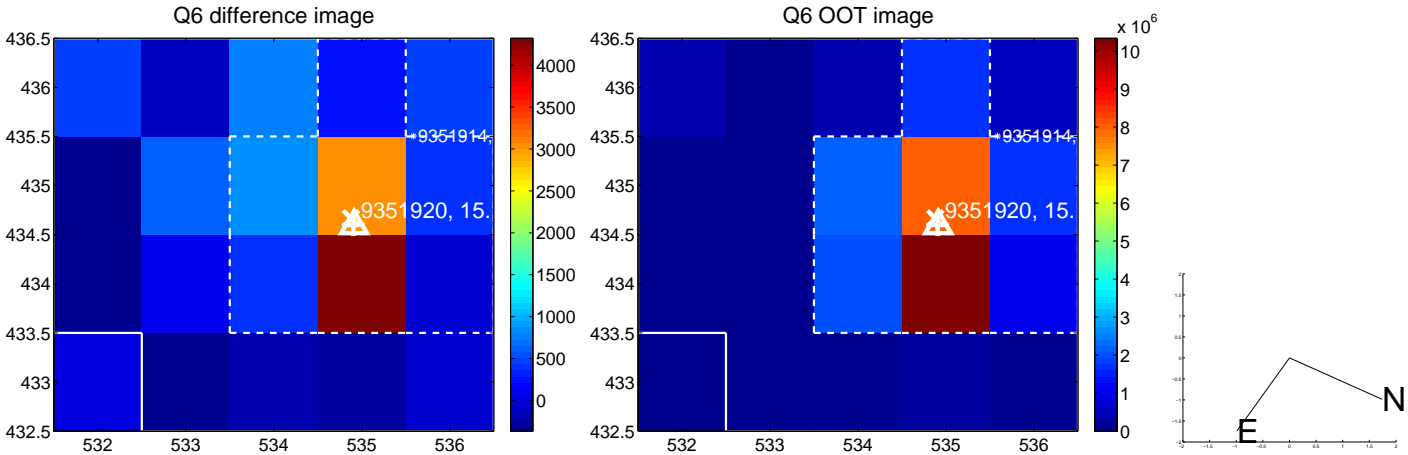
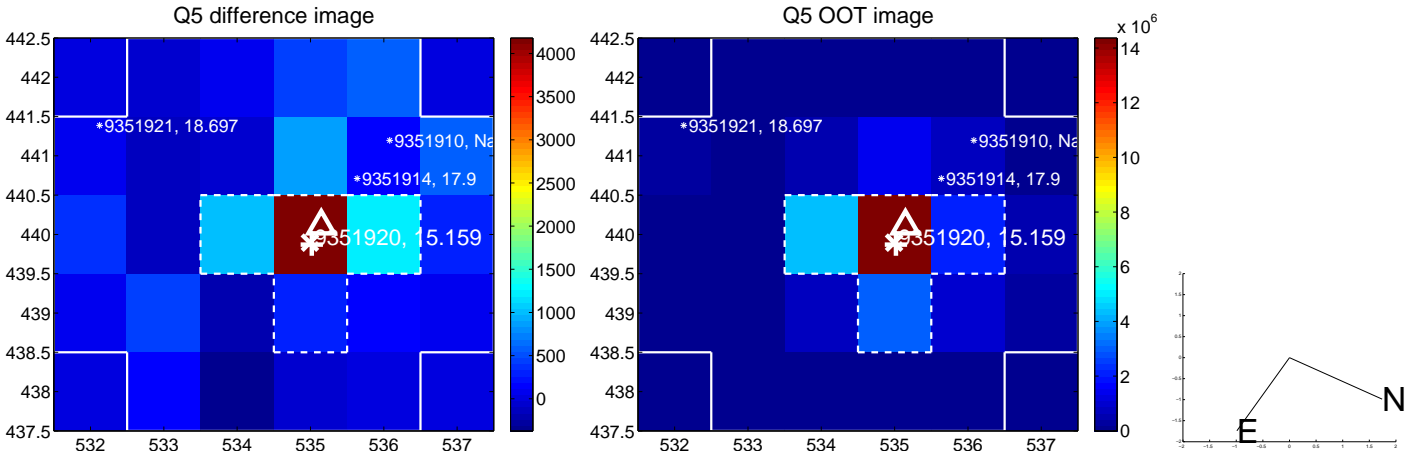


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

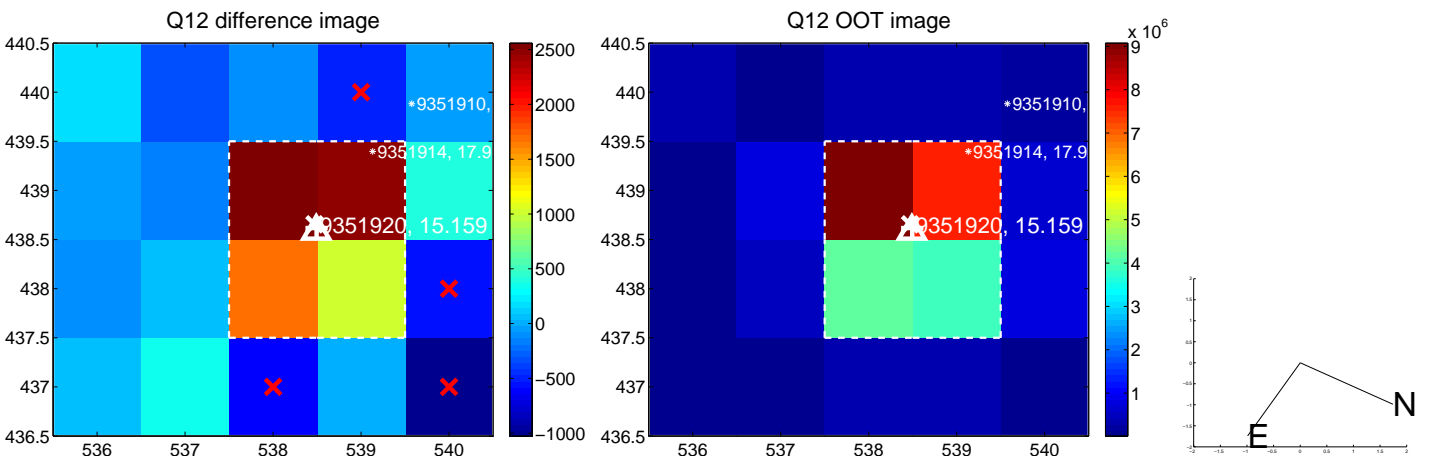
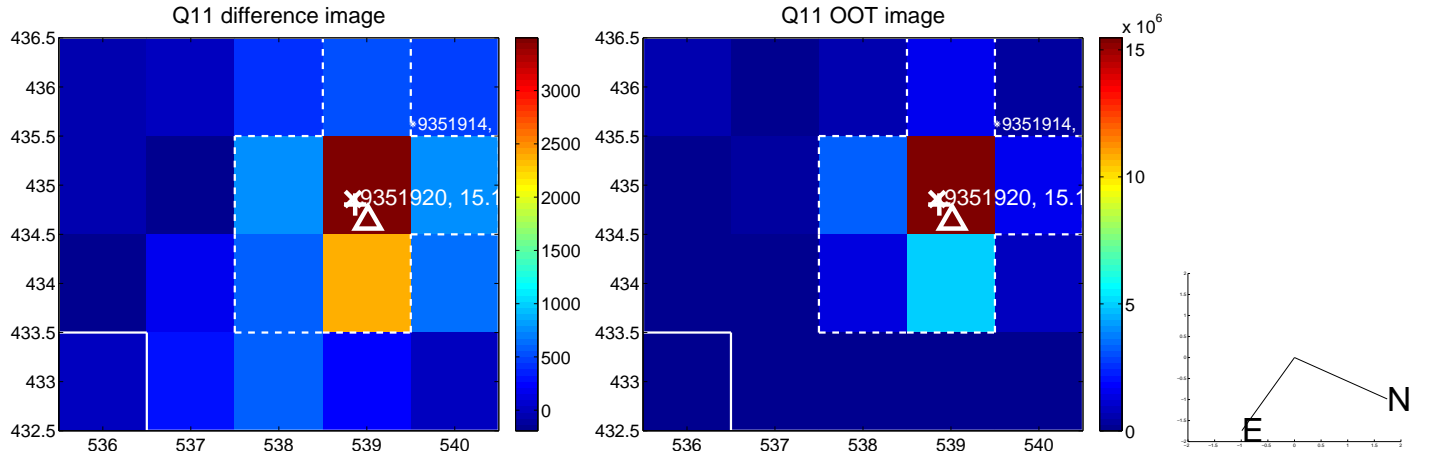
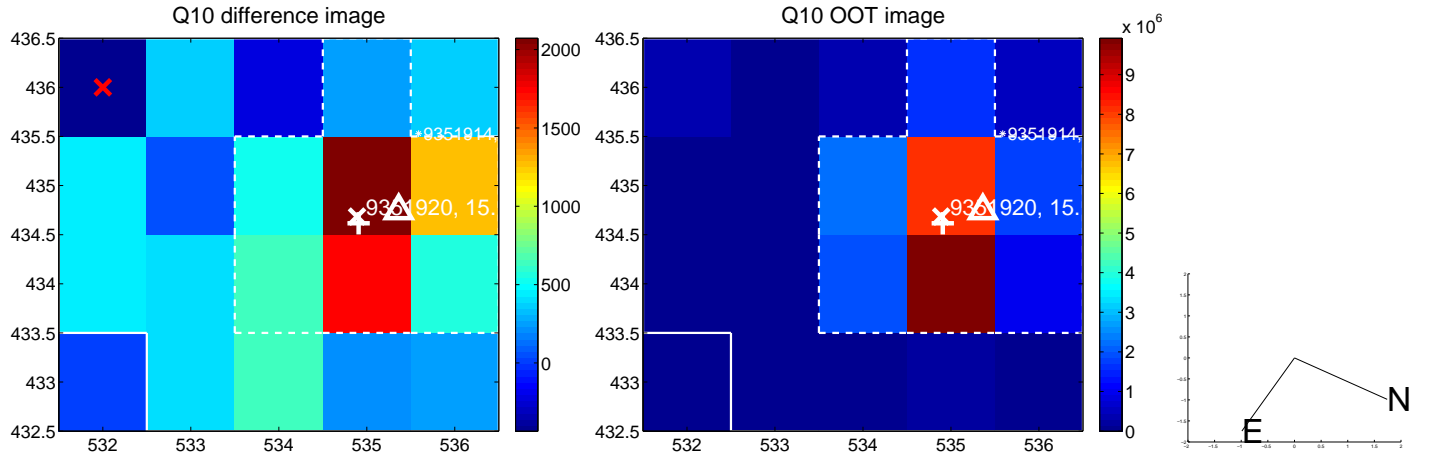
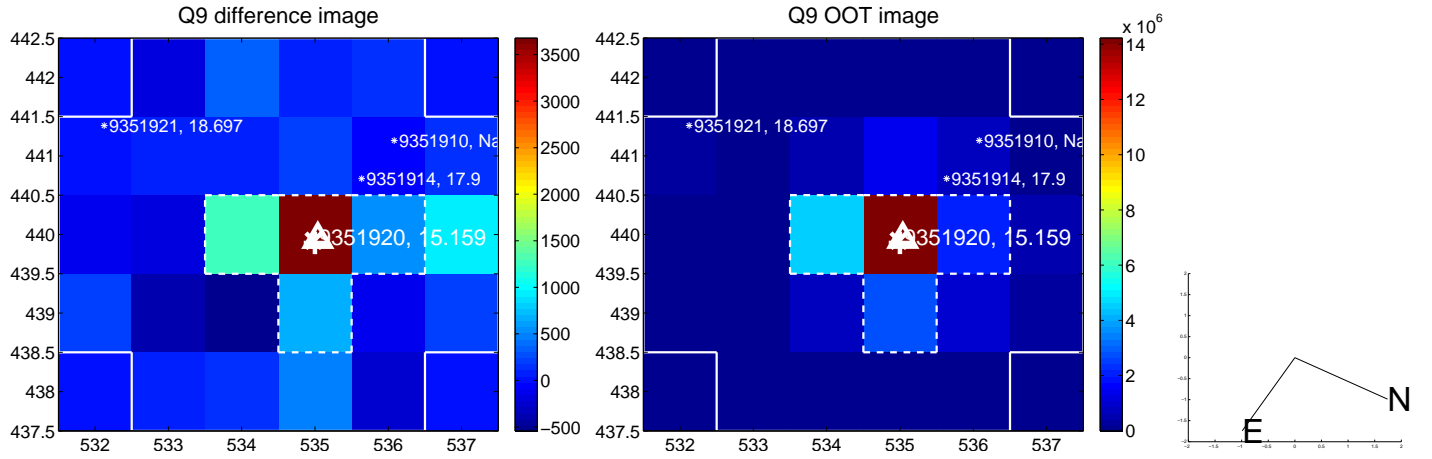
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



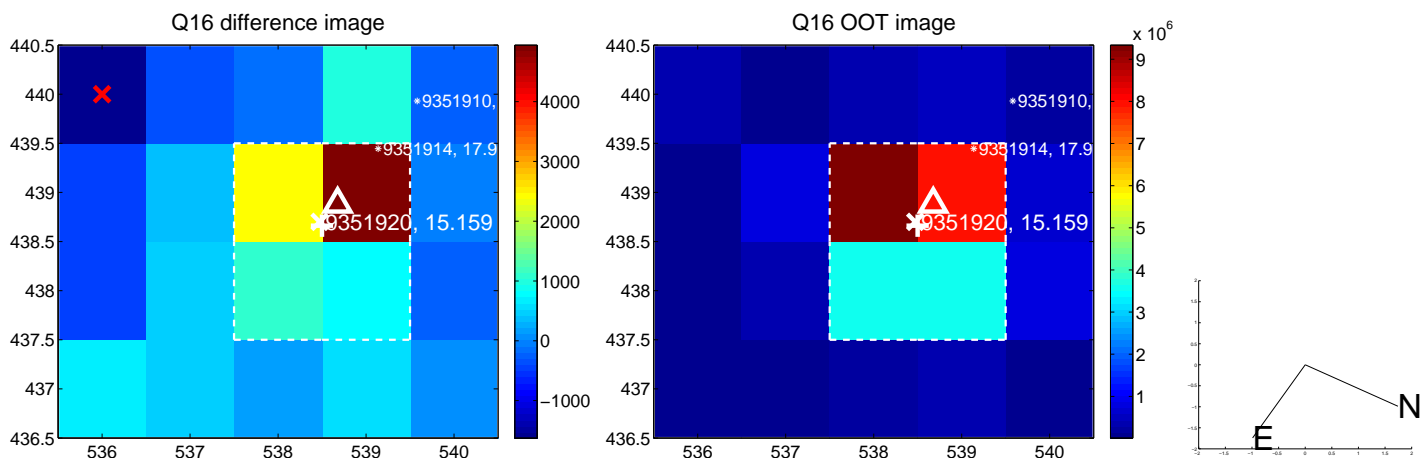
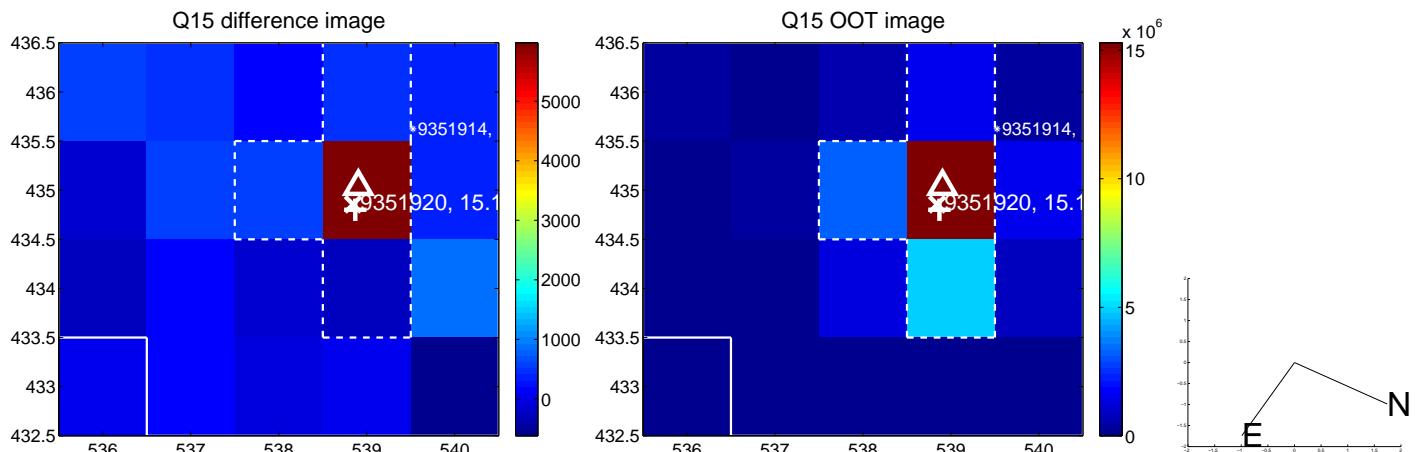
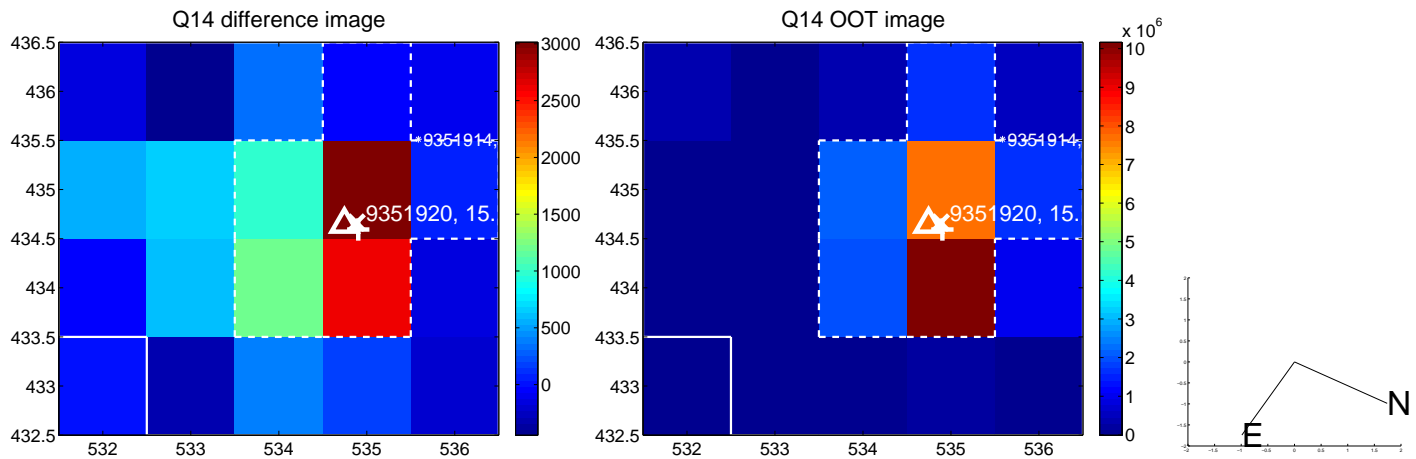
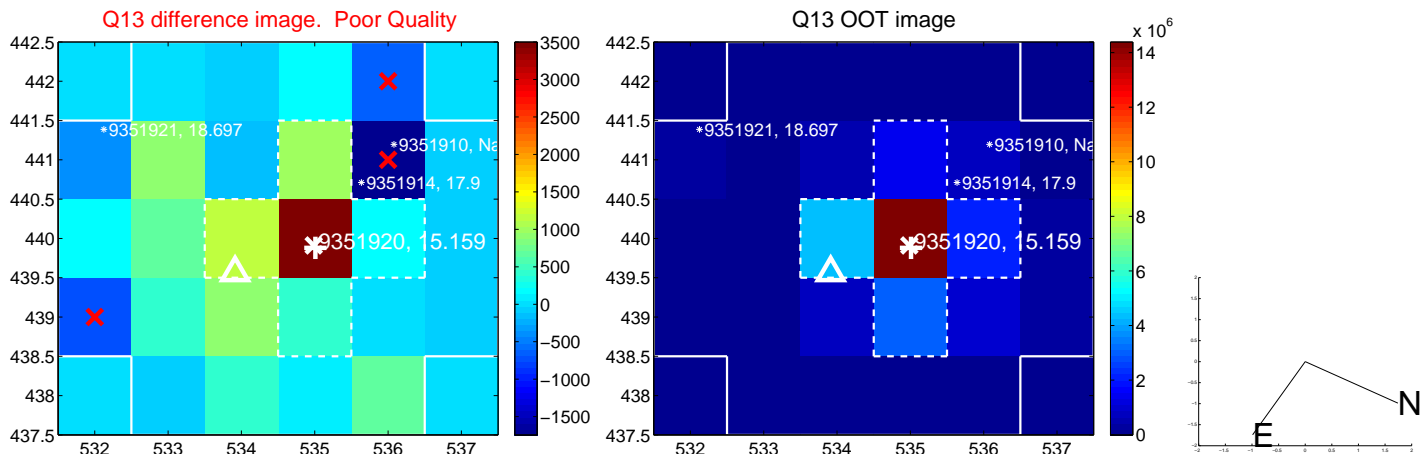
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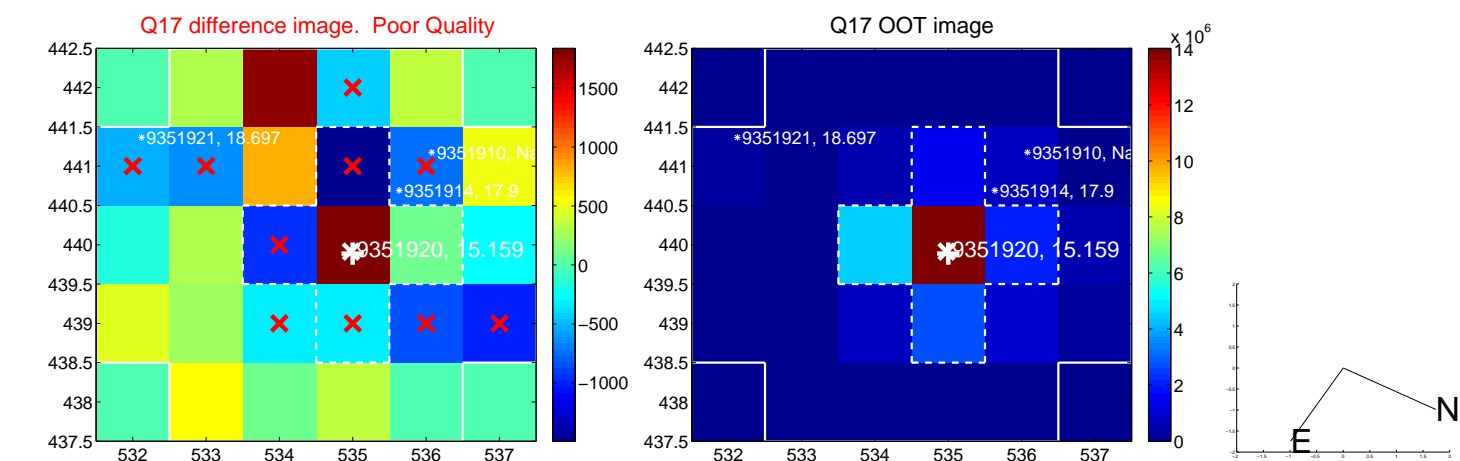
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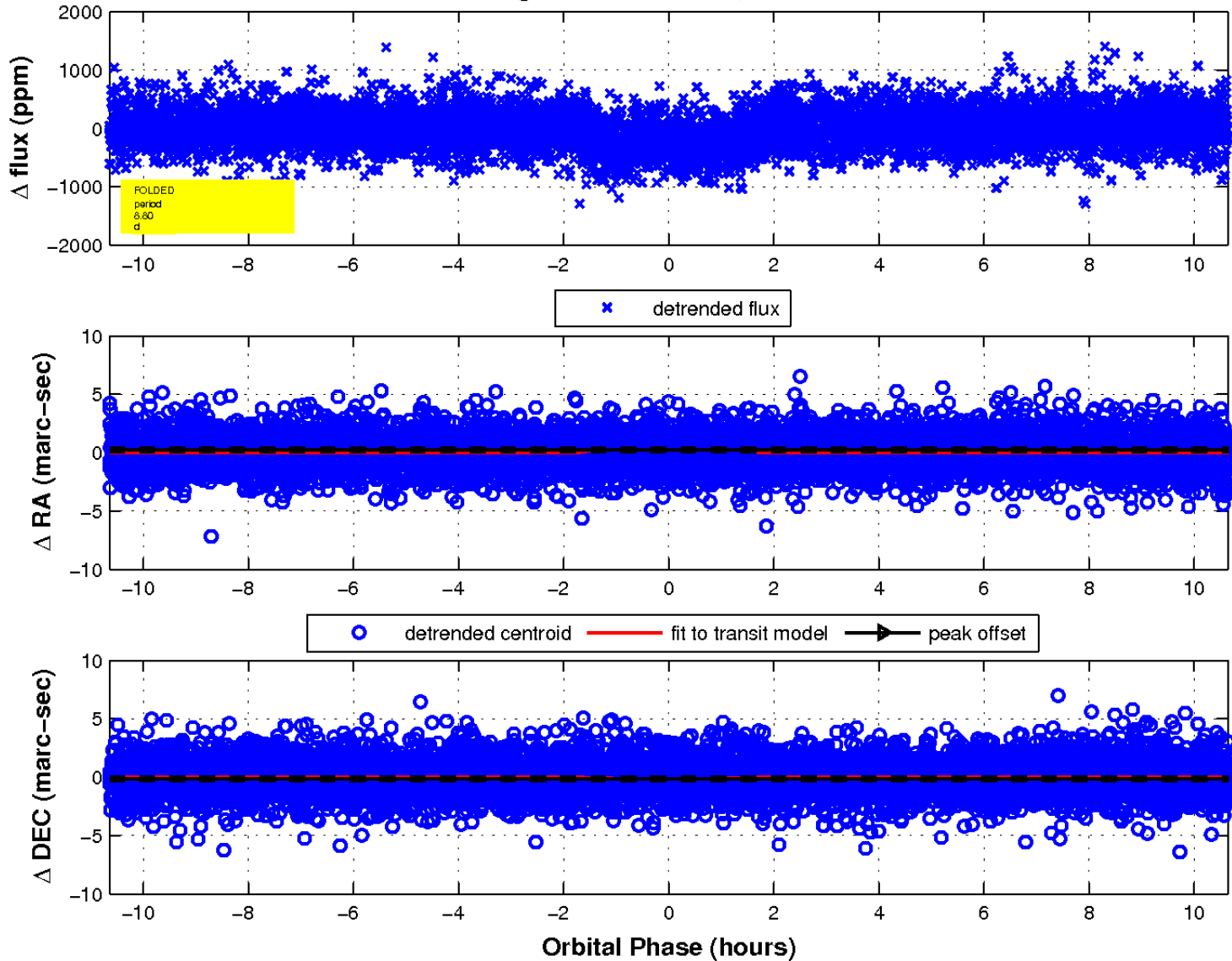
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

