

KIC 009306620

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})
009306620-01	OBS	No	7.157077	138.666930	47.0	28.765	8.8	8.8	1.86	6331	1.49	844.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009306620-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

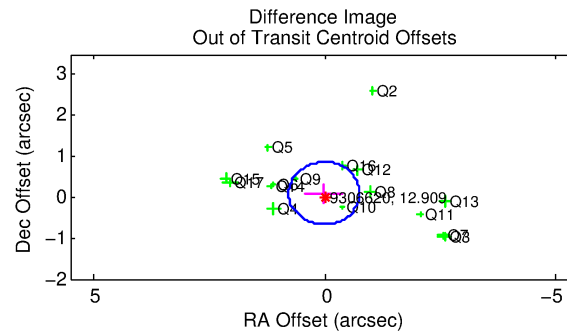
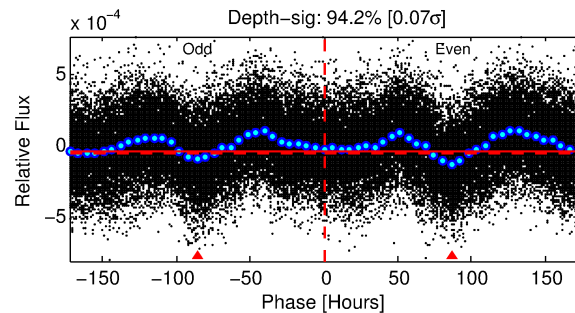
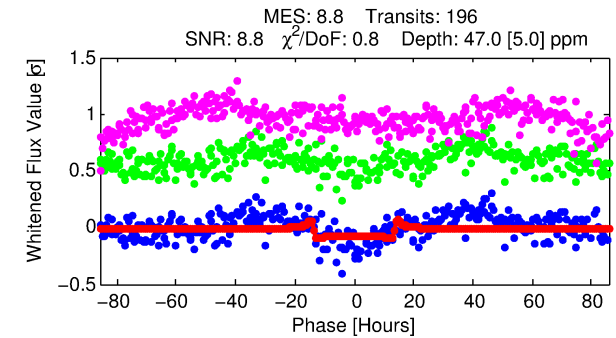
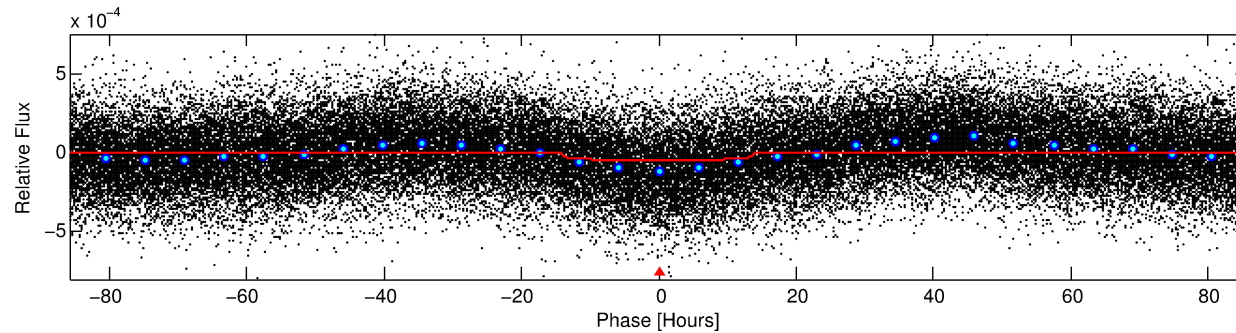
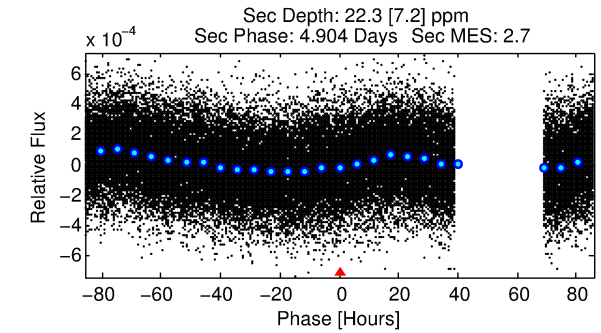
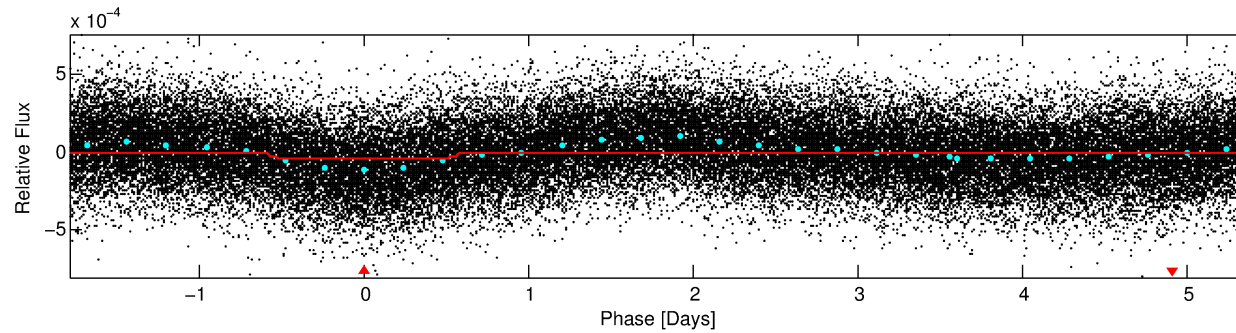
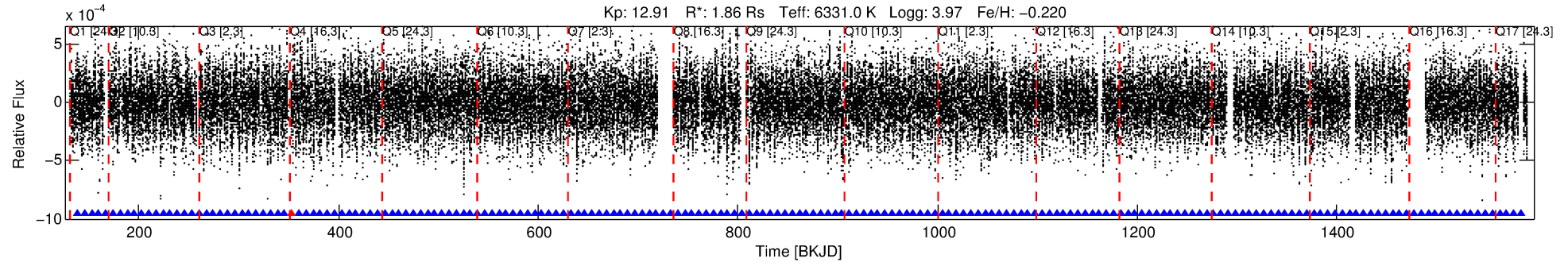
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009306620-01

No Significant Match Found

DV One-Page Summary

KIC: 9306620 Candidate: 1 of 1 Period: 7.157 d



DV Fit Results:

Period = 7.15708 [0.00015] d
Epoch = 138.6669 [0.0164] BKJD
Rp/R* = 0.0073 [0.0006]
a/R* = 1.29 [0.15]
b = 0.89 [0.06]
Seff = 844.22 [536.68]
Teq = 1374 [218] K
Rp = 1.49 [0.61] Re
a = 0.0769 [0.0297] AU
Ag = 32.73 [23.40] [1.36σ]
Teffp = 5083 [489] K [6.92σ]

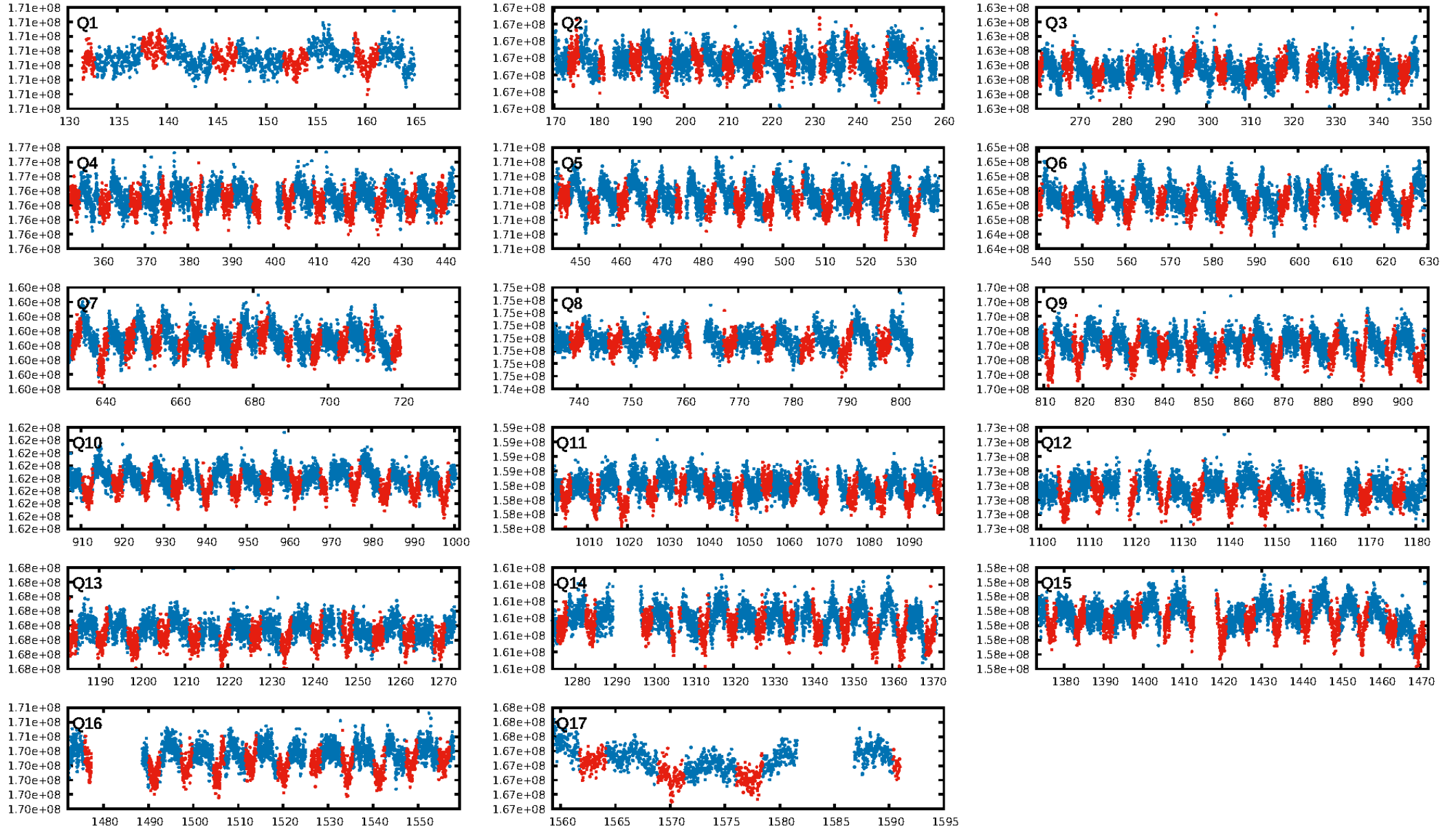
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.68e-16
RollingBand-fgt: 0.99 [186/187]
GhostDiagnostic-chr: 3.009
Centroid-sig: 0.0%
Centroid-so: 1.364 arcsec [2.29σ]
OotOffset-rm: 0.099 arcsec [0.39σ]
KicOffset-rm: 0.134 arcsec [0.65σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [17/17]

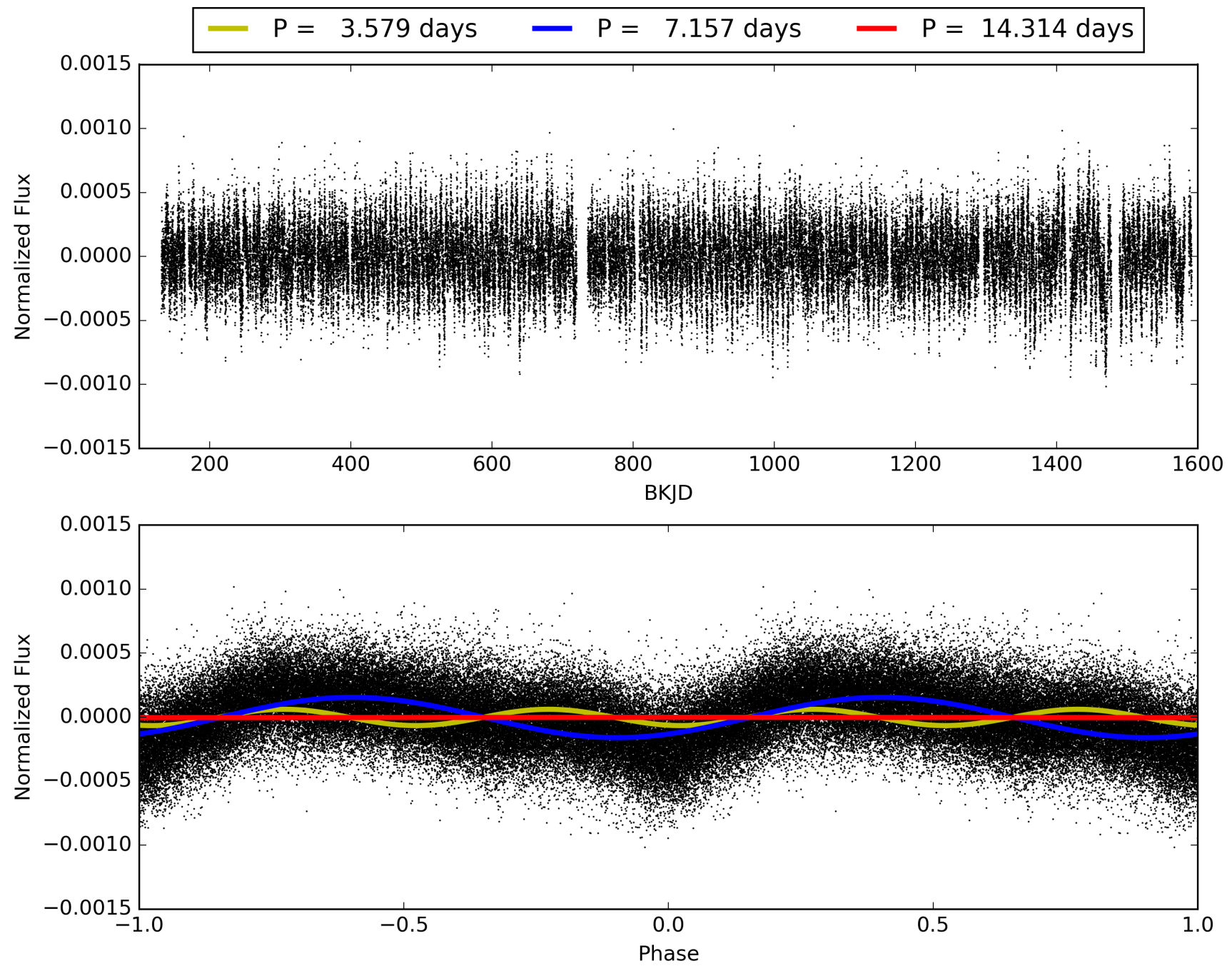
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:55:22 Z

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

TCE 009306620-01, PDC Light Curves

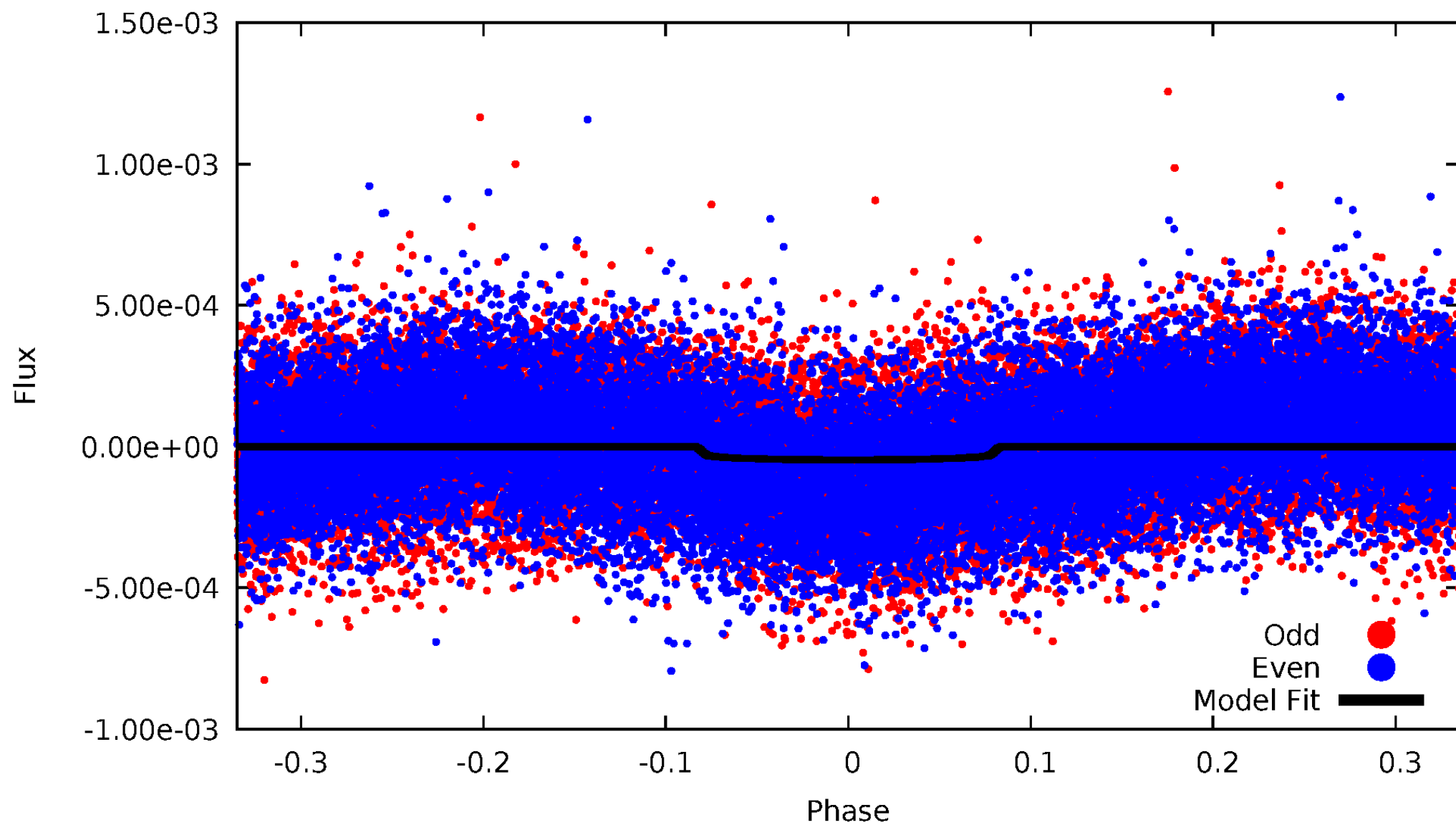


TCE 009306620-01



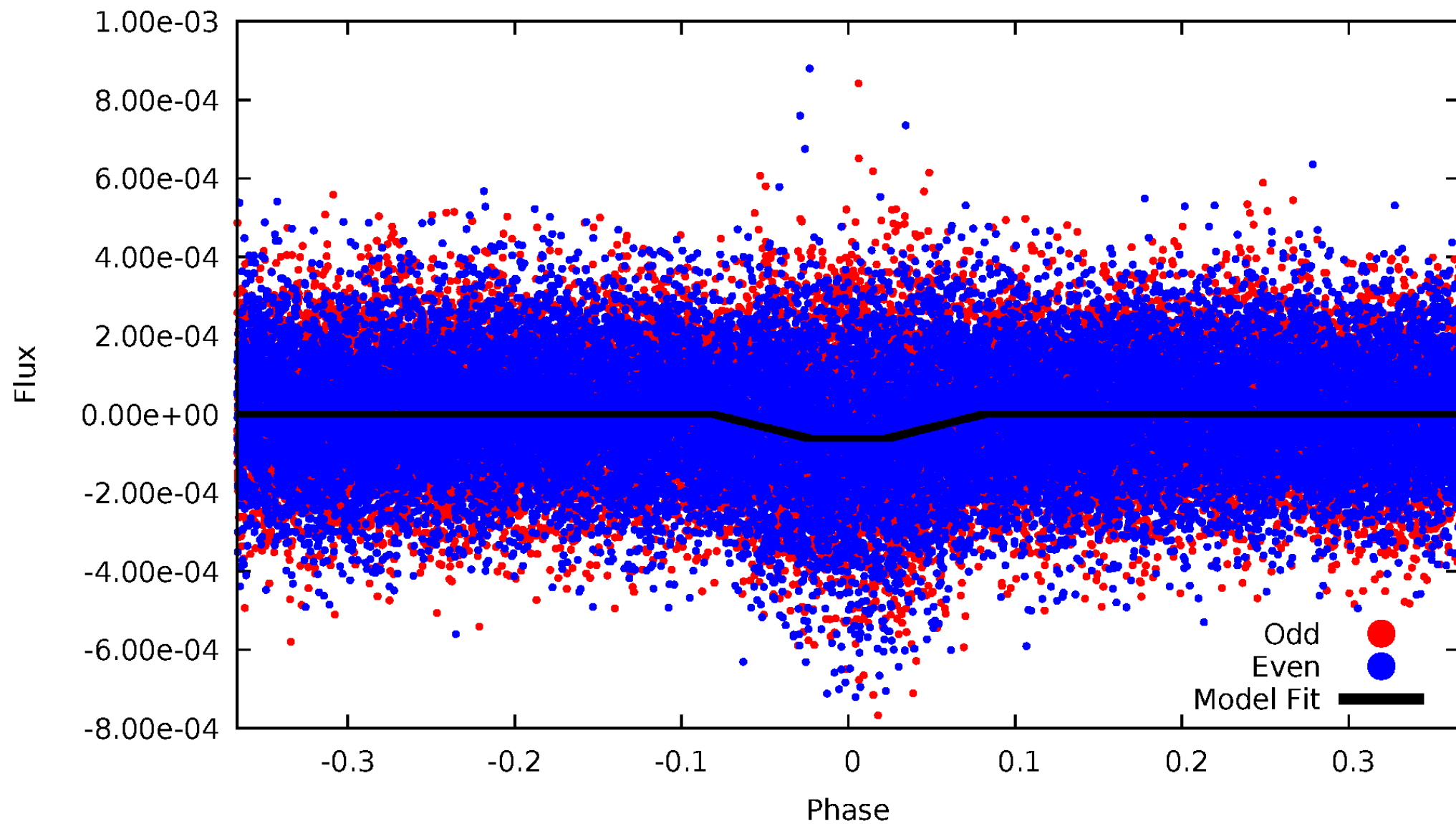
DV Odd/Even

TCE 009306620-01

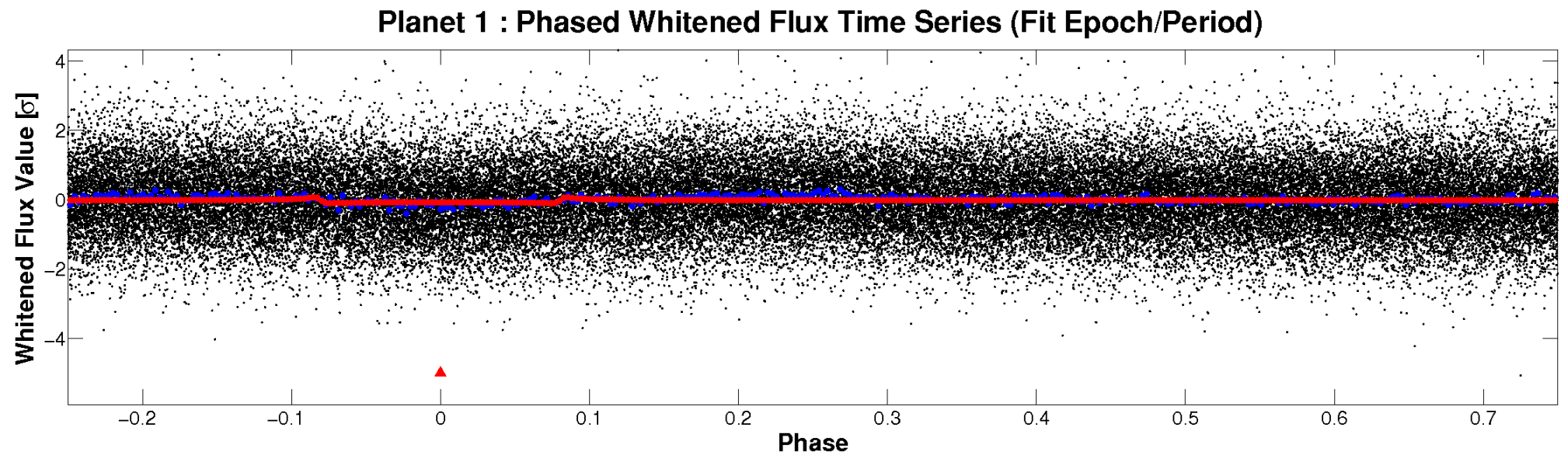
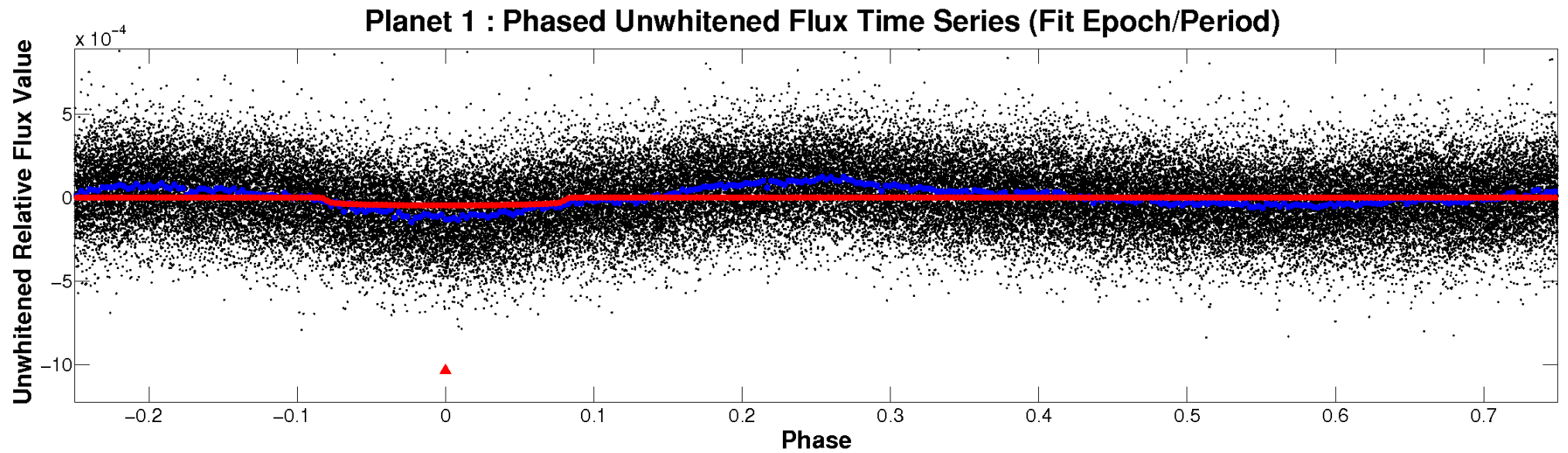


ALT Odd/Even

TCE 009306620-01

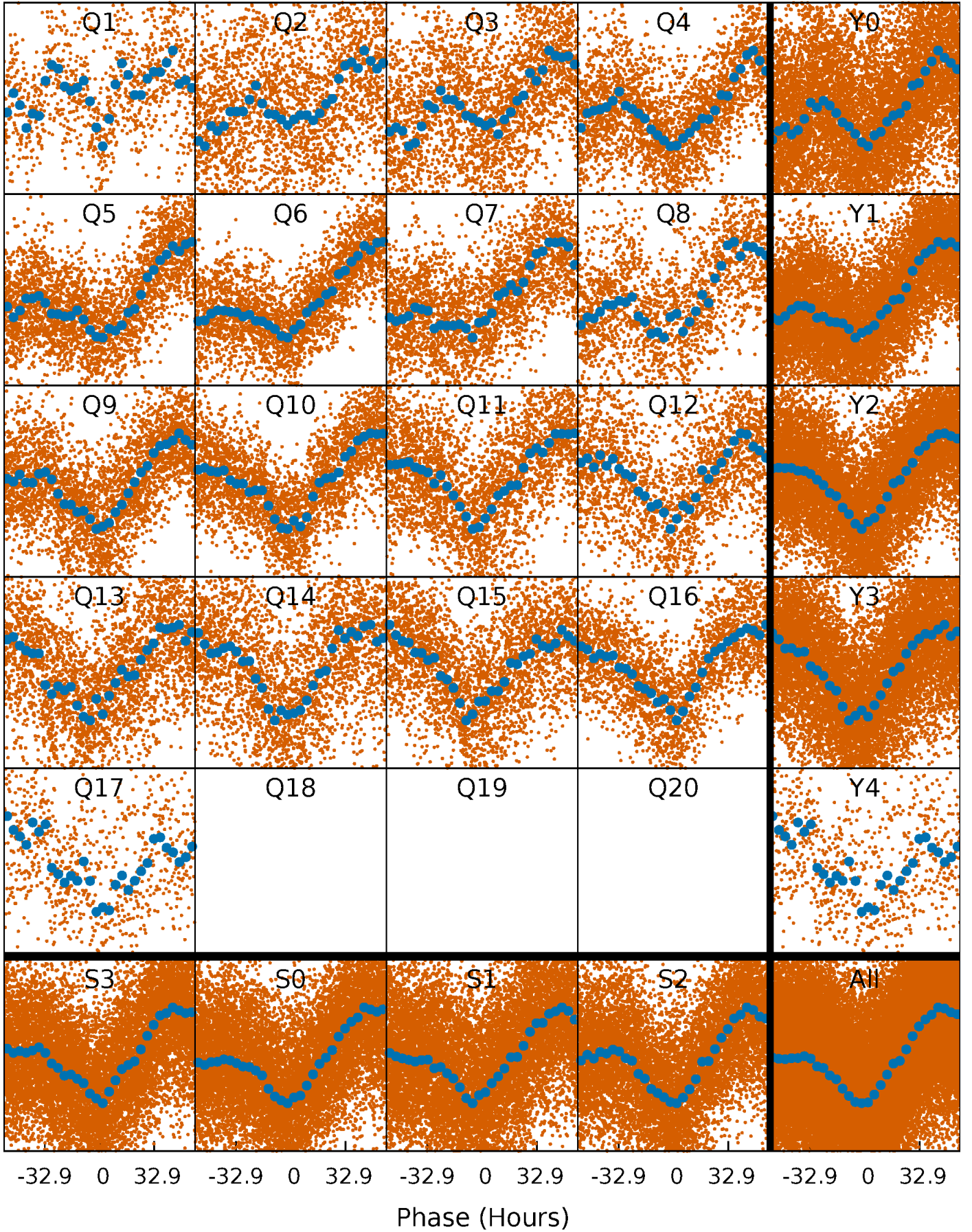


Non-Whitened Vs. Whitened Light Curve



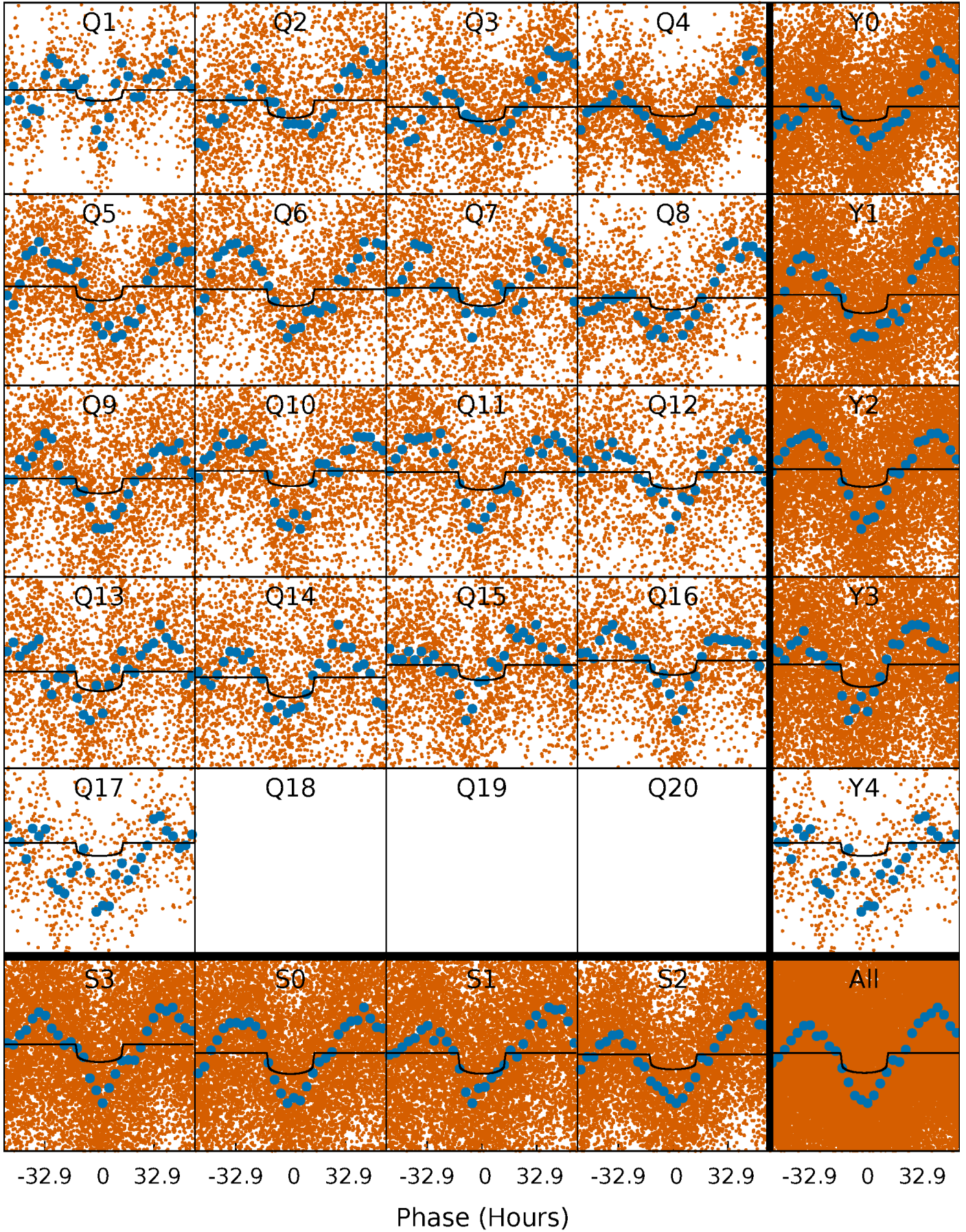
PDC Quarter-Phased Transit Curves

TCE 009306620-01 P= 7.157077 Days $T_0=138.666930$ (BKJD)



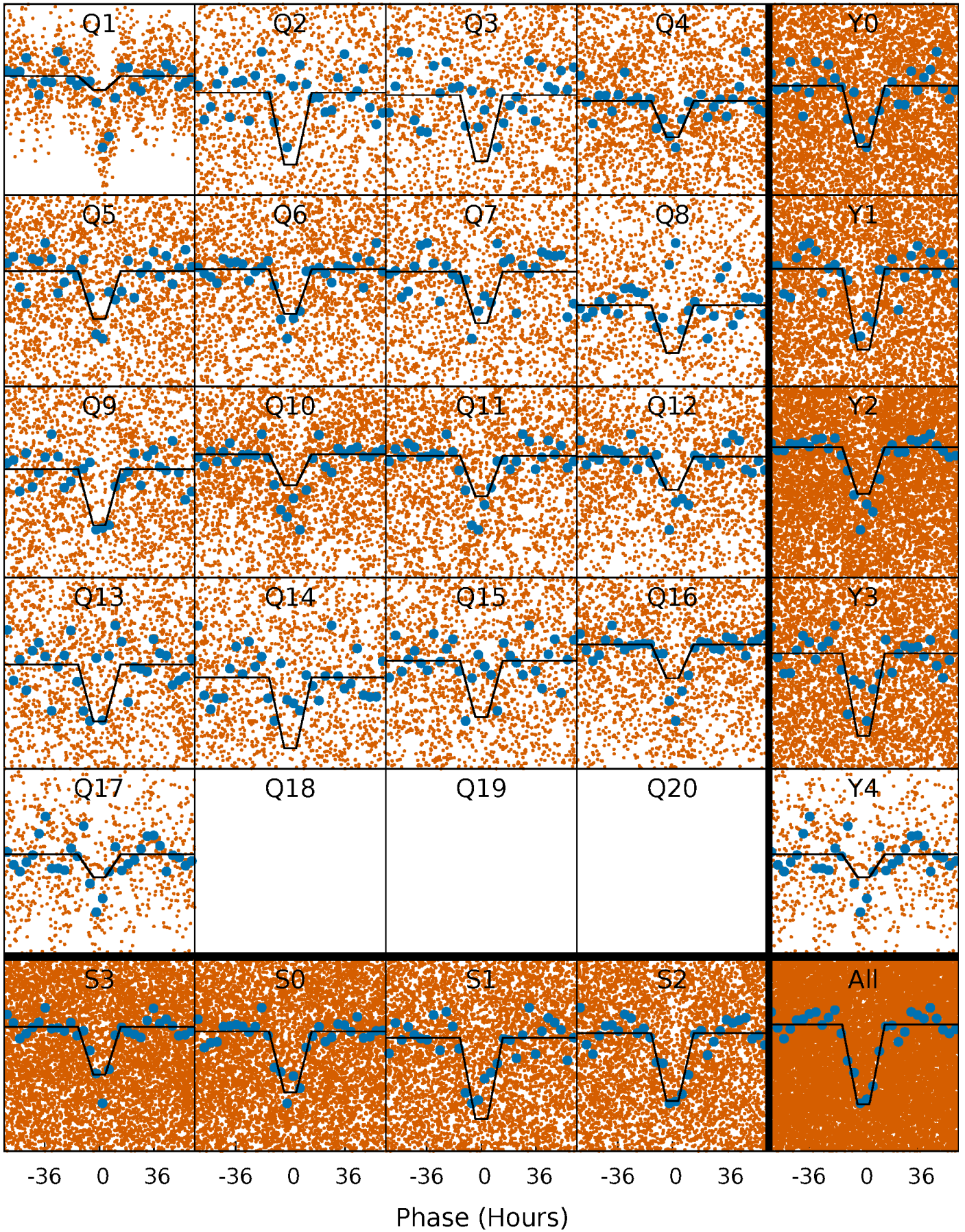
DV Quarter-Phased Transit Curves

TCE 009306620-01 P= 7.157077 Days $T_0=138.666930$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

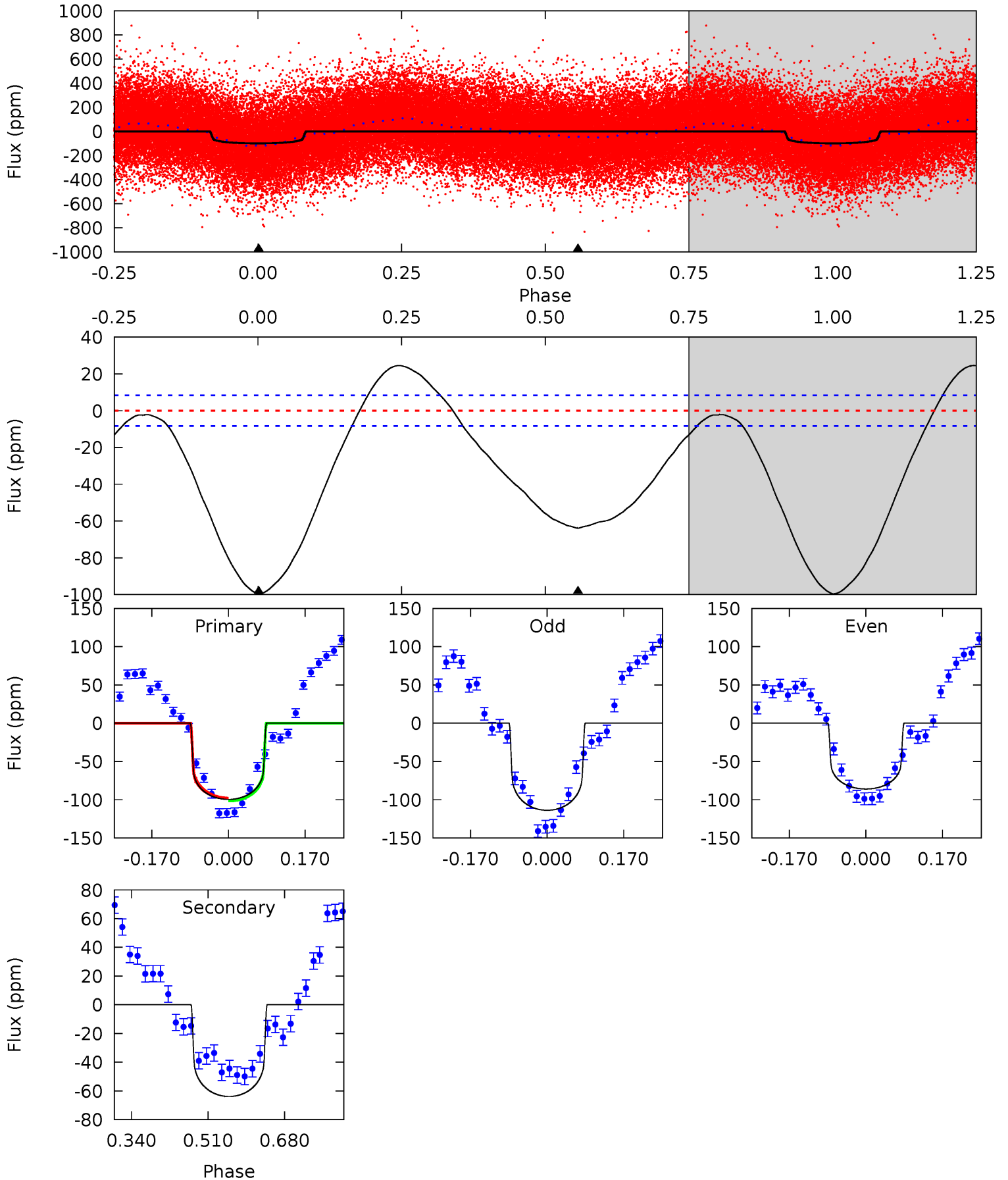
TCE 009306620-01 P= 7.158025 Days $T_0=138.566293$ (BKJD)



DV Model-Shift Uniqueness Test

009306620-01, P = 7.157077 Days, E = 131.509853 Days

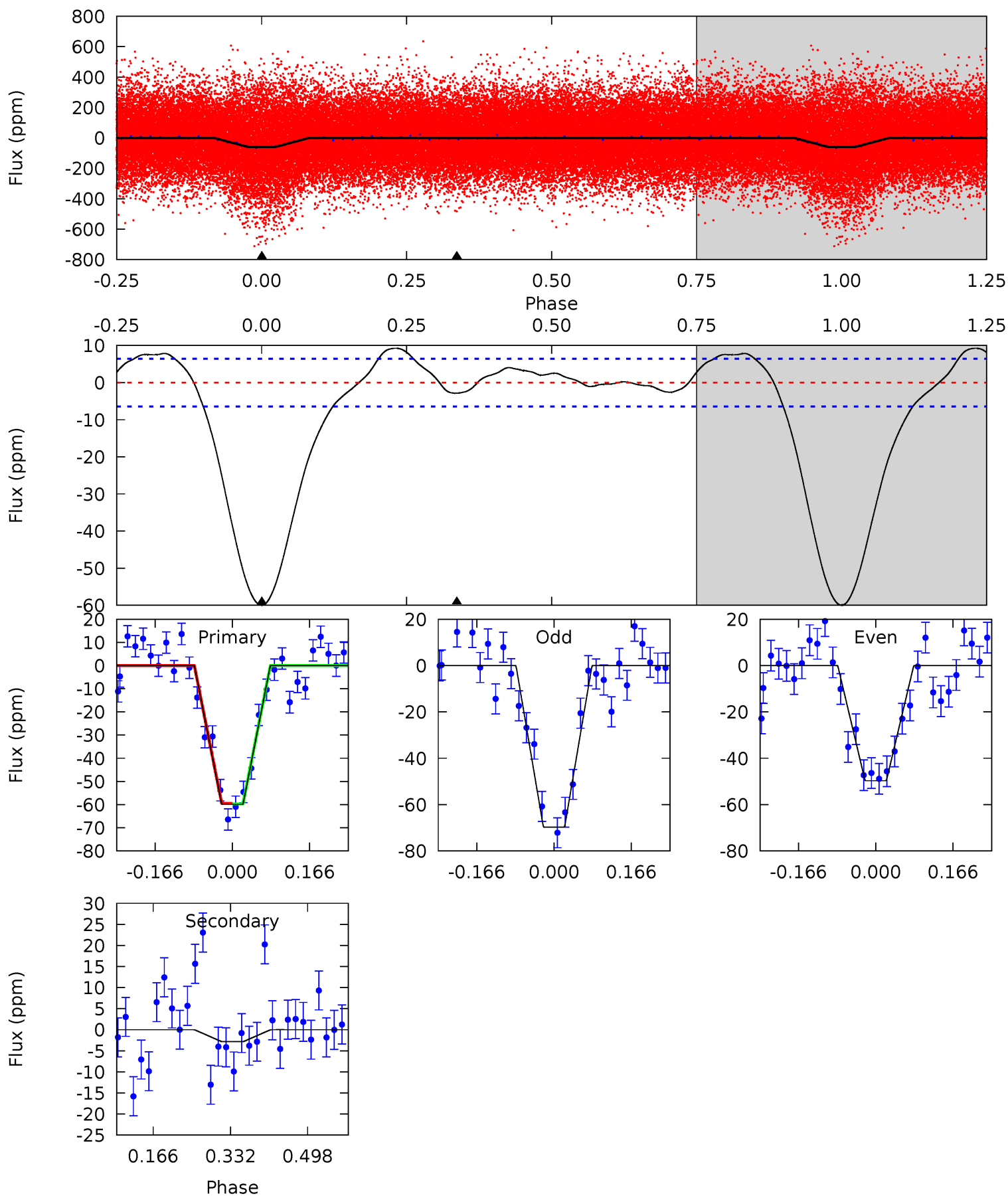
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.3	34.2	0	0	4.45	1.37	7.31	53.3	53.3	34.2	34.2	7.44	1.06	0.20	0.96



Alt Model-Shift Uniqueness Test

009306620-01, P = 7.158025 Days, E = 131.408268 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.6	1.98	0	0	4.46	1.39	2.26	41.6	41.6	1.98	1.98	7.00	1.12	0.13	0.08



Stellar Parameters For KIC 009306620

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6331^{+181}_{-227}	$3.971^{+0.364}_{-0.156}$	$-0.220^{+0.250}_{-0.300}$	$1.862^{+0.497}_{-0.746}$	$1.181^{+0.201}_{-0.201}$	$0.258^{+0.702}_{-0.109}$
	+3%/-4%	+9%/-4%	+114%/-136%	+27%/-40%	+17%/-17%	+273%/-42%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 009306620-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-64 ± 2	$1.45^{+0.28}_{-0.29}$	1894^{+154}_{-177}	6594^{+389}_{-324}	99^{+51}_{-27}
Alt.	-3 ± 1	$1.57^{+0.28}_{-0.35}$	1888^{+158}_{-207}	3377^{+274}_{-423}	$3.709^{+3.162}_{-2.074}$

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

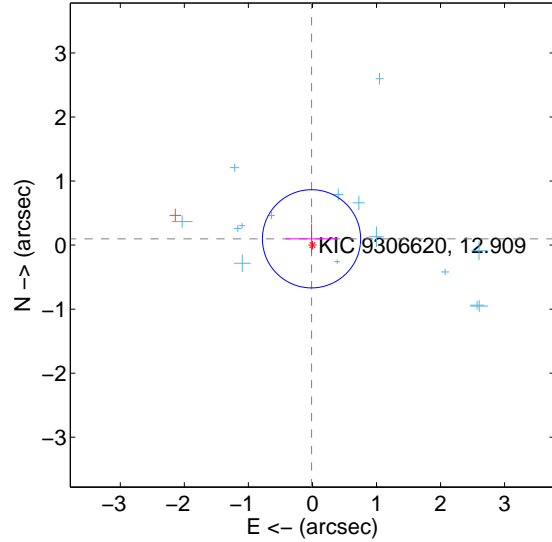
Supplemental centroid analysis for 009306620-01. Kepler magnitude: 12.91. Transit SNR 8.78

There are 15 quarters with good PRF difference image offsets

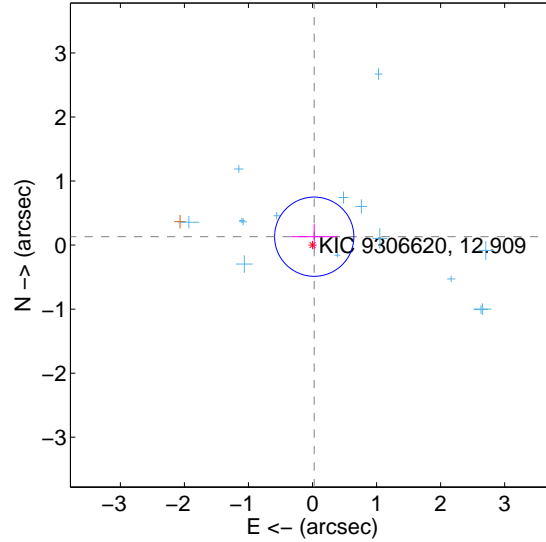
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.099 ± 0.255	0.39	0.014 ± 0.408	0.098 ± 0.229
PRF-fit source offset from KIC position	0.134 ± 0.206	0.65	-0.027 ± 0.364	0.131 ± 0.197
photometric centroid source offset	1.36 ± 0.59	2.29	1.00 ± 0.65	-0.93 ± 0.52

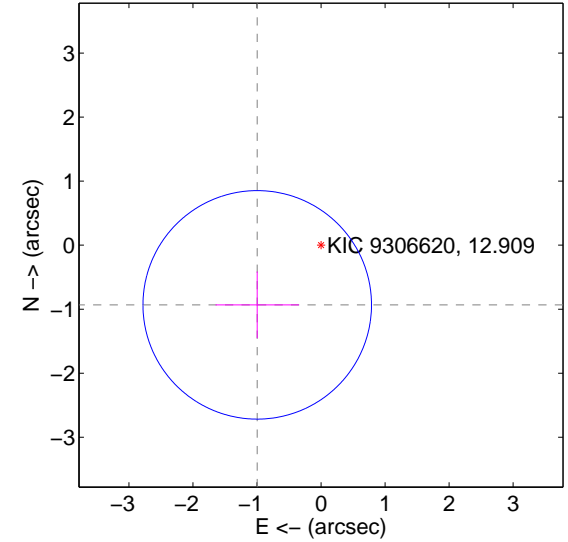
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

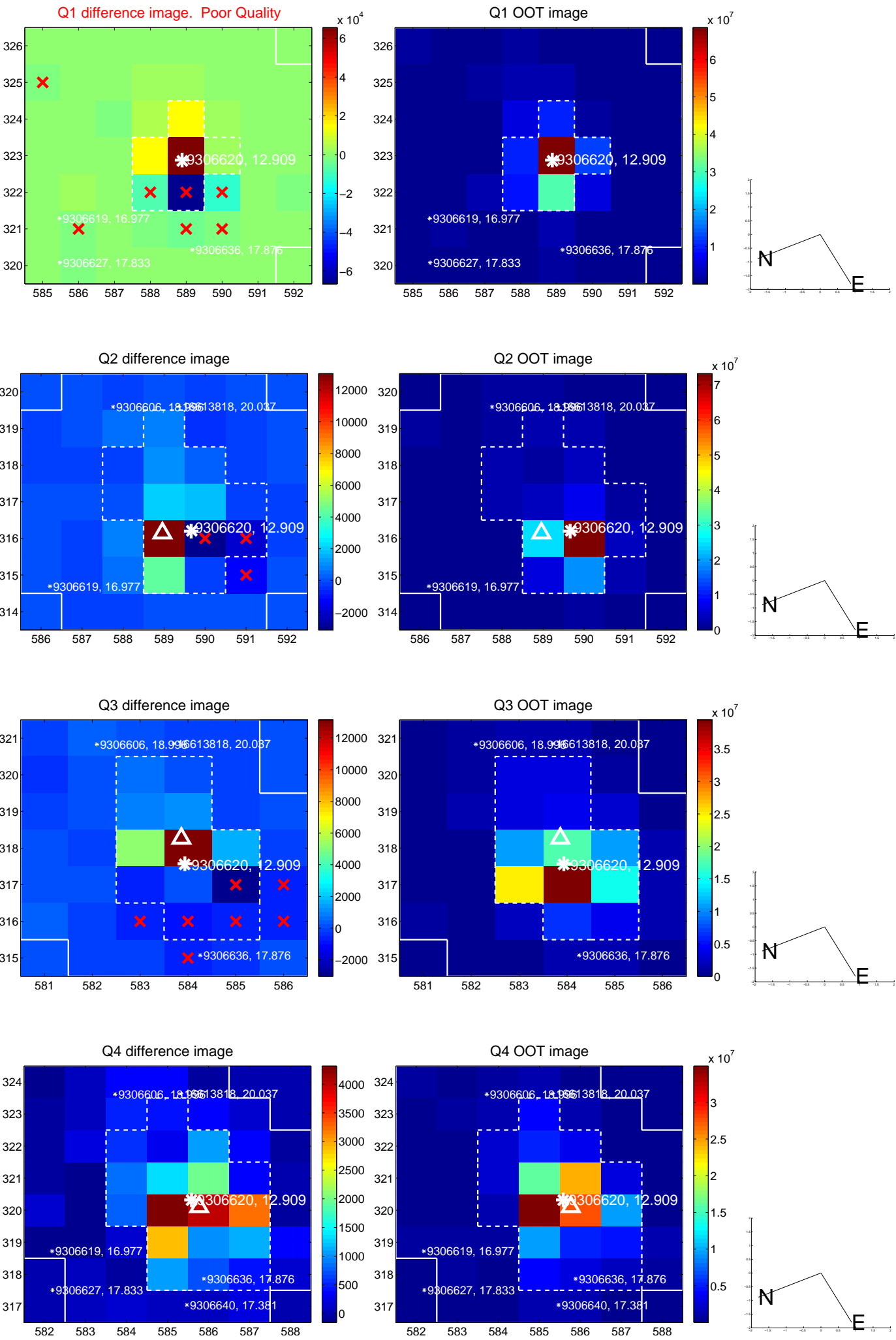


offset from photometric centroids

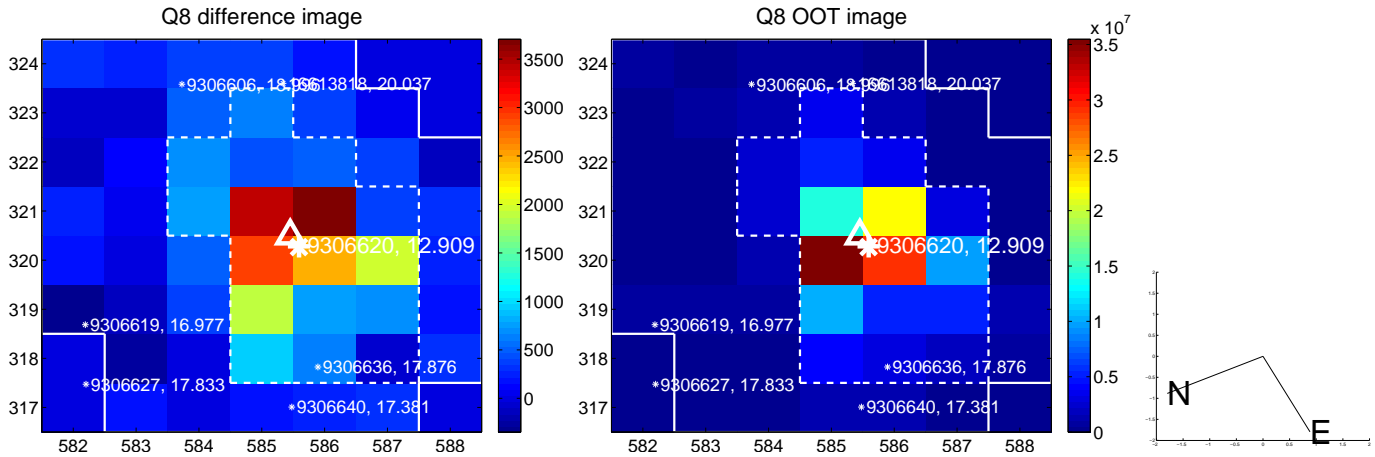
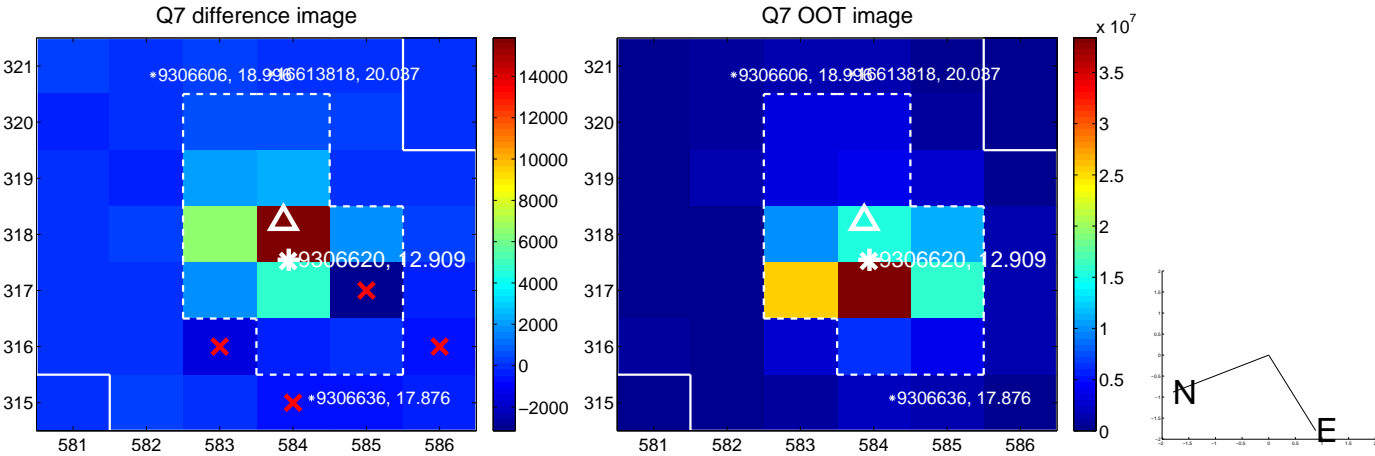
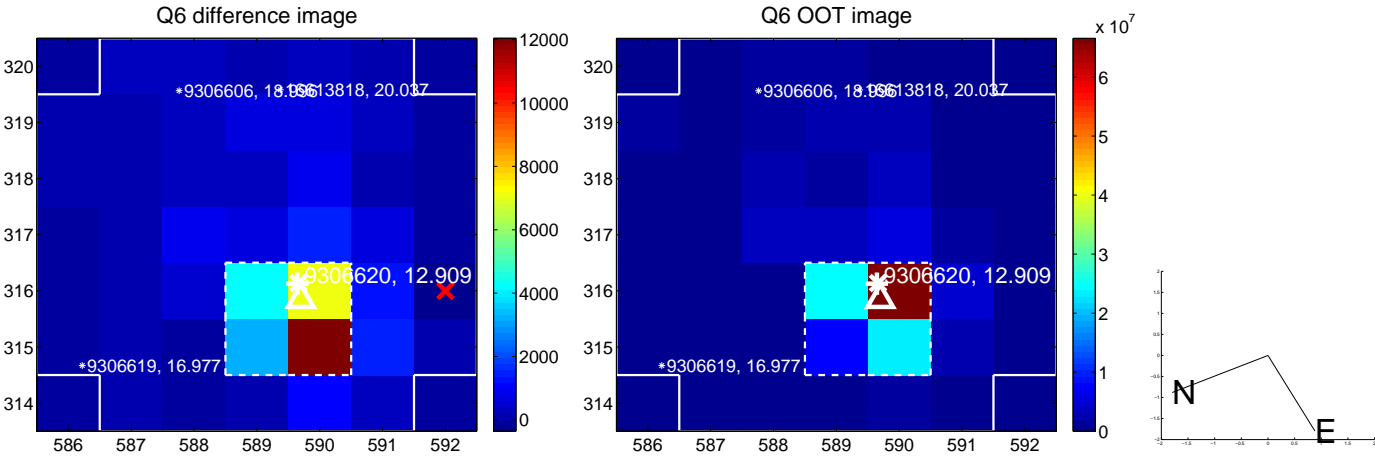
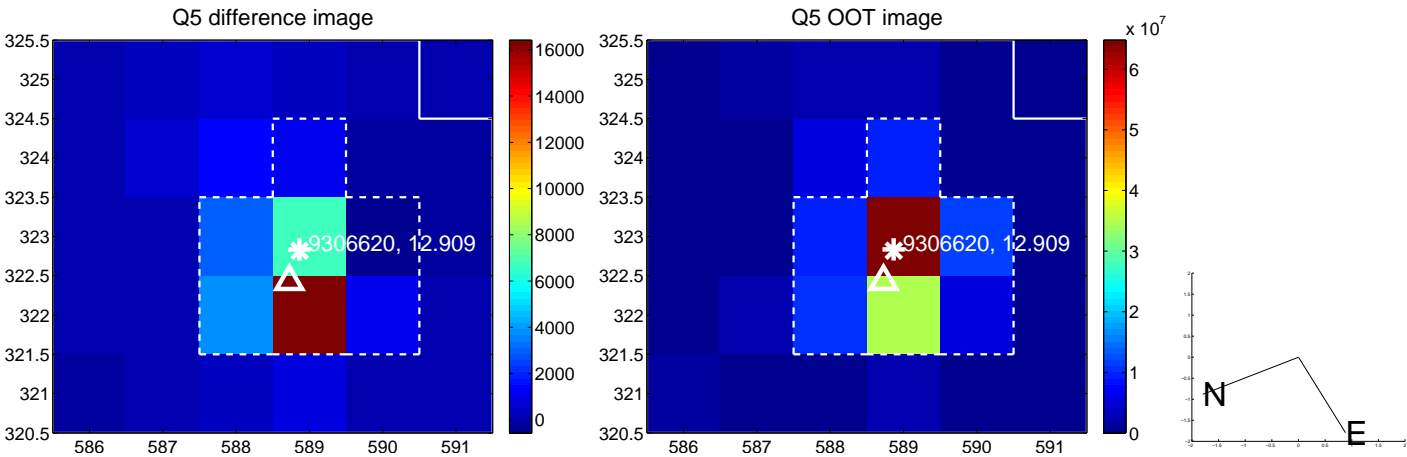


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

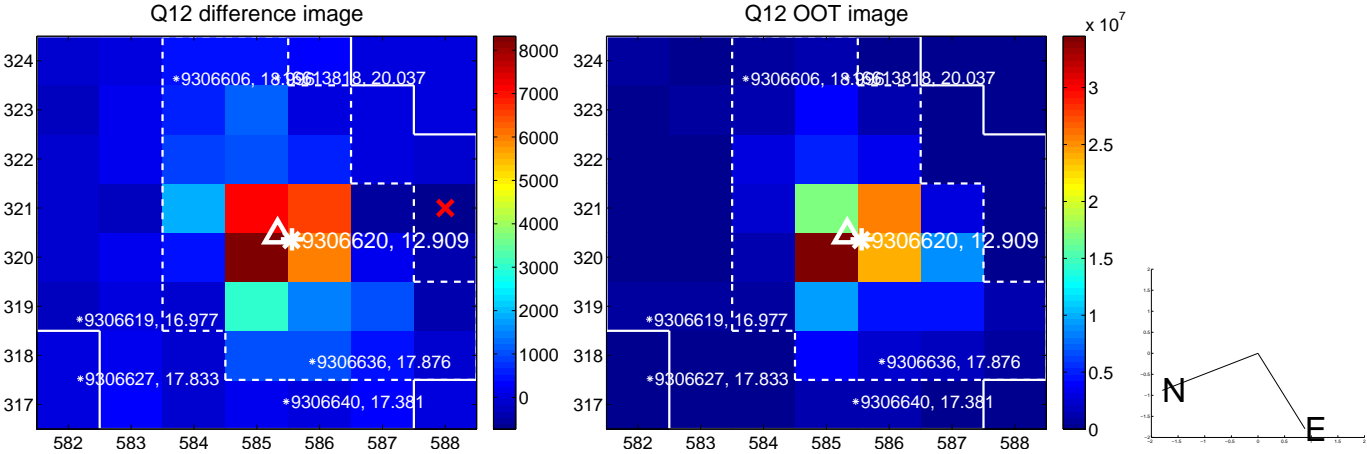
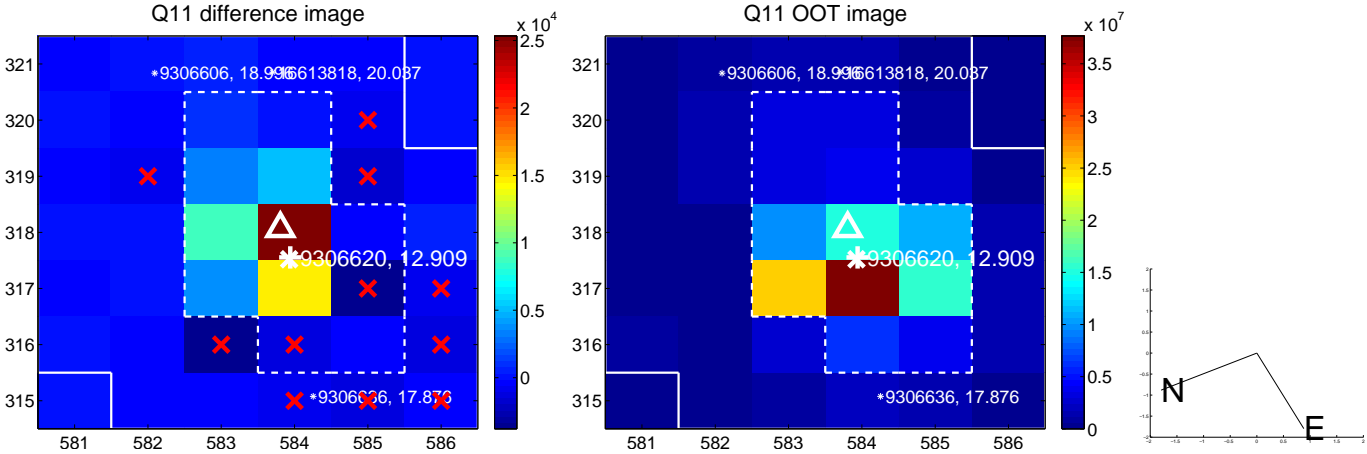
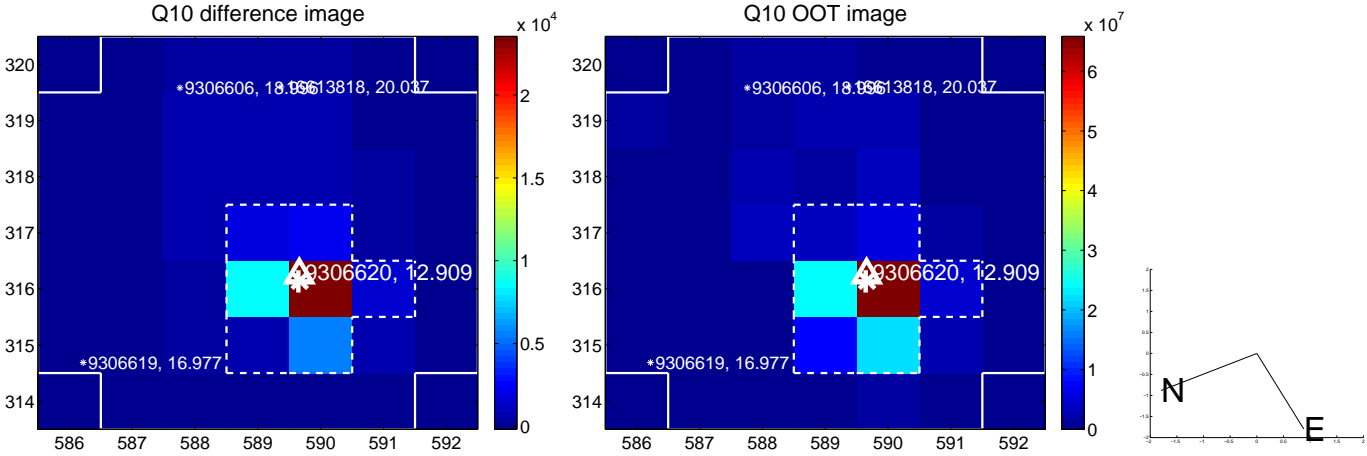
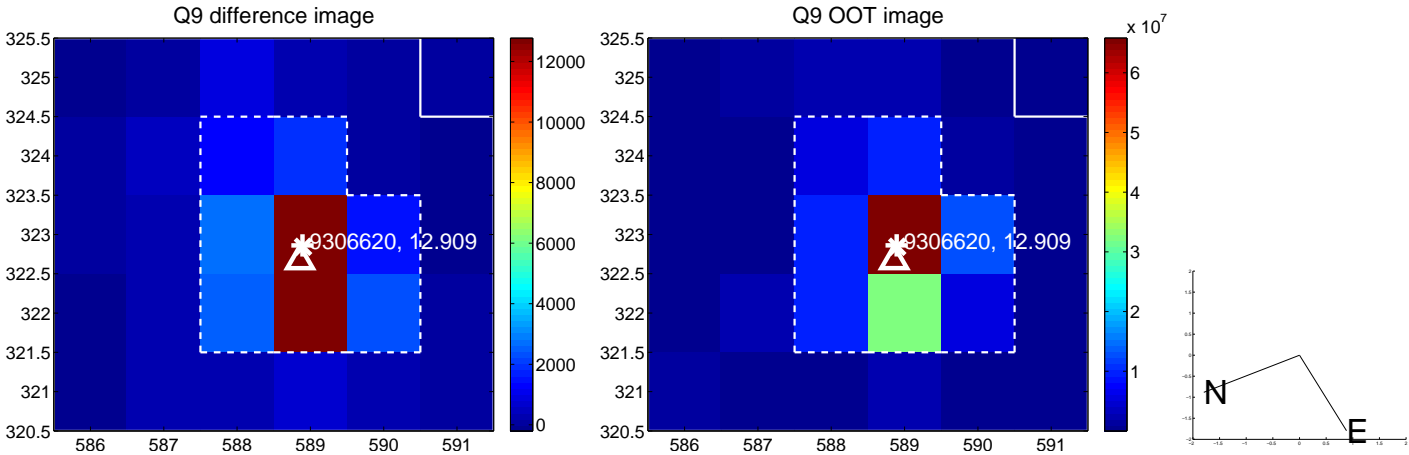
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



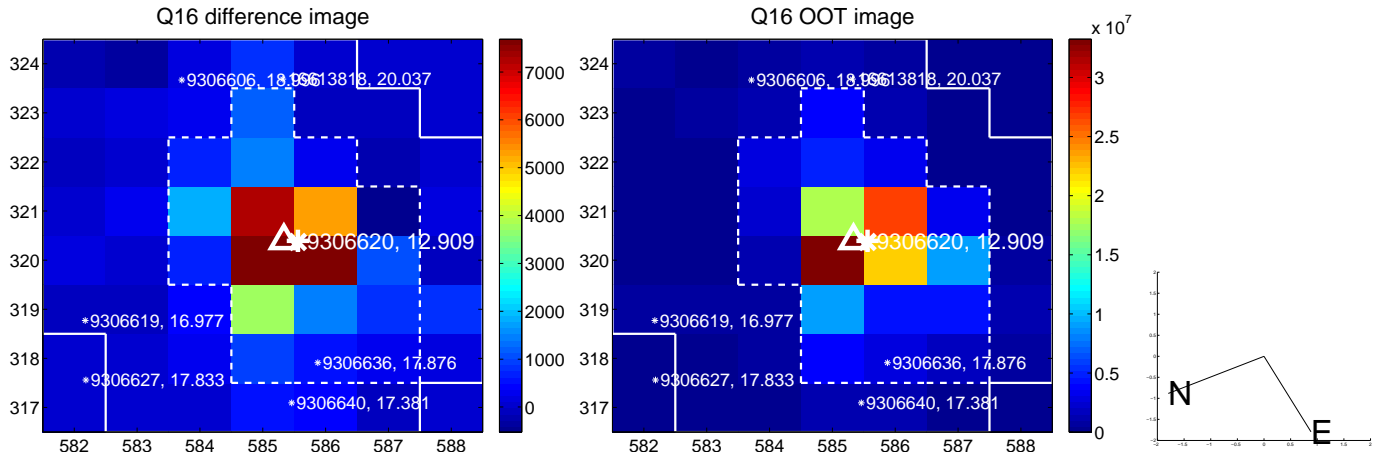
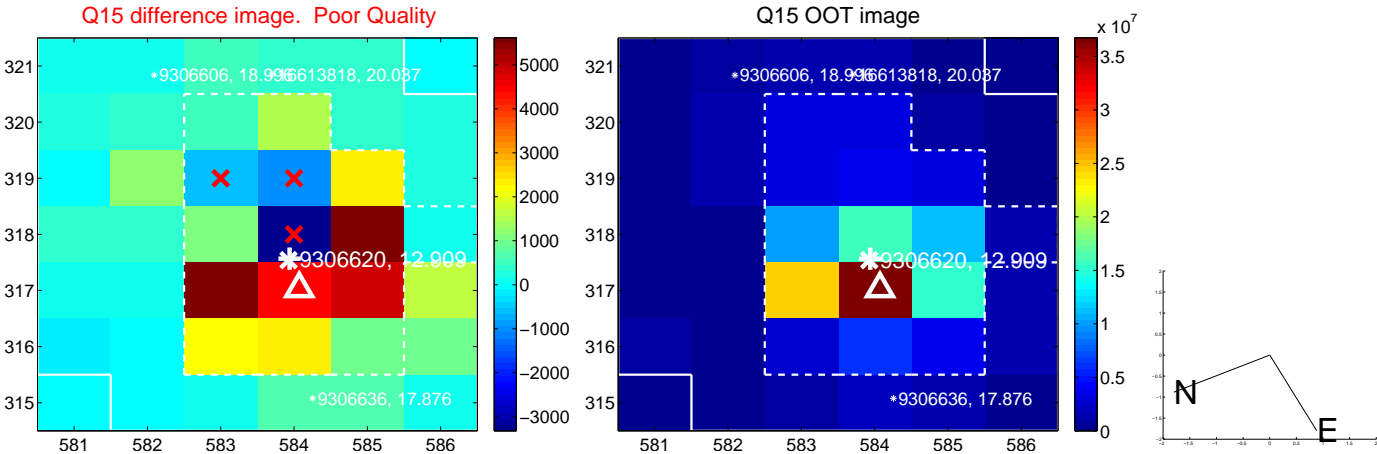
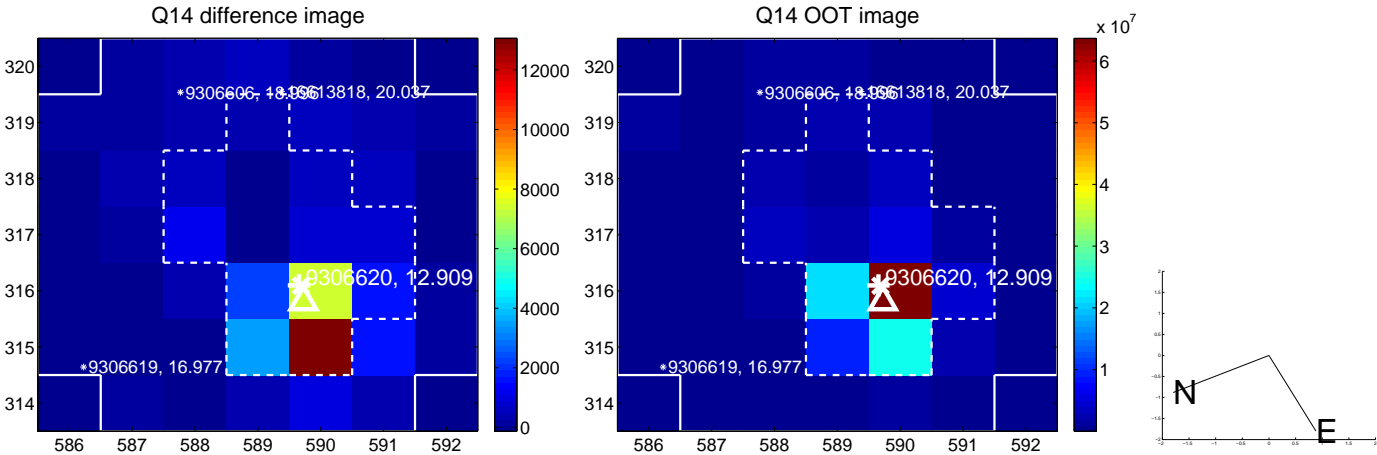
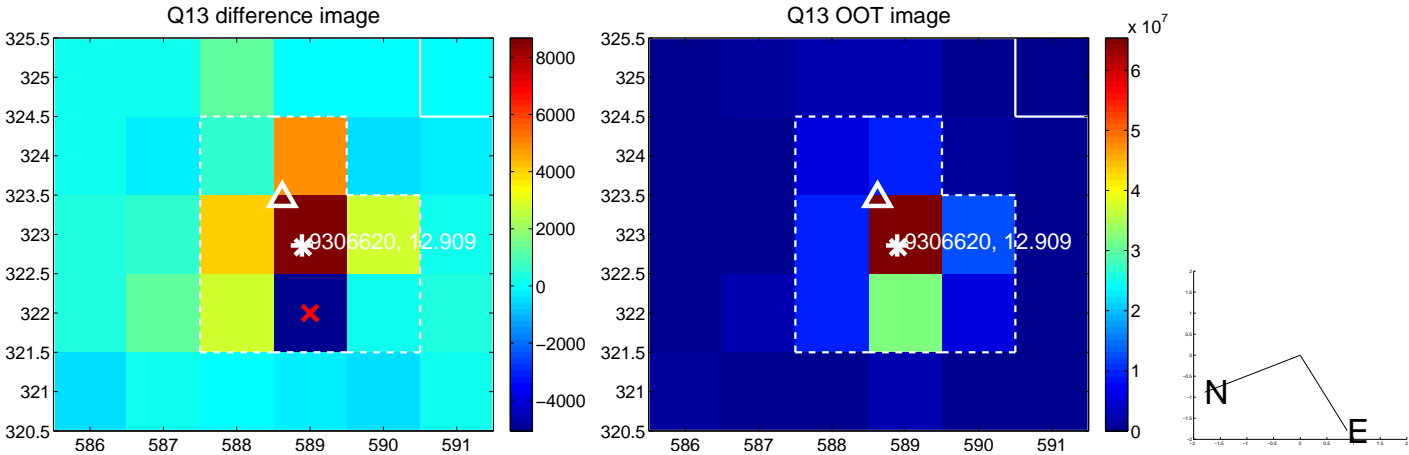
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



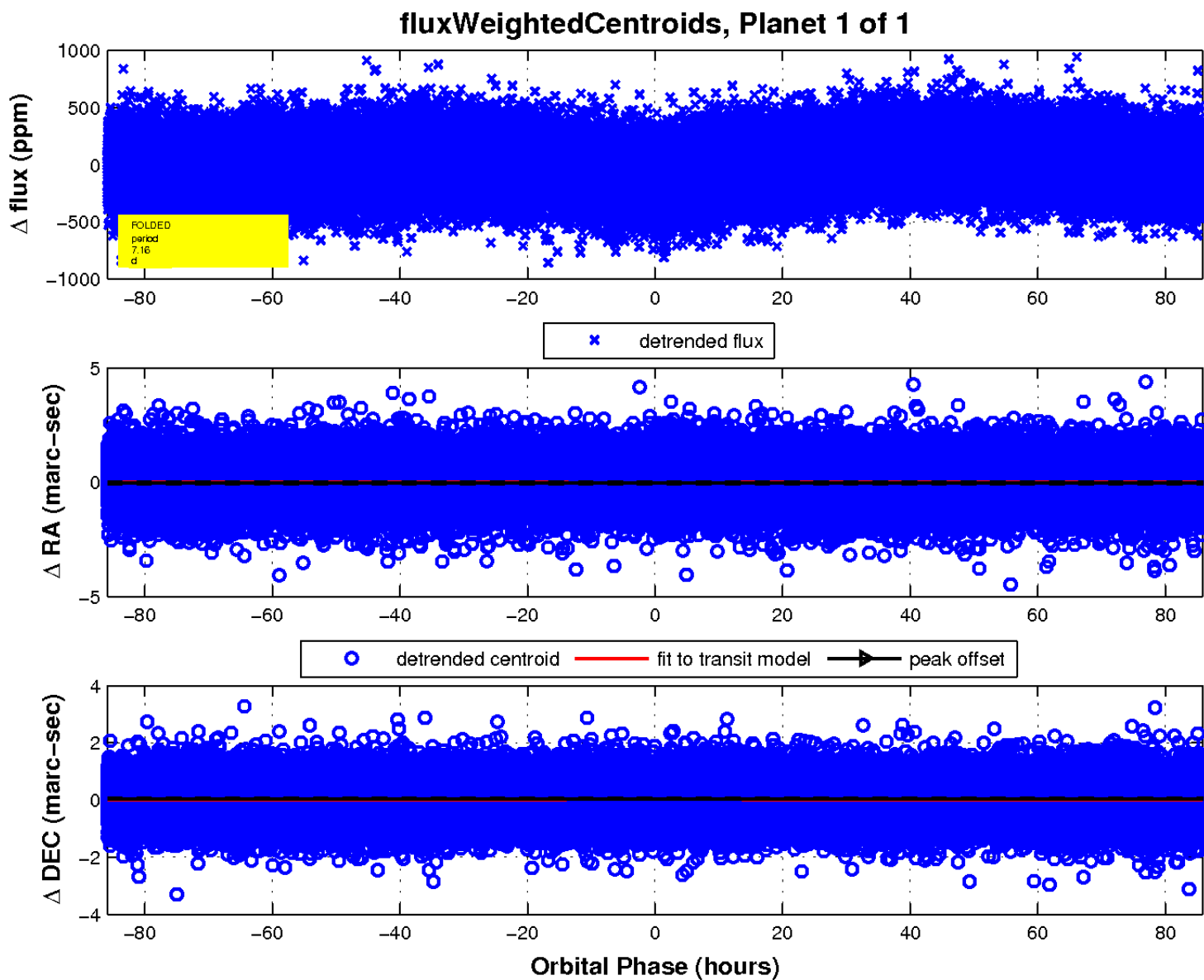
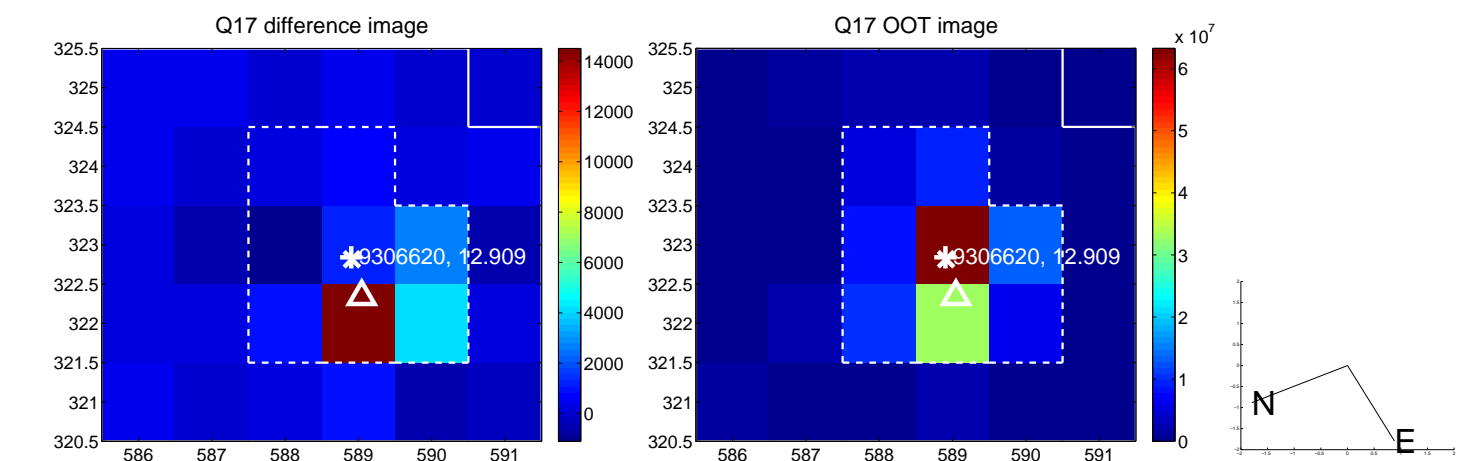
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

