

KIC 005877510

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})
005877510-01	OBS	No	14.458091	143.736642	285.6	44.869	7.5	15.6	1.21	6187	4.00	126.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005877510-01	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.

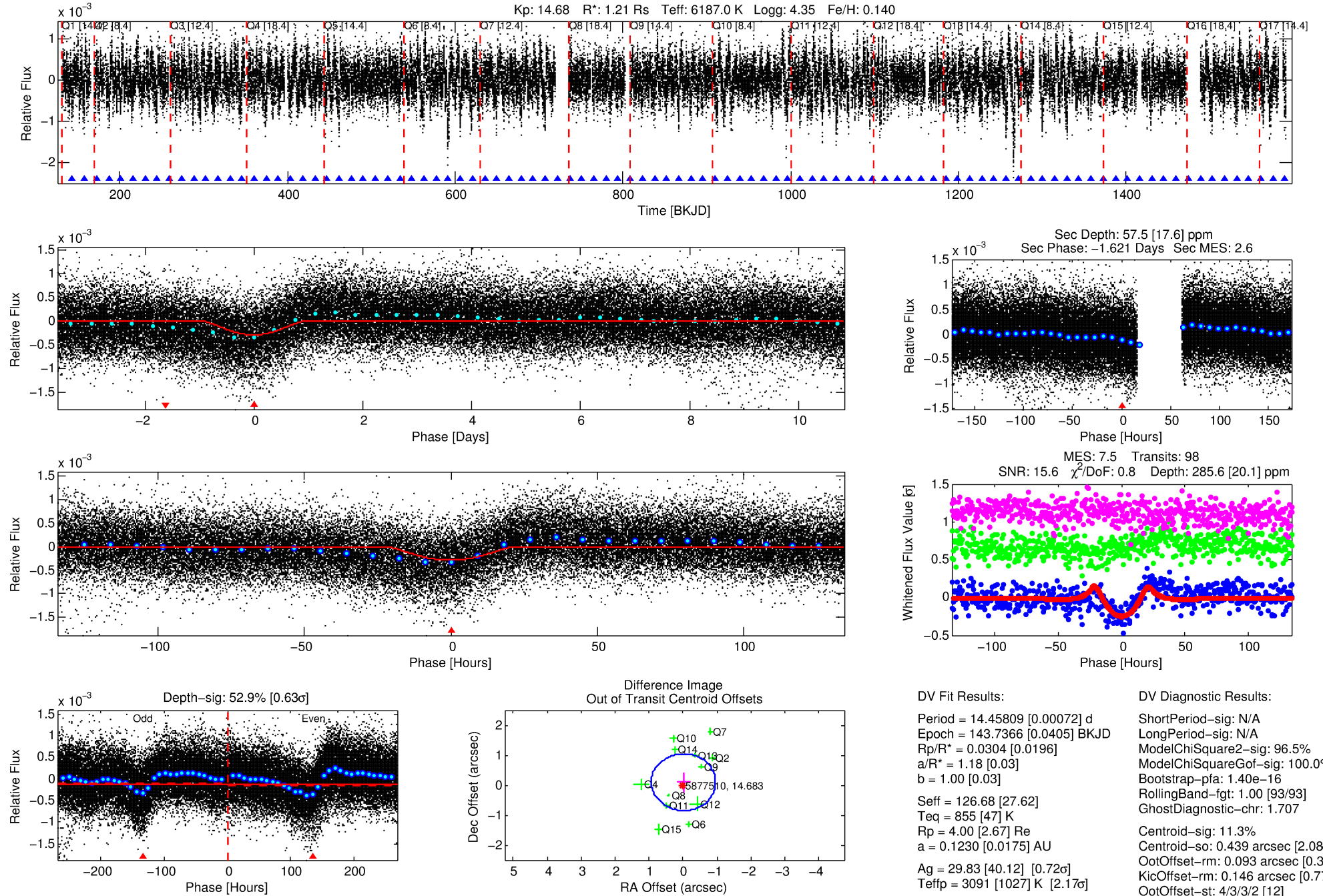
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005877510-01

No Significant Match Found

DV One-Page Summary

KIC: 5877510 Candidate: 1 of 1 Period: 14.458 d



DV Fit Results:

Period = 14.45809 [0.00072] d
Epoch = 143.7366 [0.0405] BKJD
Rp/R* = 0.0304 [0.0196]
a/R* = 1.18 [0.03]
b = 1.00 [0.03]
Seff = 126.68 [27.62]
Teff = 855 [47] K
Rp = 4.00 [2.67] Re
a = 0.1230 [0.0175] AU
Ag = 29.83 [40.12] [0.72σ]
Teffp = 3091 [1027] K [2.17σ]

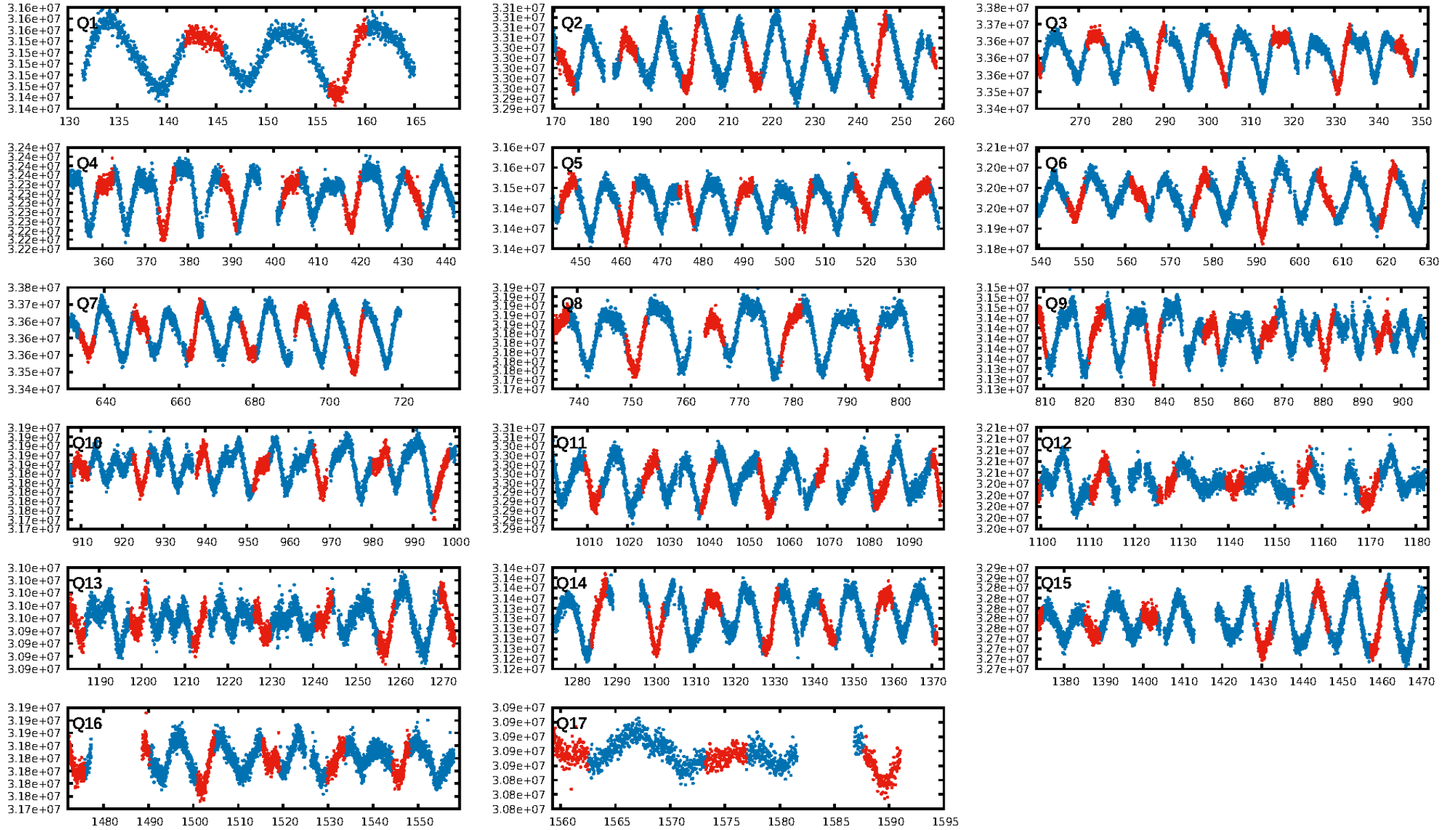
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.40e-16
RollingBand-fgt: 1.00 [93/93]
GhostDiagnostic-chr: 1.707
Centroid-sig: 11.3%
Centroid-so: 0.439 arcsec [2.08σ]
OotOffset-rm: 0.093 arcsec [0.30σ]
KicOffset-rm: 0.146 arcsec [0.77σ]
OotOffset-st: 4/3/3/2 [12]
KicOffset-st: 4/3/3/2 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [16/16]

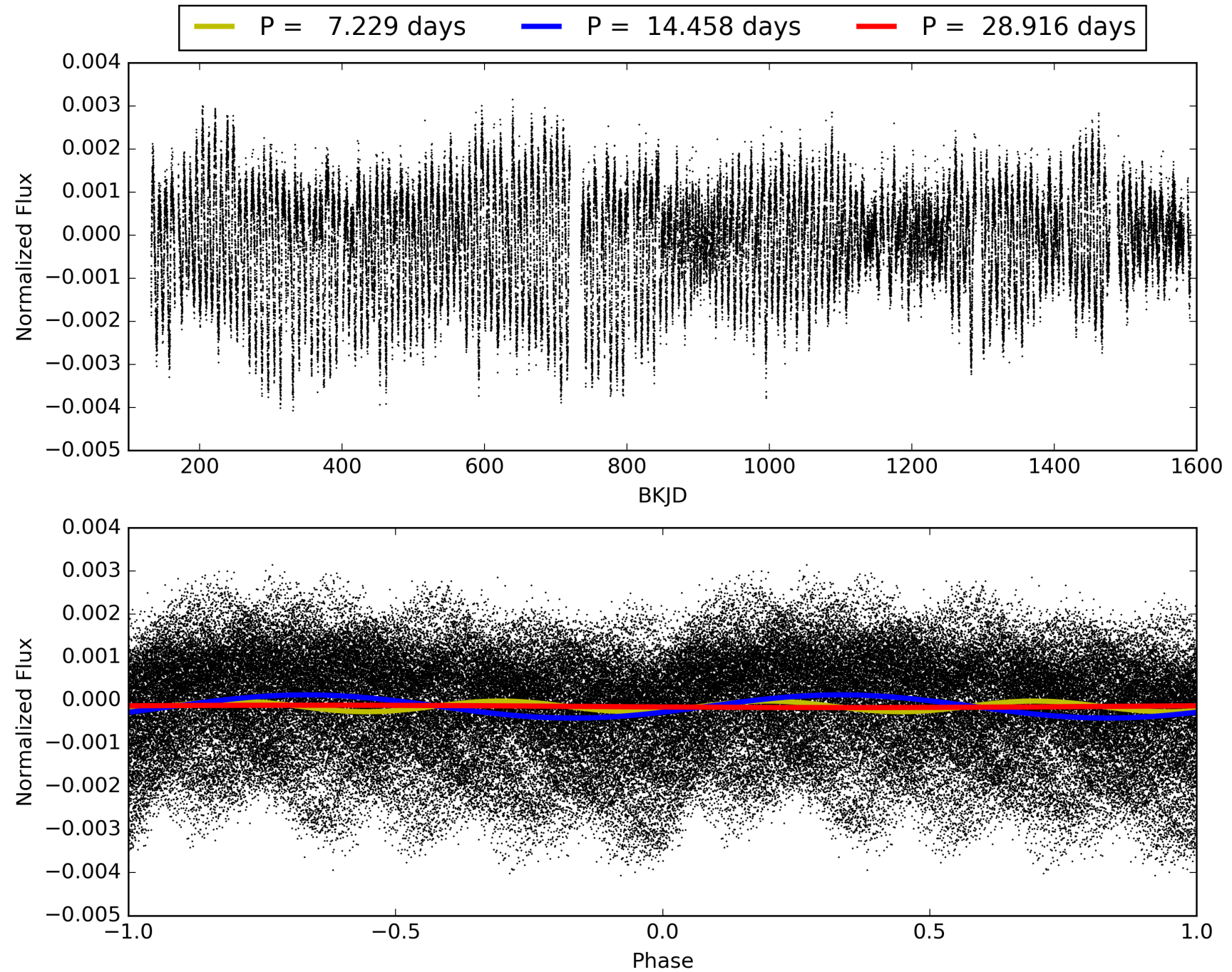
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:43:39 Z

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

TCE 005877510-01, PDC Light Curves

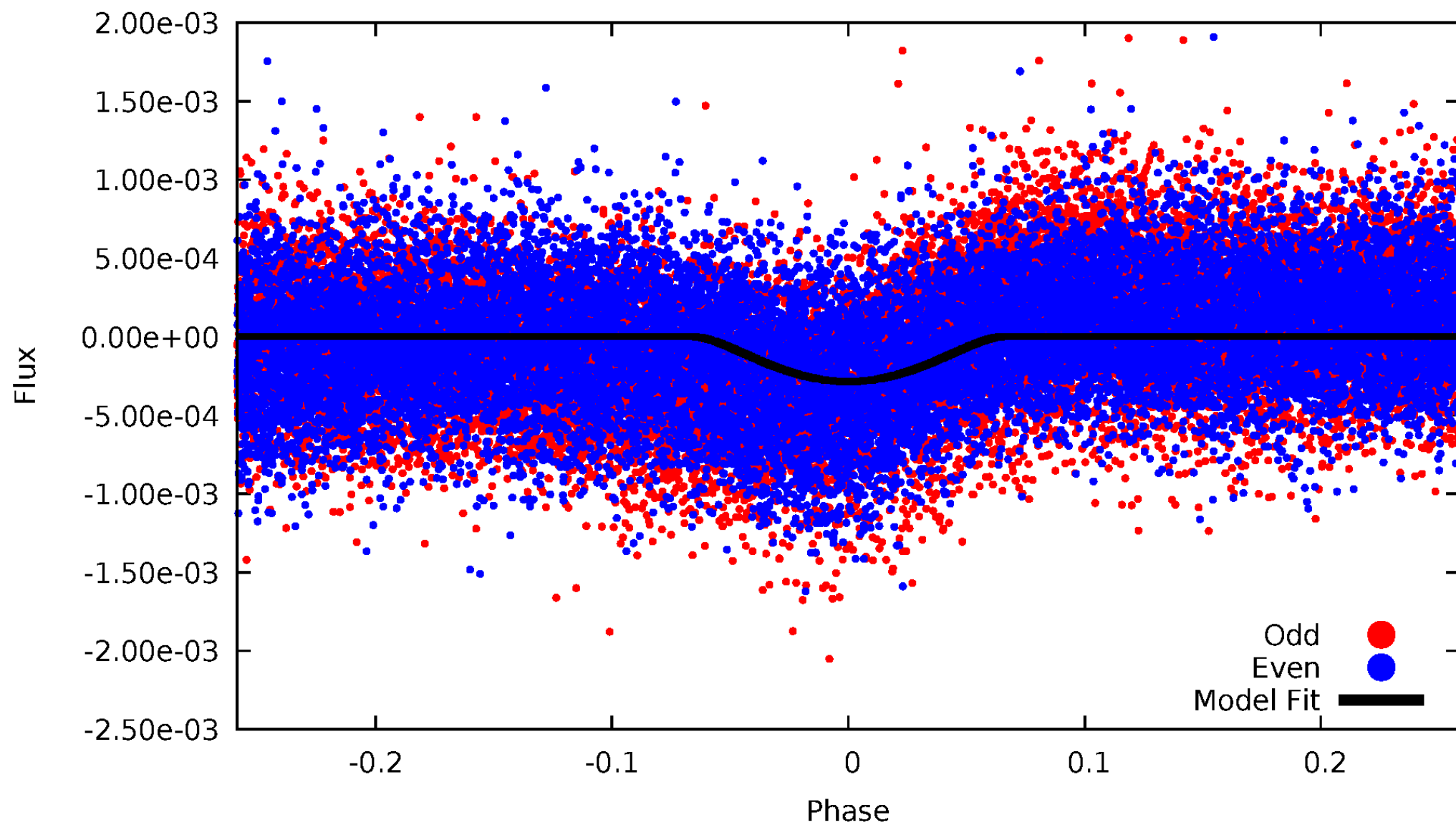


TCE 005877510-01



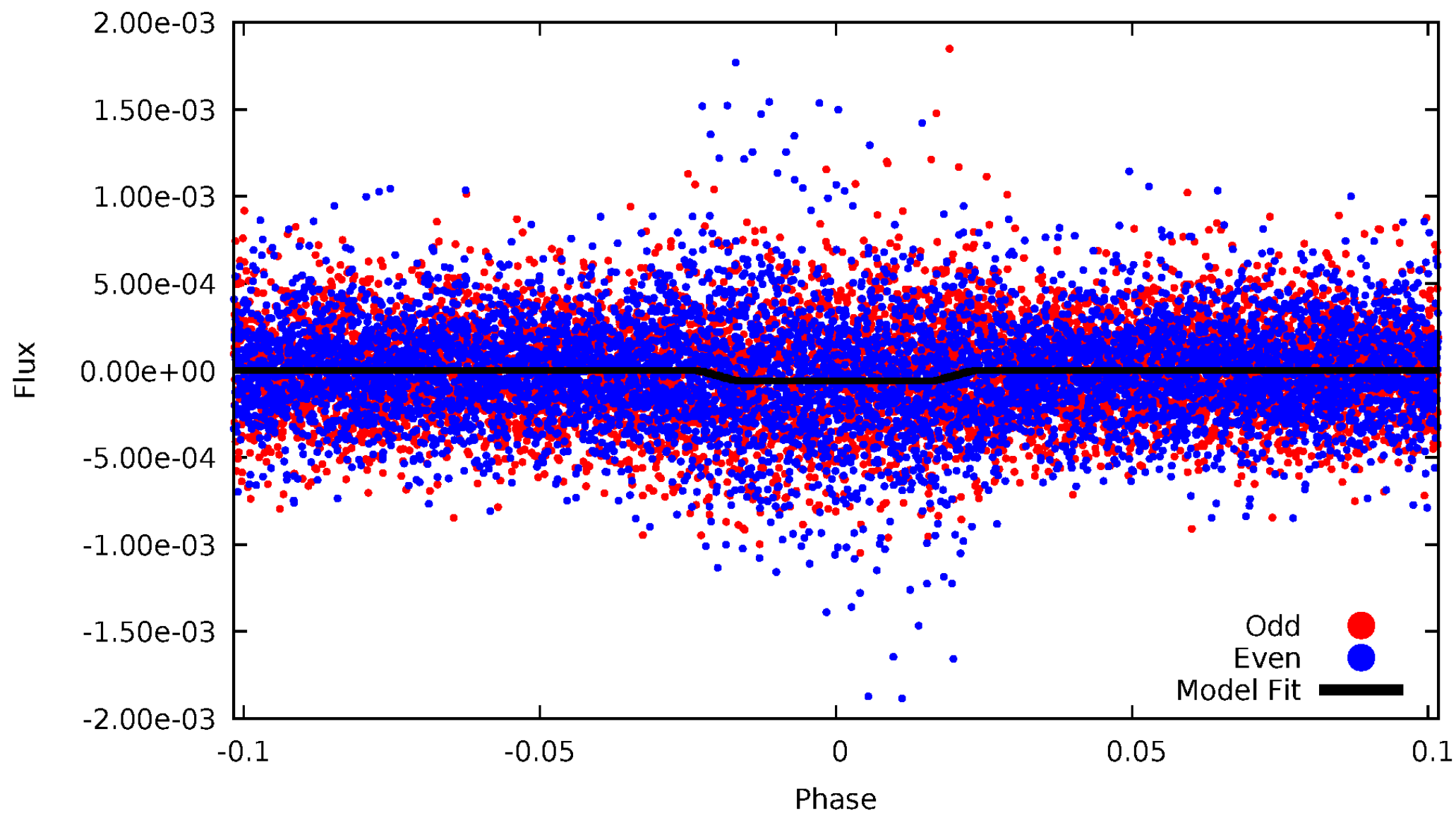
DV Odd/Even

TCE 005877510-01



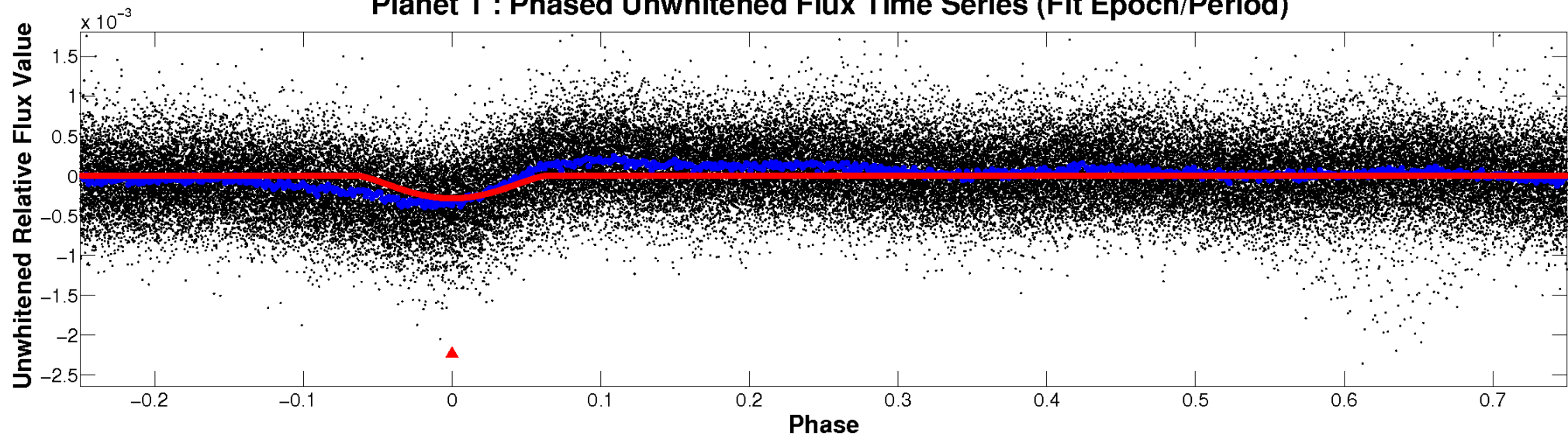
ALT Odd/Even

TCE 005877510-01

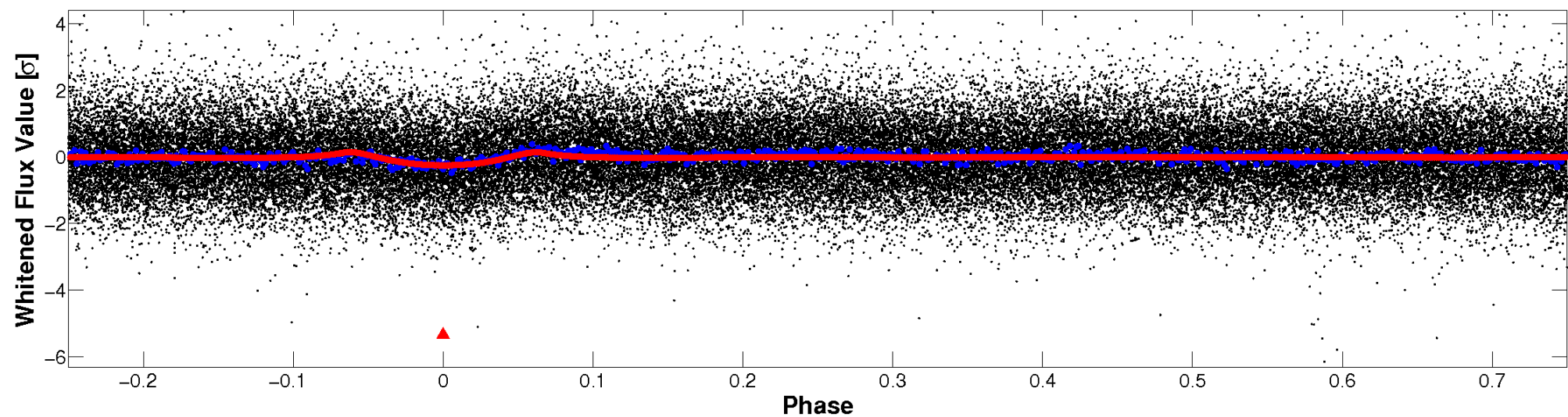


Non-Whitened Vs. Whitened Light Curve

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

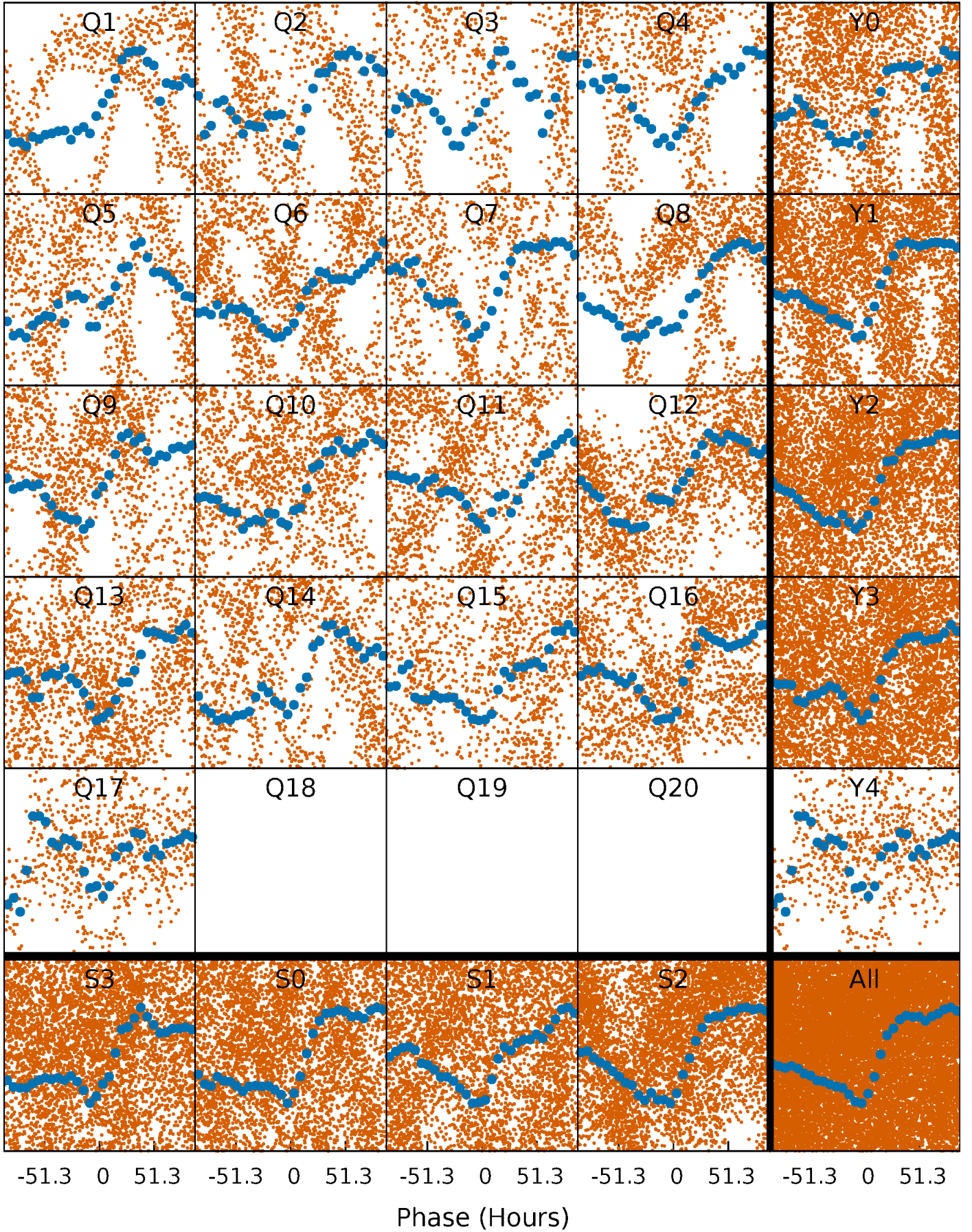


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



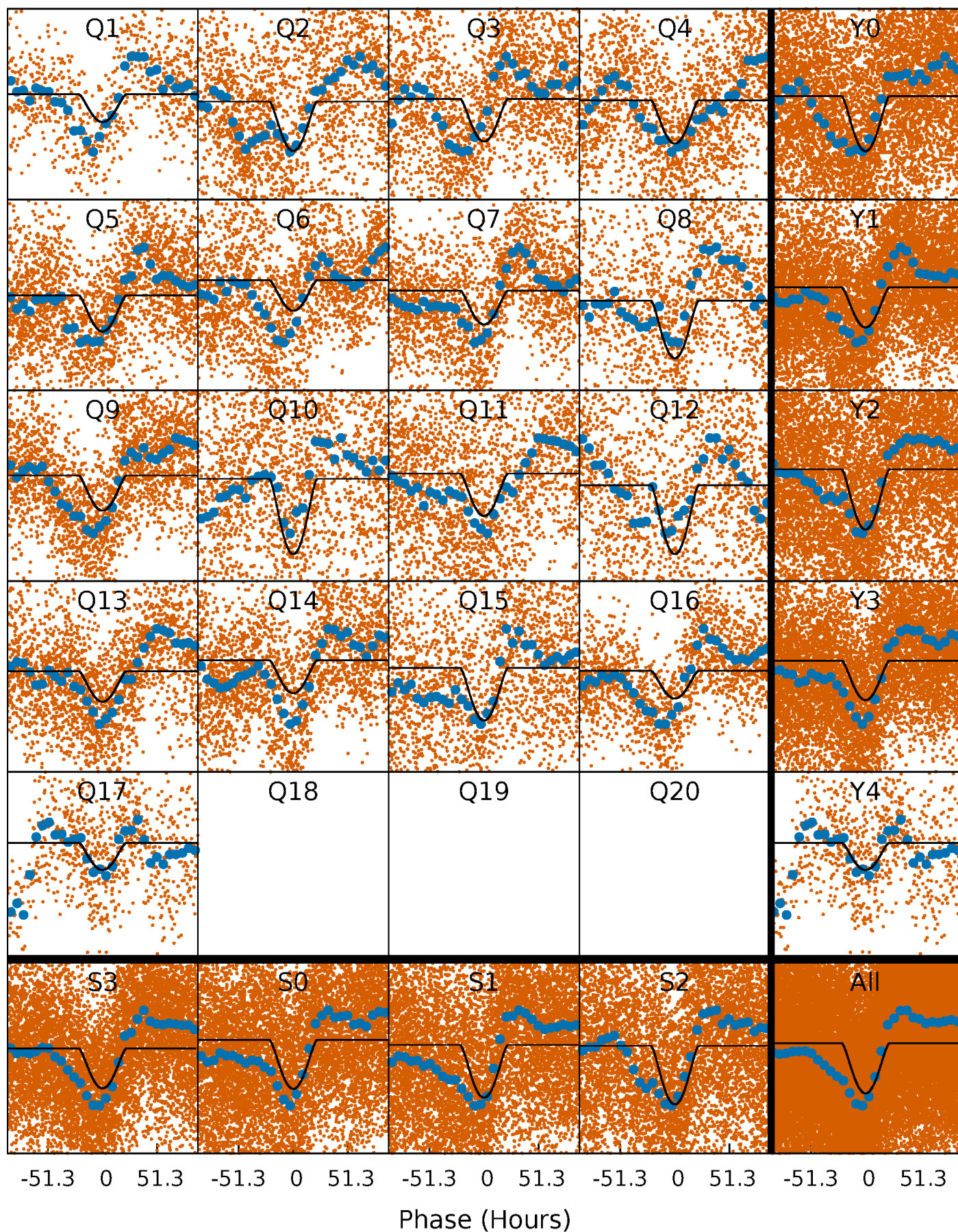
PDC Quarter-Phased Transit Curves

TCE 005877510-01 P= 14.458091 Days $T_0=143.736642$ (BKJD)



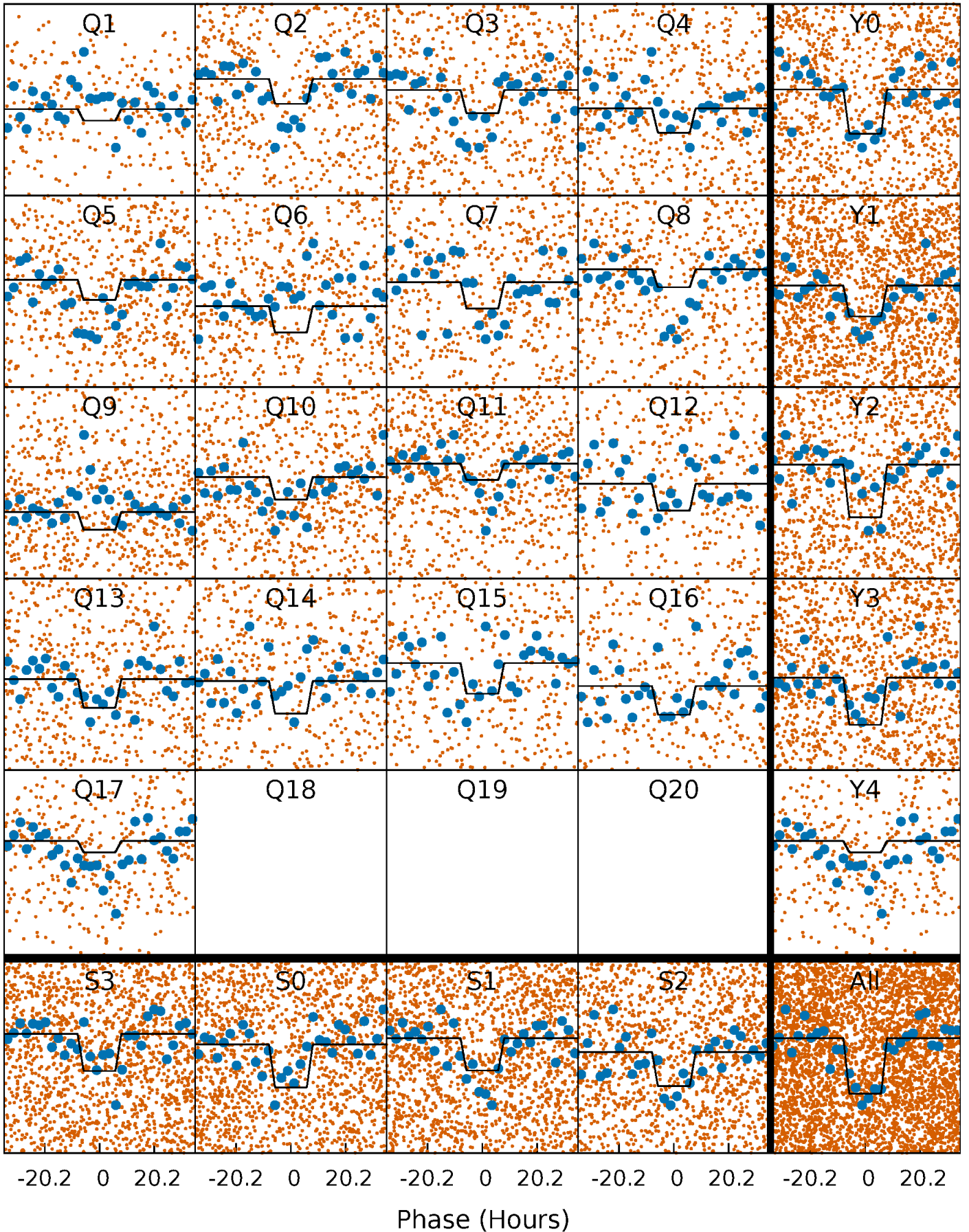
DV Quarter-Phased Transit Curves

TCE 005877510-01 P= 14.458091 Days $T_0=143.736642$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

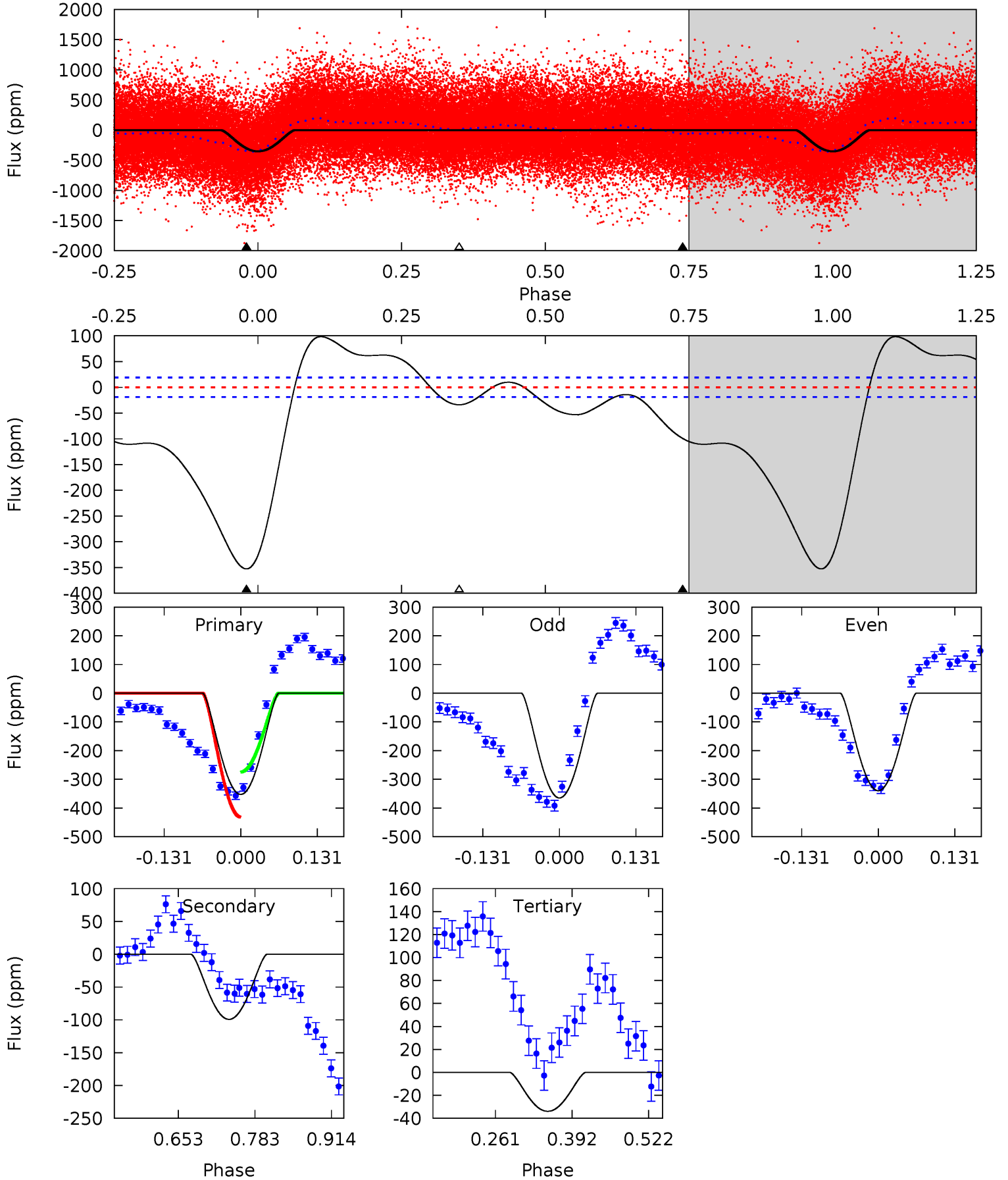
TCE 005877510-01 P= 14.457957 Days $T_0=143.796465$ (BKJD)



DV Model-Shift Uniqueness Test

005877510-01, $P = 14.458091$ Days, $E = 129.278551$ Days

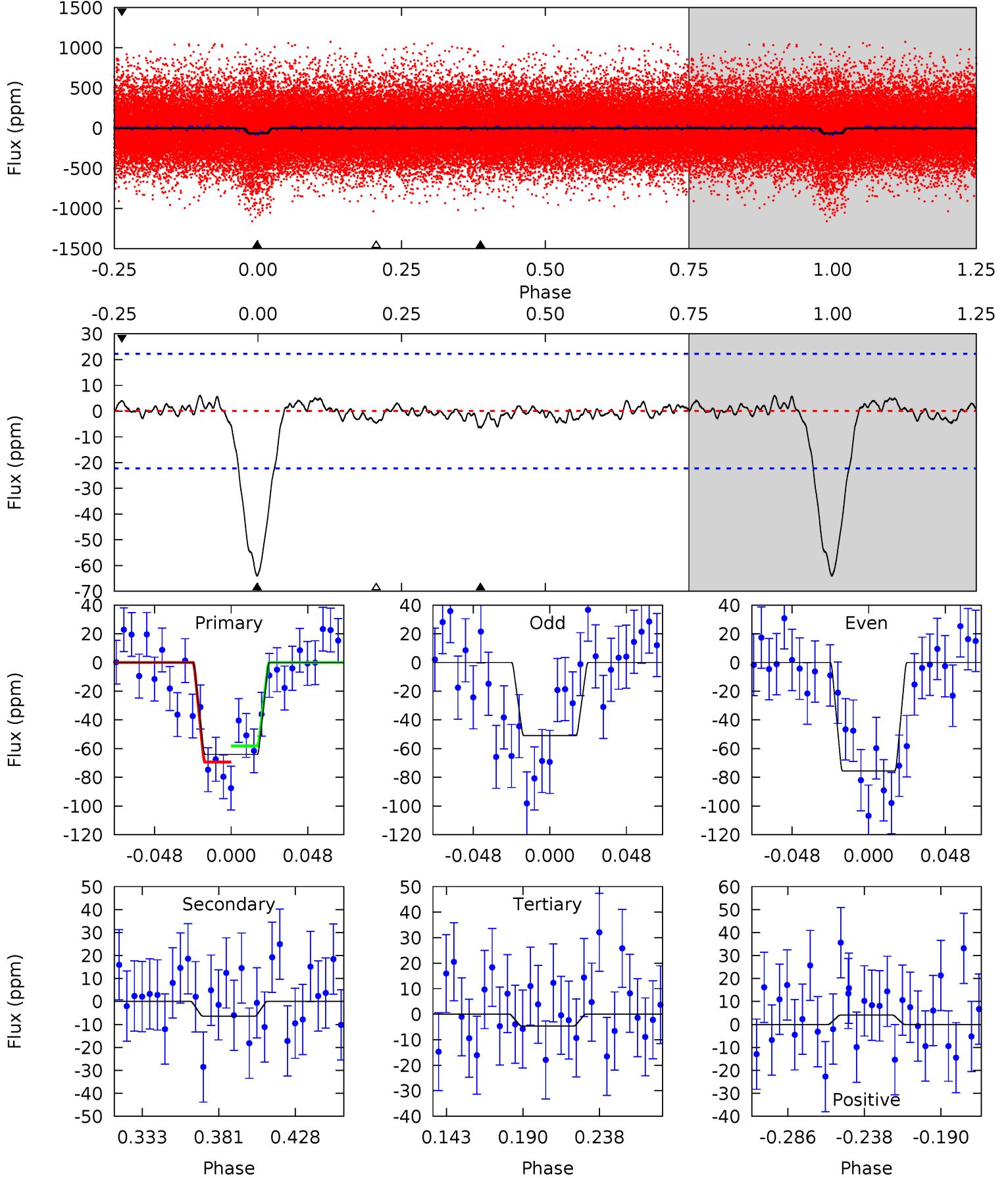
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
84.1	23.7	8.09	0	4.51	1.51	10.8	76.0	84.1	15.6	23.7	3.01	1.09	0.22	18.8



Alt Model-Shift Uniqueness Test

005877510-01, P = 14.457957 Days, E = 129.338508 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	1.35	0.98	0.86	4.72	1.98	0.45	12.6	12.7	0.37	0.50	2.62	0.82	0.09	1.18



Stellar Parameters For KIC 005877510

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	6187^{+74}_{-86}	$4.348^{+0.054}_{-0.117}$	$0.140^{+0.150}_{-0.150}$	$1.208^{+0.200}_{-0.100}$	$1.191^{+0.075}_{-0.092}$	$0.951^{+0.230}_{-0.315}$
	+1%/-1%	+1%/-3%	+107%/-107%	+17%/-8%	+6%/-8%	+24%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005877510-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-99 ± 4	$4.31^{+2.68}_{-2.36}$	1203^{+51}_{-35}	3826^{+1325}_{-547}	45^{+175}_{-28}
Alt.	-6 ± 5	$2.18^{+2.23}_{-1.49}$	1202^{+51}_{-35}	2967^{+1436}_{-808}	$8.866^{+85.205}_{-7.918}$

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 $A_{obs} \gg 1.0$

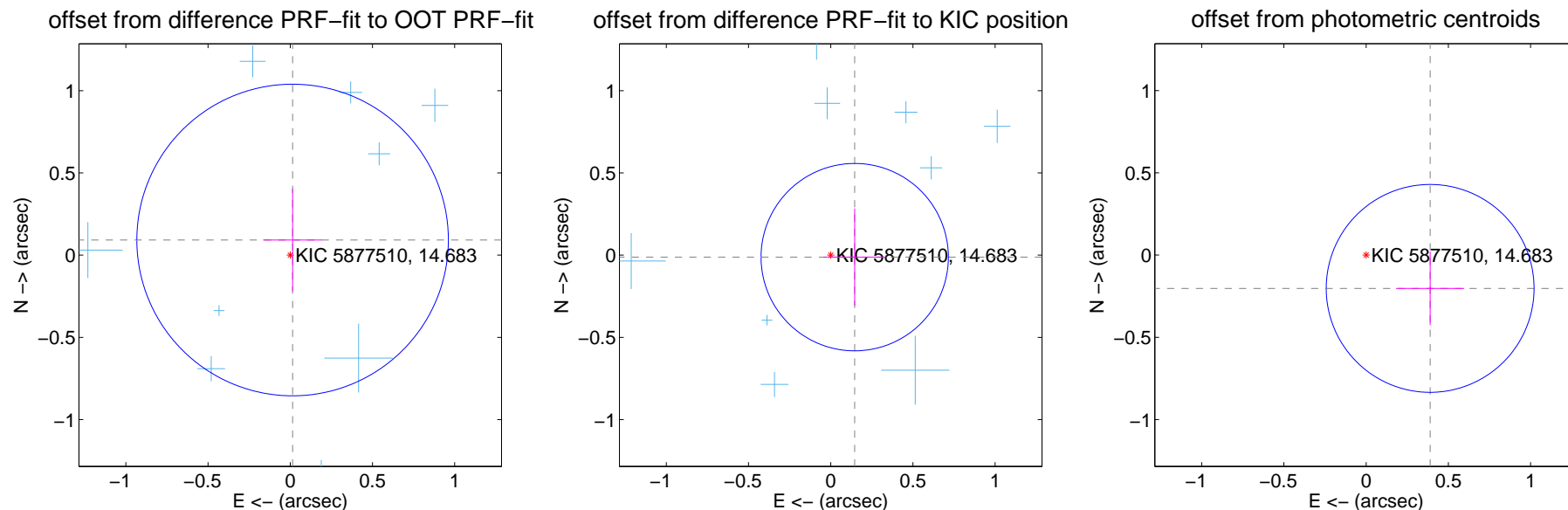
DV Centroid Data

Supplemental centroid analysis for 005877510-01. Kepler magnitude: 14.68. Transit SNR 15.62

There are 12 quarters with good PRF difference image offsets

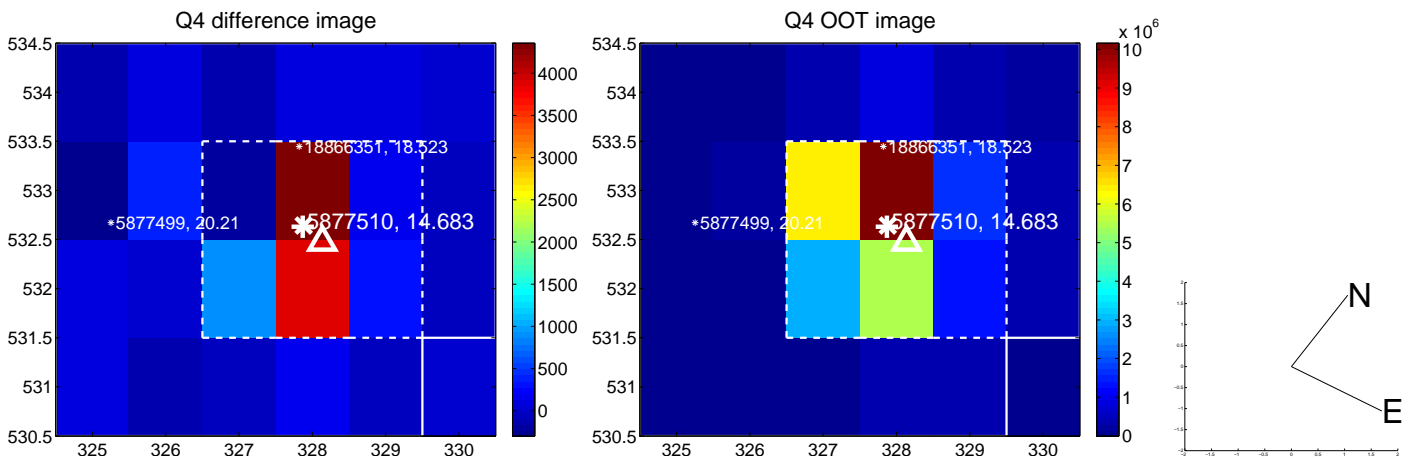
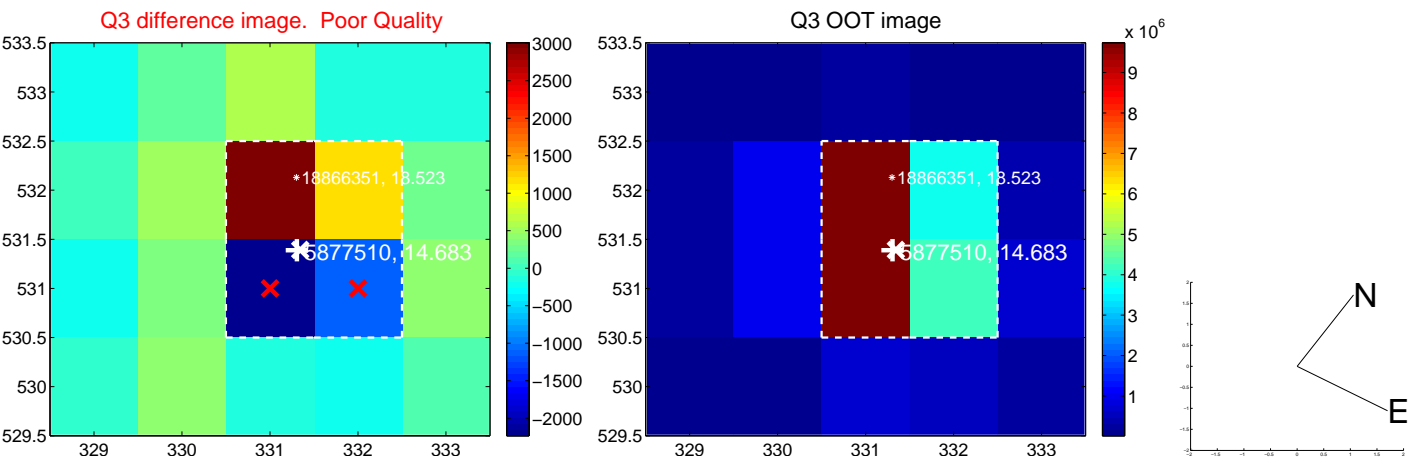
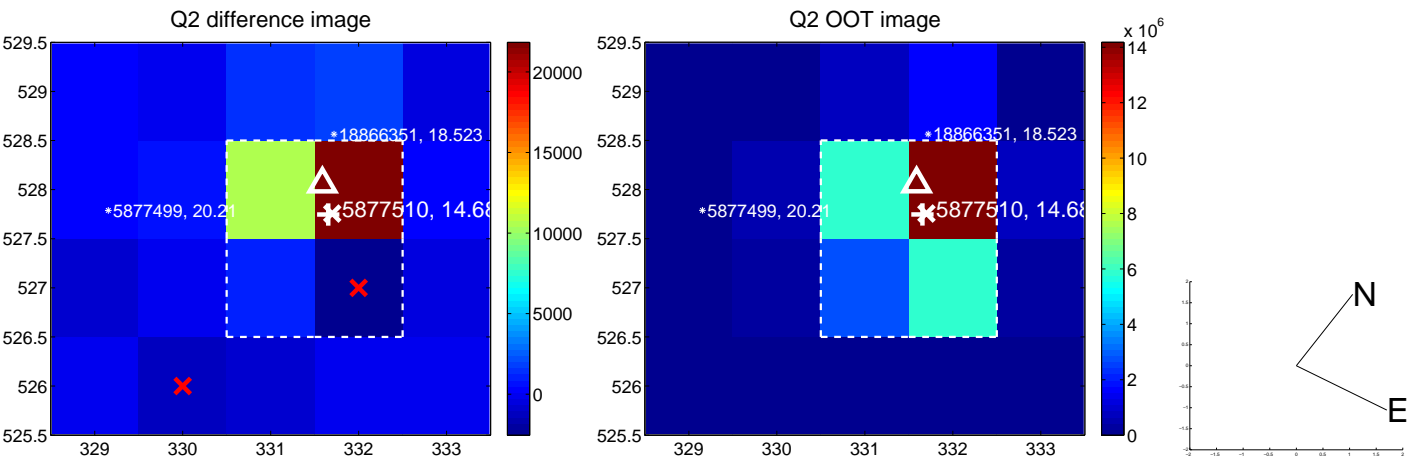
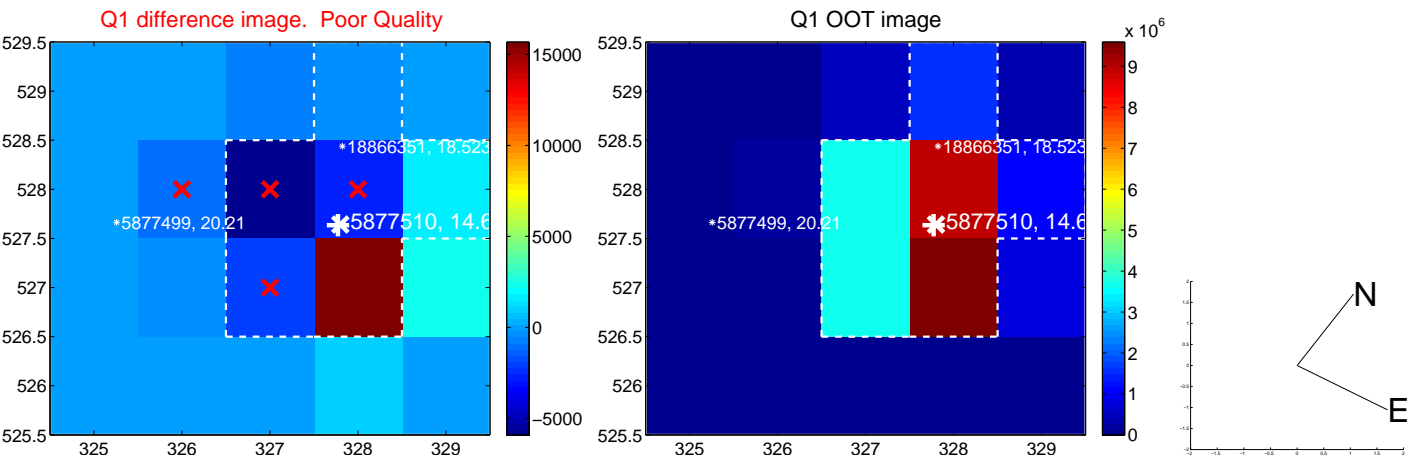
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.093 ± 0.316	0.30	-0.014 ± 0.180	0.092 ± 0.312
PRF-fit source offset from KIC position	0.146 ± 0.190	0.77	-0.146 ± 0.189	-0.012 ± 0.296
photometric centroid source offset	0.44 ± 0.21	2.08	-0.39 ± 0.21	-0.20 ± 0.22

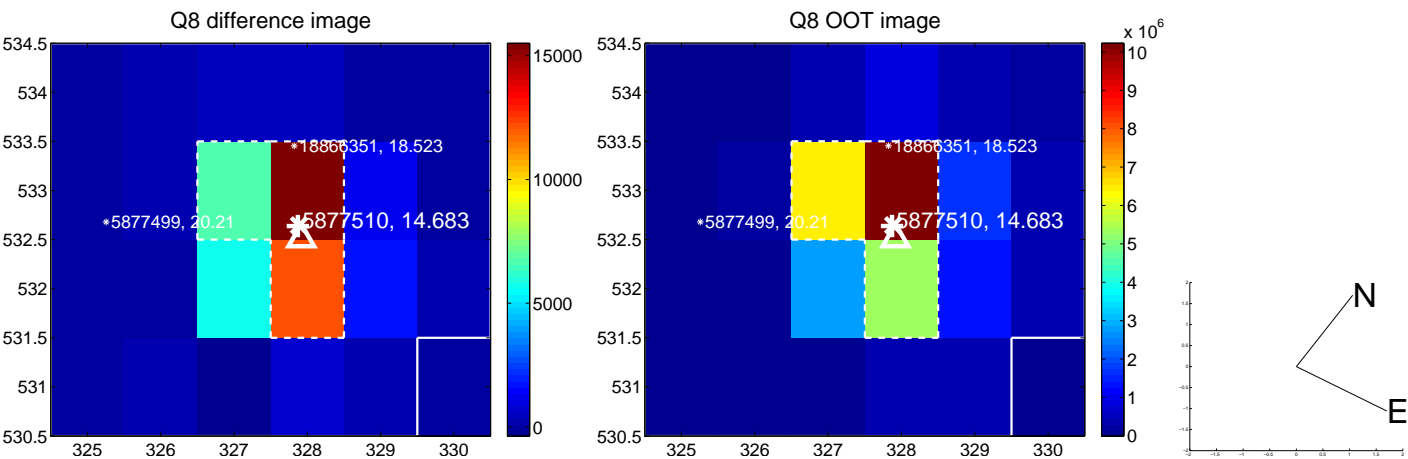
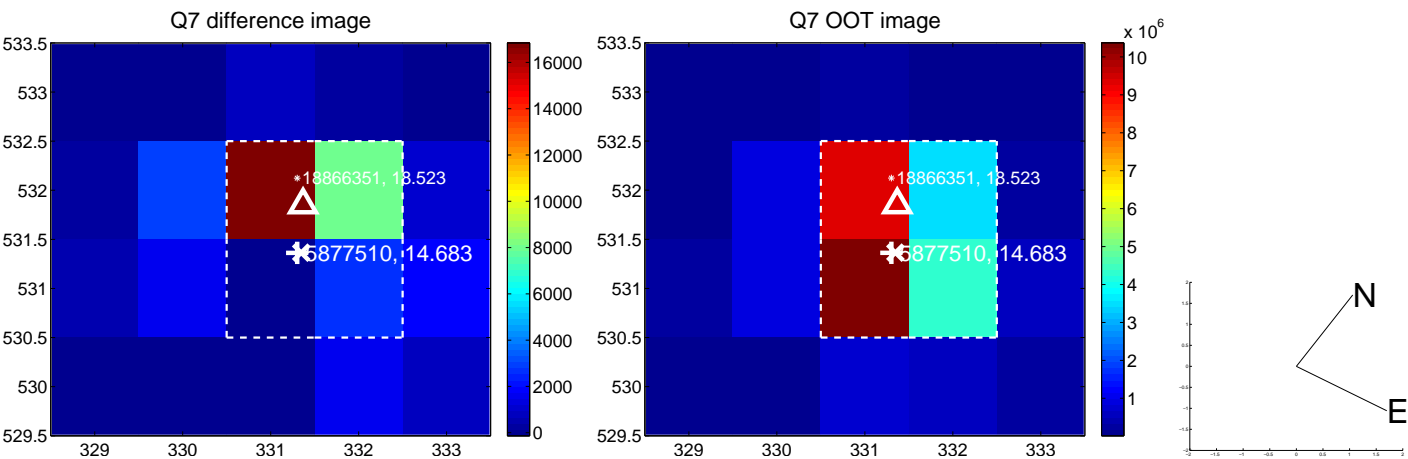
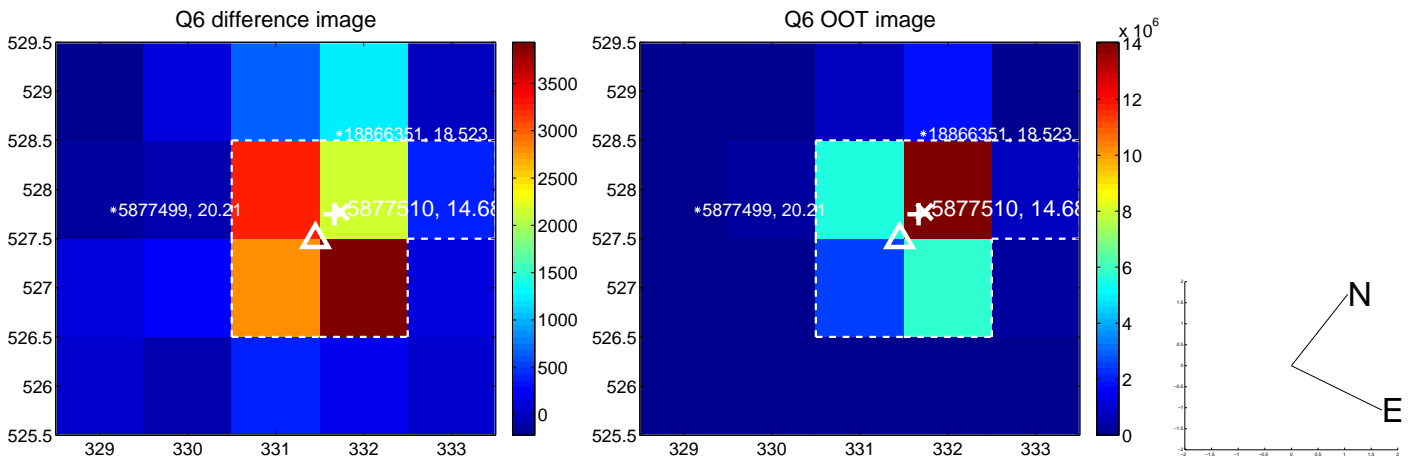
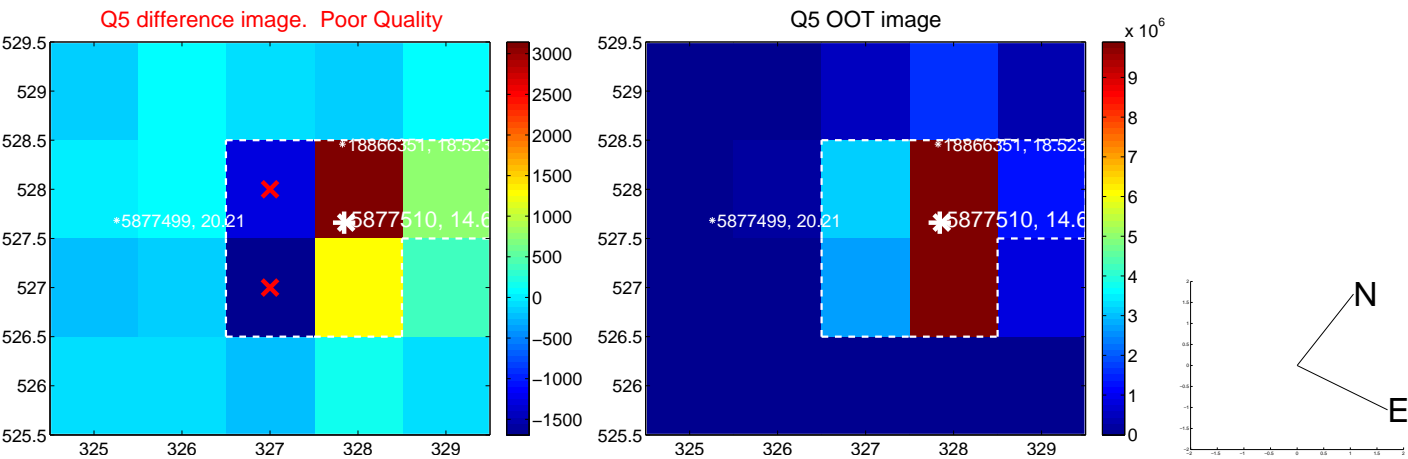


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

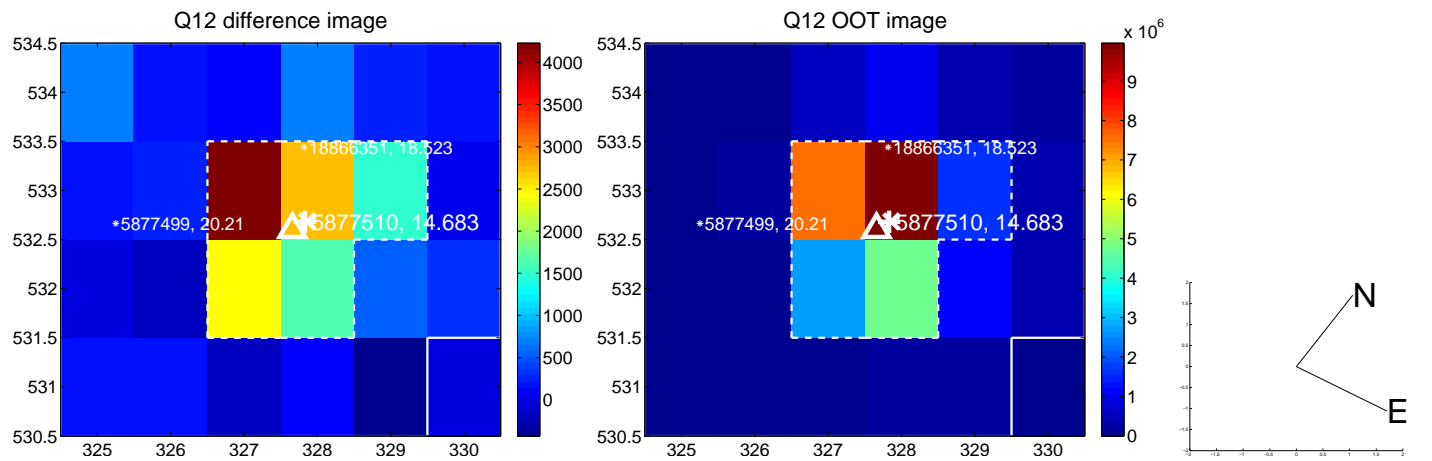
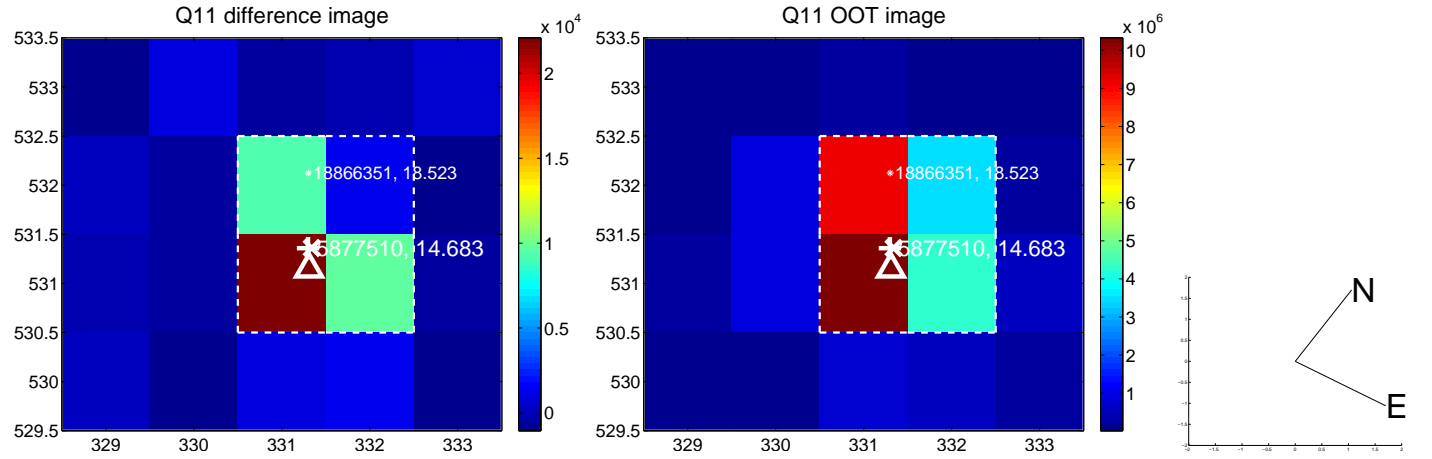
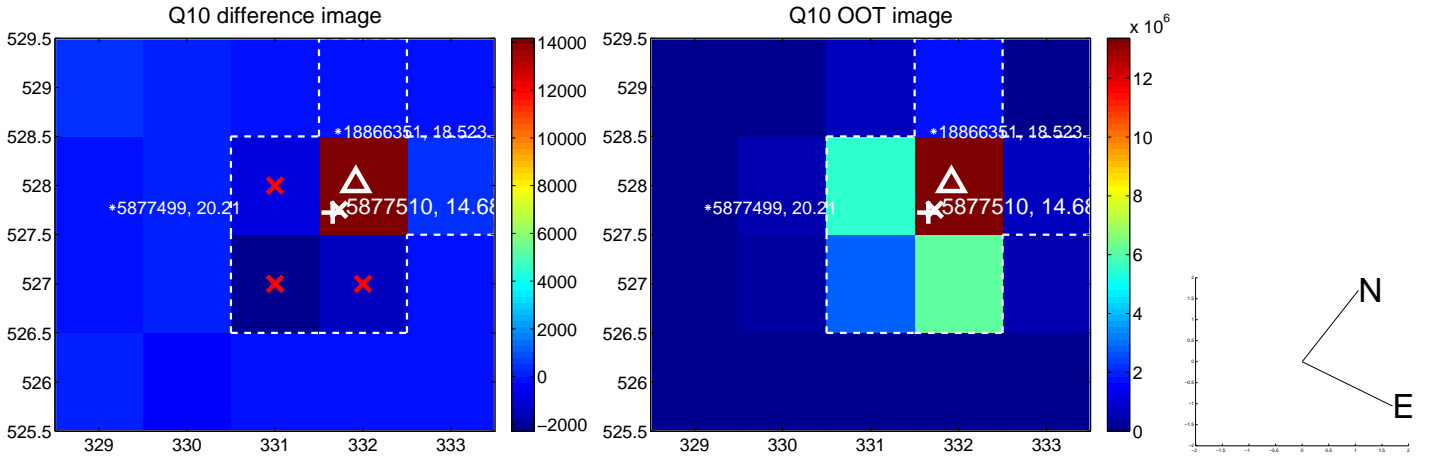
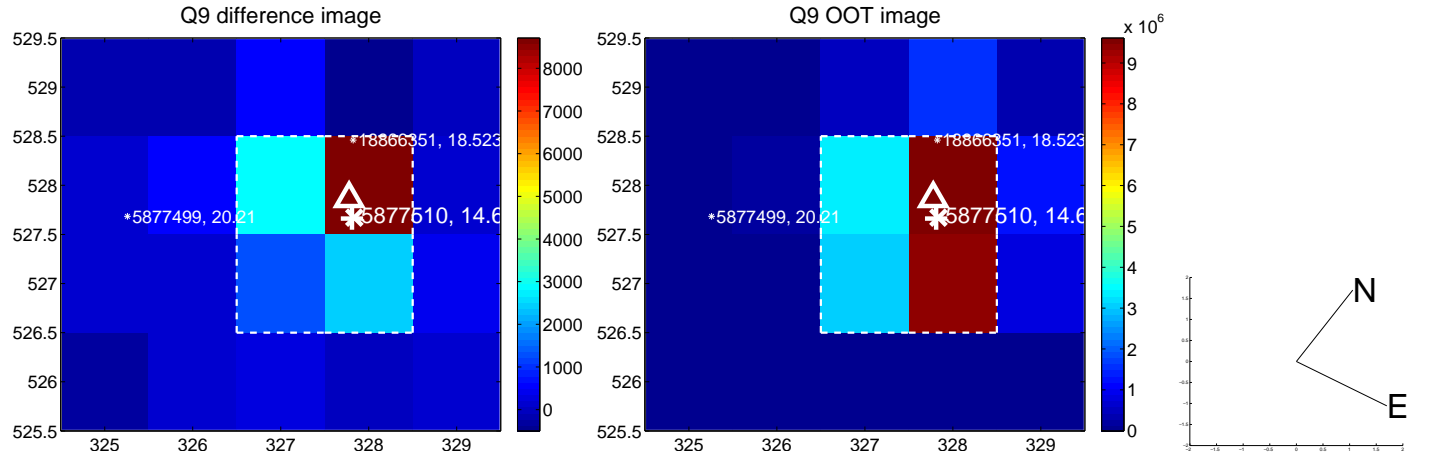
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



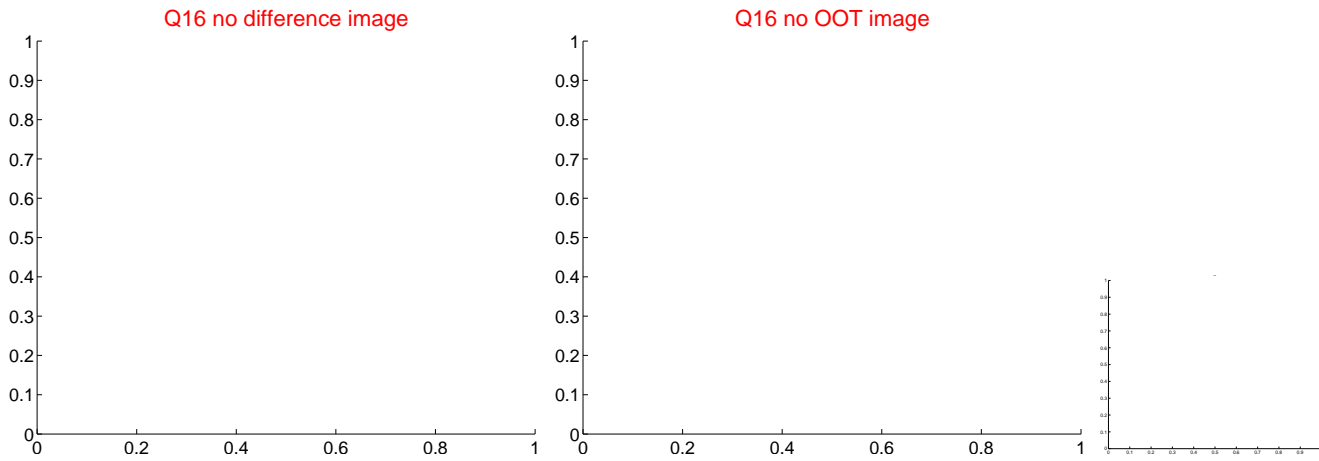
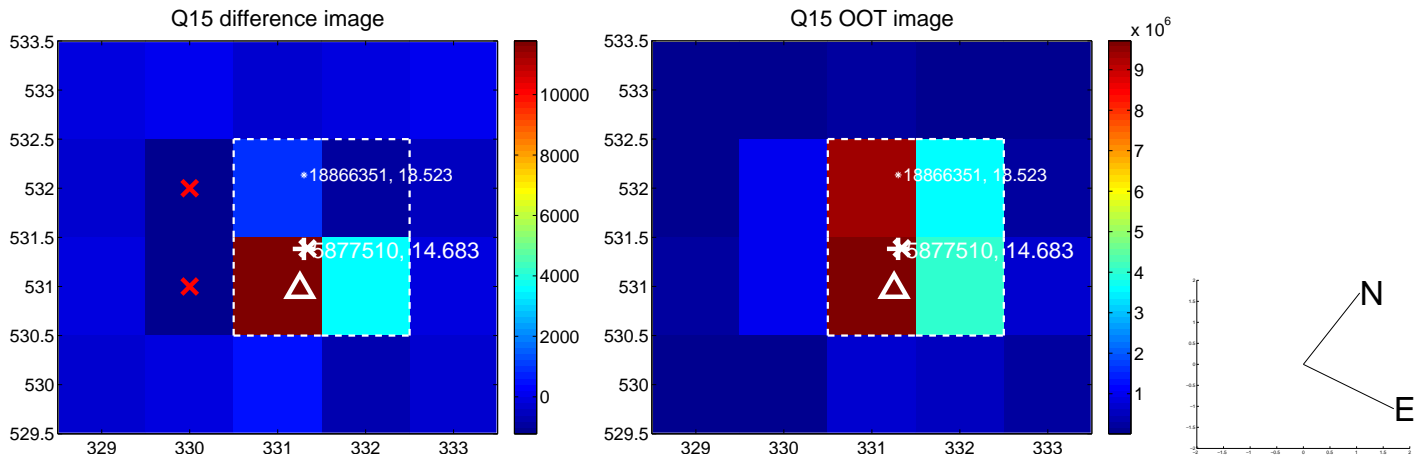
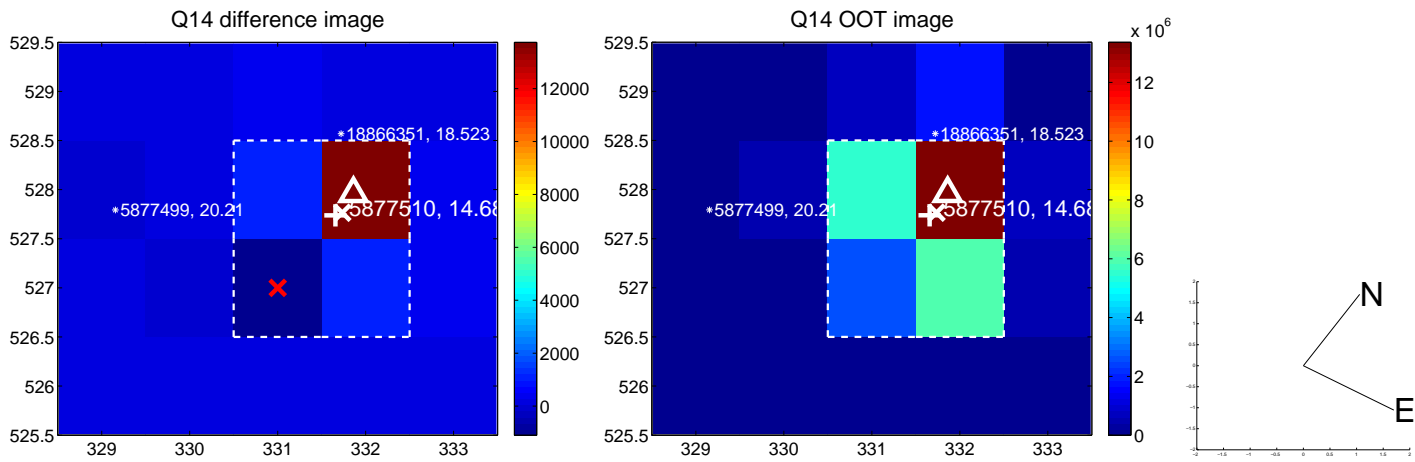
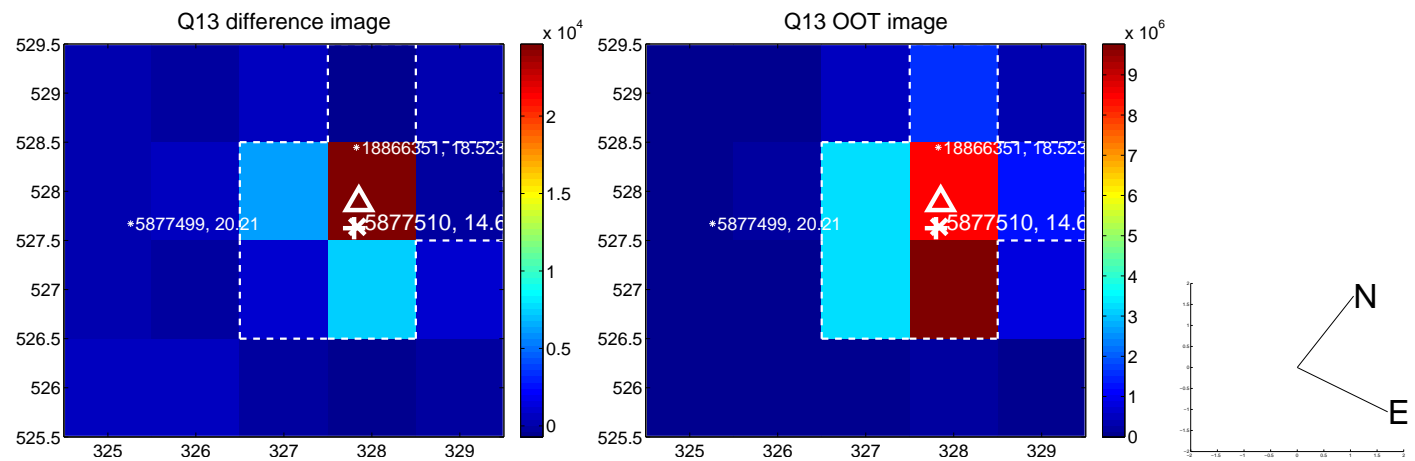
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



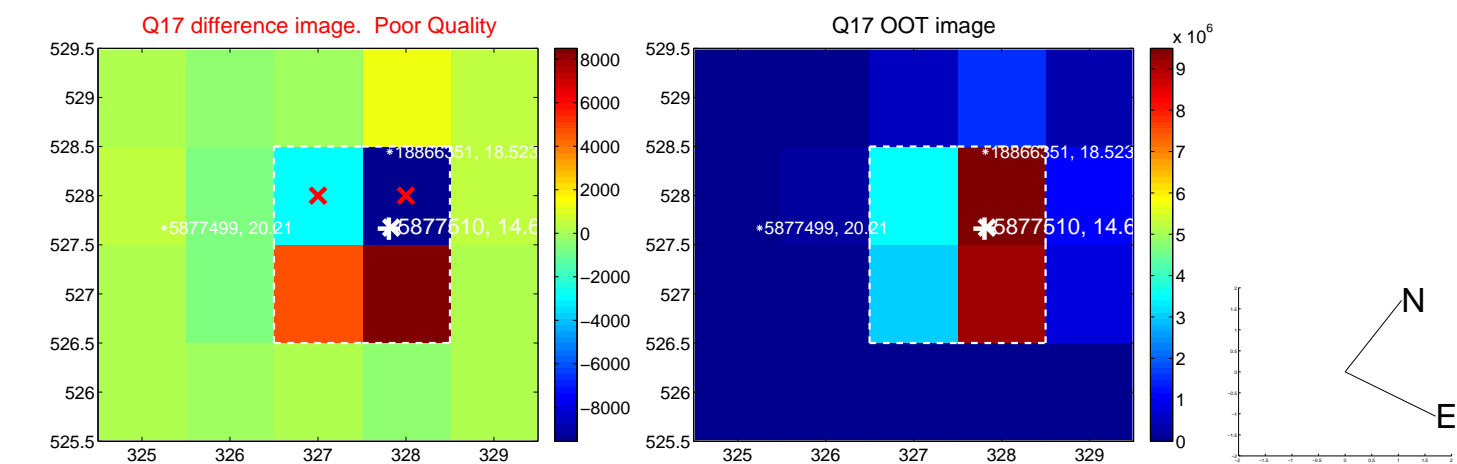
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



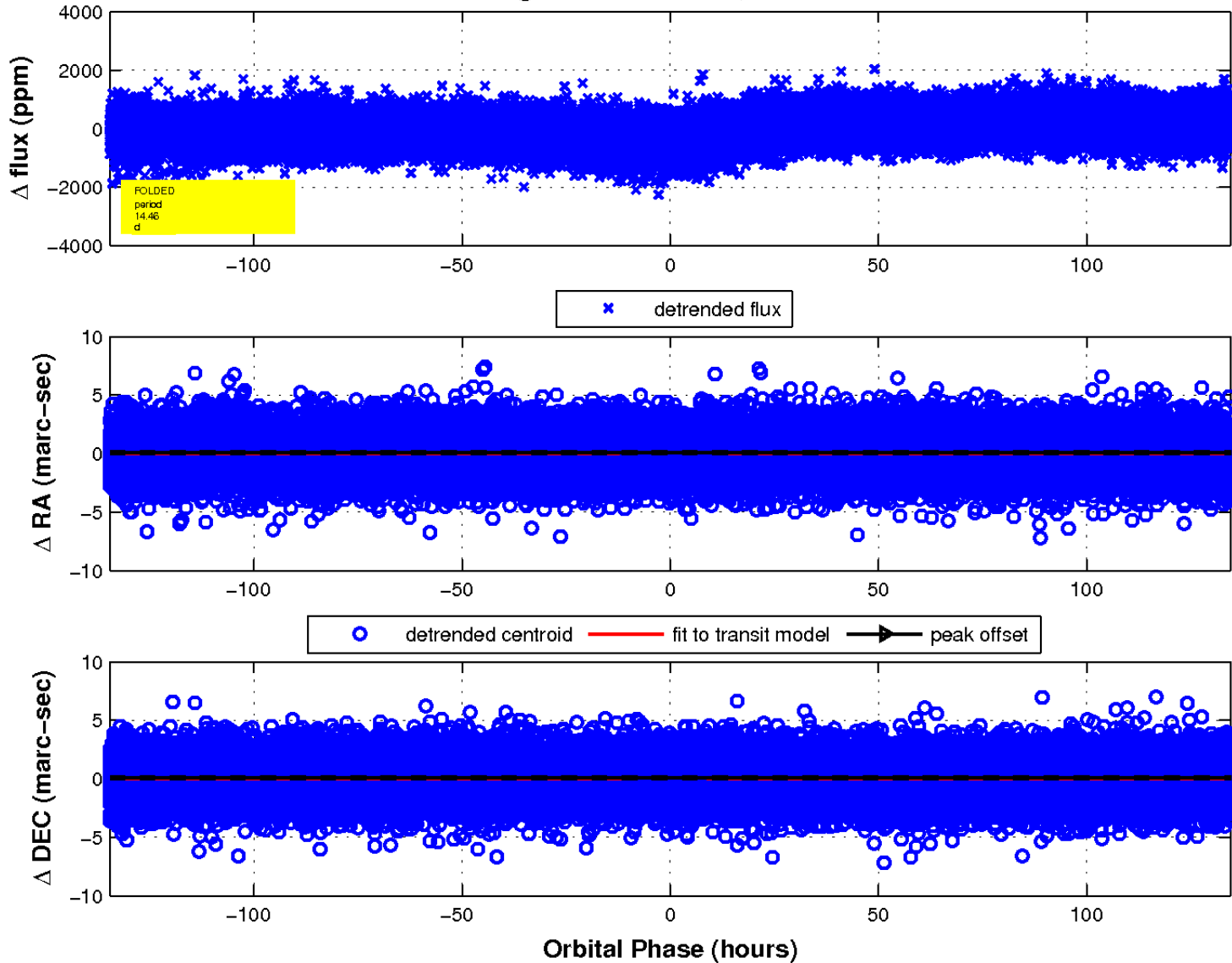
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

