

KIC 005977541

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})
005977541-01	OBS	6642.01	1.140727	132.581684	32.3	4.020	16.6	16.5	1.69	8847	0.97	24522.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005977541-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—CENT_RESOLVED_OFFSET

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.

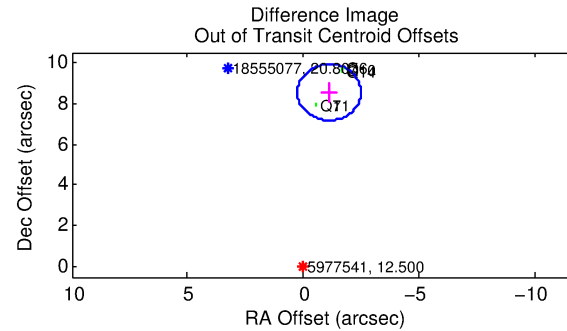
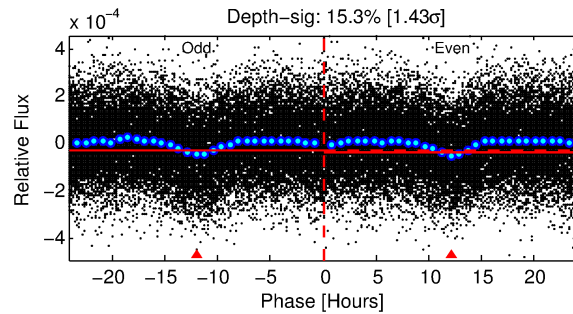
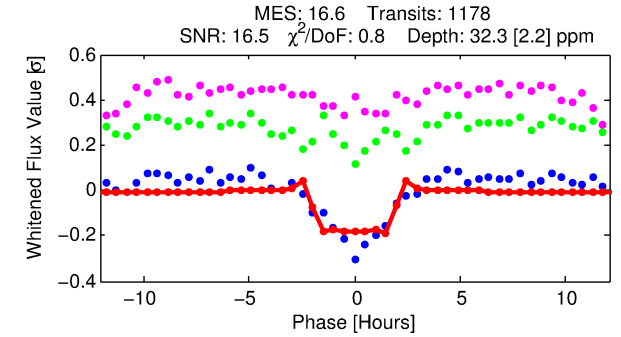
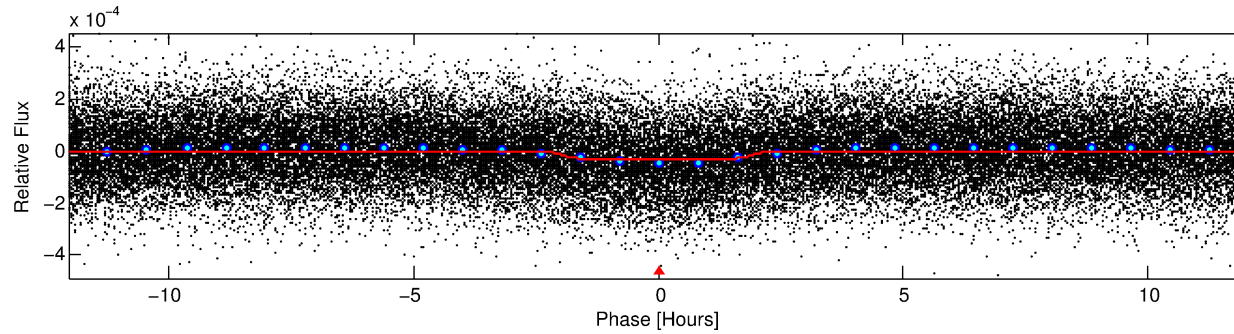
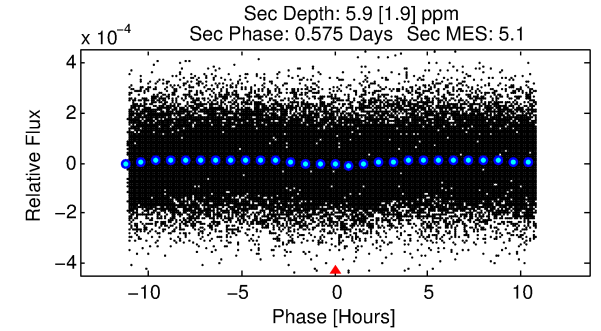
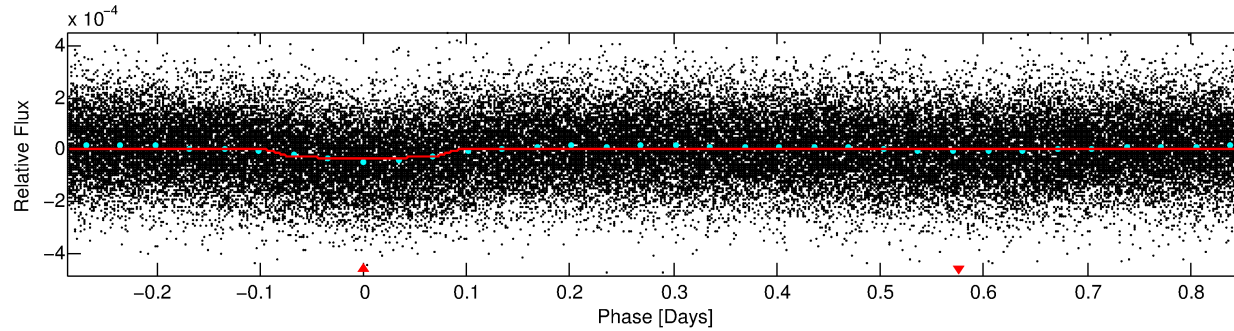
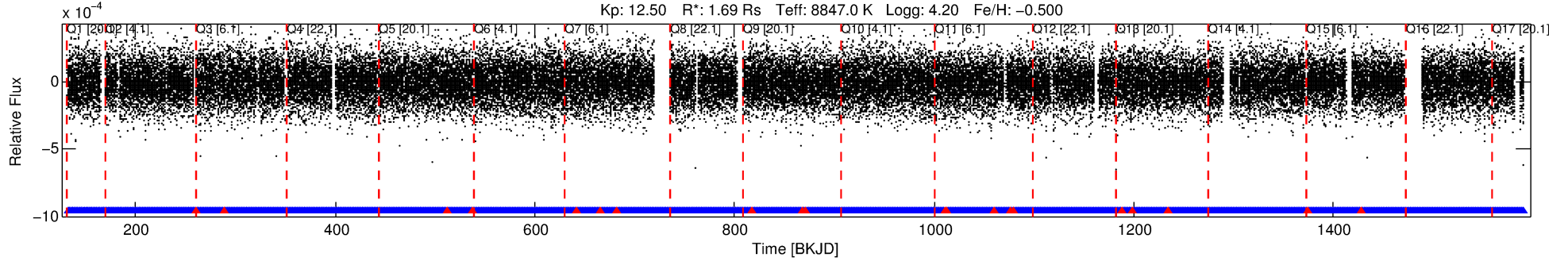
Ephemeris Match Information For 005977541-01

No Significant Match Found

DV One-Page Summary

KIC: 5977541 Candidate: 1 of 1 Period: 1.141 d
KOI: K06642.01 Corr: 0.858

Kp: 12.50 R*: 1.69 Rs Teff: 8847.0 K Logg: 4.20 Fe/H: -0.500



DV Fit Results:

Period = 1.14073 [0.00001] d
Epoch = 132.5817 [0.0018] BKJD
Rp/R* = 0.0053 [0.0021]
a/R* = 2.24 [4.38]
b = 0.15 [16.03]
Seff = 24522.76 [8084.26]
Teq = 3191 [263] K
Rp = 0.98 [0.43] Re
a = 0.0252 [0.0048] AU
Ag = 2.17 [1.92] [0.61σ]
Teffp = 5989 [1282] K [2.14σ]

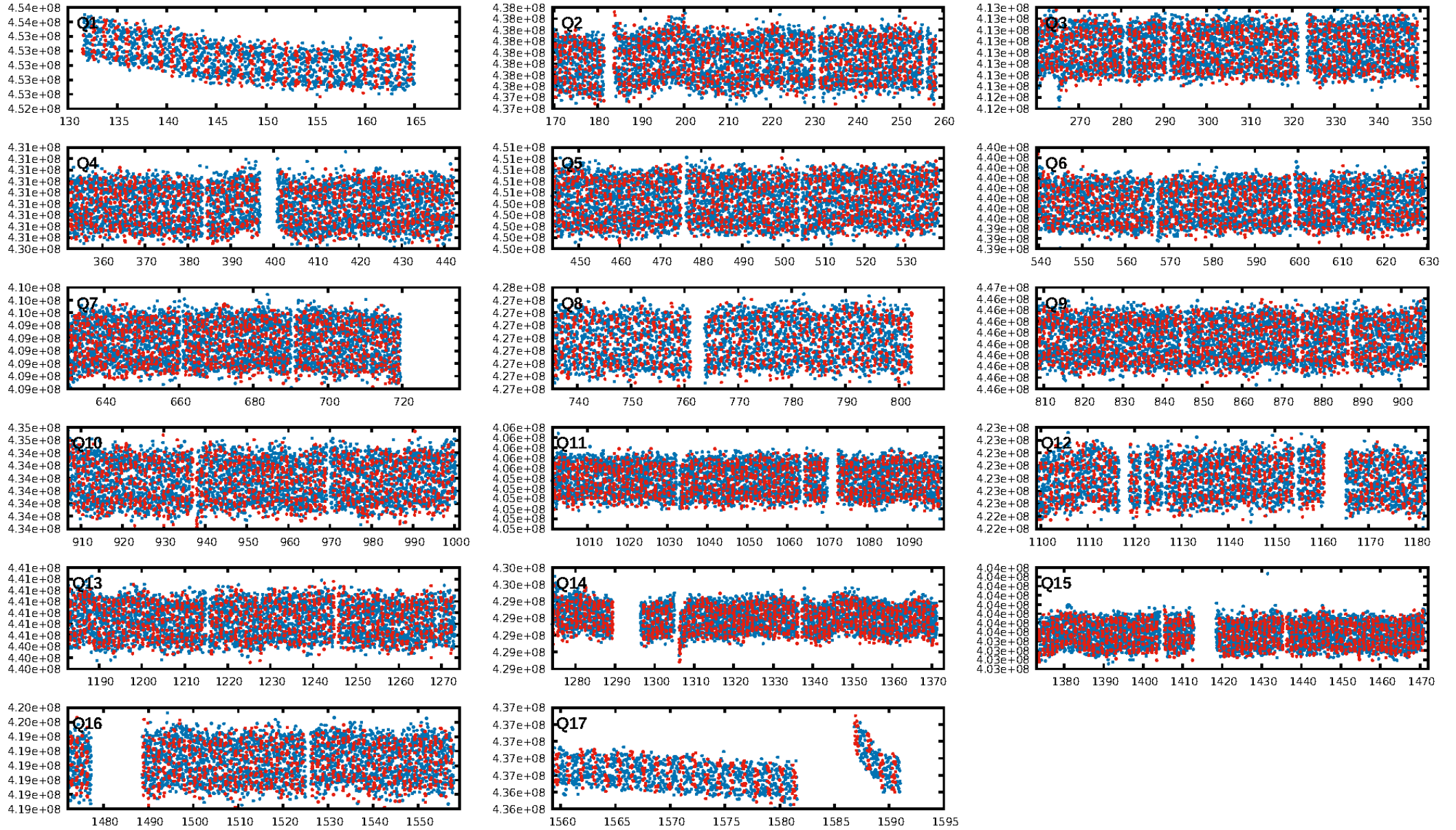
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.07e-42
RollingBand-fgt: 0.98 [1104/1124]
GhostDiagnostic-chr: -0.4516
Centroid-sig: 0.0%
Centroid-so: 7.788 arcsec [19.01σ]
OotOffset-rm: 8.616 arcsec [18.81σ]
KicOffset-rm: 8.719 arcsec [19.90σ]
OotOffset-st: 3/2/0/0 [5]
KicOffset-st: 3/2/0/0 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 1.00 [17/17]

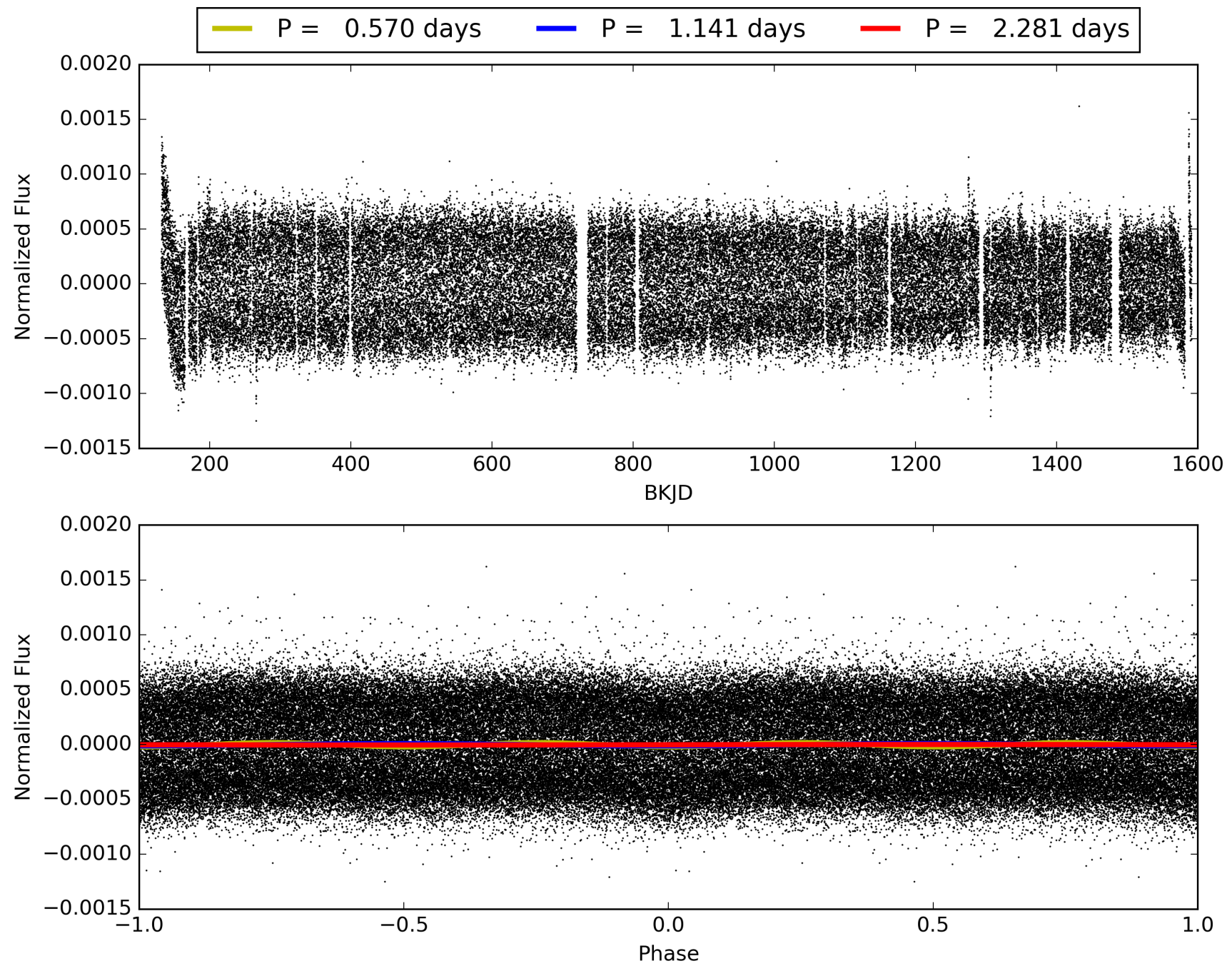
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:44:59 Z

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

TCE 005977541-01, PDC Light Curves

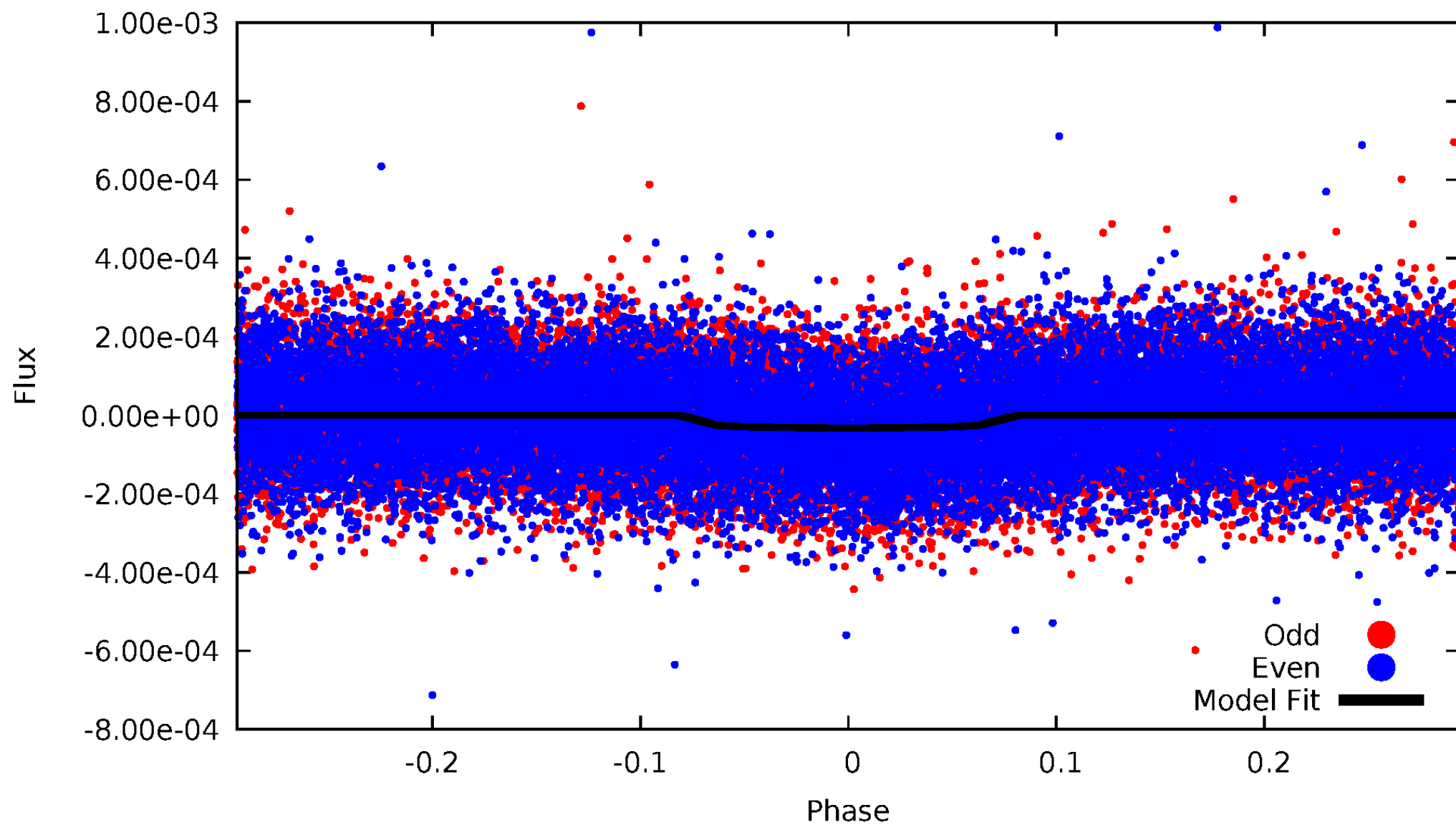


TCE 005977541-01



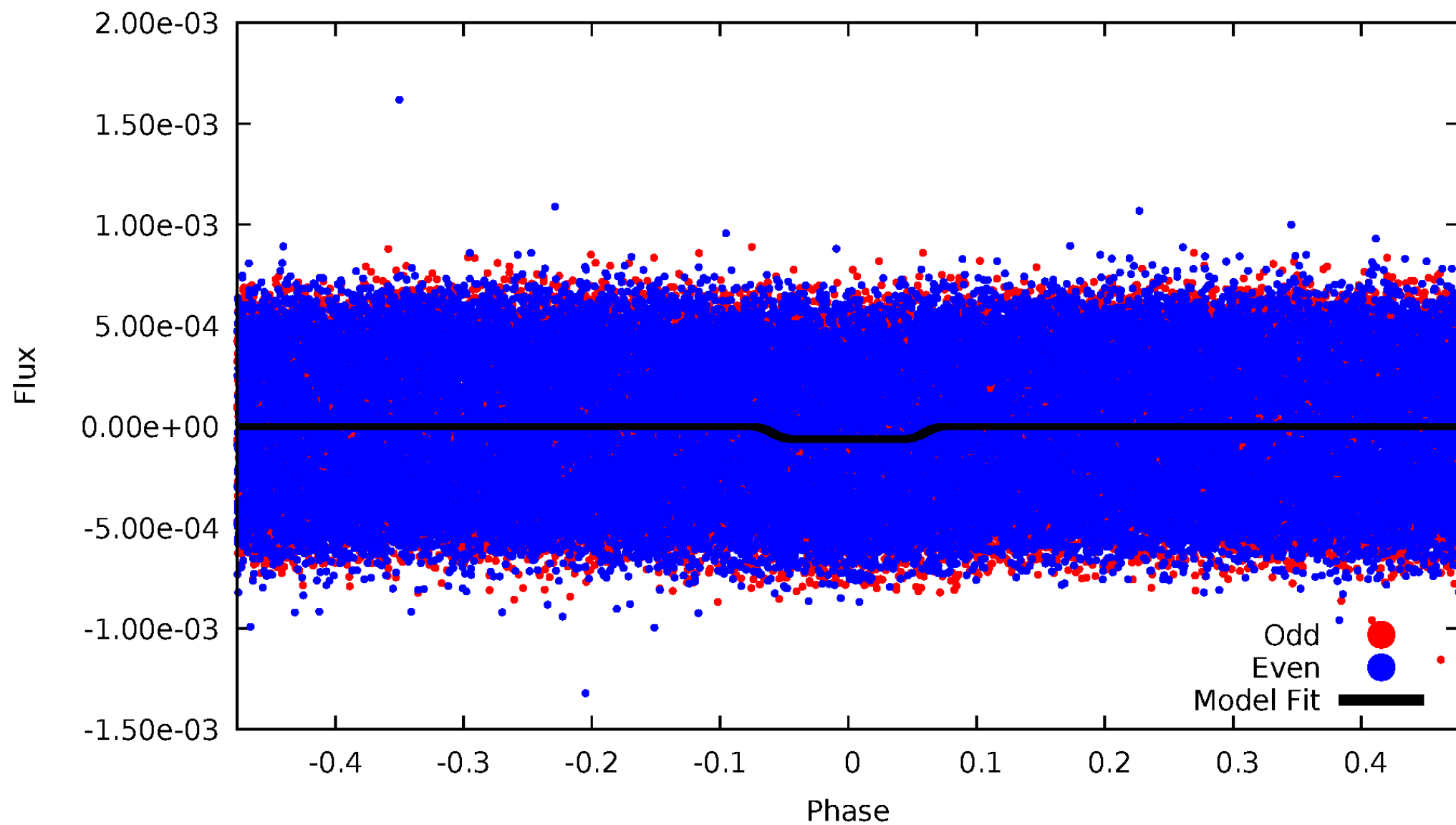
DV Odd/Even

TCE 005977541-01



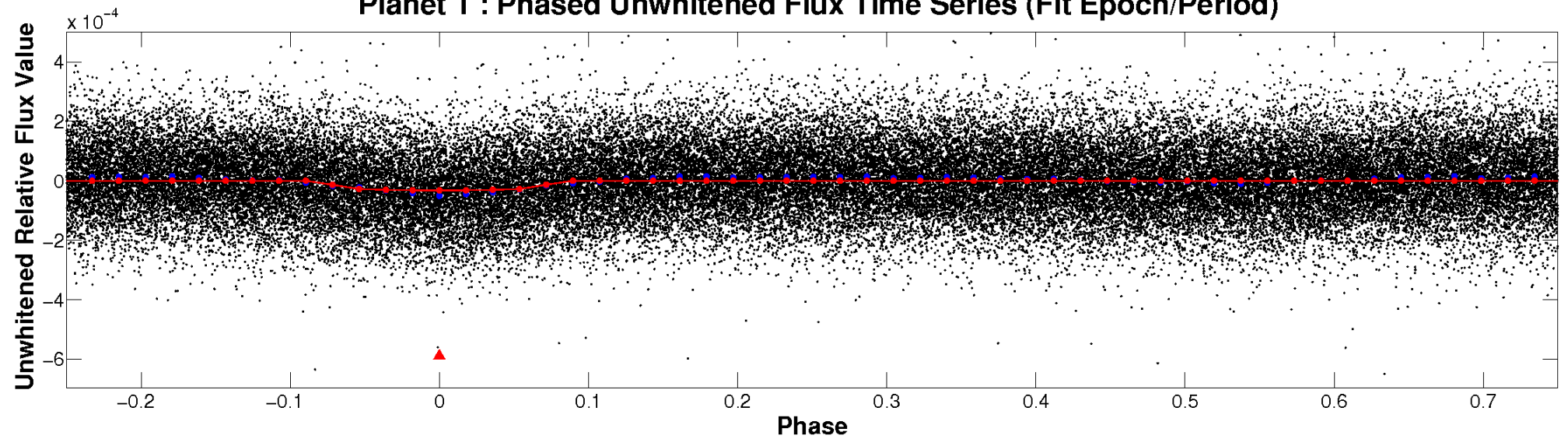
ALT Odd/Even

TCE 005977541-01

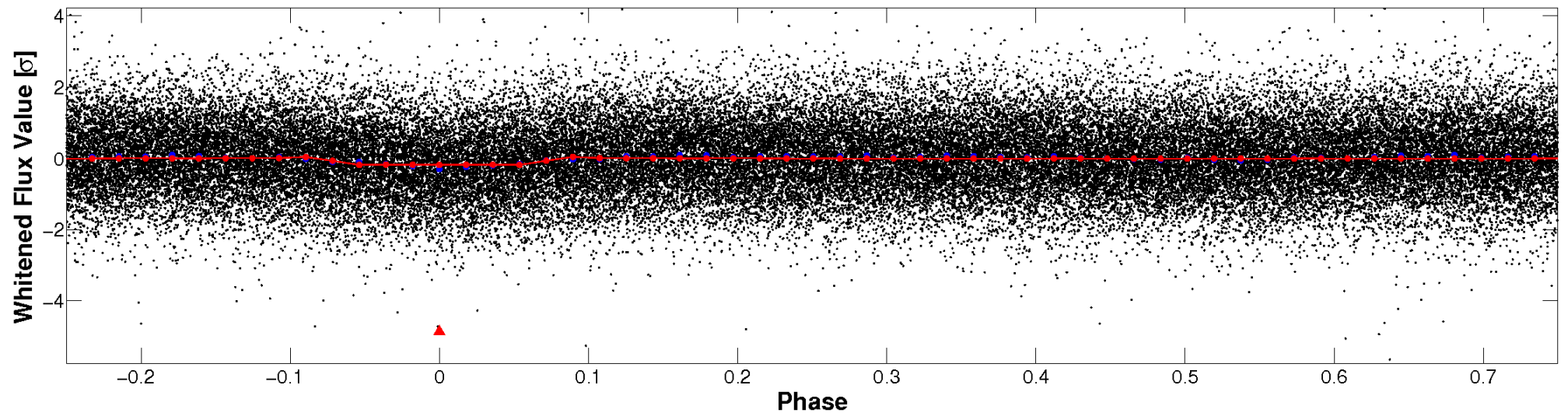


Non-Whitened Vs. Whitened Light Curve

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

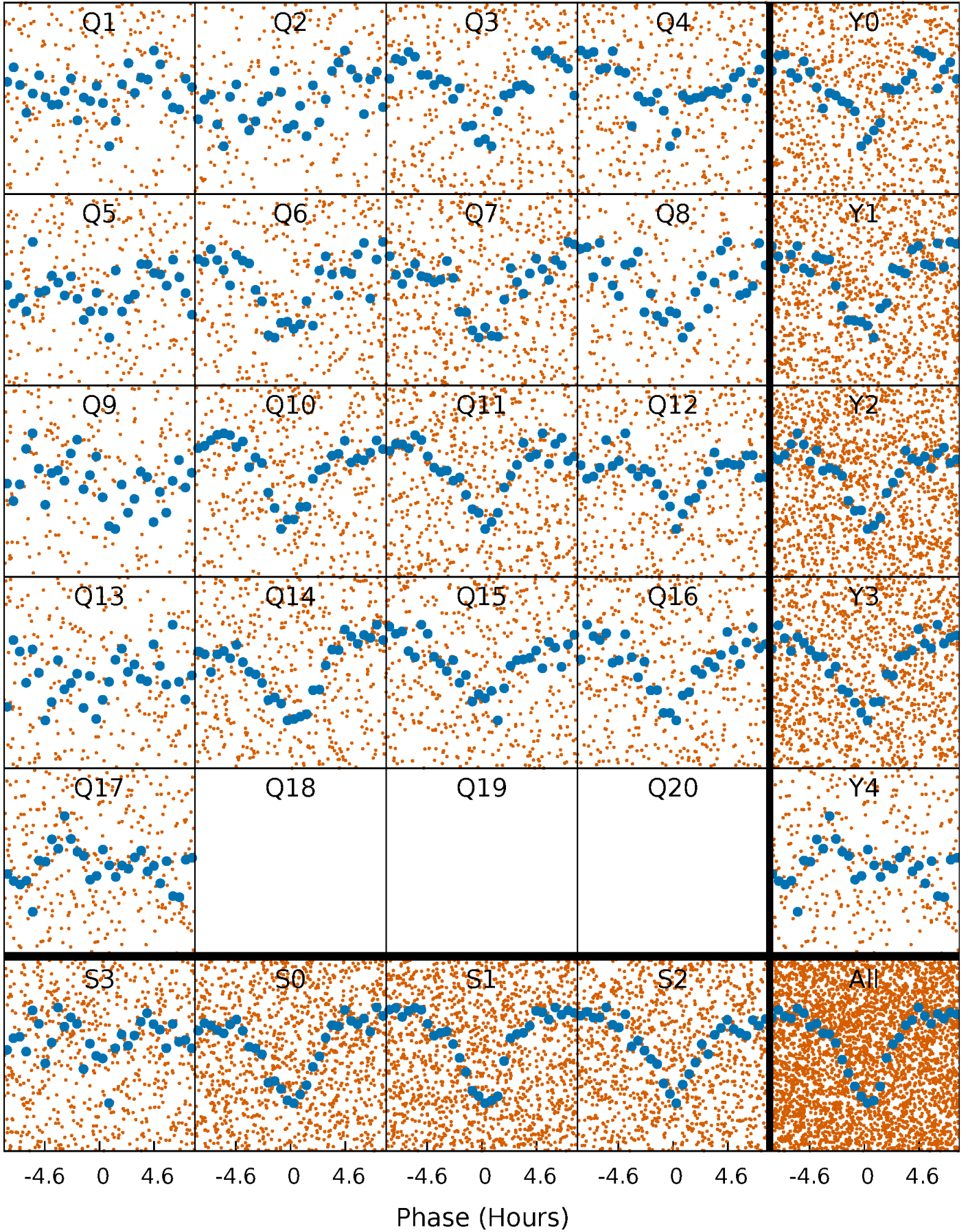


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



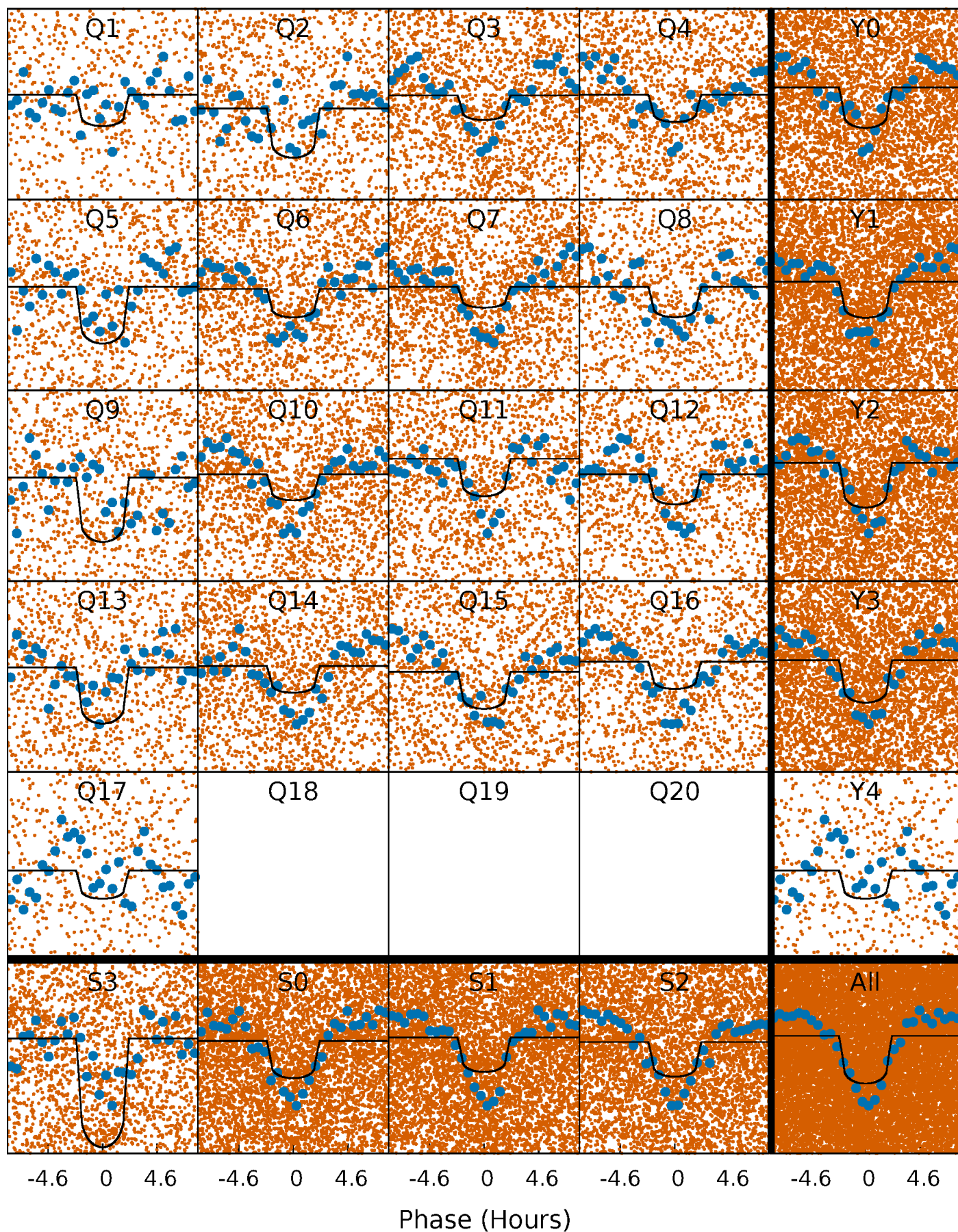
PDC Quarter-Phased Transit Curves

TCE 005977541-01 P= 1.140727 Days $T_0=132.581684$ (BKJD)



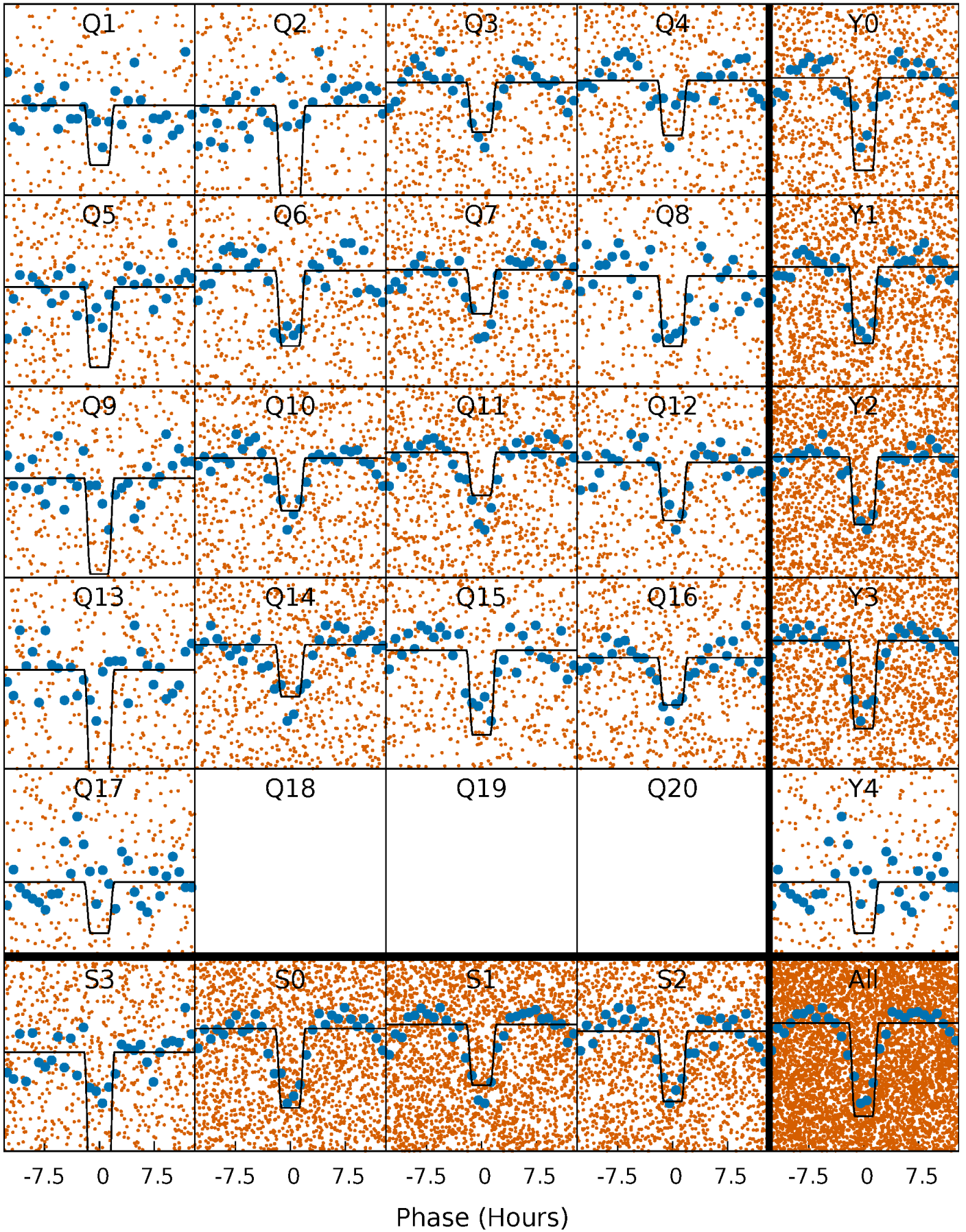
DV Quarter-Phased Transit Curves

TCE 005977541-01 P= 1.140727 Days $T_0=132.581684$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

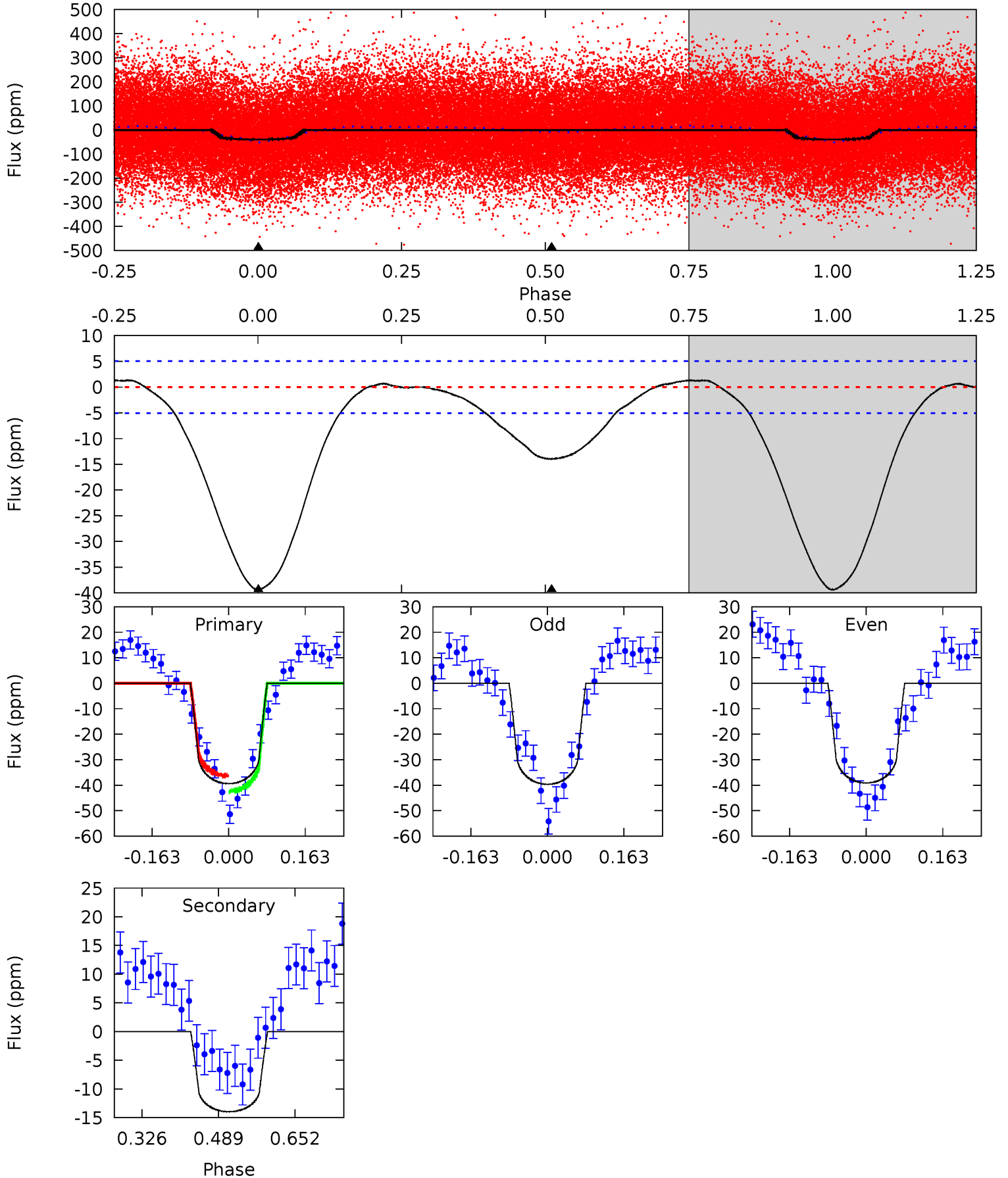
TCE 005977541-01 P= 1.140731 Days $T_0=132.583742$ (BKJD)



DV Model-Shift Uniqueness Test

005977541-01, P = 1.140727 Days, E = 131.440957 Days

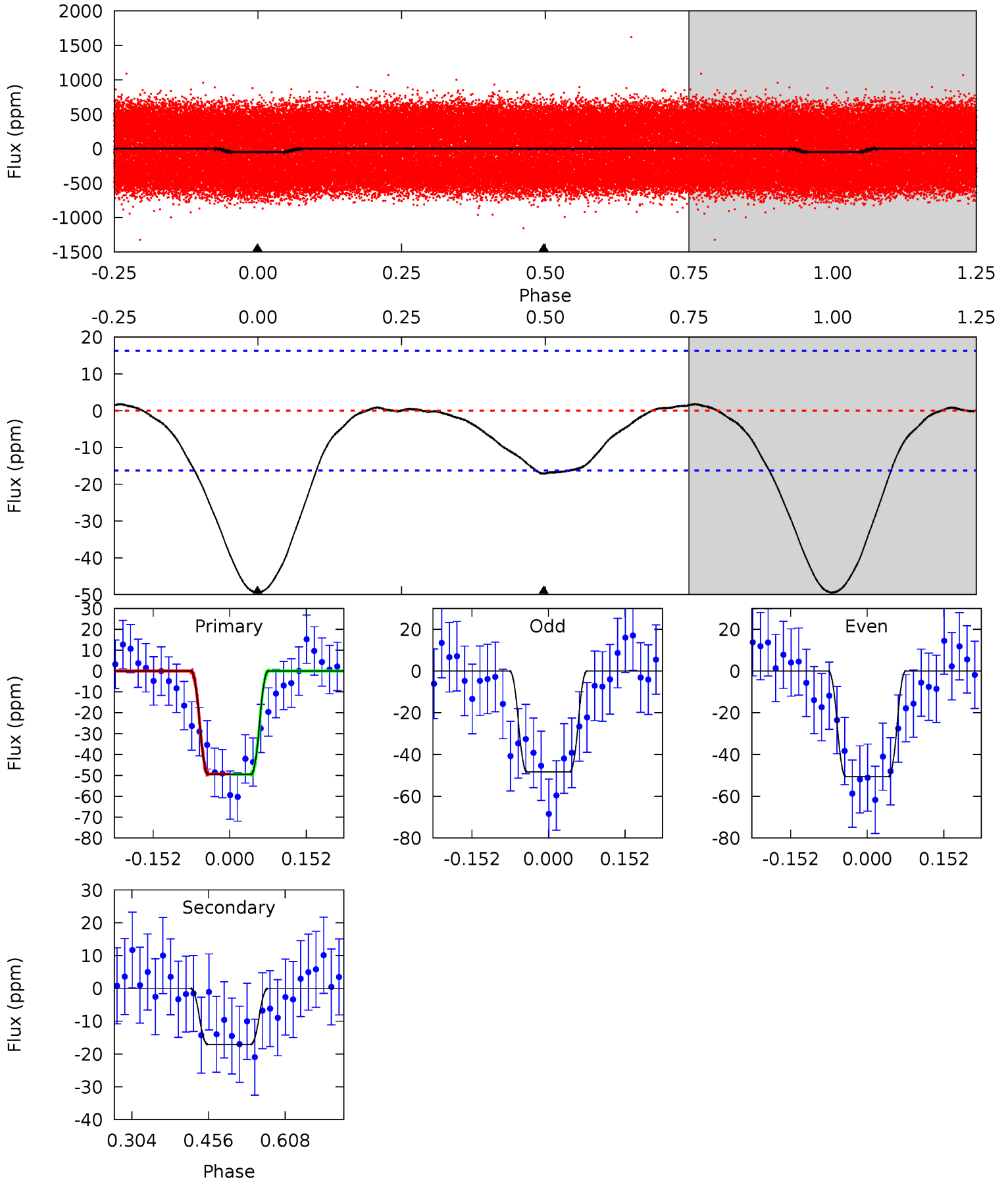
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.7	12.3	0	0	4.46	1.40	0.82	34.7	34.7	12.3	12.3	0.23	1.07	0.03	2.67



Alt Model-Shift Uniqueness Test

005977541-01, P = 1.140731 Days, E = 131.443011 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	4.71	0	0	4.48	1.43	0.40	13.6	13.6	4.71	4.71	0.32	0.99	0.03	0.03



Stellar Parameters For KIC 005977541

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8847^{+247}_{-371}	$4.200^{+0.130}_{-0.159}$	$-0.500^{+0.100}_{-0.400}$	$1.685^{+0.366}_{-0.330}$	$1.643^{+0.141}_{-0.228}$	$0.484^{+0.358}_{-0.206}$
	+3%/-4%	+3%/-4%	+20%/-80%	+22%/-20%	+9%/-14%	+74%/-43%
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 005977541-01 / KOI 6642.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-14 ± 1	$0.98^{+0.38}_{-0.38}$	4457^{+297}_{-245}	7008^{+2430}_{-1218}	$5.011^{+7.848}_{-2.470}$
Alt.	-17 ± 4	$1.46^{+0.43}_{-0.39}$	4458^{+303}_{-263}	5888^{+1135}_{-836}	$2.777^{+2.568}_{-1.241}$

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 $A_{obs} \gg 1.0$

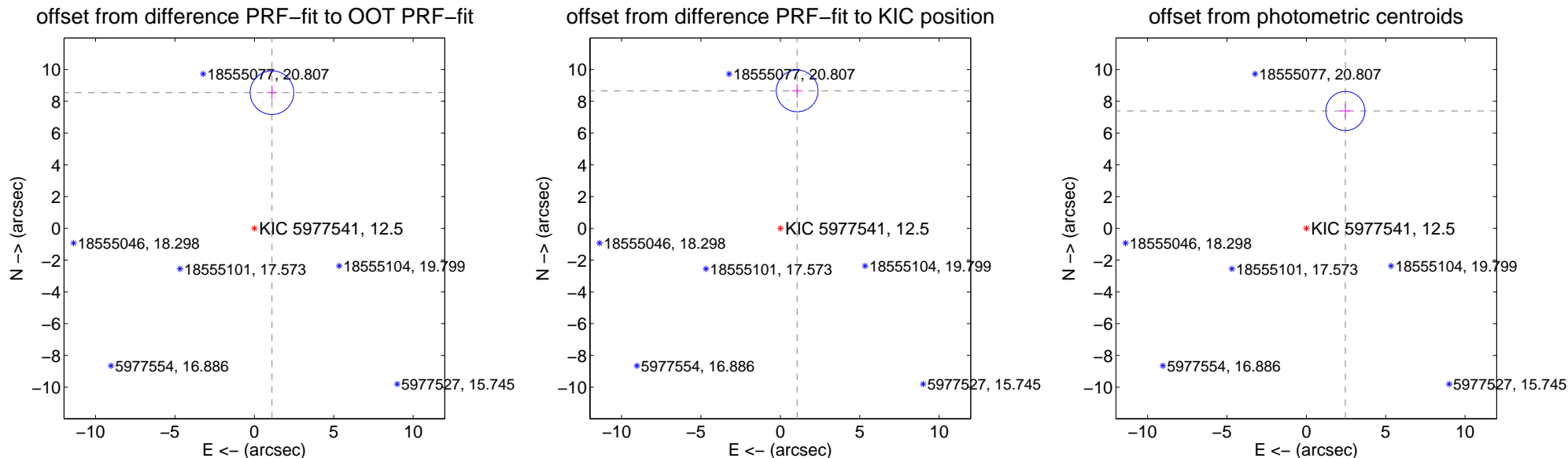
DV Centroid Data

Supplemental centroid analysis for 005977541-01. Kepler magnitude: 12.50. Transit SNR 16.52

There are 5 quarters with good PRF difference image offsets

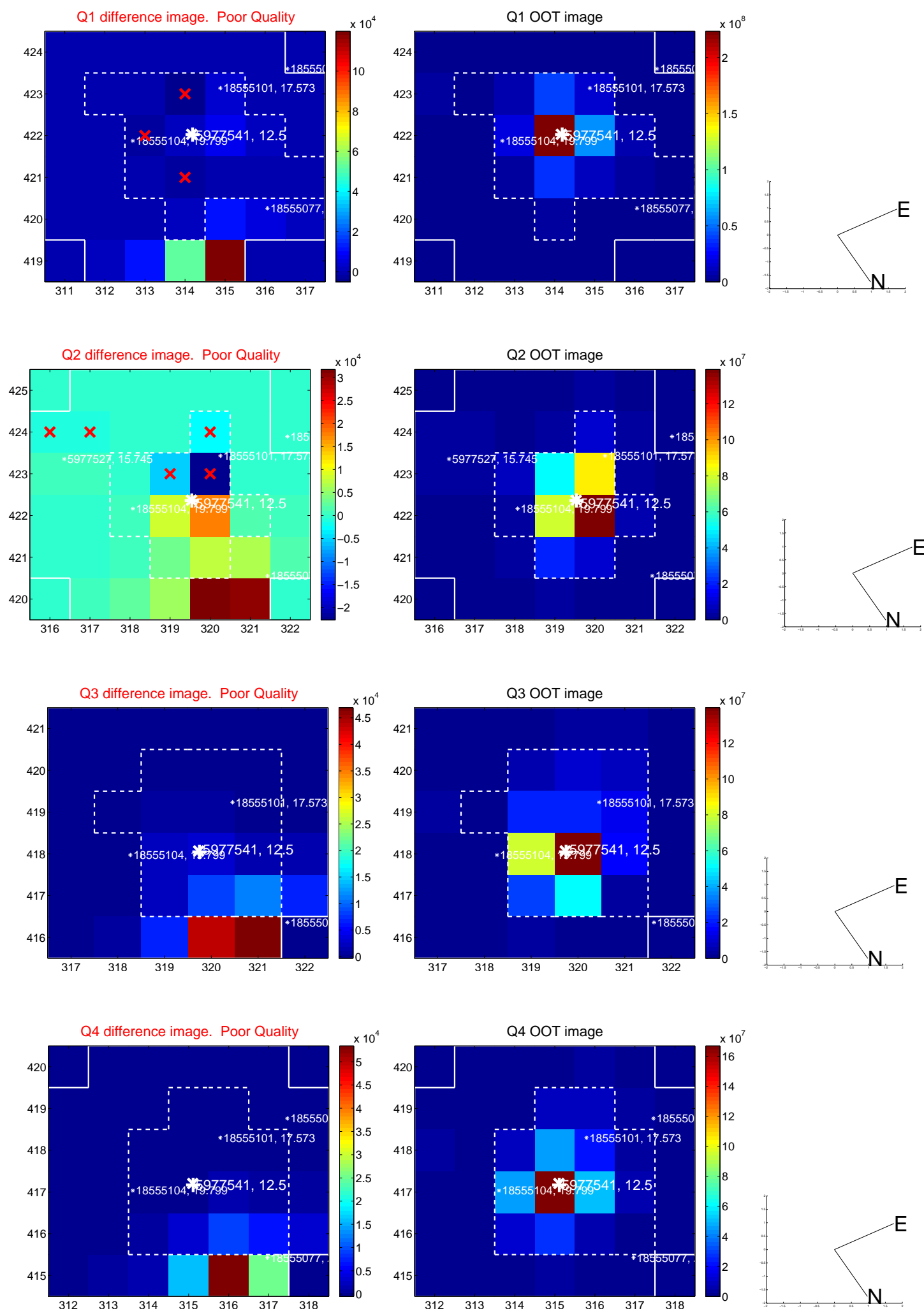
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.616 \pm 0.458	18.81	-1.107 \pm 0.319	8.544 \pm 0.460
PRF-fit source offset from KIC position	8.719 \pm 0.438	19.90	-1.059 \pm 0.318	8.654 \pm 0.440
photometric centroid source offset	7.79 \pm 0.41	19.01	-2.46 \pm 0.33	7.39 \pm 0.42

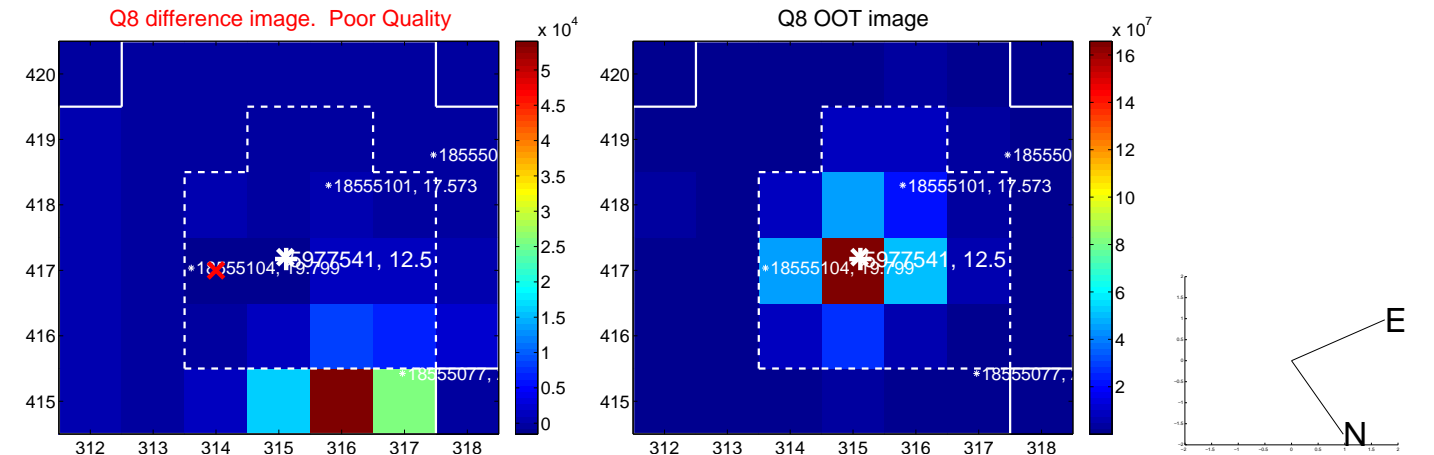
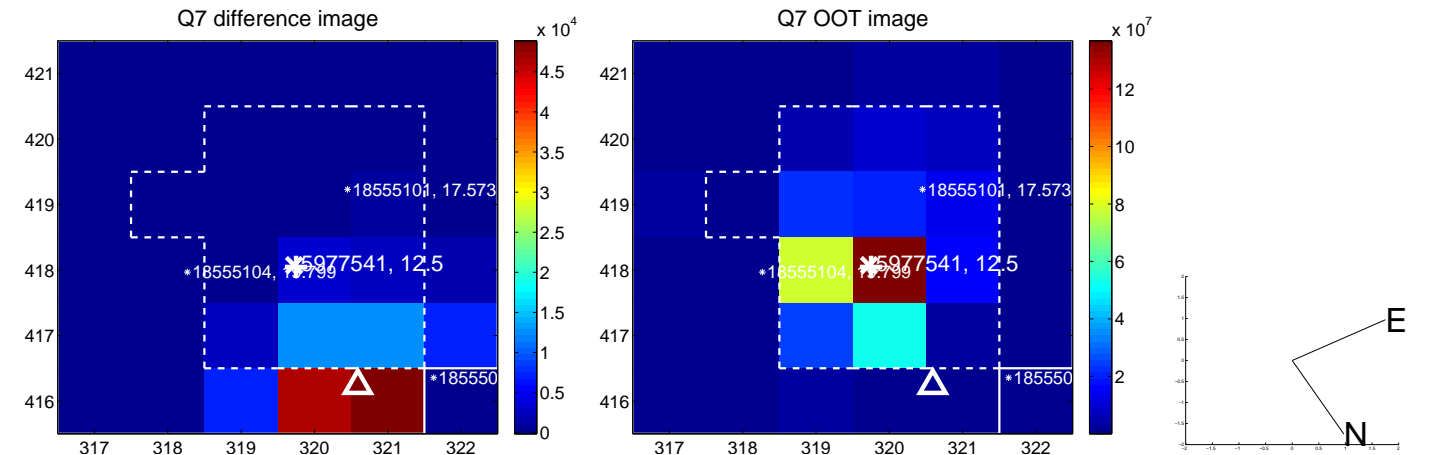
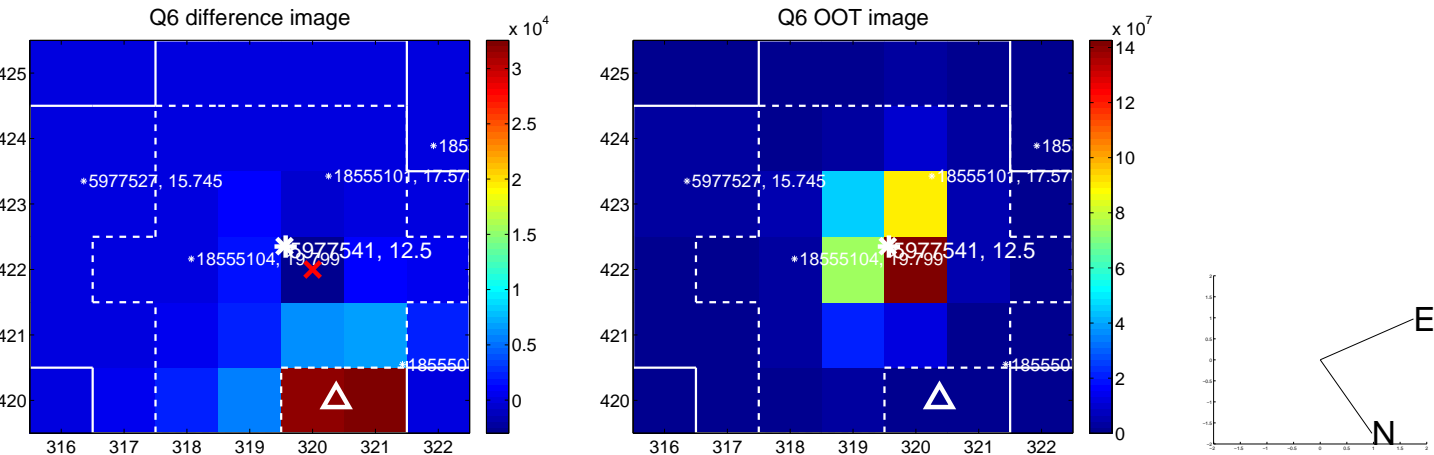
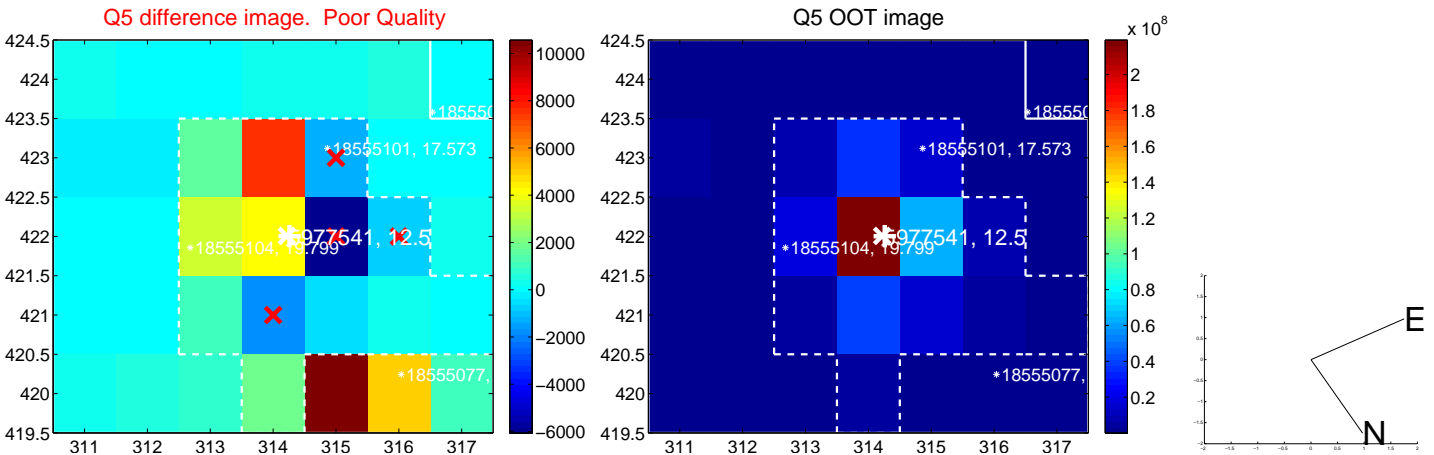


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

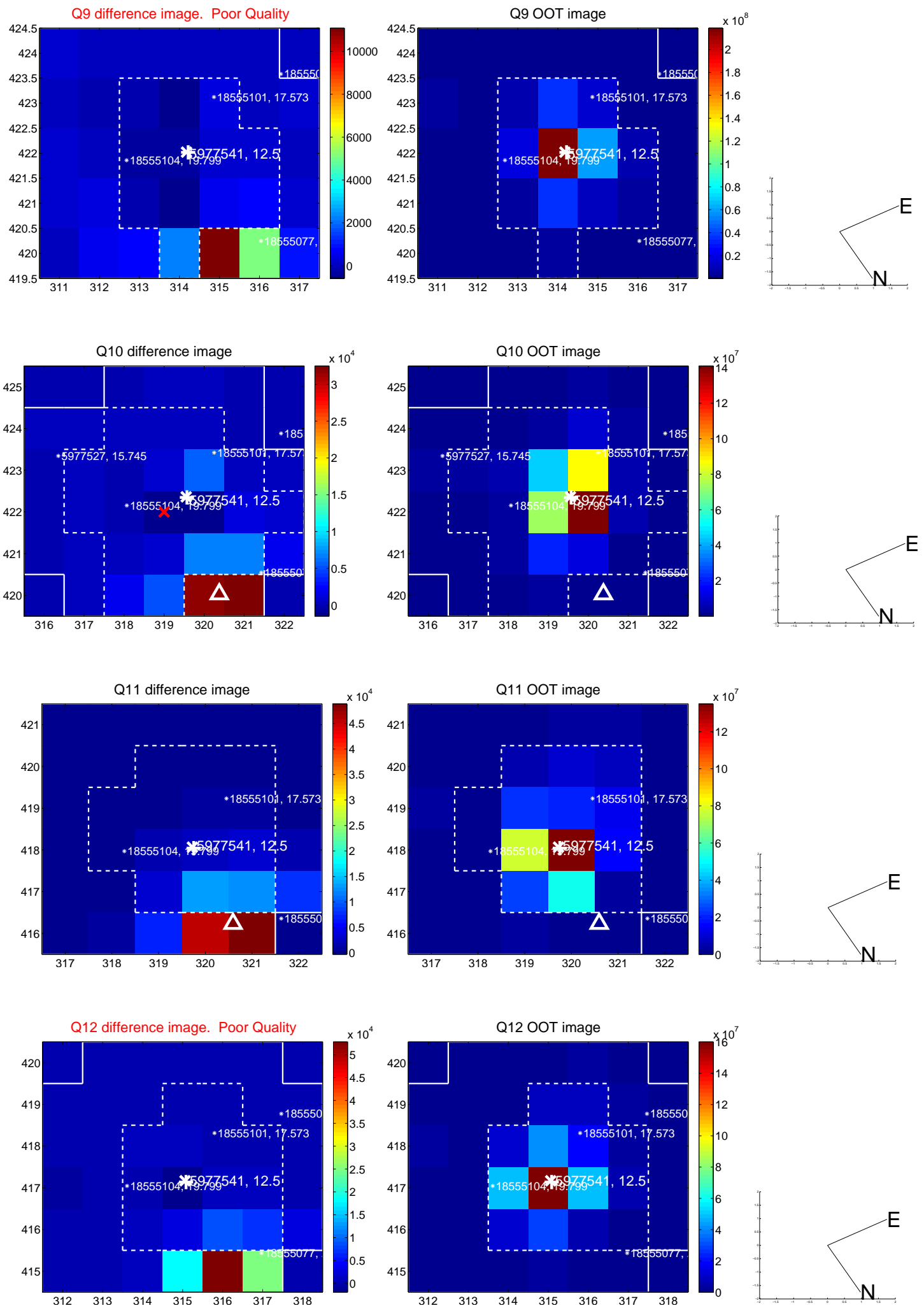
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



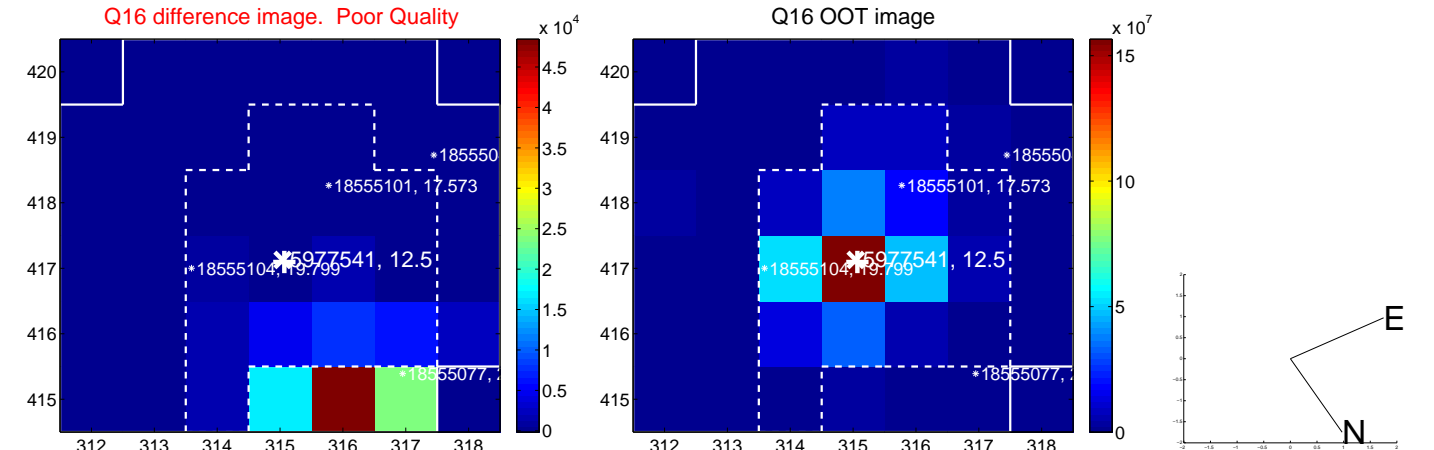
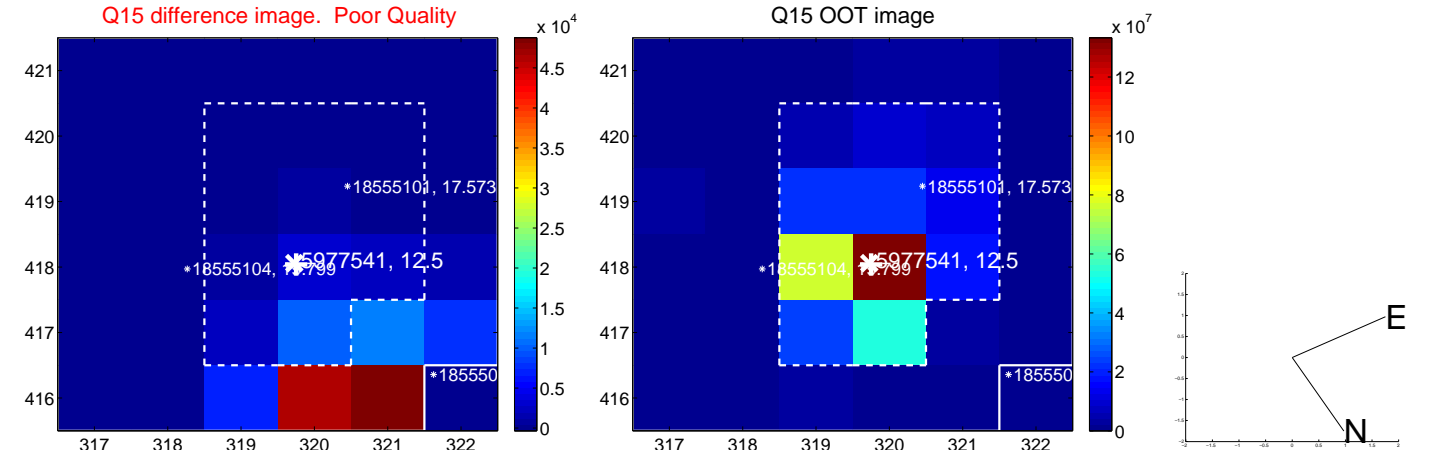
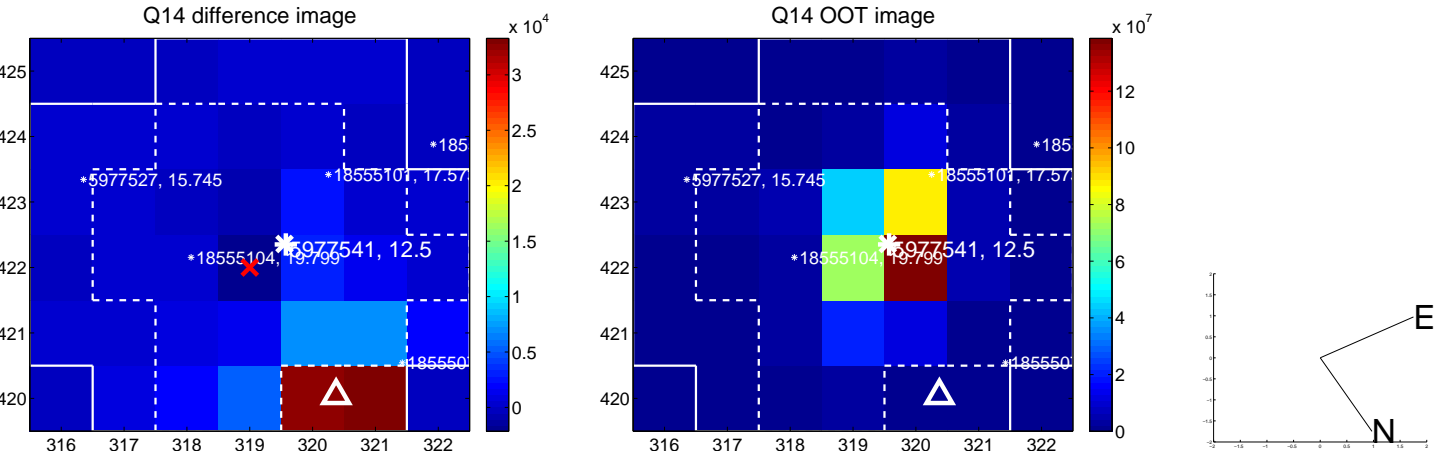
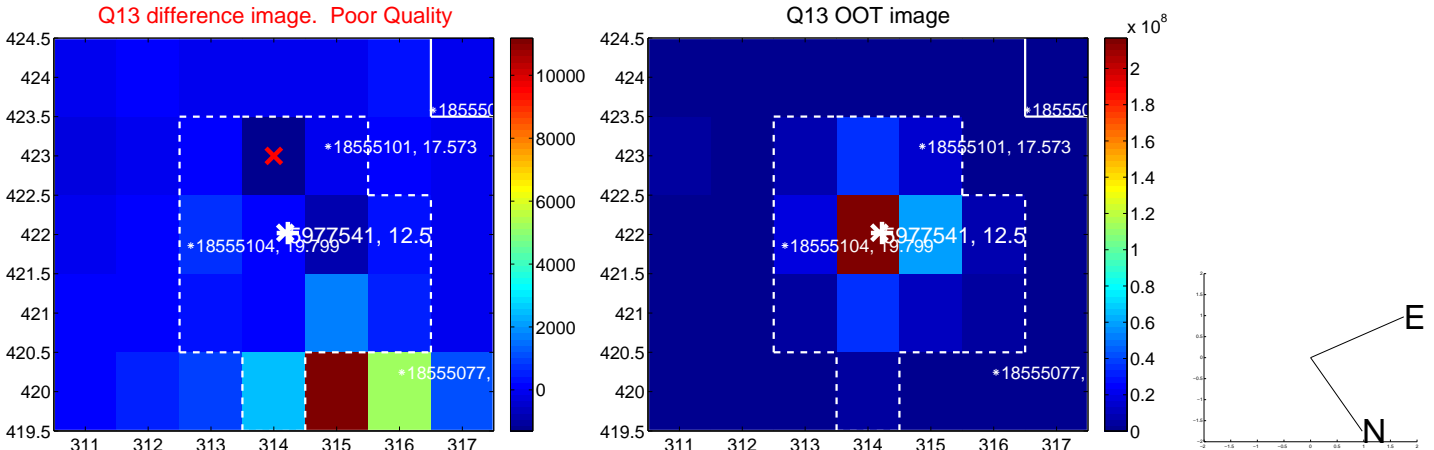
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



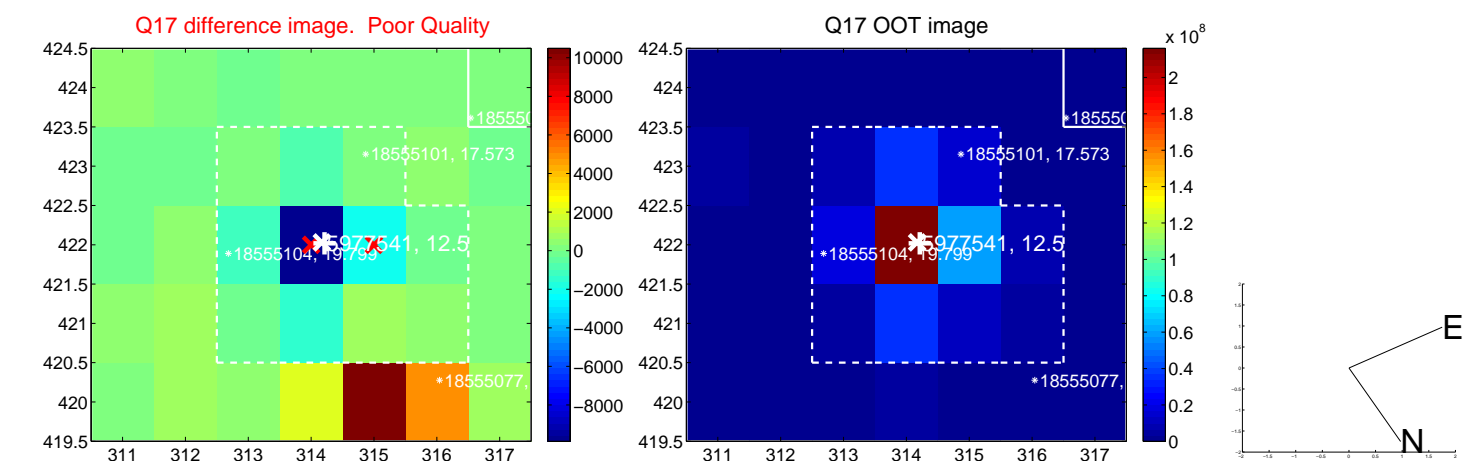
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



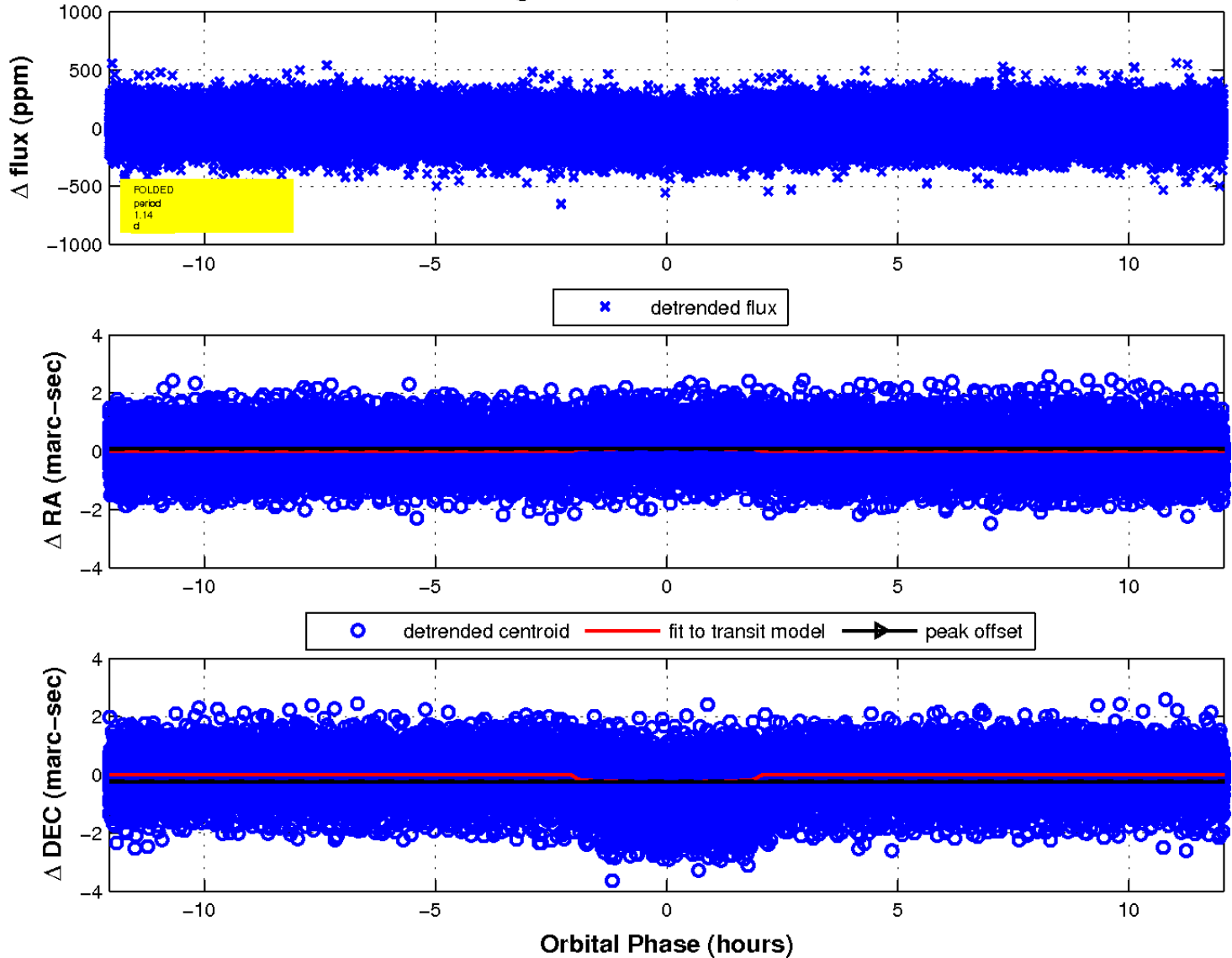
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

