

KIC 005282051

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})
005282051-01	OBS	0502.01	5.910377	135.690161	251.6	4.080	27.6	29.8	0.87	5515	1.82	182.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005282051-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 005282051-01

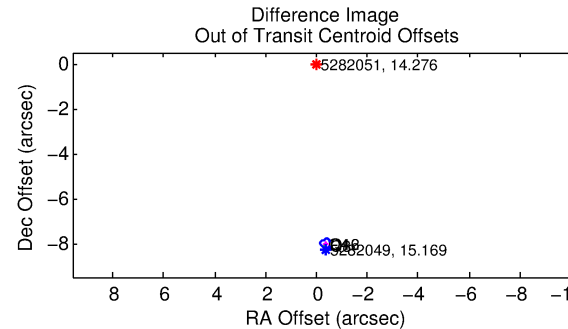
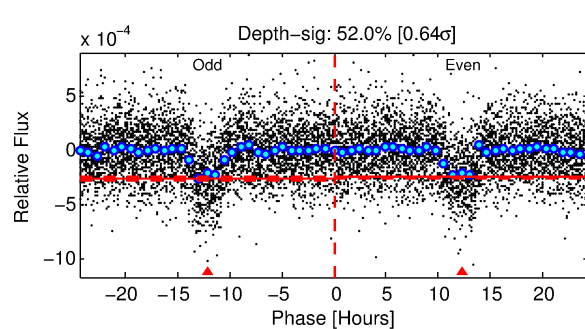
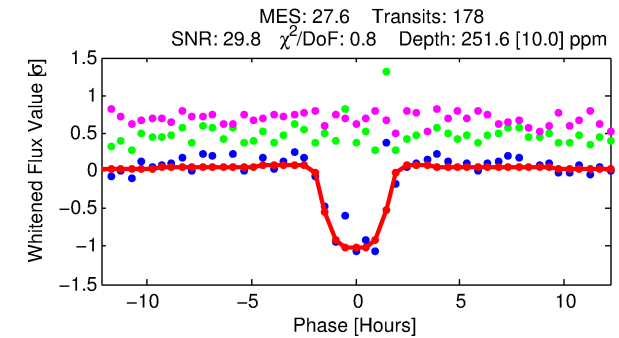
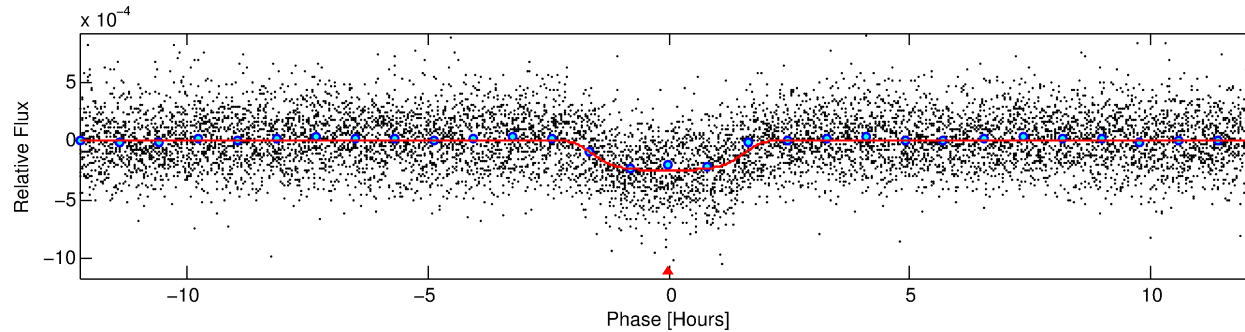
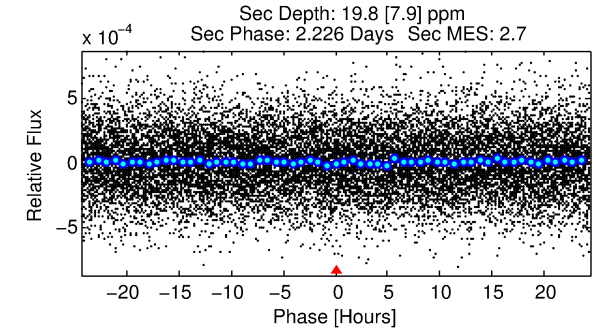
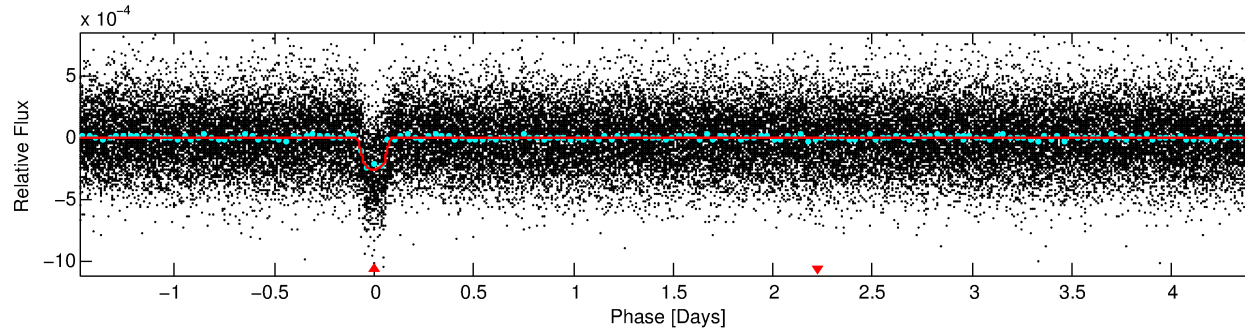
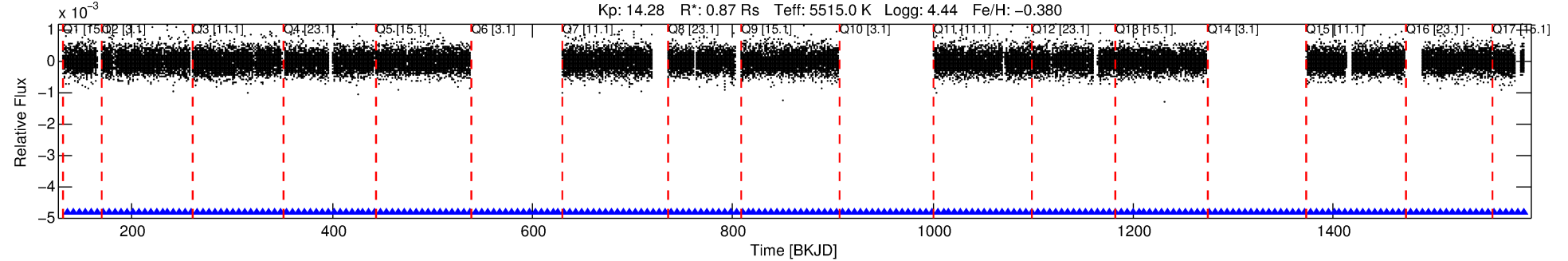
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005282051-01	5282051	1545.01	5282049	1:1	8.3	-2	1	15.17	14.28	73.63	Direct-PRF	0	0.05	0.04

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5282051 Candidate: 1 of 1 Period: 5.910 d
KOI: K00502.01 Corr: 0.924

Kp: 14.28 R*: 0.87 Rs Teff: 5515.0 K Logg: 4.44 Fe/H: -0.380



DV Fit Results:

Period = 5.91038 [0.00002] d
Epoch = 135.6902 [0.0028] BKJD
Rp/R* = 0.0193 [0.0007]
a/R* = 3.69 [0.41]
b = 0.97 [0.01]
Seff = 182.64 [67.60]
Teq = 937 [87] K
Rp = 1.82 [0.43] Re
a = 0.0584 [0.0129] AU
Ag = 11.16 [5.99] [1.70σ]
Teff = 2649 [281] K [5.83σ]

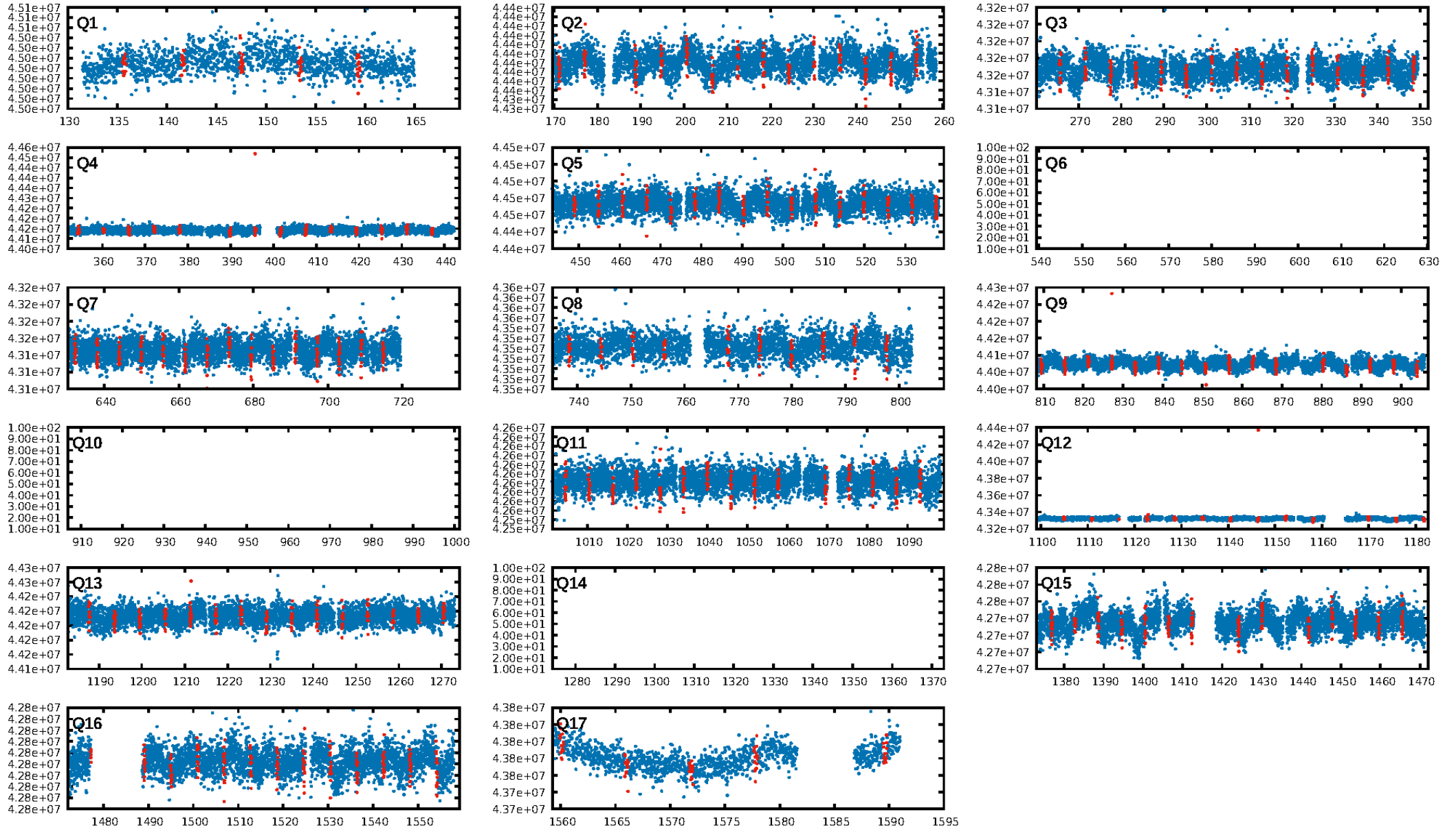
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 40.5%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 5.37e-164
RollingBand-fgt: 1.00 [168/168]
GhostDiagnostic-chr: -0.5248
Centroid-sig: 0.0%
Centroid-so: 86.633 arcsec [132.29σ]
OotOffset-rm: 8.044 arcsec [114.32σ]
KicOffset-rm: 8.232 arcsec [119.50σ]
OotOffset-st: 0/0/4/0 [4]
KicOffset-st: 0/0/4/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [14/14]

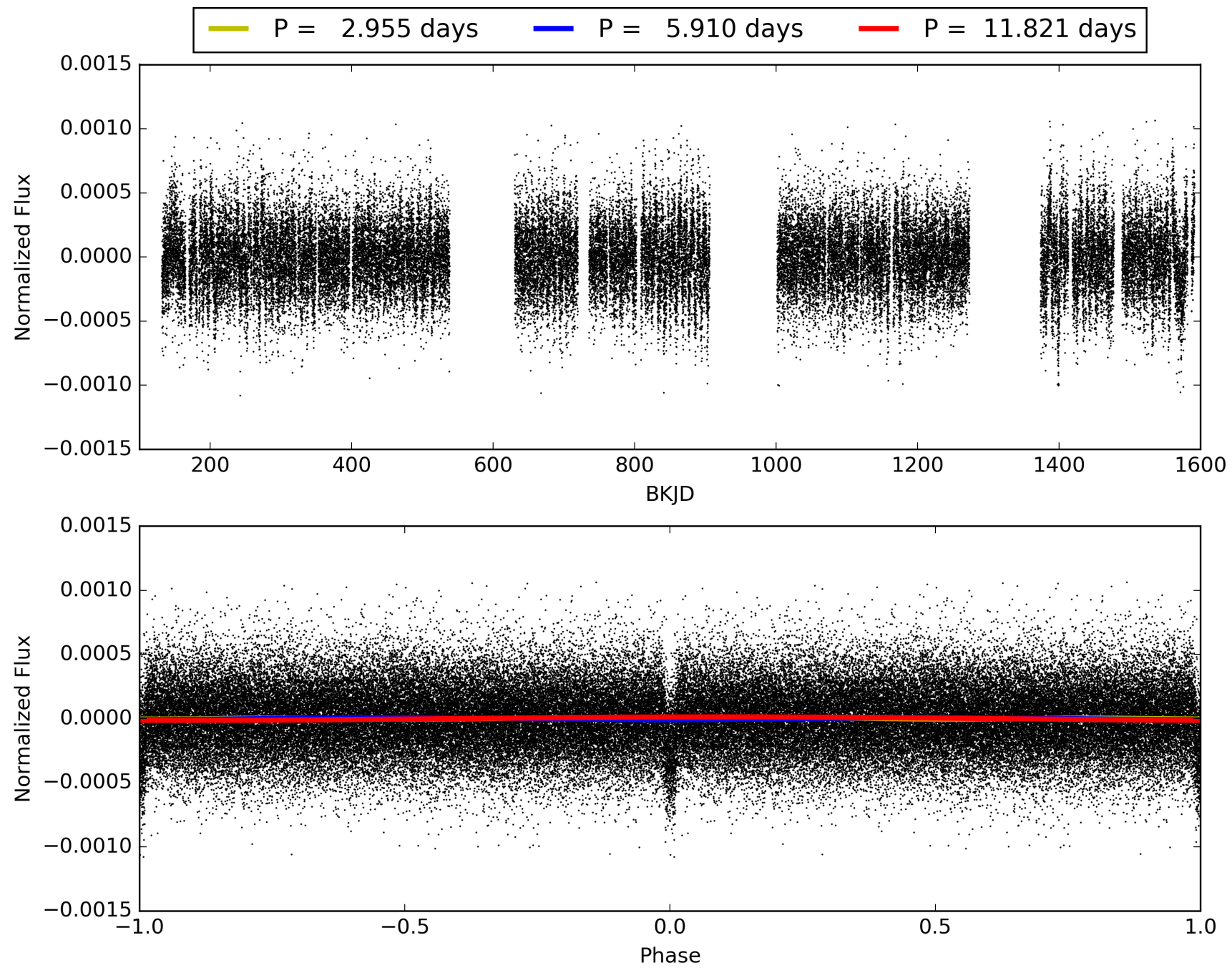
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:15:25 Z

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

TCE 005282051-01, PDC Light Curves

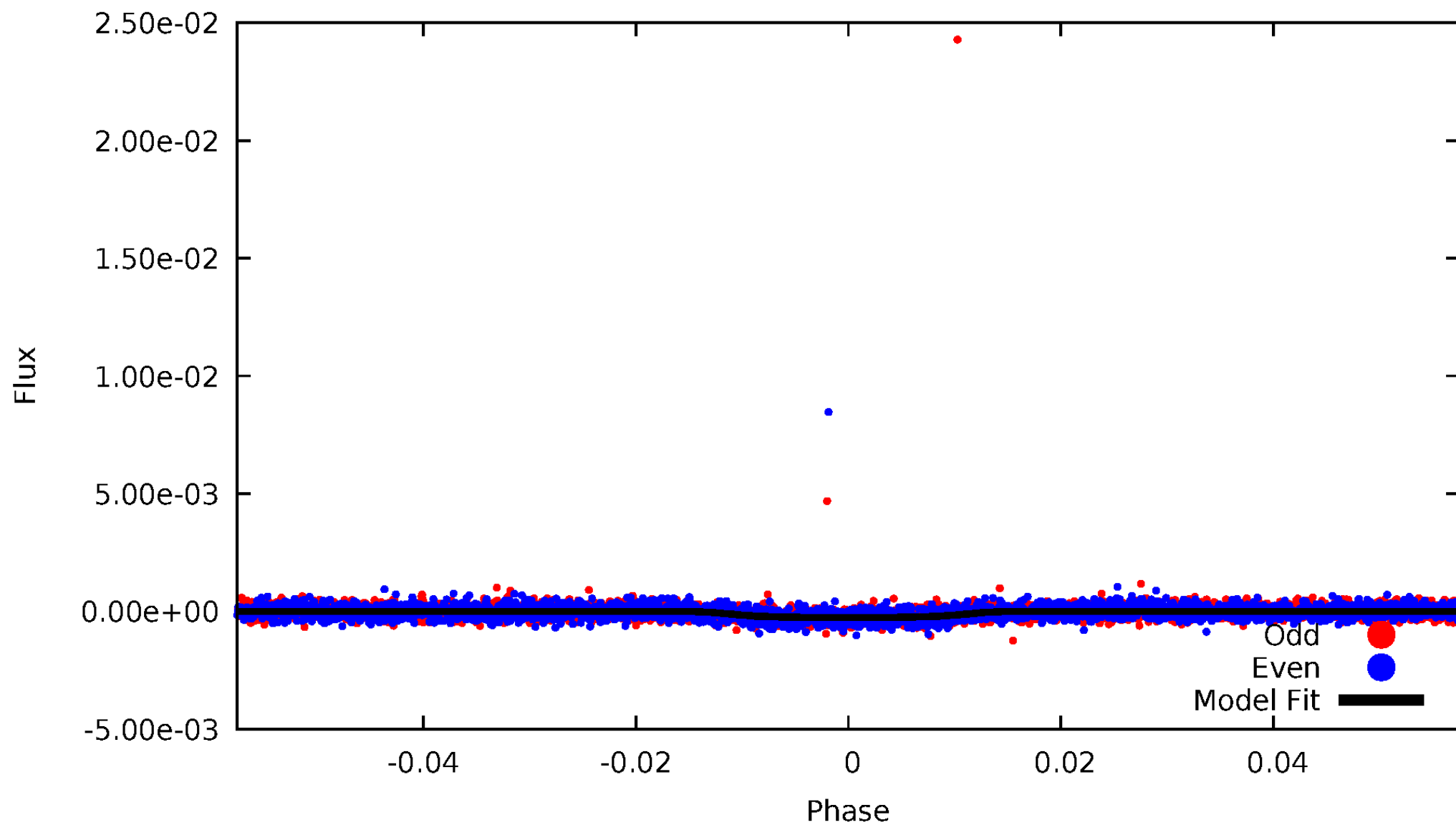


TCE 005282051-01



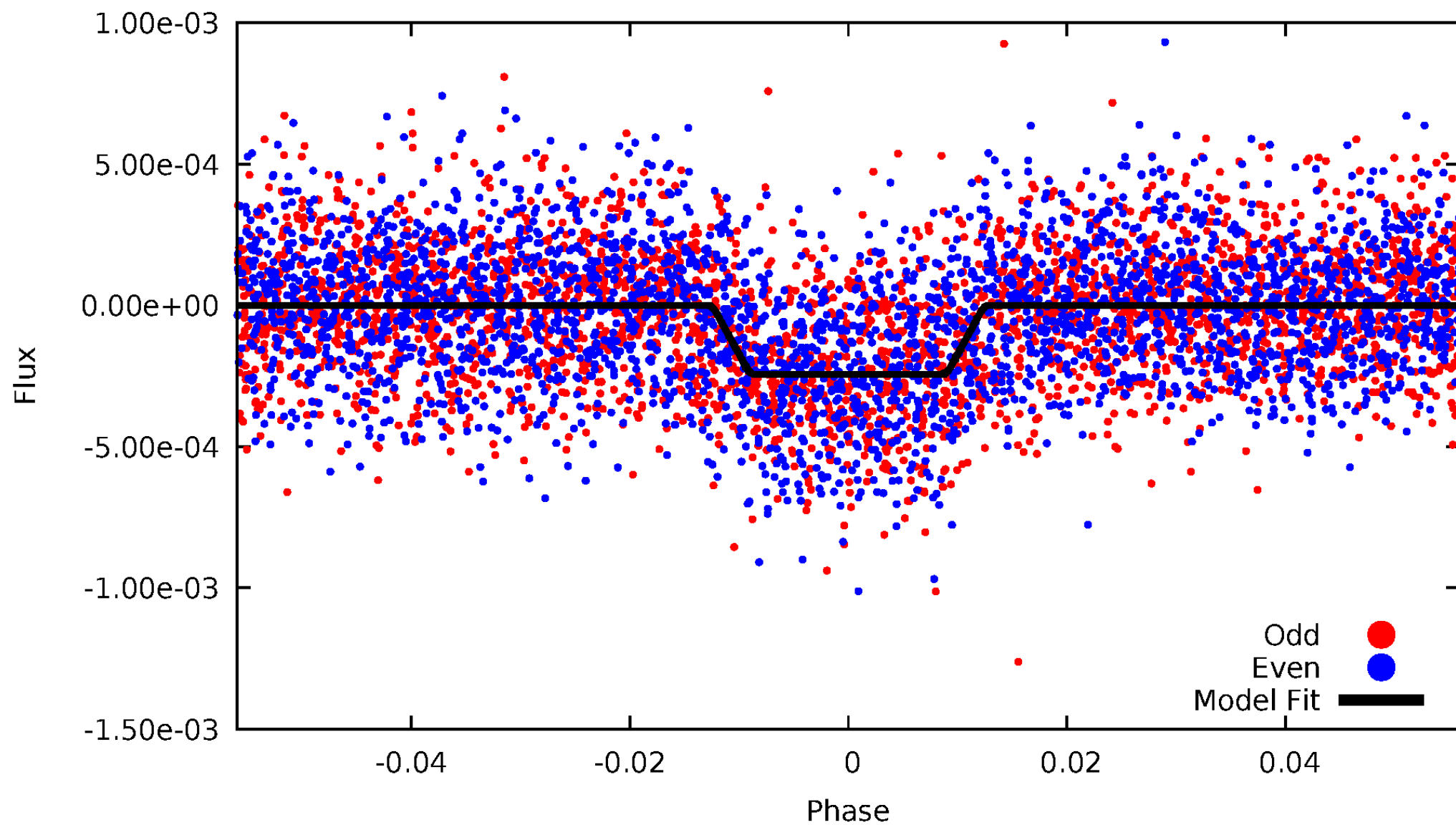
DV Odd/Even

TCE 005282051-01

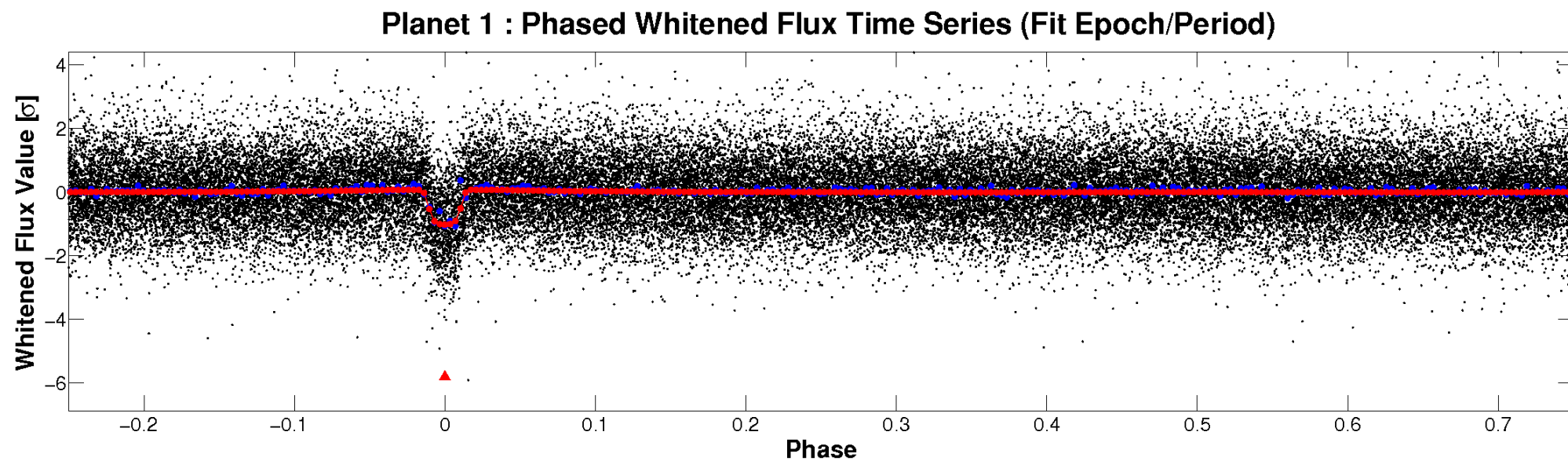
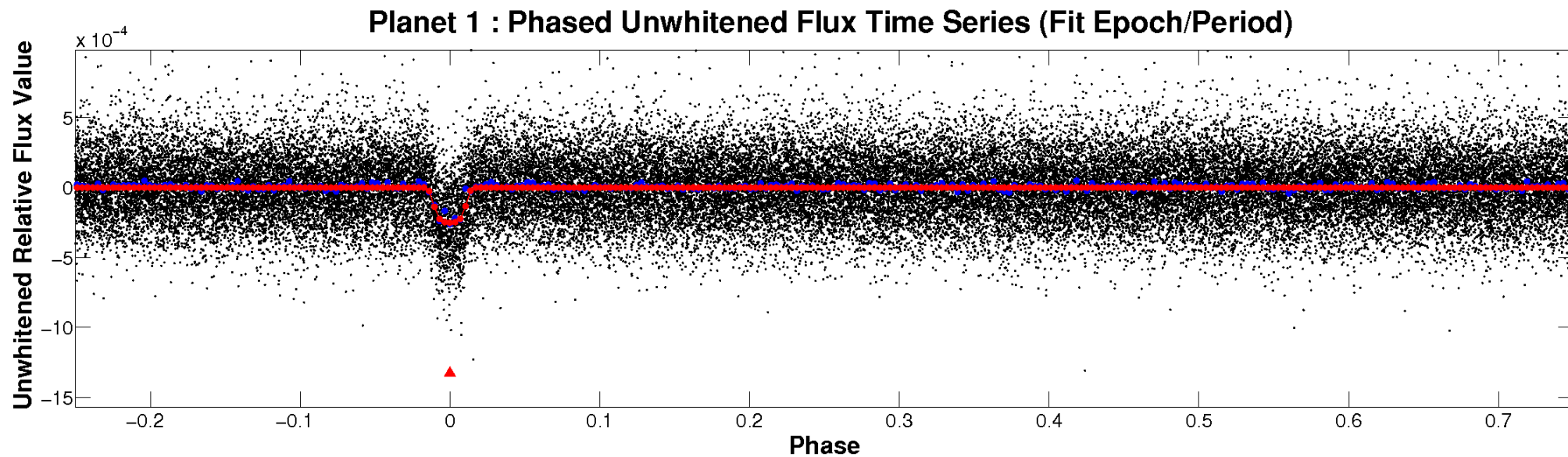


ALT Odd/Even

TCE 005282051-01

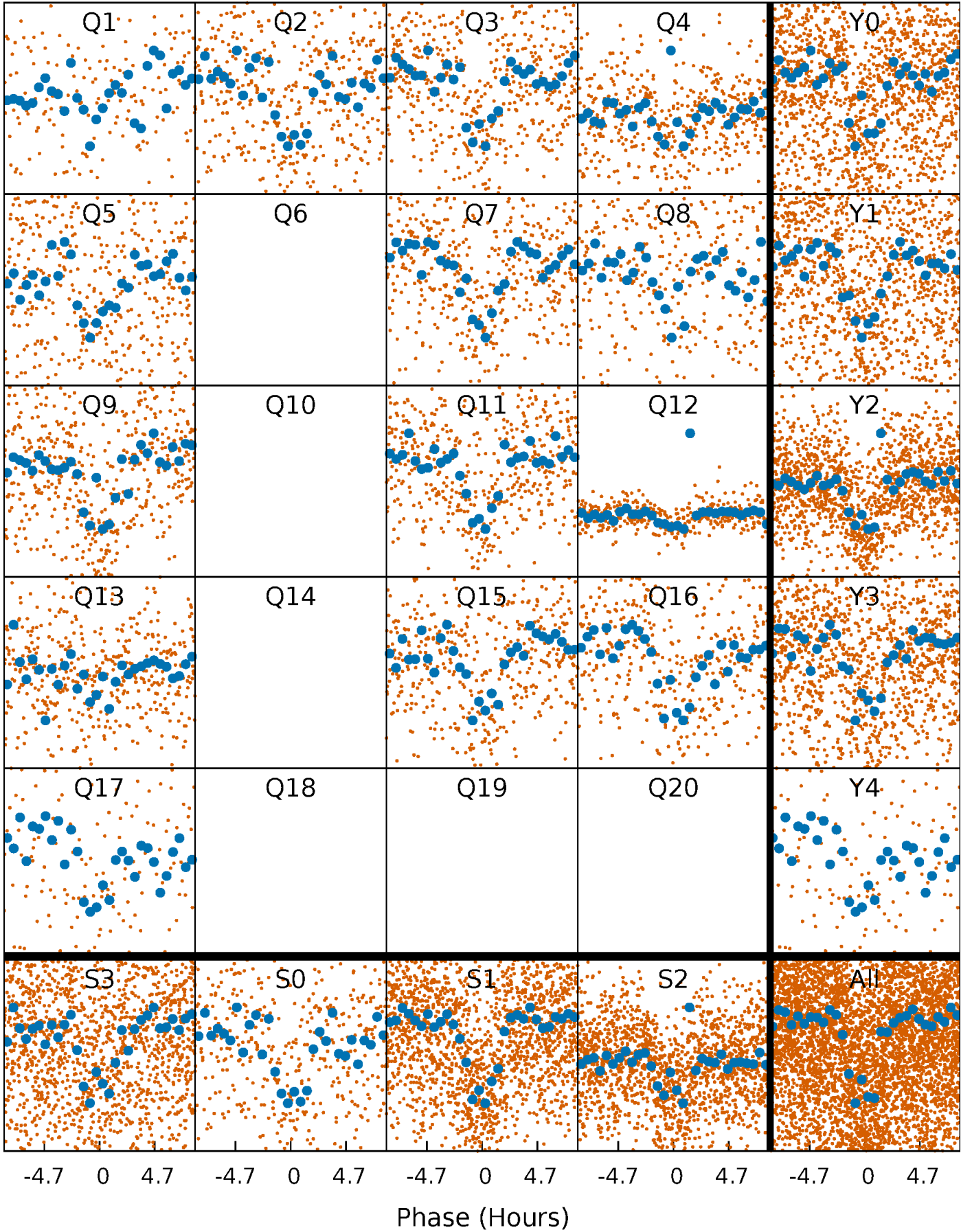


Non-Whitened Vs. Whitened Light Curve



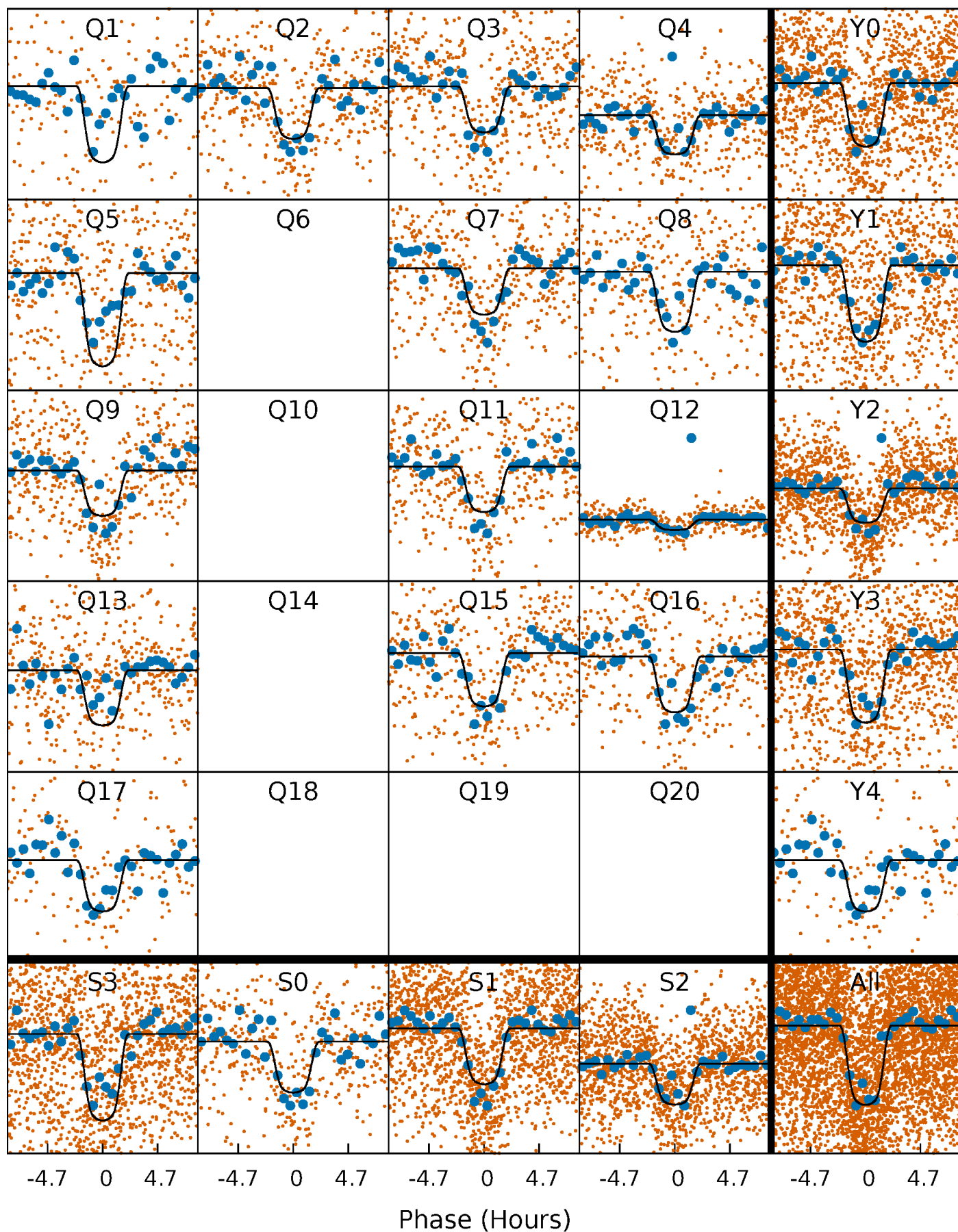
PDC Quarter-Phased Transit Curves

TCE 005282051-01 P= 5.910377 Days $T_0=135.690161$ (BKJD)



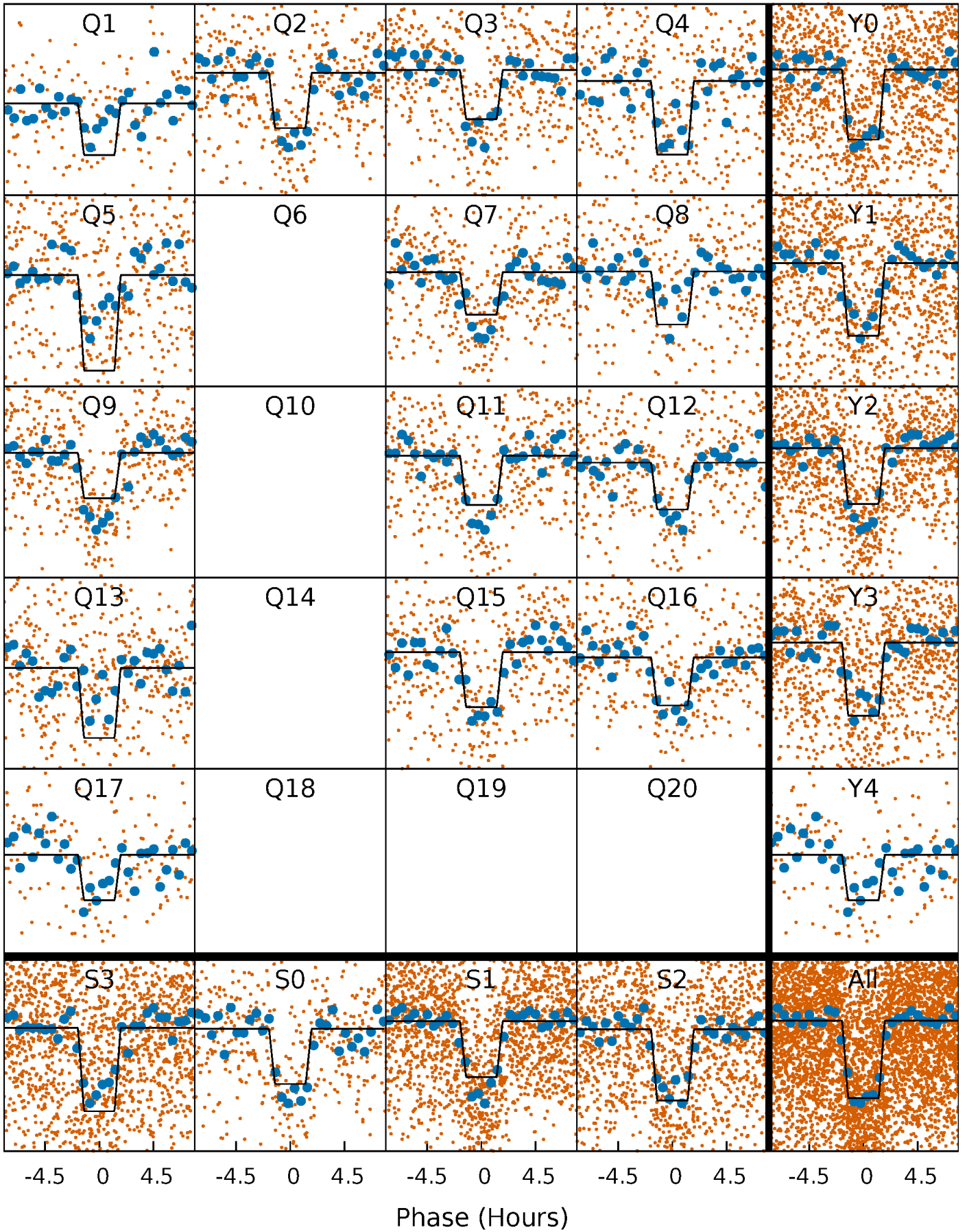
DV Quarter-Phased Transit Curves

TCE 005282051-01 P= 5.910377 Days $T_0=135.690161$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

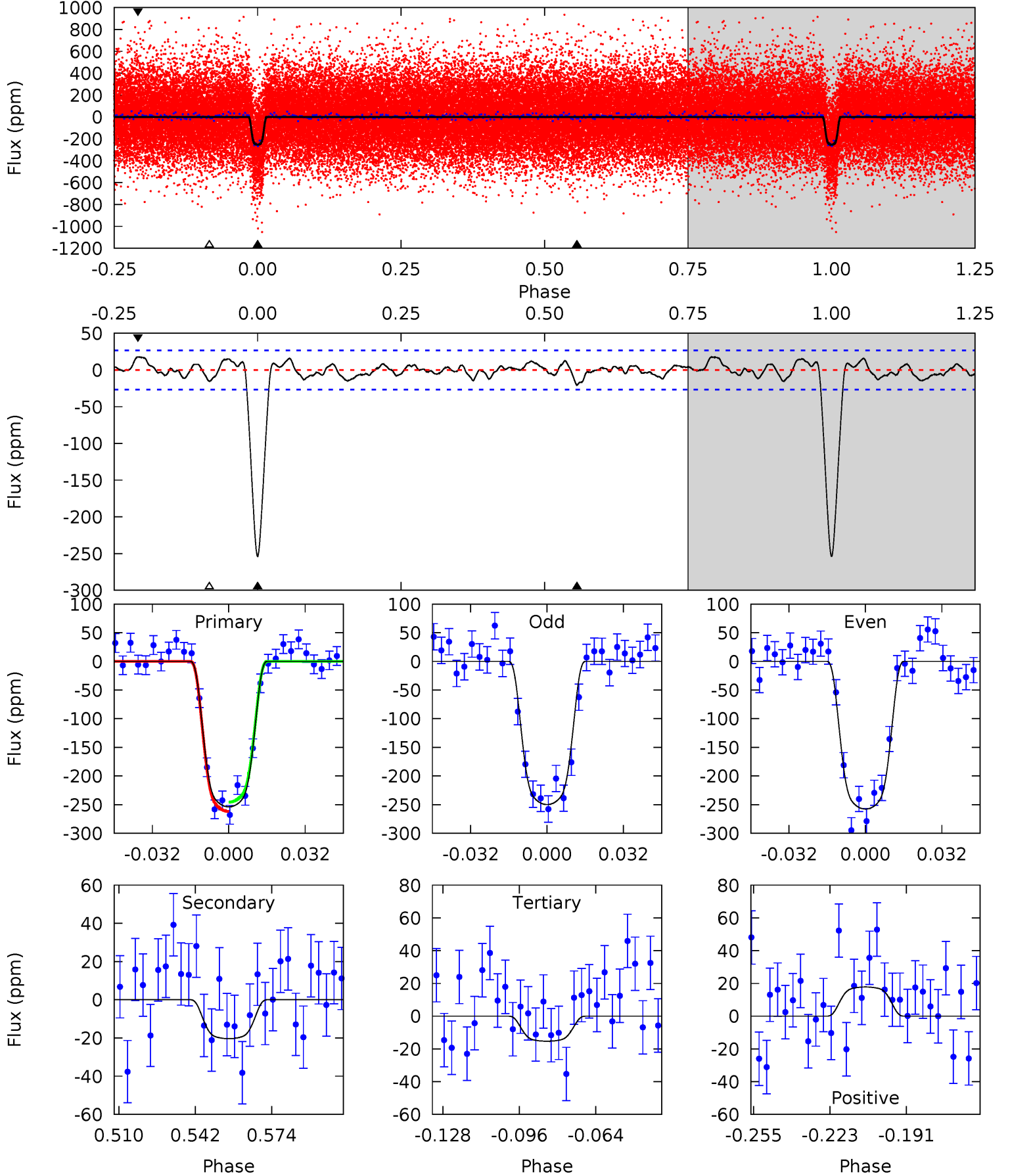
TCE 005282051-01 P= 5.910392 Days $T_0=135.687961$ (BKJD)



DV Model-Shift Uniqueness Test

005282051-01, P = 5.910377 Days, E = 129.779784 Days

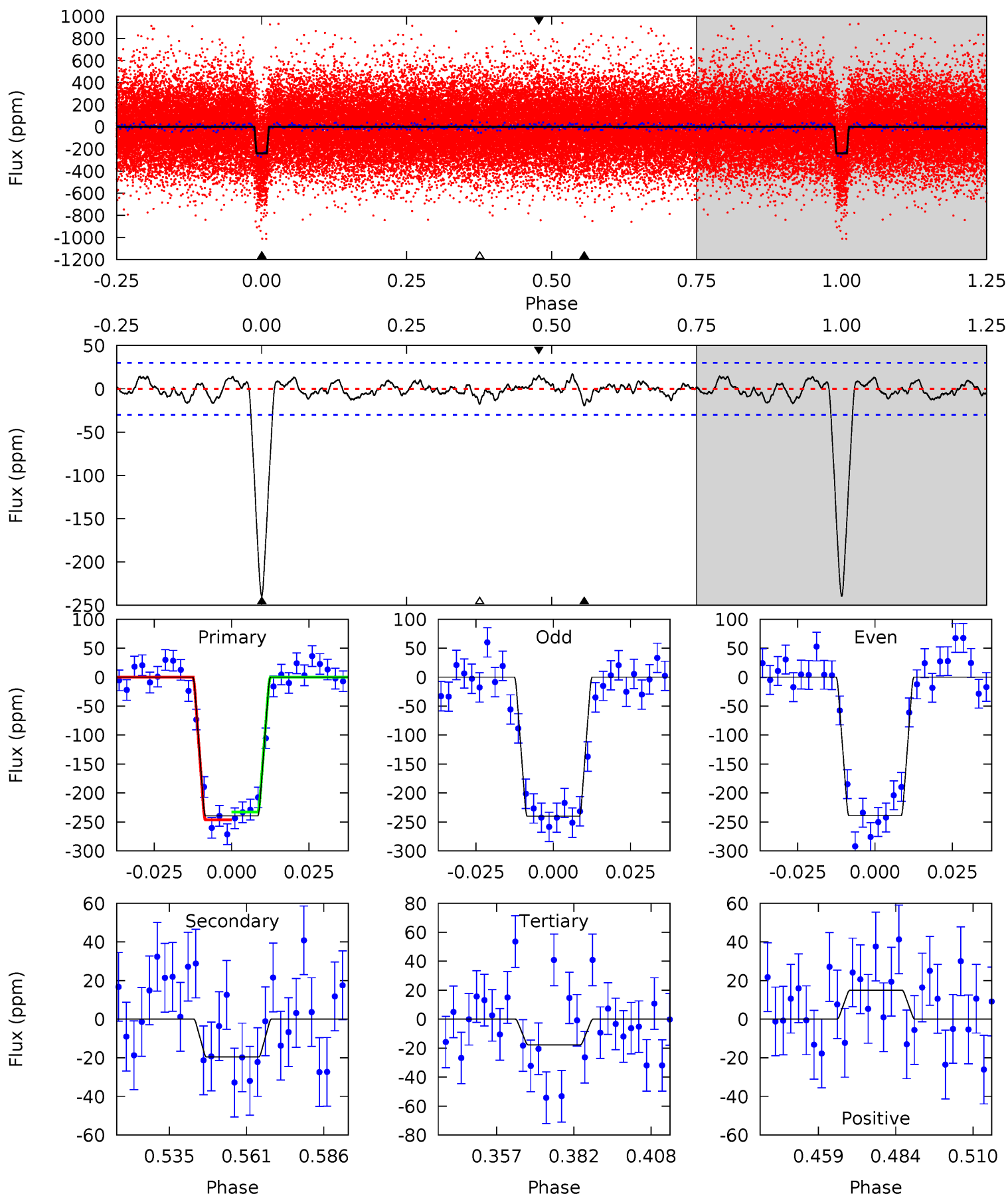
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.8	3.67	2.76	3.21	4.80	2.15	1.24	43.0	42.6	0.91	0.46	0.71	0.89	0.07	1.47



Alt Model-Shift Uniqueness Test

005282051-01, P = 5.910392 Days, E = 129.777569 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.7	3.16	2.86	2.42	4.84	2.23	1.07	35.9	36.3	0.31	0.75	0.08	0.97	0.07	1.09



Stellar Parameters For KIC 005282051

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5515^{+165}_{-165}	$4.443^{+0.136}_{-0.204}$	$-0.380^{+0.350}_{-0.300}$	$0.867^{+0.204}_{-0.136}$	$0.760^{+0.124}_{-0.044}$	$1.643^{+0.968}_{-0.776}$
	+3%/-3%	+3%/-5%	+92%/-79%	+24%/-16%	+16%/-6%	+59%/-47%
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 005282051-01 / KOI 0502.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-20 ± 6	$1.87^{+0.25}_{-0.21}$	1320^{+88}_{-79}	3215^{+143}_{-162}	11^{+5}_{-4}
Alt.	-20 ± 6	$1.51^{+0.22}_{-0.16}$	1320^{+86}_{-79}	3422^{+185}_{-214}	16^{+7}_{-6}

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 $A_{\text{obs}} \gg 1.0$

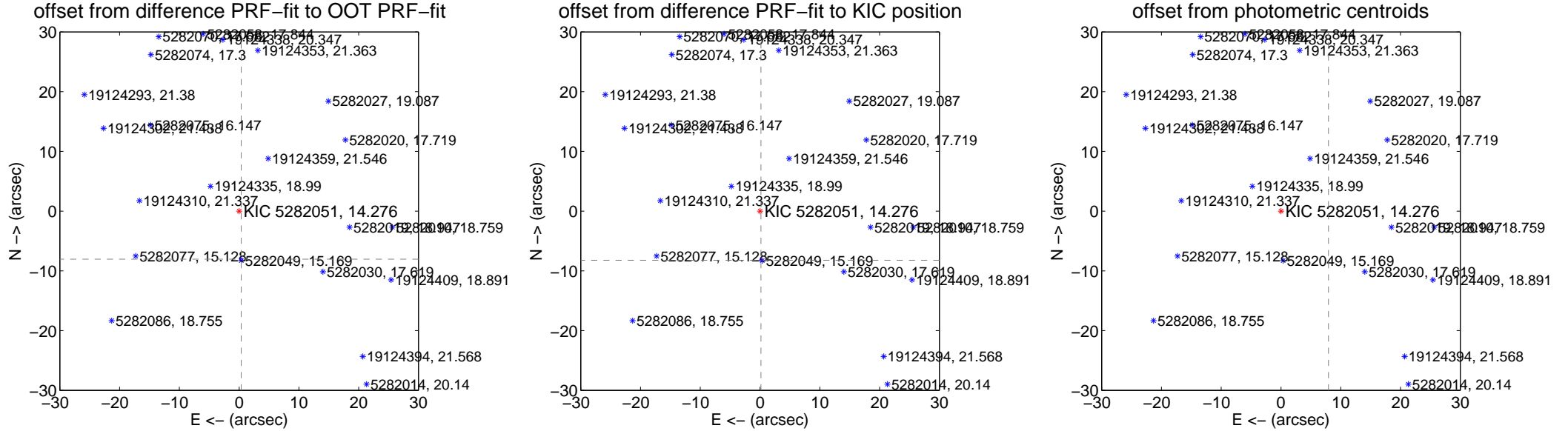
DV Centroid Data

Supplemental centroid analysis for 005282051-01. Kepler magnitude: 14.28. Transit SNR 29.81

There are 4 quarters with good PRF difference image offsets

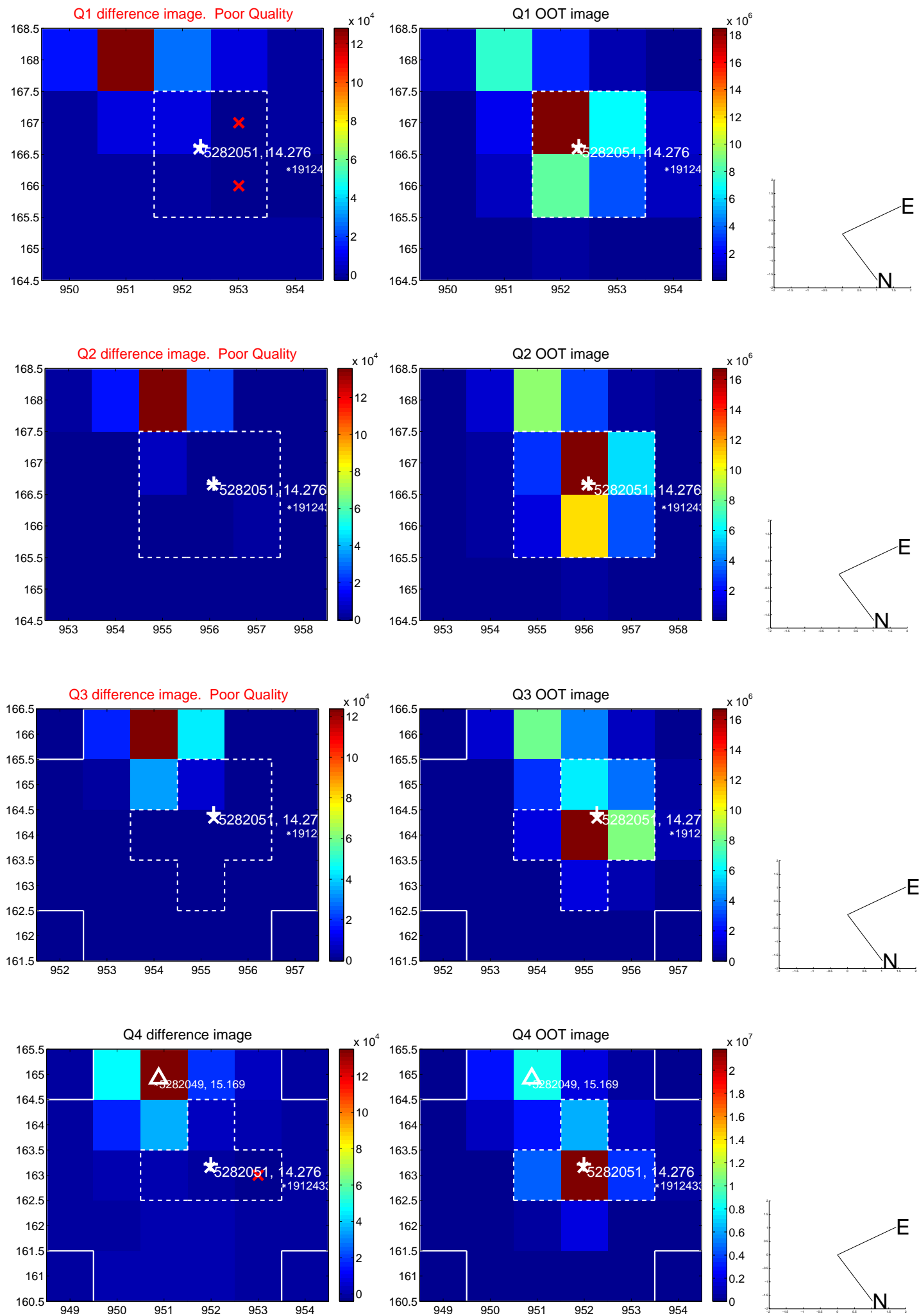
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.044 ± 0.070	114.32	-0.352 ± 0.070	-8.036 ± 0.070
PRF-fit source offset from KIC position	8.232 ± 0.069	119.50	-0.145 ± 0.068	-8.231 ± 0.069
photometric centroid source offset	86.63 ± 0.65	132.29	-7.94 ± 0.35	-86.27 ± 0.66

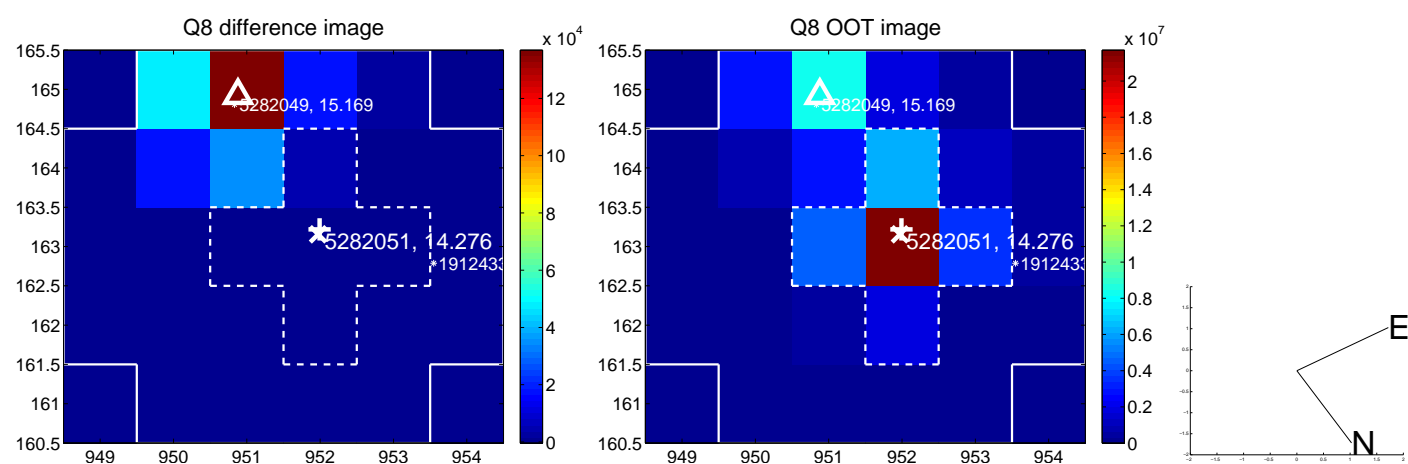
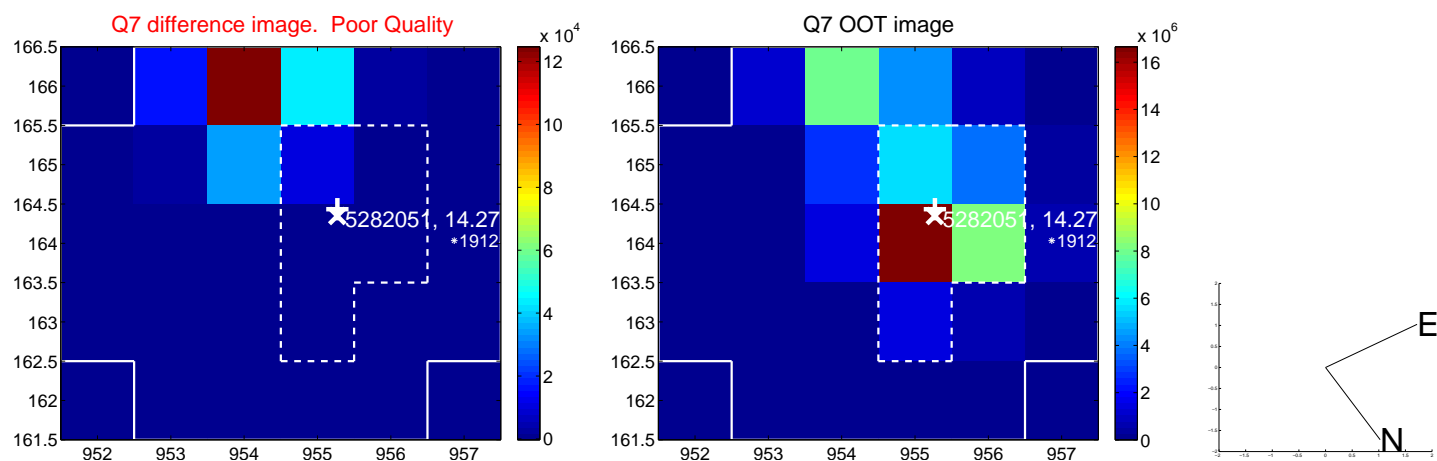
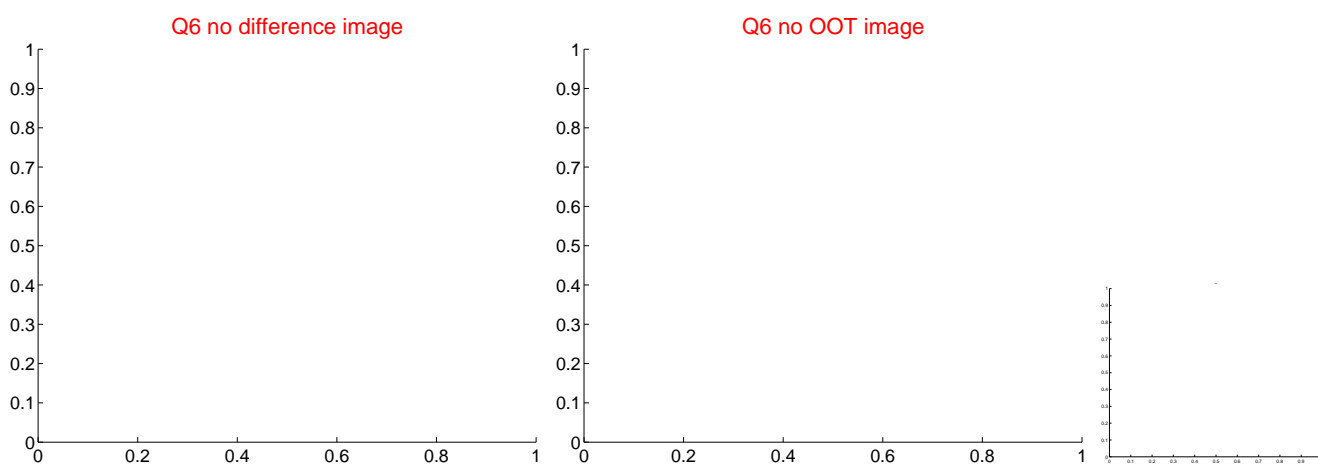
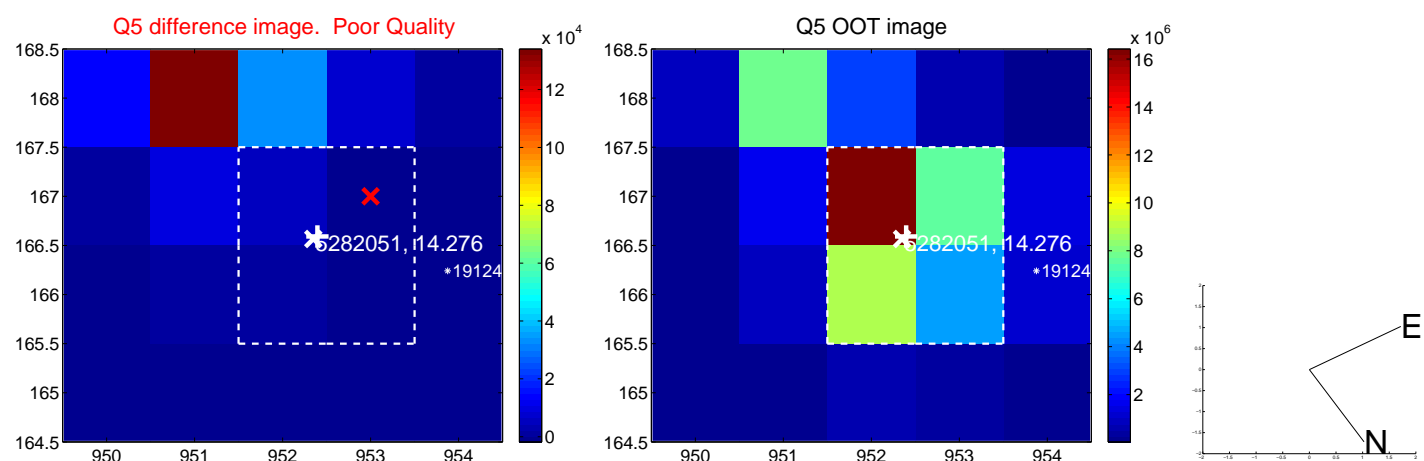


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

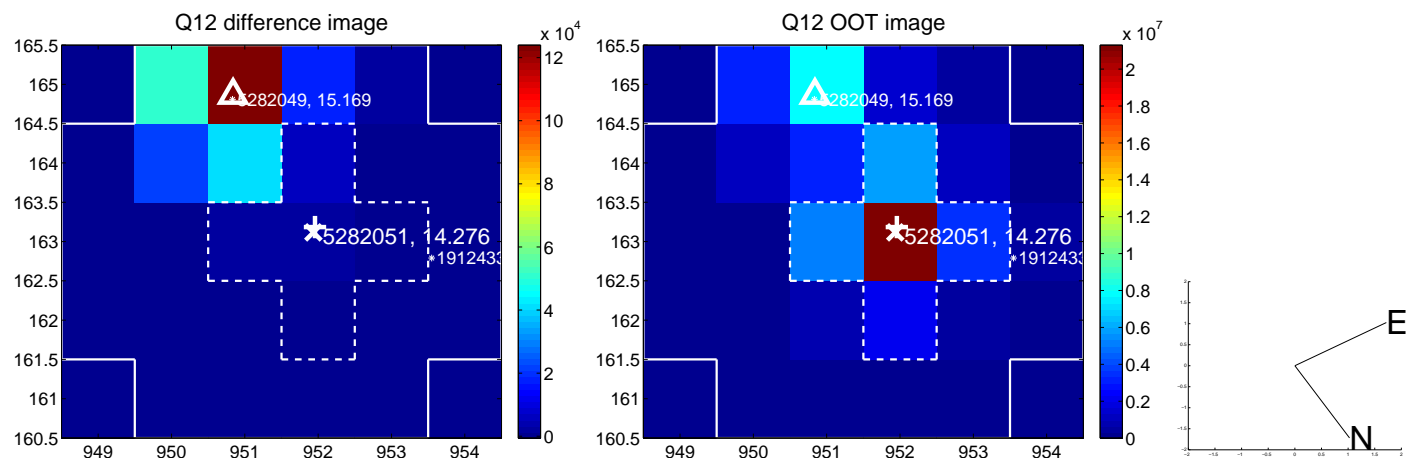
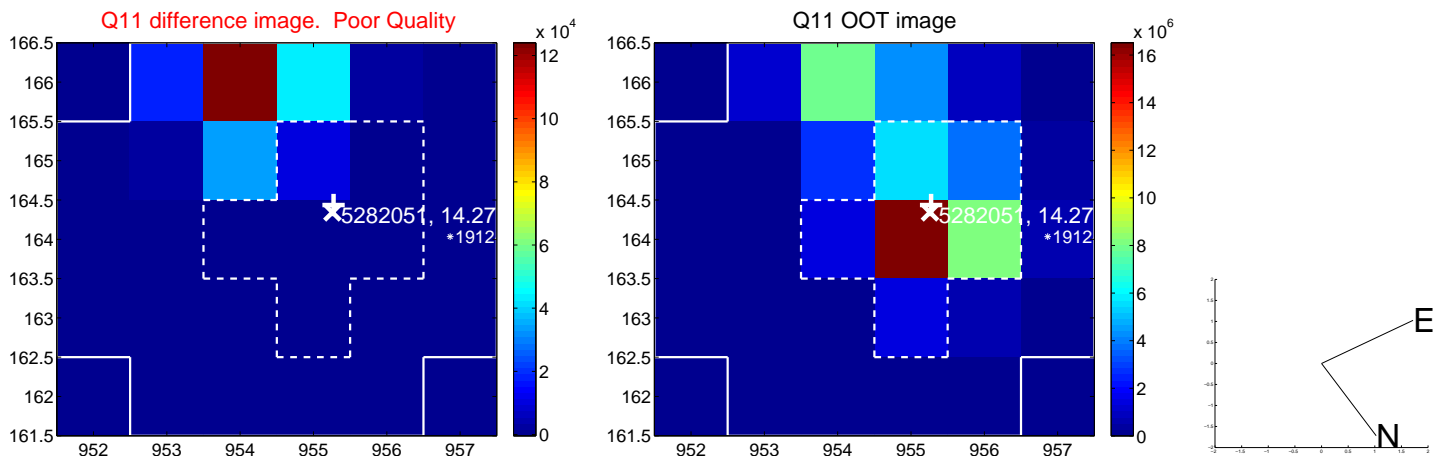
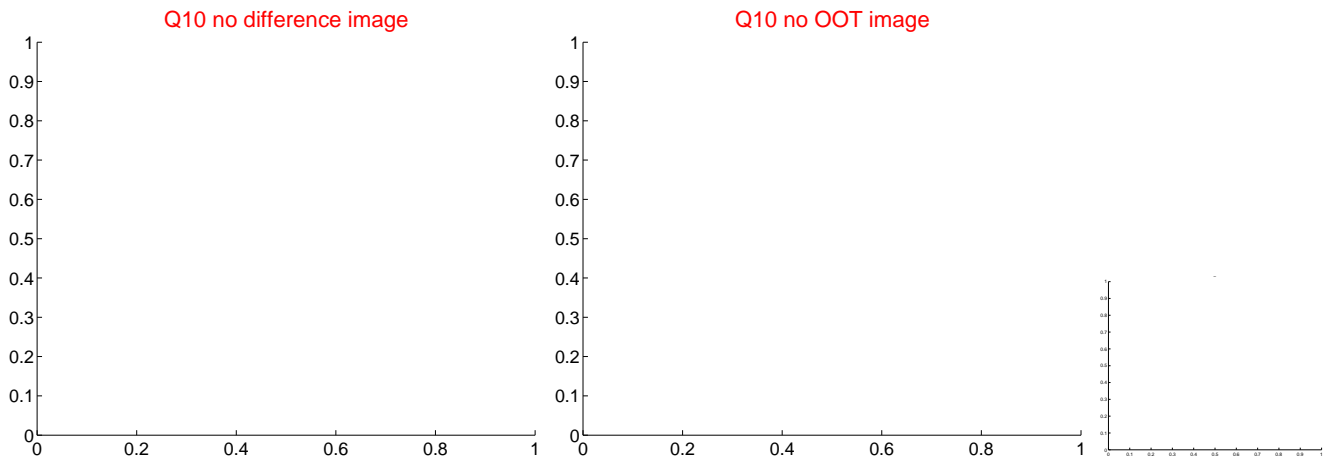
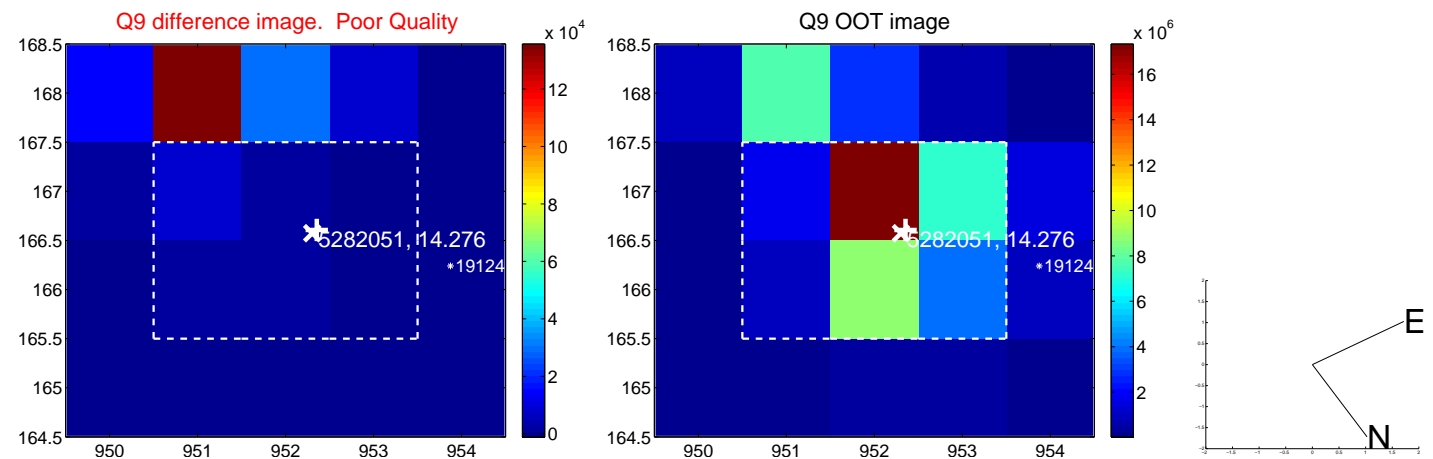
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



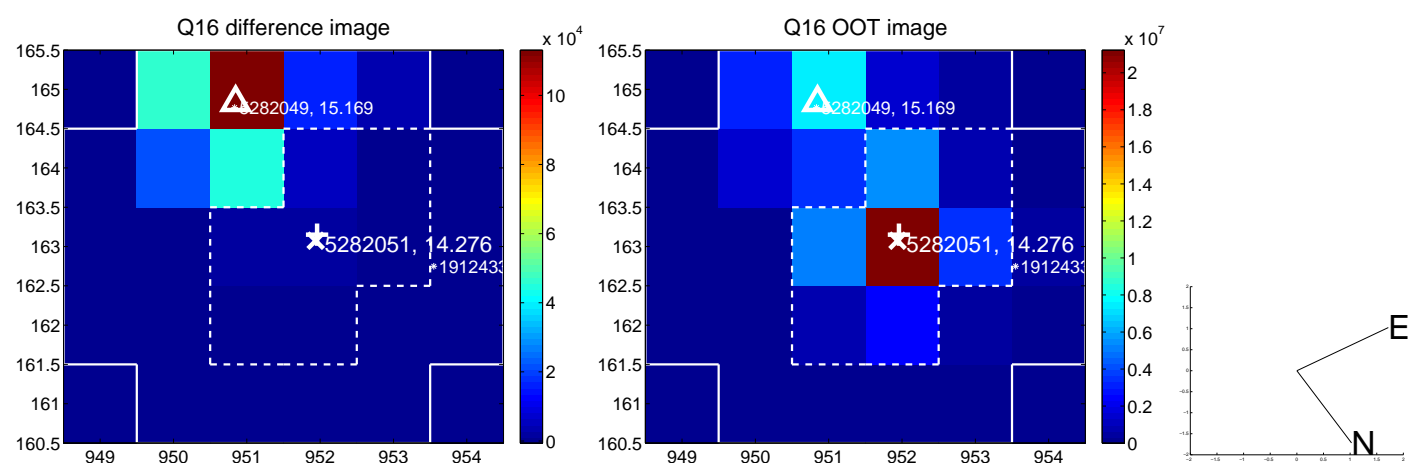
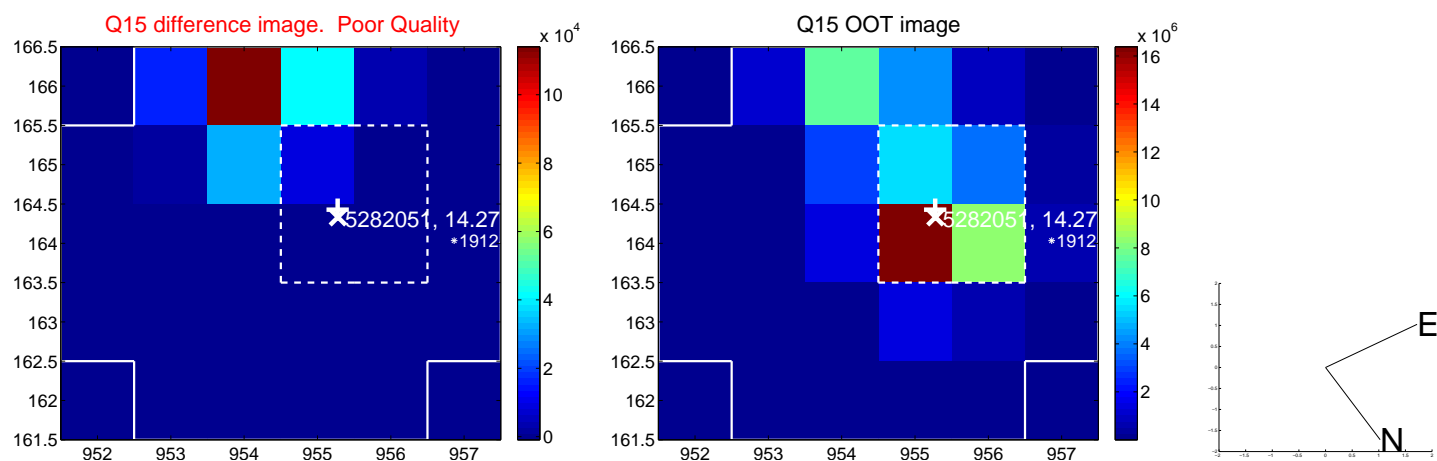
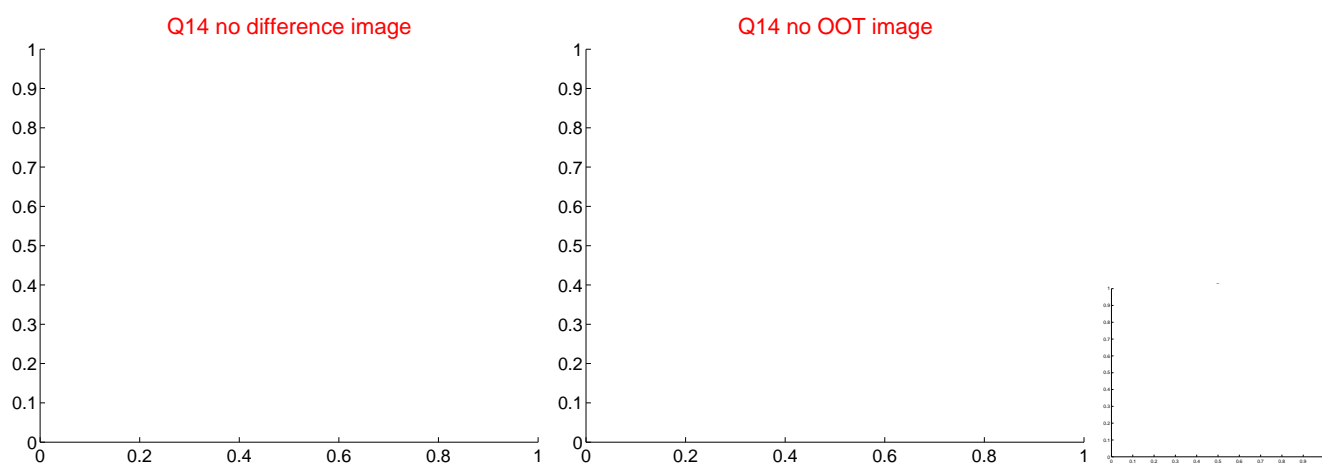
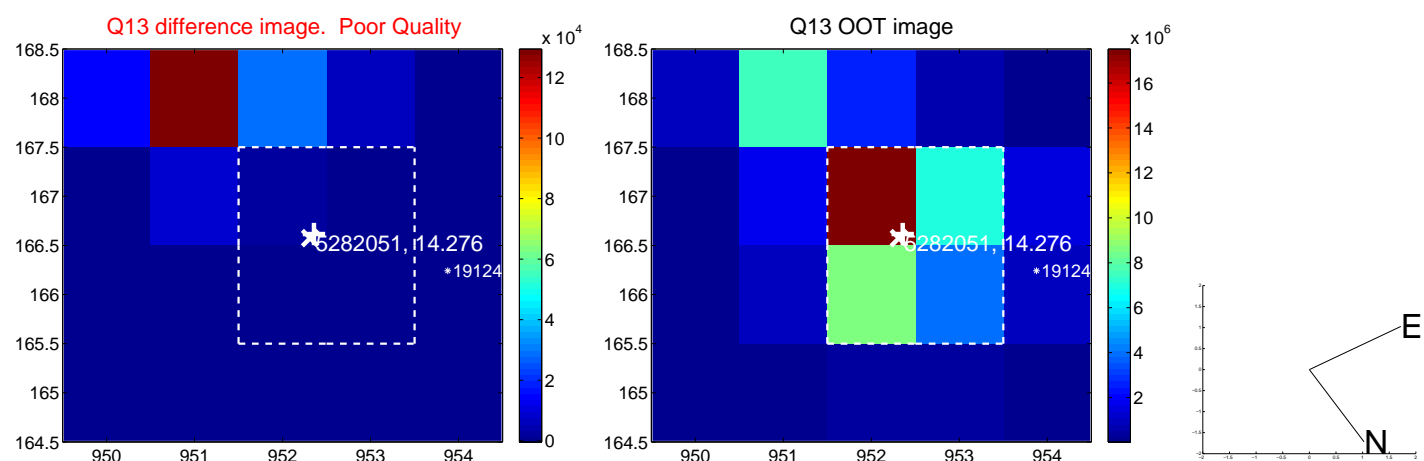
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



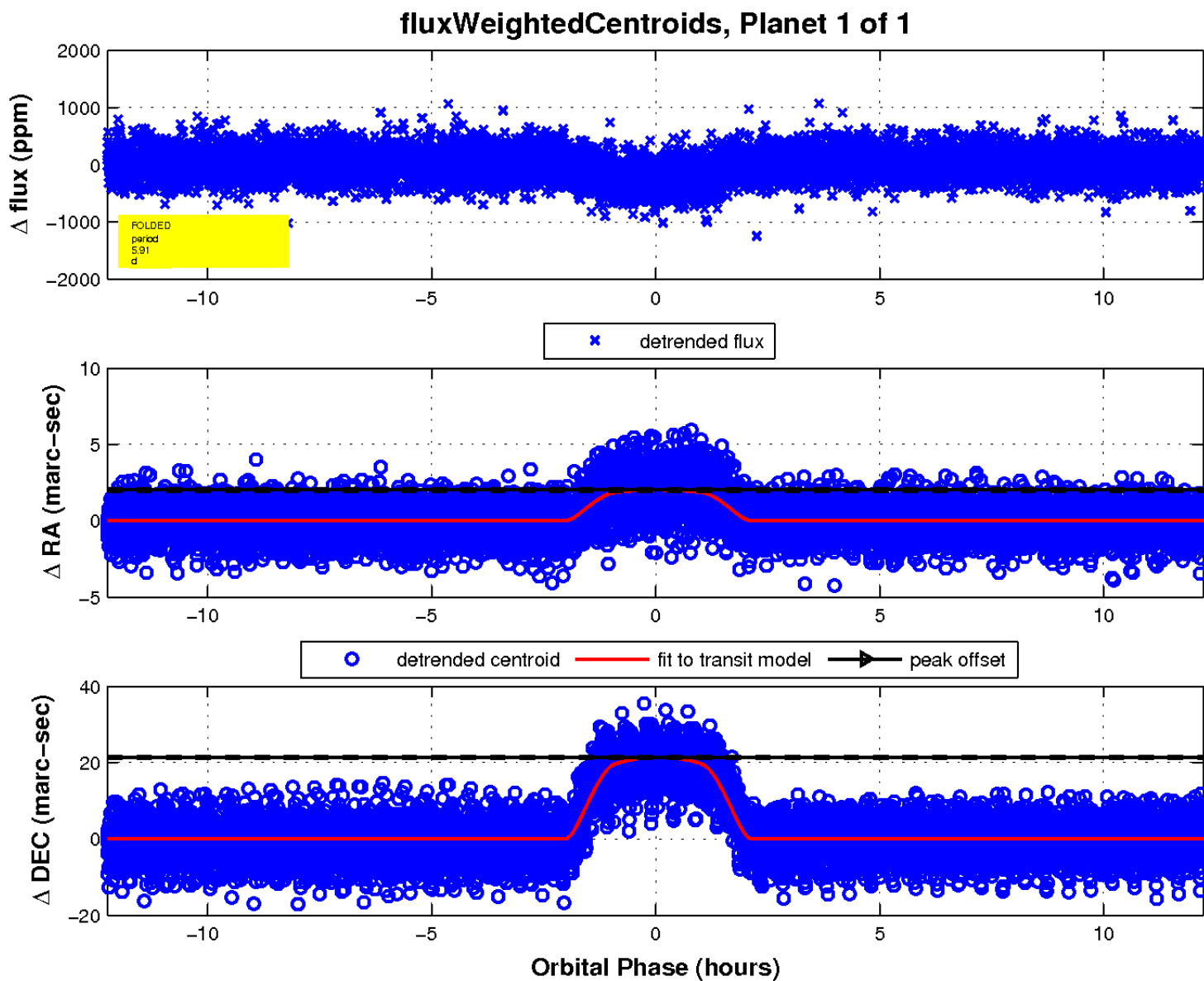
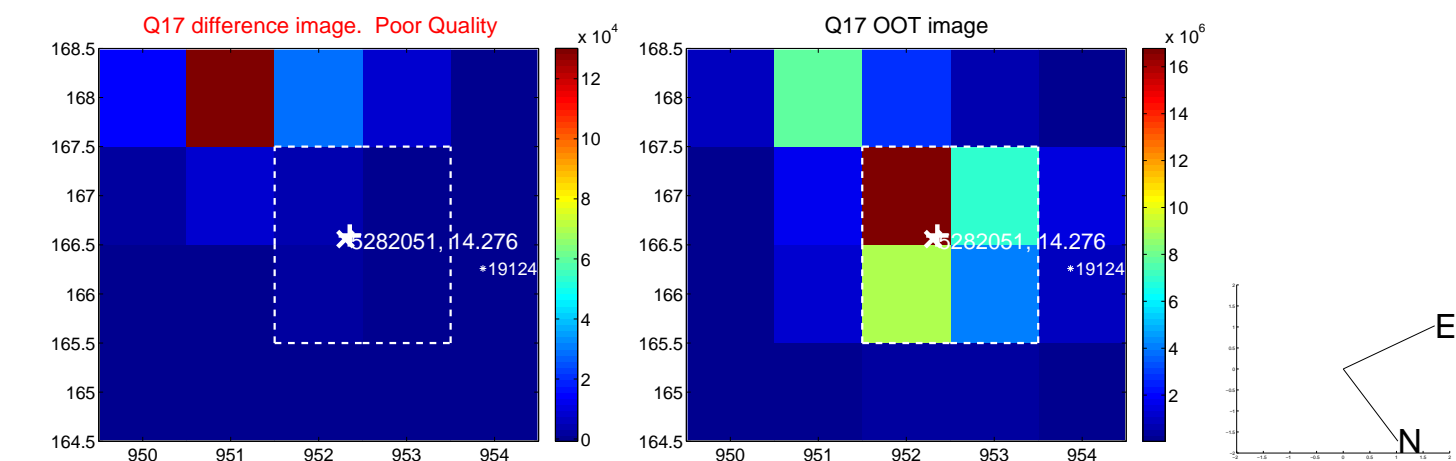
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UKIRT Image

Declination

