

KIC 010555375

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
010555375-01	OBS	0158.01	5.801811	131.775881	218.2	4.027	28.8	26.5	2.10	6020	3.99	1172.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010555375-01	OBS	FP	0.00	0	0	1	1	CENT_UNRESOLVED_OFFSET—HALO_GHOST—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 010555375-01

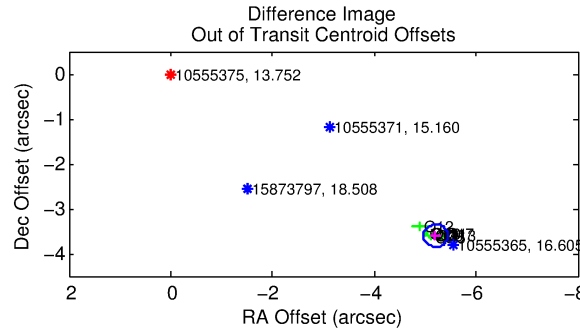
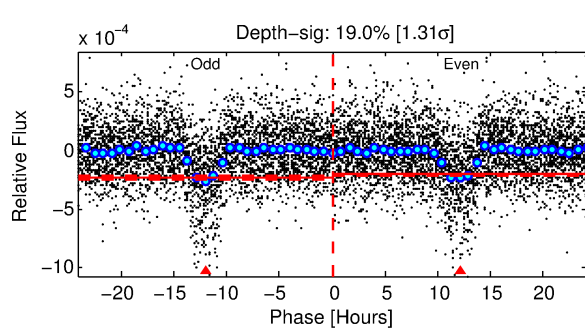
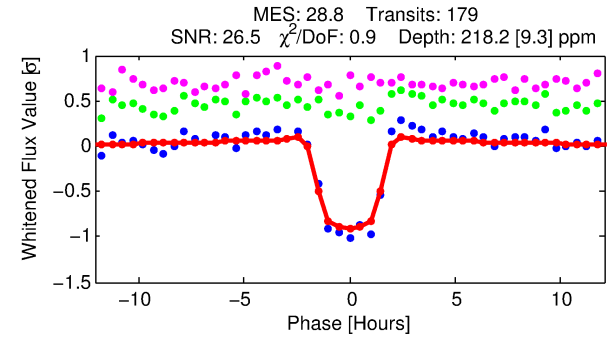
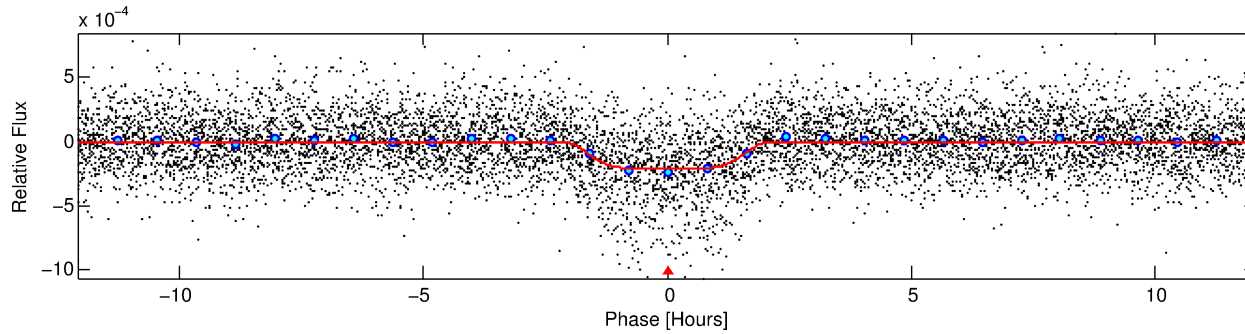
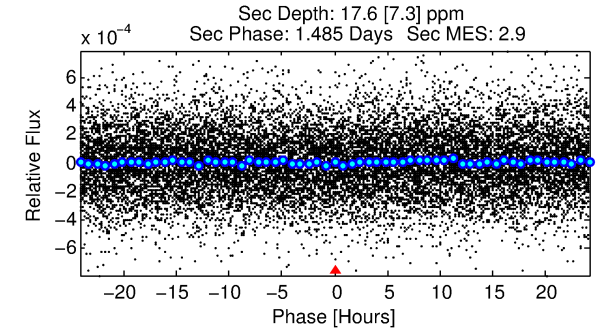
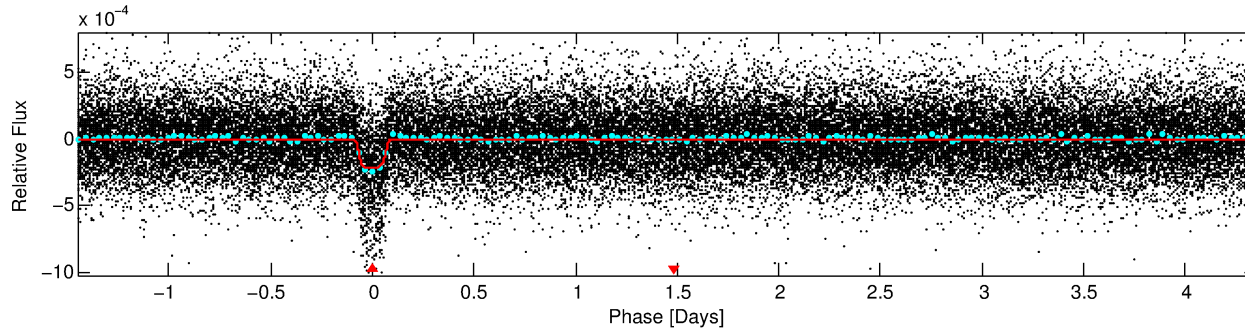
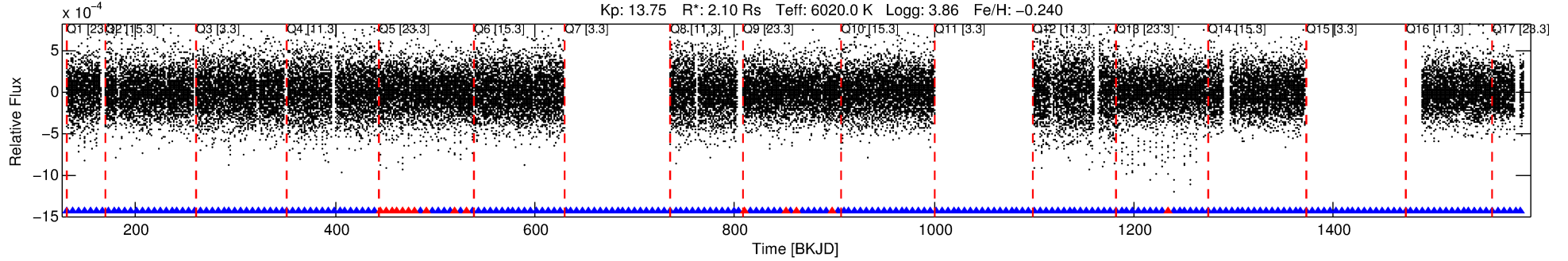
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
010555375-01	10555375	3771.01	10555365	1:1	6.7	-2	0	16.61	13.76	97.87	Direct-PRF	0	0.26	0.06

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ 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 σ_P < 5.0 and σ_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: 10555375 Candidate: 1 of 1 Period: 5.802 d
KOI: K00158.01 Corr: 0.986

Kp: 13.75 R*: 2.10 Rs Teff: 6020.0 K Logg: 3.86 Fe/H: -0.240



DV Fit Results:

Period = 5.80181 [0.00002] d
Epoch = 131.7759 [0.0028] BKJD
Rp/R* = 0.0174 [0.0007]
a/R* = 3.70 [0.53]
b = 0.96 [0.01]
Seff = 1172.00 [1011.88]
Teq = 1492 [322] K
Rp = 3.99 [2.02] Re
a = 0.0664 [0.0344] AU
Ag = 2.70 [2.57] [0.66σ]
Teffp = 2956 [325] K [3.20σ]

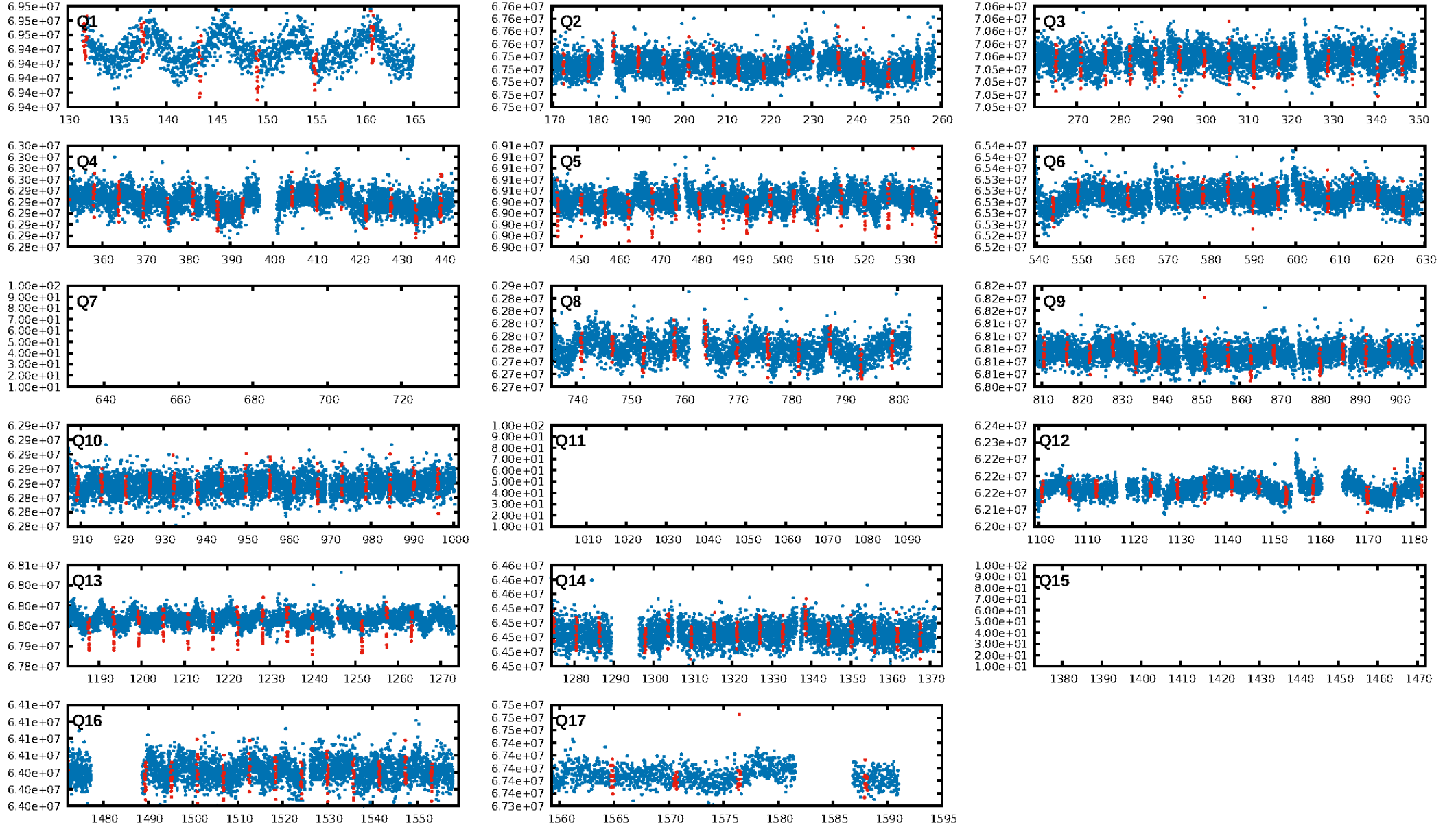
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.47e-181
RollingBand-fgt: 0.91 [154/169]
GhostDiagnostic-chr: -0.2475
Centroid-sig: 0.0%
Centroid-so: 19.737 arcsec [53.54σ]
OotOffset-rm: 6.329 arcsec [77.68σ]
KicOffset-rm: 6.688 arcsec [69.13σ]
OotOffset-st: 4/0/1/5 [10]
KicOffset-st: 4/0/1/5 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [14/14]

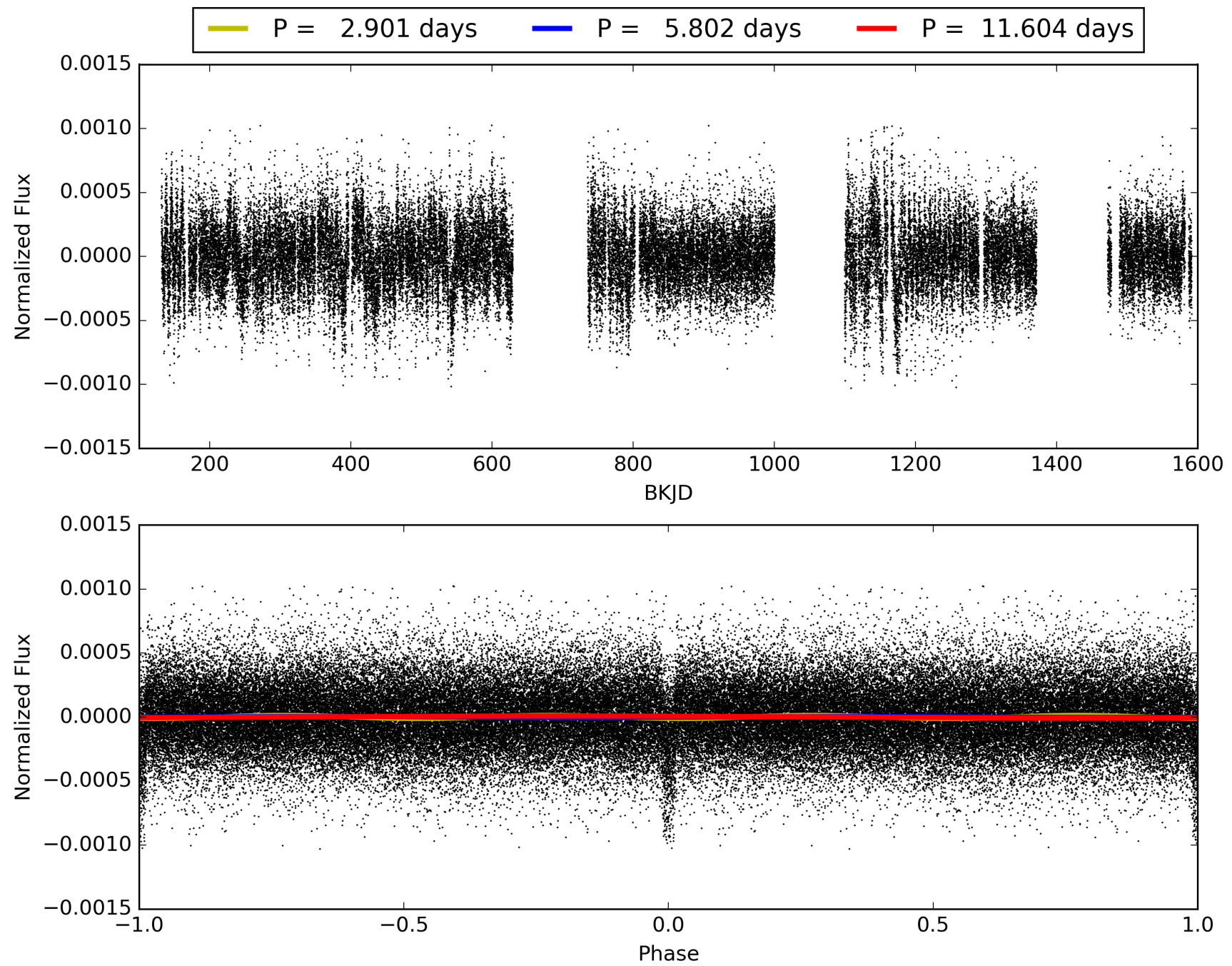
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:44:56 Z

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

TCE 01055375-01, PDC Light Curves

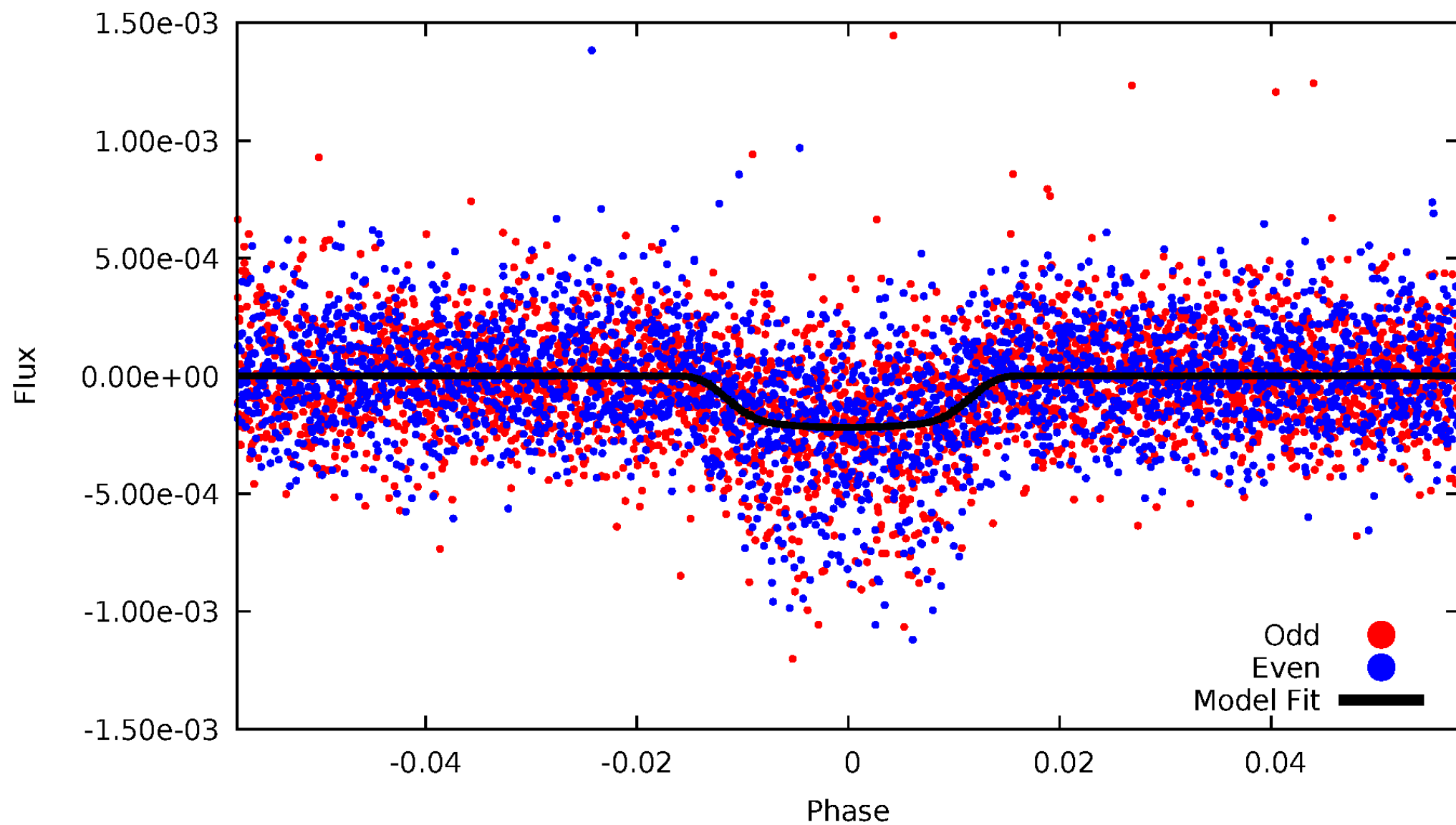


TCE 010555375-01



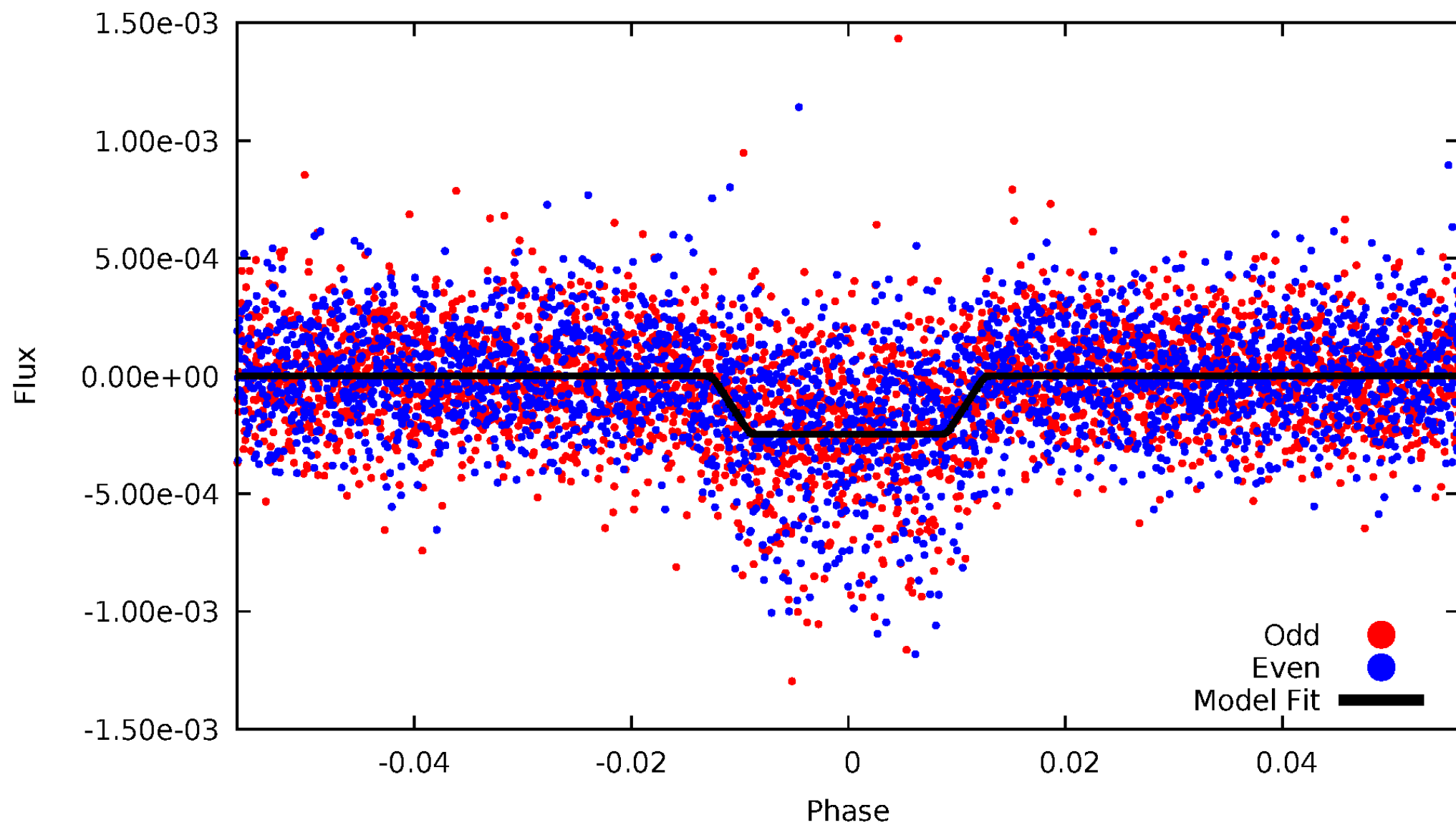
DV Odd/Even

TCE 010555375-01

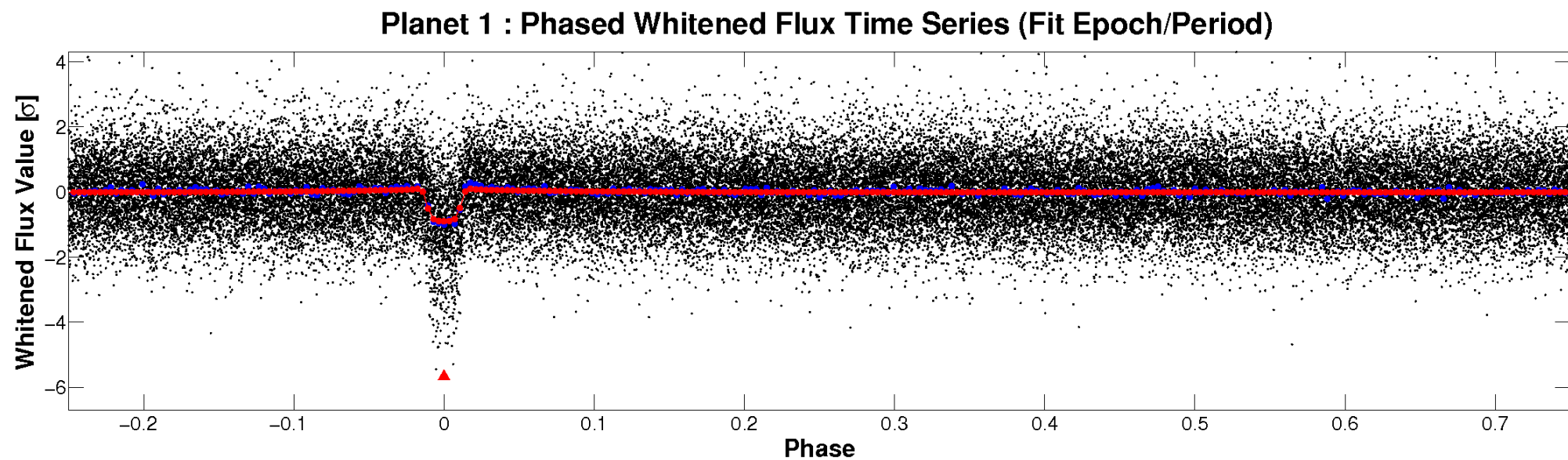
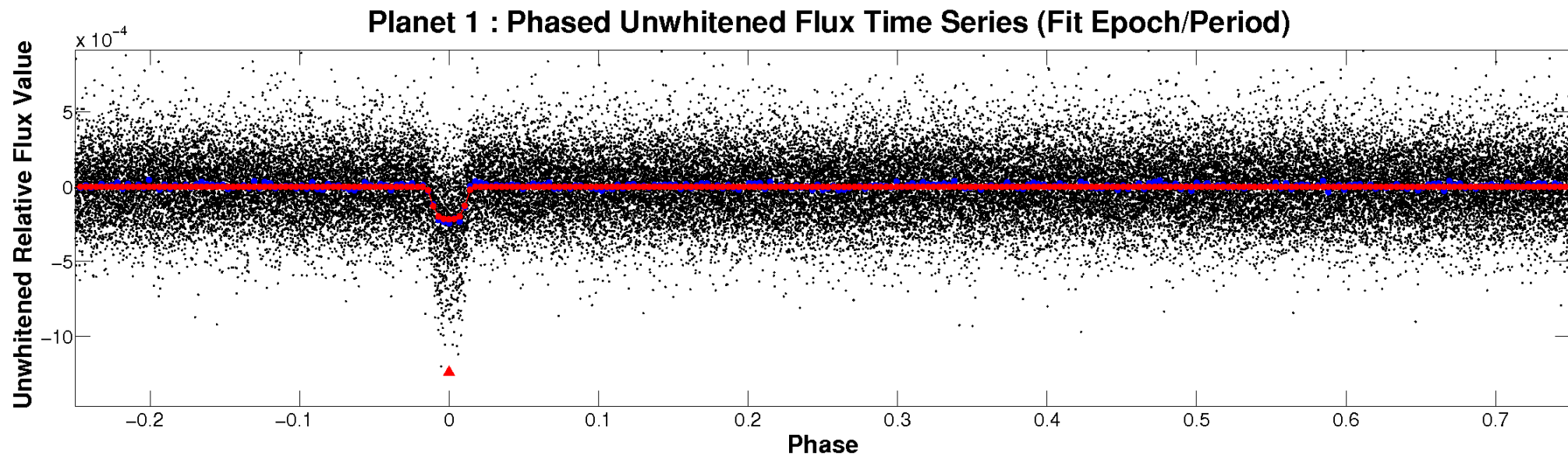


ALT Odd/Even

TCE 010555375-01

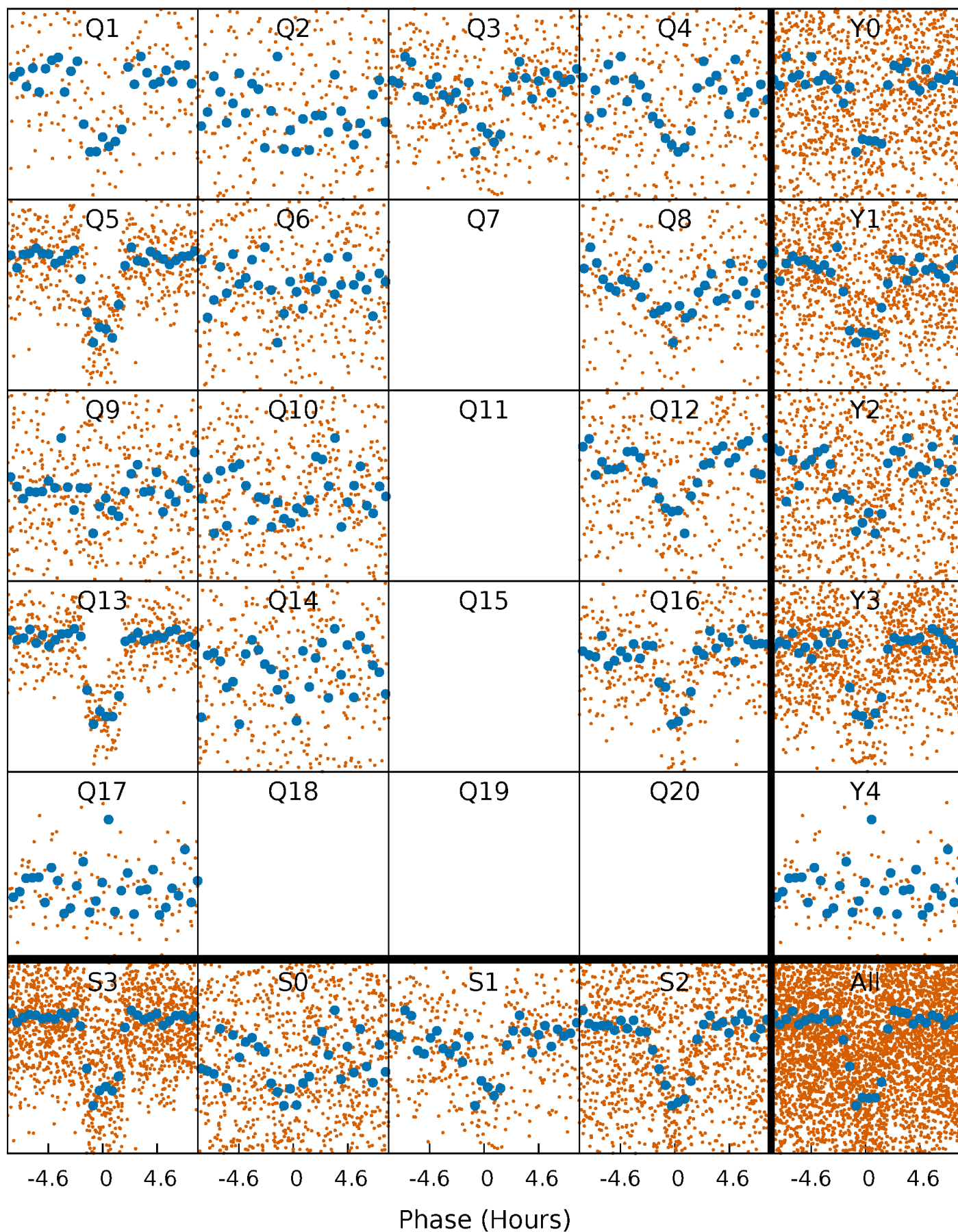


Non-Whitened Vs. Whitened Light Curve



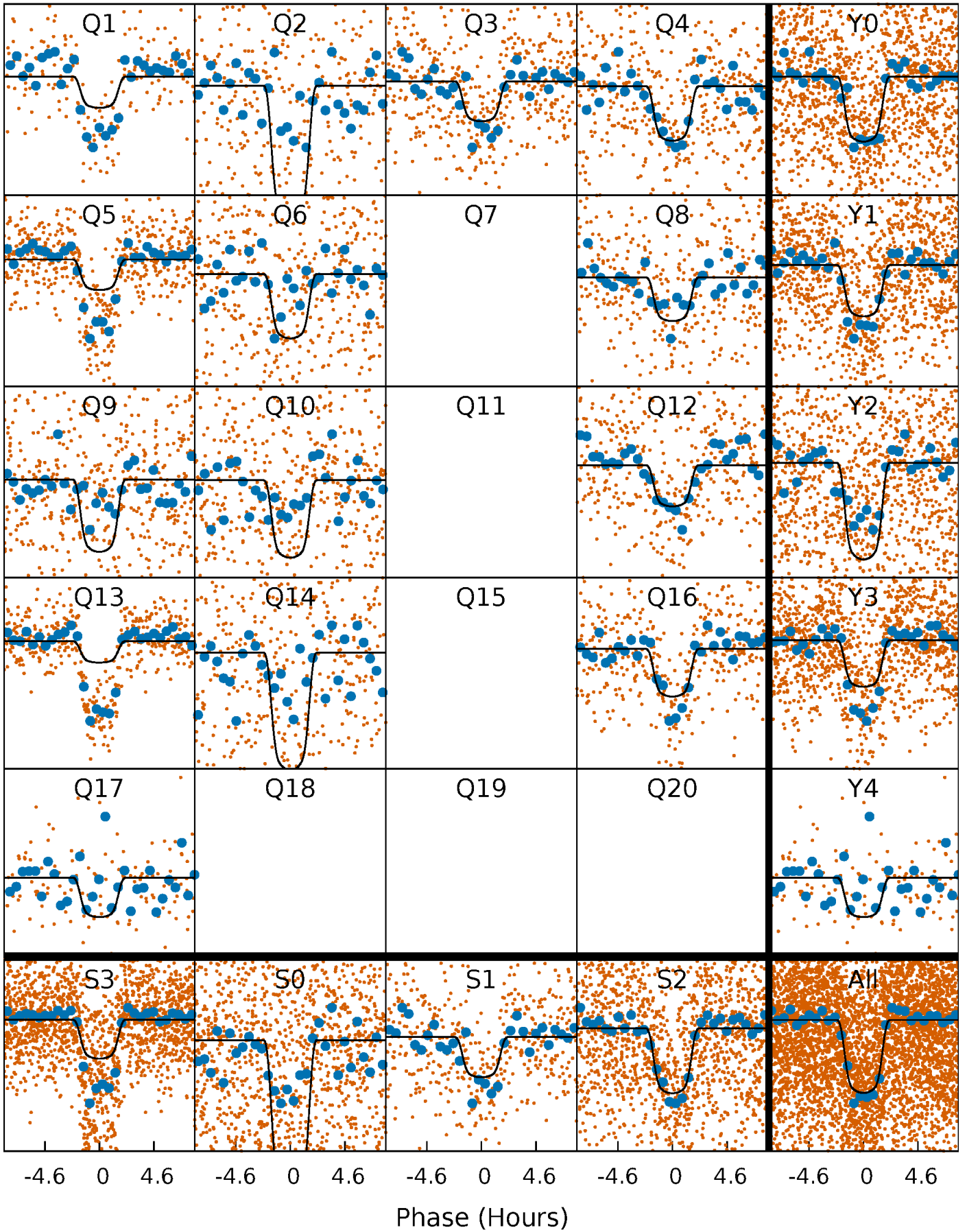
PDC Quarter-Phased Transit Curves

TCE 010555375-01 P= 5.801811 Days $T_0=131.775881$ (BKJD)



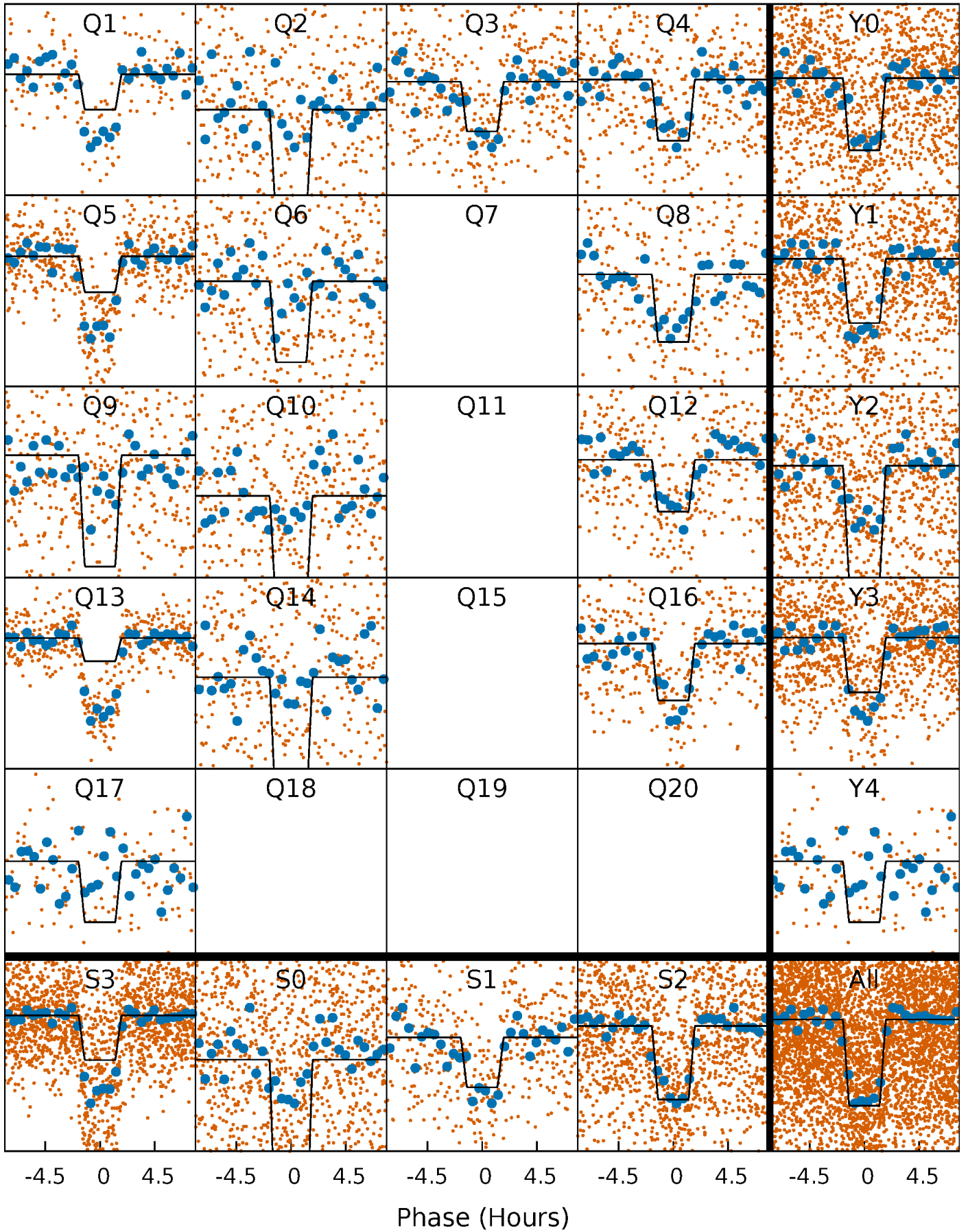
DV Quarter-Phased Transit Curves

TCE 010555375-01 P= 5.801811 Days $T_0=131.775881$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

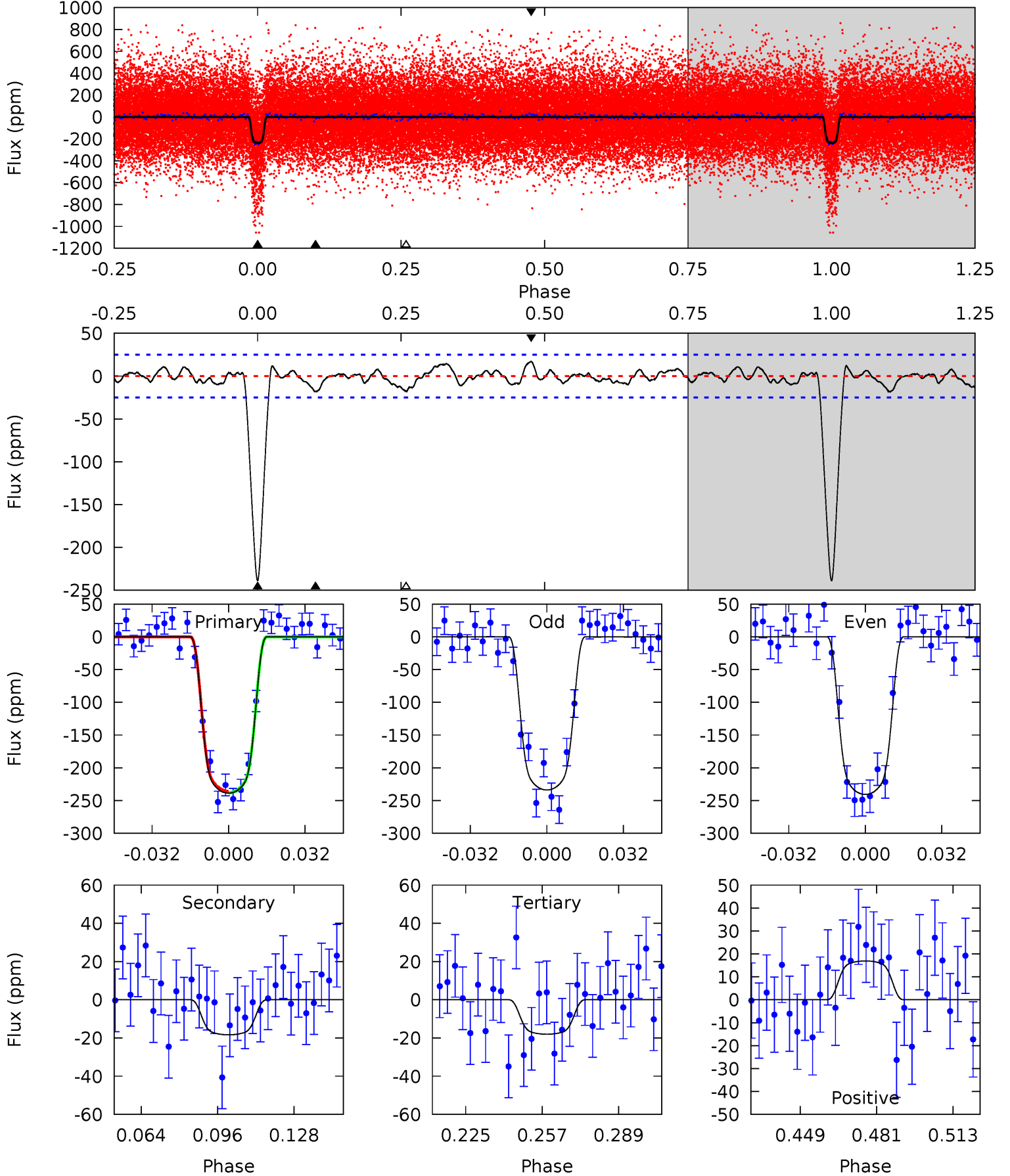
TCE 010555375-01 P= 5.801788 Days $T_0=131.779803$ (BKJD)



DV Model-Shift Uniqueness Test

010555375-01, P = 5.801811 Days, E = 125.974070 Days

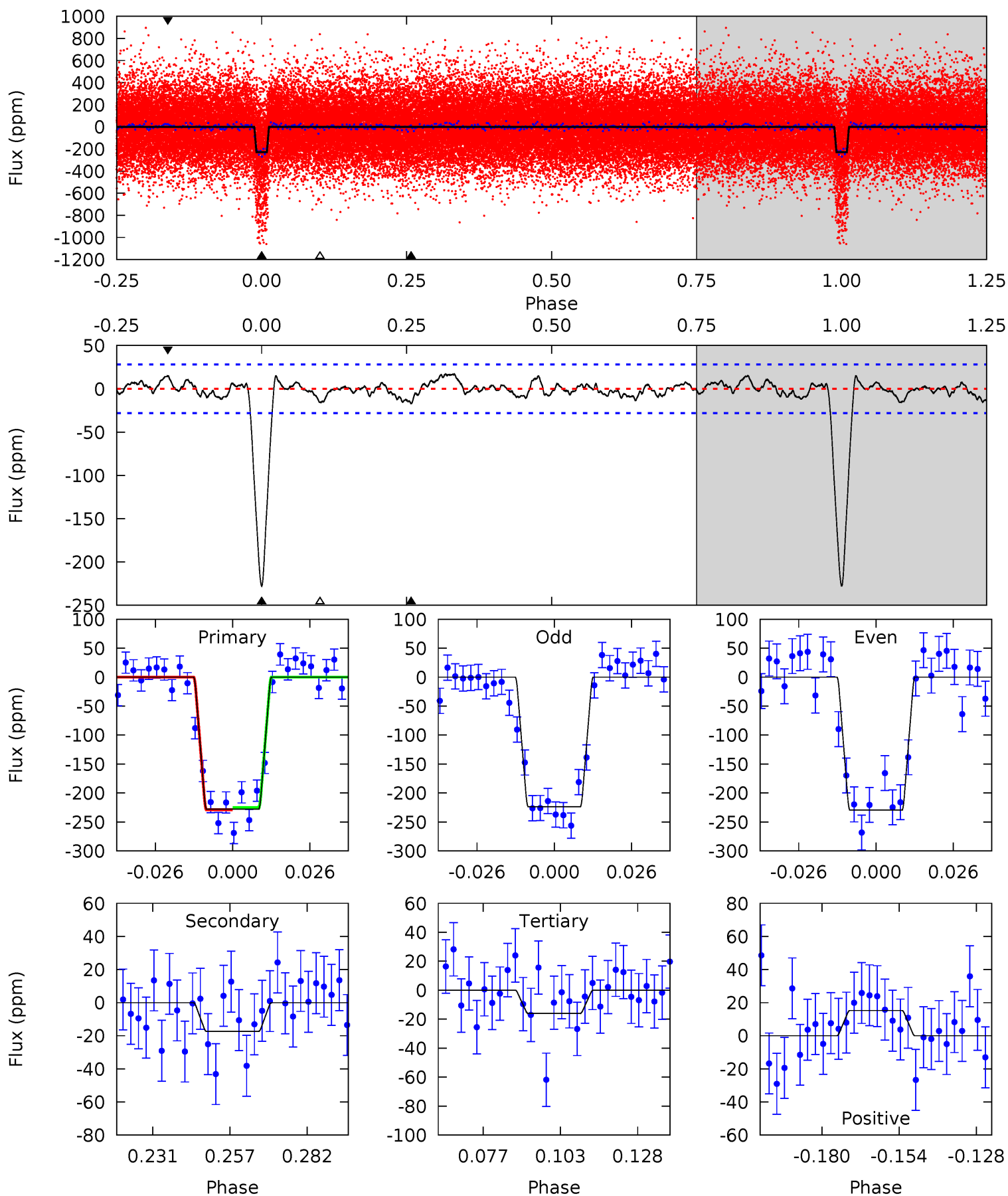
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.8	3.52	3.46	3.25	4.80	2.14	1.23	42.3	42.6	0.06	0.27	0.65	1.25	0.07	0.21



Alt Model-Shift Uniqueness Test

010555375-01, P = 5.801788 Days, E = 125.978015 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.3	2.99	2.75	2.62	4.84	2.23	1.12	36.5	36.7	0.24	0.37	0.52	1.39	0.07	0.33



Stellar Parameters For KIC 010555375

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6020^{+183}_{-183}	$3.860^{+0.512}_{-0.128}$	$-0.240^{+0.300}_{-0.300}$	$2.097^{+0.453}_{-1.057}$	$1.162^{+0.178}_{-0.238}$	$0.177^{+0.985}_{-0.066}$
	+3%/-3%	+13%/-3%	+125%/-125%	+22%/-50%	+15%/-20%	+555%/-37%
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 010555375-01 / KOI 0158.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18 ± 5	$3.93^{+0.52}_{-1.08}$	2048^{+160}_{-291}	3418^{+183}_{-205}	$3.070^{+2.478}_{-1.091}$
Alt.	-17 ± 6	$3.47^{+0.57}_{-0.89}$	2045^{+151}_{-268}	3509^{+220}_{-263}	$3.621^{+2.857}_{-1.513}$

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

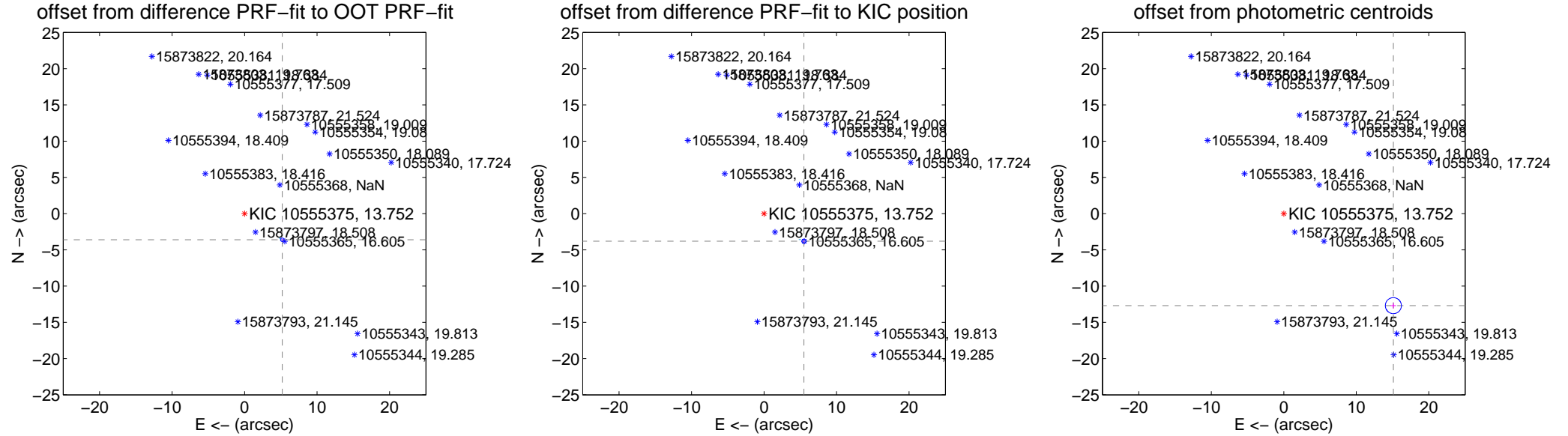
DV Centroid Data

Supplemental centroid analysis for 010555375-01. Kepler magnitude: 13.75. Transit SNR 26.51

There are 10 quarters with good PRF difference image offsets

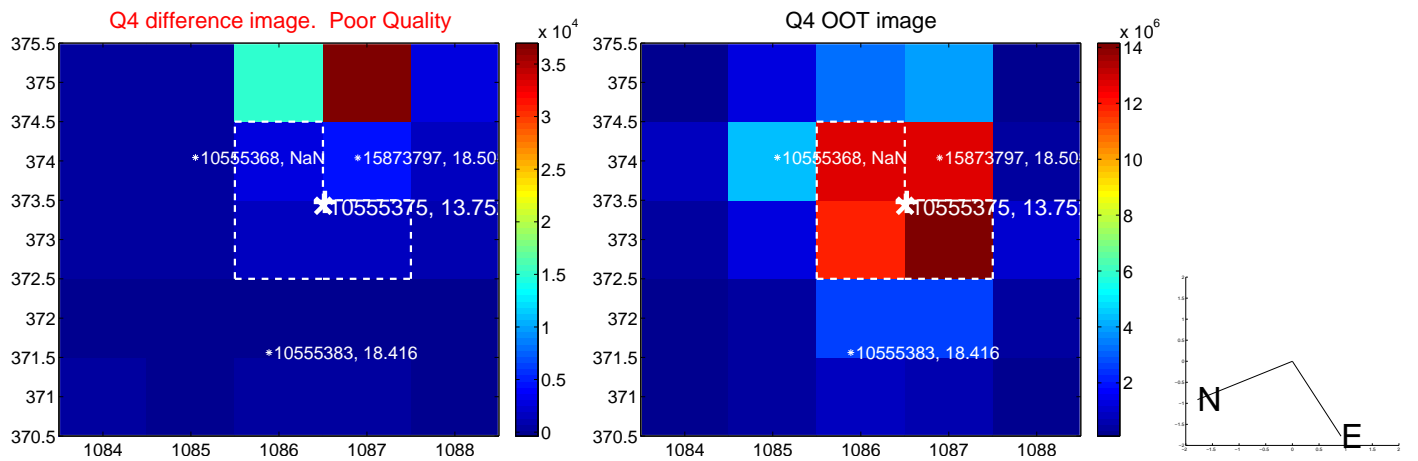
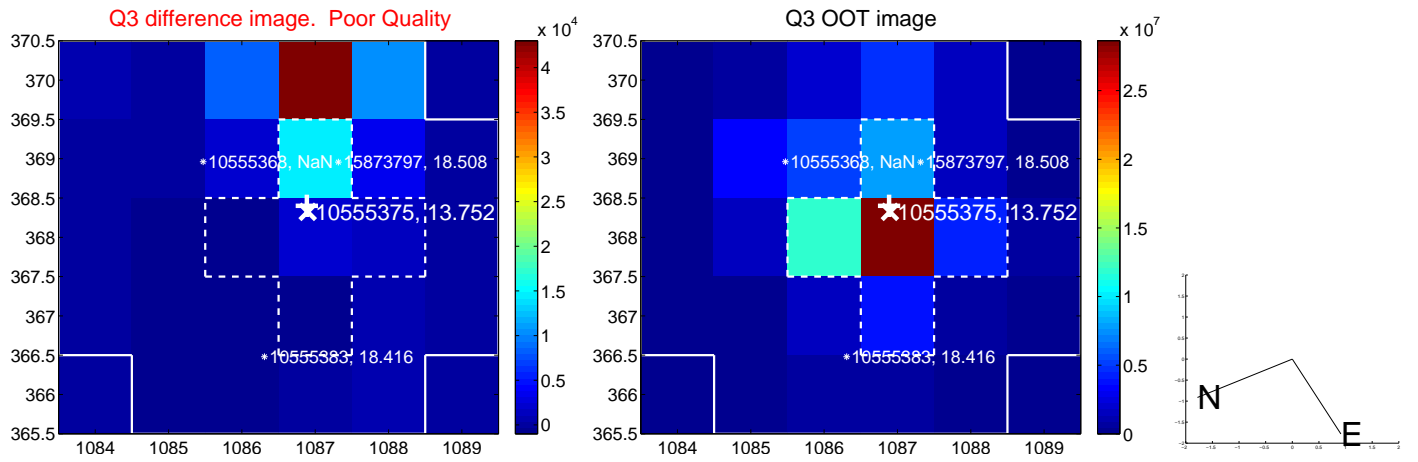
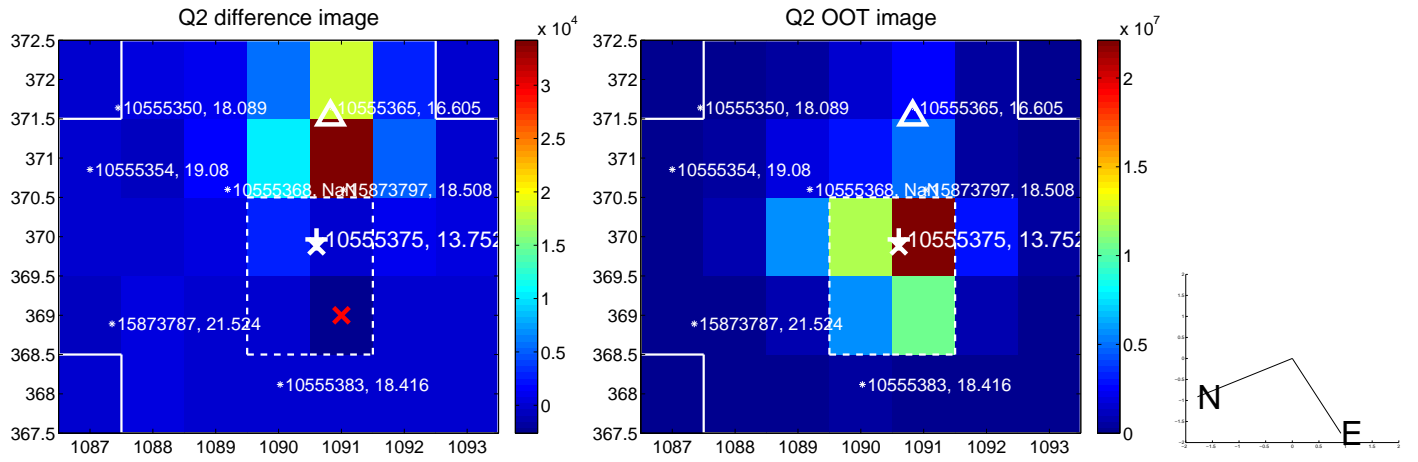
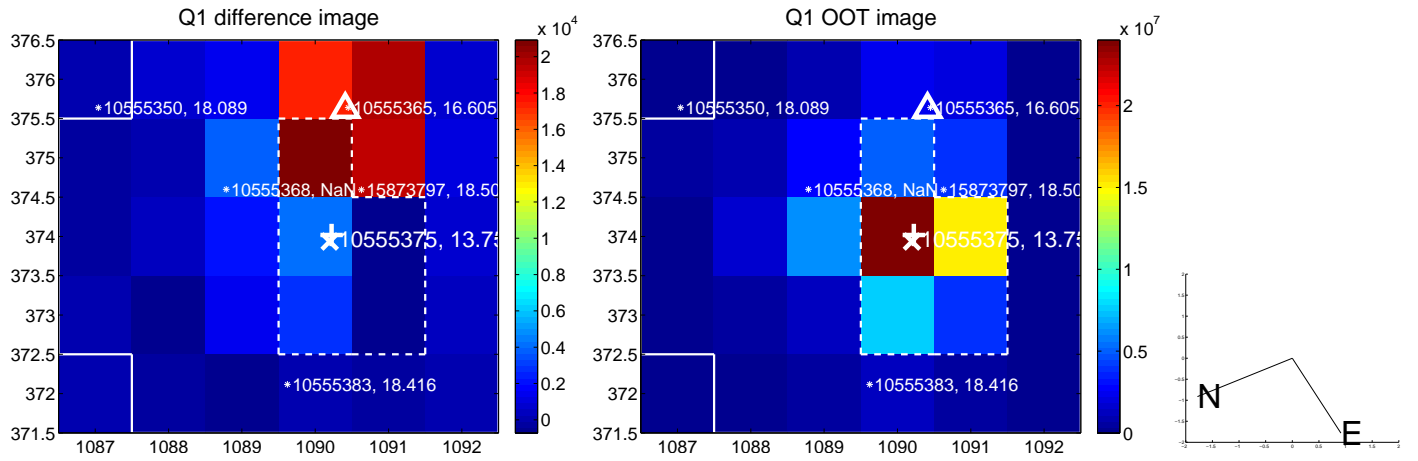
The direct PRF centroid is offset from the target star catalog position by about 0.49 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.329 ± 0.081	77.68	-5.201 ± 0.082	-3.606 ± 0.070
PRF-fit source offset from KIC position	6.688 ± 0.097	69.13	-5.499 ± 0.097	-3.807 ± 0.071
photometric centroid source offset	19.74 ± 0.37	53.54	-15.11 ± 0.37	-12.70 ± 0.37

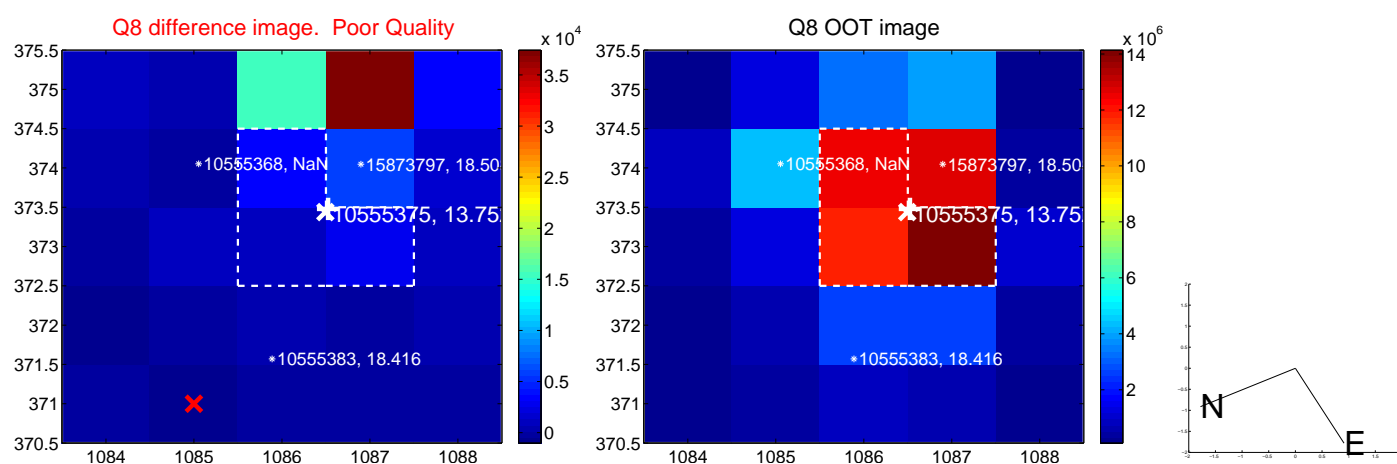
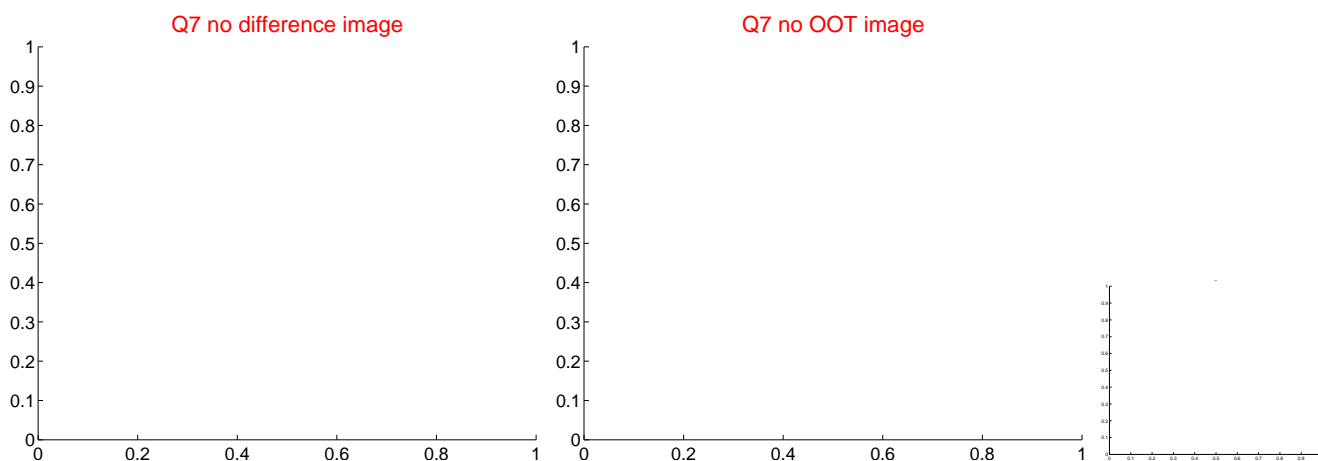
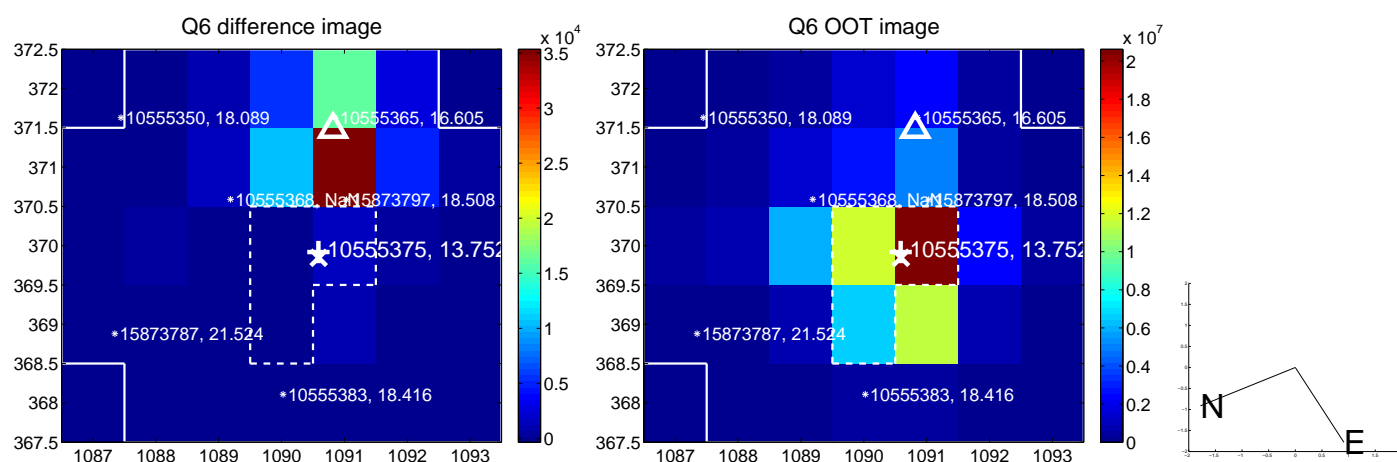
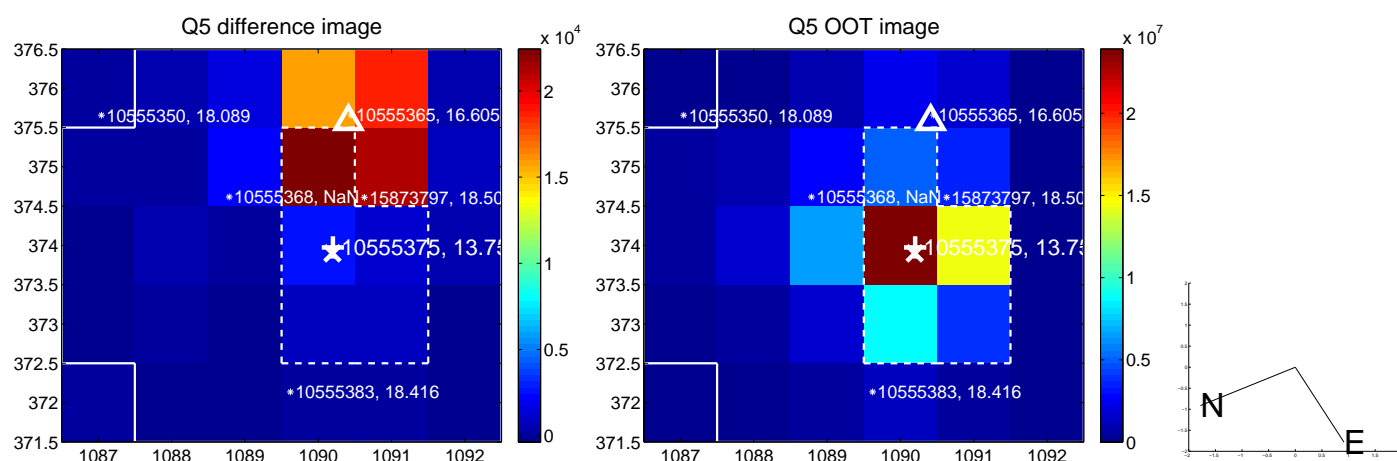


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

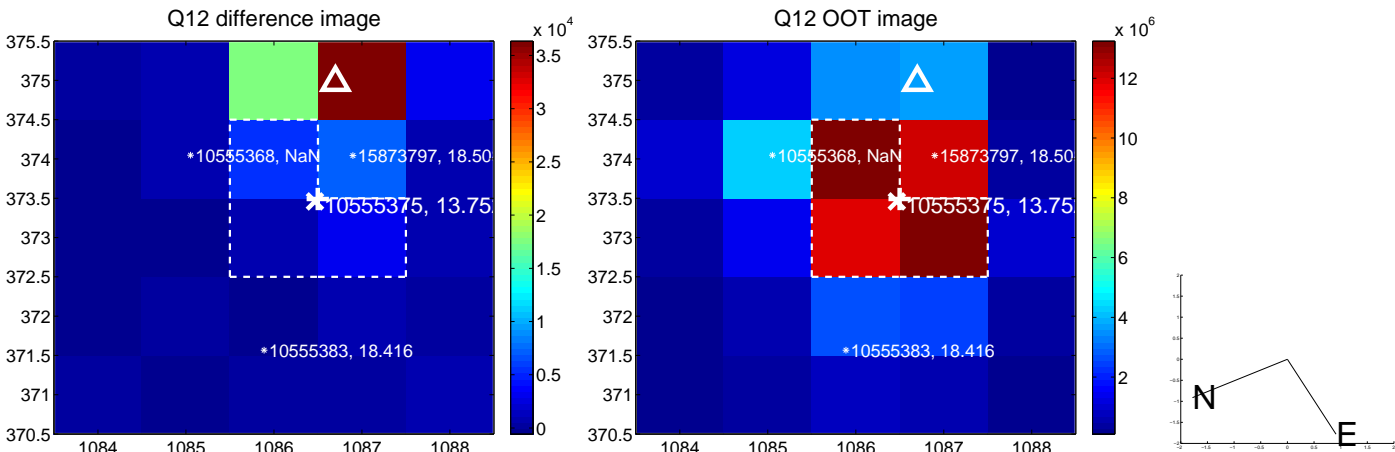
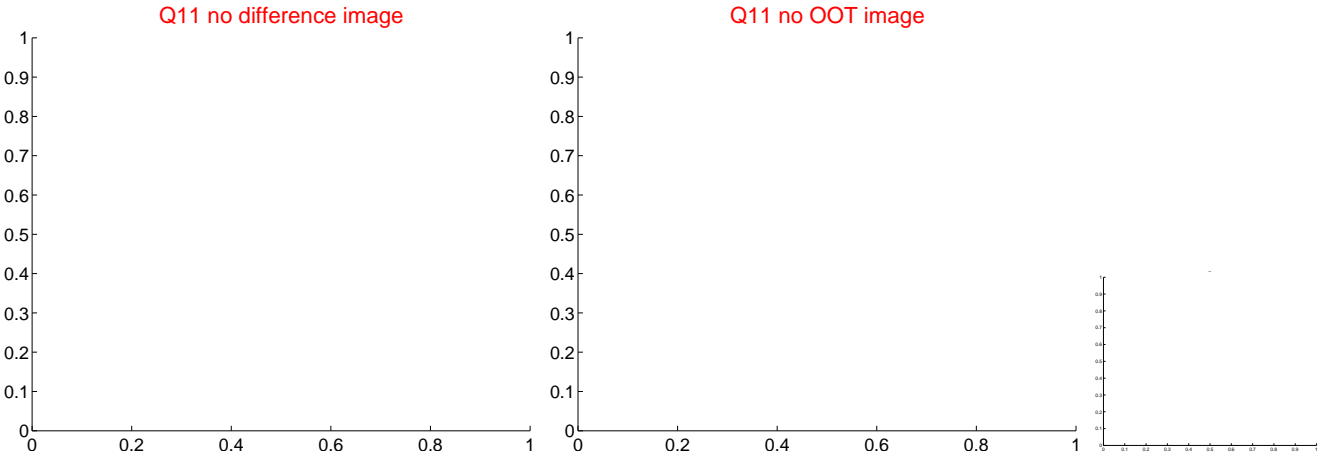
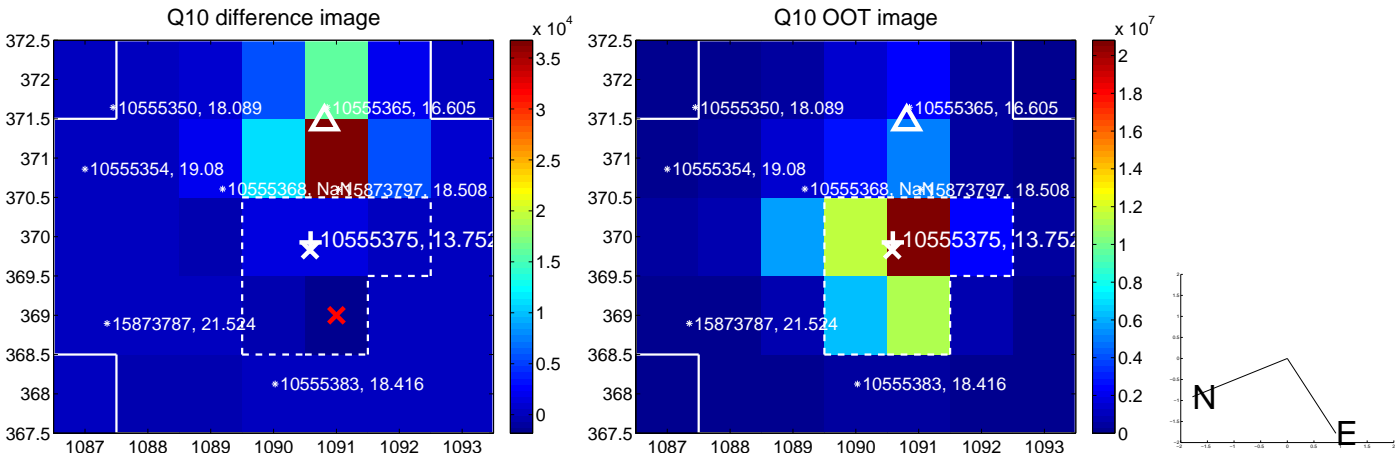
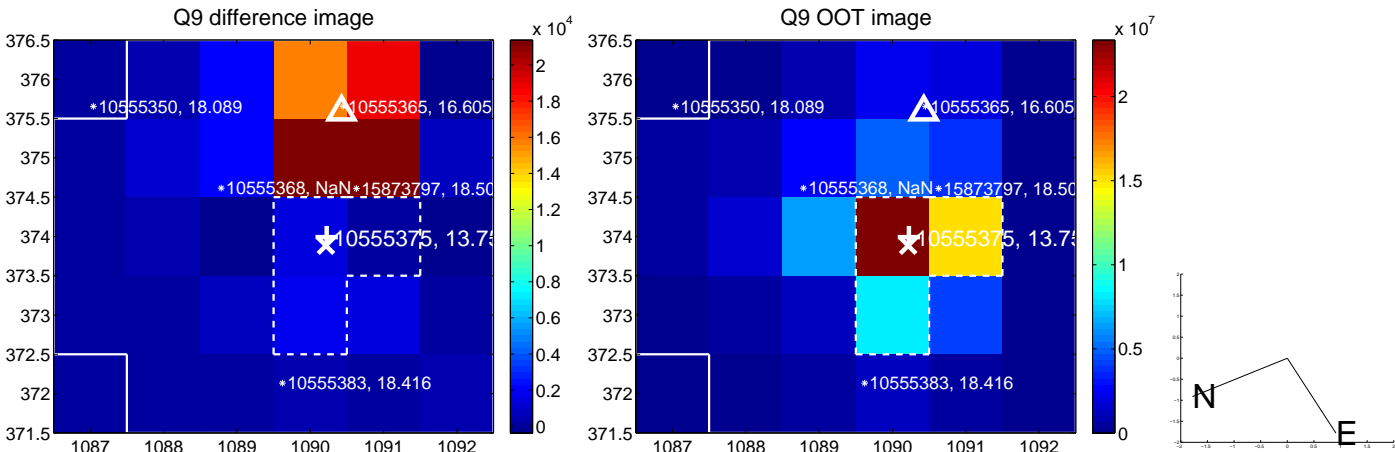
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



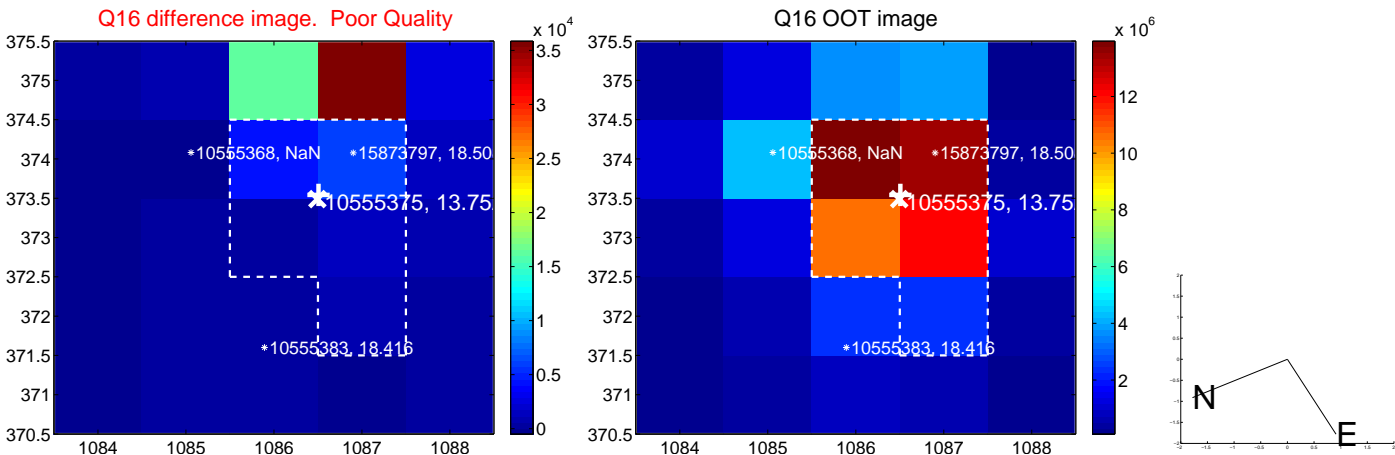
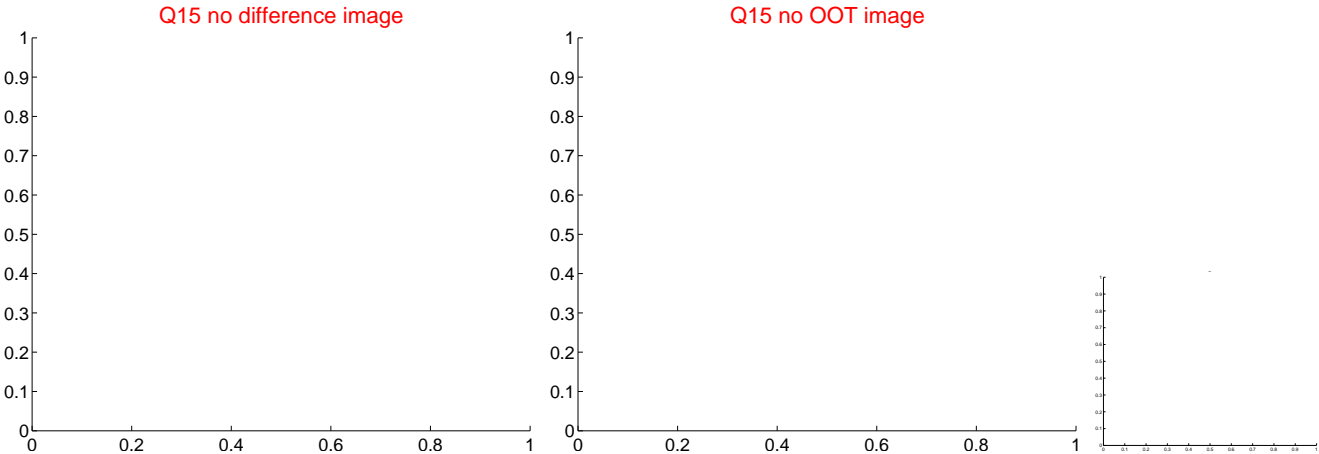
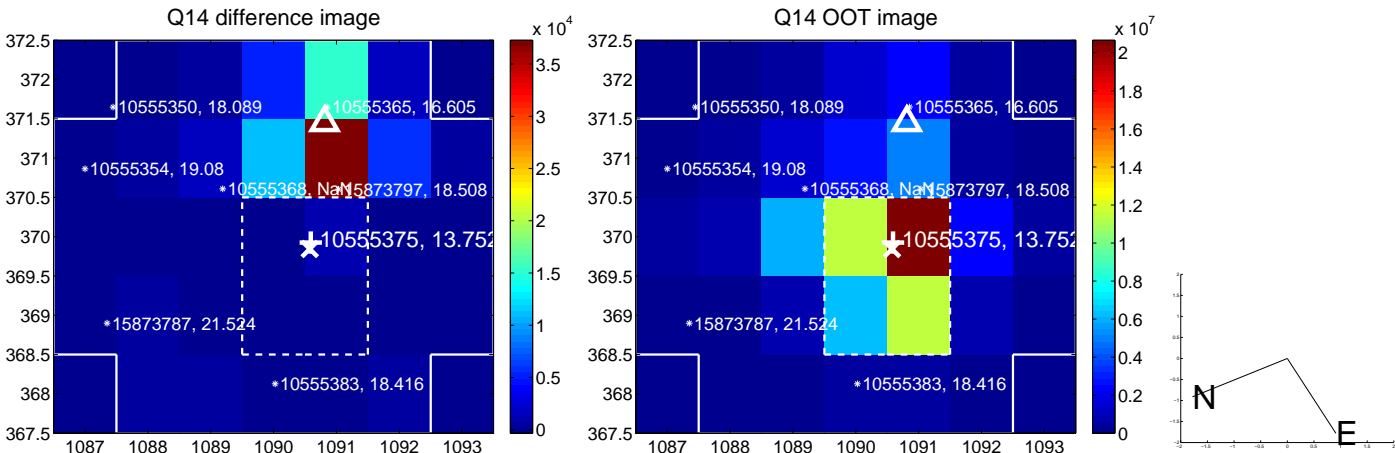
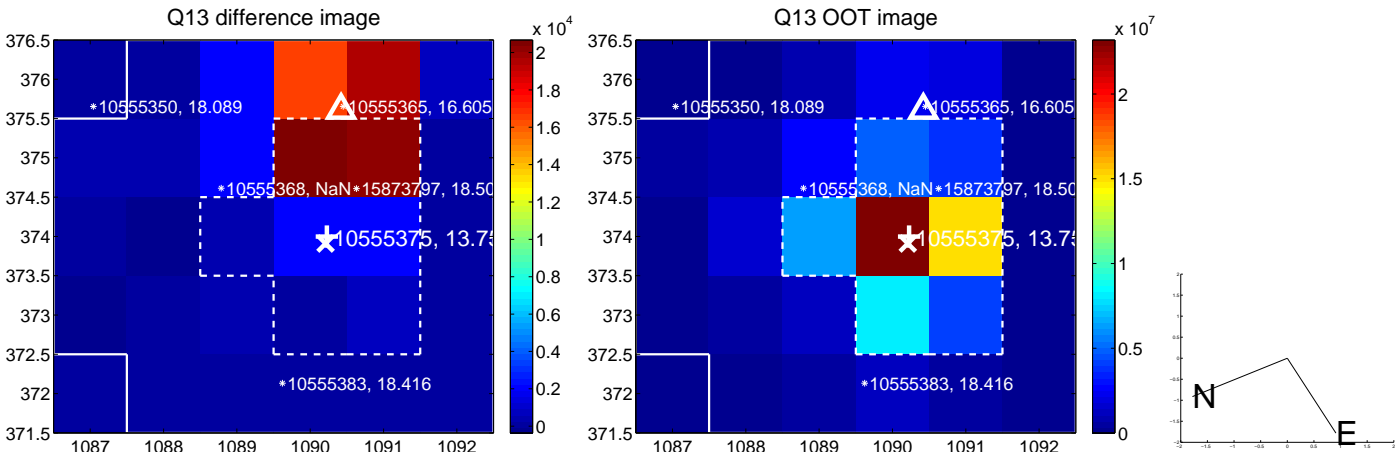
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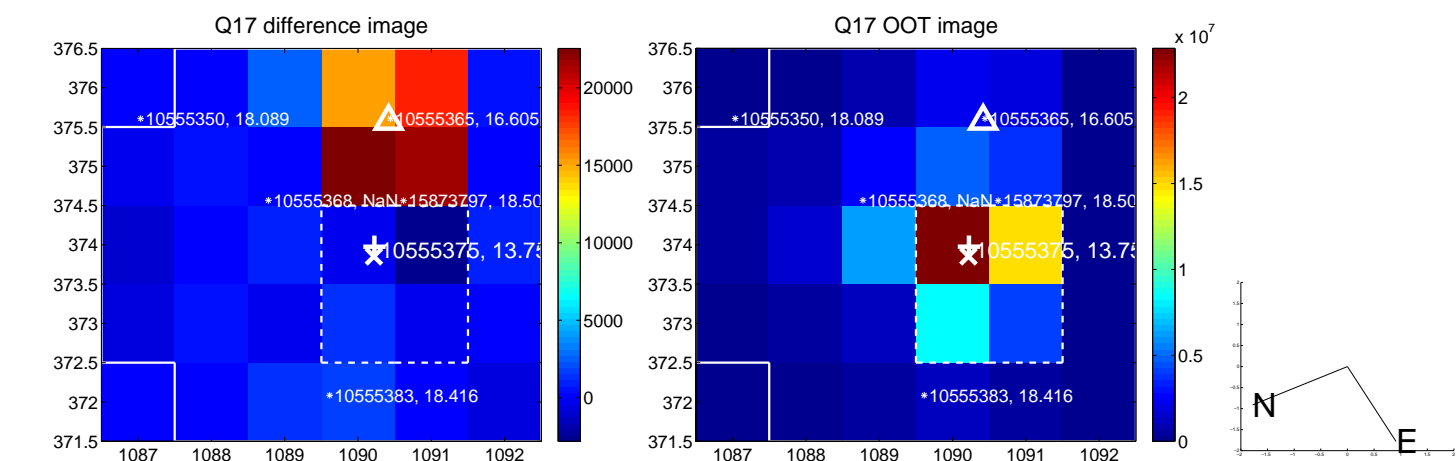
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



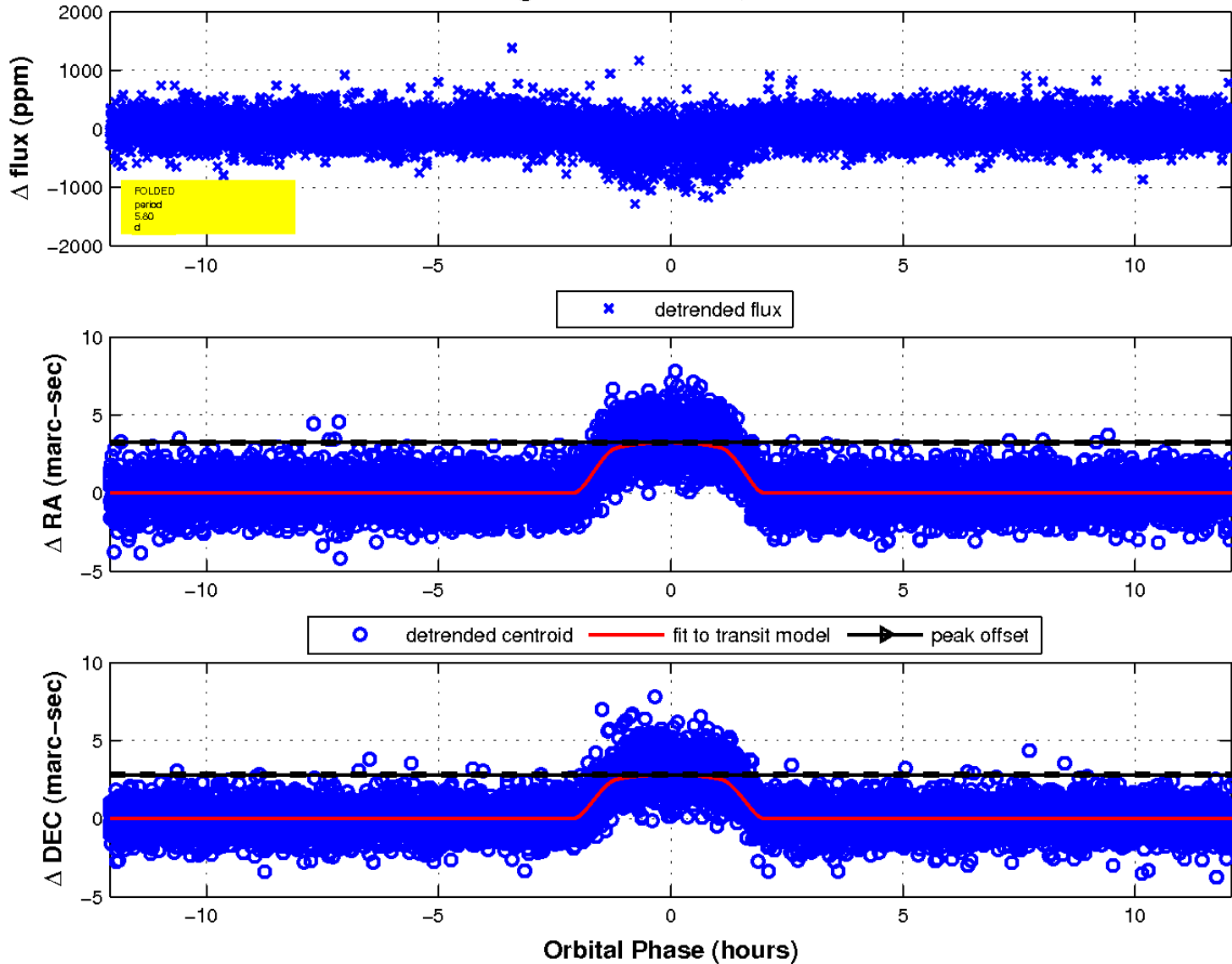
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

