

KIC 005513857

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 _⊕)
005513857-01	OBS	4119.01	0.755095	131.810250	95.4	3.357	13.9	14.0	0.82	5465	0.96	2287.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005513857-01	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 005513857-01

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
005513857-01	5513857	005513861-pri	5513861	1:2	49.9	5	11	11.64	15.44	2667.40	Direct-PRF	0	2.89	0.15

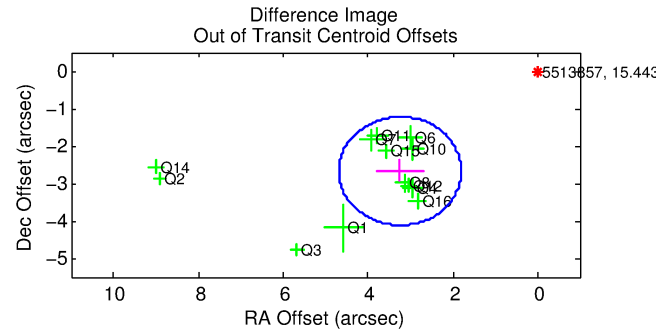
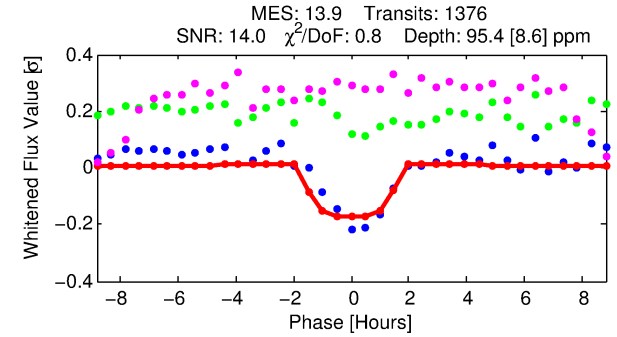
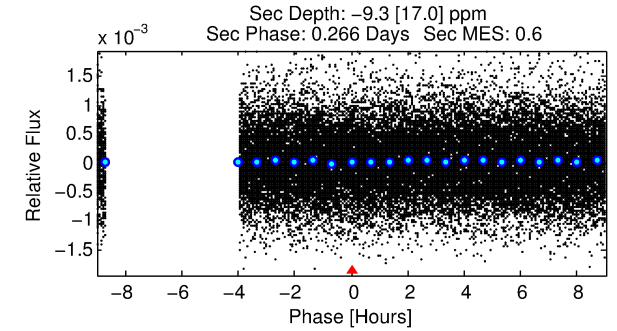
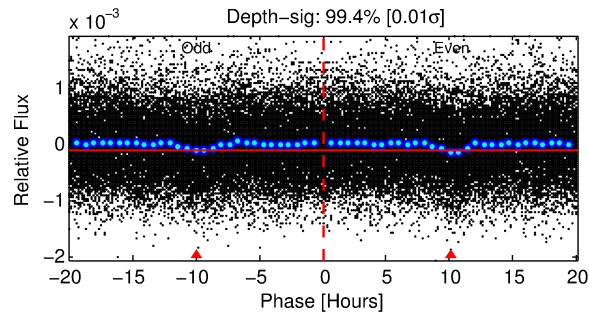
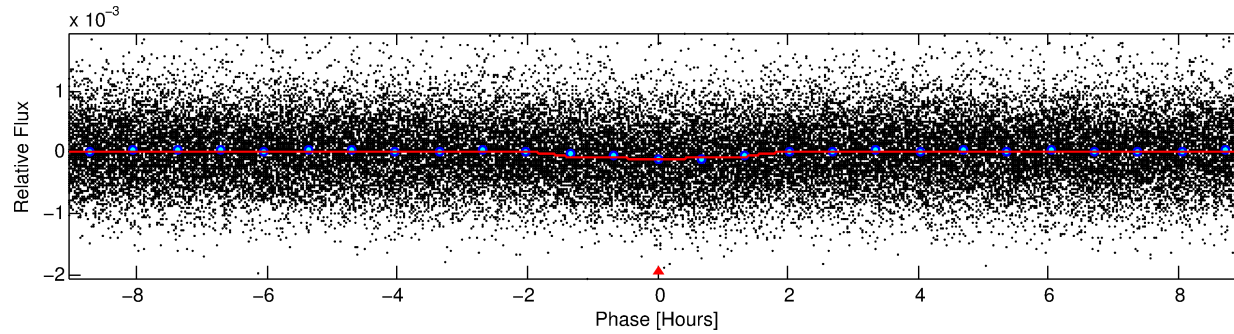
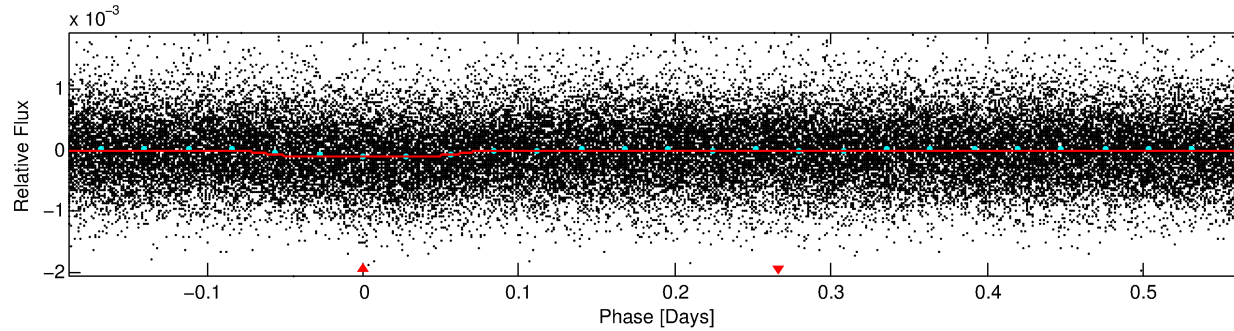
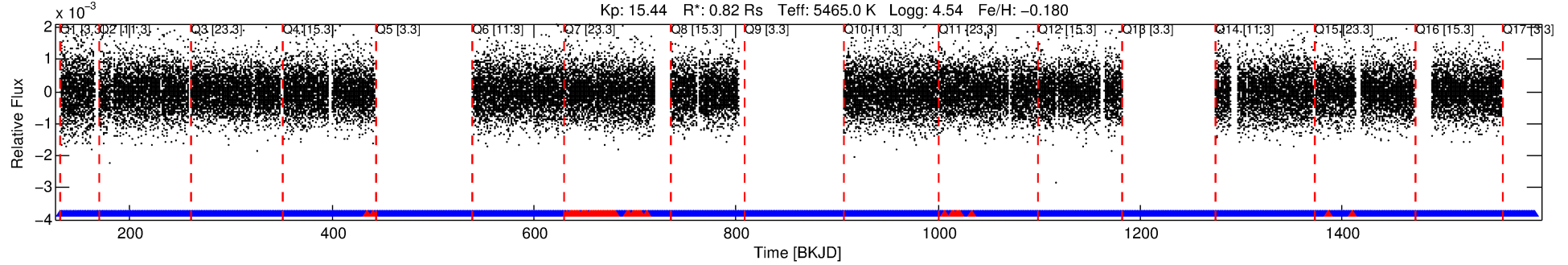
Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period 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: 5513857 Candidate: 1 of 1 Period: 0.755 d

KOI: K04119.01 Corr: 0.952

Kp: 15.44 R*: 0.82 Rs Teff: 5465.0 K Logg: 4.54 Fe/H: -0.180



DV Fit Results:

Period = 0.75510 [0.00001] d
Epoch = 131.8102 [0.0028] BKJD
Rp/R* = 0.0107 [0.0056]
a/R* = 1.23 [0.98]
b = 0.90 [0.51]
Seff = 2287.93 [597.69]
Teq = 1764 [115] K
Rp = 0.96 [0.53] Re
a = 0.0153 [0.0025] AU
Ag = N/A
Teffp = N/A

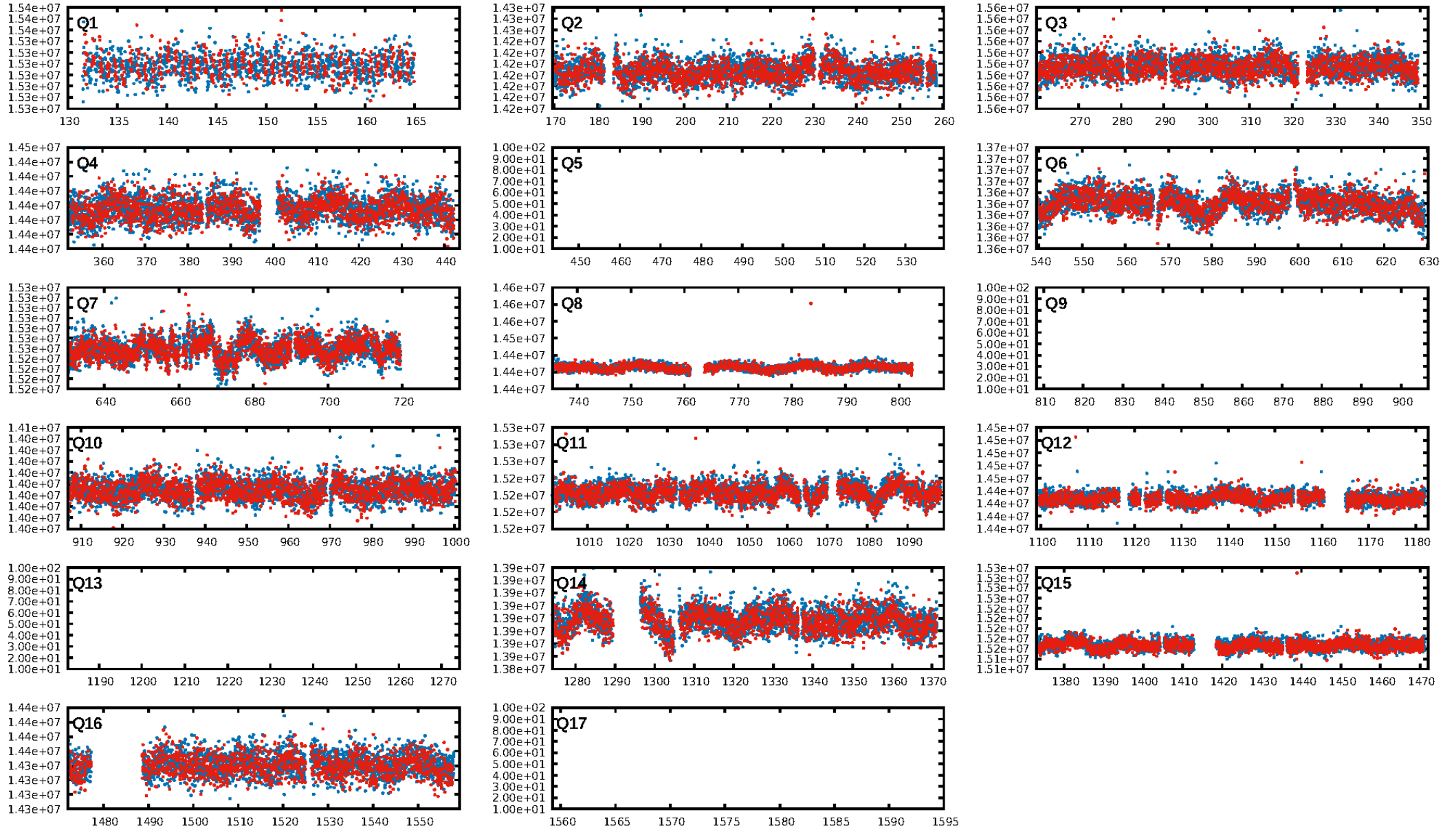
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.64e-41
RollingBand-fgt: 0.95 [1265/1331]
GhostDiagnostic-chr: -0.4954
Centroid-sig: 0.0%
Centroid-so: 7.492 arcsec [7.02σ]
OotOffset-rm: 4.201 arcsec [8.72σ]
KicOffset-rm: 4.259 arcsec [7.52σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.00 [0/13]
DiffImageOverlap-fno: 1.00 [13/13]

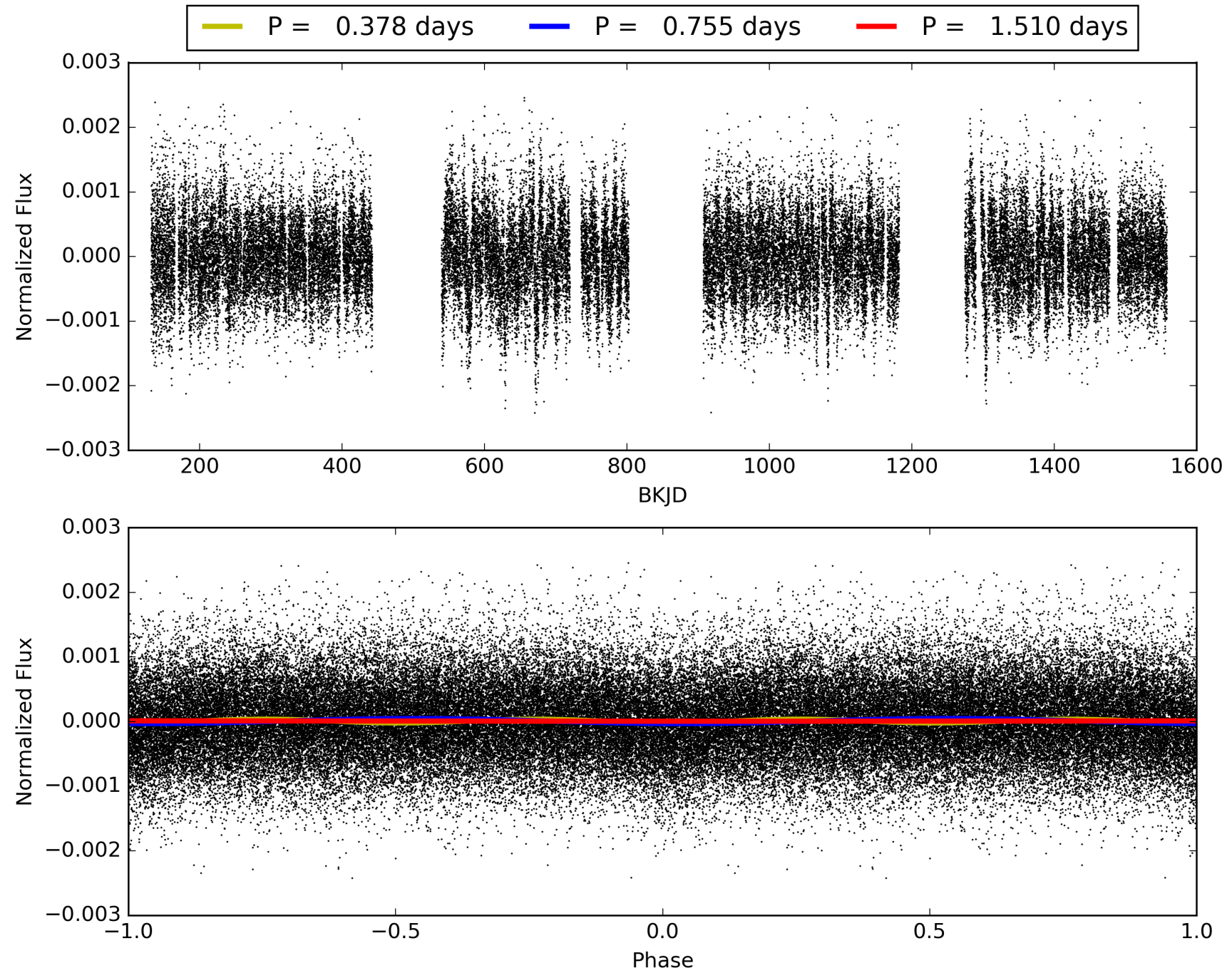
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:03:05 Z

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

TCE 005513857-01, PDC Light Curves

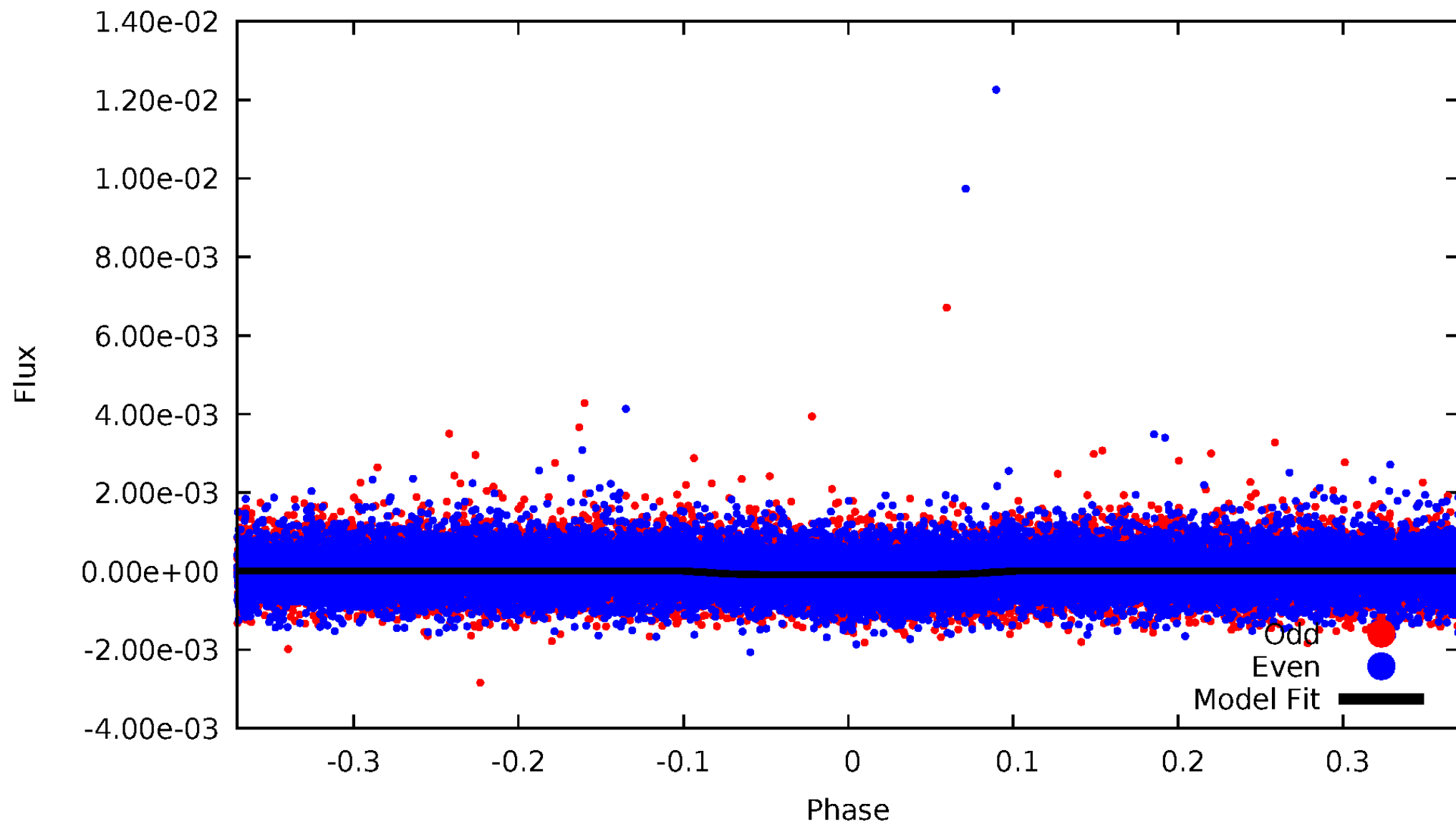


TCE 005513857-01



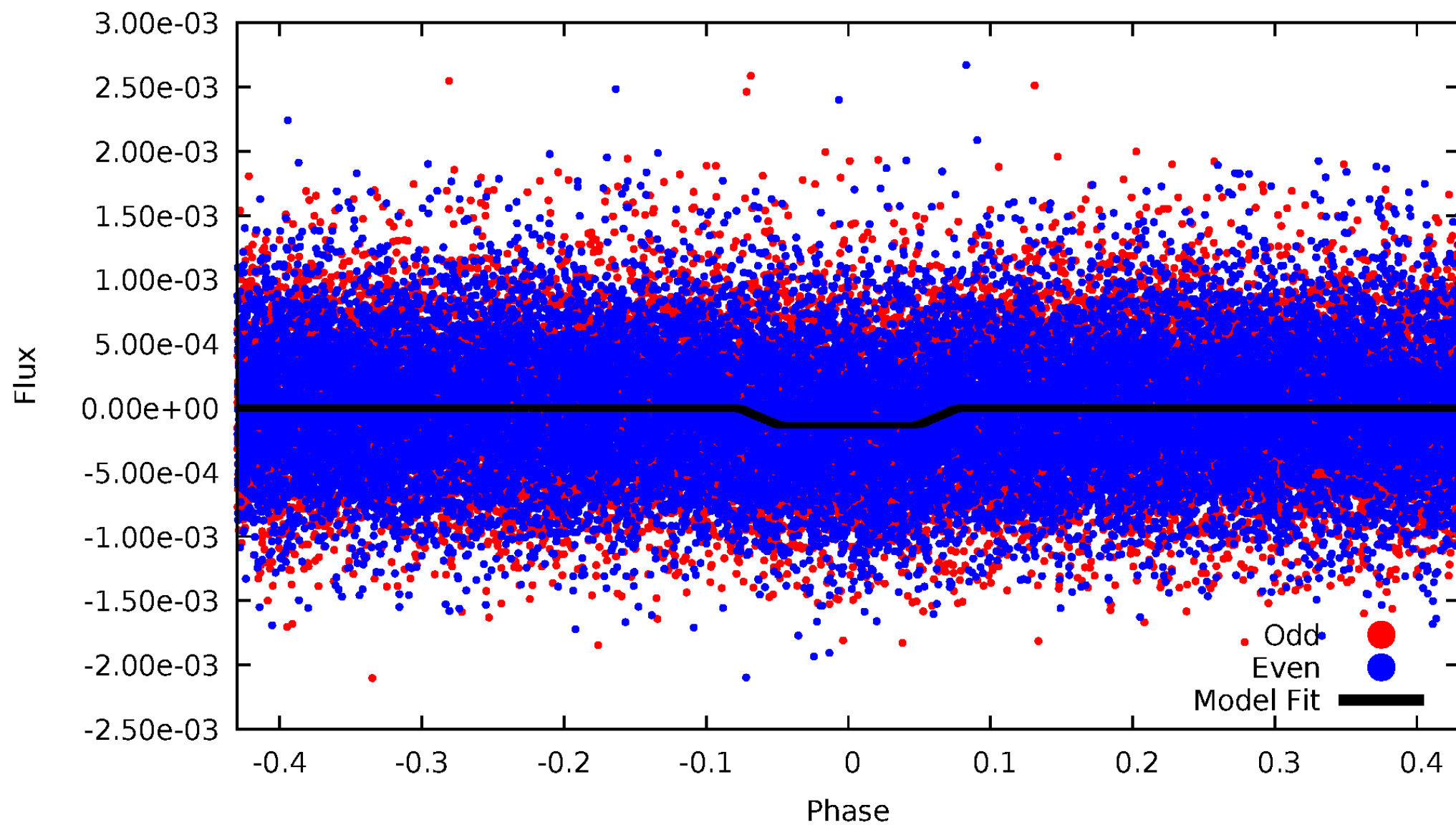
DV Odd/Even

TCE 005513857-01



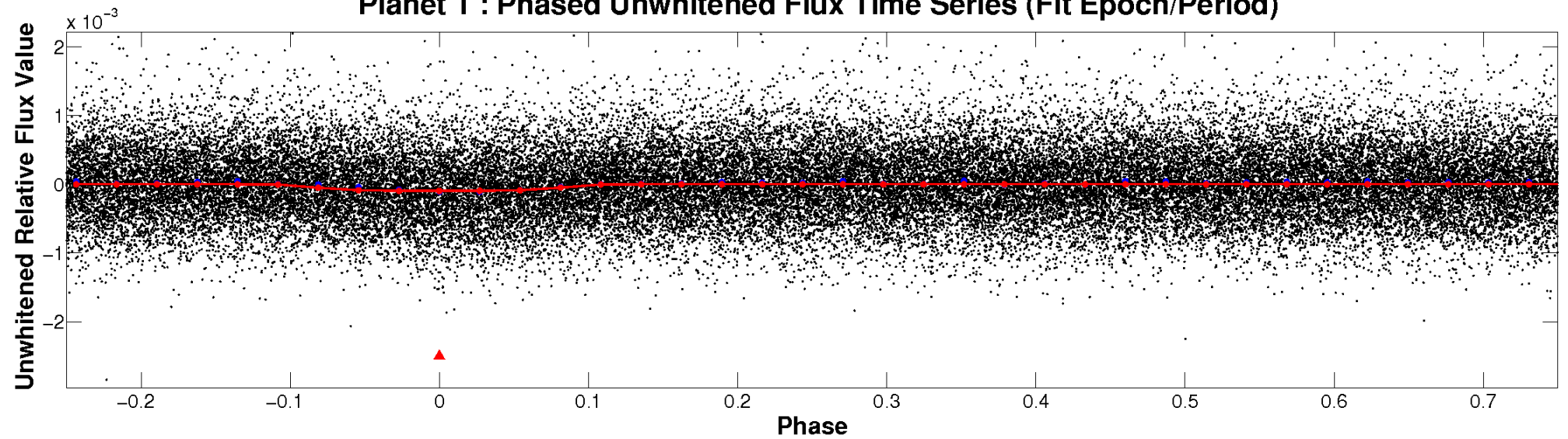
ALT Odd/Even

TCE 005513857-01

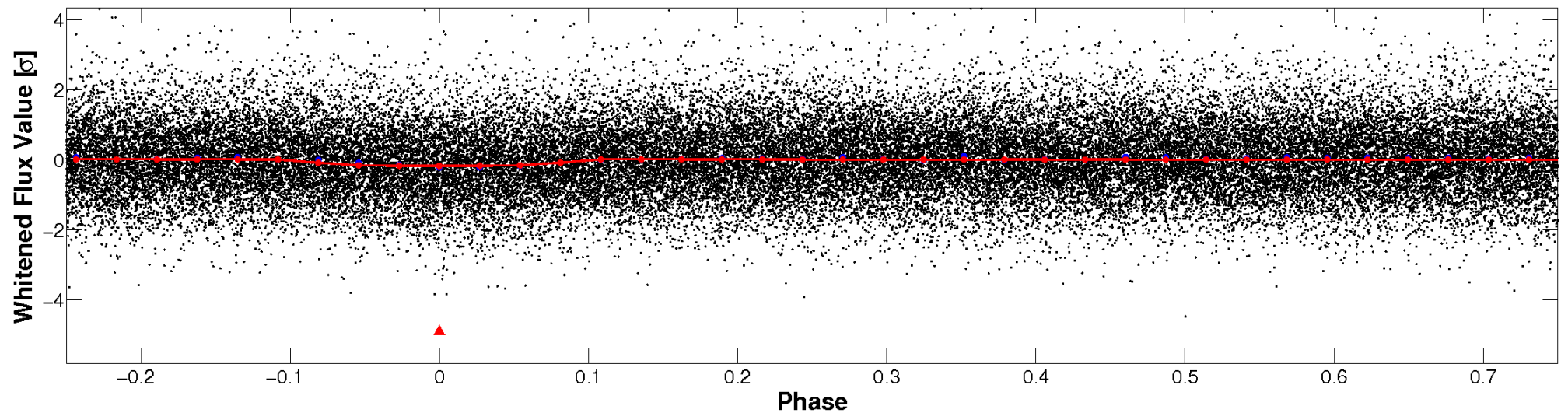


Non-Whitened Vs. Whitened Light Curve

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

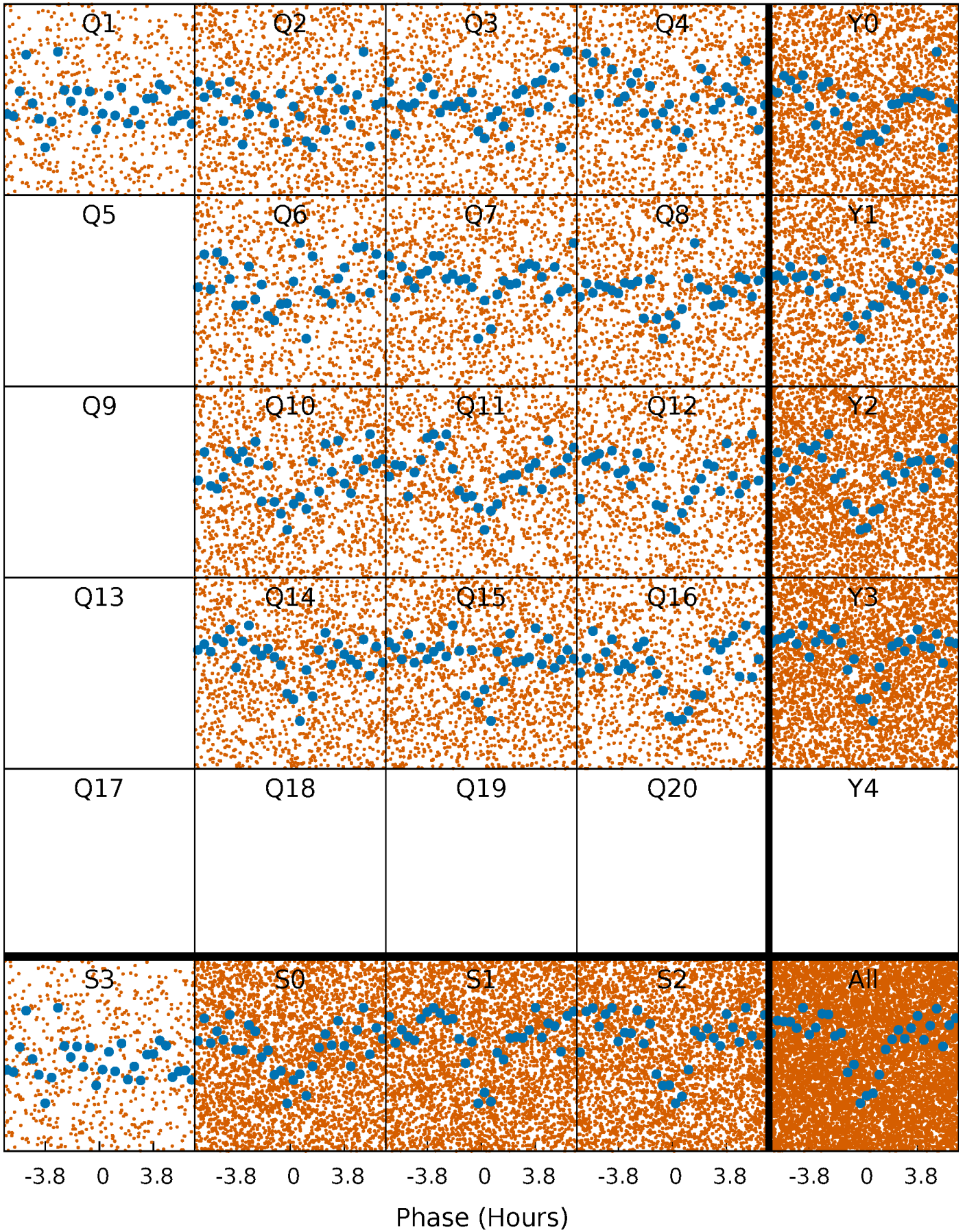


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



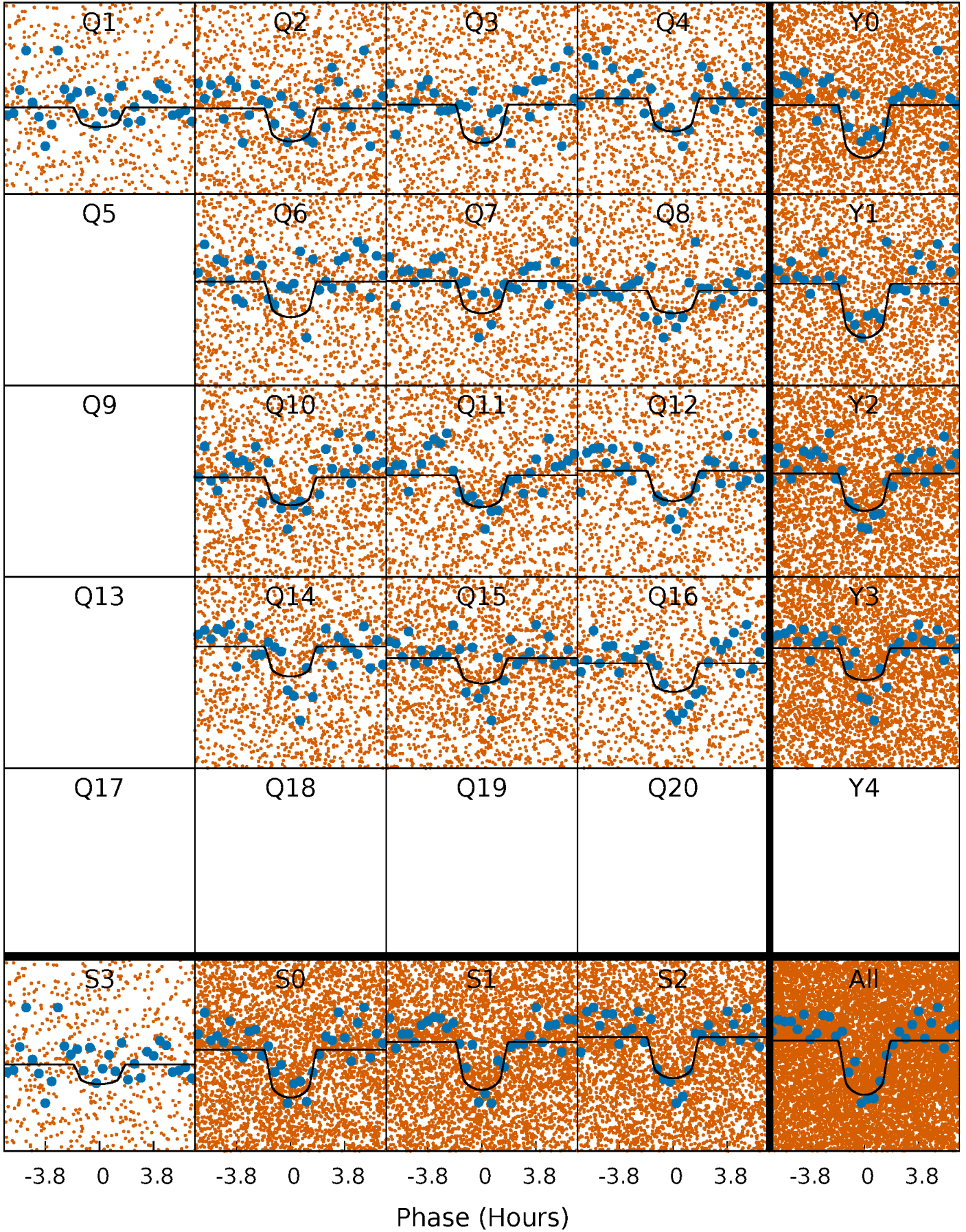
PDC Quarter-Phased Transit Curves

TCE 005513857-01 P= 0.755095 Days $T_0=131.810250$ (BKJD)



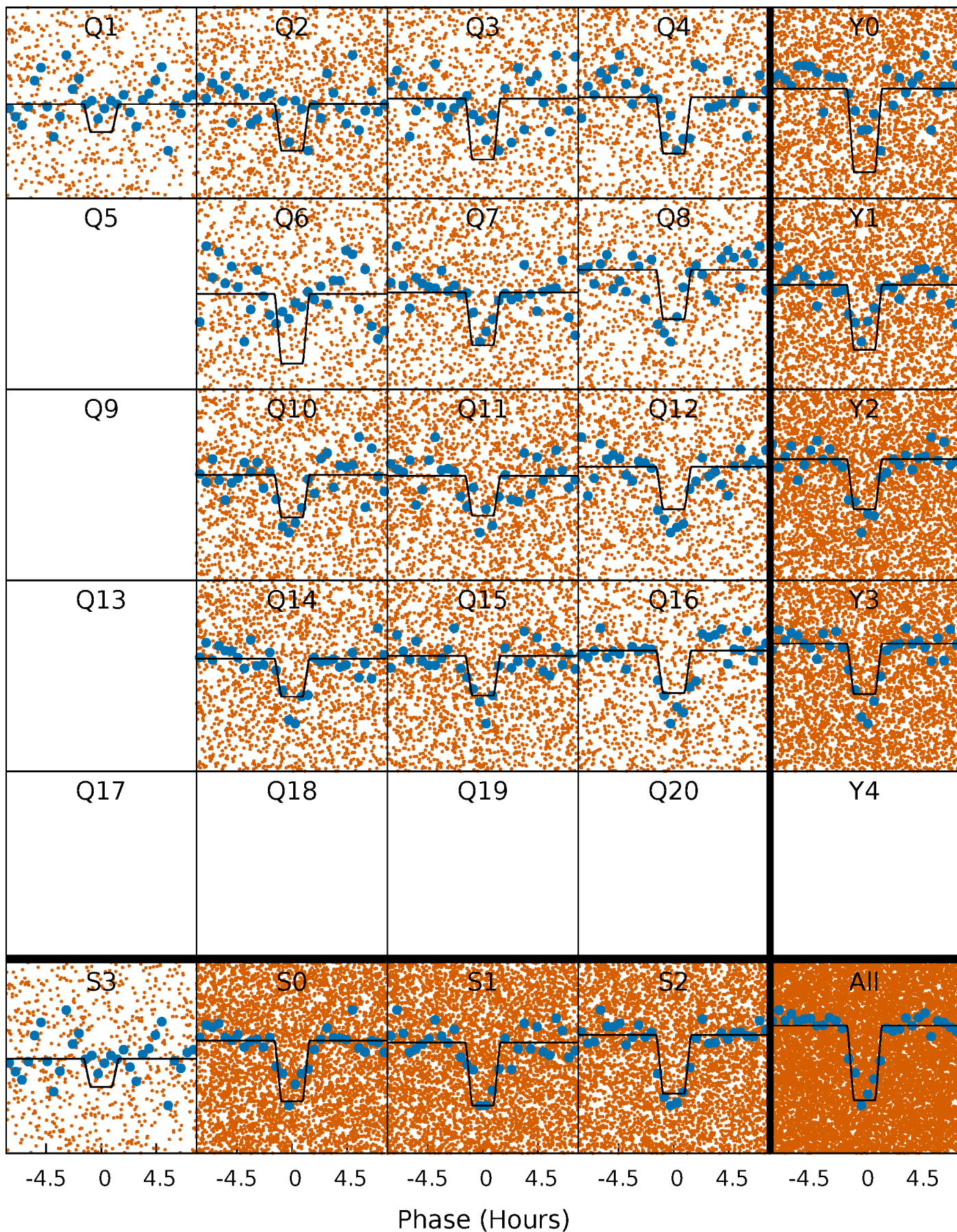
DV Quarter-Phased Transit Curves

TCE 005513857-01 P= 0.755095 Days $T_0=131.810250$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

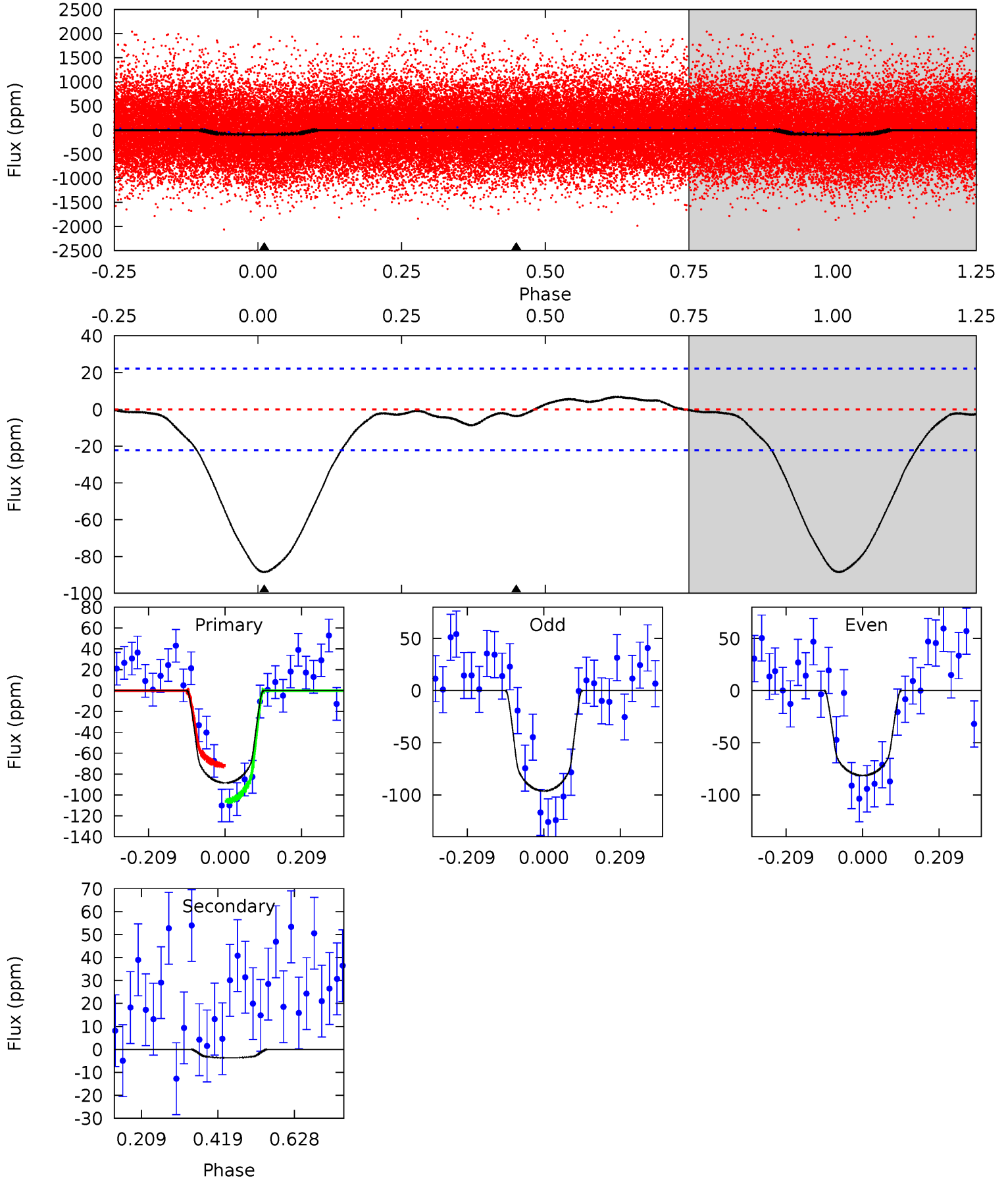
TCE 005513857-01 P= 0.755108 Days $T_0=131.806758$ (BKJD)



DV Model-Shift Uniqueness Test

005513857-01, P = 0.755095 Days, E = 131.055155 Days

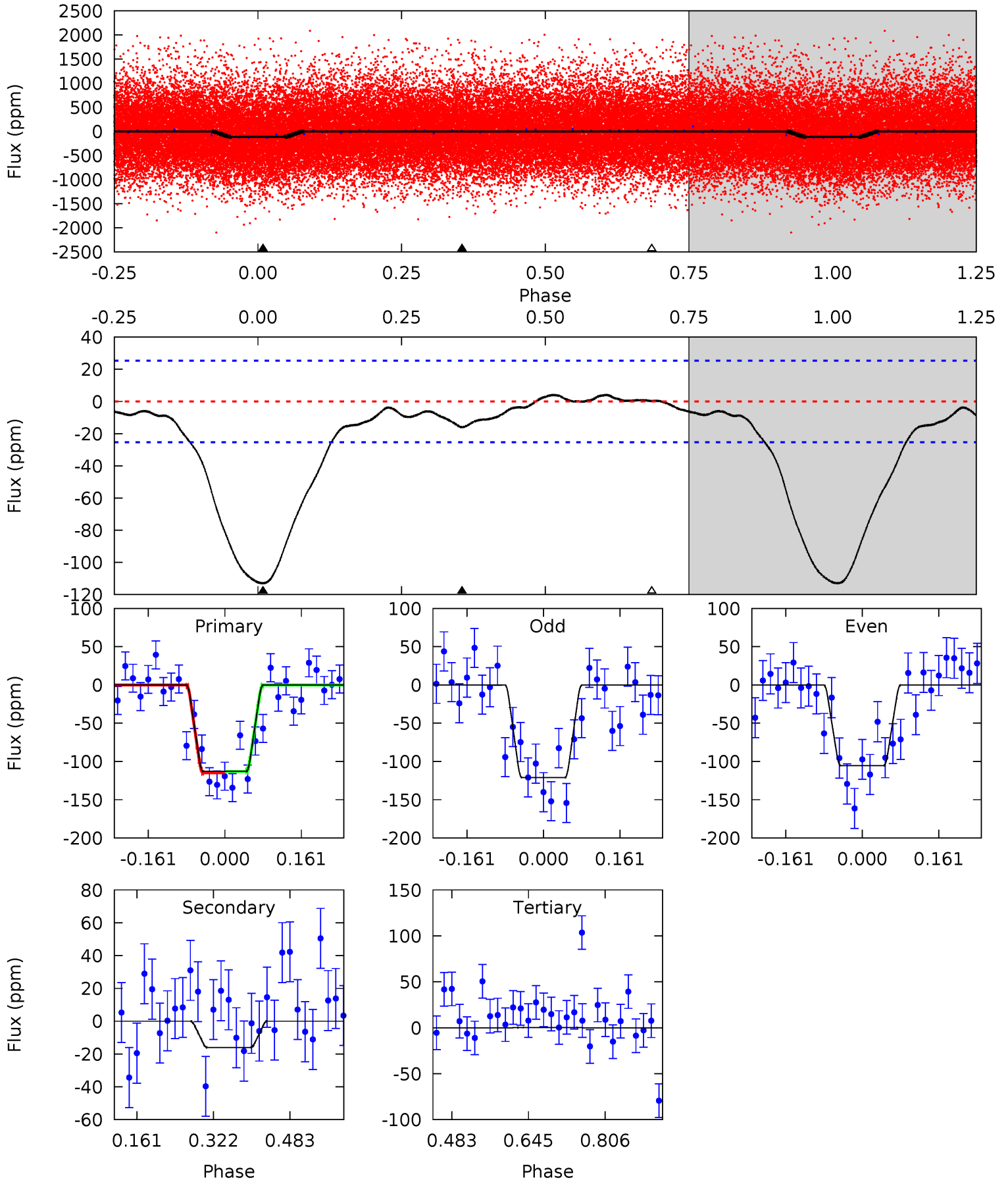
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	0.74	0	0	4.41	1.25	0.56	17.6	17.6	0.74	0.74	1.48	0.84	0.07	3.41



Alt Model-Shift Uniqueness Test

005513857-01, P = 0.755108 Days, E = 131.051650 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.9	2.82	-0.04	0	4.46	1.40	0.88	19.9	19.9	2.86	2.82	1.39	0.95	0.04	0.18



Stellar Parameters For KIC 005513857

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5465^{+164}_{-164}	$4.535^{+0.057}_{-0.124}$	$-0.180^{+0.300}_{-0.300}$	$0.819^{+0.163}_{-0.088}$	$0.840^{+0.099}_{-0.082}$	$2.153^{+0.582}_{-0.815}$
	+3%/-3%	+1%/-3%	+167%/-167%	+20%/-11%	+12%/-10%	+27%/-38%
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 005513857-01 / KOI 4119.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 5	$0.99^{+0.49}_{-0.49}$	2491^{+127}_{-107}	2577^{+1035}_{-5503}	$0.475^{+1.568}_{-0.609}$
Alt.	-16 ± 6	$1.05^{+0.55}_{-0.49}$	2498^{+116}_{-102}	3543^{+1000}_{-620}	$1.835^{+4.618}_{-1.104}$

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

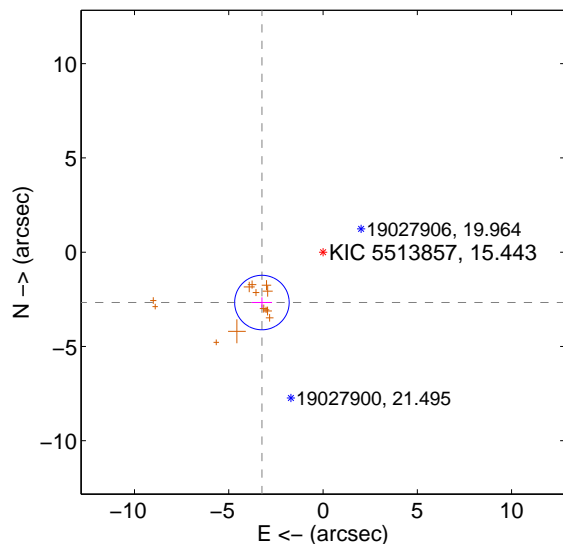
Supplemental centroid analysis for 005513857-01. Kepler magnitude: 15.44. Transit SNR 13.96

There are 0 quarters with good PRF difference image offsets

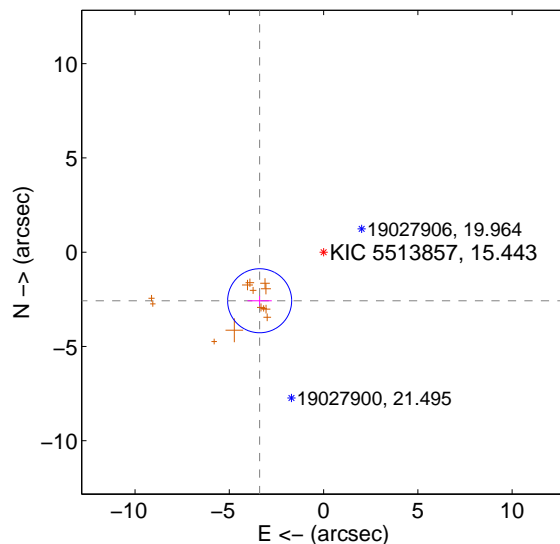
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.201 ± 0.482	8.72	3.243 ± 0.537	-2.672 ± 0.275
PRF-fit source offset from KIC position	4.259 ± 0.566	7.52	3.392 ± 0.644	-2.576 ± 0.252
photometric centroid source offset	7.49 ± 1.07	7.02	7.48 ± 1.07	-0.35 ± 0.98

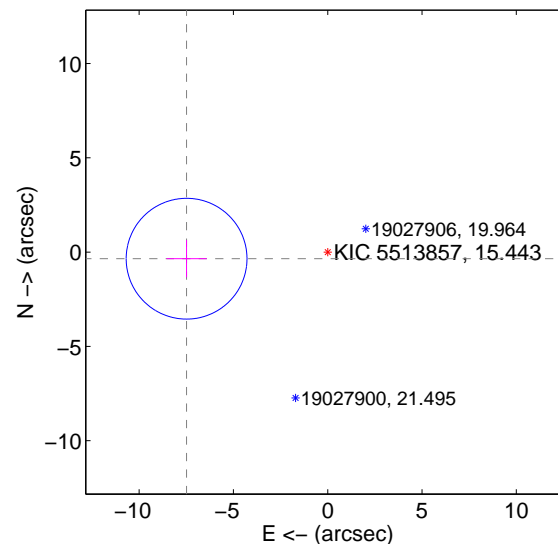
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

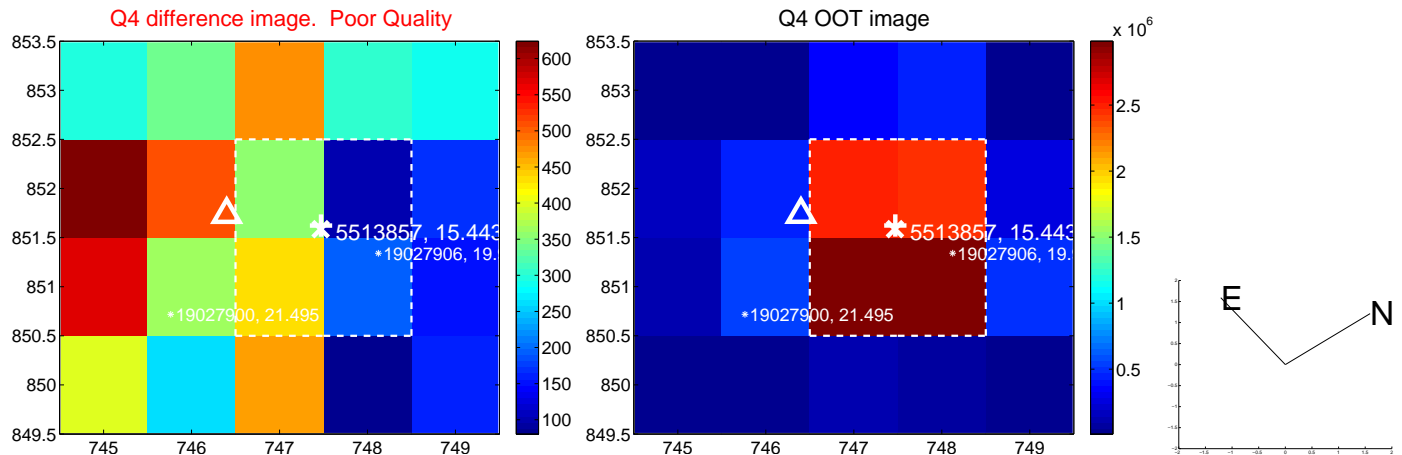
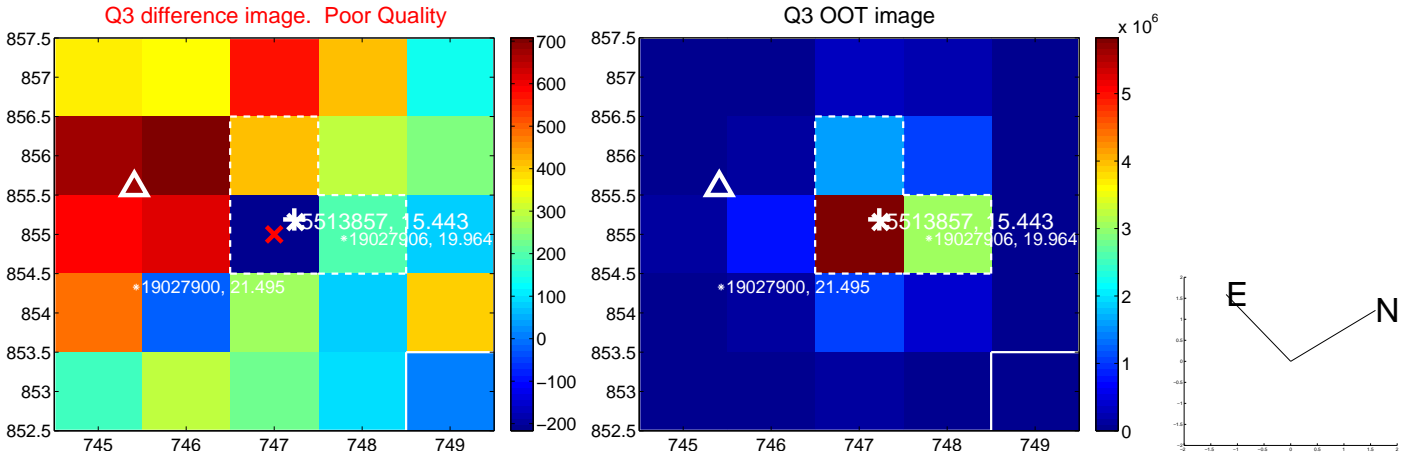
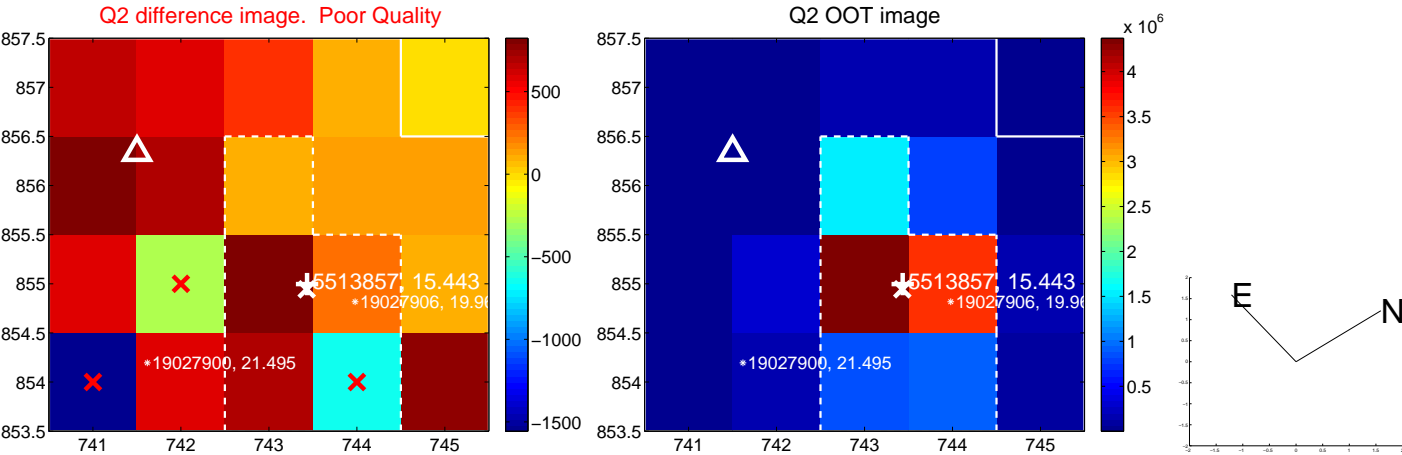
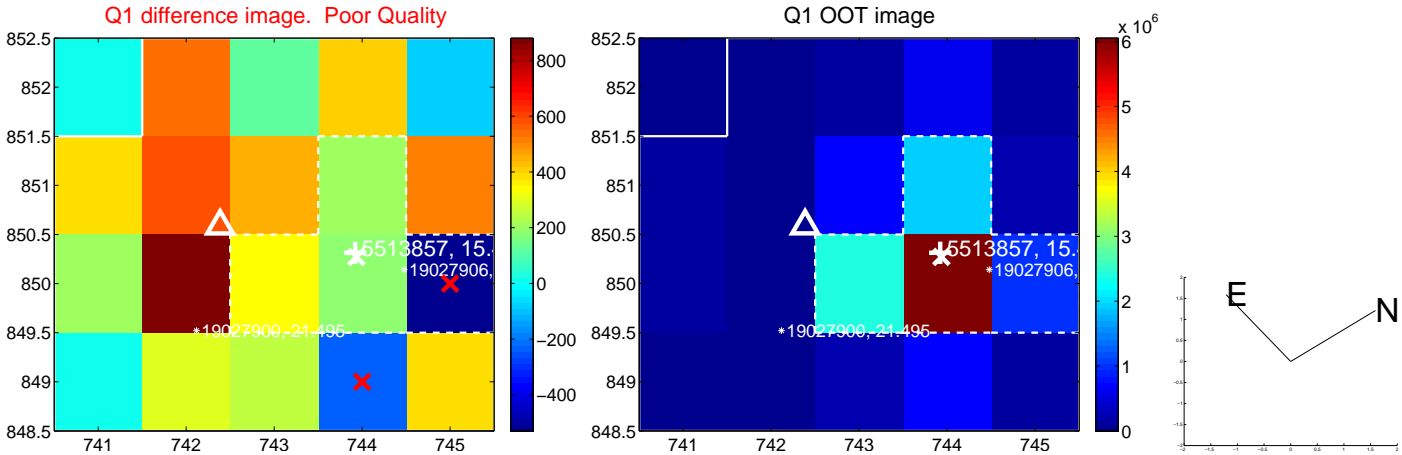


offset from photometric centroids

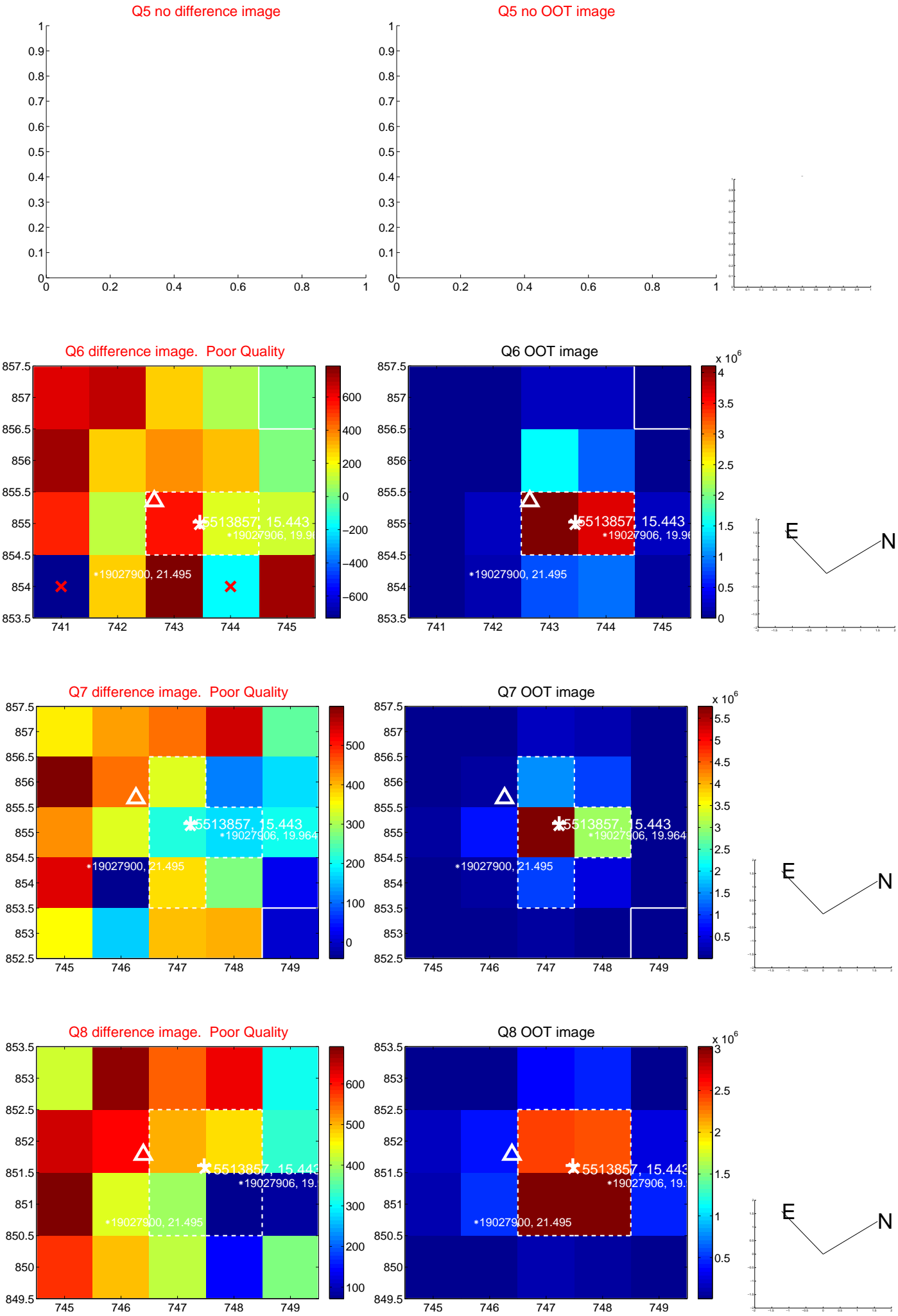


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

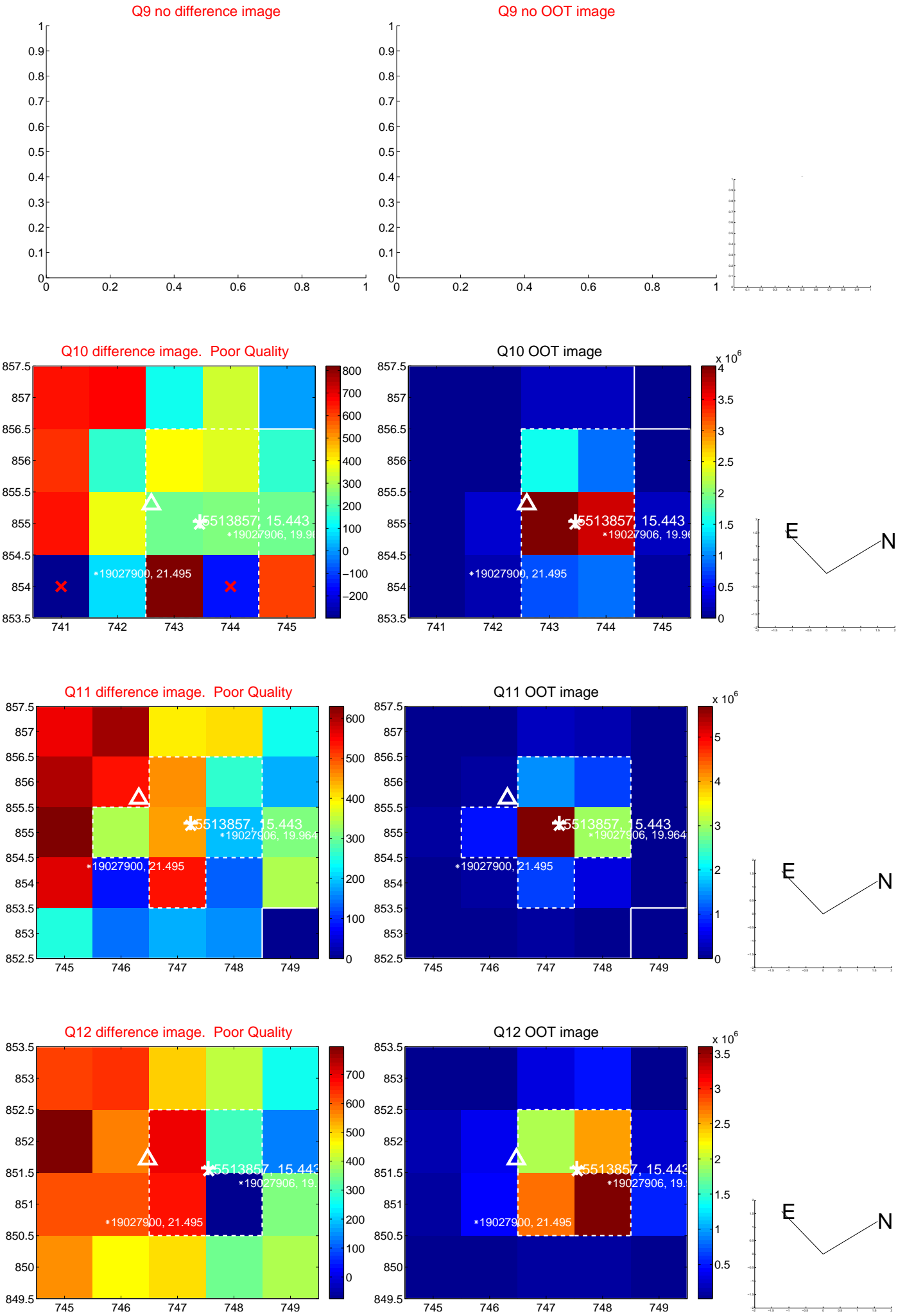
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



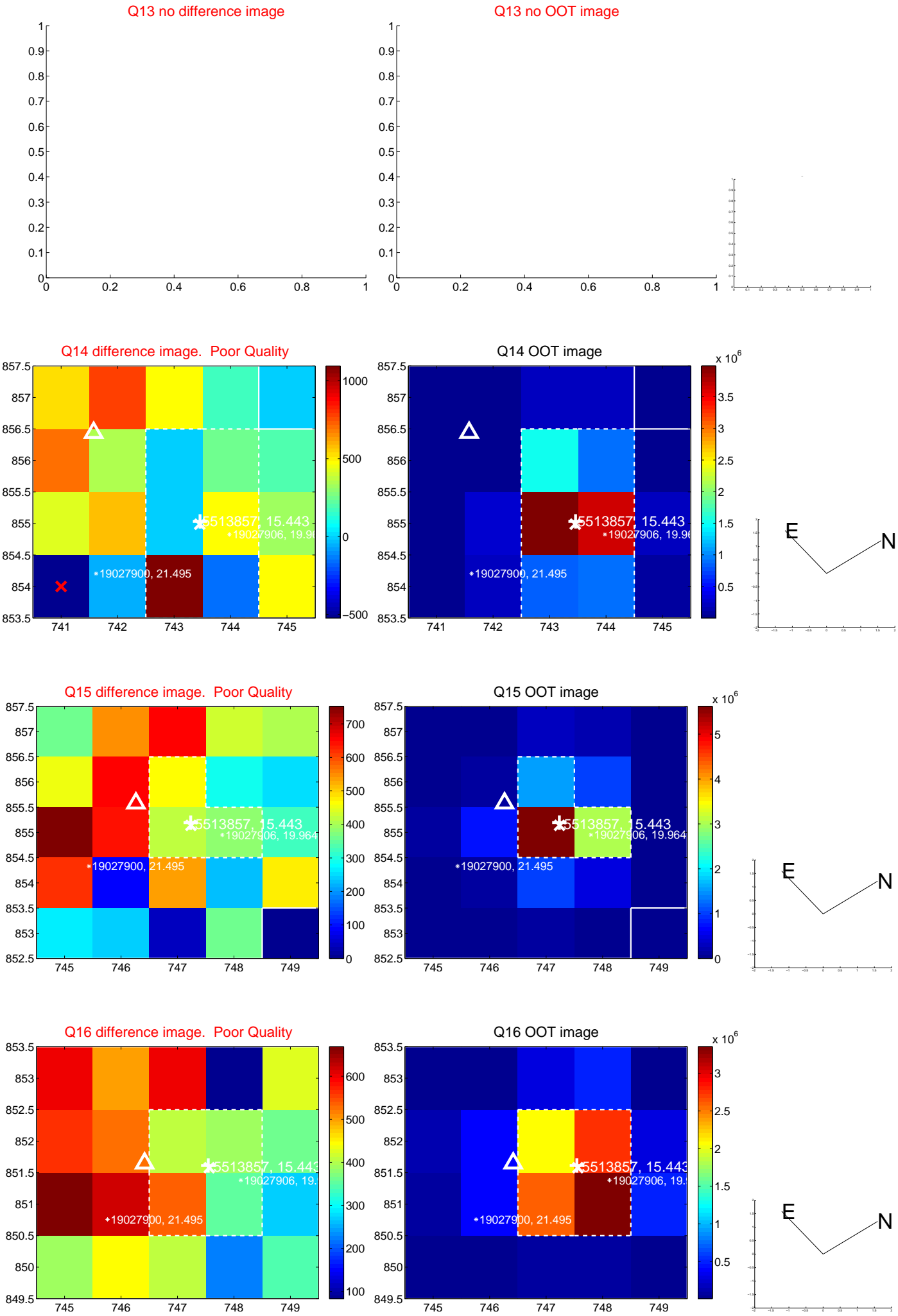
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



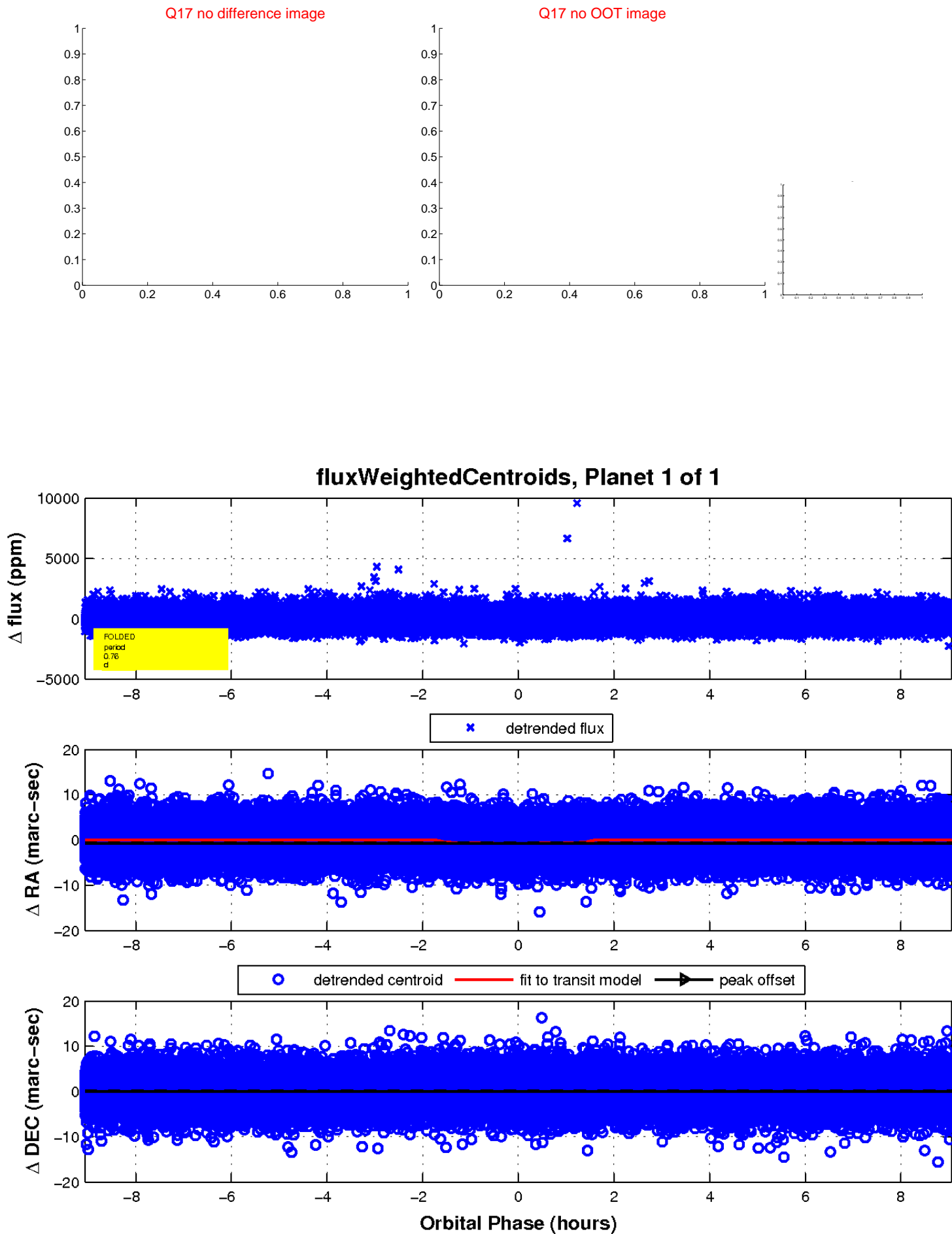
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

