

KIC 009886255

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})
009886255-01	OBS	1846.01	105.956839	182.050084	2306.7	7.153	35.4	38.1	0.80	5327	3.99	2.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009886255-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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 009886255-01

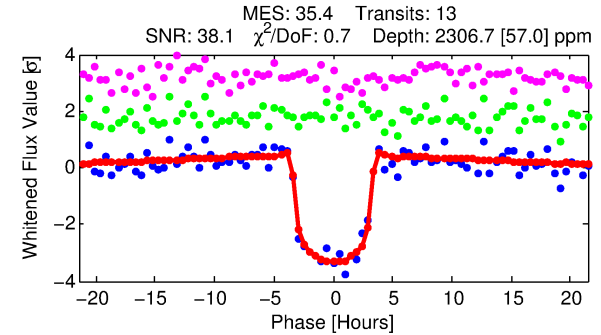
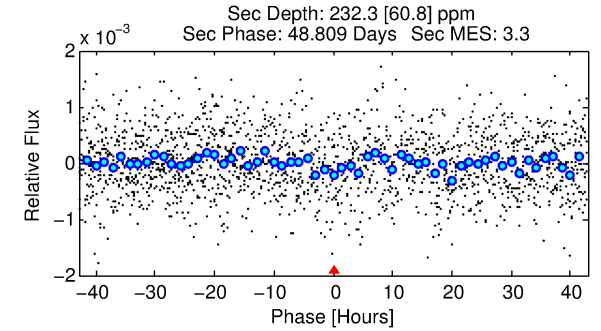
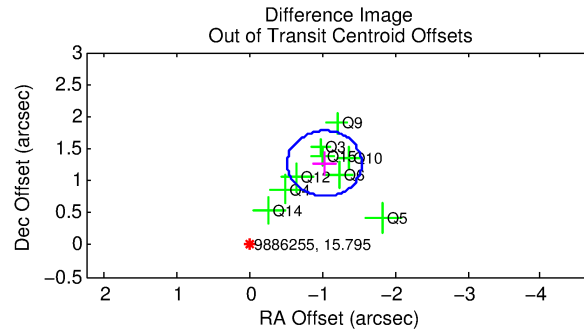
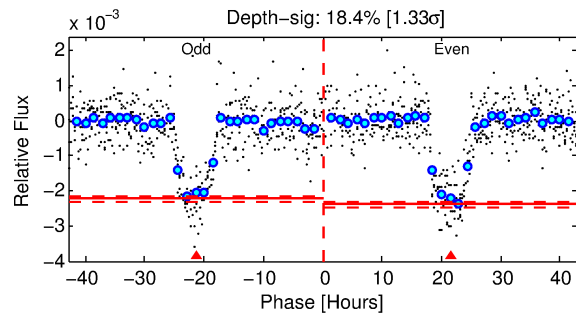
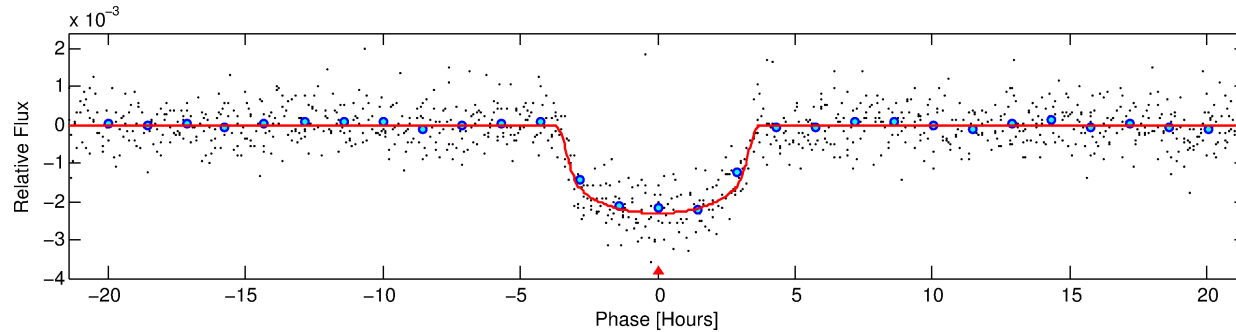
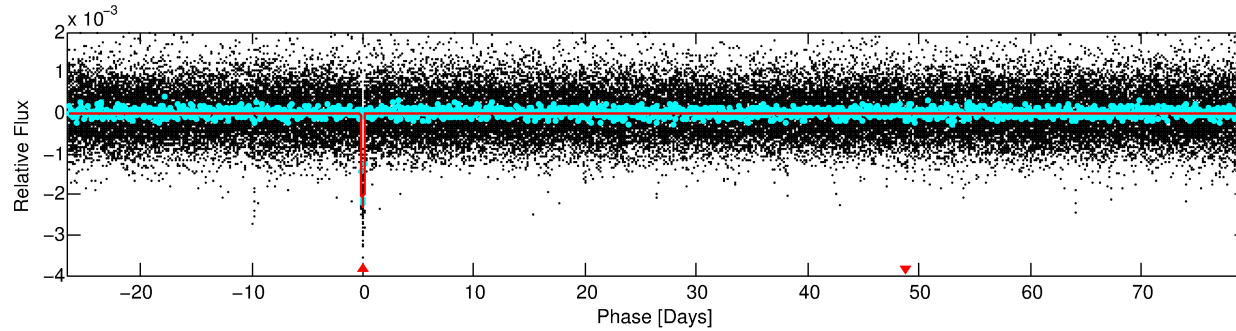
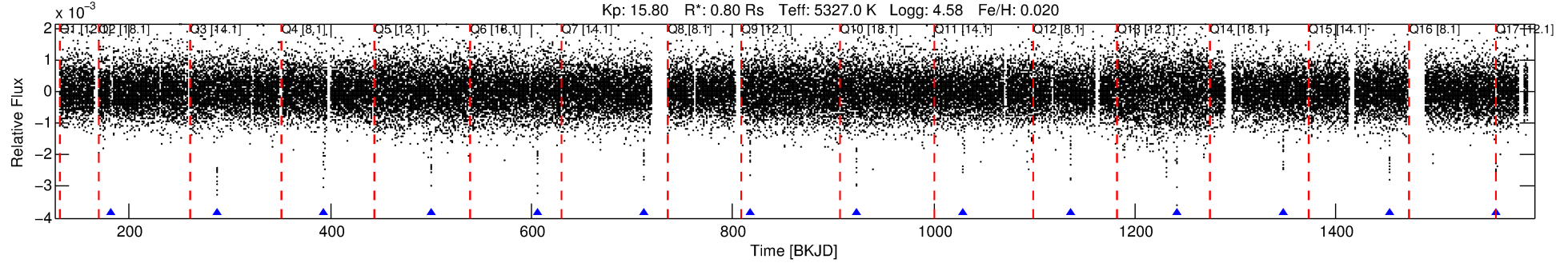
No Significant Match Found

DV One-Page Summary

KIC: 9886255 Candidate: 1 of 1 Period: 105.957 d

KOI: K01846.01 Corr: 0.987

Kp: 15.80 R*: 0.80 Rs Teff: 5327.0 K Logg: 4.58 Fe/H: 0.020



DV Fit Results:

Period = 105.95684 [0.00040] d
Epoch = 182.0501 [0.0033] BKJD
Rp/R* = 0.0457 [0.0047]
a/R* = 96.16 [36.83]
b = 0.61 [0.40]
Seff = 2.60 [0.58]
Teq = 324 [18] K
Rp = 3.99 [0.74] Re
a = 0.4215 [0.0547] AU
Ag = 1428.28 [549.02] [2.60σ]
Teffp = 3077 [273] K [10.07σ]

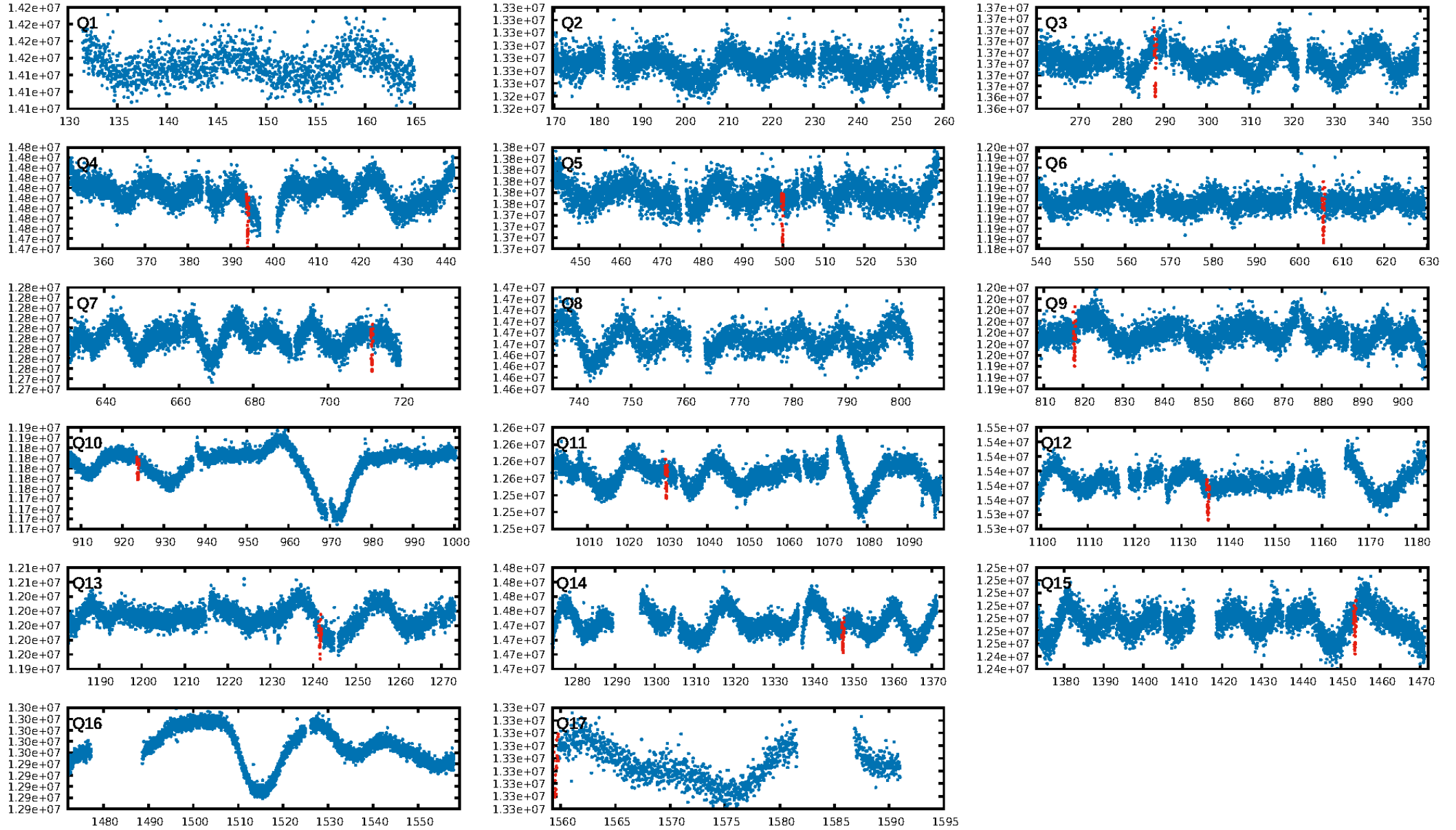
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 42.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.21e-197
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: 2.497
Centroid-sig: 20.0%
Centroid-so: 0.921 arcsec [3.54σ]
OotOffset-rm: 1.633 arcsec [9.58σ]
KicOffset-rm: 0.099 arcsec [0.82σ]
OotOffset-st: 3/2/2/2 [9]
KicOffset-st: 3/2/2/2 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

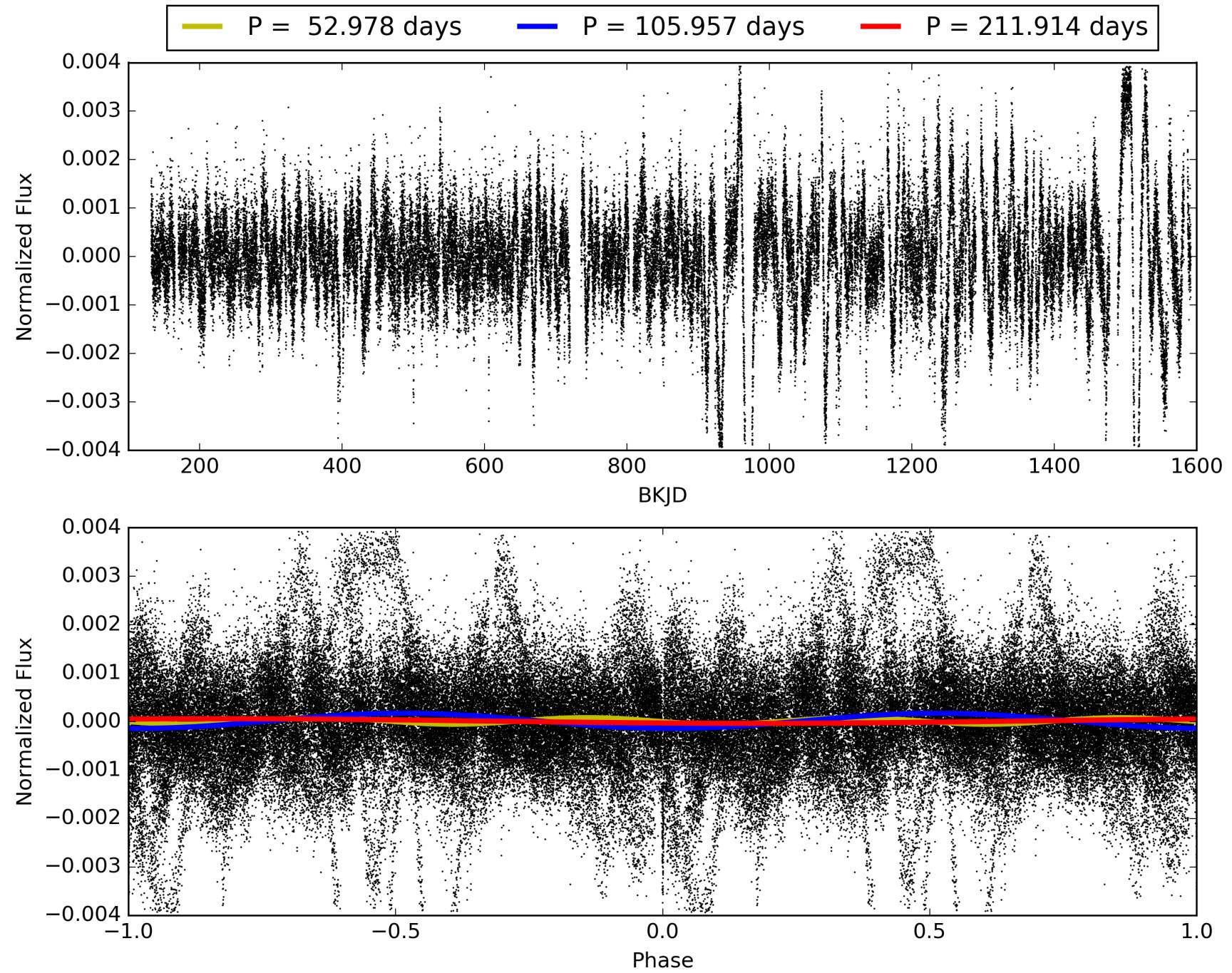
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:16:21 Z

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

TCE 009886255-01, PDC Light Curves

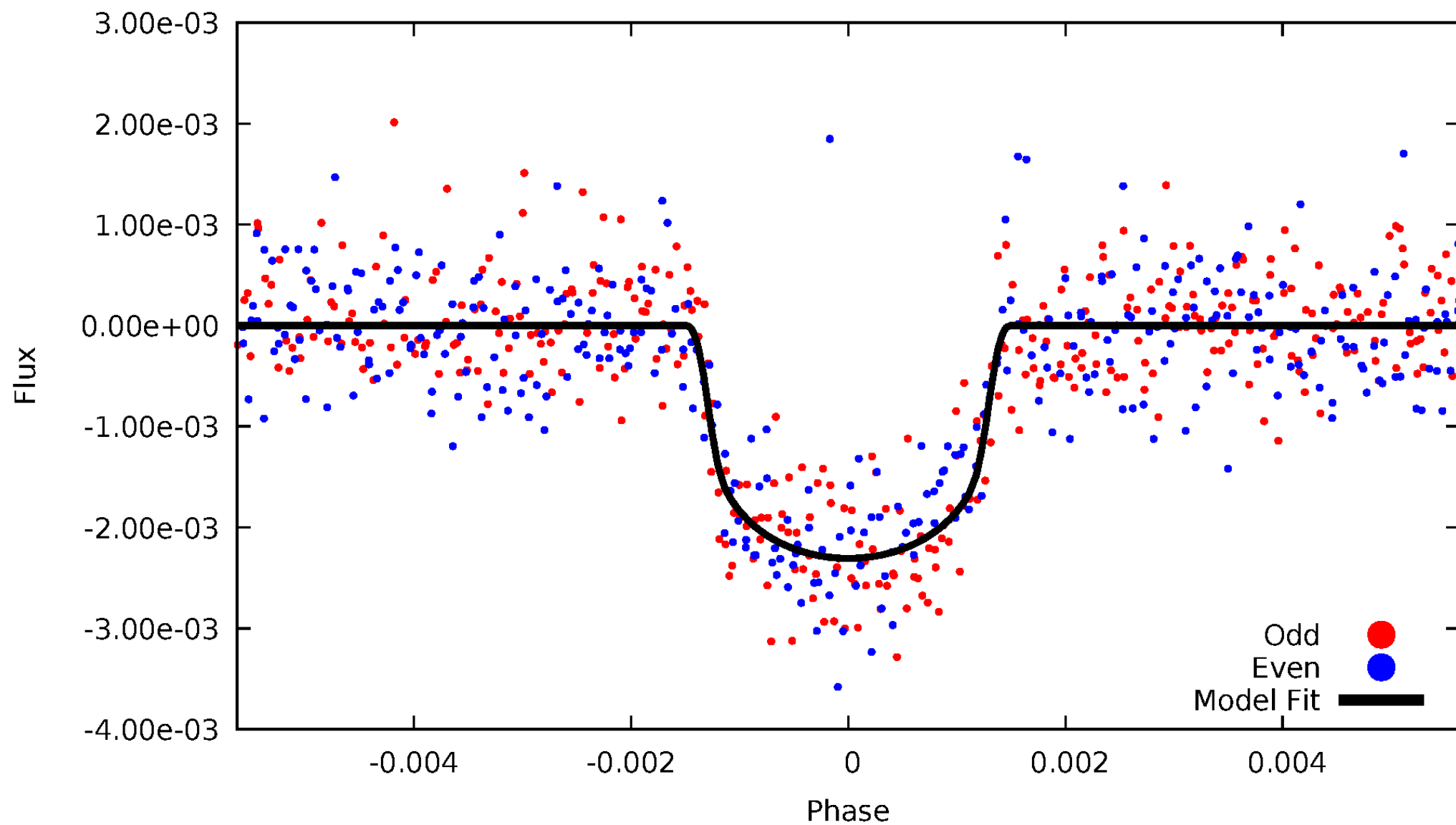


TCE 009886255-01



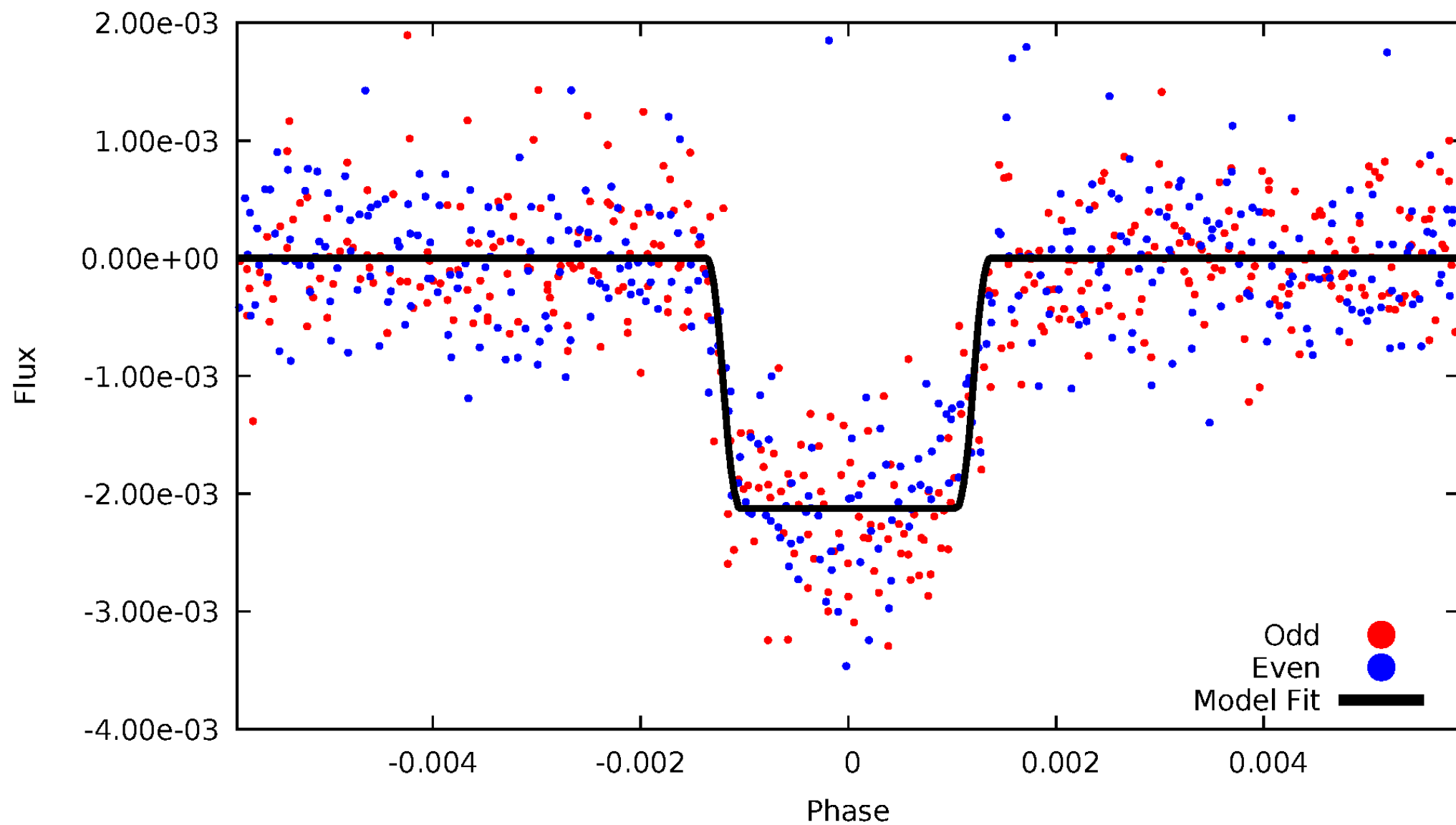
DV Odd/Even

TCE 009886255-01



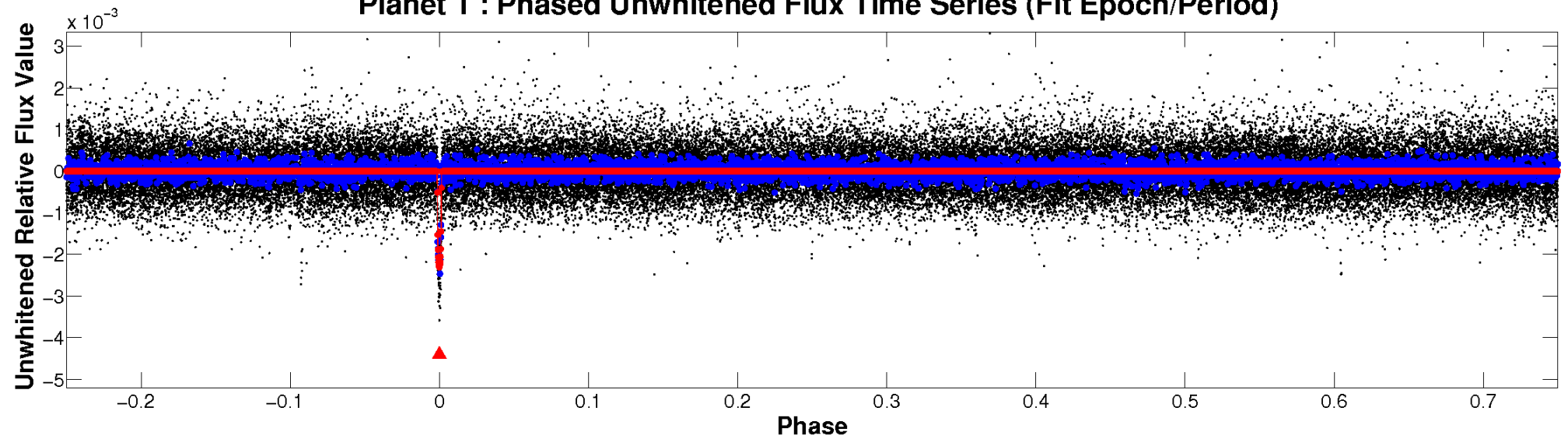
ALT Odd/Even

TCE 009886255-01

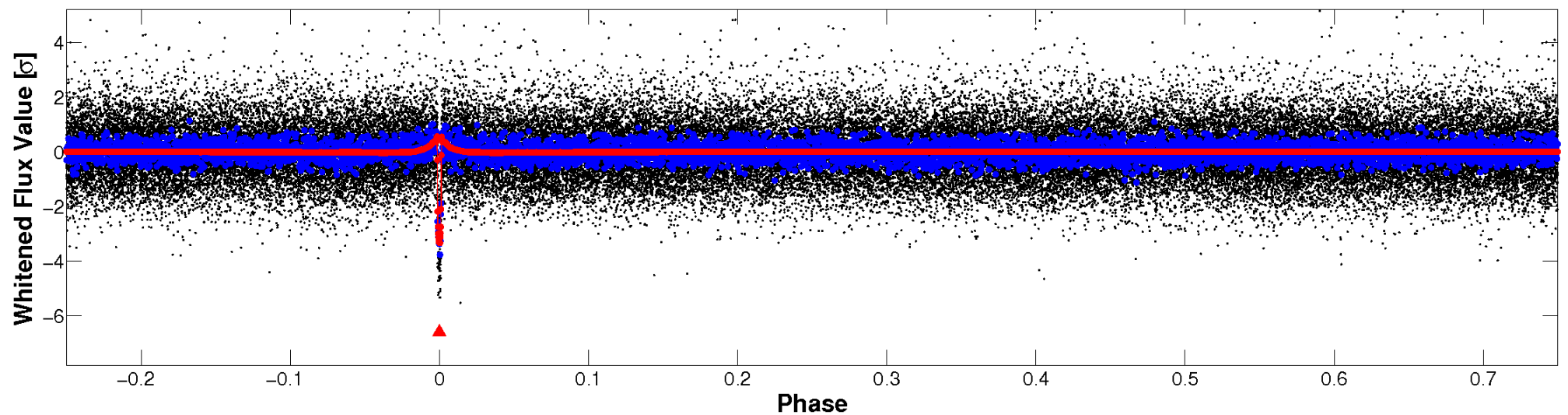


Non-Whitened Vs. Whitened Light Curve

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

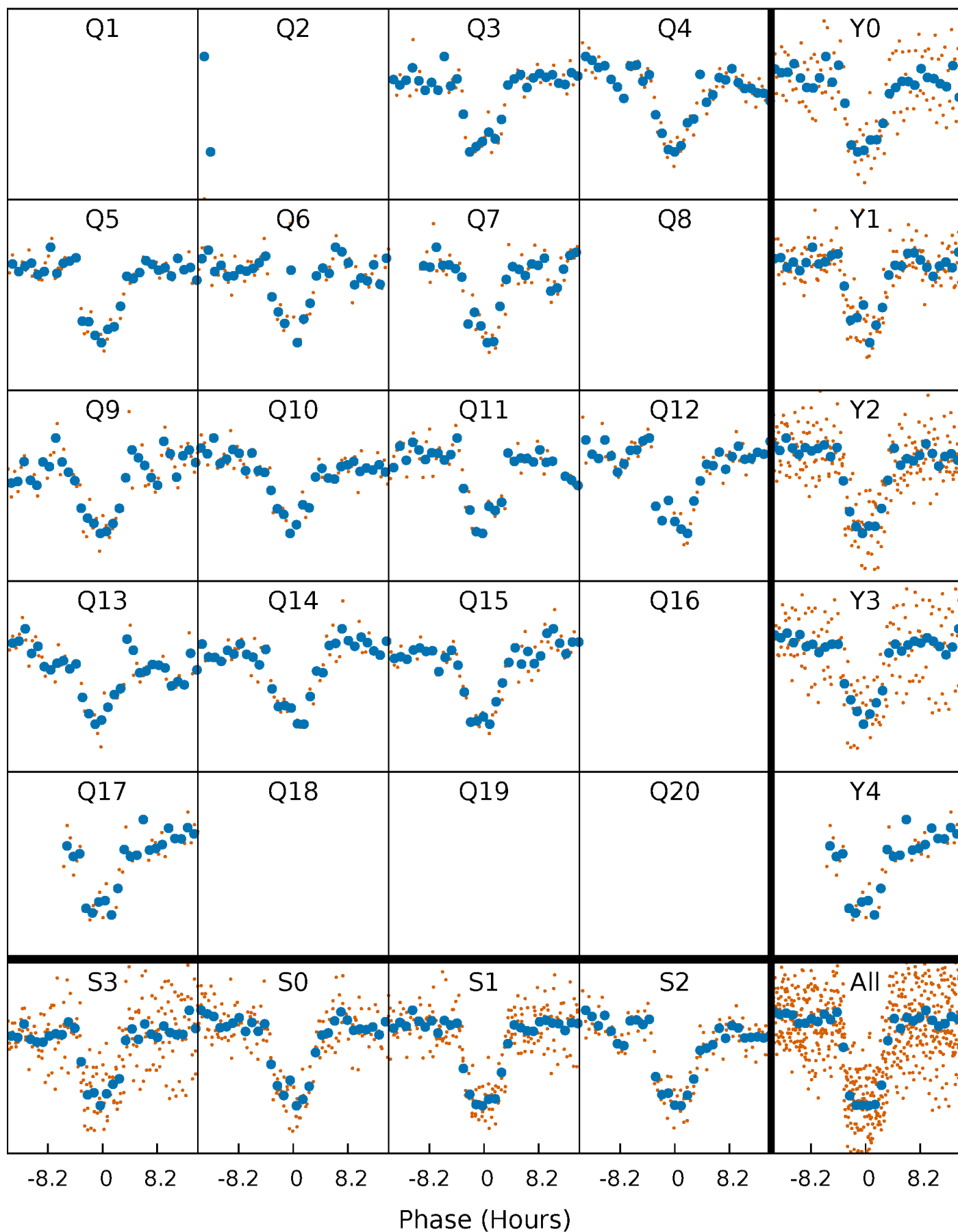


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



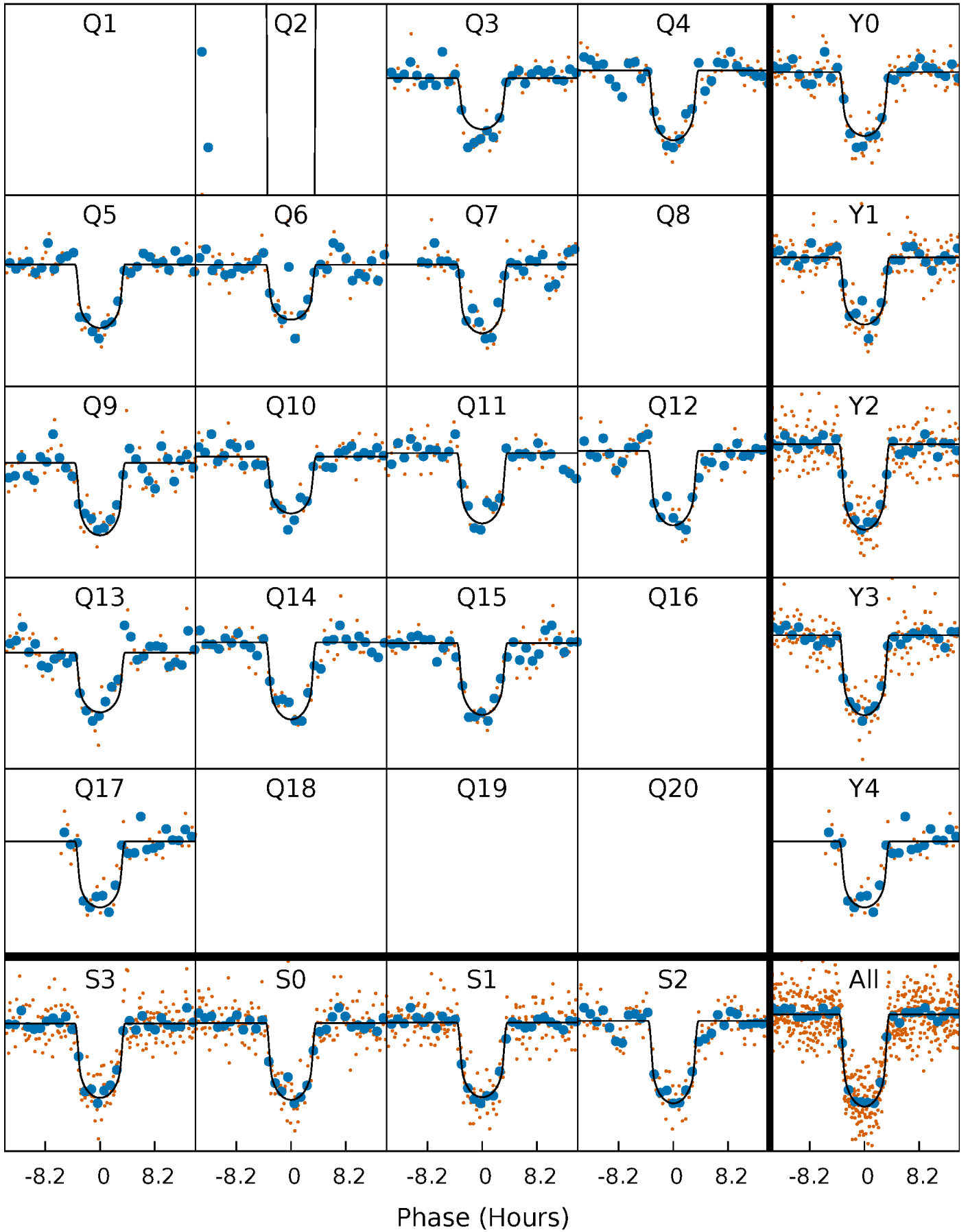
PDC Quarter-Phased Transit Curves

TCE 009886255-01 P=105.956839 Days $T_0=182.050084$ (BKJD)



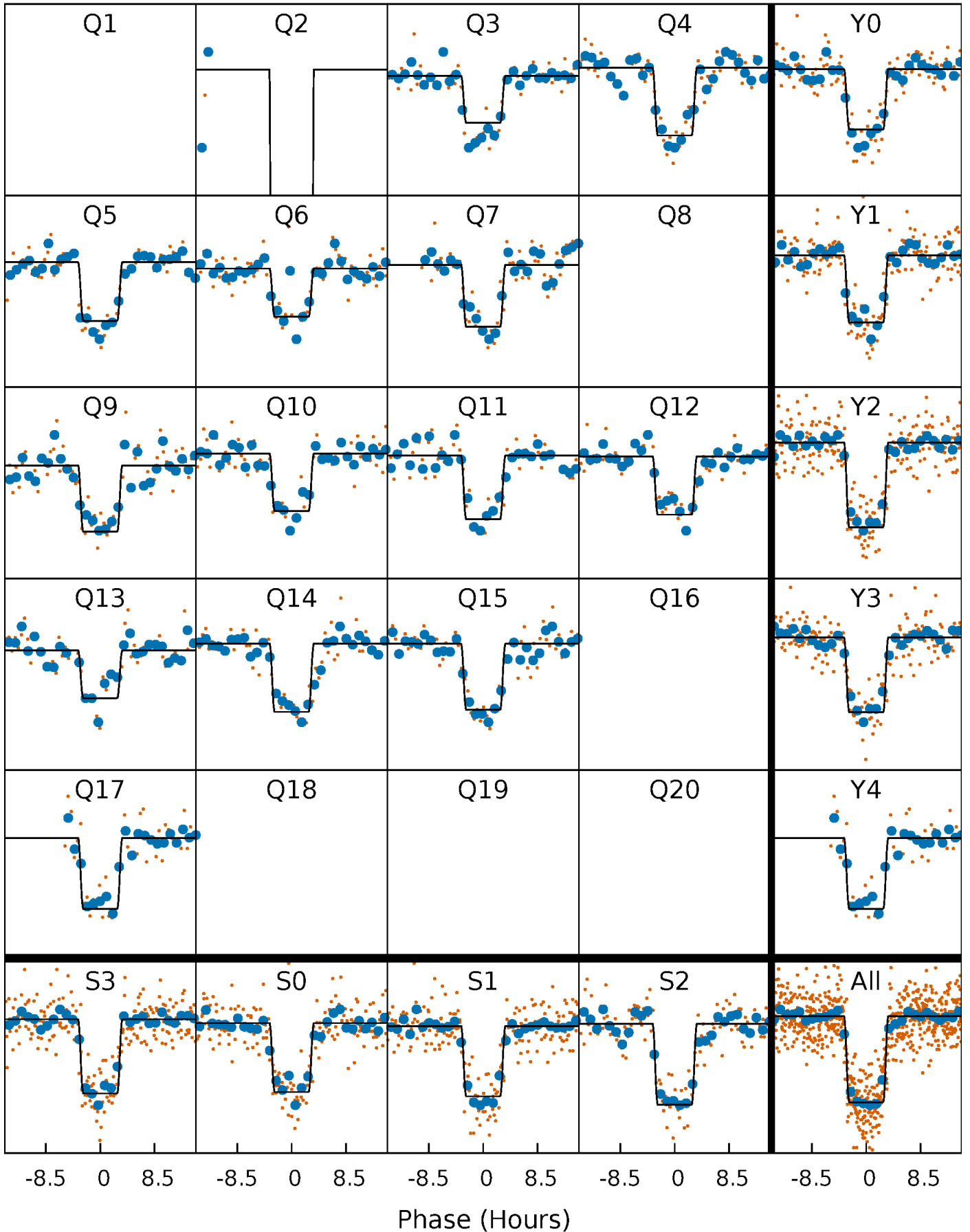
DV Quarter-Phased Transit Curves

TCE 009886255-01 P=105.956839 Days $T_0=182.050084$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

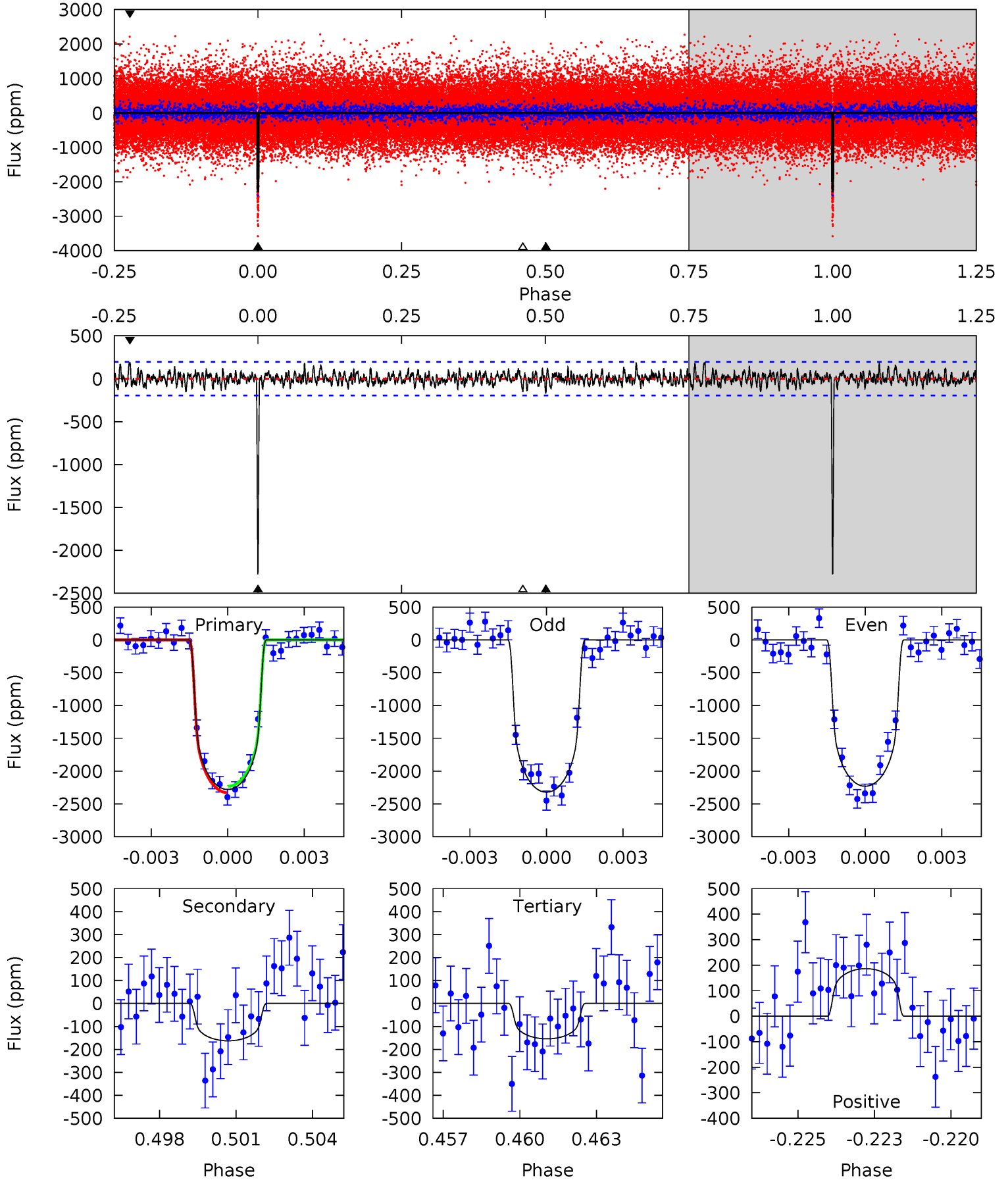
TCE 009886255-01 P=105.955199 Days $T_0=182.058450$ (BKJD)



DV Model-Shift Uniqueness Test

009886255-01, $P = 105.956839$ Days, $E = 76.093245$ Days

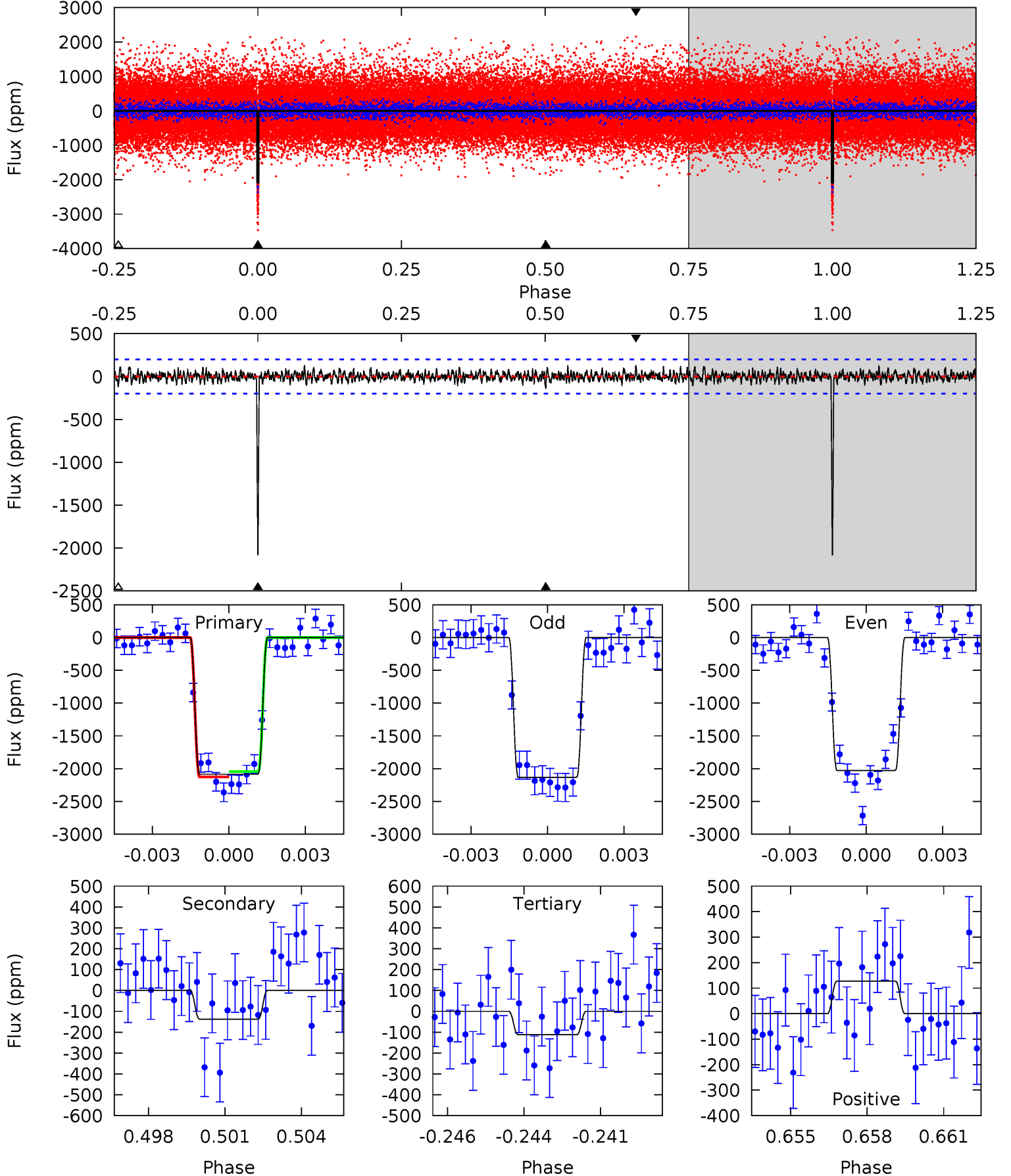
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
60.9	4.34	4.11	4.98	5.25	2.97	1.41	56.8	55.9	0.23	-0.63	1.22	1.03	0.08	1.31



Alt Model-Shift Uniqueness Test

009886255-01, $P = 105.955199$ Days, $E = 76.103251$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.0	3.63	2.97	3.36	5.27	3.00	0.99	52.0	51.6	0.67	0.27	1.39	1.04	0.06	1.08



Stellar Parameters For KIC 009886255

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5327^{+159}_{-159}	$4.581^{+0.035}_{-0.105}$	$0.020^{+0.250}_{-0.300}$	$0.800^{+0.122}_{-0.066}$	$0.891^{+0.061}_{-0.104}$	$2.451^{+0.442}_{-0.786}$
	+3%/-3%	+1%/-2%	+1250%/-1500%	+15%/-8%	+7%/-12%	+18%/-32%
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 009886255-01 / KOI 1846.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-163 ± 37	$4.06^{+0.54}_{-0.50}$	457^{+20}_{-16}	3328^{+182}_{-177}	929^{+377}_{-275}
Alt.	-138 ± 38	$4.09^{+0.50}_{-0.47}$	458^{+20}_{-18}	3243^{+178}_{-189}	775^{+345}_{-257}

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 $A_{obs} \gg 1.0$

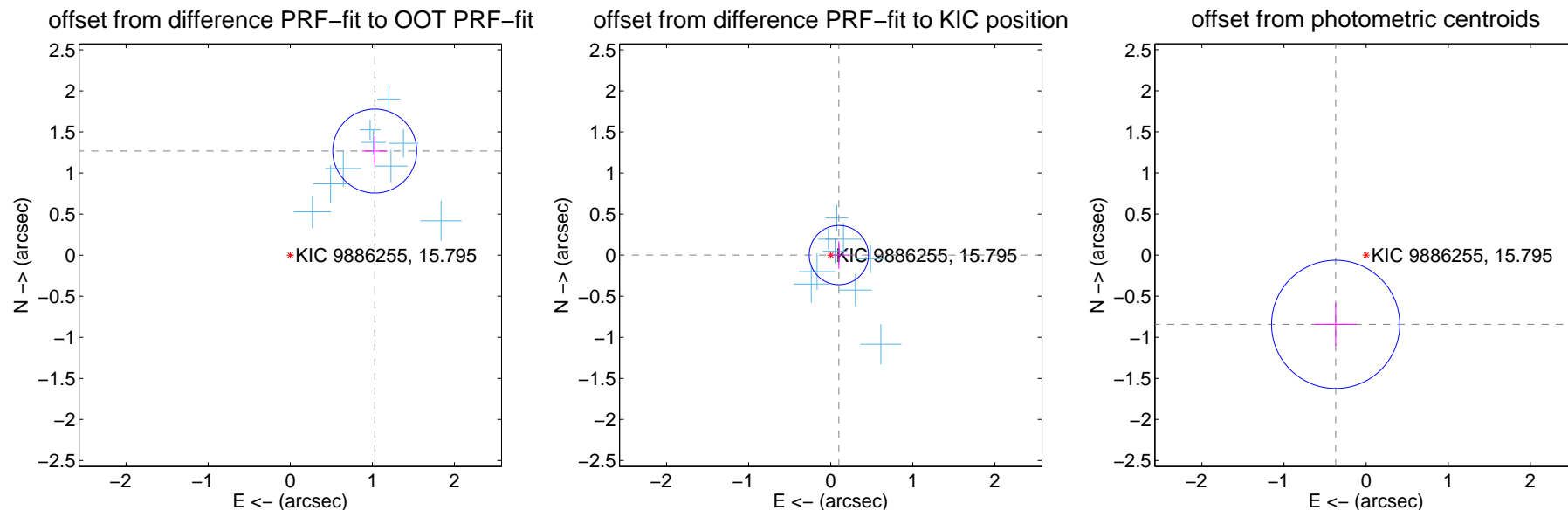
DV Centroid Data

Supplemental centroid analysis for 009886255-01. Kepler magnitude: 15.79. Transit SNR 38.10

There are 9 quarters with good PRF difference image offsets

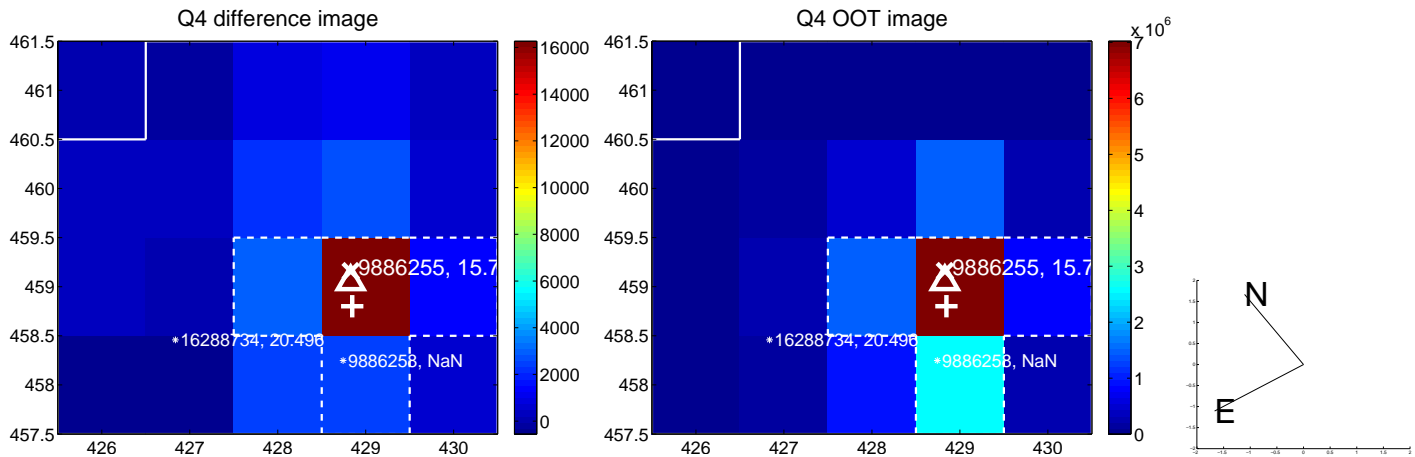
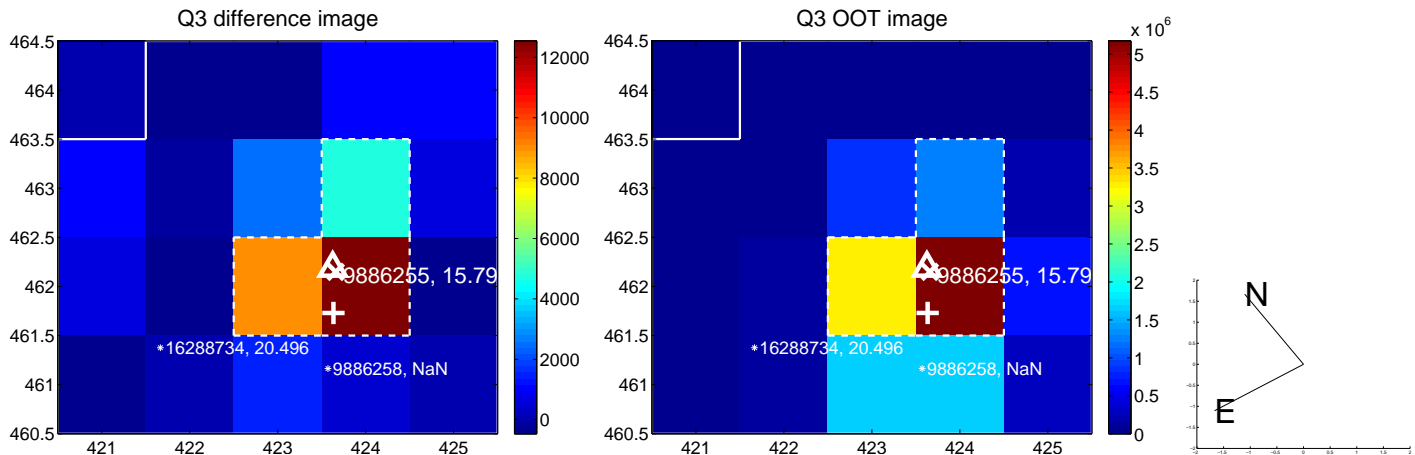
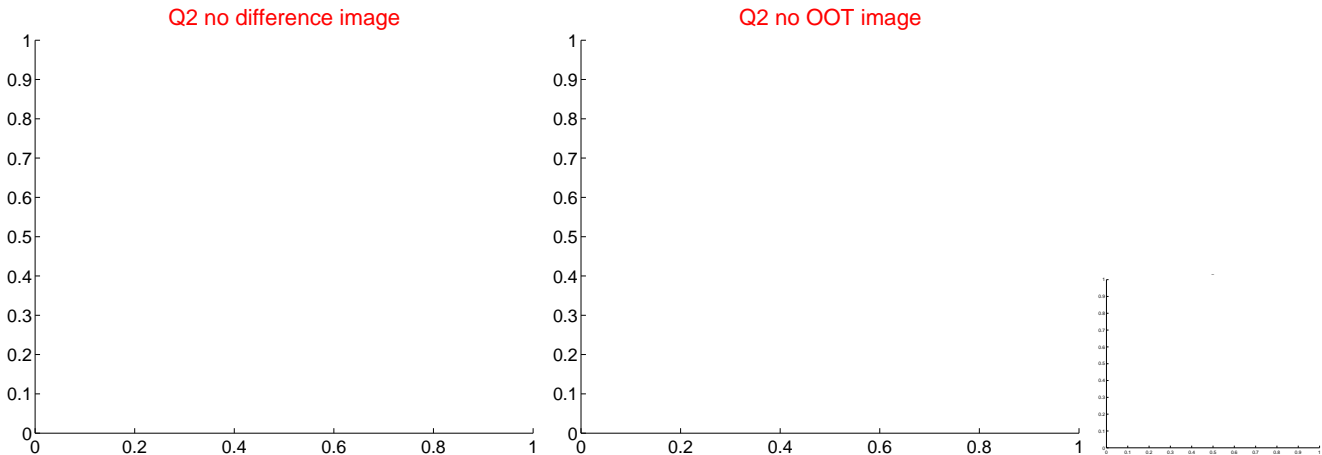
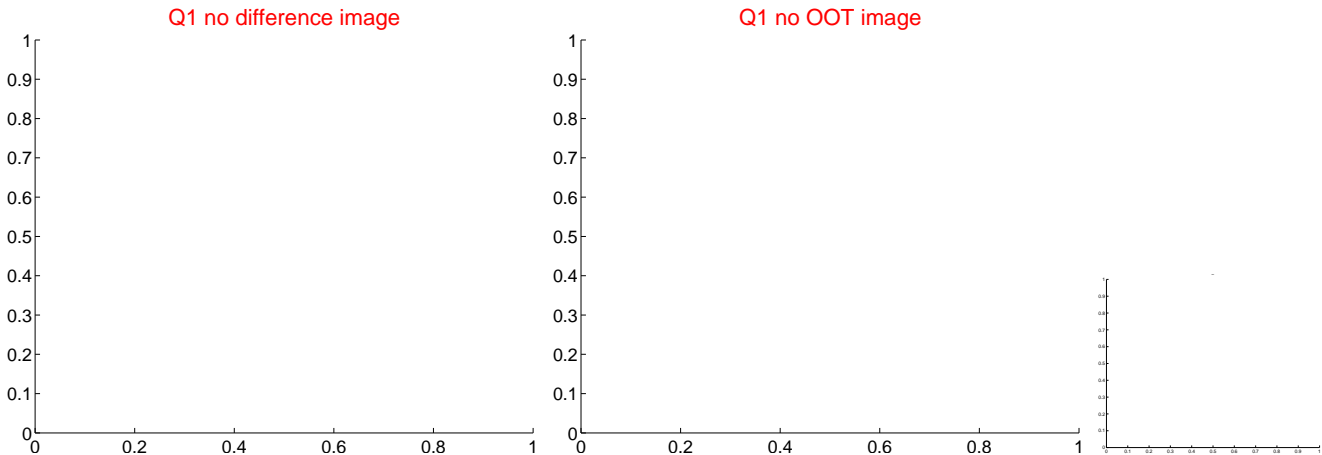
The direct PRF centroid is offset from the target star catalog position by about 1.64 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.633 ± 0.170	9.58	-1.029 ± 0.153	1.268 ± 0.181
PRF-fit source offset from KIC position	0.099 ± 0.120	0.82	-0.099 ± 0.121	0.001 ± 0.167
photometric centroid source offset	0.92 ± 0.26	3.54	0.37 ± 0.25	-0.84 ± 0.26

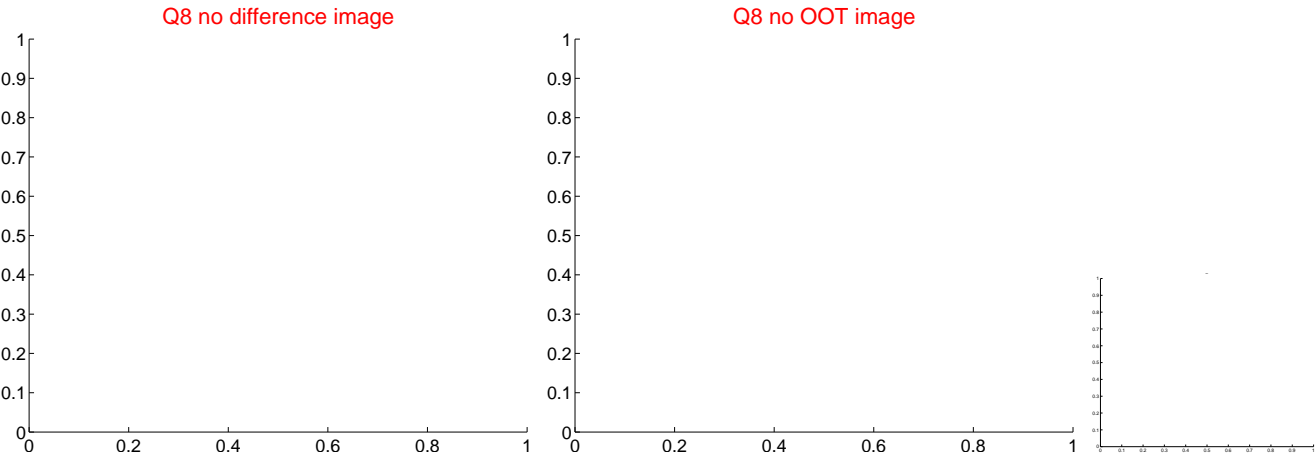
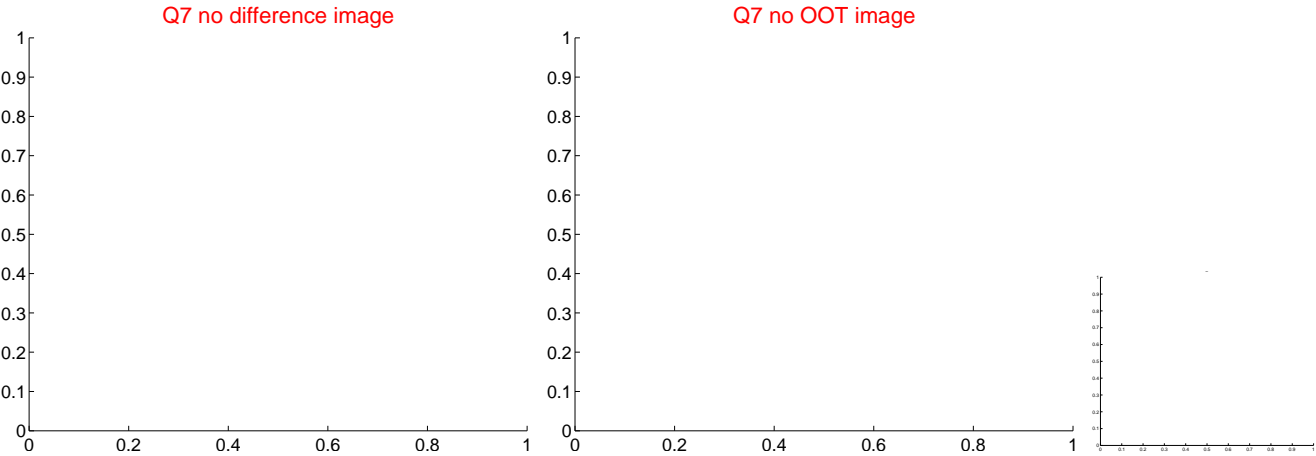
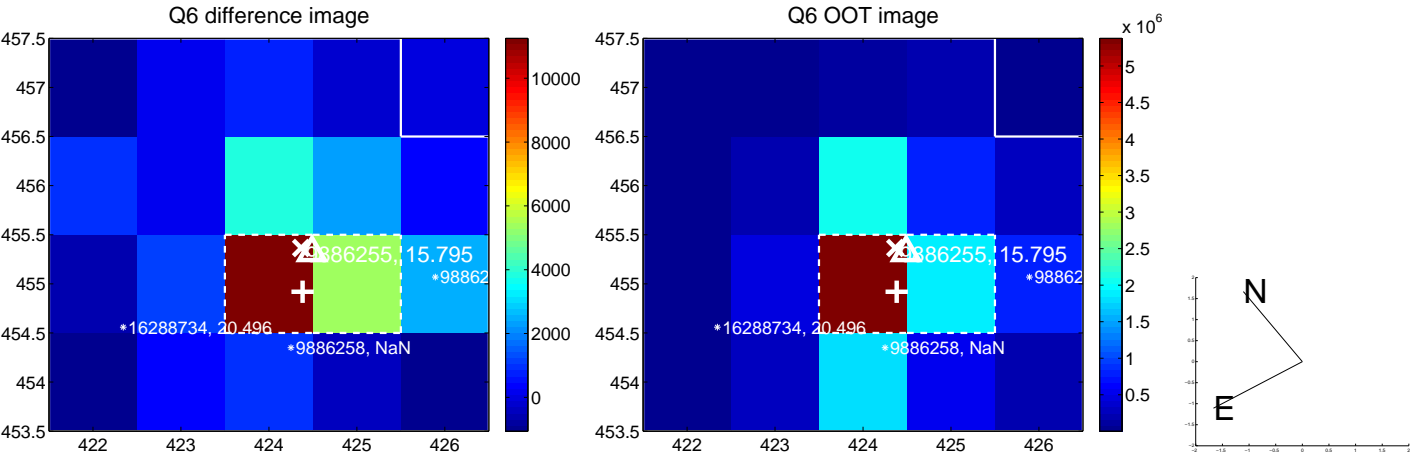
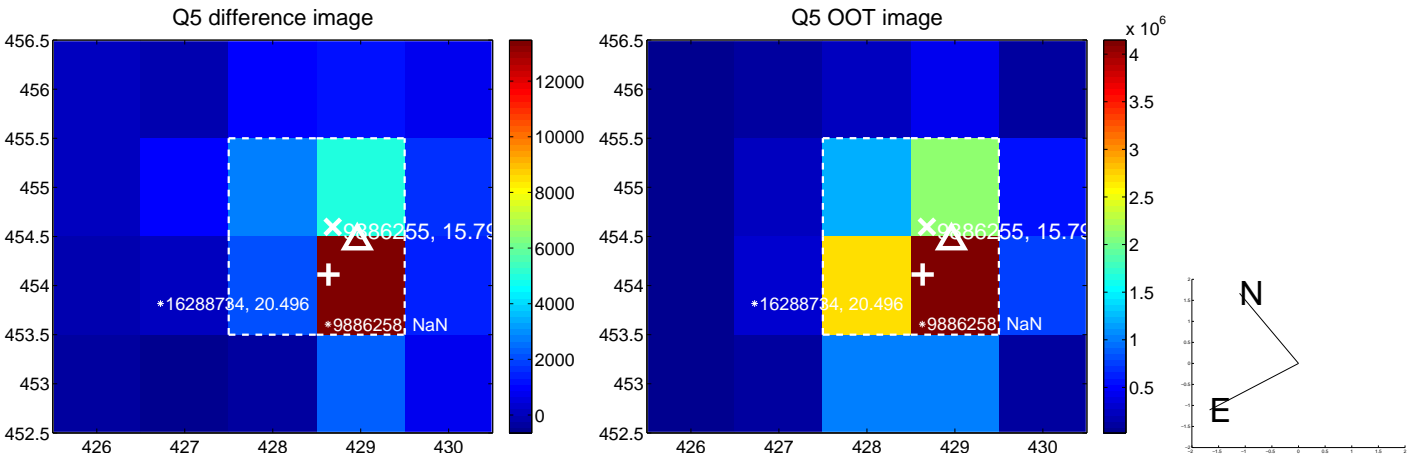


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

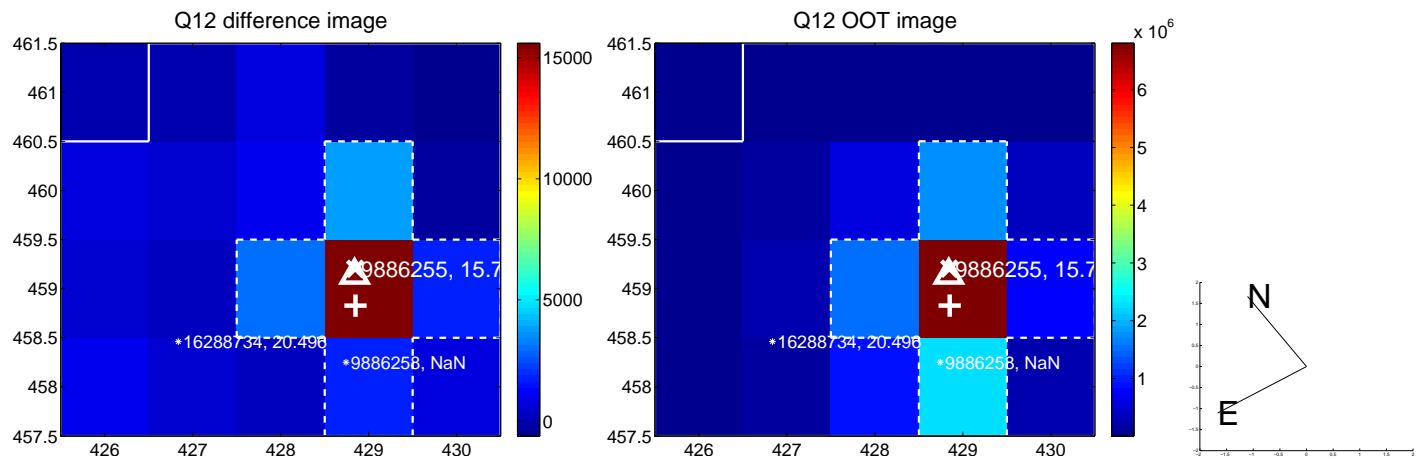
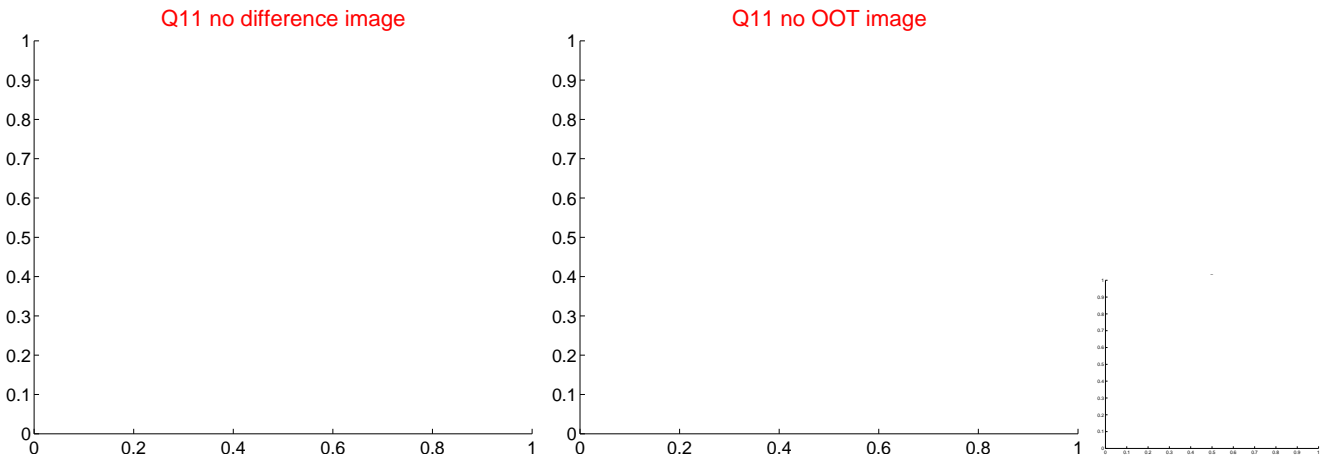
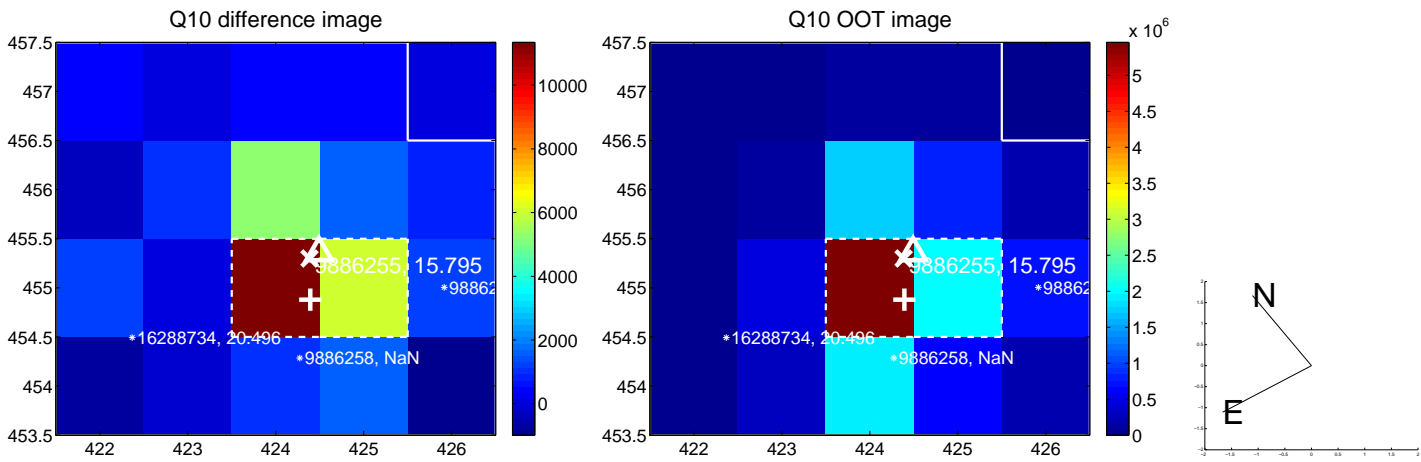
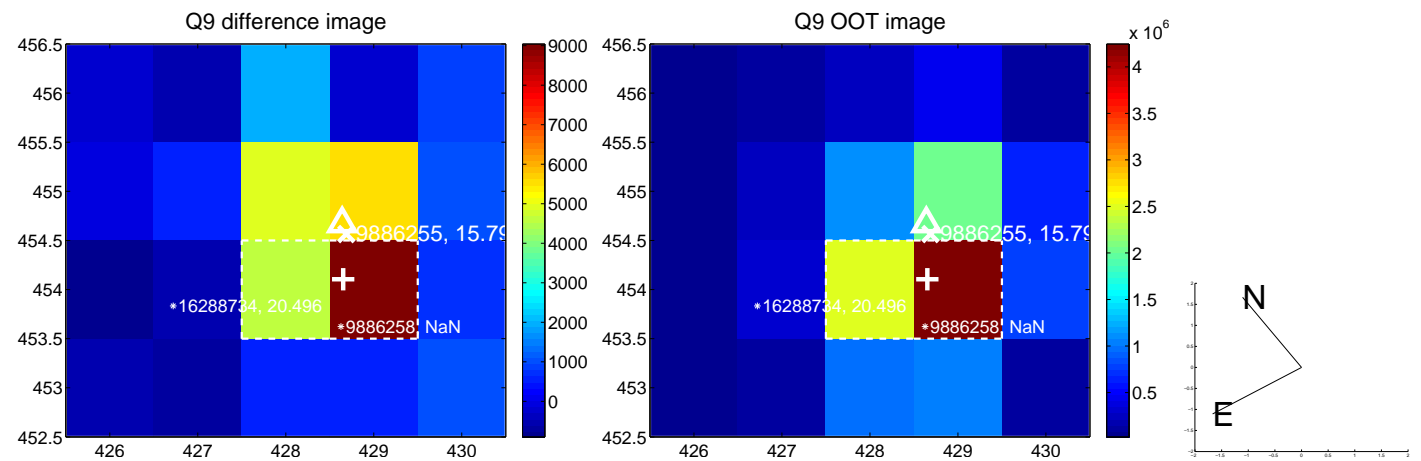
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



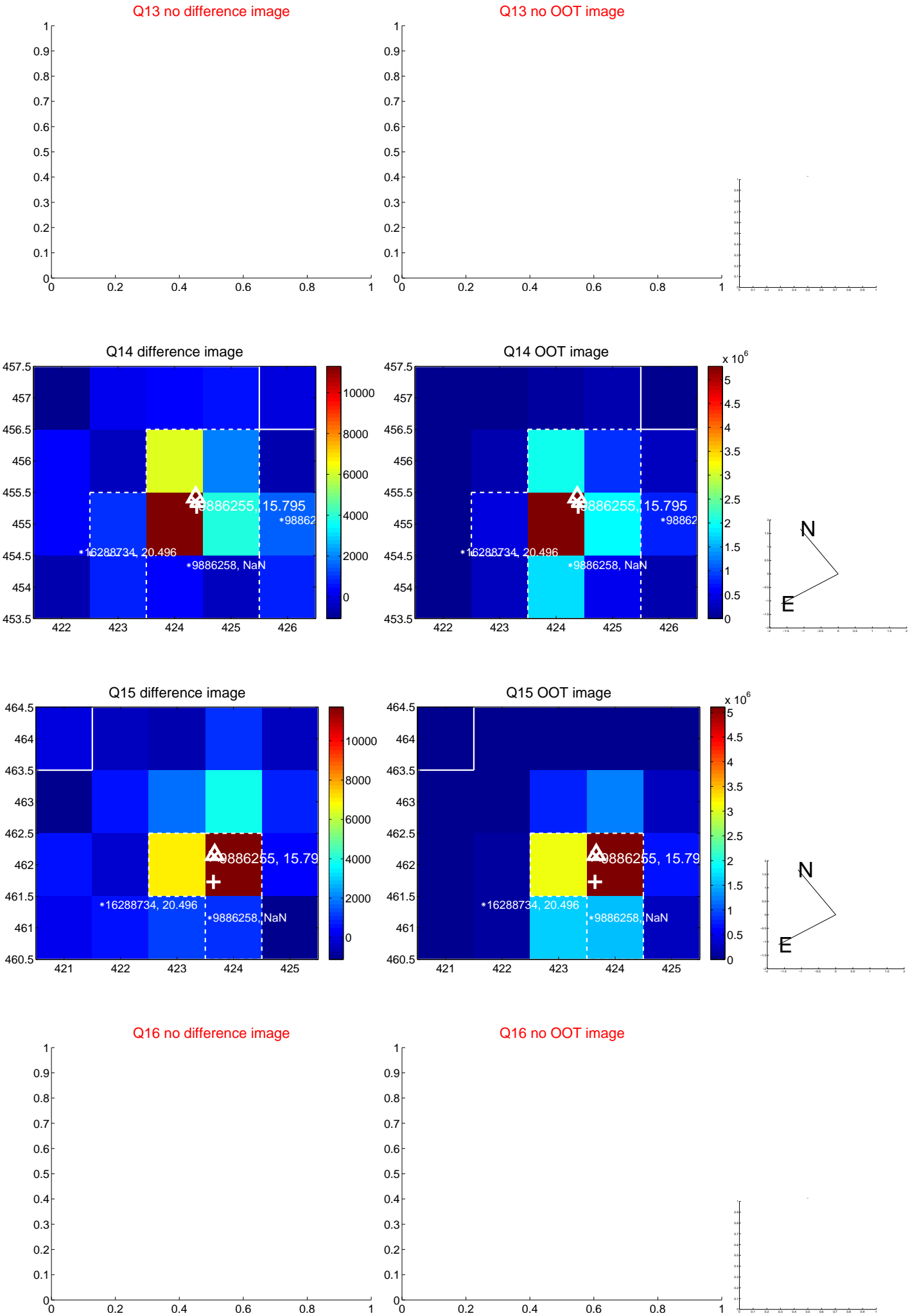
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



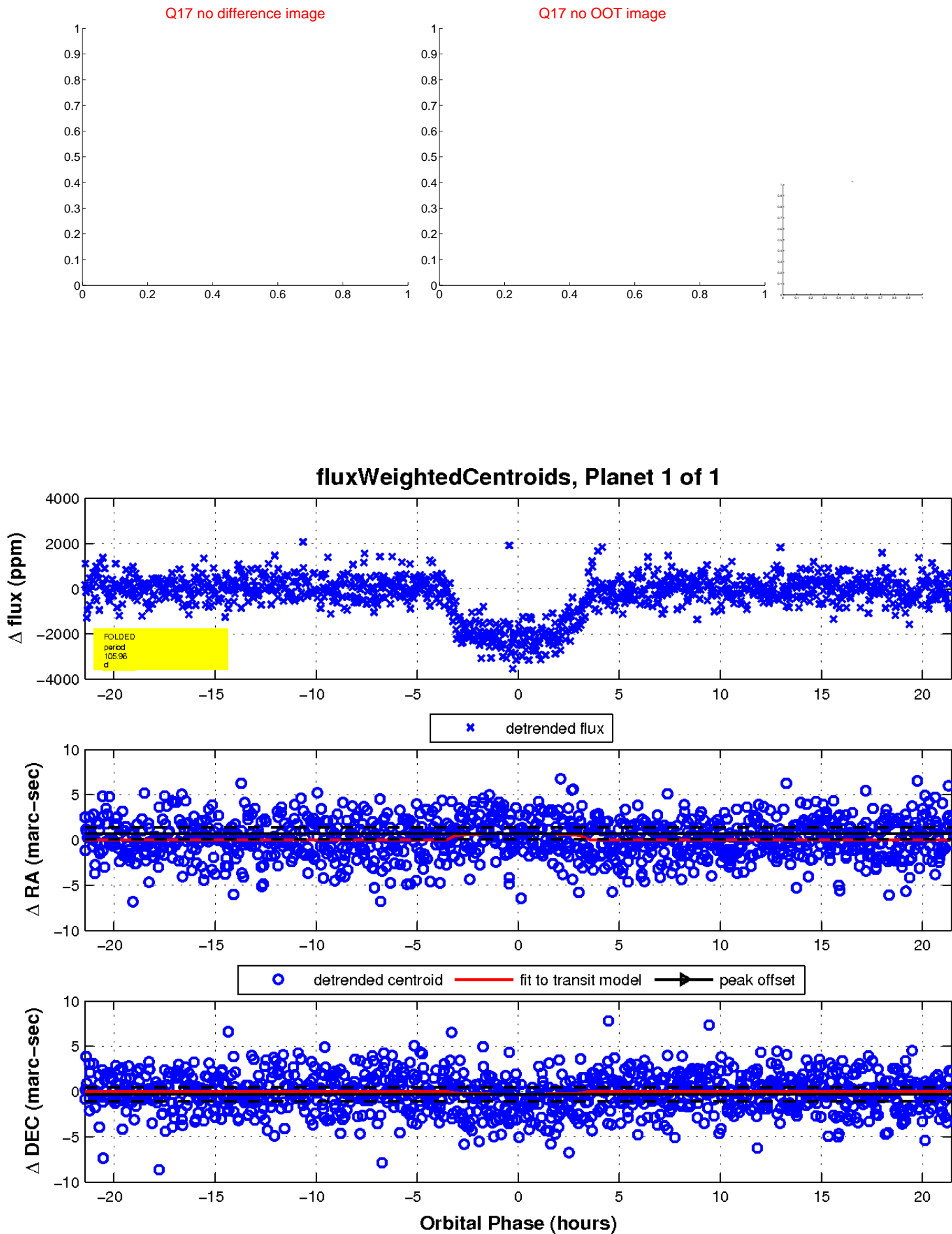
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

