

KIC 005991765

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})
005991765-01	OBS	4538.01	9.257980	132.887255	88.2	2.849	11.4	11.8	1.83	6200	2.02	540.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005991765-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

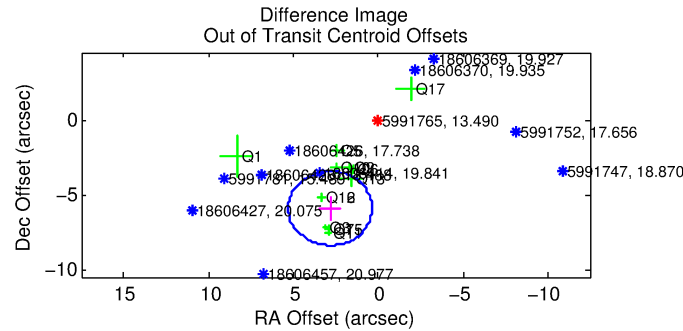
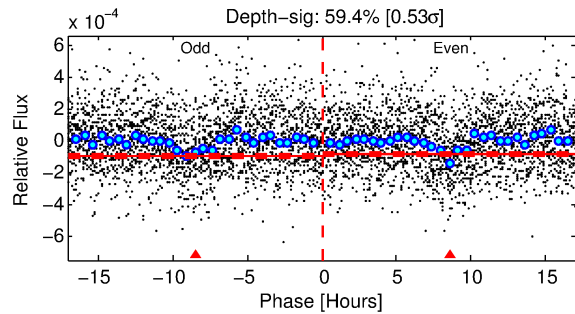
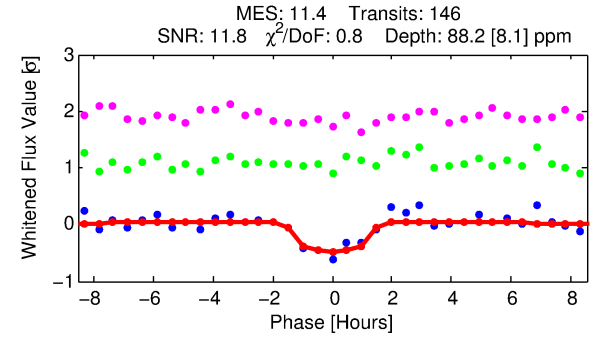
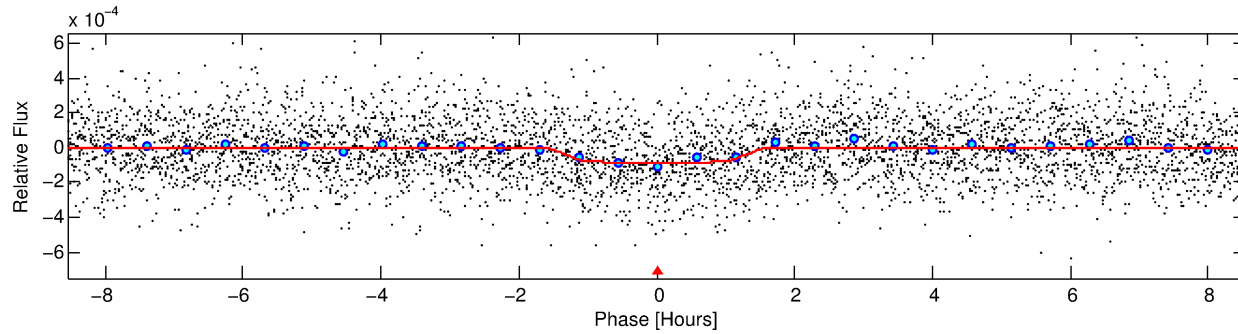
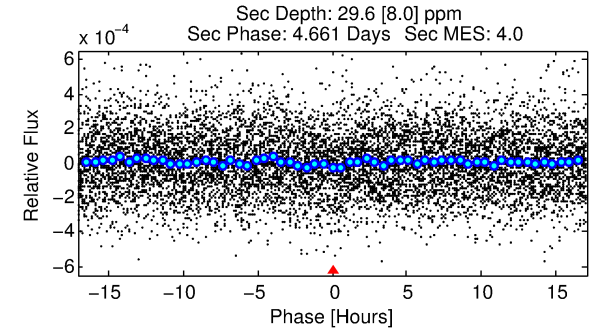
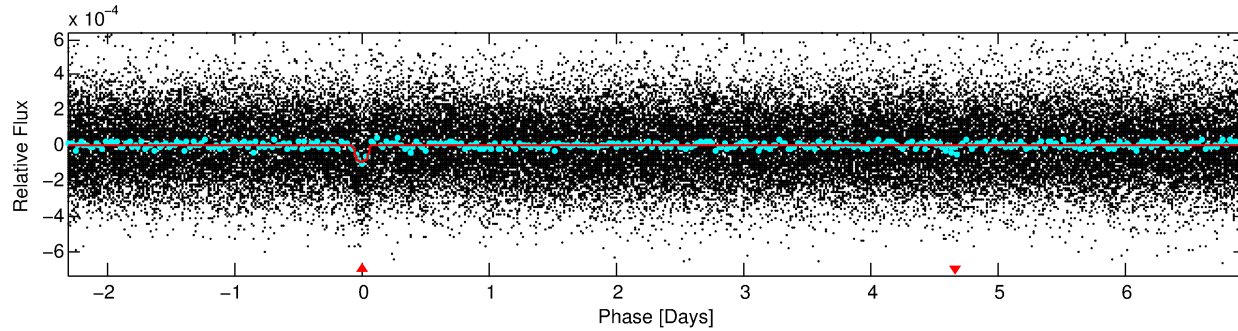
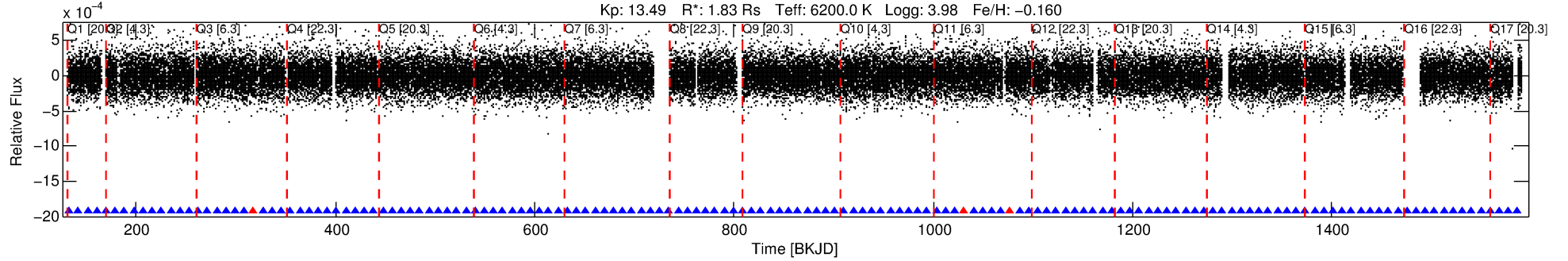
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005991765-01

No Significant Match Found

DV One-Page Summary

KIC: 5991765 Candidate: 1 of 1 Period: 9.258 d
KOI: K04538.01 Corr: 0.974



DV Fit Results:

Period = 9.25798 [0.00006] d
Epoch = 132.8873 [0.0050] BKJD
Rp/R* = 0.0101 [0.0048]
a/R* = 11.48 [29.40]
b = 0.90 [0.56]
Seff = 540.39 [338.58]
Teff = 1229 [193] K
Rp = 2.02 [1.21] Re
a = 0.0908 [0.0338] AU
Ag = 32.85 [38.02] [0.84σ]
Teffp = 4551 [1130] K [2.90σ]

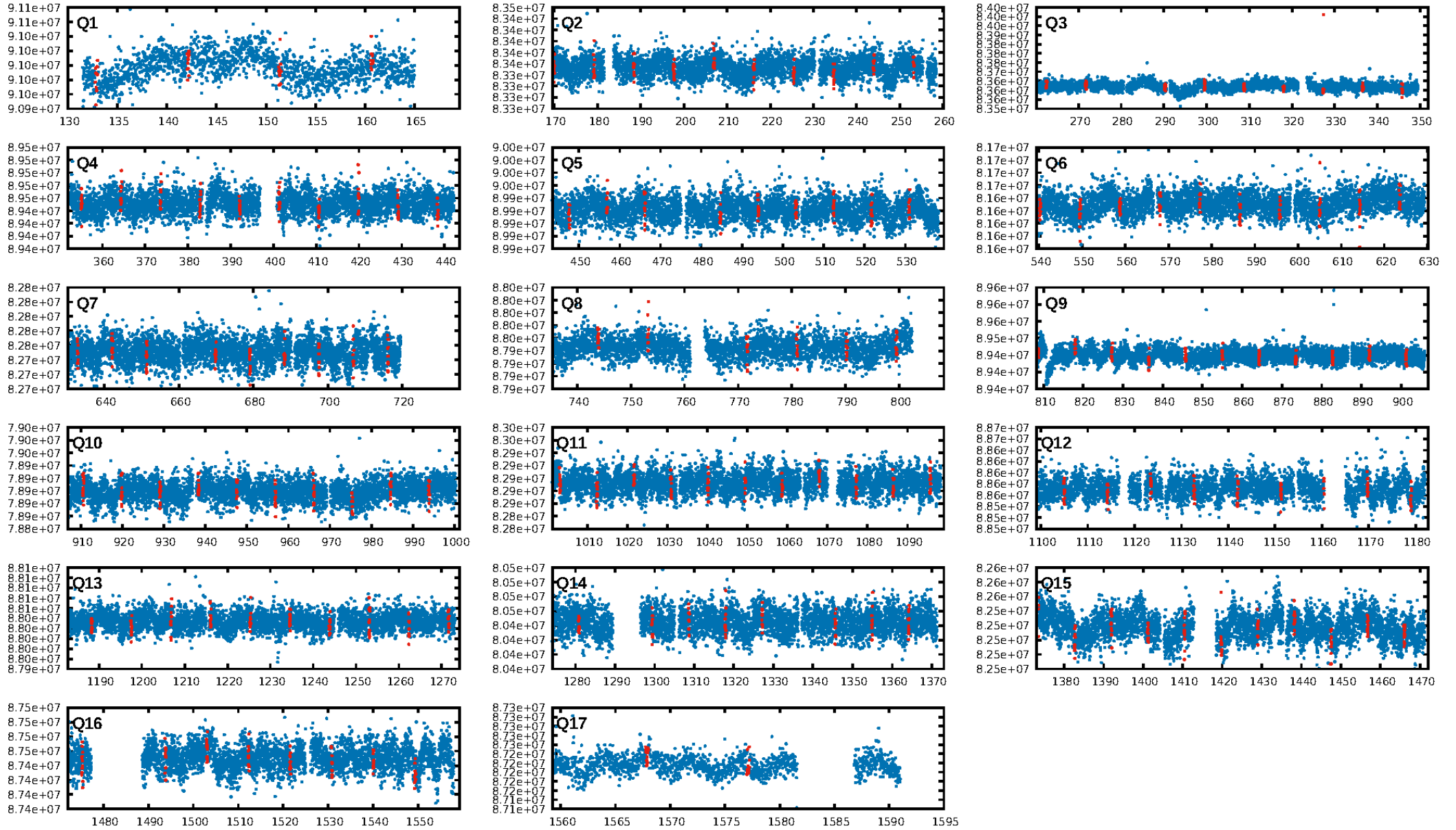
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.33e-30
RollingBand-fgt: 0.98 [137/140]
GhostDiagnostic-chr: -0.126
Centroid-sig: 0.0%
Centroid-so: 10.111 arcsec [9.63σ]
OotOffset-rm: 6.560 arcsec [7.97σ]
KicOffset-rm: 6.688 arcsec [8.06σ]
OotOffset-st: 3/4/2/4 [13]
KicOffset-st: 3/4/2/4 [13]
DiffImageQuality-fgm: 0.77 [10/13]
DiffImageOverlap-fno: 1.00 [17/17]

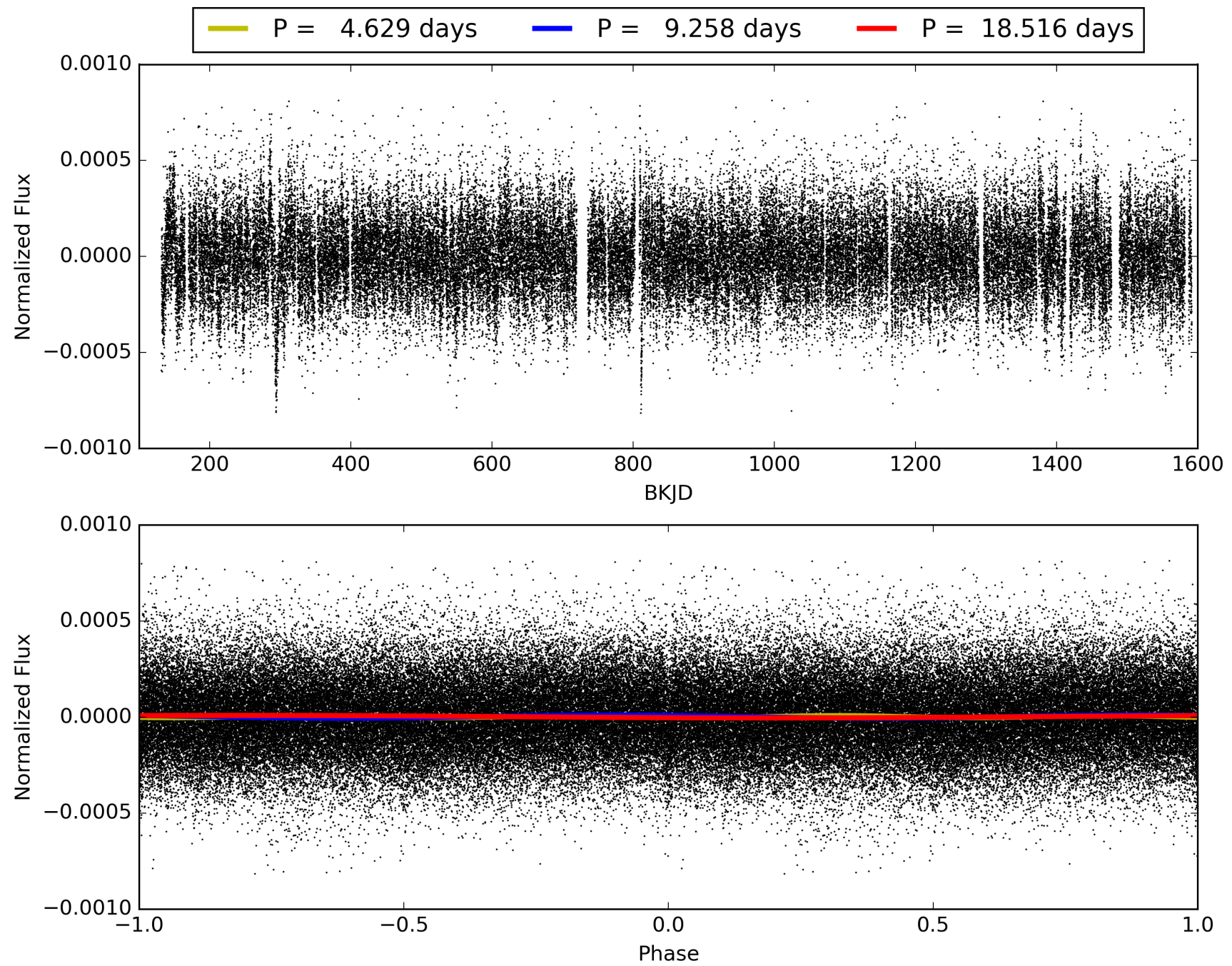
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:19:21 Z

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

TCE 005991765-01, PDC Light Curves

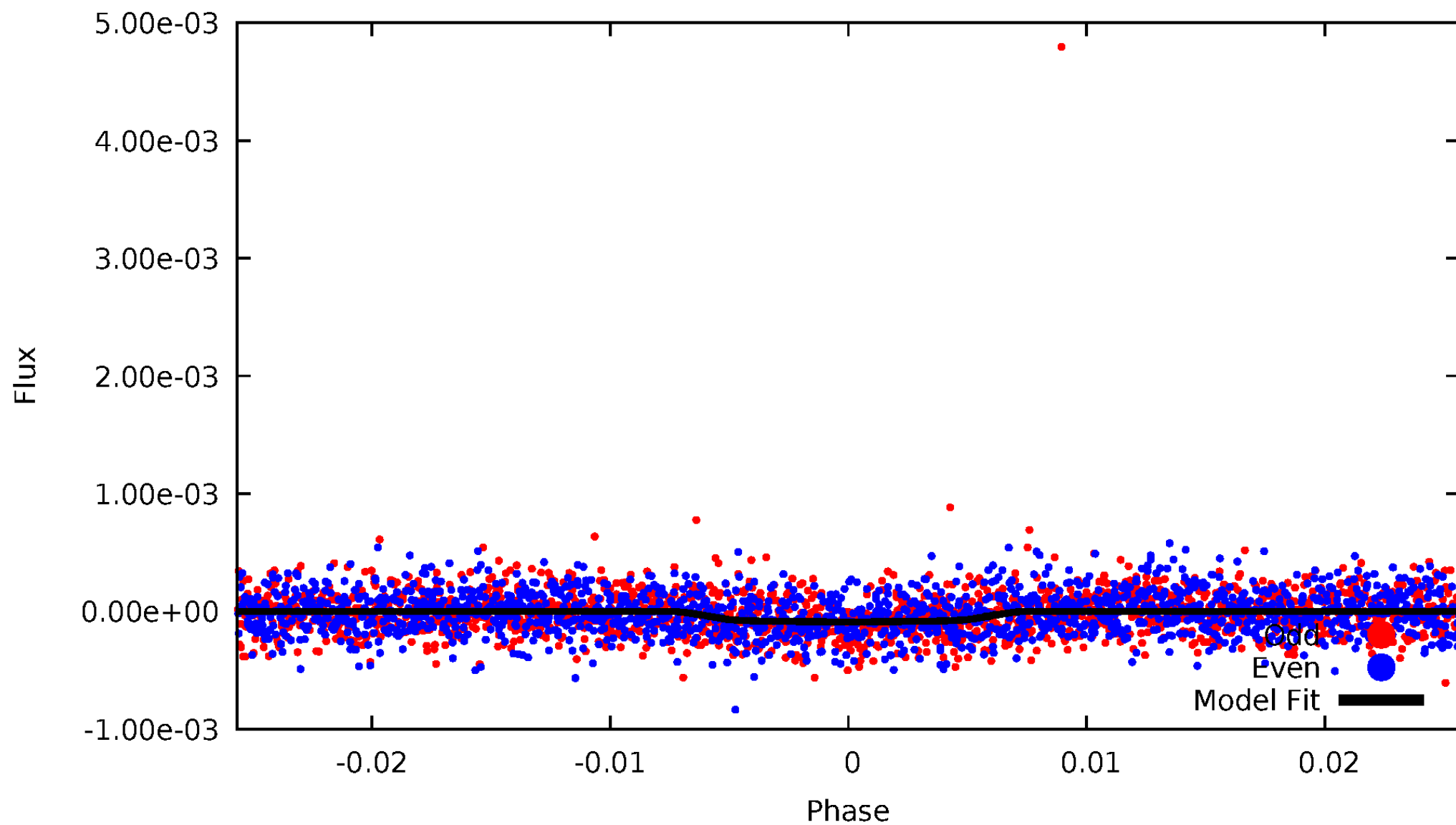


TCE 005991765-01



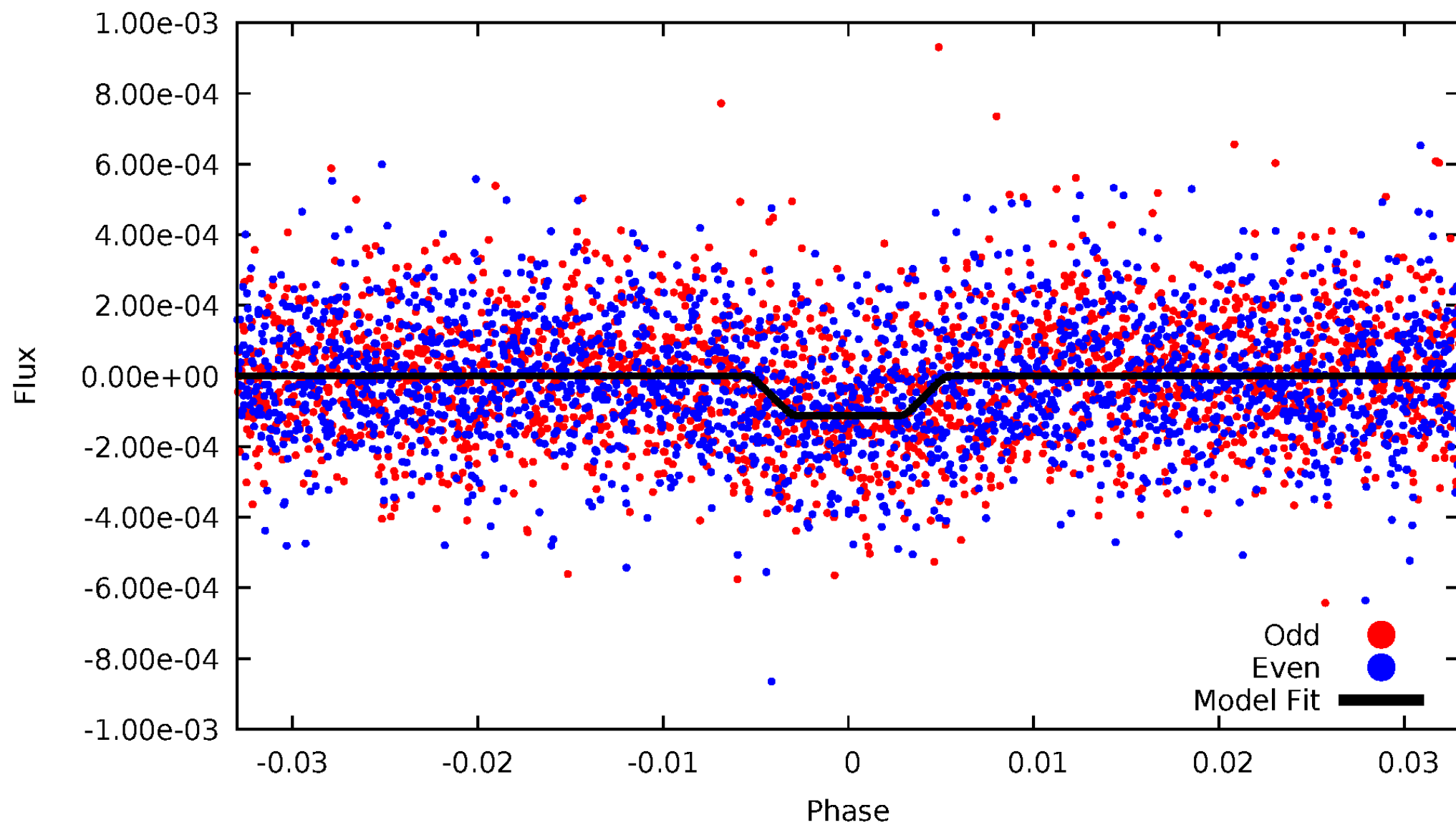
DV Odd/Even

TCE 005991765-01



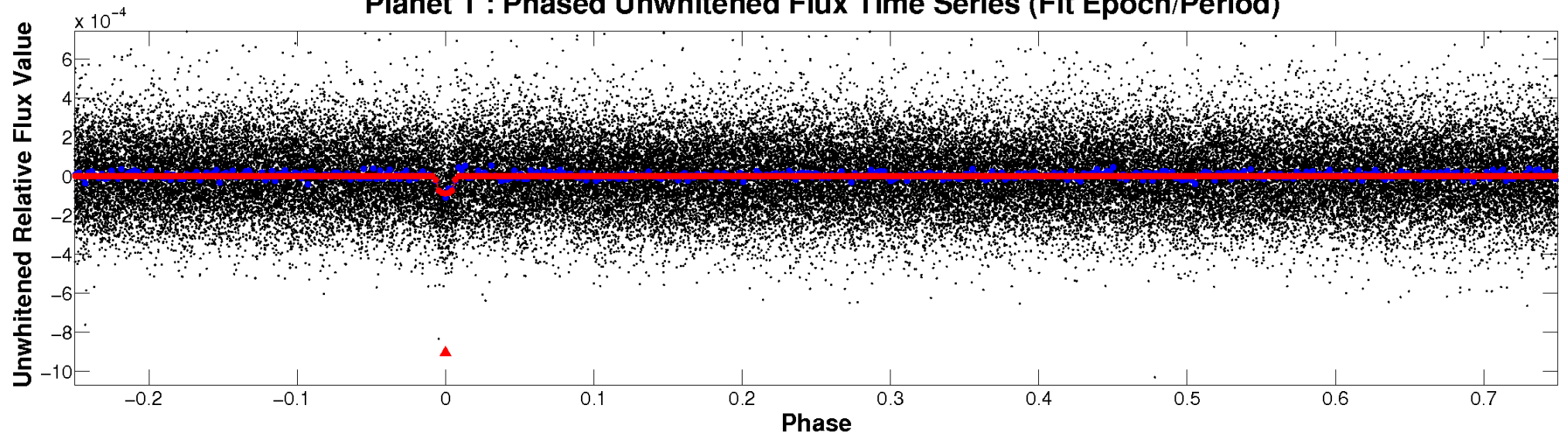
ALT Odd/Even

TCE 005991765-01

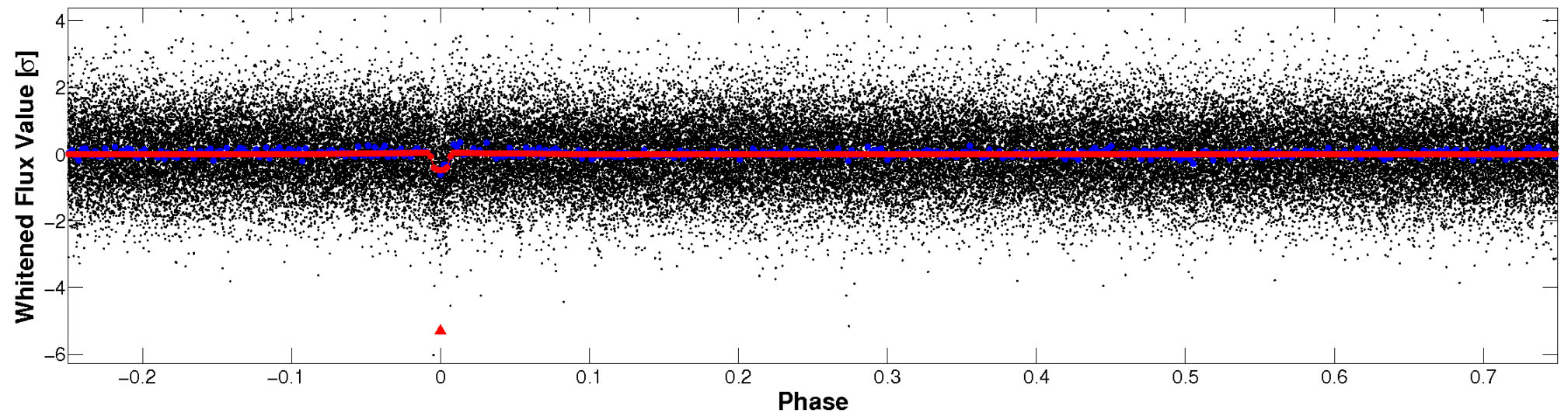


Non-Whitened Vs. Whitened Light Curve

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

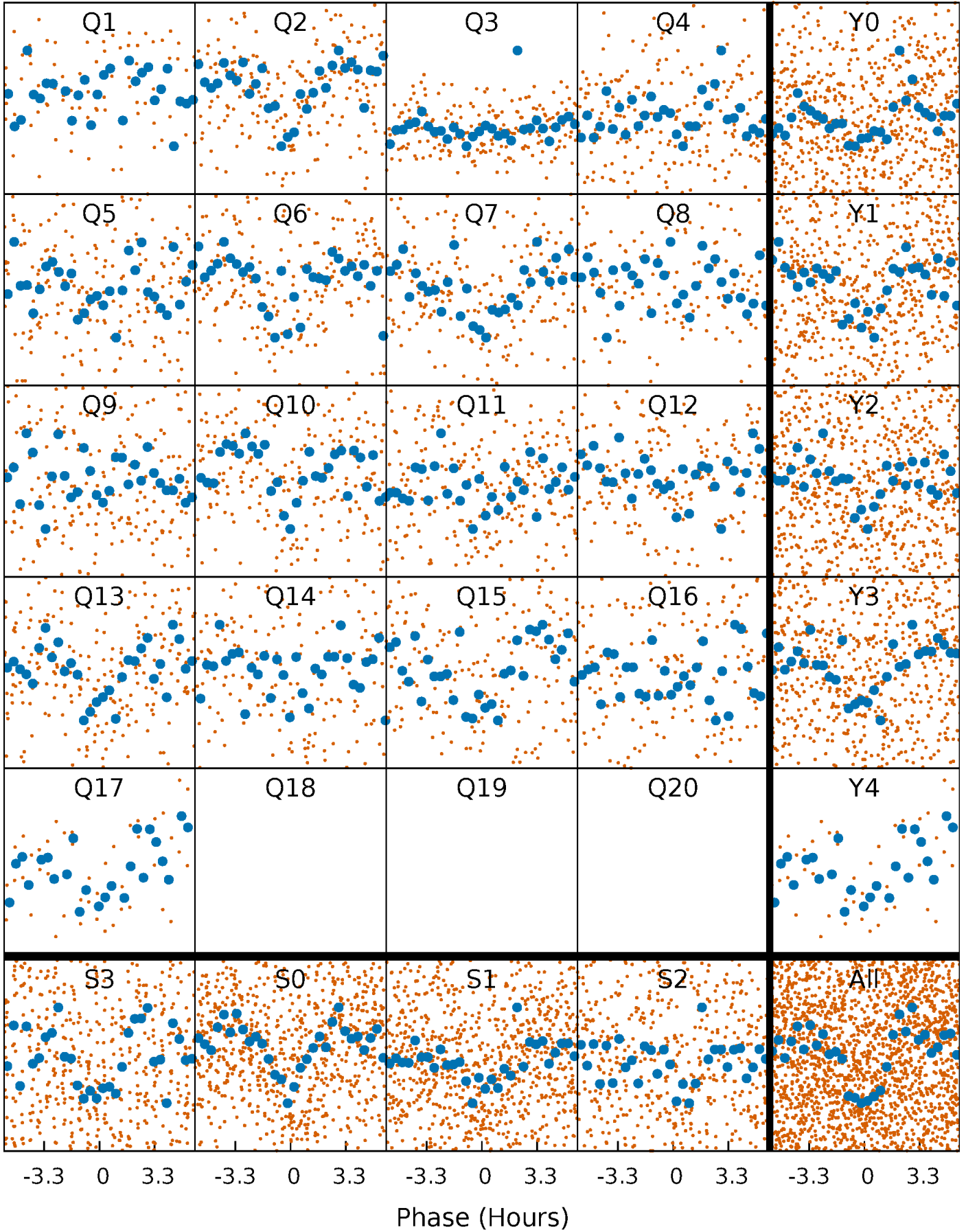


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



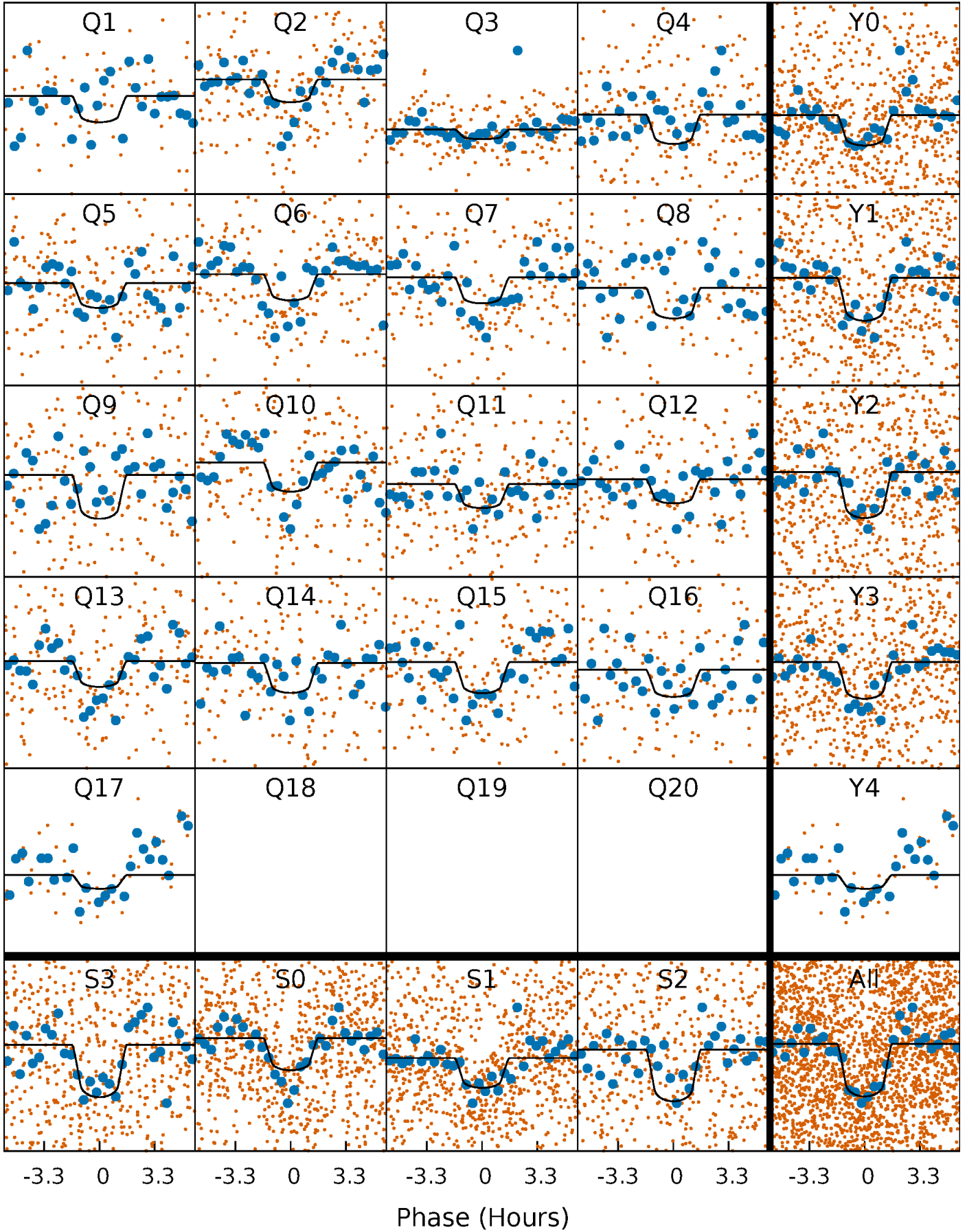
PDC Quarter-Phased Transit Curves

TCE 005991765-01 P= 9.257980 Days $T_0=132.887255$ (BKJD)



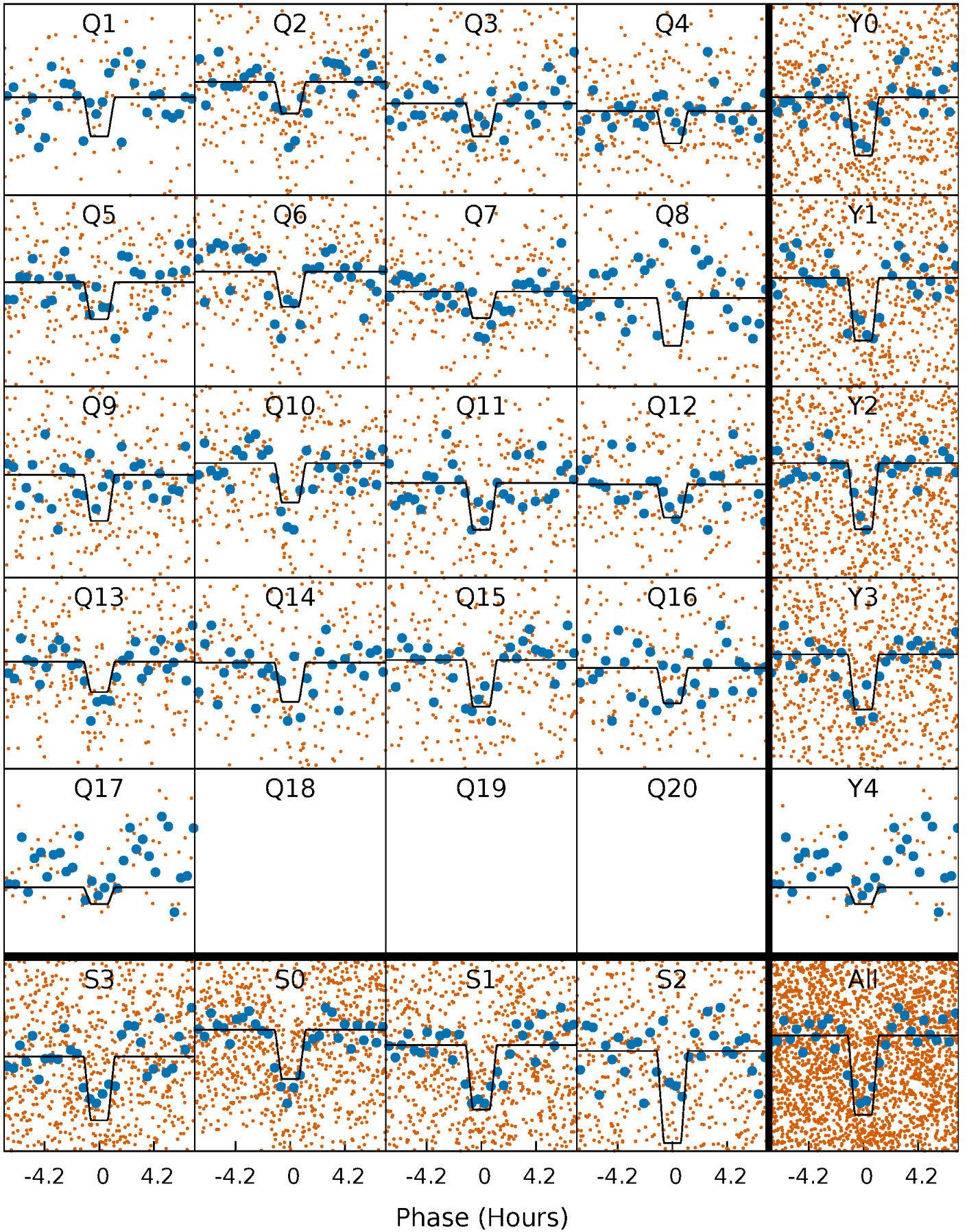
DV Quarter-Phased Transit Curves

TCE 005991765-01 P= 9.257980 Days $T_0=132.887255$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

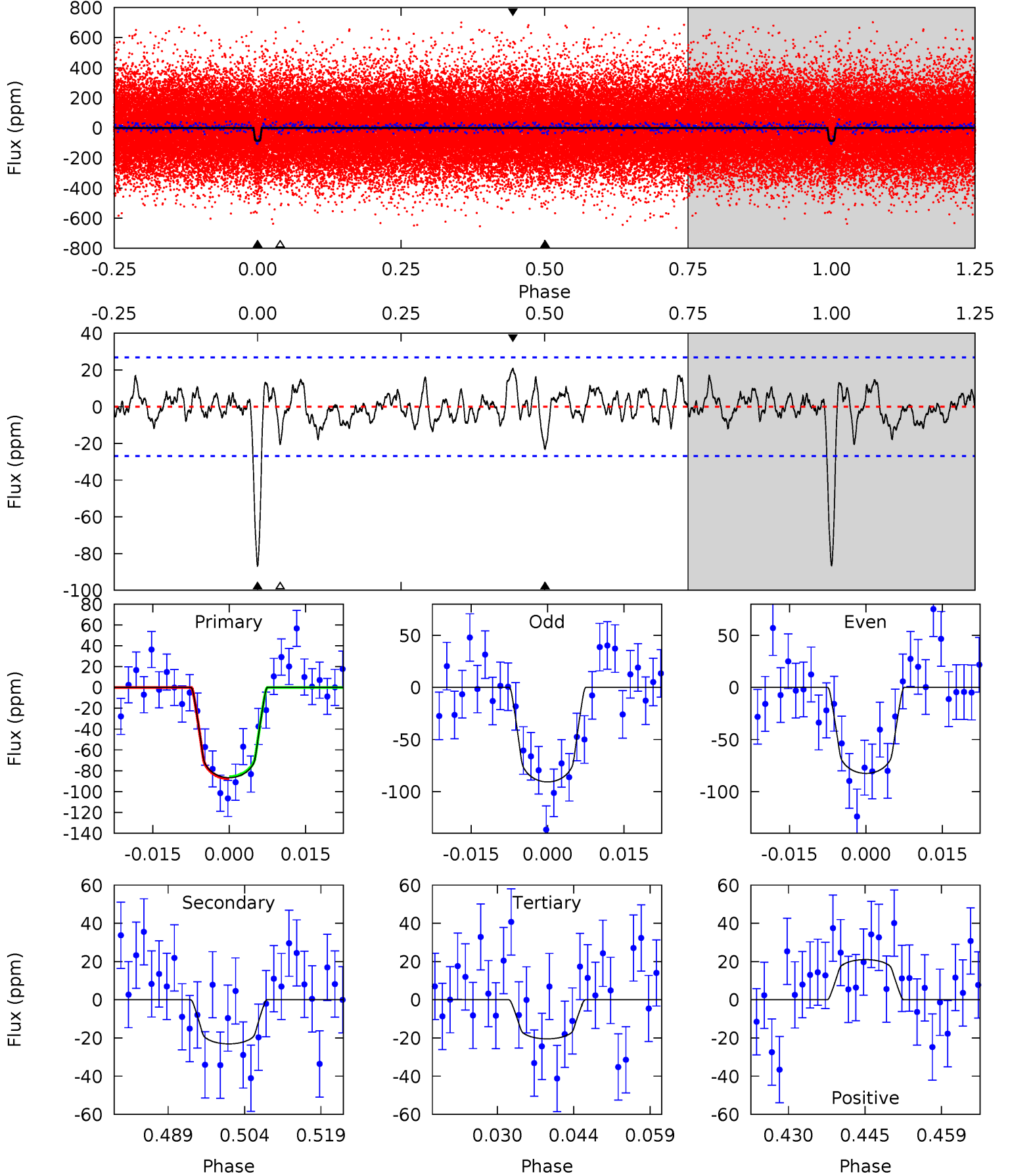
TCE 005991765-01 P= 9.258094 Days $T_0=132.875806$ (BKJD)



DV Model-Shift Uniqueness Test

005991765-01, P = 9.257980 Days, E = 123.629275 Days

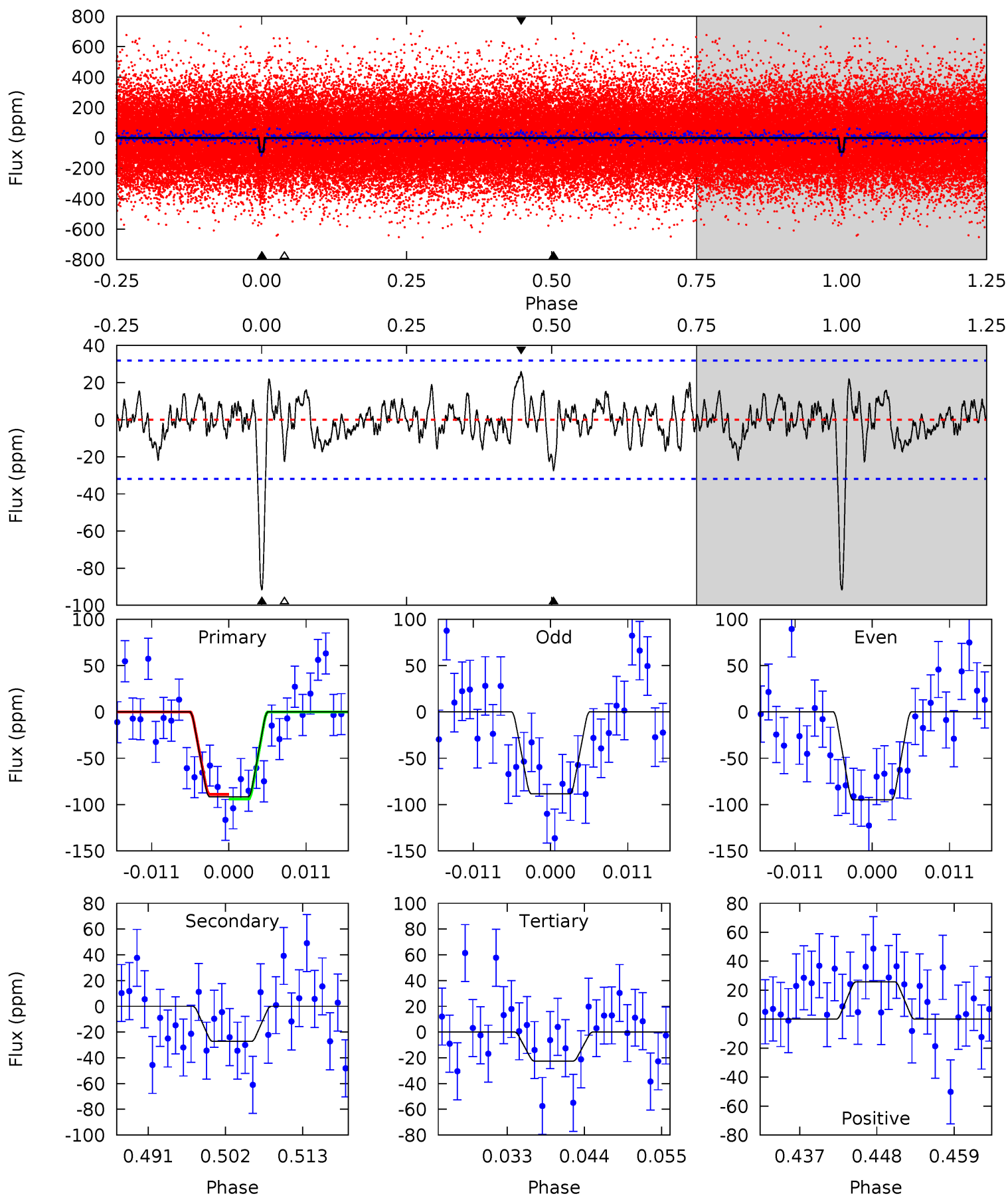
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	4.26	3.77	3.88	4.95	2.44	1.25	12.2	12.1	0.49	0.38	0.75	0.88	0.20	0.17



Alt Model-Shift Uniqueness Test

005991765-01, P = 9.258094 Days, E = 123.617712 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	4.27	3.53	4.05	5.01	2.55	1.27	10.8	10.3	0.74	0.22	0.51	0.96	0.22	0.40



Stellar Parameters For KIC 005991765

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6200^{+195}_{-217}	$3.977^{+0.364}_{-0.130}$	$-0.160^{+0.300}_{-0.300}$	$1.834^{+0.493}_{-0.678}$	$1.162^{+0.179}_{-0.198}$	$0.265^{+0.762}_{-0.117}$
	+3%/-4%	+9%/-3%	+188%/-188%	+27%/-37%	+15%/-17%	+287%/-44%
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 005991765-01 / KOI 4538.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-23 ± 5	$1.86^{+0.97}_{-0.86}$	1669^{+134}_{-162}	4453^{+1315}_{-619}	29^{+76}_{-16}
Alt.	-27 ± 6	$1.93^{+1.11}_{-0.94}$	1673^{+134}_{-166}	4540^{+1280}_{-670}	33^{+83}_{-21}

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 $A_{obs} \gg 1.0$

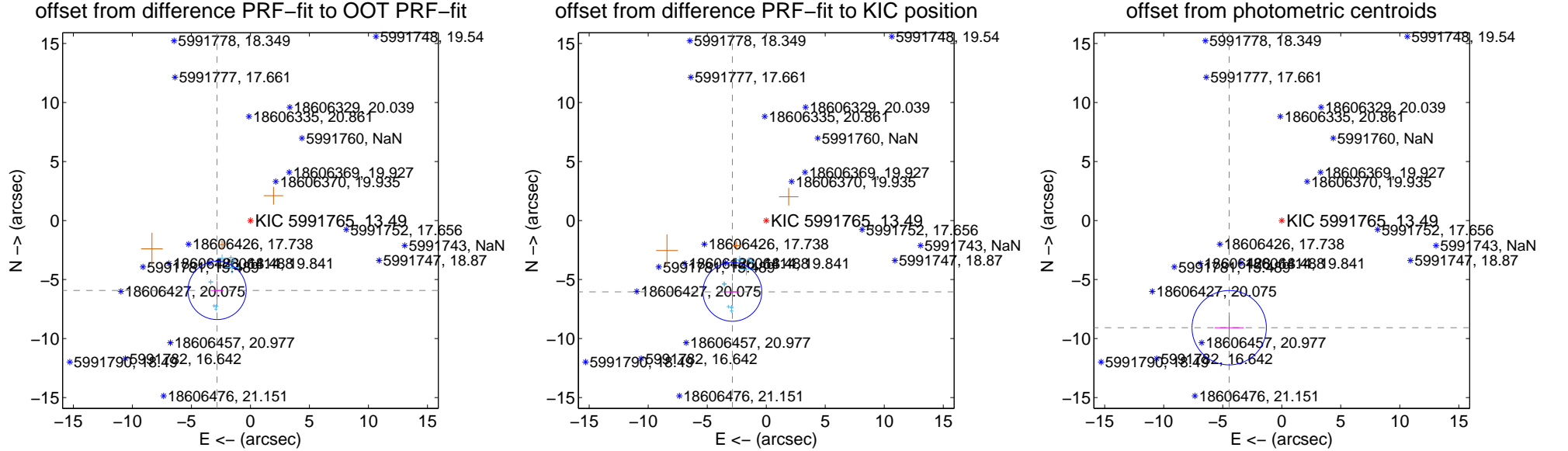
DV Centroid Data

Supplemental centroid analysis for 005991765-01. Kepler magnitude: 13.49. Transit SNR 11.77

There are 10 quarters with good PRF difference image offsets

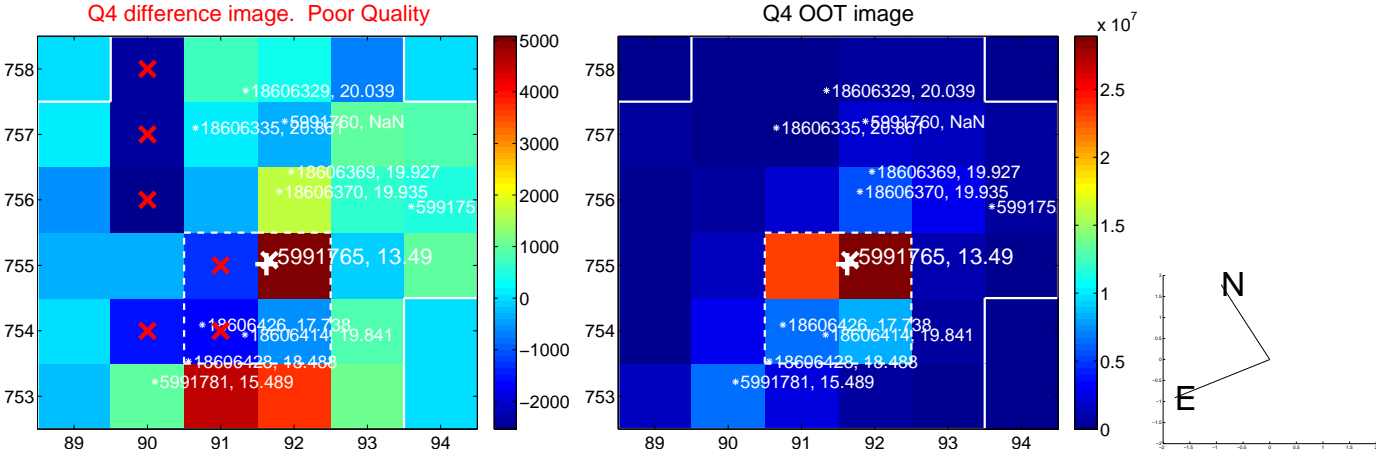
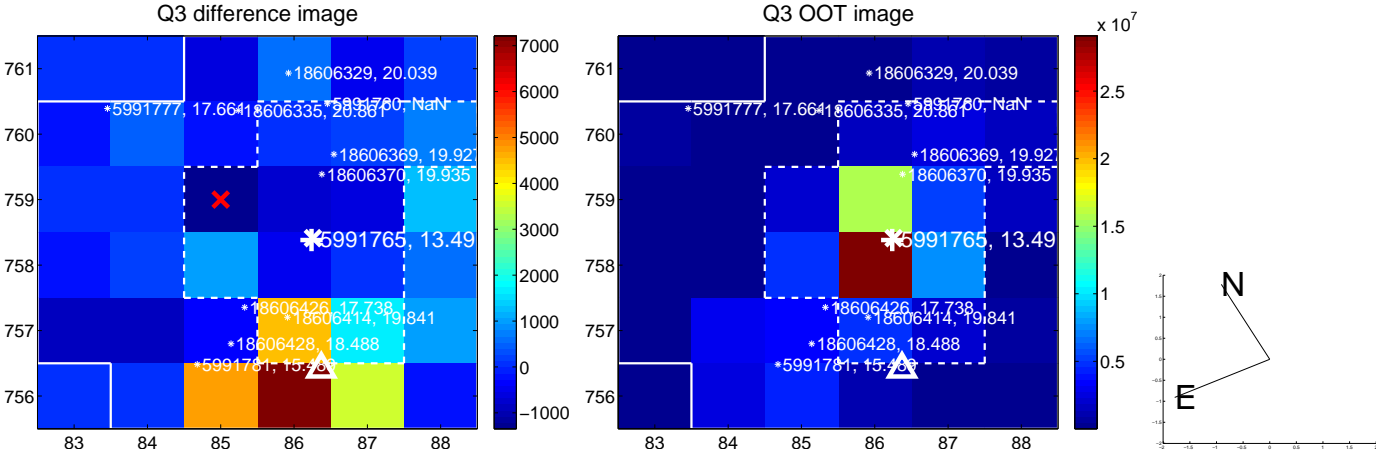
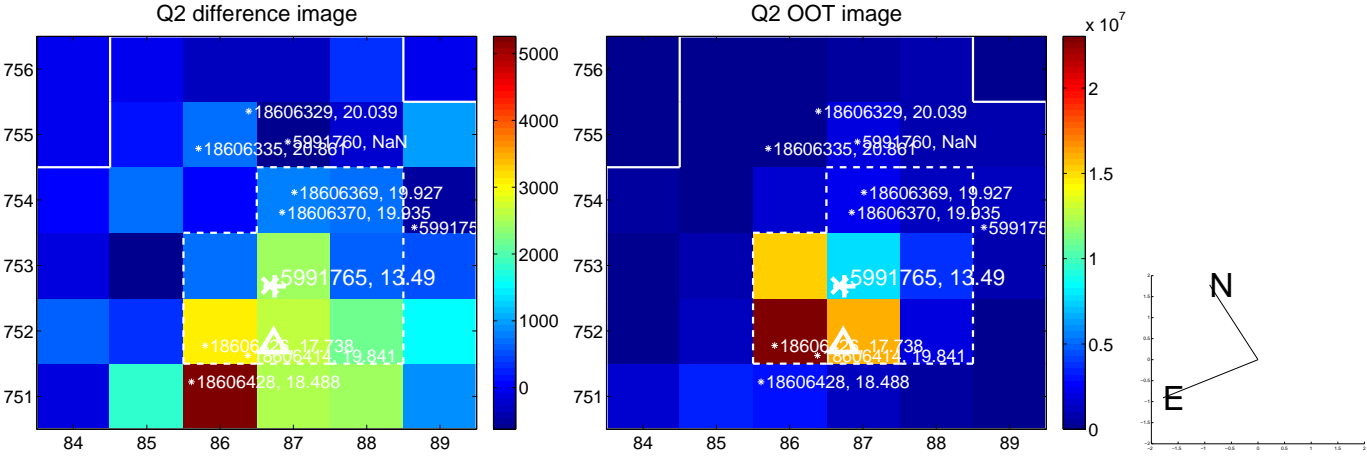
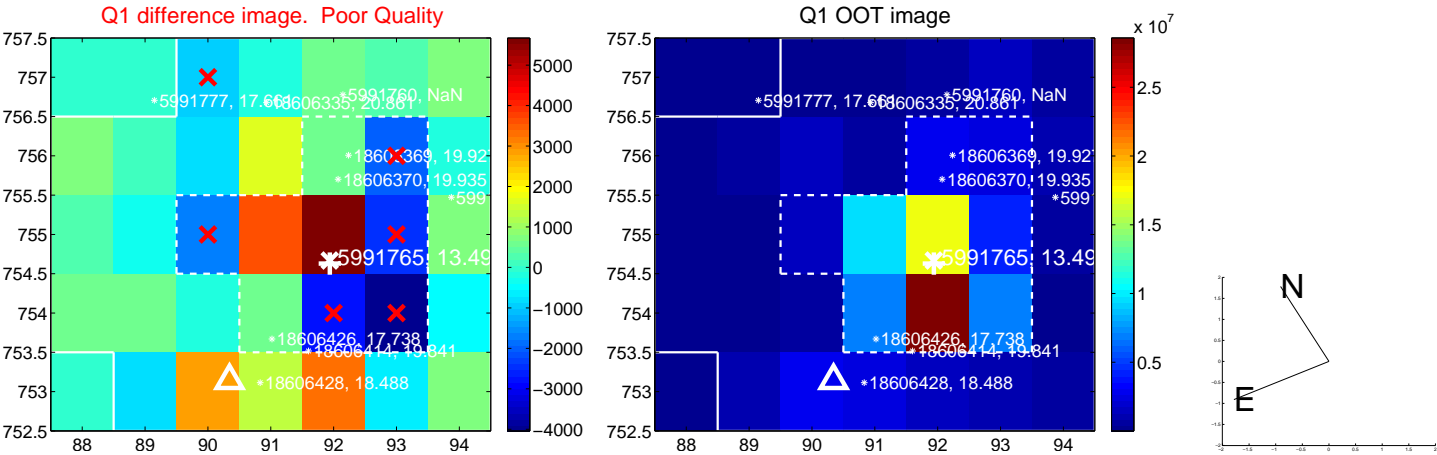
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.560 ± 0.823	7.97	2.825 ± 0.560	-5.920 ± 0.781
PRF-fit source offset from KIC position	6.688 ± 0.830	8.06	2.868 ± 0.599	-6.042 ± 0.759
photometric centroid source offset	10.11 ± 1.05	9.63	4.45 ± 1.23	-9.08 ± 1.00

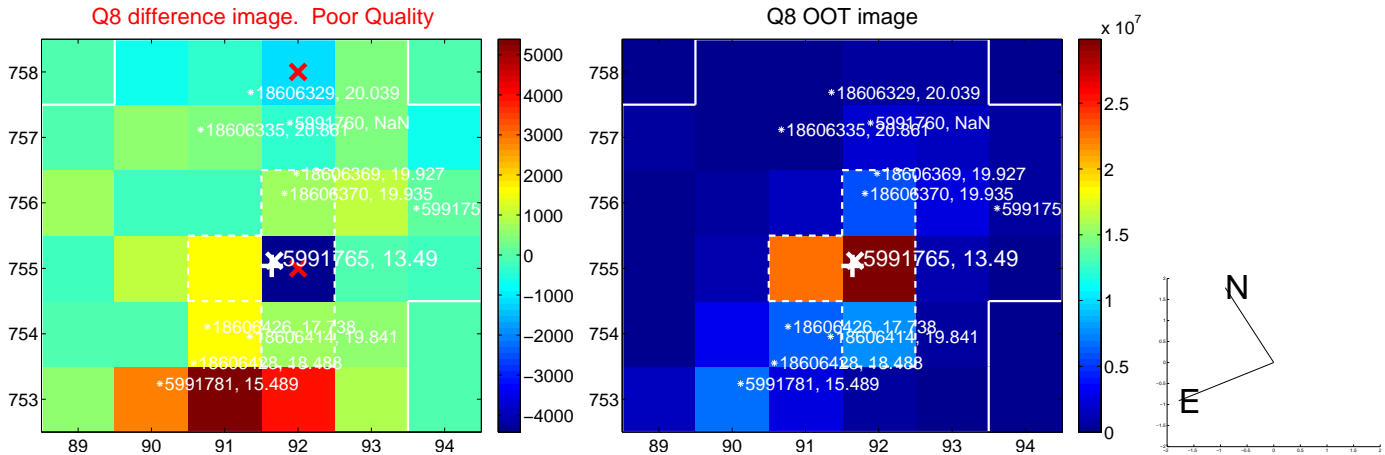
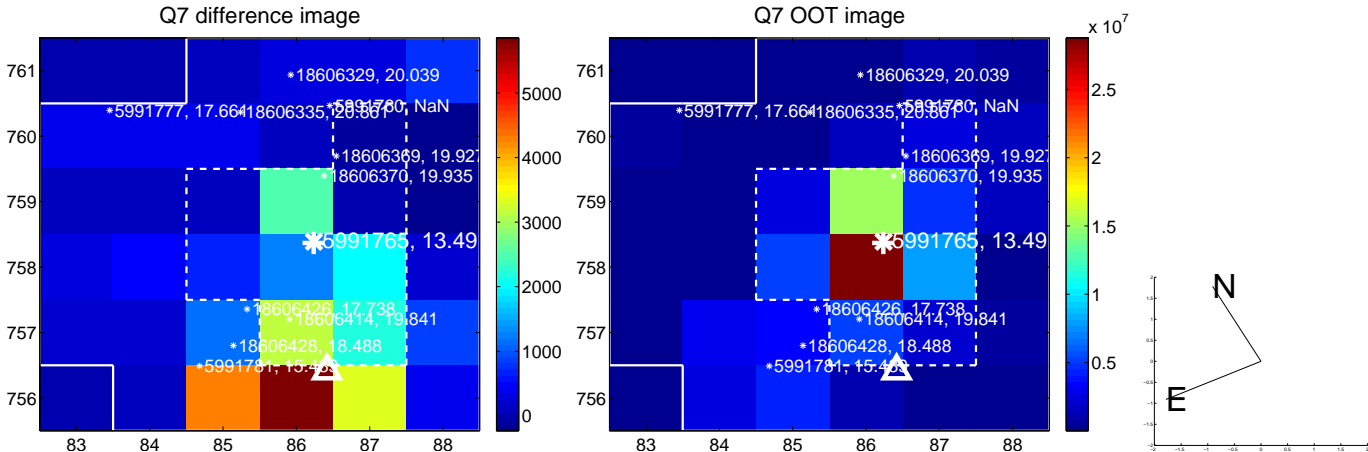
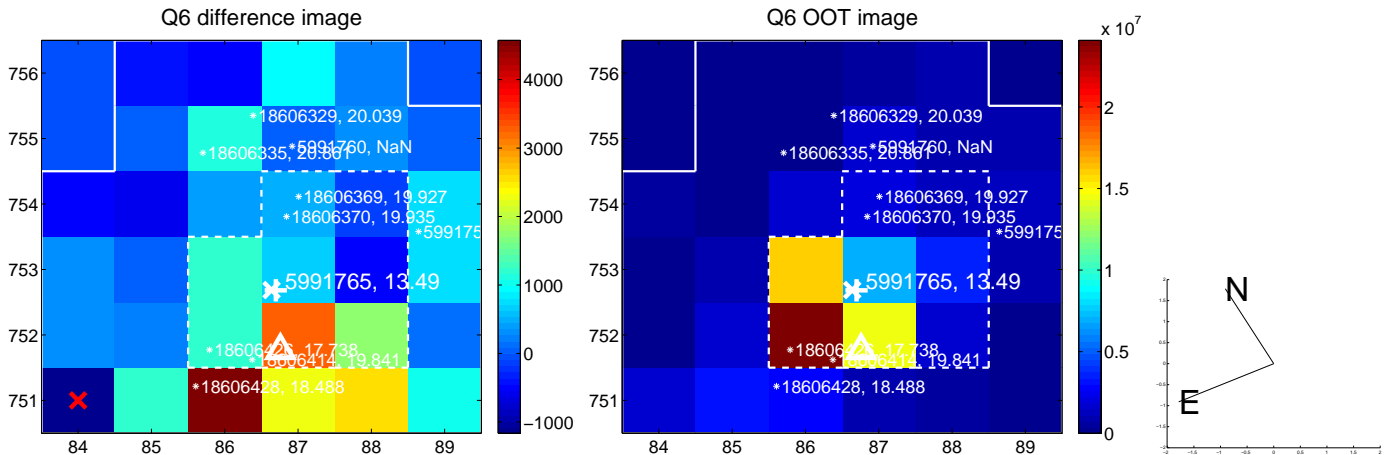
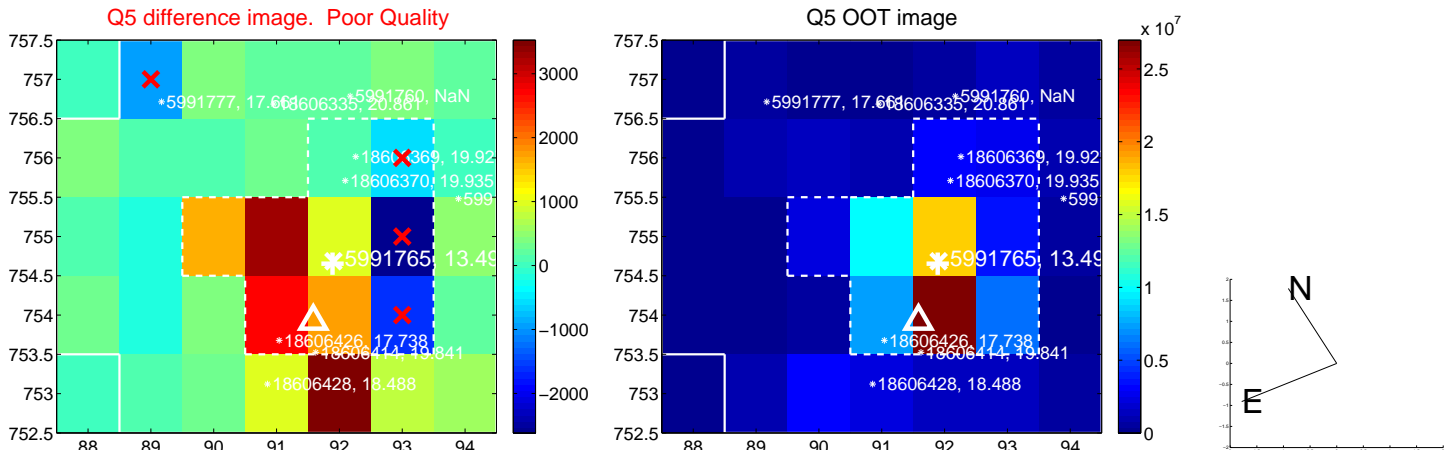


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

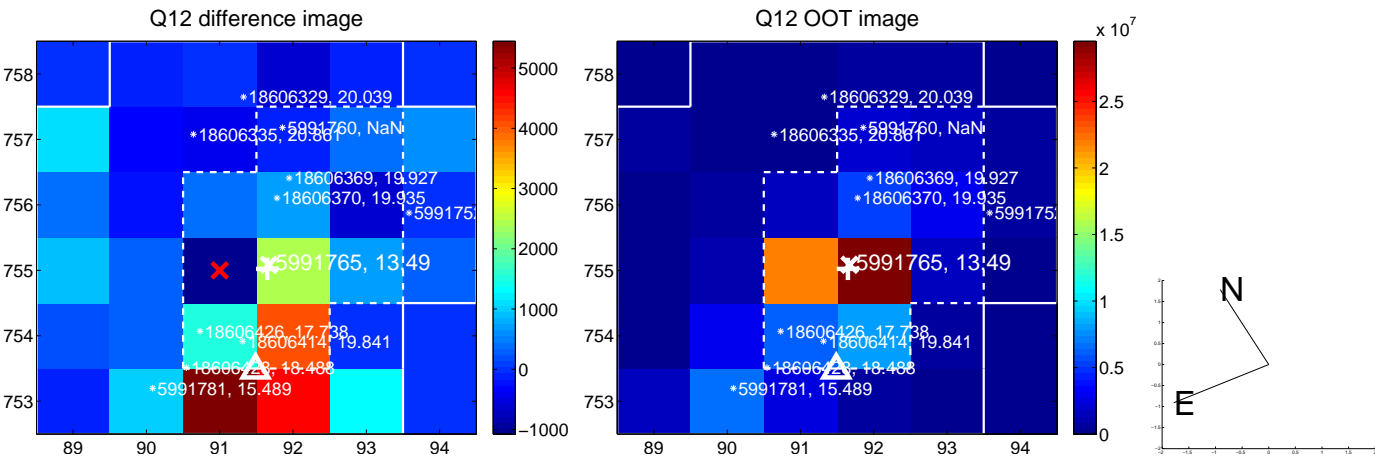
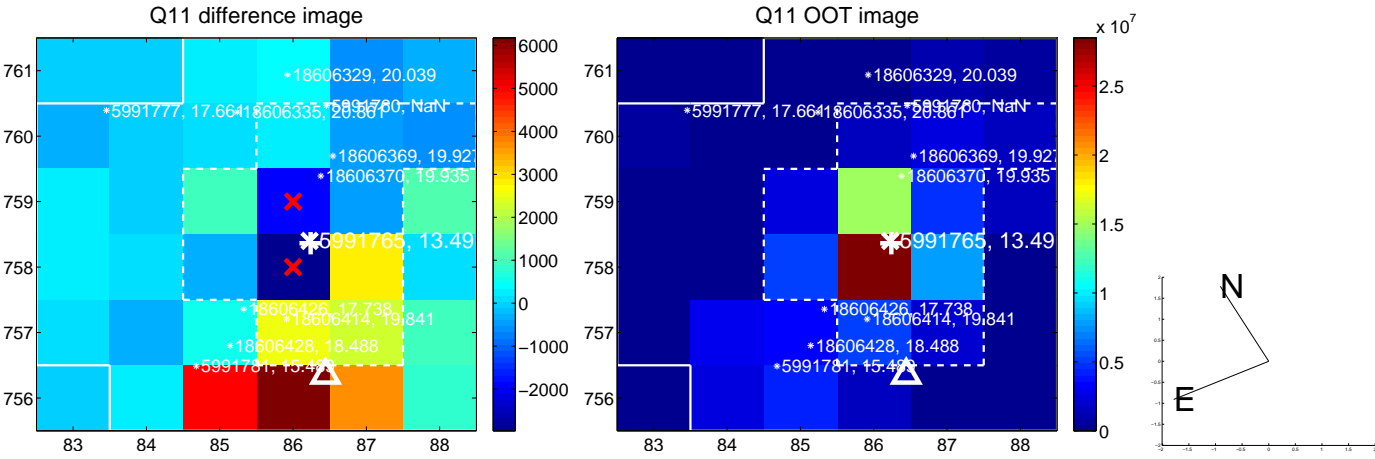
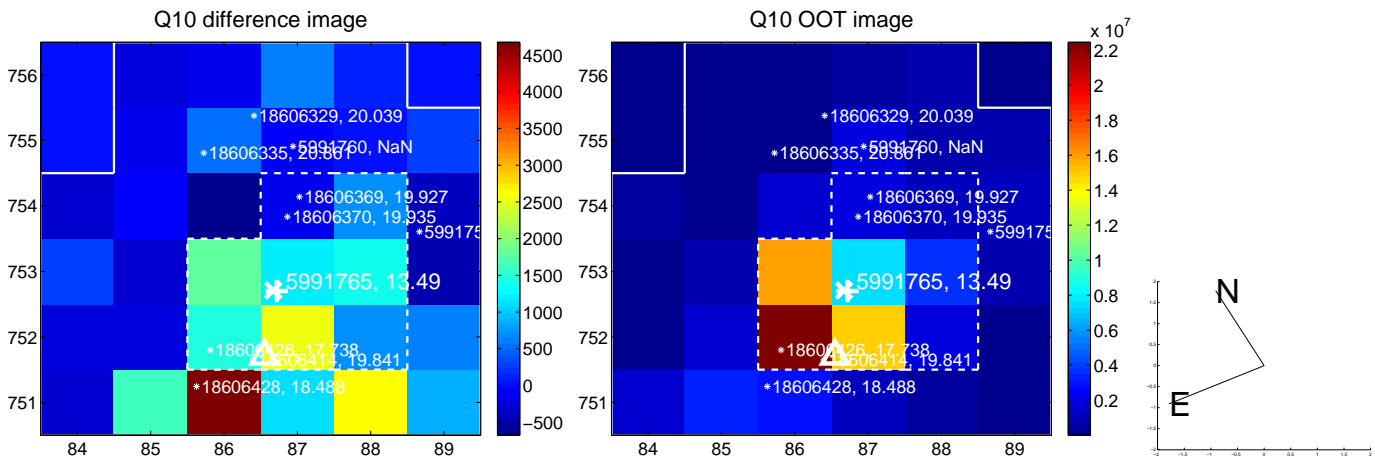
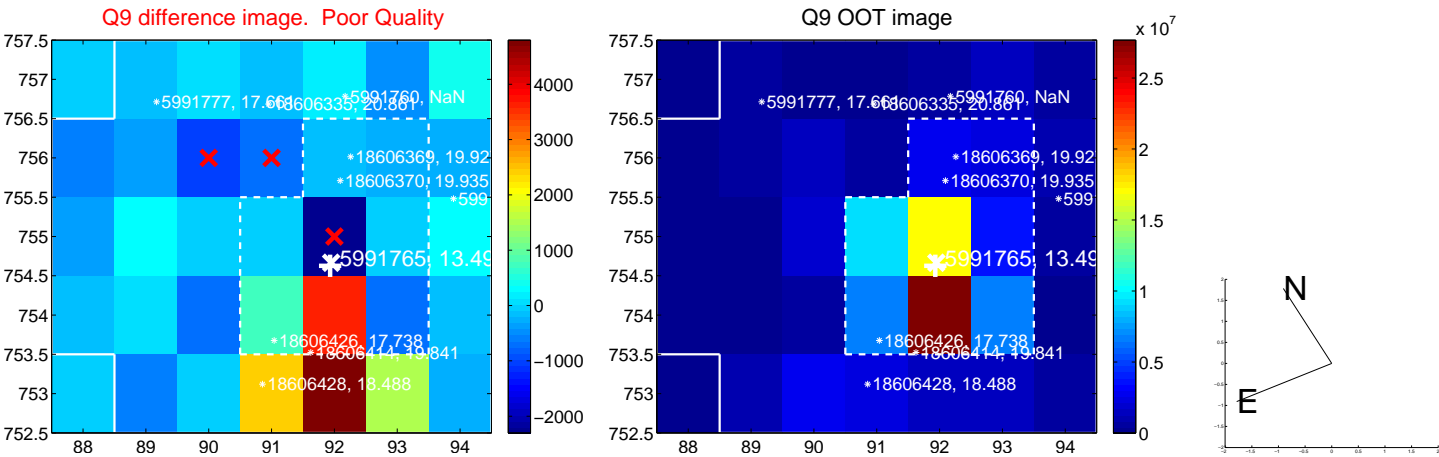
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



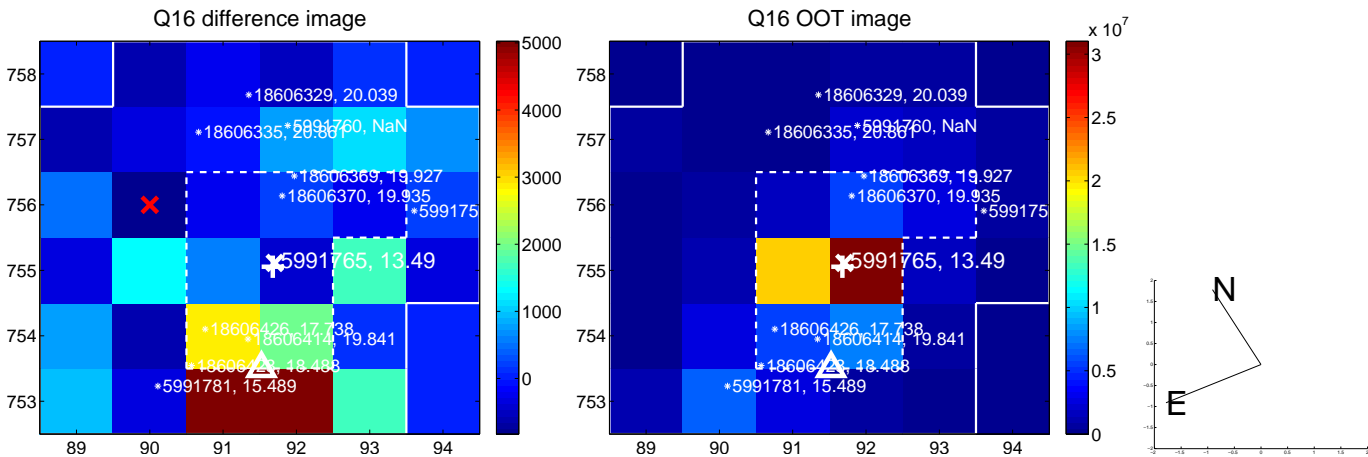
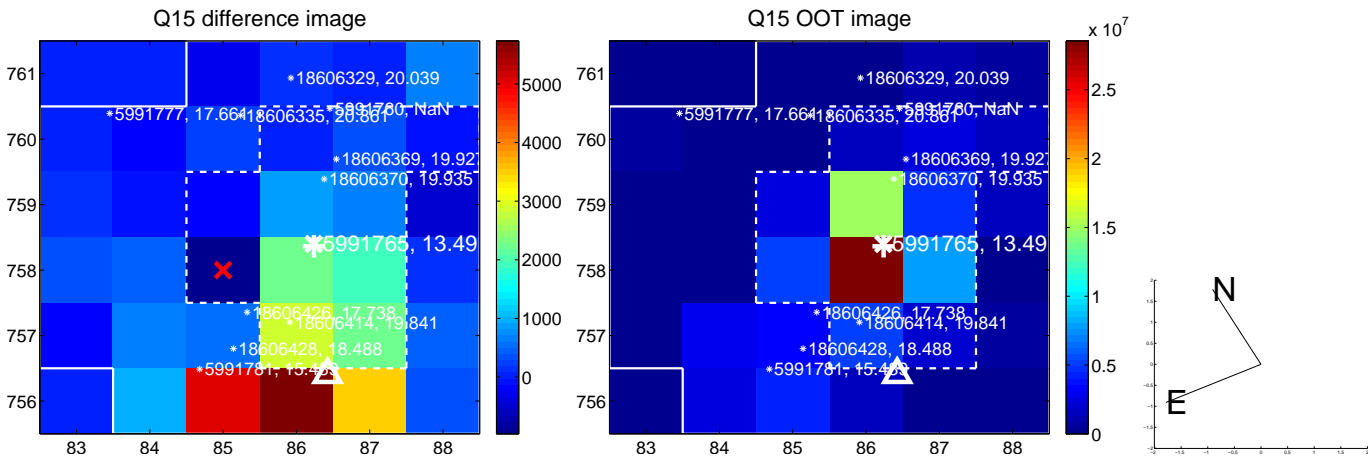
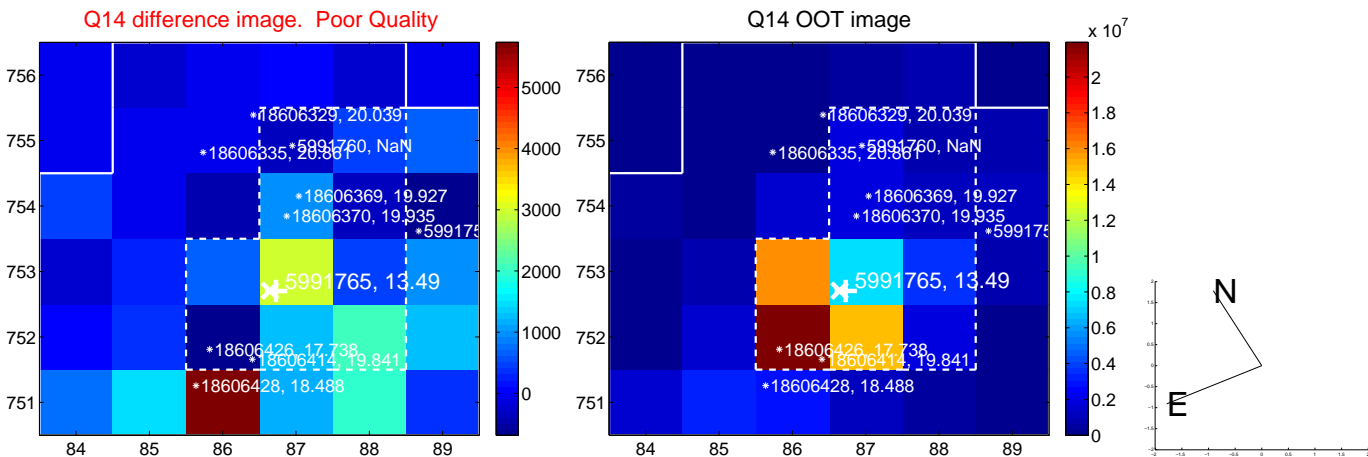
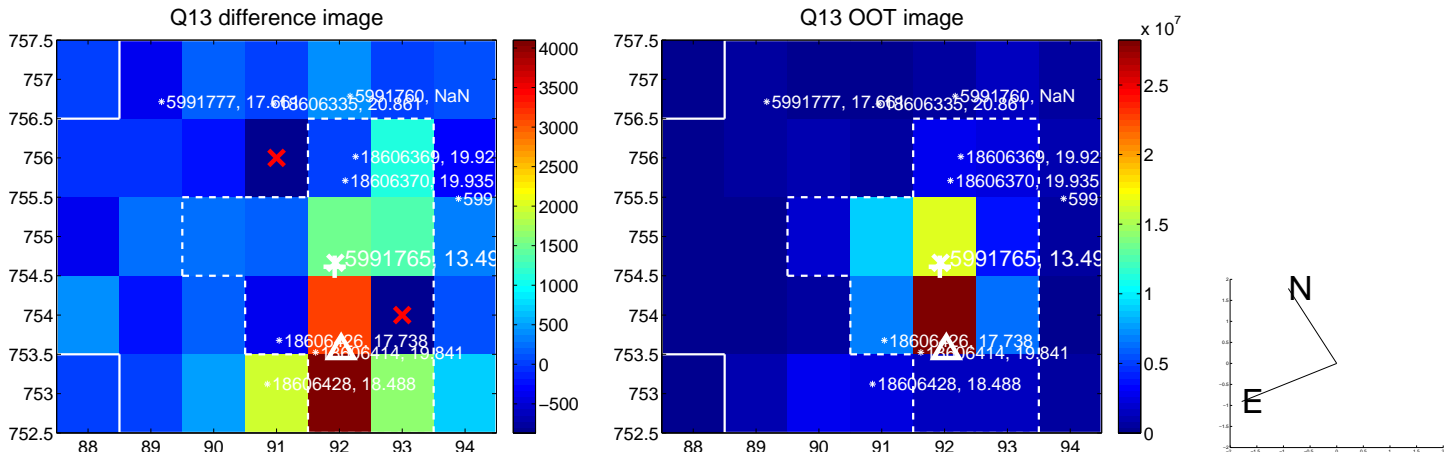
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



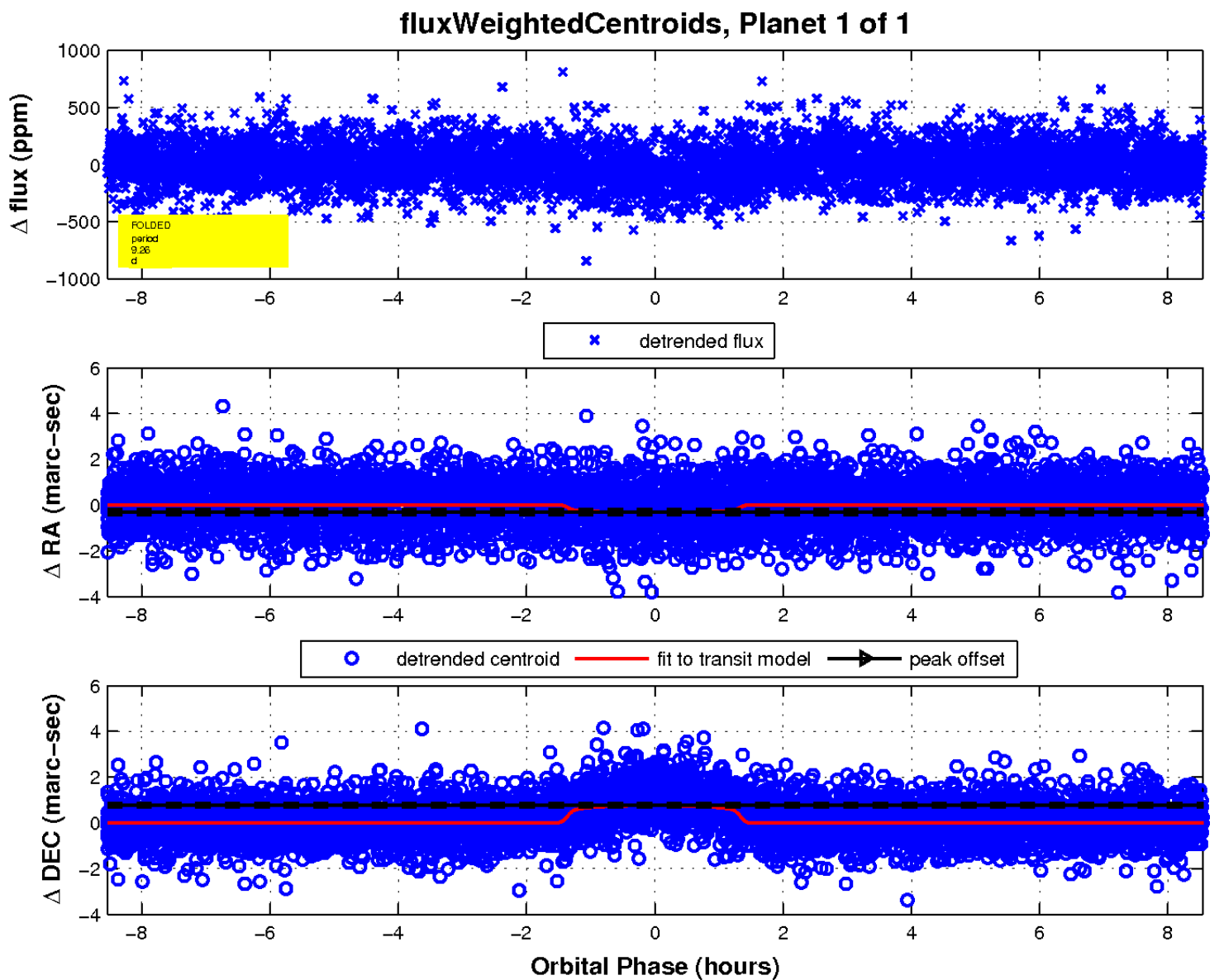
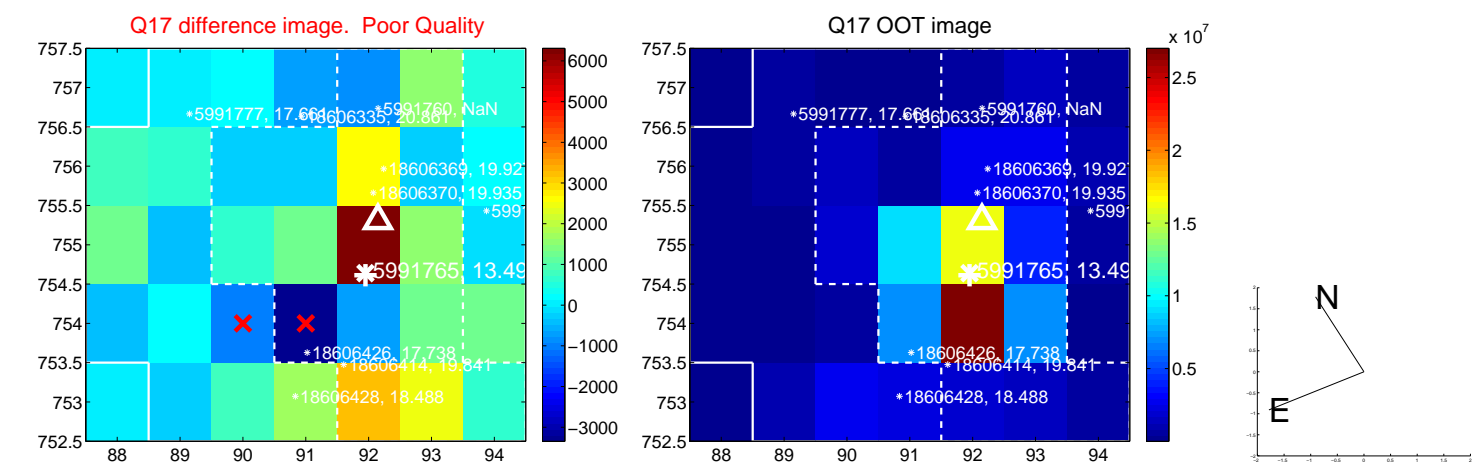
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UKIRT Image

