

KIC 010090151

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})
010090151-01	OBS	7985.01	0.527685	131.712130	402.8	1.786	223.1	112.5	0.90	5638	2.19	4501.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010090151-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—PLANET_OCCULT_DV—MOD_SEC_ALT—CENT_UNRESOLVED_OFFSET

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

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

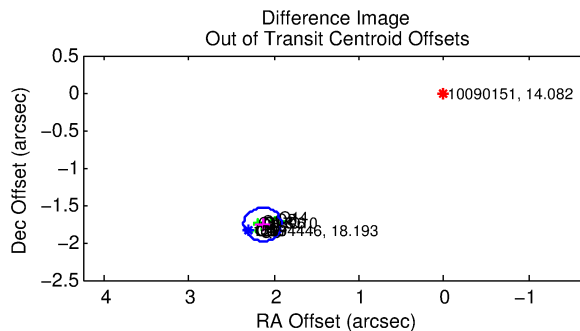
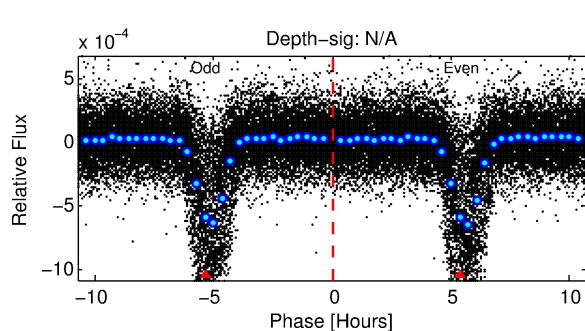
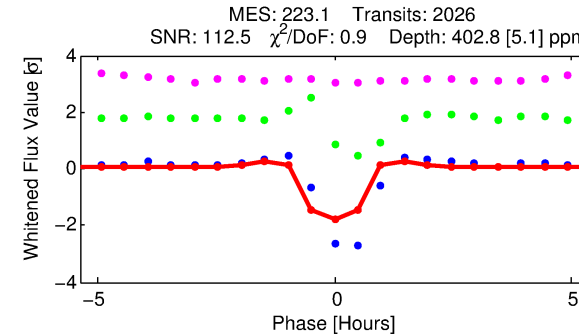
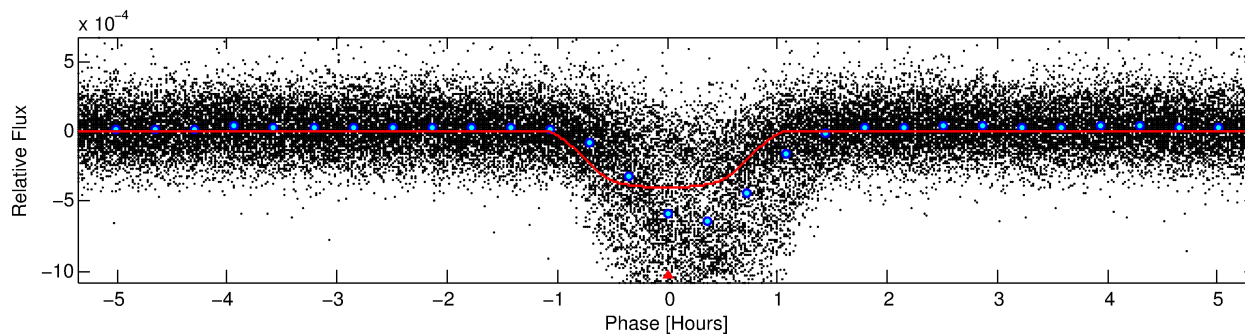
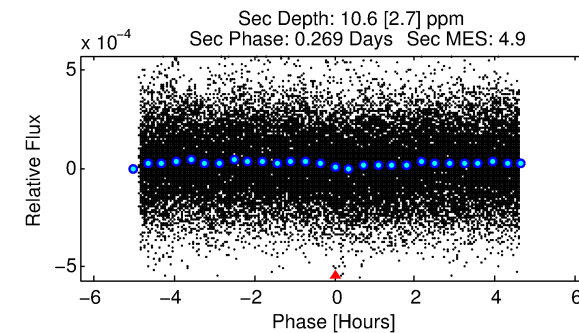
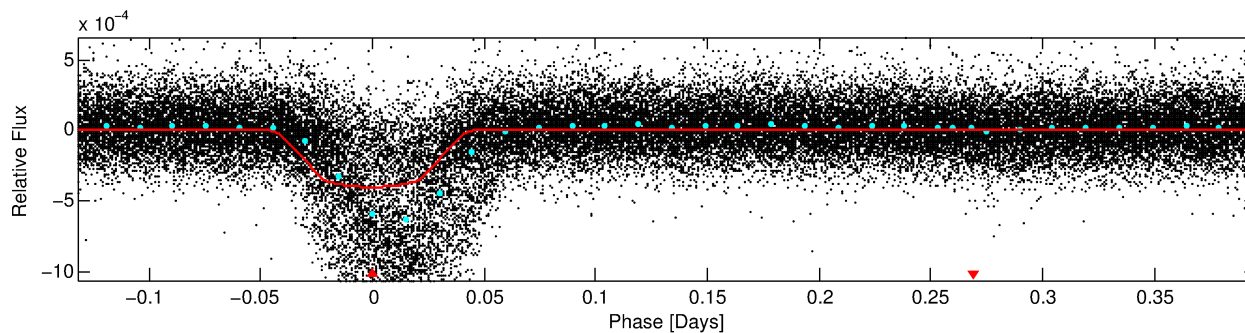
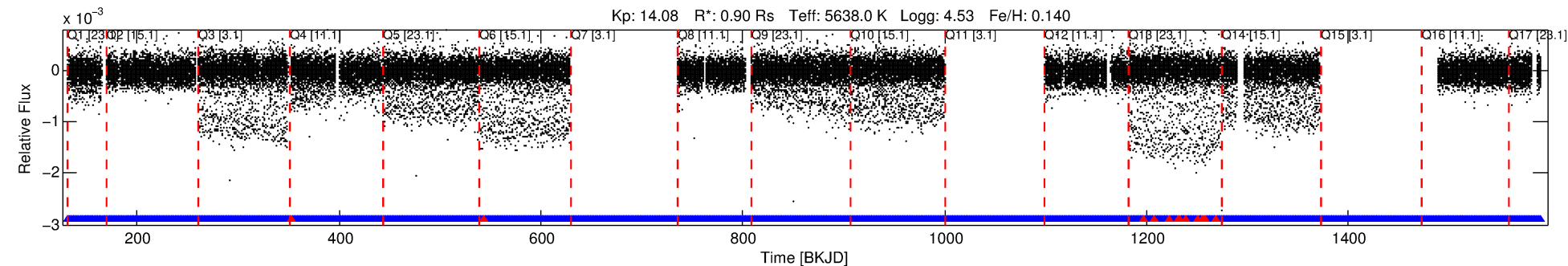
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010090151-01

No Significant Match Found

DV One-Page Summary

KIC: 10090151 Candidate: 1 of 1 Period: 0.528 d



DV Fit Results:

Period = 0.52768 [0.00000] d
Epoch = 131.7121 [0.0002] BKJD
Rp/R* = 0.0222 [0.0009]
a/R* = 1.43 [0.12]
b = 0.91 [0.03]
Seff = 4501.47 [1654.00]
Teff = 2089 [192] K
Rp = 2.19 [0.58] Re
a = 0.0128 [0.0030] AU
Ag = 0.20 [0.09] [-9.16σ]
Teffp = 2161 [155] K [0.29σ]

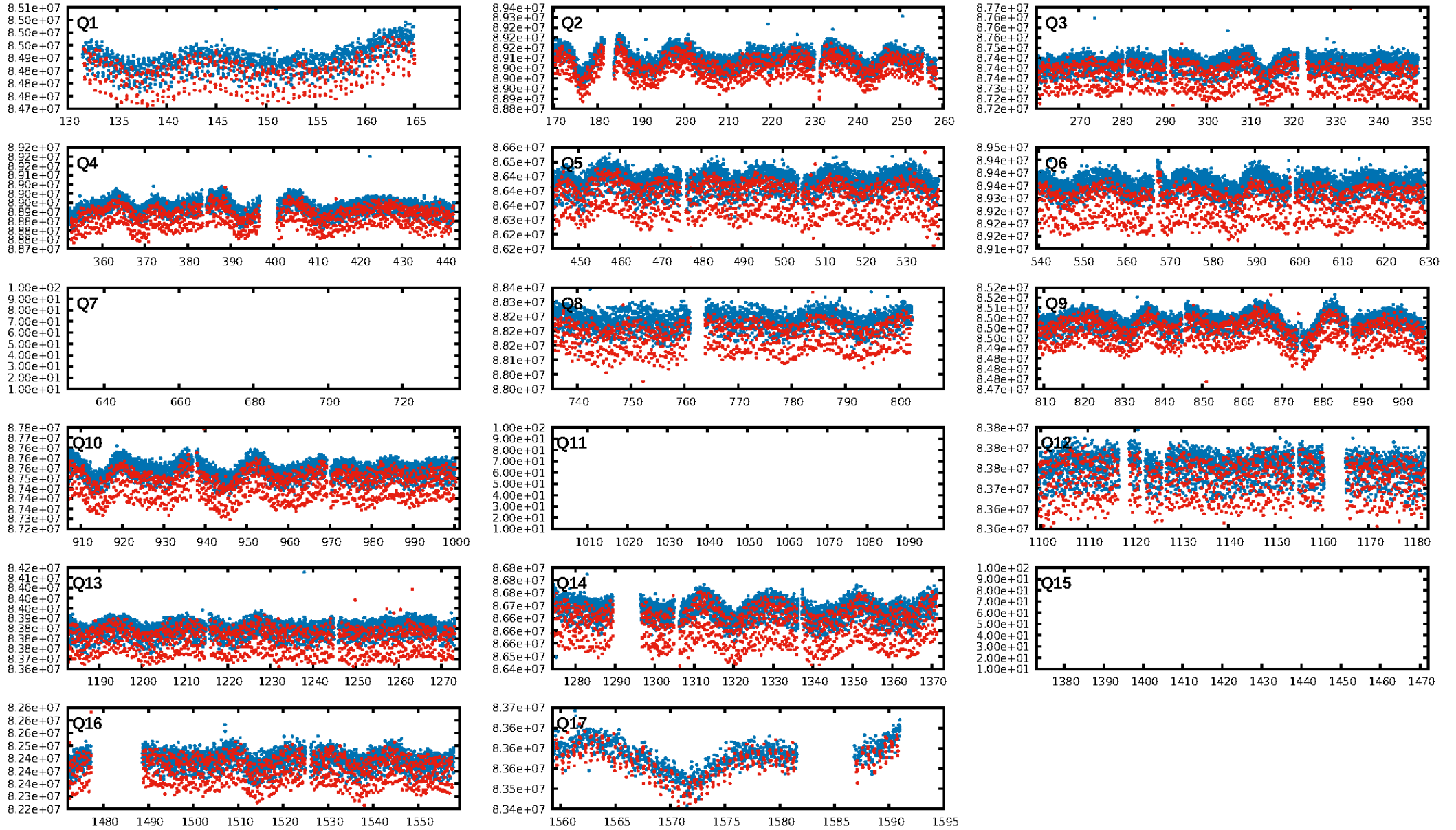
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1899/1912]
GhostDiagnostic-chr: 7.724
Centroid-sig: 0.0%
Centroid-so: 0.928 arcsec [14.30σ]
OotOffset-rm: 2.763 arcsec [37.08σ]
KicOffset-rm: 2.929 arcsec [40.56σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

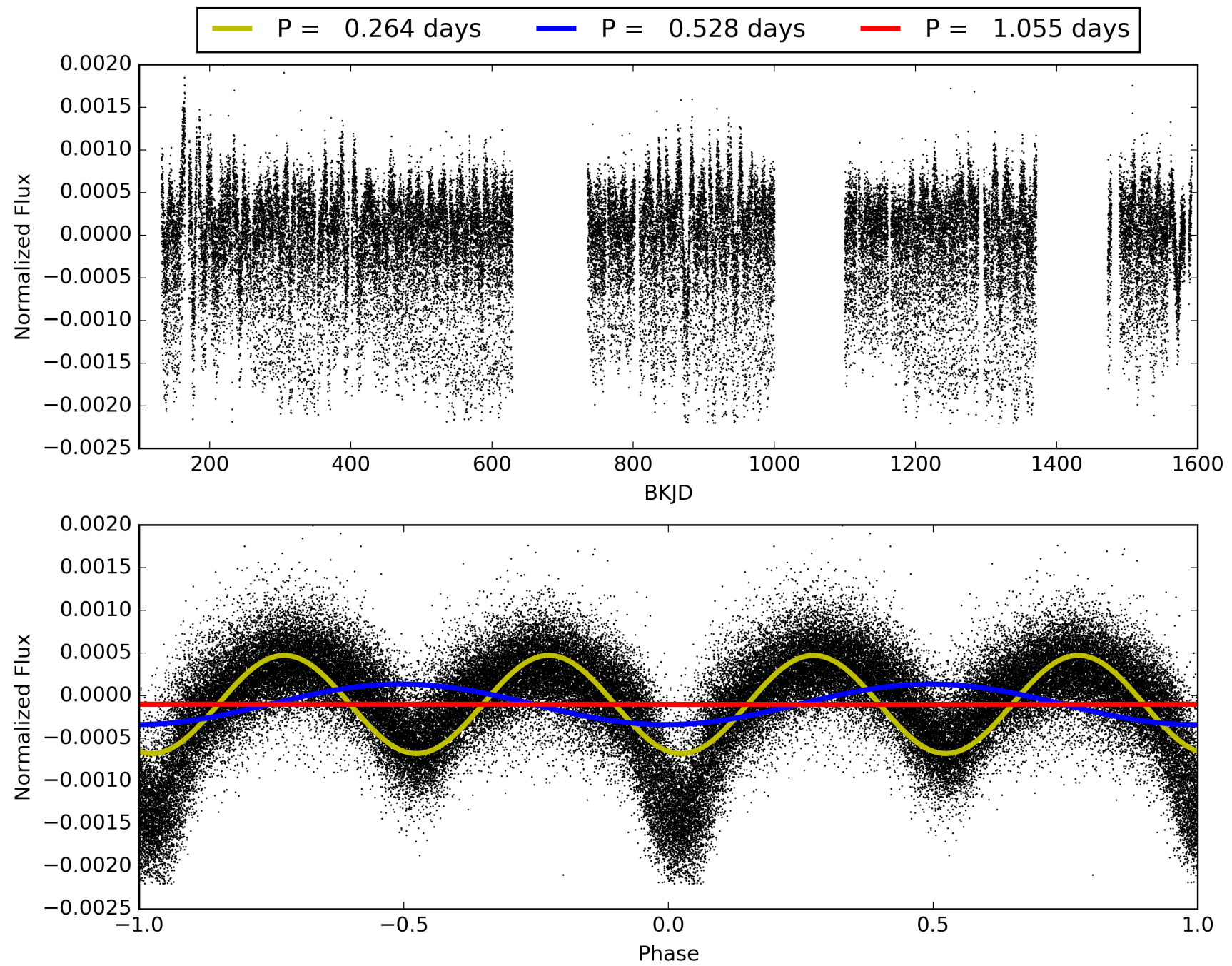
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:41:02 Z

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

TCE 010090151-01, PDC Light Curves

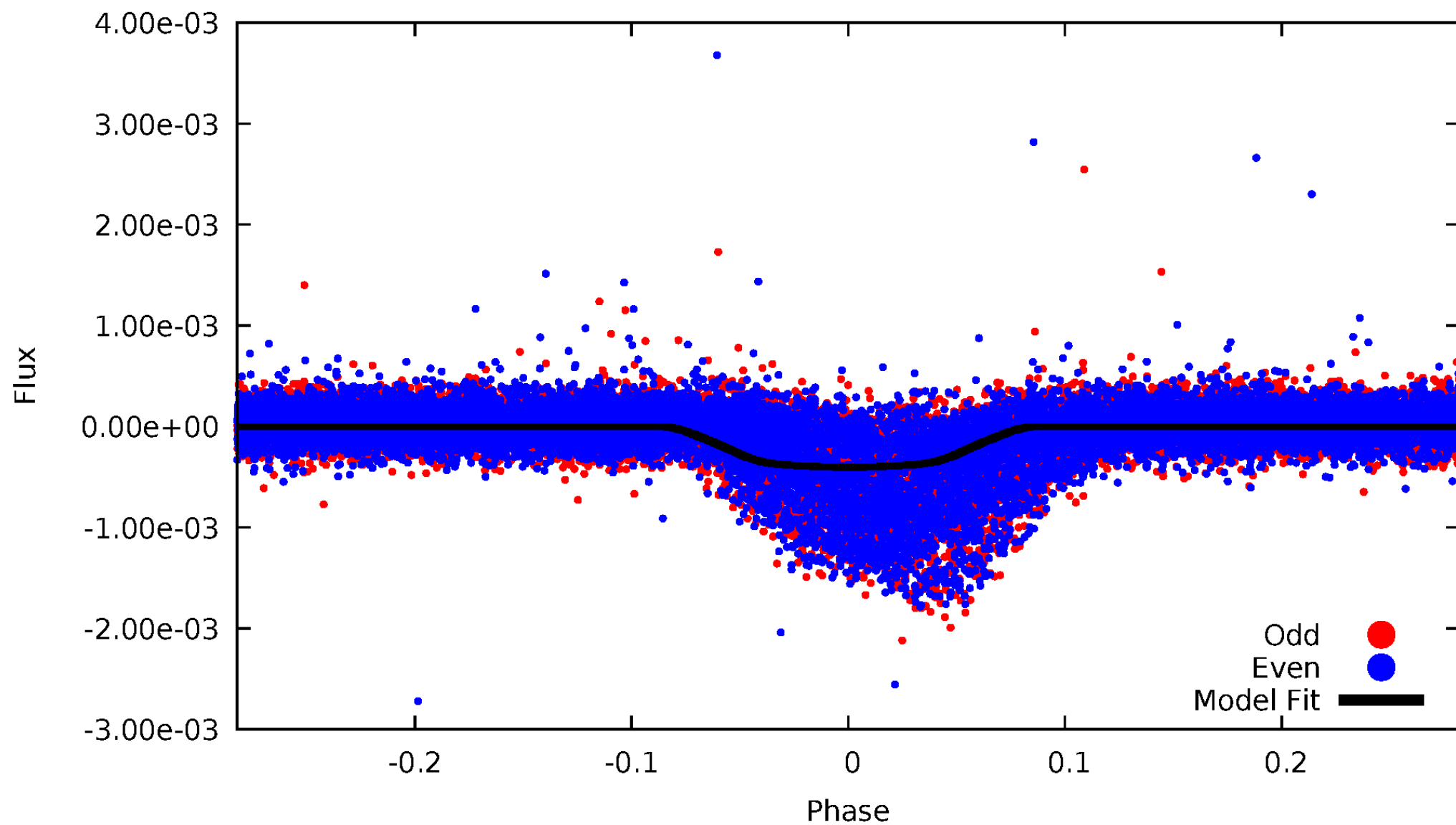


TCE 010090151-01



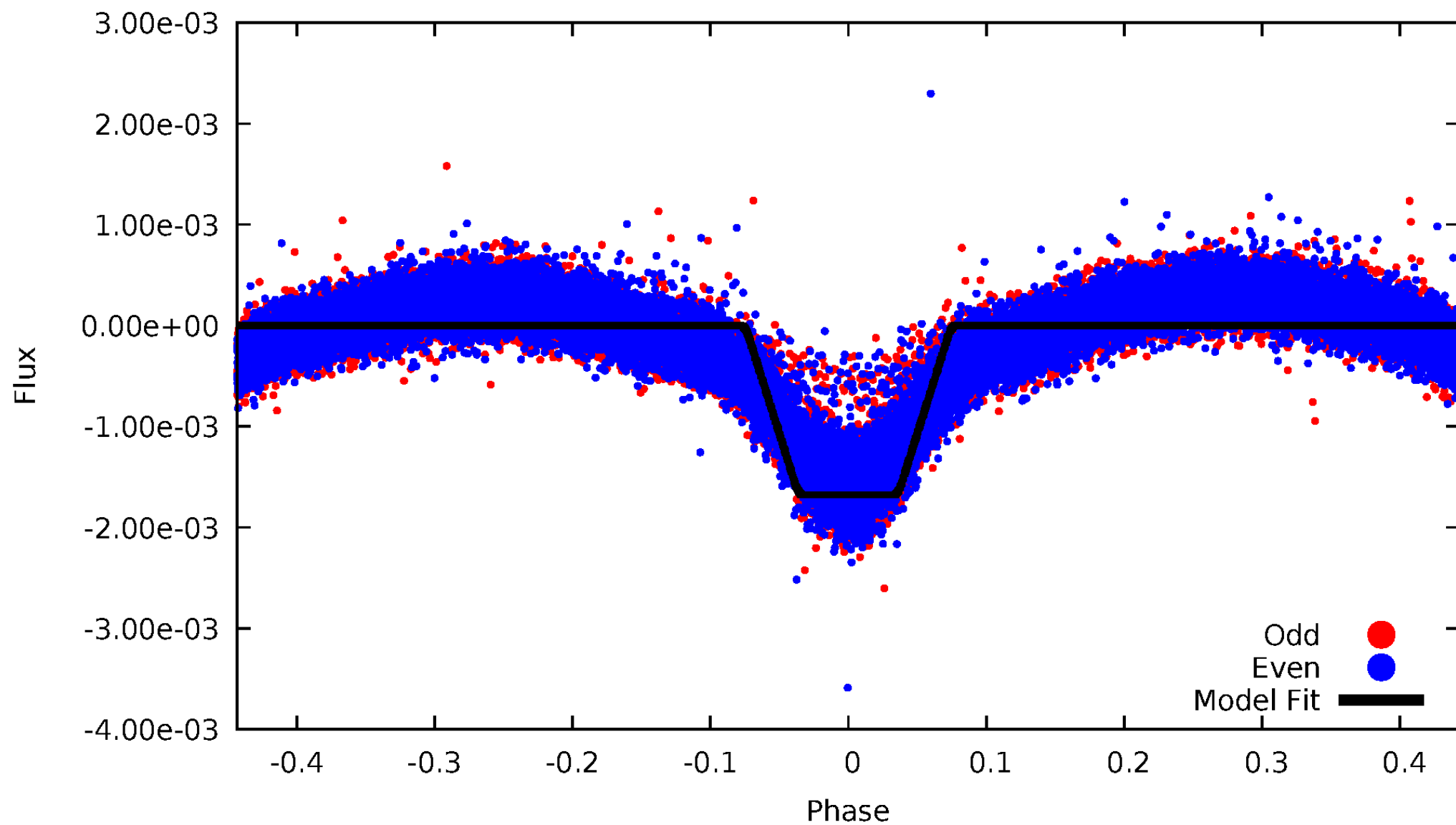
DV Odd/Even

TCE 010090151-01



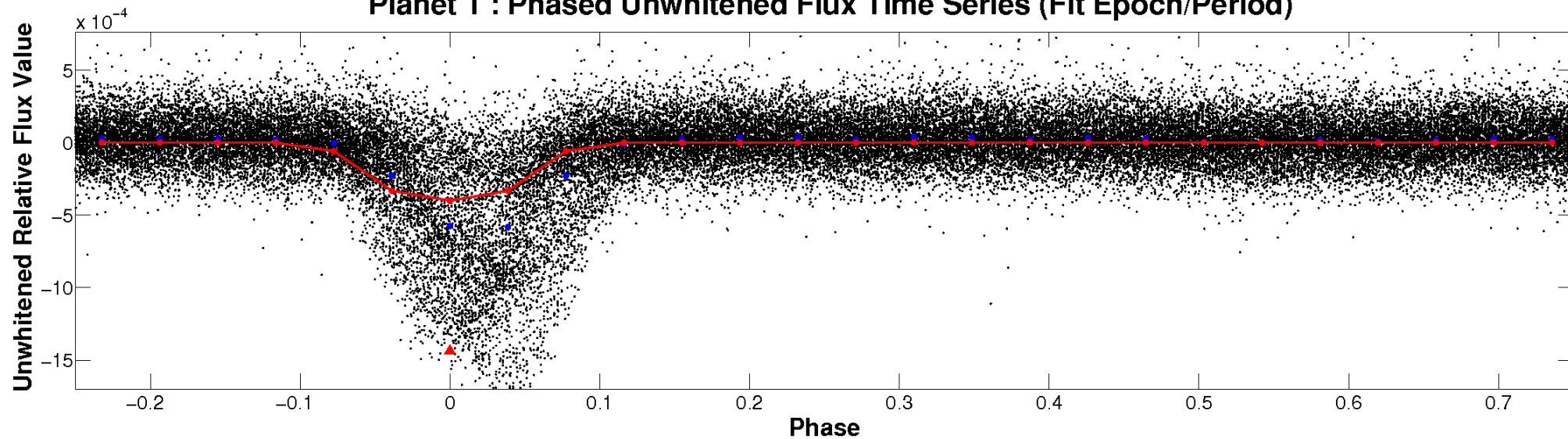
ALT Odd/Even

TCE 010090151-01

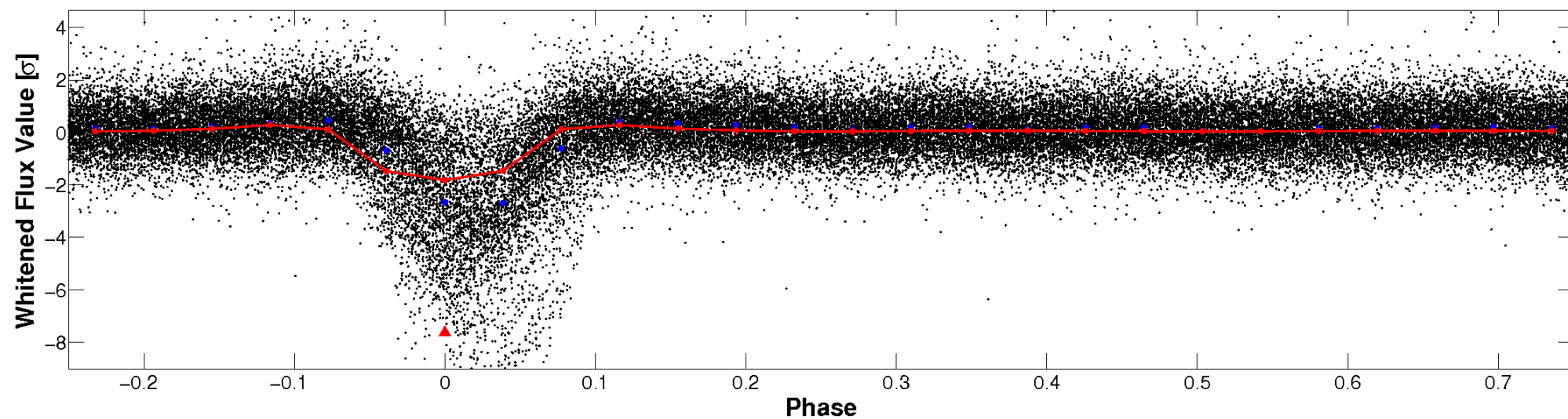


Non-Whitened Vs. Whitened Light Curve

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

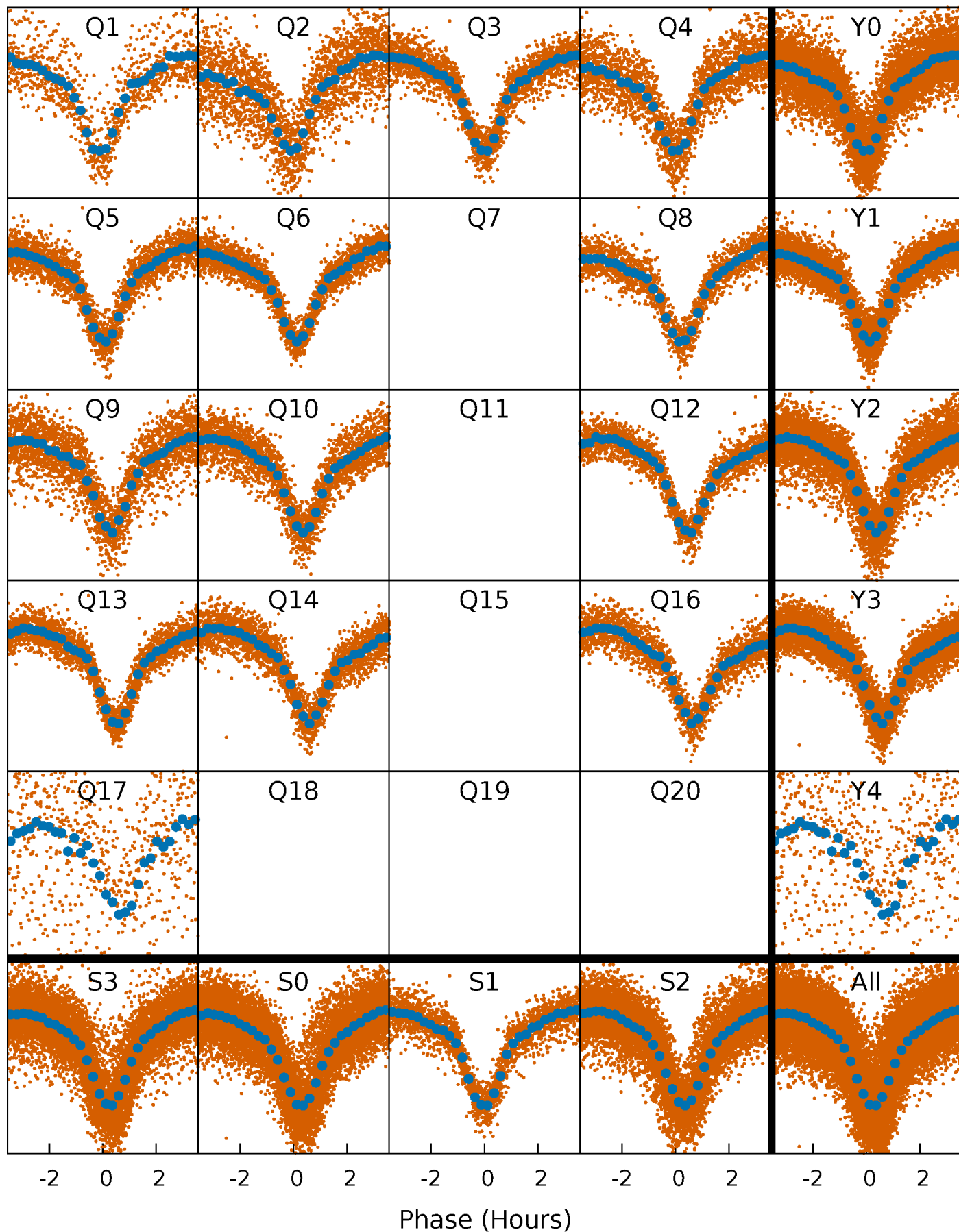


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



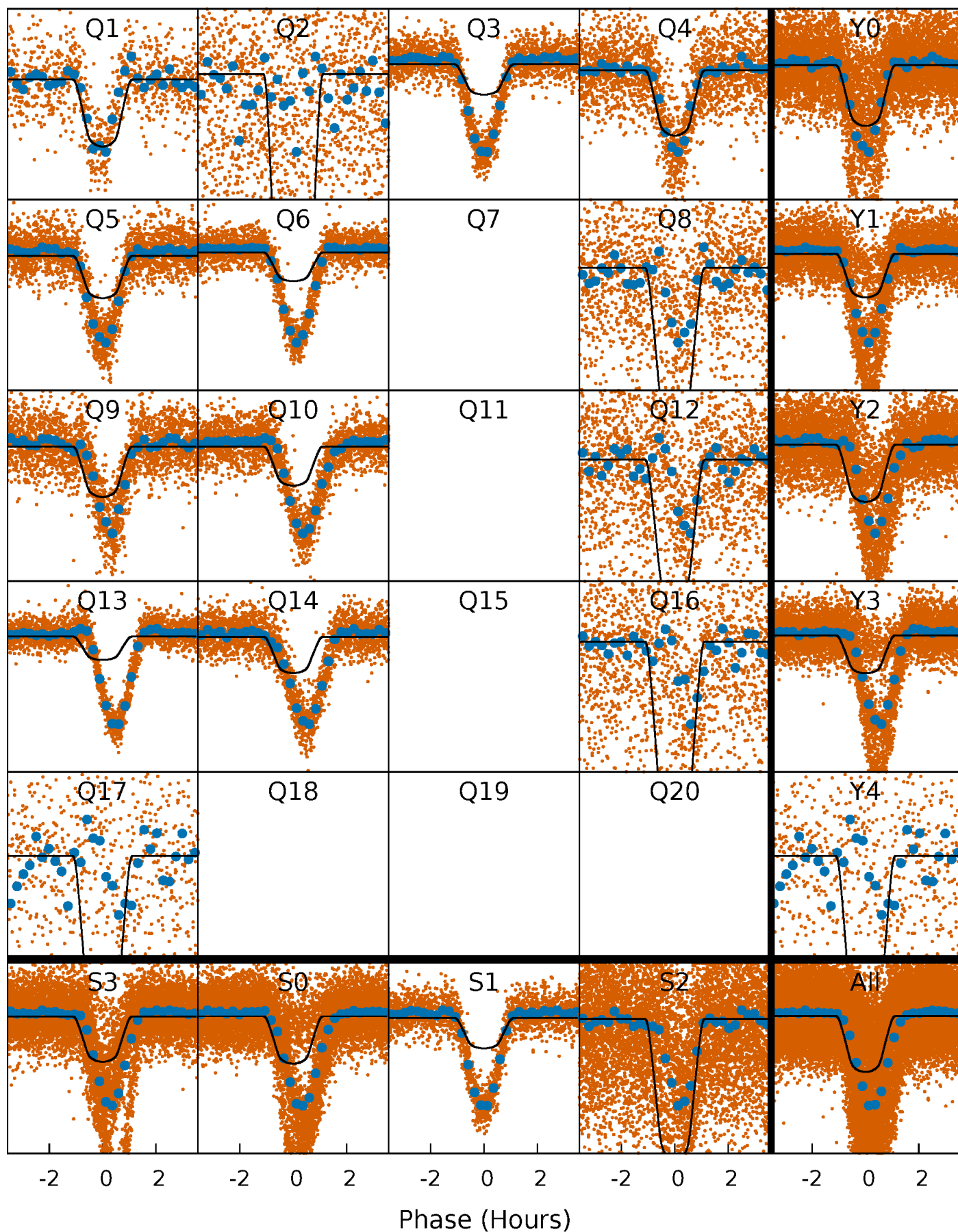
PDC Quarter-Phased Transit Curves

TCE 010090151-01 P= 0.527685 Days $T_0=131.712130$ (BKJD)



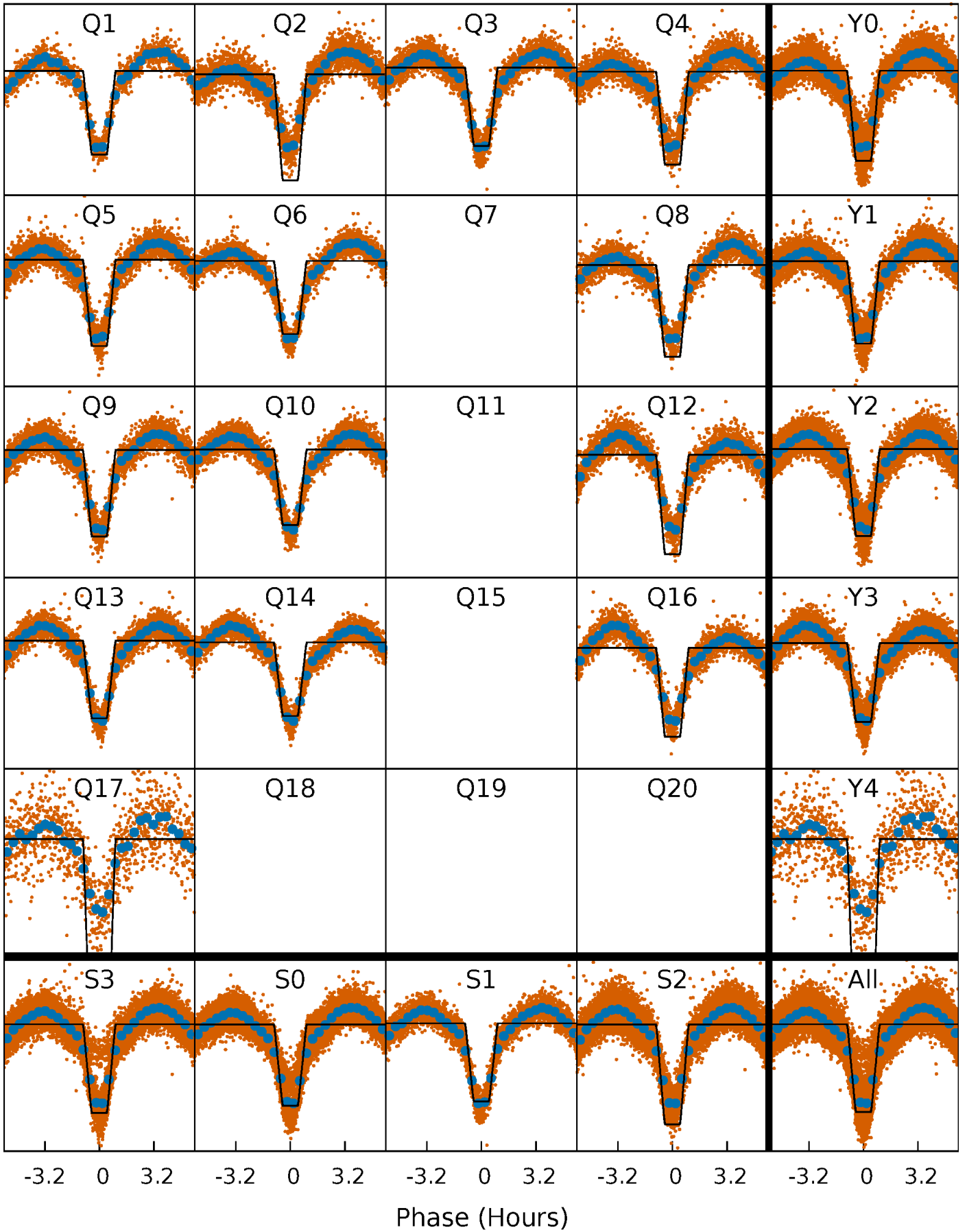
DV Quarter-Phased Transit Curves

TCE 010090151-01 P= 0.527685 Days $T_0=131.712130$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

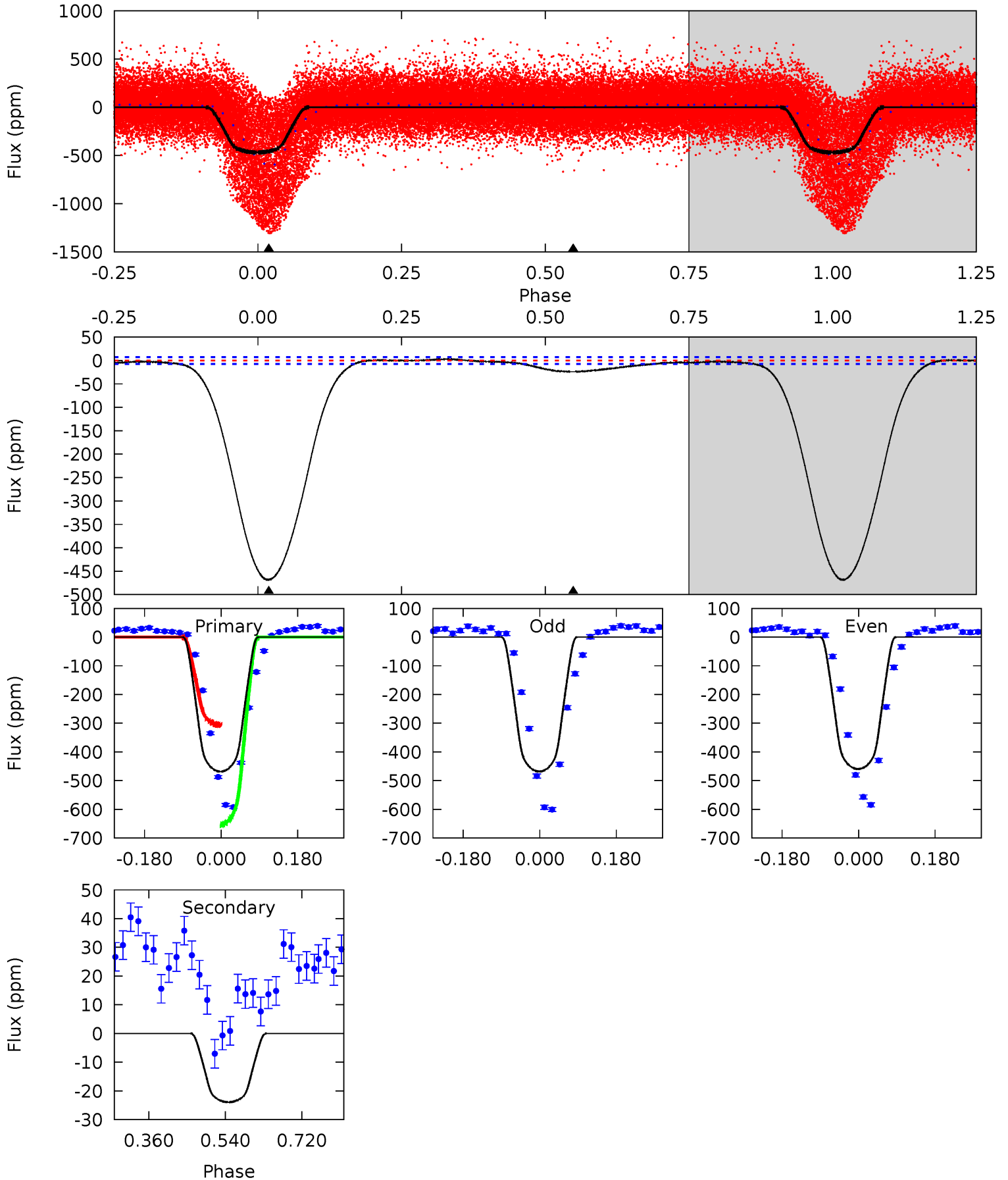
TCE 010090151-01 P= 0.527696 Days $T_0=131.707892$ (BKJD)



DV Model-Shift Uniqueness Test

010090151-01, P = 0.527685 Days, E = 131.184445 Days

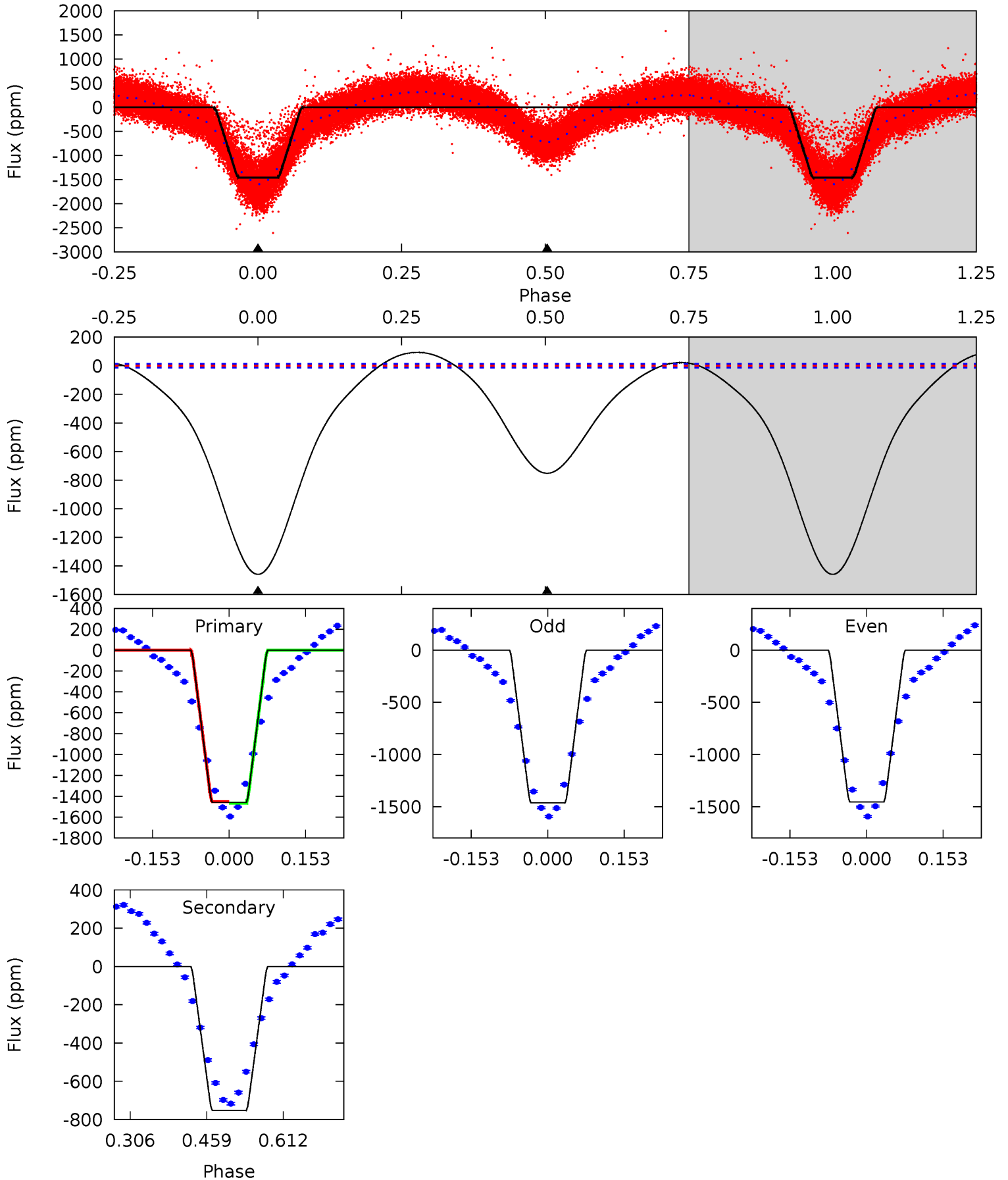
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
279.5	14.3	0	0	4.44	1.34	1.39	279.5	279.5	14.3	14.3	2.57	0.93	0.01	103.0



Alt Model-Shift Uniqueness Test

010090151-01, P = 0.527696 Days, E = 131.180196 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
464.5	239.4	0	0	4.47	1.43	26.2	464.5	464.5	239.4	239.4	1.54	0.98	0.06	2.35



Stellar Parameters For KIC 010090151

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5638^{+139}_{-166}	$4.529^{+0.035}_{-0.196}$	$0.140^{+0.200}_{-0.300}$	$0.903^{+0.237}_{-0.079}$	$1.005^{+0.084}_{-0.115}$	$1.921^{+0.347}_{-0.932}$
	+2%/-3%	+1%/-4%	+143%/-214%	+26%/-9%	+8%/-11%	+18%/-49%
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 010090151-01 / KOI 7985.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-24 ± 2	$2.25^{+0.32}_{-0.17}$	2976^{+181}_{-128}	2670^{+176}_{-388}	$0.409^{+0.076}_{-0.086}$
Alt.	-752 ± 3	$4.17^{+0.59}_{-0.31}$	2988^{+200}_{-138}	4653^{+116}_{-130}	$3.863^{+0.529}_{-0.885}$

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

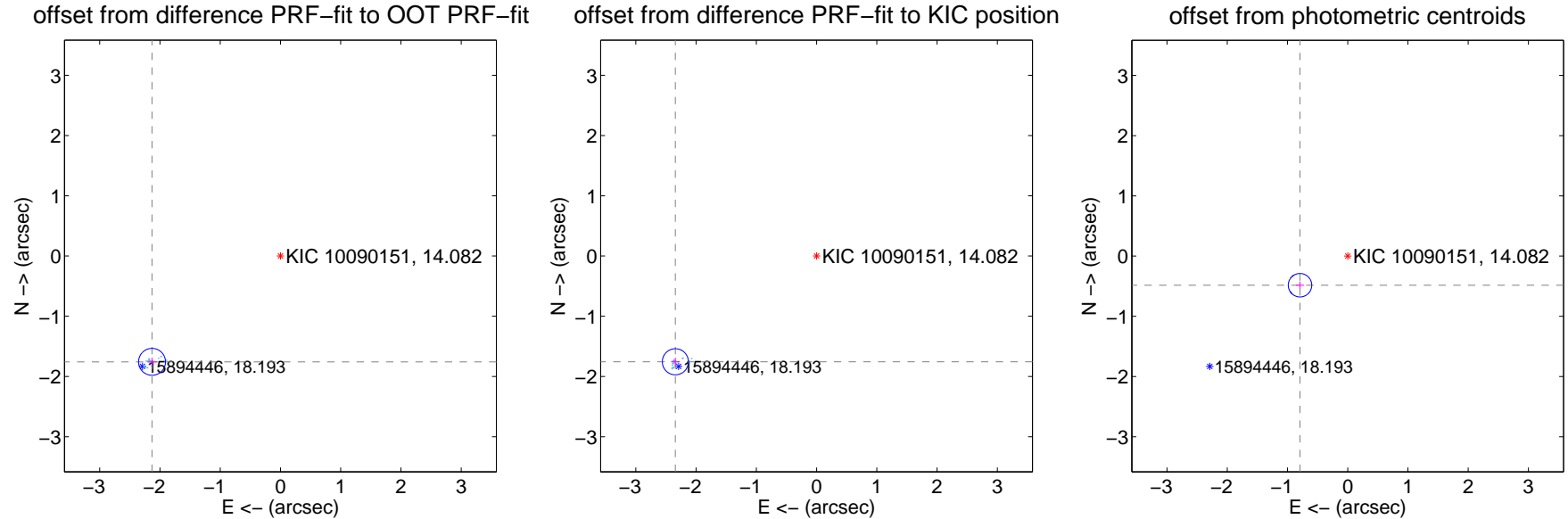
DV Centroid Data

Supplemental centroid analysis for 010090151-01. Kepler magnitude: 14.08. Transit SNR 112.47

There are 14 quarters with good PRF difference image offsets

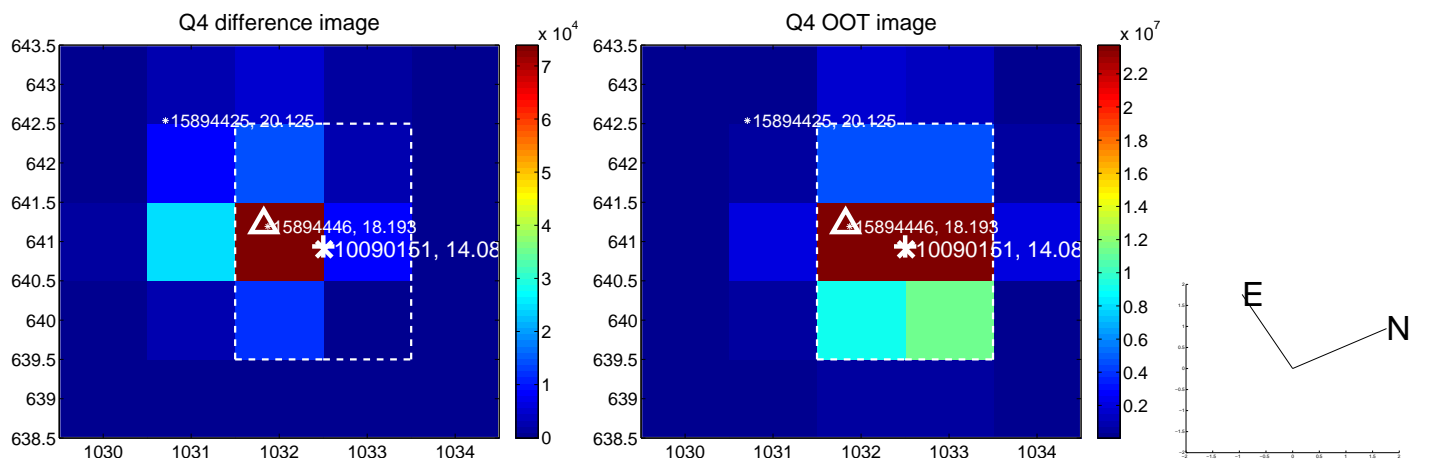
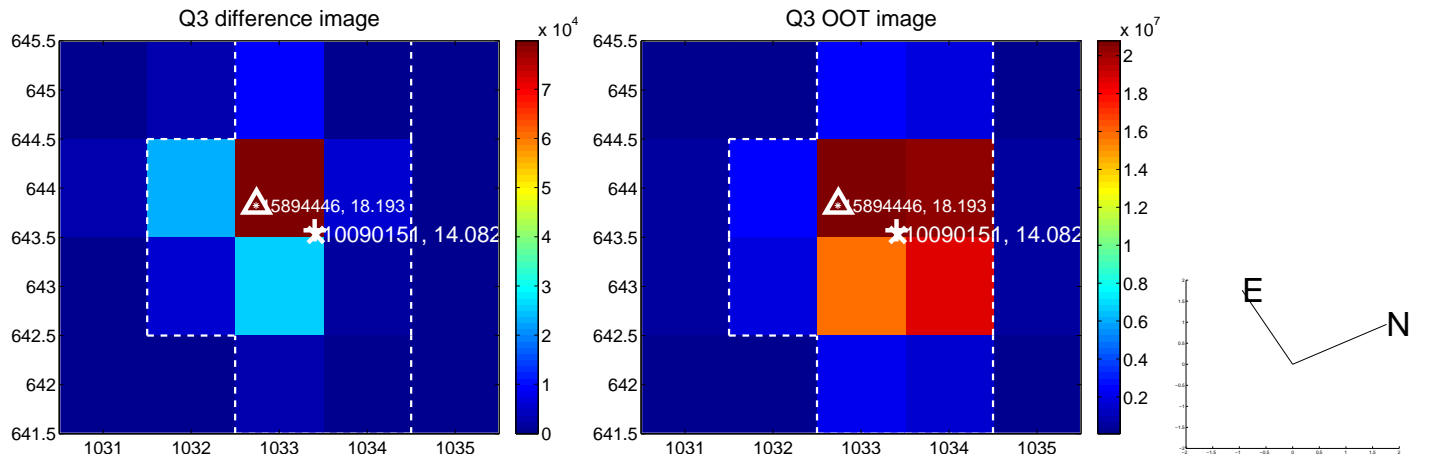
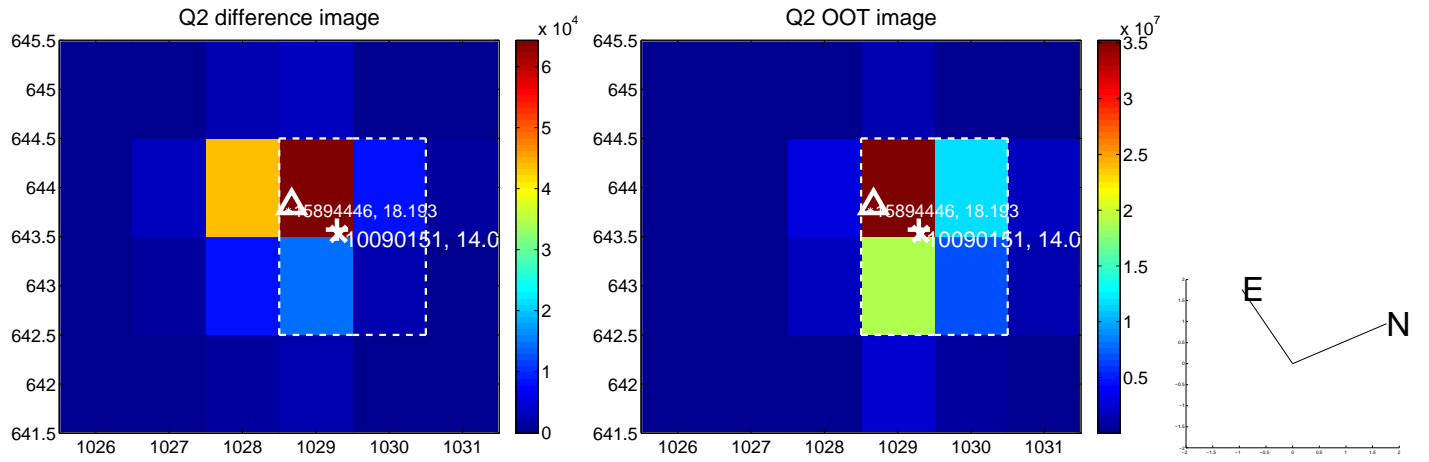
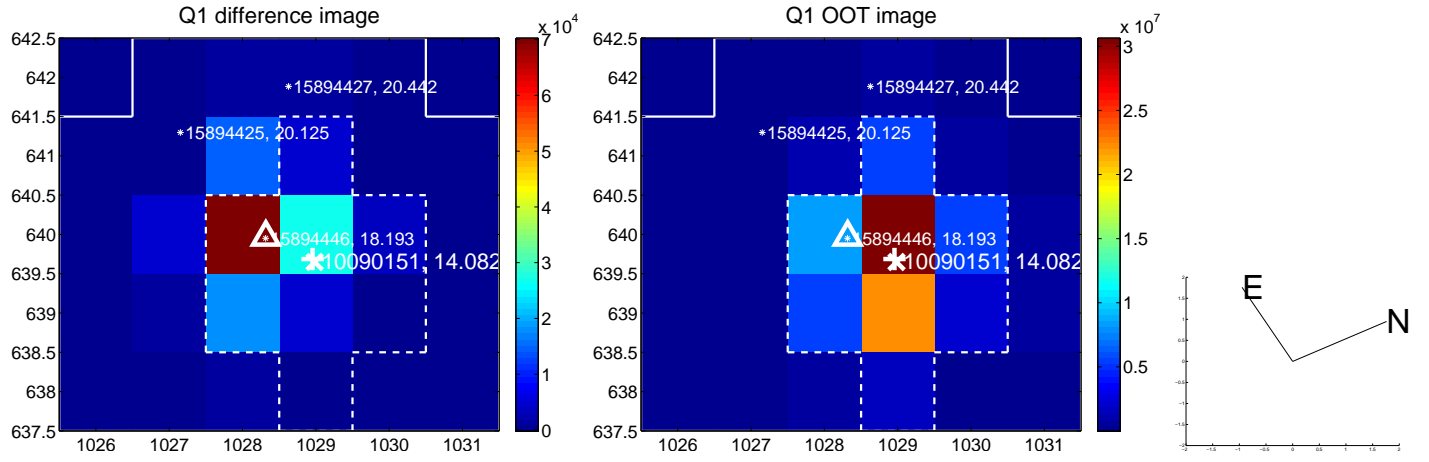
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.763 ± 0.074	37.08	2.132 ± 0.075	-1.757 ± 0.068
PRF-fit source offset from KIC position	2.929 ± 0.072	40.56	2.344 ± 0.072	-1.756 ± 0.068
photometric centroid source offset	0.93 ± 0.06	14.30	0.79 ± 0.07	-0.48 ± 0.06

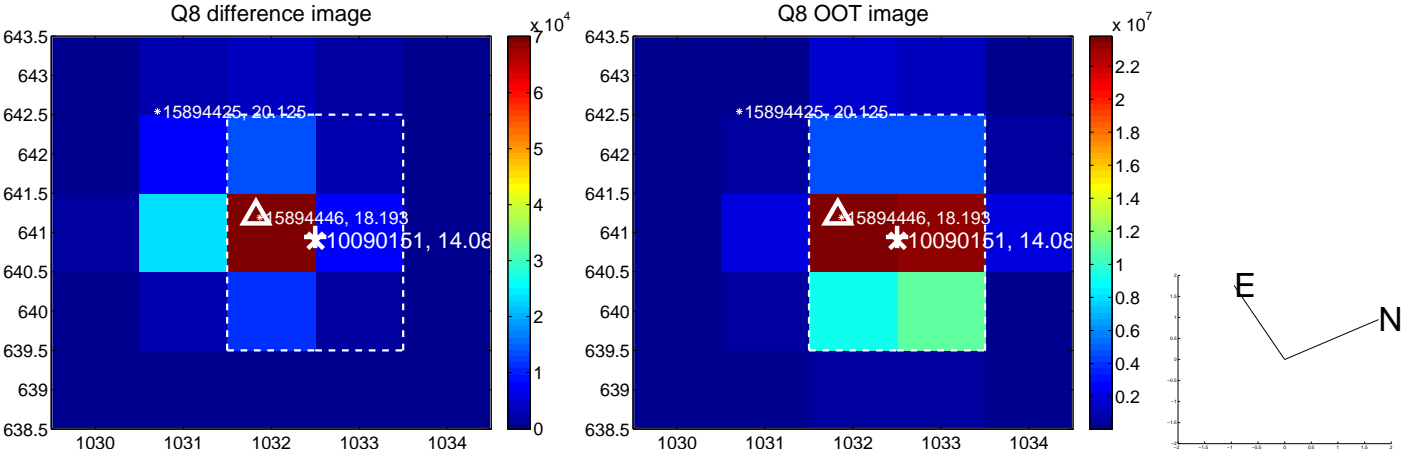
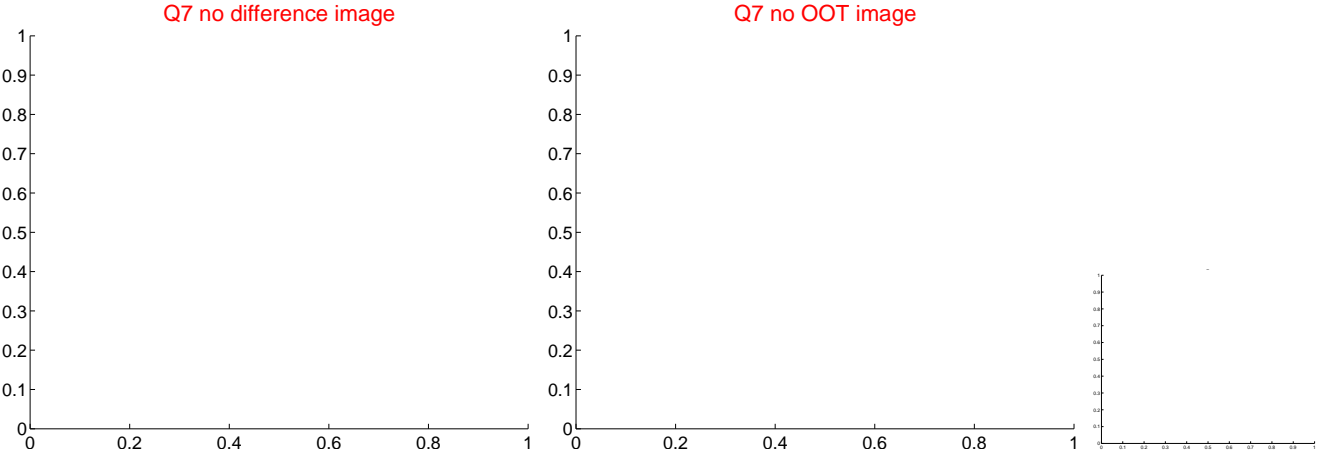
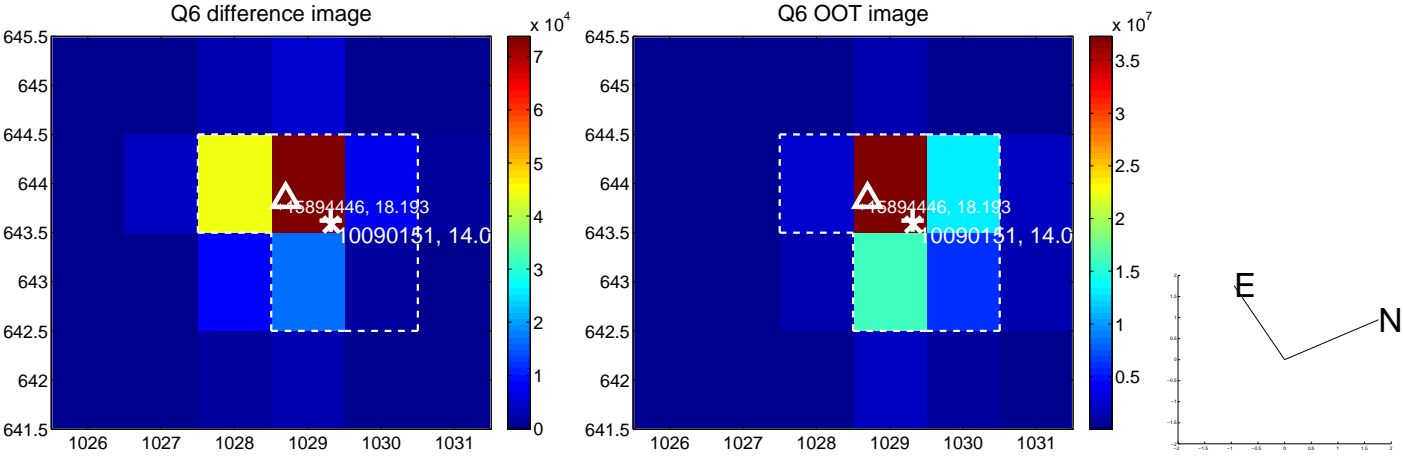
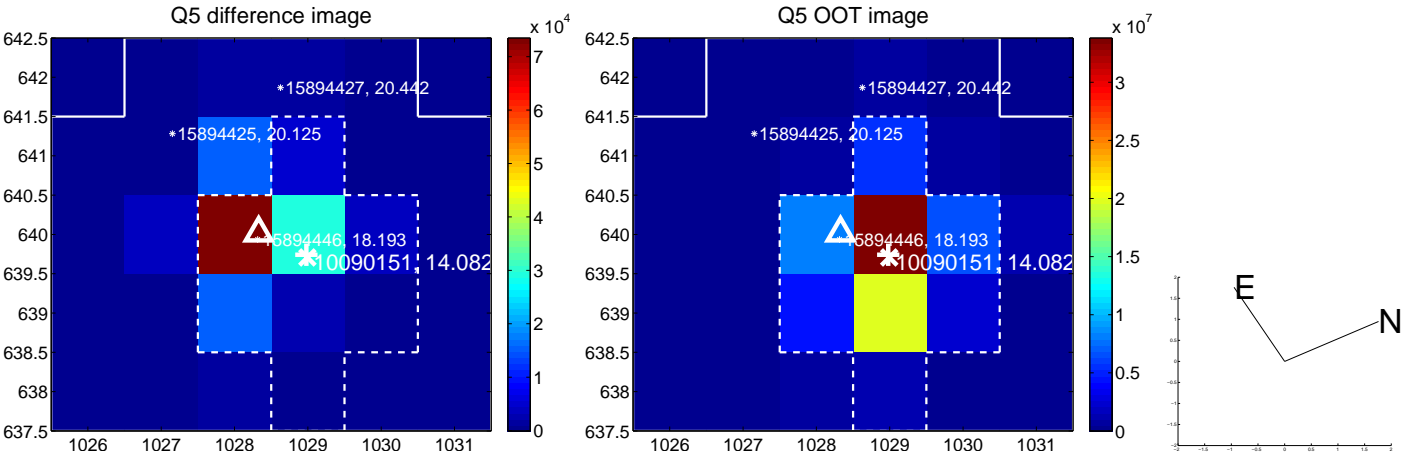


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

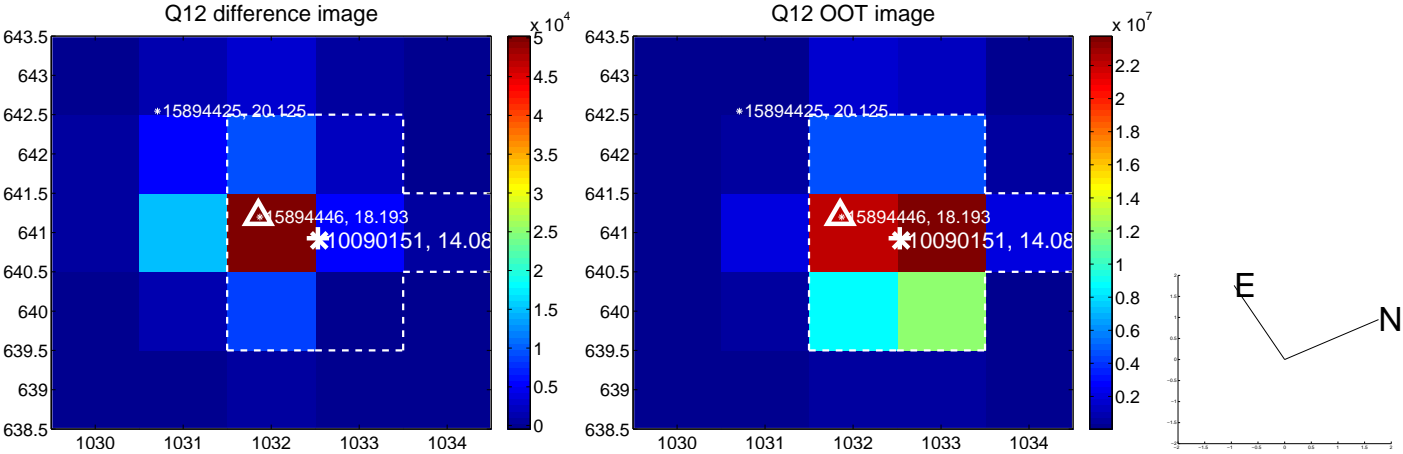
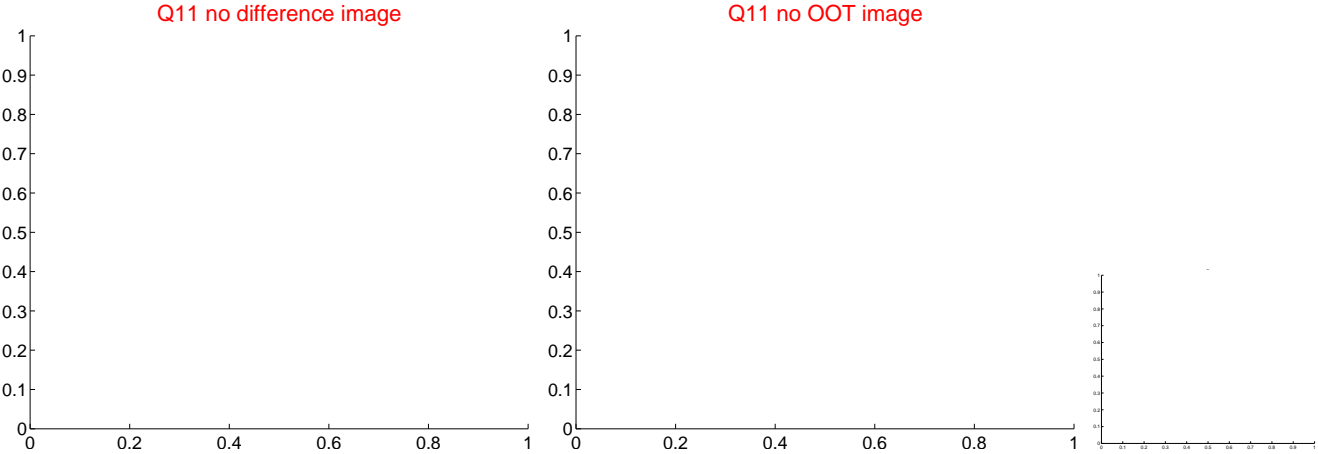
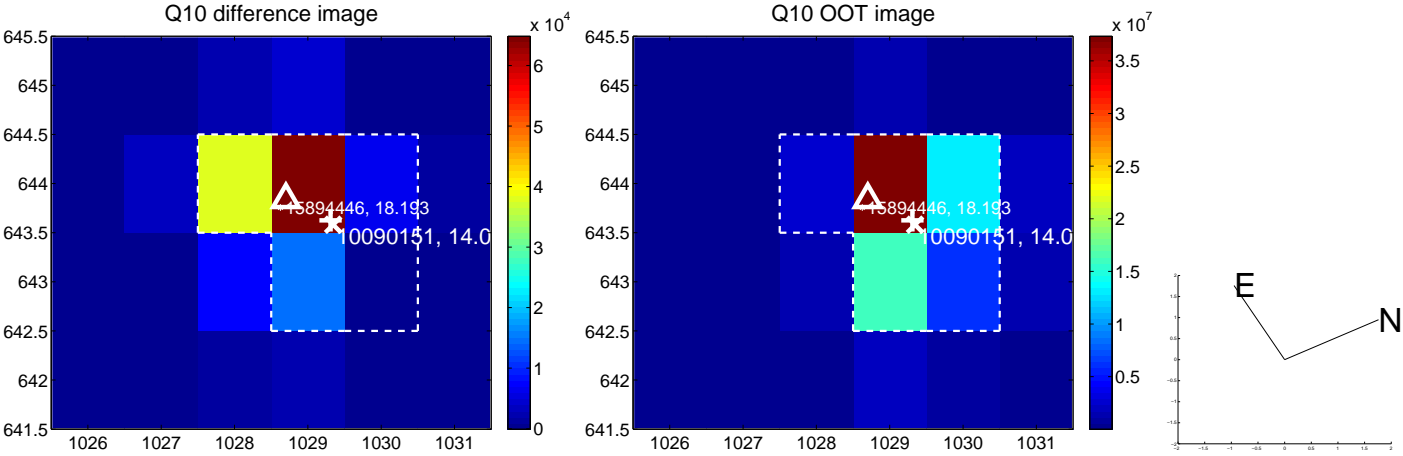
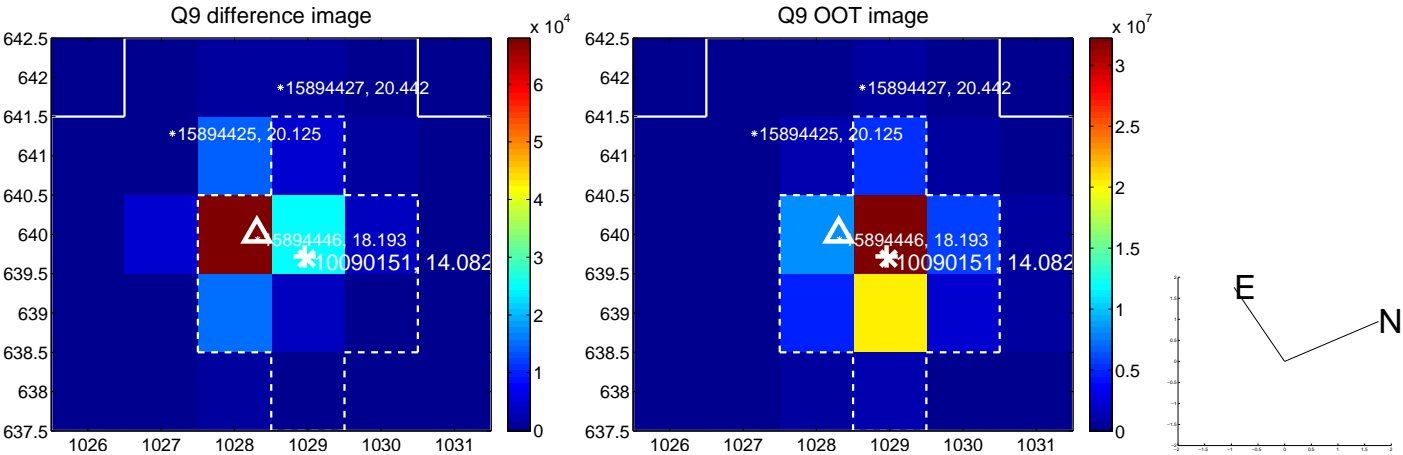
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



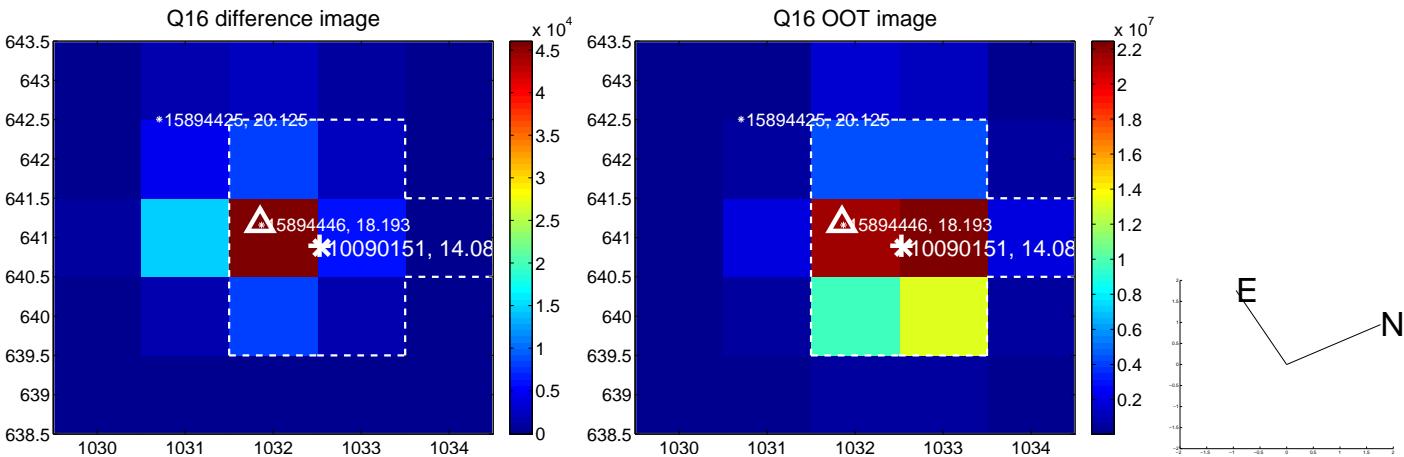
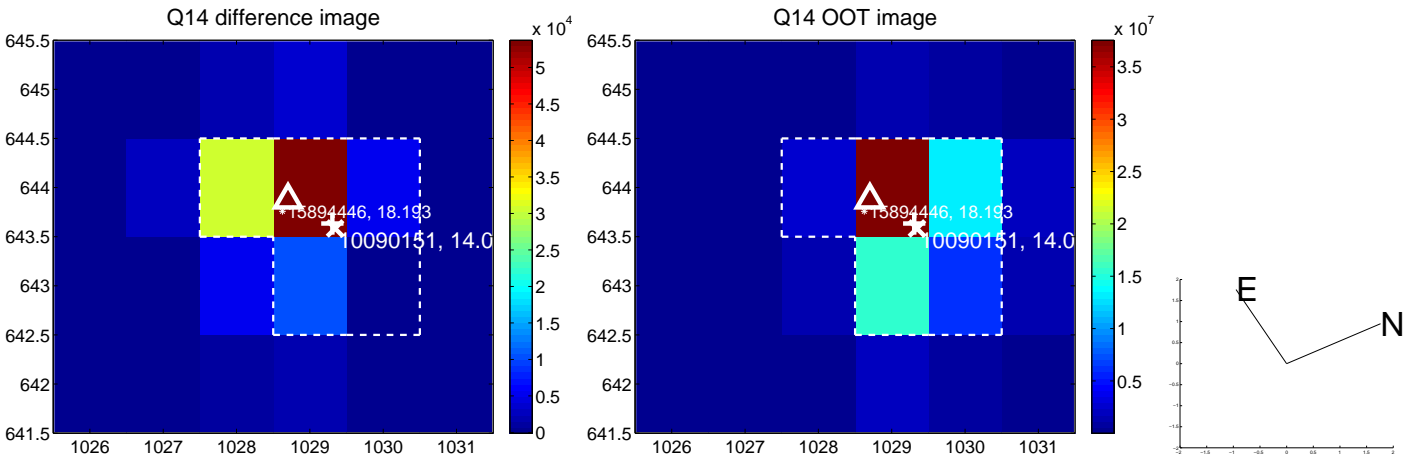
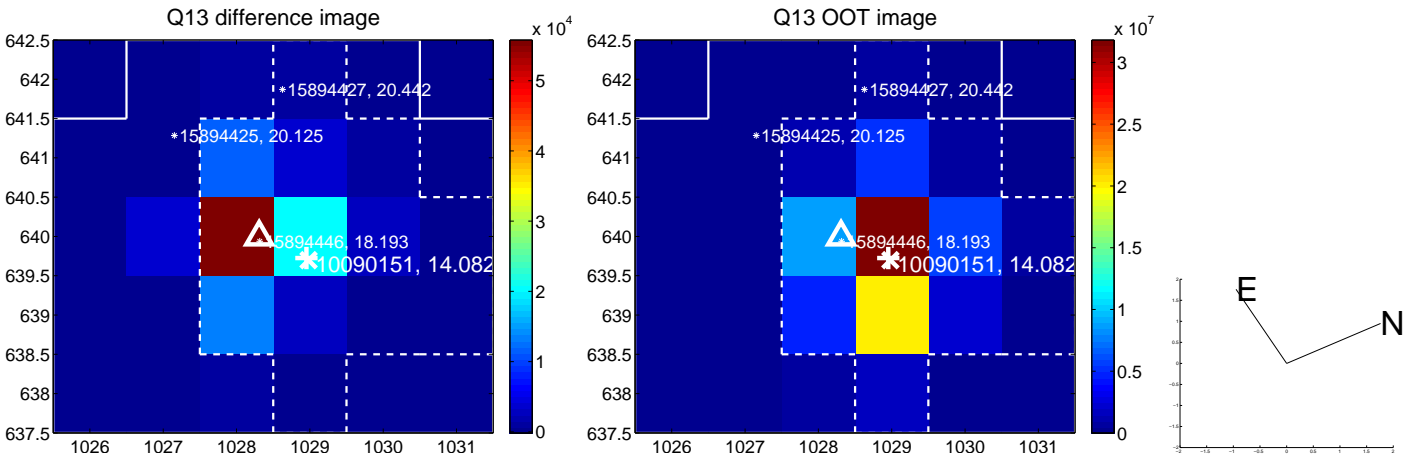
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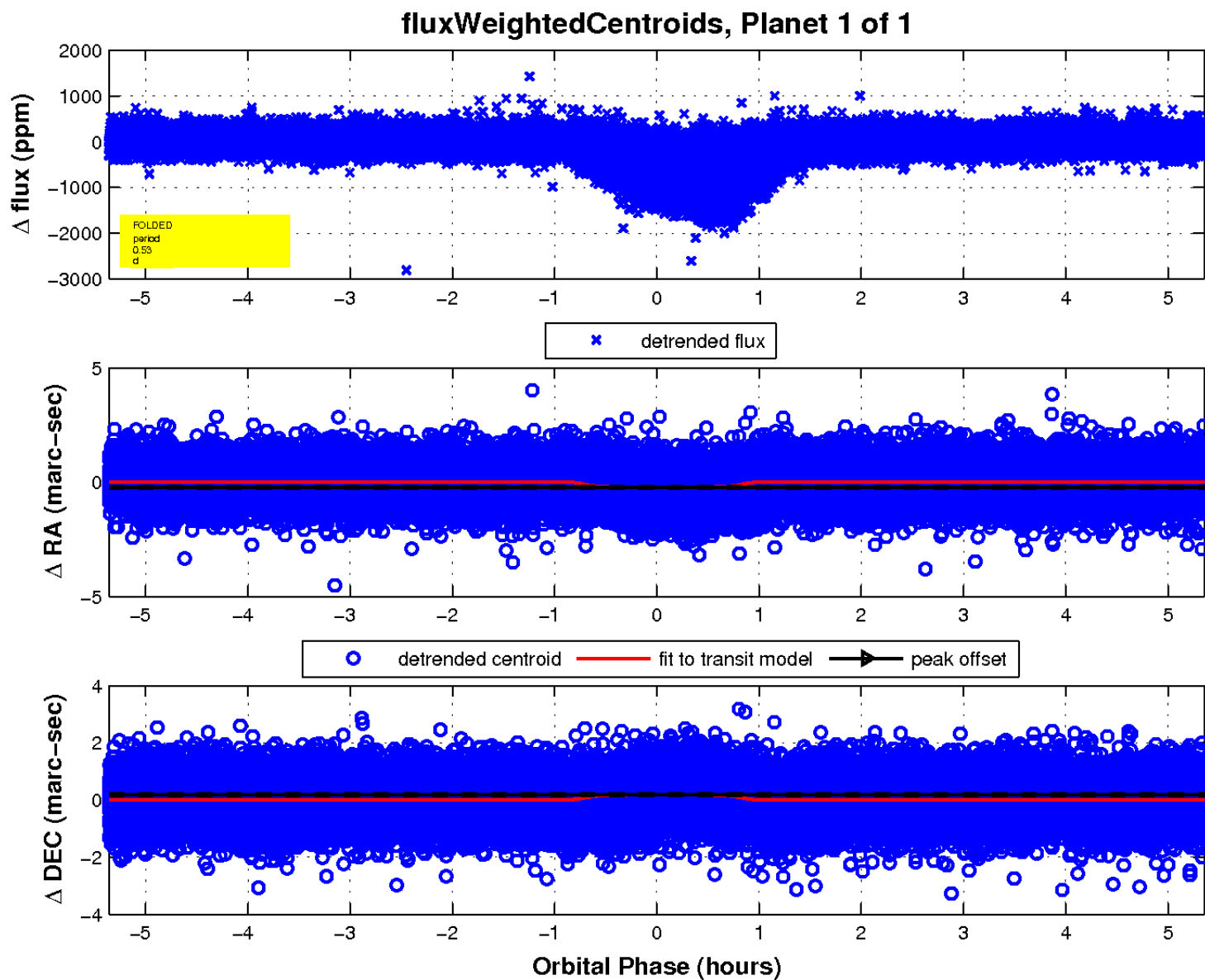
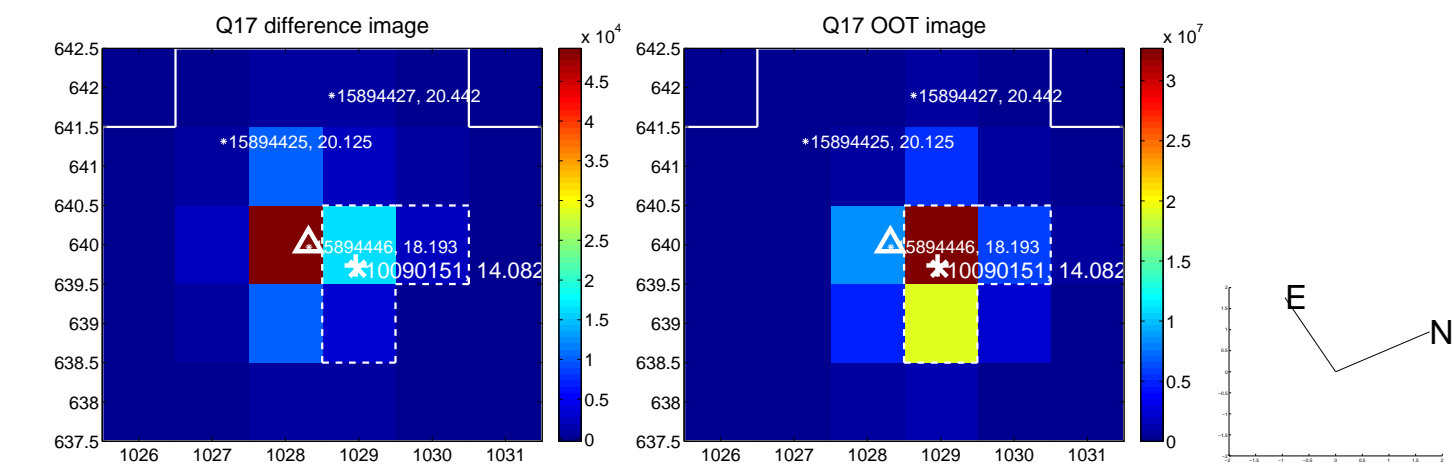
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UKIRT Image

