

KIC 002140389

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})
002140389-01	OBS	7627.01	0.967420	132.261844	6828.4	3.522	375.8	310.2	0.71	5066	7.57	960.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002140389-01	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.

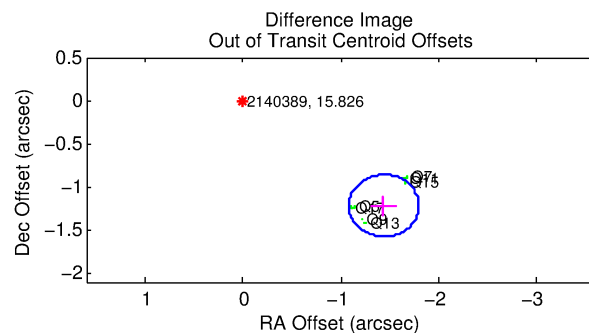
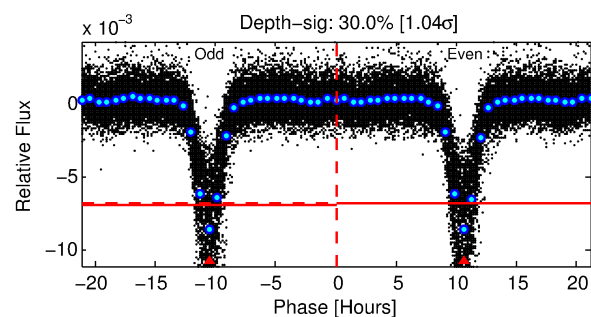
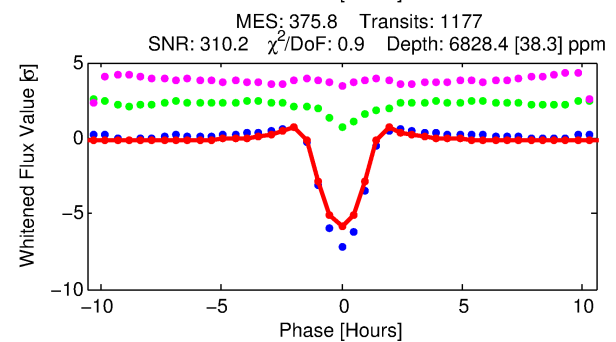
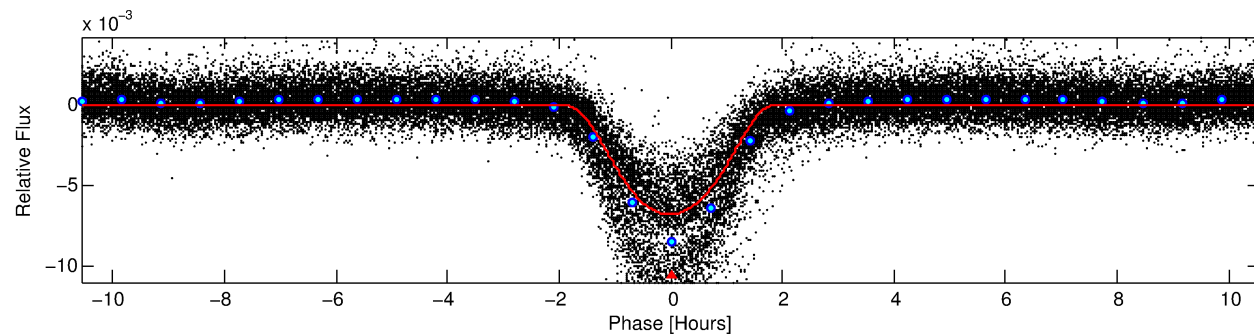
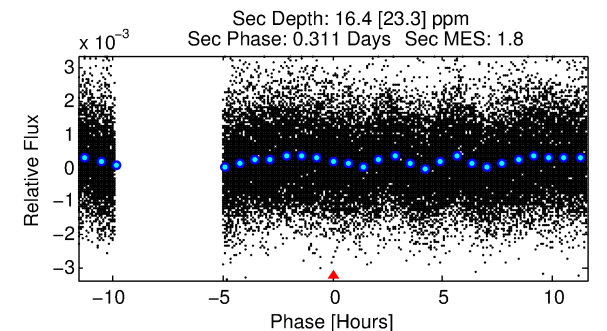
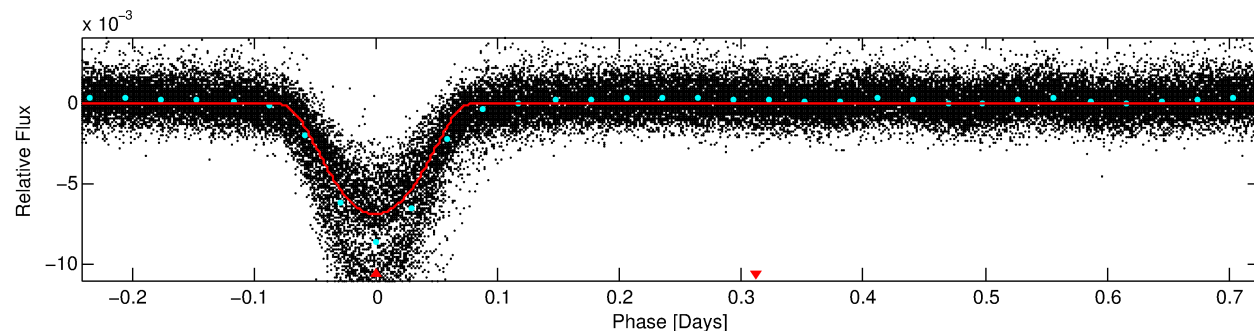
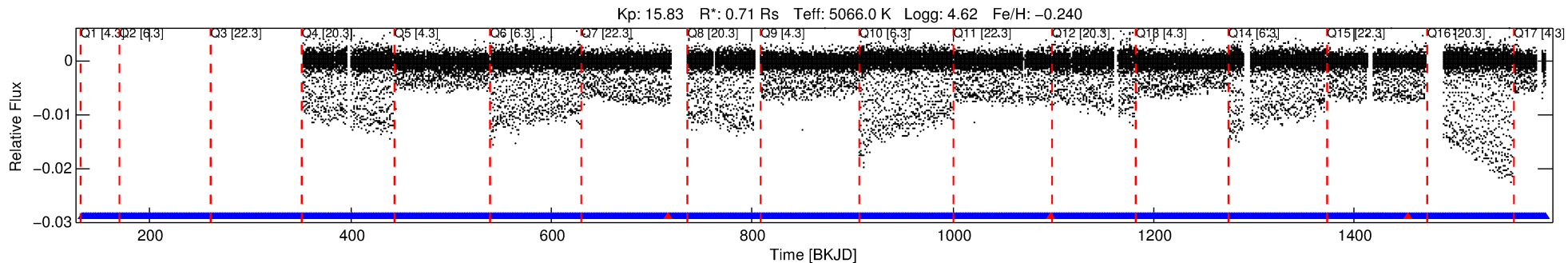
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002140389-01

No Significant Match Found

DV One-Page Summary

KIC: 2140389 Candidate: 1 of 1 Period: 0.967 d



DV Fit Results:

Period = 0.96742 [0.00000] d
Epoch = 132.2618 [0.0001] BKJD
Rp/R* = 0.0979 [0.0015]
a/R* = 1.60 [0.01]
b = 0.92 [0.00]
Seff = 960.50 [188.49]
Teq = 1420 [70] K
Rp = 7.57 [0.93] Re
a = 0.0176 [0.0017] AU
Ag = 0.05 [0.07] [-13.72σ]
Teffp = 1031 [367] K [-1.04σ]

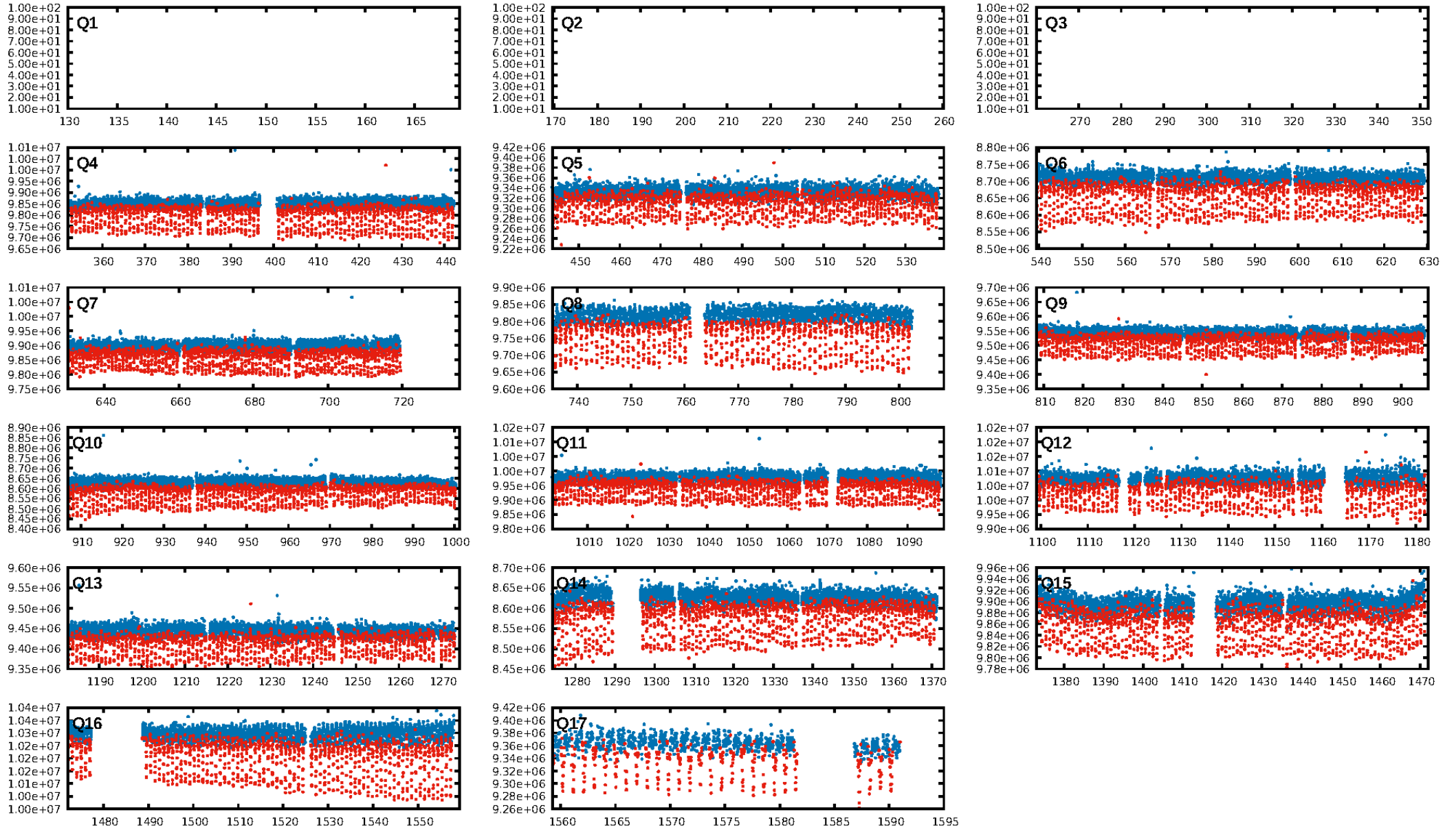
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [1146/1149]
GhostDiagnostic-chr: -0.1798
Centroid-sig: N/A
Centroid-so: 12.396 arcsec [355.03σ]
OotOffset-rm: 1.886 arcsec [15.79σ]
KicOffset-rm: 6.694 arcsec [5.40σ]
OotOffset-st: 0/3/0/4 [7]
KicOffset-st: 0/3/0/4 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [14/14]

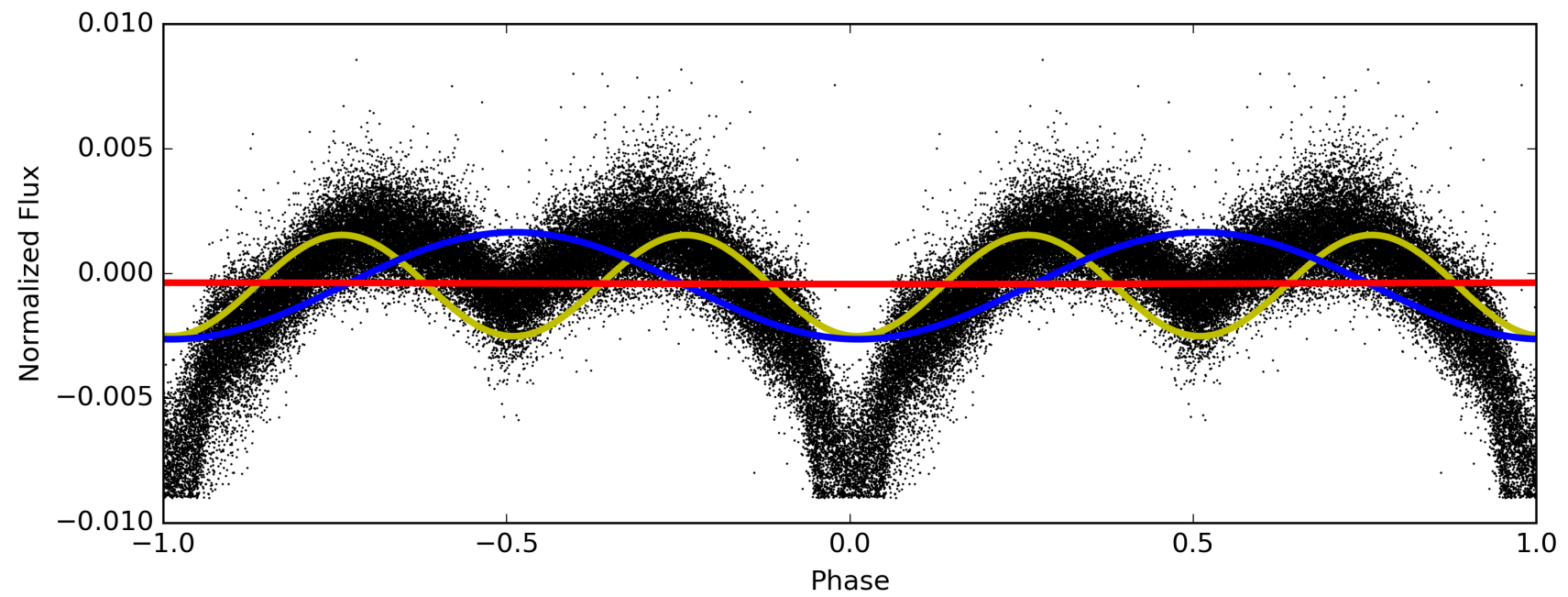
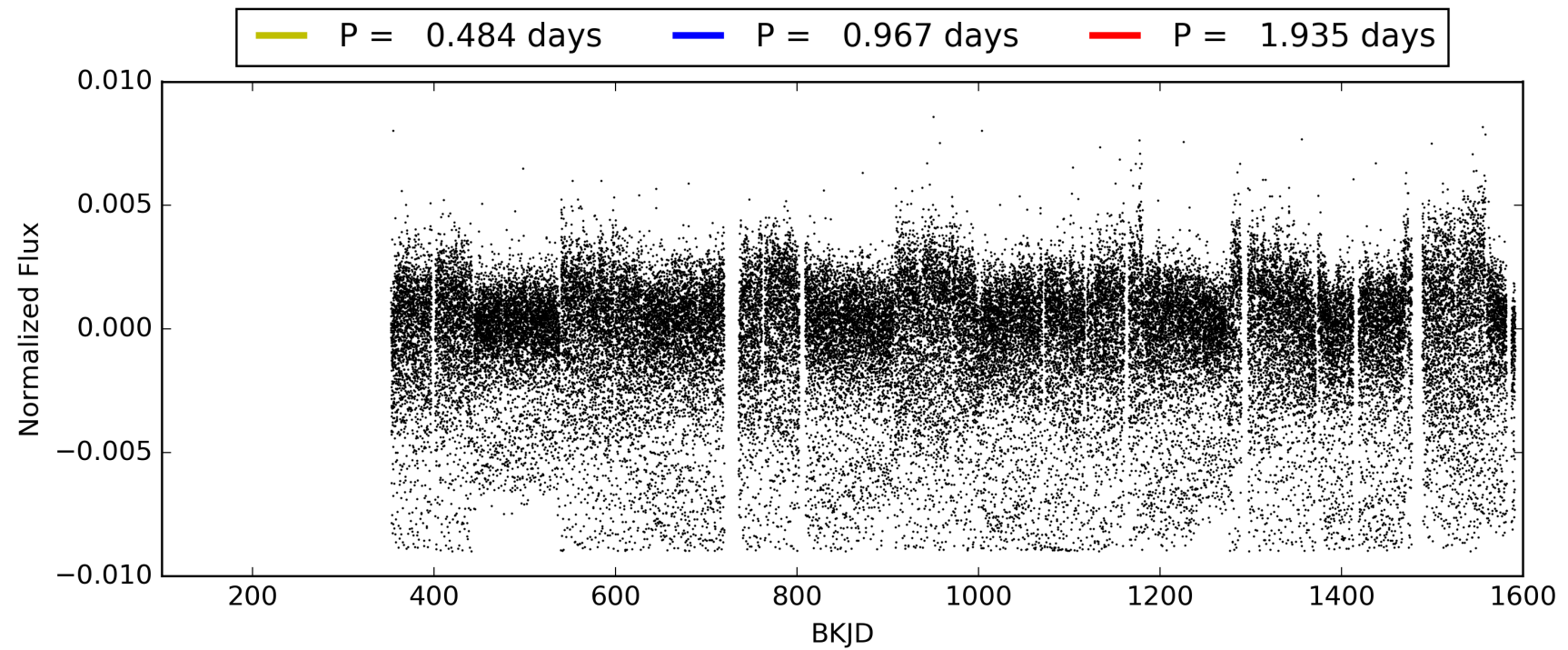
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:54:10 Z

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

TCE 002140389-01, PDC Light Curves

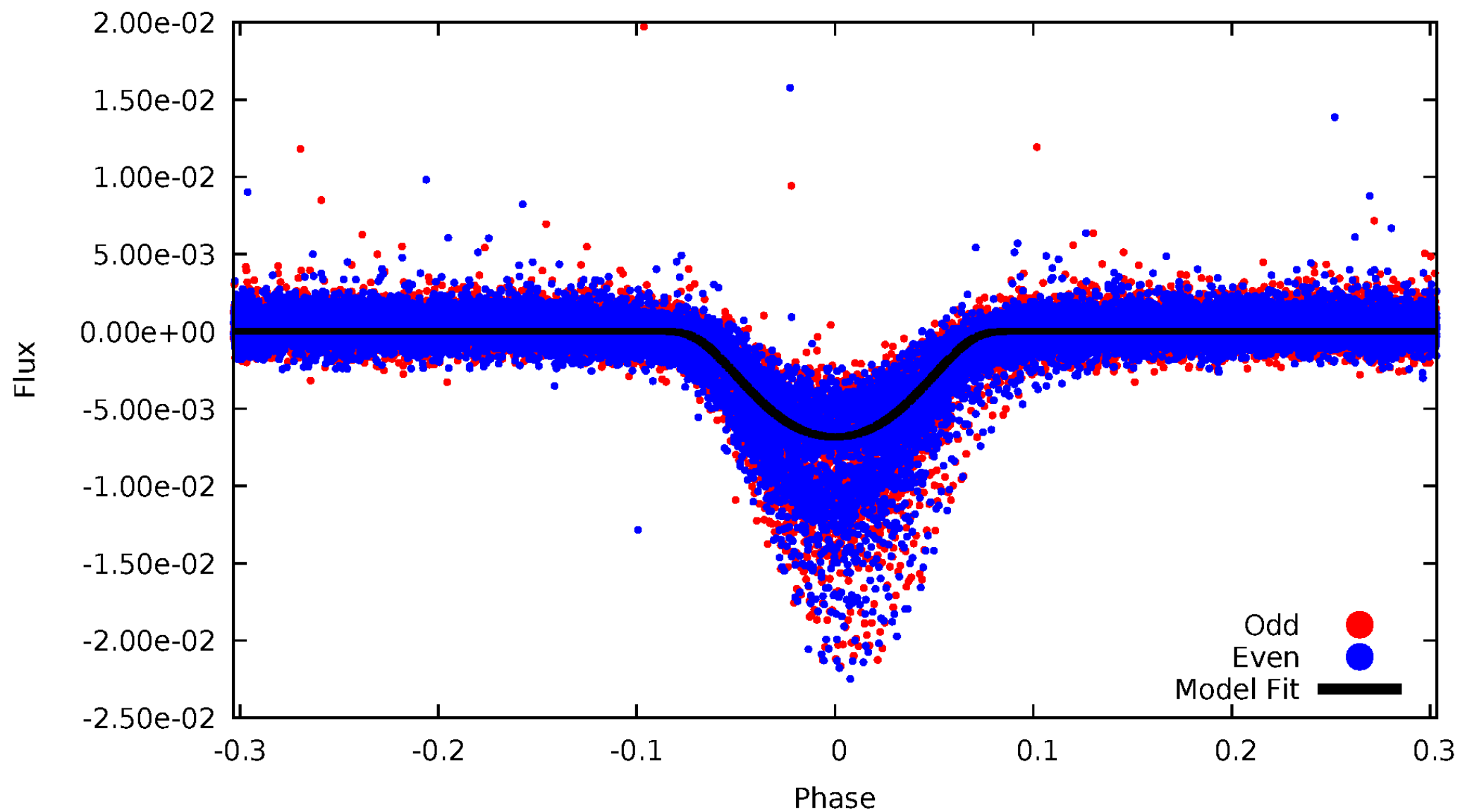


TCE 002140389-01



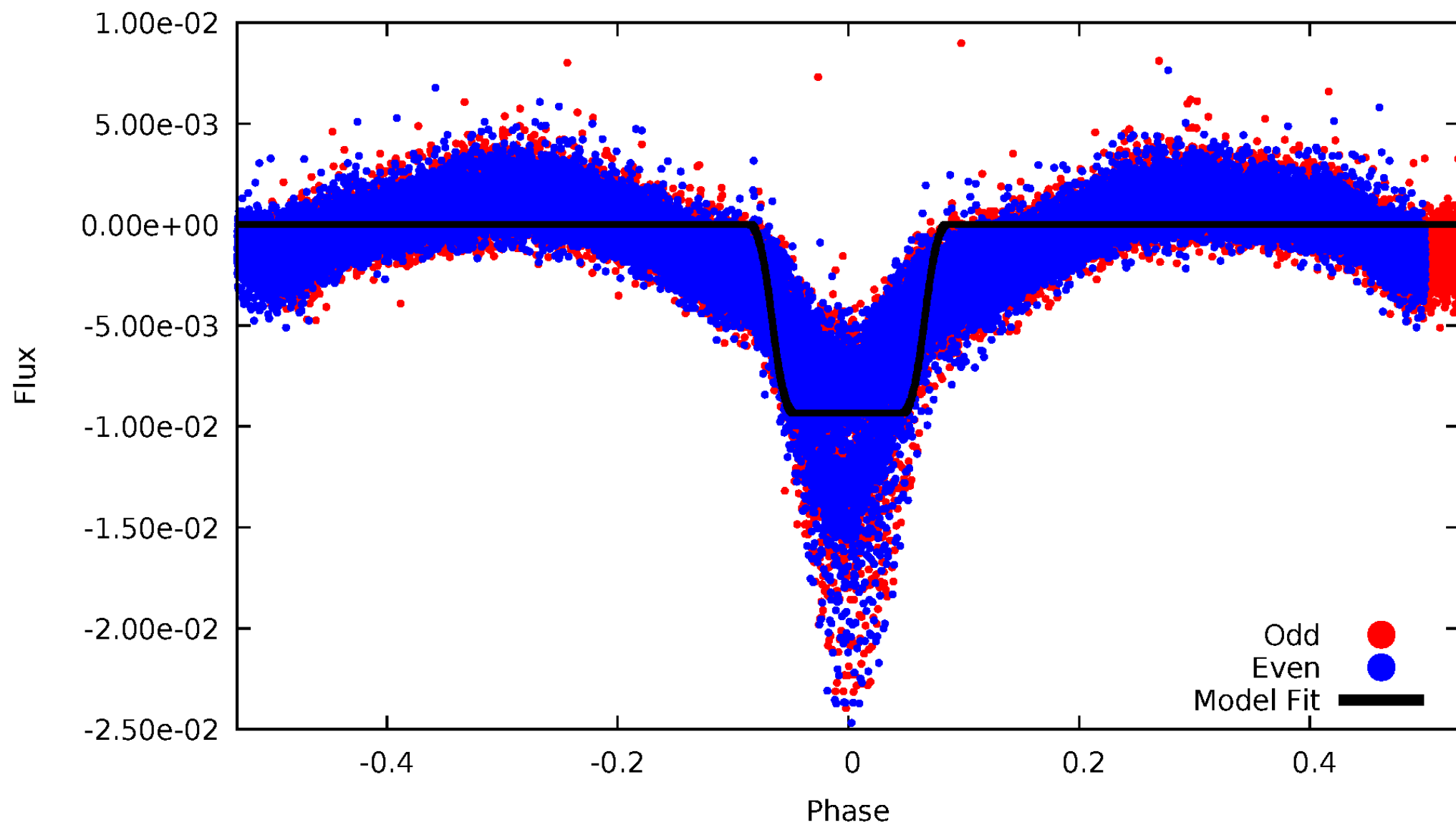
DV Odd/Even

TCE 002140389-01



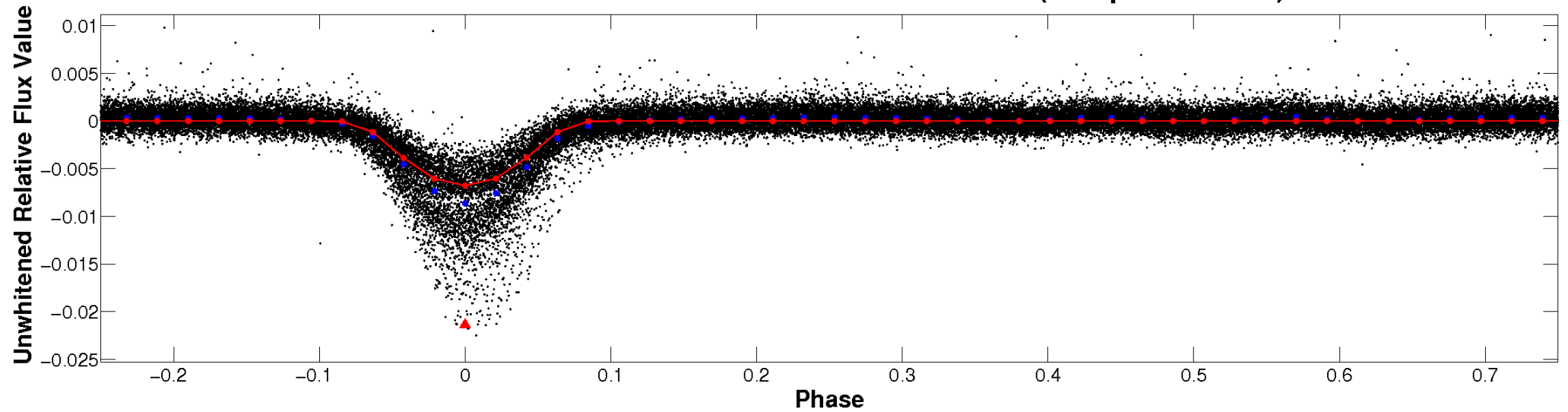
ALT Odd/Even

TCE 002140389-01

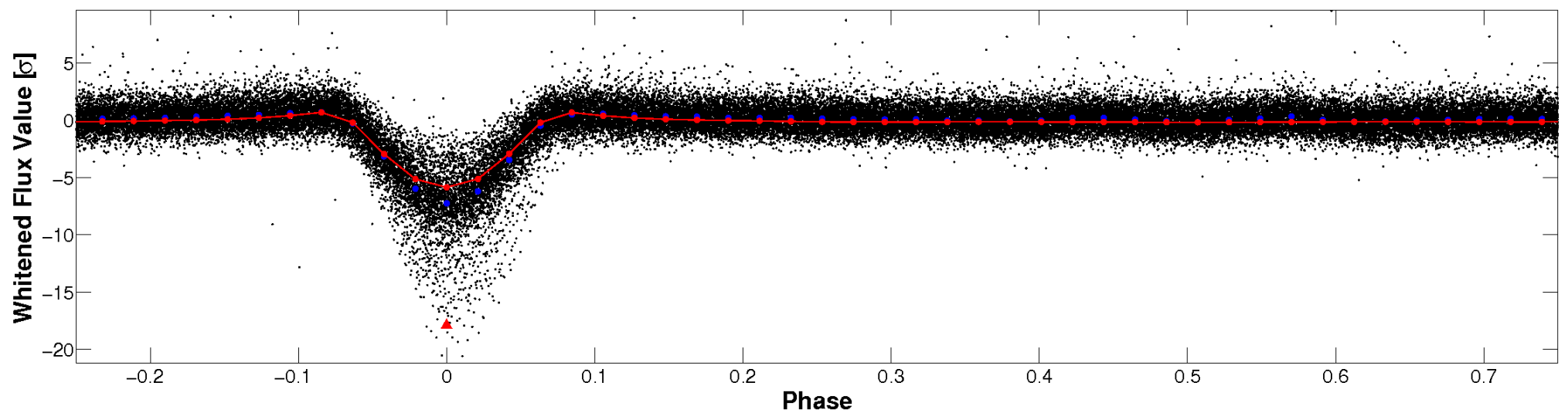


Non-Whitened Vs. Whitened Light Curve

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

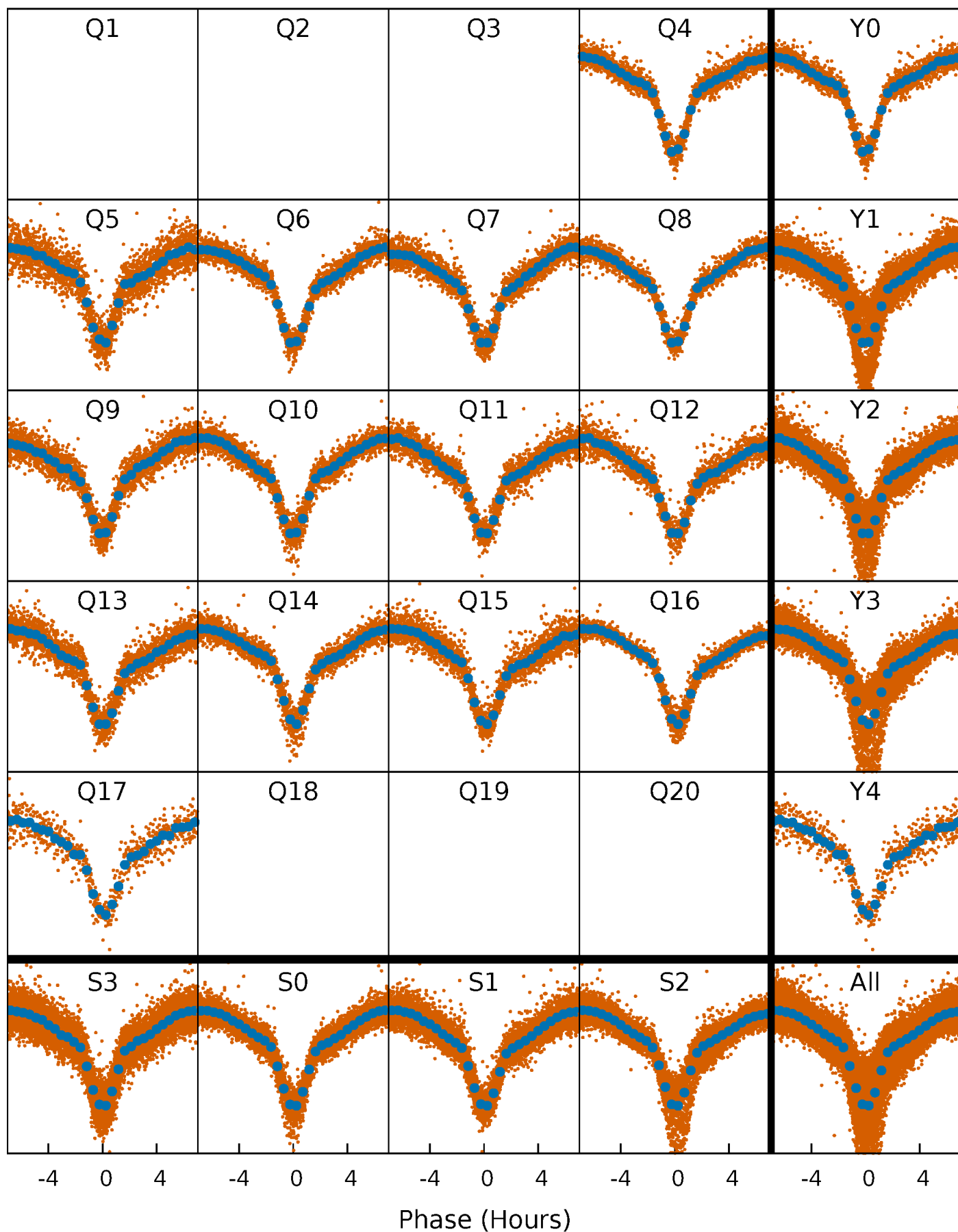


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



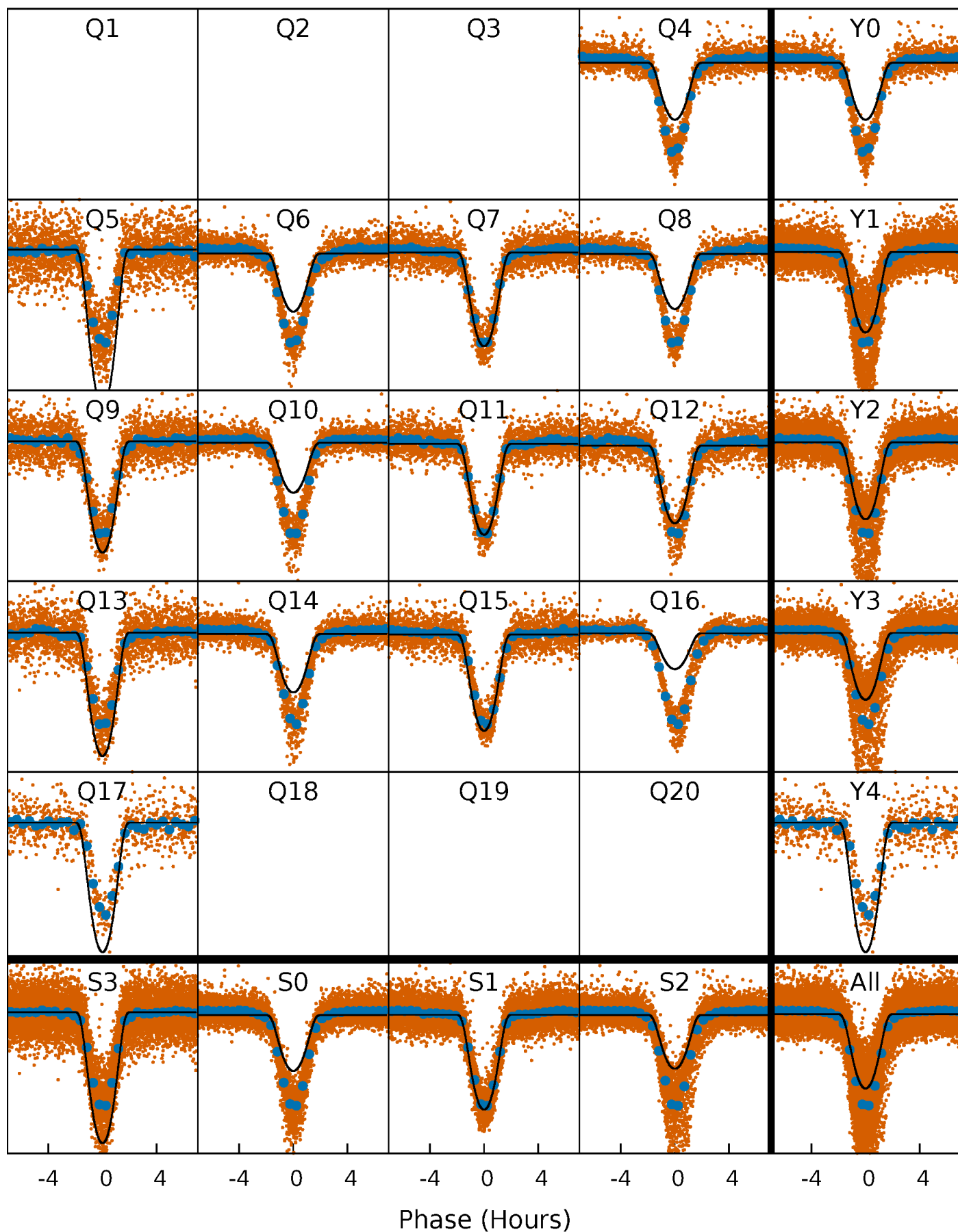
PDC Quarter-Phased Transit Curves

TCE 002140389-01 P= 0.967420 Days $T_0=132.261844$ (BKJD)



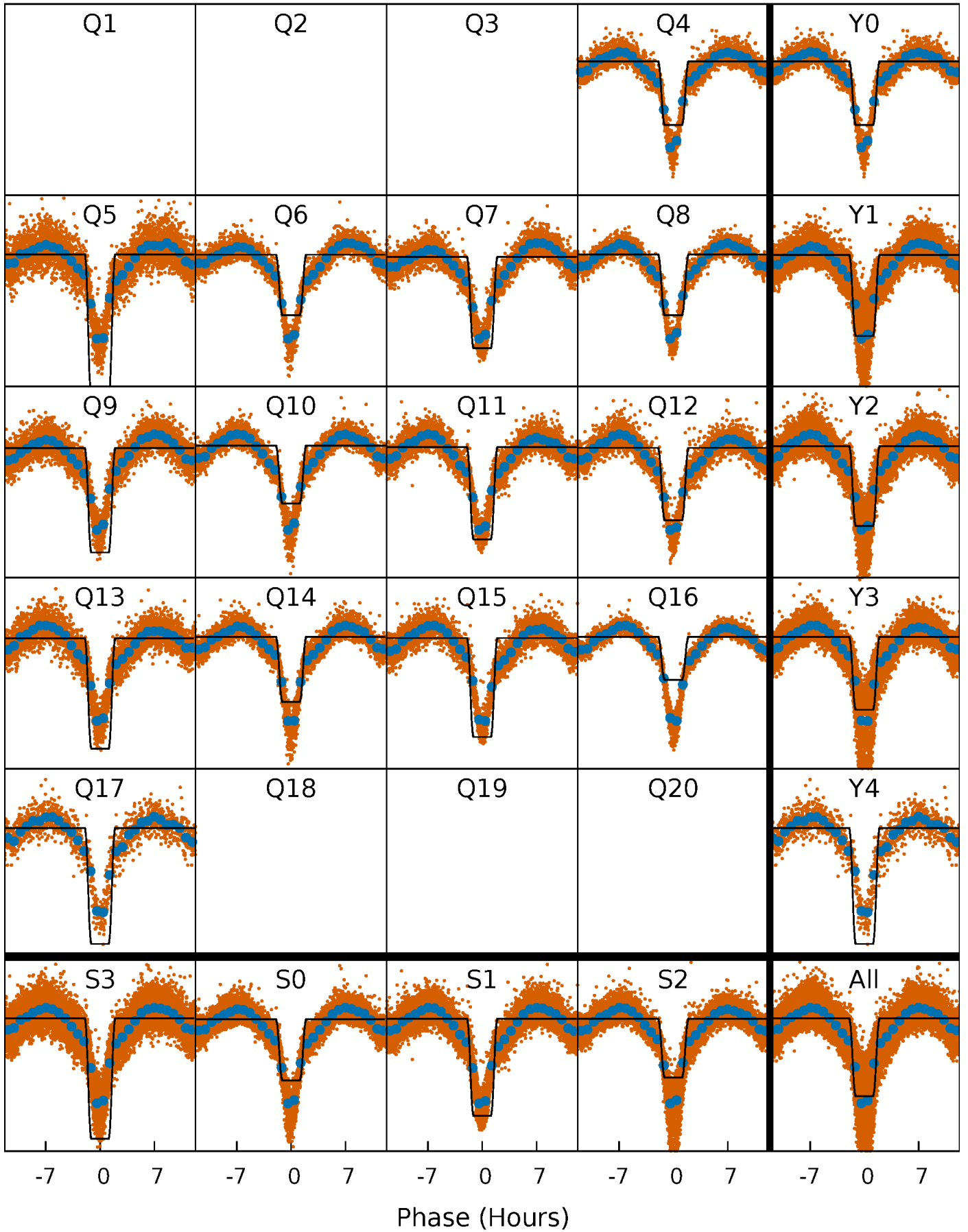
DV Quarter-Phased Transit Curves

TCE 002140389-01 P= 0.967420 Days $T_0=132.261844$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

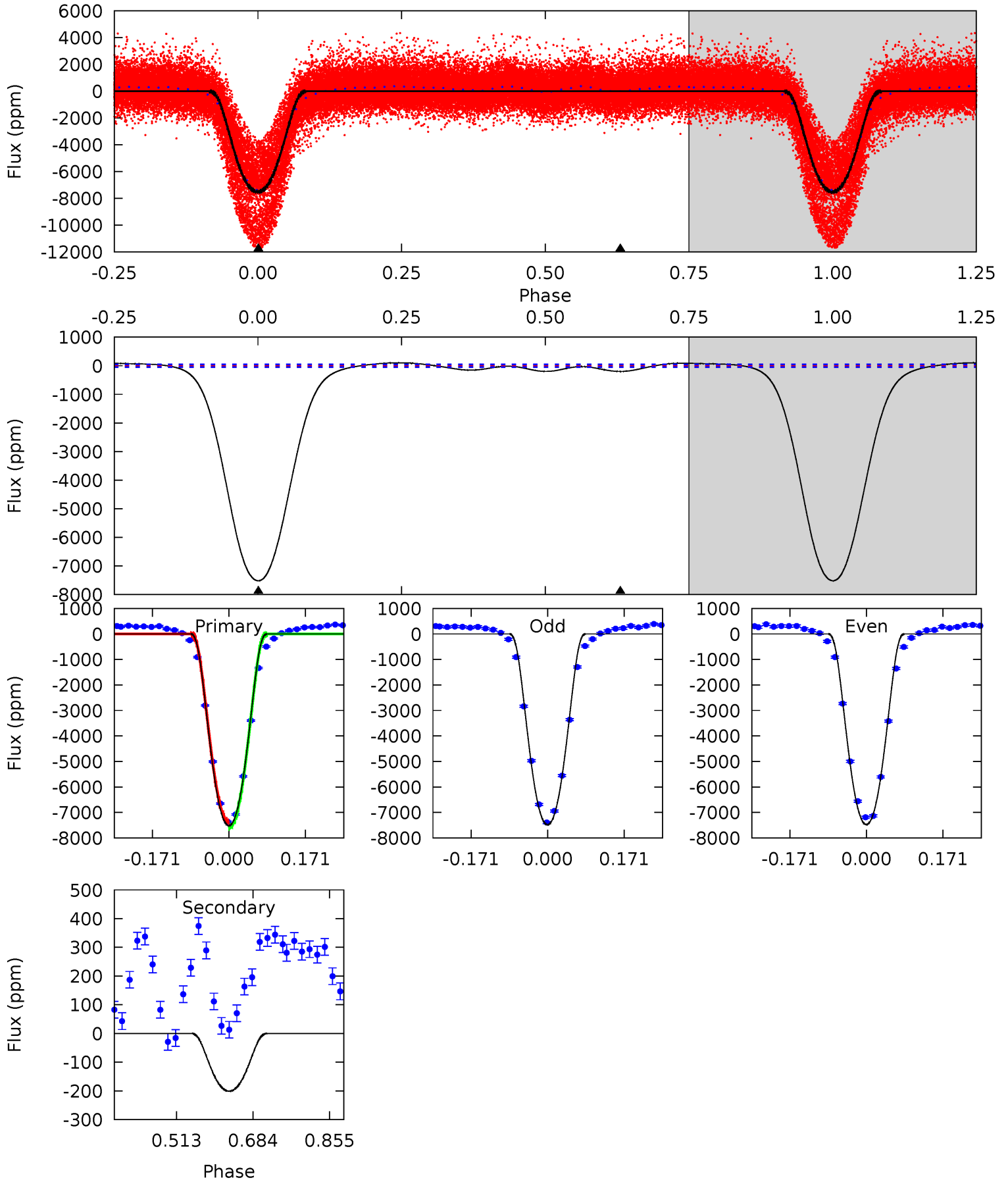
TCE 002140389-01 P= 0.967422 Days $T_0=132.263441$ (BKJD)



DV Model-Shift Uniqueness Test

002140389-01, P = 0.967420 Days, E = 132.261844 Days

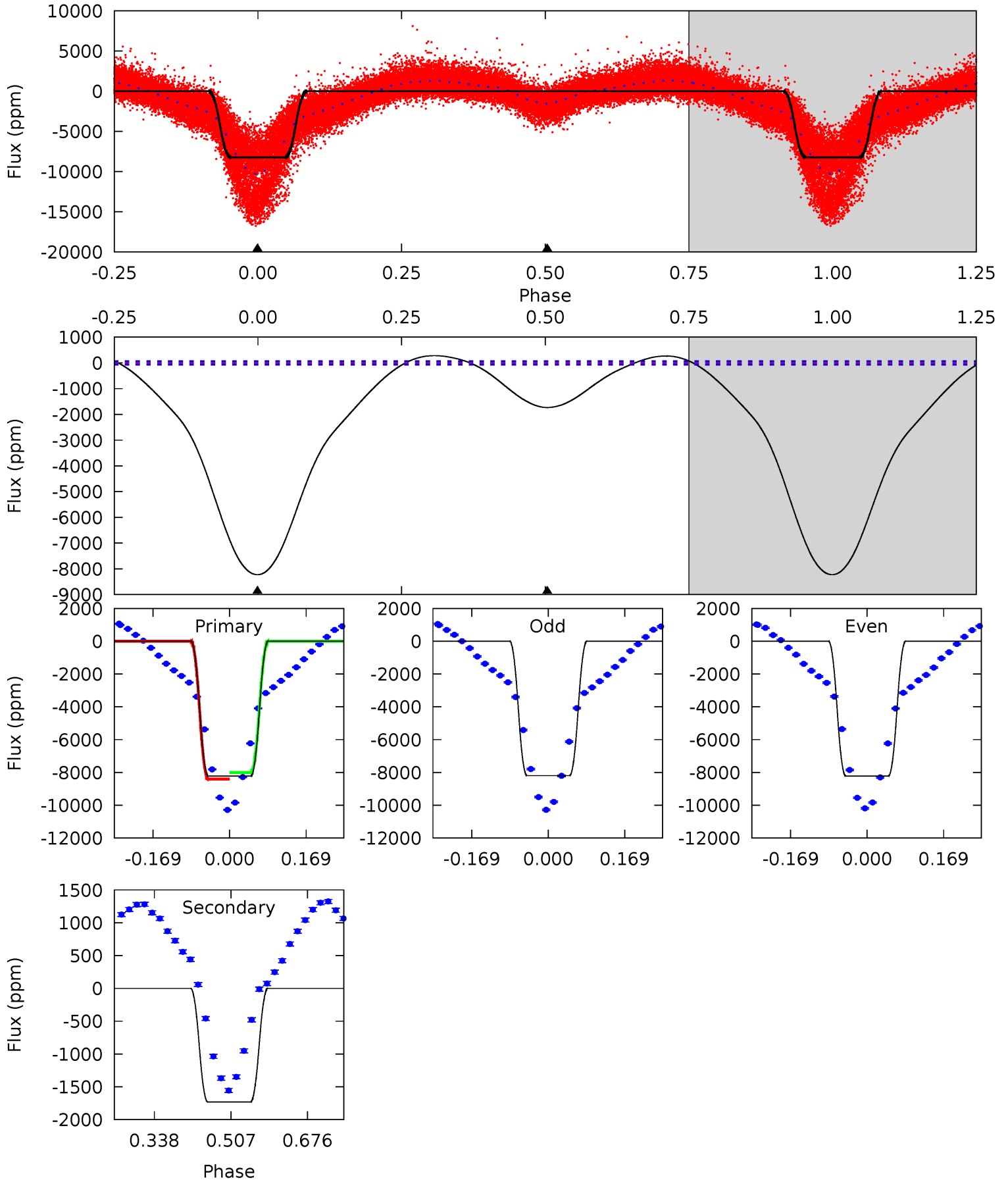
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
741.0	19.8	0	0	4.45	1.37	8.00	741.0	741.0	19.8	19.8	0.34	1.18	0.01	11.0



Alt Model-Shift Uniqueness Test

002140389-01, P = 0.967422 Days, E = 132.263441 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
575.3	121.1	0	0	4.45	1.38	39.9	575.3	575.3	121.1	121.1	0.88	1.09	0.03	14.0



Stellar Parameters For KIC 002140389

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5066^{+181}_{-181}	$4.625^{+0.035}_{-0.070}$	$-0.240^{+0.300}_{-0.300}$	$0.709^{+0.086}_{-0.058}$	$0.784^{+0.063}_{-0.087}$	$3.100^{+0.546}_{-0.808}$
	+4%/-4%	+1%/-2%	+125%/-125%	+12%/-8%	+8%/-11%	+18%/-26%
Source	KIC0	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 002140389-01 / KOI 7627.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-201 ± 10	$7.68^{+0.49}_{-0.41}$	1995^{+86}_{-79}	2446^{+65}_{-68}	$0.577^{+0.061}_{-0.058}$
Alt.	-1732 ± 14	$7.56^{+0.49}_{-0.40}$	2000^{+90}_{-83}	3662^{+100}_{-106}	$5.155^{+0.375}_{-0.481}$

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

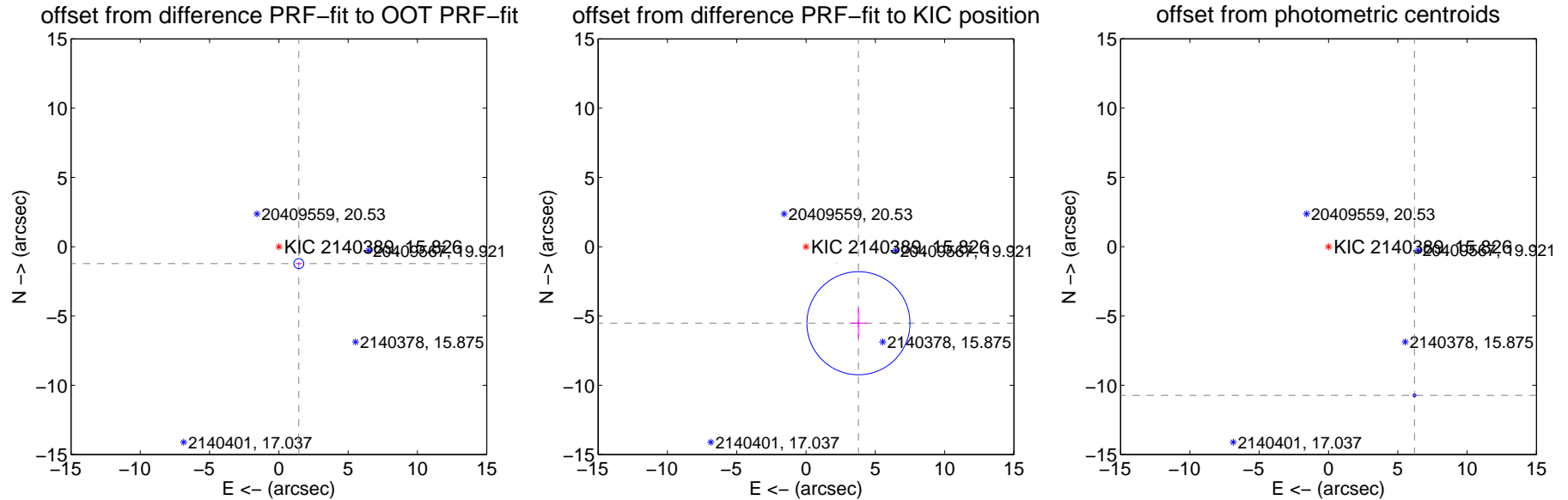
DV Centroid Data

Supplemental centroid analysis for 002140389-01. Kepler magnitude: 15.83. Transit SNR 310.16

There are 7 quarters with good PRF difference image offsets

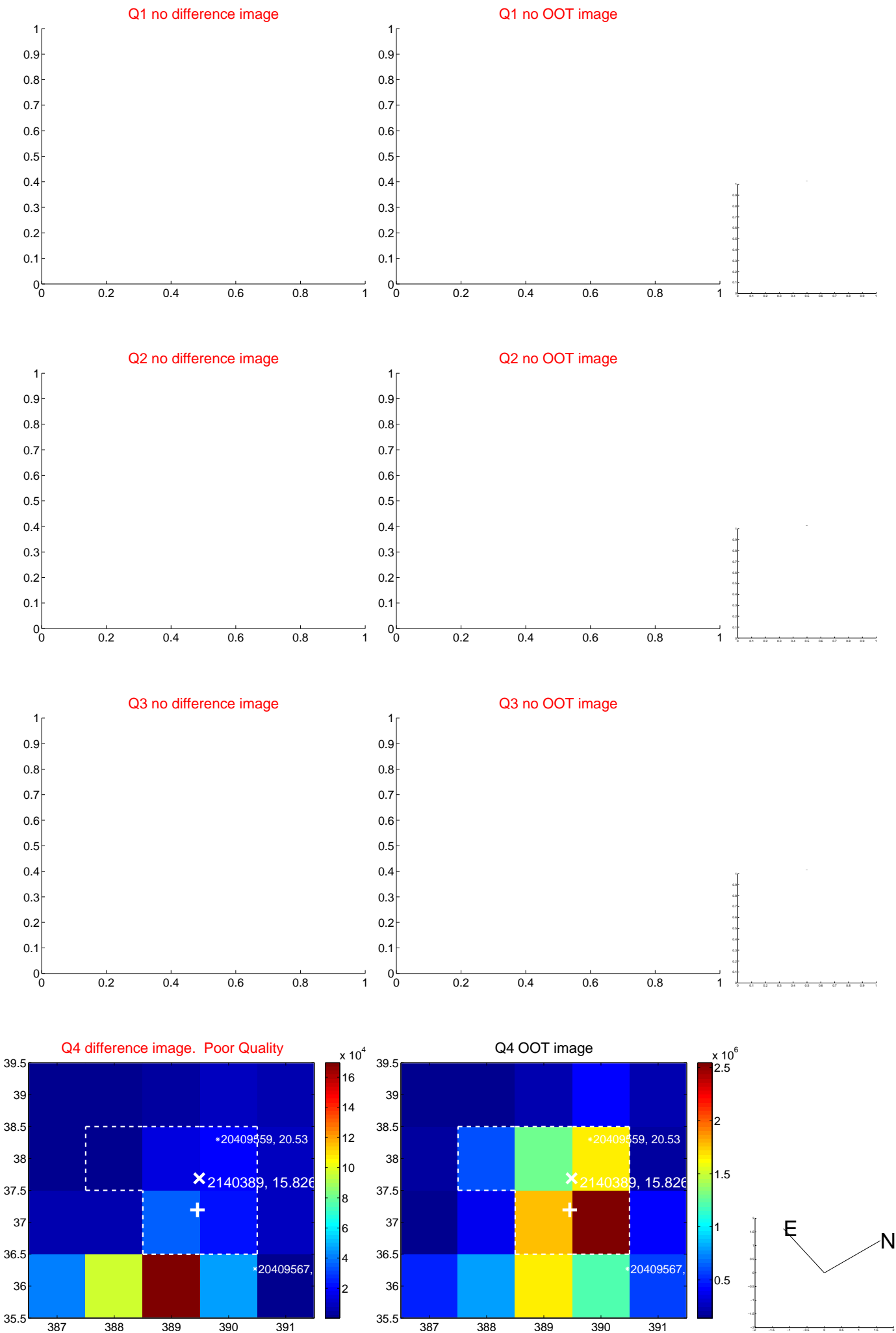
The OOT PRF centroid is offset from the target star catalog position by about 7.11 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.886 ± 0.119	15.79	-1.440 ± 0.127	-1.218 ± 0.109
PRF-fit source offset from KIC position	6.694 ± 1.240	5.40	-3.783 ± 0.616	-5.522 ± 1.083
photometric centroid source offset	12.40 ± 0.03	355.03	-6.20 ± 0.04	-10.73 ± 0.03

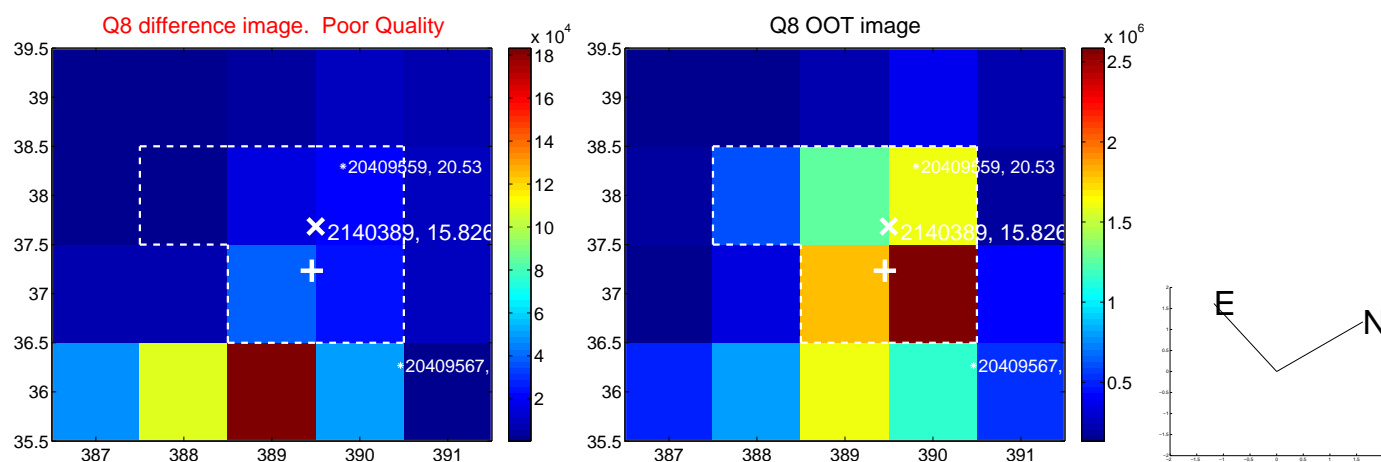
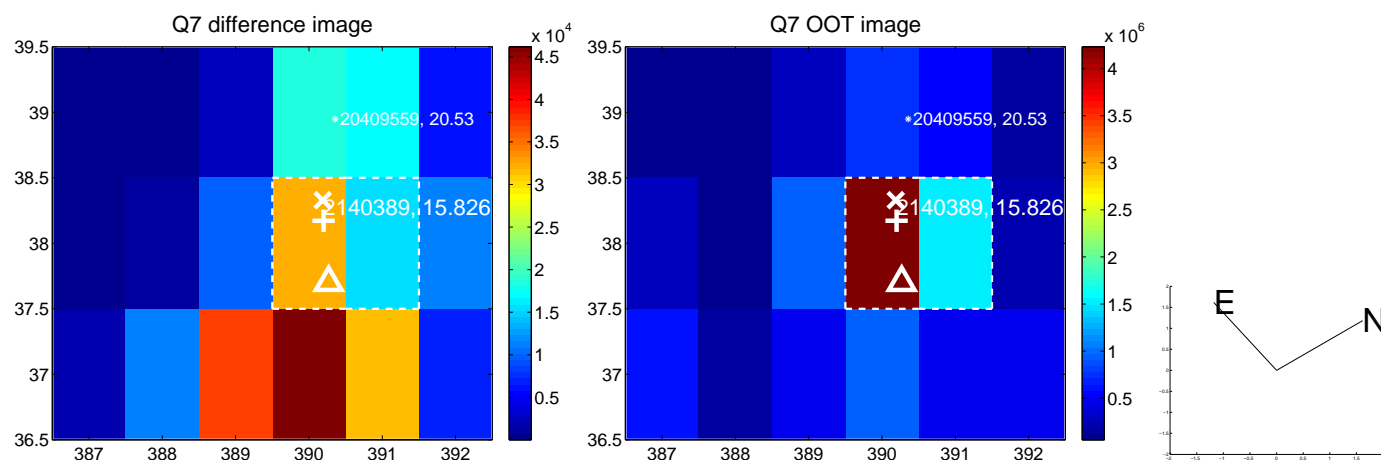
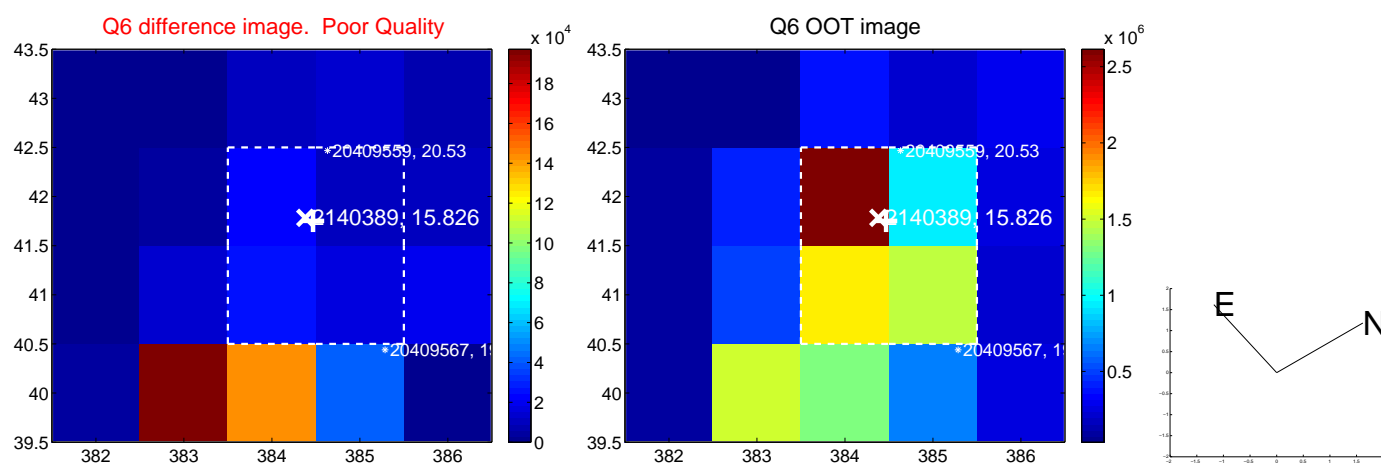
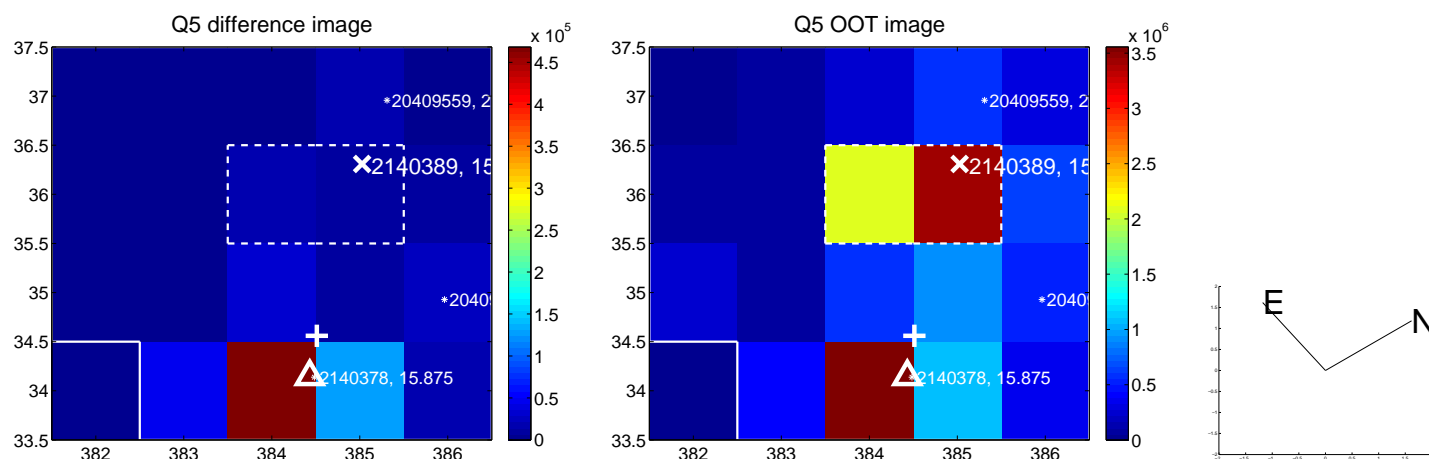


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

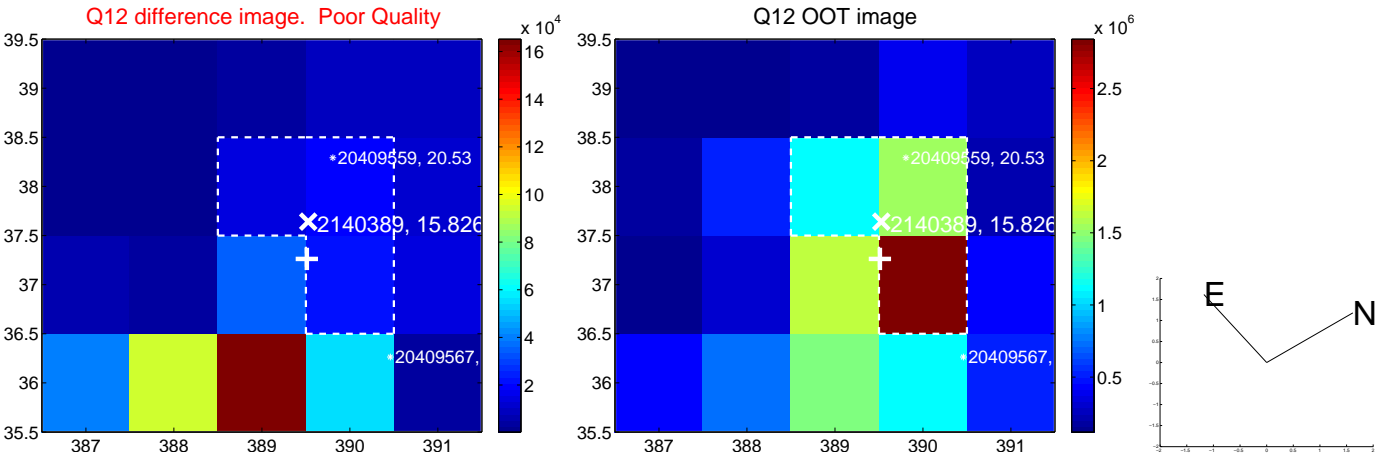
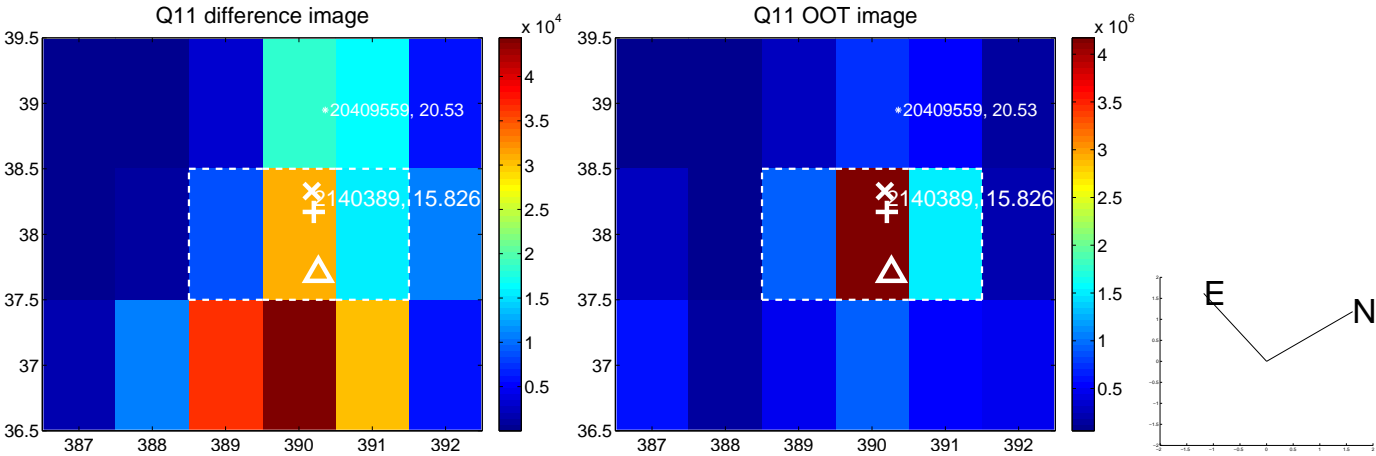
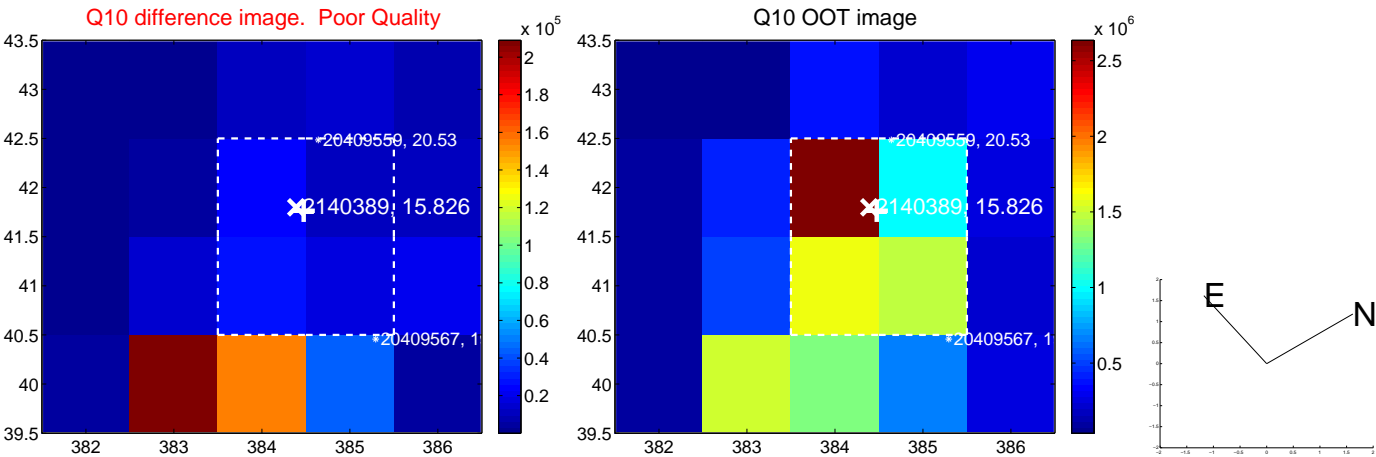
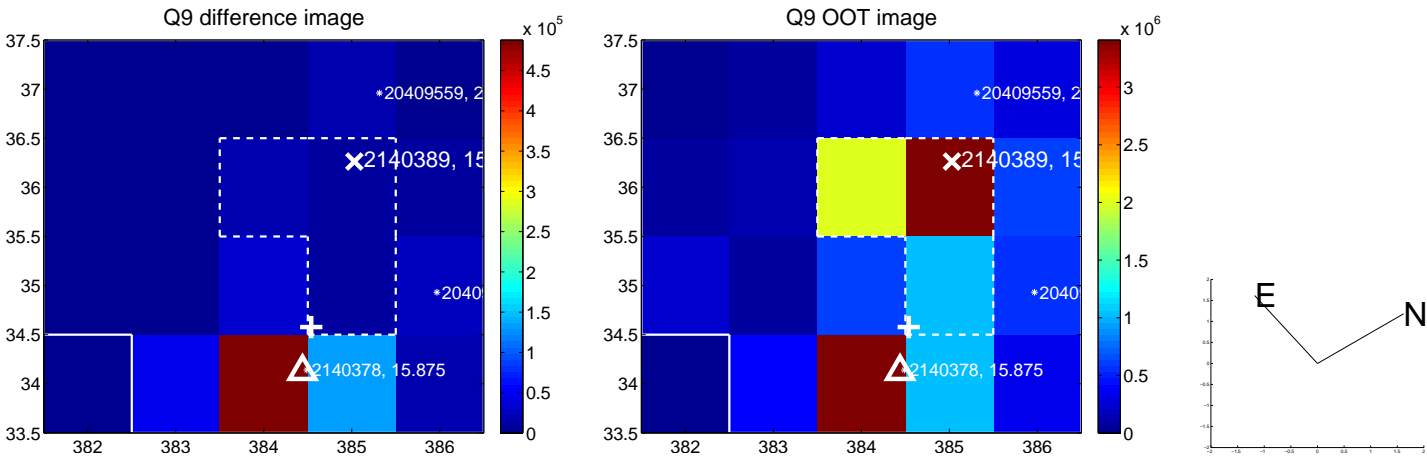
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



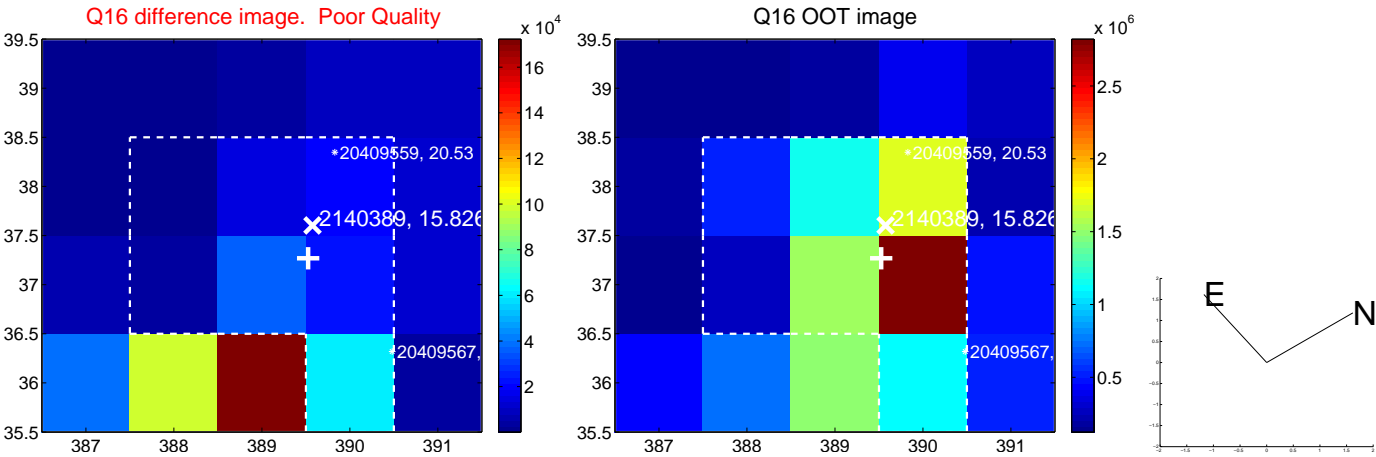
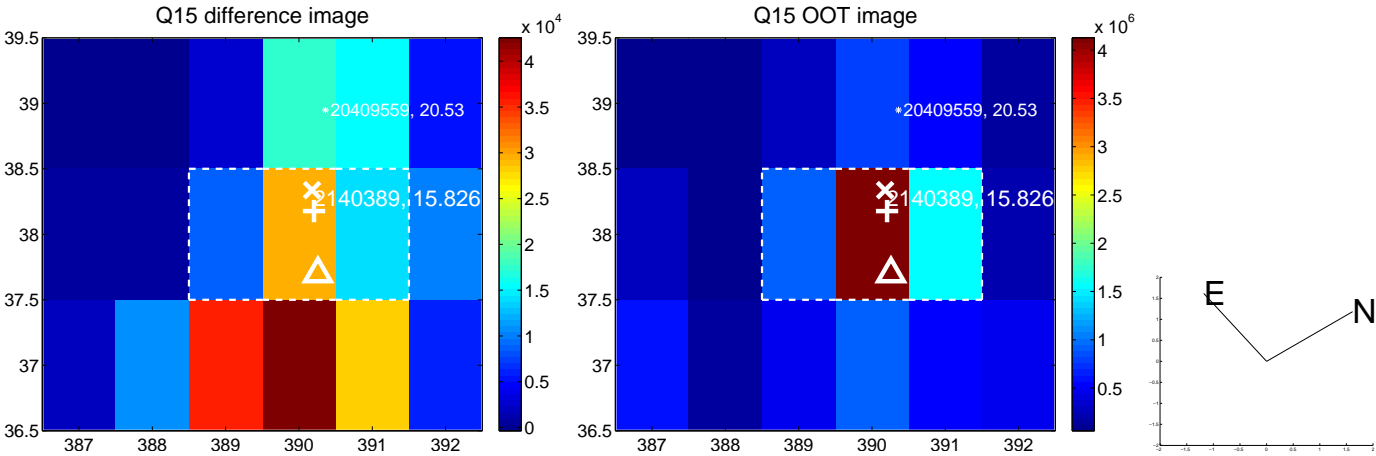
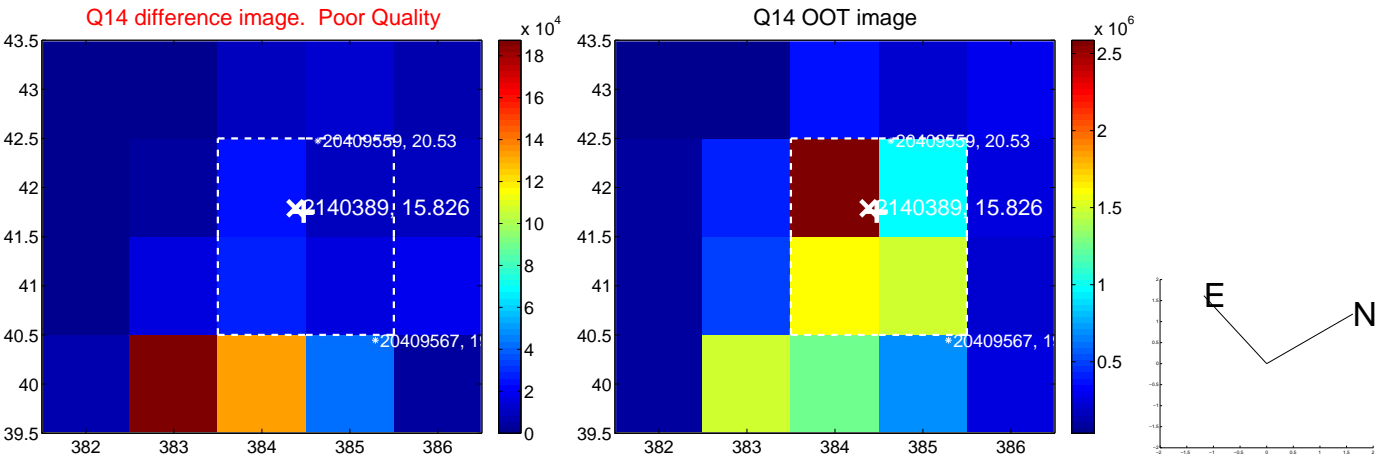
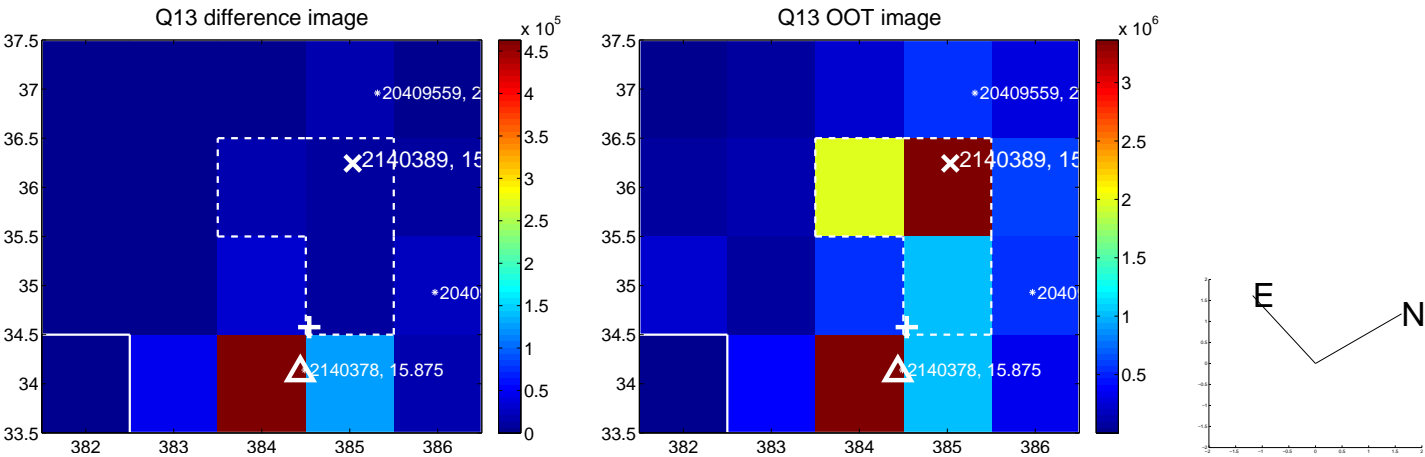
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



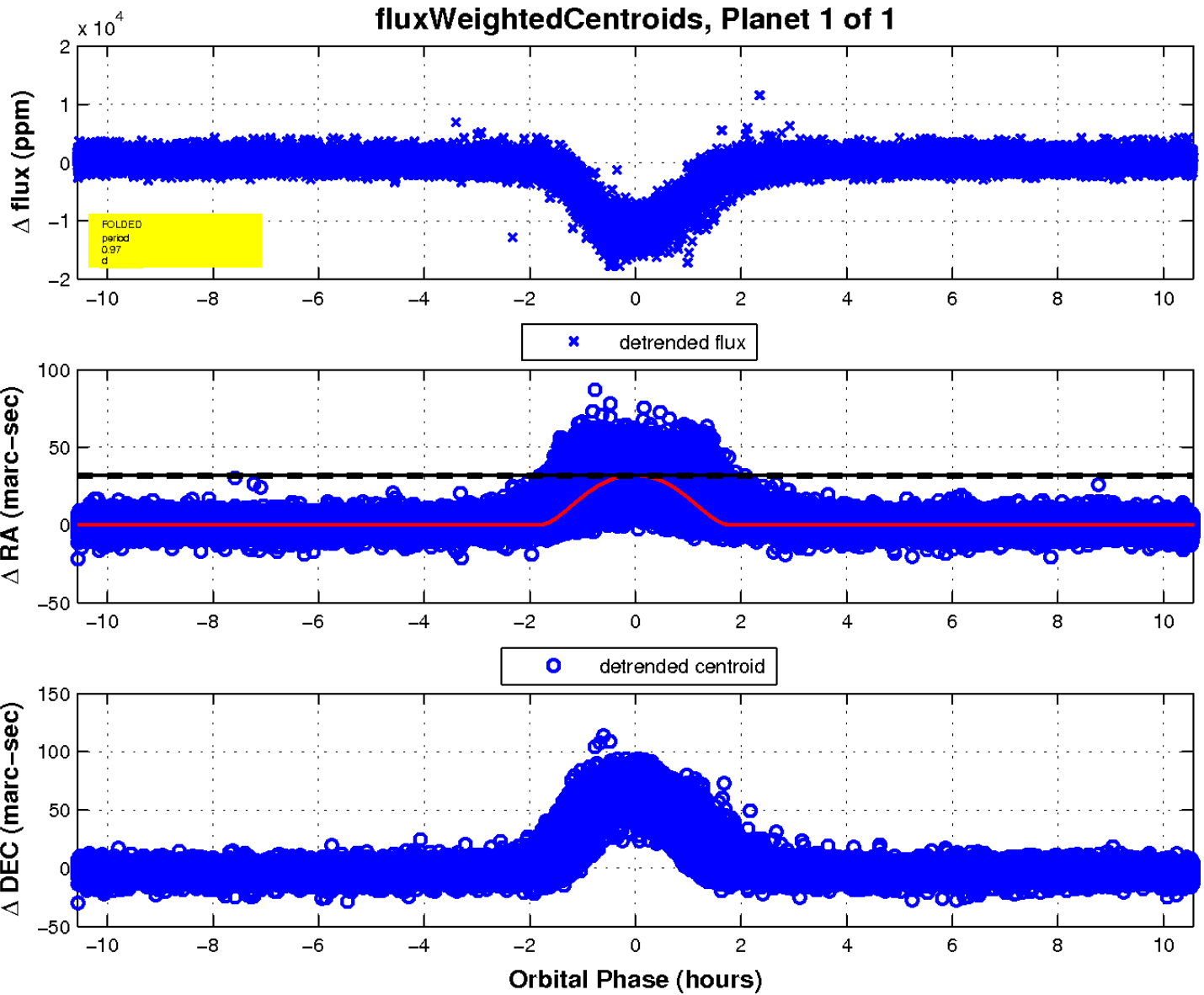
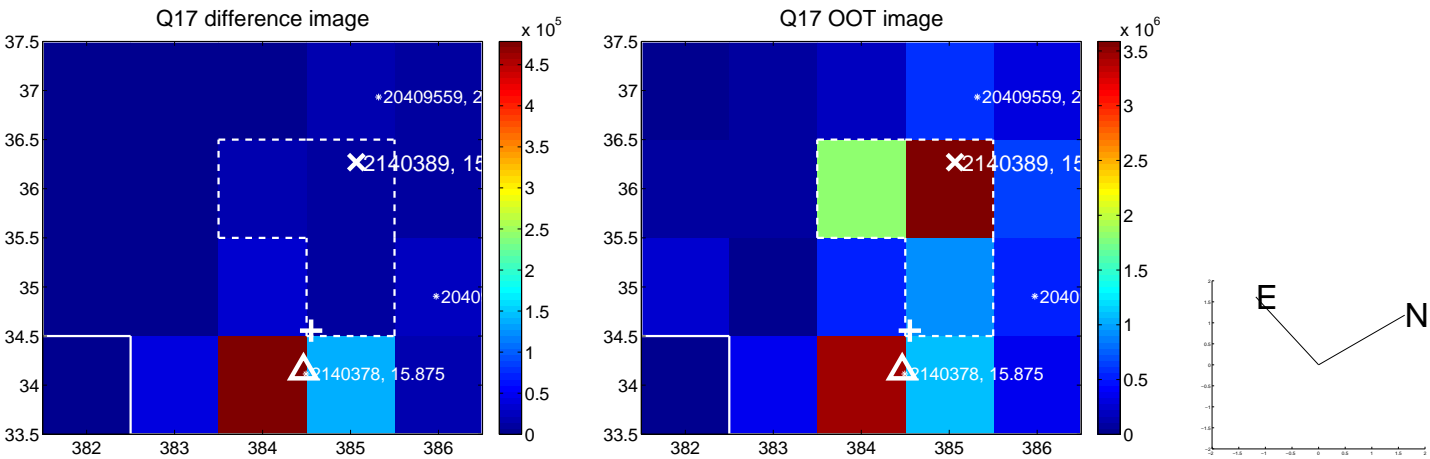
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

