

KIC 010722485

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})
010722485-01	OBS	4312.01	7.849455	134.865418	74.1	3.804	11.5	12.9	0.99	5678	1.04	173.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010722485-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

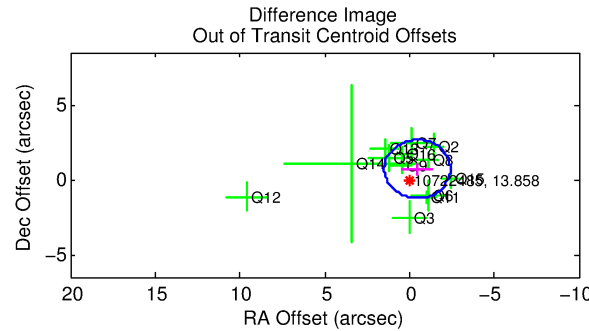
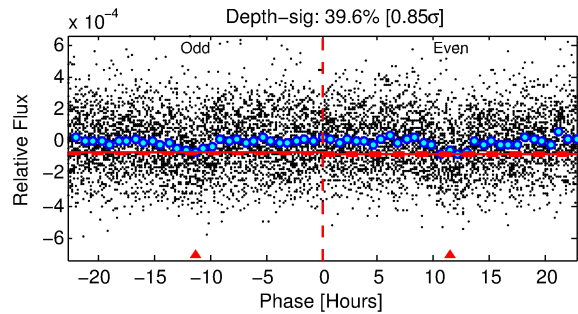
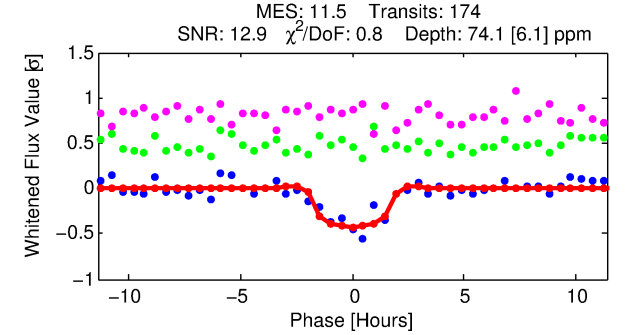
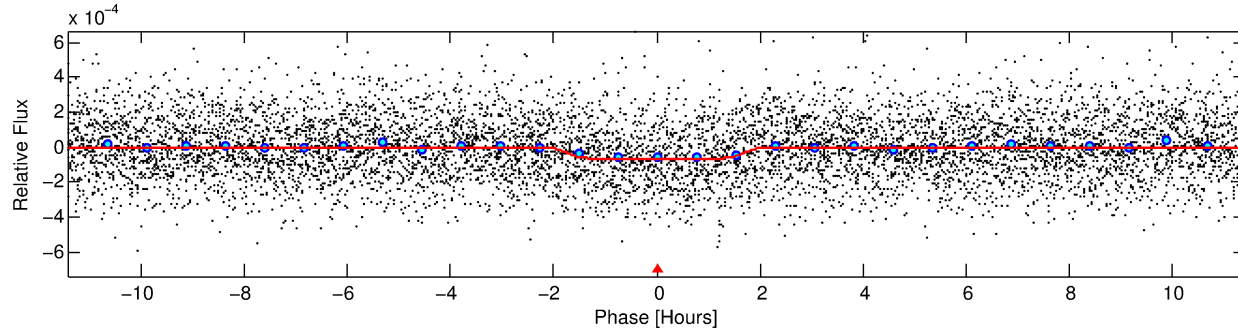
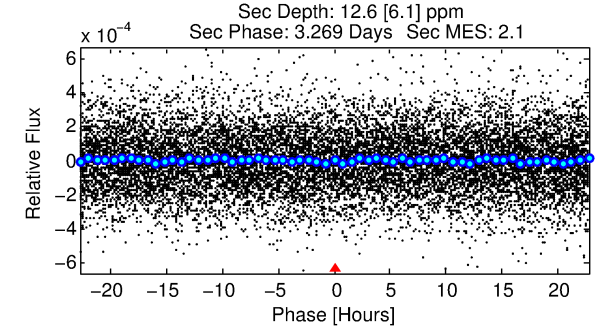
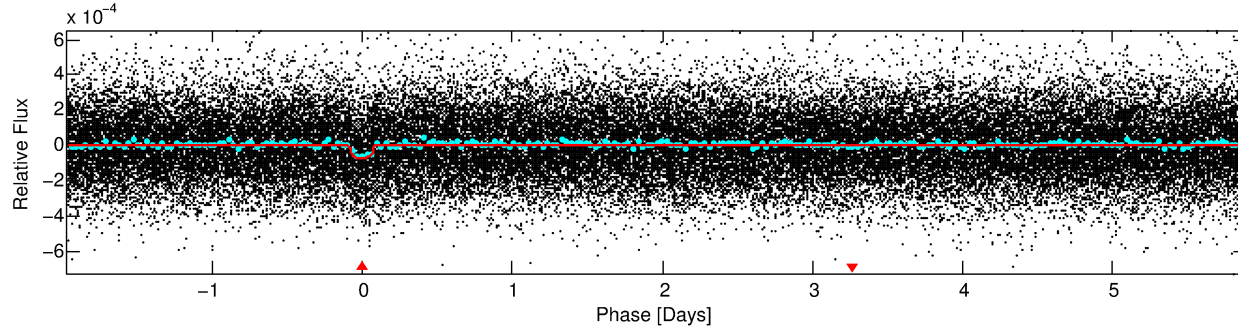
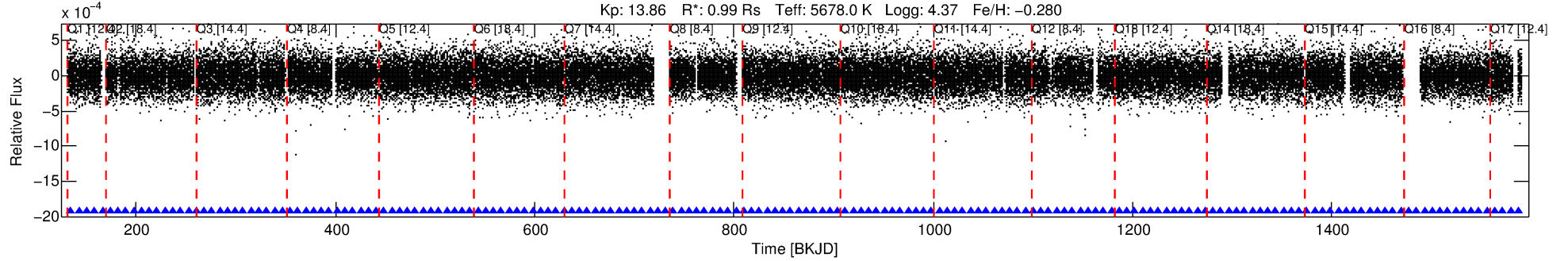
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010722485-01

No Significant Match Found

DV One-Page Summary

KIC: 10722485 Candidate: 1 of 1 Period: 7.849 d
KOI: K04312.01 Corr: 0.958



DV Fit Results:

Period = 7.84945 [0.00006] d
Epoch = 134.8654 [0.0058] BKJD
Rp/R* = 0.0097 [0.0035]
a/R* = 6.37 [11.32]
b = 0.93 [0.28]
Seff = 173.11 [43.74]
Teq = 925 [58] K
Rp = 1.04 [0.40] Re
a = 0.0726 [0.0105] AU
Ag = 33.58 [30.30] [1.08σ]
Teffp = 3442 [752] K [3.34σ]

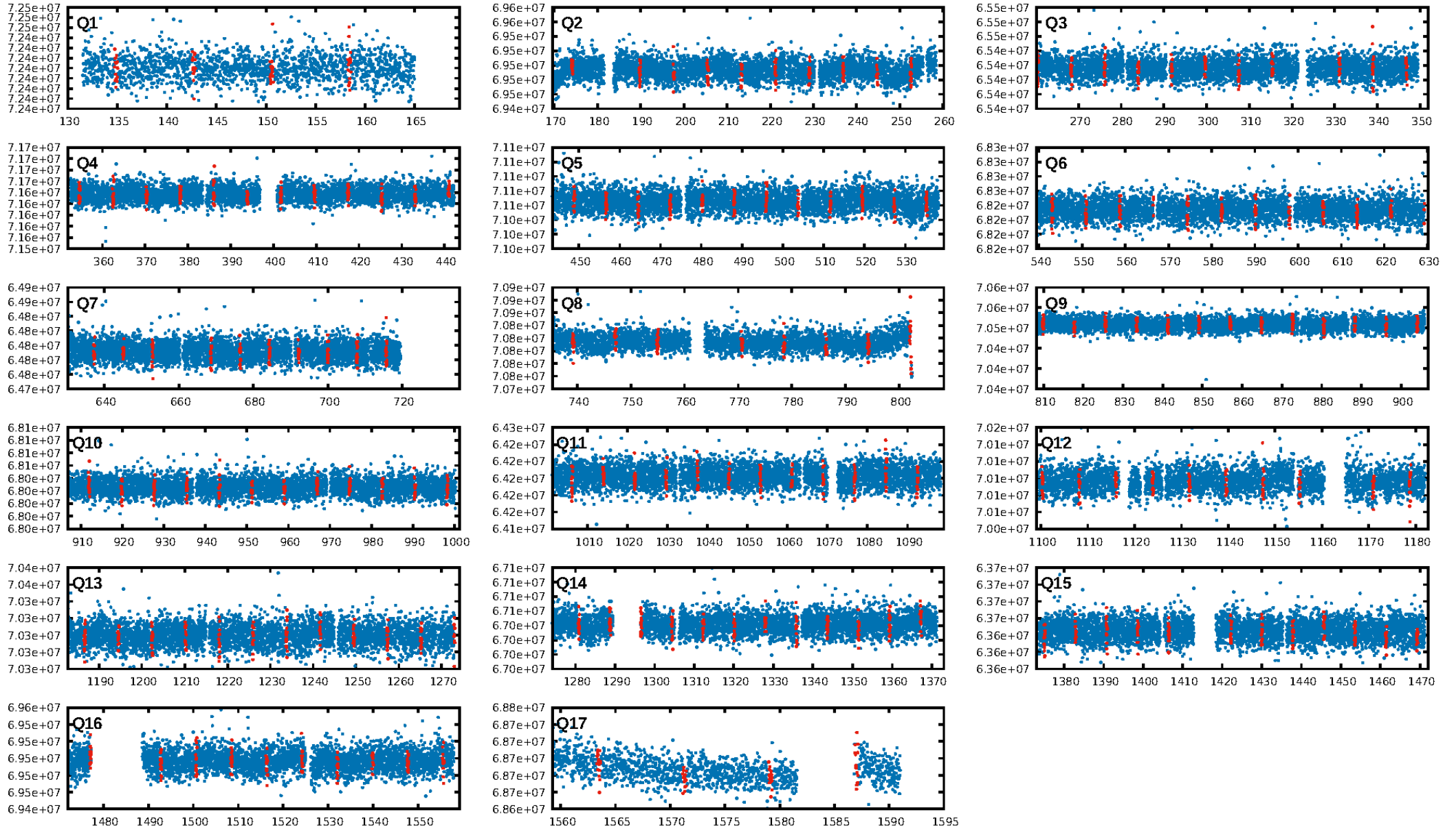
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.97e-29
RollingBand-fgt: 1.00 [166/166]
GhostDiagnostic-chr: 4.112
Centroid-sig: 52.9%
Centroid-so: 0.644 arcsec [0.63σ]
OotOffset-rm: 0.839 arcsec [1.29σ]
OotOffset-st: 3/4/3/3 [13]
KicOffset-rm: 0.854 arcsec [1.44σ]
KicOffset-st: 3/4/3/3 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [17/17]

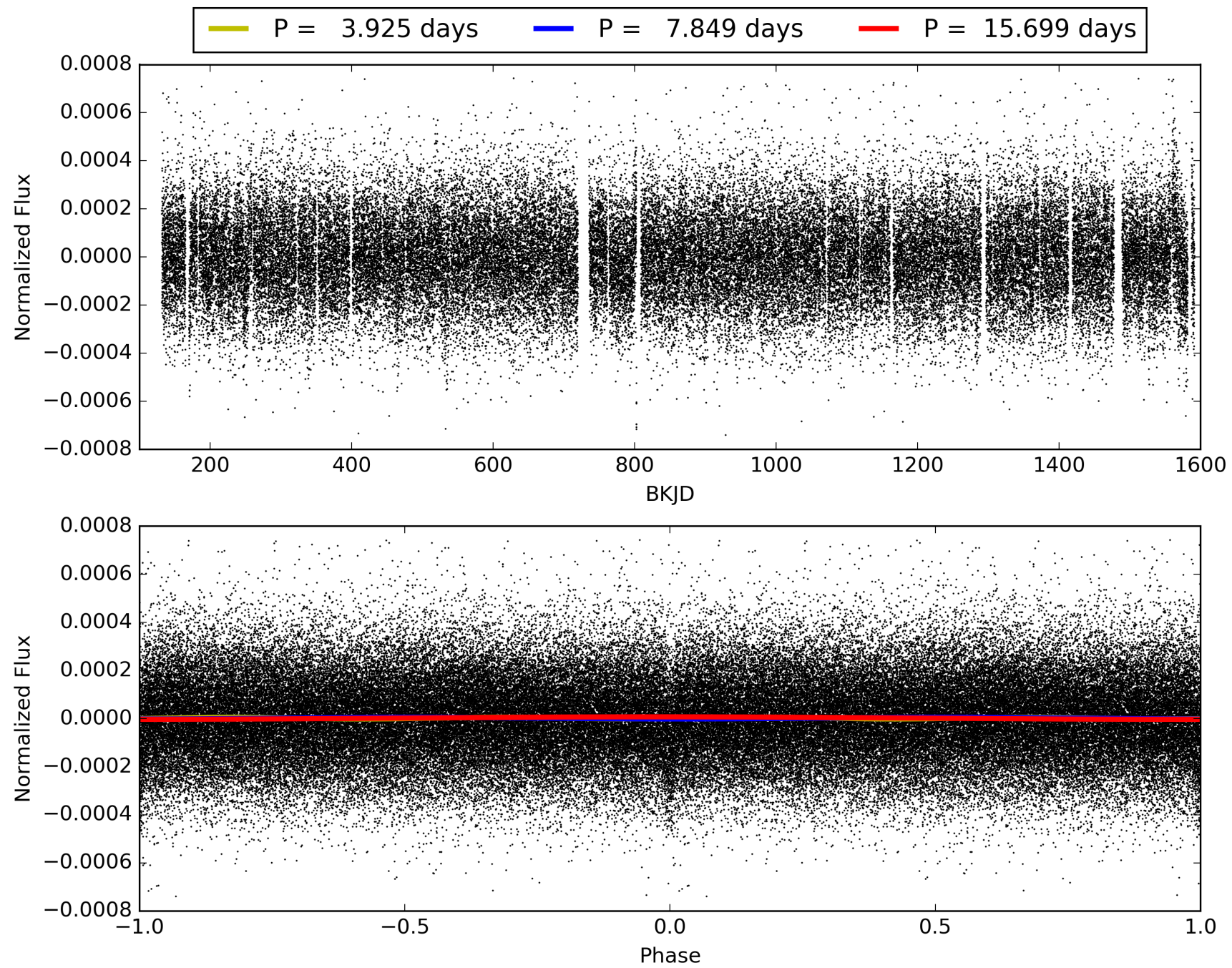
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:20:05 Z

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

TCE 010722485-01, PDC Light Curves

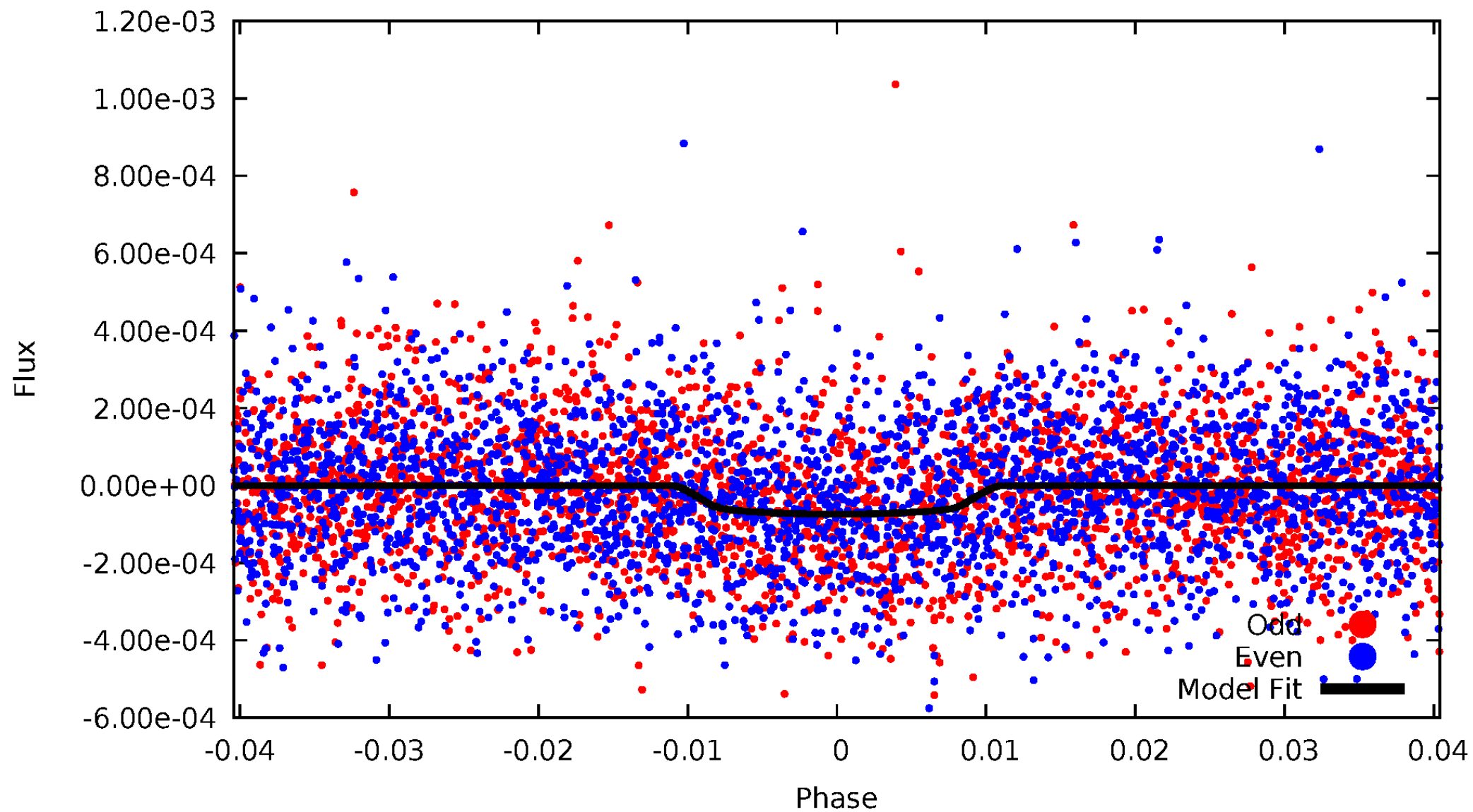


TCE 010722485-01



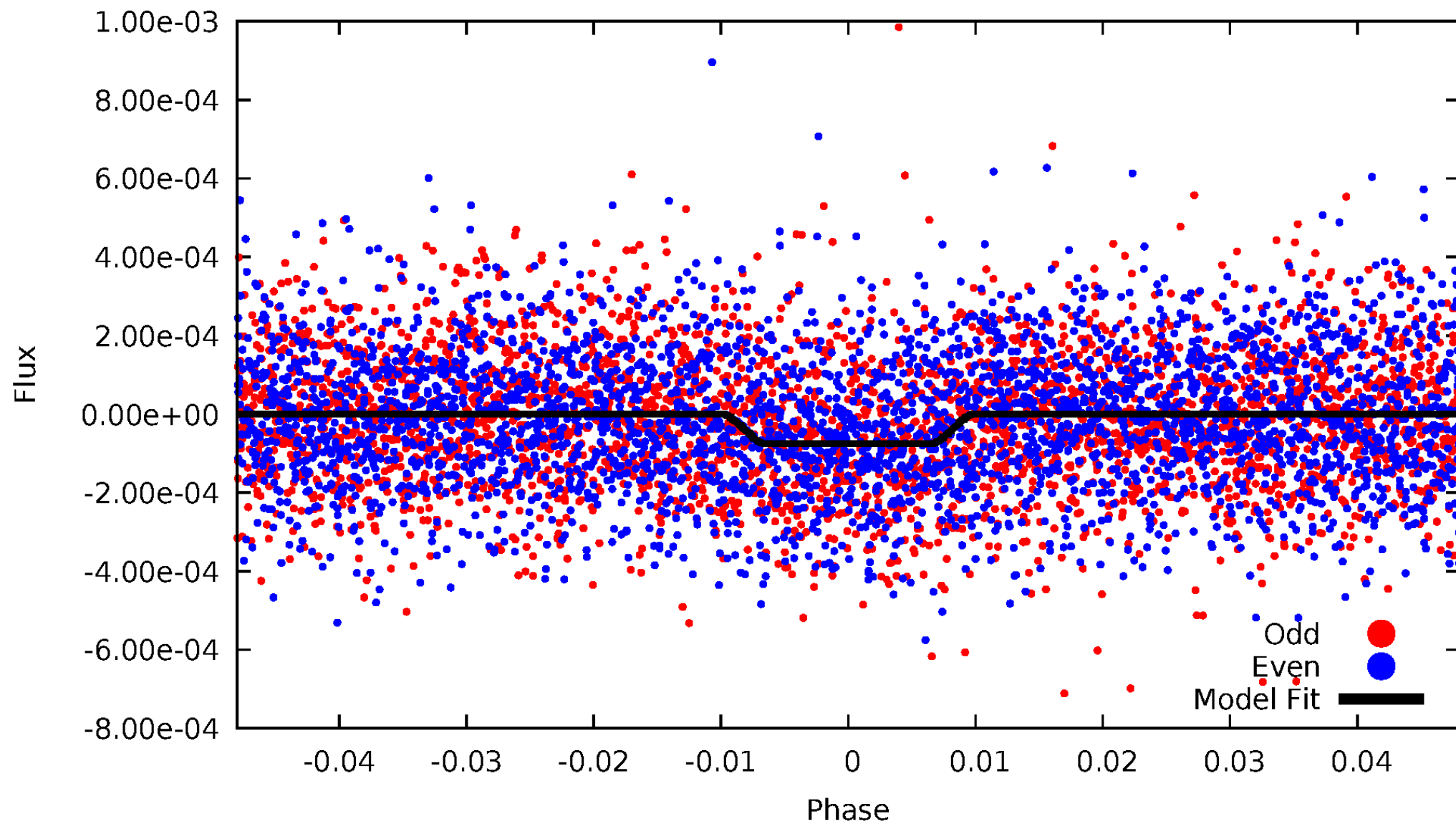
DV Odd/Even

TCE 010722485-01



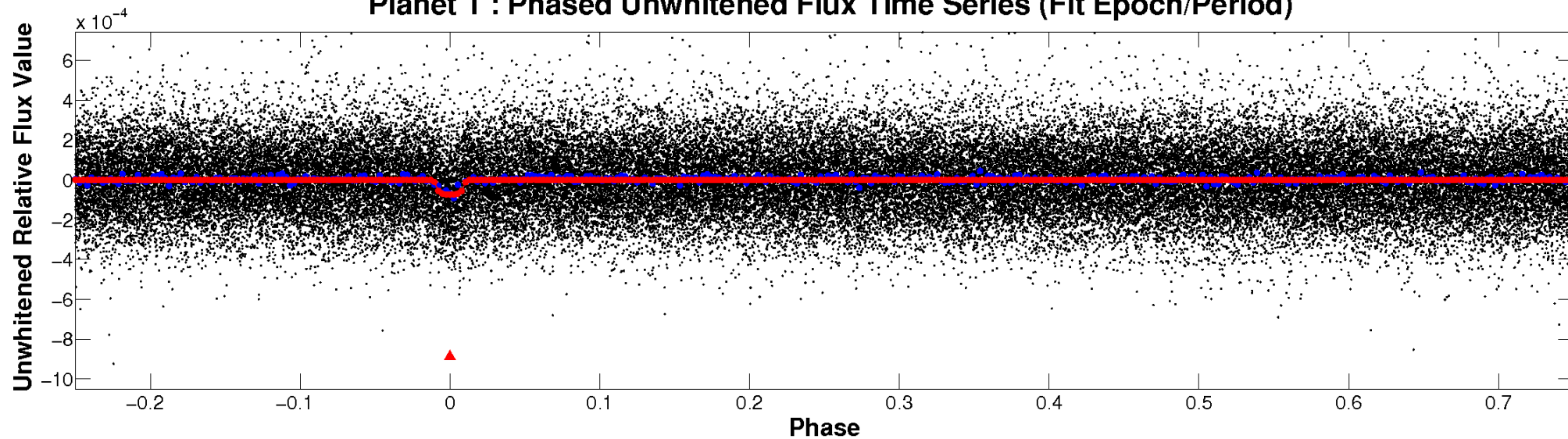
ALT Odd/Even

TCE 010722485-01

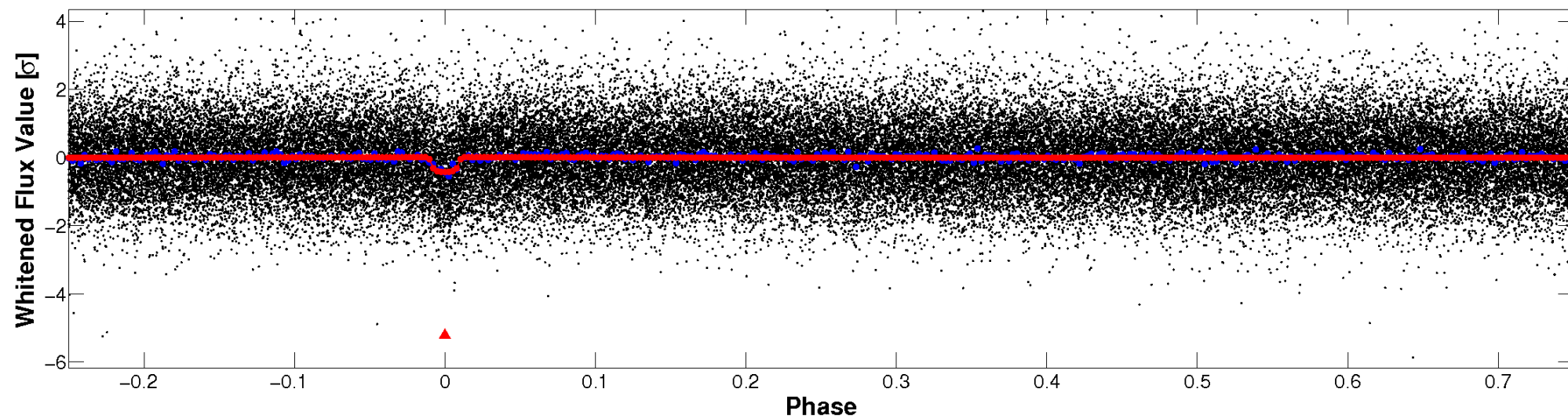


Non-Whitened Vs. Whitened Light Curve

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

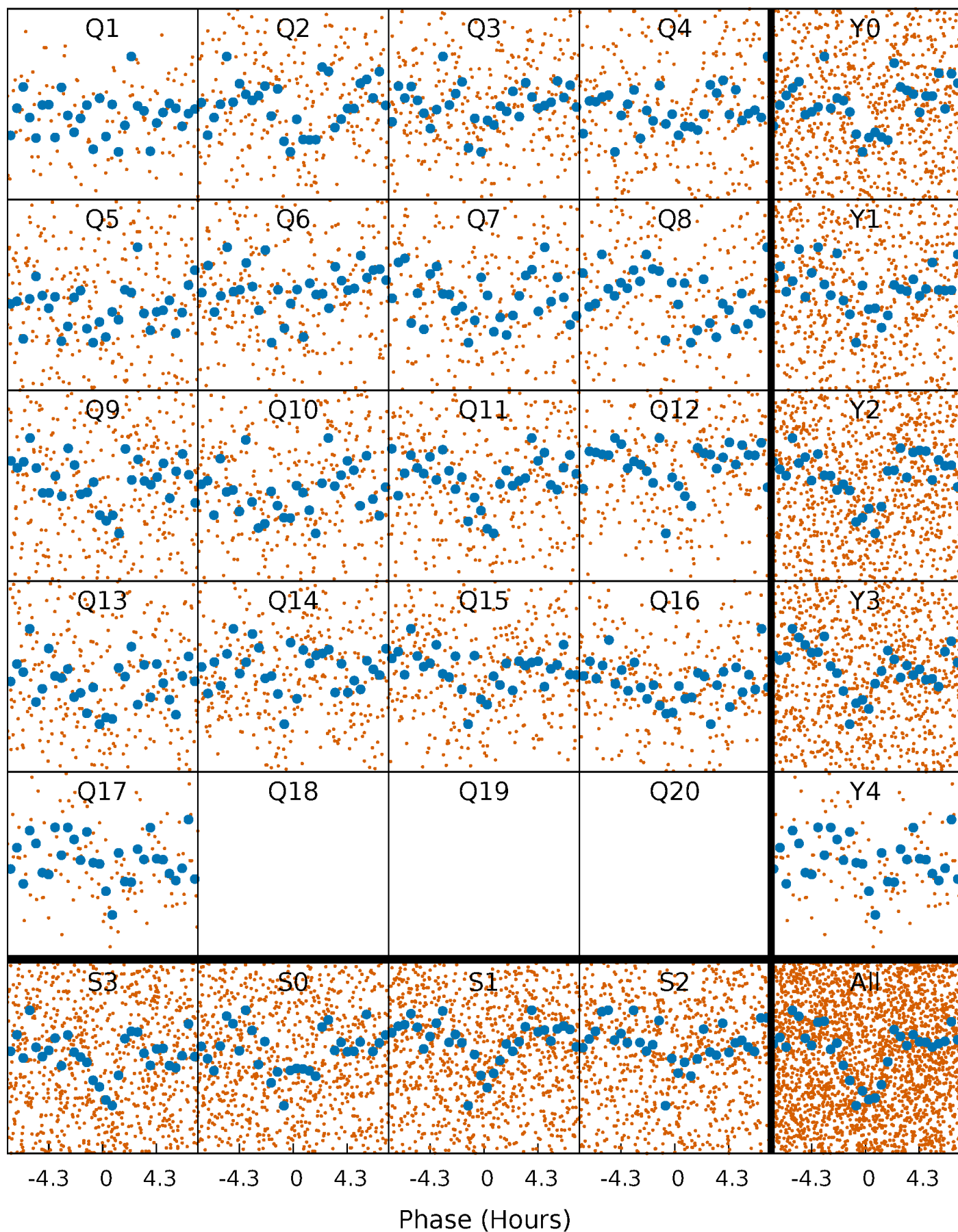


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



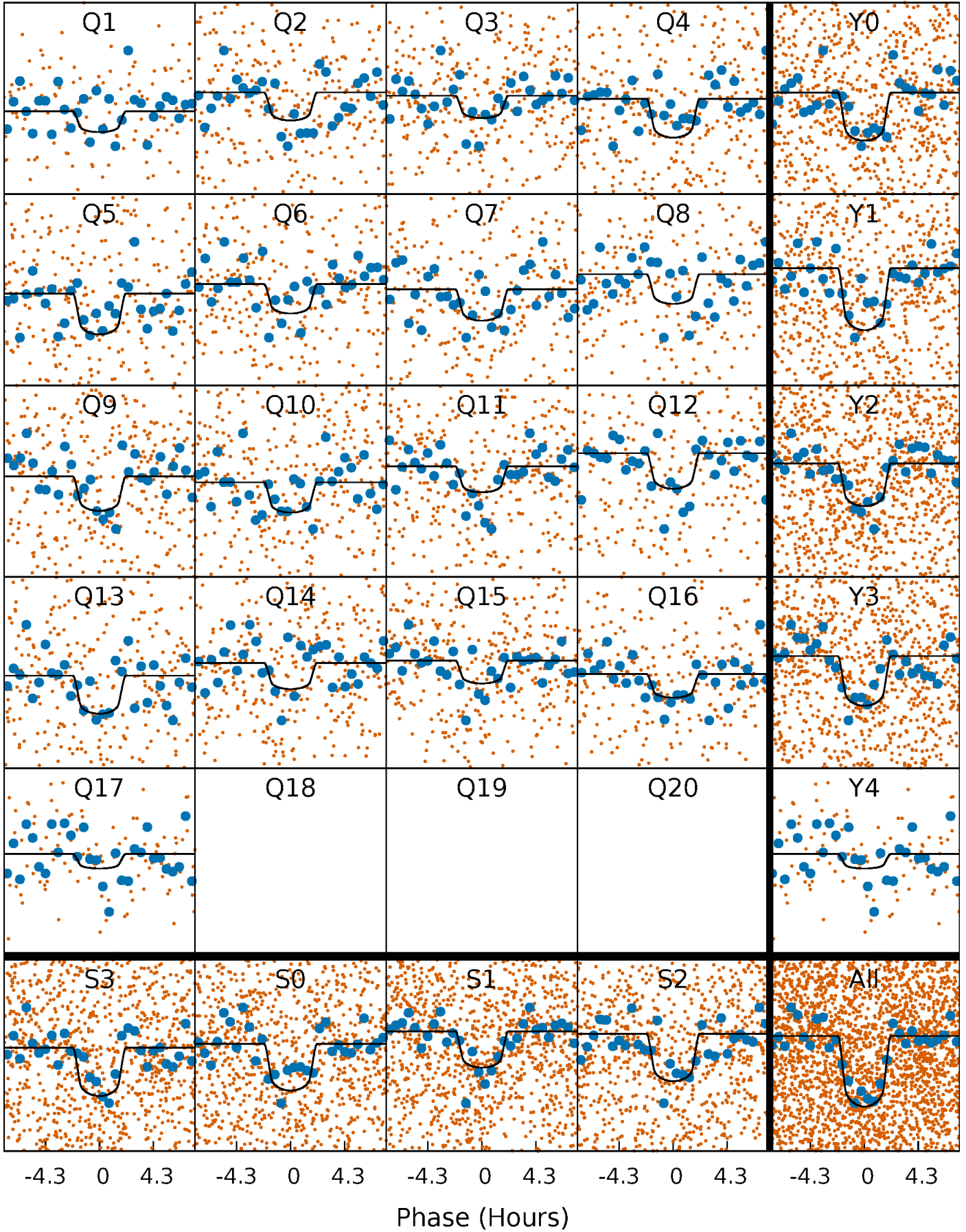
PDC Quarter-Phased Transit Curves

TCE 010722485-01 P= 7.849455 Days $T_0=134.865418$ (BKJD)



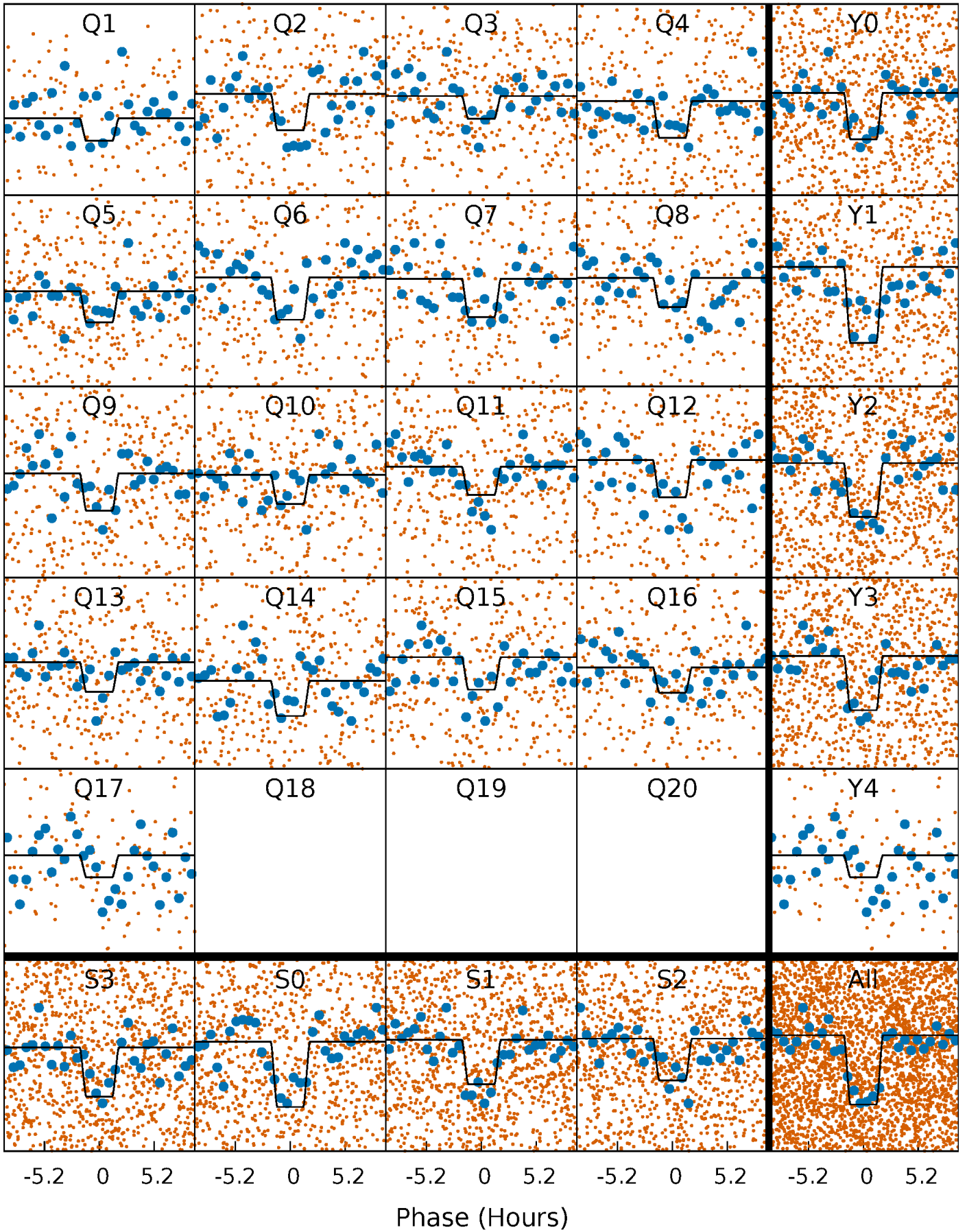
DV Quarter-Phased Transit Curves

TCE 010722485-01 P= 7.849455 Days $T_0=134.865418$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

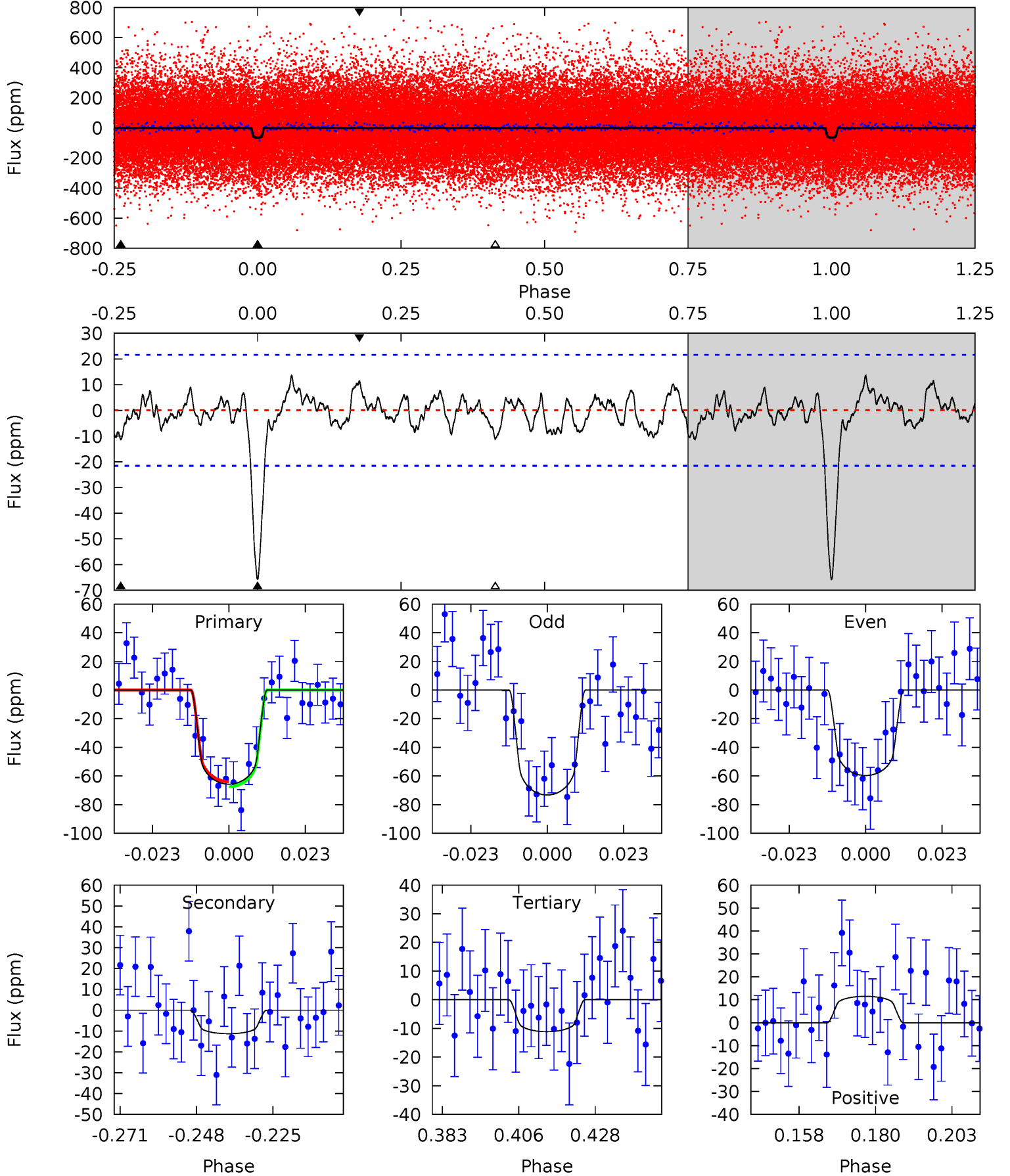
TCE 010722485-01 P= 7.849389 Days $T_0=134.870747$ (BKJD)



DV Model-Shift Uniqueness Test

010722485-01, P = 7.849455 Days, E = 127.015963 Days

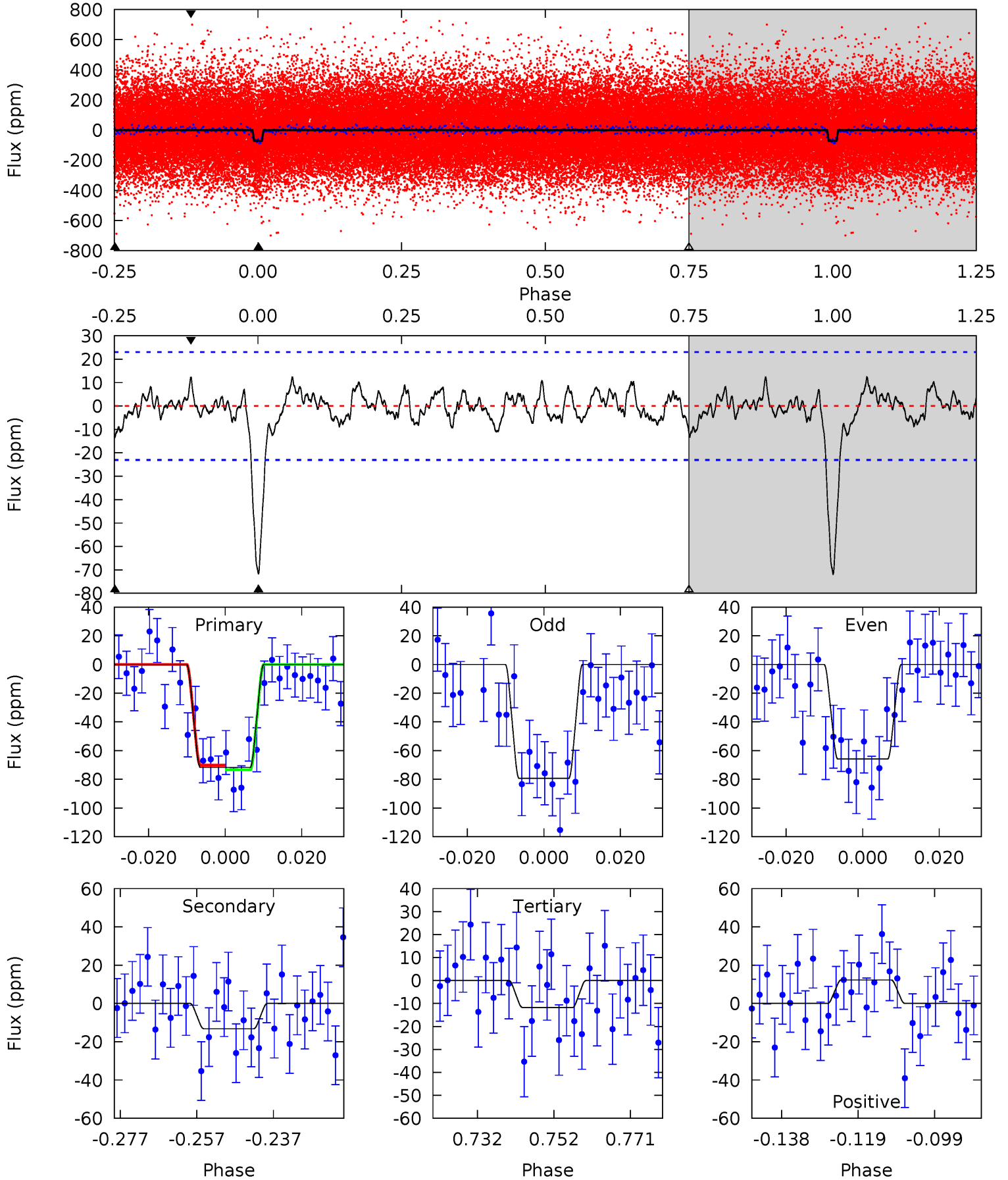
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	2.55	2.51	2.59	4.87	2.28	1.11	12.3	12.2	0.04	-0.04	1.54	0.97	0.17	0.39



Alt Model-Shift Uniqueness Test

010722485-01, P = 7.849389 Days, E = 127.021358 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	2.81	2.51	2.61	4.89	2.33	1.00	12.7	12.6	0.31	0.20	1.42	0.94	0.15	0.34



Stellar Parameters For KIC 010722485

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5678^{+113}_{-91}	$4.365^{+0.144}_{-0.108}$	$-0.280^{+0.150}_{-0.150}$	$0.990^{+0.138}_{-0.138}$	$0.828^{+0.077}_{-0.036}$	$1.204^{+0.770}_{-0.372}$
	+2%/-2%	+3%/-2%	+54%/-54%	+14%/-14%	+9%/-4%	+64%/-31%
Source	SPE12	SPE12	SPE12	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010722485-01 / KOI 4312.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-11 ± 4	$1.04^{+0.36}_{-0.38}$	1288^{+57}_{-58}	3749^{+710}_{-443}	31^{+51}_{-17}
Alt.	-13 ± 5	$0.91^{+0.40}_{-0.37}$	1291^{+57}_{-63}	3983^{+969}_{-503}	44^{+90}_{-25}

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 $A_{obs} \gg 1.0$

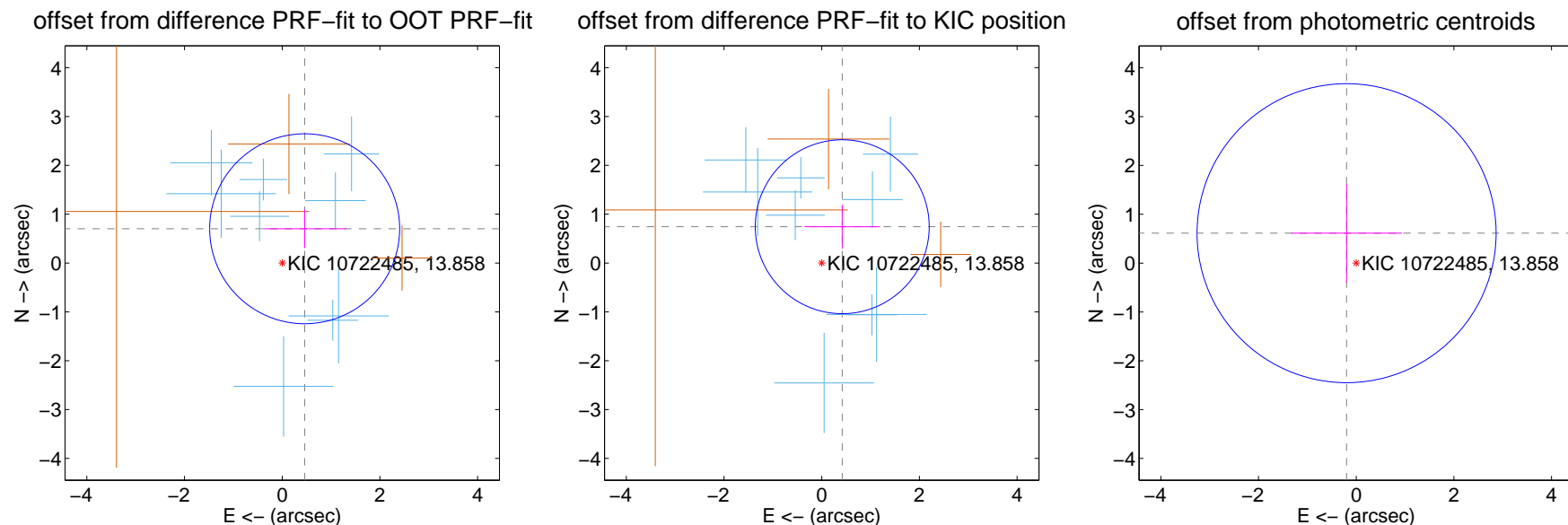
DV Centroid Data

Supplemental centroid analysis for 010722485-01. Kepler magnitude: 13.86. Transit SNR 12.86

There are 9 quarters with good PRF difference image offsets

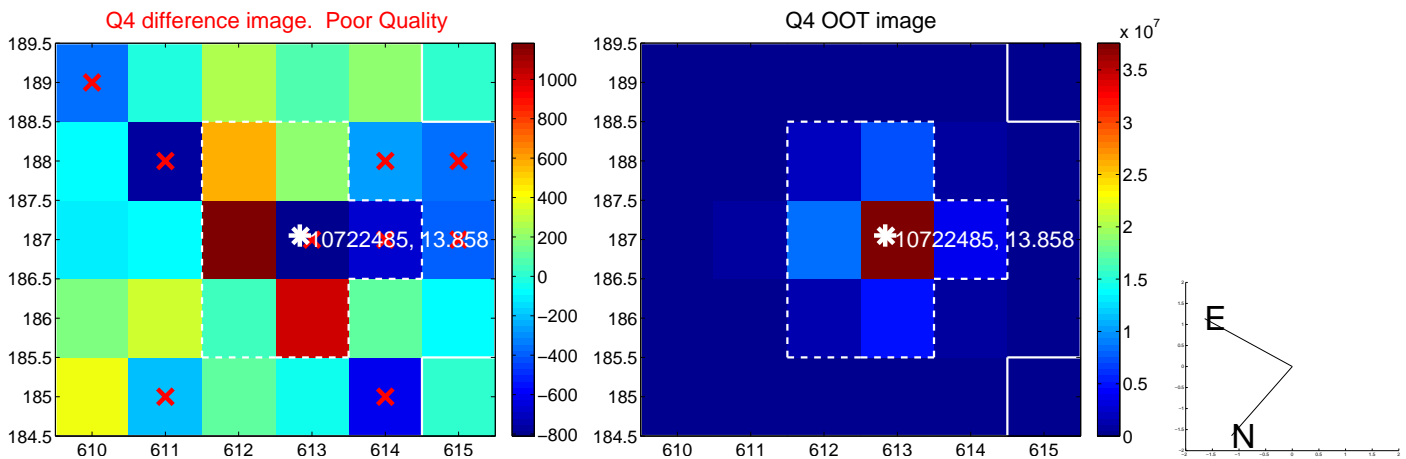
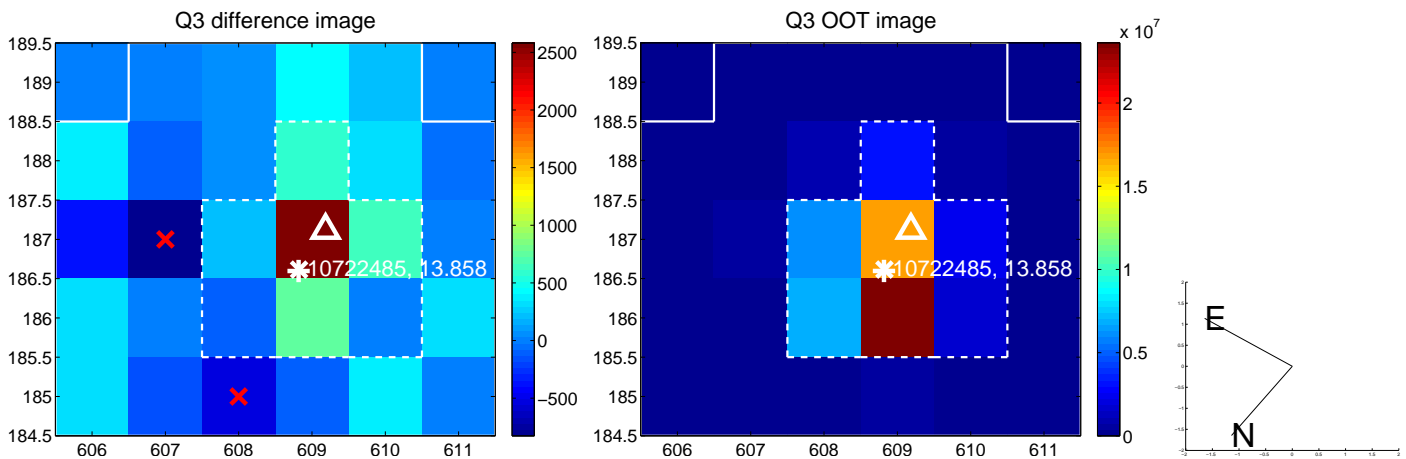
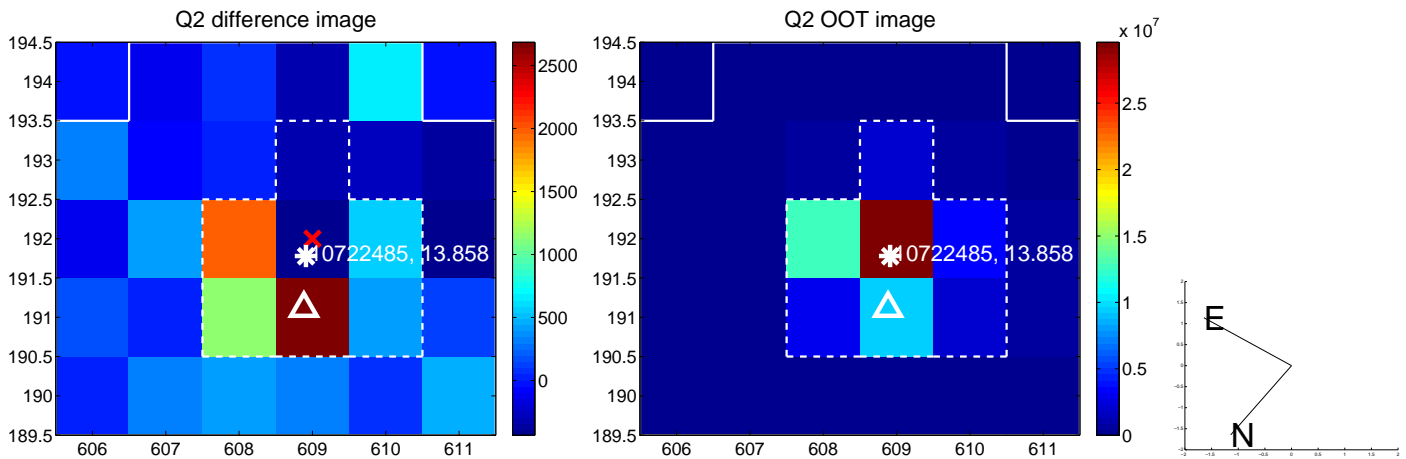
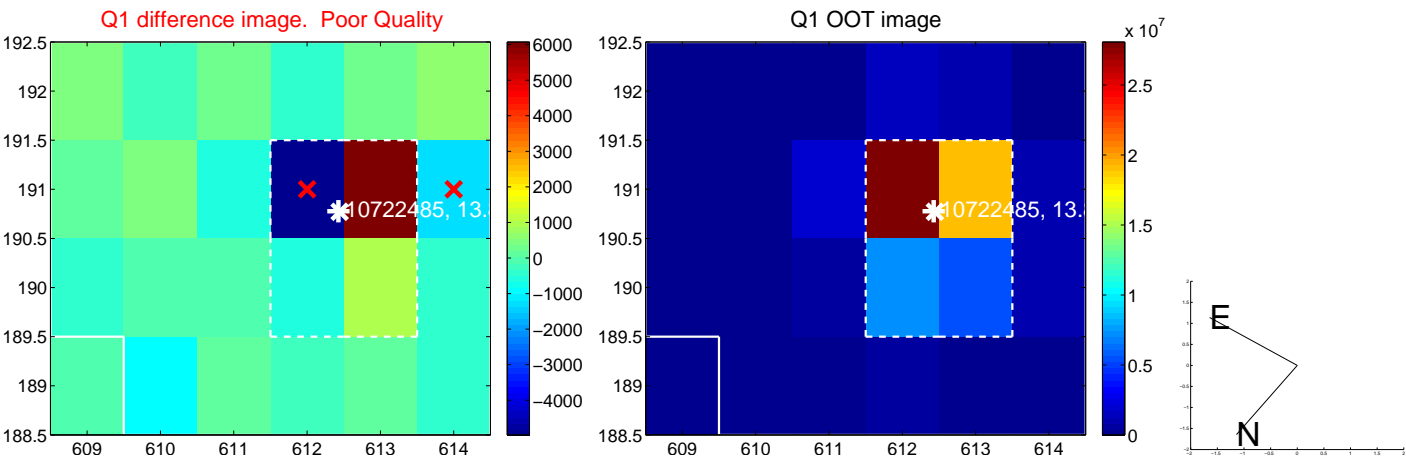
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.839 ± 0.648	1.29	-0.460 ± 0.853	0.702 ± 0.395
PRF-fit source offset from KIC position	0.854 ± 0.594	1.44	-0.420 ± 0.778	0.744 ± 0.448
photometric centroid source offset	0.64 ± 1.02	0.63	0.20 ± 1.13	0.61 ± 1.01

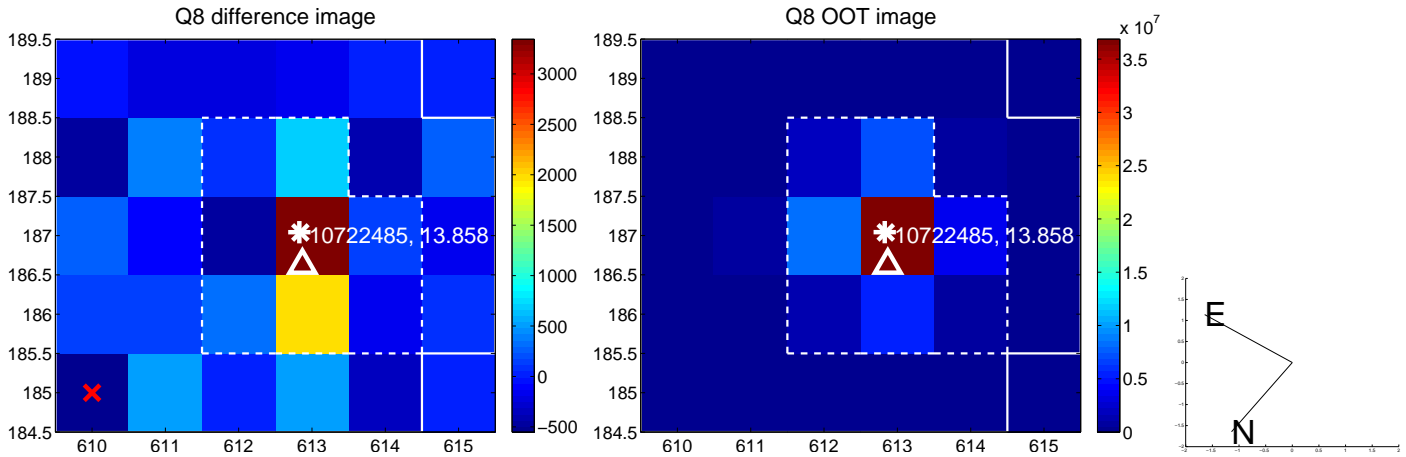
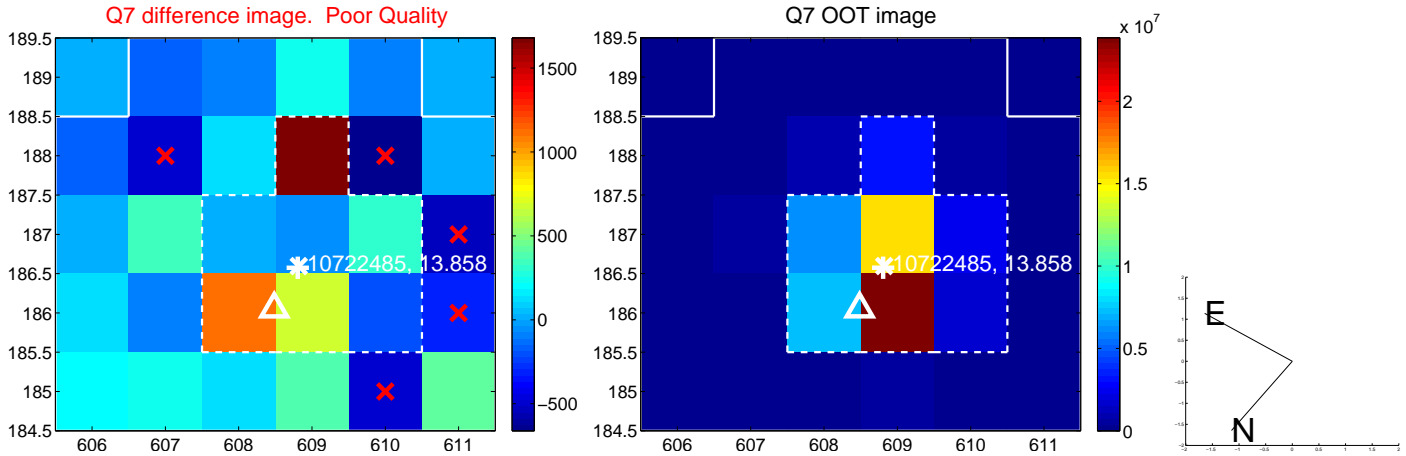
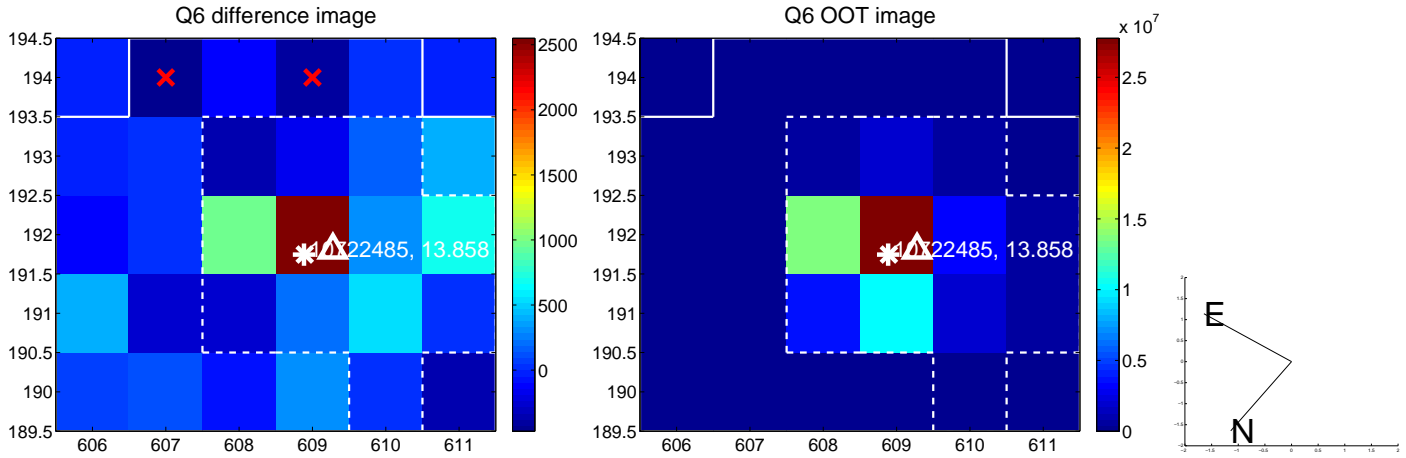
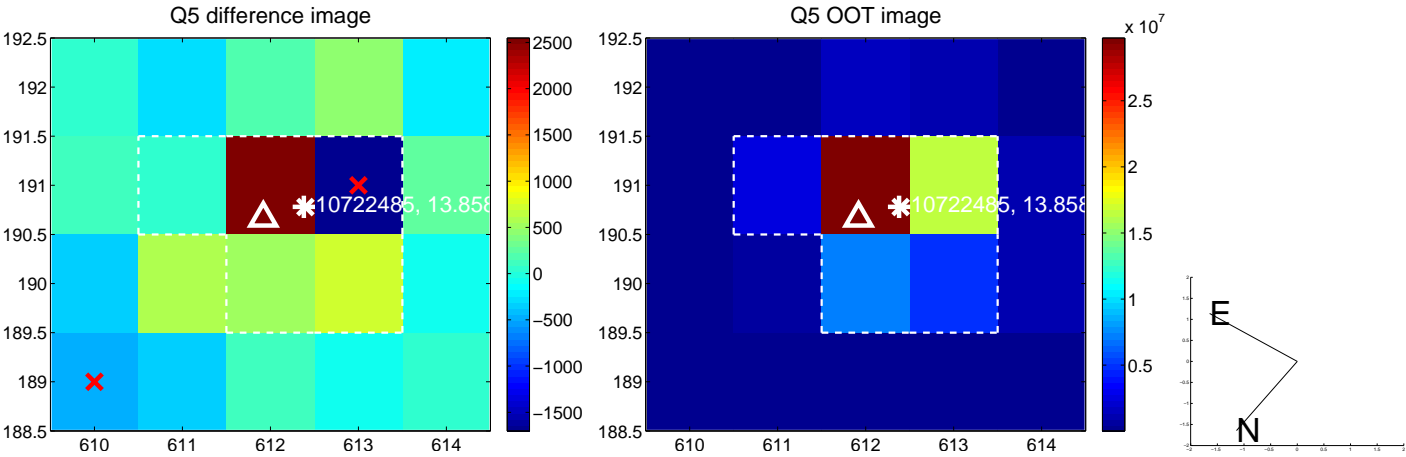


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

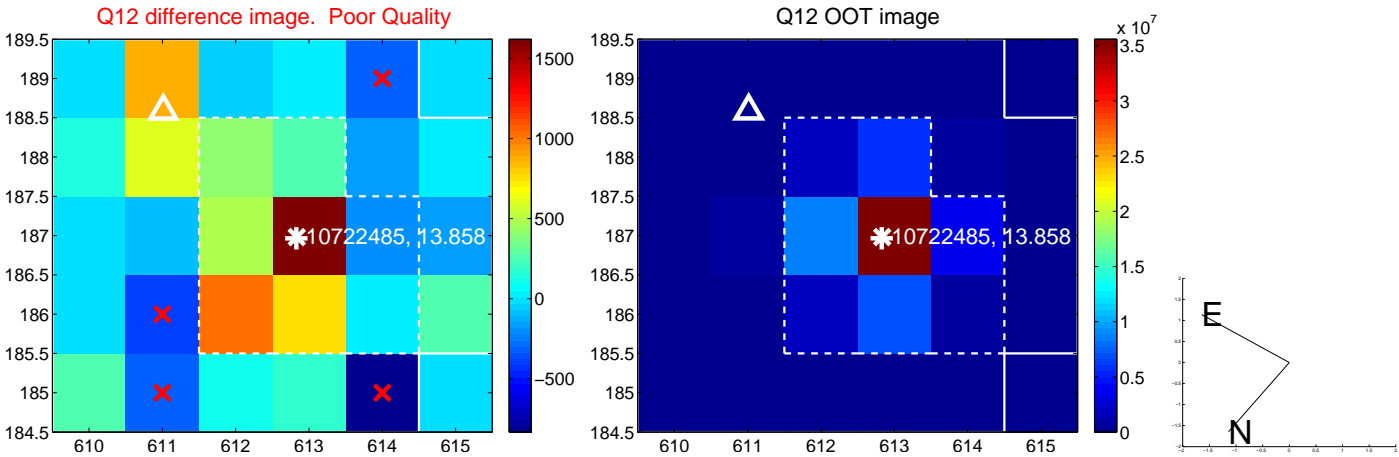
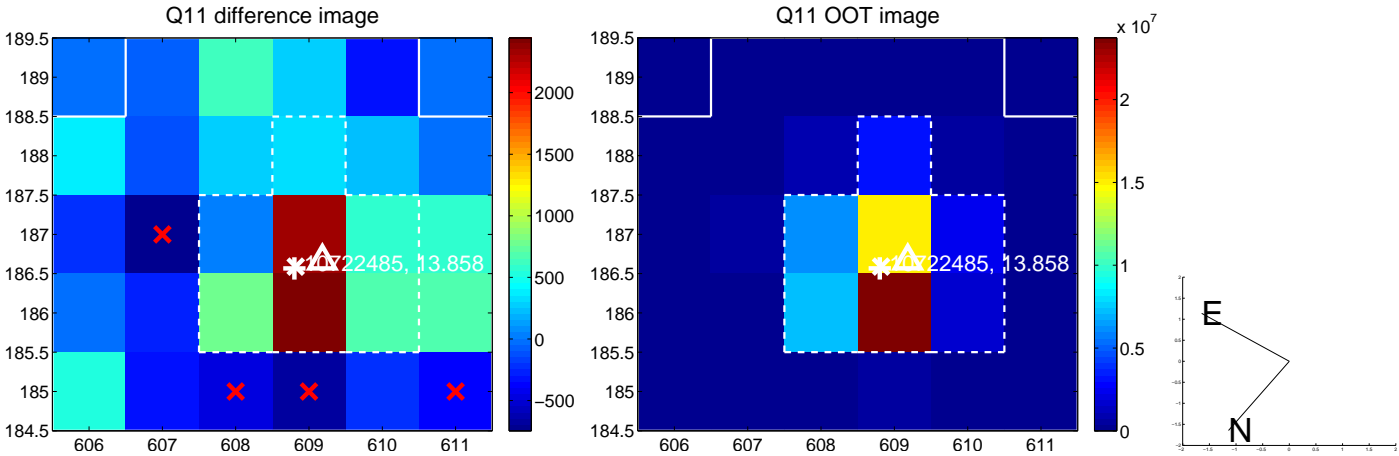
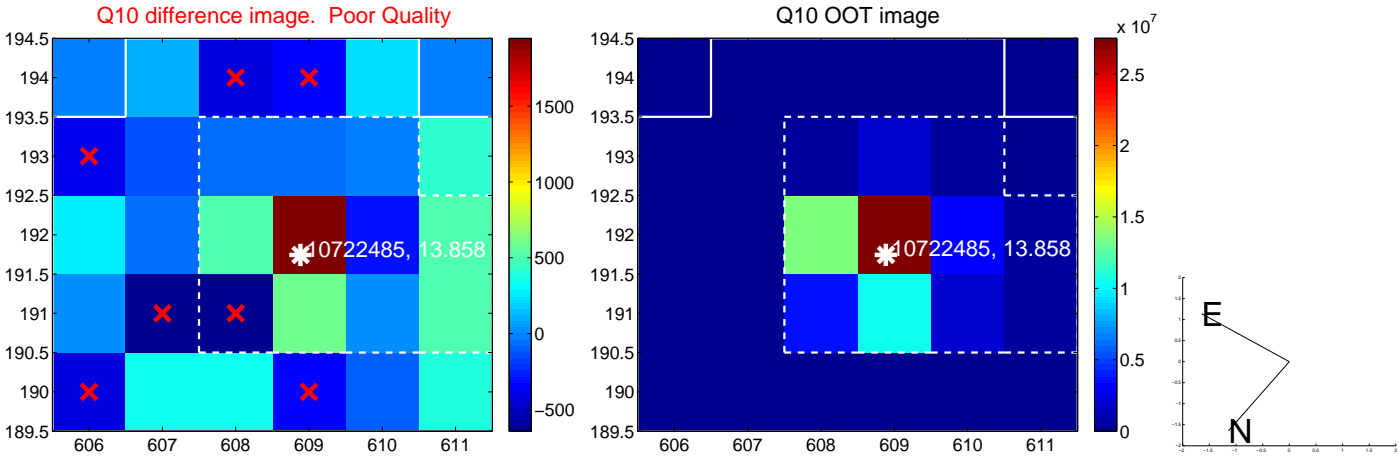
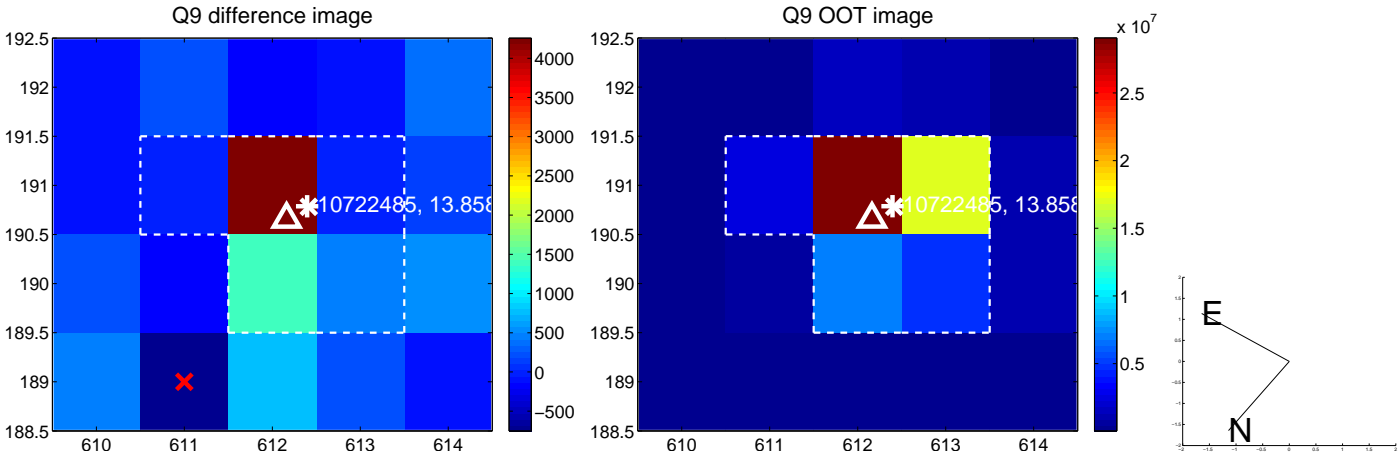
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



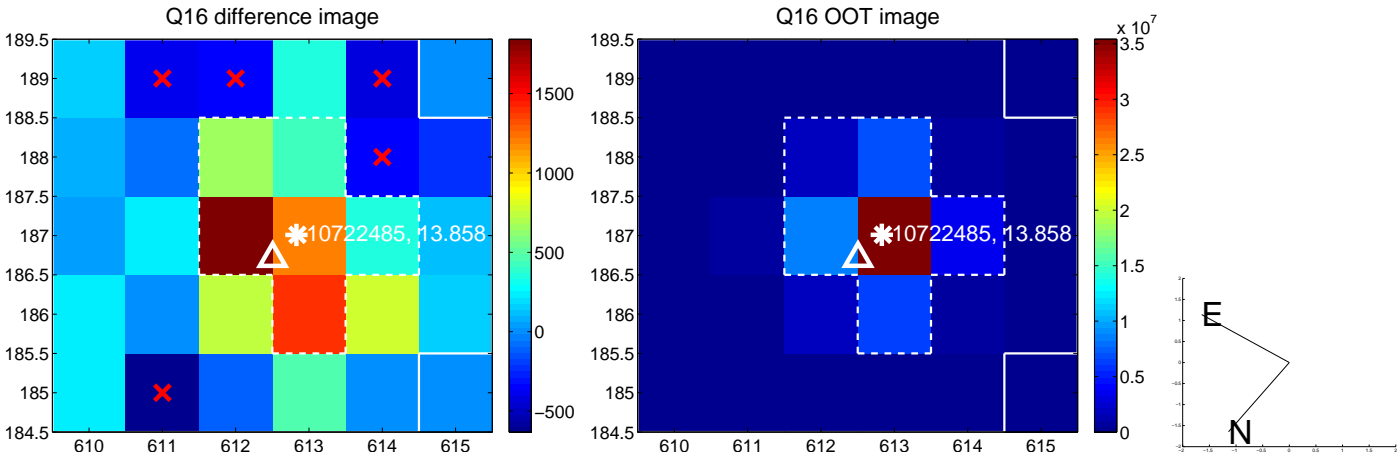
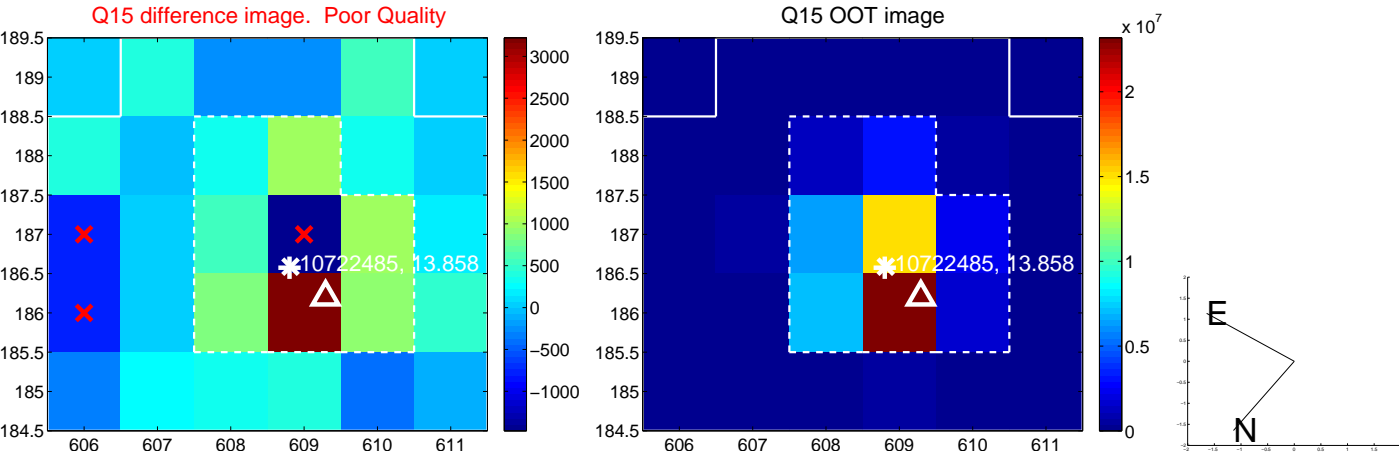
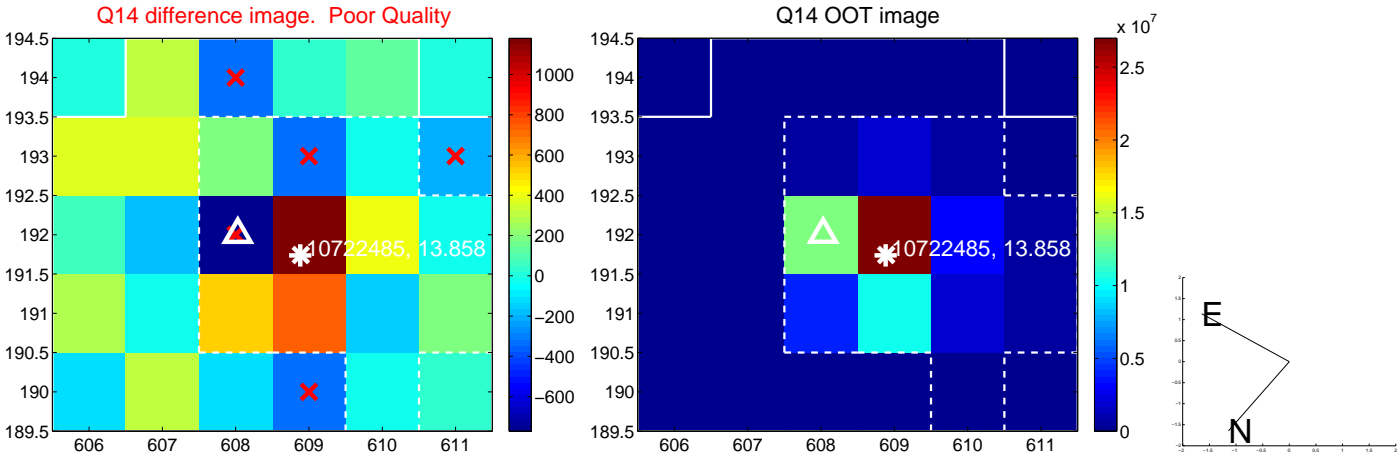
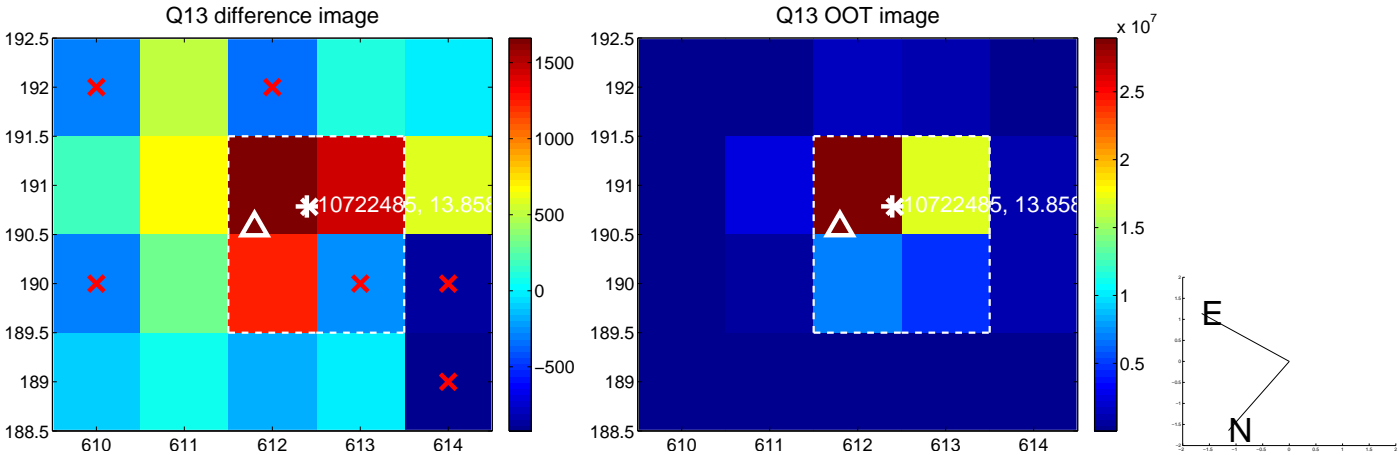
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



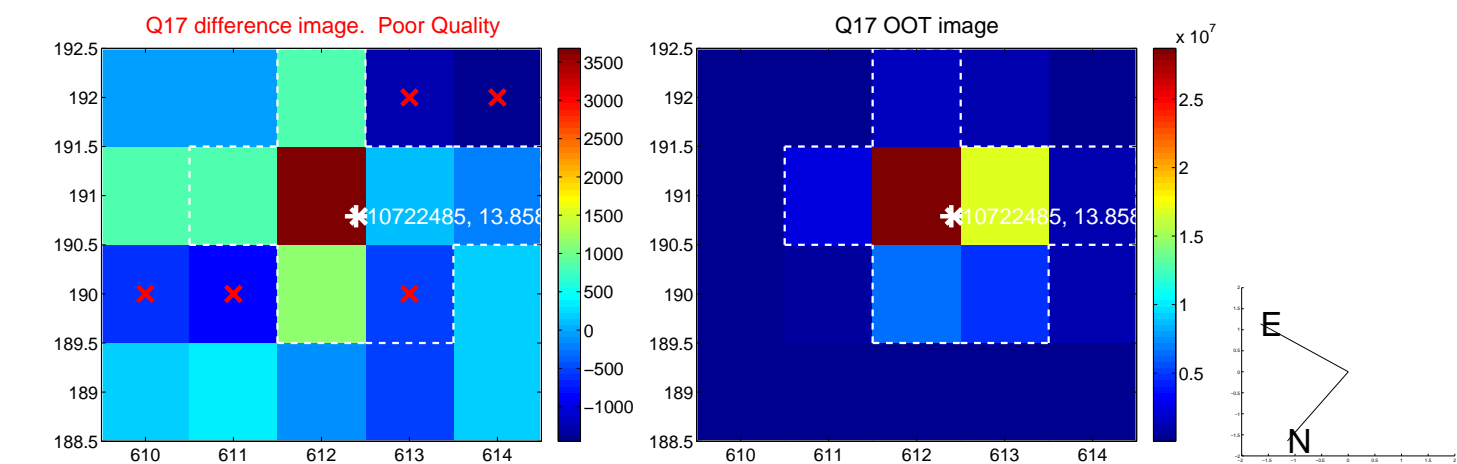
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



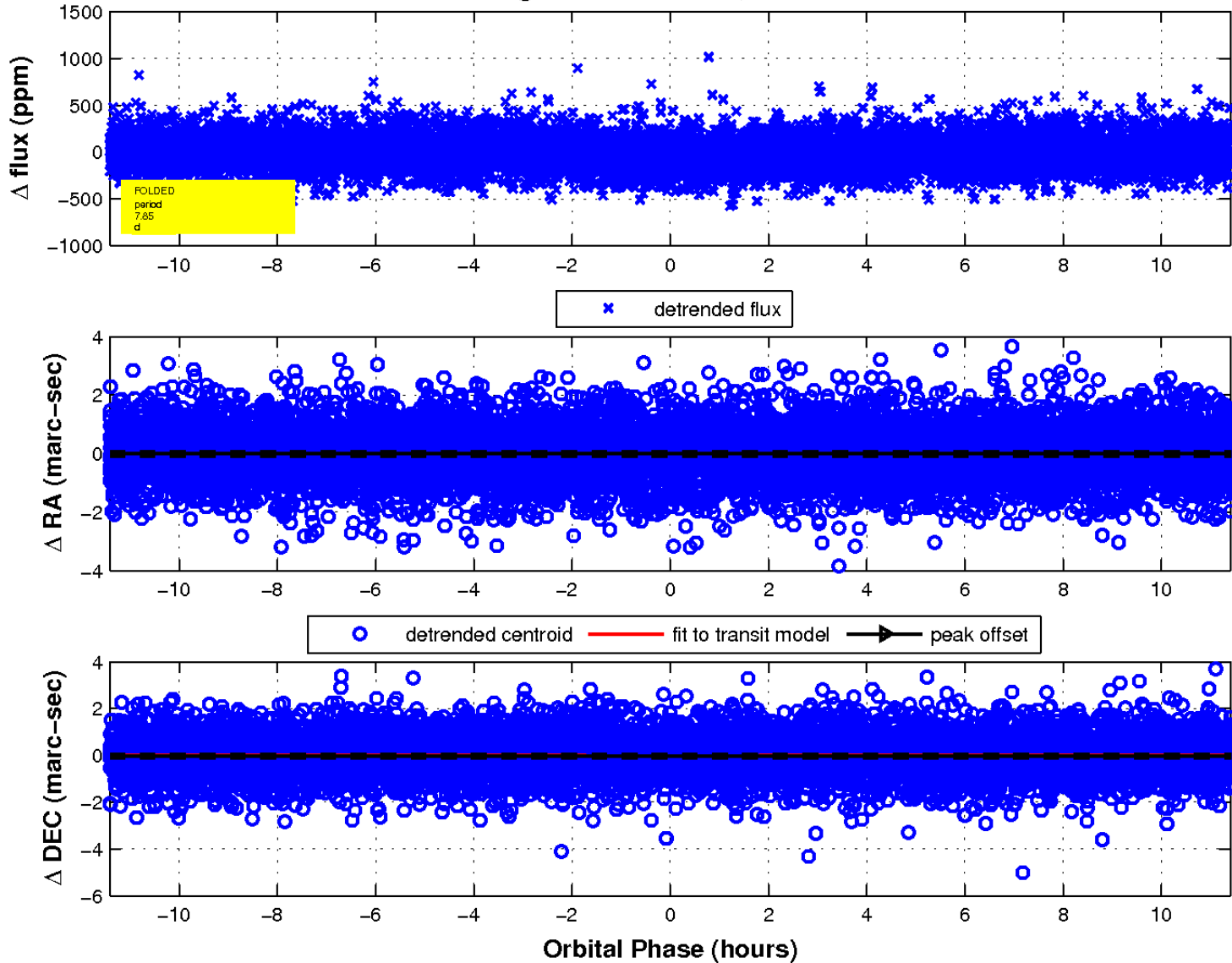
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

