

KIC 007282028

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})
007282028-01	OBS	No	0.566765	131.837429	7.2	3.591	9.4	5.1	1.05	6318	0.29	8749.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007282028-01	OBS	FP	0.00	1	0	0	1	LPP_DV—EPHEM_MATCH

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.

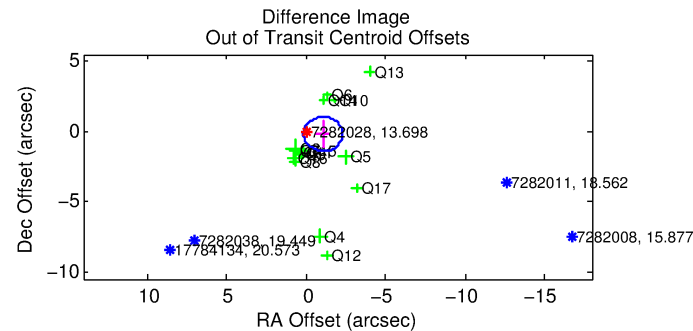
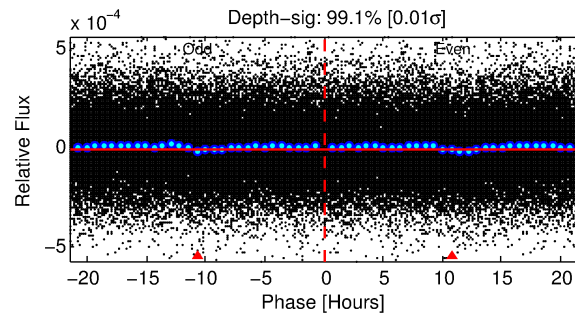
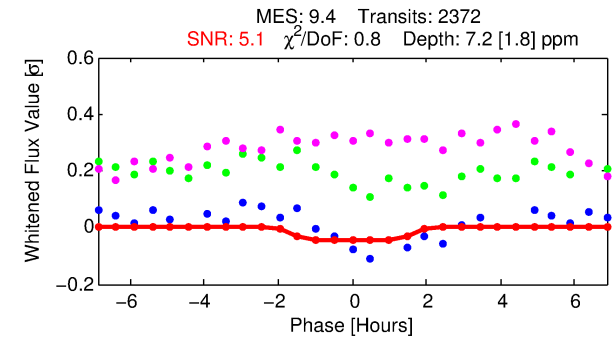
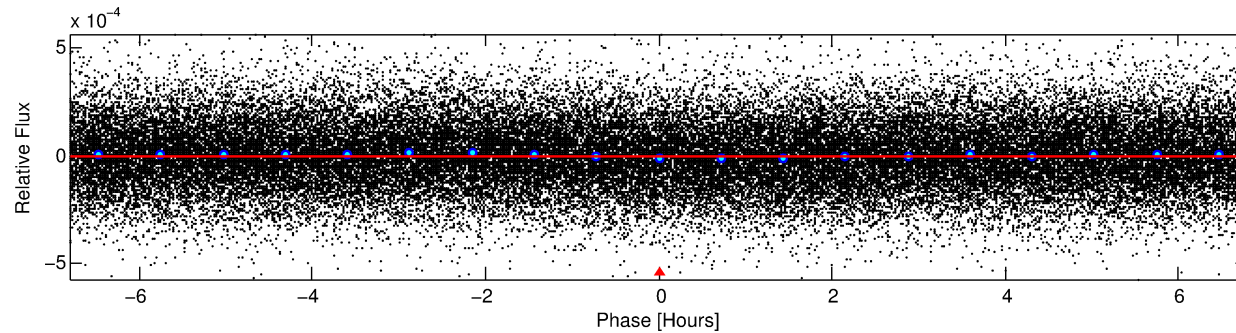
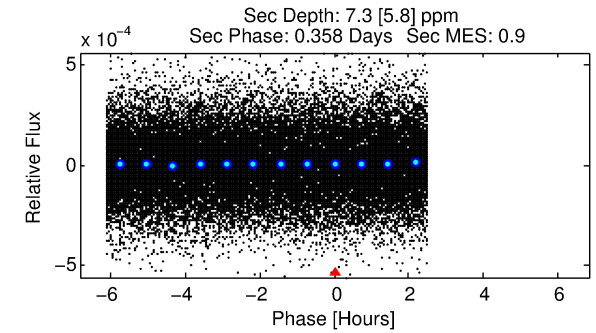
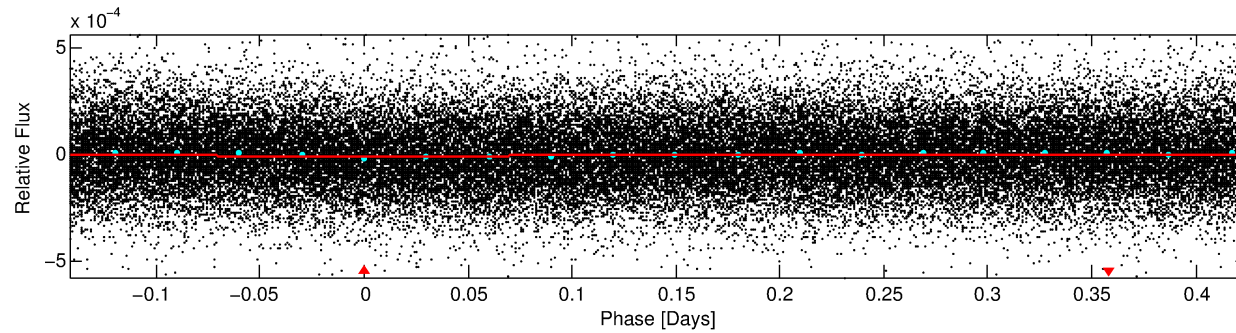
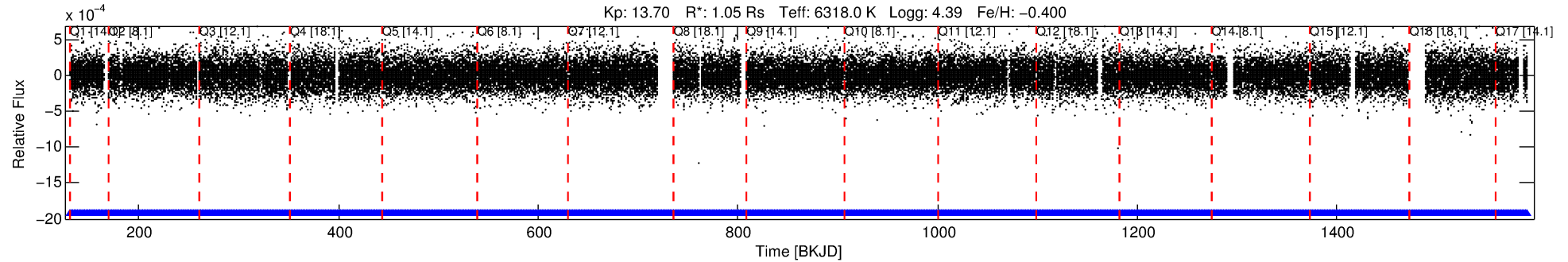
Ephemeris Match Information For 007282028-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist ($''$)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
007282028-01	7282028	RR-Lyr-pri	7198959	1:1	1125.2	100	264	7.86	13.70	89042.00	Direct-PRF	0	3.44	24.40

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7282028 Candidate: 1 of 1 Period: 0.567 d



DV Fit Results:

Period = 0.56676 [0.00002] d
Epoch = 131.8374 [0.0080] BKJD
Rp/R* = 0.0025 [0.0021]
a/R* = 1.28 [2.15]
b = 0.50 [6.52]
Seff = 8749.30 [3237.75]
Teq = 2466 [228] K
Rp = 0.29 [0.25] Re
a = 0.0134 [0.0032] AU
Ag = 8.50 [15.73] [0.48σ]
Teffp = 6511 [2966] K [1.36σ]

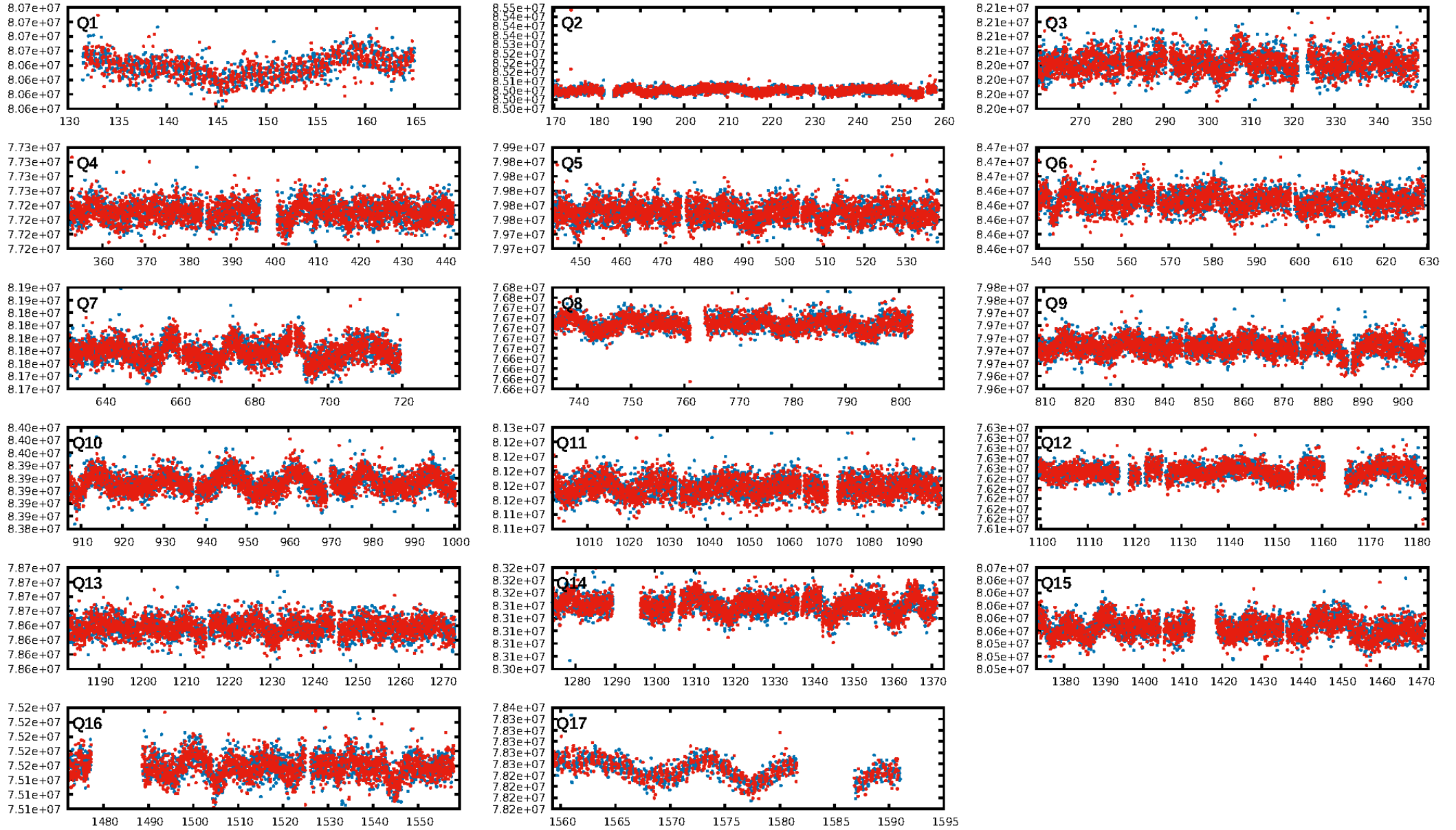
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.51e-17
RollingBand-fgt: 1.00 [2266/2266]
GhostDiagnostic-chr: 0.3422
Centroid-sig: 0.0%
Centroid-so: 5.082 arcsec [2.19σ]
OotOffset-rm: 1.085 arcsec [2.68σ]
KicOffset-rm: 0.949 arcsec [2.42σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.40 [6/15]
DiffImageOverlap-fno: 1.00 [17/17]

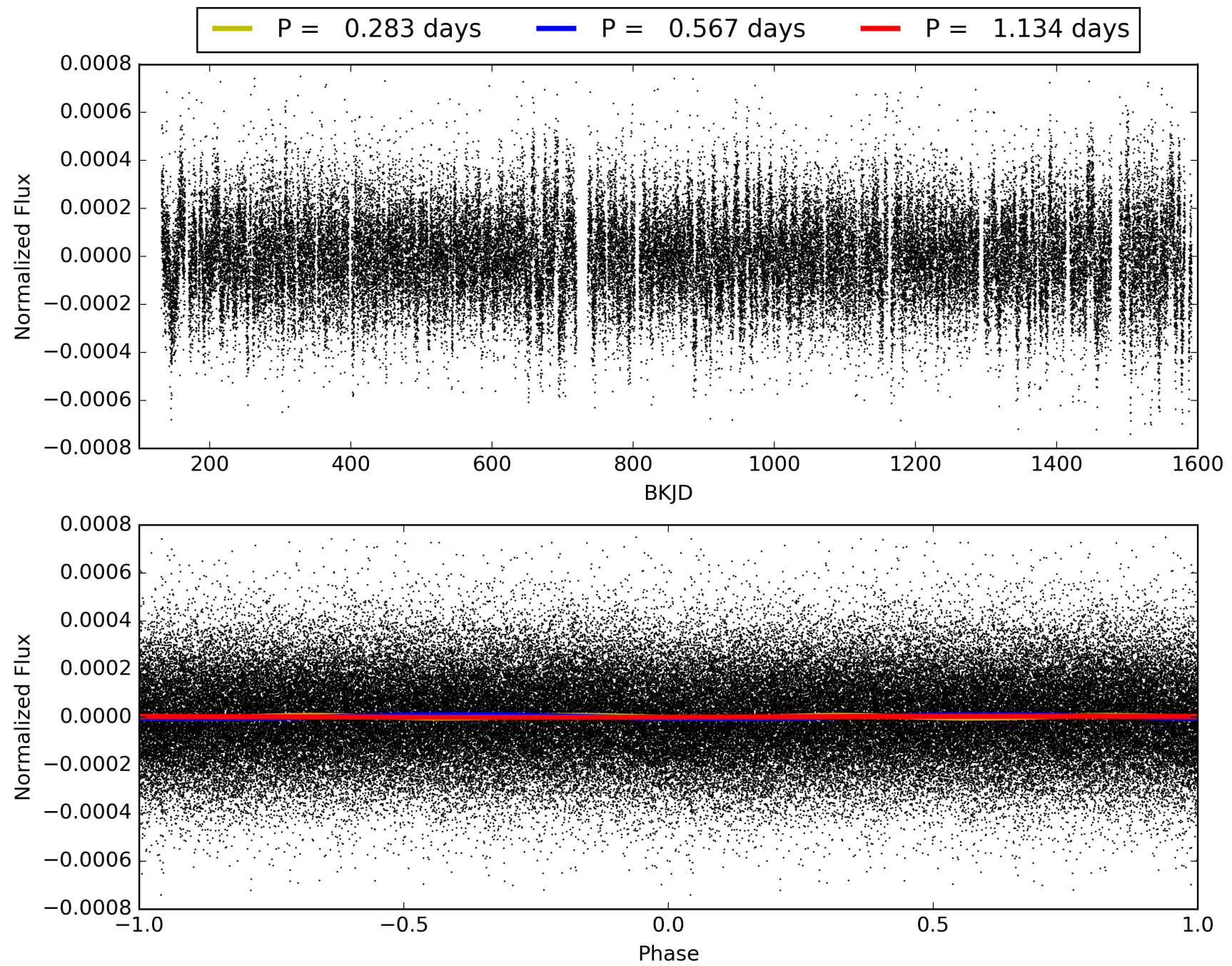
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:41:33 Z

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

TCE 007282028-01, PDC Light Curves

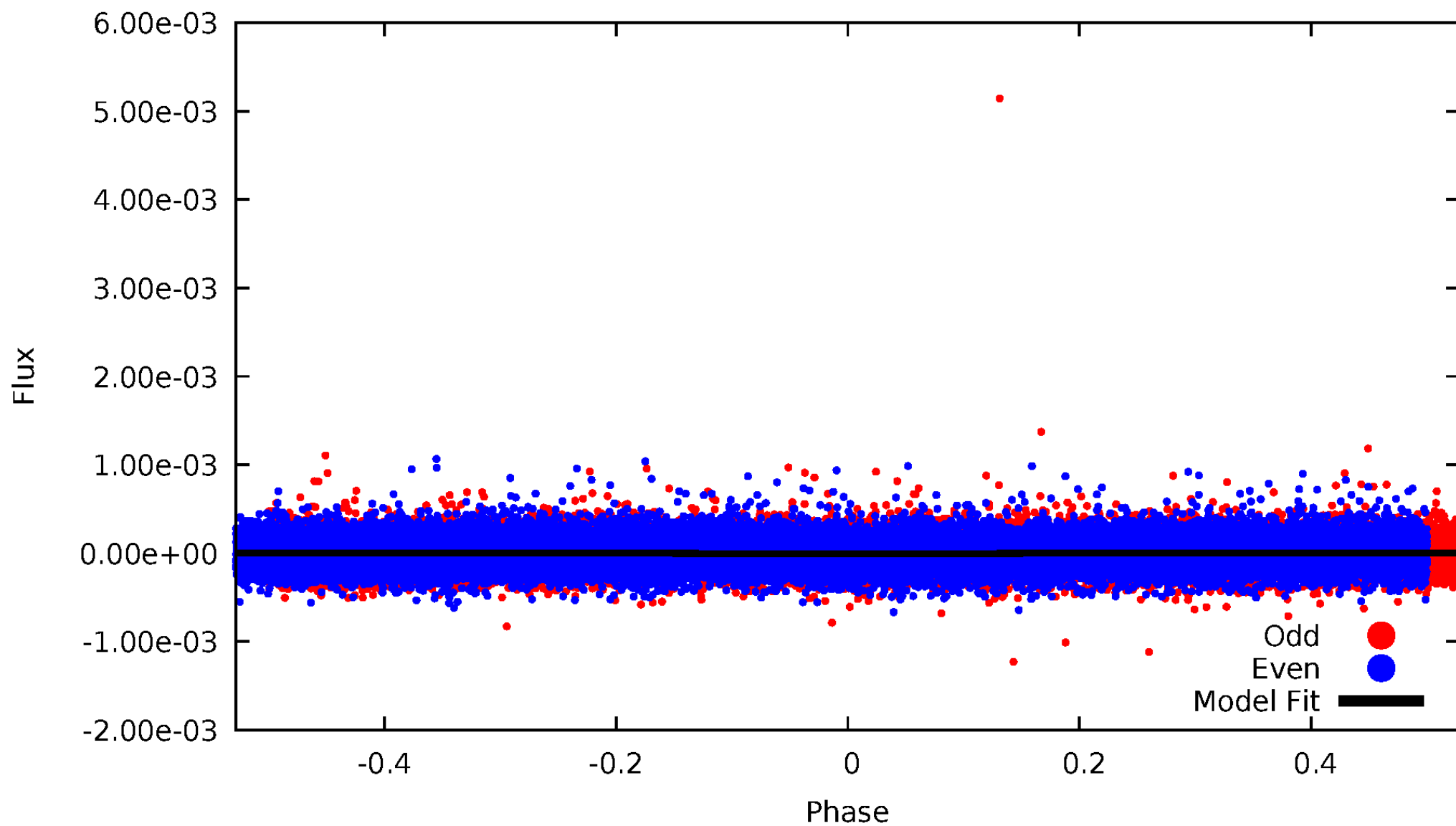


TCE 007282028-01



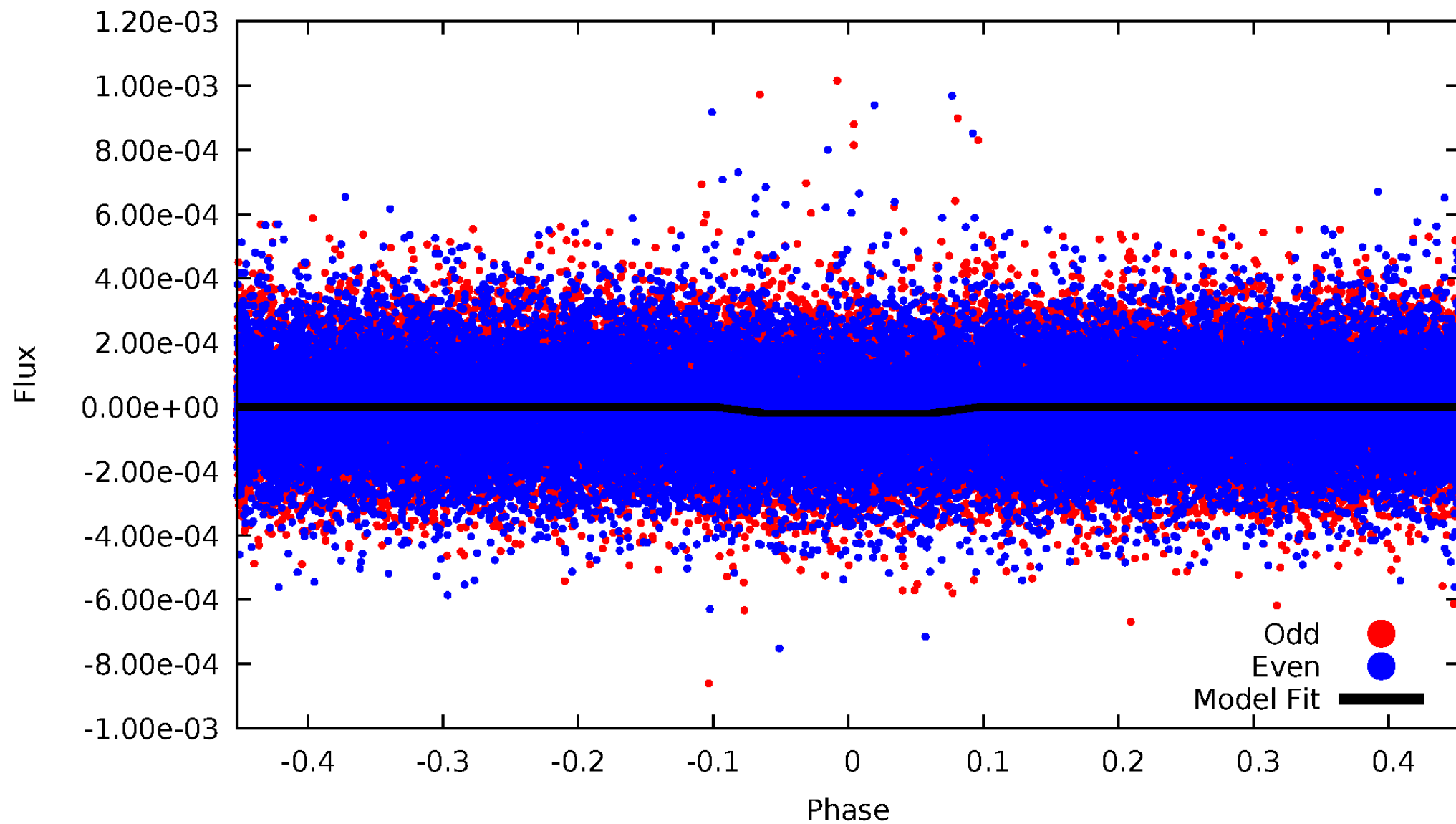
DV Odd/Even

TCE 007282028-01



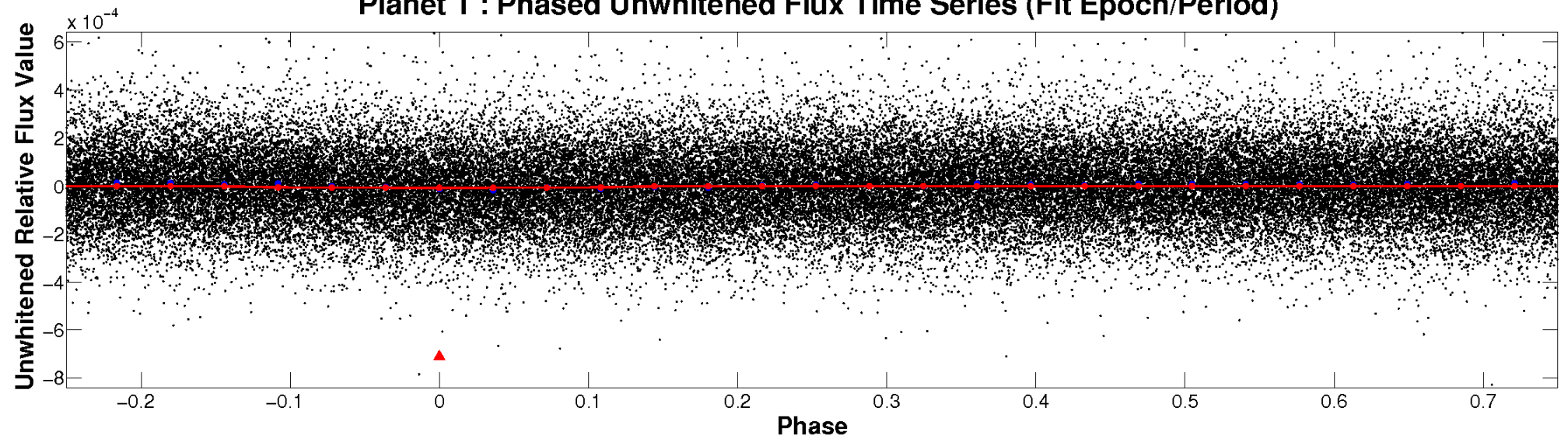
ALT Odd/Even

TCE 007282028-01

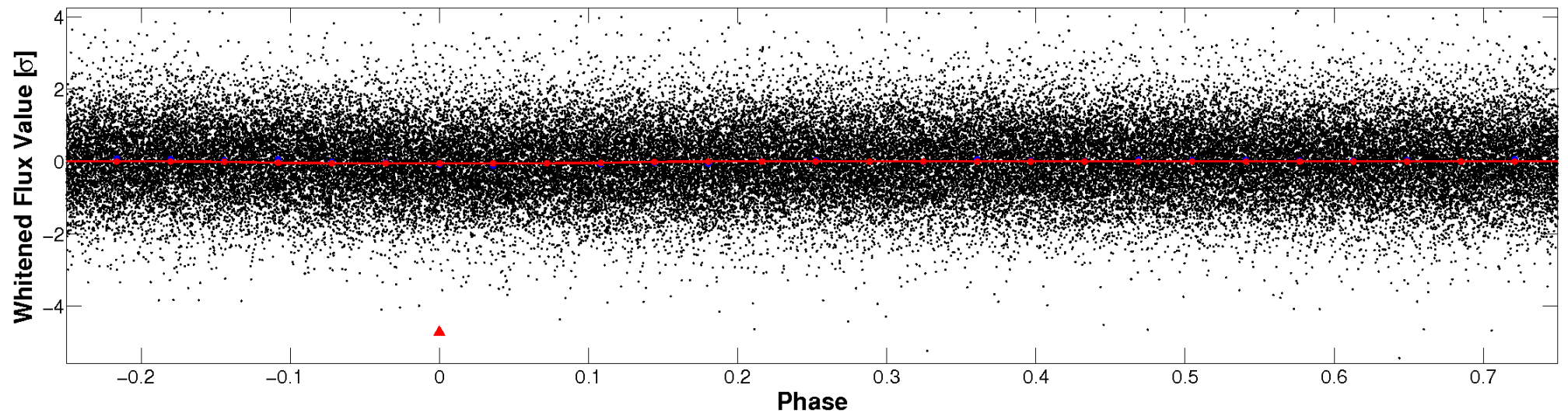


Non-Whitened Vs. Whitened Light Curve

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

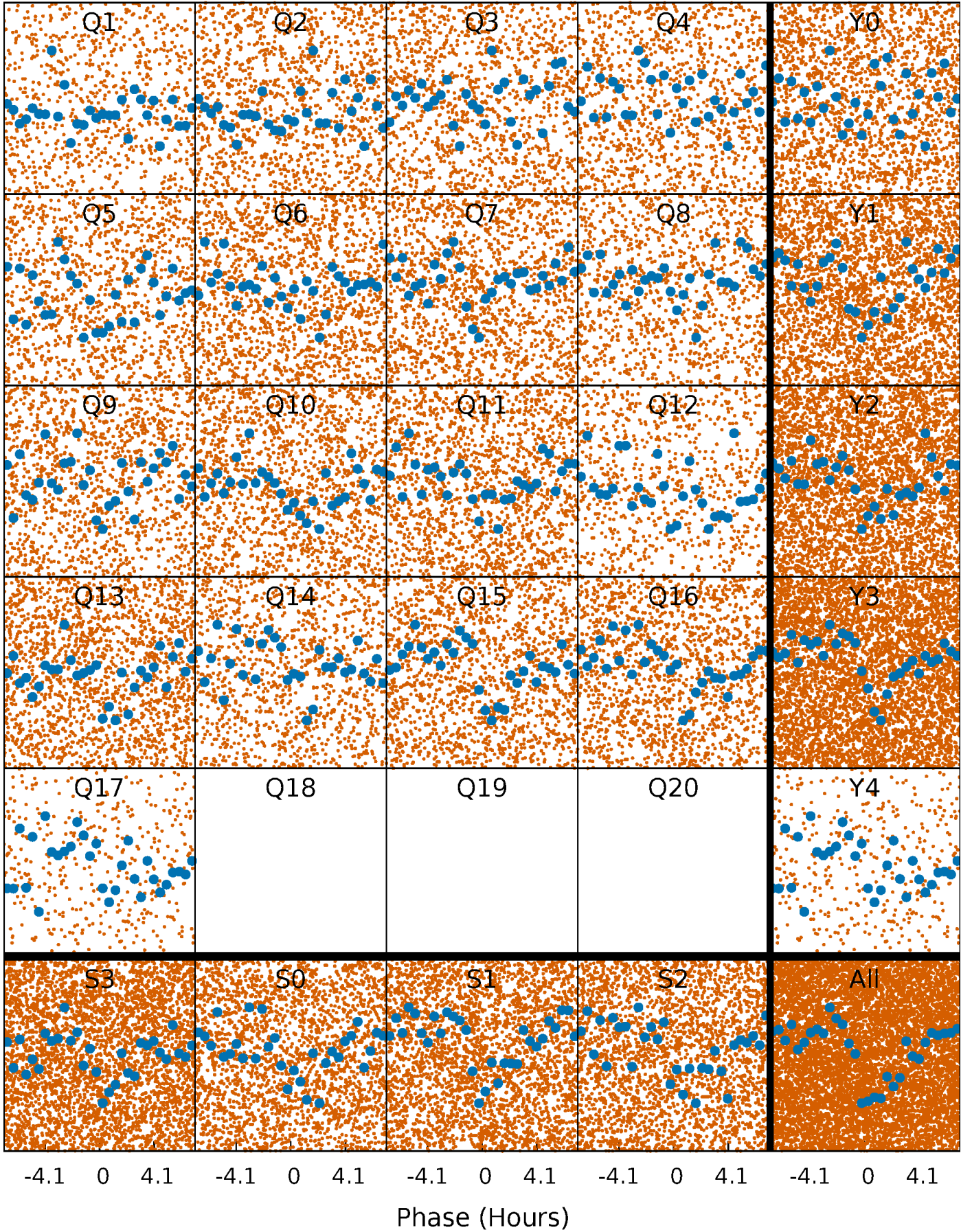


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



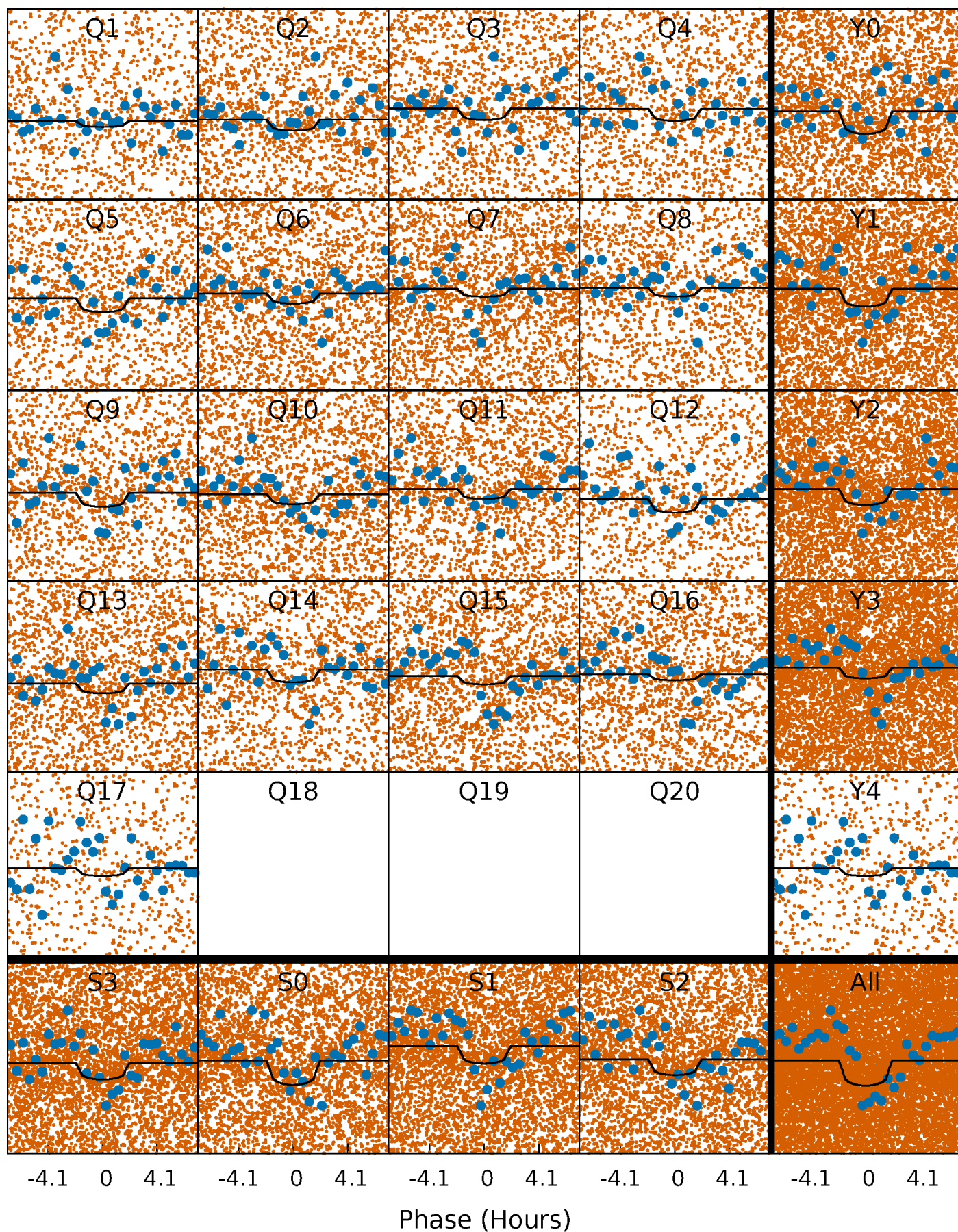
PDC Quarter-Phased Transit Curves

TCE 007282028-01 P= 0.566765 Days $T_0=131.837430$ (BKJD)



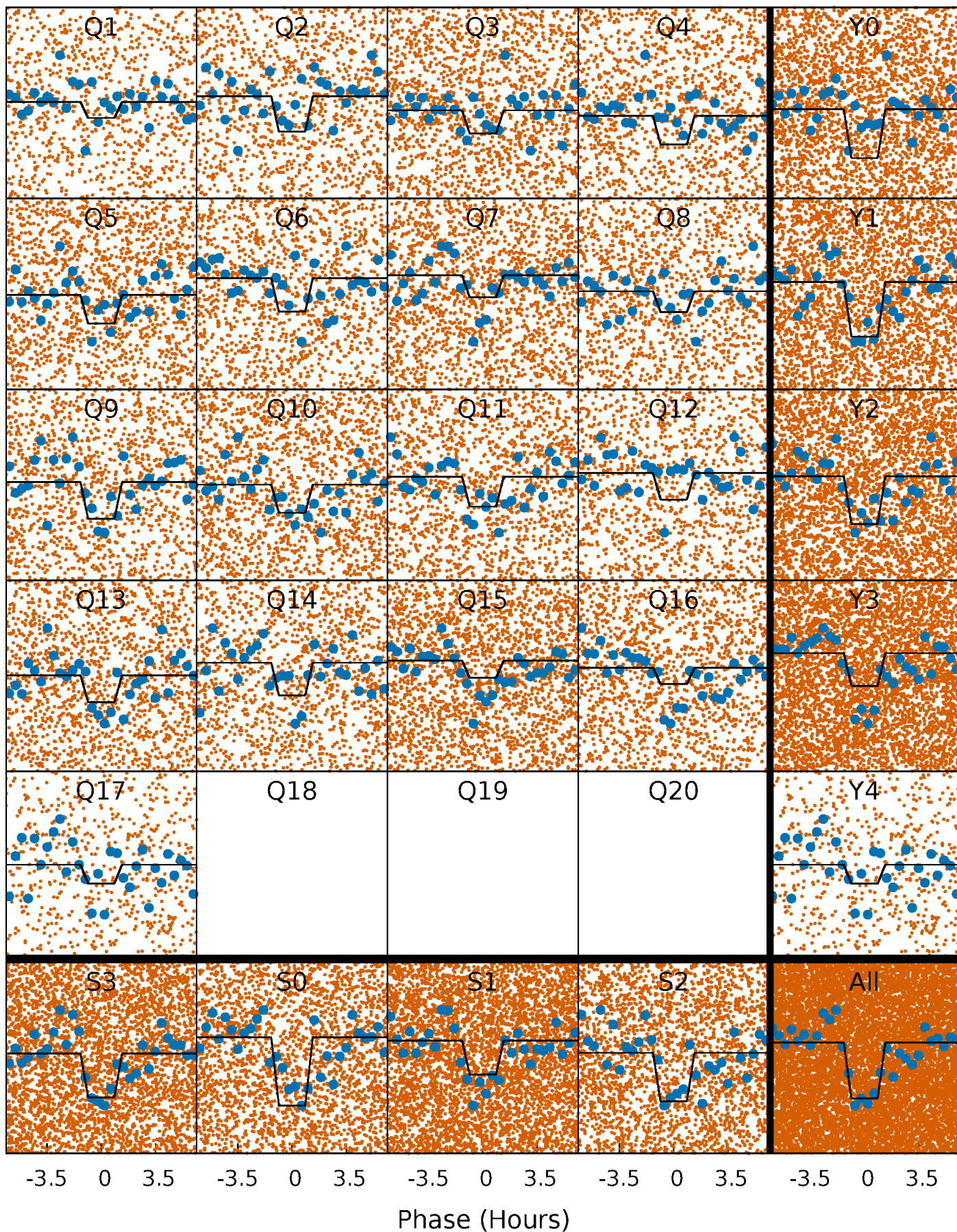
DV Quarter-Phased Transit Curves

TCE 007282028-01 P= 0.566765 Days $T_0=131.837430$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

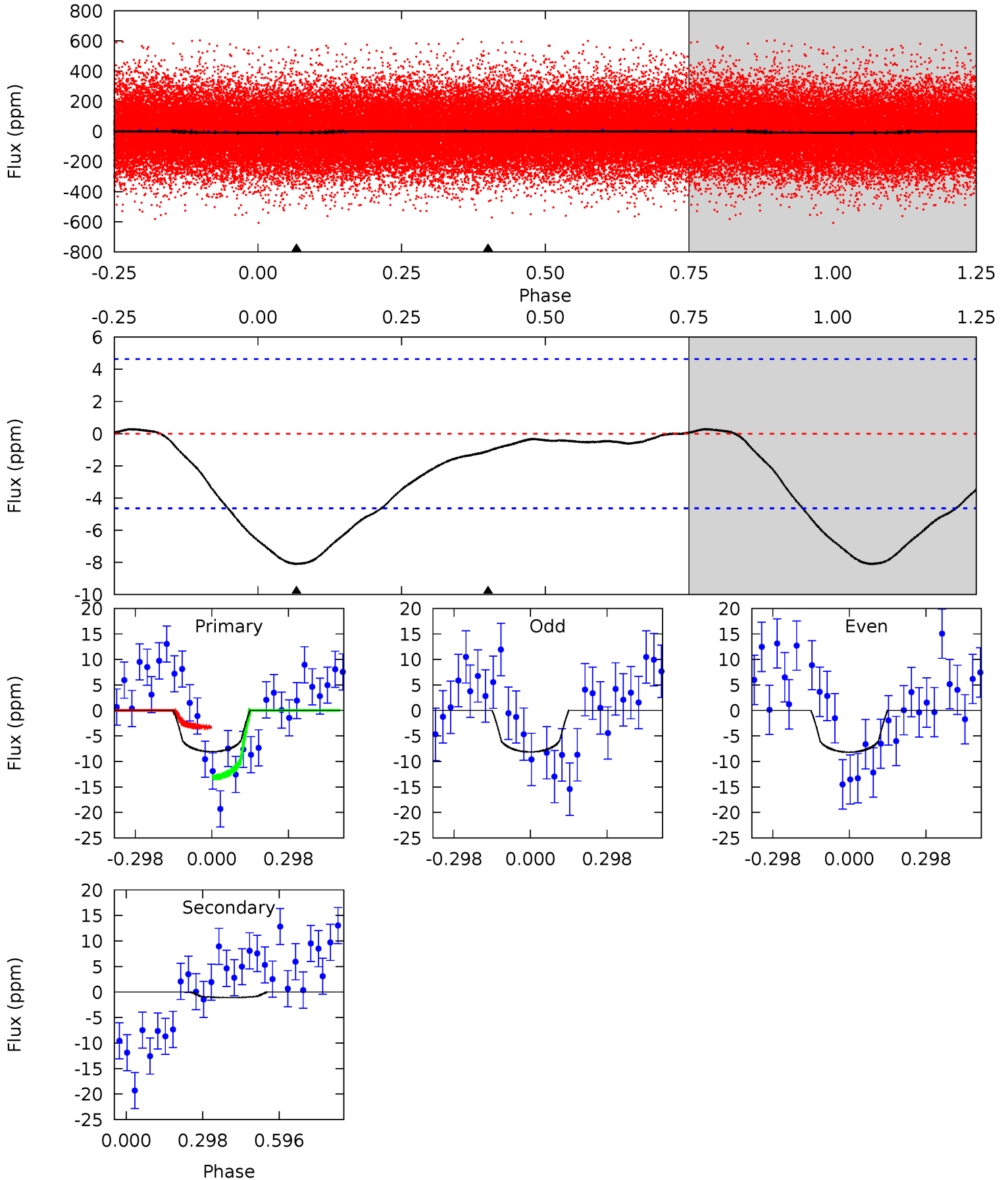
TCE 007282028-01 P= 0.566801 Days $T_0=131.798819$ (BKJD)



DV Model-Shift Uniqueness Test

007282028-01, P = 0.566765 Days, E = 131.270665 Days

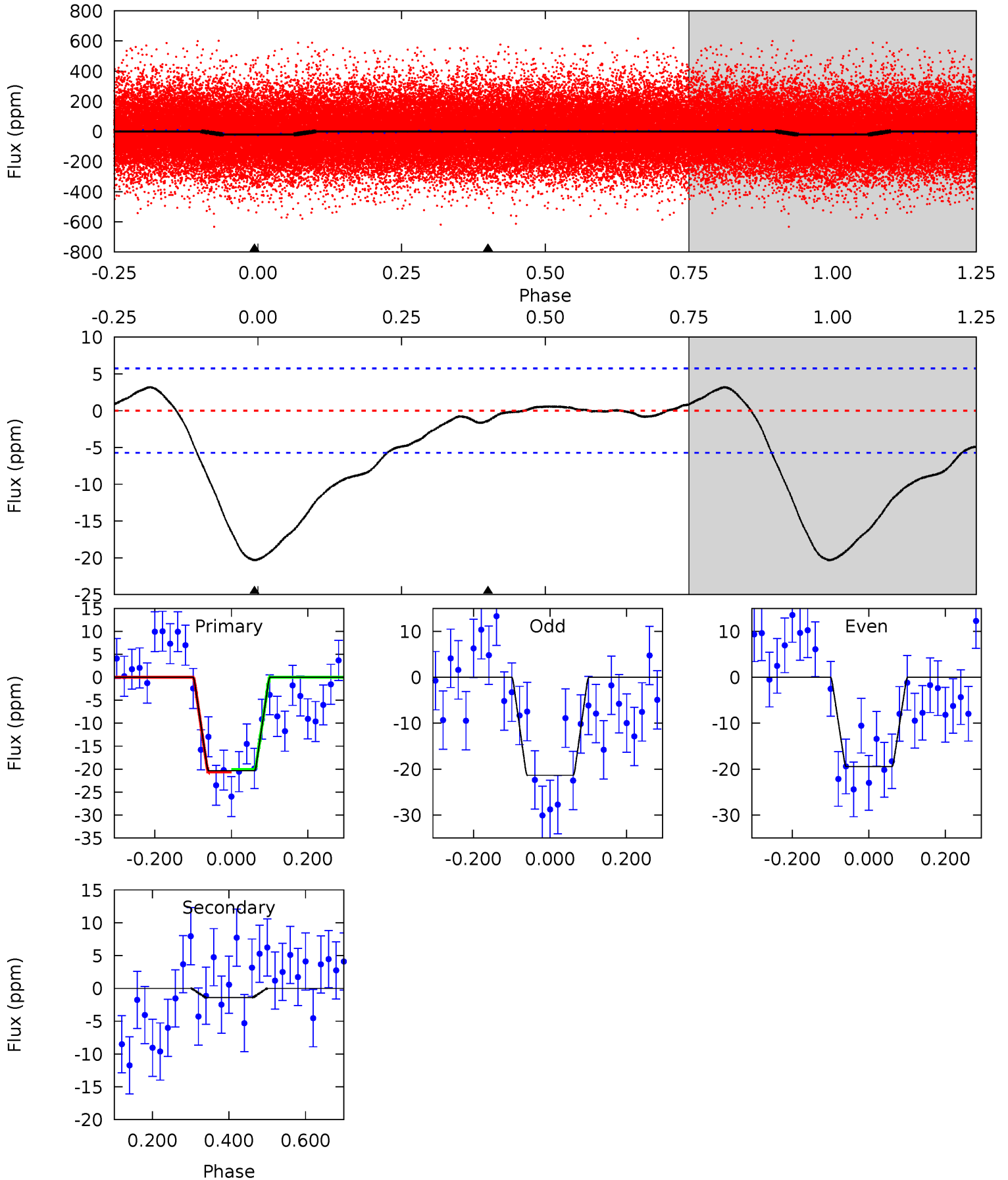
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.56	1.02	0	0	4.33	1.04	0.15	7.56	7.56	1.02	1.02	0.02	0.89	0.03	4.60



Alt Model-Shift Uniqueness Test

007282028-01, P = 0.566801 Days, E = 131.232018 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	1.07	0	0	4.42	1.28	1.30	15.6	15.6	1.07	1.07	0.73	0.95	0.14	0.20



Stellar Parameters For KIC 007282028

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6318^{+157}_{-204}	$4.395^{+0.101}_{-0.188}$	$-0.400^{+0.300}_{-0.300}$	$1.047^{+0.302}_{-0.139}$	$0.989^{+0.147}_{-0.110}$	$1.216^{+0.531}_{-0.589}$
	+2%/-3%	+2%/-4%	+75%/-75%	+29%/-13%	+15%/-11%	+44%/-48%
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 007282028-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1 ± 1	$0.32^{+0.25}_{-0.19}$	3477^{+265}_{-193}	3604^{+2120}_{-7000}	$0.756^{+4.209}_{-0.731}$
Alt.	-1 ± 1	$0.53^{+0.25}_{-0.23}$	3487^{+225}_{-194}	3047^{+1340}_{-6436}	$0.446^{+1.312}_{-0.433}$

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

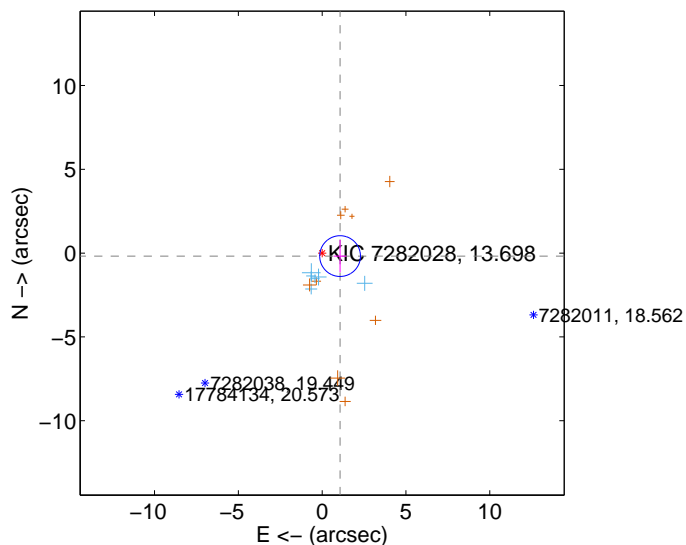
Supplemental centroid analysis for 007282028-01. Kepler magnitude: 13.70. Transit SNR 5.14

There are 6 quarters with good PRF difference image offsets

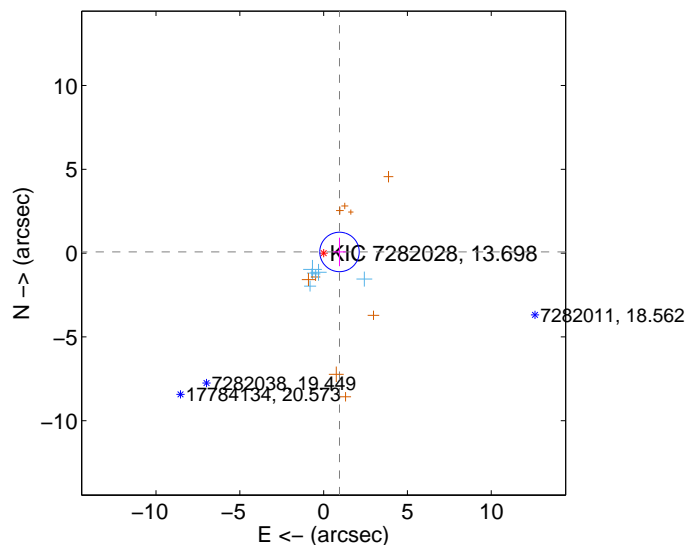
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.085 ± 0.405	2.68	-1.070 ± 0.378	-0.178 ± 0.963
PRF-fit source offset from KIC position	0.949 ± 0.392	2.42	-0.946 ± 0.375	0.068 ± 0.851
photometric centroid source offset	5.08 ± 2.32	2.19	-1.21 ± 2.41	-4.94 ± 2.31

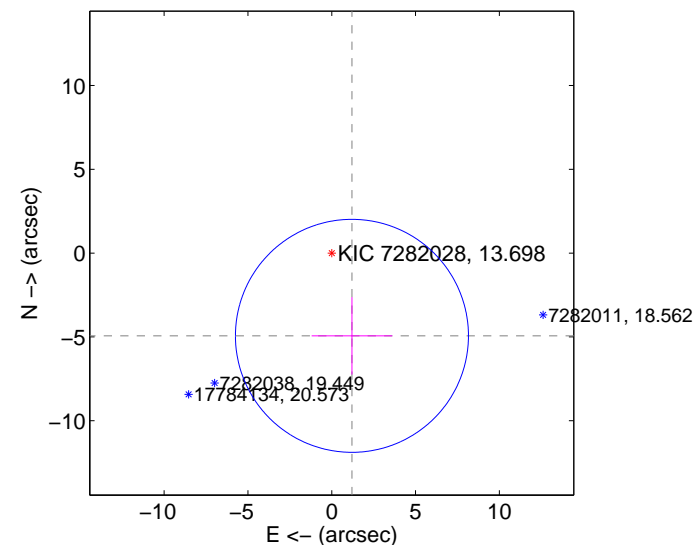
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

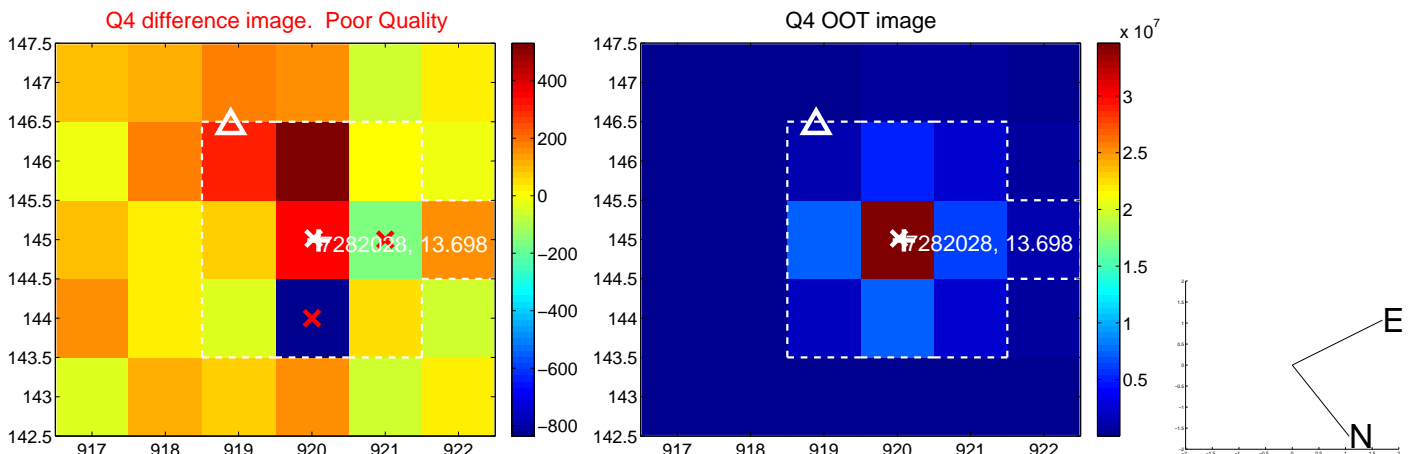
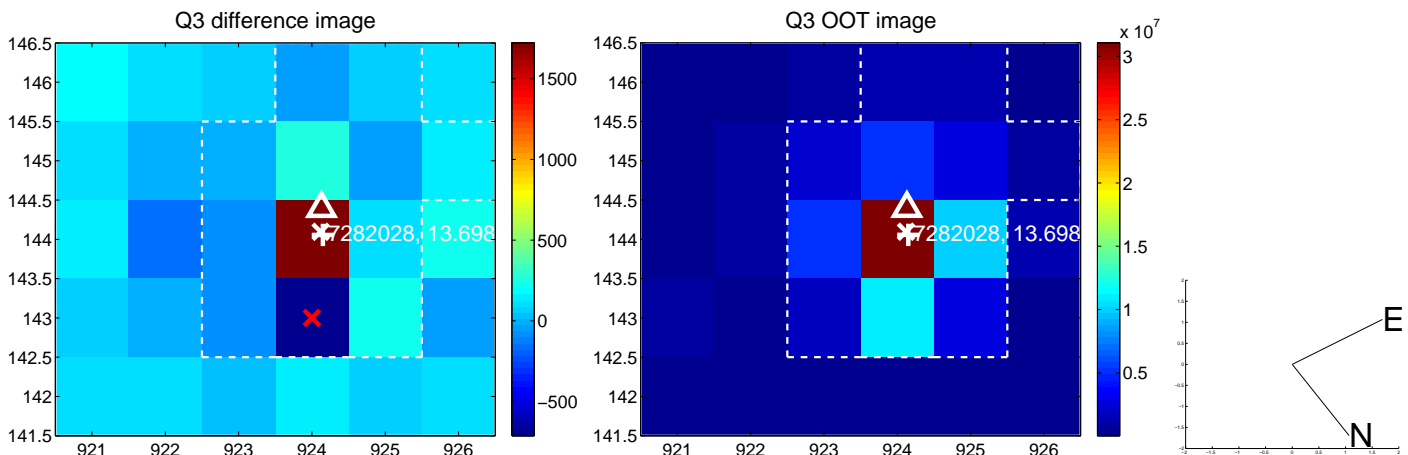
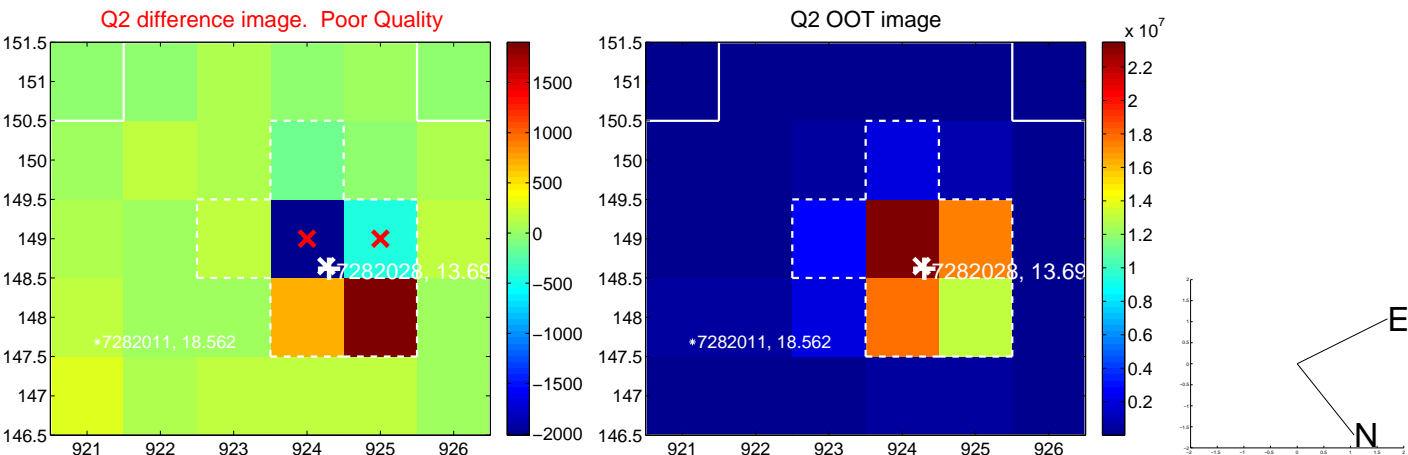
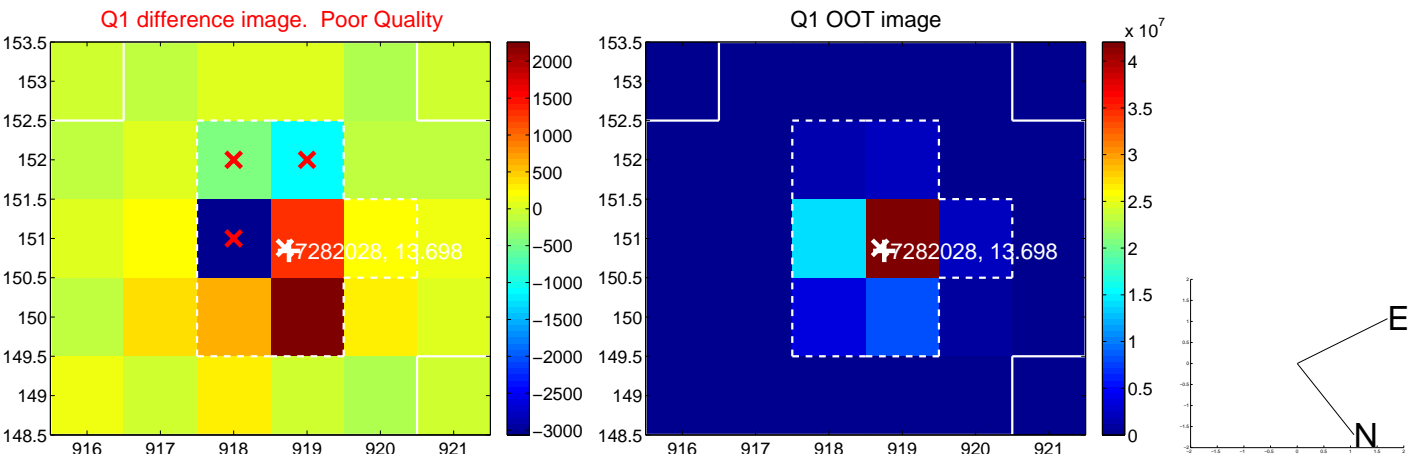


offset from photometric centroids

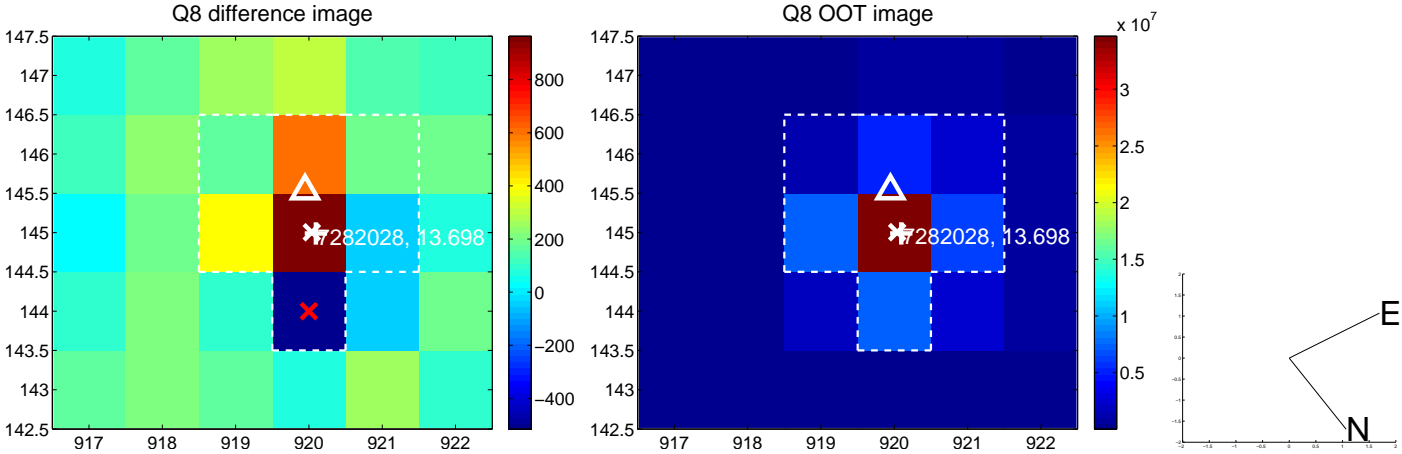
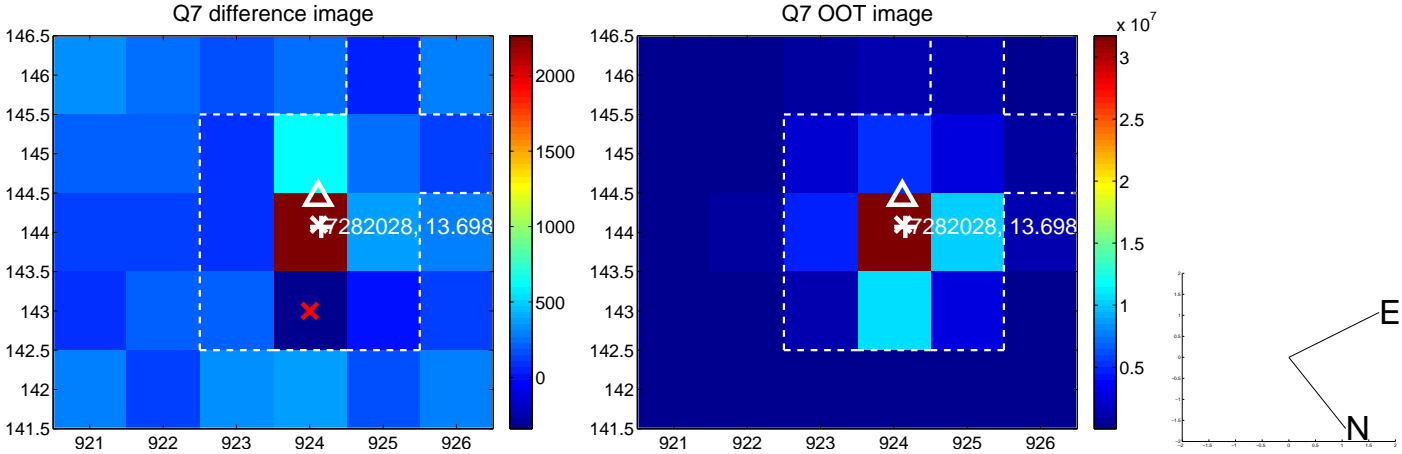
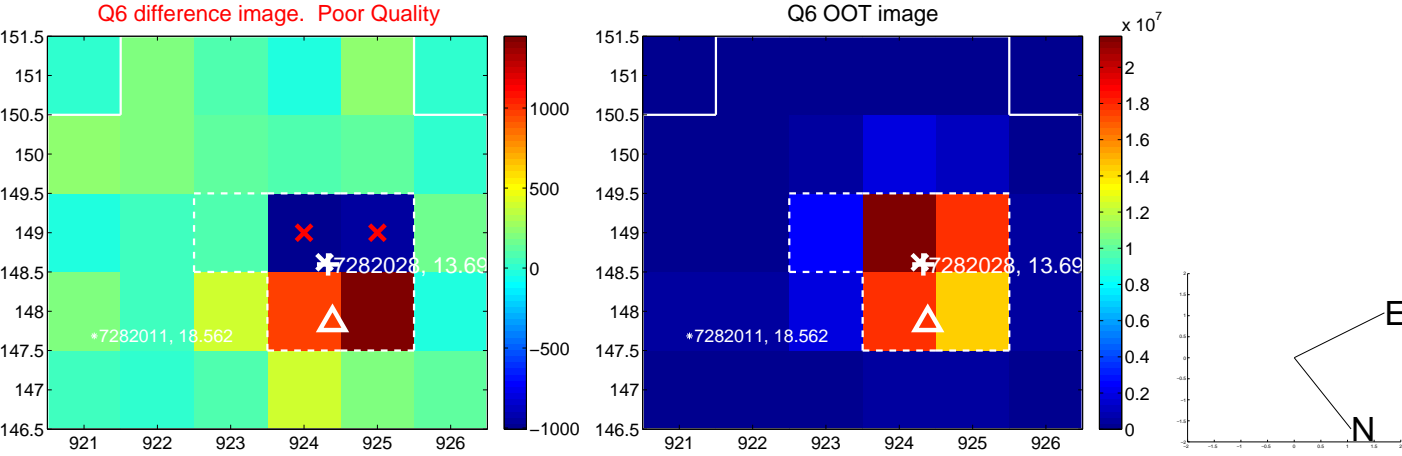
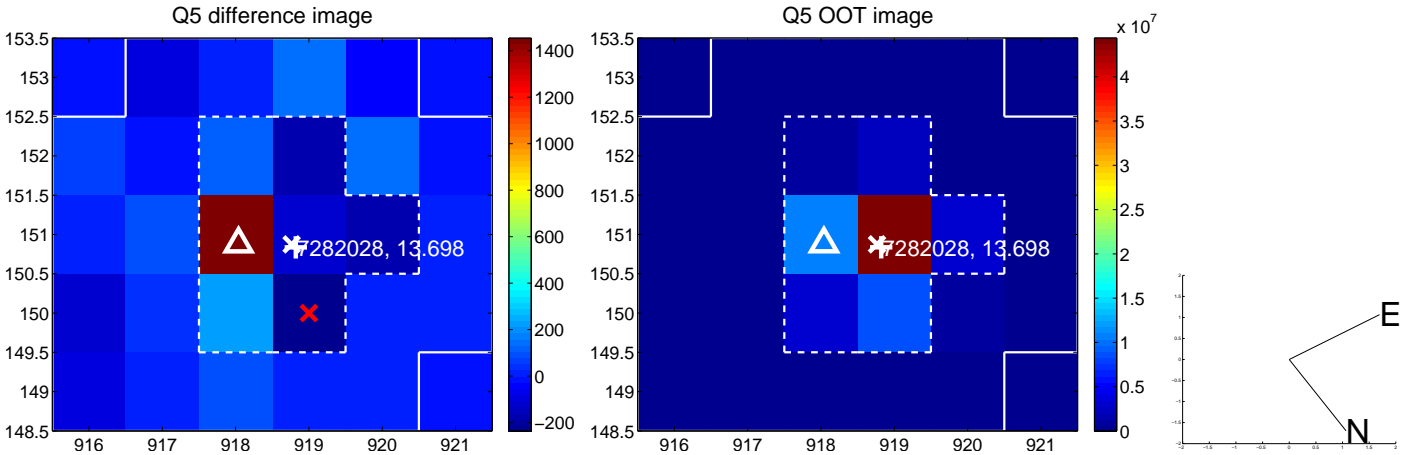


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

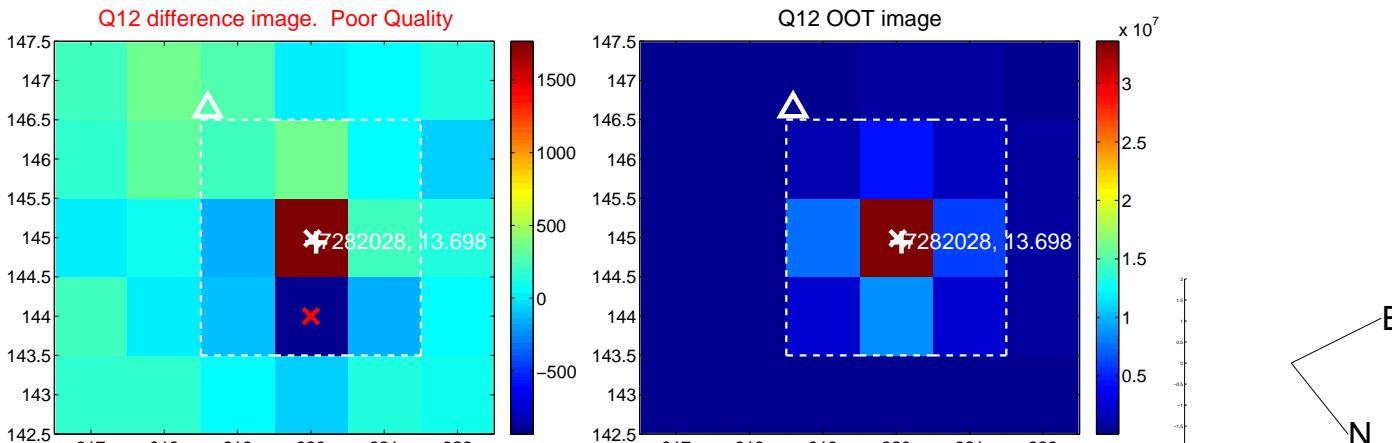
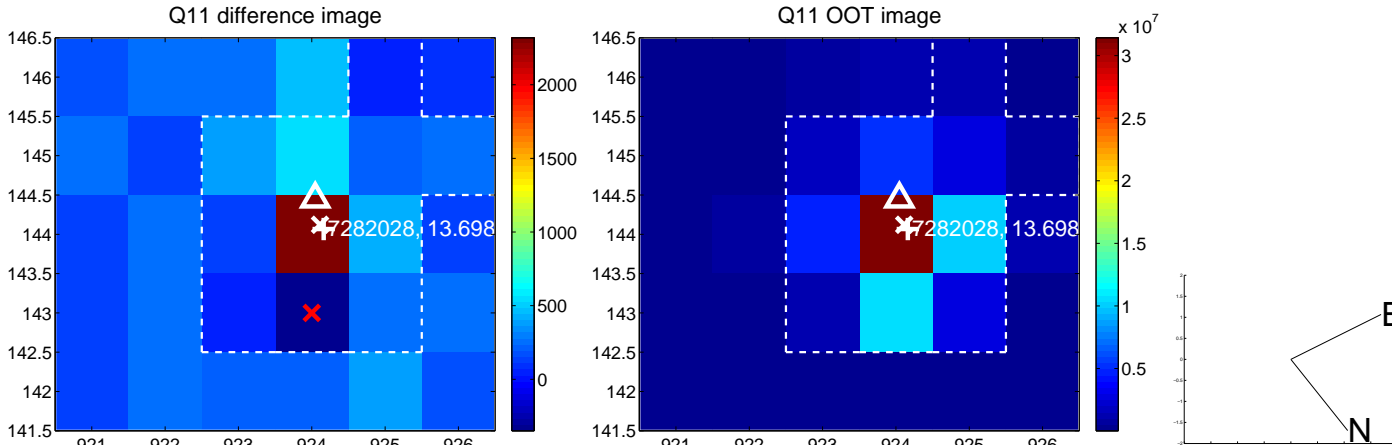
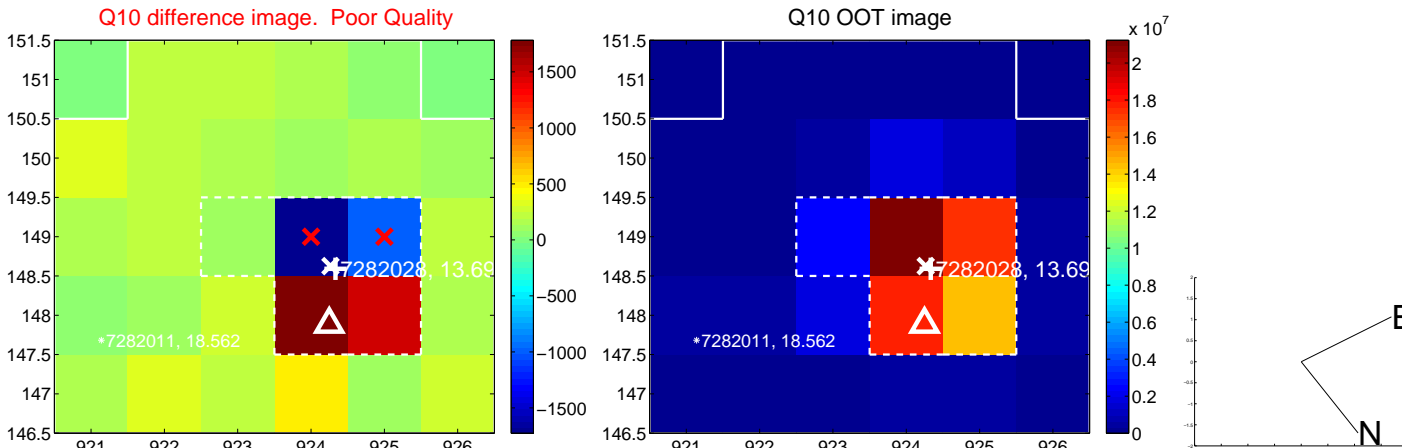
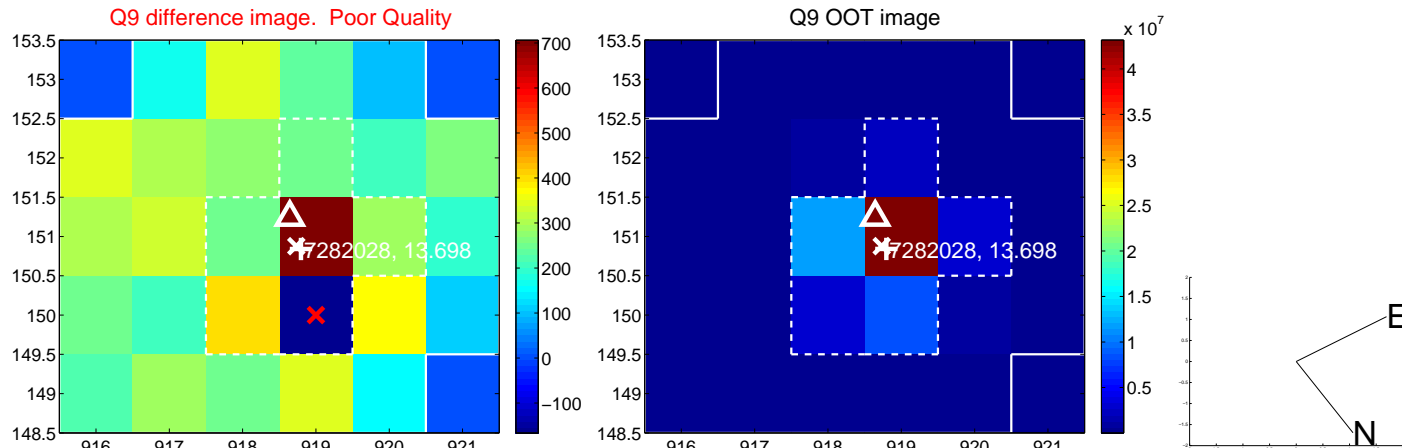
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



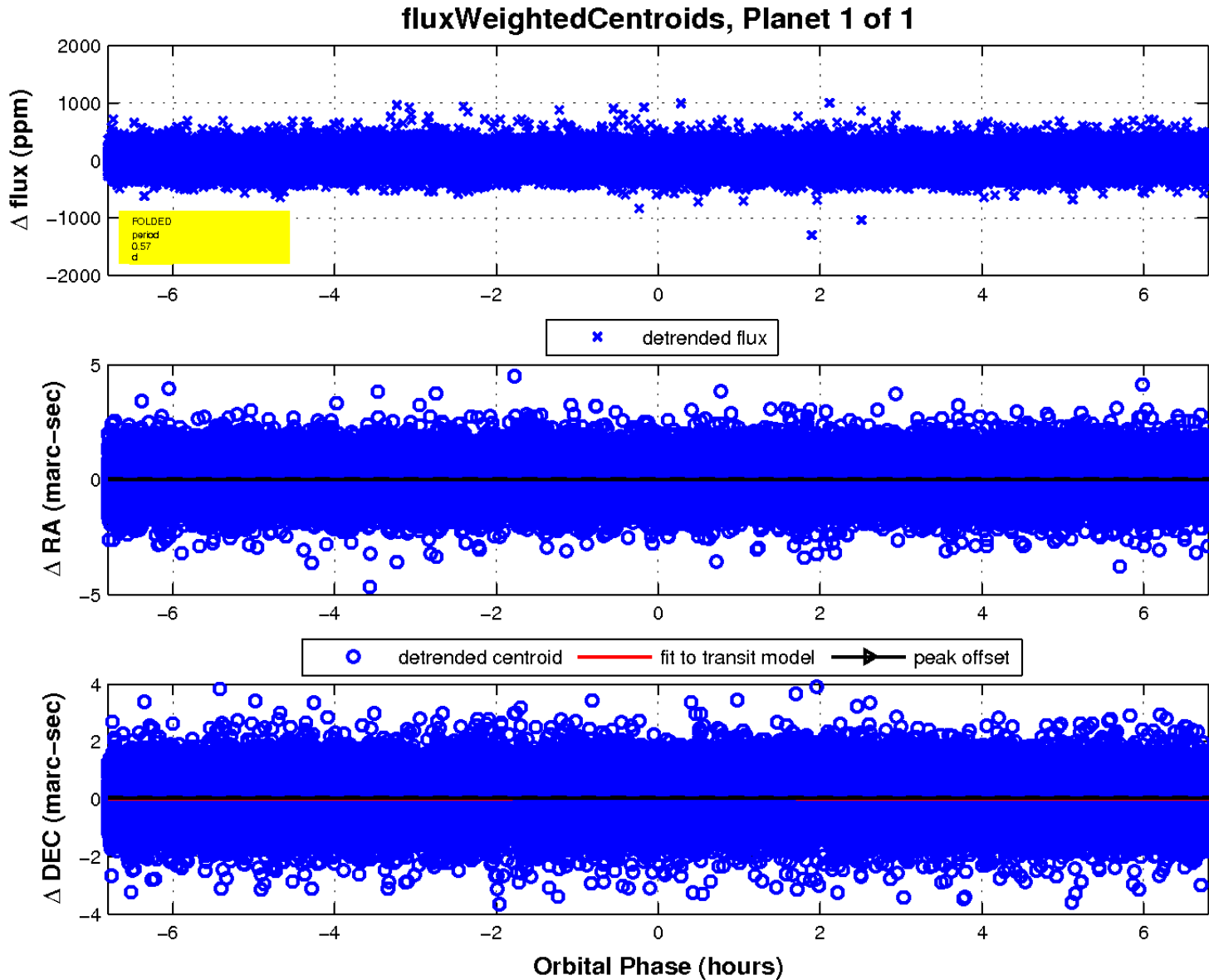
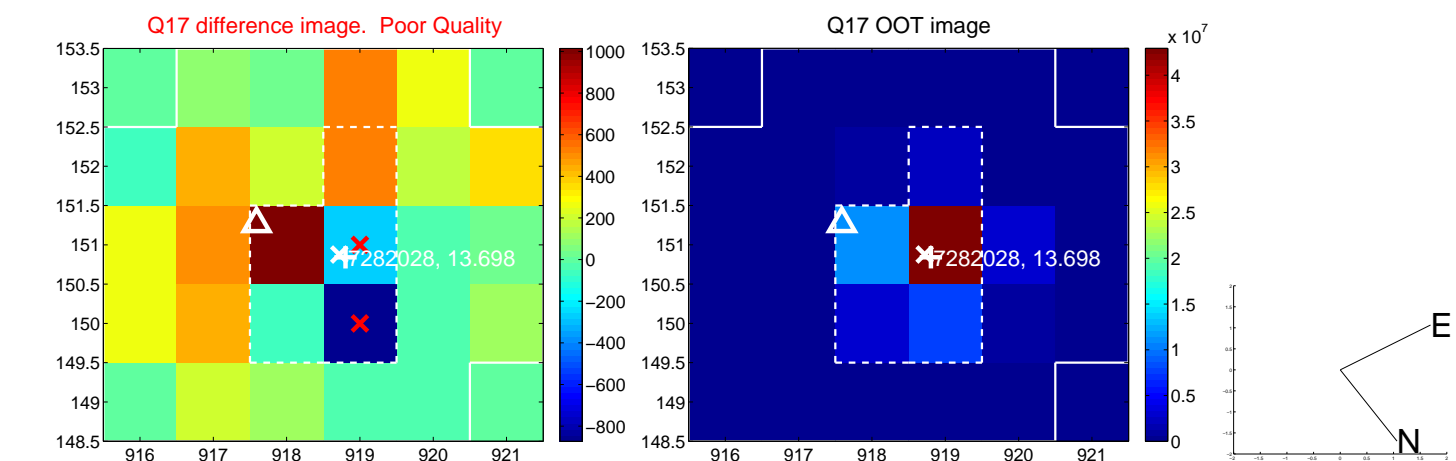
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

