

KIC 007031402

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})
007031402-01	OBS	No	0.566815	131.814695	18.0	4.455	7.6	9.0	1.13	6300	0.49	10181.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031402-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST—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.

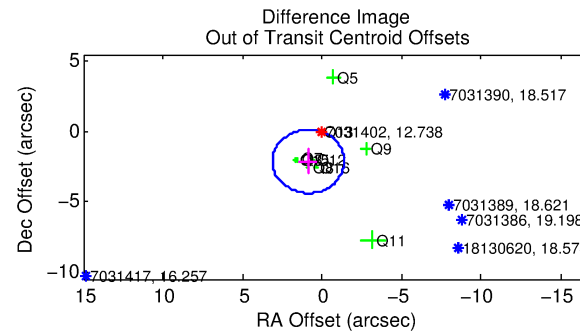
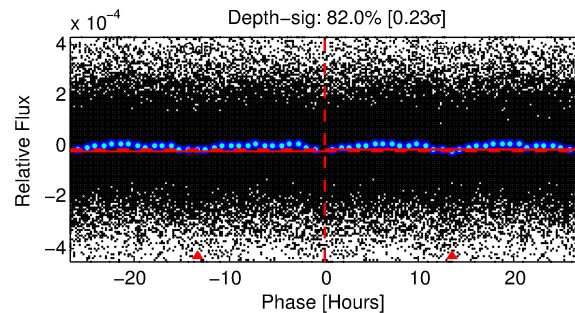
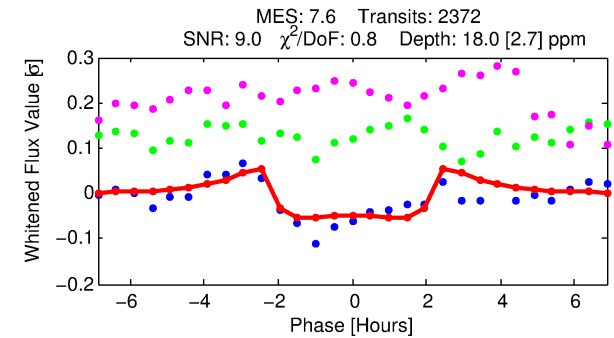
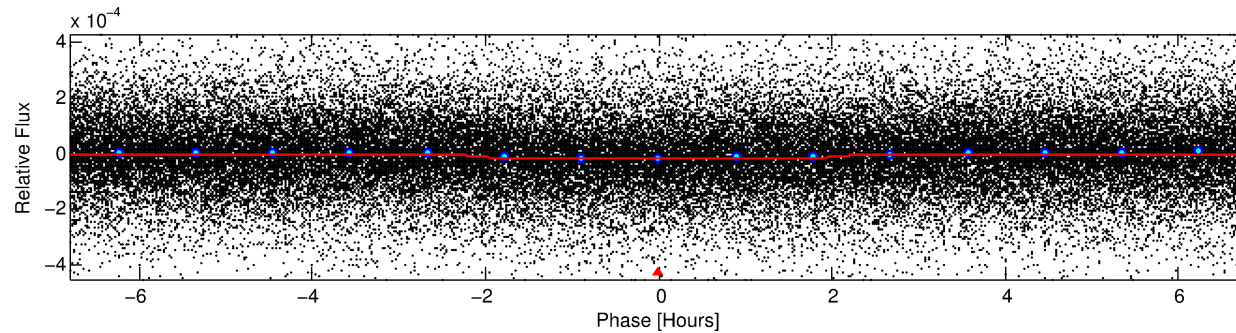
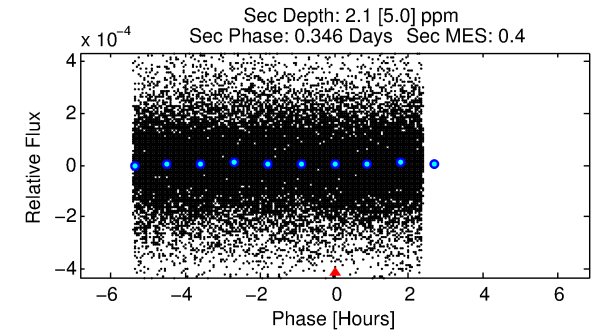
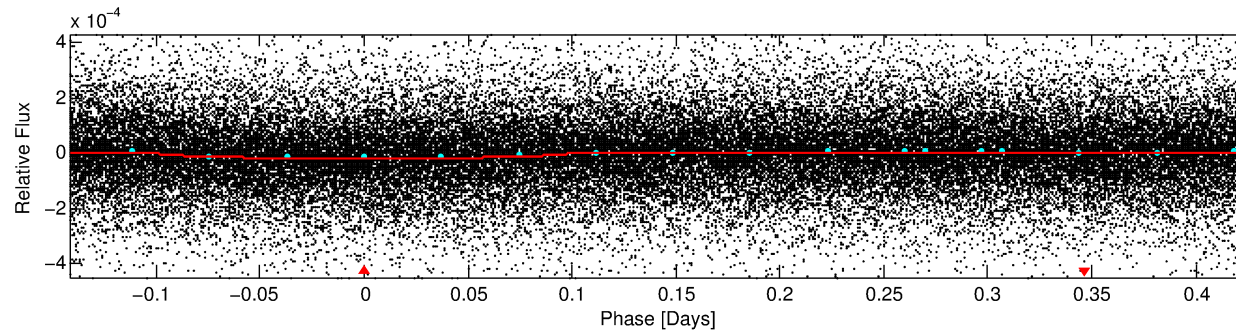
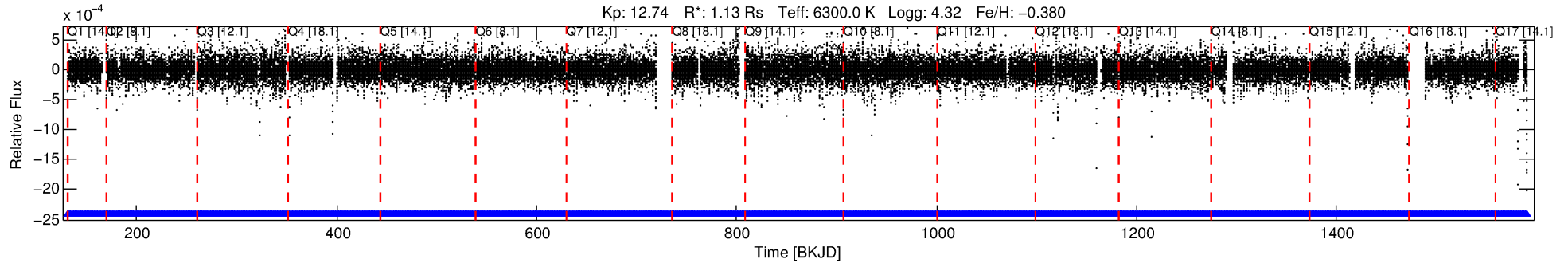
Ephemeris Match Information For 007031402-01

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
007031402-01	7031402	RR-Lyr-pri	7198959	1:1	1107.5	66	-271	7.86	12.74	34628.00	Direct-PRF	0	2.57	24.53

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: 7031402 Candidate: 1 of 1 Period: 0.567 d



DV Fit Results:

Period = 0.56682 [0.00001] d
Epoch = 131.8147 [0.0025] BKJD
Rp/R* = 0.0040 [0.0020]
a/R* = 1.15 [0.71]
b = 0.40 [5.44]
Seff = 10181.72 [3823.98]
Teq = 2561 [241] K
Rp = 0.49 [0.28] Re
a = 0.0133 [0.0033] AU
Ag = 0.86 [2.24] [-0.06σ]
Teffp = 3815 [2459] K [0.51σ]

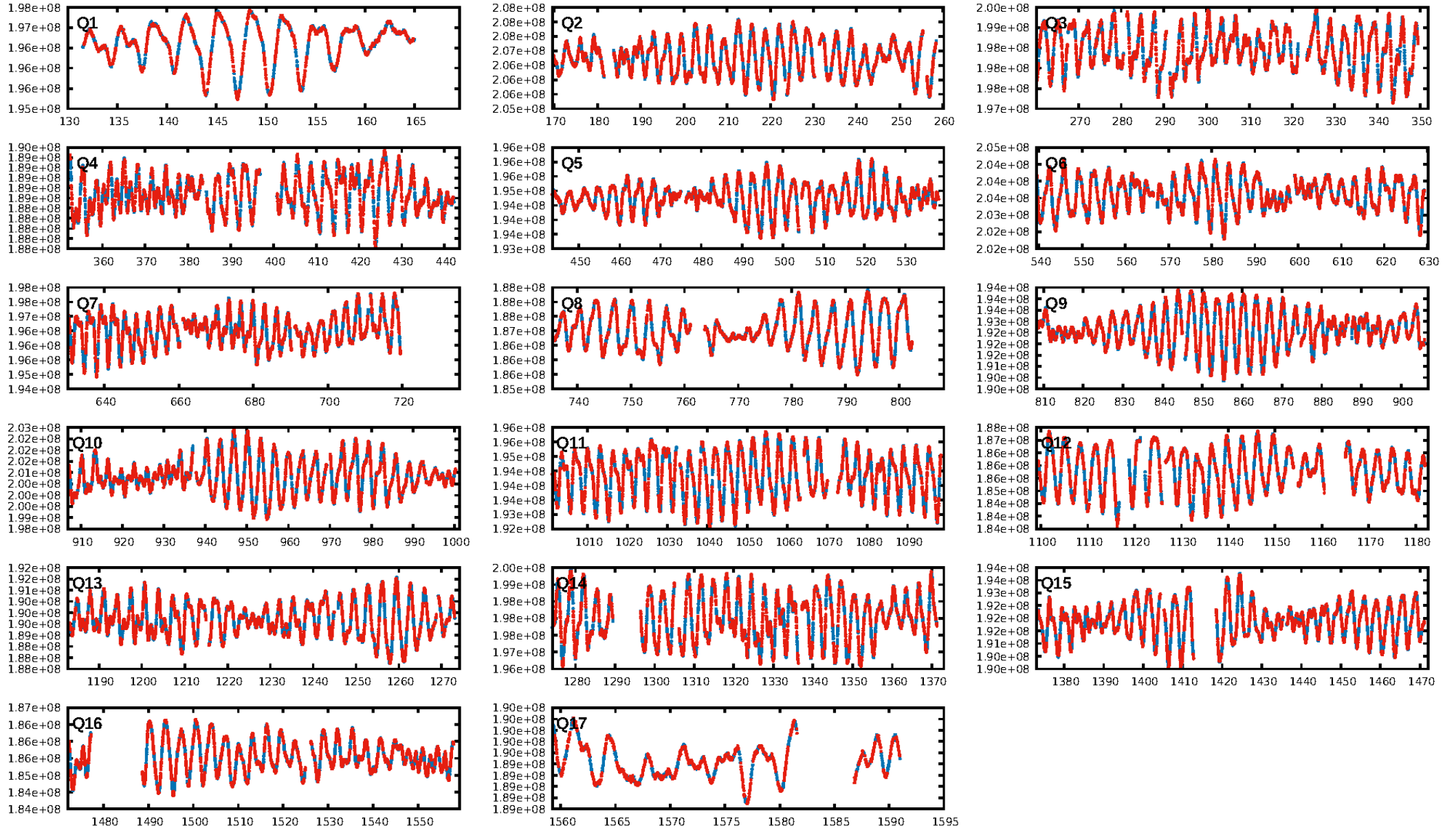
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2266/2266]
GhostDiagnostic-chr: 0.03803
Centroid-sig: 0.0%
Centroid-so: 2.041 arcsec [4.14σ]
OotOffset-rm: 2.286 arcsec [3.03σ]
KicOffset-rm: 2.241 arcsec [2.85σ]
OotOffset-st: 0/4/3/3 [10]
KicOffset-st: 0/4/3/3 [10]
DiffImageQuality-fgm: 0.70 [7/10]
DiffImageOverlap-fno: 1.00 [17/17]

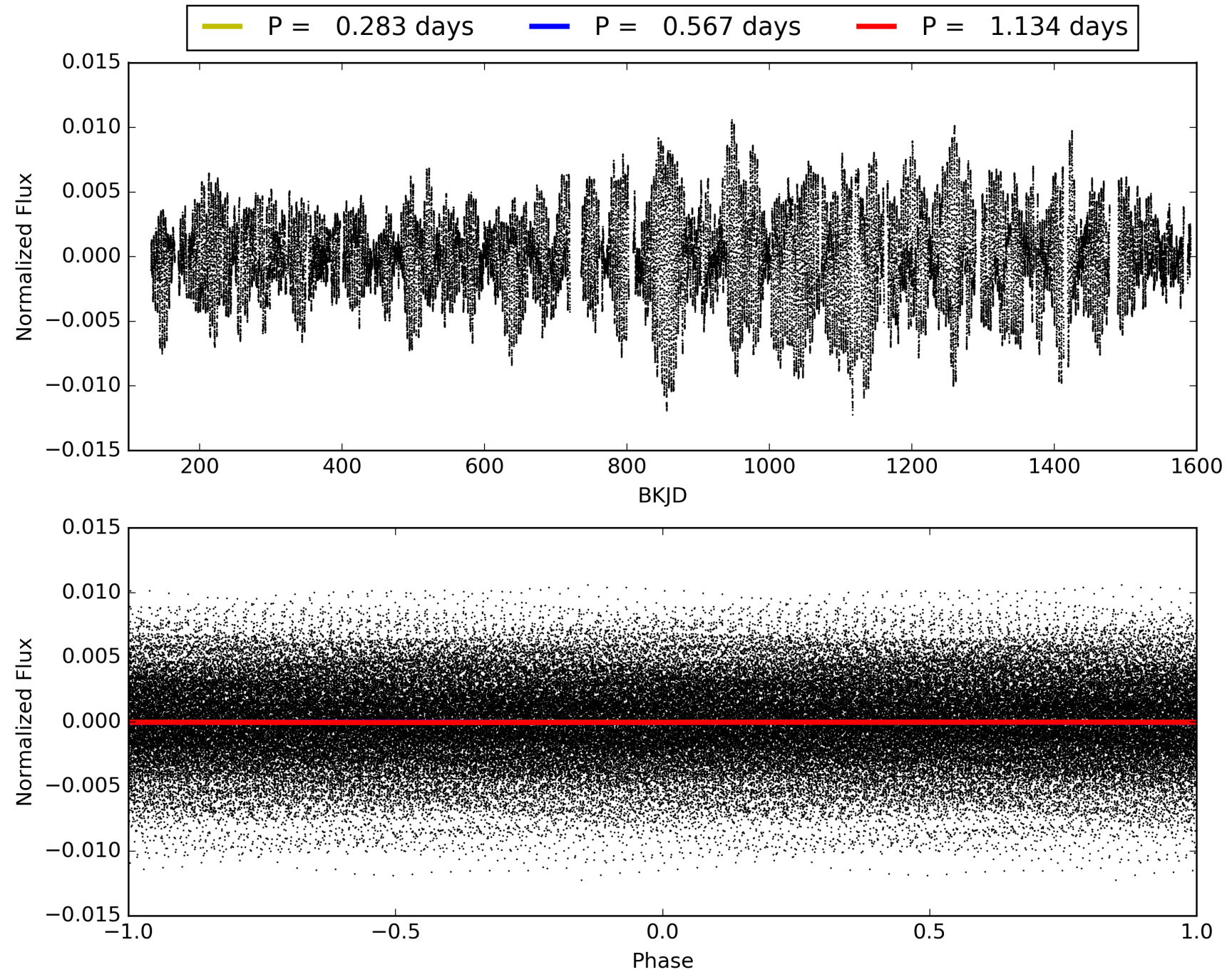
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:44:26 Z

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

TCE 007031402-01, PDC Light Curves

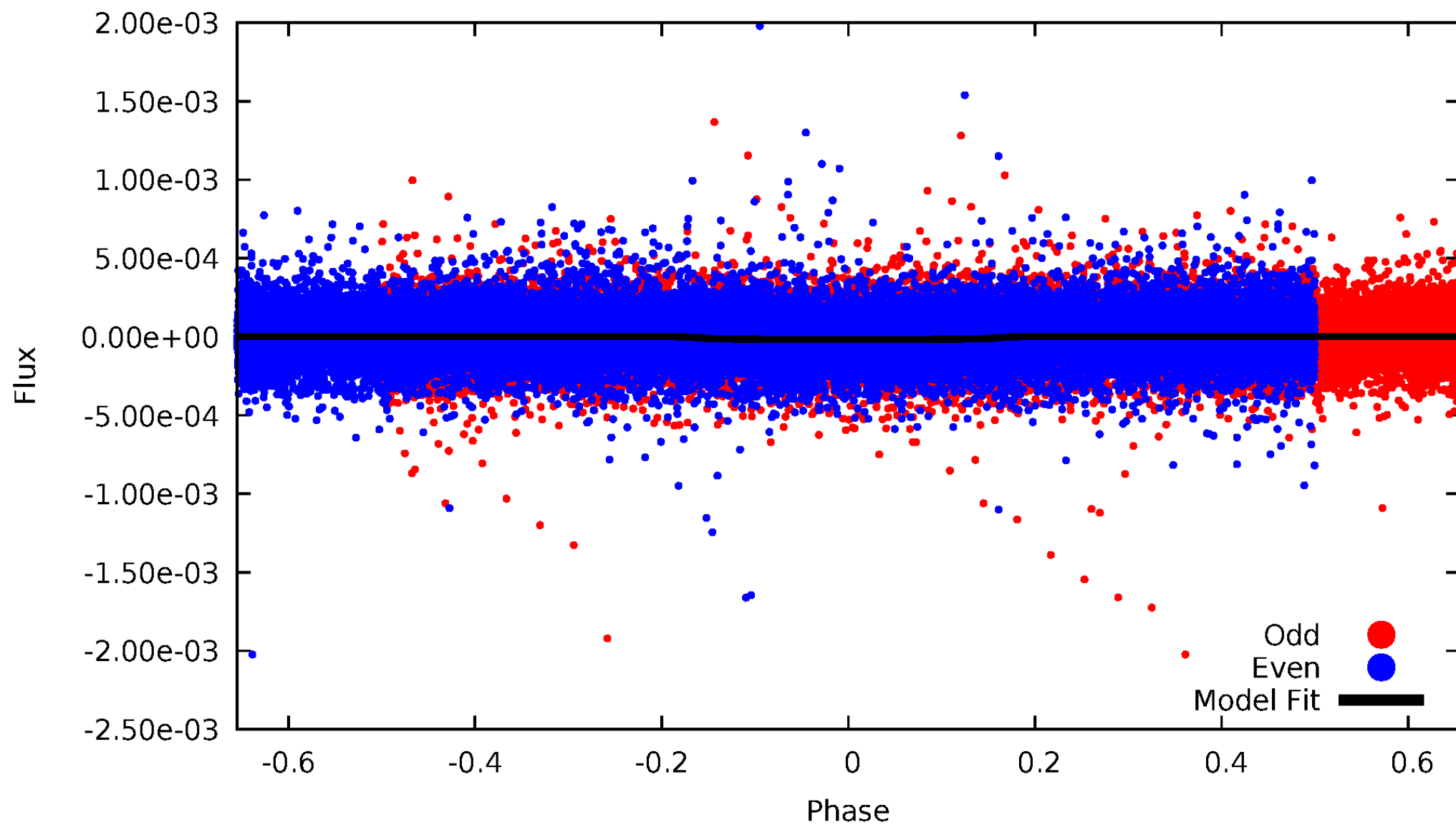


TCE 007031402-01



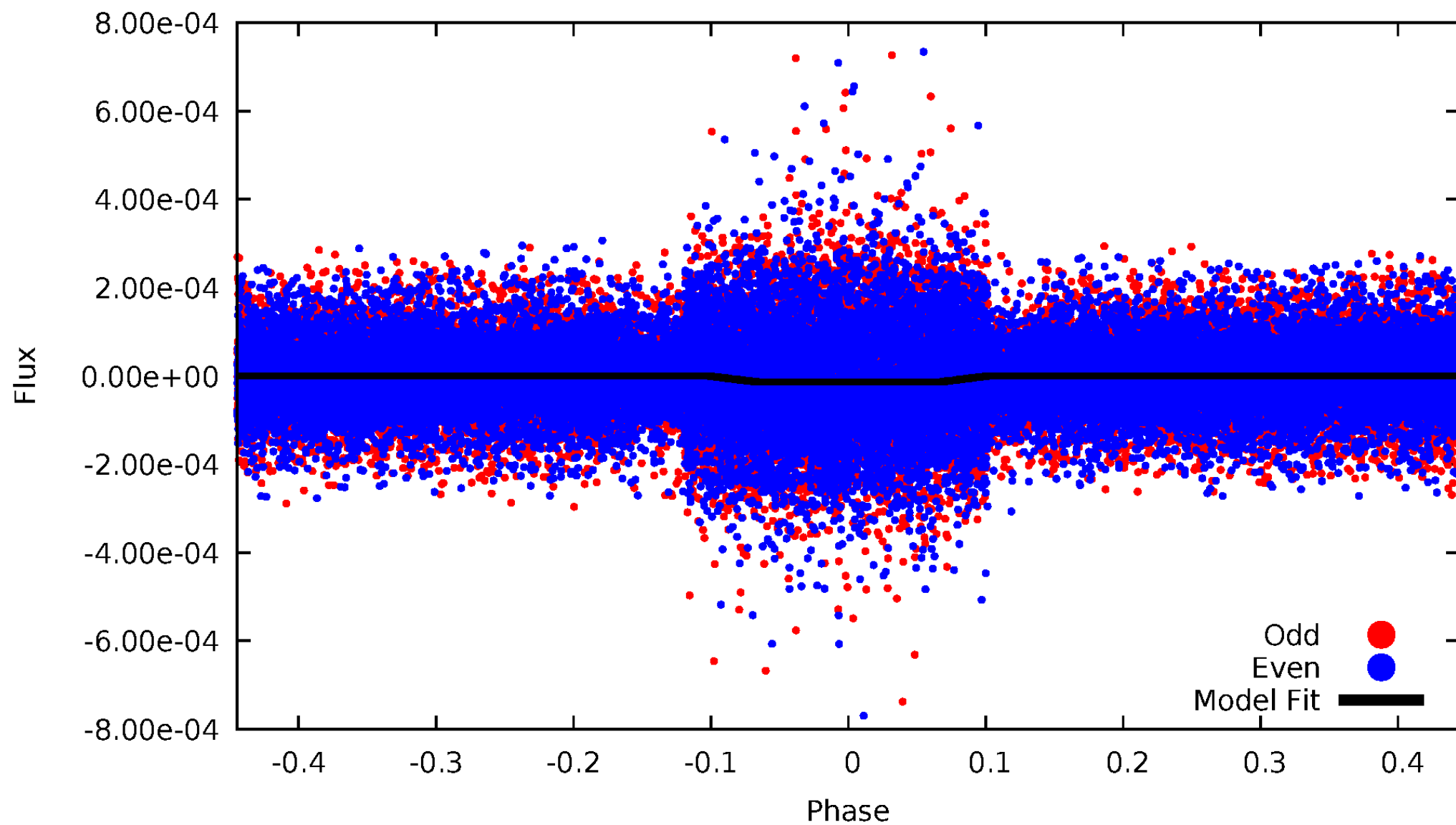
DV Odd/Even

TCE 007031402-01

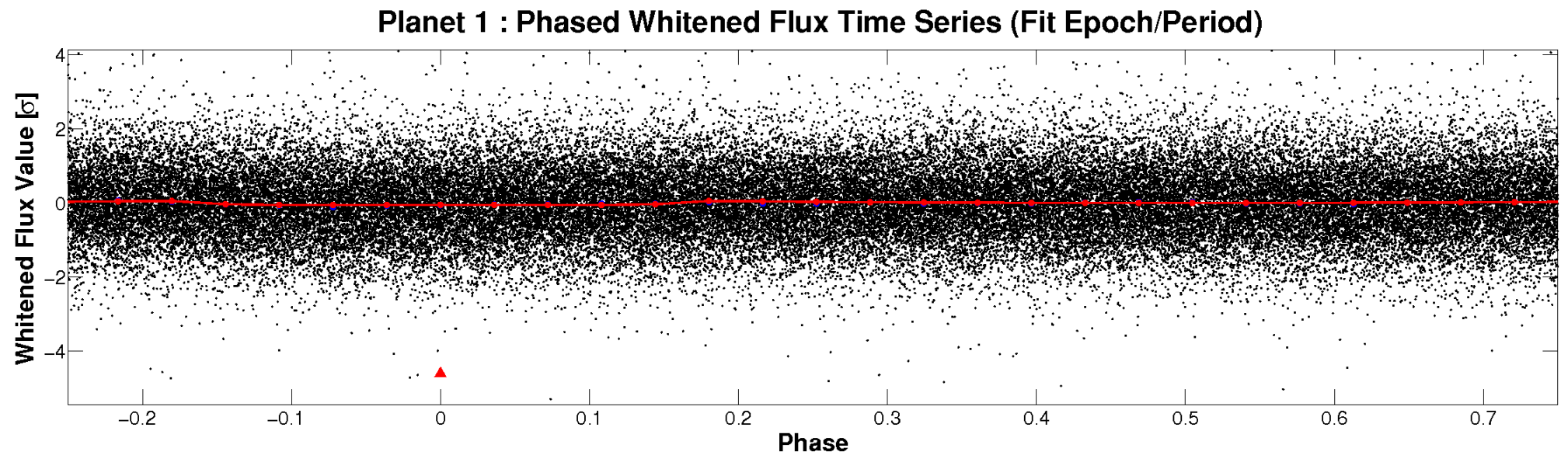
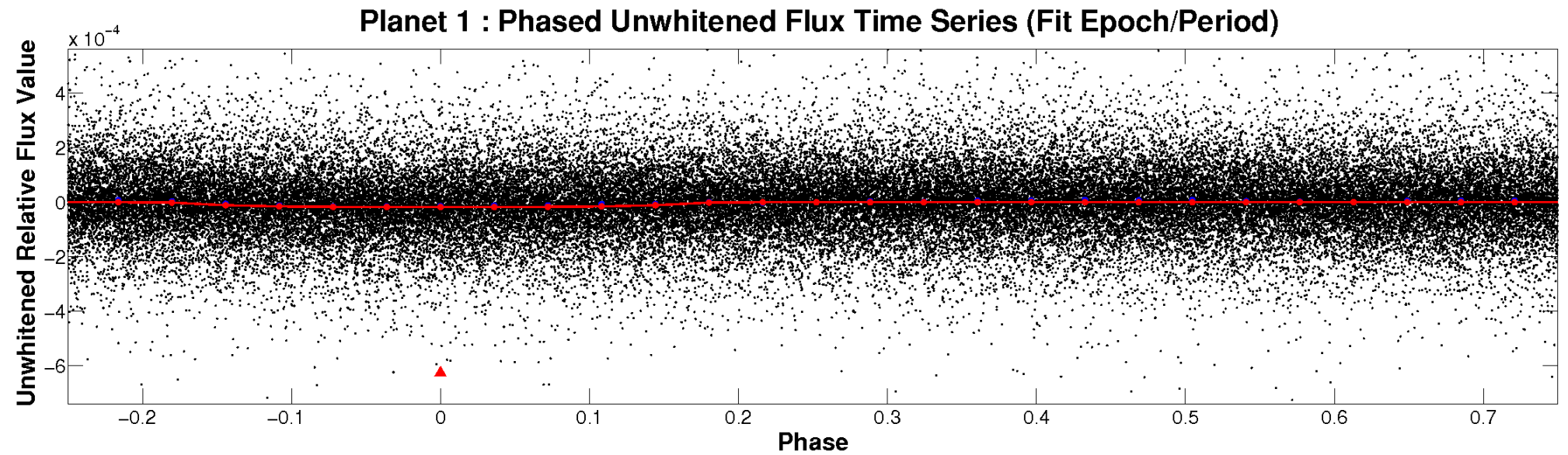


ALT Odd/Even

TCE 007031402-01

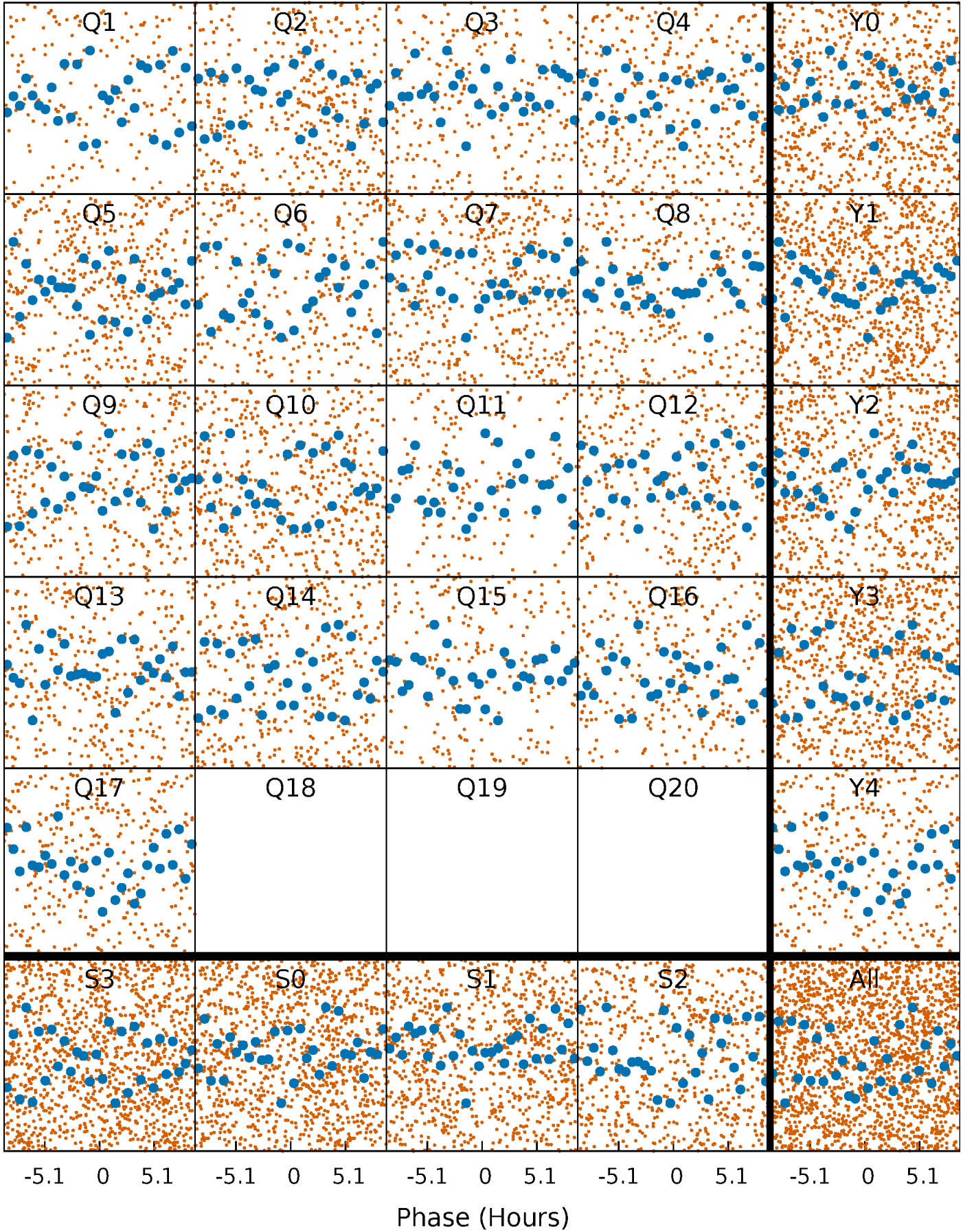


Non-Whitened Vs. Whitened Light Curve



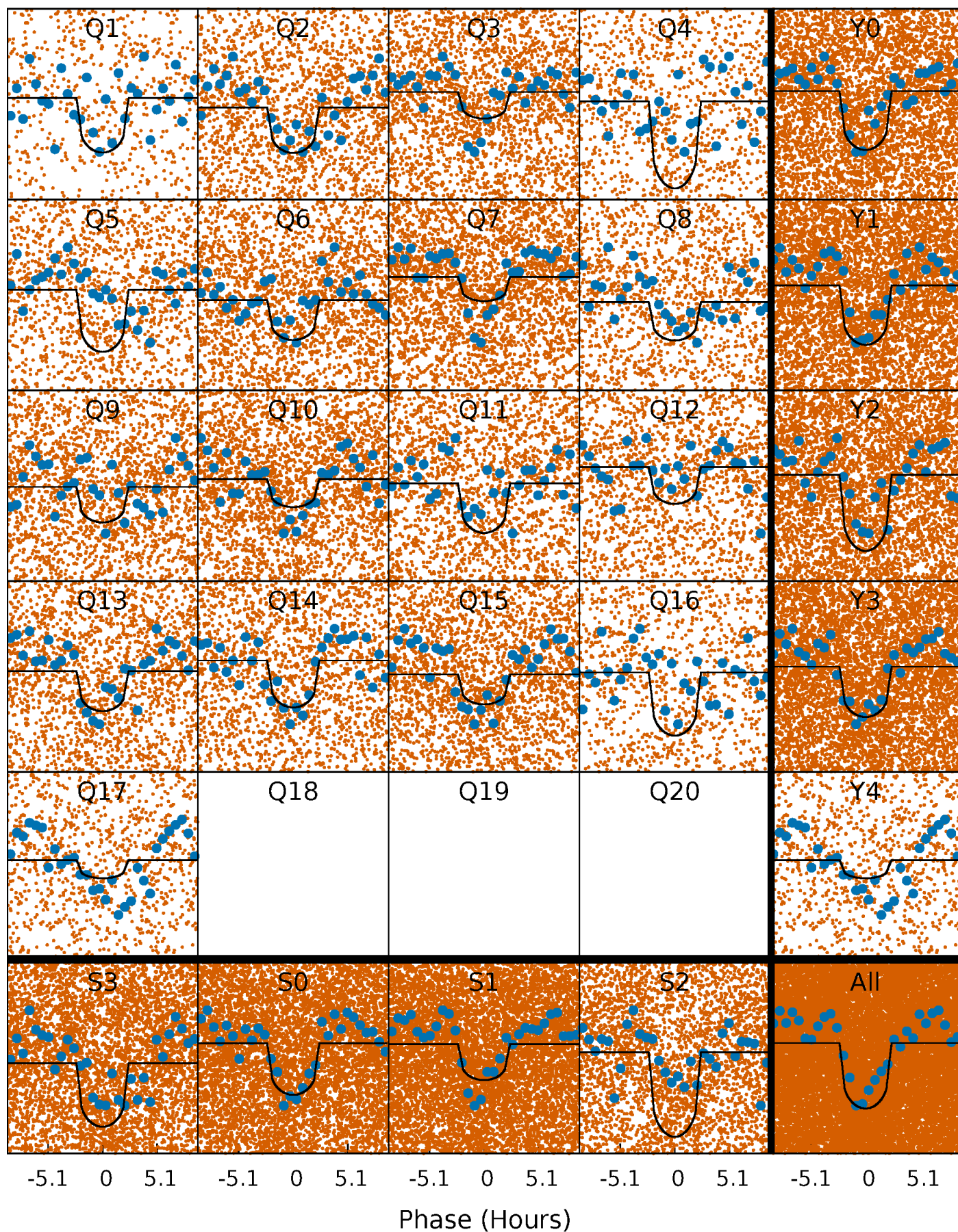
PDC Quarter-Phased Transit Curves

TCE 007031402-01 P= 0.566815 Days $T_0=131.814695$ (BKJD)



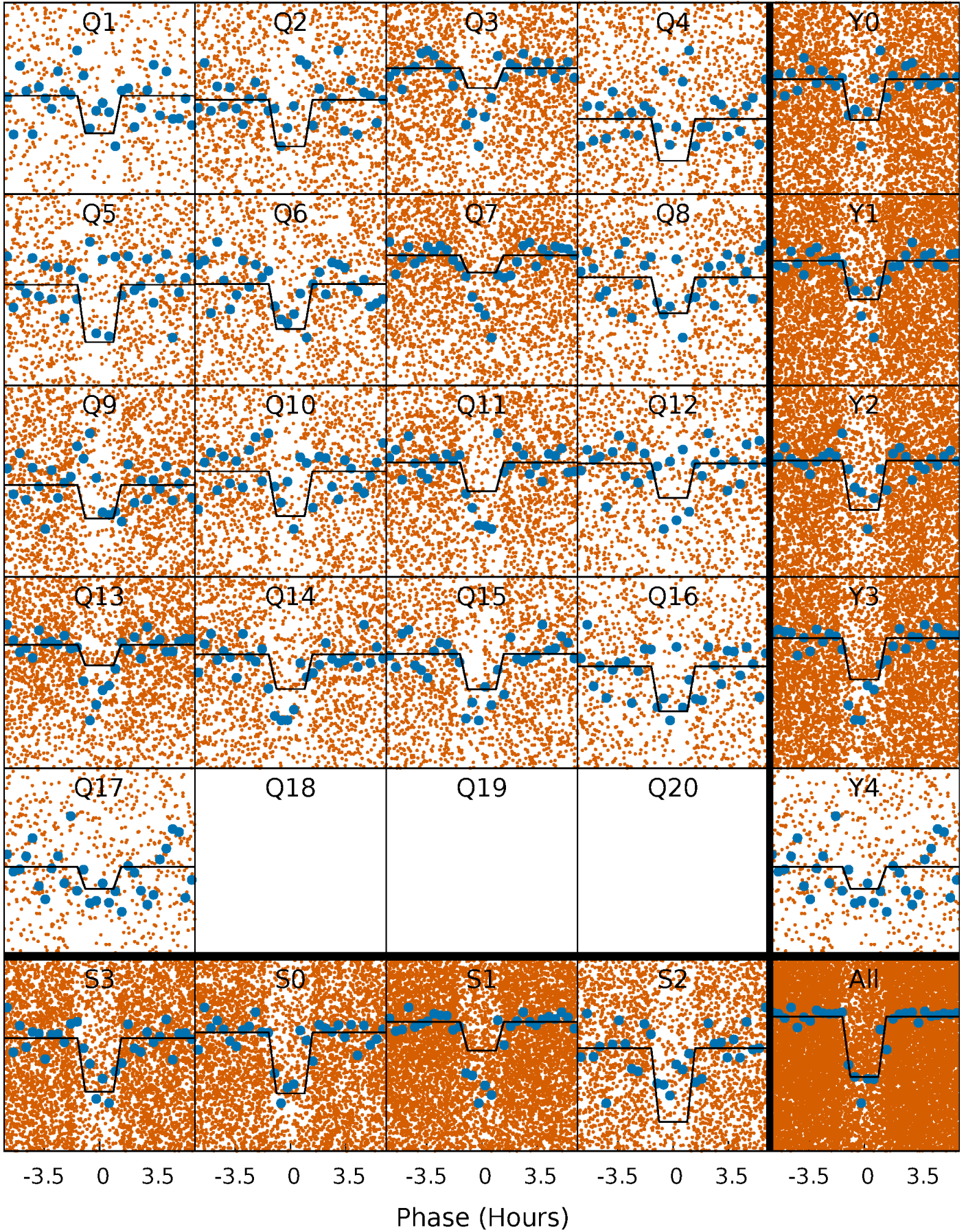
DV Quarter-Phased Transit Curves

TCE 007031402-01 P= 0.566815 Days $T_0=131.814695$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

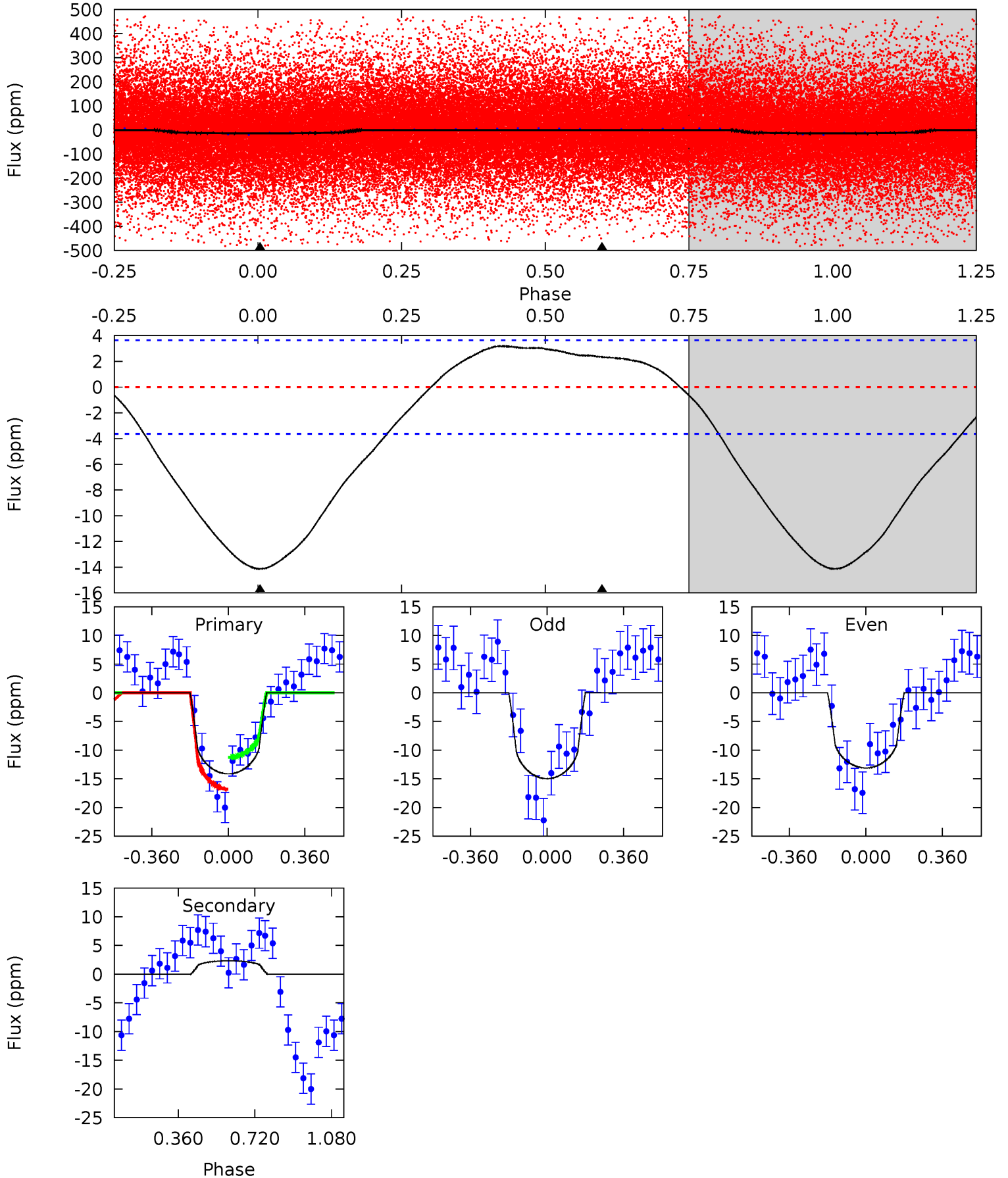
TCE 007031402-01 P= 0.566795 Days $T_0=131.803557$ (BKJD)



DV Model-Shift Uniqueness Test

007031402-01, P = 0.566815 Days, E = 131.247880 Days

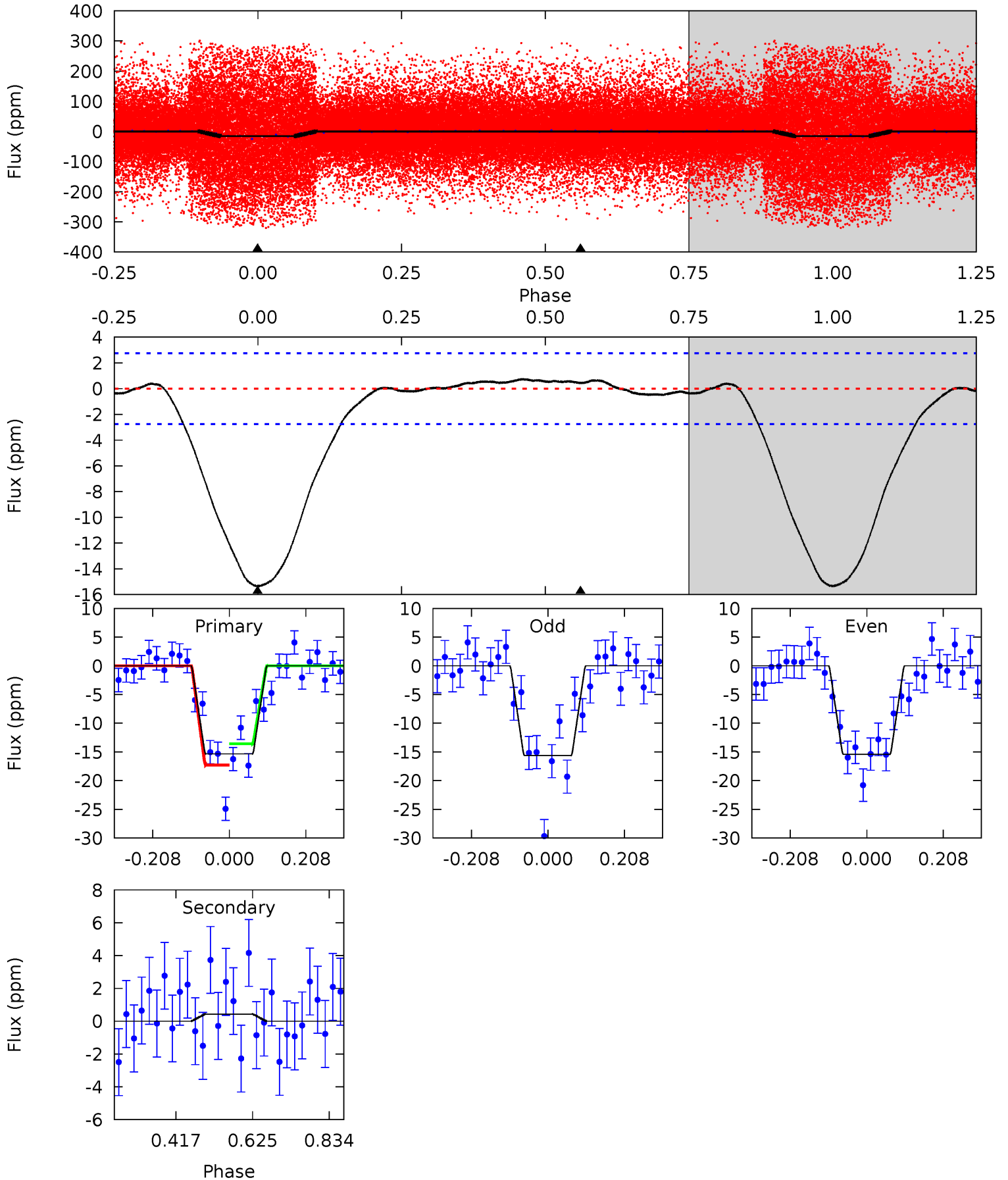
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	-2.76	0	0	4.29	0.92	1.48	16.7	16.7	-2.76	-2.76	1.11	0.93	0.18	3.33



Alt Model-Shift Uniqueness Test

007031402-01, P = 0.566795 Days, E = 131.236762 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.6	-0.69	0	0	4.41	1.26	0.20	24.6	24.6	-0.69	-0.69	0.17	1.00	0.05	3.00



Stellar Parameters For KIC 007031402

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6300^{+170}_{-189}	$4.323^{+0.144}_{-0.192}$	$-0.380^{+0.300}_{-0.300}$	$1.133^{+0.339}_{-0.183}$	$0.984^{+0.159}_{-0.106}$	$0.953^{+0.645}_{-0.469}$
	+3%/-3%	+3%/-4%	+79%/-79%	+30%/-16%	+16%/-11%	+68%/-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 007031402-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	2 ± 1	$0.50^{+0.26}_{-0.24}$	3602^{+249}_{-219}	-4379^{+475}_{-1188}	$-0.882^{+0.567}_{-2.496}$
Alt.	0 ± 1	$0.47^{+0.25}_{-0.22}$	3590^{+279}_{-196}	-3706^{+453}_{-651}	$-0.143^{+0.238}_{-0.725}$

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

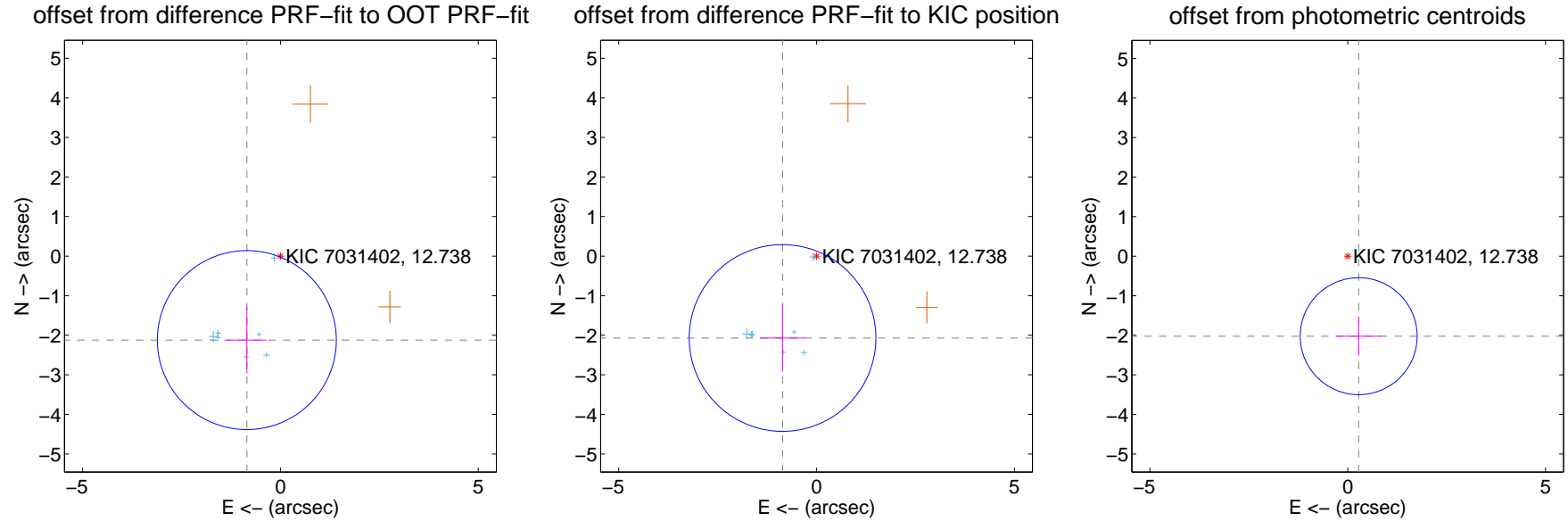
DV Centroid Data

Supplemental centroid analysis for 007031402-01. Kepler magnitude: 12.74. Transit SNR 8.95

There are 7 quarters with good PRF difference image offsets

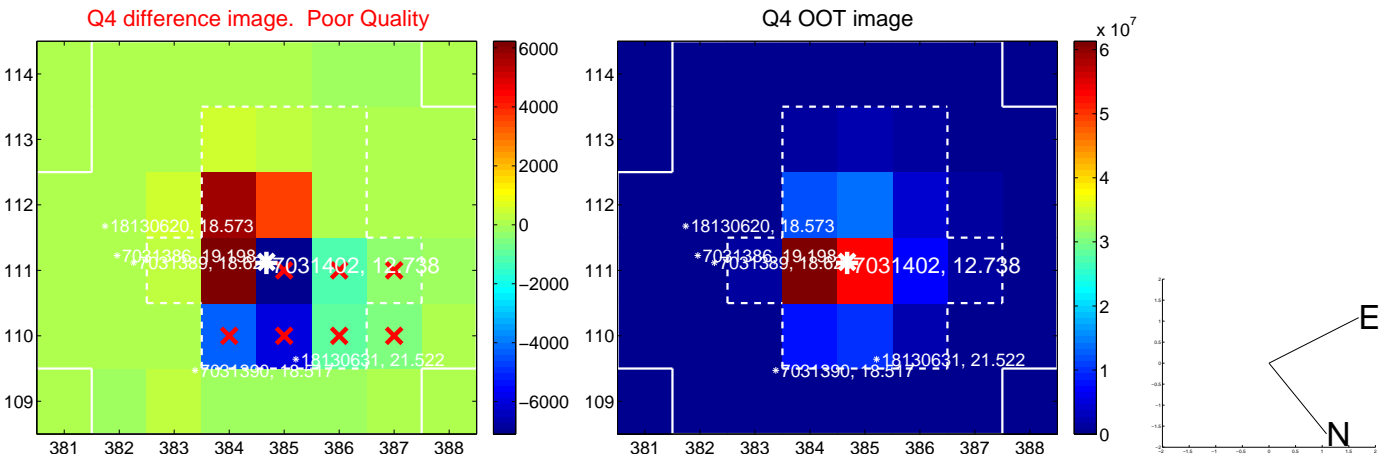
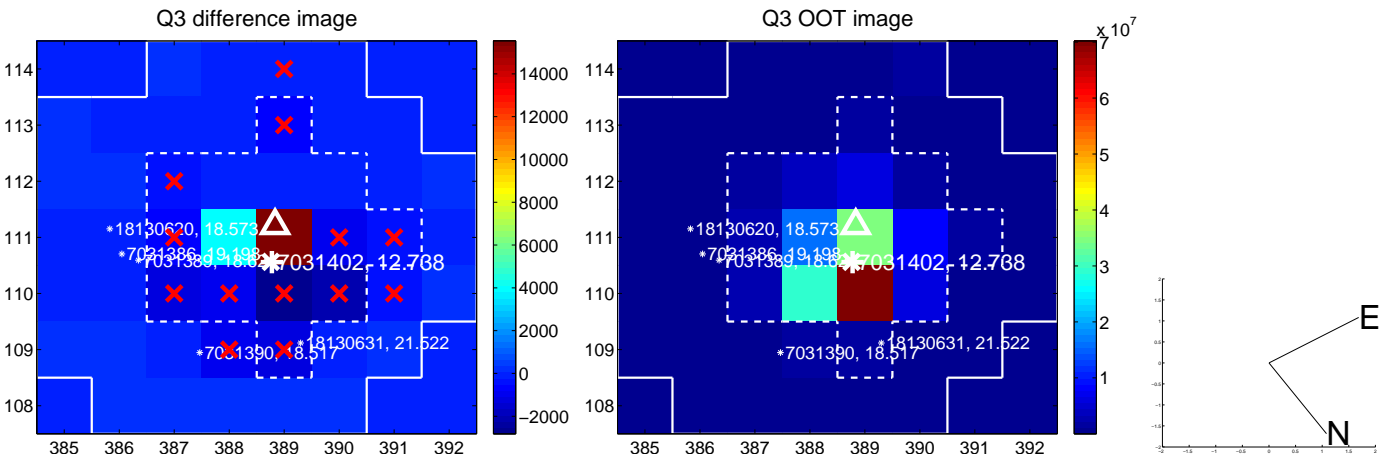
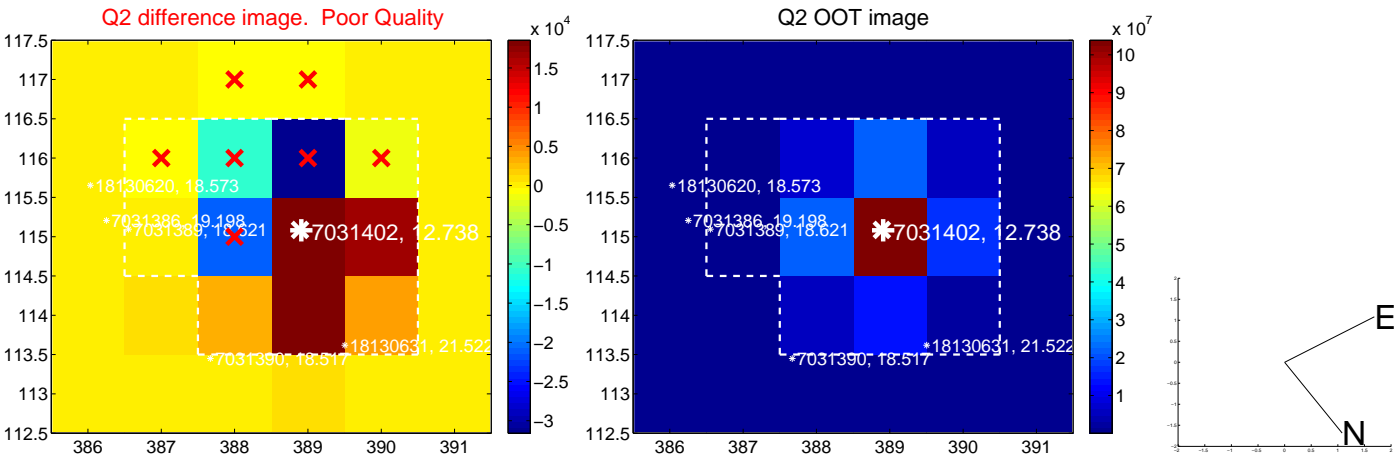
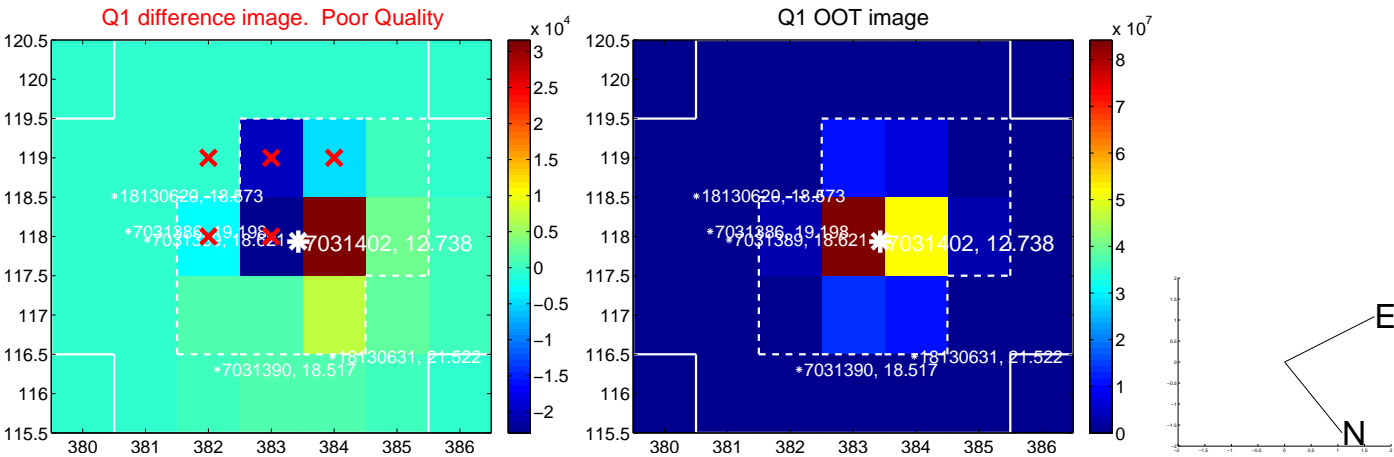
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.286 ± 0.754	3.03	0.850 ± 0.504	-2.122 ± 0.841
PRF-fit source offset from KIC position	2.241 ± 0.786	2.85	0.860 ± 0.570	-2.069 ± 0.841
photometric centroid source offset	2.04 ± 0.49	4.14	-0.28 ± 0.57	-2.02 ± 0.49

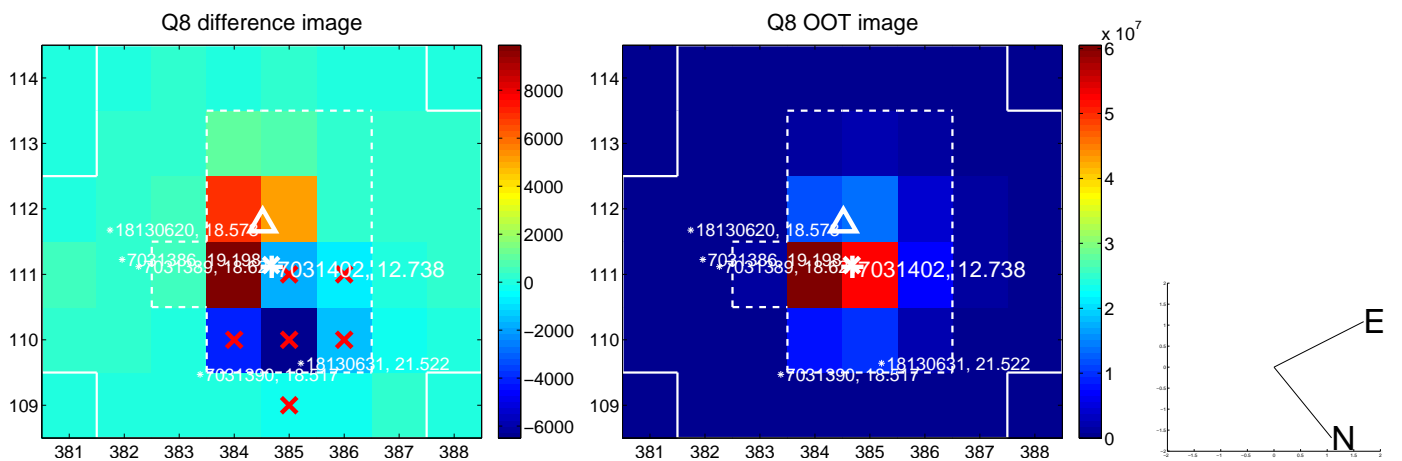
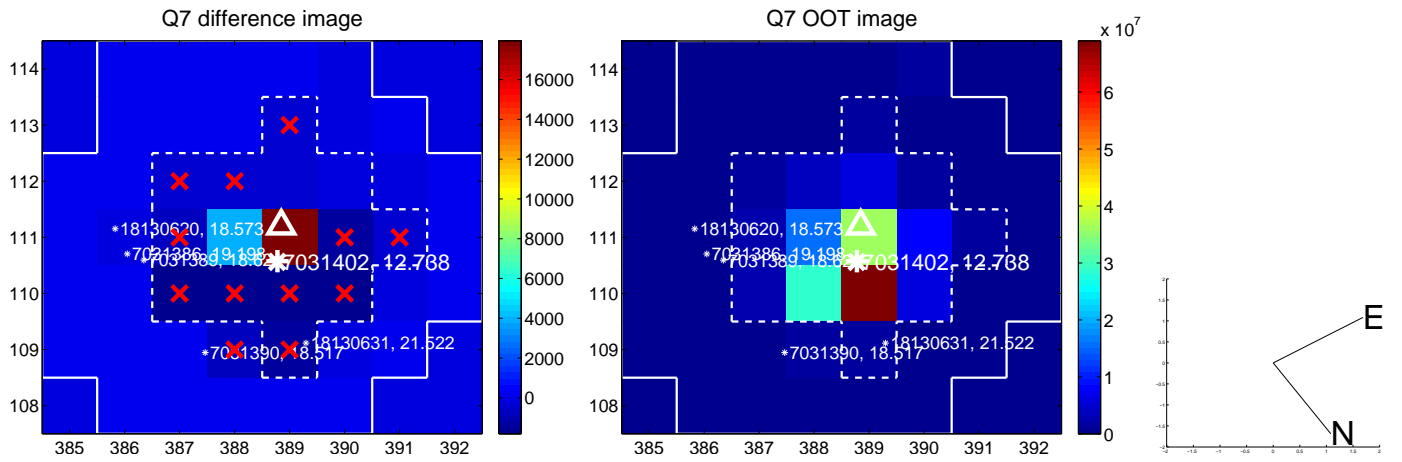
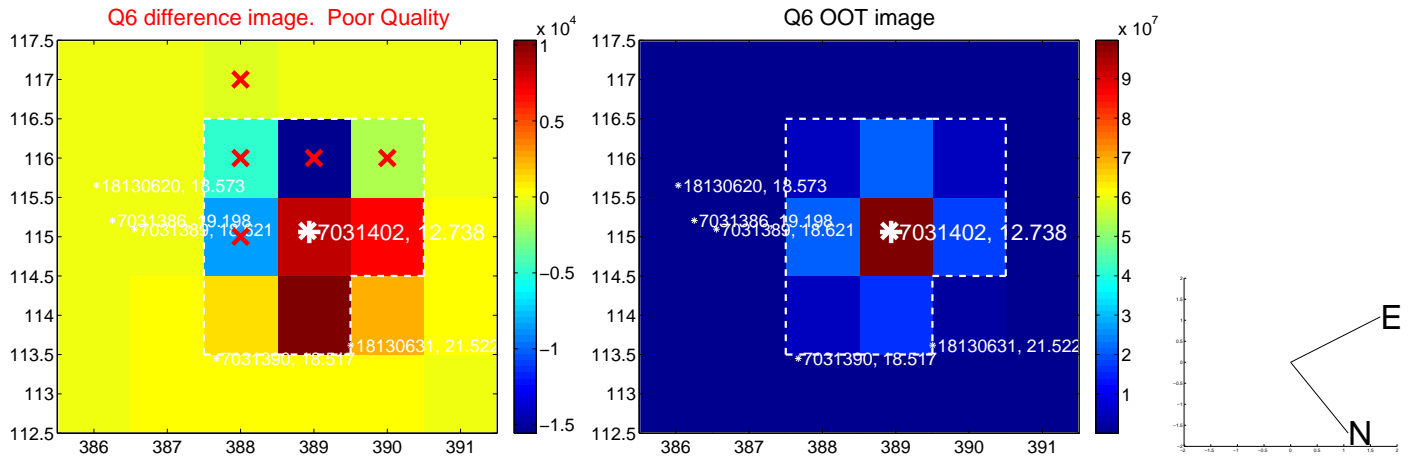
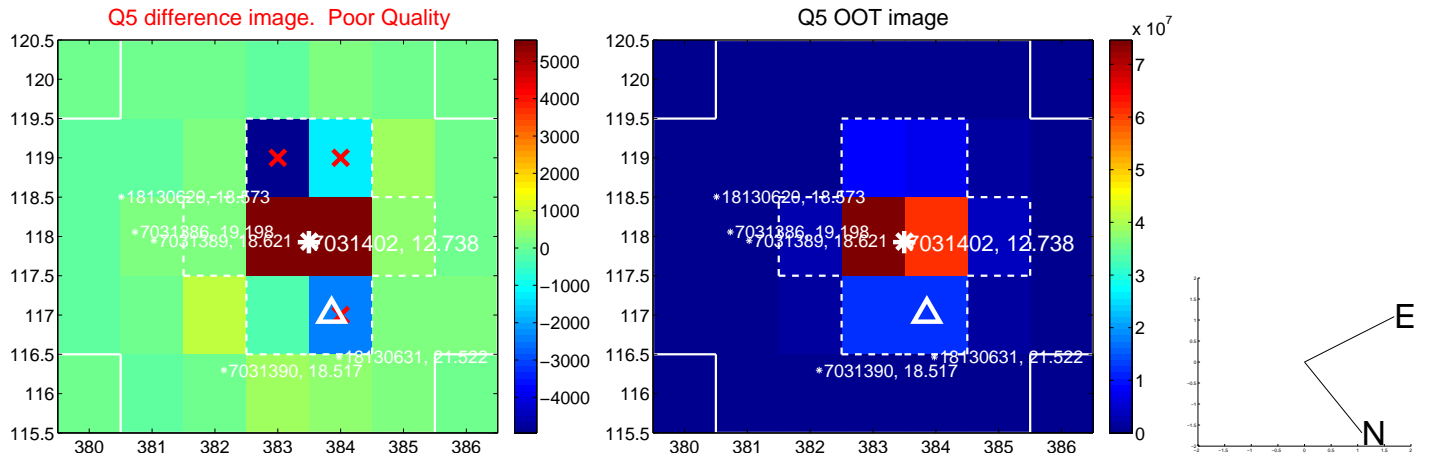


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

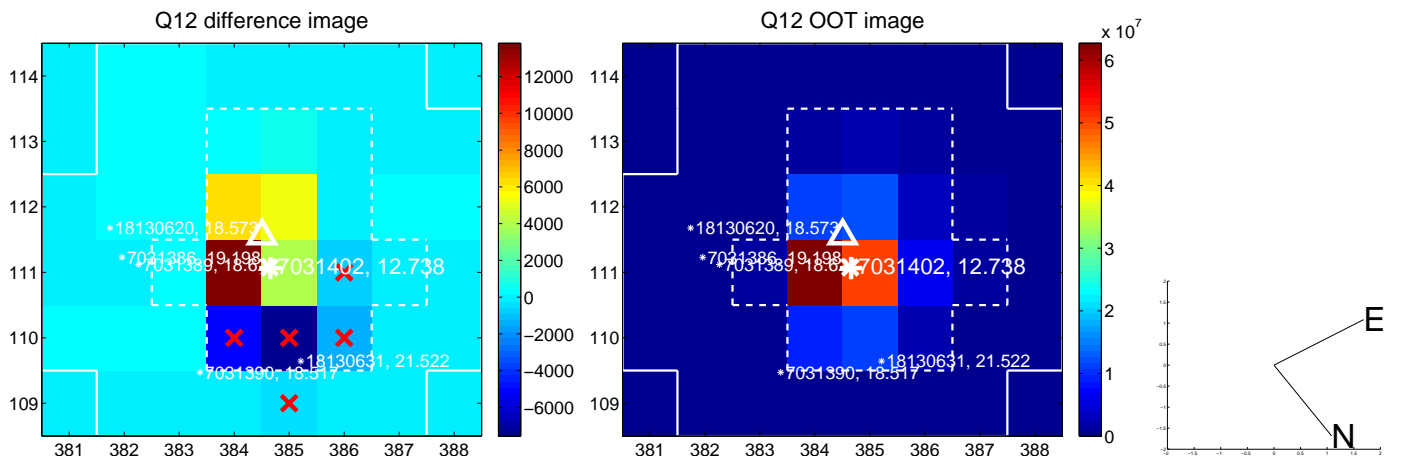
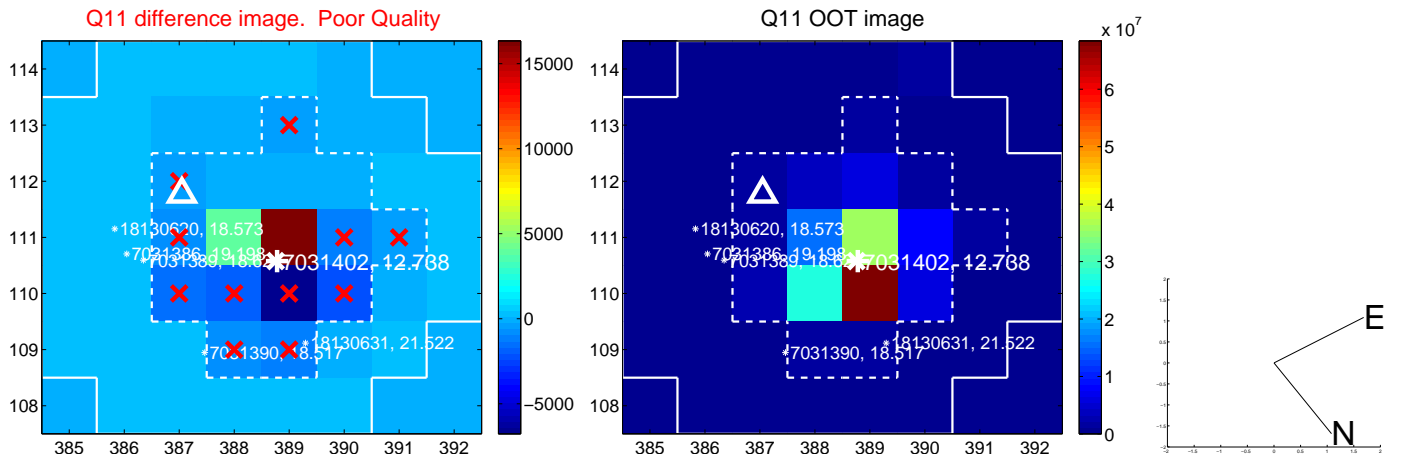
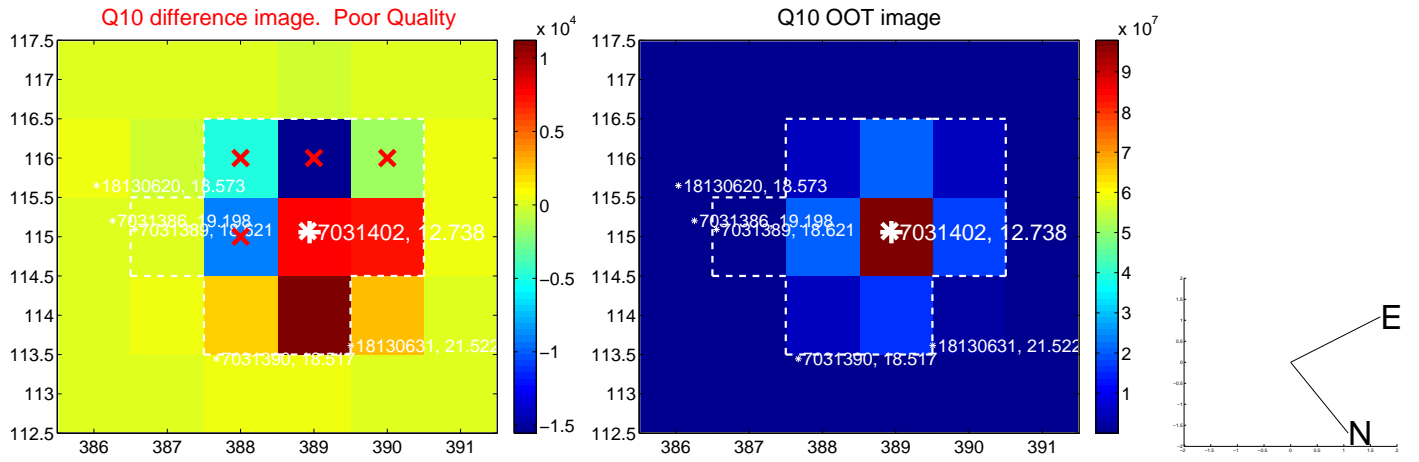
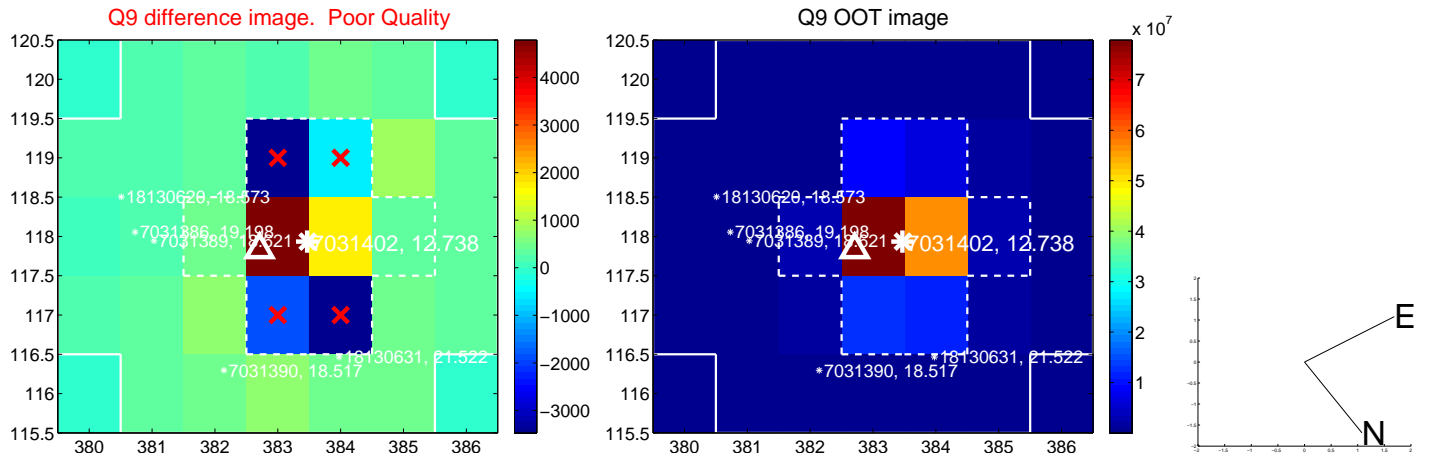
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



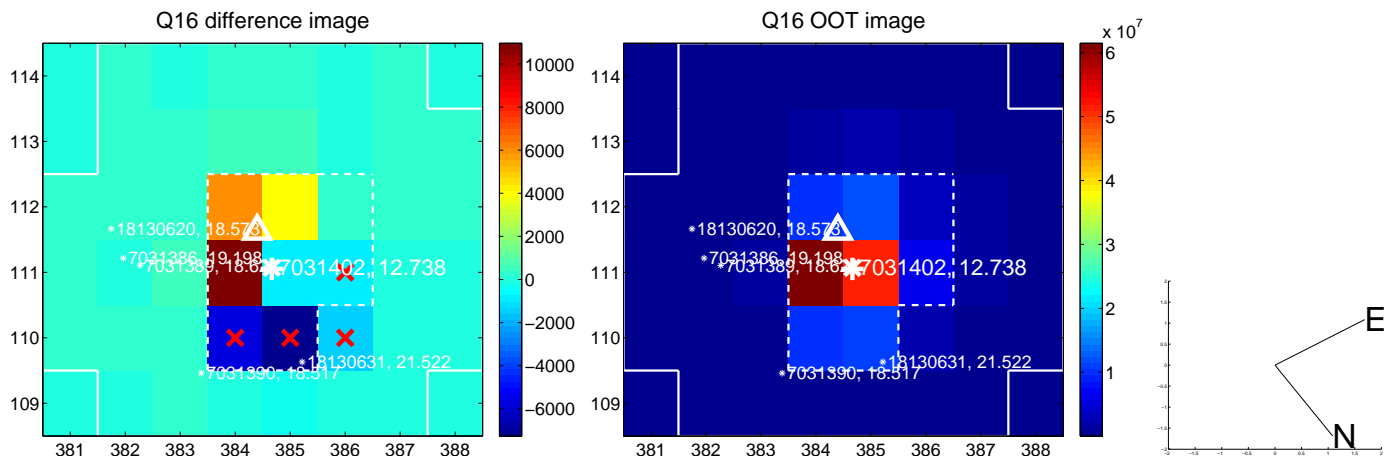
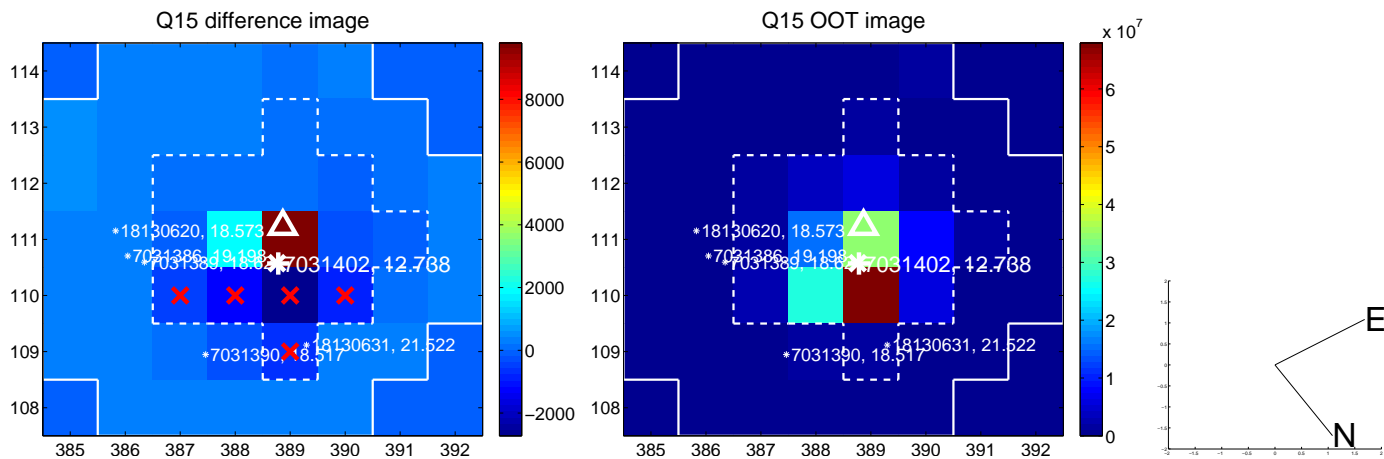
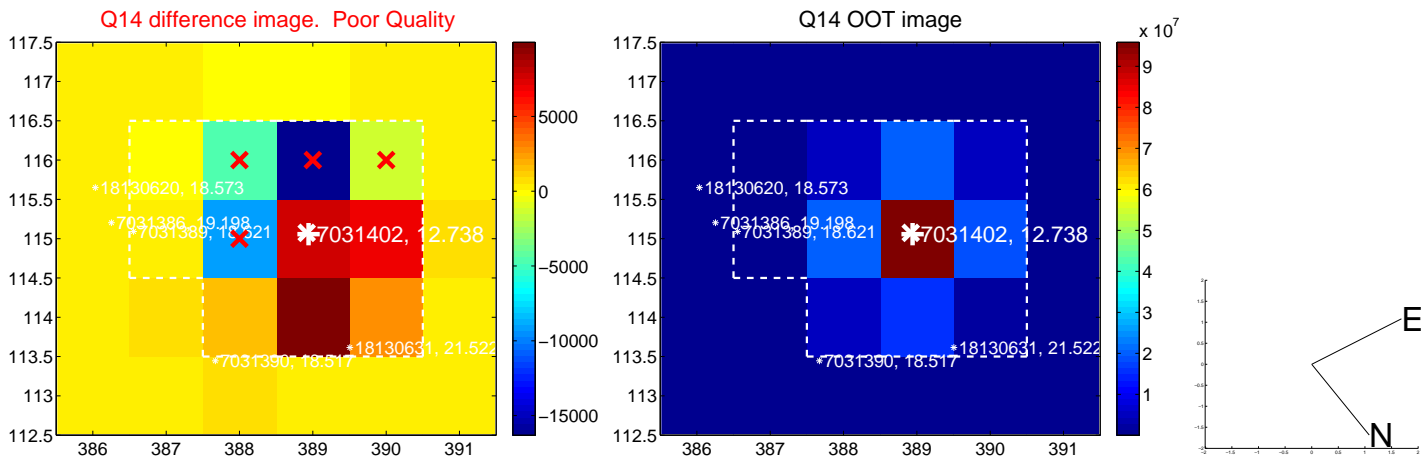
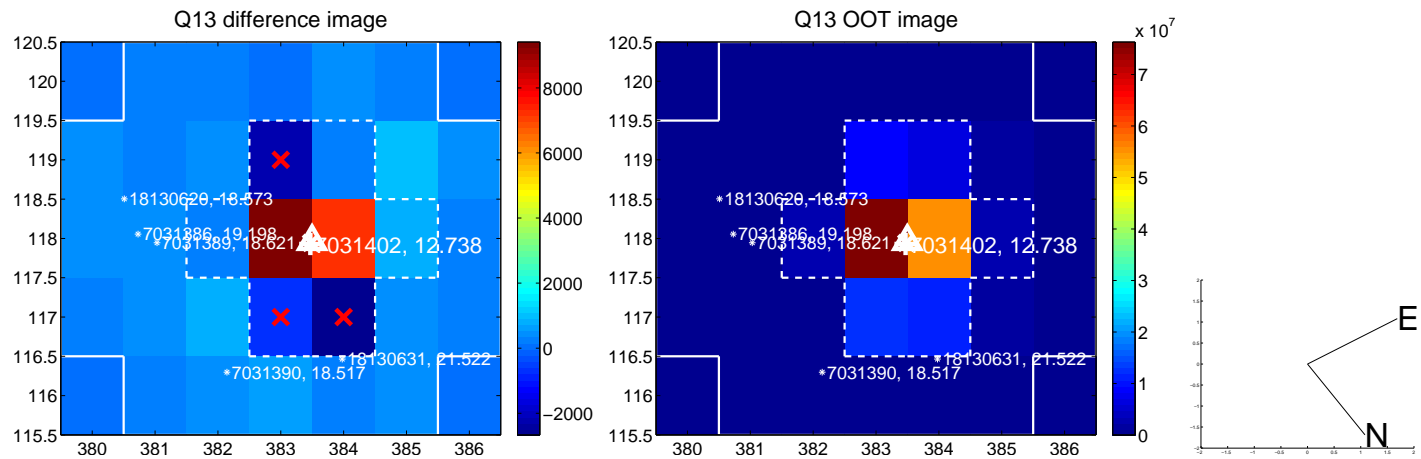
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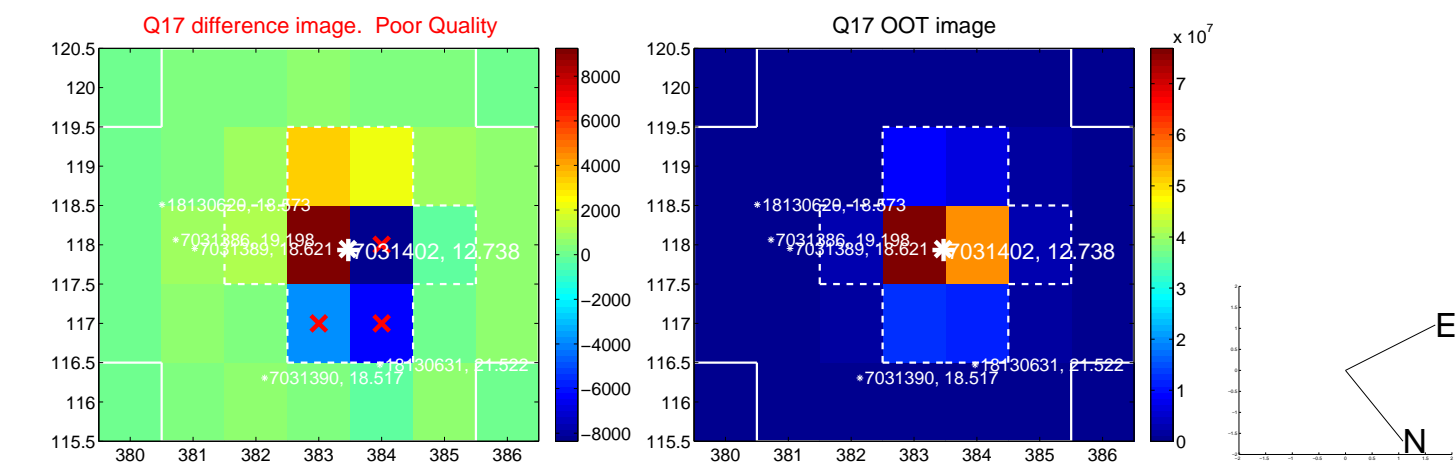
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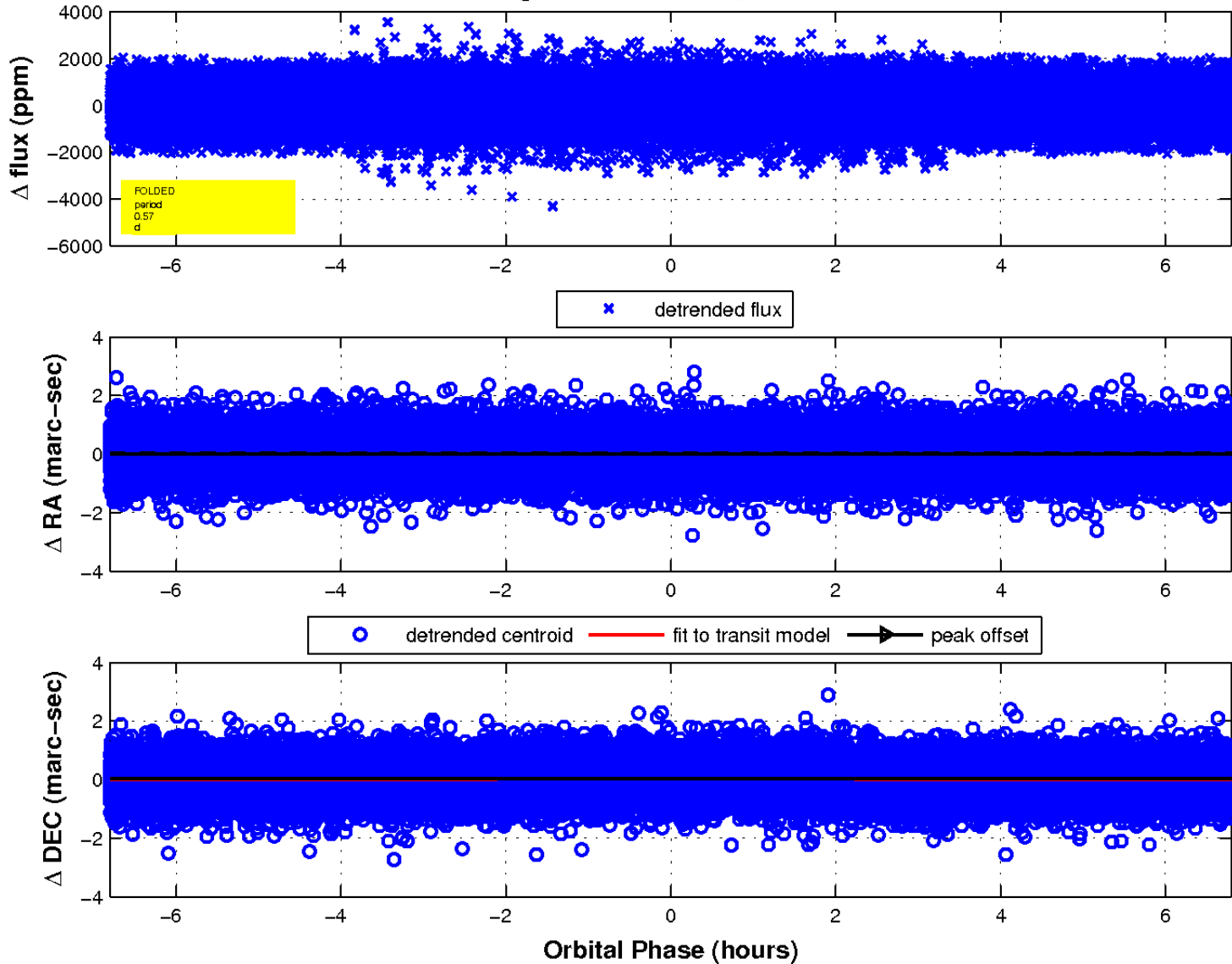
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

