

KIC 007031898

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
007031898-01	OBS	7807.01	0.566793	131.829421	14.2	3.147	8.6	8.3	1.12	6277	0.46	9978.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031898-01	OBS	FP	0.00	0	0	1	1	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.

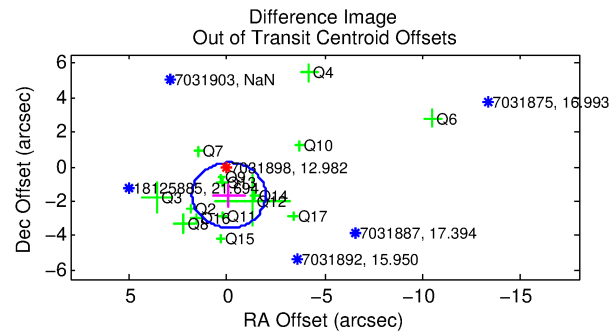
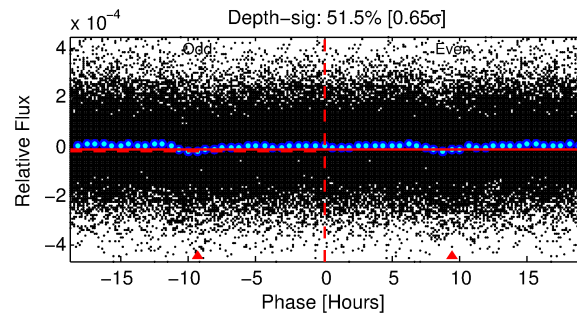
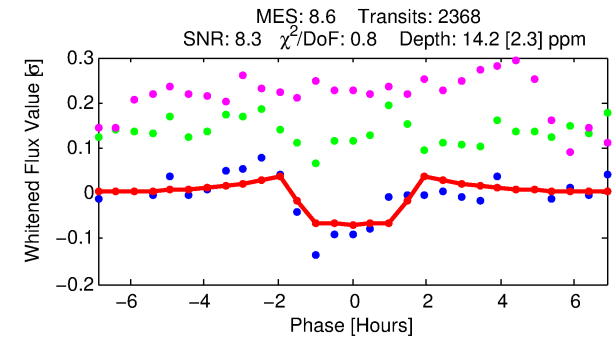
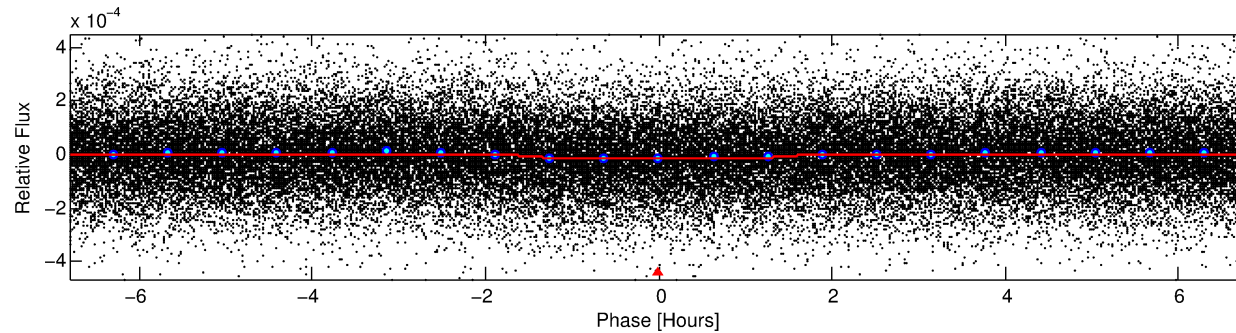
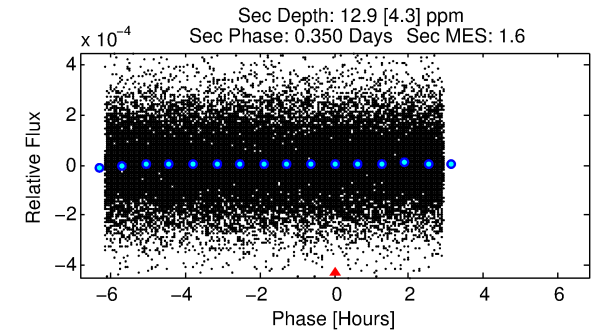
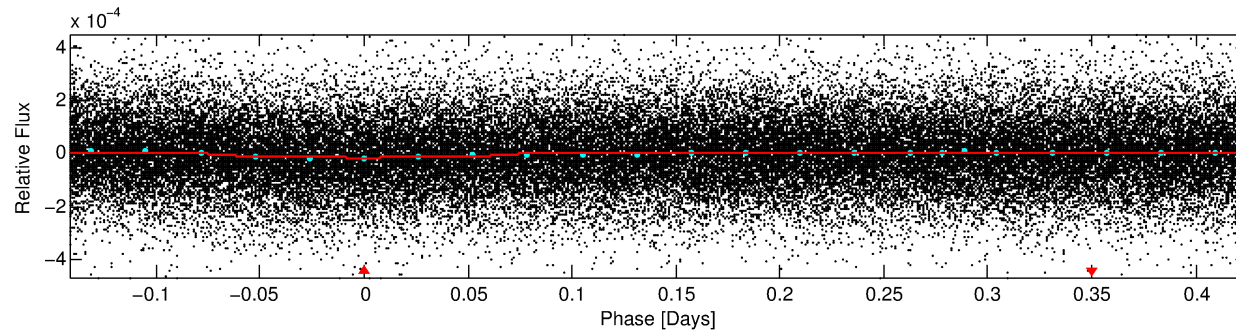
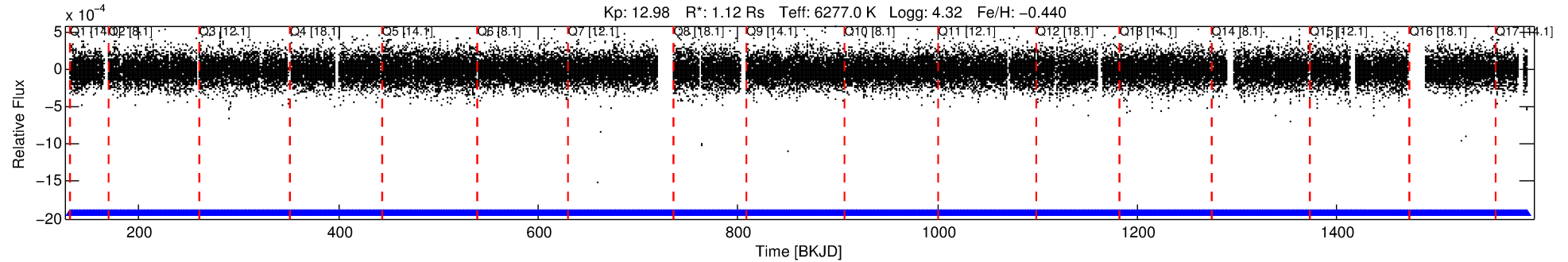
Ephemeris Match Information For 007031898-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
007031898-01	7031898	RR-Lyr-pri	7198959	1:1	859.6	126	-176	7.86	12.98	44521.00	Direct-PRF	0	0.94	18.68

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol 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 σ_P < 5.0 and σ_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: 7031898 Candidate: 1 of 1 Period: 0.567 d



DV Fit Results:

Period = 0.56679 [0.00001] d
Epoch = 131.8294 [0.0030] BKJD
Rp/R* = 0.0038 [0.0010]
a/R* = 1.22 [0.54]
b = 0.79 [0.65]
Seff = 9978.70 [2733.49]
Teq = 2549 [175] K
Rp = 0.46 [0.15] Re
a = 0.0132 [0.0022] AU
Ag = 5.78 [3.79] [1.26σ]
Teffp = 6110 [945] K [3.70σ]

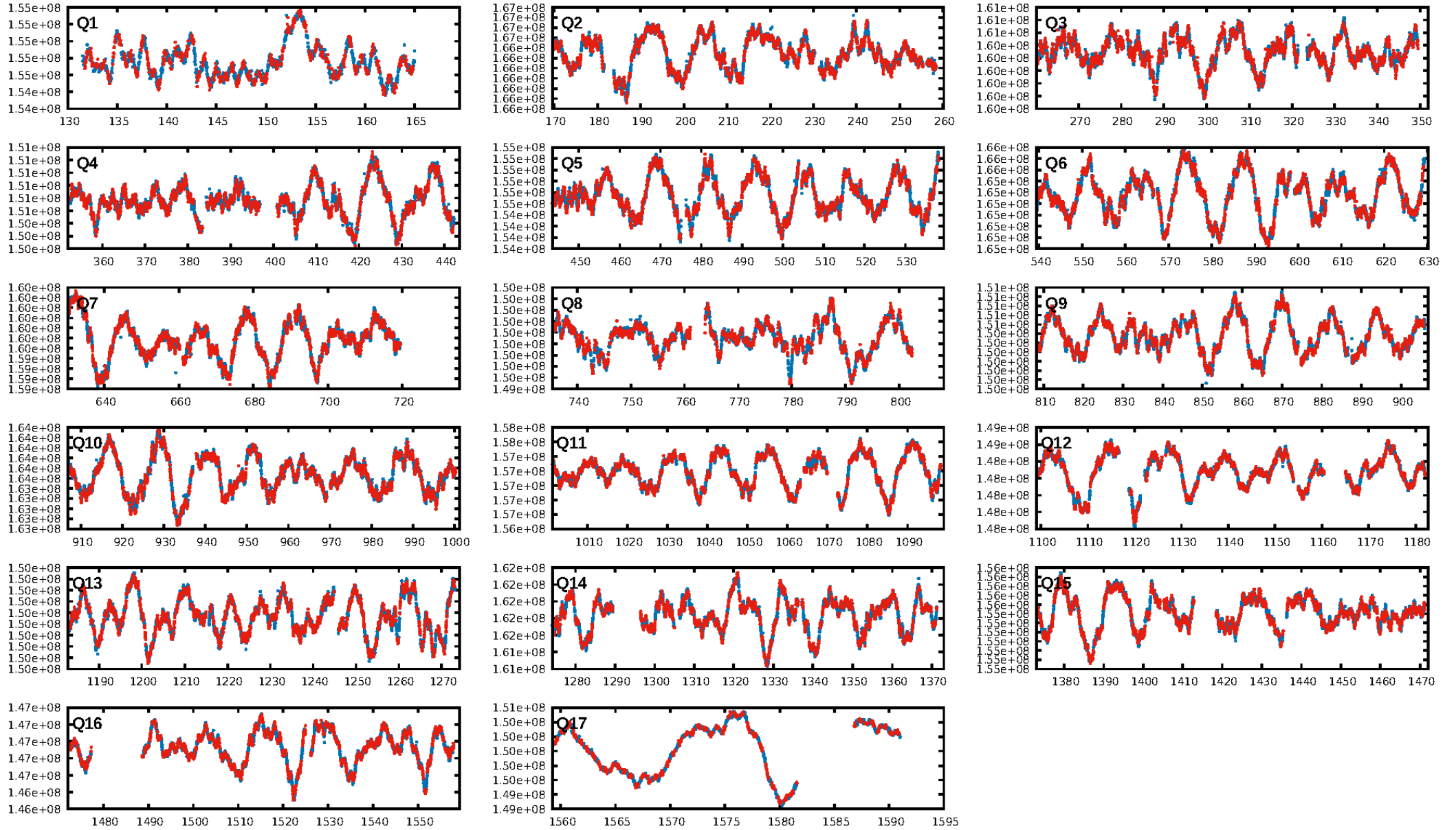
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.67e-18
RollingBand-fgt: 1.00 [2262/2262]
GhostDiagnostic-chr: -0.09273
Centroid-sig: 0.0%
Centroid-so: 2.469 arcsec [3.04σ]
OotOffset-rm: 1.660 arcsec [2.64σ]
KicOffset-rm: 1.742 arcsec [3.01σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.13 [2/15]
DiffImageOverlap-fno: 1.00 [17/17]

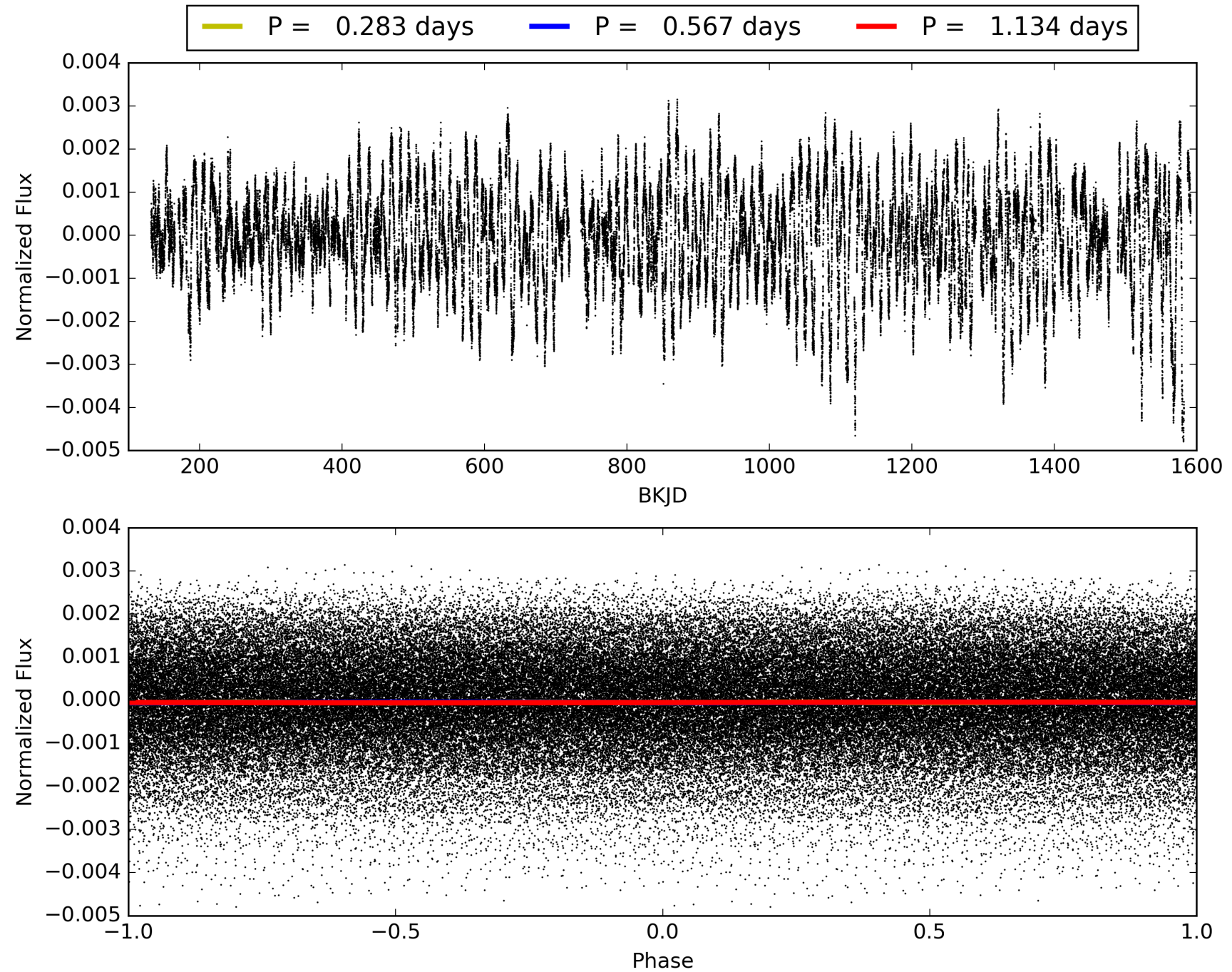
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:35:58 Z

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

TCE 007031898-01, PDC Light Curves

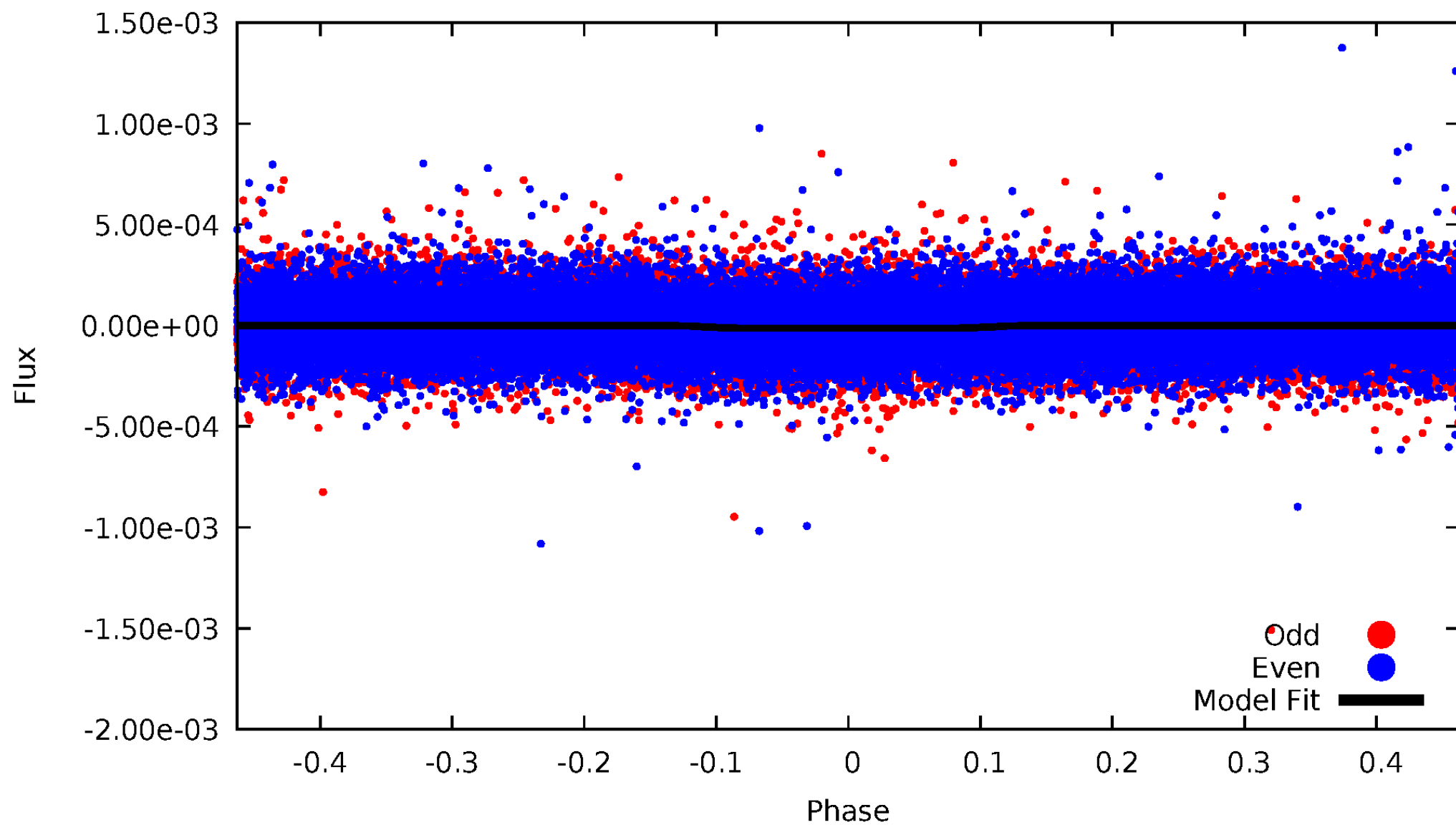


TCE 007031898-01



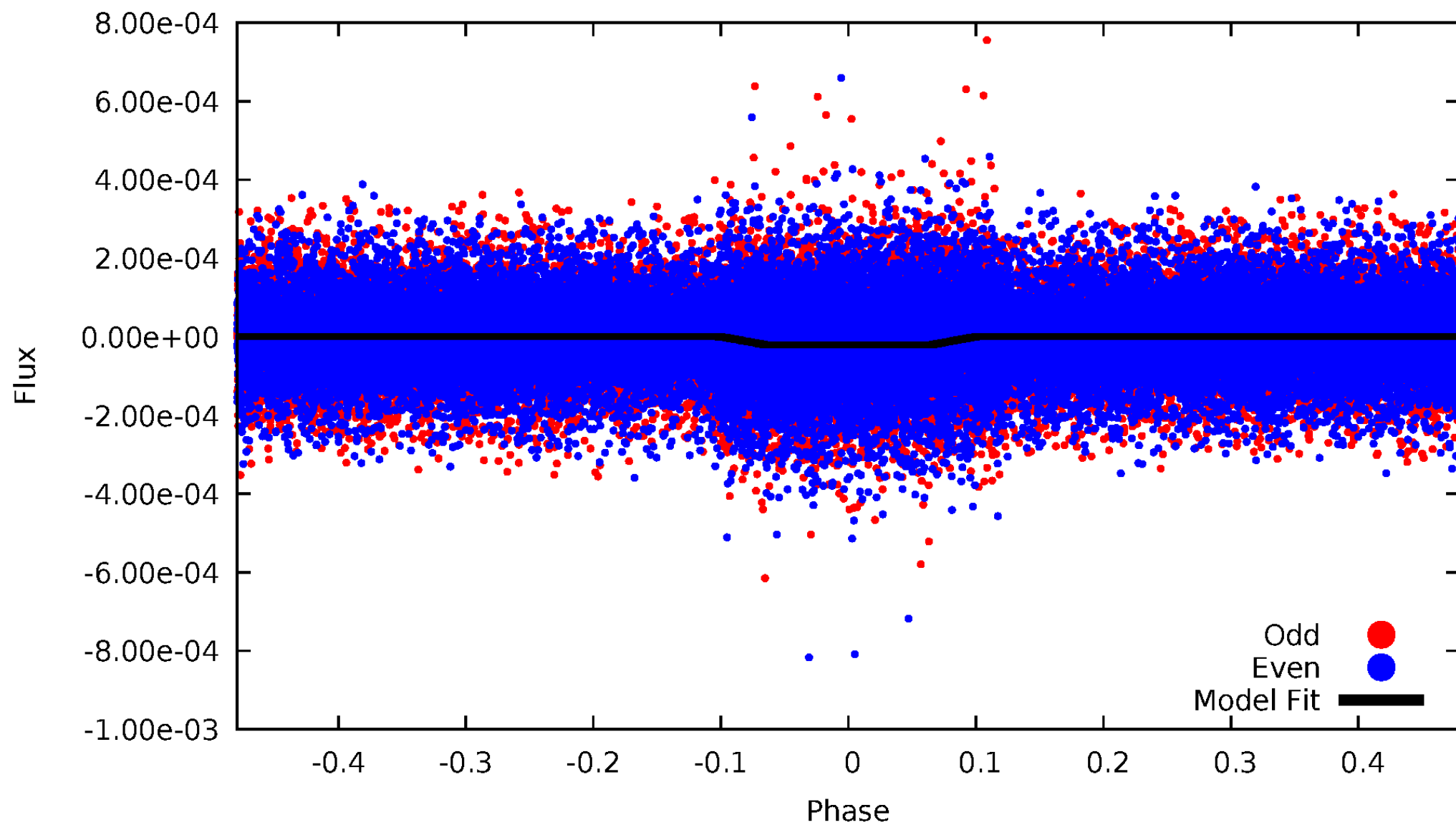
DV Odd/Even

TCE 007031898-01

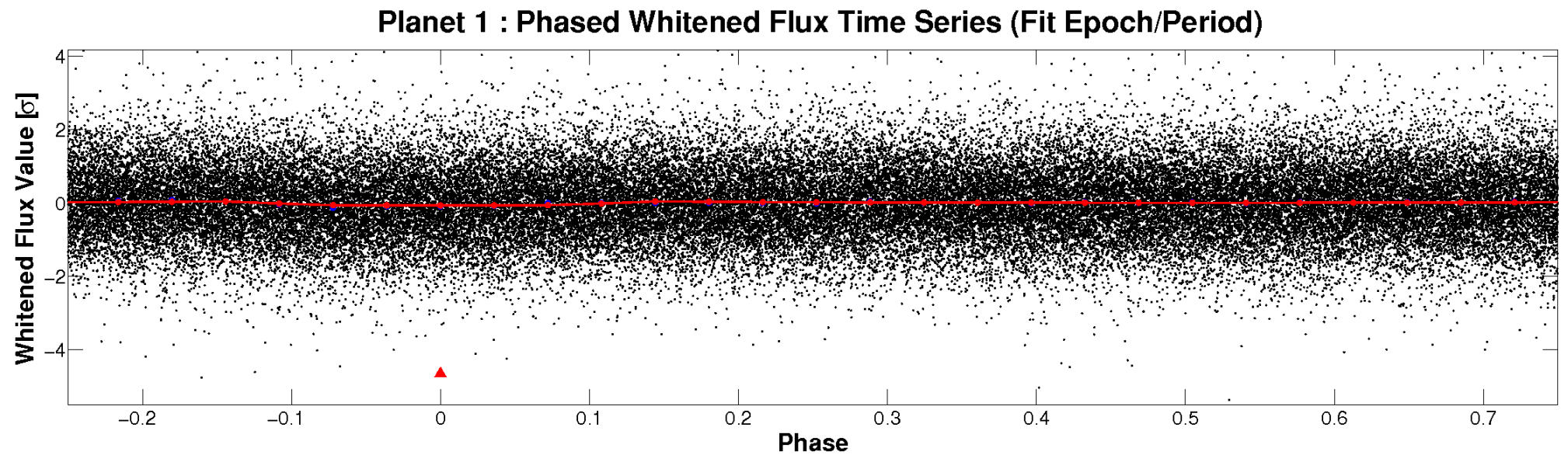
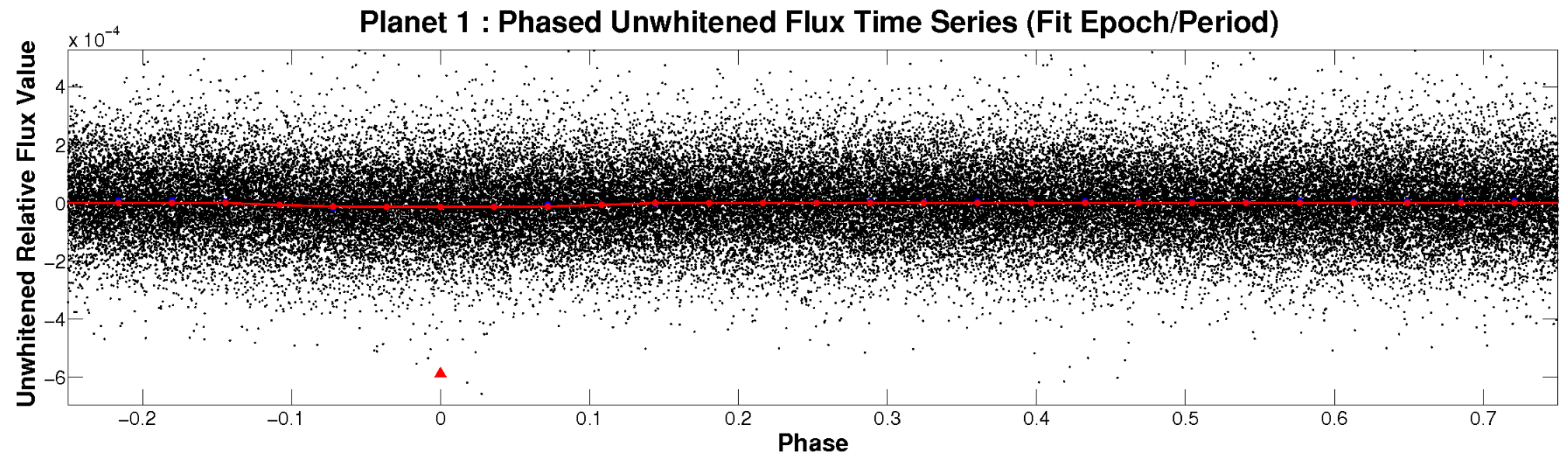


ALT Odd/Even

TCE 007031898-01

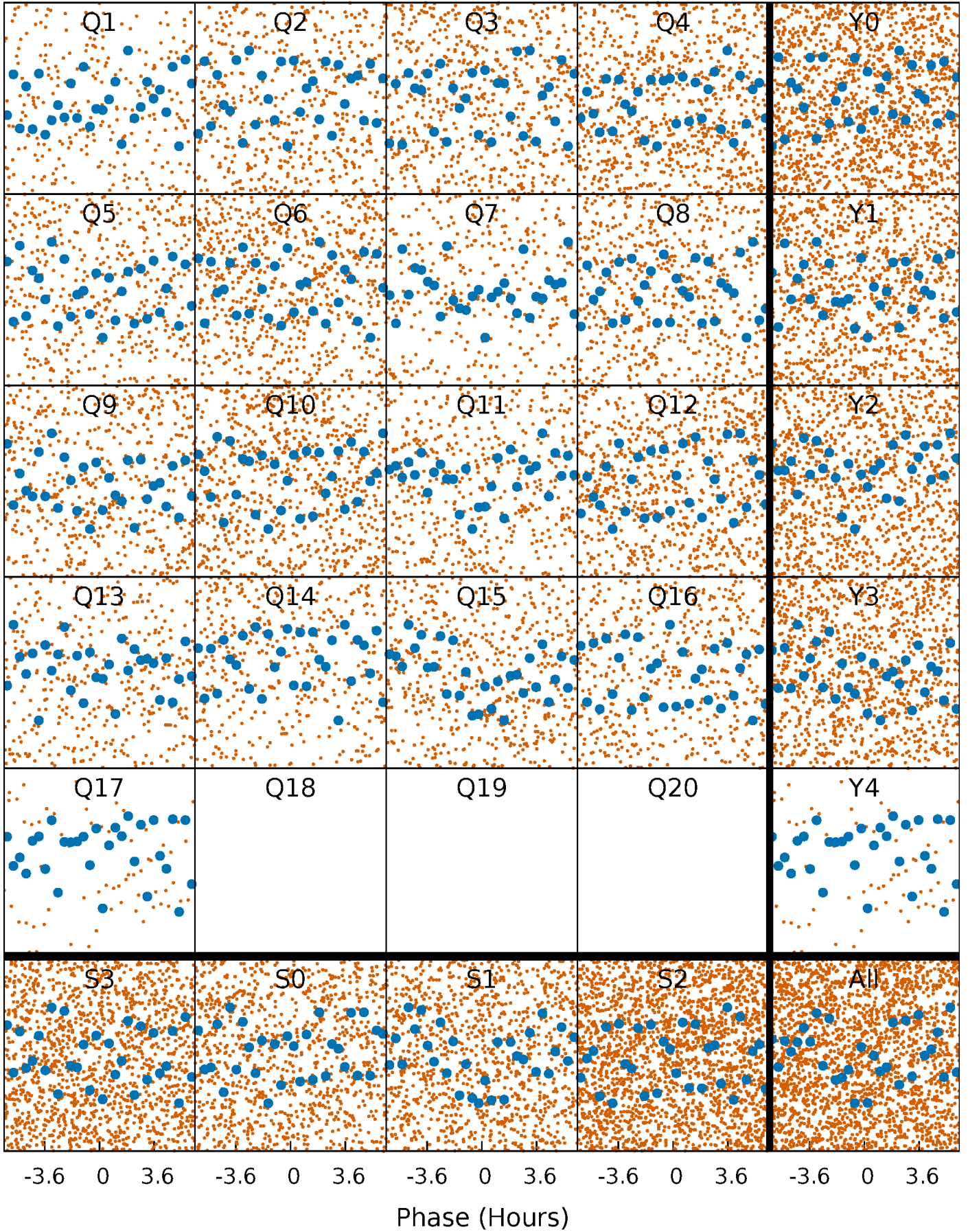


Non-Whitened Vs. Whitened Light Curve



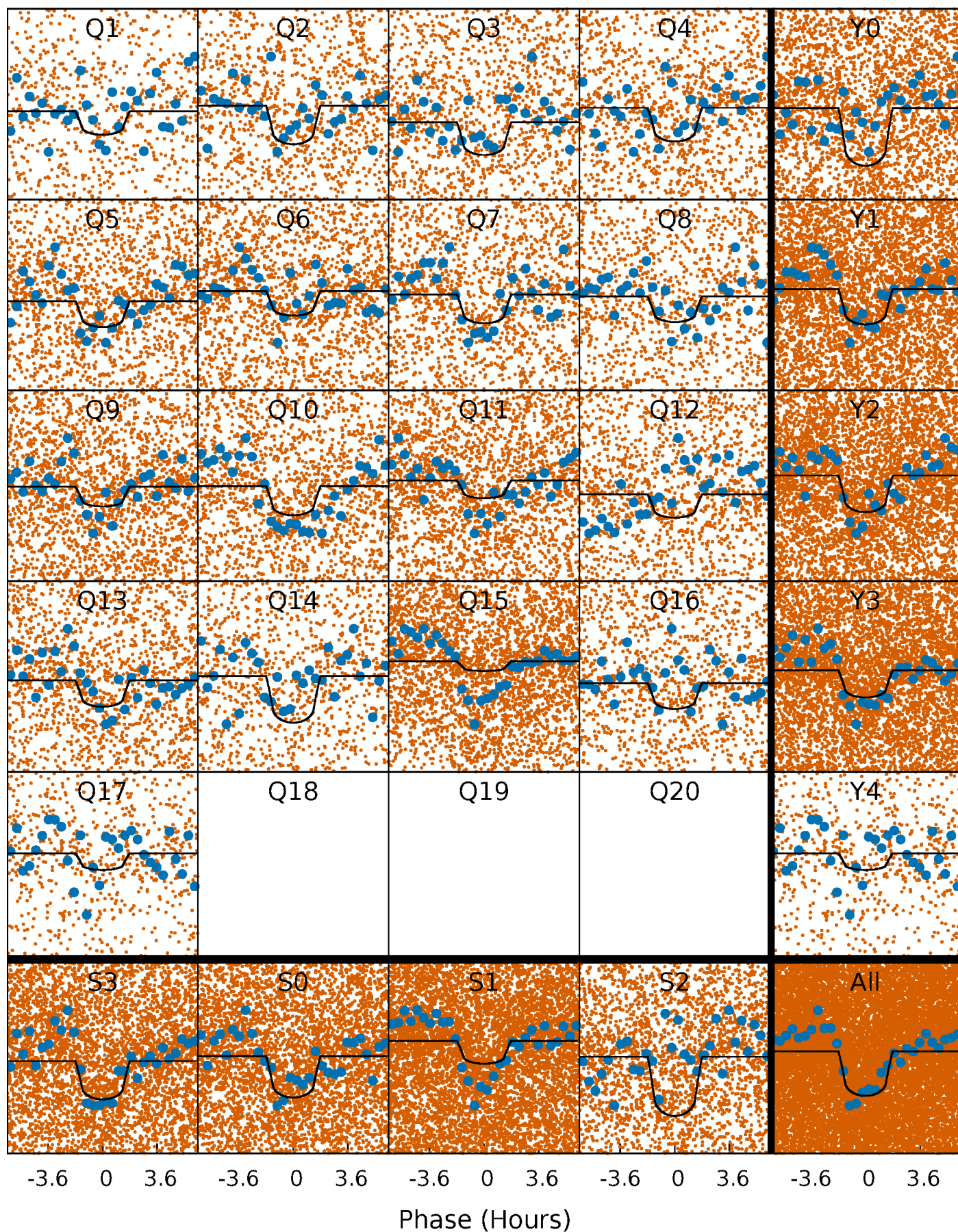
PDC Quarter-Phased Transit Curves

TCE 007031898-01 P= 0.566793 Days $T_0=131.829421$ (BKJD)



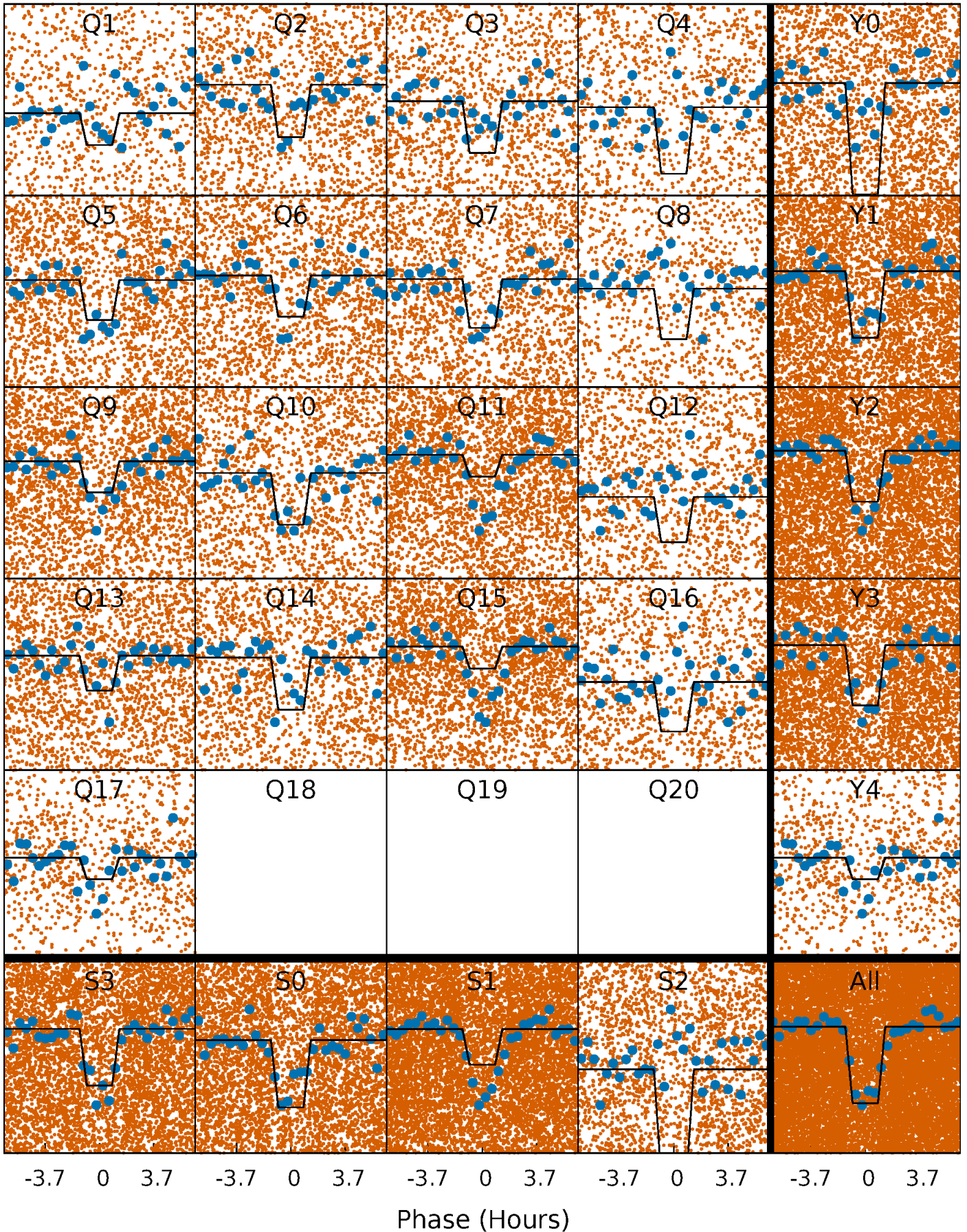
DV Quarter-Phased Transit Curves

TCE 007031898-01 P= 0.566793 Days $T_0=131.829421$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

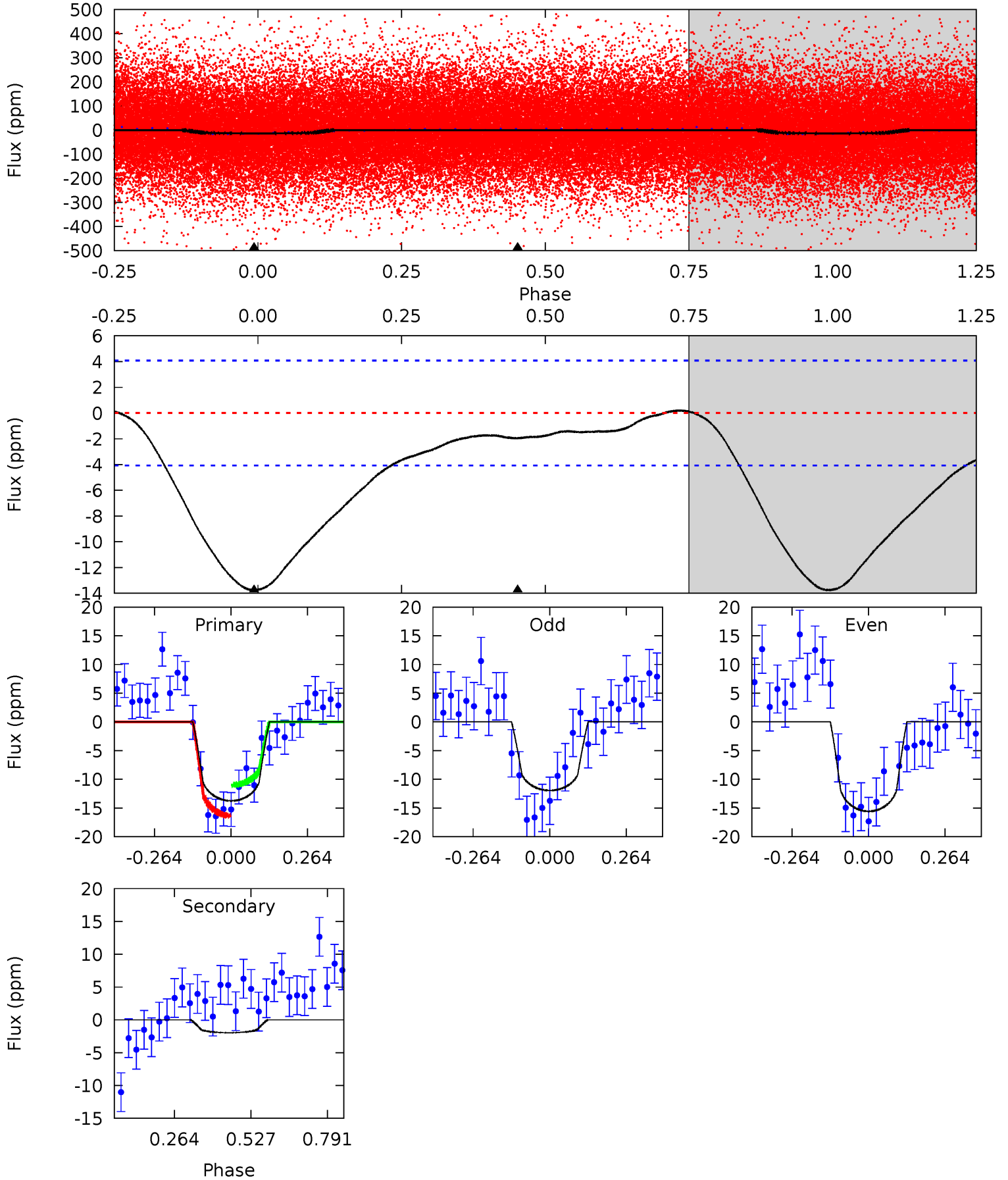
TCE 007031898-01 P= 0.566788 Days $T_0=131.814148$ (BKJD)



DV Model-Shift Uniqueness Test

007031898-01, P = 0.566793 Days, E = 131.262628 Days

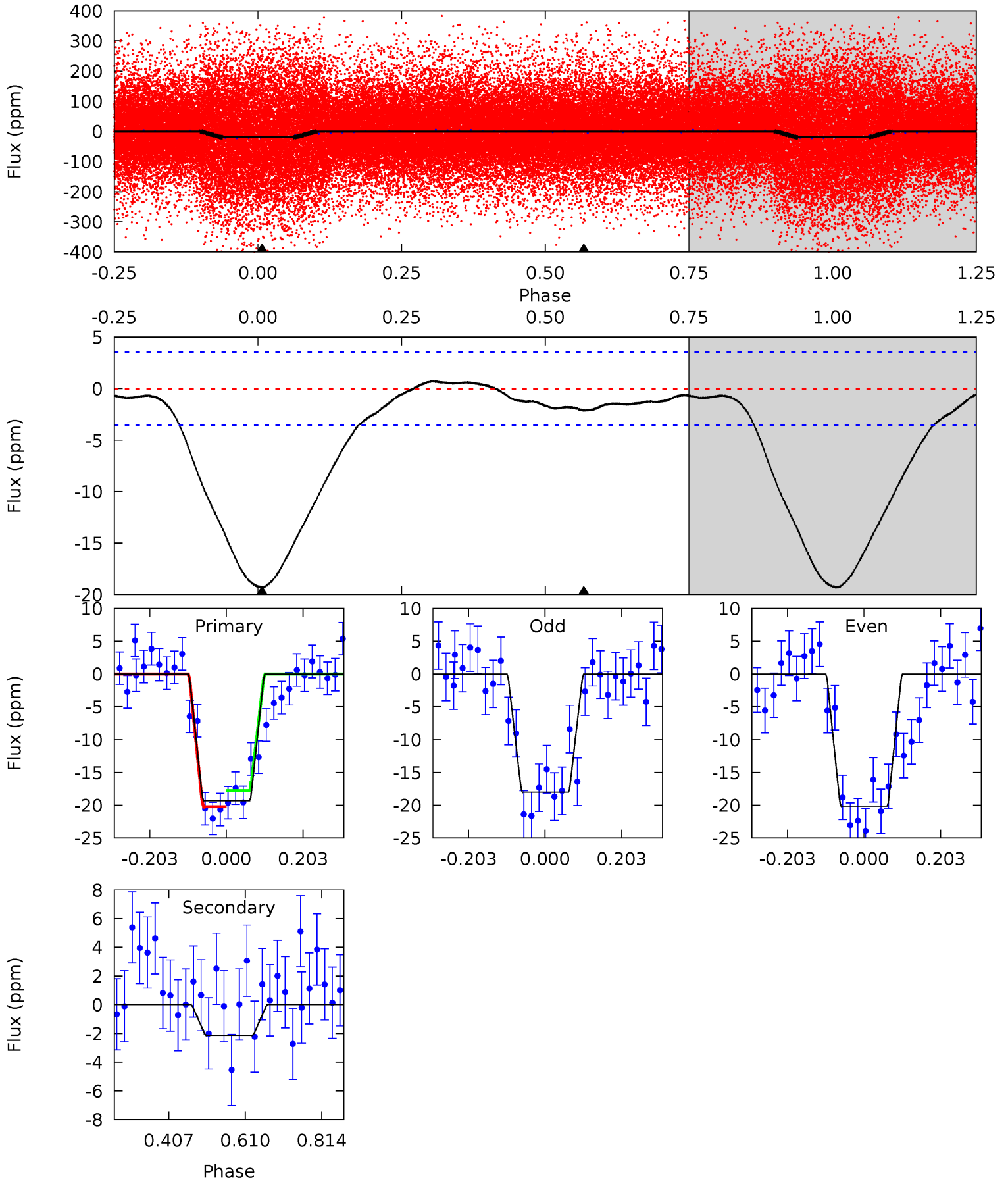
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	2.10	0	0	4.36	1.12	1.40	14.7	14.7	2.10	2.10	1.94	1.10	0.01	2.85



Alt Model-Shift Uniqueness Test

007031898-01, P = 0.566788 Days, E = 131.247360 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.0	2.65	0	0	4.41	1.27	1.01	24.0	24.0	2.65	2.65	1.35	1.02	0.04	1.55



Stellar Parameters For KIC 007031898

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6277^{+170}_{-189}	$4.322^{+0.135}_{-0.135}$	$-0.440^{+0.300}_{-0.300}$	$1.121^{+0.223}_{-0.183}$	$0.961^{+0.135}_{-0.098}$	$0.960^{+0.599}_{-0.369}$
	+3%/-3%	+3%/-3%	+68%/-68%	+20%/-16%	+14%/-10%	+62%/-38%
Source	PHO1	FLK73	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 007031898-01 / KOI 7807.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2 ± 1	$0.46^{+0.13}_{-0.11}$	3563^{+209}_{-203}	3784^{+666}_{-931}	$0.859^{+0.793}_{-0.478}$
Alt.	-2 ± 1	$0.57^{+0.13}_{-0.13}$	3562^{+202}_{-204}	3481^{+582}_{-950}	$0.641^{+0.532}_{-0.311}$

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

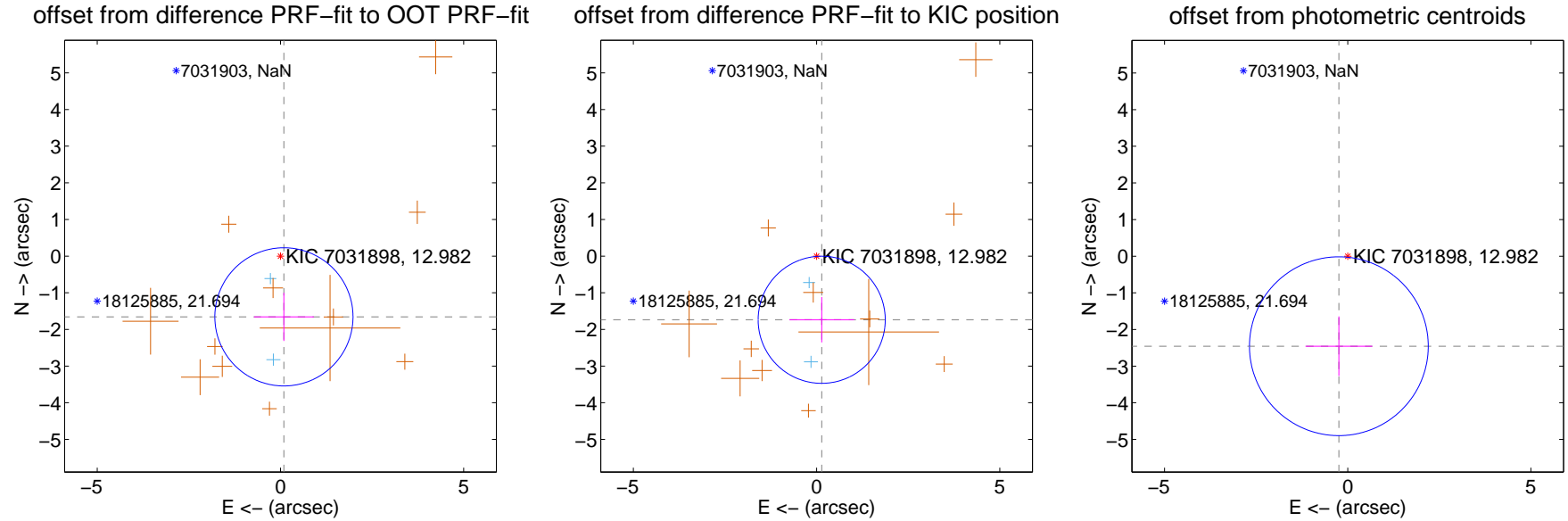
DV Centroid Data

Supplemental centroid analysis for 007031898-01. Kepler magnitude: 12.98. Transit SNR 8.29

There are 2 quarters with good PRF difference image offsets

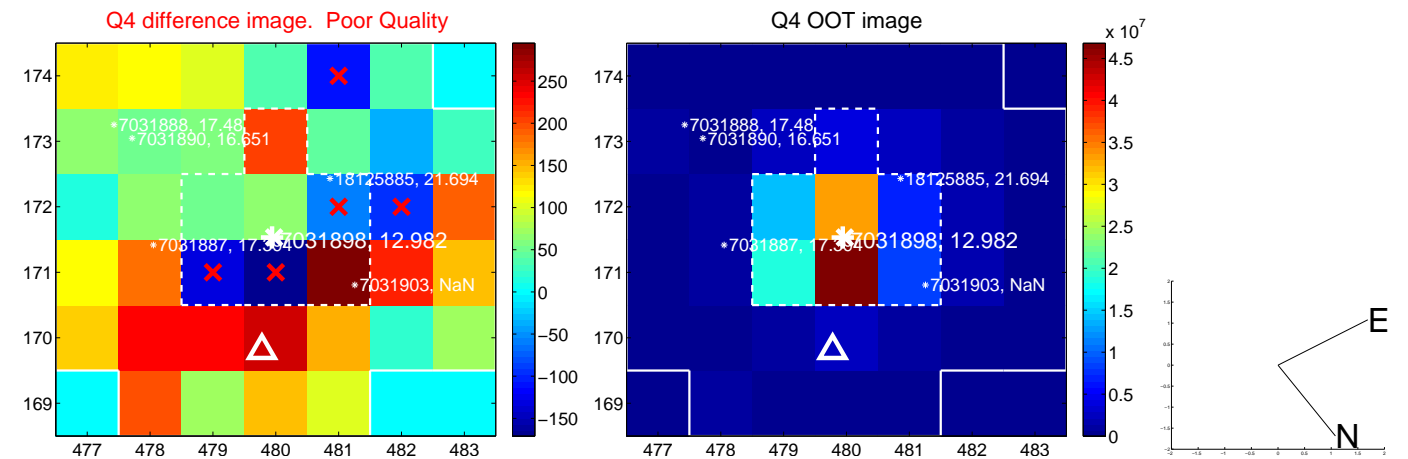
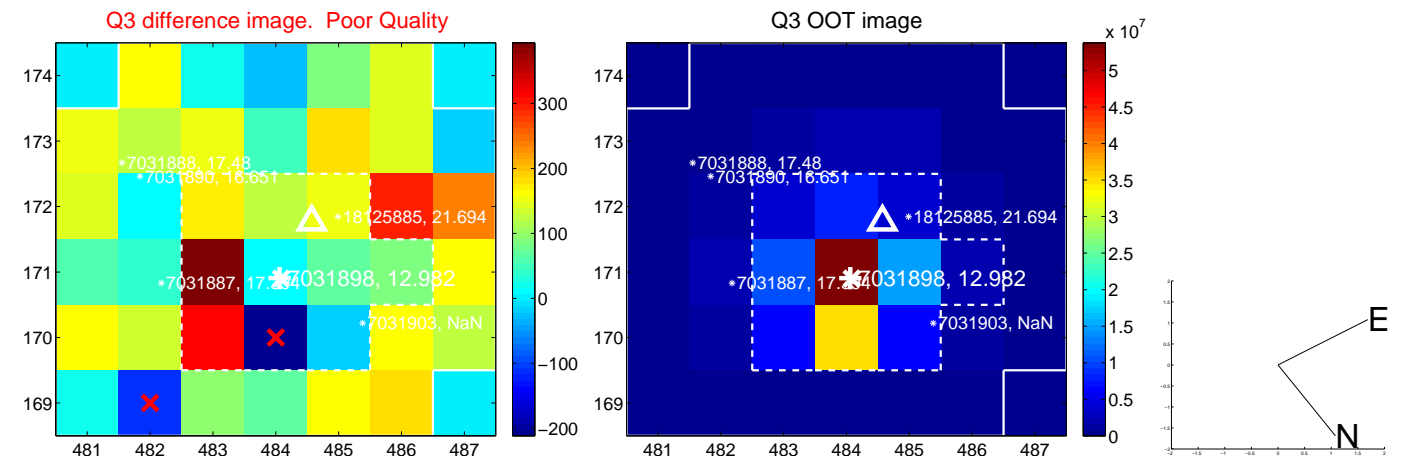
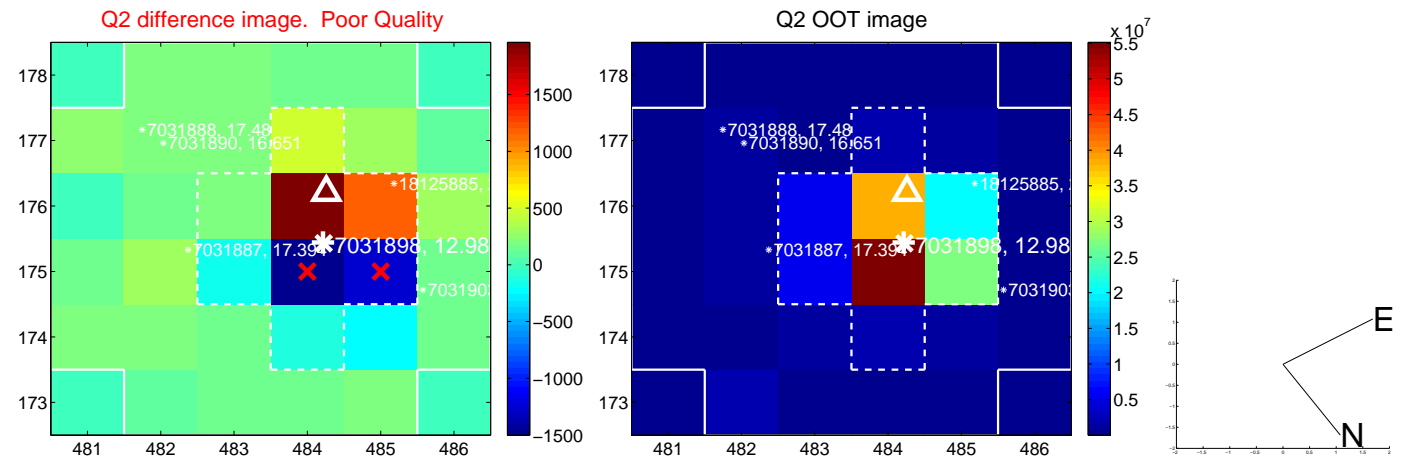
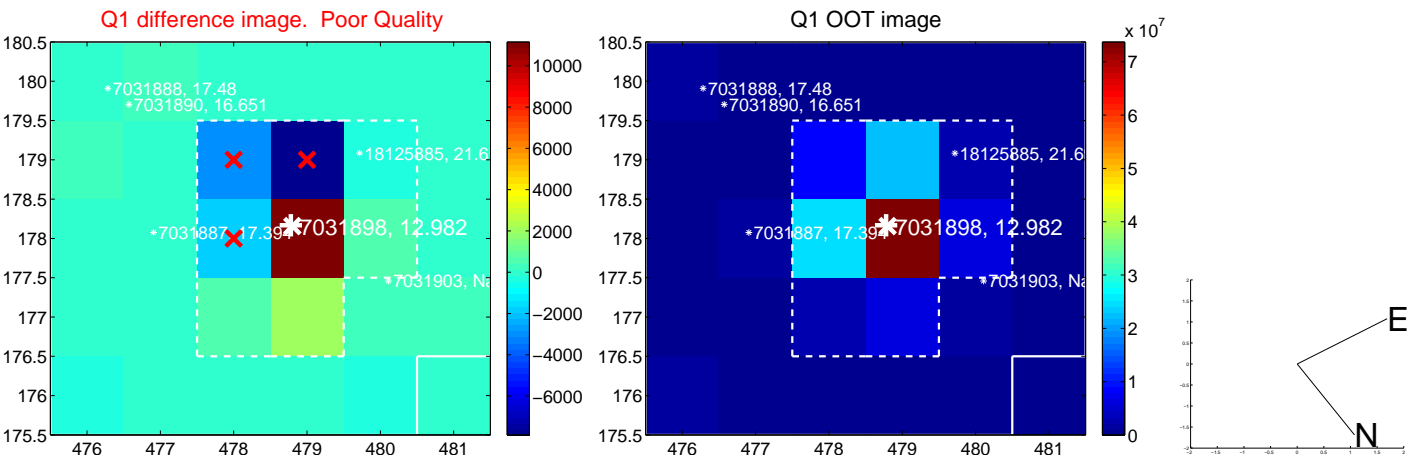
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.660 ± 0.628	2.64	-0.095 ± 0.817	-1.657 ± 0.658
PRF-fit source offset from KIC position	1.742 ± 0.578	3.01	-0.140 ± 0.884	-1.737 ± 0.619
photometric centroid source offset	2.47 ± 0.81	3.04	0.24 ± 0.91	-2.46 ± 0.81

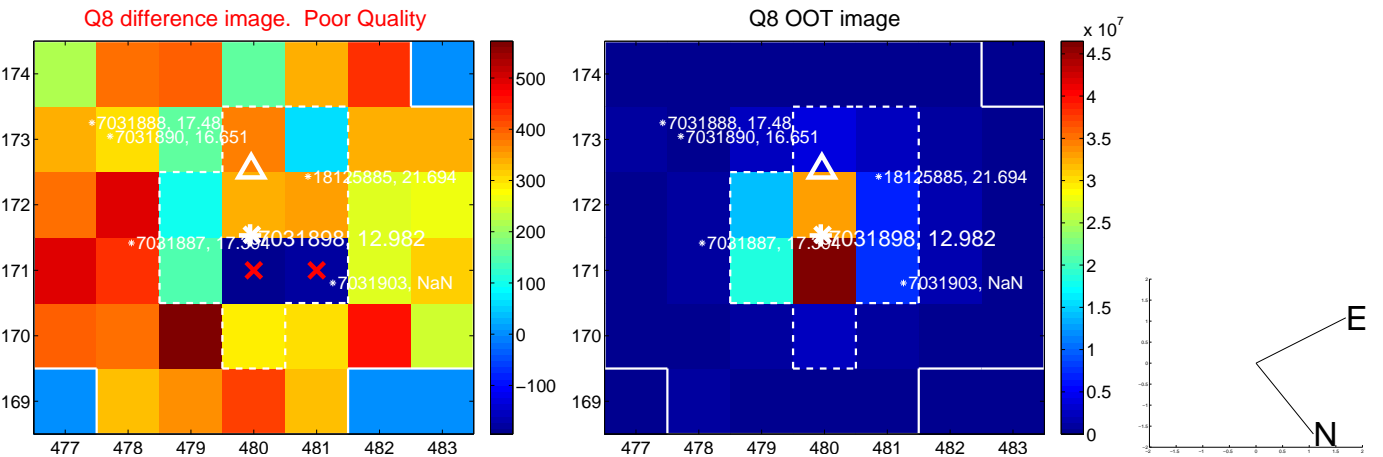
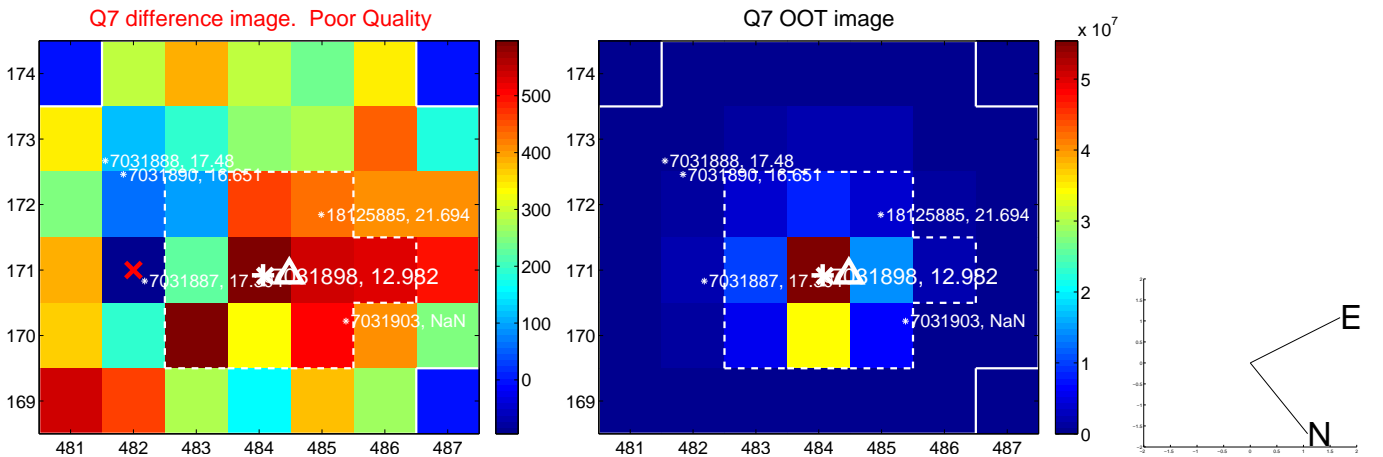
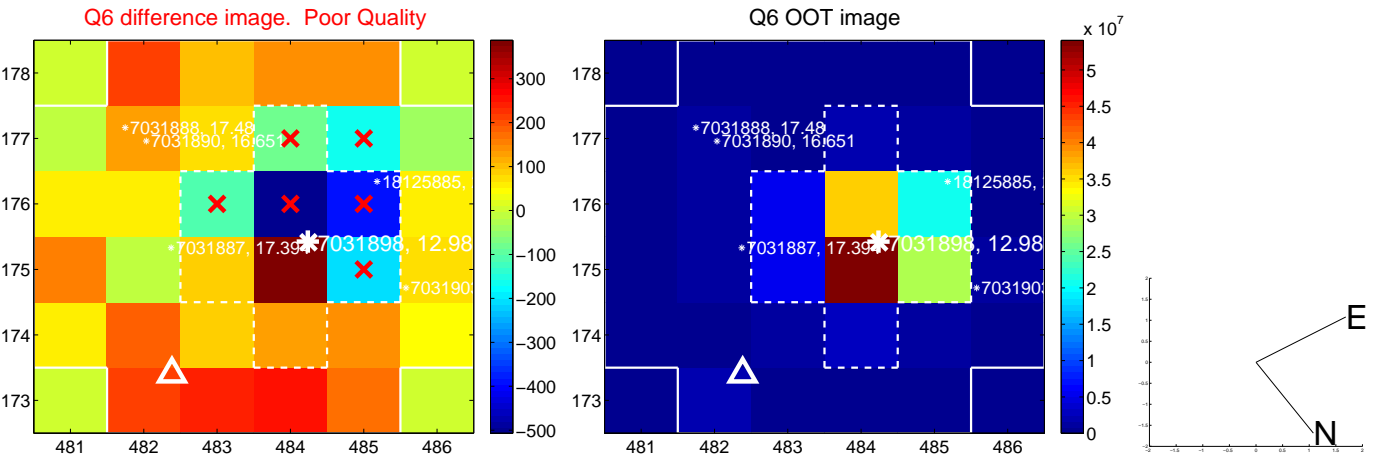
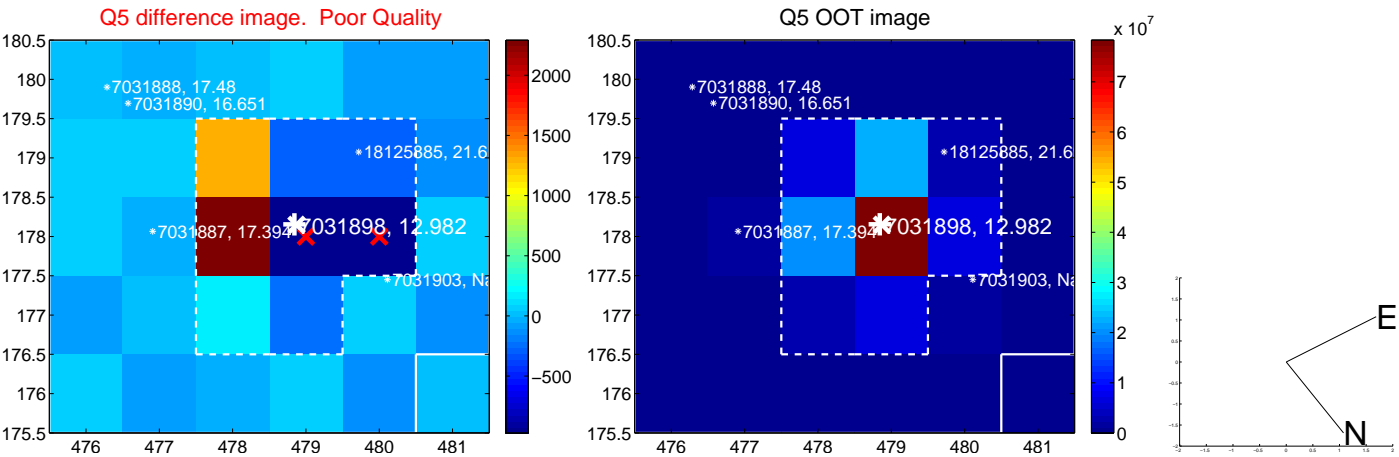


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

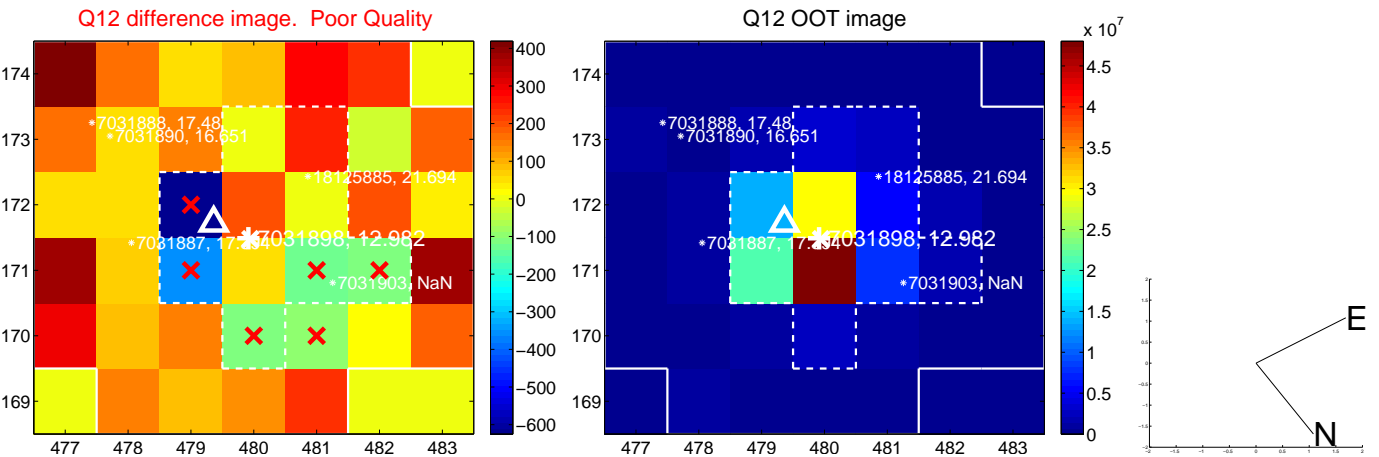
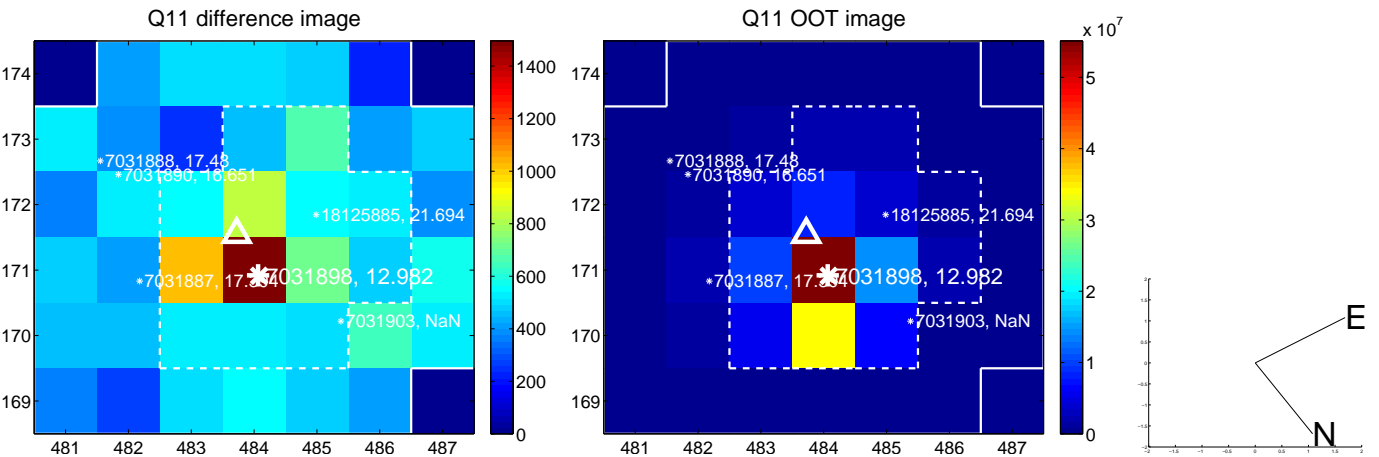
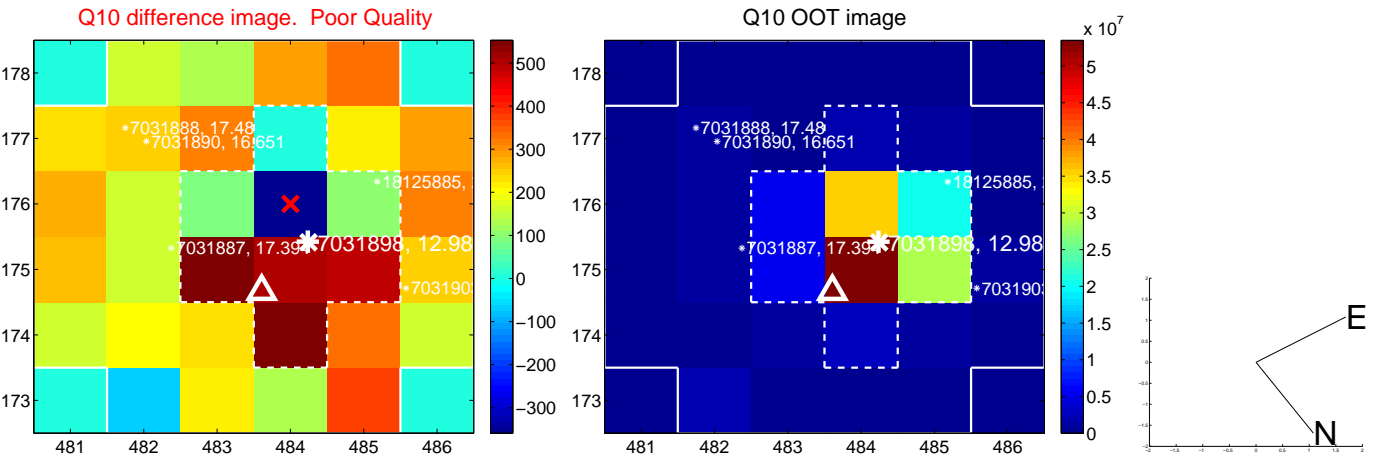
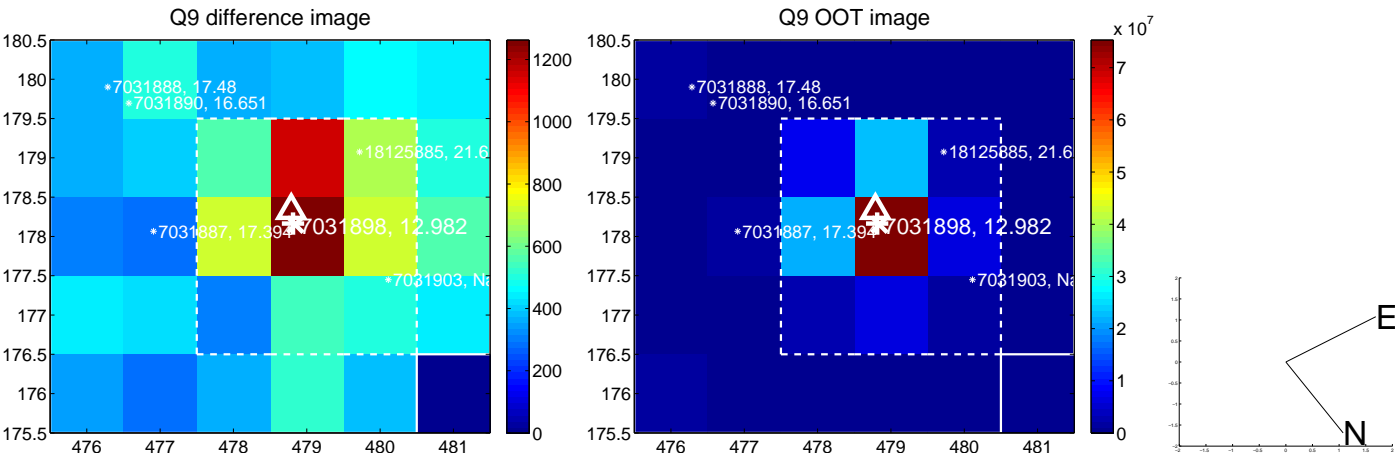
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



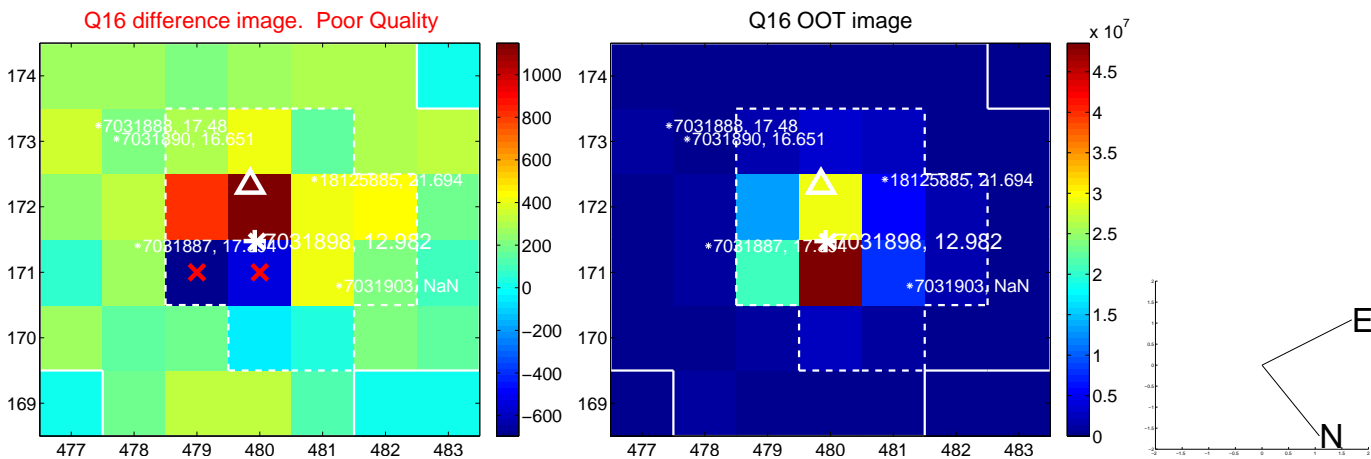
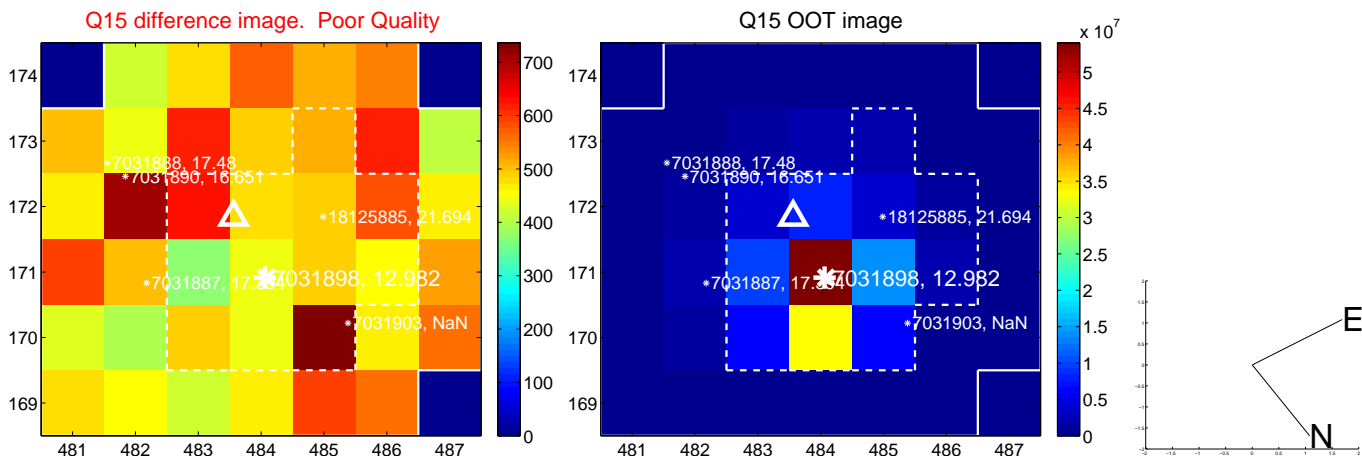
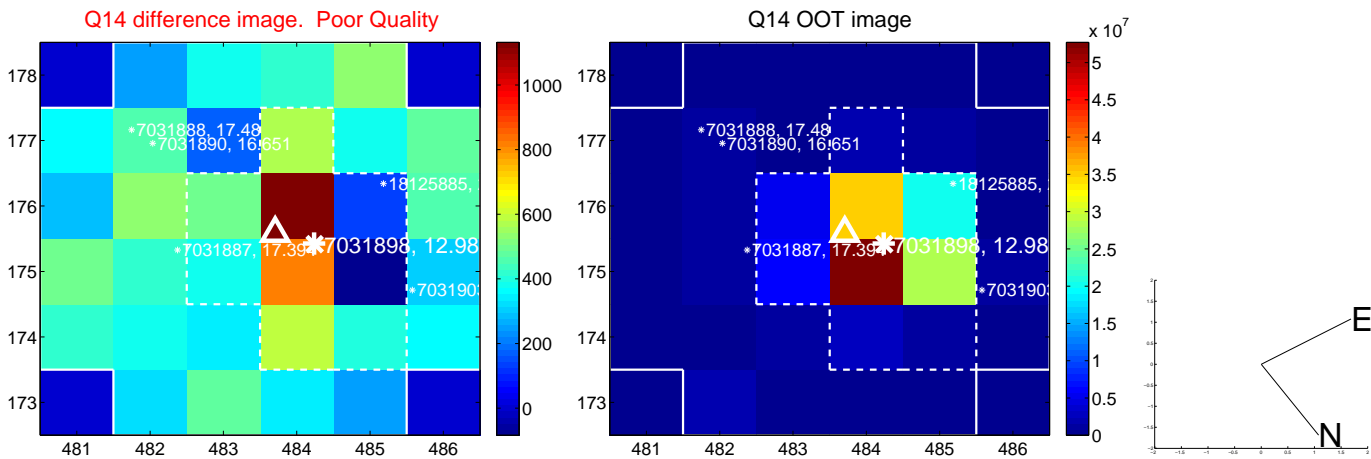
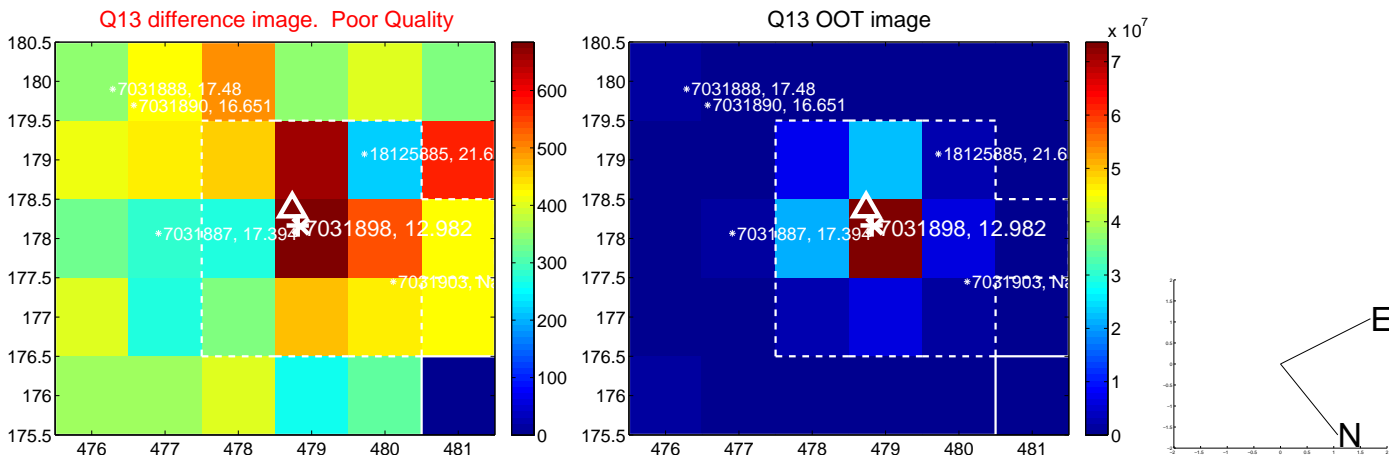
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



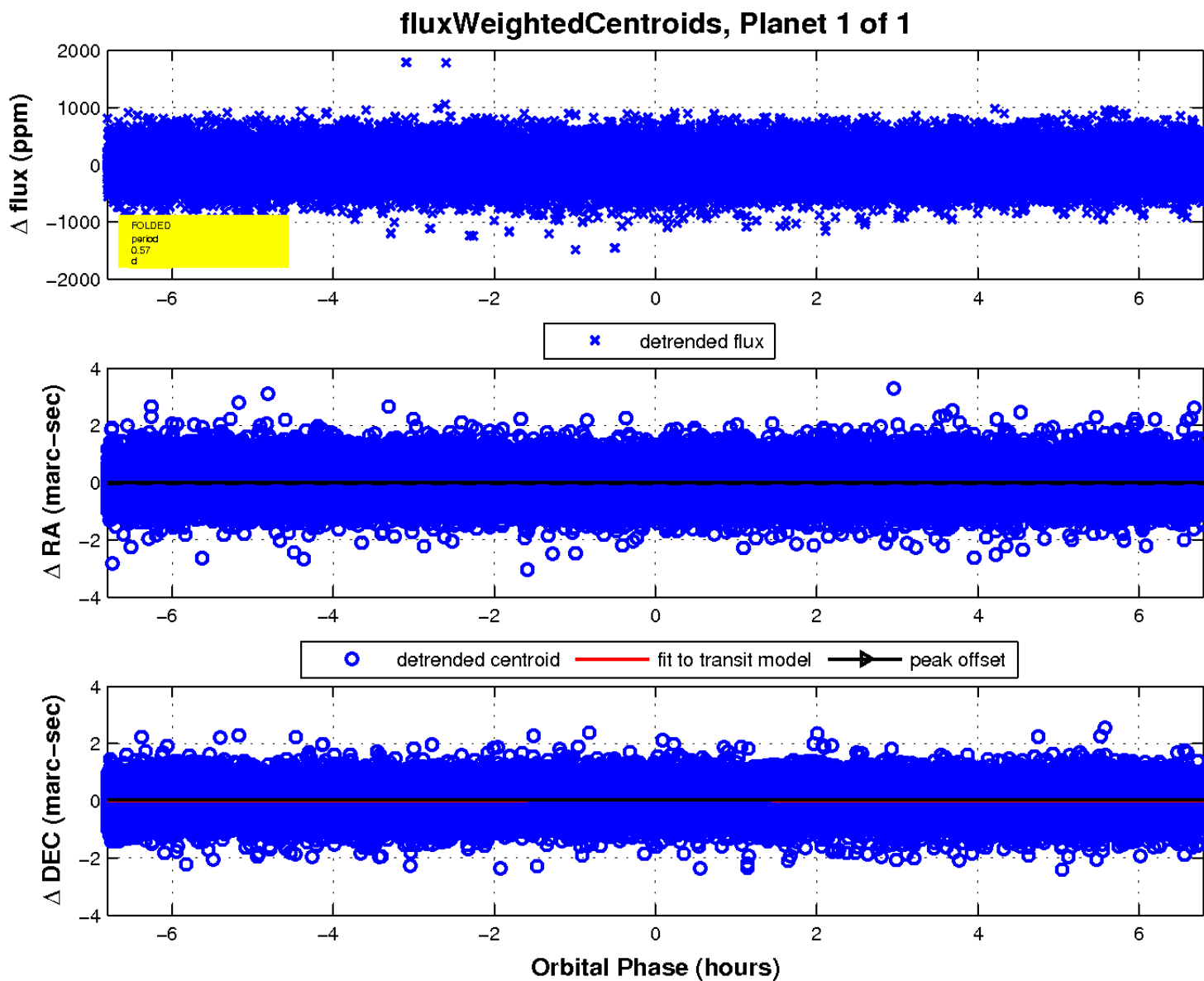
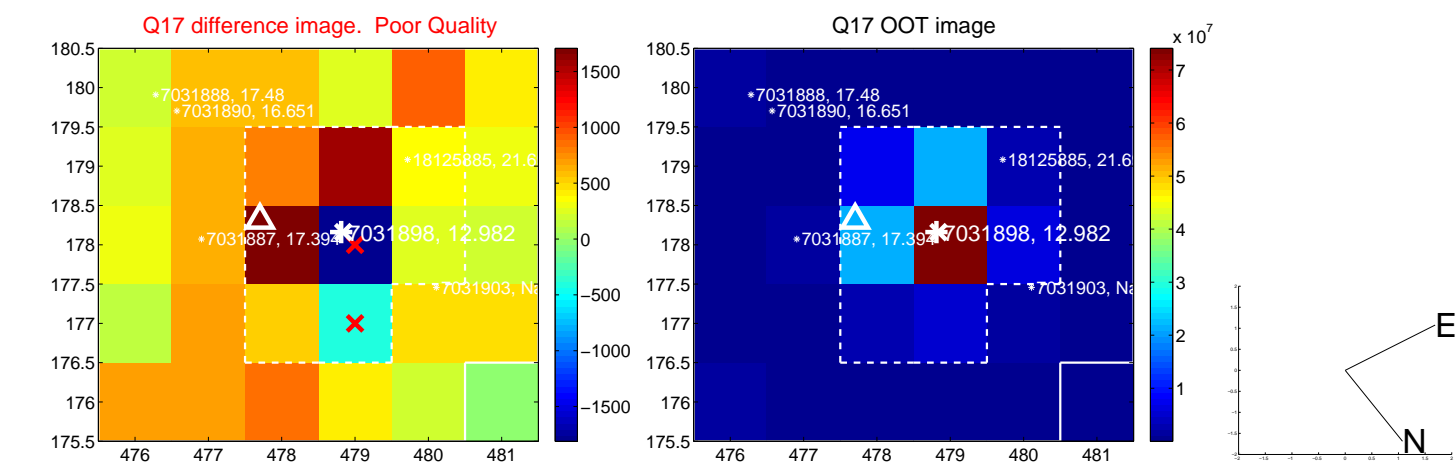
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UKIRT Image

Declination

