

KIC 009899256

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 _⊕)
009899256-01	OBS	7972.01	1.332526	132.077874	27.1	3.225	11.4	9.0	0.89	6071	0.55	1787.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009899256-01	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.

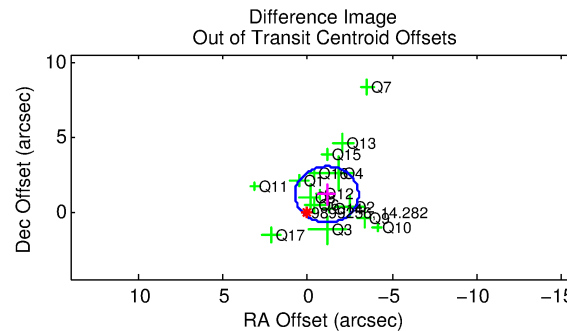
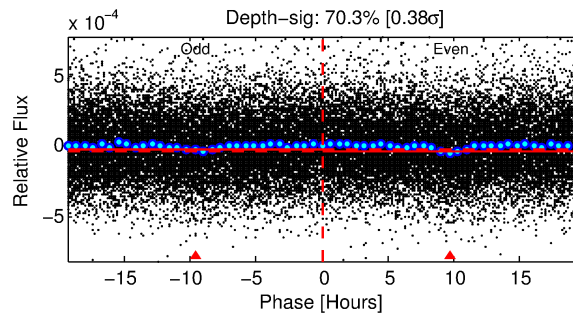
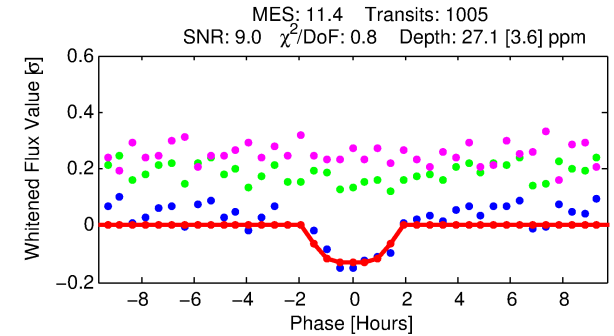
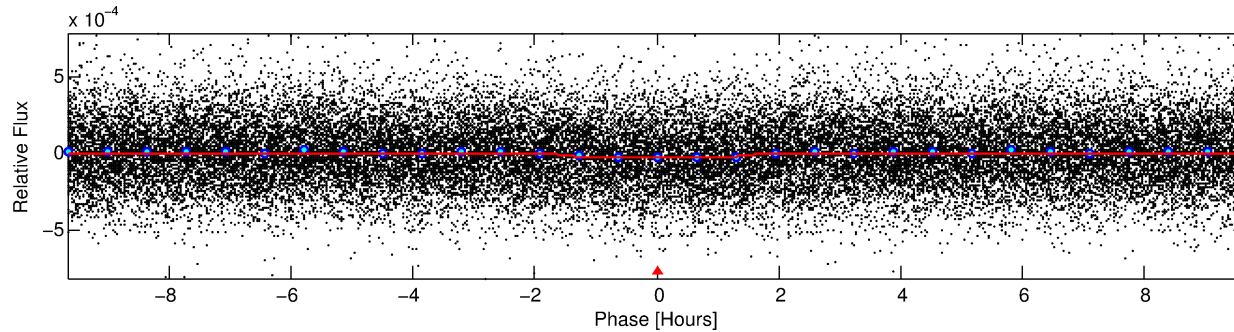
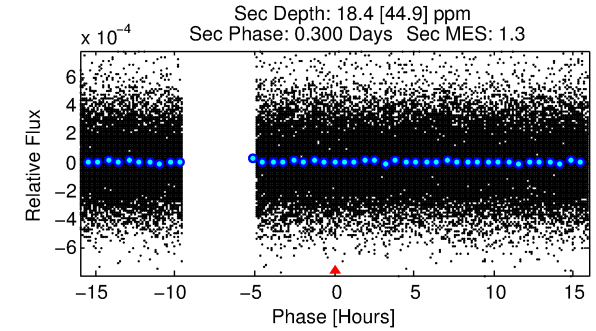
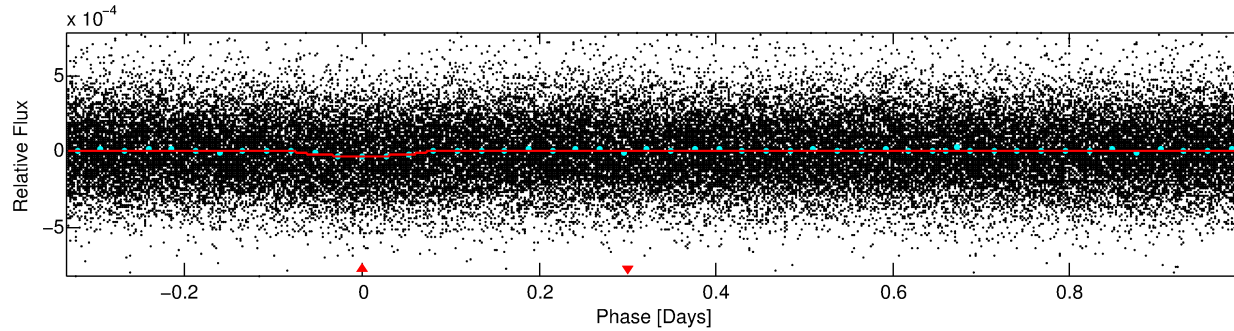
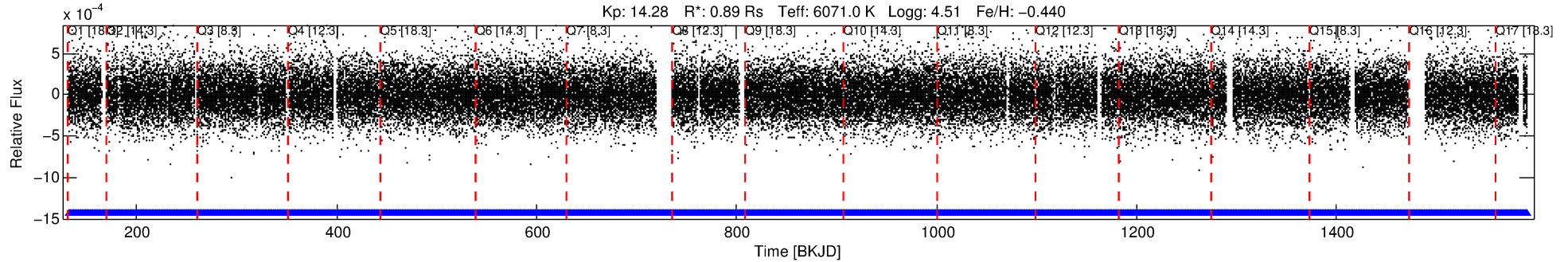
Ephemeris Match Information For 009899256-01

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
009899256-01	9899256	BR-Cyg-pri	9899416	1:1	261.3	56	34	10.03	14.28	24773.00	Direct-PRF	0	2.37	1.97

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: 9899256 Candidate: 1 of 1 Period: 1.333 d



DV Fit Results:

Period = 1.33253 [0.00002] d
Epoch = 132.0779 [0.0048] BKJD
Rp/R* = 0.0057 [0.0032]
a/R* = 1.63 [3.15]
b = 0.91 [0.57]
Seff = 1787.79 [702.44]
Teq = 1658 [163] K
Rp = 0.55 [0.35] Re
a = 0.0231 [0.0058] AU
Ag = 17.96 [48.70] [0.35σ]
Teffp = 5277 [3547] K [1.02σ]

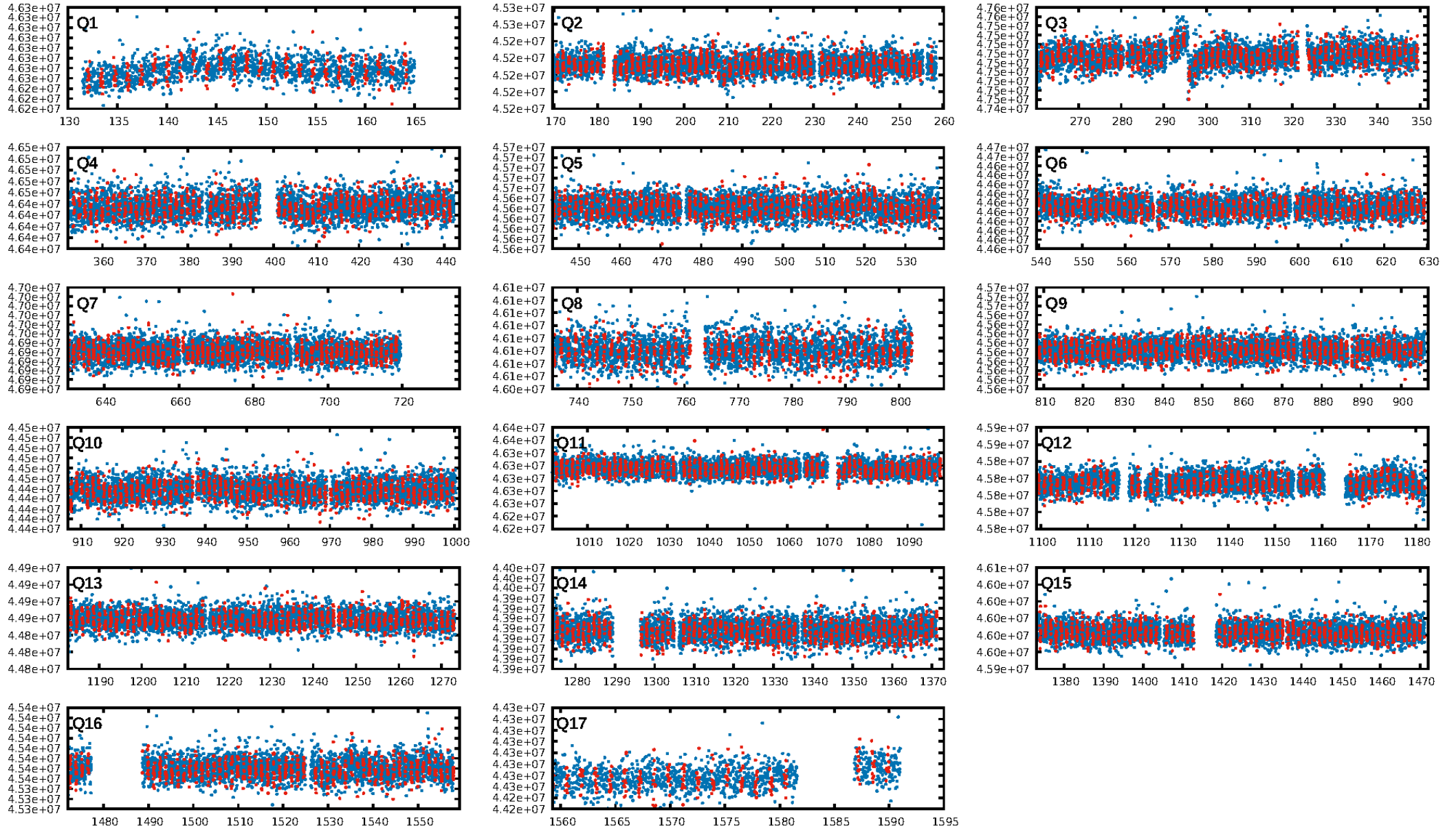
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.27e-28
RollingBand-fgt: 1.00 [960/960]
GhostDiagnostic-chr: 0.1807
Centroid-sig: 46.4%
Centroid-so: 1.323 arcsec [0.90σ]
OotOffset-rm: 1.594 arcsec [2.55σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 1.621 arcsec [2.61σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.06 [1/16]
DiffImageOverlap-fno: 1.00 [17/17]

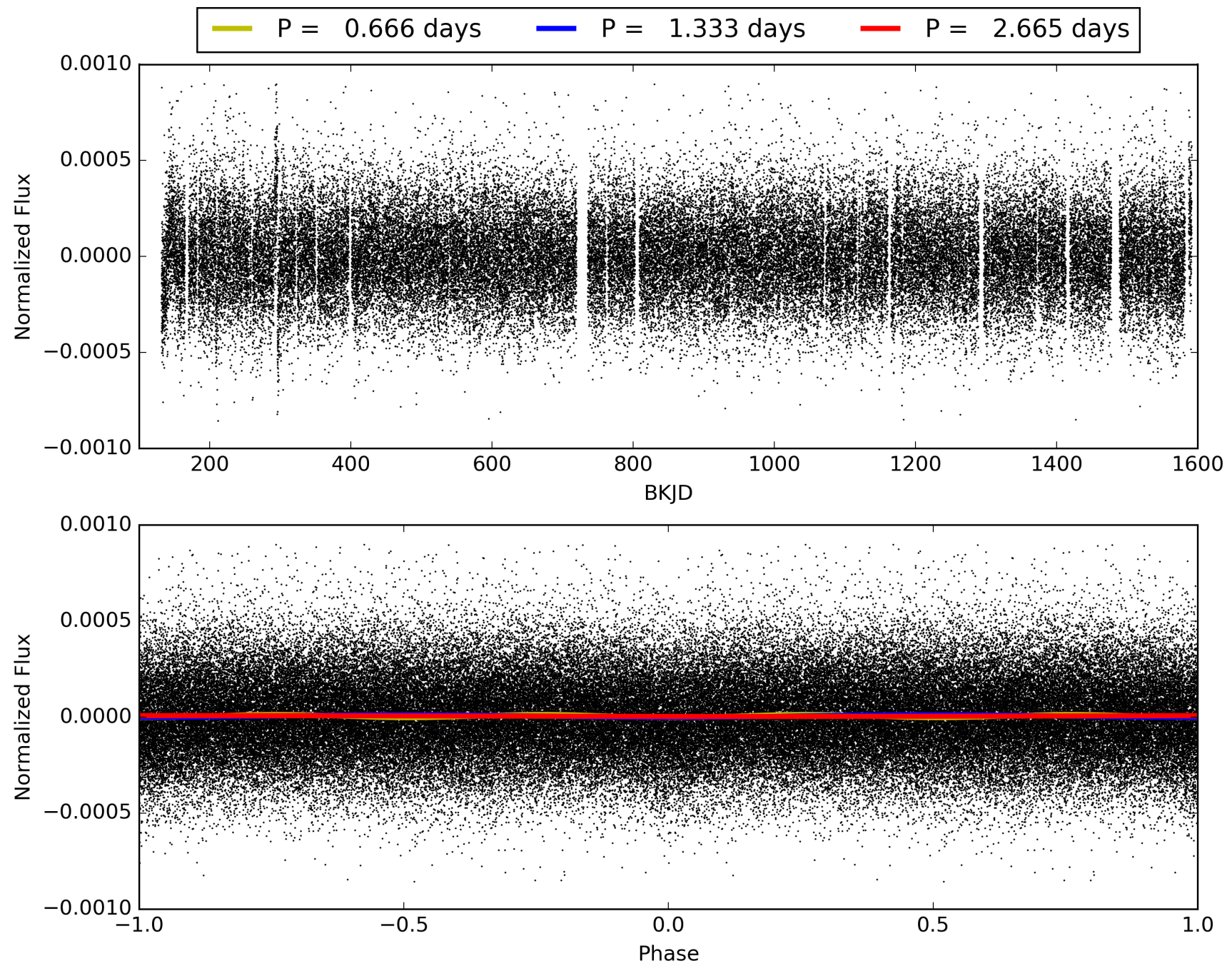
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:27:05 Z

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

TCE 009899256-01, PDC Light Curves

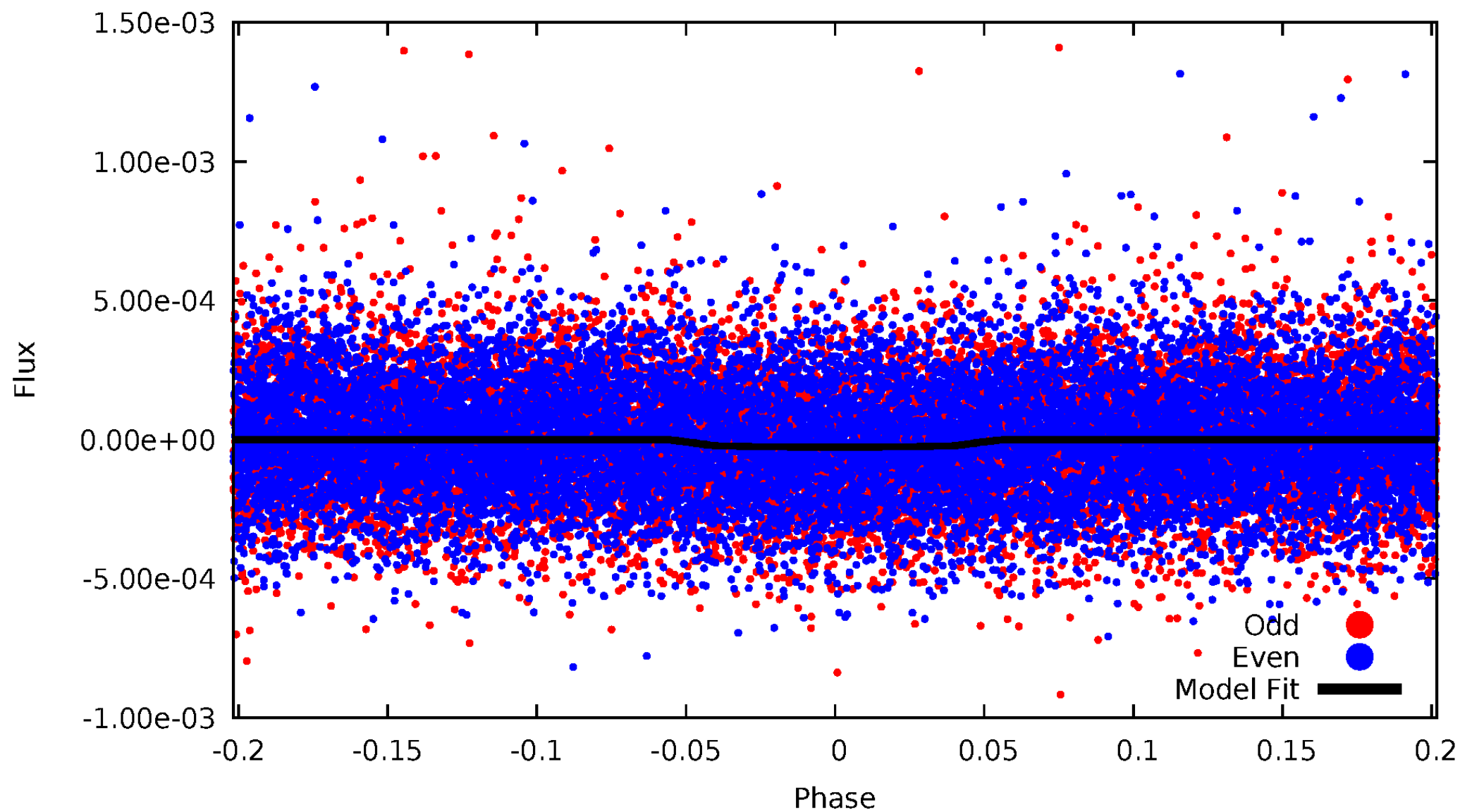


TCE 009899256-01



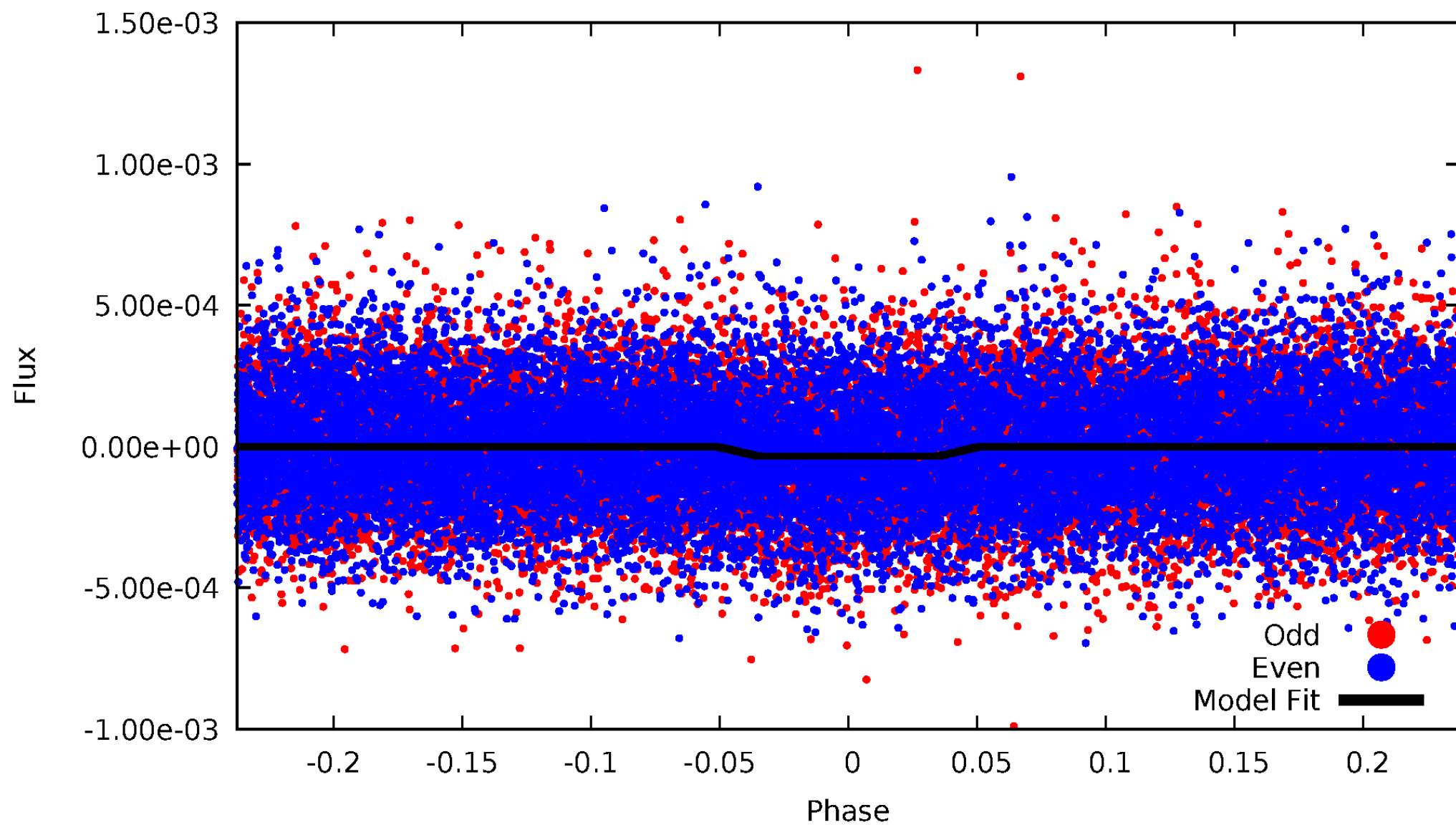
DV Odd/Even

TCE 009899256-01



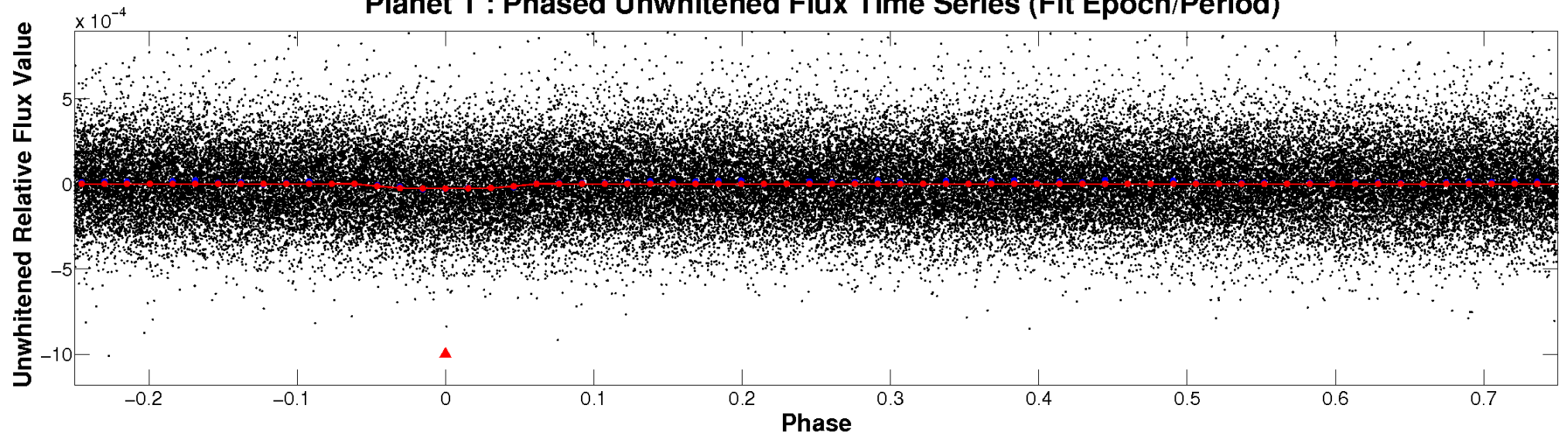
ALT Odd/Even

TCE 009899256-01

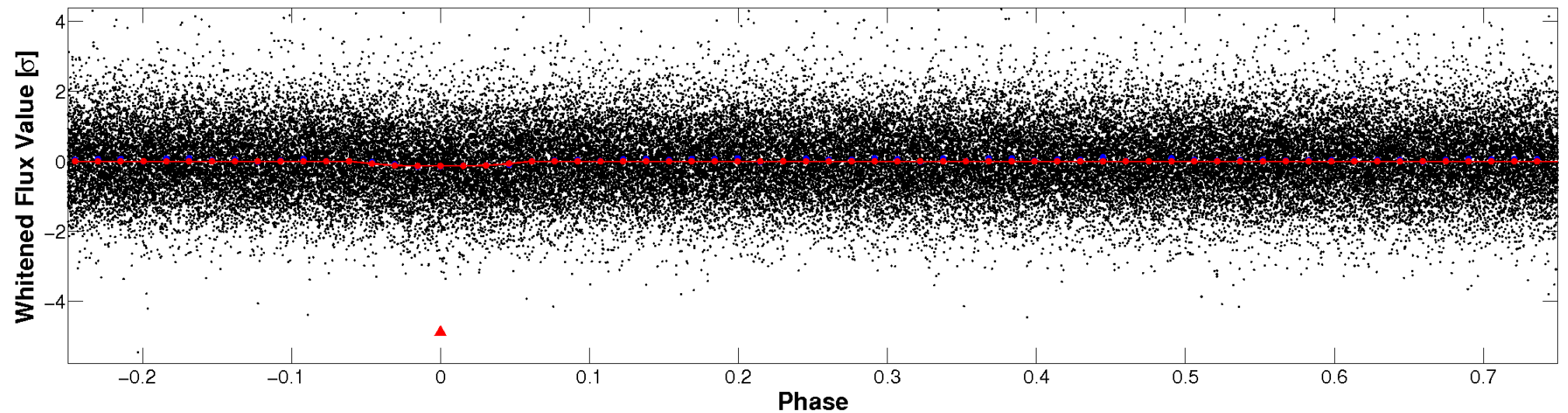


Non-Whitened Vs. Whitened Light Curve

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

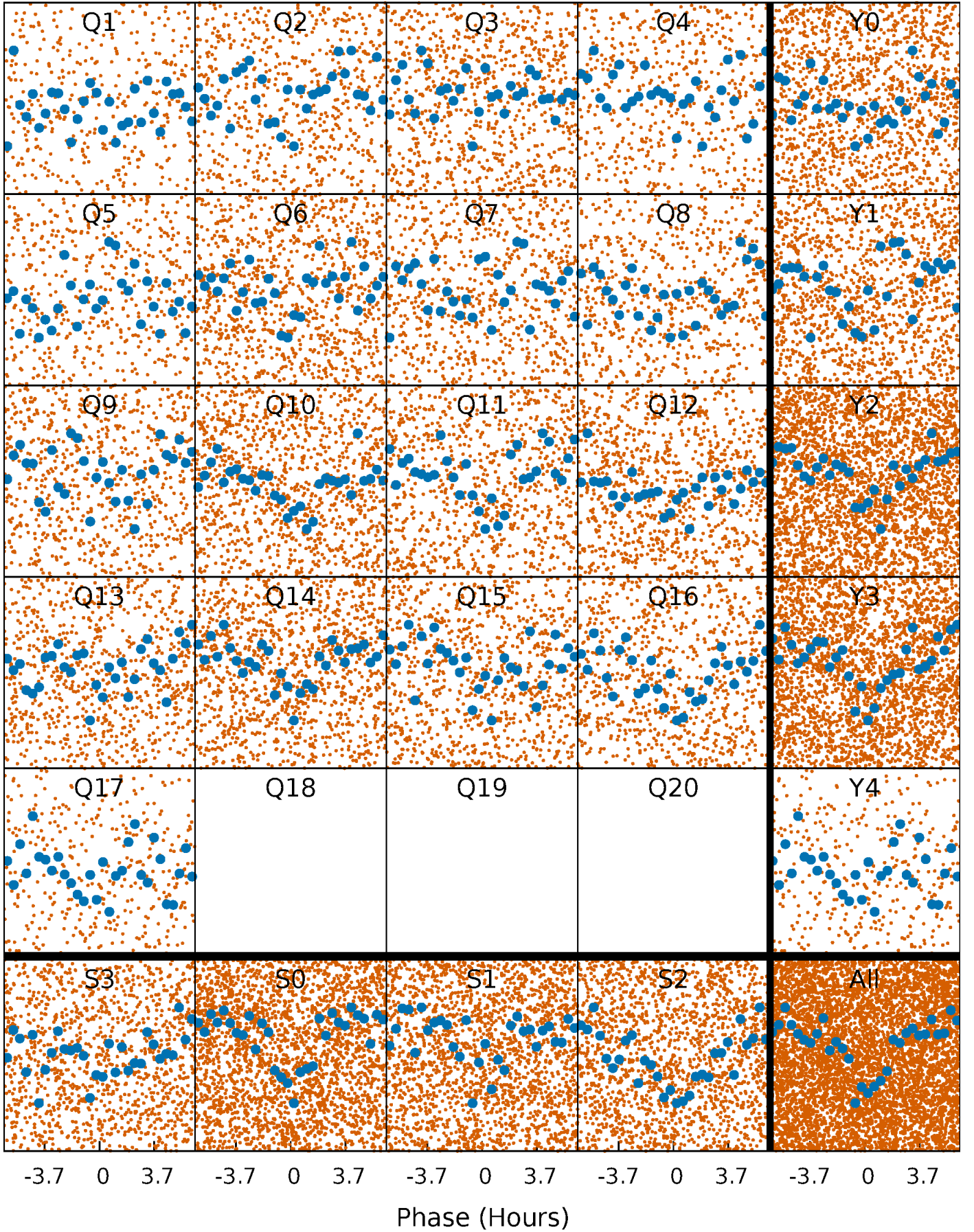


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



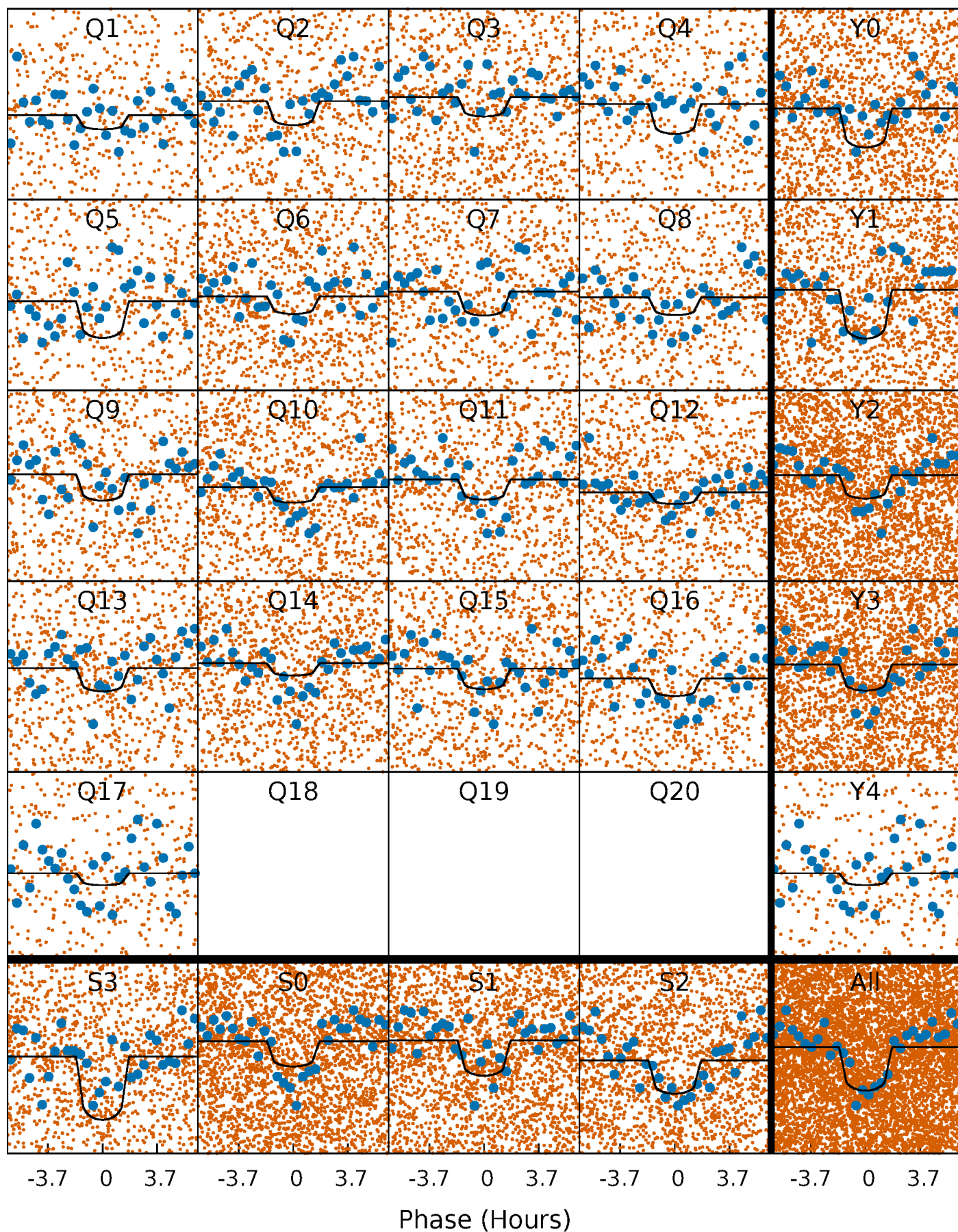
PDC Quarter-Phased Transit Curves

TCE 009899256-01 P= 1.332526 Days $T_0=132.077875$ (BKJD)



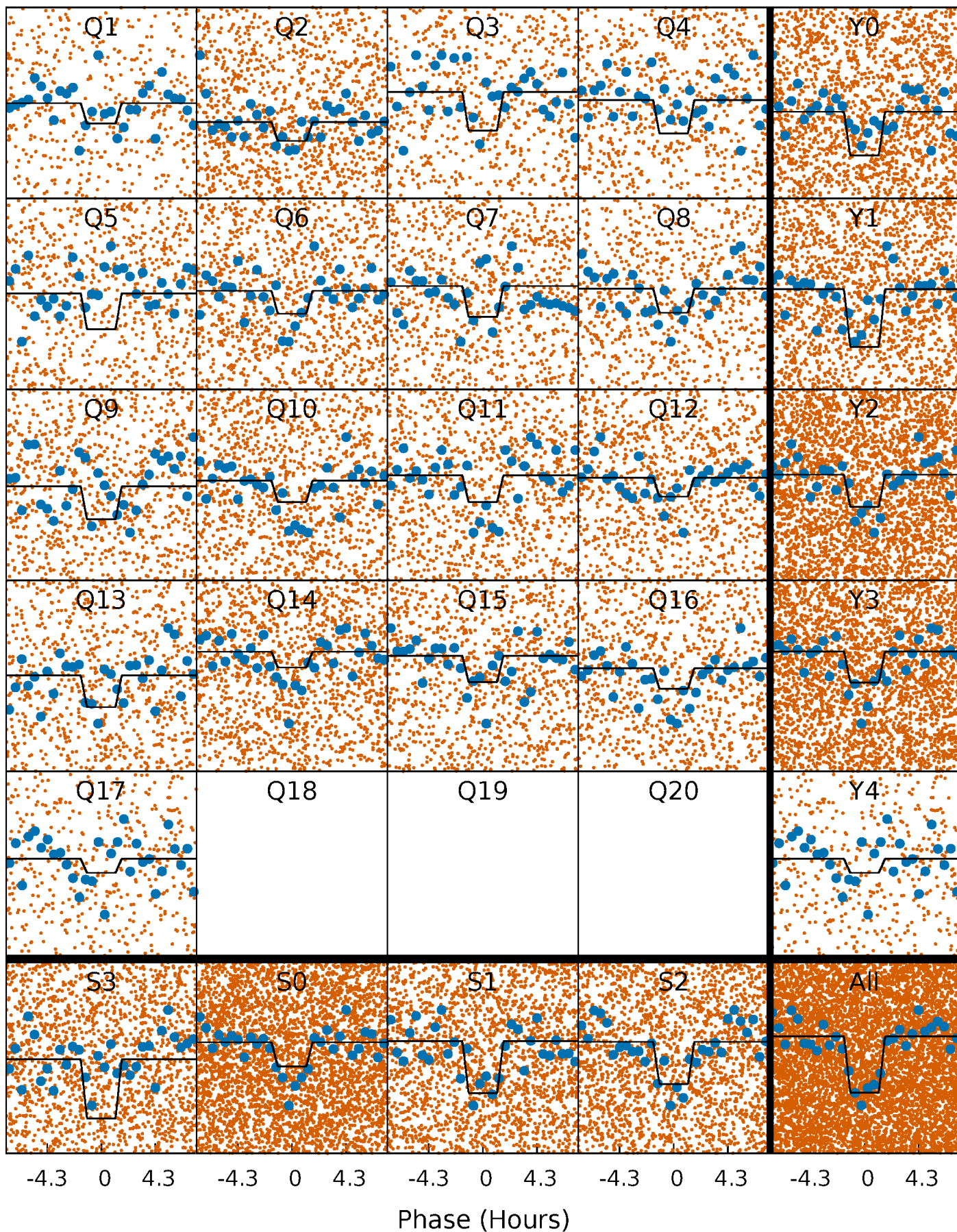
DV Quarter-Phased Transit Curves

TCE 009899256-01 P= 1.332526 Days $T_0=132.077875$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

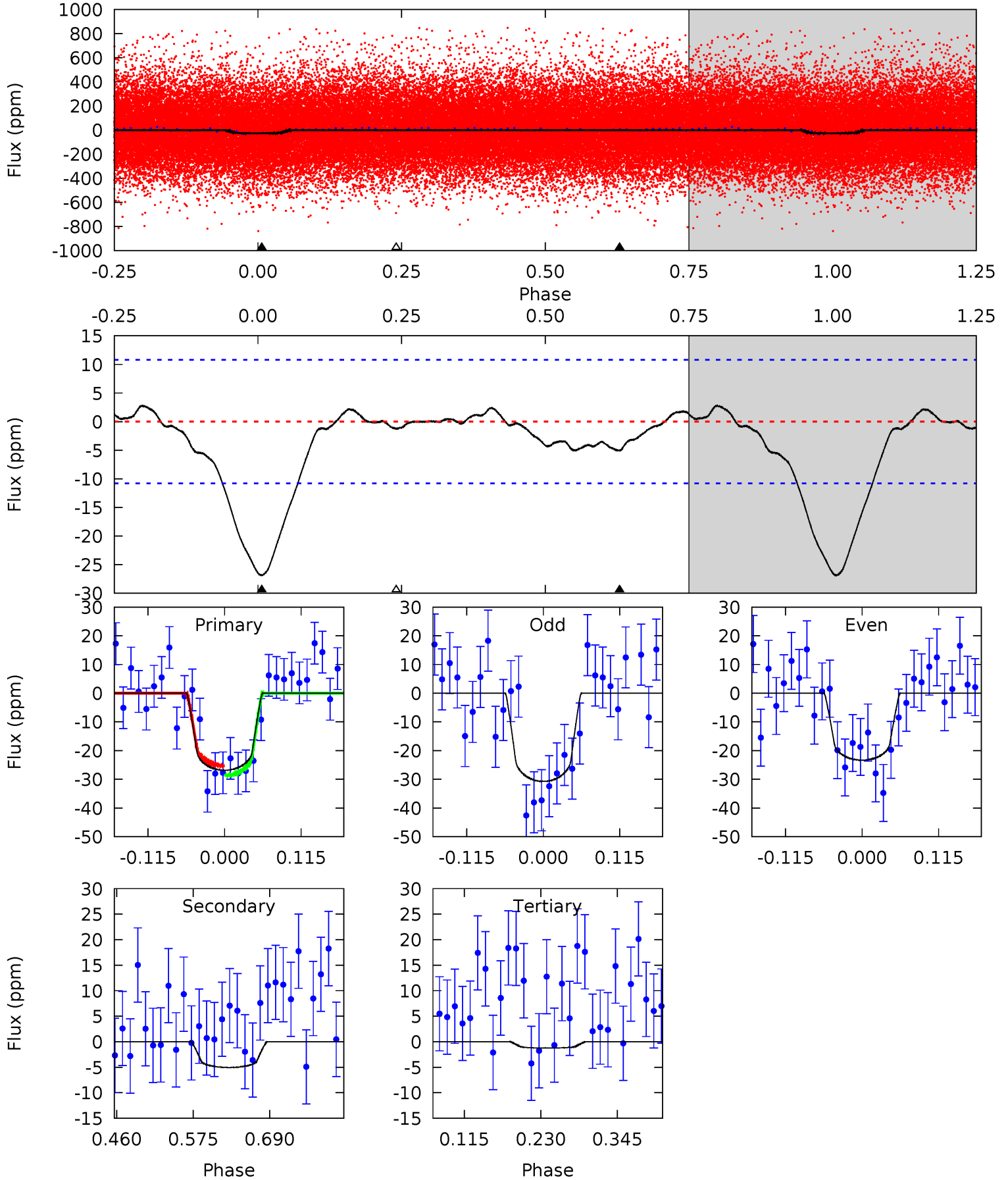
TCE 009899256-01 P= 1.332556 Days $T_0=132.067160$ (BKJD)



DV Model-Shift Uniqueness Test

009899256-01, P = 1.332526 Days, E = 130.745349 Days

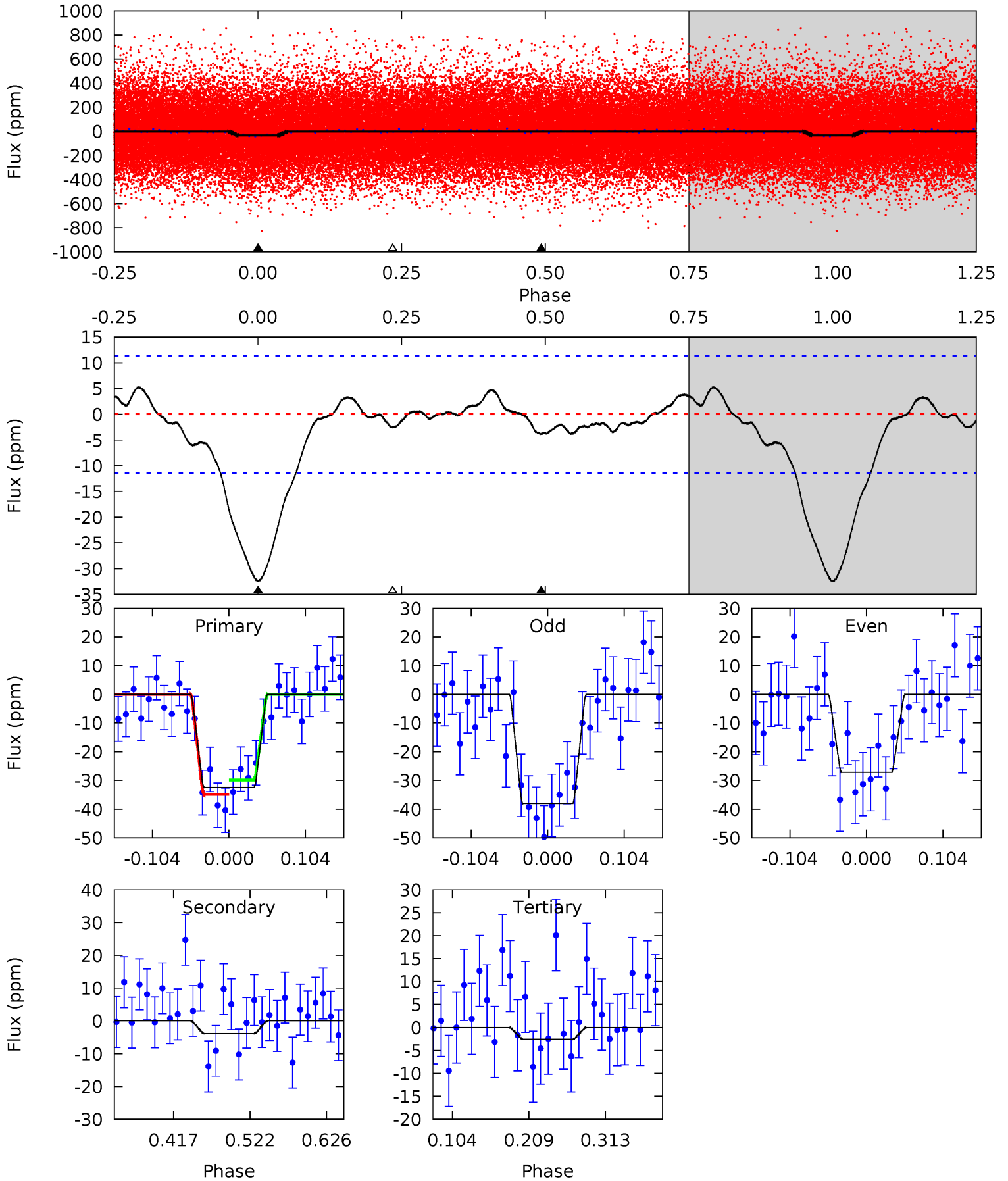
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	2.12	0.52	0	4.54	1.58	0.68	10.8	11.3	1.60	2.12	1.55	0.97	0.09	0.71



Alt Model-Shift Uniqueness Test

009899256-01, P = 1.332556 Days, E = 130.734604 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	1.53	1.01	0	4.56	1.62	0.91	12.0	13.0	0.51	1.53	2.20	0.96	0.14	1.02



Stellar Parameters For KIC 009899256

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6071^{+165}_{-183}	$4.511^{+0.052}_{-0.208}$	$-0.440^{+0.300}_{-0.300}$	$0.887^{+0.259}_{-0.086}$	$0.930^{+0.106}_{-0.106}$	$1.879^{+0.507}_{-0.967}$
	+3%/-3%	+1%/-5%	+68%/-68%	+29%/-10%	+11%/-11%	+27%/-51%
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 009899256-01 / KOI 7972.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 2	$0.57^{+0.30}_{-0.31}$	2361^{+149}_{-106}	4077^{+1568}_{-852}	$4.487^{+16.926}_{-3.186}$
Alt.	-4 ± 2	$0.61^{+0.33}_{-0.31}$	2367^{+171}_{-116}	3718^{+1177}_{-863}	$2.681^{+8.644}_{-1.979}$

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

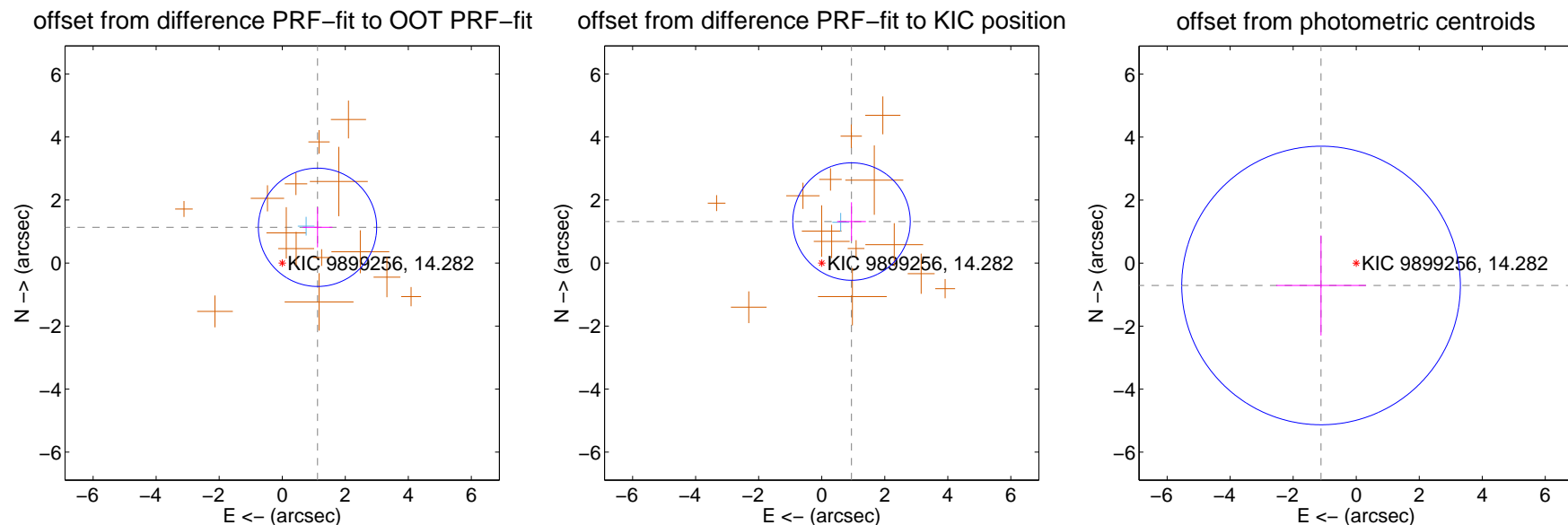
DV Centroid Data

Supplemental centroid analysis for 009899256-01. Kepler magnitude: 14.28. Transit SNR 9.04

There are 1 quarters with good PRF difference image offsets

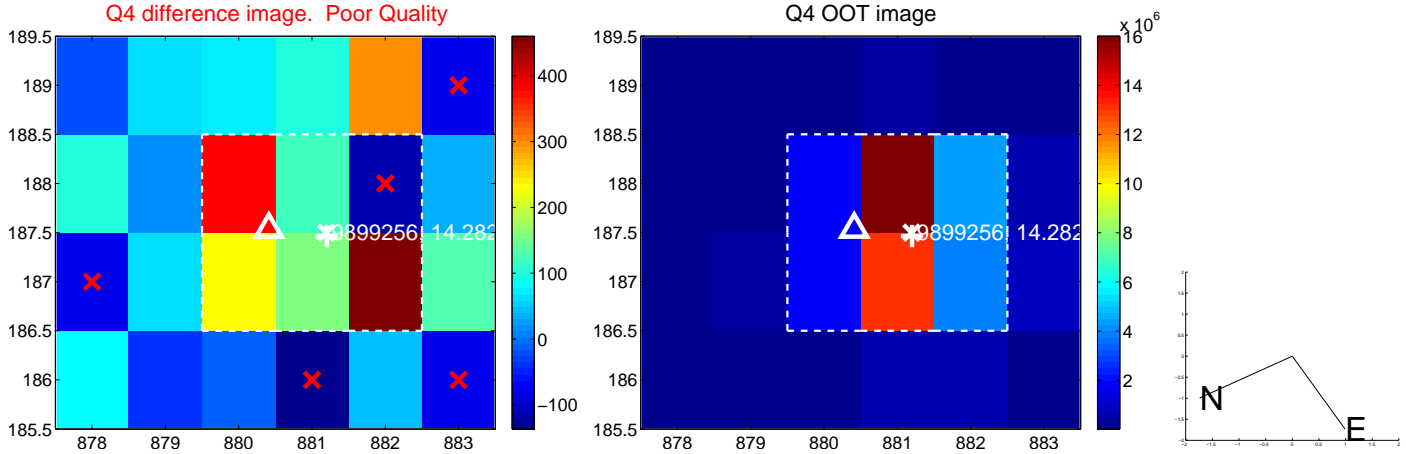
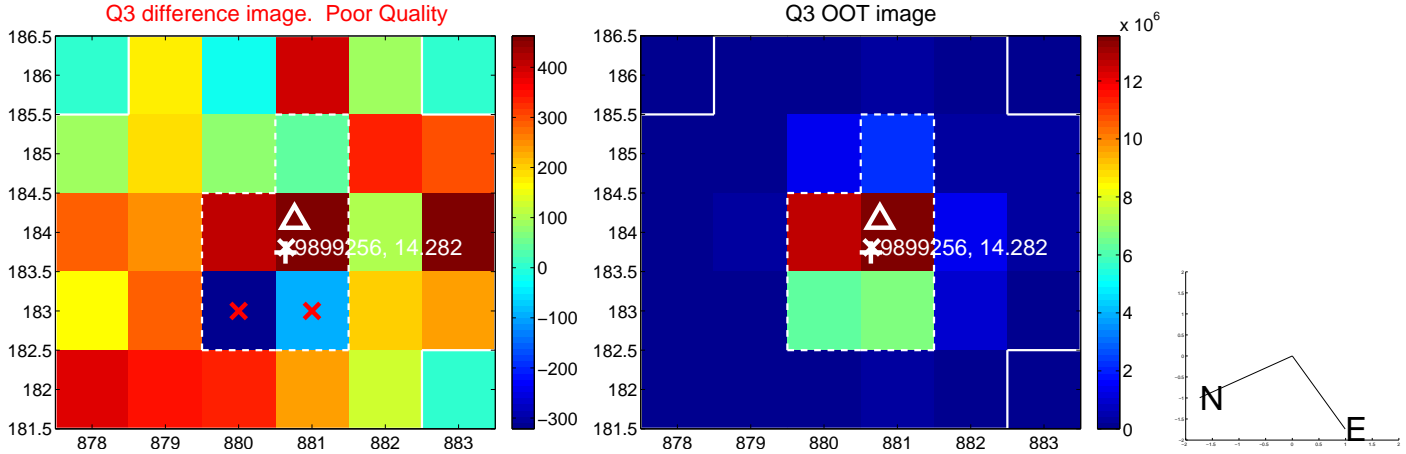
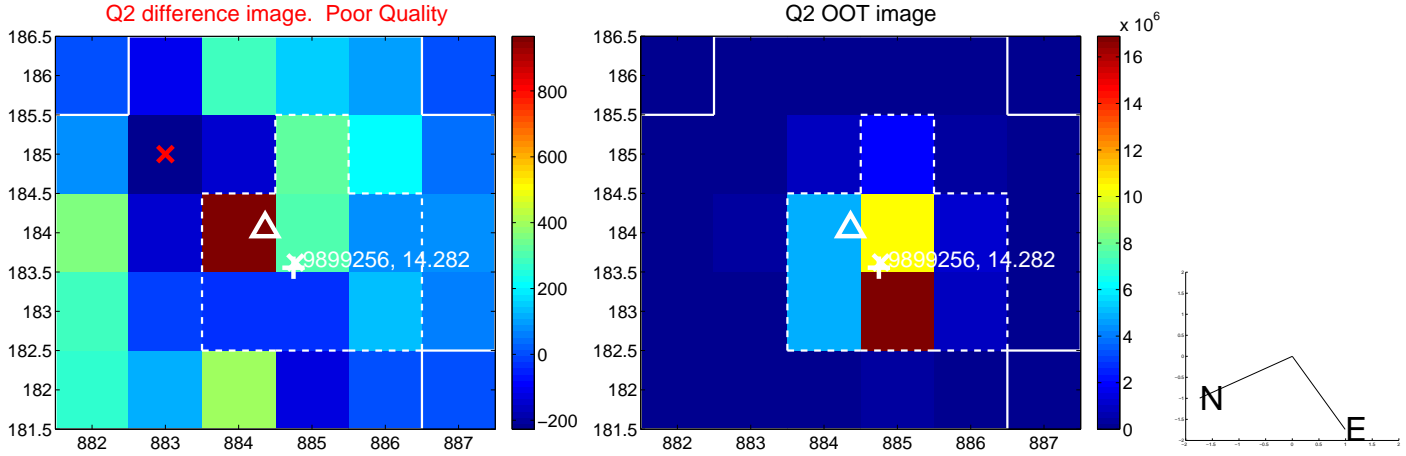
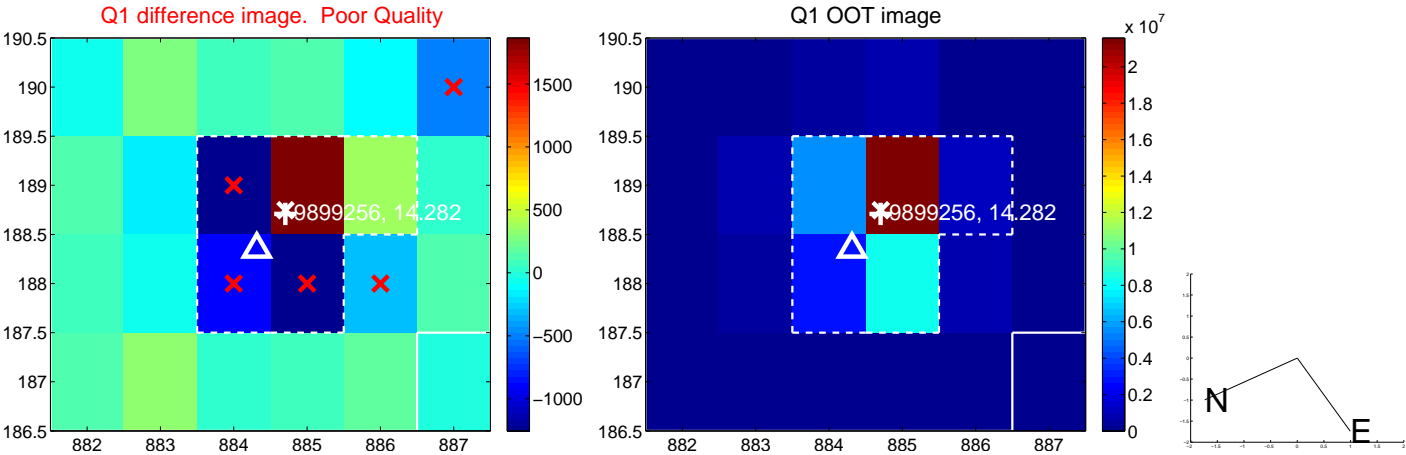
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.594 ± 0.626	2.55	-1.120 ± 0.474	1.134 ± 0.636
PRF-fit source offset from KIC position	1.621 ± 0.621	2.61	-0.946 ± 0.455	1.316 ± 0.615
photometric centroid source offset	1.32 ± 1.47	0.90	1.12 ± 1.43	-0.71 ± 1.59

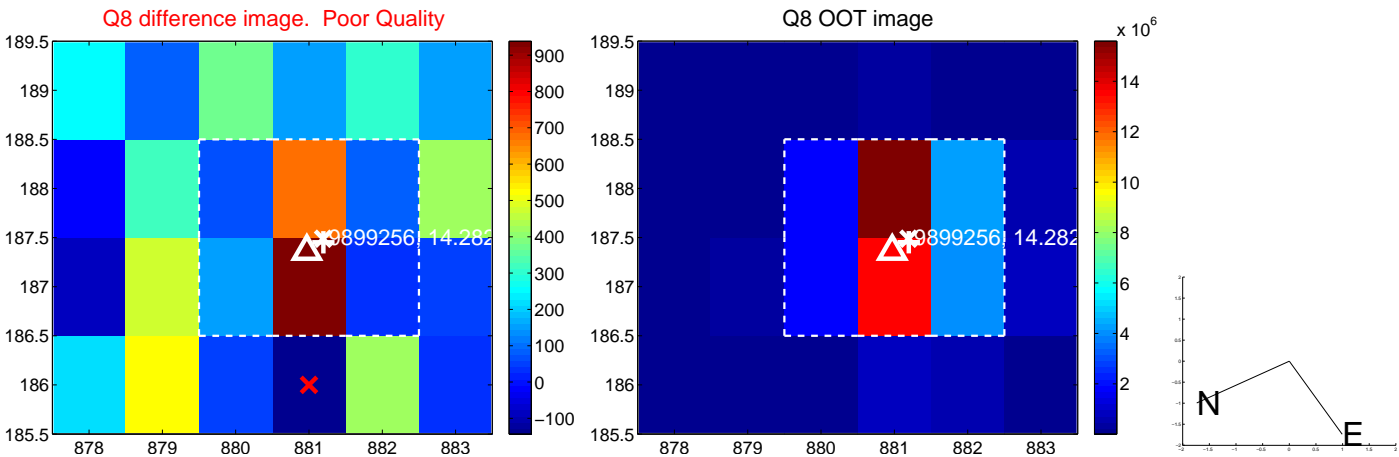
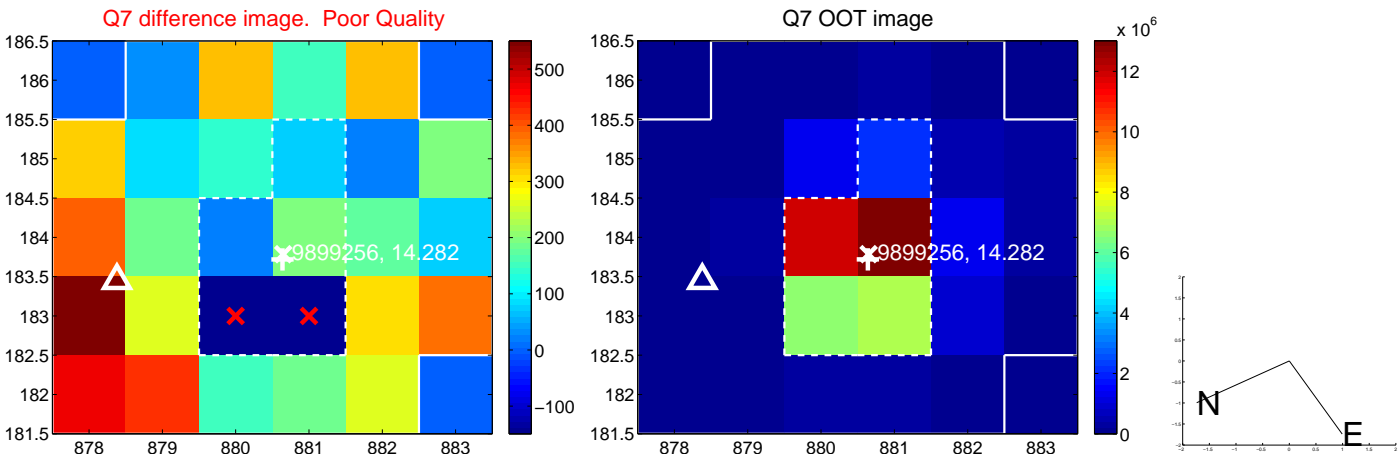
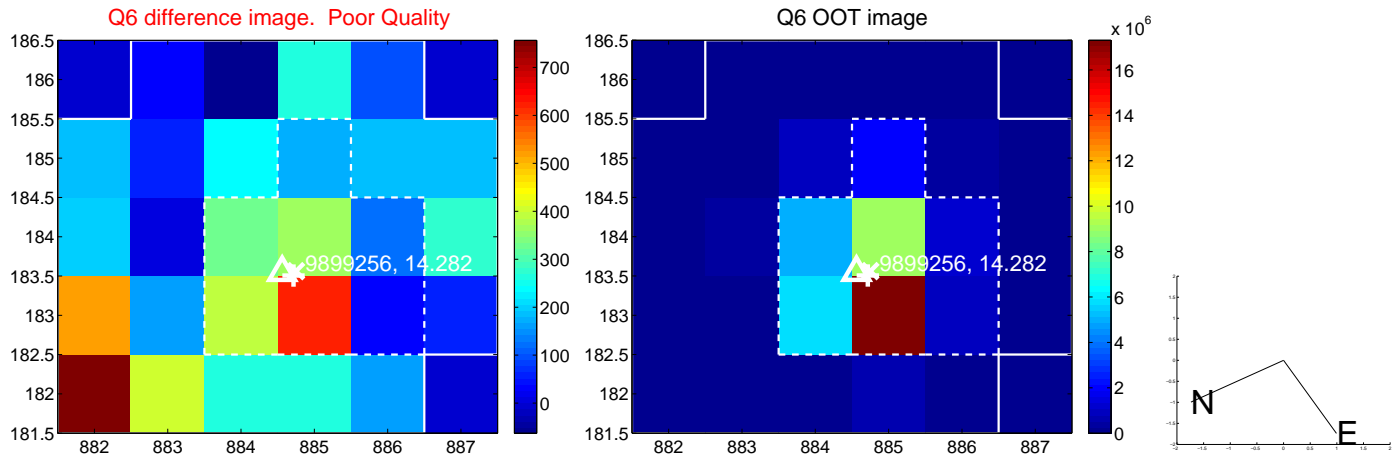
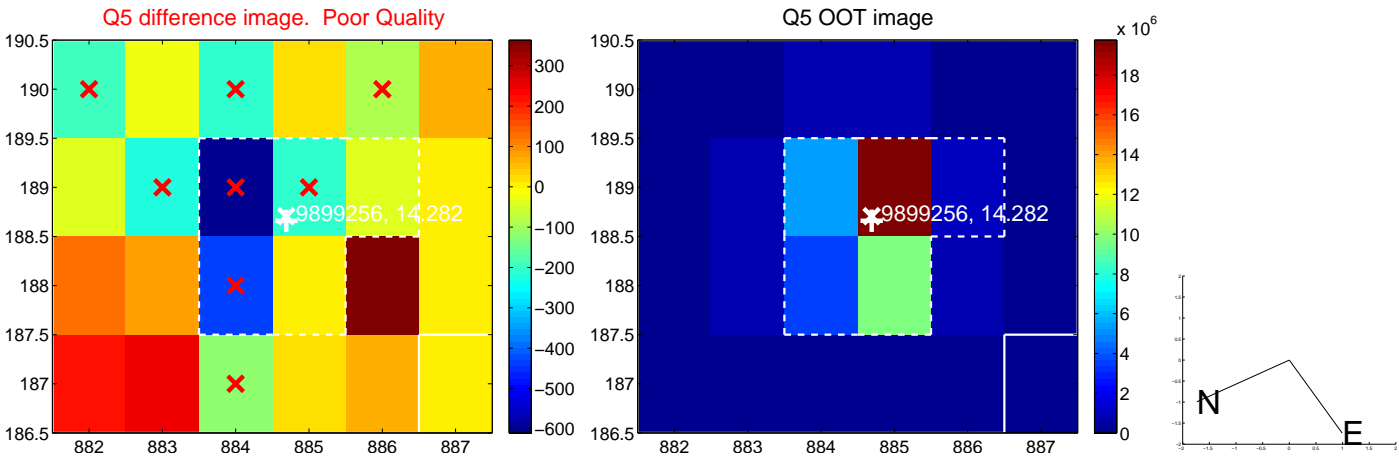


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

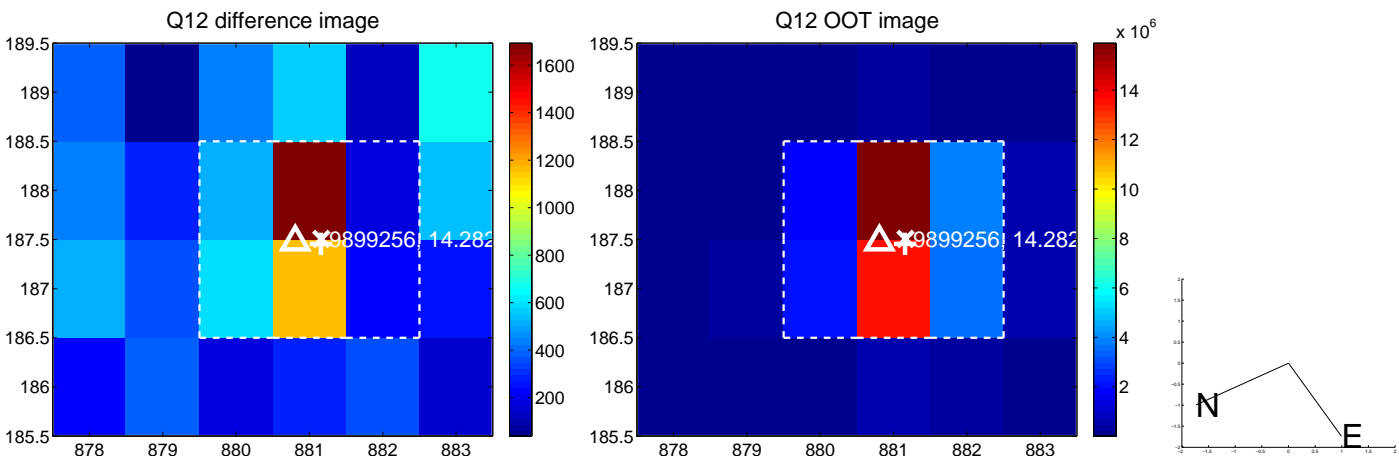
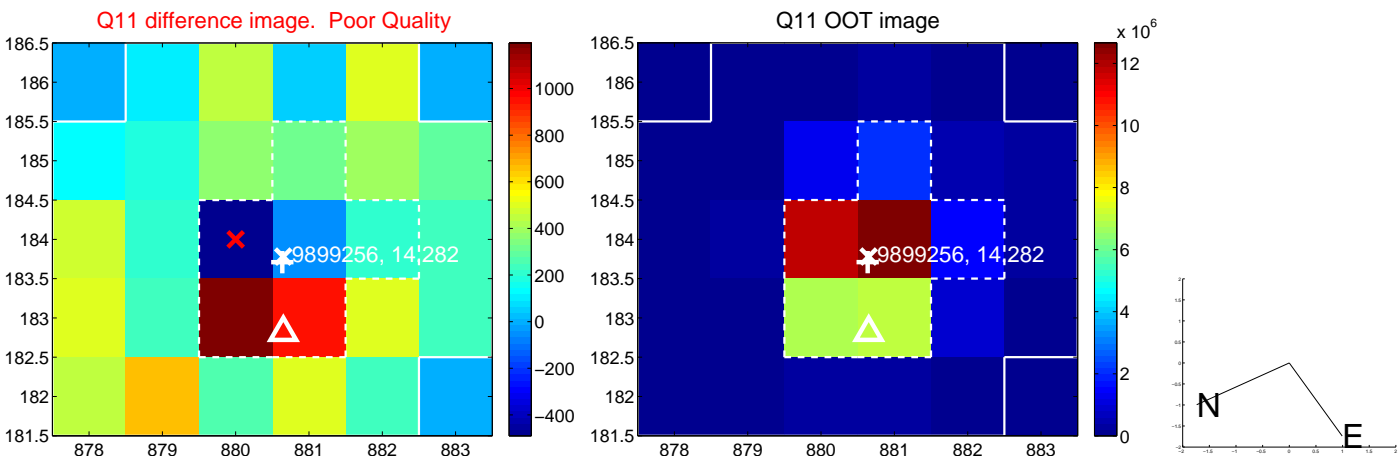
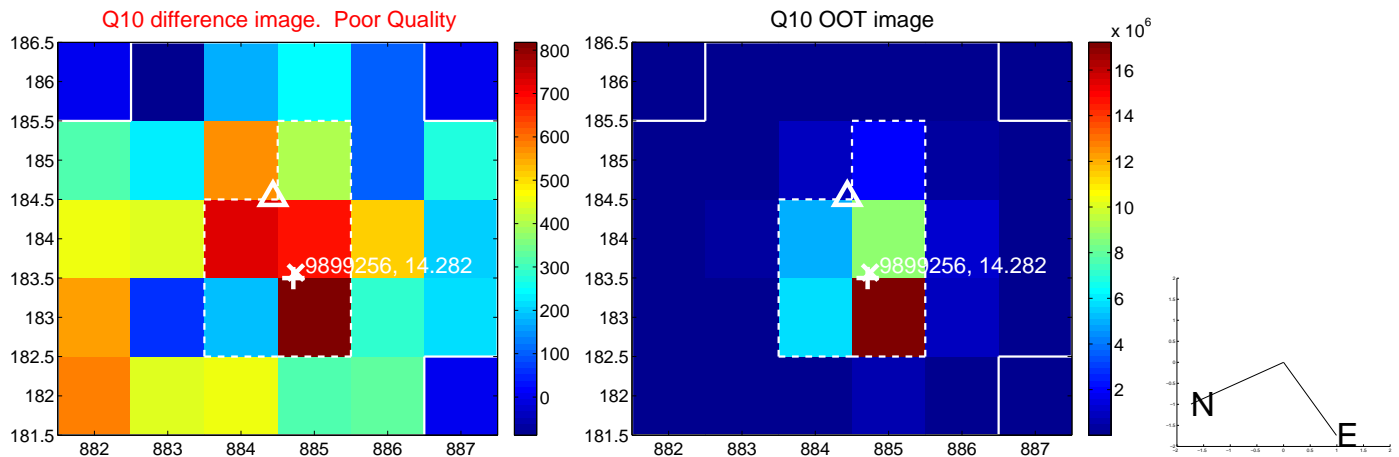
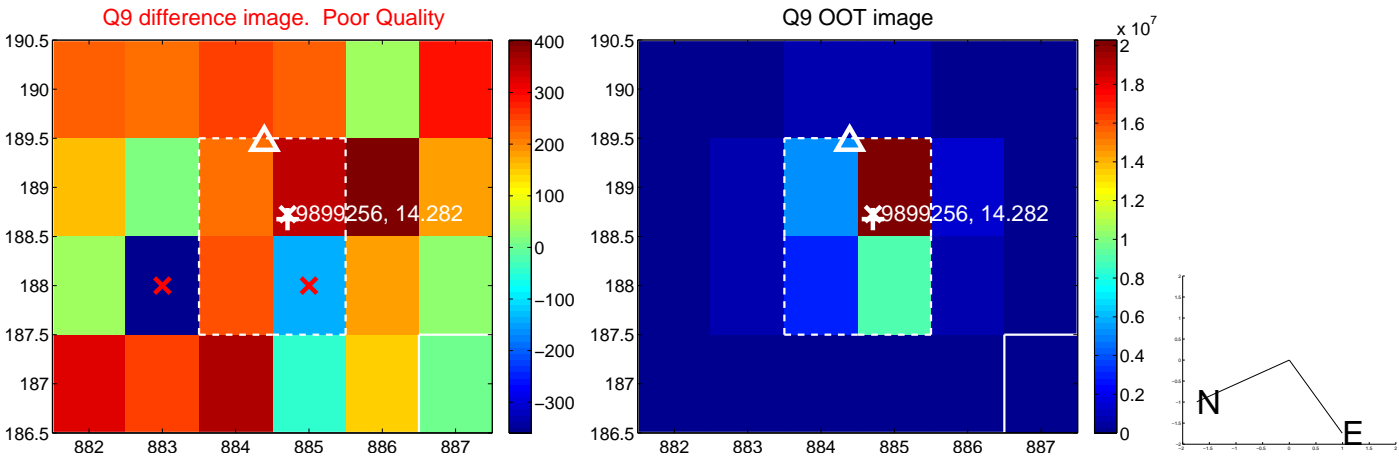
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



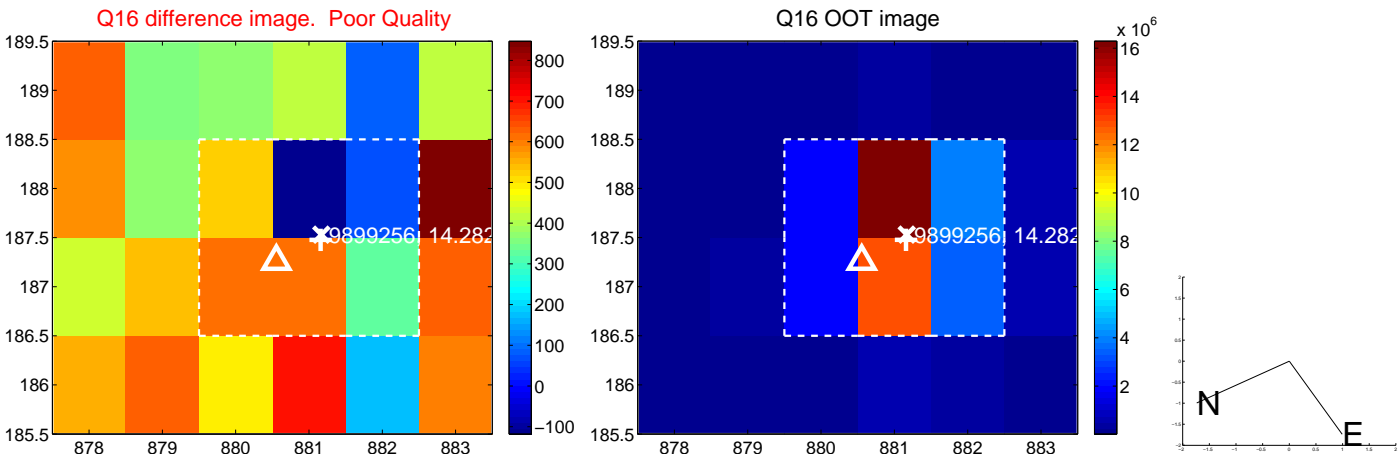
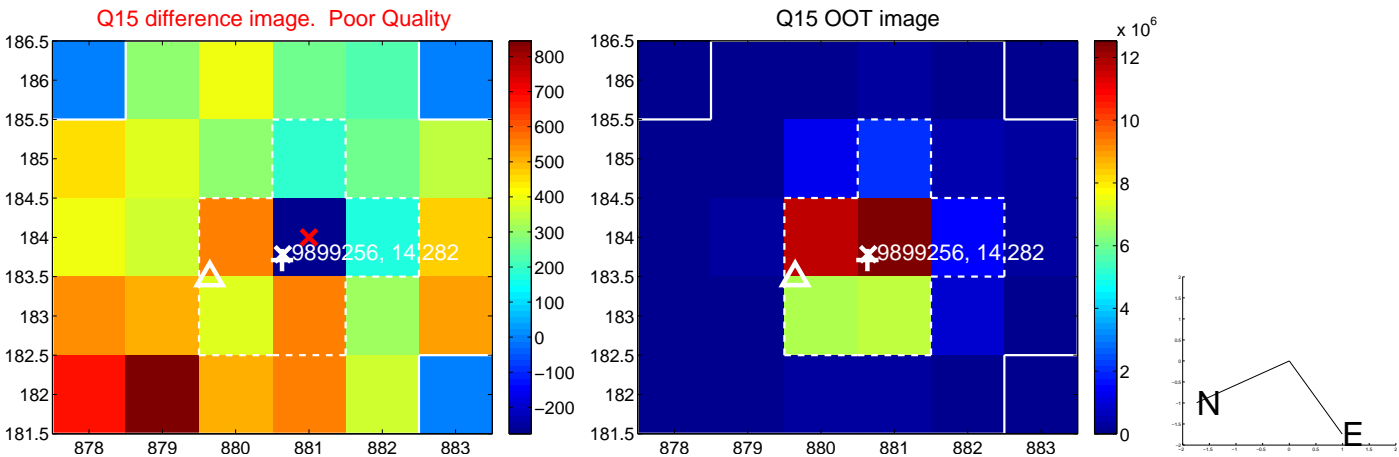
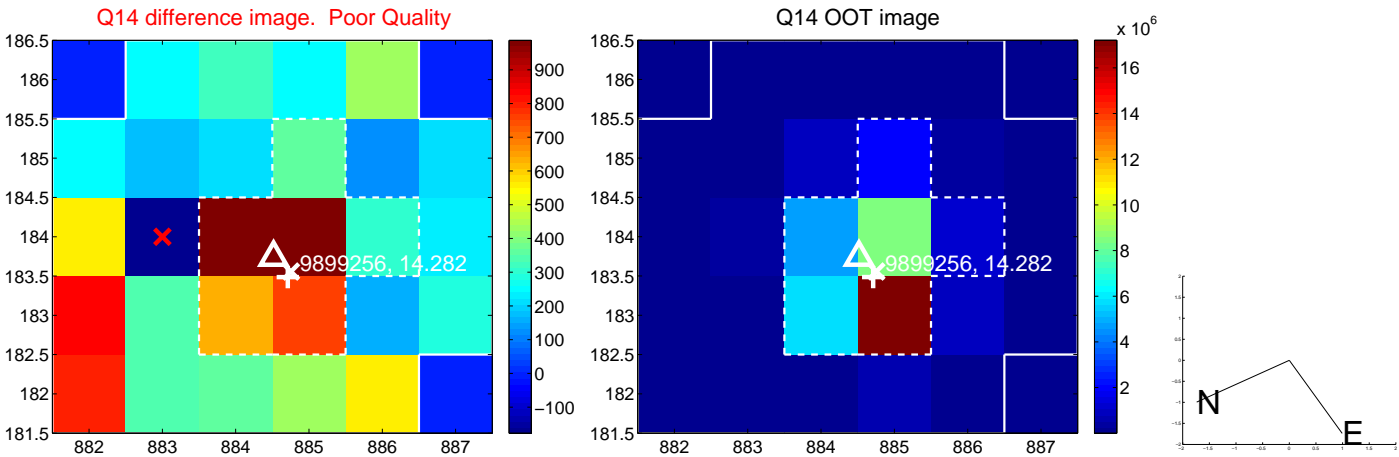
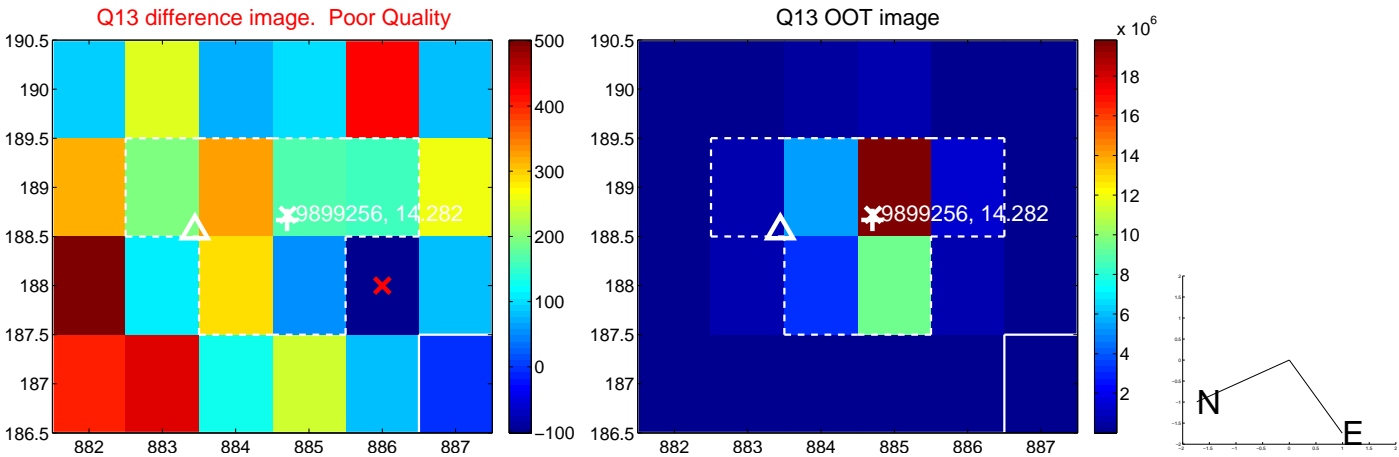
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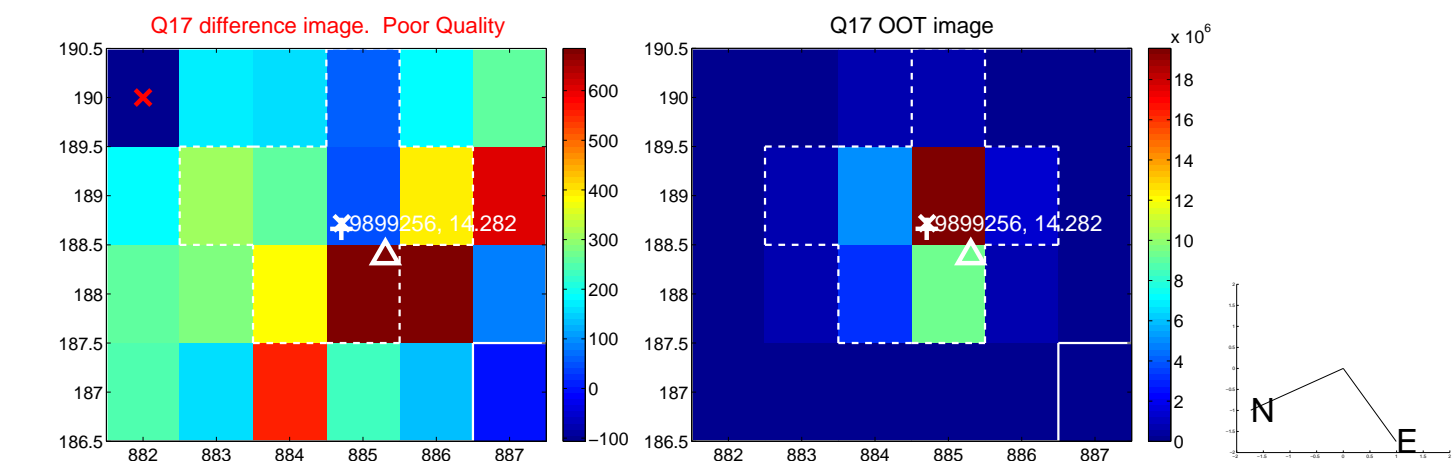
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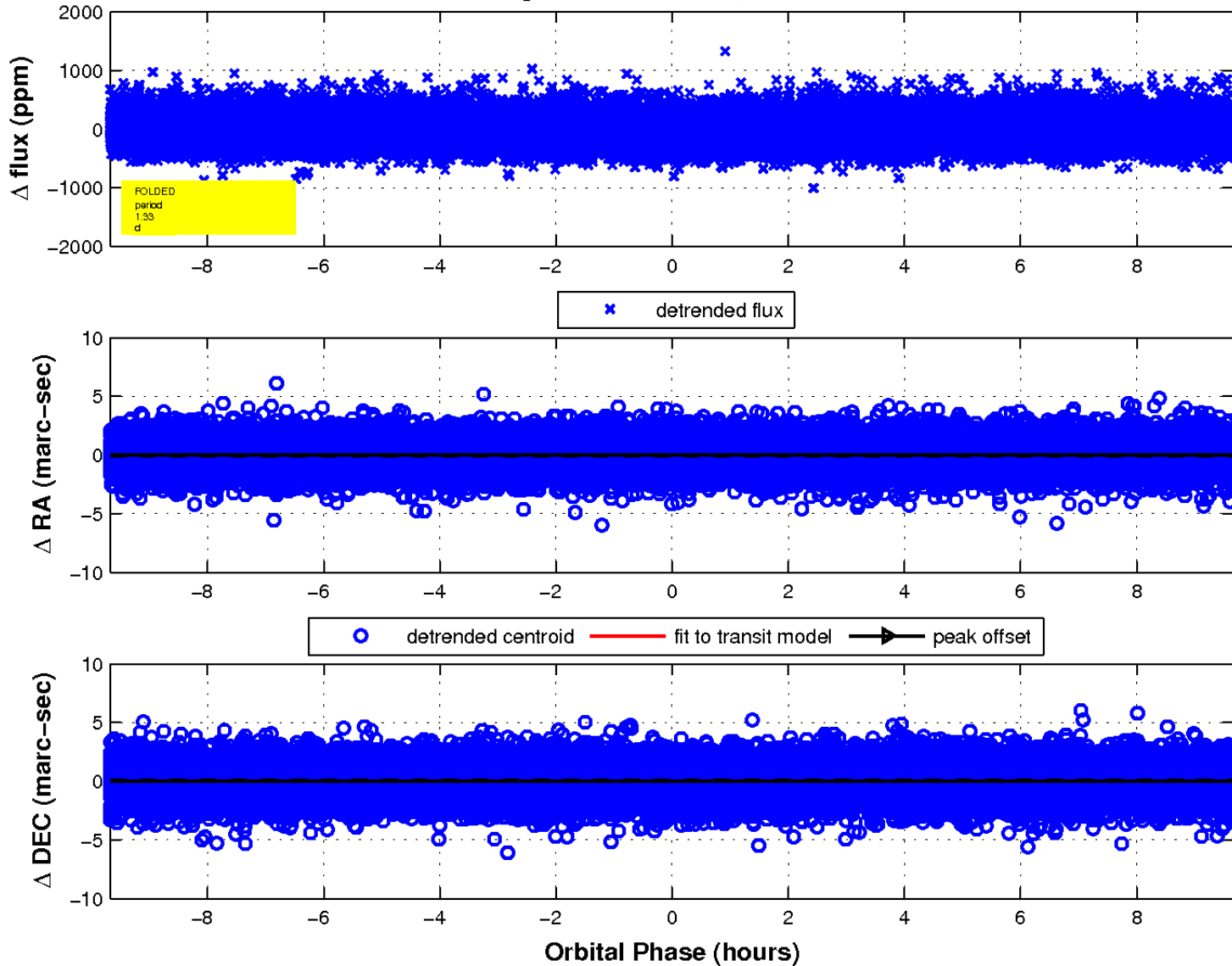
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

