

KIC 009418205

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})
009418205-01	OBS	No	2.404910	132.827486	13.1	5.660	8.3	3.3	1.73	6849	0.63	3878.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009418205-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV

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

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

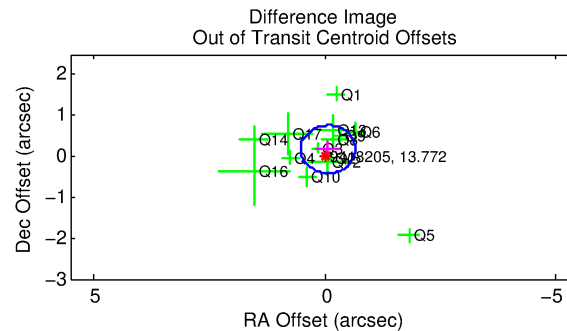
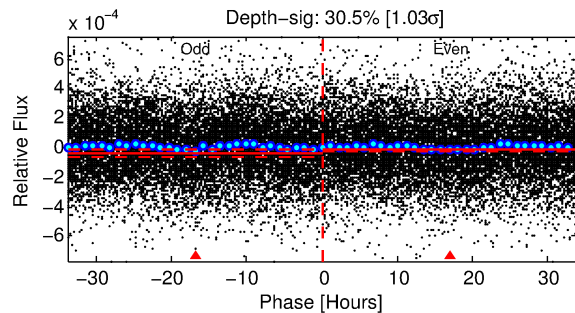
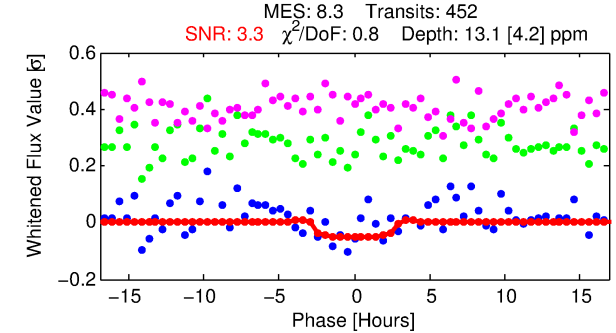
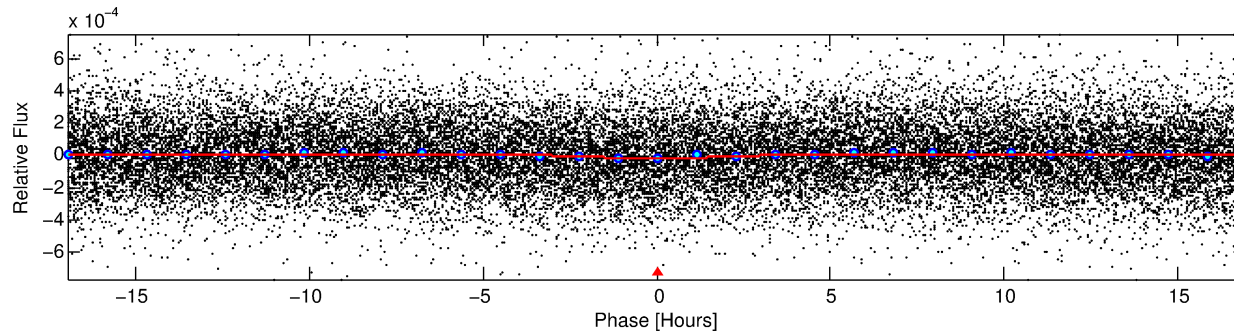
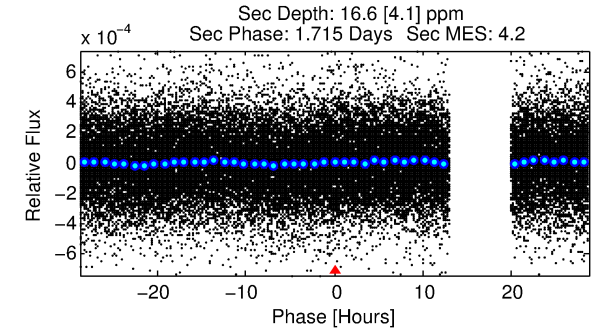
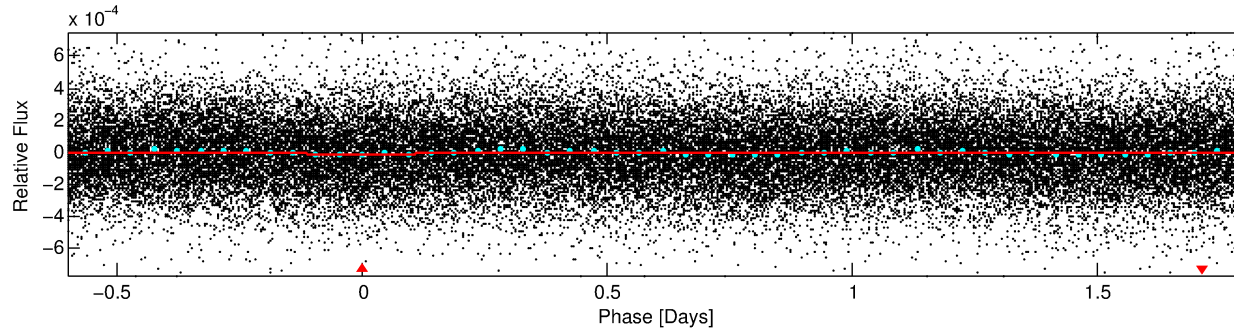
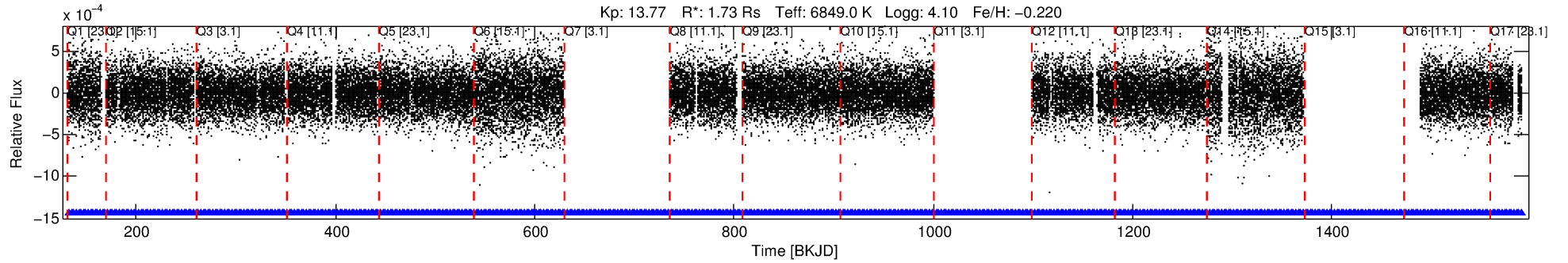
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009418205-01

No Significant Match Found

DV One-Page Summary

KIC: 9418205 Candidate: 1 of 1 Period: 2.405 d



DV Fit Results:

Period = 2.40491 [0.00008] d
Epoch = 132.8275 [0.0161] BKJD
Rp/R* = 0.0034 [0.0049]
a/R* = 3.24 [23.70]
b = 0.21 [36.15]
Seff = 3878.21 [1577.88]
Teq = 2012 [205] K
Rp = 0.63 [0.94] Re
a = 0.0389 [0.0096] AU
Ag = 34.46 [101.21] [0.33σ]
Teffp = 7538 [5499] K [1.00σ]

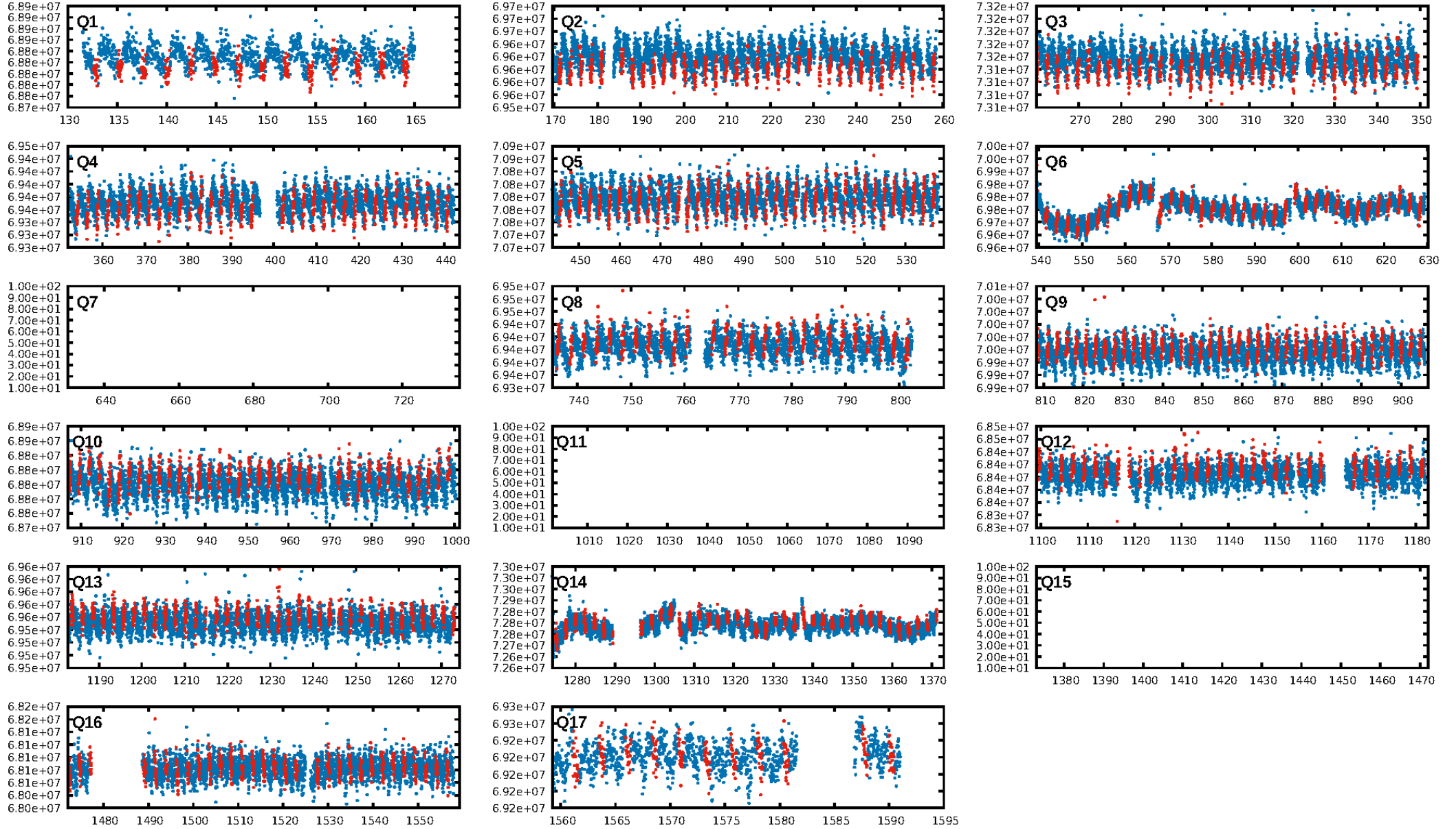
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.19e-15
RollingBand-fgt: 1.00 [427/427]
GhostDiagnostic-chr: 0.4333
Centroid-sig: 0.1%
Centroid-so: 5.308 arcsec [2.18σ]
OotOffset-rm: 0.188 arcsec [0.96σ]
KicOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 1.00 [14/14]

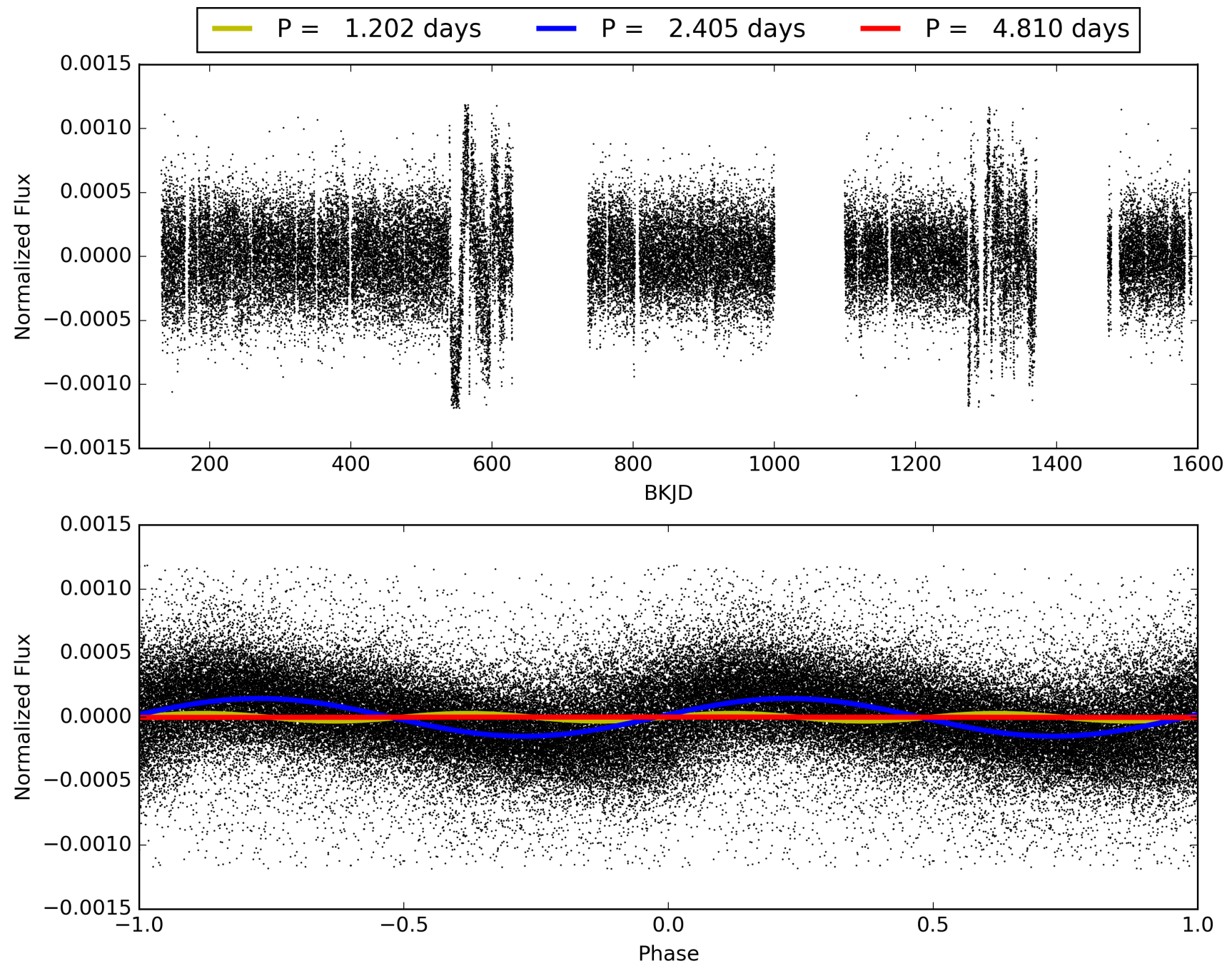
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:53:48 Z

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

TCE 009418205-01, PDC Light Curves

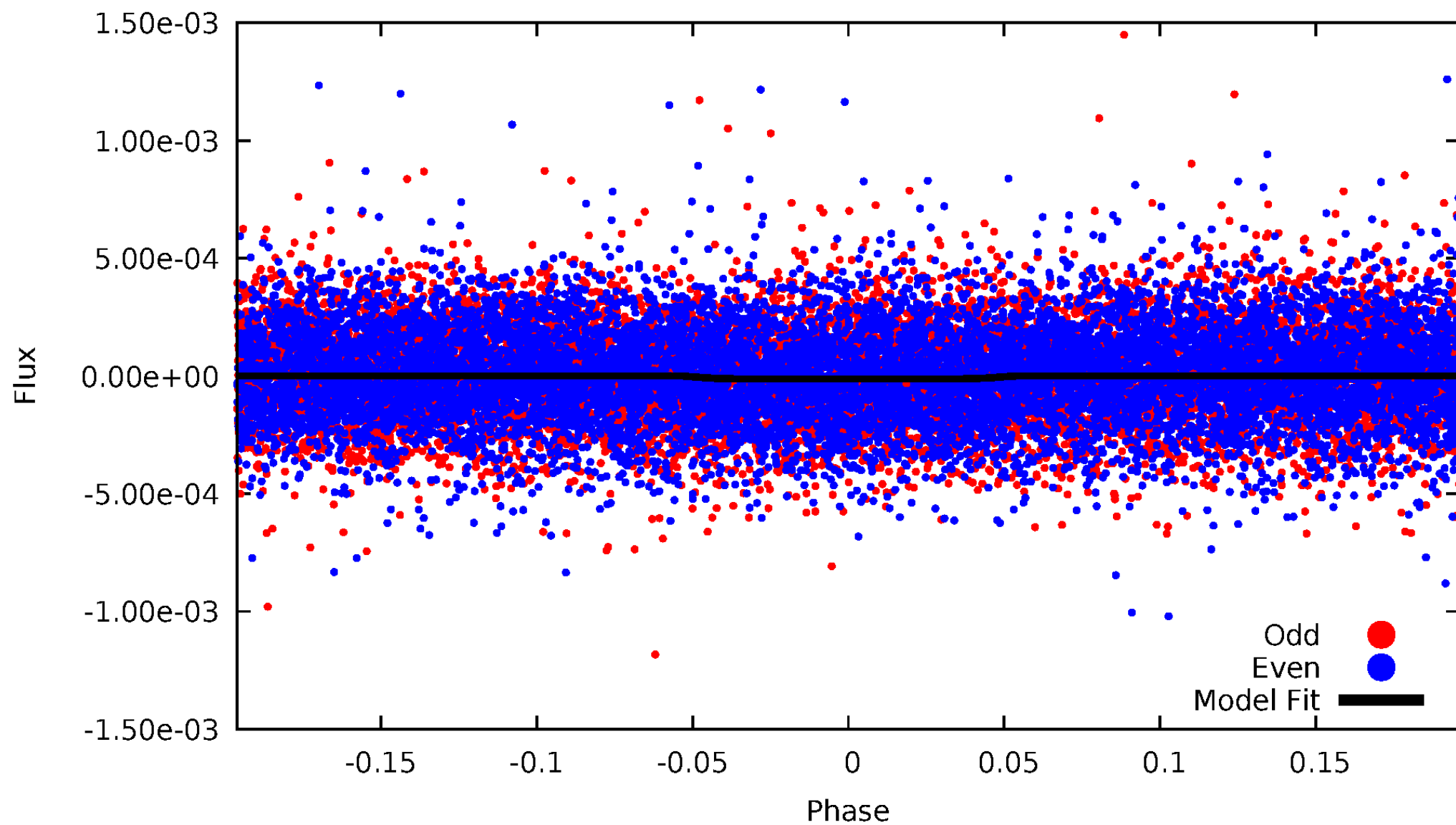


TCE 009418205-01



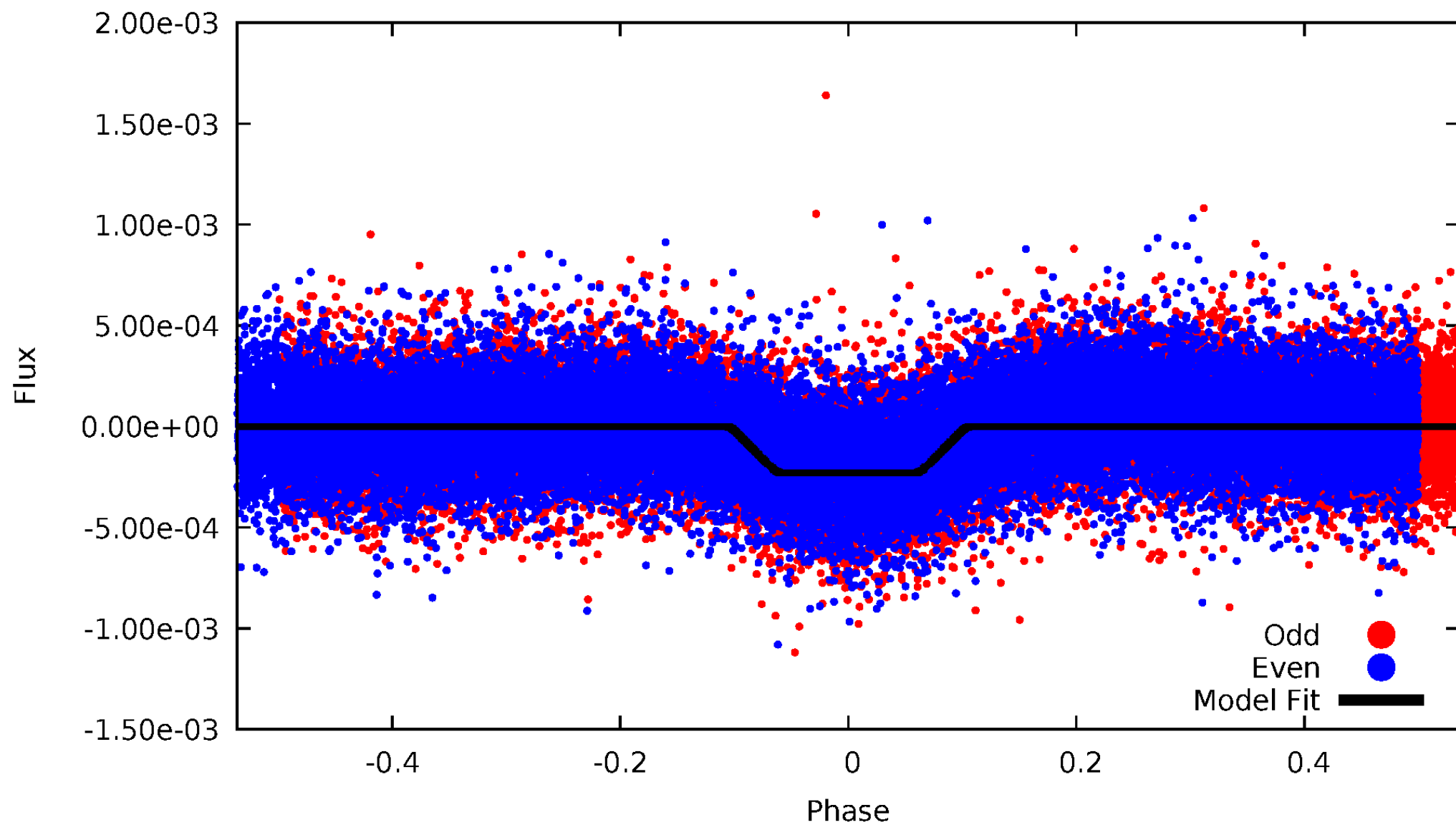
DV Odd/Even

TCE 009418205-01



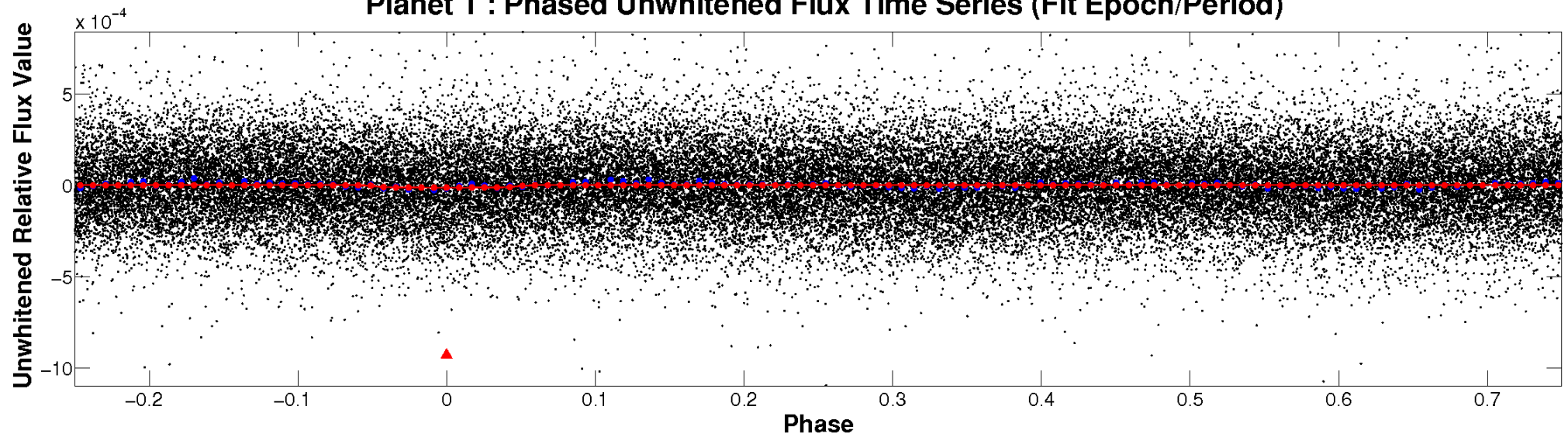
ALT Odd/Even

TCE 009418205-01

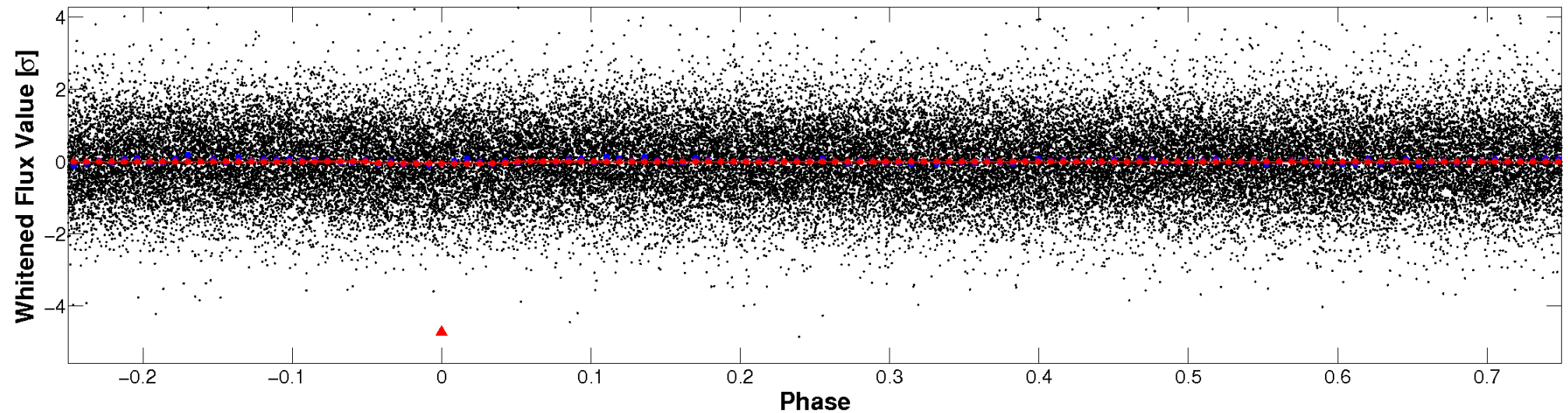


Non-Whitened Vs. Whitened Light Curve

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

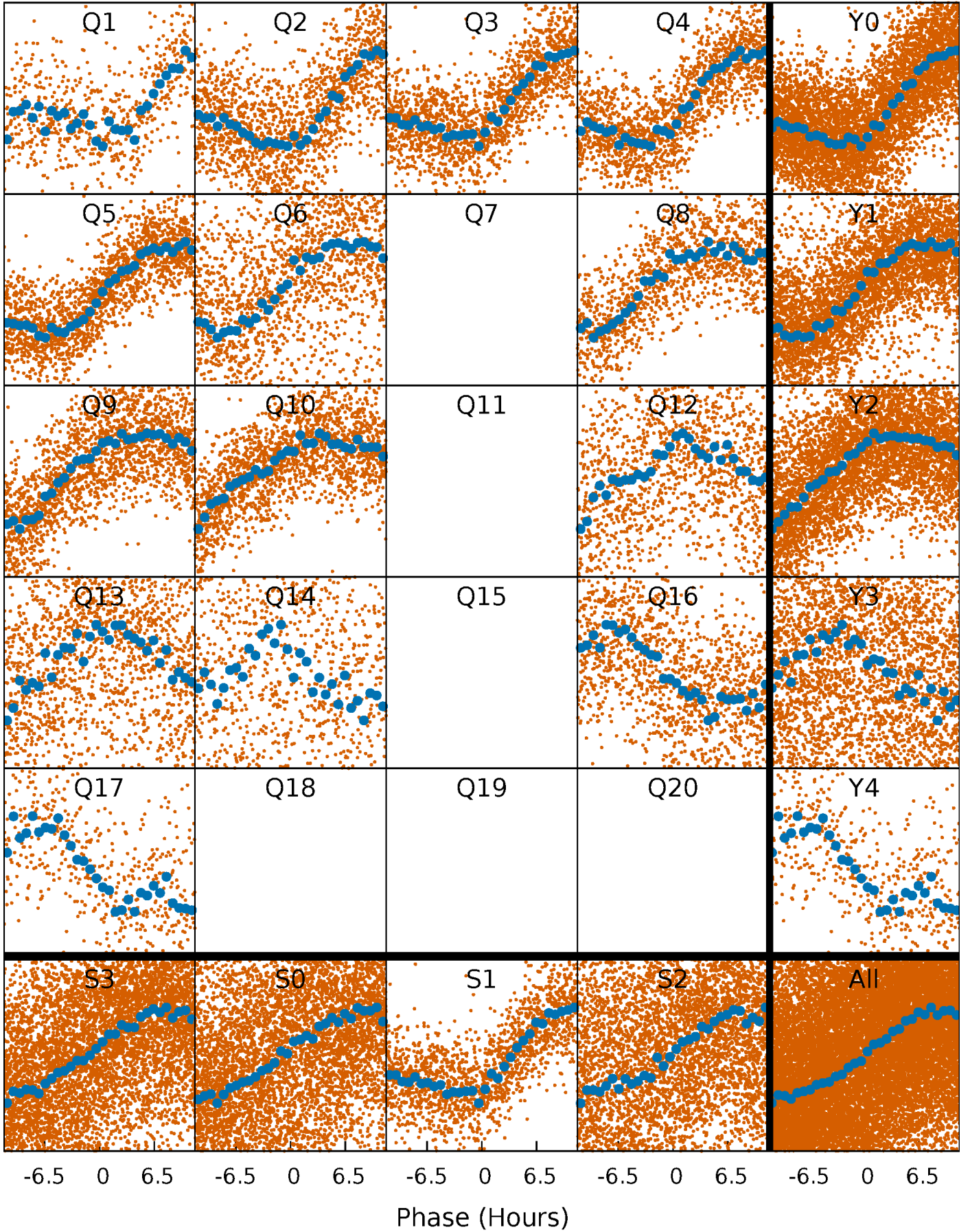


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



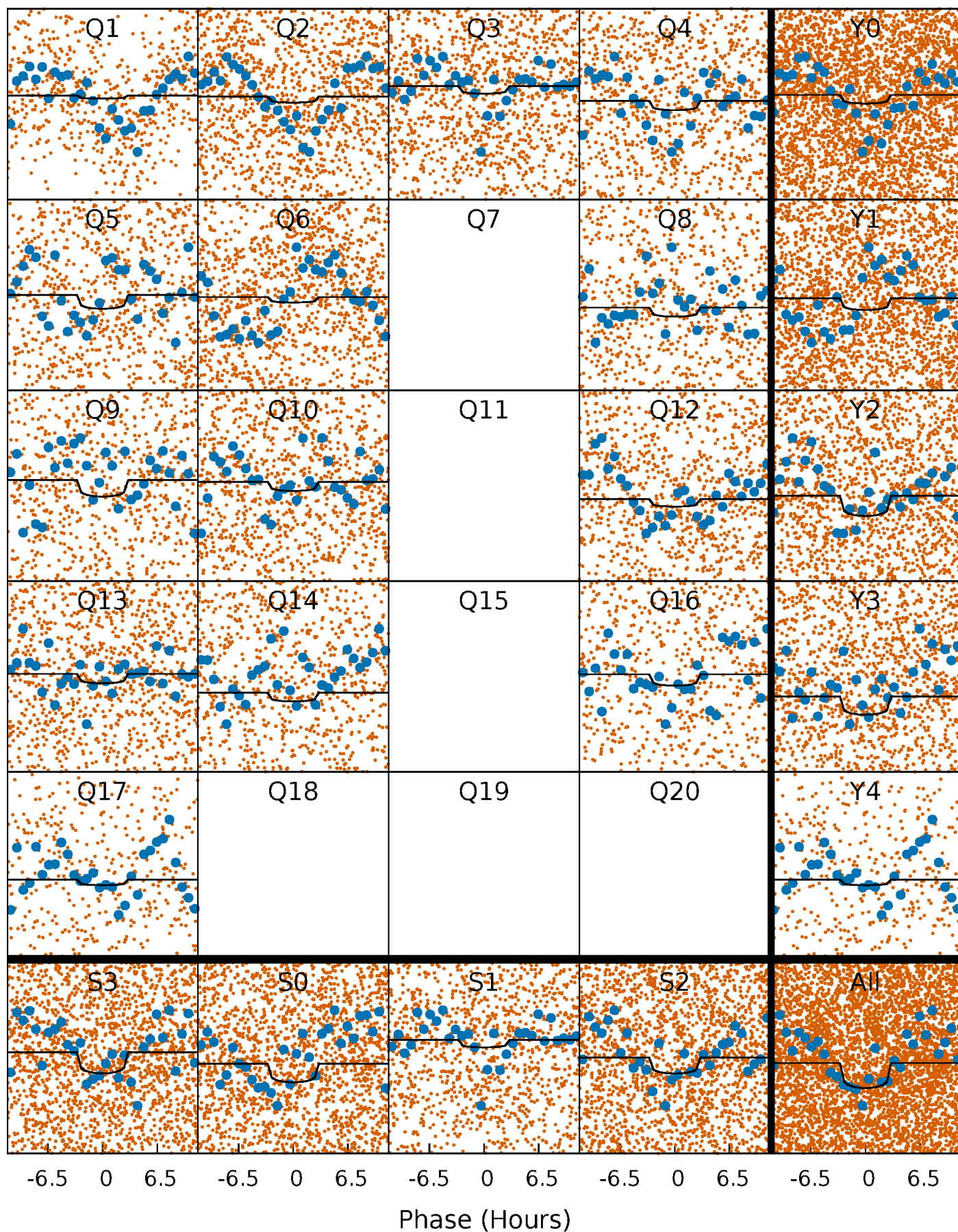
PDC Quarter-Phased Transit Curves

TCE 009418205-01 P= 2.404910 Days $T_0=132.827486$ (BKJD)



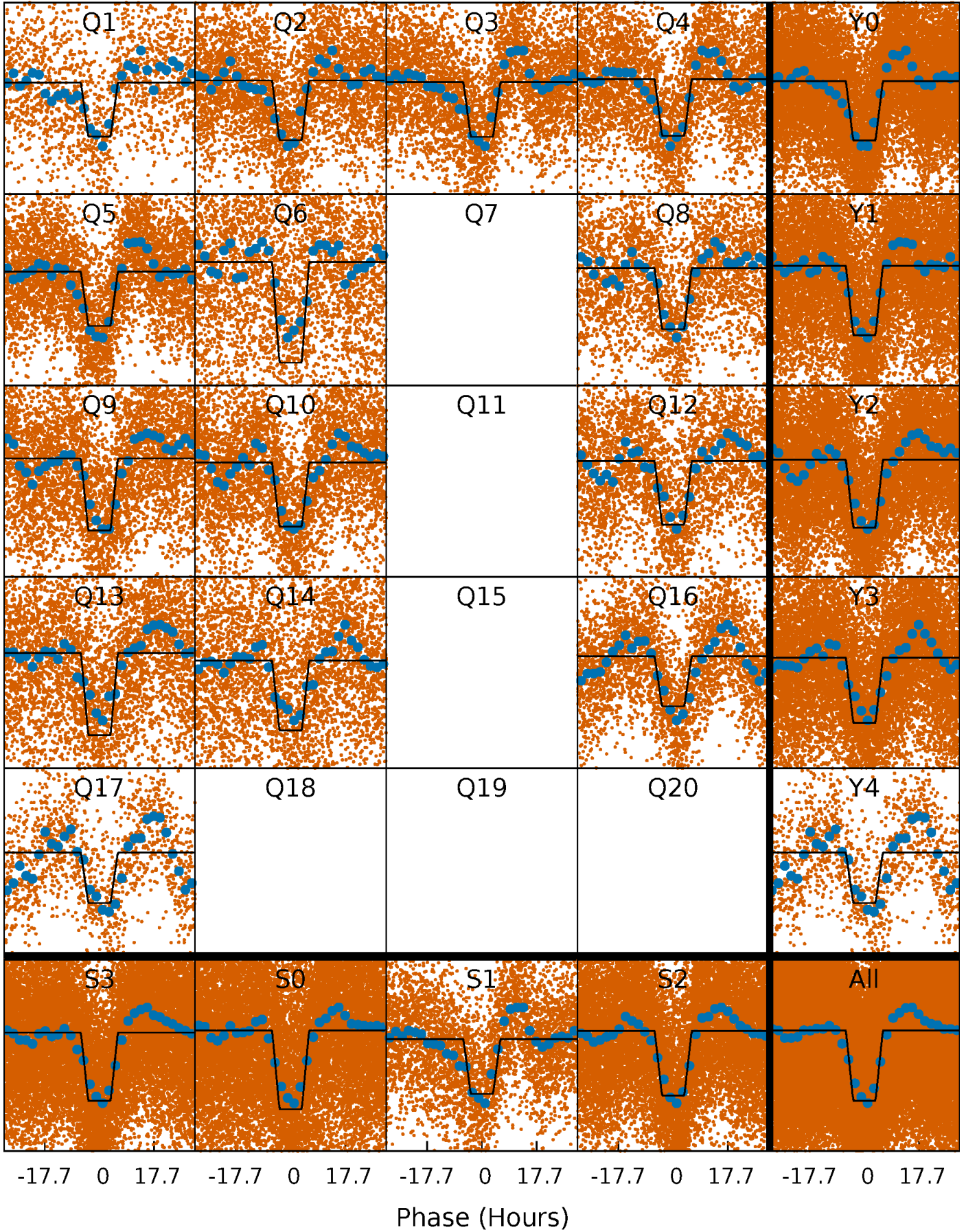
DV Quarter-Phased Transit Curves

TCE 009418205-01 P= 2.404910 Days $T_0=132.827486$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

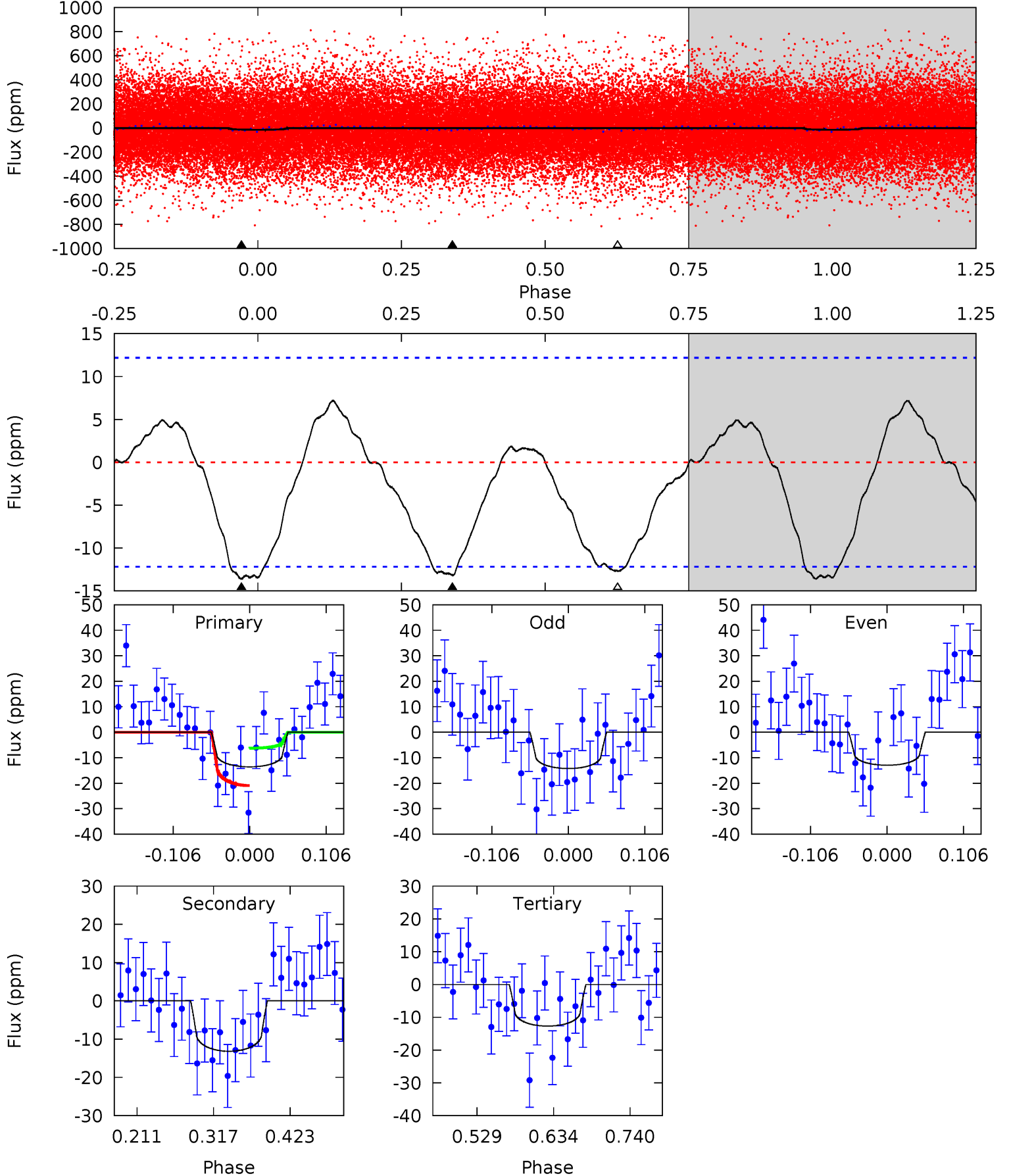
TCE 009418205-01 P= 2.402991 Days $T_0=132.929429$ (BKJD)



DV Model-Shift Uniqueness Test

009418205-01, P = 2.404910 Days, E = 130.422576 Days

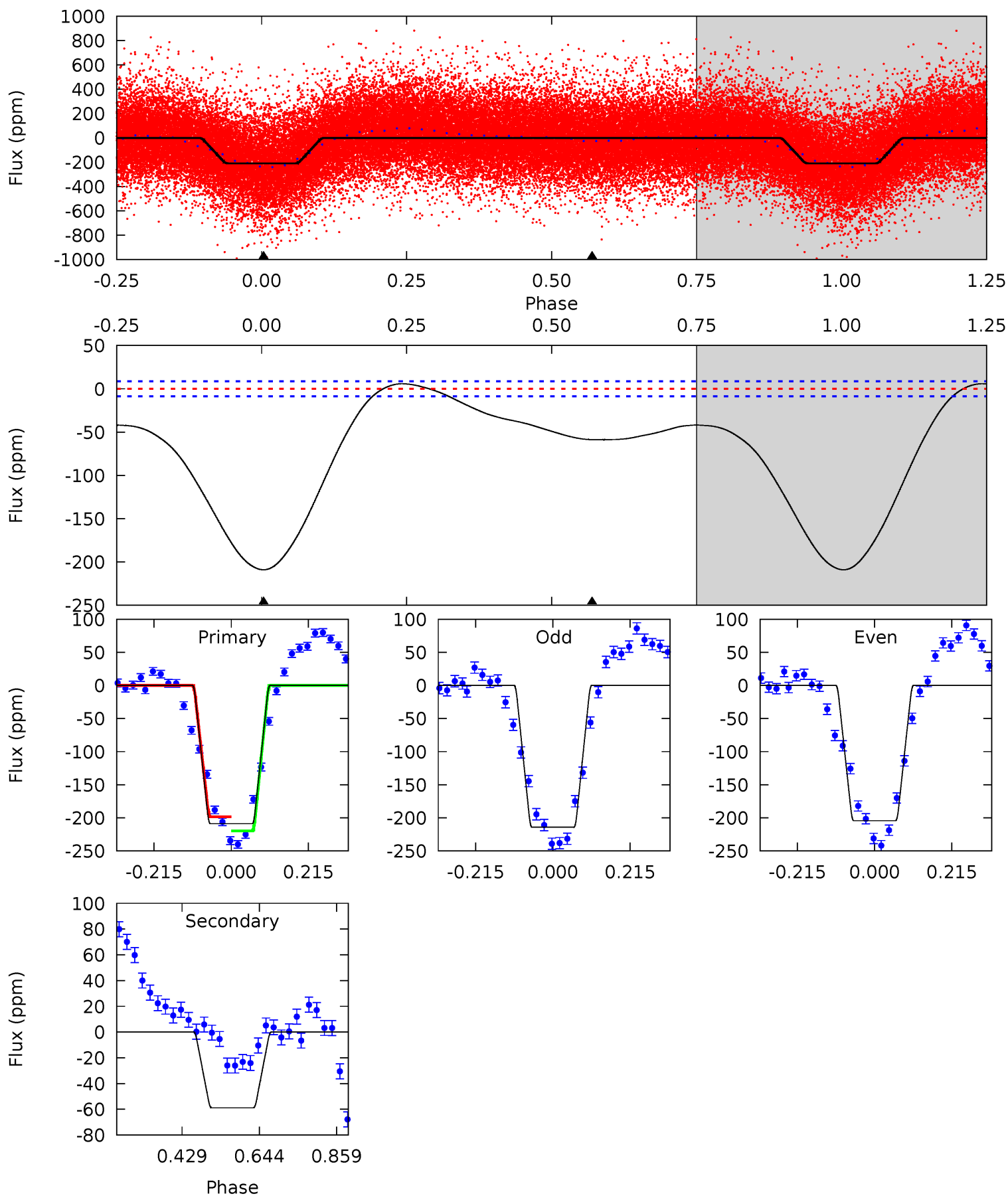
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.08	4.93	4.75	0	4.55	1.62	2.16	0.33	5.08	0.18	4.93	0.24	0.68	0.35	2.75



Alt Model-Shift Uniqueness Test

009418205-01, P = 2.402991 Days, E = 130.526438 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
106.3	29.9	0	0	4.40	1.24	5.44	106.3	106.3	29.9	29.9	2.50	1.00	0.03	5.54



Stellar Parameters For KIC 009418205

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6849^{+189}_{-284}	$4.097^{+0.209}_{-0.171}$	$-0.220^{+0.250}_{-0.300}$	$1.726^{+0.485}_{-0.485}$	$1.361^{+0.194}_{-0.259}$	$0.373^{+0.457}_{-0.179}$
	+3%/-4%	+5%/-4%	+114%/-136%	+28%/-28%	+14%/-19%	+122%/-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 009418205-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-13 ± 3	$0.93^{+0.76}_{-0.63}$	2789^{+221}_{-227}	5758^{+5667}_{-1402}	13^{+111}_{-9}
Alt.	-59 ± 2	$2.73^{+1.13}_{-0.97}$	2797^{+215}_{-214}	4920^{+951}_{-596}	$6.425^{+8.148}_{-3.209}$

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

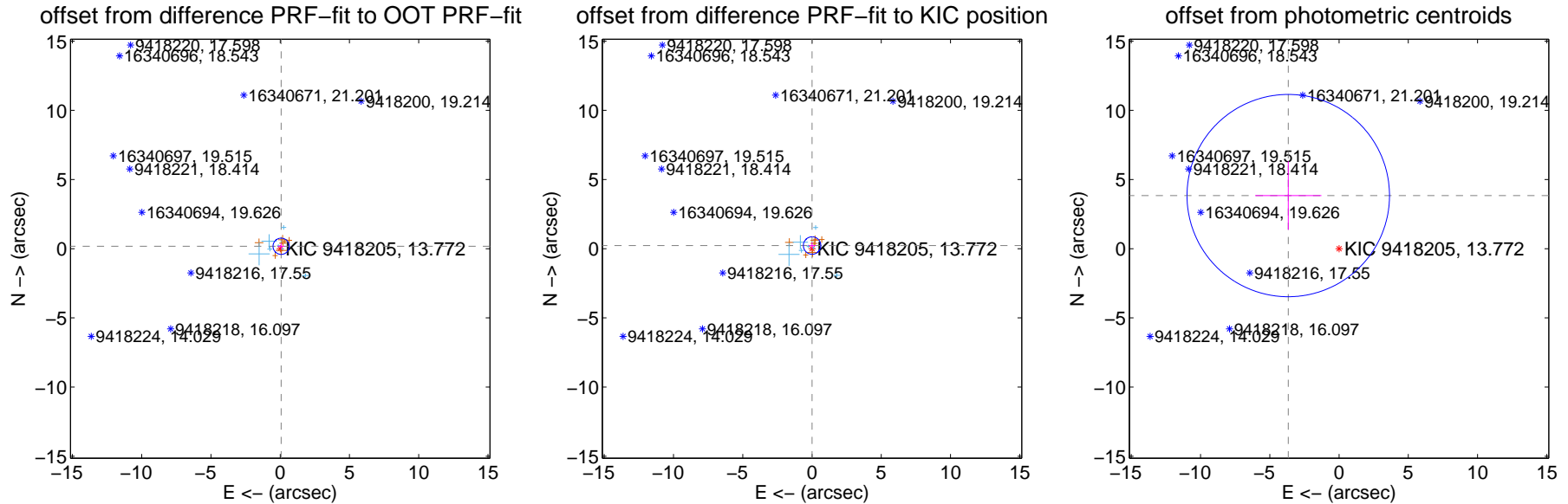
DV Centroid Data

Supplemental centroid analysis for 009418205-01. Kepler magnitude: 13.77. Transit SNR 3.25

There are 7 quarters with good PRF difference image offsets

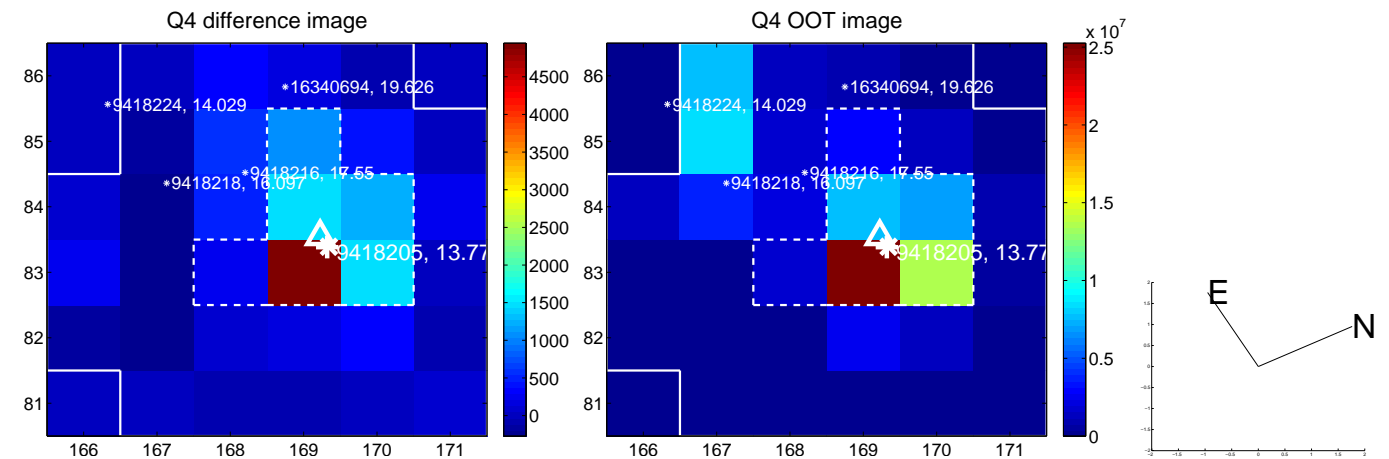
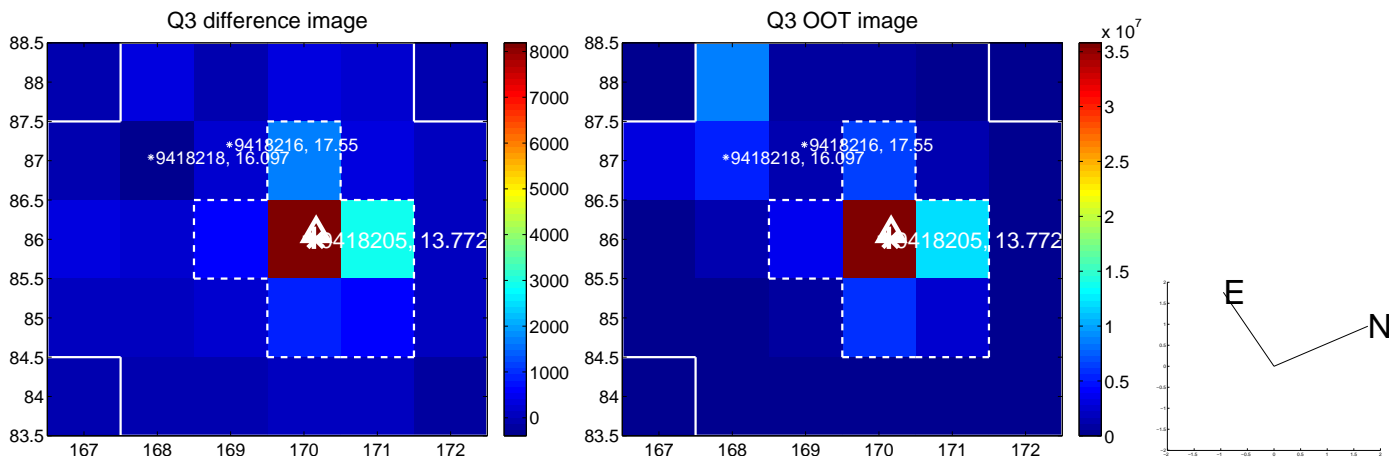
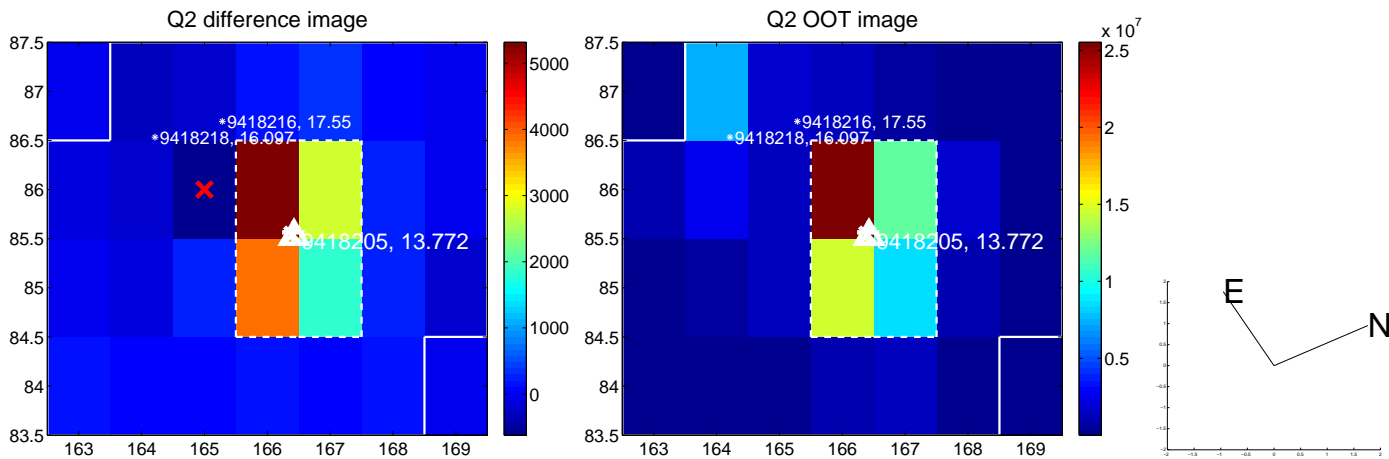
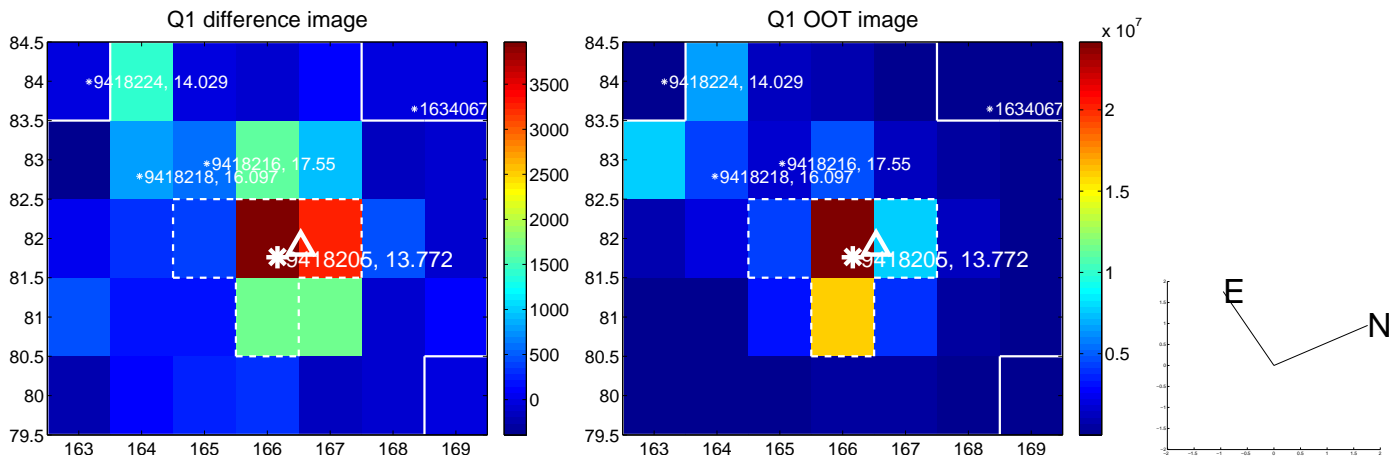
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.188 ± 0.196	0.96	-0.068 ± 0.243	0.175 ± 0.213
PRF-fit source offset from KIC position	0.229 ± 0.210	1.09	-0.007 ± 0.255	0.229 ± 0.213
photometric centroid source offset	5.31 ± 2.44	2.18	3.67 ± 2.39	3.84 ± 2.48

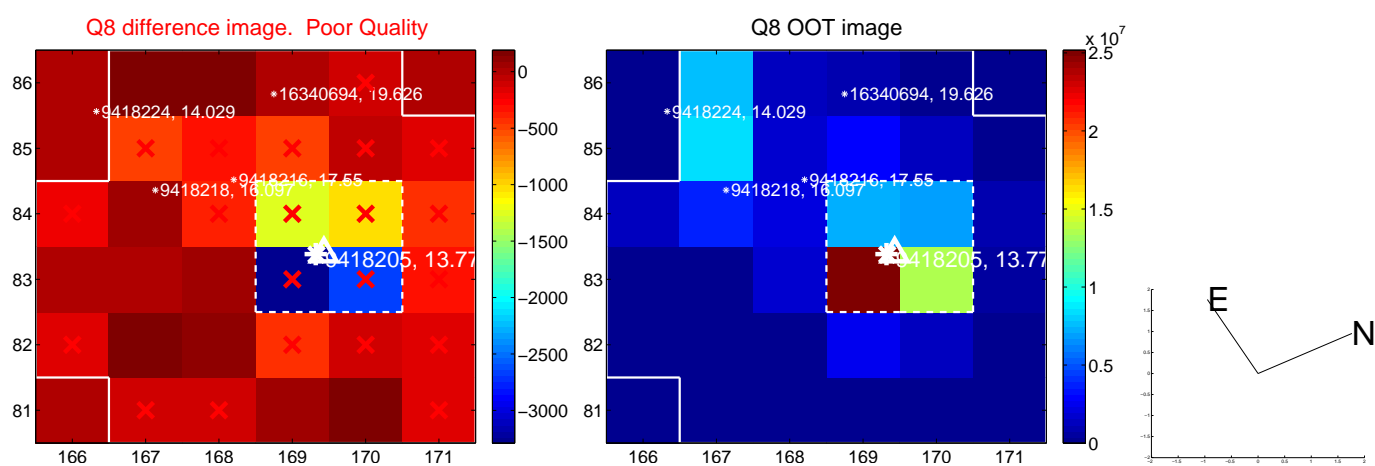
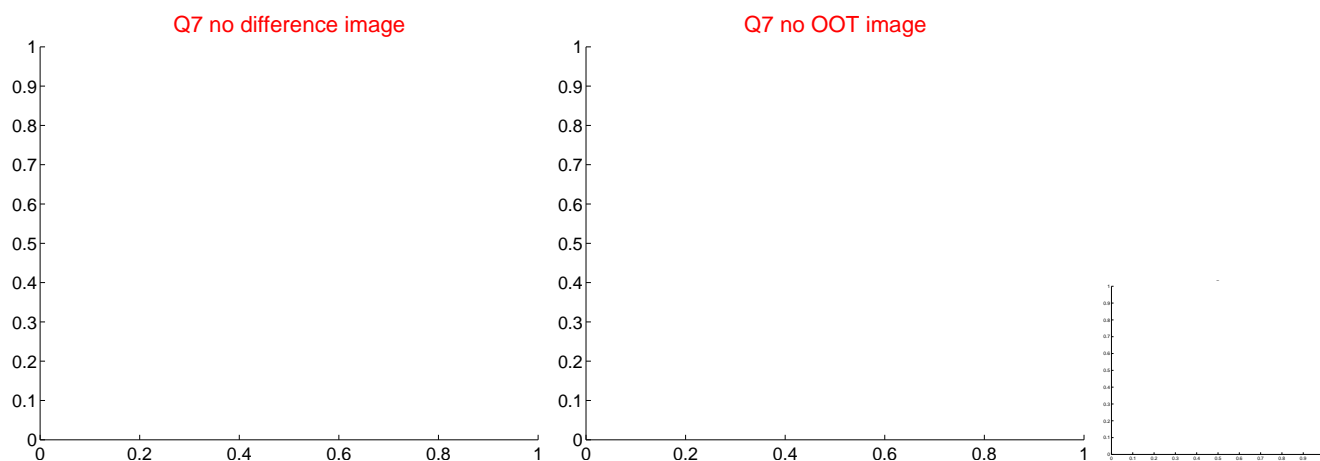
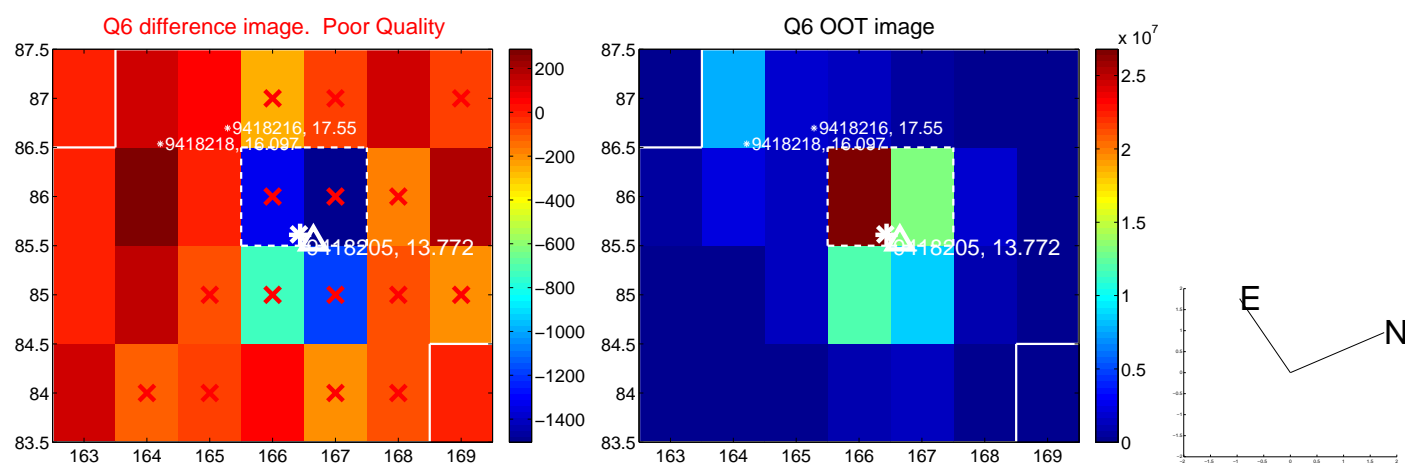
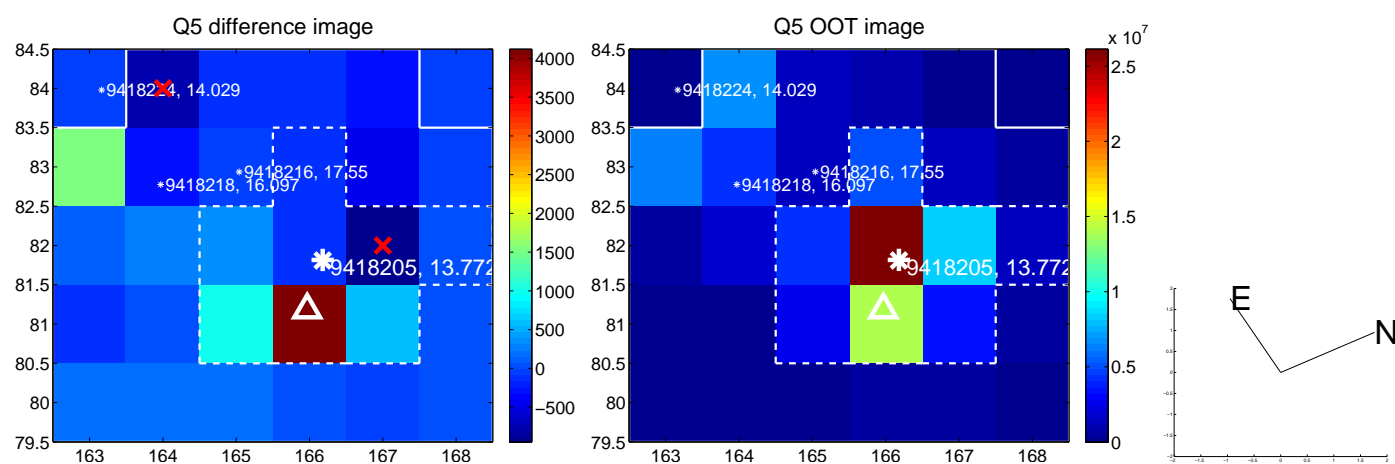


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

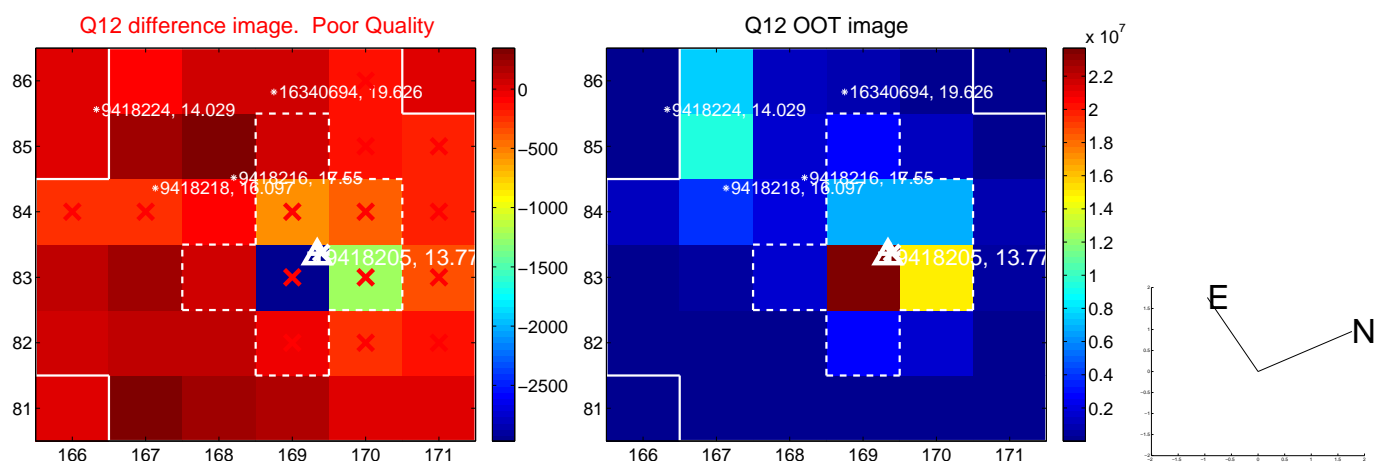
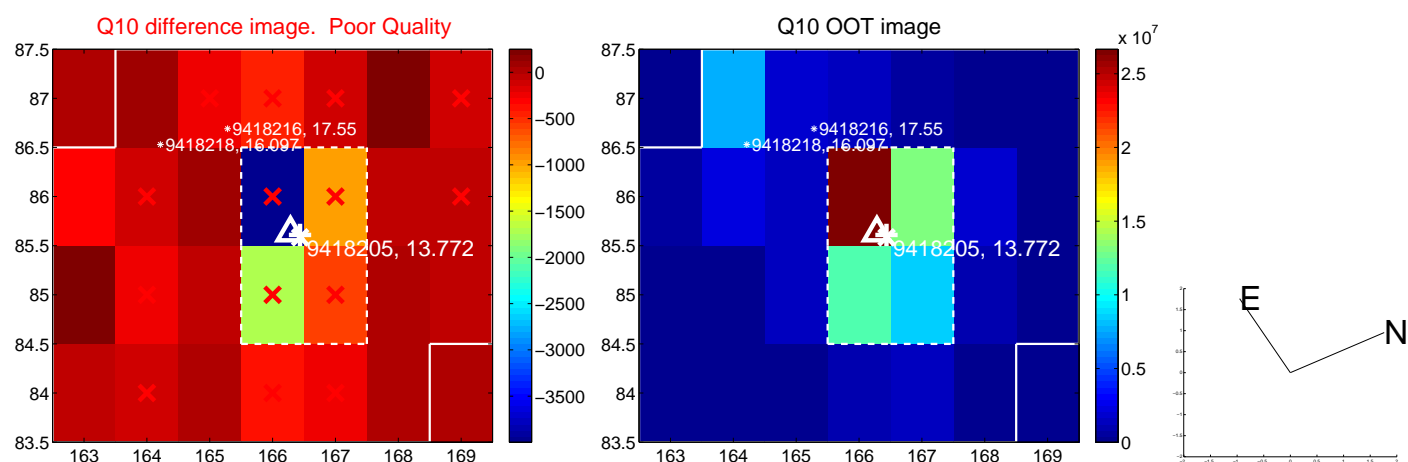
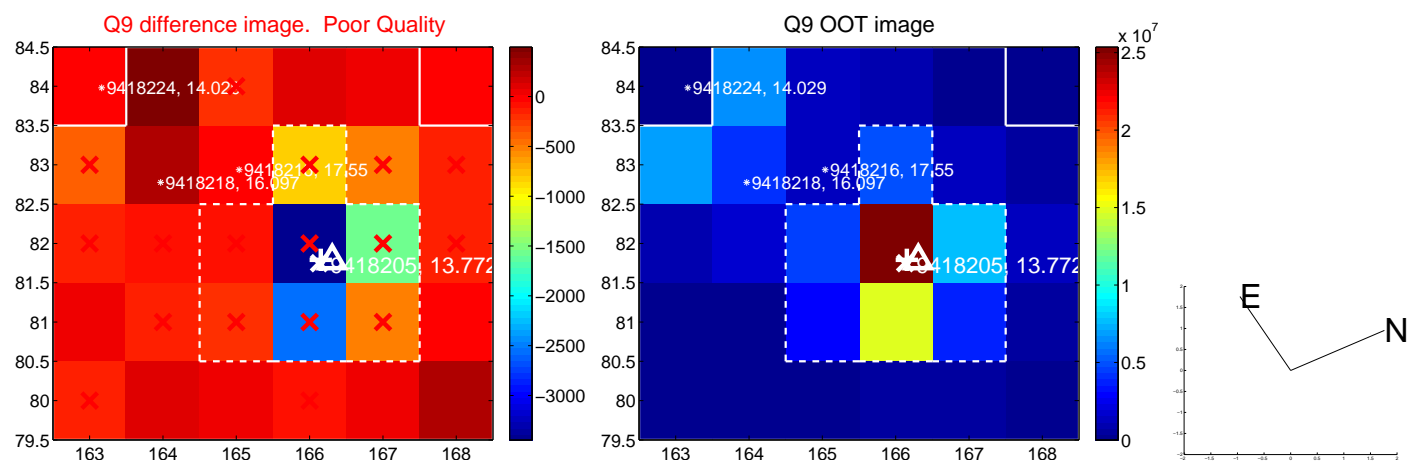
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



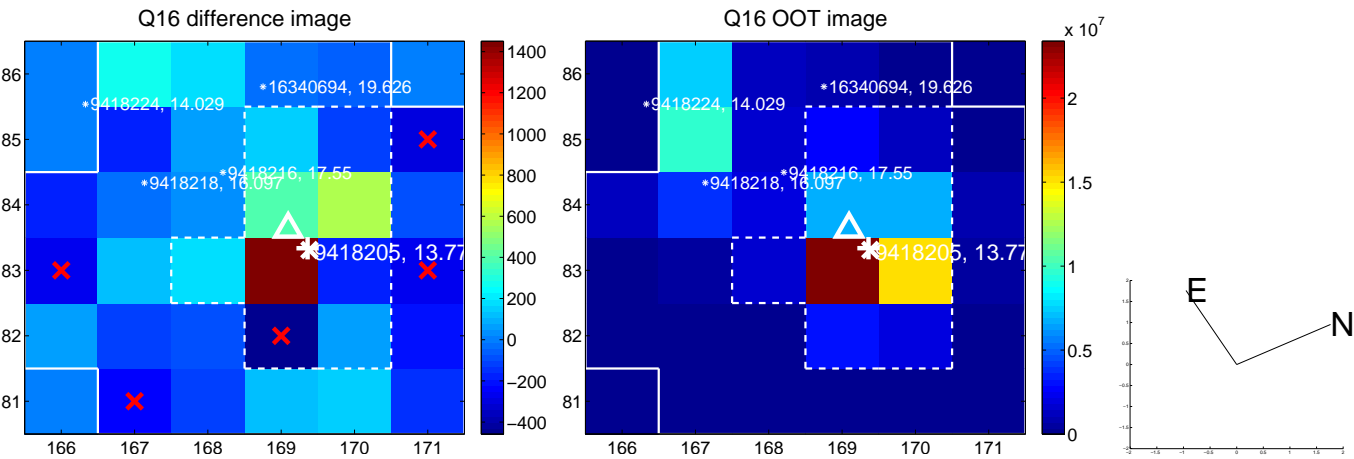
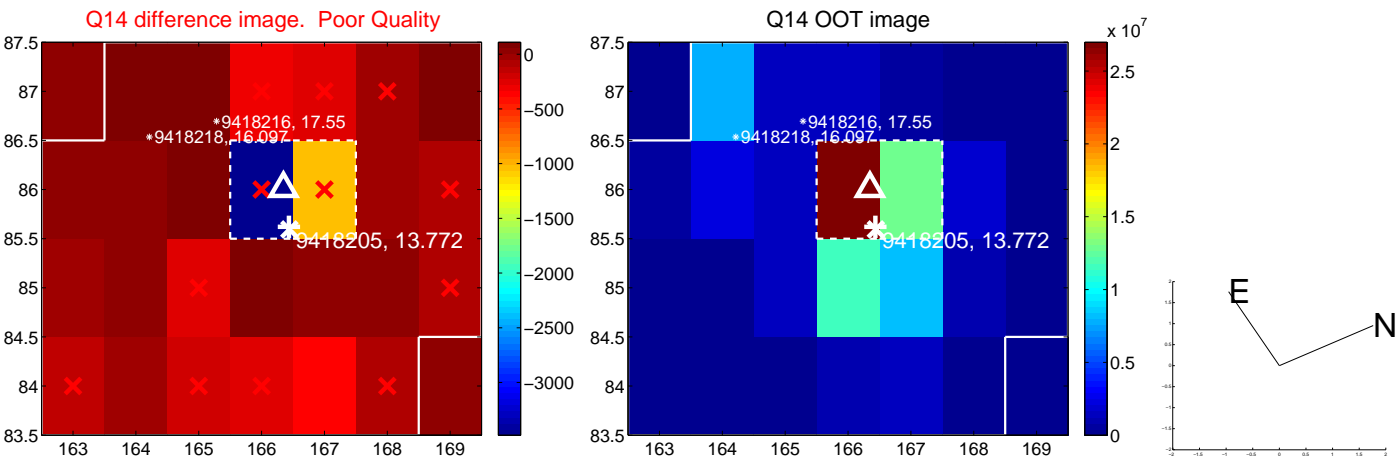
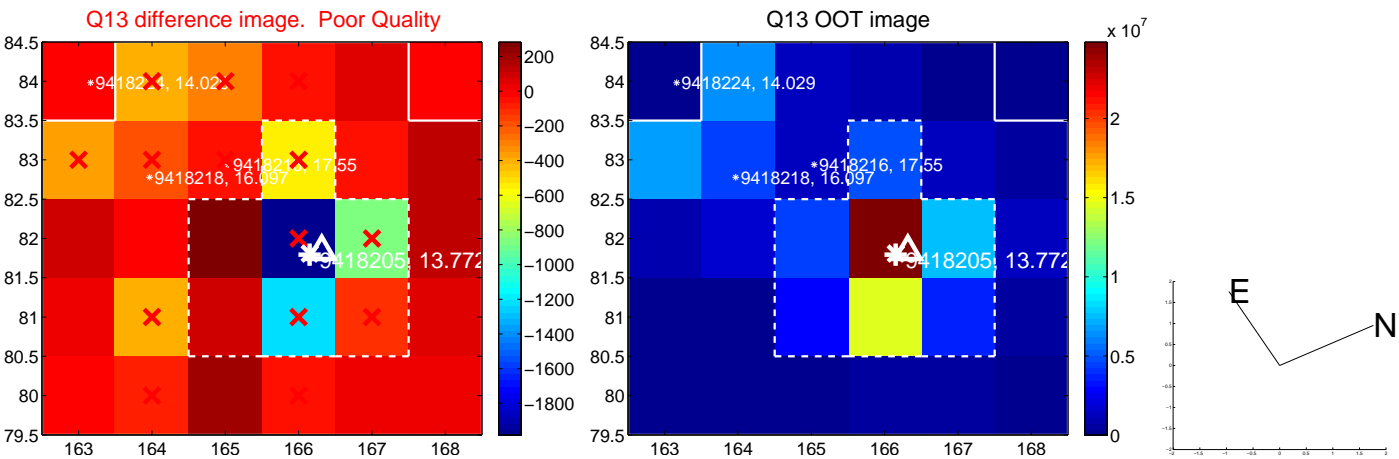
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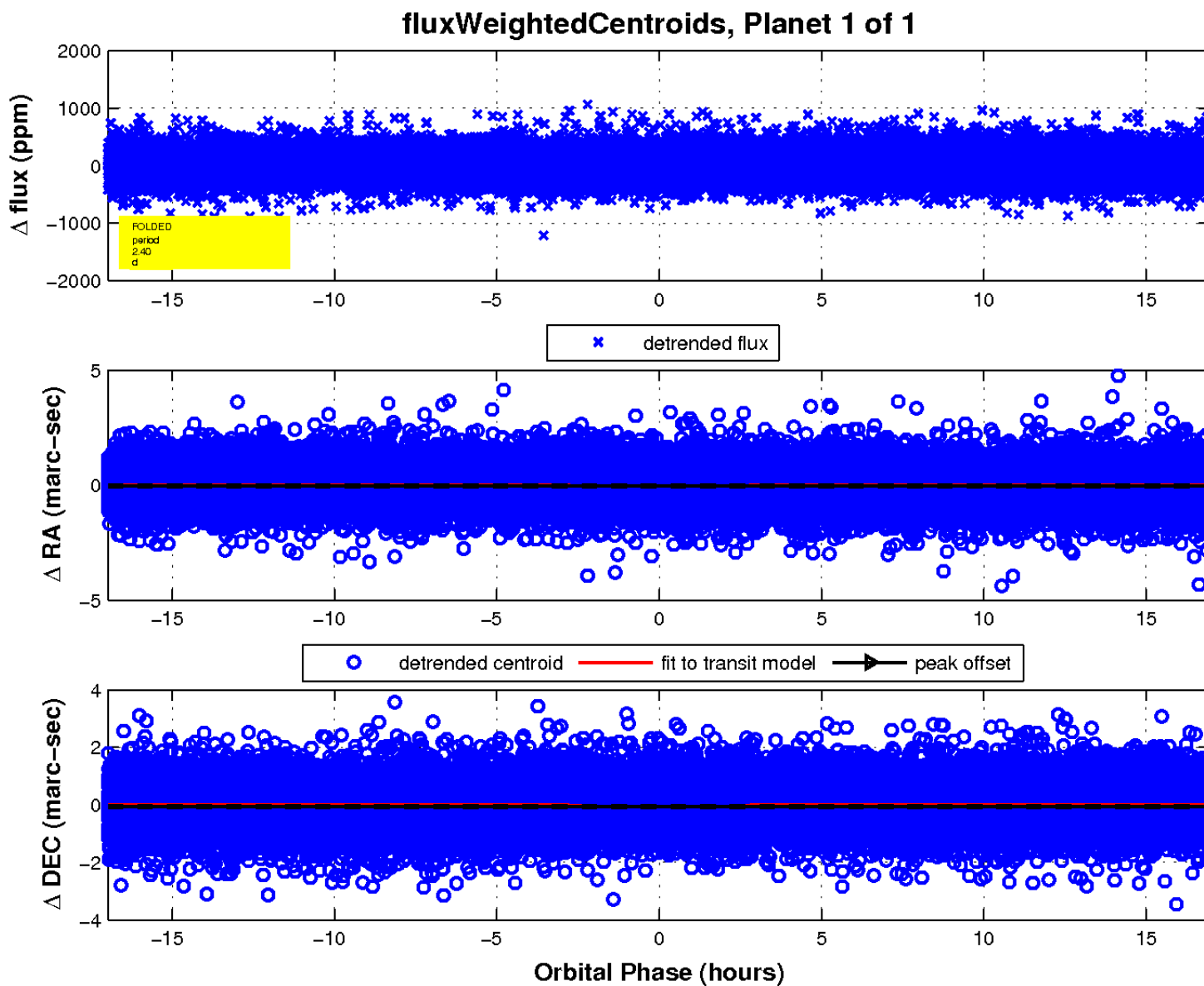
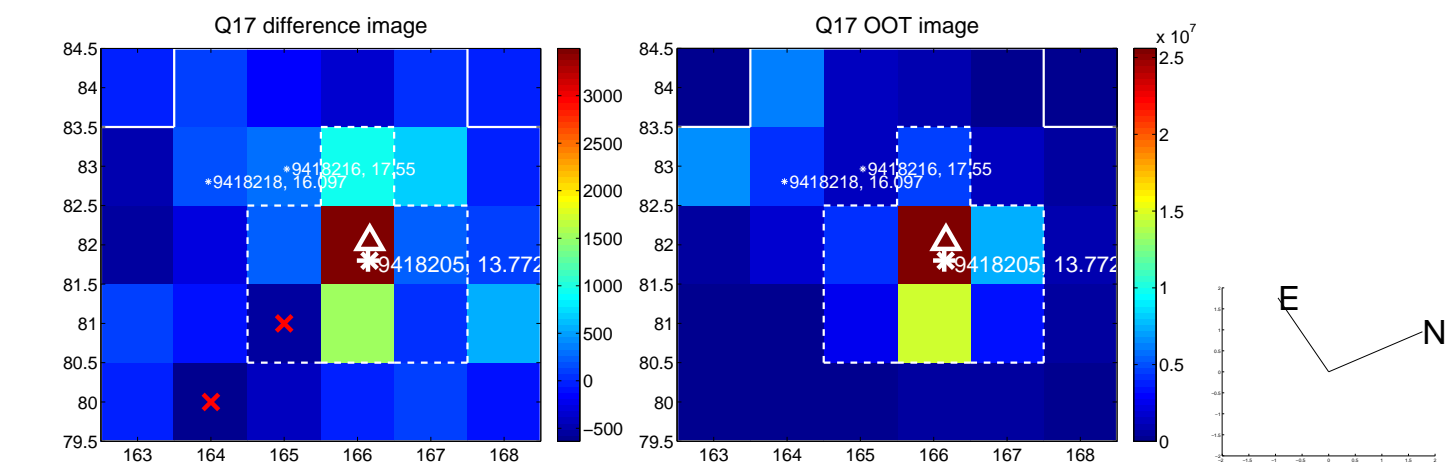
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UKIRT Image

Declination

