

KIC 009849107

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})
009849107-01	OBS	No	3.148031	134.304783	273.0	17.400	14.0	16.2	3.16	7159	7.98	9155.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009849107-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

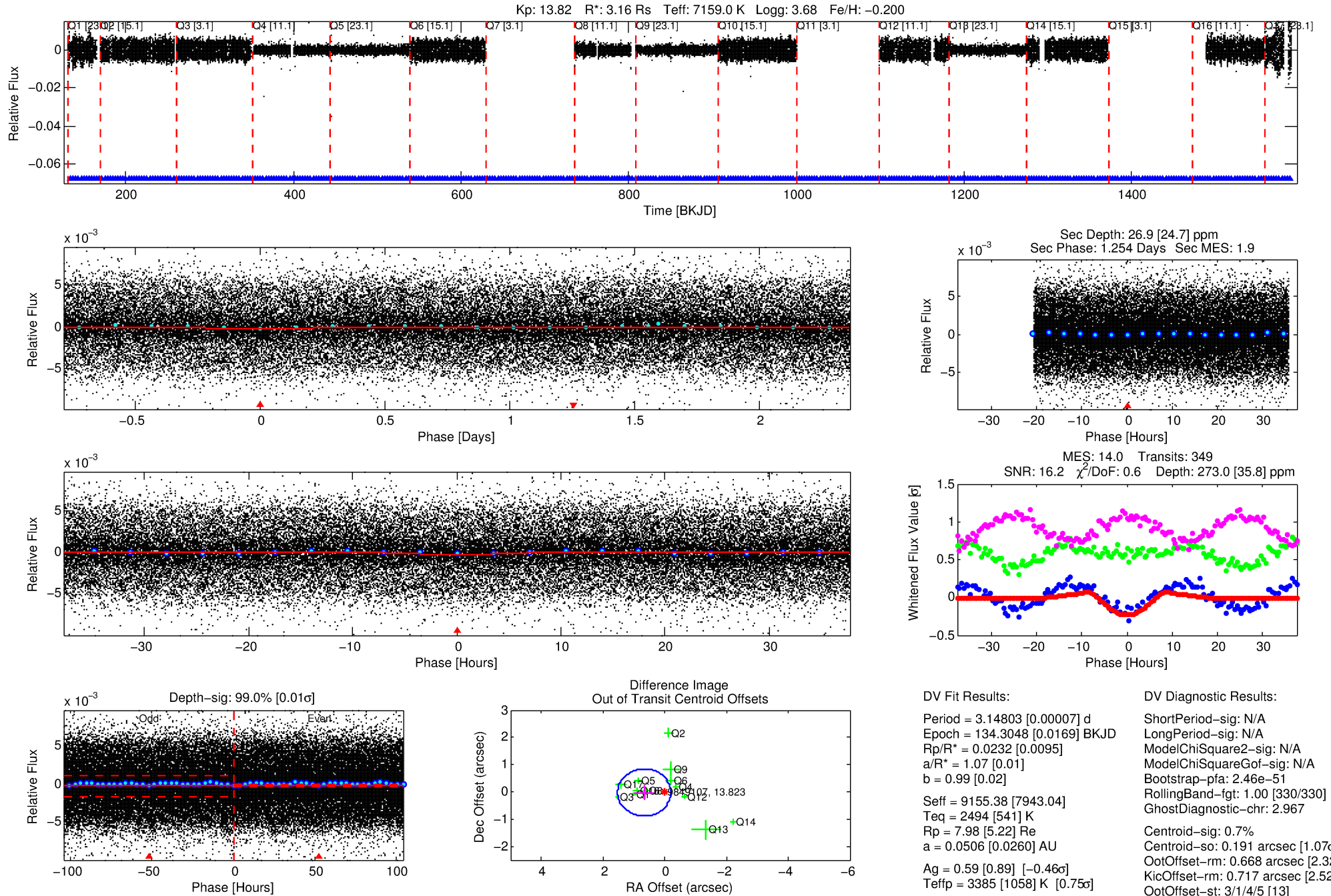
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009849107-01

No Significant Match Found

DV One-Page Summary

KIC: 9849107 Candidate: 1 of 1 Period: 3.148 d



DV Fit Results:

Period = 3.14803 [0.00007] d
Epoch = 134.3048 [0.0169] BKJD
Rp/R* = 0.0232 [0.0095]
a/R* = 1.07 [0.01]
b = 0.99 [0.02]
Seff = 9155.38 [7943.04]
Teq = 2494 [541] K
Rp = 7.98 [5.22] Re
a = 0.0506 [0.0260] AU
Ag = 0.59 [0.89] [-0.46σ]
Teffp = 3385 [1058] K [0.75σ]

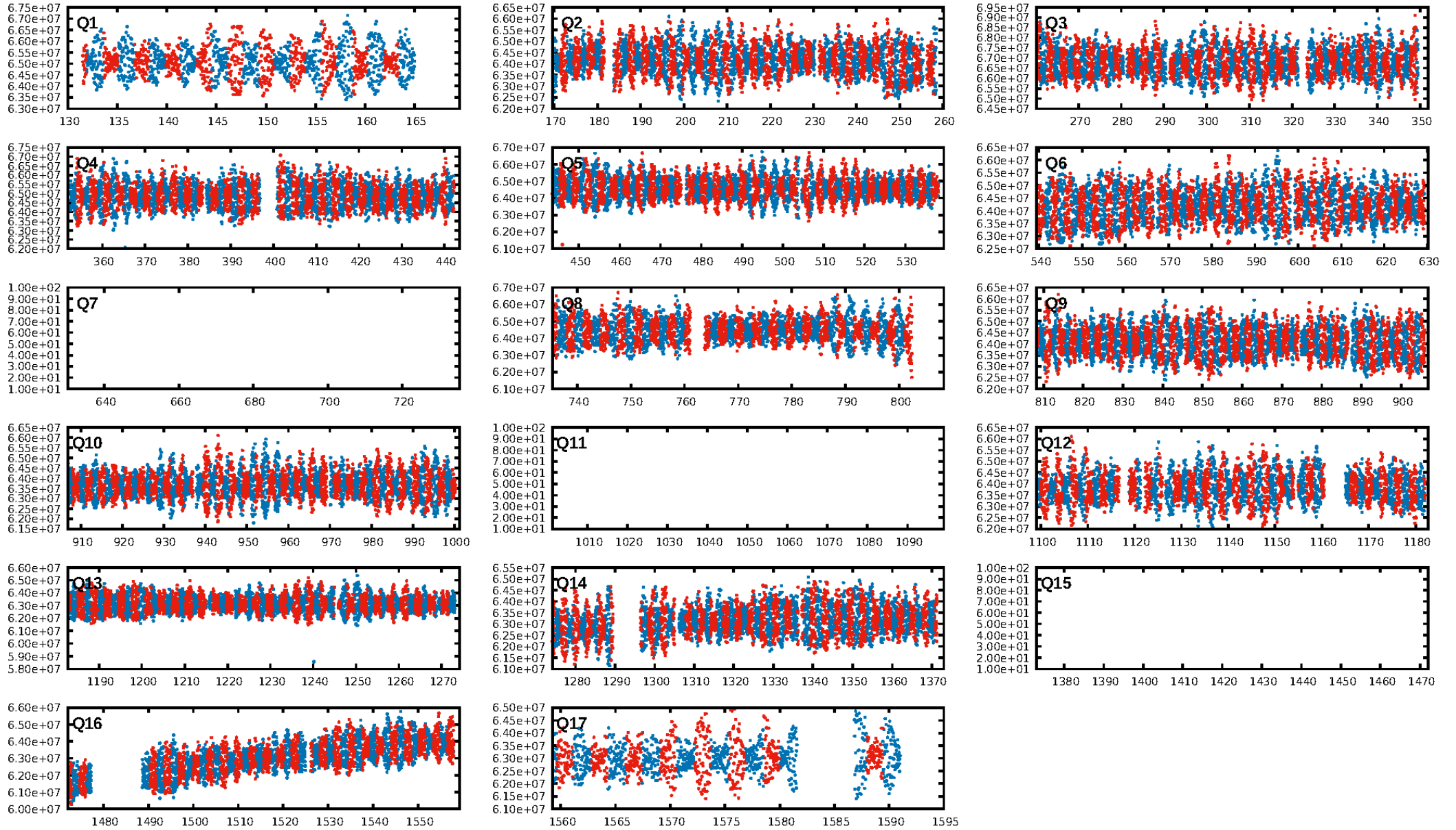
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.46e-51
RollingBand-fgt: 1.00 [330/330]
GhostDiagnostic-chr: 2.967
Centroid-sig: 0.7%
Centroid-so: 0.191 arcsec [1.07σ]
OotOffset-rm: 0.668 arcsec [2.32σ]
KicOffset-rm: 0.717 arcsec [2.52σ]
OotOffset-st: 3/1/4/5 [13]
KicOffset-st: 3/1/4/5 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [14/14]

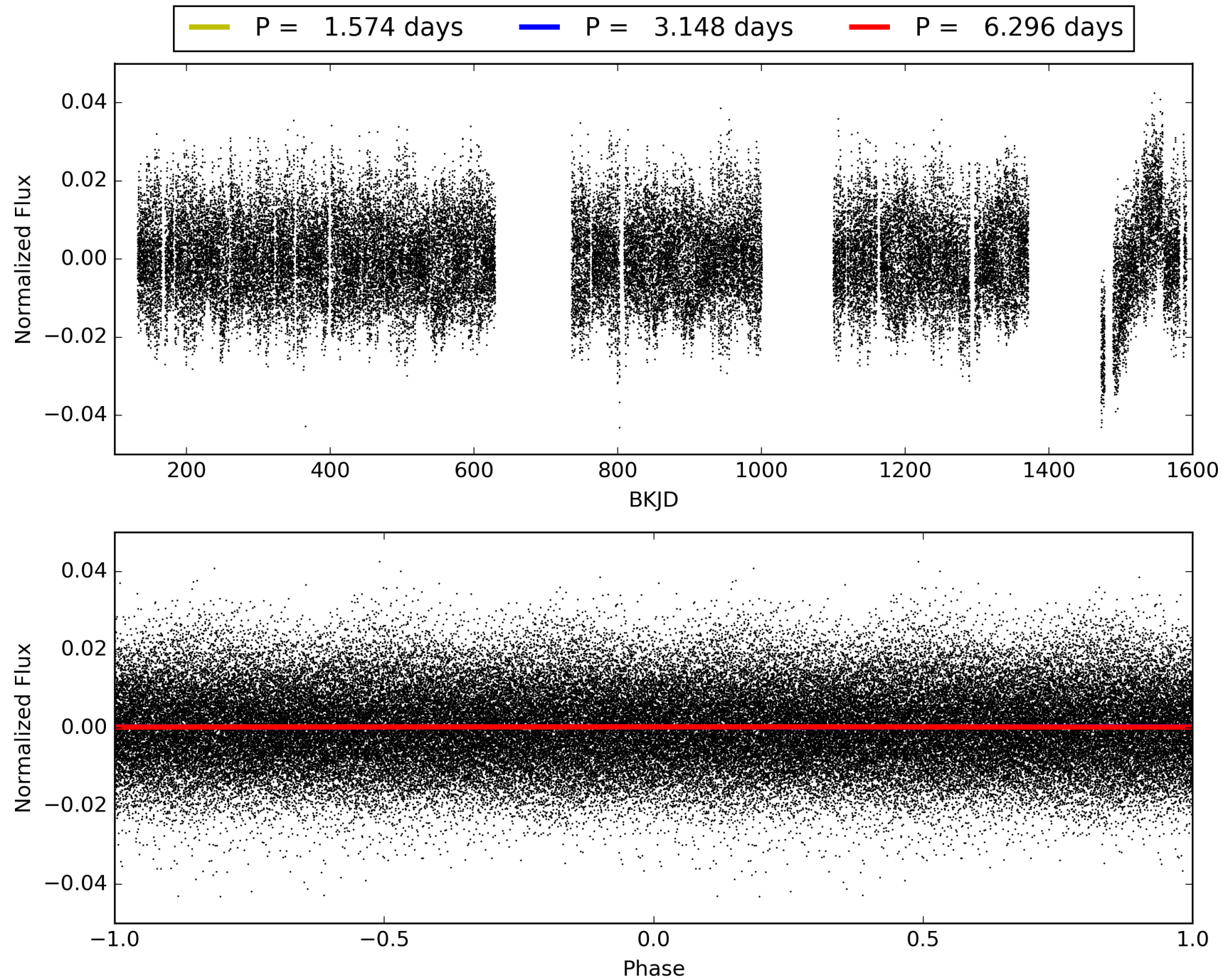
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:17:58 Z

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

TCE 009849107-01, PDC Light Curves

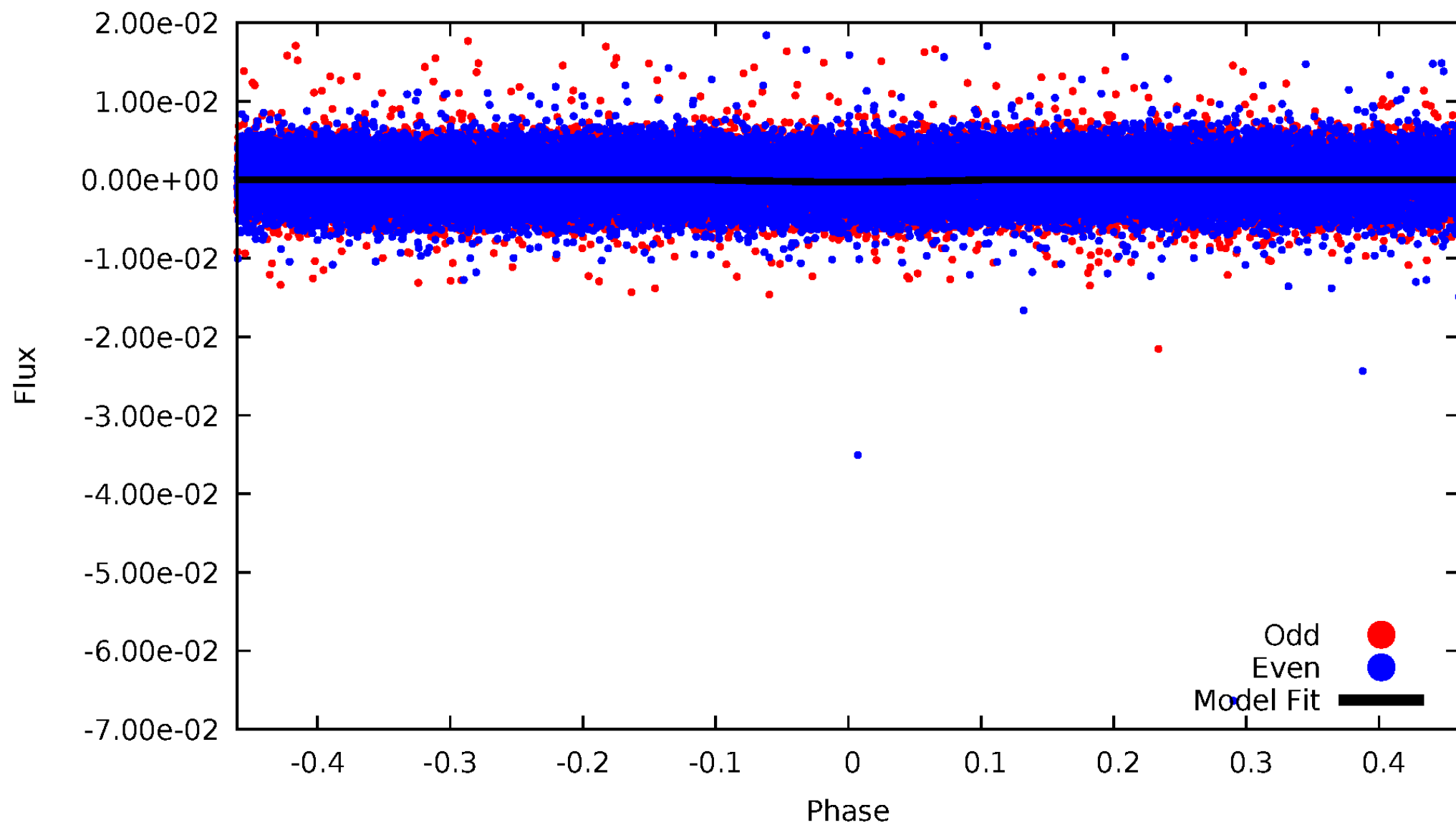


TCE 009849107-01



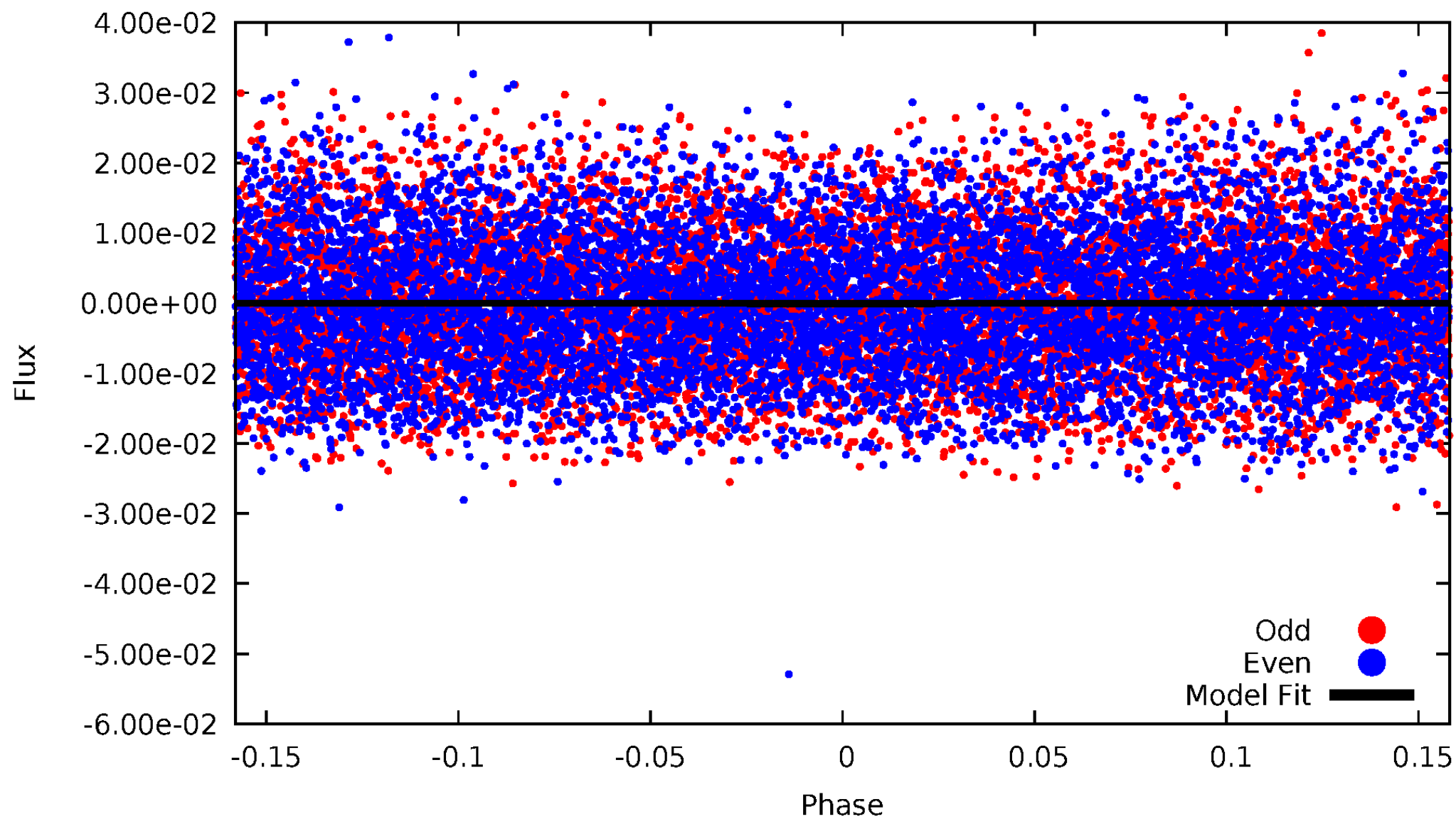
DV Odd/Even

TCE 009849107-01



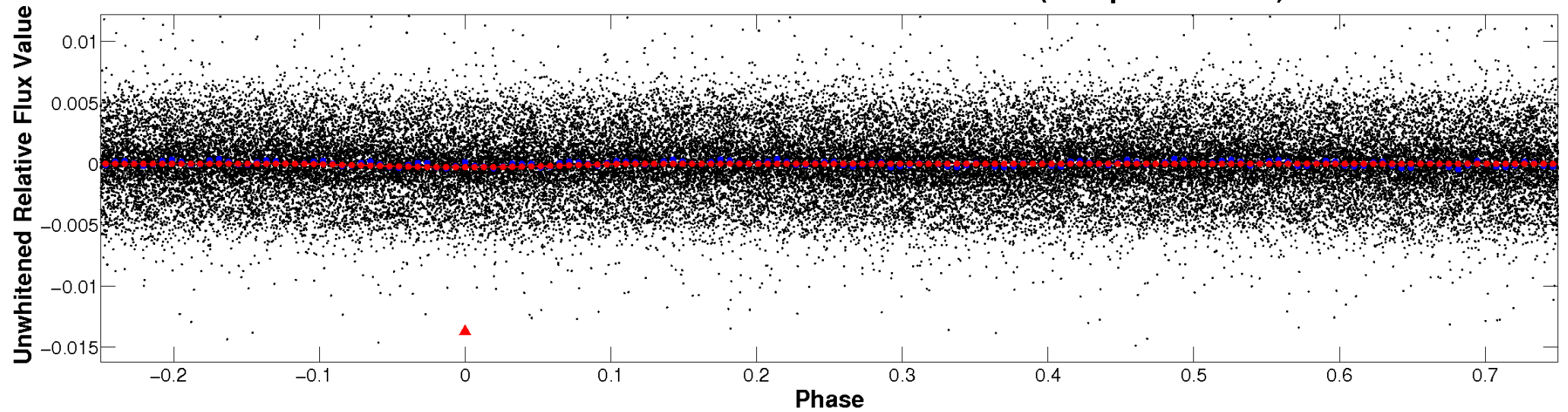
ALT Odd/Even

TCE 009849107-01

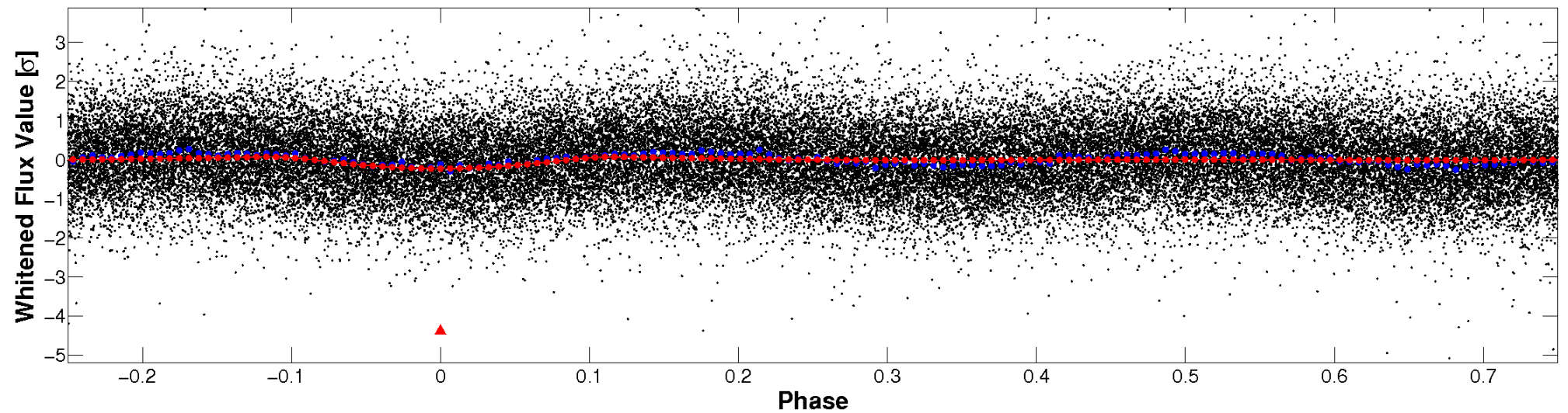


Non-Whitened Vs. Whitened Light Curve

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

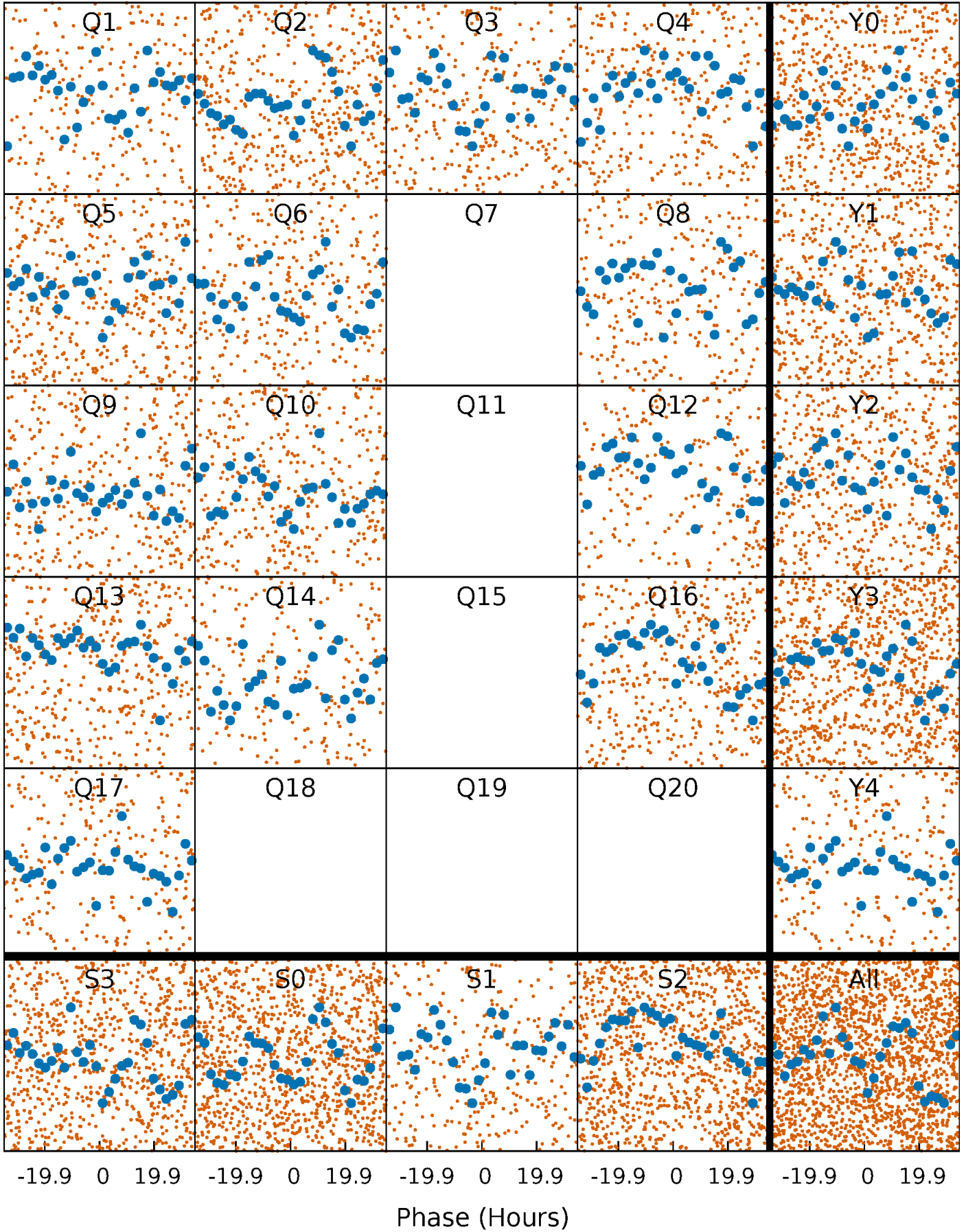


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



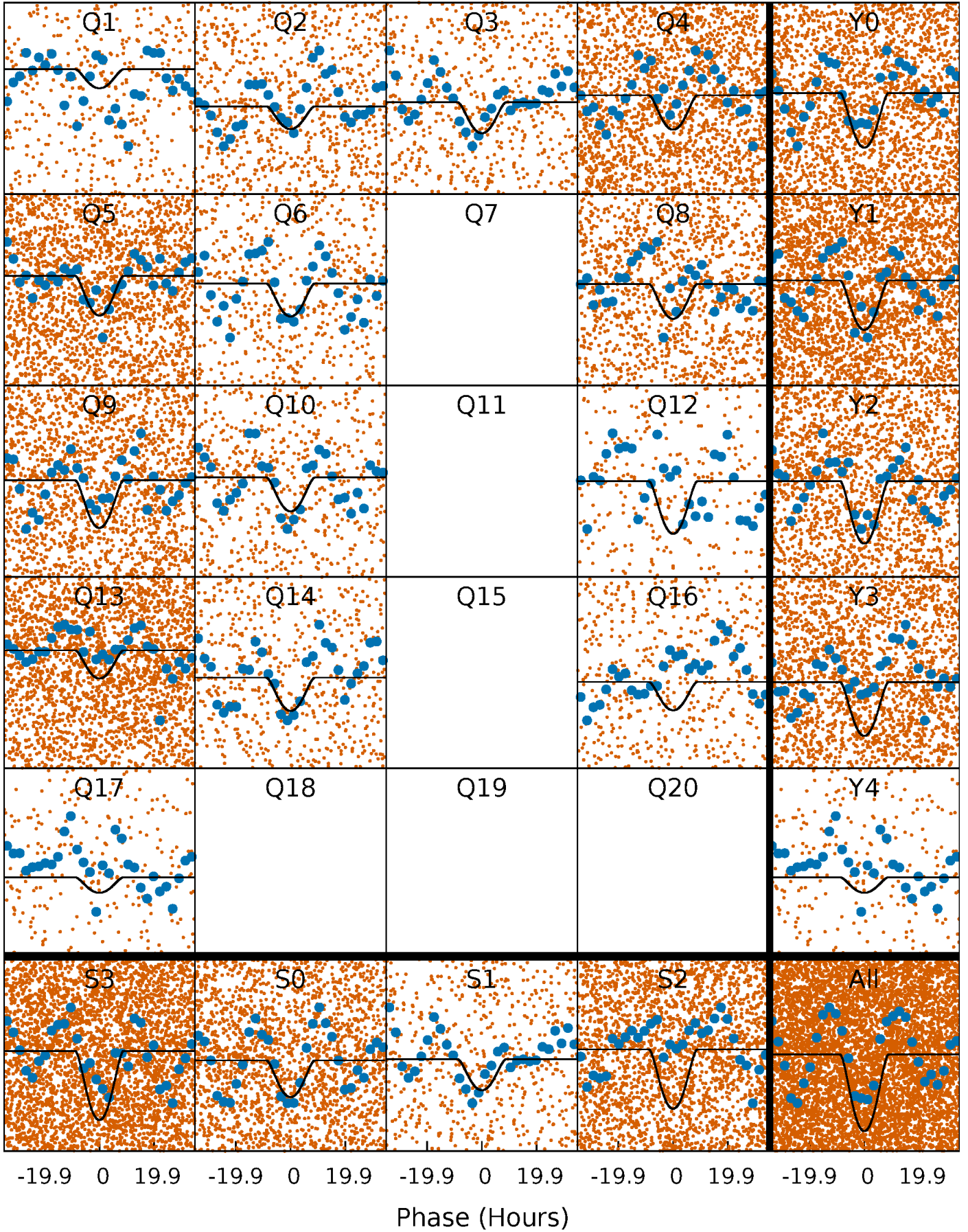
PDC Quarter-Phased Transit Curves

TCE 009849107-01 P= 3.148031 Days $T_0=134.304783$ (BKJD)



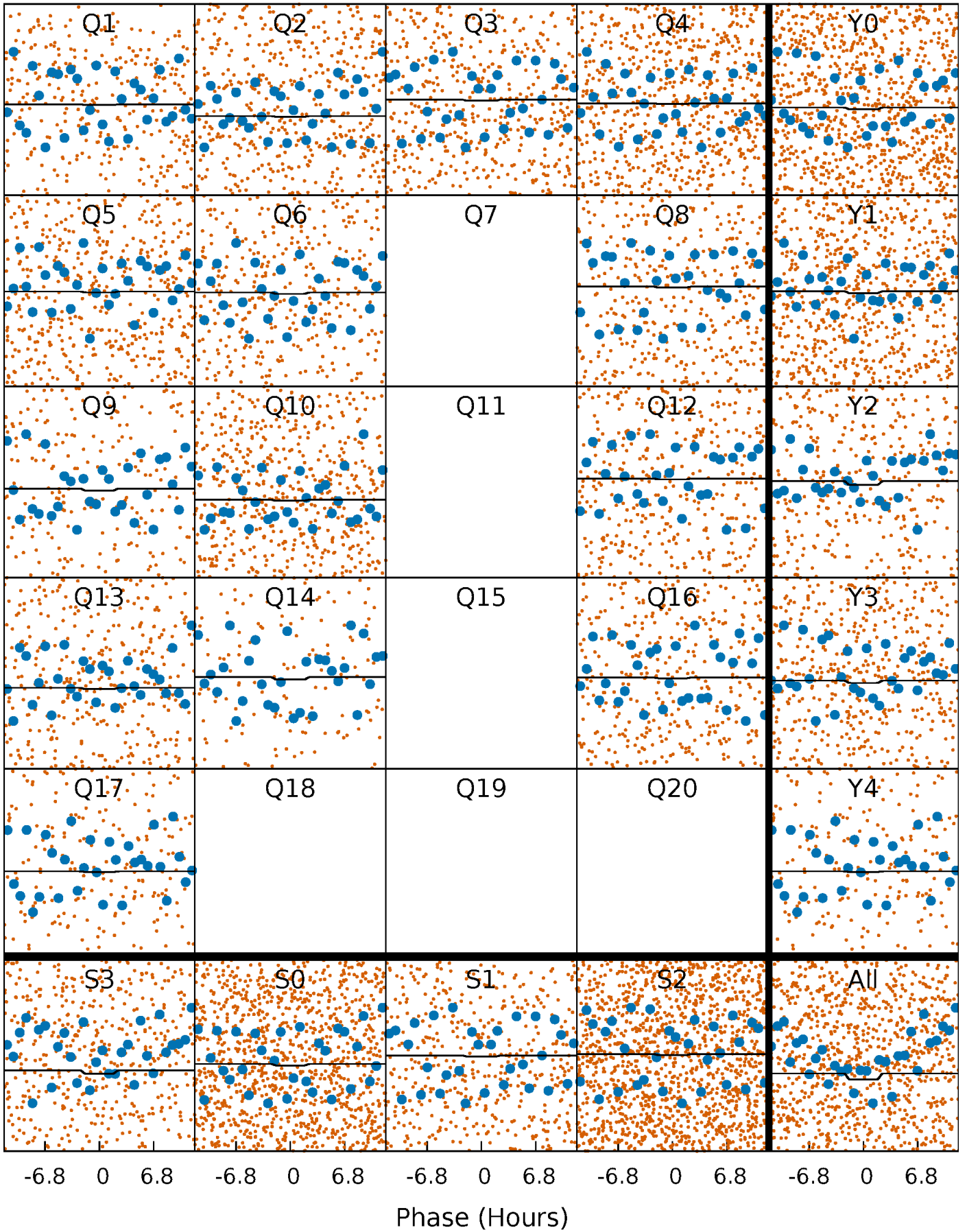
DV Quarter-Phased Transit Curves

TCE 009849107-01 P= 3.148031 Days $T_0=134.304783$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

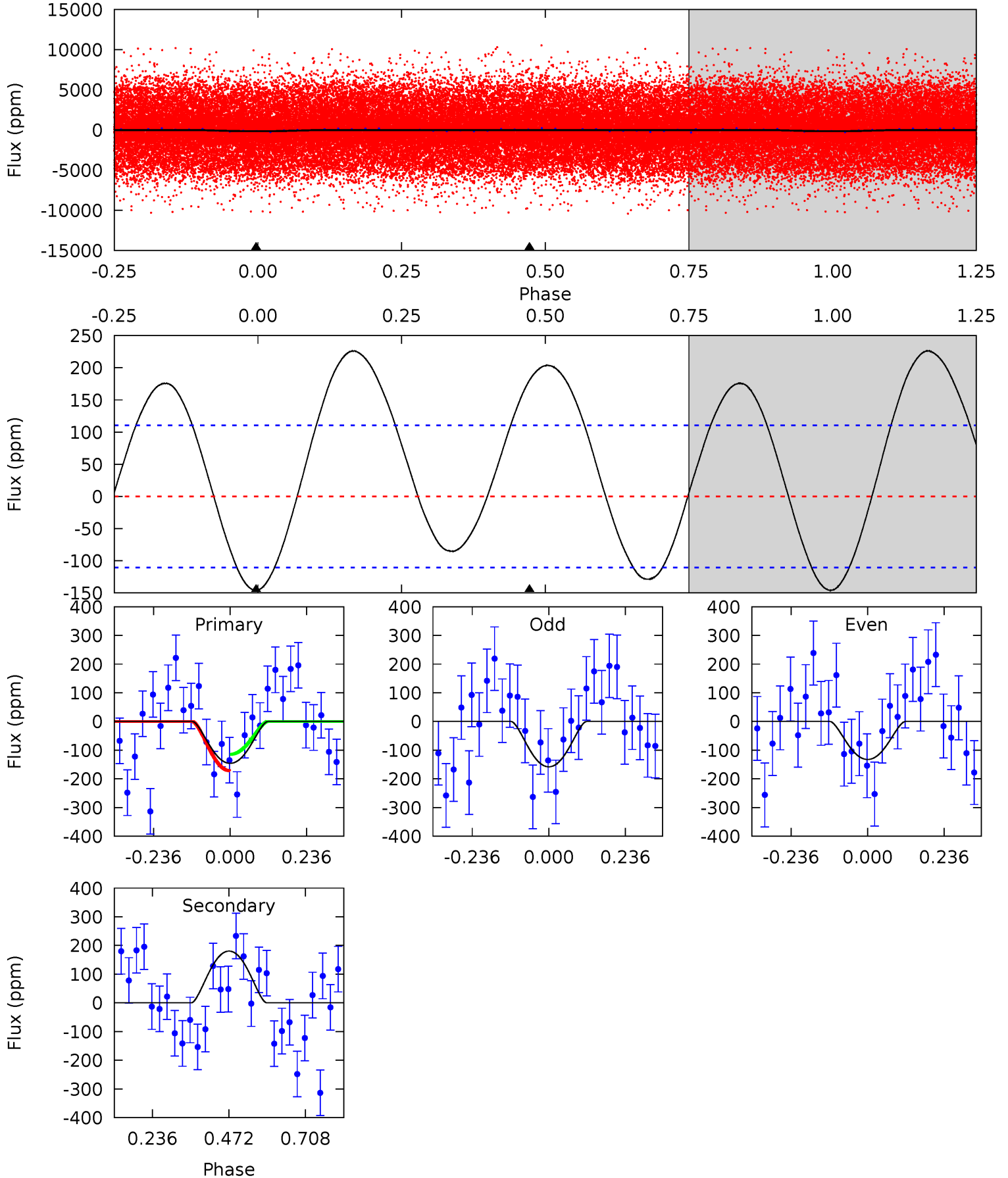
TCE 009849107-01 P= 3.147970 Days $T_0=134.377869$ (BKJD)



DV Model-Shift Uniqueness Test

009849107-01, P = 3.148031 Days, E = 131.156752 Days

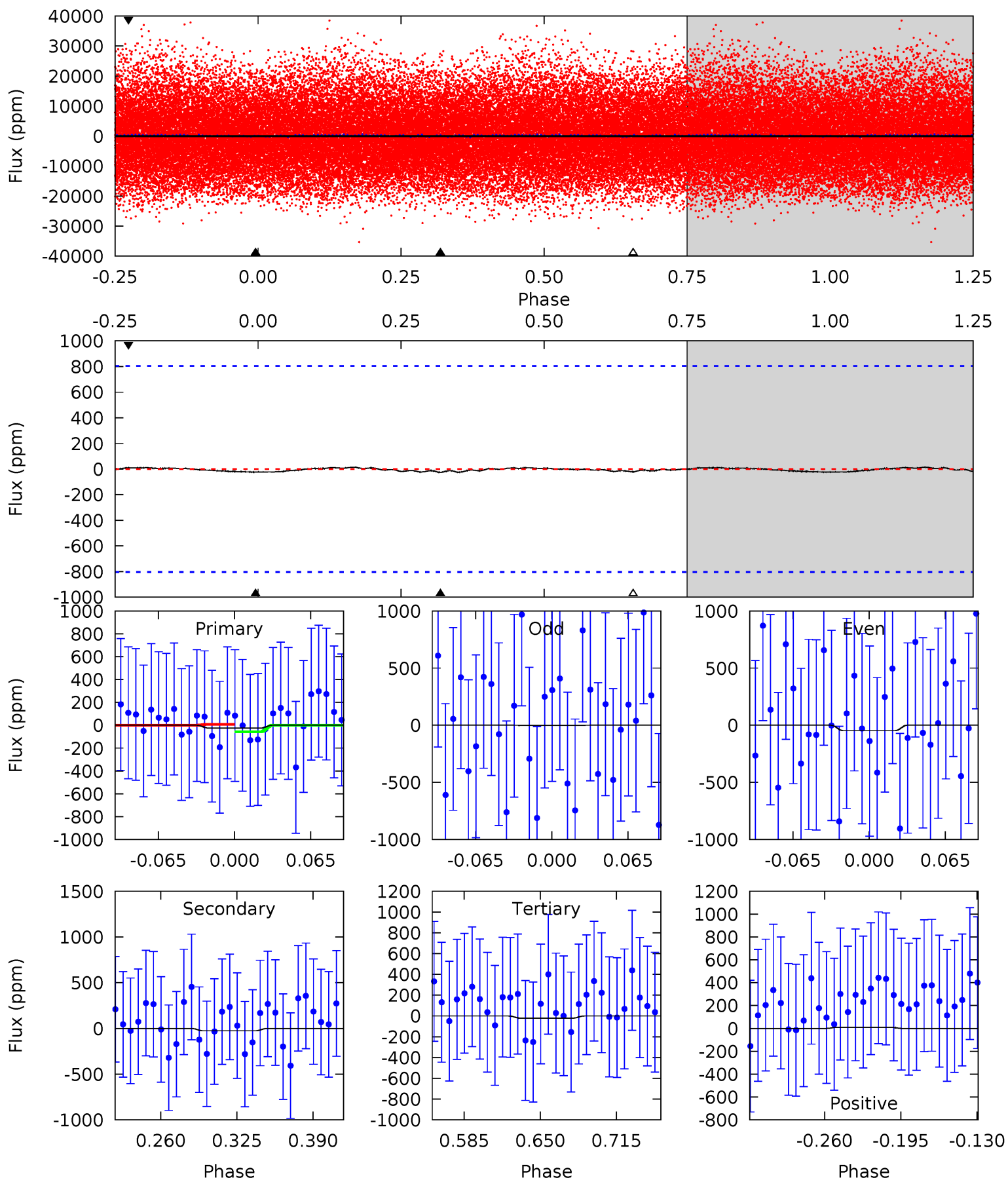
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.79	-7.15	0	0	4.38	1.18	3.39	5.79	5.79	-7.15	-7.15	0.51	-0.38	0.61	1.15



Alt Model-Shift Uniqueness Test

009849107-01, P = 3.147970 Days, E = 131.229899 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.14	0.15	0.12	0.06	4.65	1.85	0.05	0.02	0.08	0.03	0.09	0.13	0.33	0.36	0.15



Stellar Parameters For KIC 009849107

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7159^{+224}_{-353}	$3.681^{+0.504}_{-0.056}$	$-0.200^{+0.250}_{-0.300}$	$3.156^{+0.402}_{-1.607}$	$1.742^{+0.157}_{-0.439}$	$0.078^{+0.425}_{-0.020}$
	+3%/-5%	+14%/-2%	+125%/-150%	+13%/-51%	+9%/-25%	+545%/-26%
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 009849107-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	180 ± 25	$6.93^{+3.41}_{-3.11}$	3294^{+266}_{-434}	-5430^{+690}_{-1563}	$-5.194^{+2.885}_{-11.714}$
Alt.	-26 ± 173	$2.83^{+2.90}_{-1.84}$	3330^{+255}_{-397}	4309^{+6102}_{-13606}	$1.894^{+46.270}_{-39.306}$

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

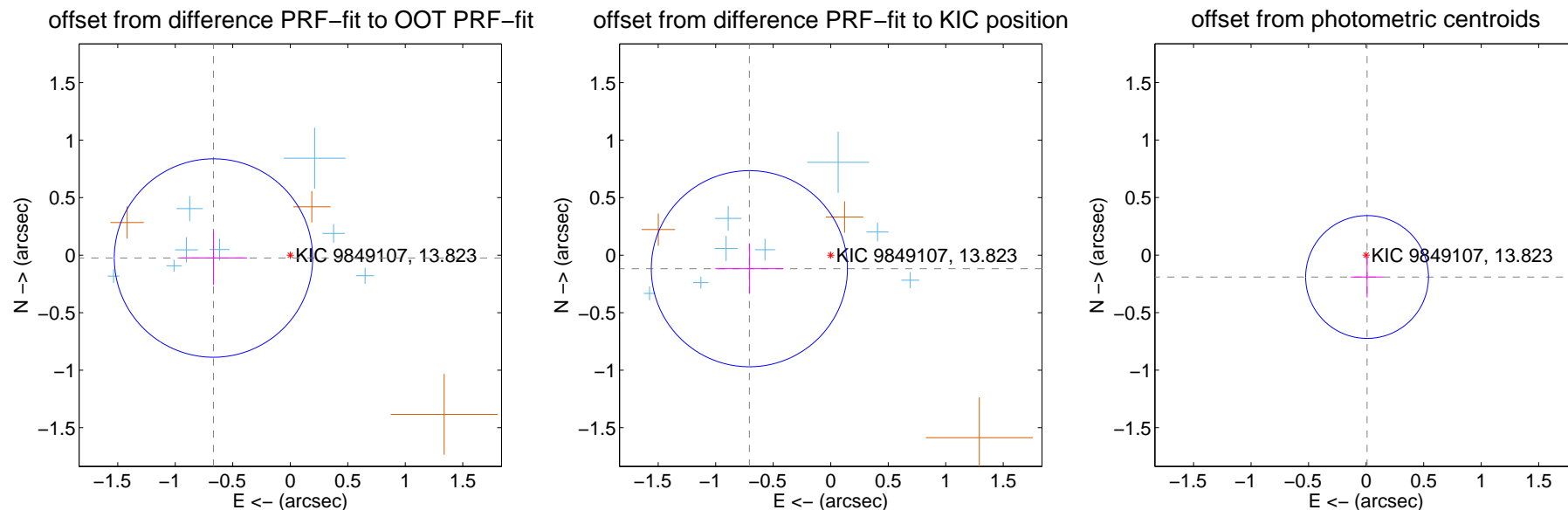
DV Centroid Data

Supplemental centroid analysis for 009849107-01. Kepler magnitude: 13.82. Transit SNR 16.18

There are 9 quarters with good PRF difference image offsets

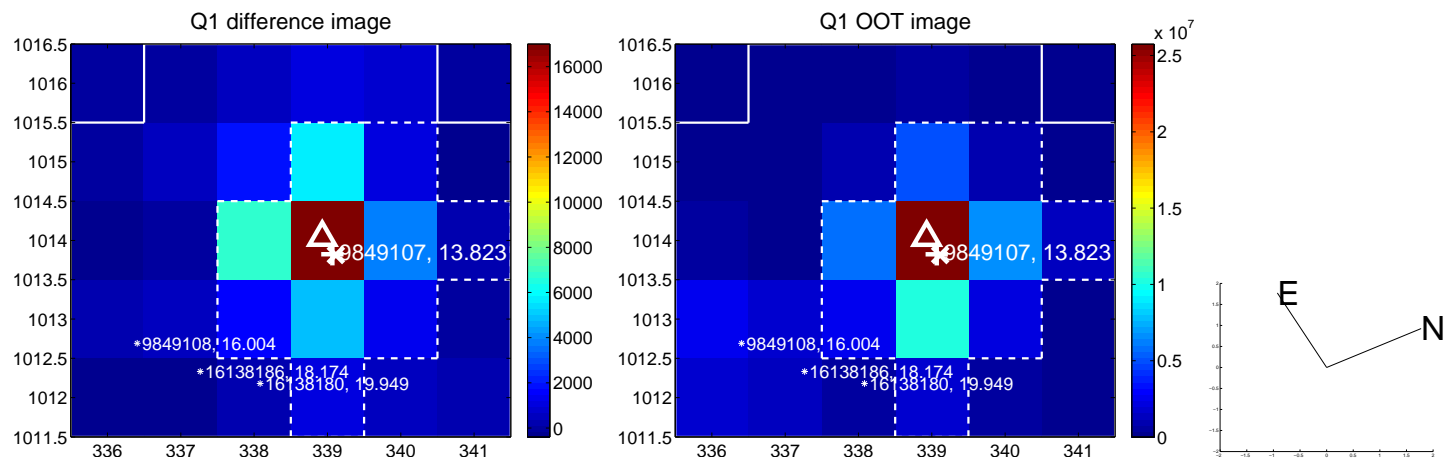
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.668 ± 0.288	2.32	0.668 ± 0.291	-0.025 ± 0.235
PRF-fit source offset from KIC position	0.717 ± 0.284	2.52	0.708 ± 0.296	-0.118 ± 0.217
photometric centroid source offset	0.19 ± 0.18	1.07	-0.01 ± 0.14	-0.19 ± 0.18

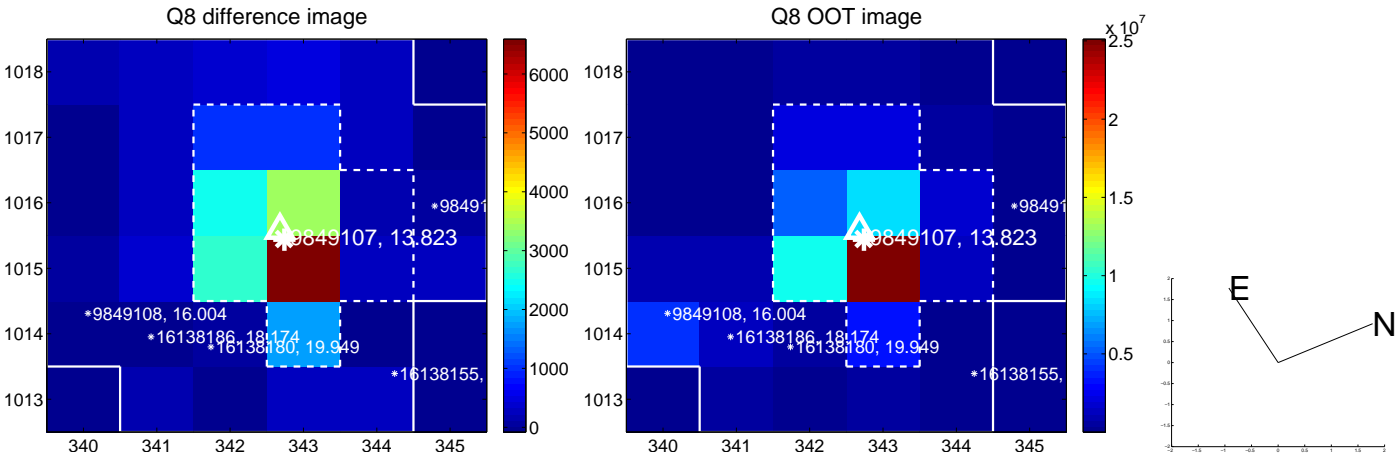
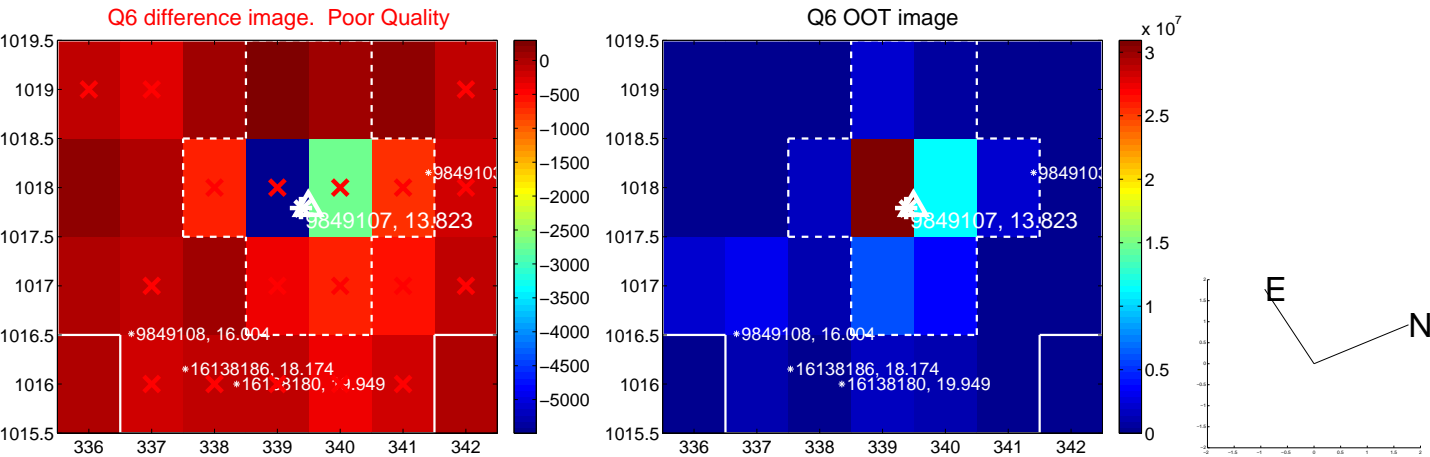
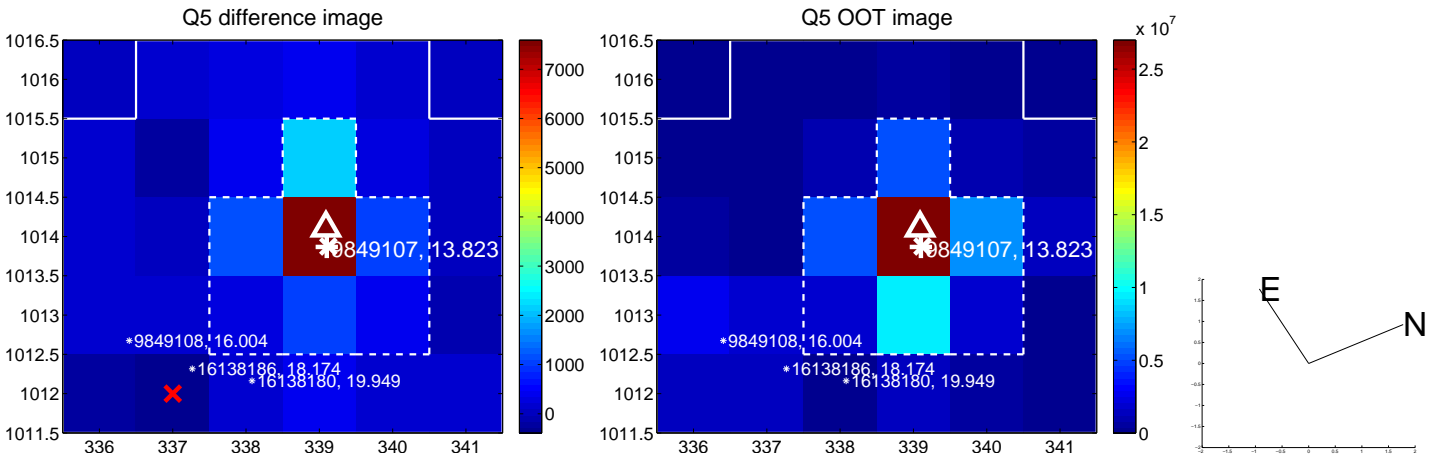


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

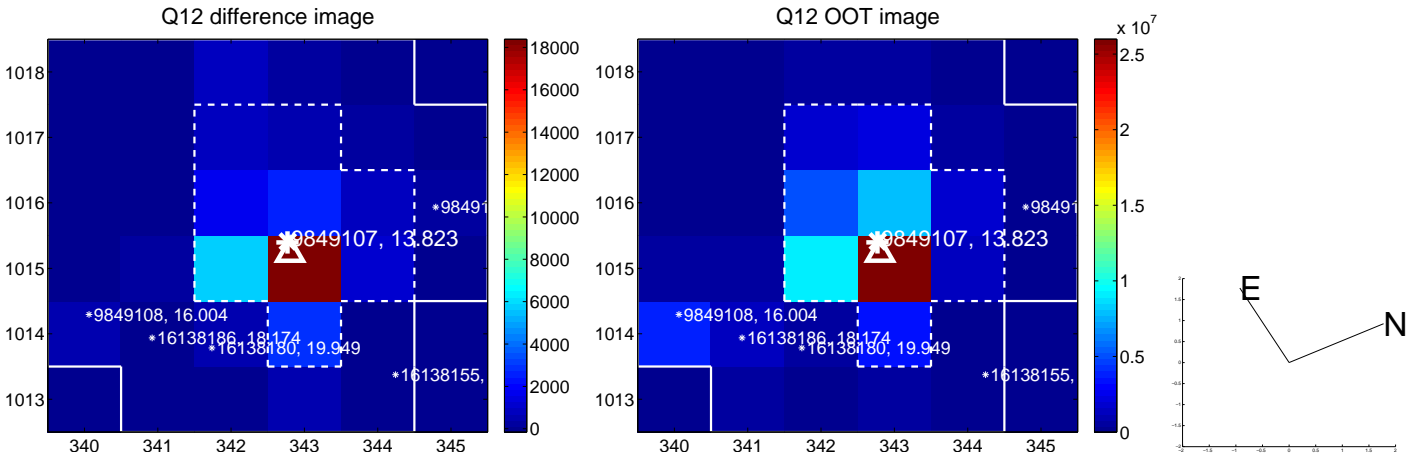
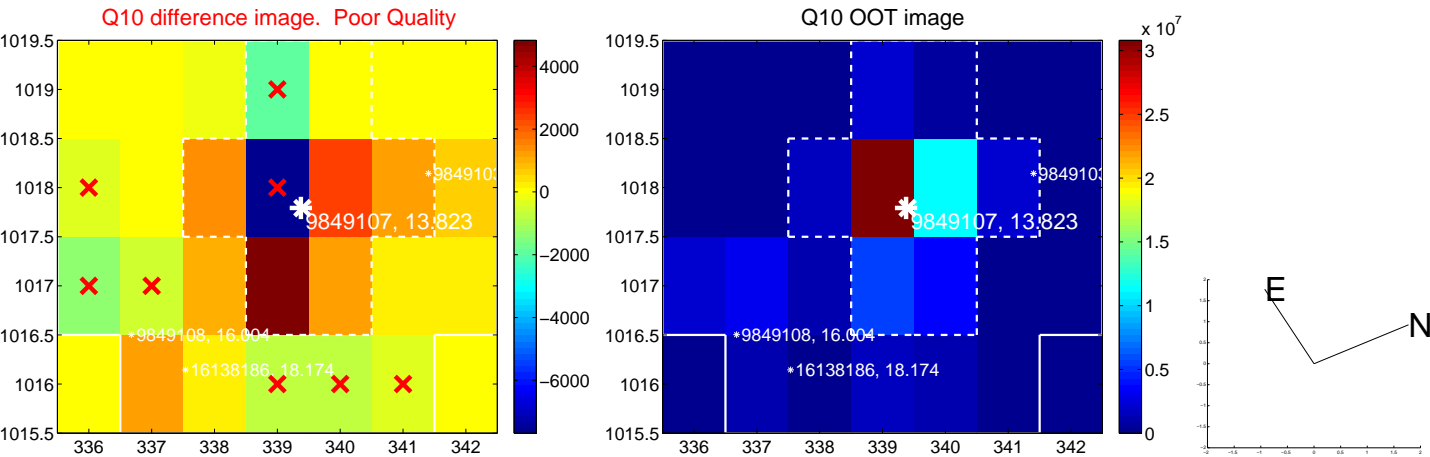
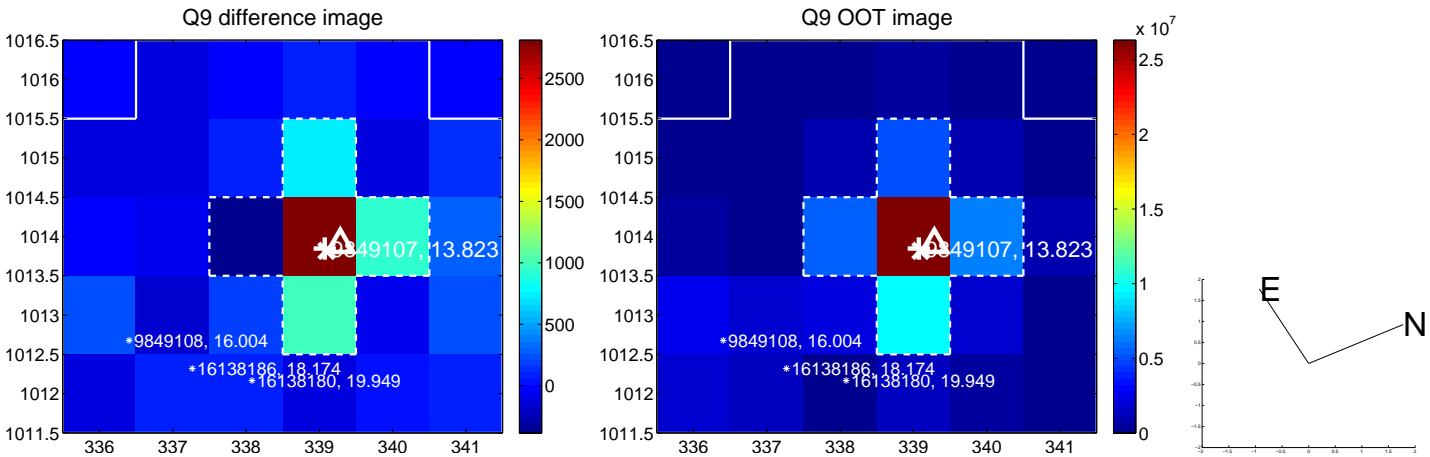
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



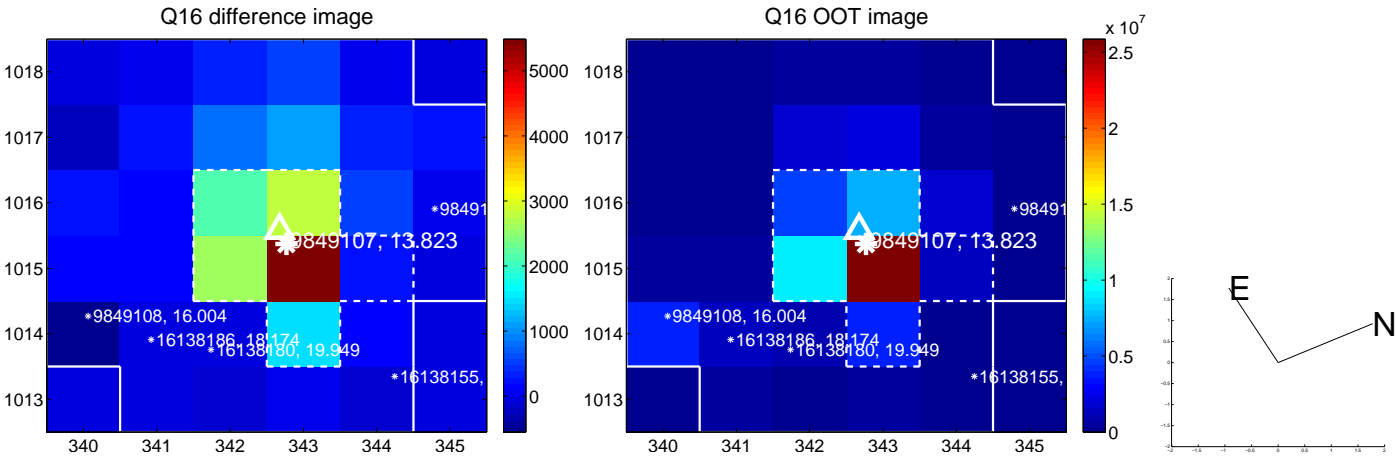
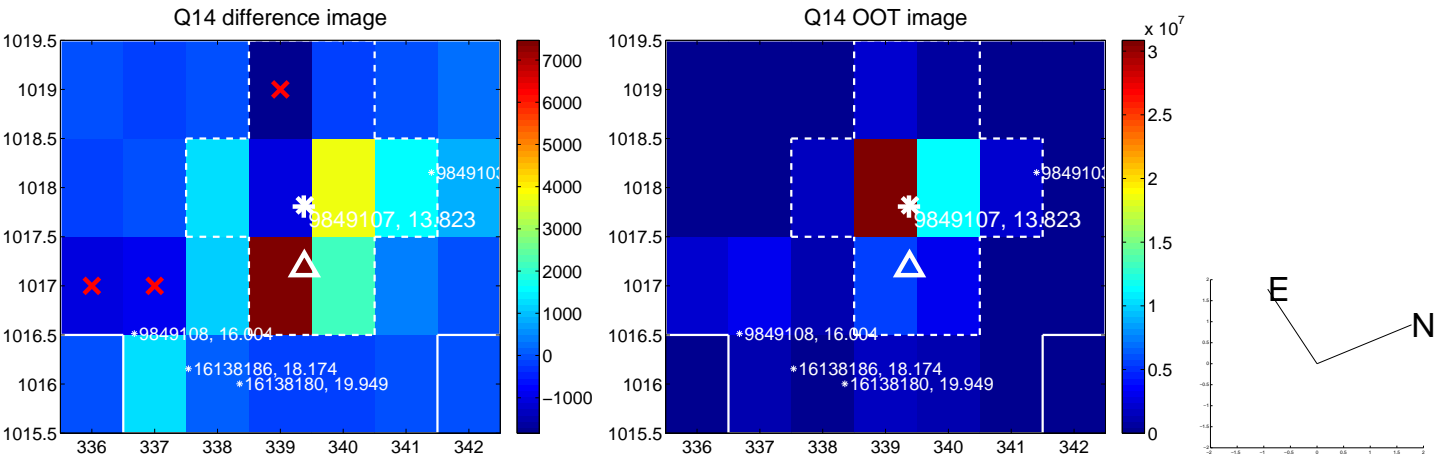
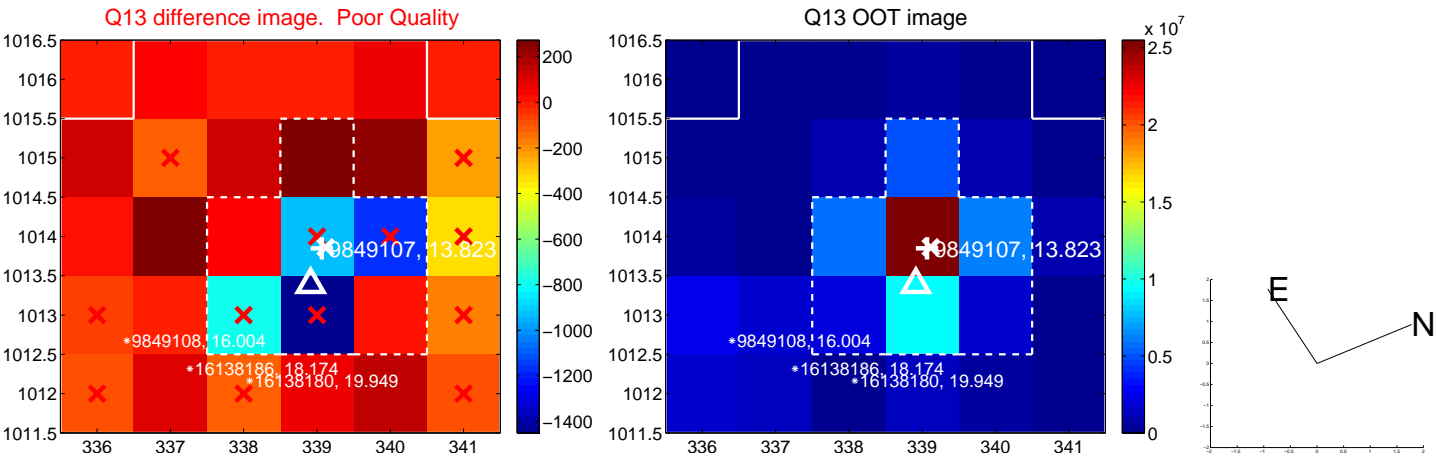
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



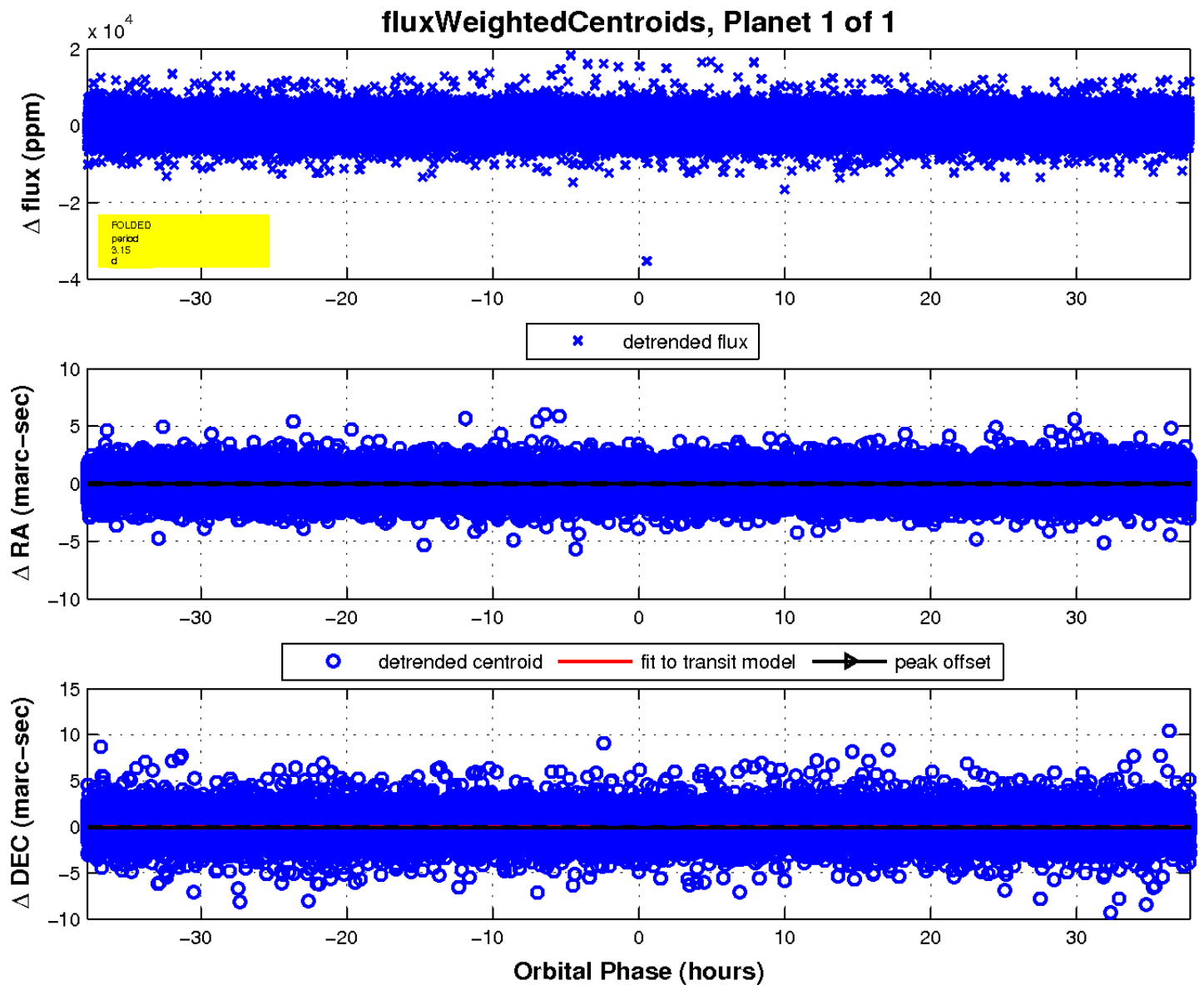
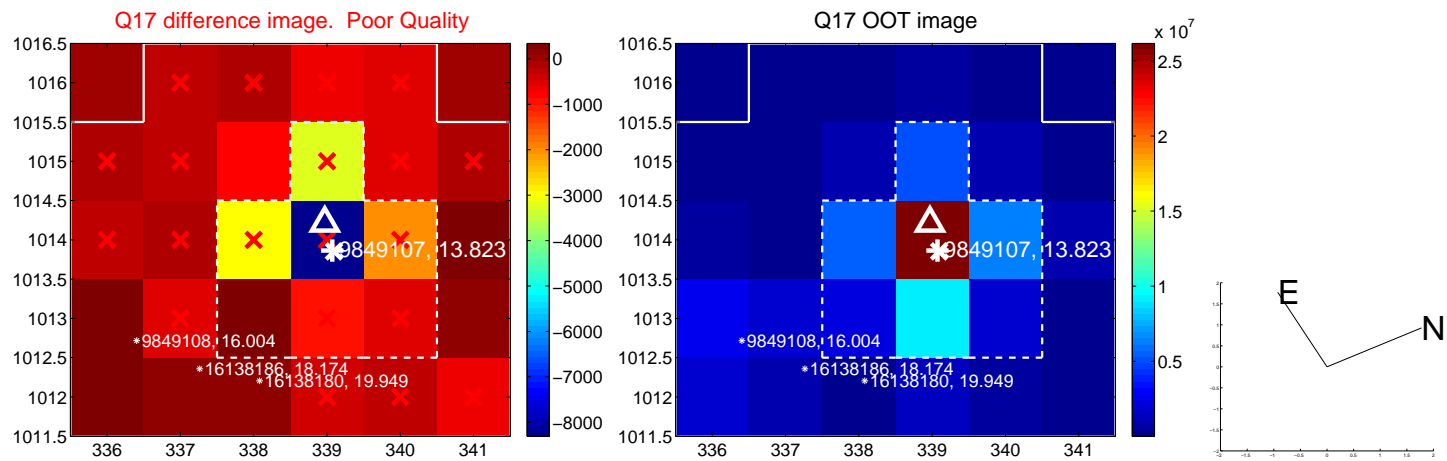
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UKIRT Image

Declination

