

KIC 002010607

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})
002010607-01	OBS	4929.01	18.633323	141.569297	916.6	30.269	100.1	140.2	2.47	6235	14.31	347.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002010607-01	OBS	FP	0.00	0	1	0	0	MOD_ODDEVEN_DV—DEEP_V_SHAPED—CENT_SATURATED

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.

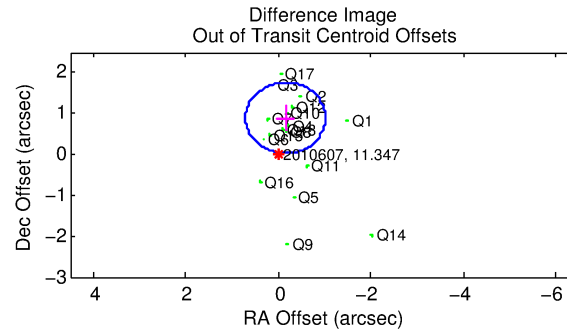
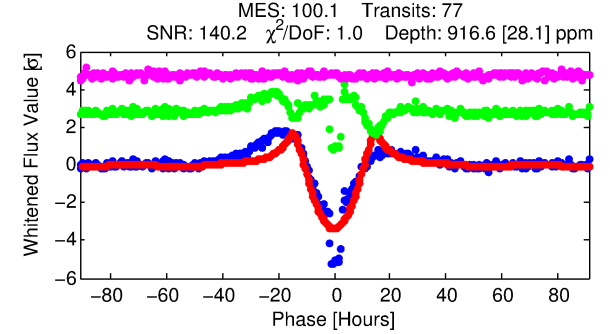
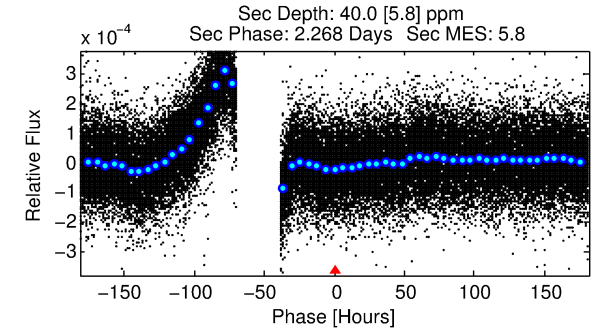
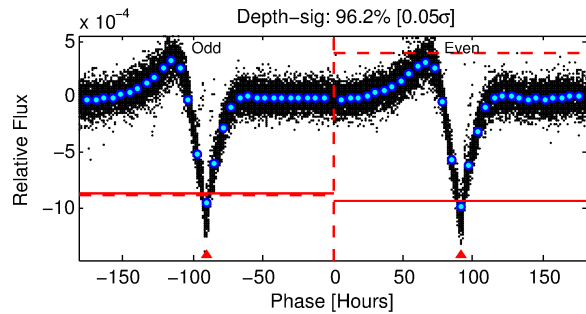
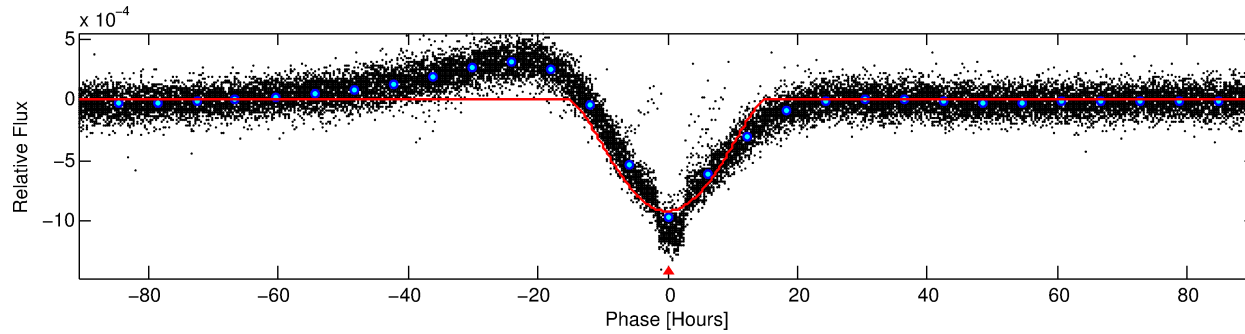
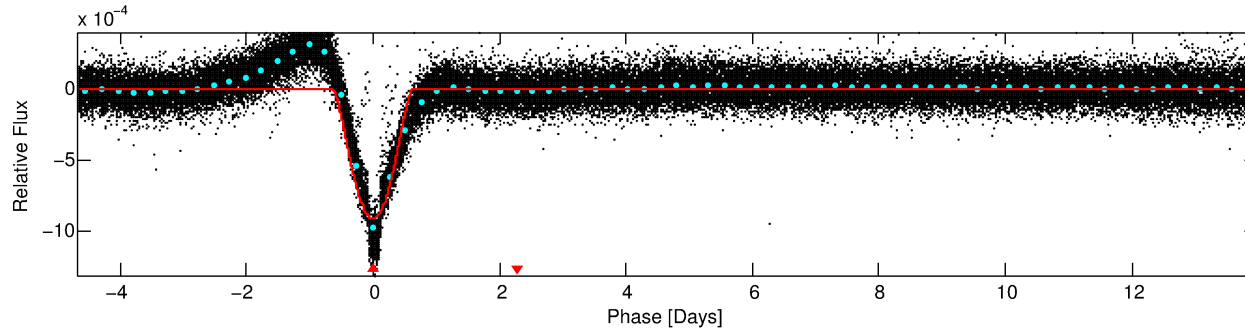
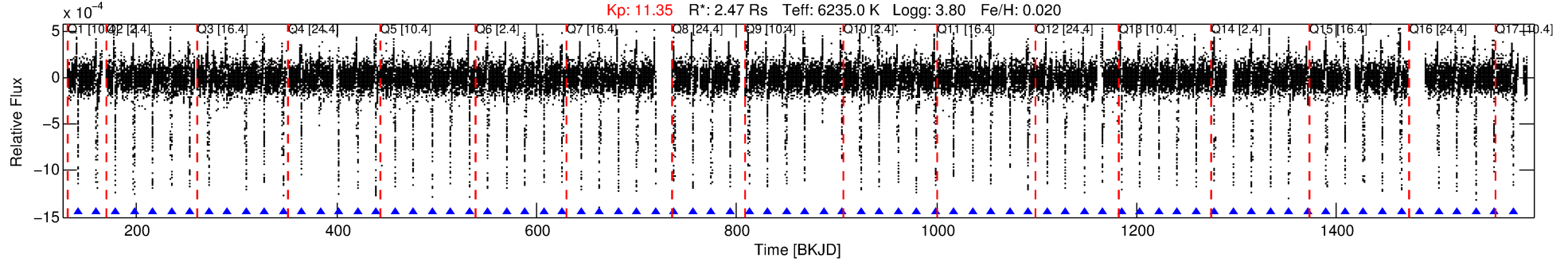
Ephemeris Match Information For 002010607-01

No Significant Match Found

DV One-Page Summary

KIC: 2010607 Candidate: 1 of 1 Period: 18.633 d
KOI: K04929.01 Corr: 0.922

Kp: 11.35 R*: 2.47 Rs Teff: 6235.0 K Logg: 3.80 Fe/H: 0.020



DV Fit Results:

Period = 18.63332 [0.00008] d
Epoch = 141.5693 [0.0035] BKJD
Rp/R* = 0.0531 [0.0065]
a/R* = 1.86 [0.03]
b = 1.00 [0.01]
Seff = 347.62 [29.40]
Teff = 1101 [23] K
Rp = 14.31 [2.02] Re
a = 0.1542 [0.0080] AU
Ag = 2.55 [0.75] [2.08σ]
Teffp = 2152 [156] K [6.65σ]

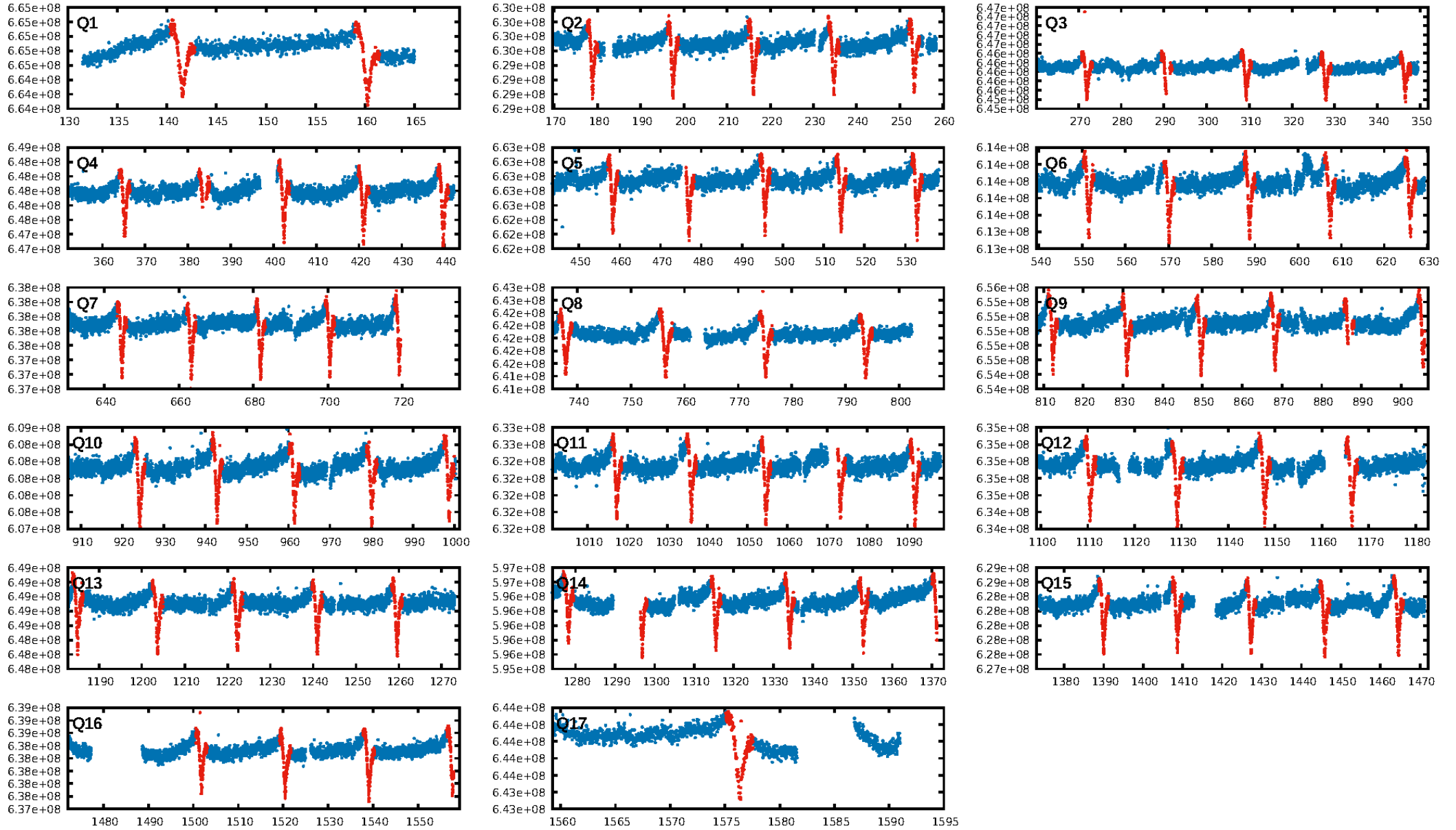
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [74/74]
GhostDiagnostic-chr: 2.074
Centroid-sig: 1.2%
Centroid-so: 0.093 arcsec [2.32σ]
OotOffset-rm: 0.907 arcsec [3.14σ]
KicOffset-rm: 0.618 arcsec [2.25σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

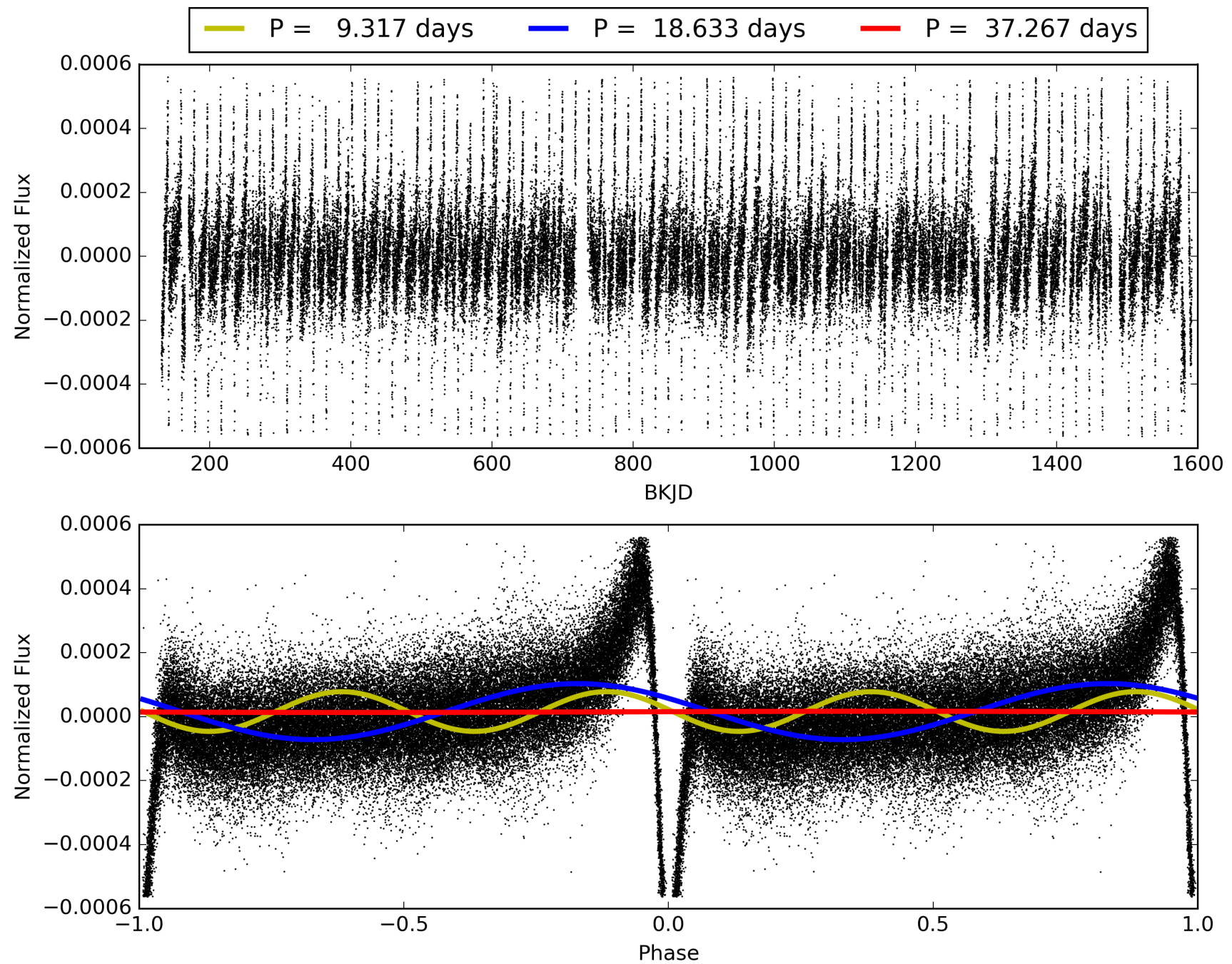
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:07:17 Z

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

TCE 002010607-01, PDC Light Curves

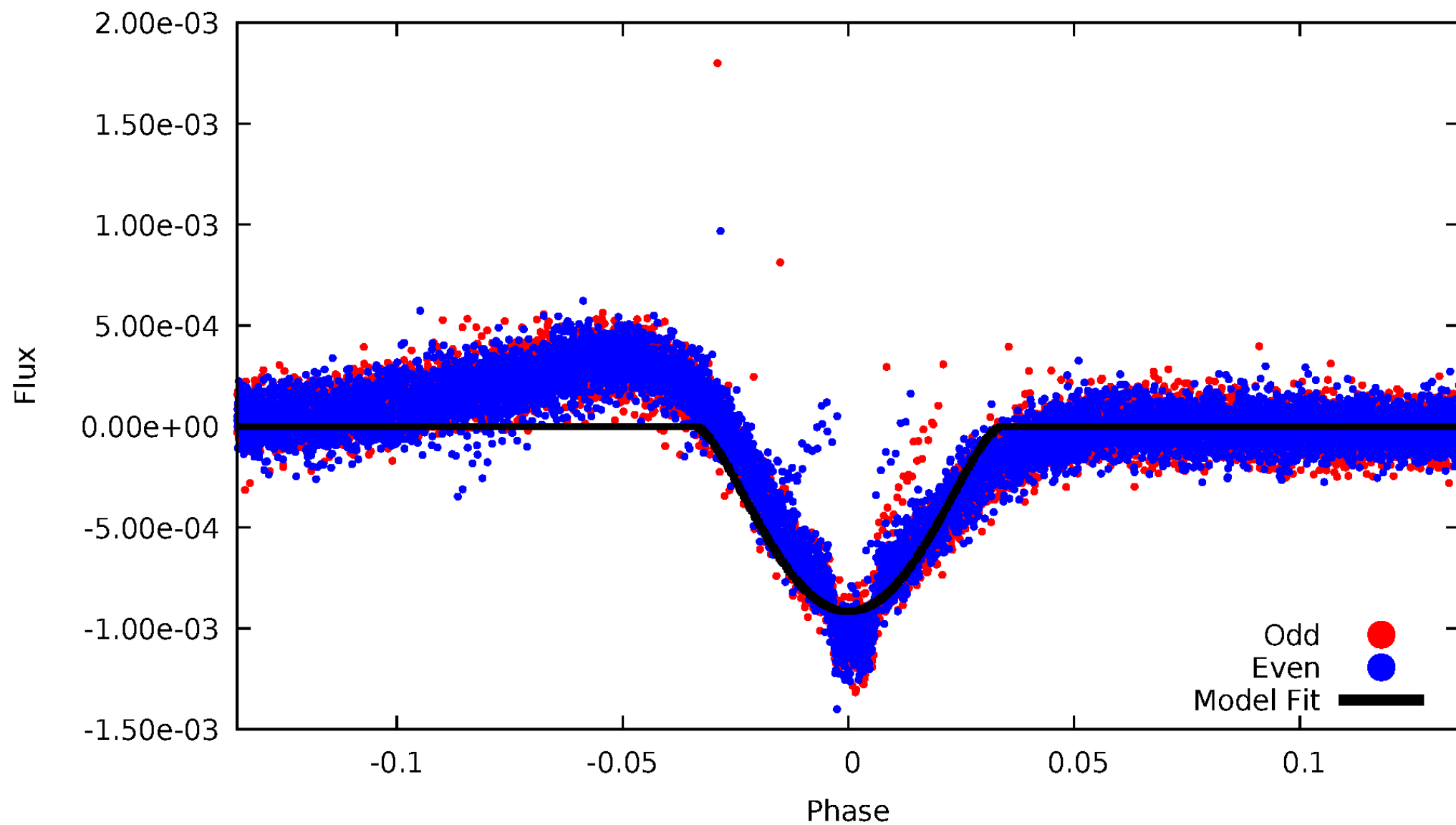


TCE 002010607-01



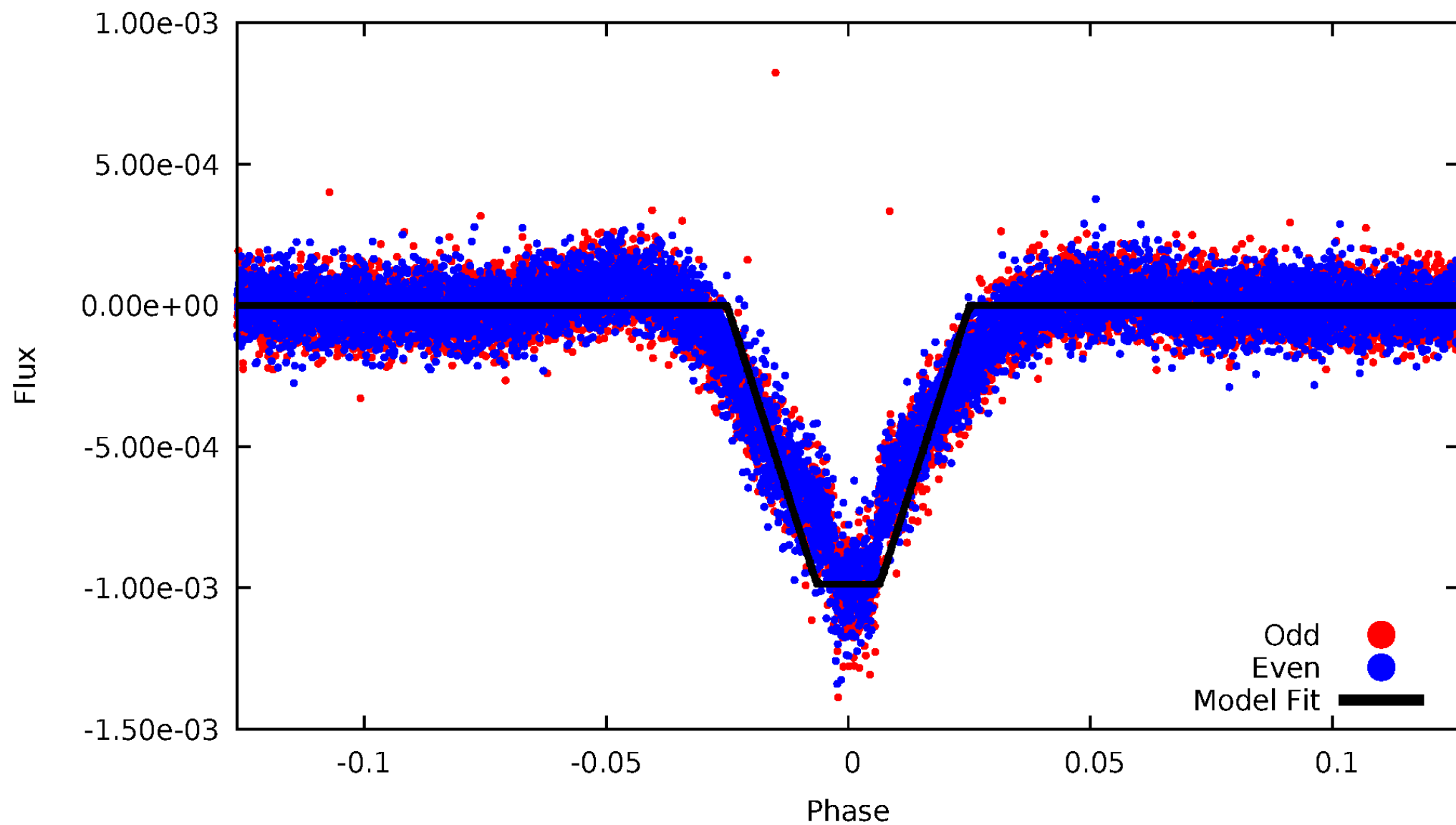
DV Odd/Even

TCE 002010607-01



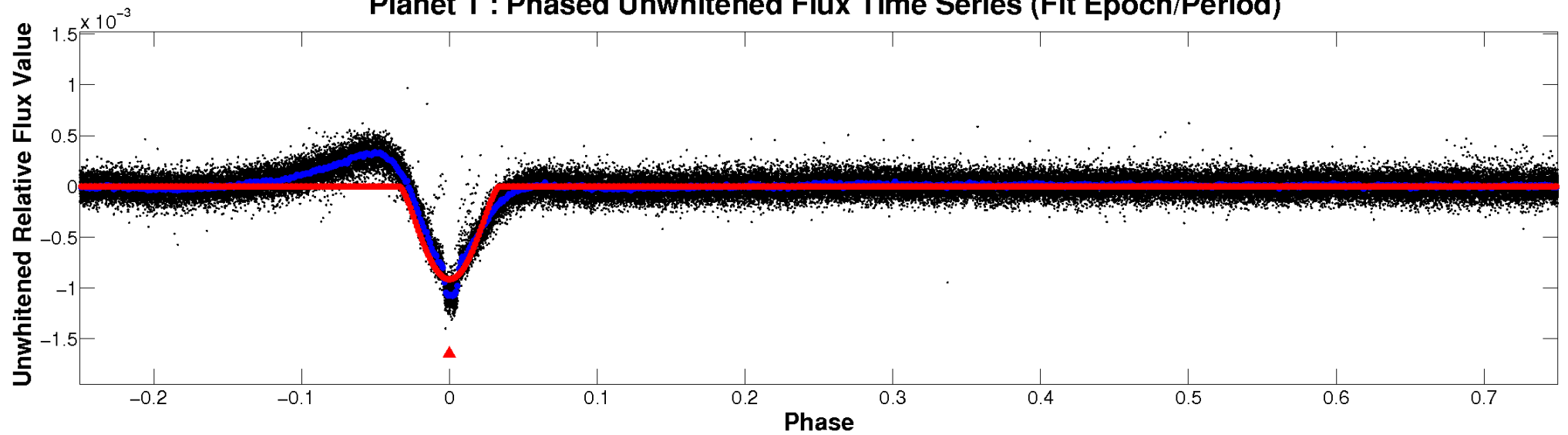
ALT Odd/Even

TCE 002010607-01

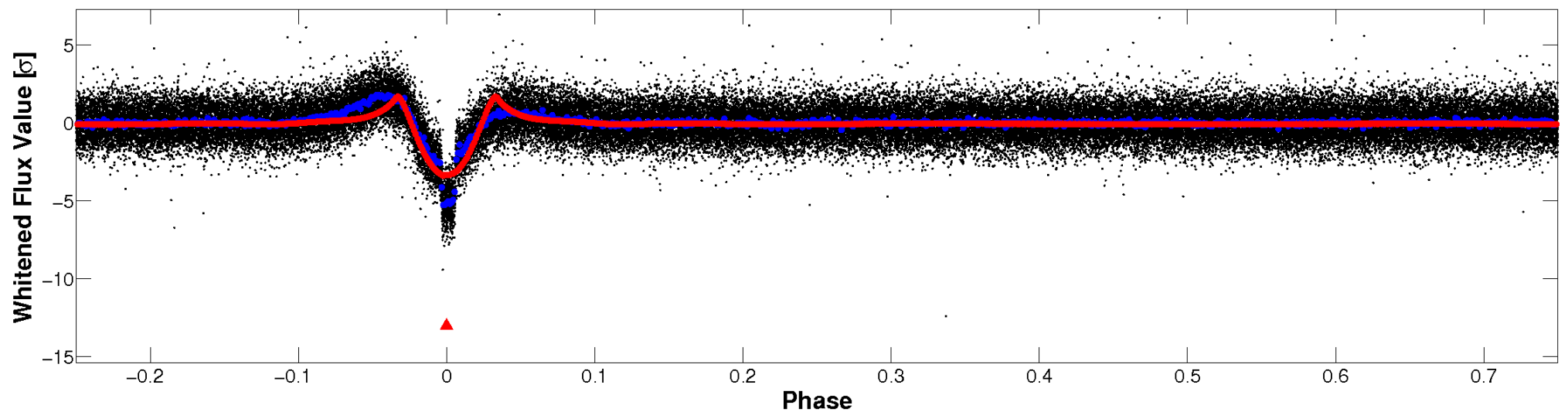


Non-Whitened Vs. Whitened Light Curve

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

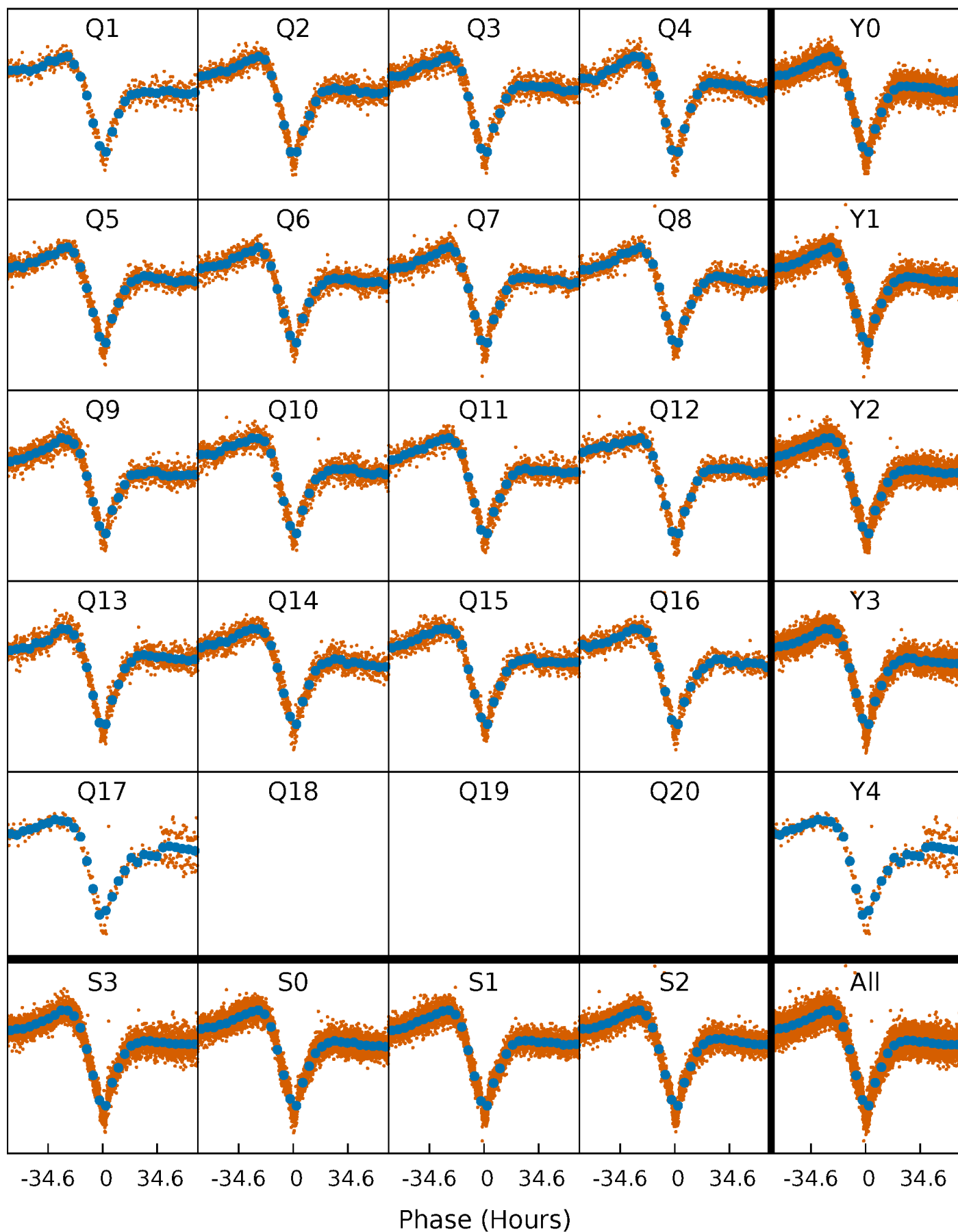


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



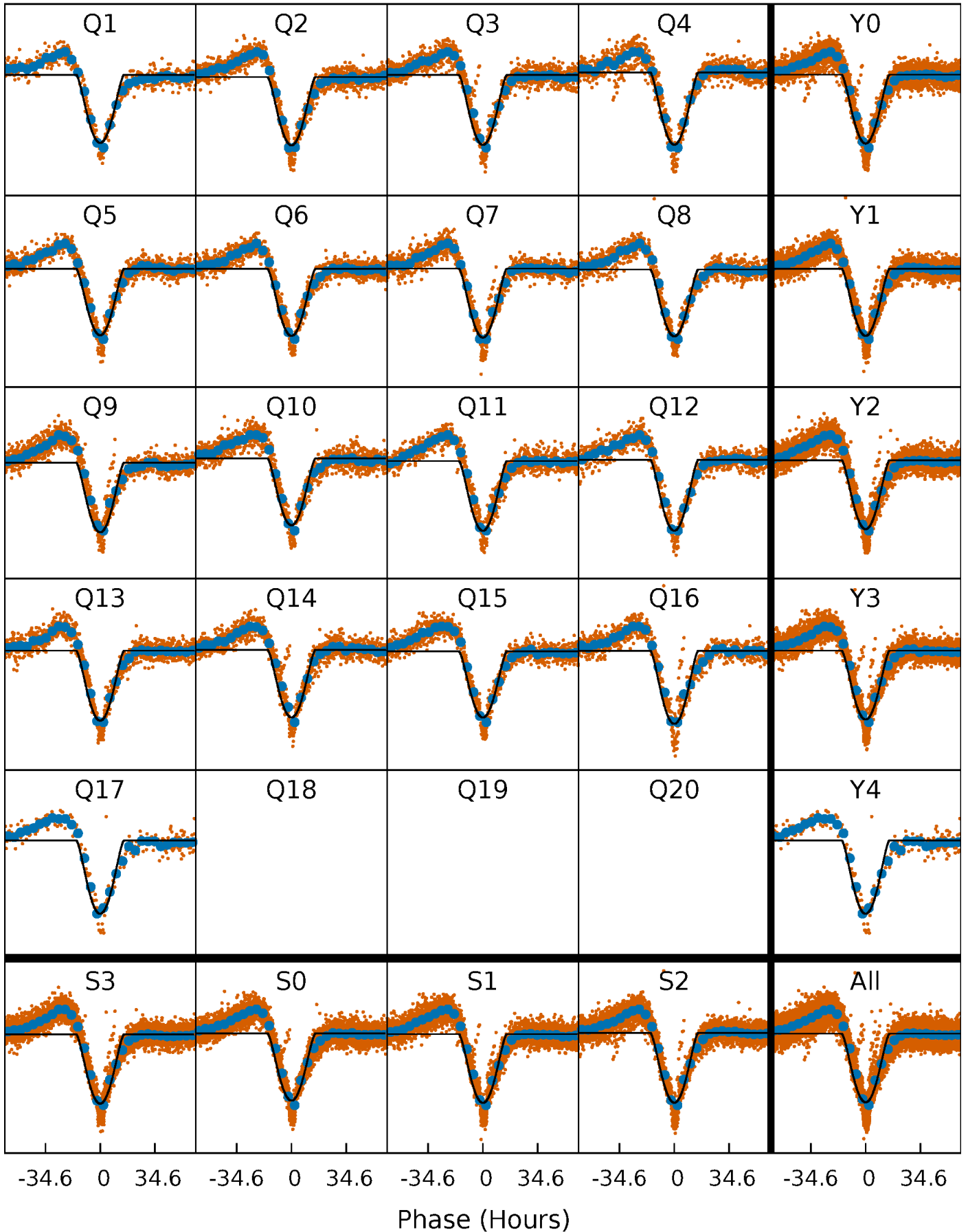
PDC Quarter-Phased Transit Curves

TCE 002010607-01 P= 18.633323 Days $T_0=141.569297$ (BKJD)



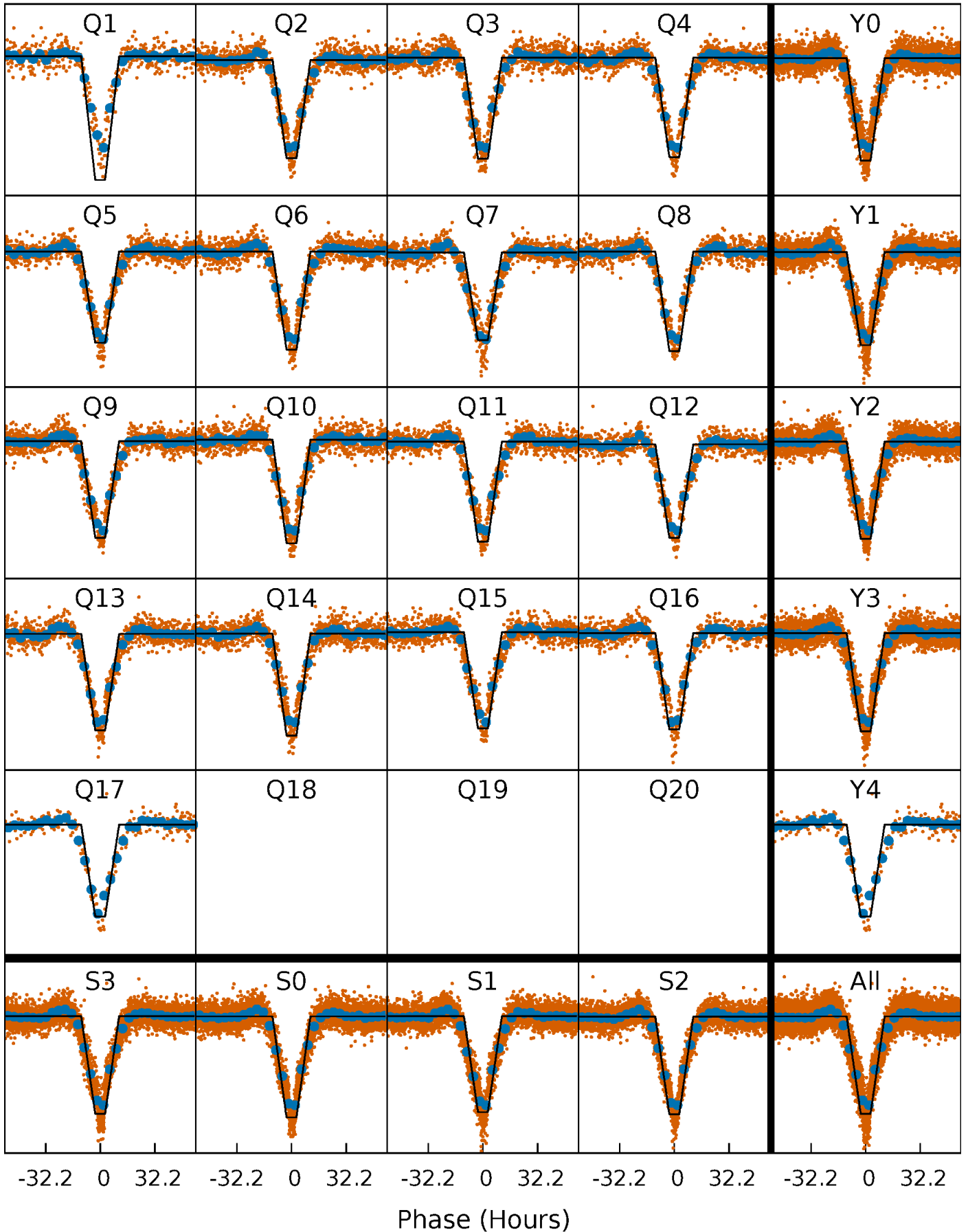
DV Quarter-Phased Transit Curves

TCE 002010607-01 P= 18.633323 Days $T_0=141.569297$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

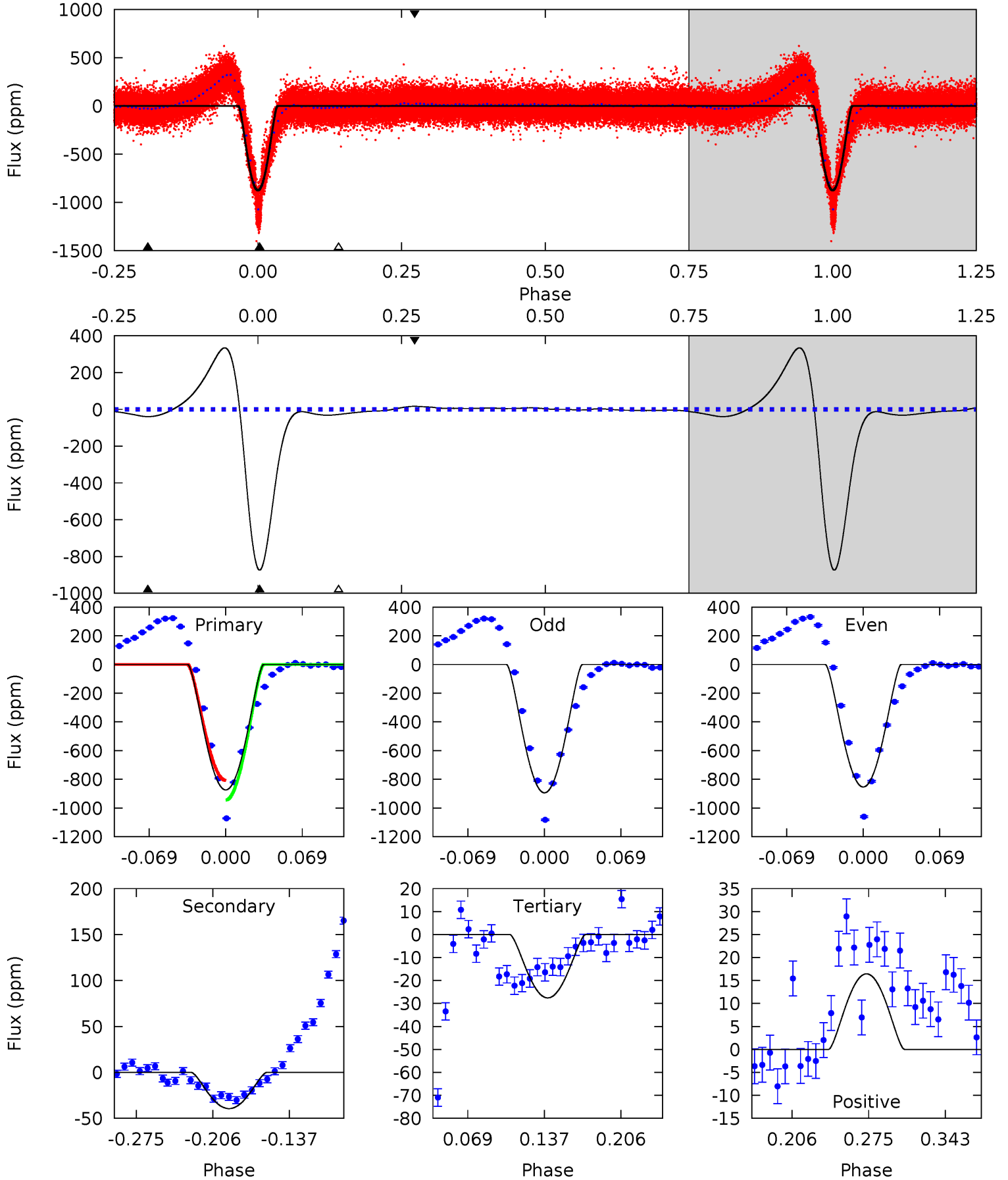
TCE 002010607-01 P= 18.633370 Days $T_0=141.564513$ (BKJD)



DV Model-Shift Uniqueness Test

002010607-01, P = 18.633323 Days, E = 122.935974 Days

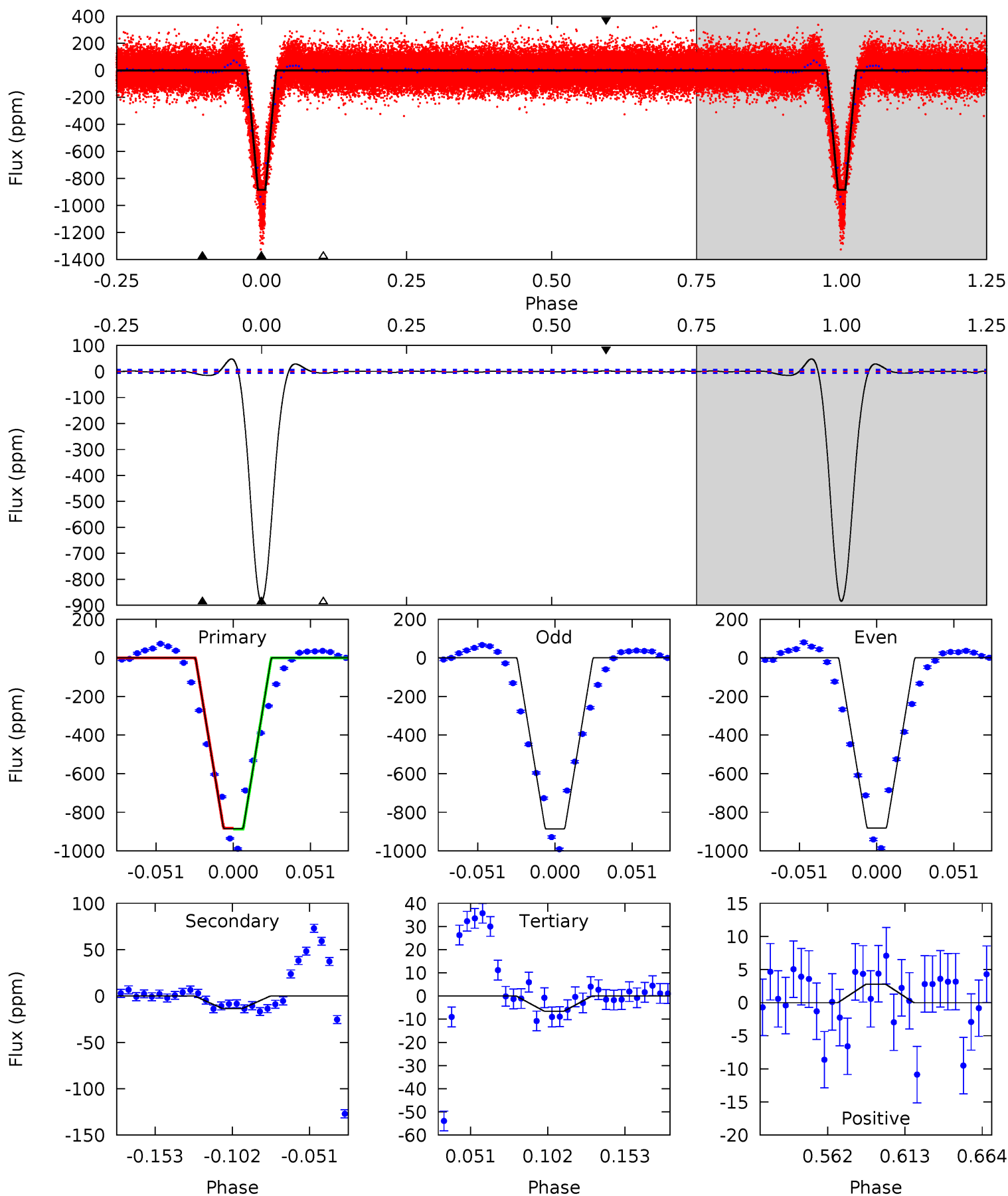
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
609.3	27.5	19.2	11.5	4.64	1.82	37.5	590.0	597.8	8.28	16.0	14.2	0.97	0.28	48.4



Alt Model-Shift Uniqueness Test

002010607-01, P = 18.633370 Days, E = 122.931143 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
687.9	10.6	5.11	2.17	4.70	1.95	3.51	682.8	685.7	5.45	8.39	1.46	1.03	0.05	1.85



Stellar Parameters For KIC 002010607

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	6235^{+84}_{-65}	$3.801^{+0.030}_{-0.020}$	$0.020^{+0.150}_{-0.150}$	$2.471^{+0.171}_{-0.124}$	$1.407^{+0.190}_{-0.111}$	$0.131^{+0.014}_{-0.013}$
	+1%/-1%	+1%/-1%	+750%/-750%	+7%/-5%	+14%/-8%	+11%/-10%
Source	SPE72	AST10	SPE72	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 002010607-01 / KOI 4929.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-39 ± 1	$14.42^{+1.91}_{-1.90}$	1537^{+27}_{-26}	2823^{+111}_{-110}	$2.525^{+0.772}_{-0.540}$
Alt.	-14 ± 1	$8.45^{+1.81}_{-1.72}$	1537^{+27}_{-24}	2812^{+209}_{-160}	$2.519^{+1.473}_{-0.850}$

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

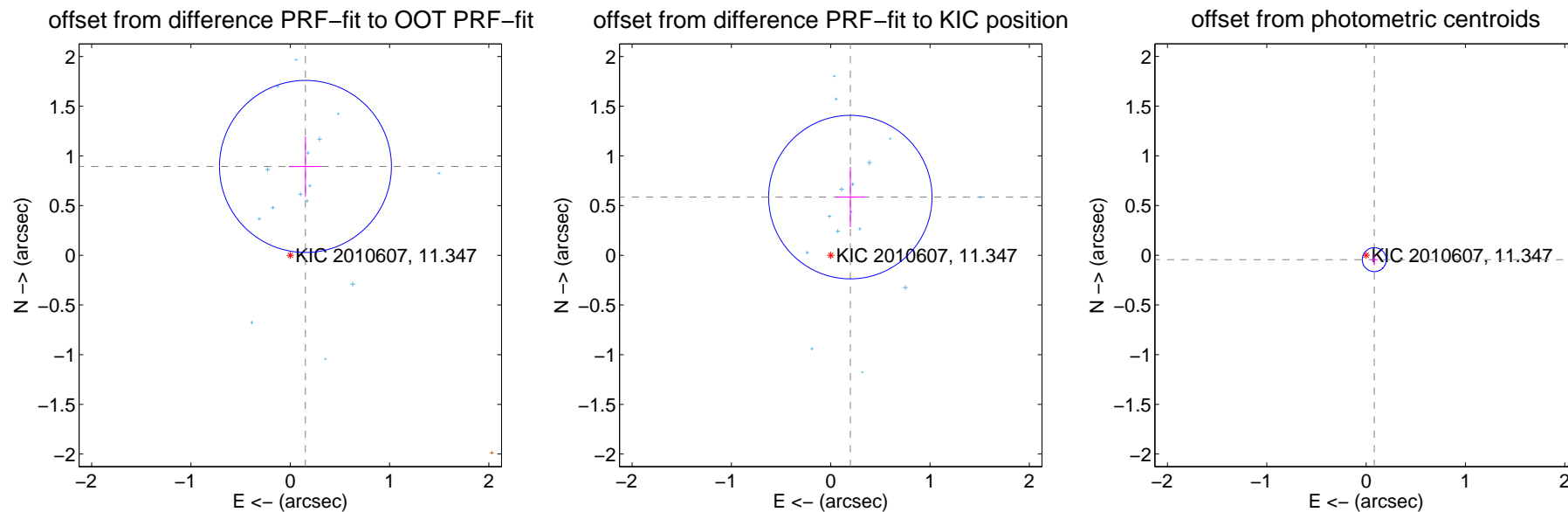
DV Centroid Data

Supplemental centroid analysis for 002010607-01. **Kepler magnitude: 11.35.** Transit SNR 140.17

There are 16 quarters with good PRF difference image offsets

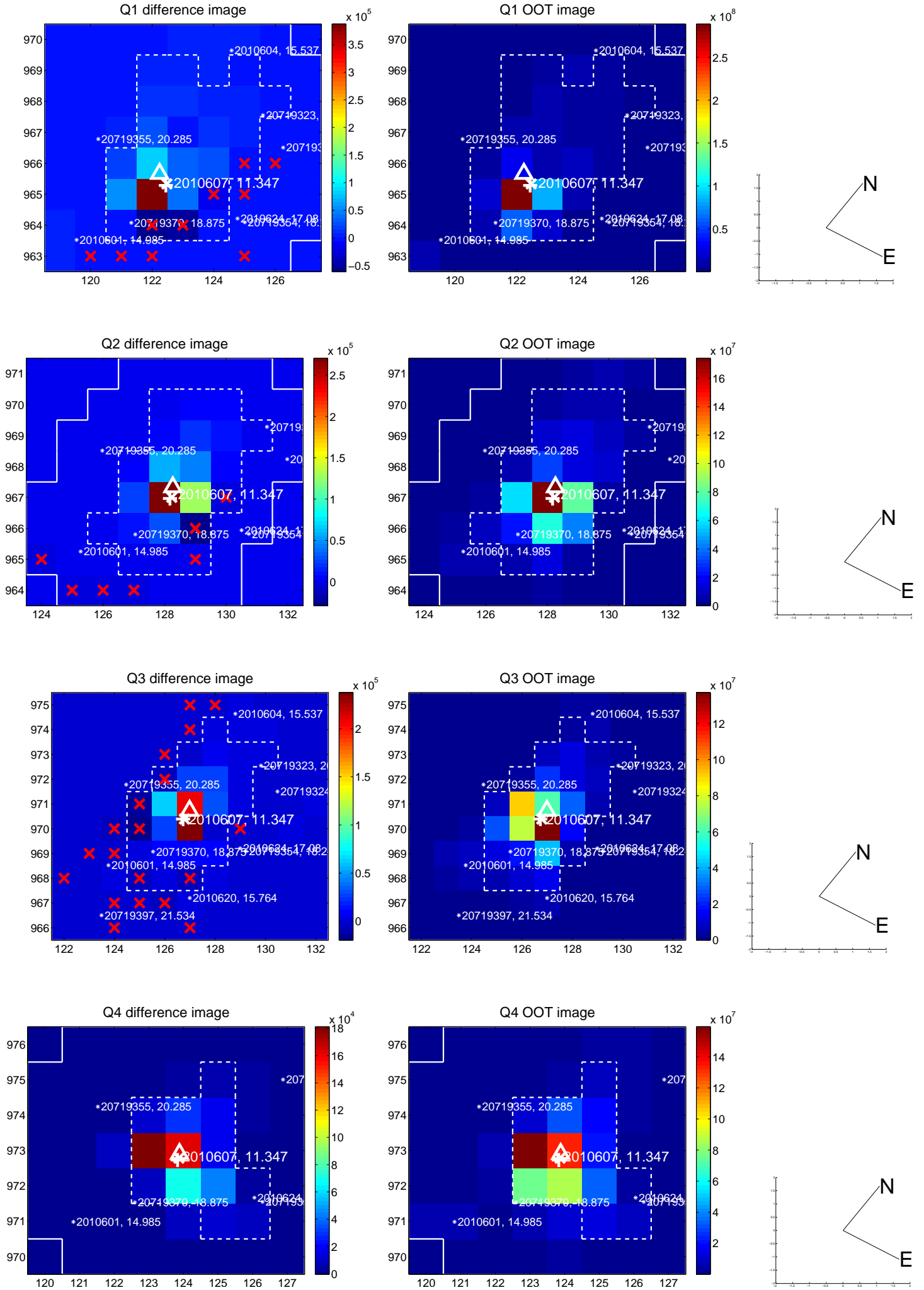
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.907 ± 0.289	3.14	-0.153 ± 0.167	0.894 ± 0.303
PRF-fit source offset from KIC position	0.618 ± 0.274	2.25	-0.197 ± 0.147	0.585 ± 0.303
photometric centroid source offset	0.09 ± 0.04	2.32	-0.08 ± 0.04	-0.04 ± 0.05

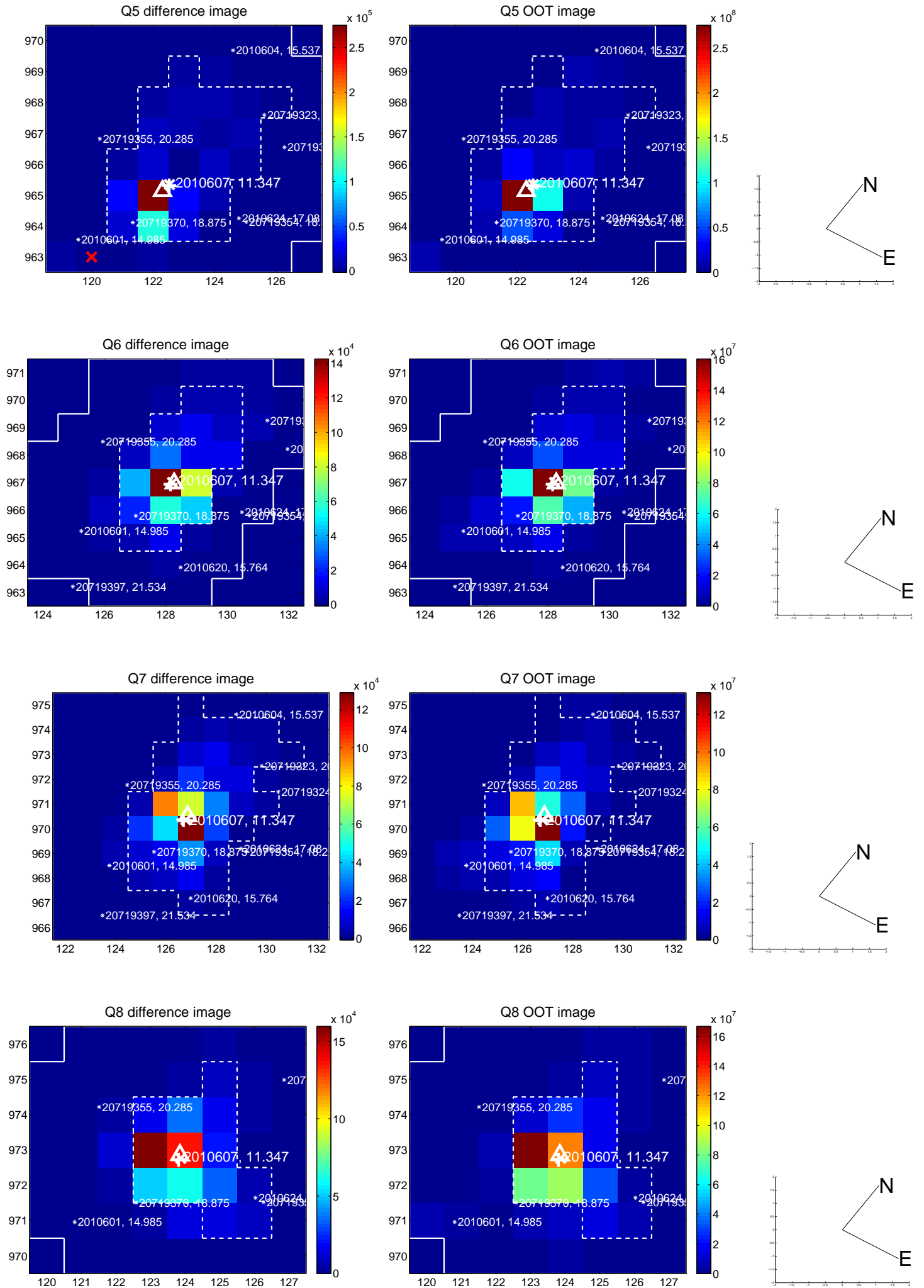


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

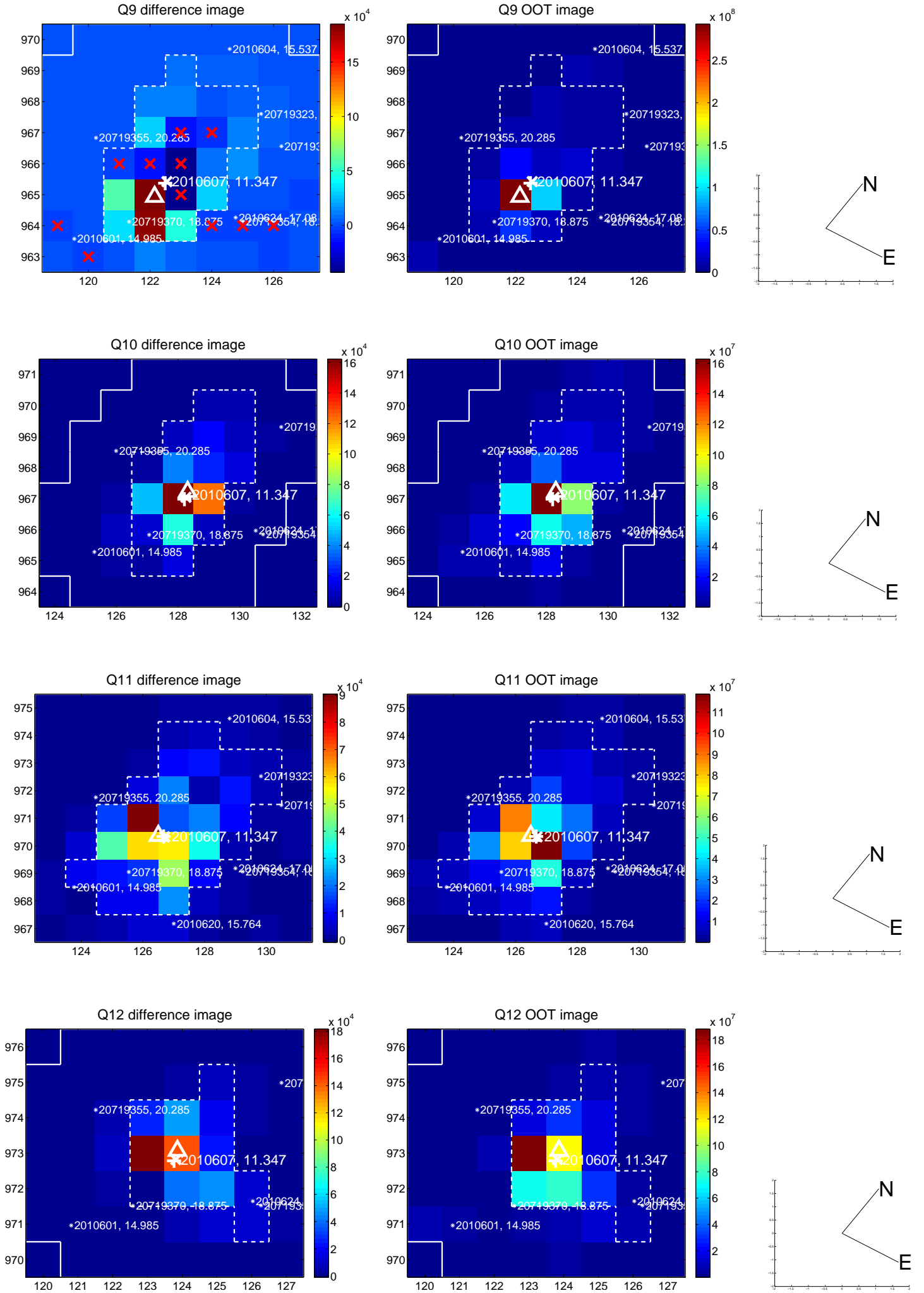
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



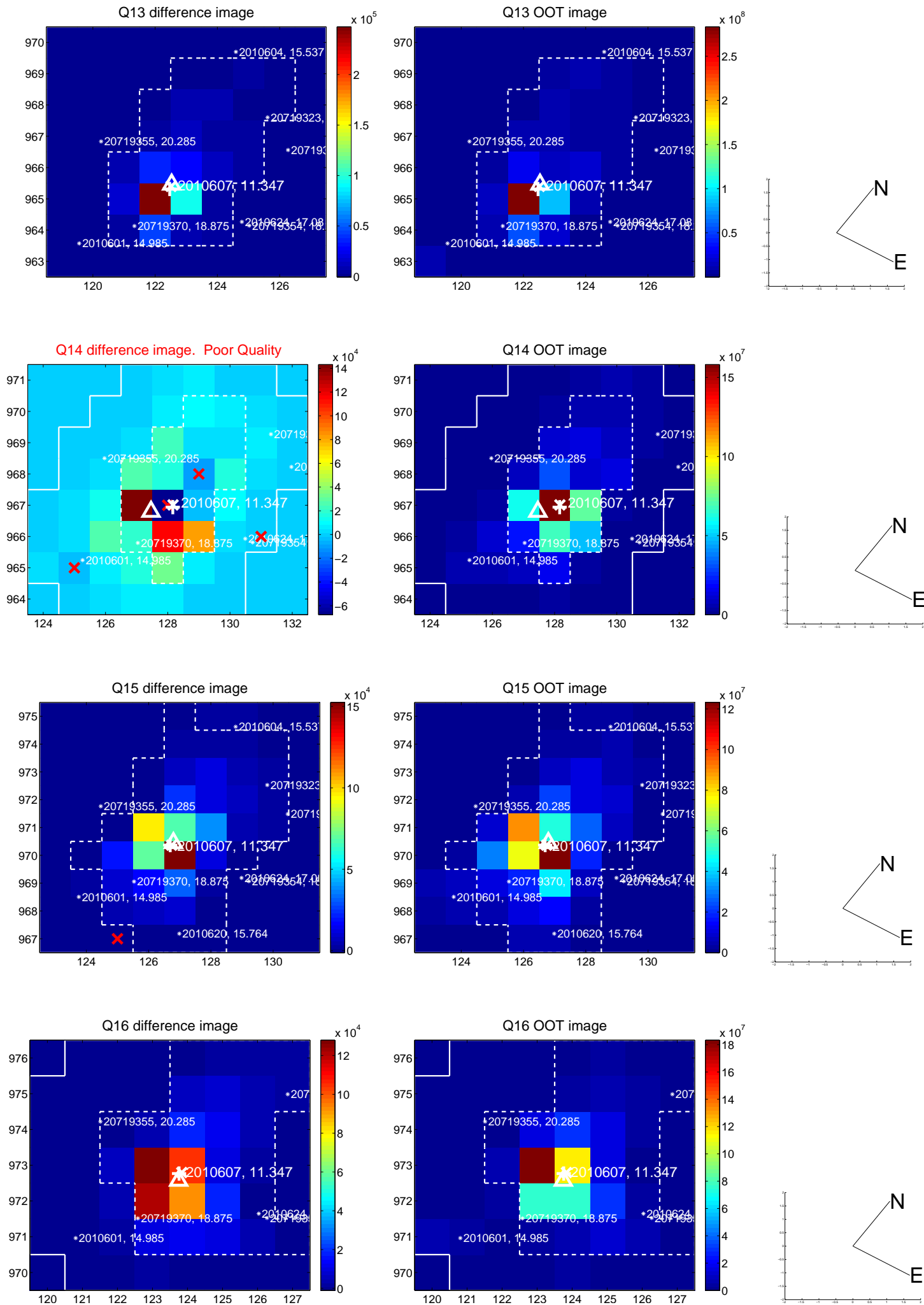
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



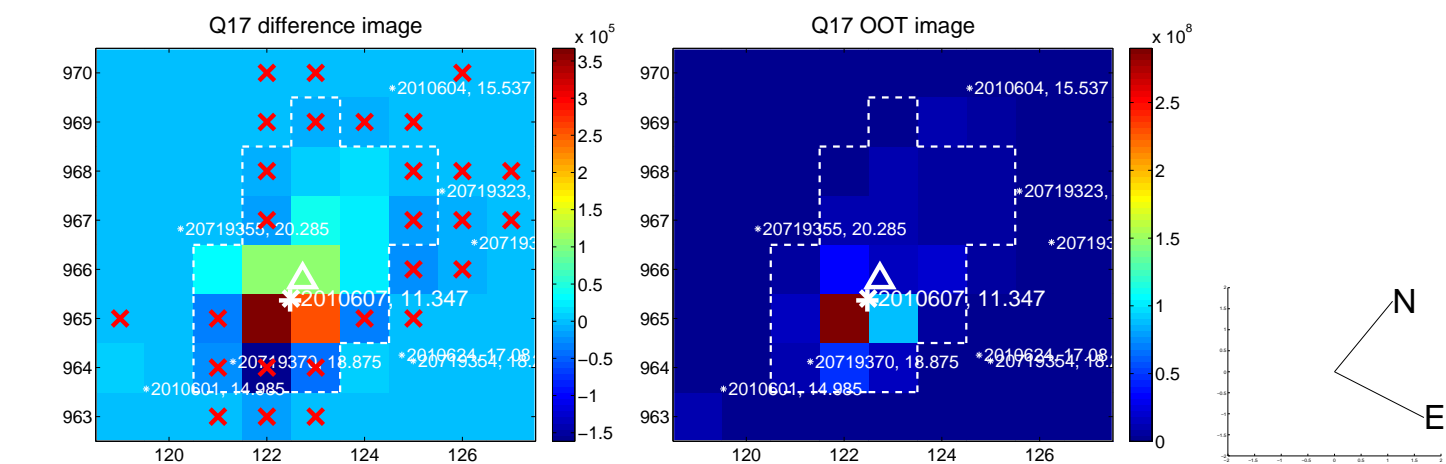
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



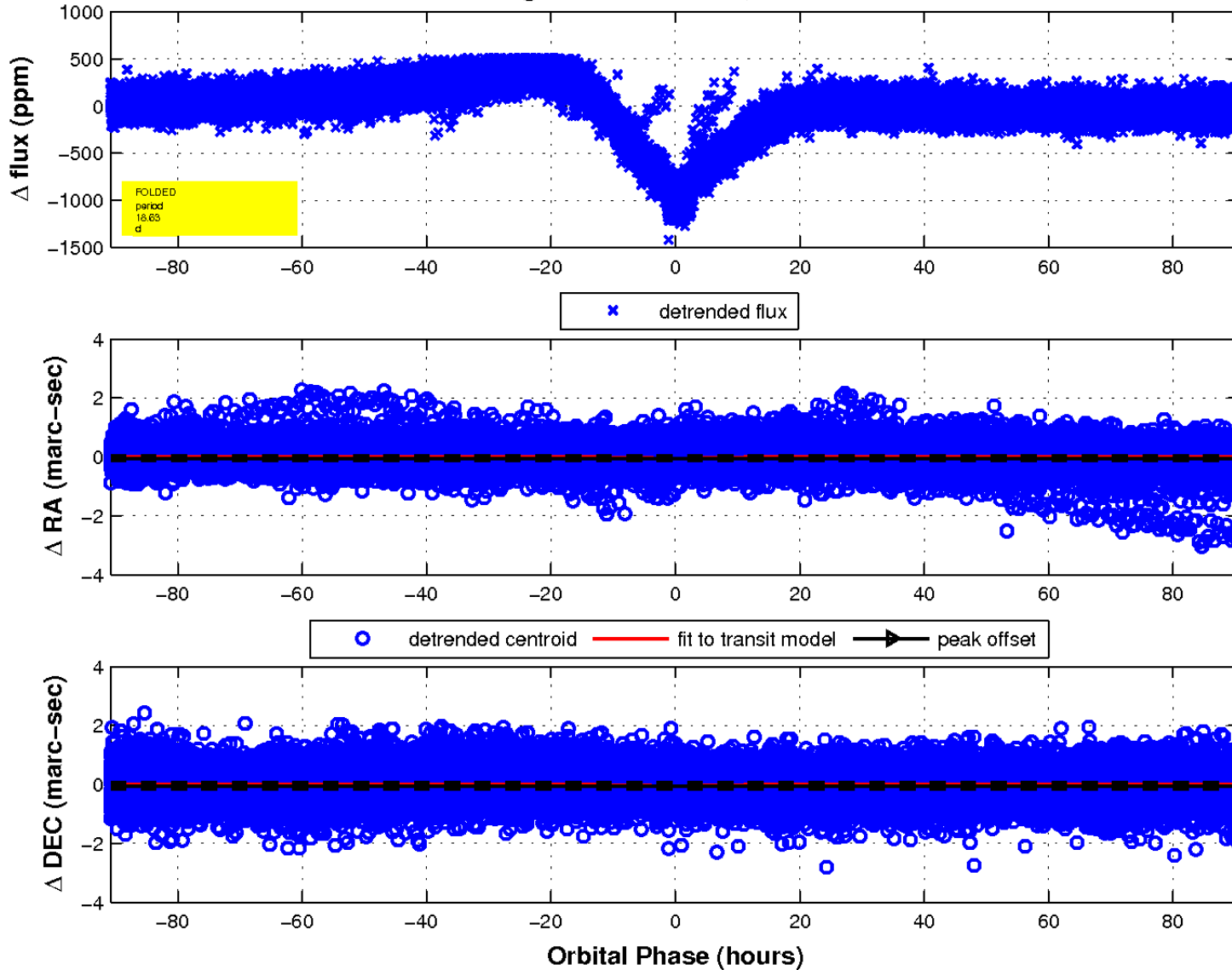
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

