

KIC 004356127

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})
004356127-02	OBS	No	251.699297	379.516086	69.7	21.418	9.4	10.4	0.91	5786	0.88	1.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004356127-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED

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

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

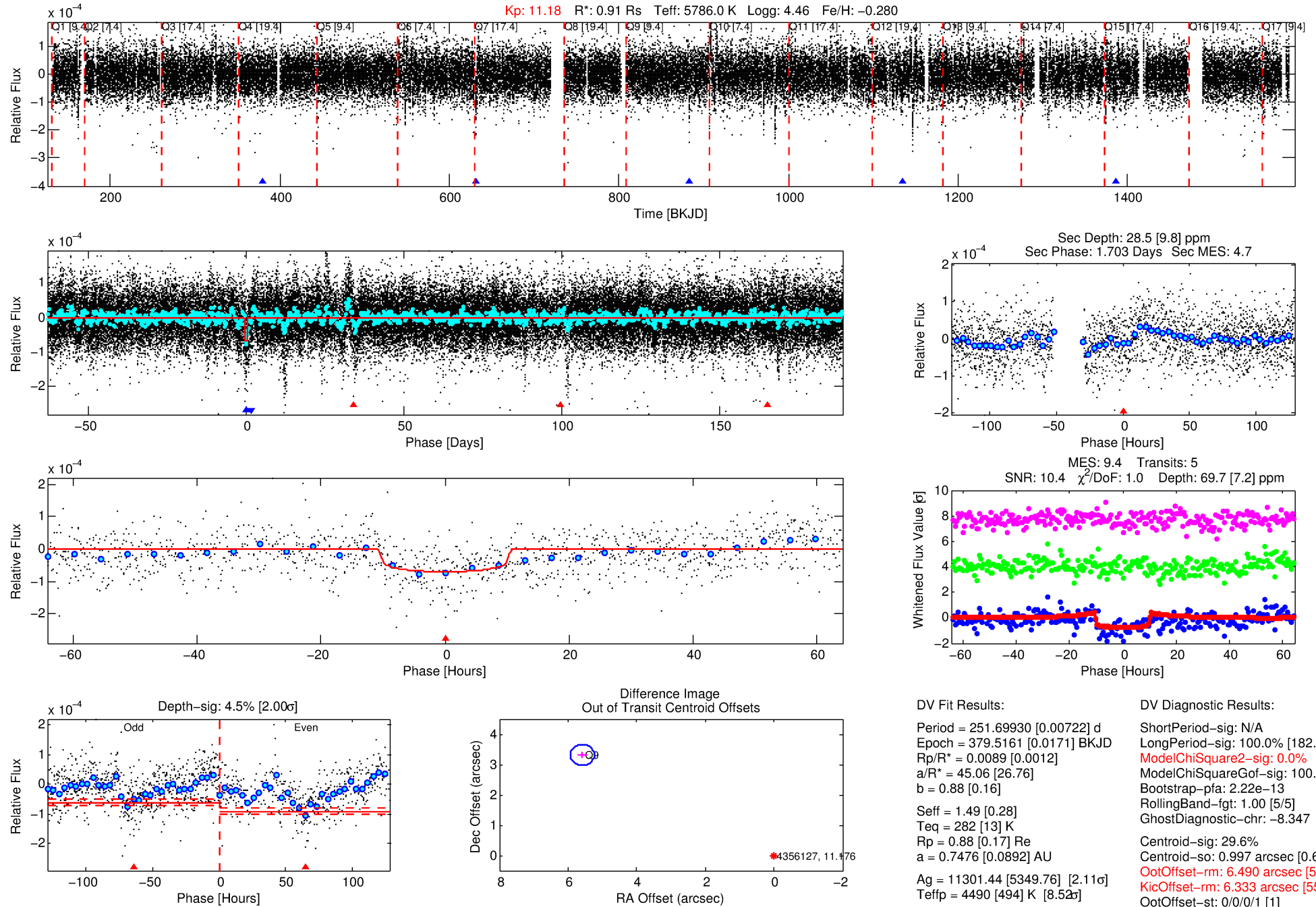
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004356127-02

No Significant Match Found

DV One-Page Summary

KIC: 4356127 Candidate: 2 of 2 Period: 251.699 d



DV Fit Results:

Period = 251.69930 [0.00722] d
Epoch = 379.5161 [0.0171] BKJD
Rp/R* = 0.0089 [0.0012]
a/R* = 45.06 [26.76]
b = 0.88 [0.16]
Seff = 1.49 [0.28]
Teq = 282 [13] K
Rp = 0.88 [0.17] Re
a = 0.7476 [0.0892] AU
Ag = 11301.44 [5349.76] [2.11σ]
Teff = 4490 [494] K [8.52σ]

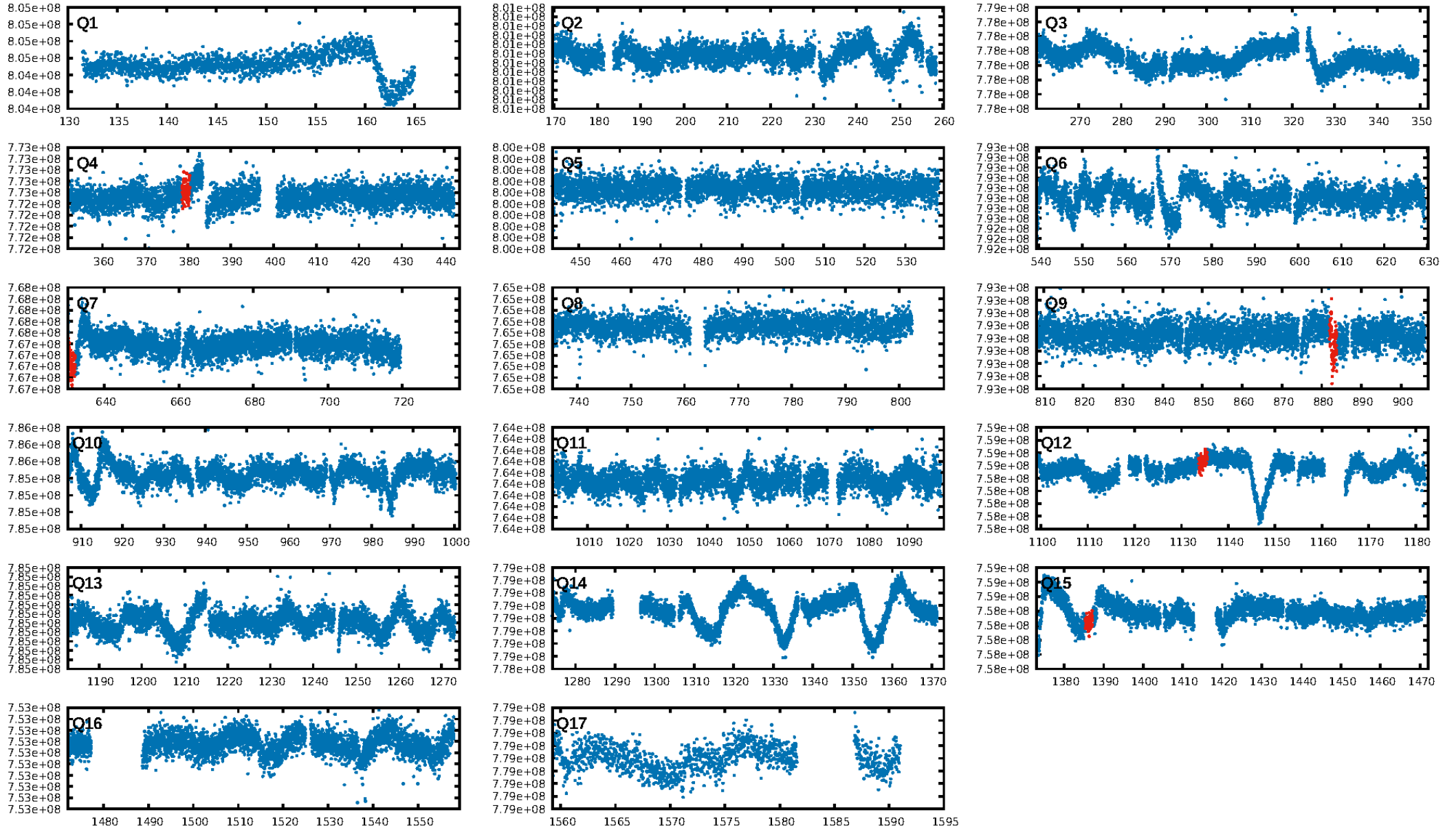
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [182.14σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 2.22e-13
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -8.347
Centroid-sig: 29.6%
Centroid-so: 0.997 arcsec [0.68σ]
OotOffset-rm: 6.490 arcsec [56.34σ]
KicOffset-rm: 6.333 arcsec [55.02σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

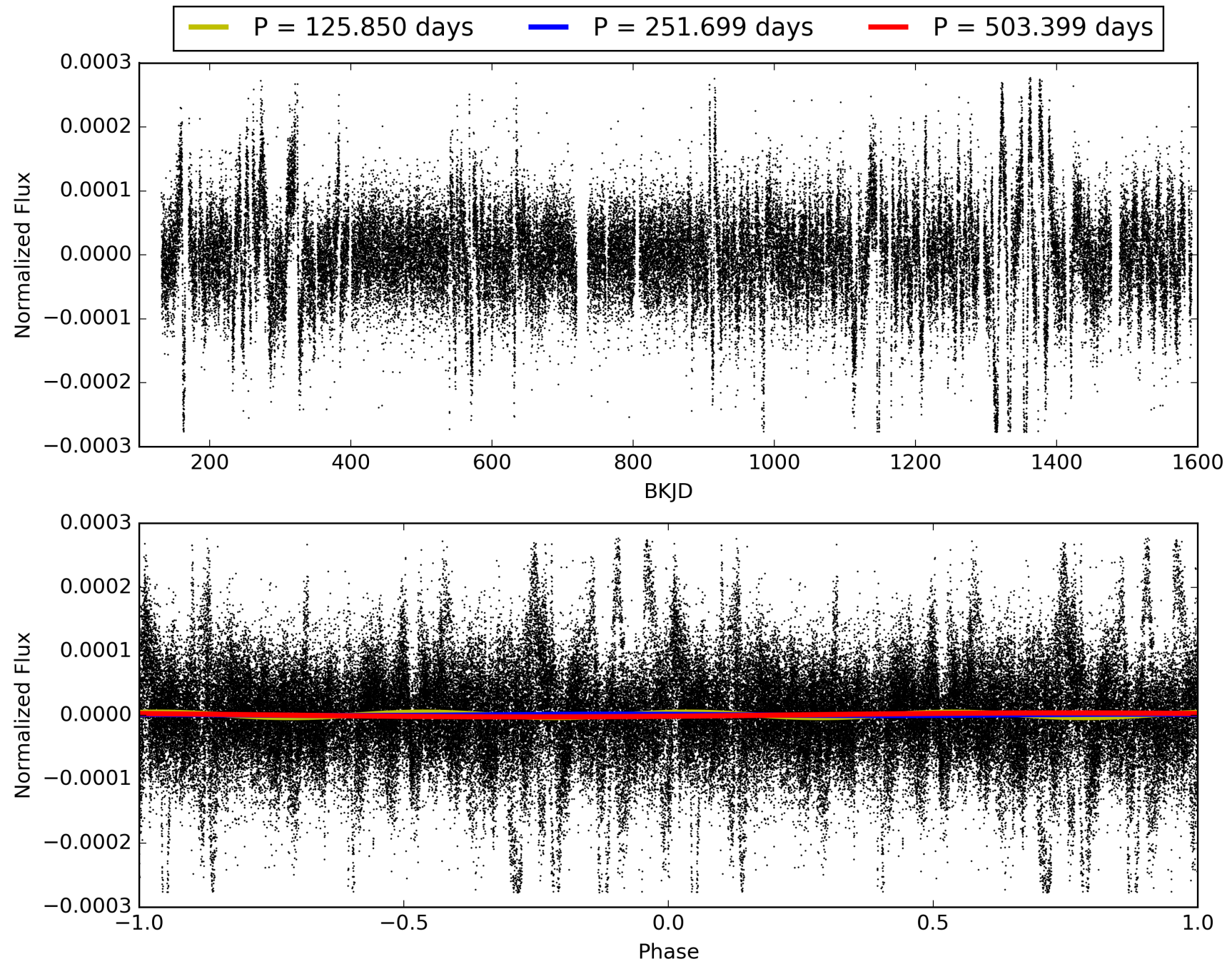
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:35:40 Z

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

TCE 004356127-02, PDC Light Curves

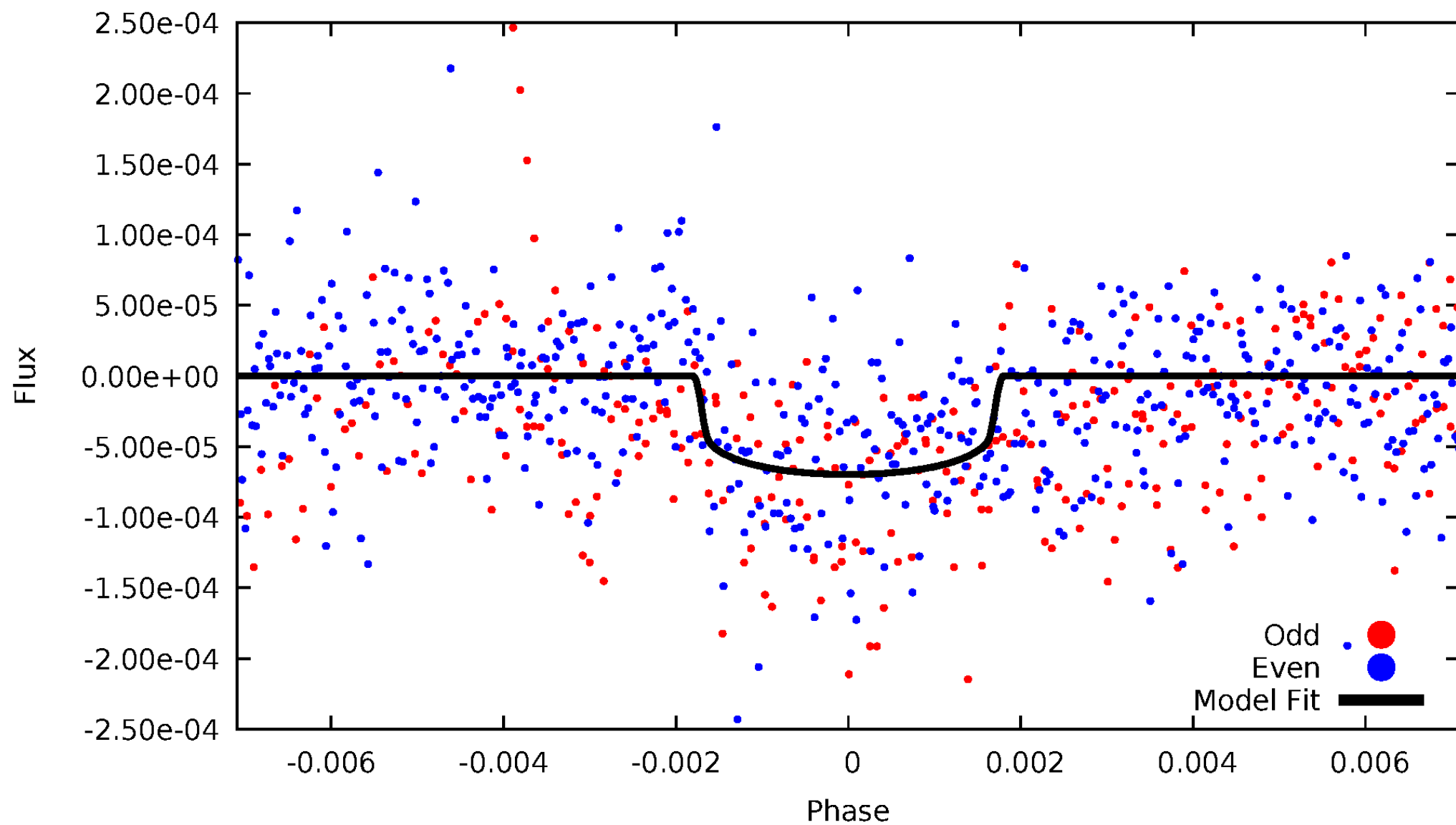


TCE 004356127-02



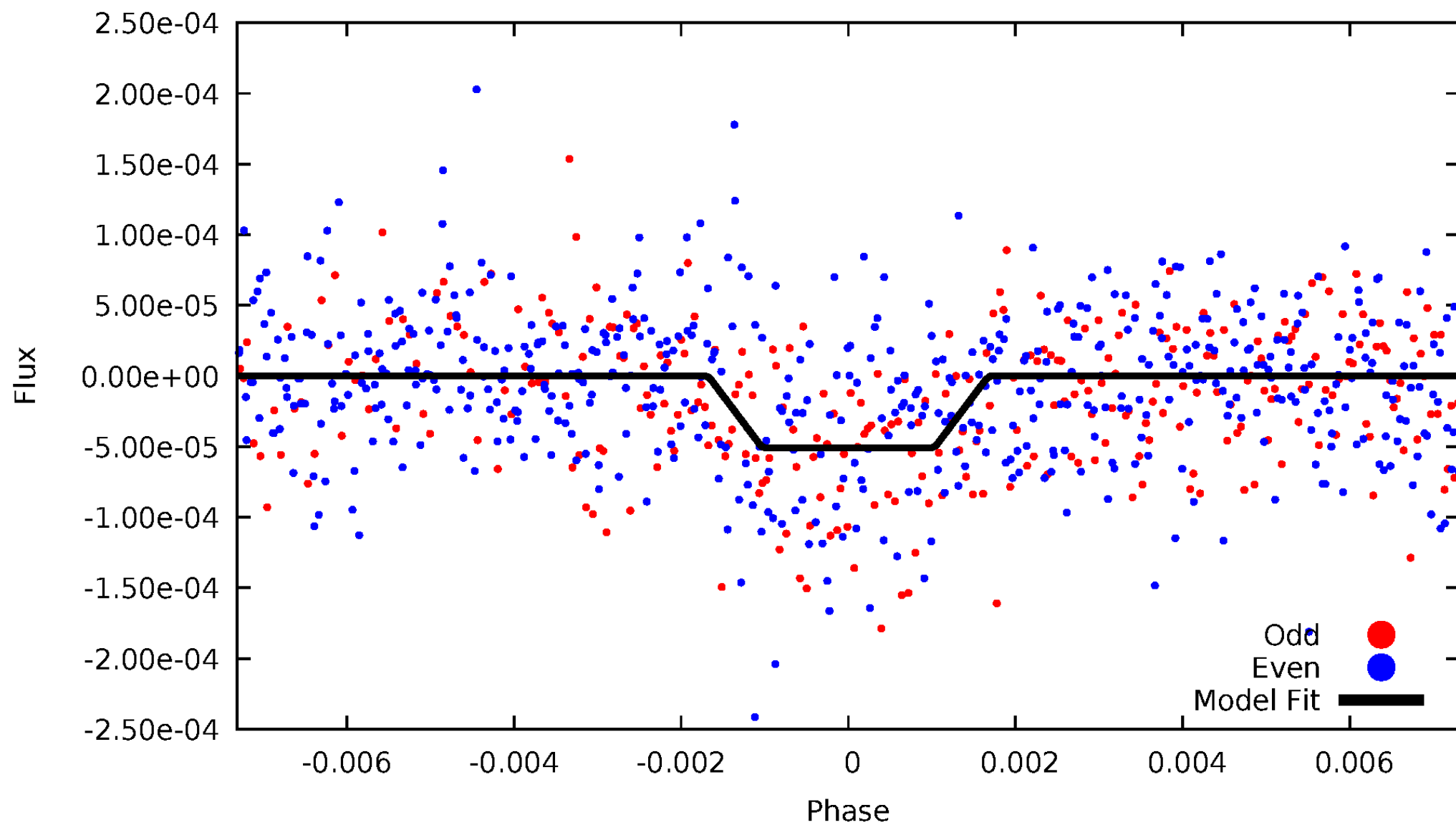
DV Odd/Even

TCE 004356127-02



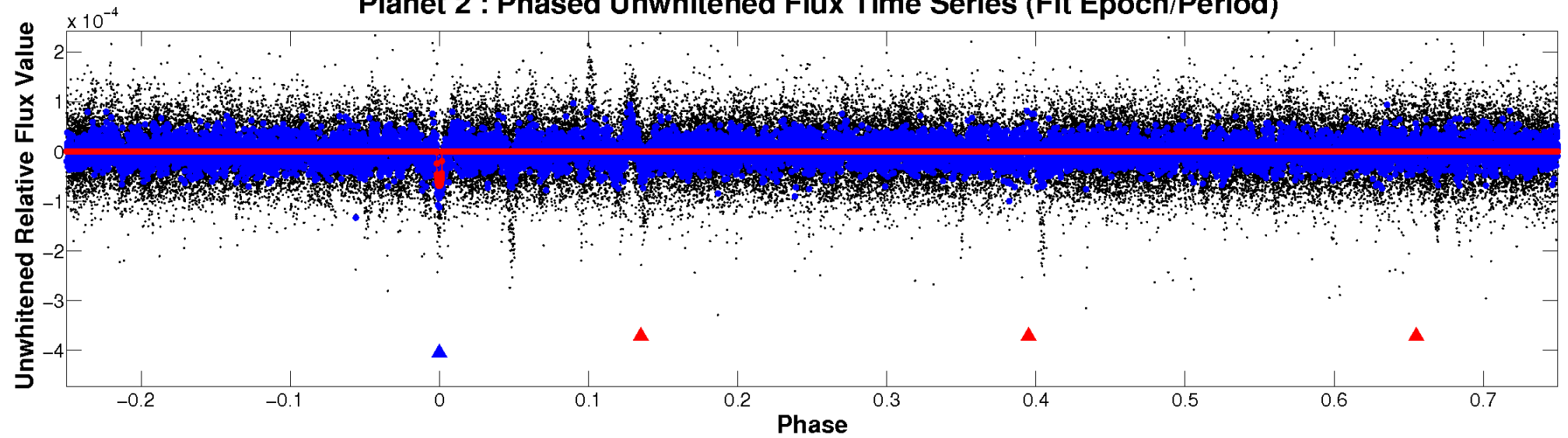
ALT Odd/Even

TCE 004356127-02

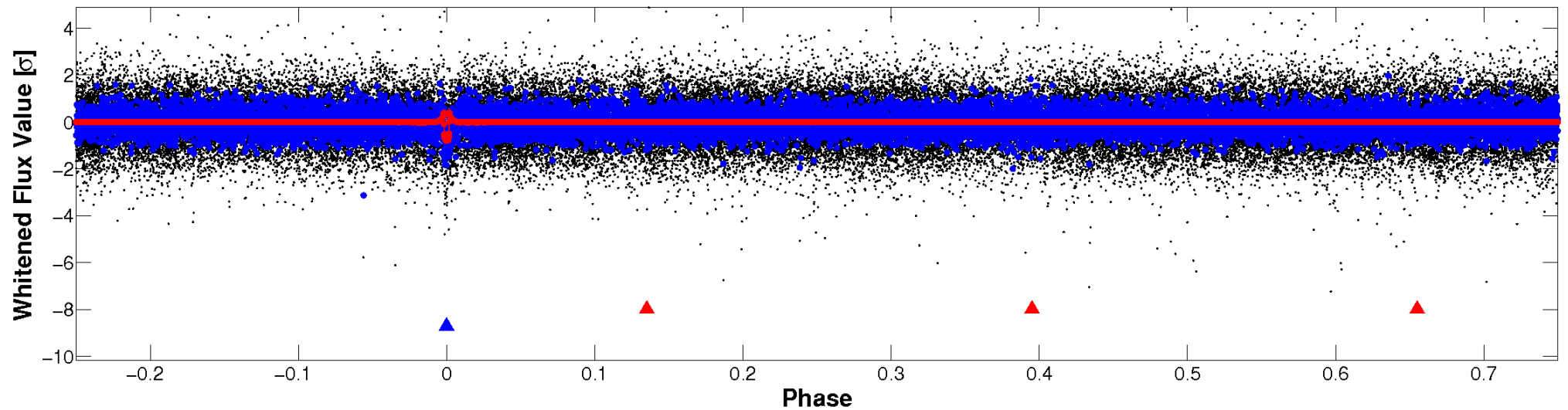


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



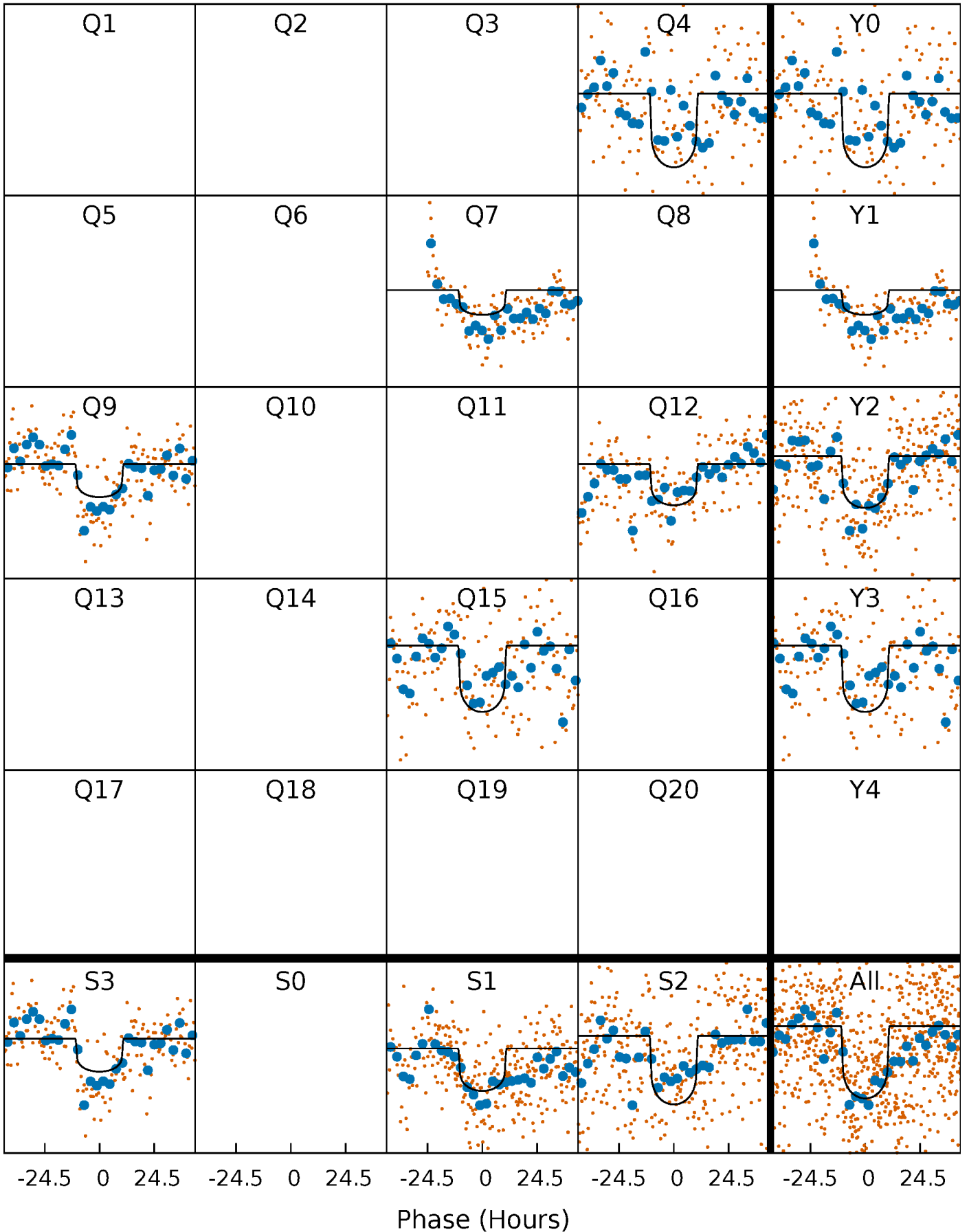
PDC Quarter-Phased Transit Curves

TCE 004356127-02 P=251.699297 Days $T_0=379.516086$ (BKJD)



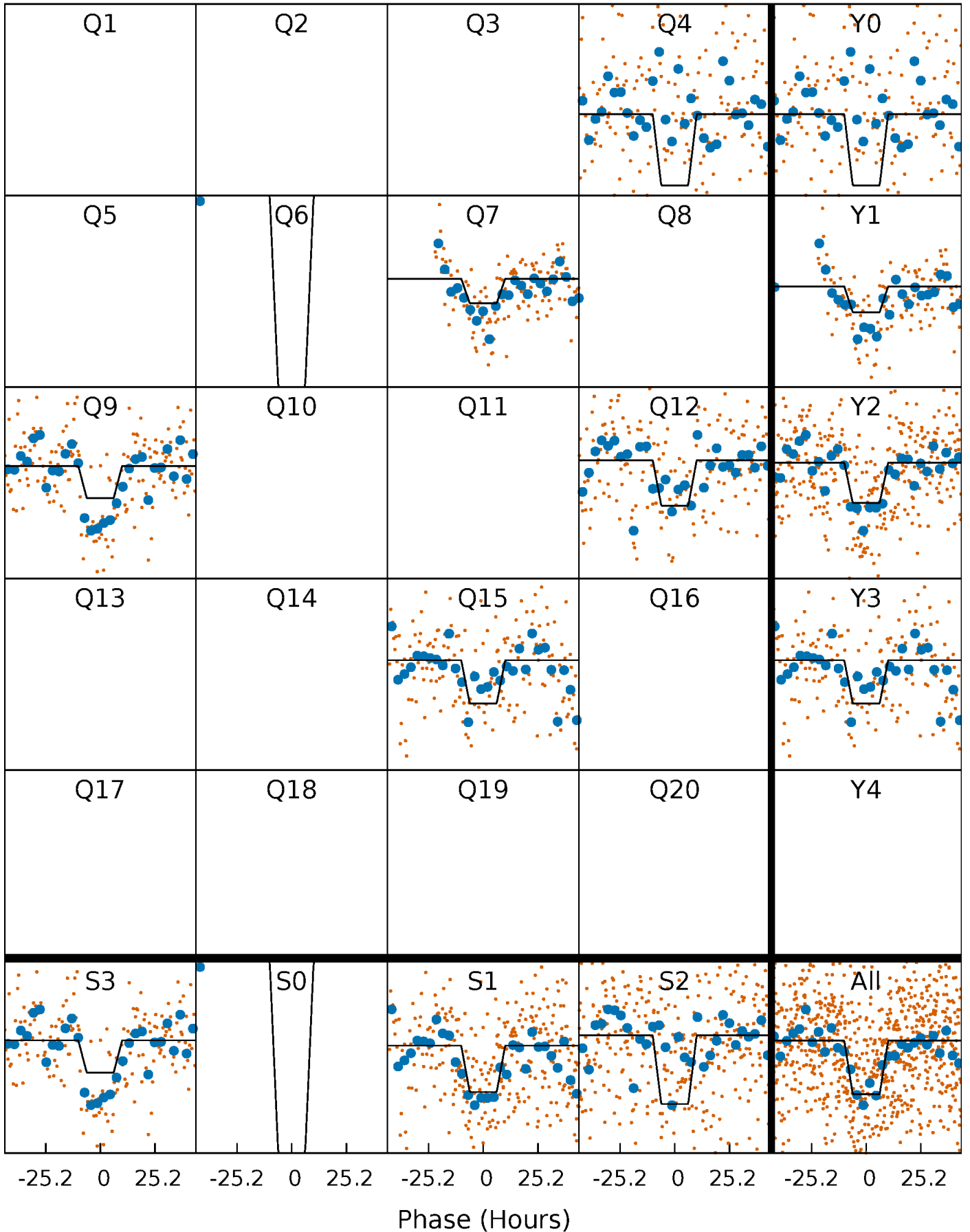
DV Quarter-Phased Transit Curves

TCE 004356127-02 $P=251.699297$ Days $T_0=379.516086$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

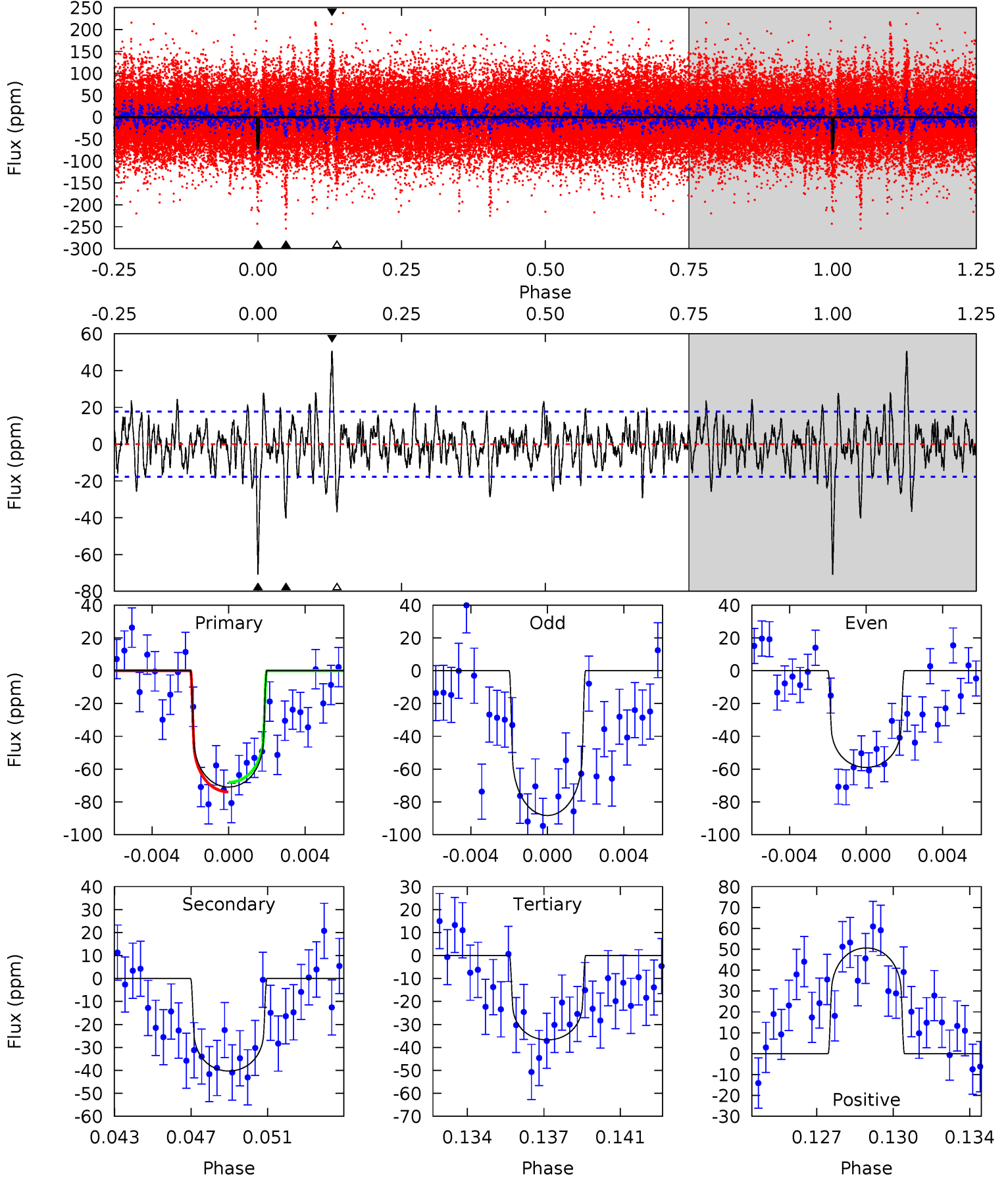
TCE 004356127-02 P=251.755082 Days $T_0=379.362744$ (BKJD)



DV Model-Shift Uniqueness Test

004356127-02, $P = 251.699297$ Days, $E = 127.816789$ Days

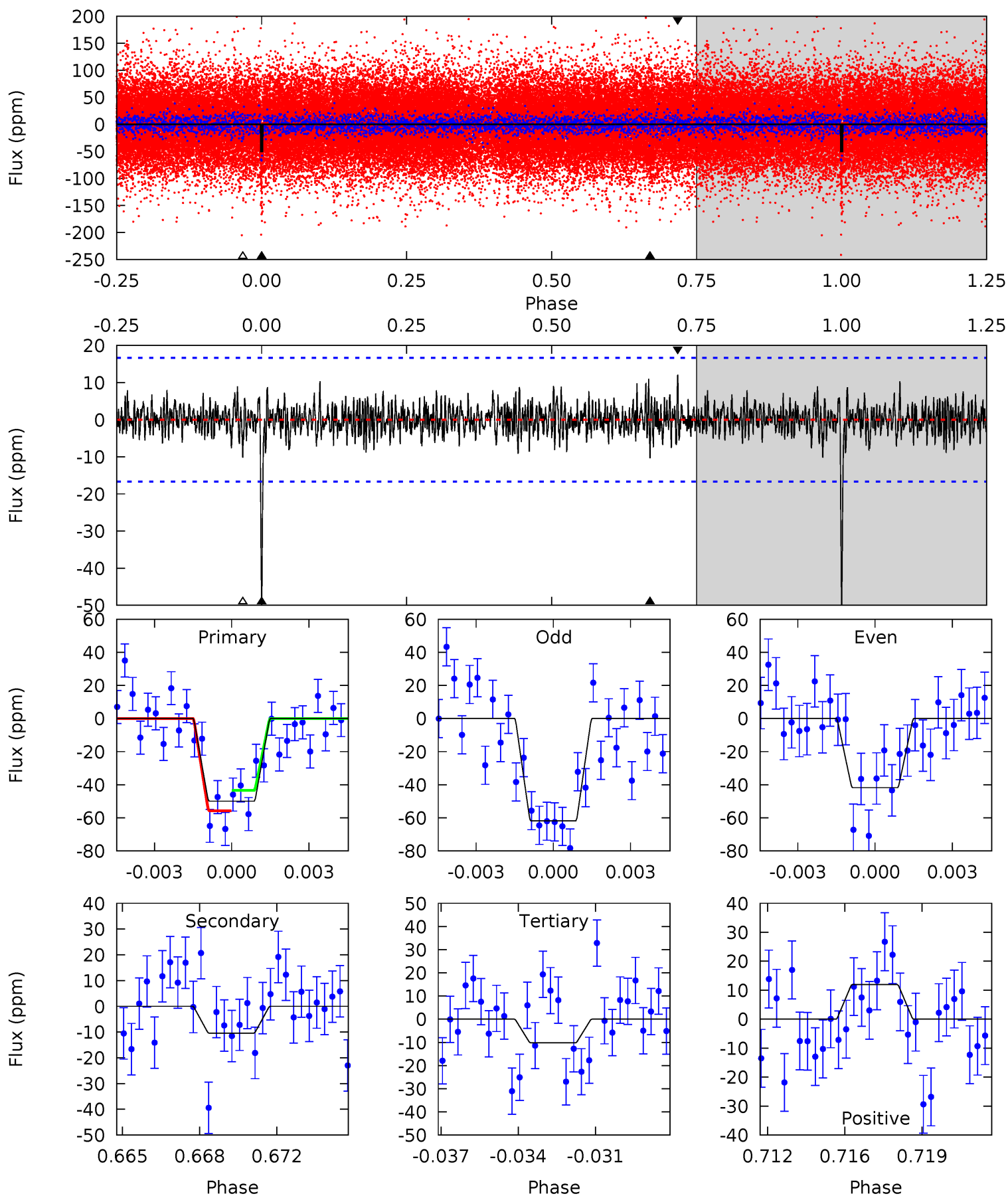
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.9	11.9	10.8	14.9	5.22	2.91	2.87	10.1	5.98	1.05	-3.05	4.26	1.07	0.42	0.87



Alt Model-Shift Uniqueness Test

004356127-02, $P = 251.755082$ Days, $E = 127.607662$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	3.26	3.20	3.75	5.23	2.93	0.97	12.5	11.9	0.07	-0.49	3.10	1.21	0.19	1.93



Stellar Parameters For KIC 004356127

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5786^{+78}_{-78}	$4.464^{+0.076}_{-0.104}$	$-0.280^{+0.150}_{-0.150}$	$0.910^{+0.121}_{-0.071}$	$0.880^{+0.055}_{-0.055}$	$1.644^{+0.462}_{-0.509}$
	+1%/-1%	+2%/-2%	+54%/-54%	+13%/-8%	+6%/-6%	+28%/-31%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004356127-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-40 ± 3	$0.89^{+0.13}_{-0.13}$	394^{+16}_{-11}	4953^{+344}_{-256}	15389^{+5952}_{-3782}
Alt.	-10 ± 3	$0.71^{+0.14}_{-0.13}$	393^{+15}_{-11}	4177^{+378}_{-336}	6436^{+3629}_{-2463}

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

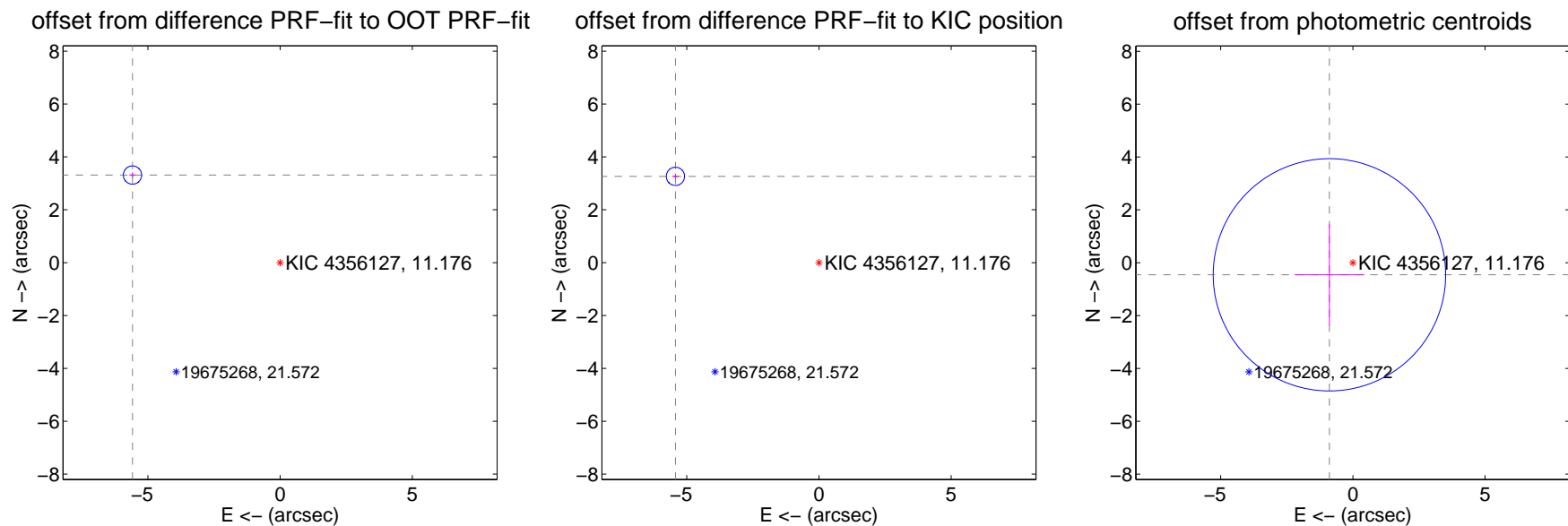
DV Centroid Data

Supplemental centroid analysis for 004356127-02. **Kepler magnitude: 11.18.** Transit SNR 10.35

There are 0 quarters with good PRF difference image offsets

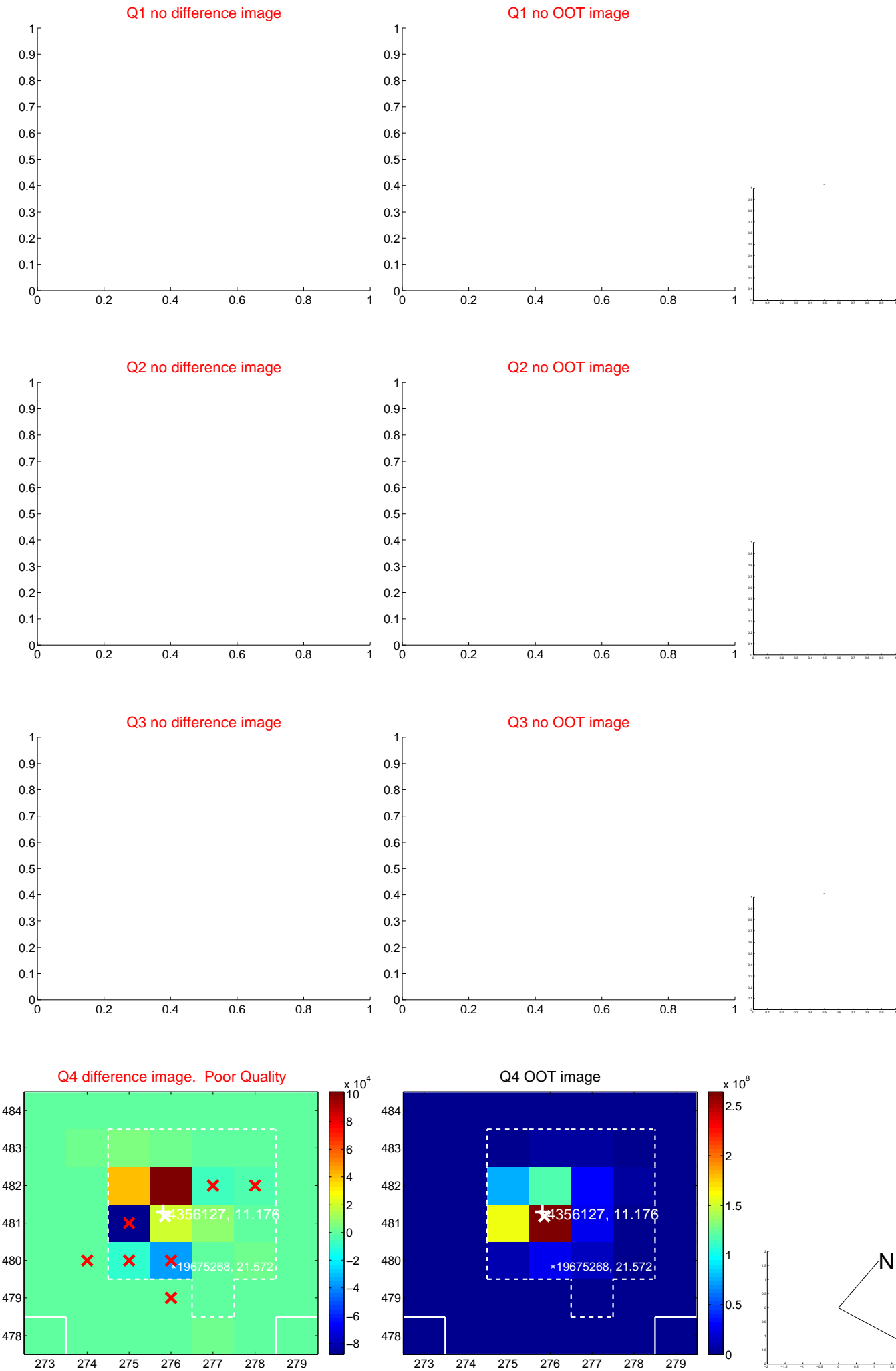
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.490 ± 0.115	56.34	5.581 ± 0.121	3.313 ± 0.099
PRF-fit source offset from KIC position	6.333 ± 0.115	55.02	5.427 ± 0.121	3.264 ± 0.099
photometric centroid source offset	1.00 ± 1.46	0.68	0.89 ± 1.32	-0.46 ± 1.91



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.

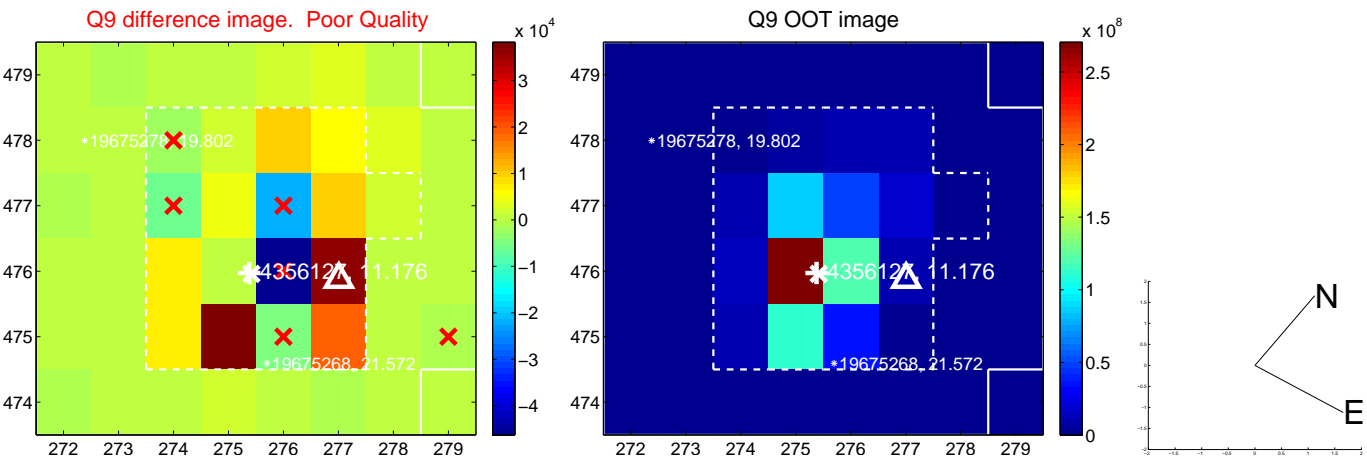
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



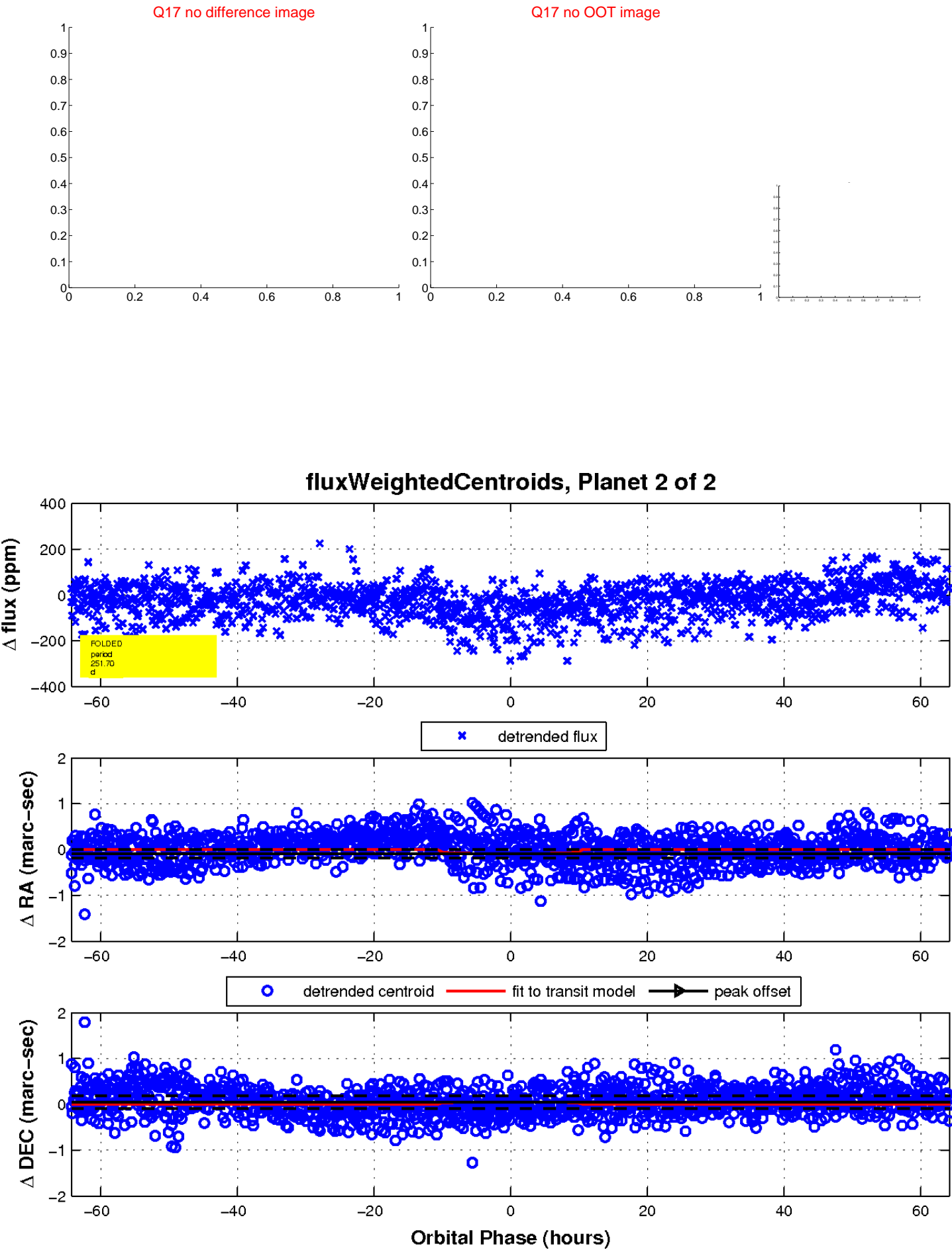
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UKIRT Image

Declination

