

KIC 002142730

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})
002142730-01	OBS	No	482.162996	611.592103	1485.5	5.794	9.2	8.2	1.03	6096	6.51	0.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002142730-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

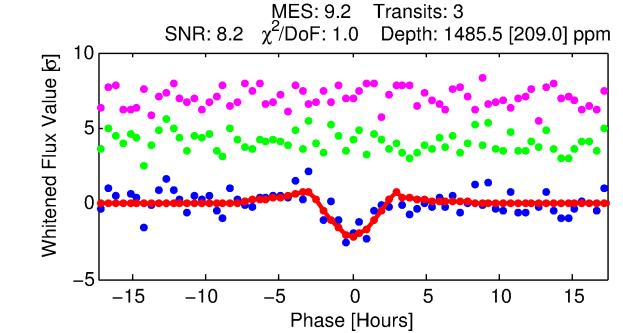
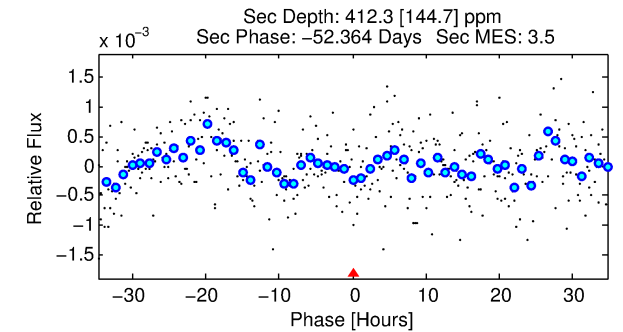
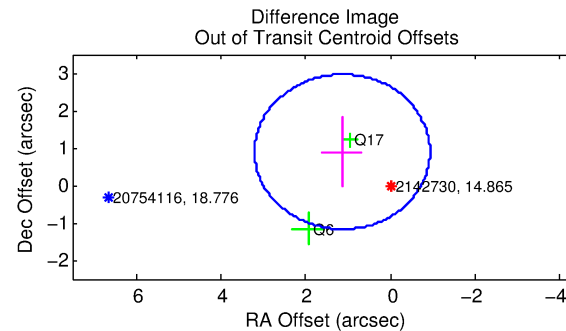
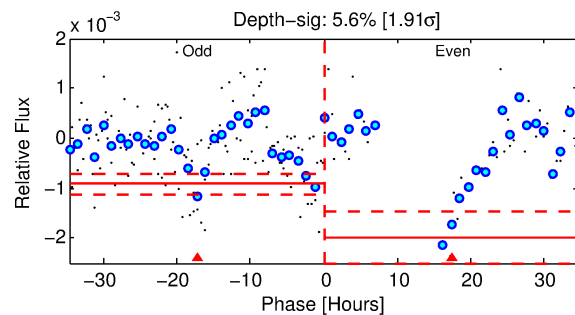
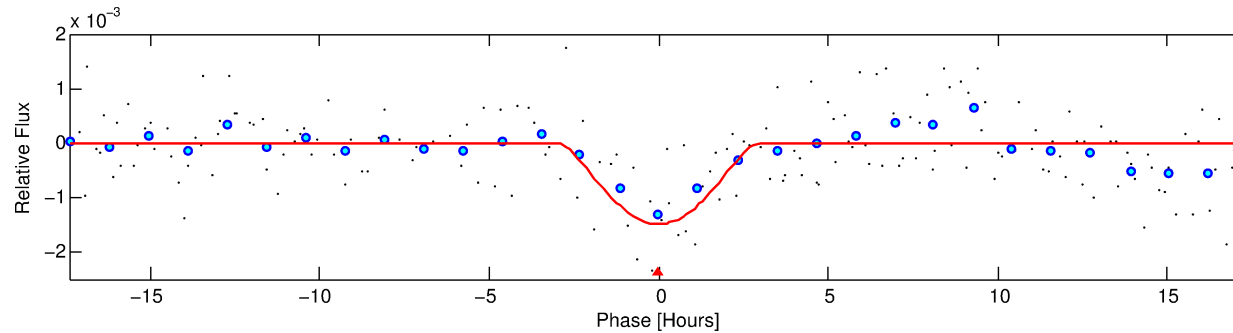
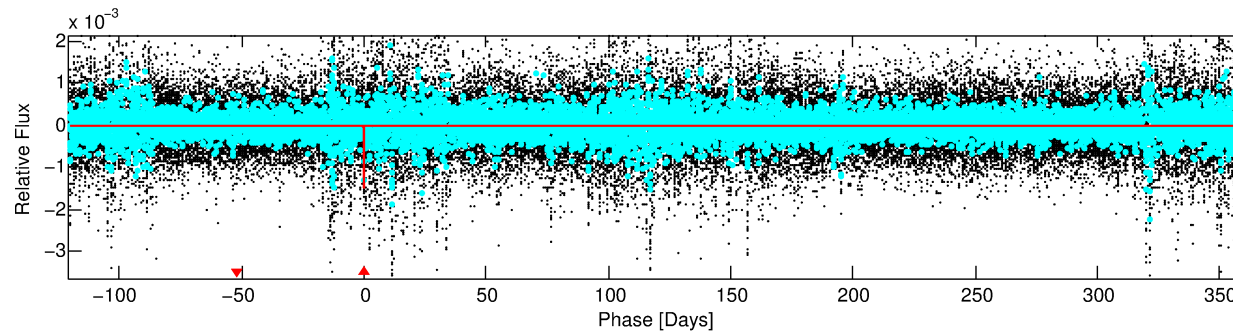
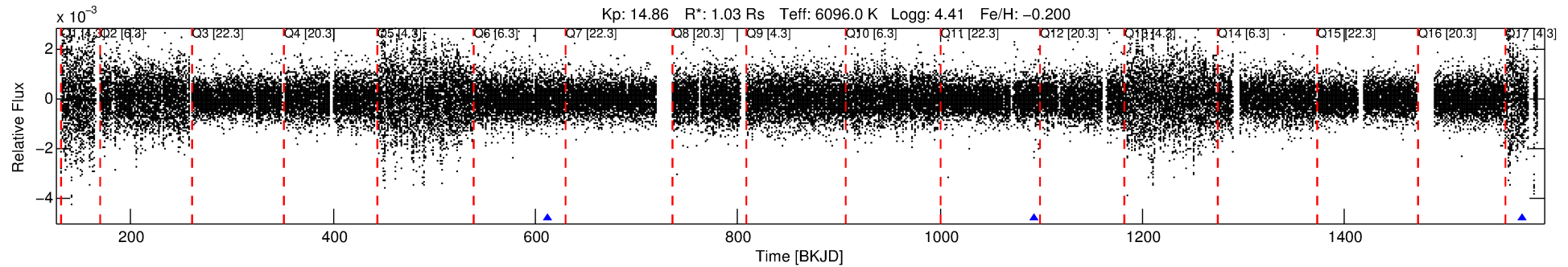
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002142730-01

No Significant Match Found

DV One-Page Summary

KIC: 2142730 Candidate: 1 of 1 Period: 482.163 d



DV Fit Results:

Period = 482.16300 [0.00915] d
Epoch = 611.5921 [0.0113] BKJD
Rp/R* = 0.0579 [0.1380]
a/R* = 243.84 [176.13]
b = 0.99 [0.23]
Seff = 0.91 [0.36]
Teq = 249 [25] K
Rp = 6.51 [15.66] Re
a = 1.2050 [0.3128] AU
Ag = 7760.20 [37207.10] [0.21 σ]
Teff = 3610 [4315] K [0.78 σ]

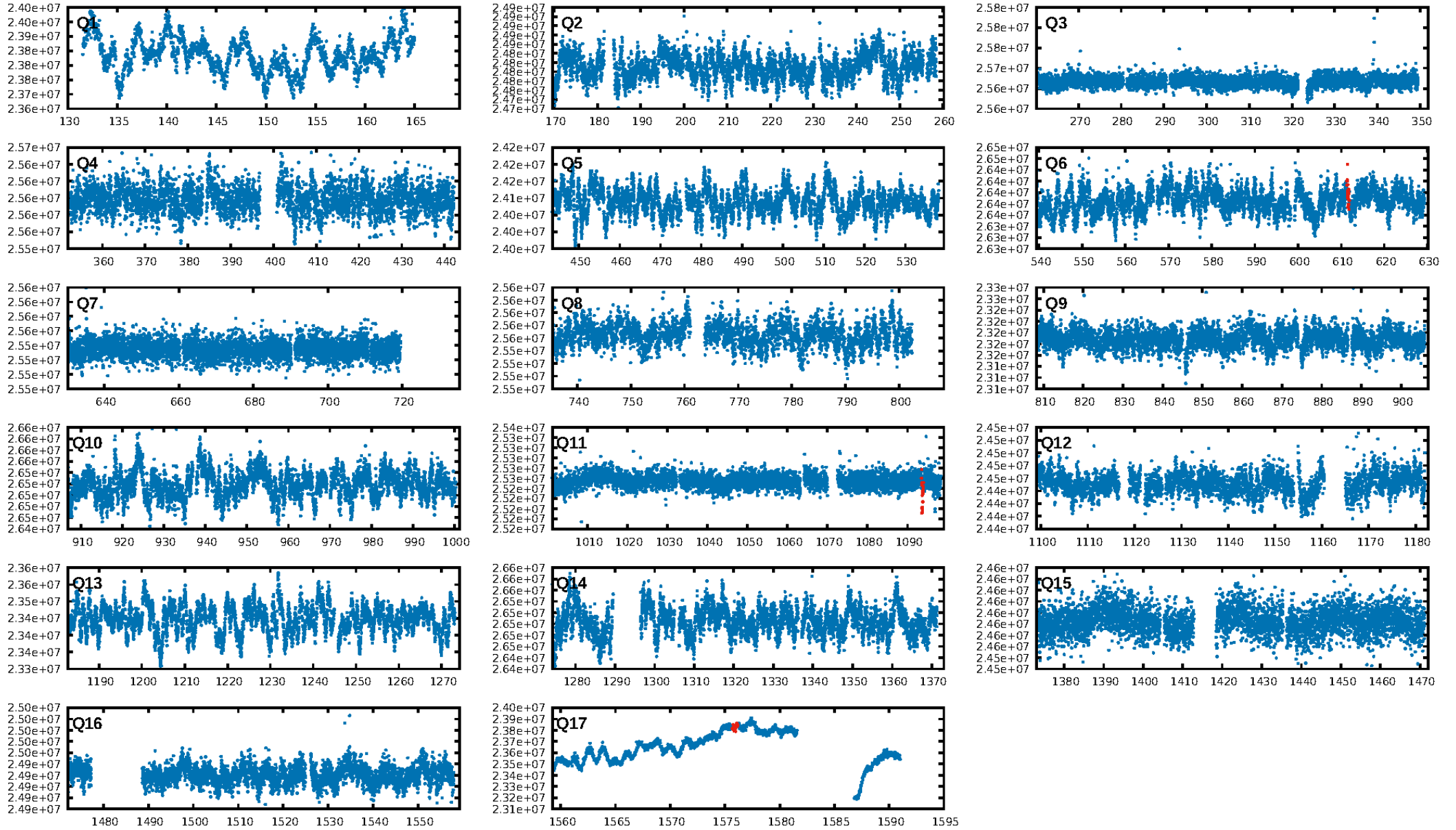
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.8%
ModelChiSquareGof-sig: 94.6%
Bootstrap-pfa: 6.54e-11
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -5.893
Centroid-sig: 19.7%
Centroid-so: 3.052 arcsec [4.96 σ]
OotOffset-rm: 1.446 arcsec [2.10 σ]
KicOffset-rm: 5.533 arcsec [15.86 σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

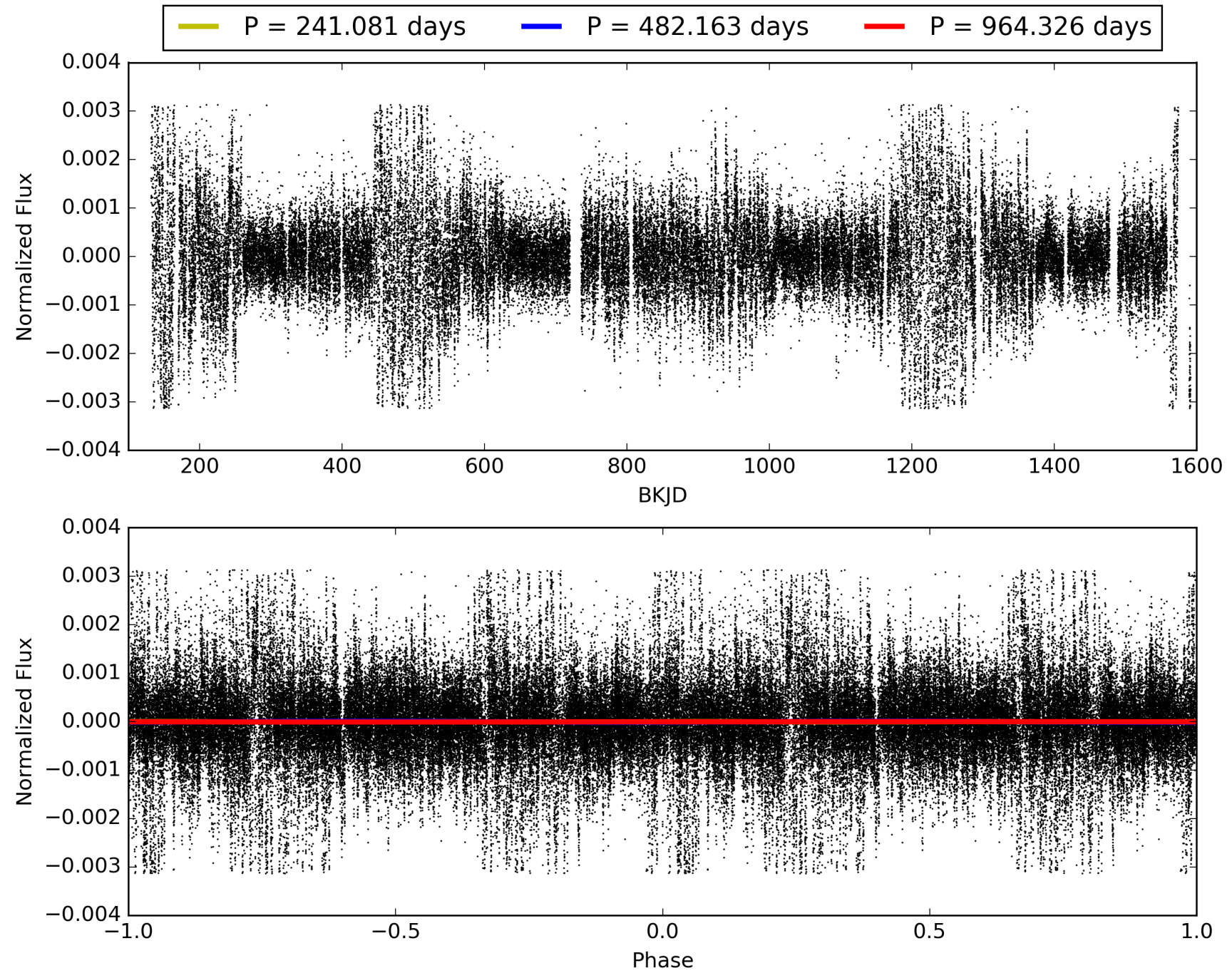
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:41:43 Z

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

TCE 002142730-01, PDC Light Curves

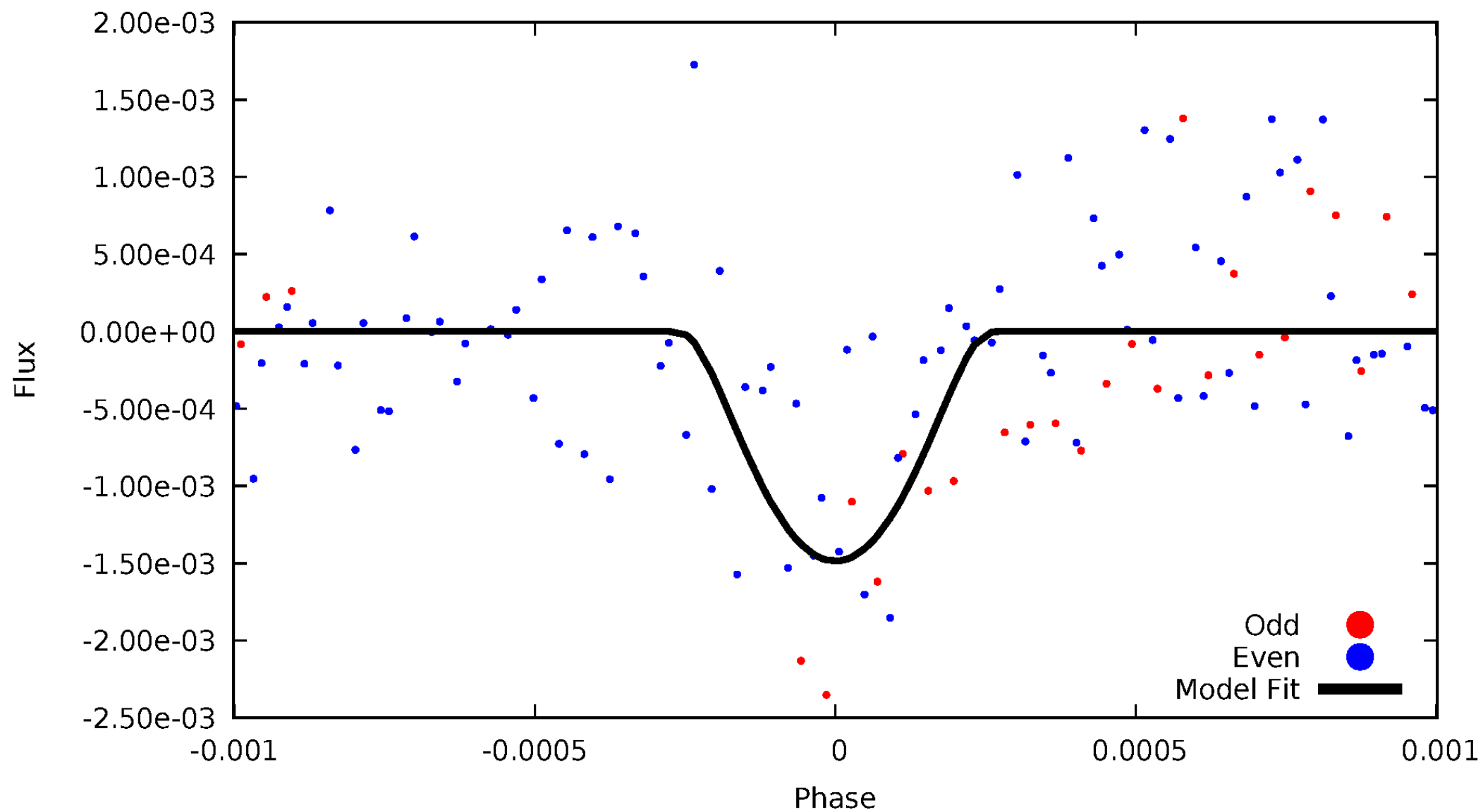


TCE 002142730-01



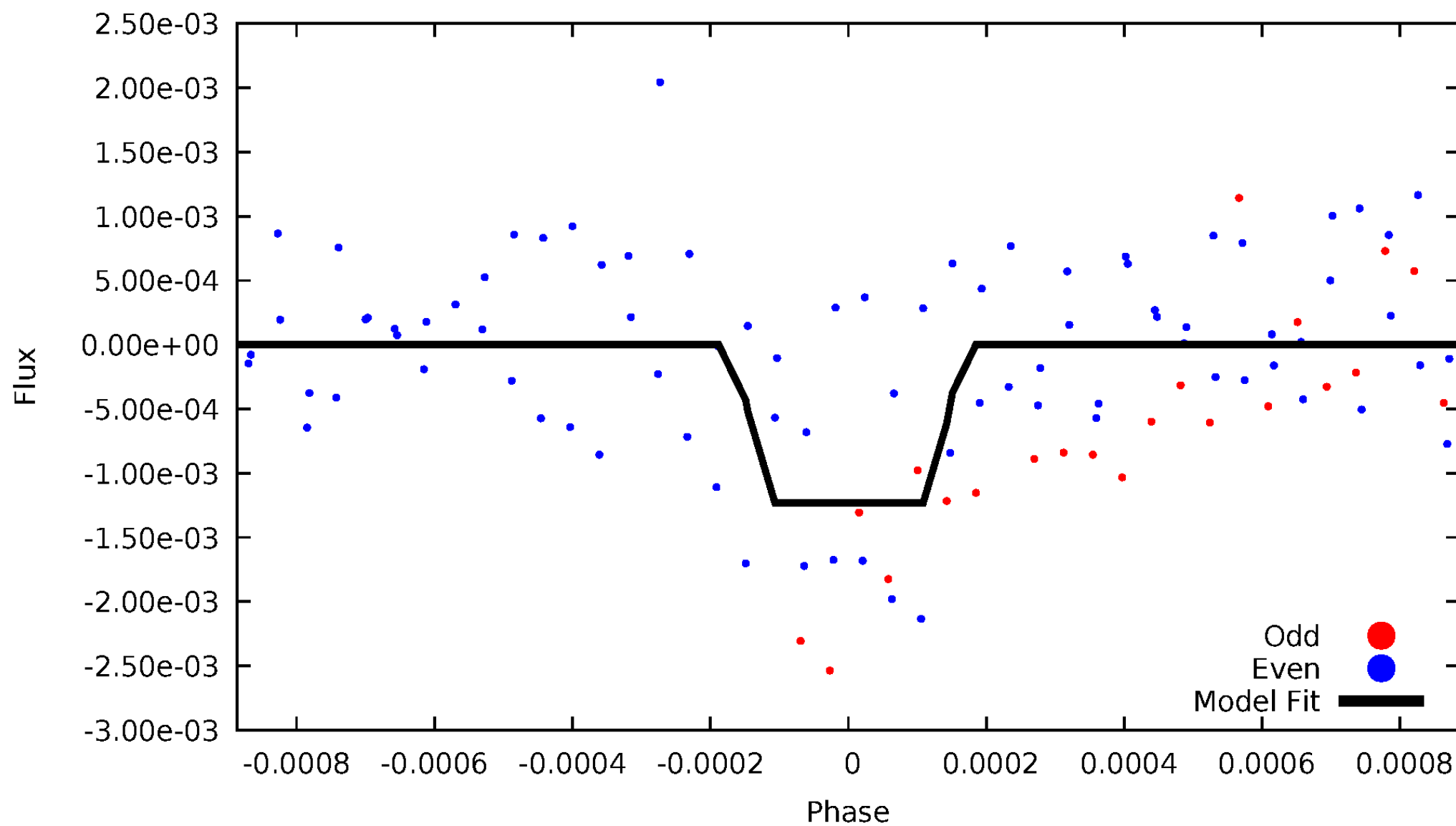
DV Odd/Even

TCE 002142730-01

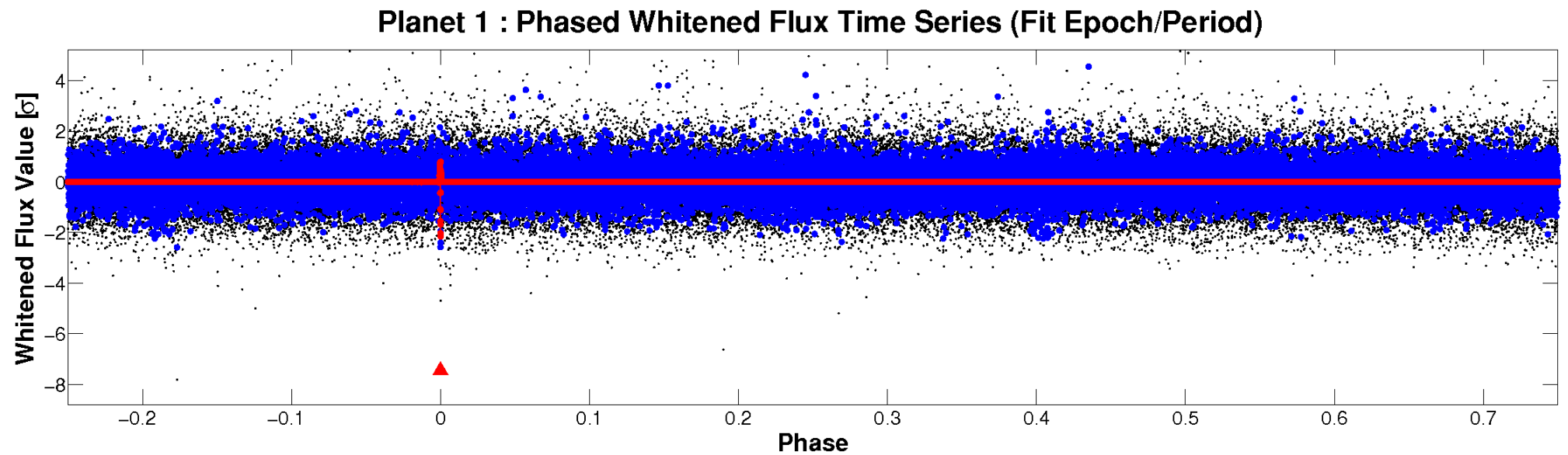
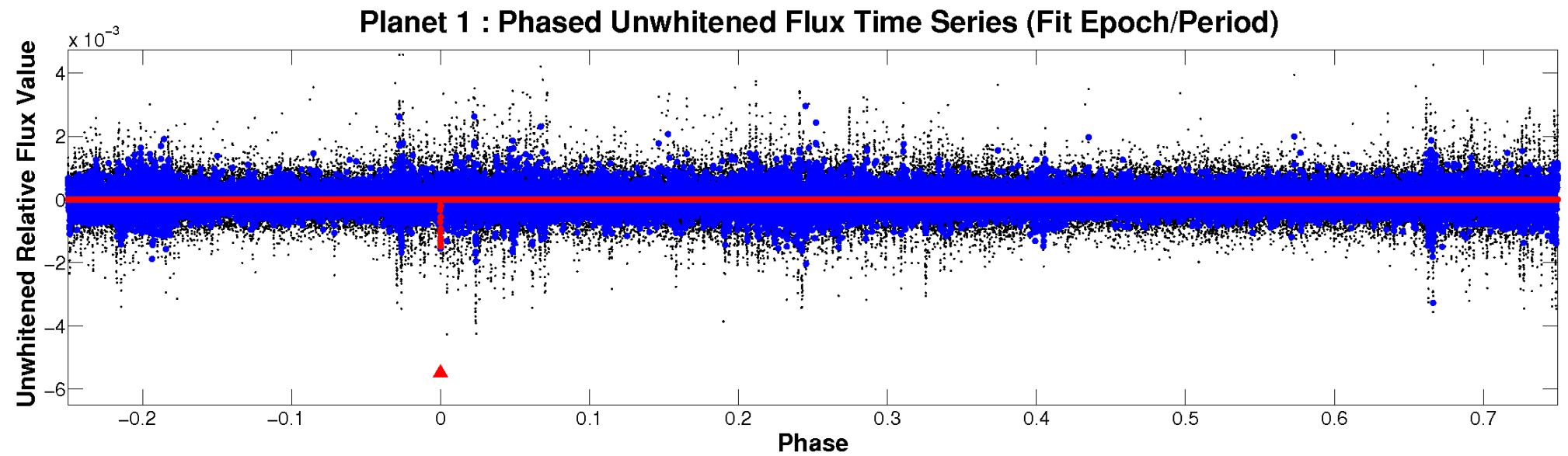


ALT Odd/Even

TCE 002142730-01

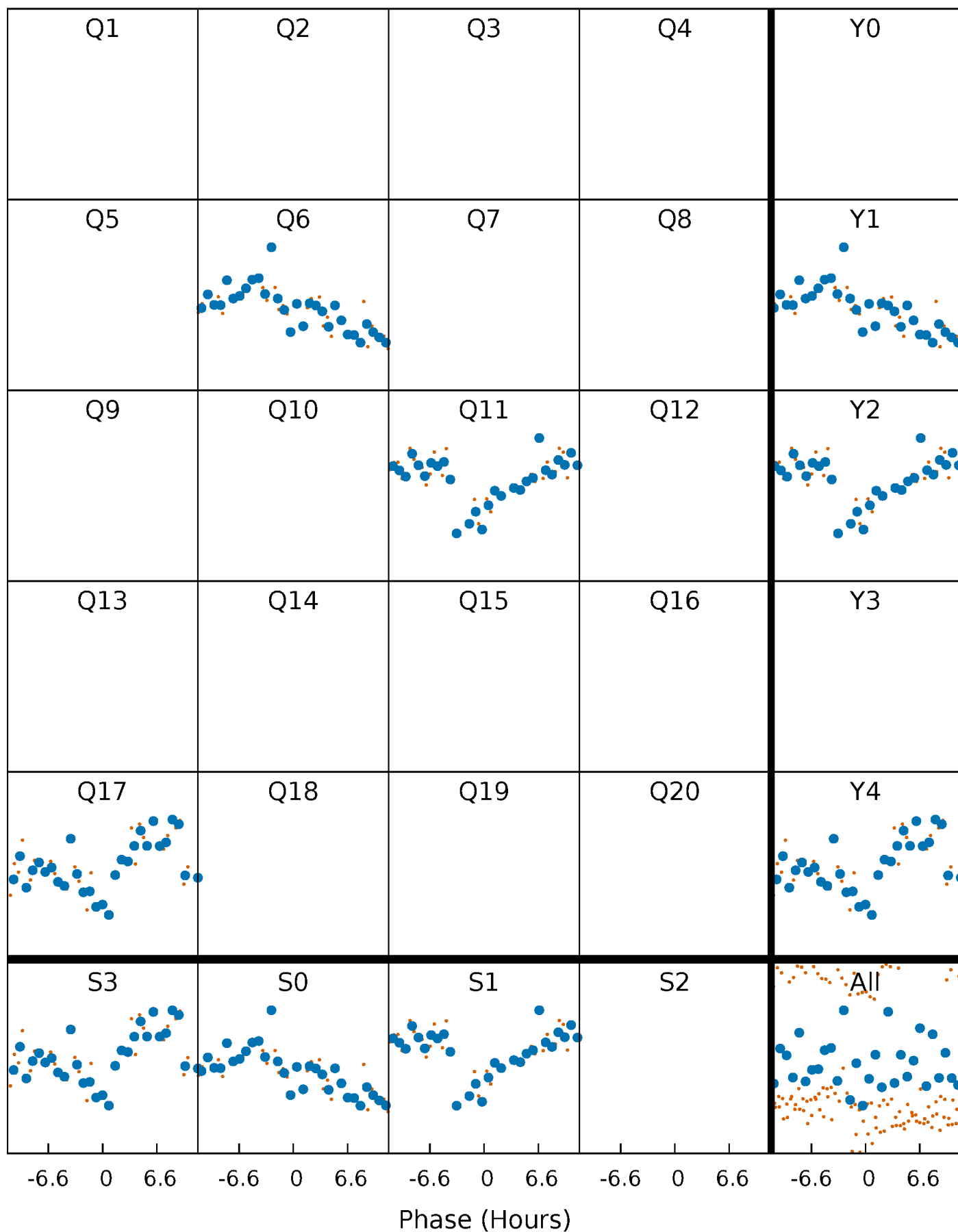


Non-Whitened Vs. Whitened Light Curve



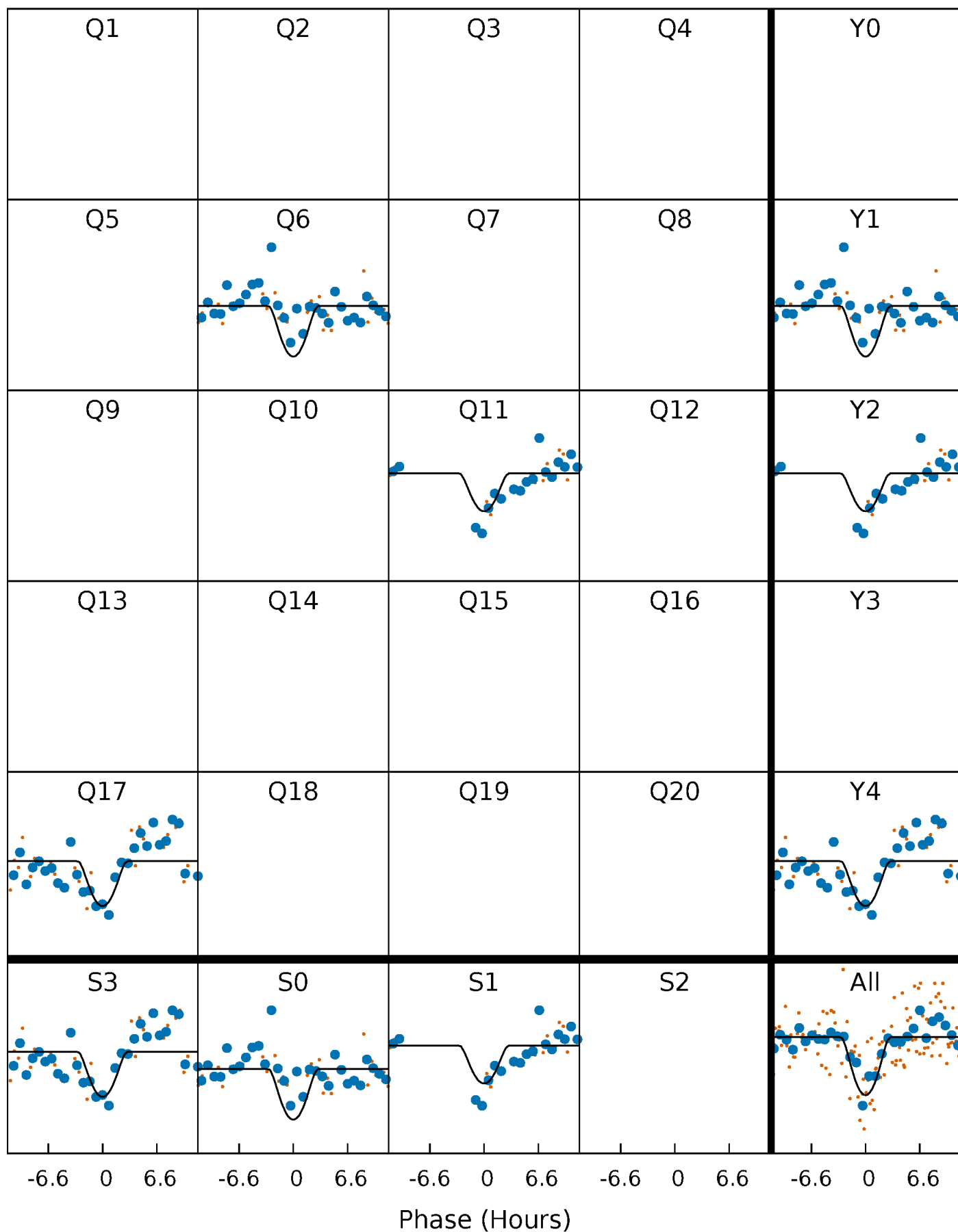
PDC Quarter-Phased Transit Curves

TCE 002142730-01 $P=482.162996$ Days $T_0=611.592103$ (BKJD)



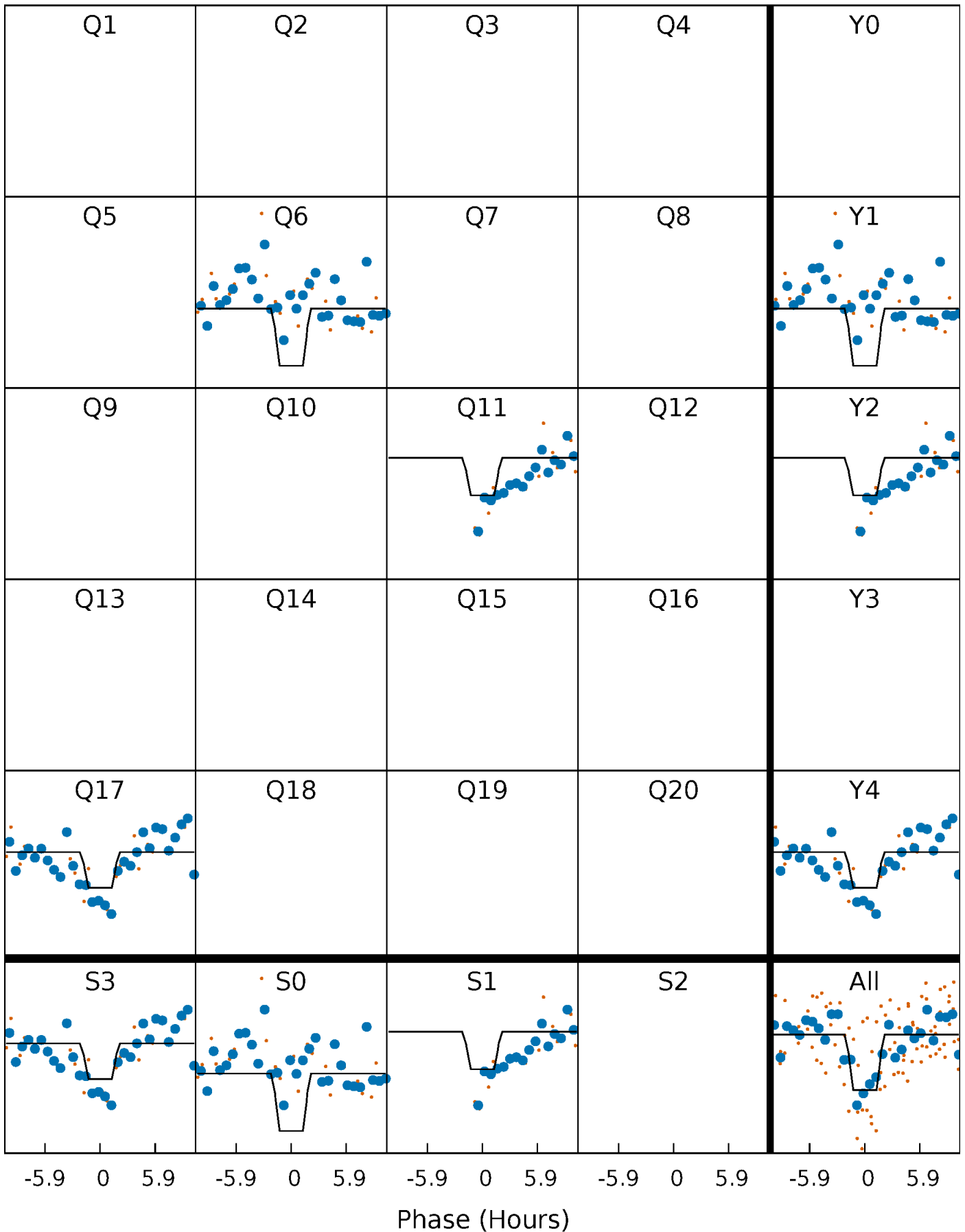
DV Quarter-Phased Transit Curves

TCE 002142730-01 P=482.162996 Days $T_0=611.592103$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

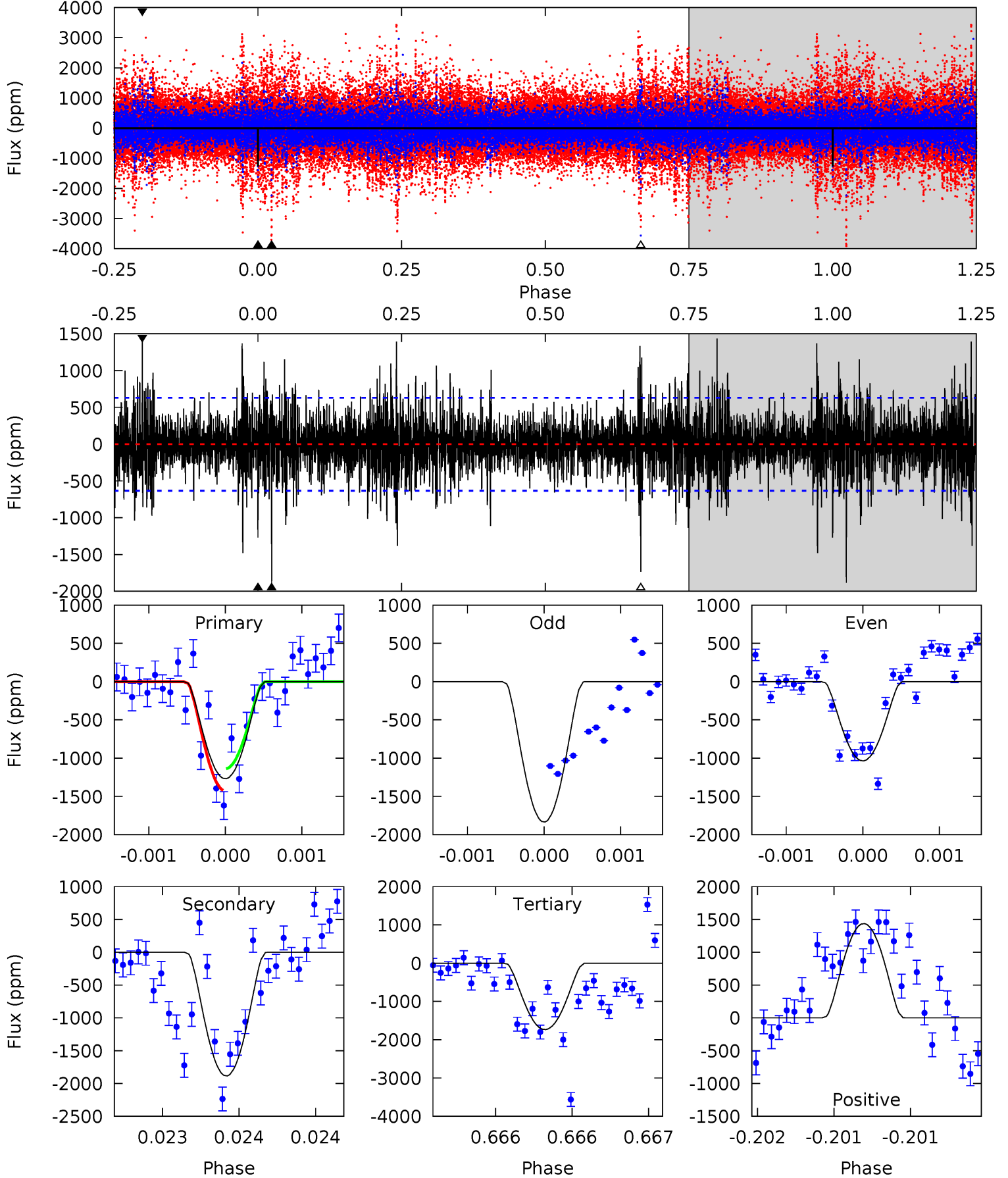
TCE 002142730-01 P=482.150282 Days $T_0=611.610629$ (BKJD)



DV Model-Shift Uniqueness Test

002142730-01, P = 482.162996 Days, E = 129.429107 Days

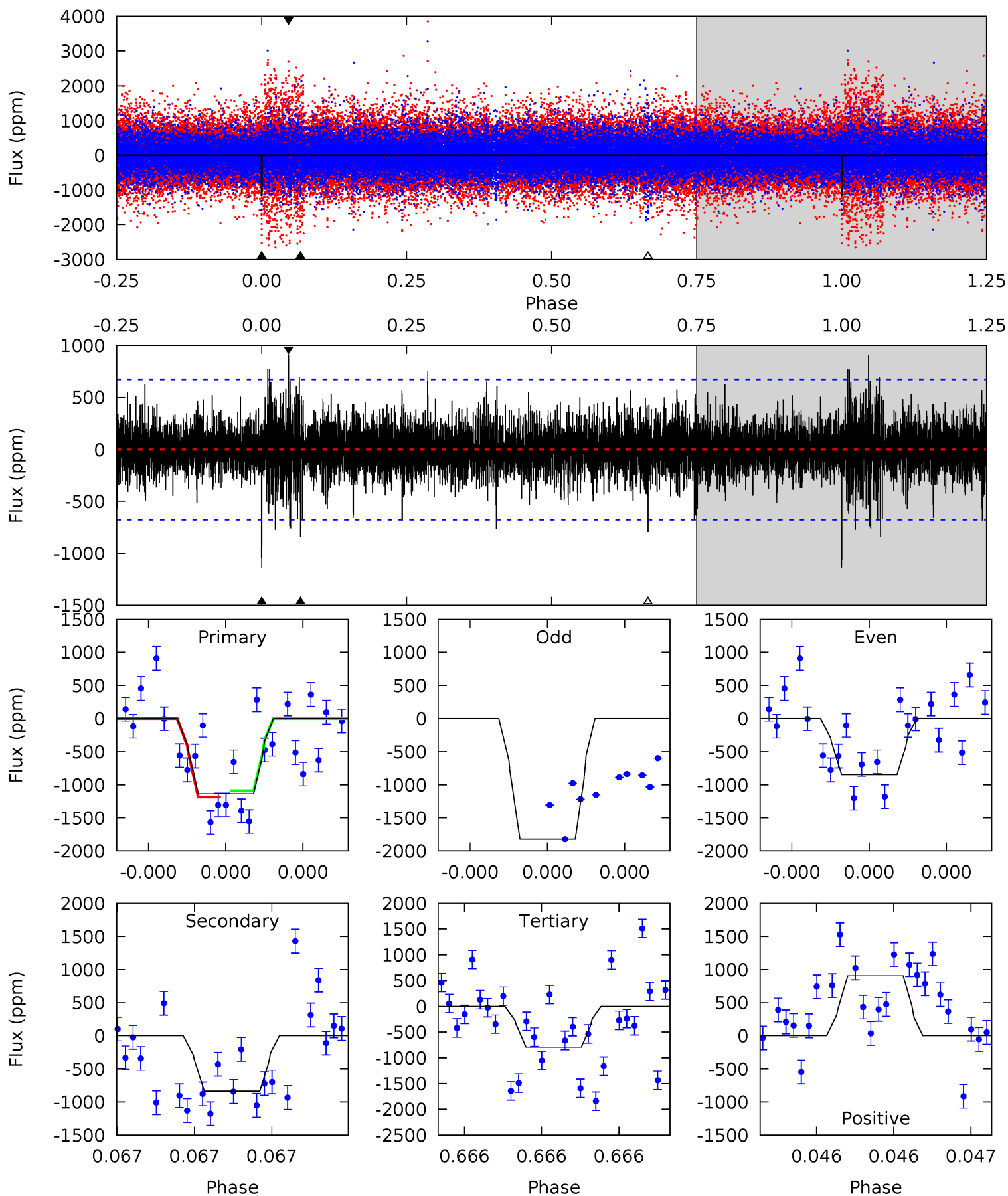
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	16.6	15.3	12.7	5.57	3.48	2.61	-4.10	-1.48	1.33	3.95	2.88	0.81	0.43	1.24



Alt Model-Shift Uniqueness Test

002142730-01, P = 482.150282 Days, E = 129.460347 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.53	7.04	6.66	7.62	5.66	3.62	1.47	2.87	1.91	0.38	-0.59	3.64	0.69	0.44	0.39



Stellar Parameters For KIC 002142730

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6096^{+181}_{-200}	$4.413^{+0.087}_{-0.203}$	$-0.200^{+0.250}_{-0.300}$	$1.031^{+0.321}_{-0.138}$	$1.003^{+0.155}_{-0.116}$	$1.290^{+0.493}_{-0.650}$
	+3%/-3%	+2%/-5%	+125%/-150%	+31%/-13%	+15%/-12%	+38%/-50%
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 002142730-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1885 ± 113	$13.76^{+12.69}_{-9.02}$	354^{+27}_{-19}	4049^{+2334}_{-785}	8134^{+59132}_{-5966}
Alt.	-838 ± 119	$12.54^{+12.37}_{-9.10}$	352^{+27}_{-19}	3638^{+2383}_{-695}	4427^{+53621}_{-3362}

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 $A_{obs} \gg 1.0$

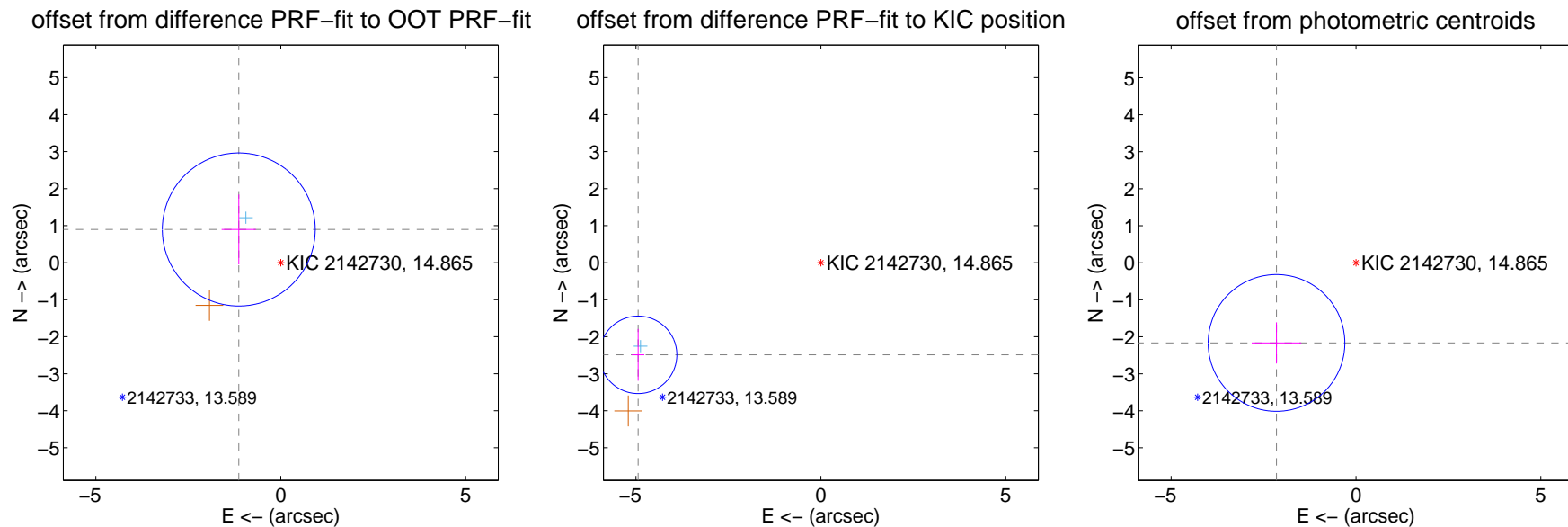
DV Centroid Data

Supplemental centroid analysis for 002142730-01. Kepler magnitude: 14.87. Transit SNR 8.20

There are 1 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 5.25 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.446 ± 0.689	2.10	1.135 ± 0.463	0.897 ± 0.945
PRF-fit source offset from KIC position	5.533 ± 0.349	15.86	4.941 ± 0.168	-2.490 ± 0.700
photometric centroid source offset	3.05 ± 0.62	4.96	2.15 ± 0.67	-2.17 ± 0.56



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; Δ : difference centroid. red \times : large negative pixel value.

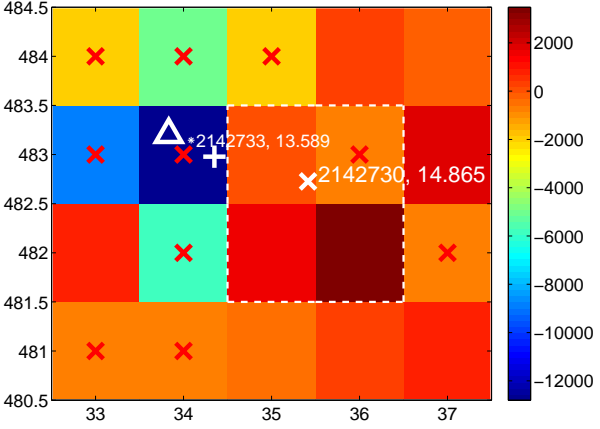
Q5 no difference image



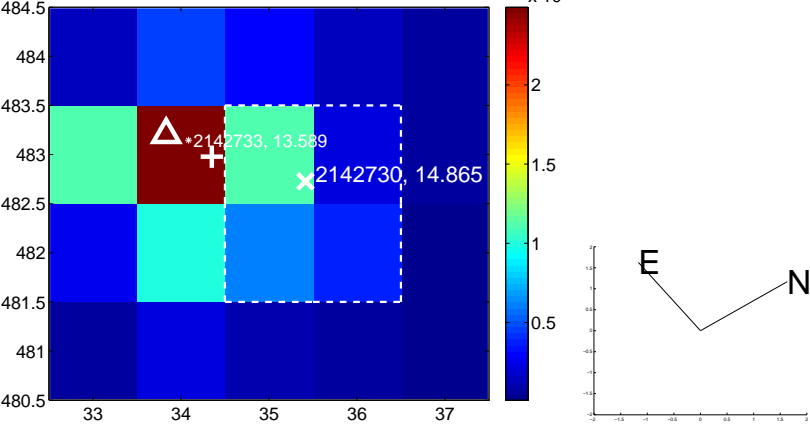
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



Q7 no difference image



Q7 no OOT image



Q8 no difference image



Q8 no OOT image



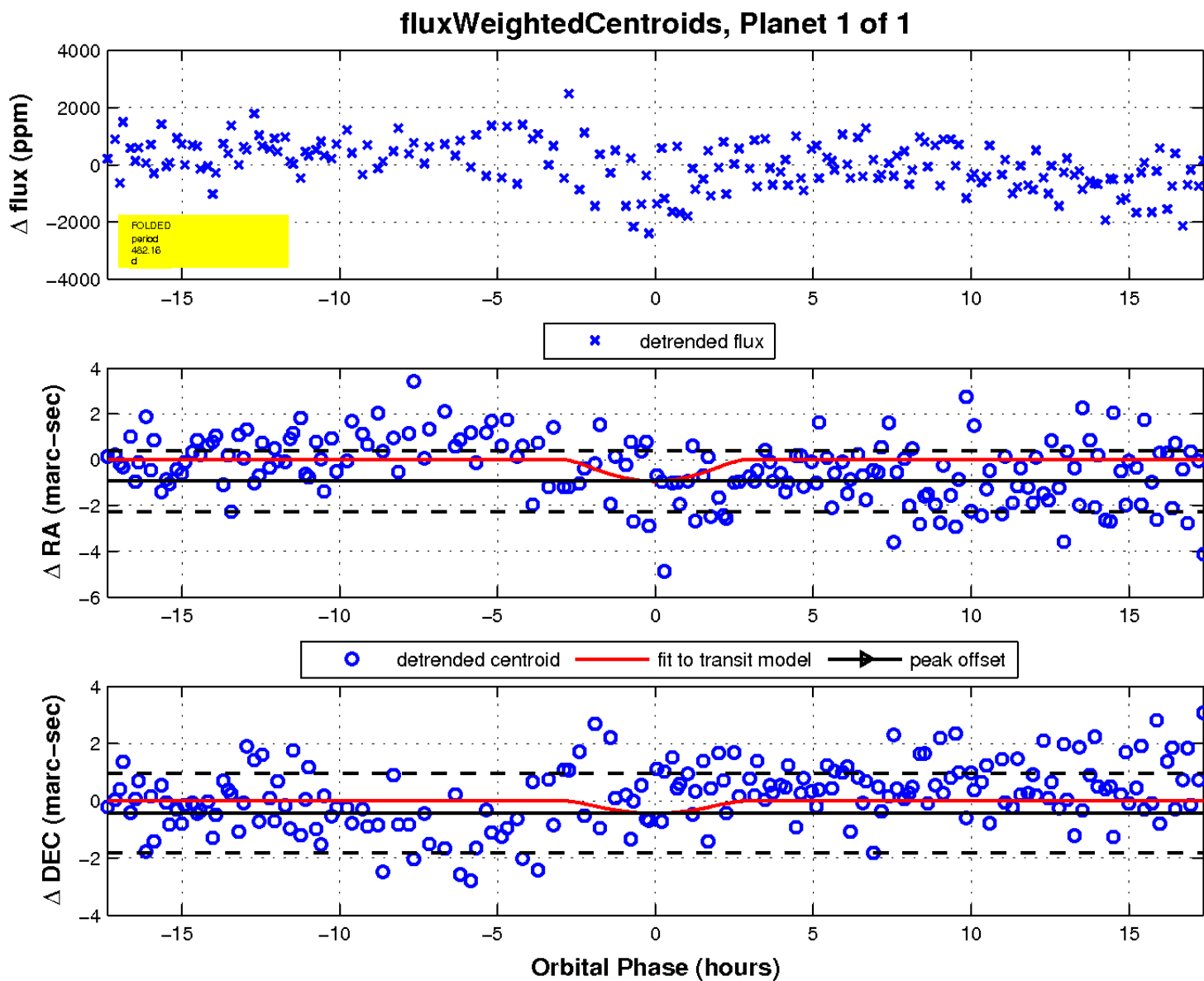
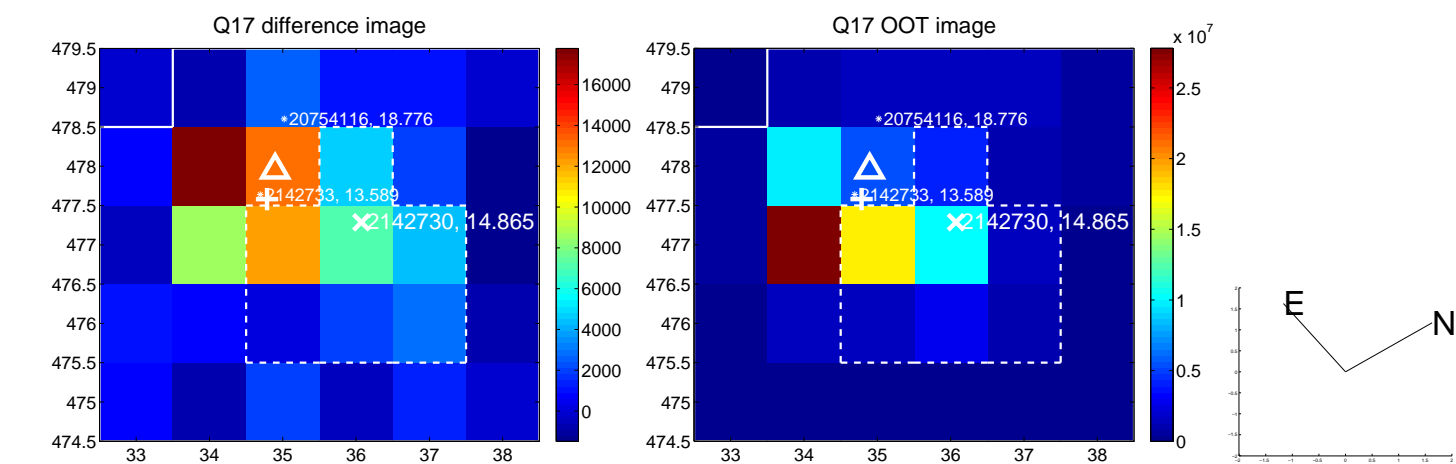
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

