

KIC 004644922

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})
004644922-01	OBS	No	322.366206	218.076619	59.0	9.657	20.1	2.3	1.01	5641	0.92	1.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004644922-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— 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.

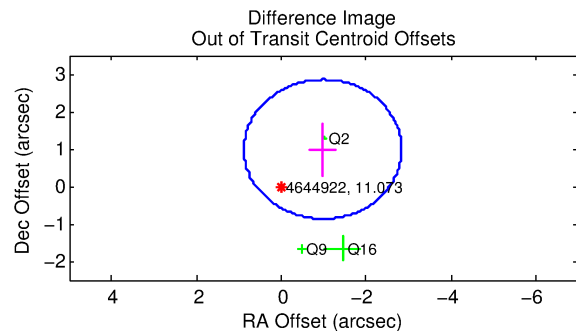
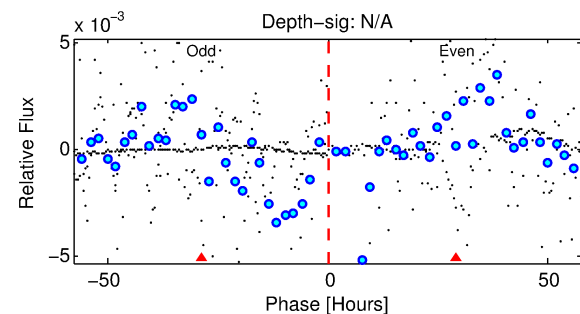
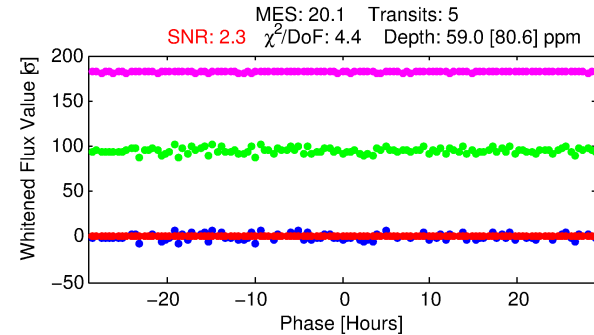
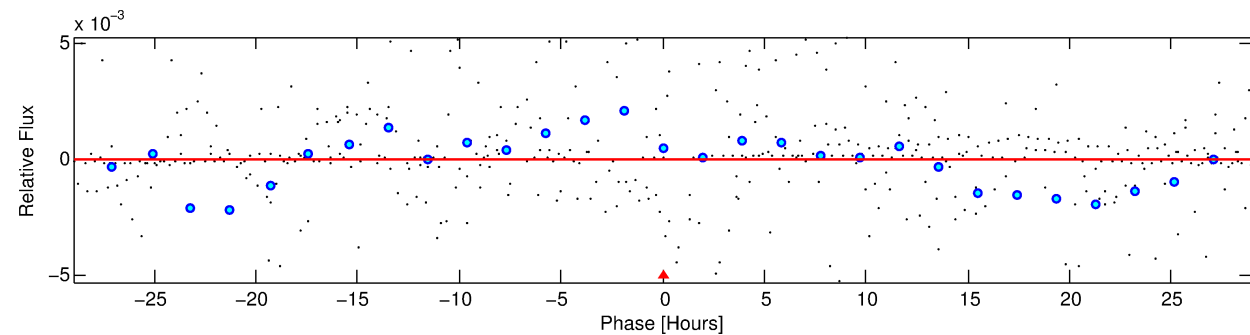
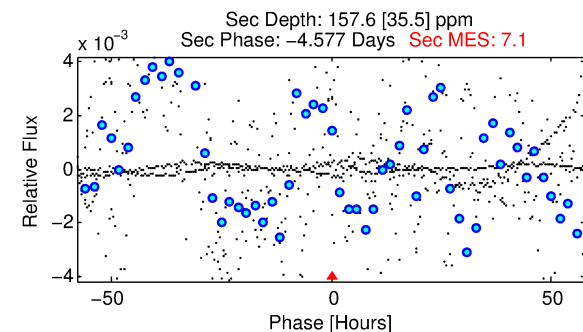
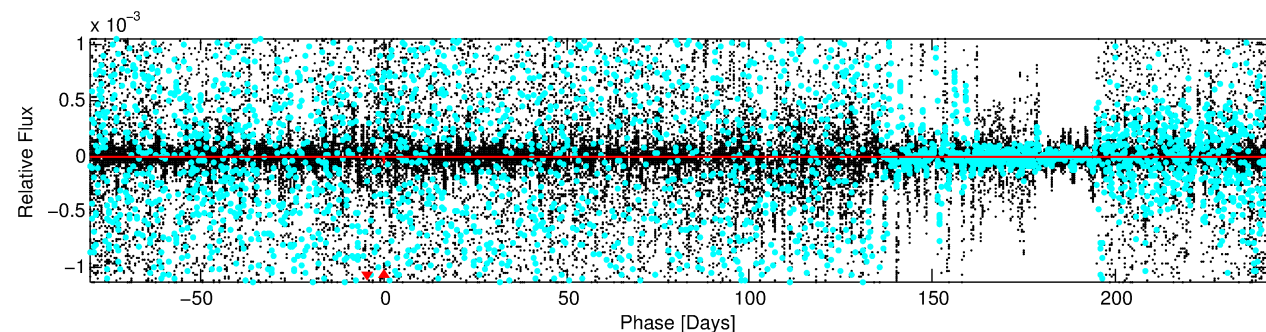
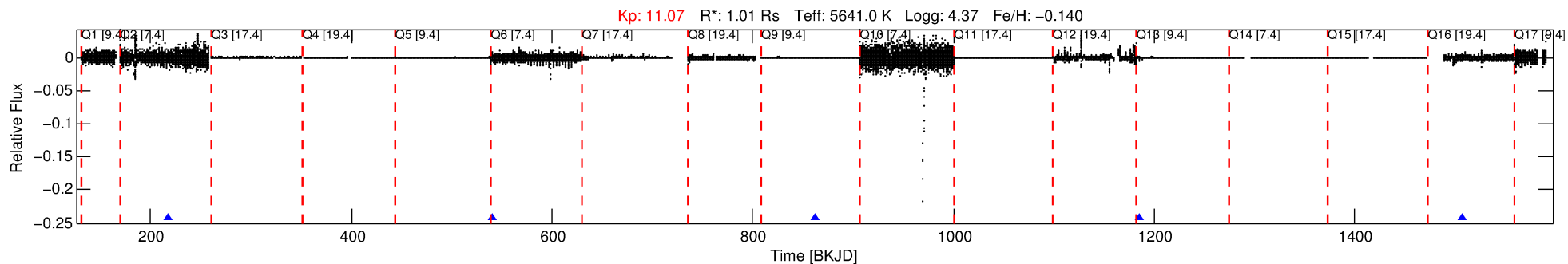
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004644922-01

No Significant Match Found

DV One-Page Summary

KIC: 4644922 Candidate: 1 of 1 Period: 322.366 d



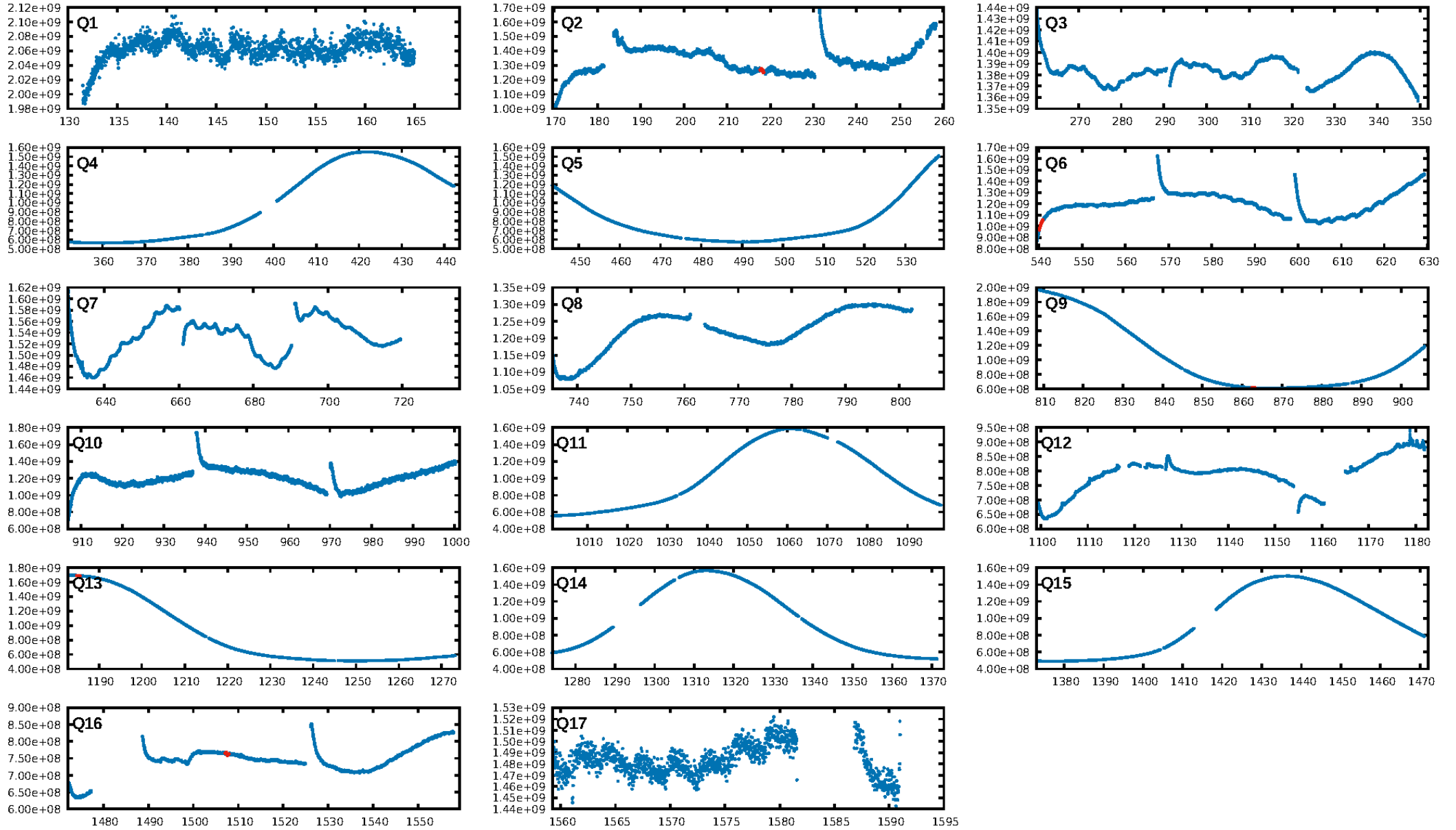
DV Fit Results:

Period = 322.36621 [0.09164] d
Epoch = 218.0766 [0.1984] BKJD
Rp/R* = 0.0083 [0.0149]
a/R* = 118.30 [897.84]
b = 0.90 [1.68]
Seff = 1.21 [0.45]
Teq = 267 [25] K
Rp = 0.92 [1.66] Re
a = 0.8772 [0.2131] AU
Ag = 78789.59 [283163.75] [0.28σ]
Teffp = 6921 [6191] K [1.07σ]

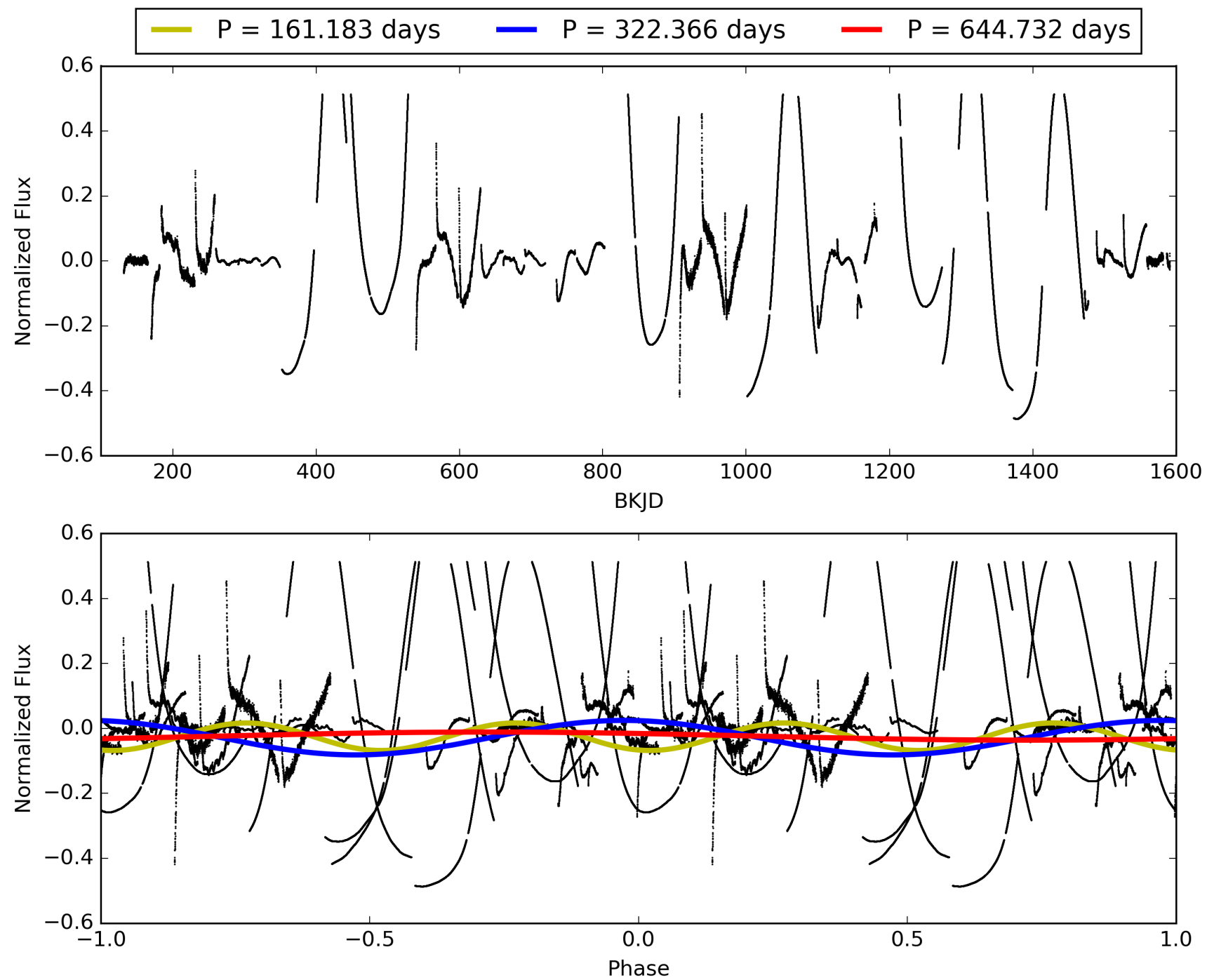
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 4.53e-04
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -1.595
Centroid-sig: 0.0%
Centroid-so: 51.509 arcsec [2.17σ]
OotOffset-rm: 1.395 arcsec [2.25σ]
KicOffset-rm: 1.624 arcsec [1.75σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 004644922-01, PDC Light Curves

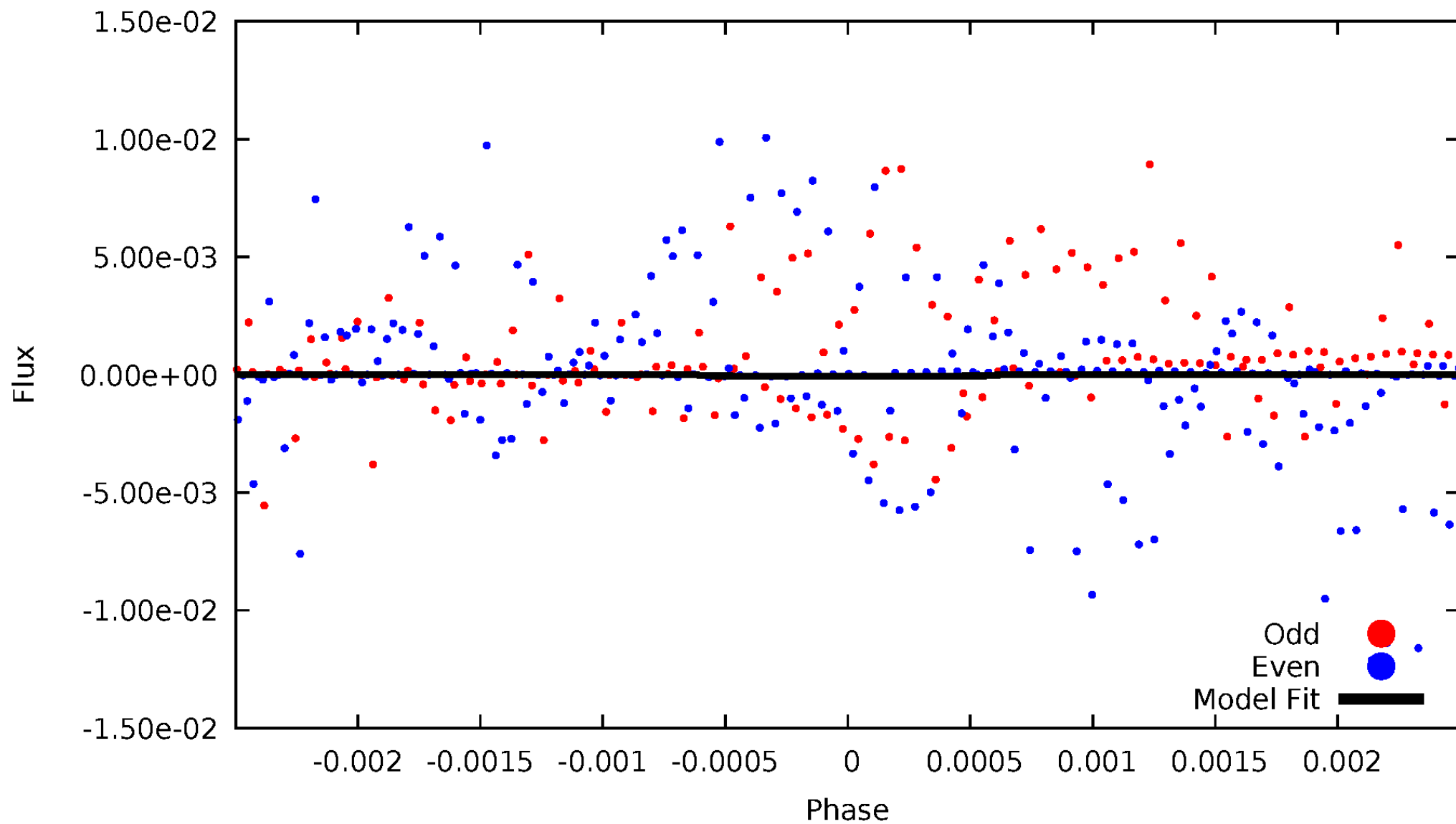


TCE 004644922-01



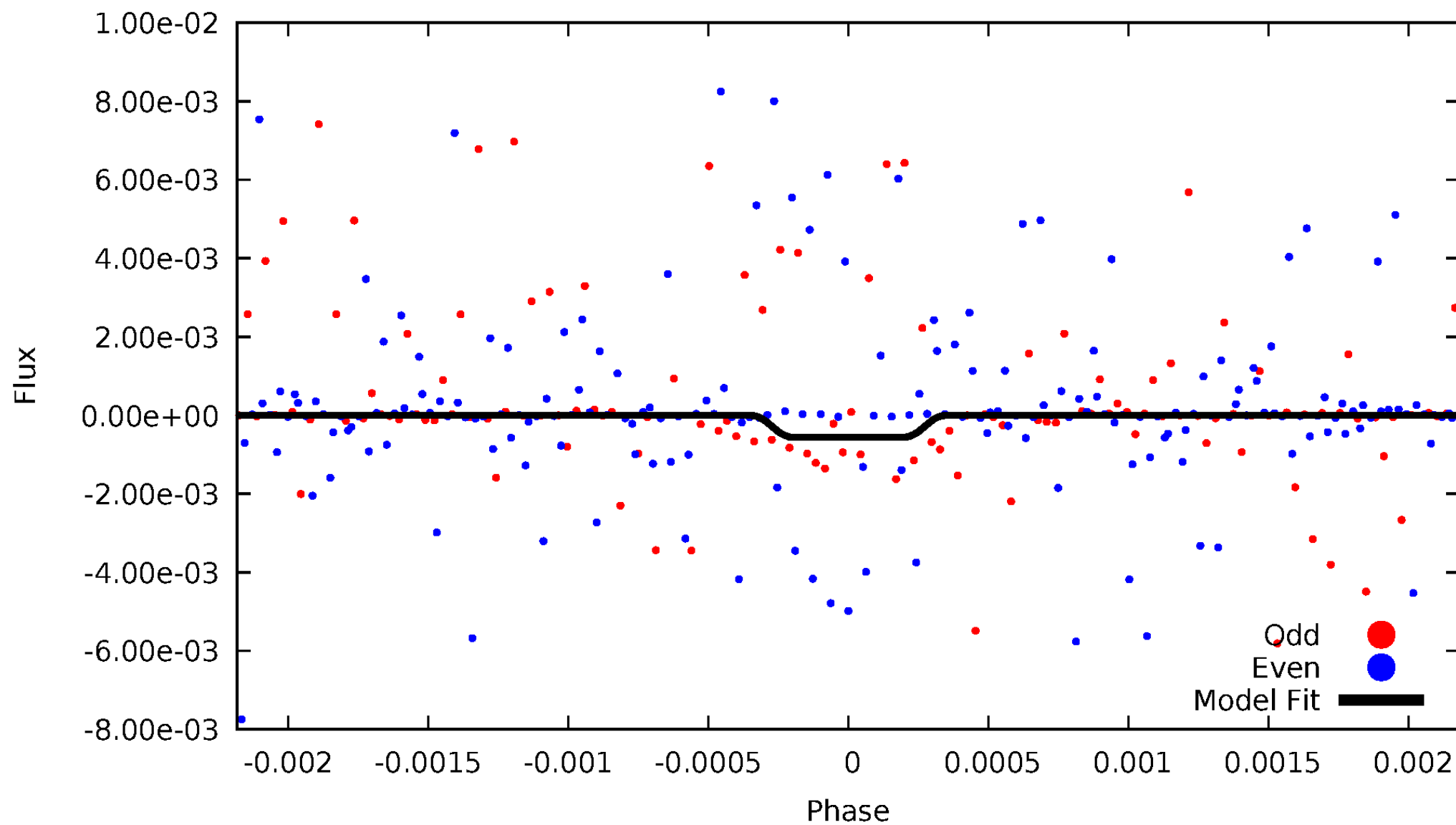
DV Odd/Even

TCE 004644922-01



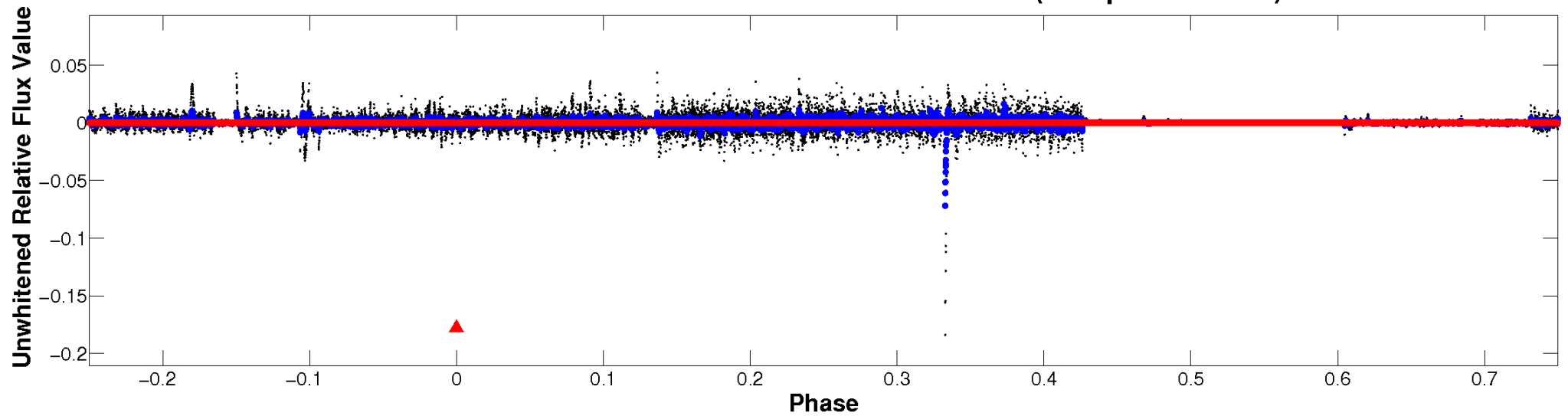
ALT Odd/Even

TCE 004644922-01

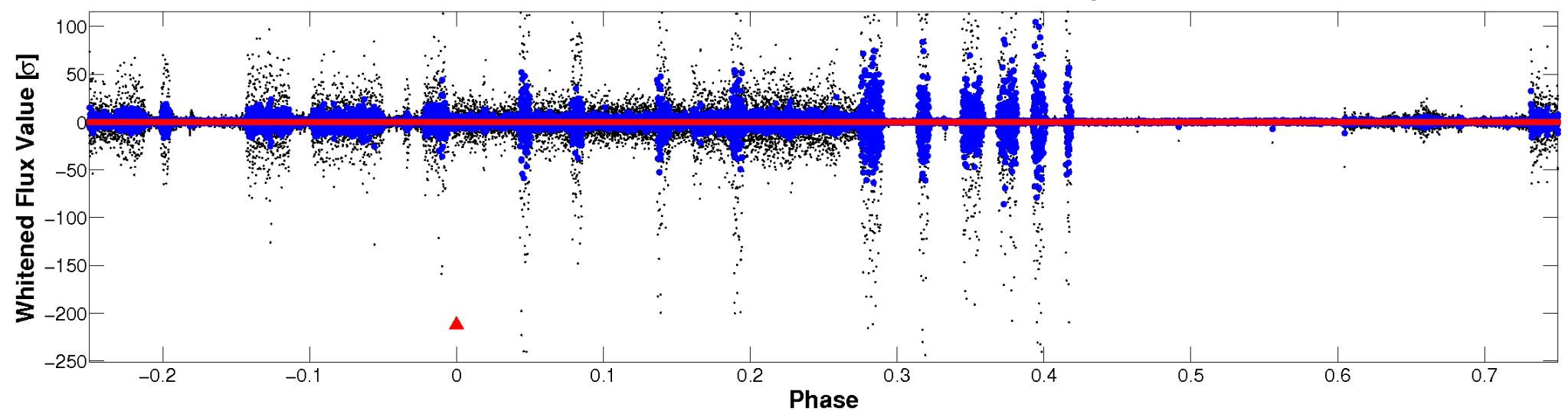


Non-Whitened Vs. Whitened Light Curve

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

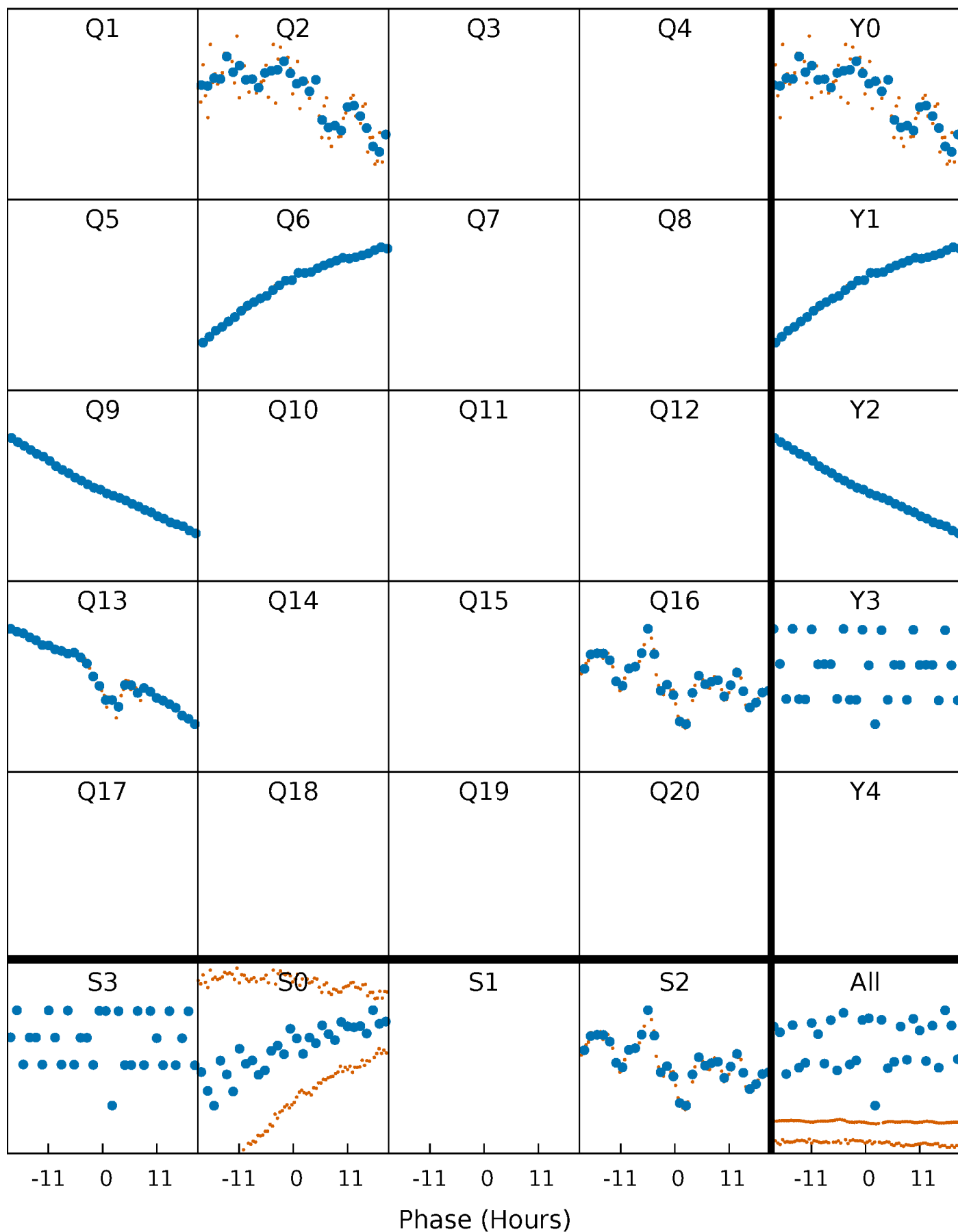


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



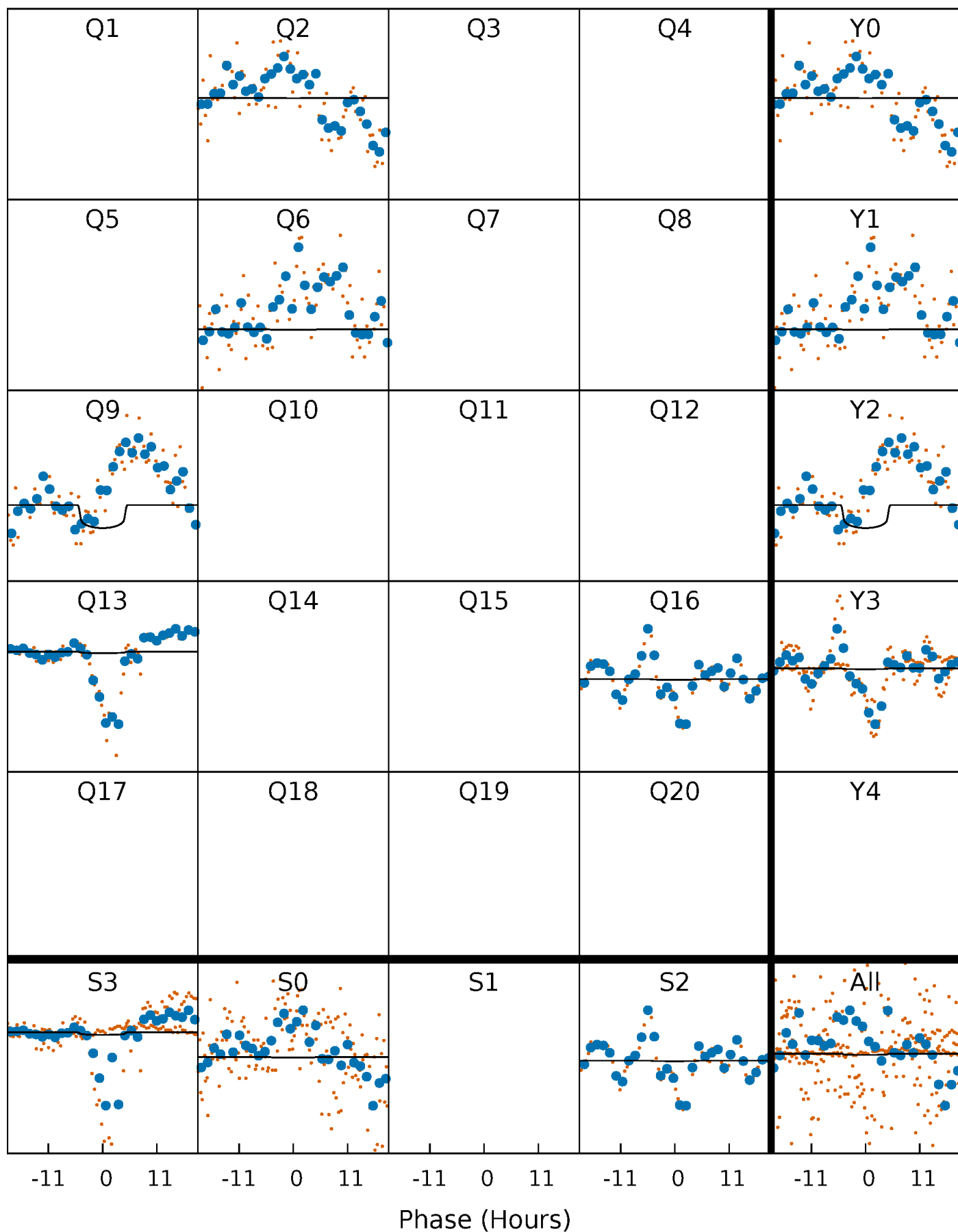
PDC Quarter-Phased Transit Curves

TCE 004644922-01 P=322.366206 Days $T_0=218.076619$ (BKJD)



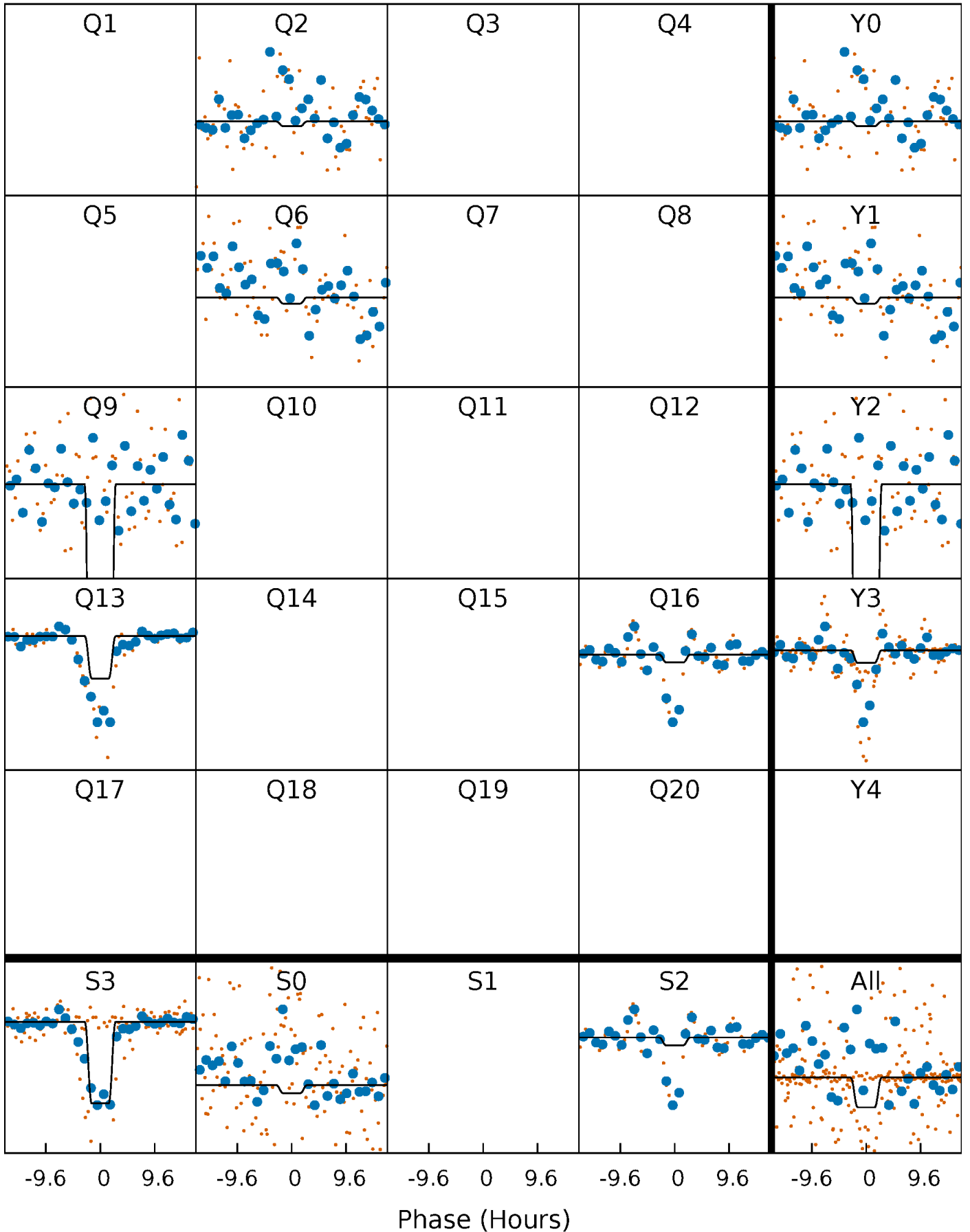
DV Quarter-Phased Transit Curves

TCE 004644922-01 P=322.366206 Days $T_0=218.076619$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

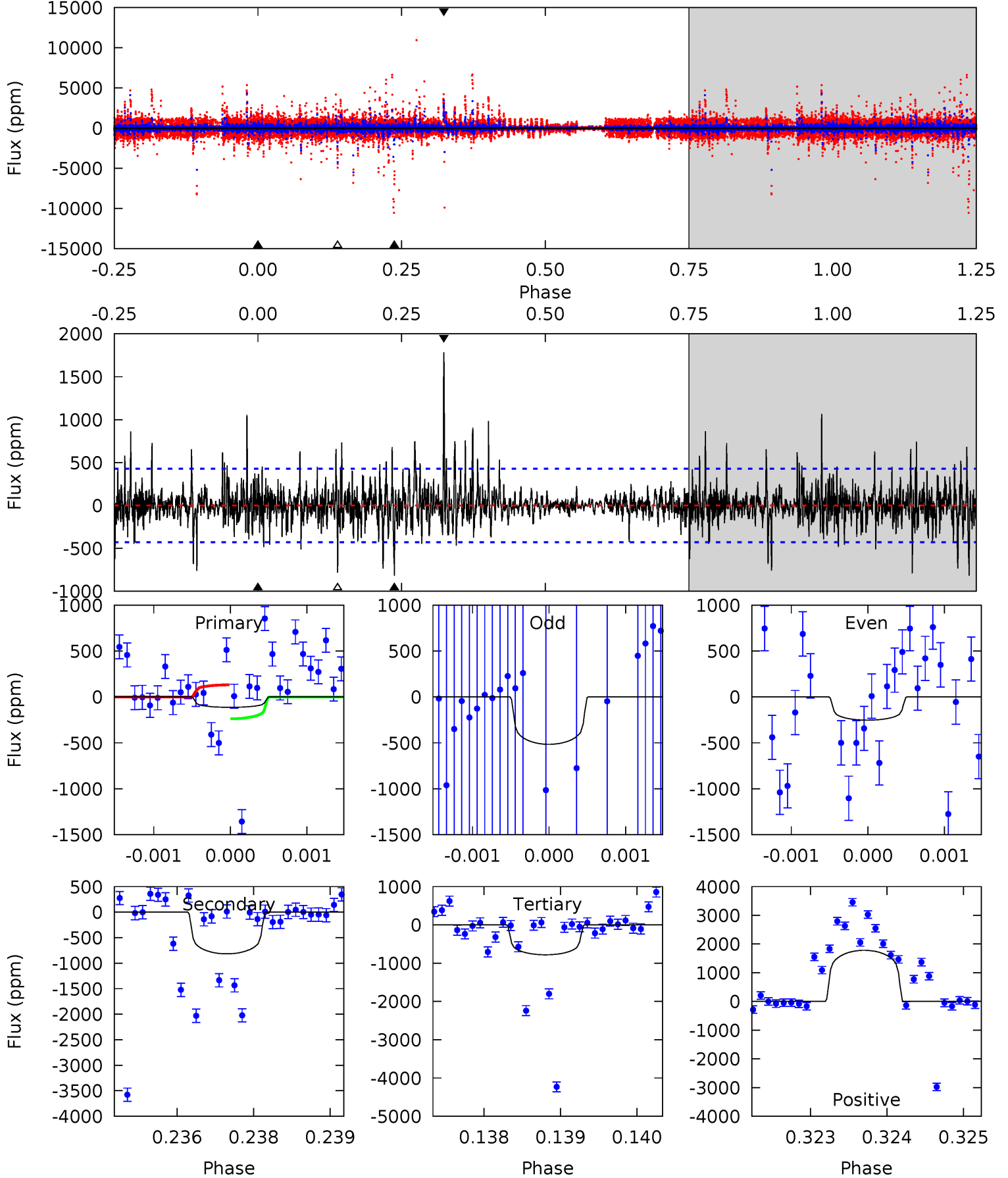
TCE 004644922-01 P=322.393898 Days $T_0=218.054482$ (BKJD)



DV Model-Shift Uniqueness Test

004644922-01, P = 322.366206 Days, E = 218.076619 Days

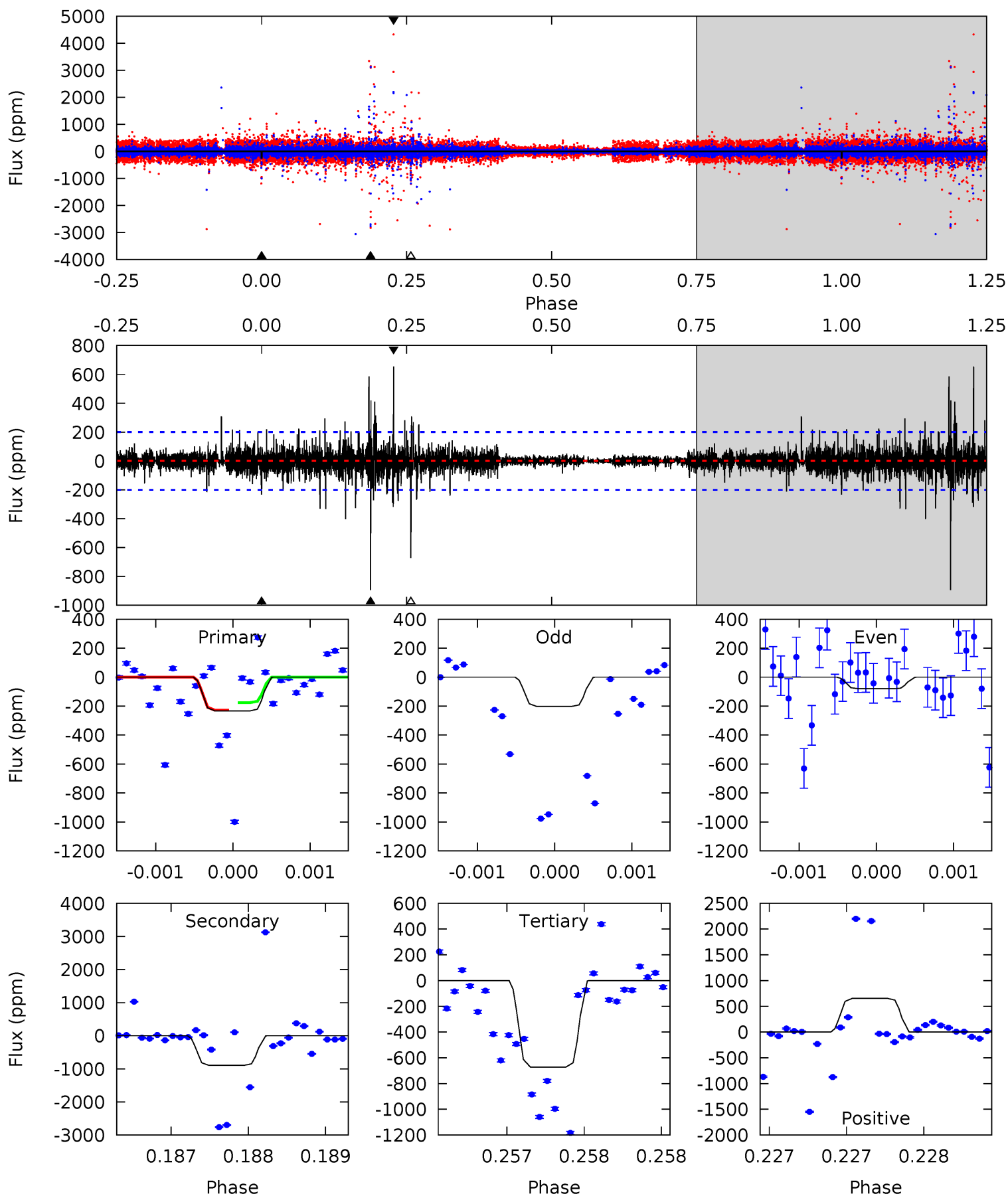
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.43	10.3	9.85	22.5	5.41	3.22	1.95	-8.42	-21.0	0.45	-12.2	0.70	28.9	0.69	0.60



Alt Model-Shift Uniqueness Test

004644922-01, P = 322.393898 Days, E = 218.054482 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.42	24.7	18.6	18.0	5.52	3.39	1.26	-12.1	-11.6	6.13	6.65	0.54	31.7	0.42	0



Stellar Parameters For KIC 004644922

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5641^{+152}_{-152}	$4.366^{+0.158}_{-0.193}$	$-0.140^{+0.300}_{-0.300}$	$1.011^{+0.292}_{-0.179}$	$0.865^{+0.115}_{-0.073}$	$1.181^{+0.910}_{-0.601}$
	+3%/-3%	+4%/-4%	+214%/-214%	+29%/-18%	+13%/-8%	+77%/-51%
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 004644922-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-817 ± 79	$1.52^{+1.46}_{-1.03}$	373^{+28}_{-22}	8361^{+15805}_{-2525}	$151632^{+1317005}_{-111743}$
Alt.	-894 ± 36	$2.75^{+1.54}_{-1.35}$	375^{+30}_{-23}	6146^{+3207}_{-1102}	$50078^{+141661}_{-29708}$

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

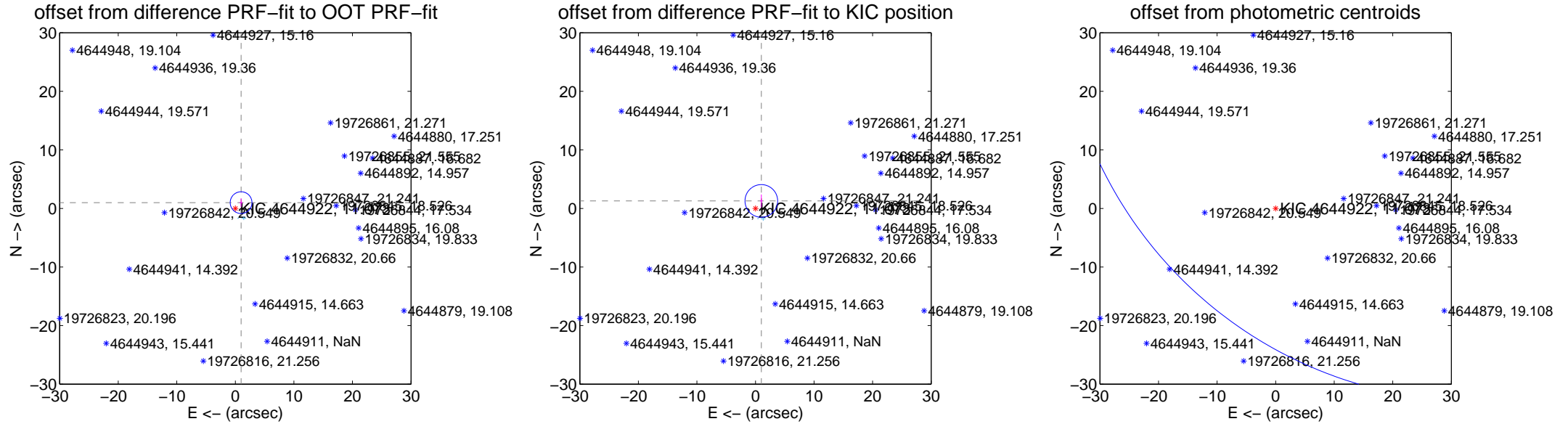
DV Centroid Data

Supplemental centroid analysis for 004644922-01. **Kepler magnitude: 11.07.** Transit SNR 2.25

There are 2 quarters with good PRF difference image offsets

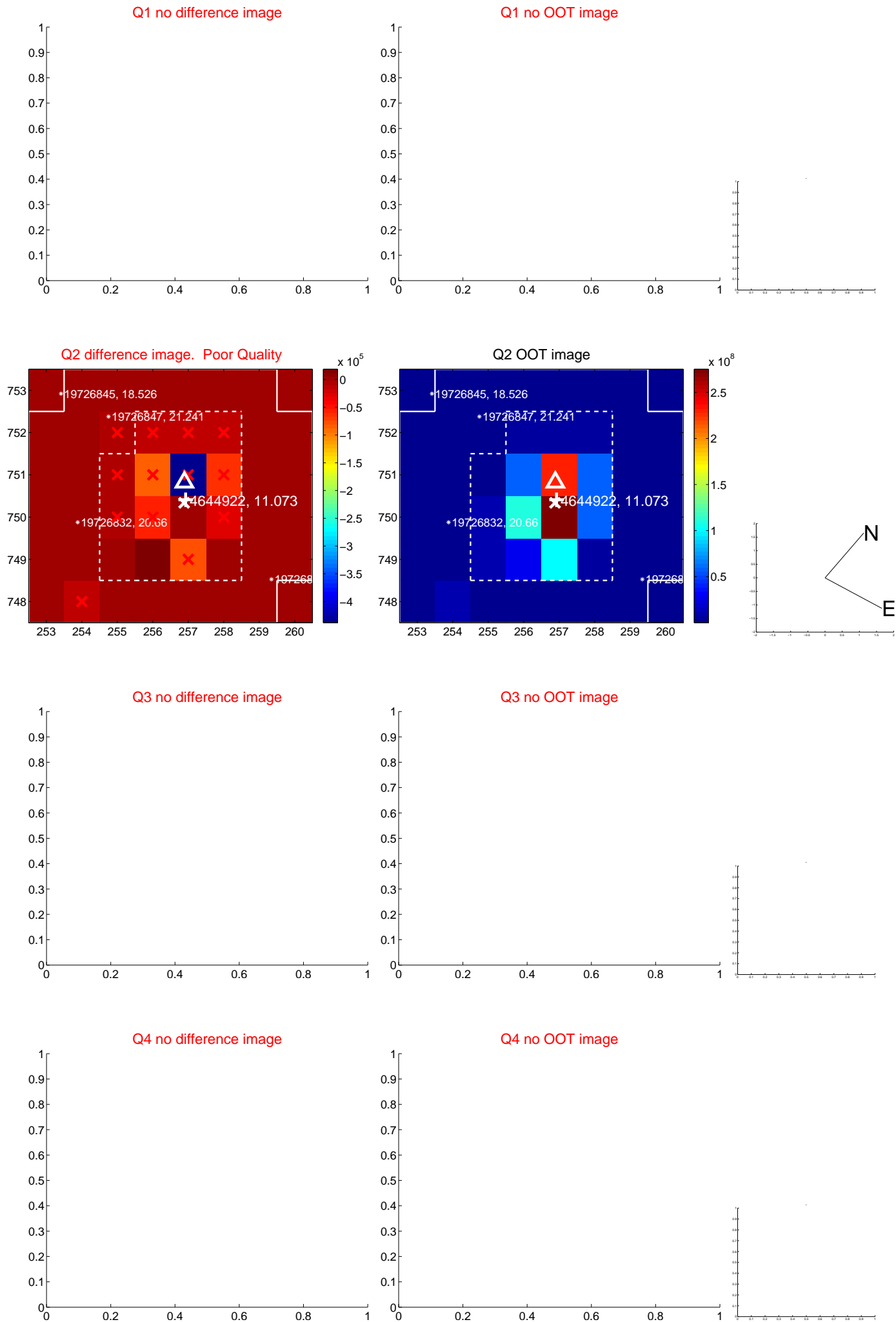
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.395 ± 0.620	2.25	-0.982 ± 0.293	0.991 ± 0.701
PRF-fit source offset from KIC position	1.624 ± 0.930	1.75	-0.996 ± 0.237	1.283 ± 1.089
photometric centroid source offset	51.51 ± 23.77	2.17	-34.32 ± 19.50	38.41 ± 26.70



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.

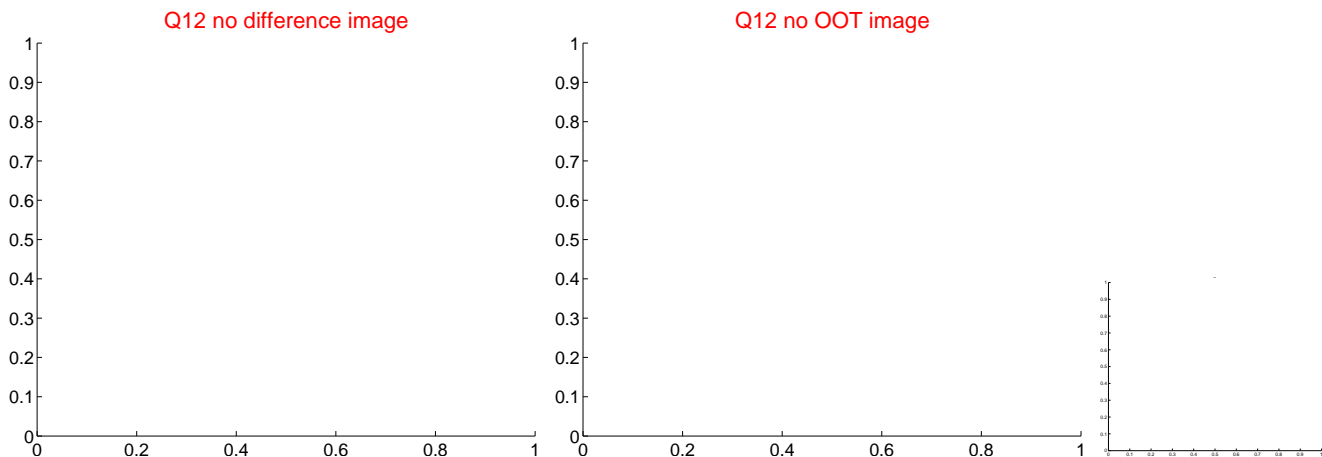
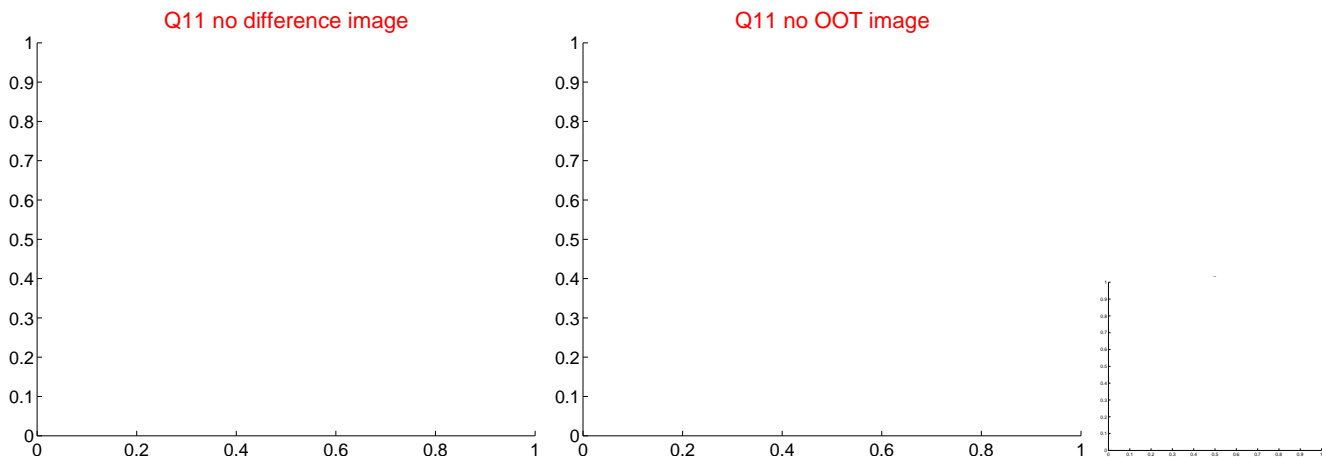
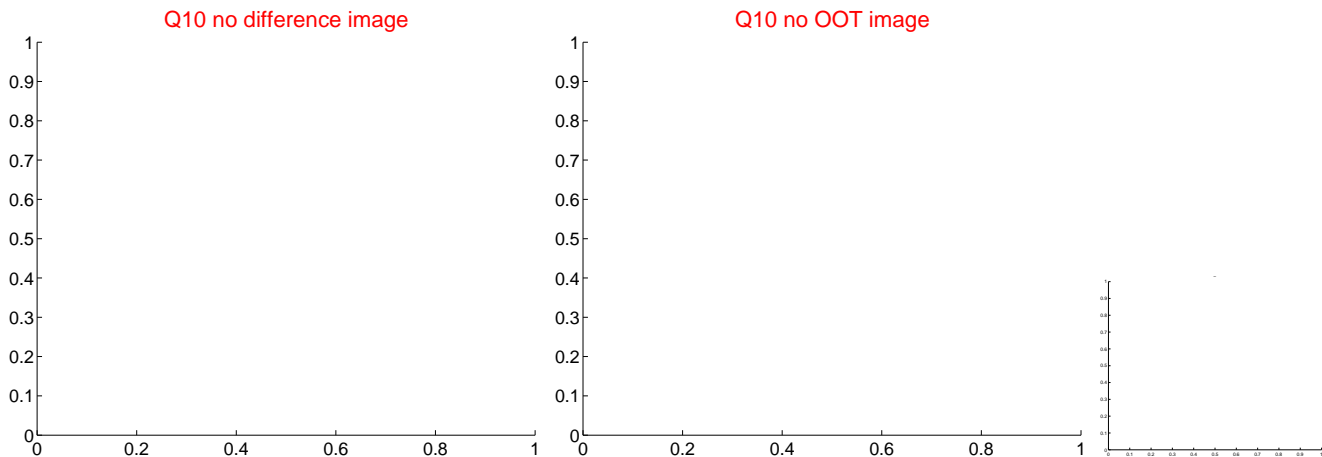
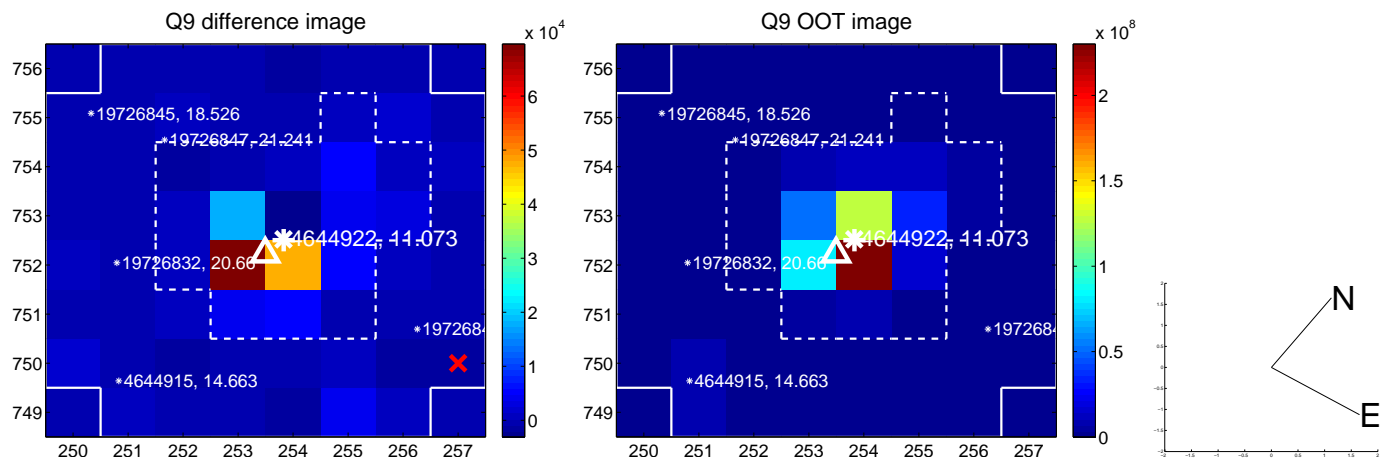
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



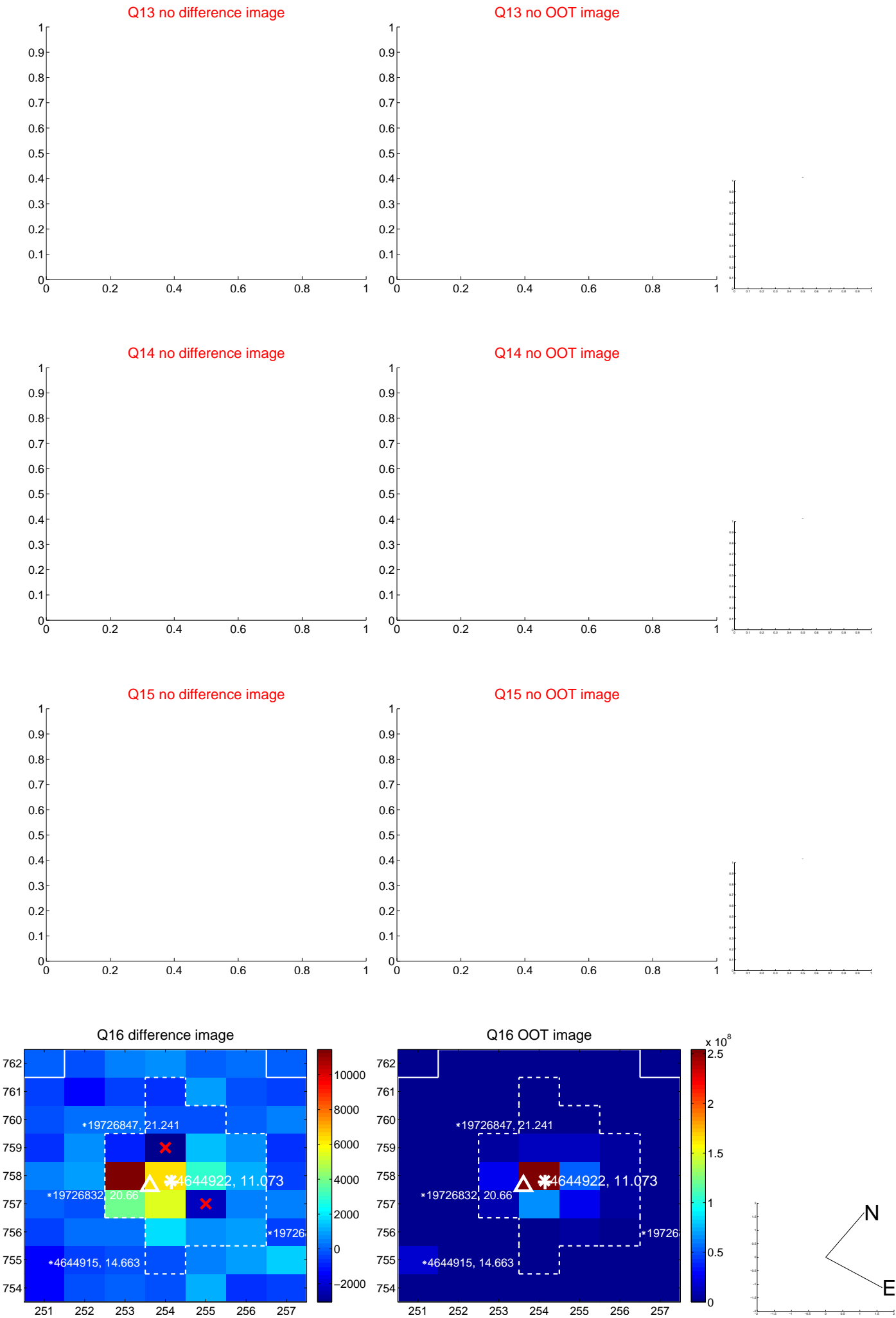
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



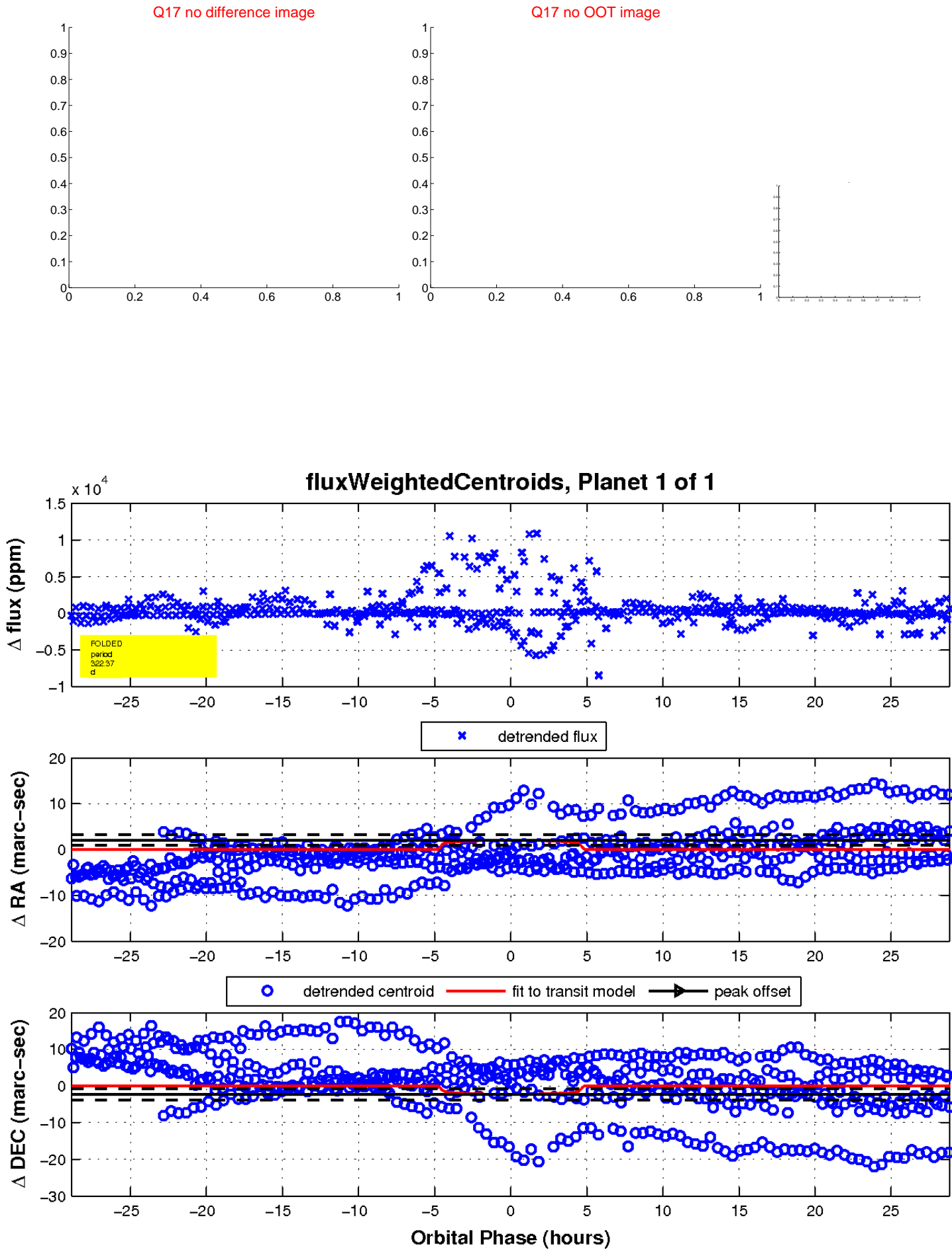
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

