

KIC 009612825

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})
009612825-01	OBS	2685.01	2.846629	133.212055	803.3	4.185	81.0	29.0	0.32	3468	1.10	18.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009612825-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

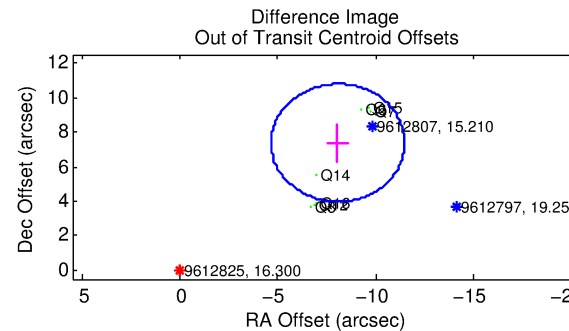
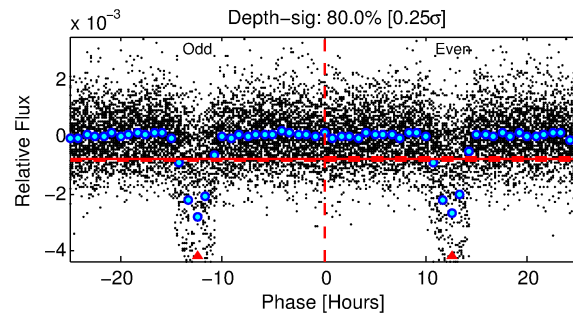
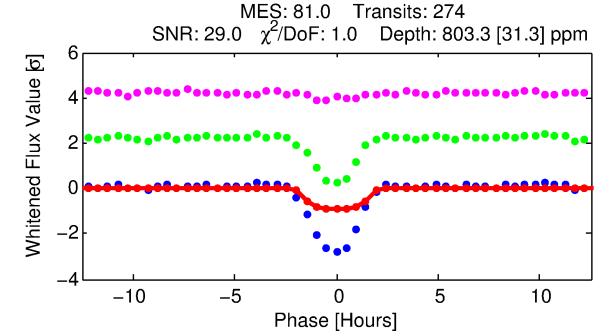
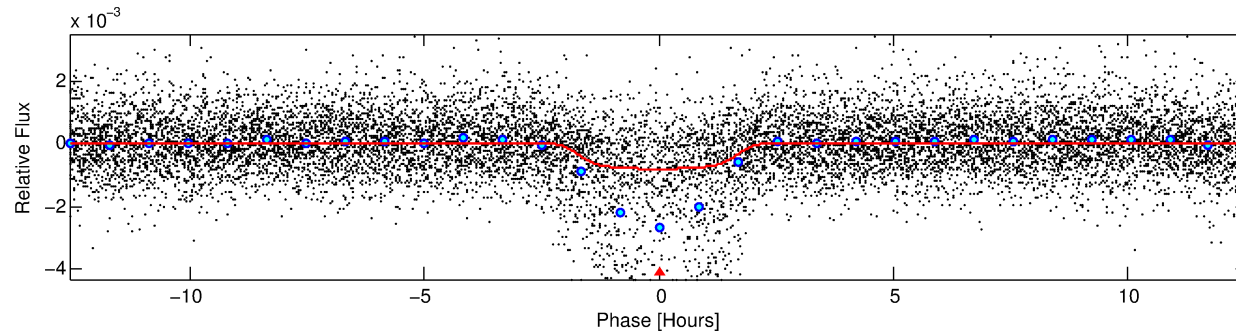
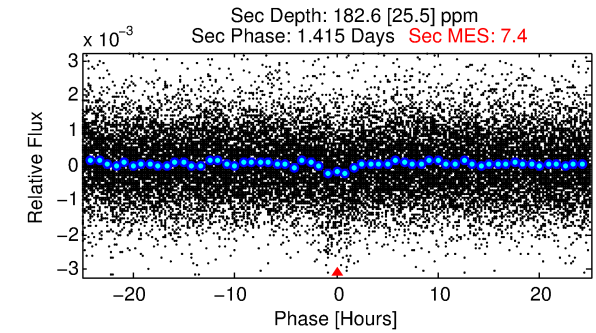
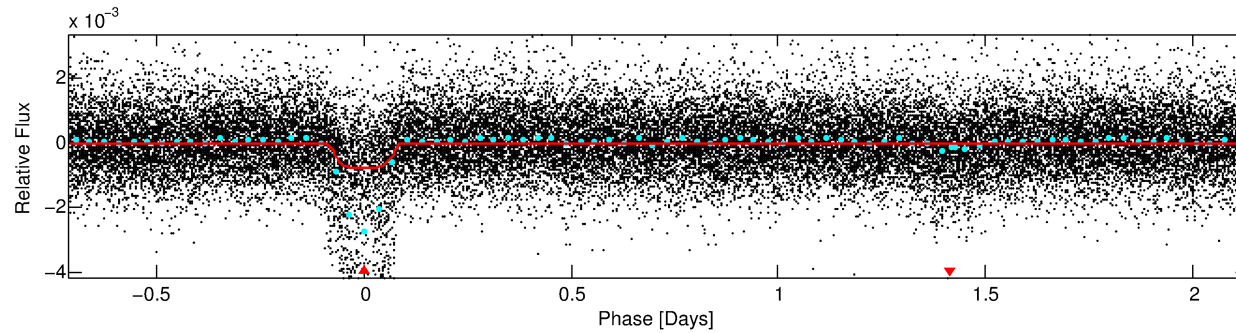
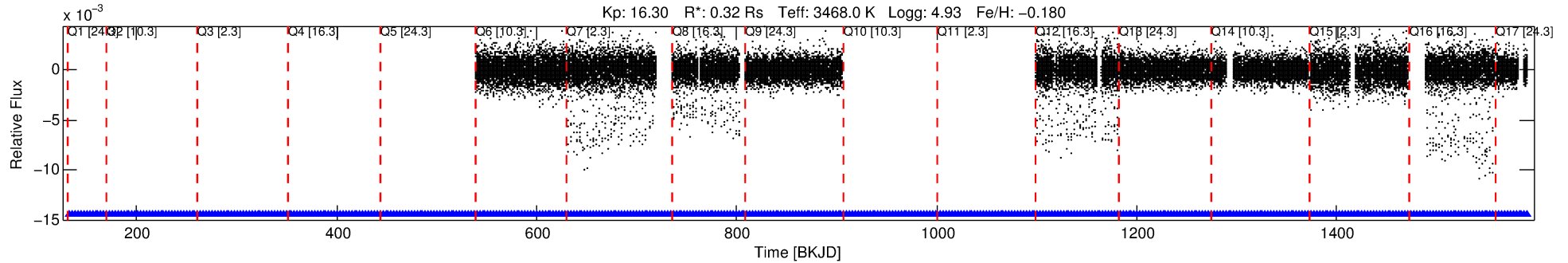
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009612825-01

No Significant Match Found

DV One-Page Summary

KIC: 9612825 Candidate: 1 of 1 Period: 2.847 d
KOI: K02685.01 Corr: 0.913



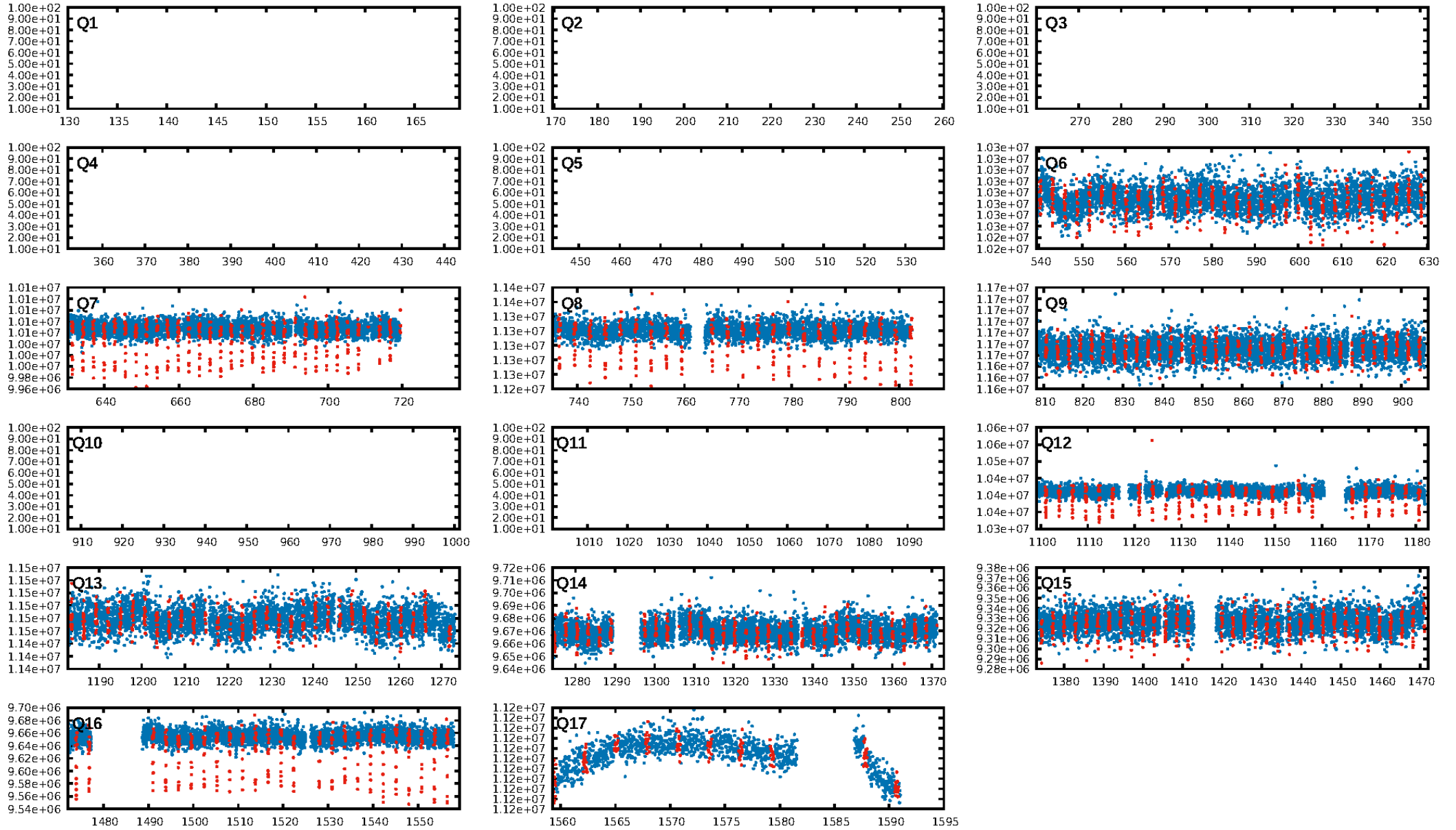
DV Fit Results:

Period = 2.84663 [0.00001] d
Epoch = 133.2121 [0.0023] BKJD
Rp/R* = 0.0315 [0.0016]
a/R* = 2.62 [0.44]
b = 0.92 [0.03]
Seff = 18.40 [5.51]
Teq = 528 [40] K
Rp = 1.10 [0.33] Re
a = 0.0269 [0.0059] AU
Ag = 59.84 [19.17] [3.07σ]
Teff = 2271 [122] K [13.58σ]

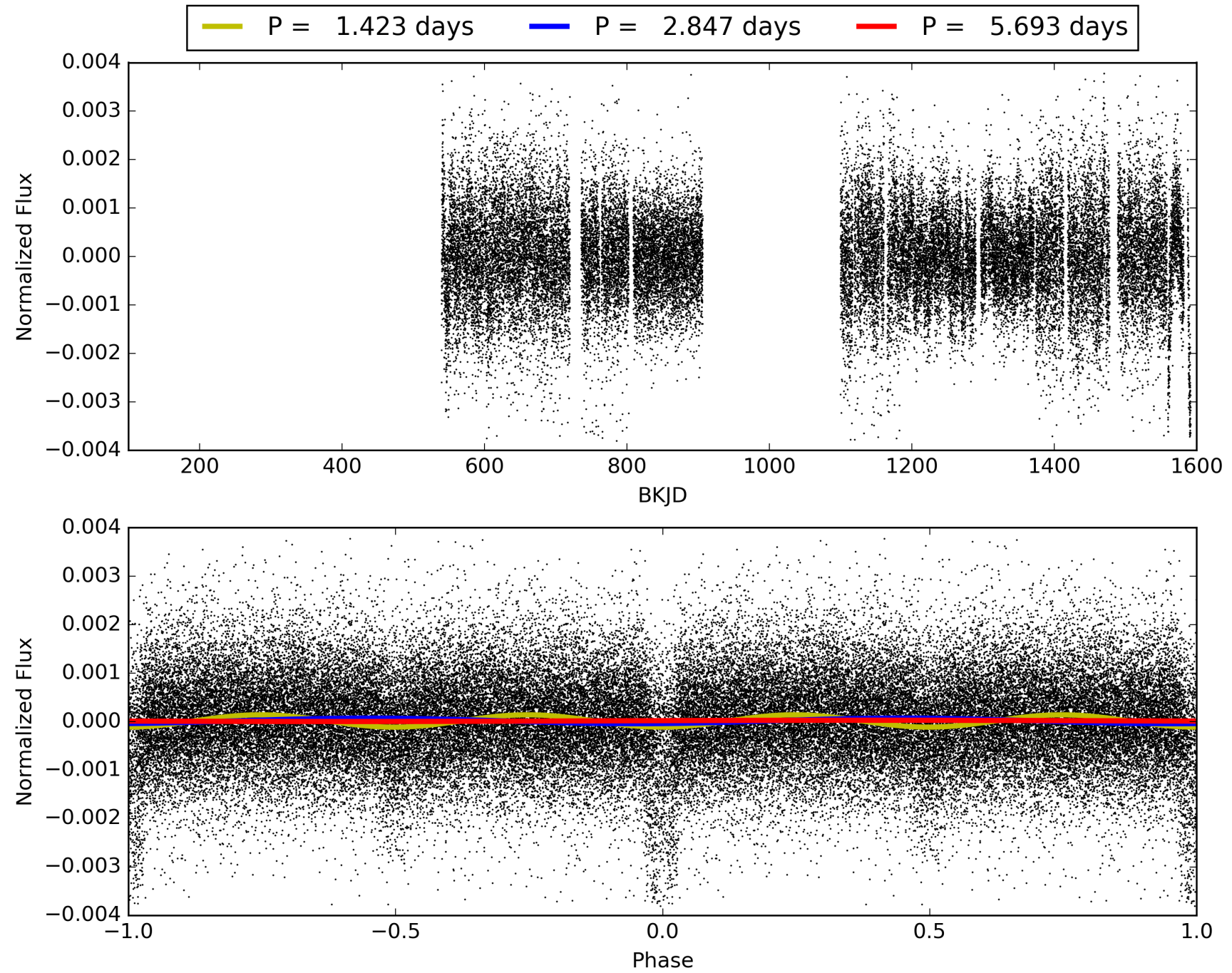
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [264/264]
GhostDiagnostic-chr: -0.1453
Centroid-sig: N/A
Centroid-so: 106.824 arcsec [248.23σ]
OotOffset-rm: 10.925 arcsec [9.61σ]
KicOffset-rm: 12.980 arcsec [176.48σ]
OotOffset-st: 2/2/3/0 [7]
KicOffset-st: 2/2/3/0 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [10/10]

TCE 009612825-01, PDC Light Curves

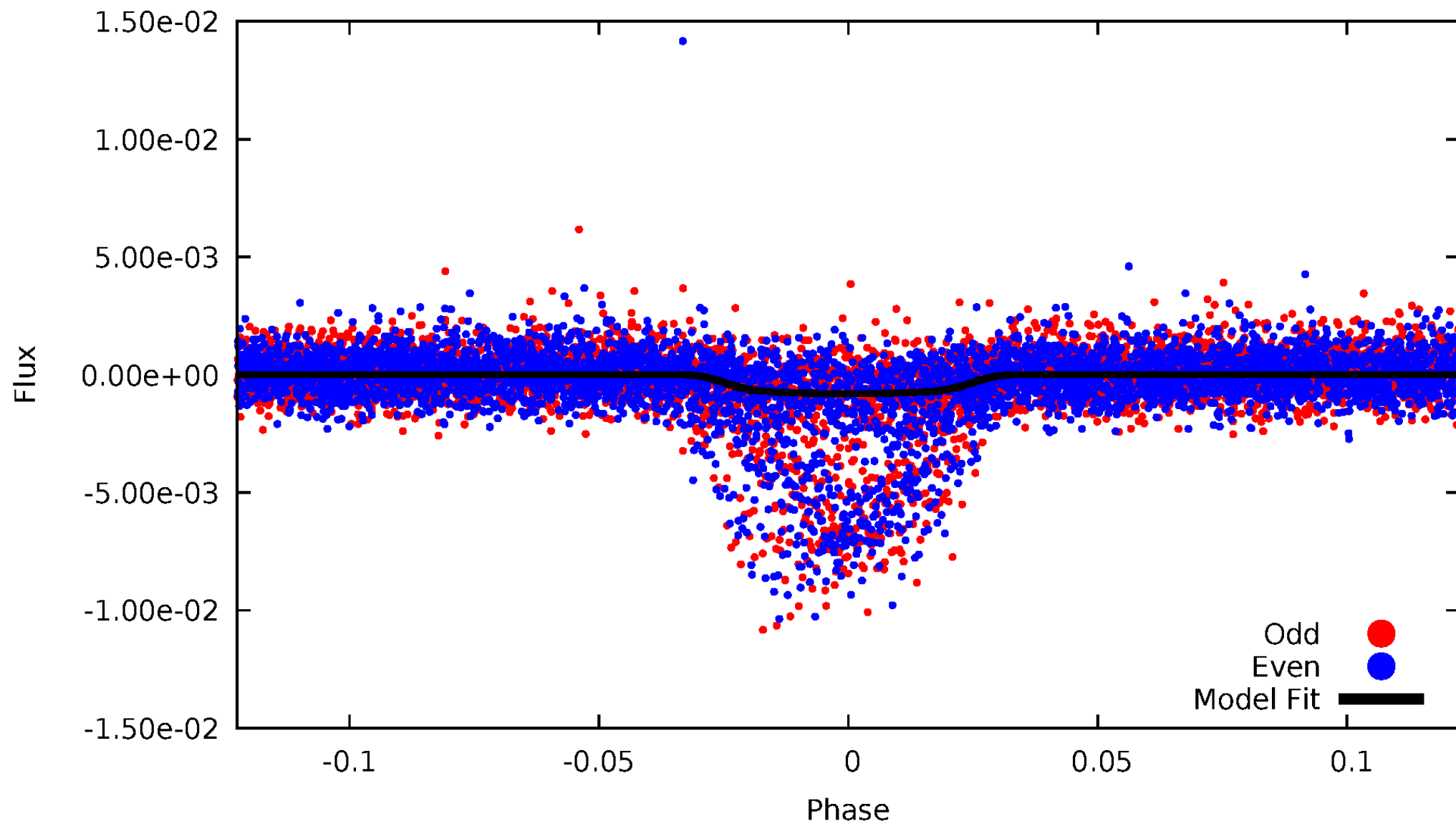


TCE 009612825-01



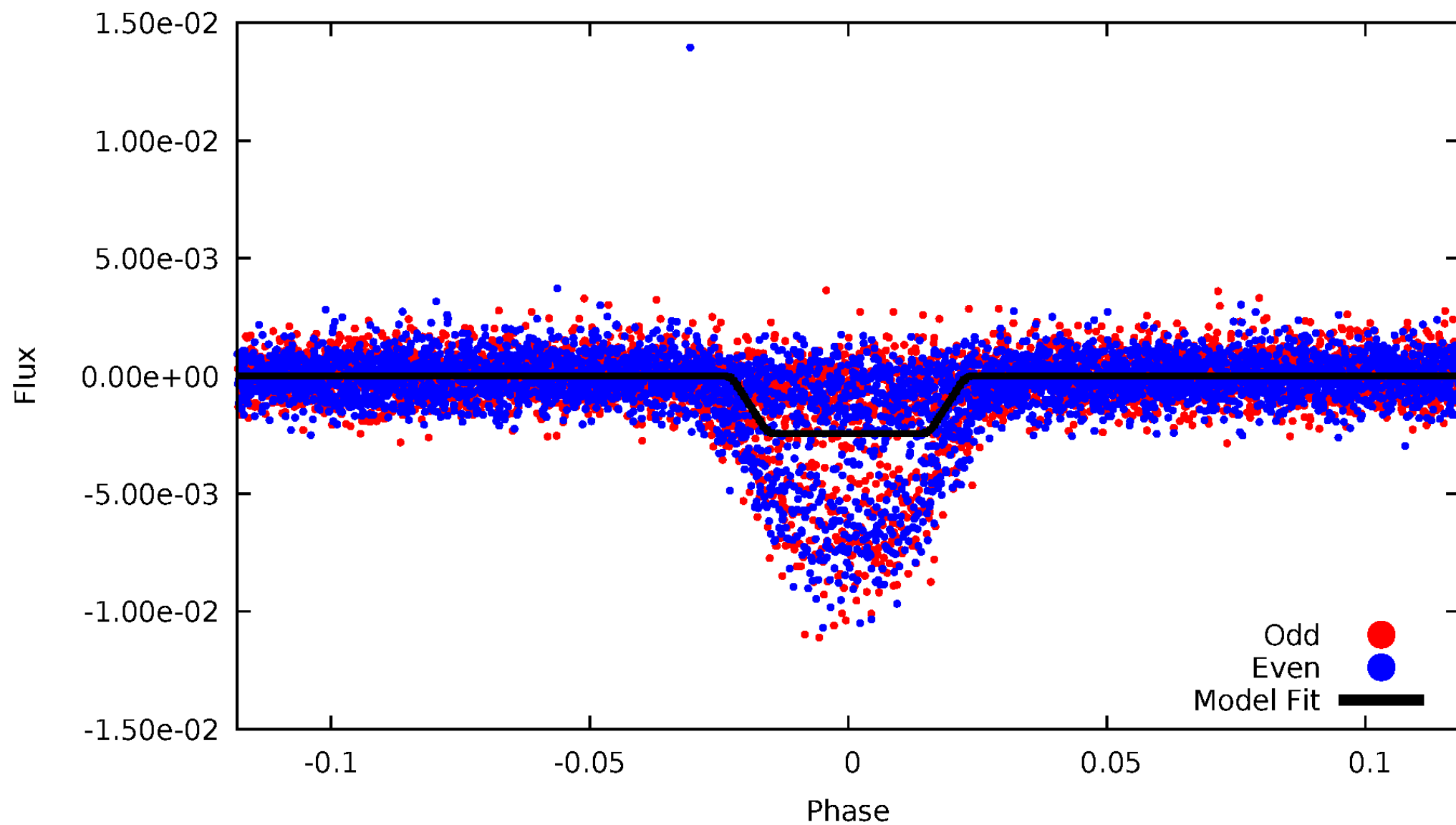
DV Odd/Even

TCE 009612825-01



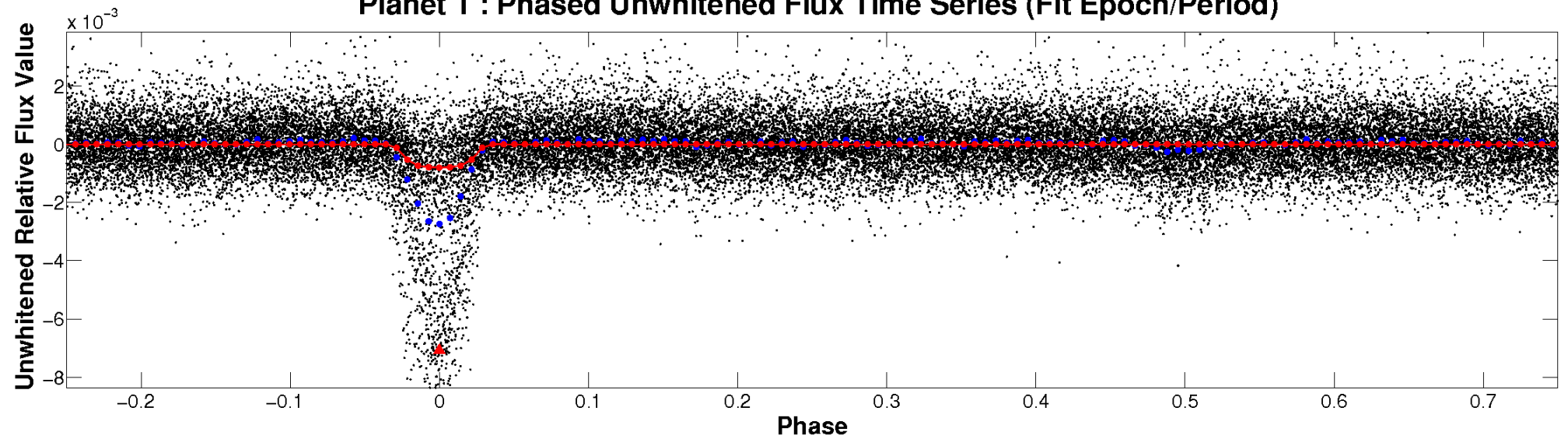
ALT Odd/Even

TCE 009612825-01

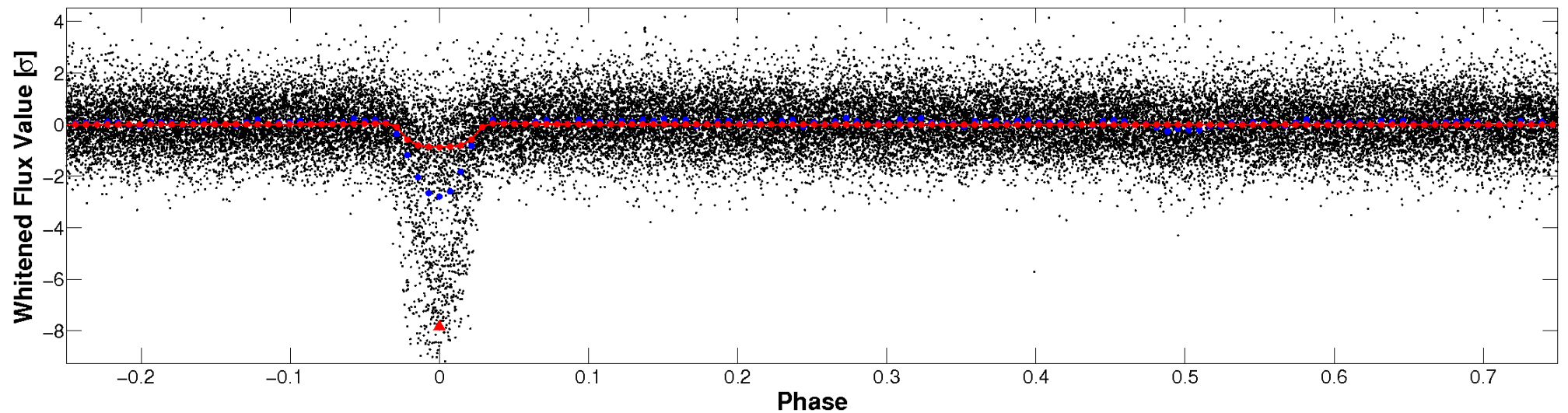


Non-Whitened Vs. Whitened Light Curve

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

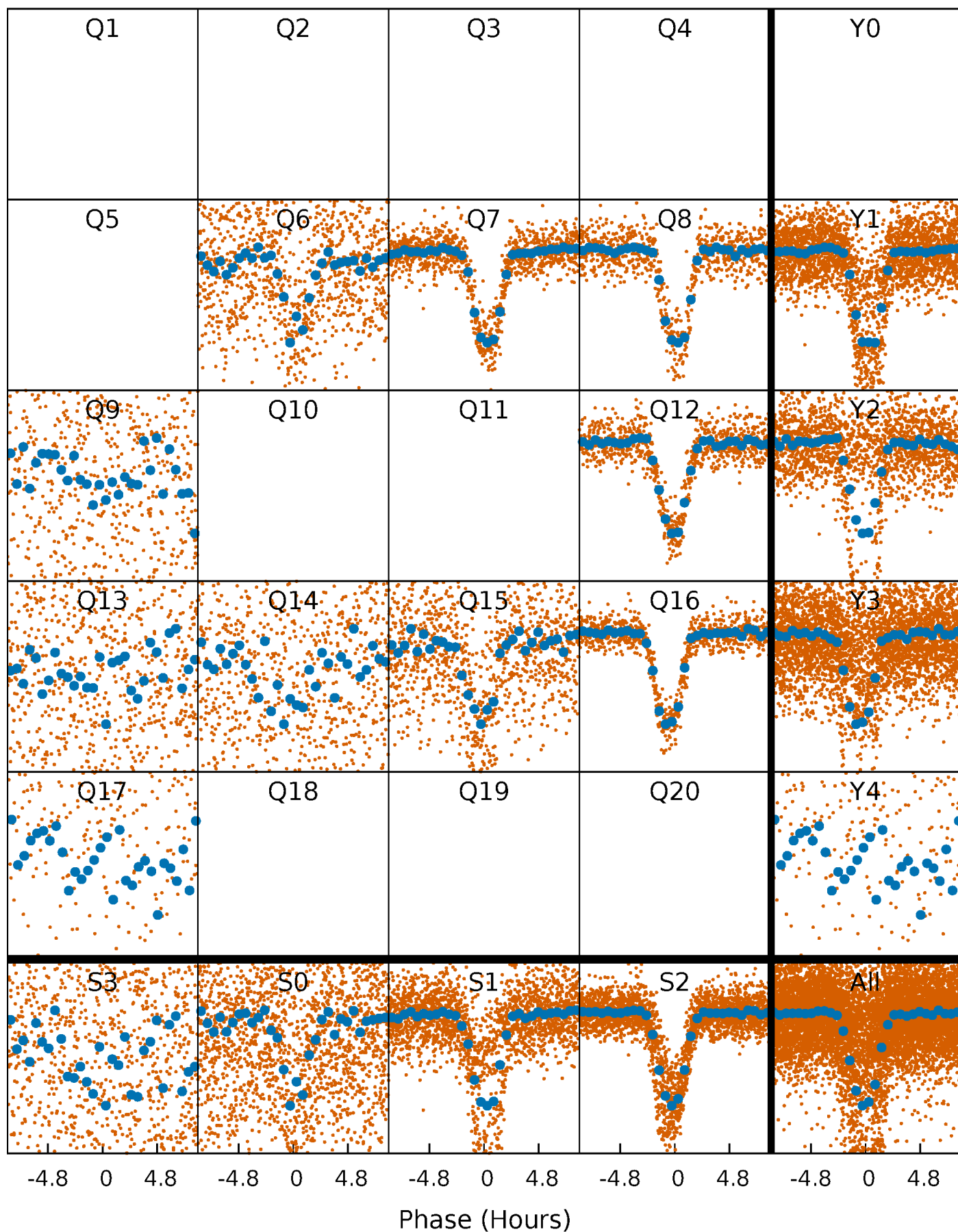


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



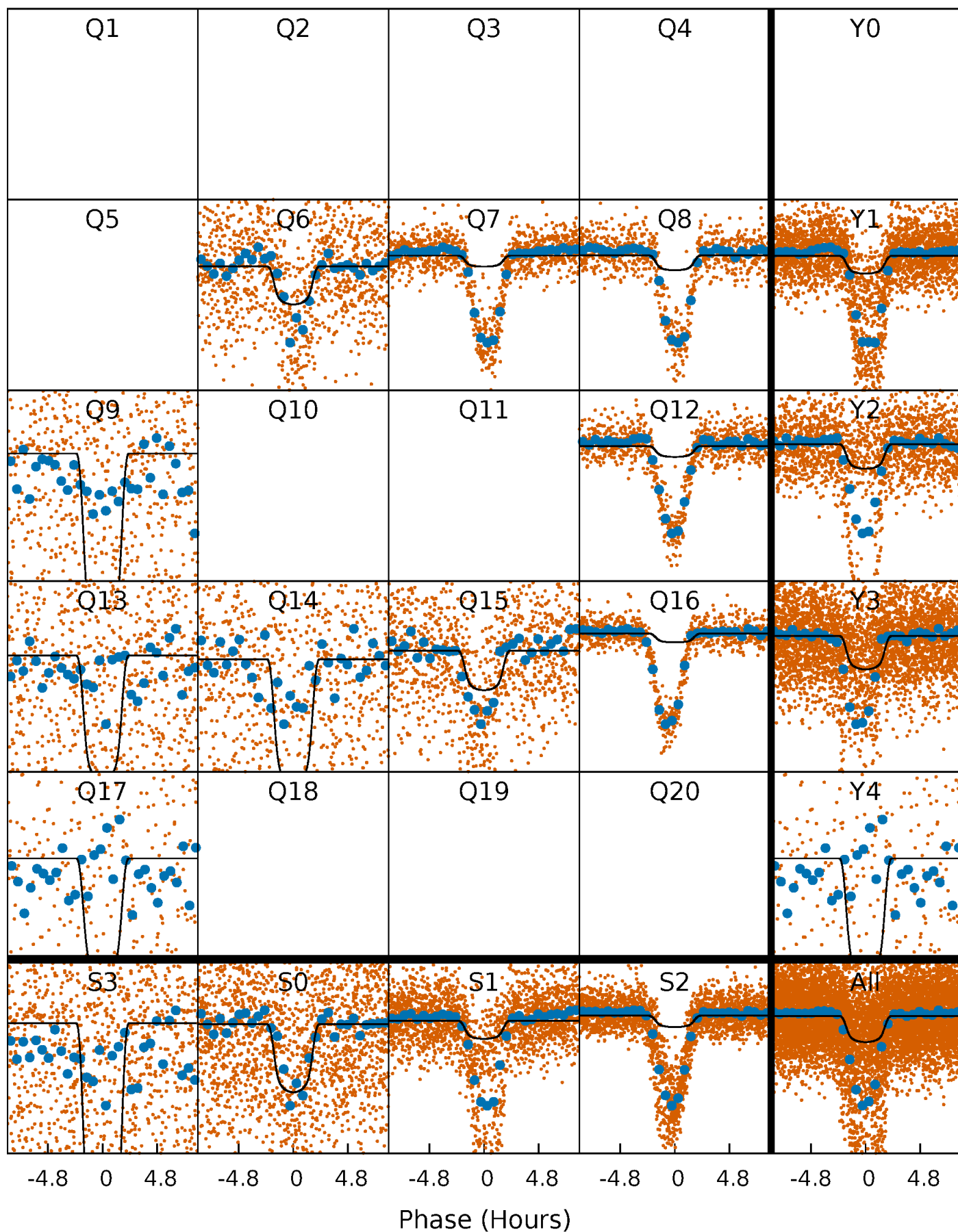
PDC Quarter-Phased Transit Curves

TCE 009612825-01 P= 2.846629 Days $T_0=133.212055$ (BKJD)



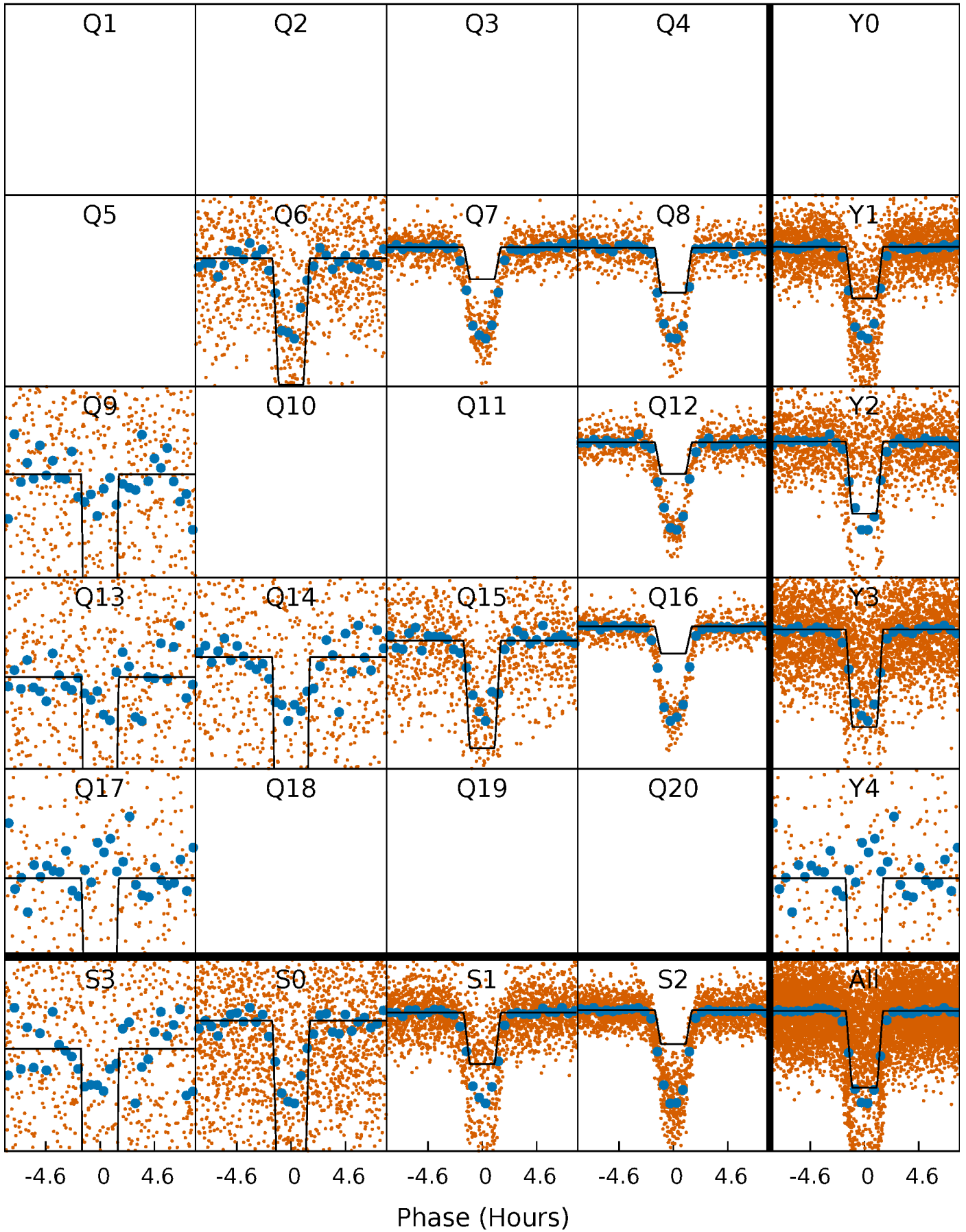
DV Quarter-Phased Transit Curves

TCE 009612825-01 P= 2.846629 Days $T_0=133.212055$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

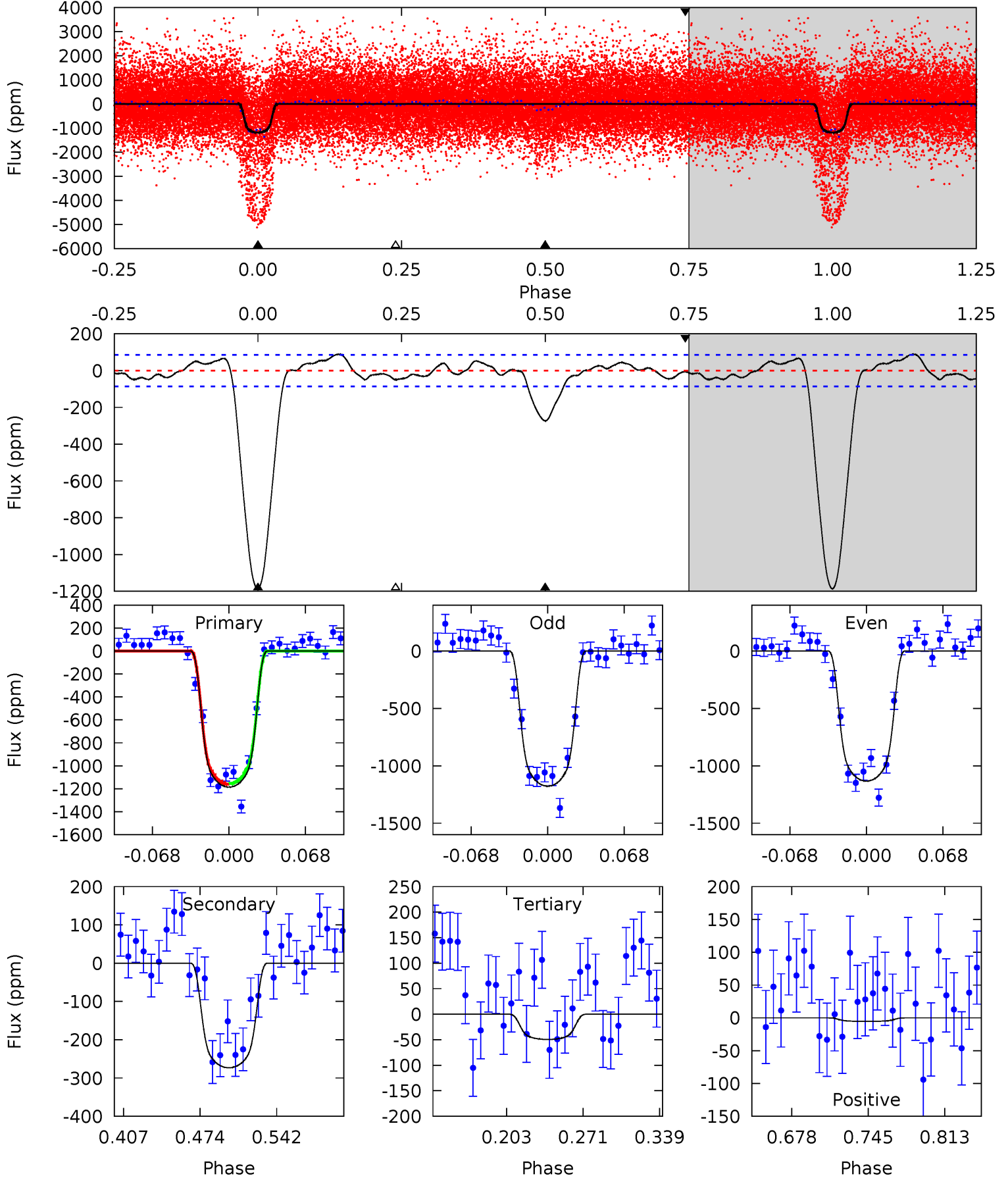
TCE 009612825-01 P= 2.846511 Days $T_0=133.246070$ (BKJD)



DV Model-Shift Uniqueness Test

009612825-01, P = 2.846629 Days, E = 133.212055 Days

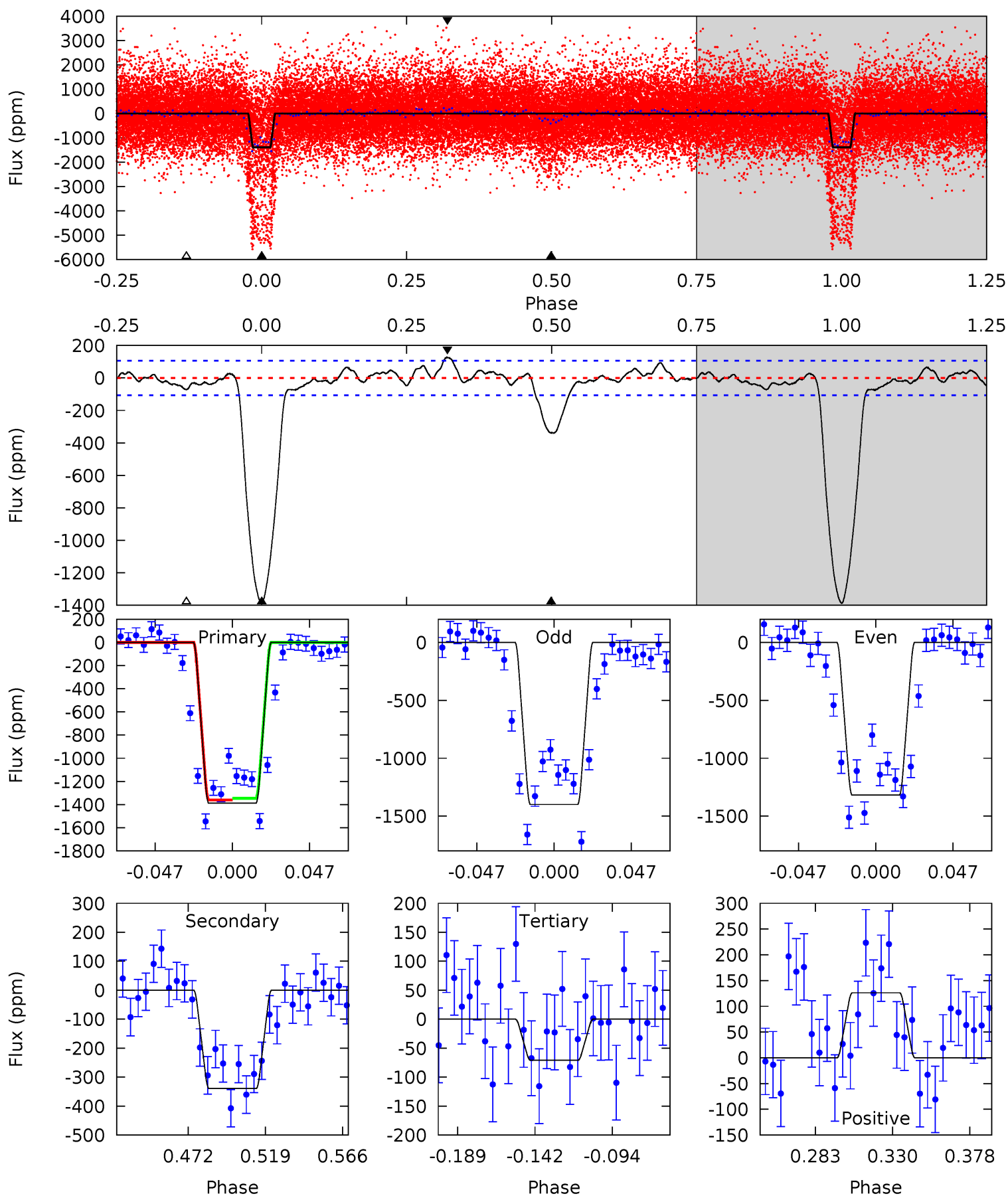
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
64.3	14.8	2.68	-0.29	4.65	1.83	1.88	61.6	64.5	12.1	15.1	1.19	2.03	0.07	0.16



Alt Model-Shift Uniqueness Test

009612825-01, P = 2.846511 Days, E = 133.246070 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
61.7	15.1	3.16	5.61	4.72	1.98	1.68	58.5	56.1	11.9	9.46	1.78	1.88	0.08	0.32



Stellar Parameters For KIC 009612825

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3468^{+102}_{-112}	$4.931^{+0.120}_{-0.080}$	$-0.180^{+0.300}_{-0.300}$	$0.320^{+0.077}_{-0.095}$	$0.320^{+0.099}_{-0.099}$	$13.680^{+11.300}_{-4.499}$
	+3%/-3%	+2%/-2%	+167%/-167%	+24%/-30%	+31%/-31%	+83%/-33%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 009612825-01 / KOI 2685.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-273 ± 18	$1.11^{+0.17}_{-0.18}$	731^{+39}_{-39}	2865^{+87}_{-81}	91^{+25}_{-17}
Alt.	-339 ± 22	$1.75^{+0.24}_{-0.27}$	734^{+39}_{-41}	2626^{+69}_{-71}	46^{+11}_{-8}

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 $A_{obs} \gg 1.0$

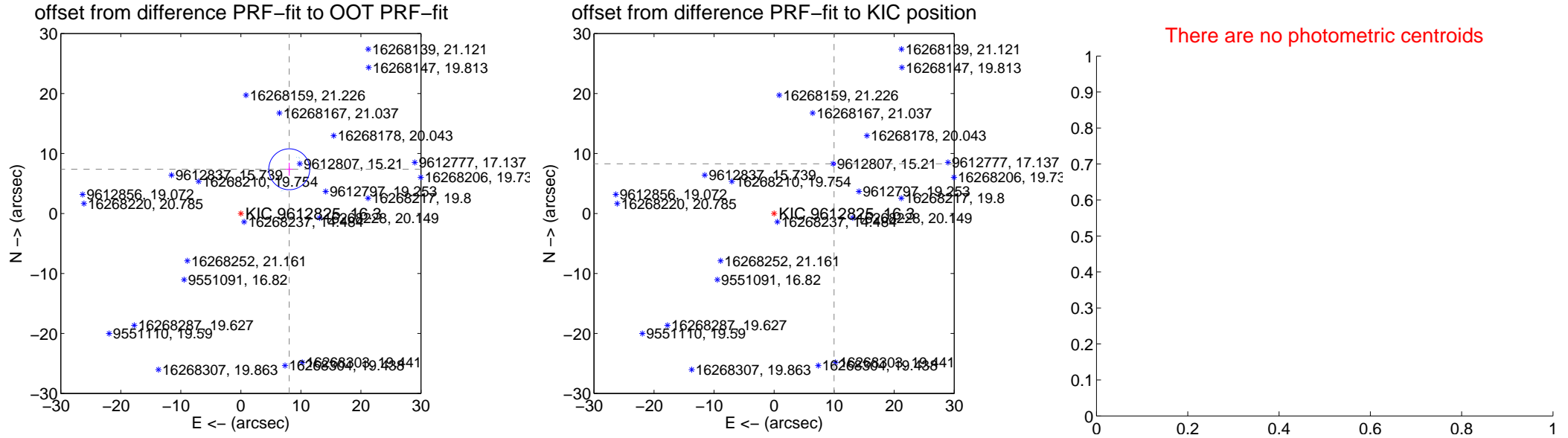
DV Centroid Data

Supplemental centroid analysis for 009612825-01. Kepler magnitude: 16.30. Transit SNR 29.04

There are 7 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 5.24 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	10.925 \pm 1.137	9.61	-8.063 \pm 0.563	7.372 \pm 1.078
PRF-fit source offset from KIC position	12.980 \pm 0.074	176.48	-9.992 \pm 0.074	8.285 \pm 0.068
photometric centroid source offset	—	—	—	—

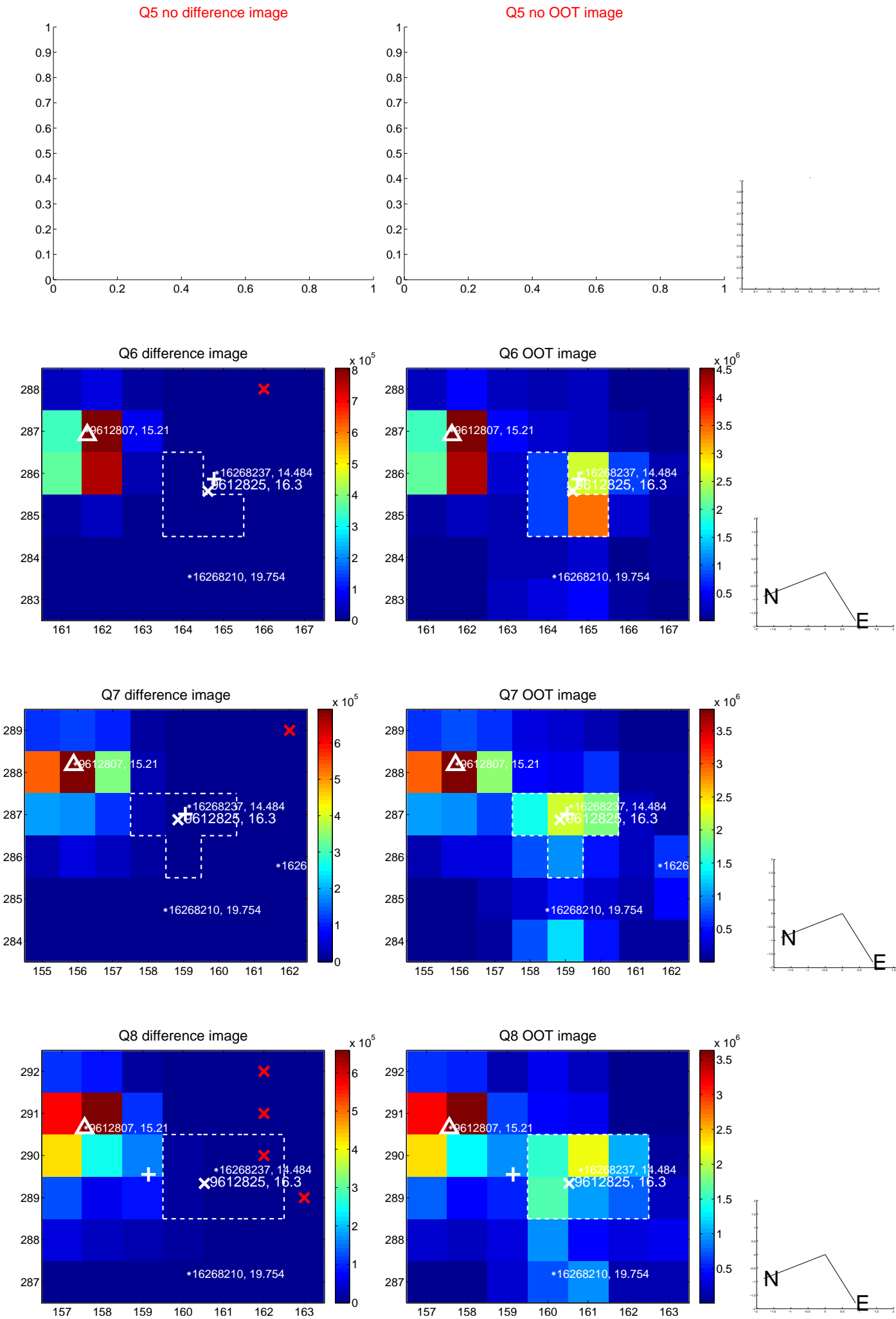


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

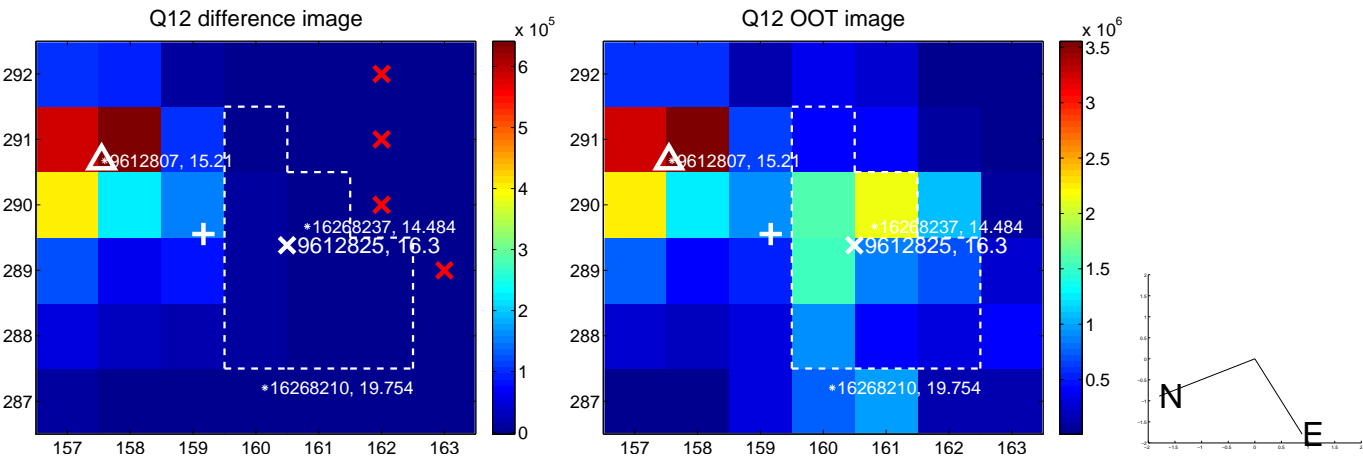
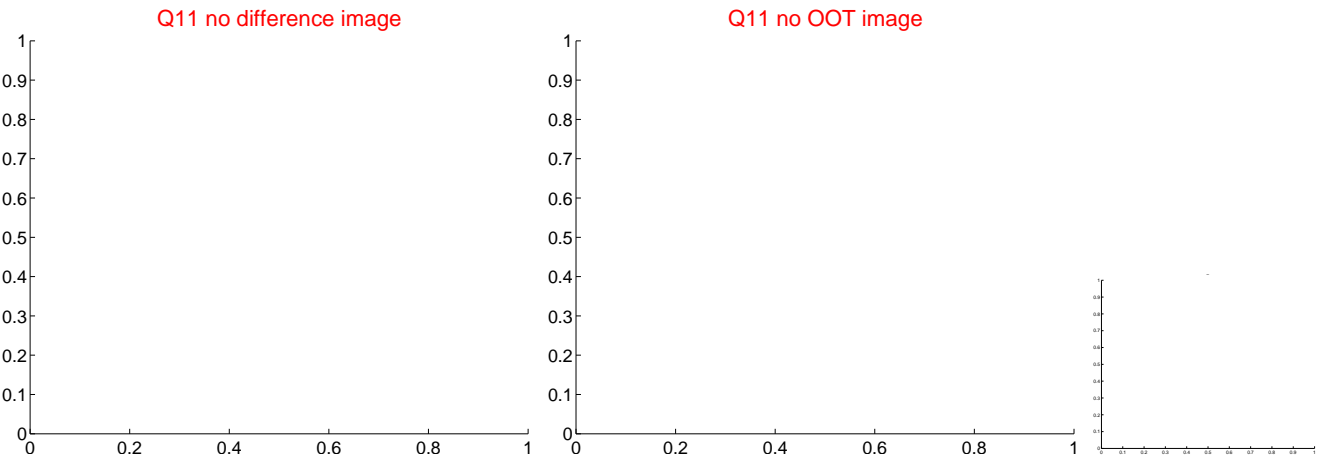
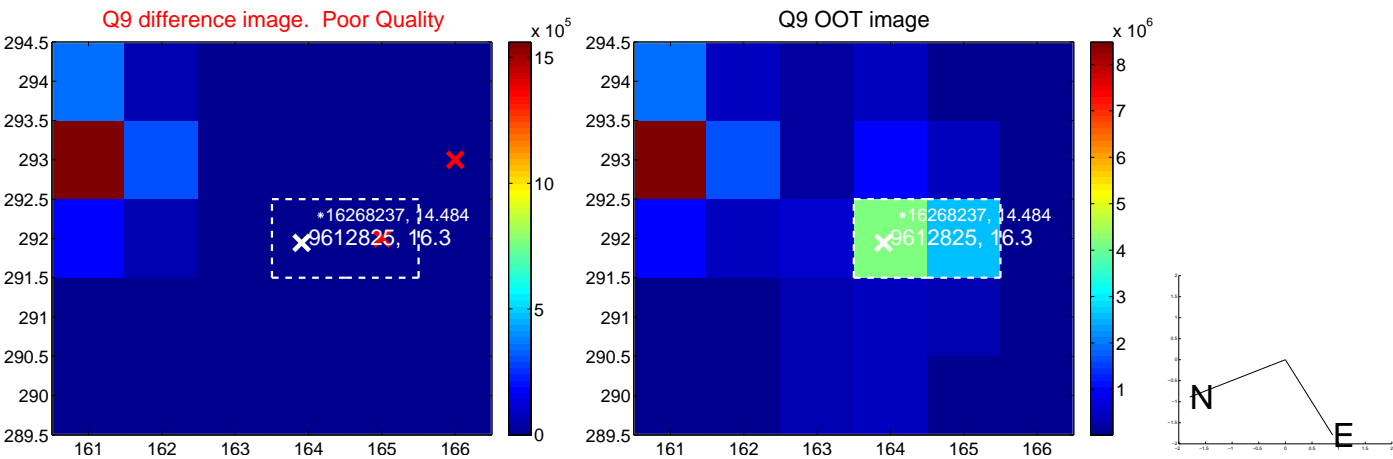
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



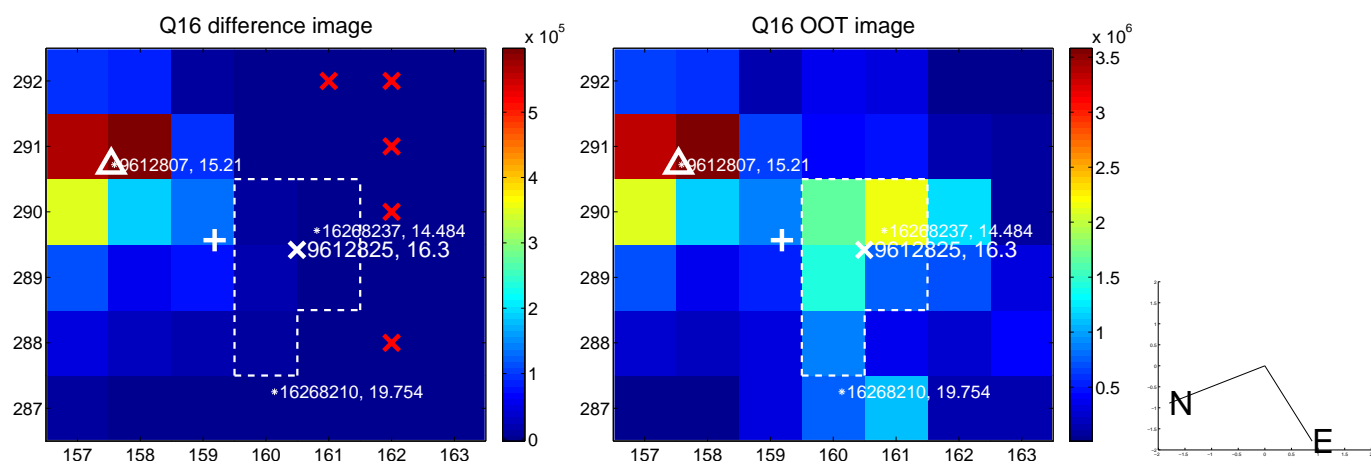
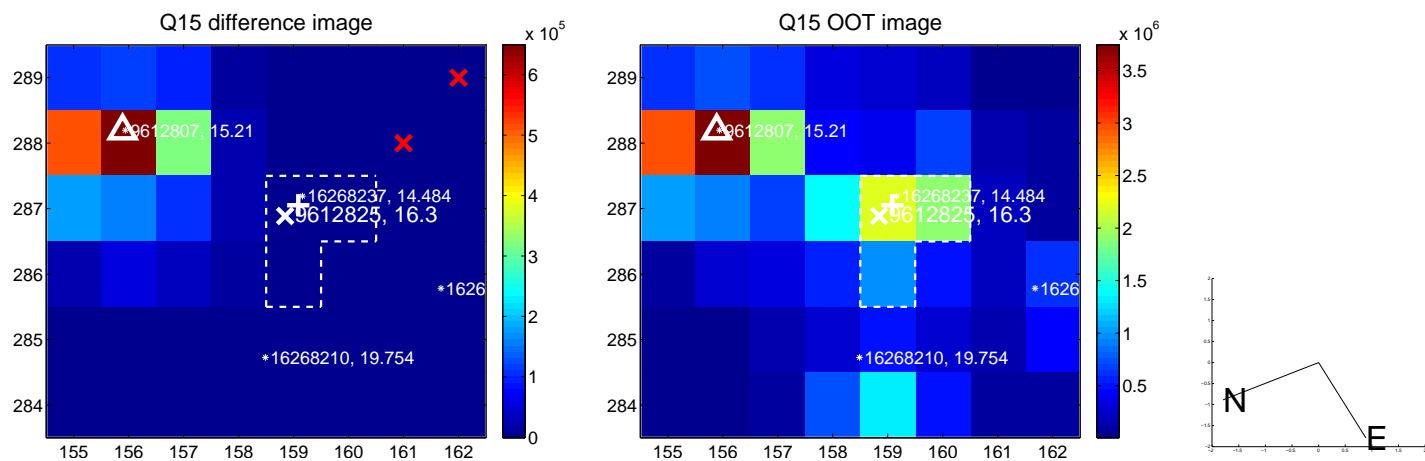
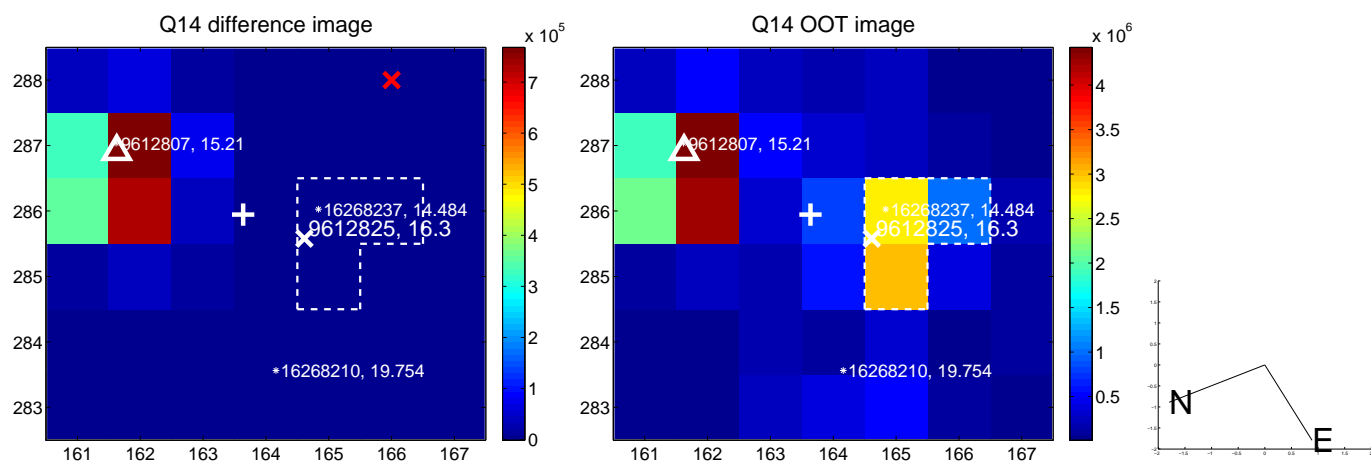
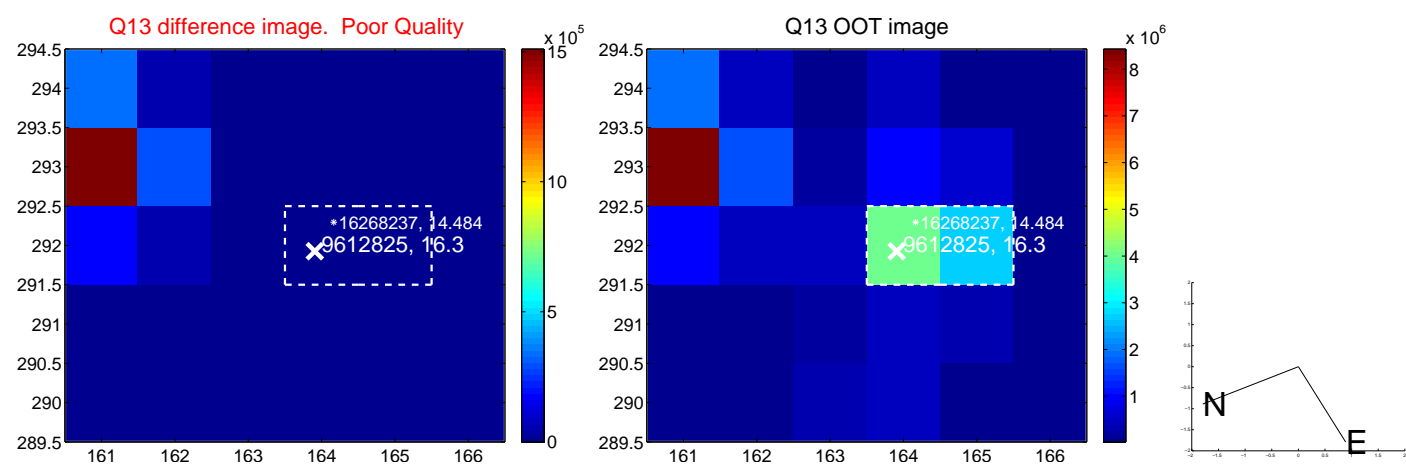
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



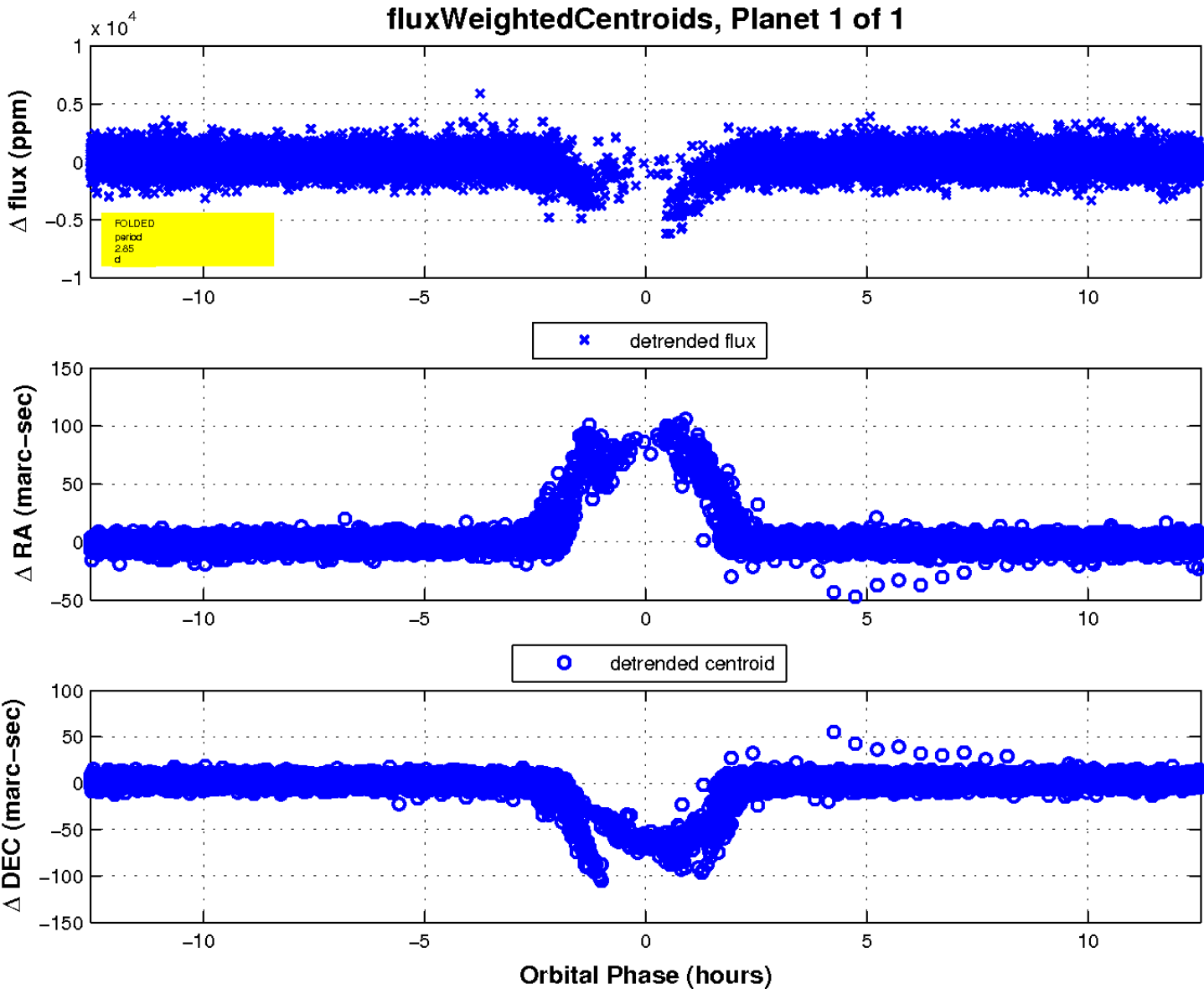
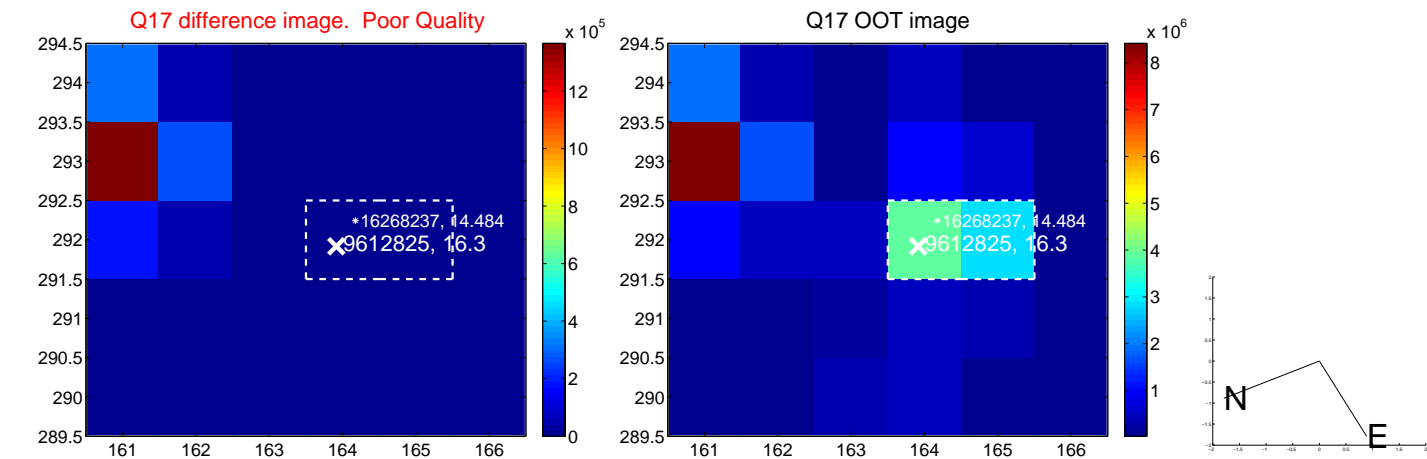
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UKIRT Image

Declination

