

KIC 006947164

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})
006947164-01	OBS	3531.01	70.582851	190.499535	149165.3	8.840	4710.9	3472.3	0.90	5973	51.76	8.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006947164-01	OBS	FP	0.00	0	1	0	0	MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED

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.

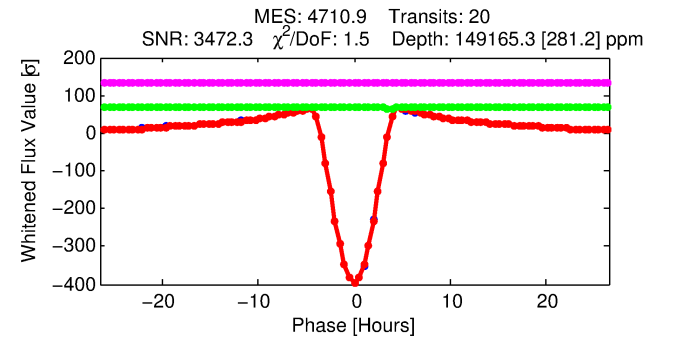
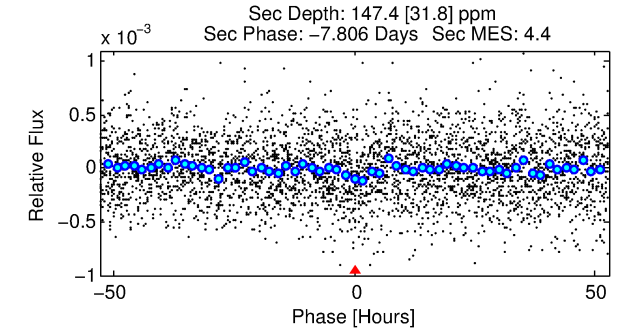
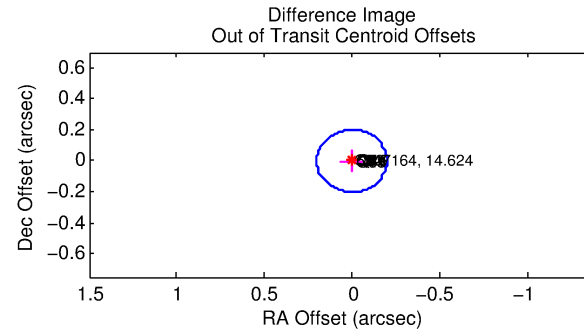
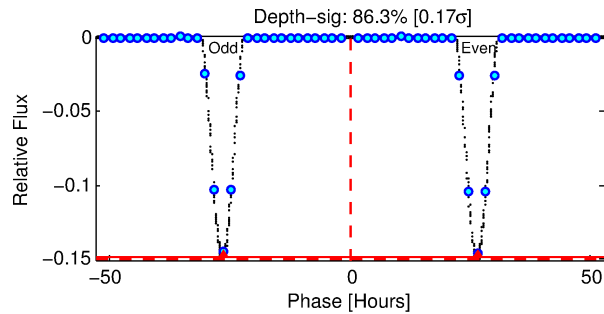
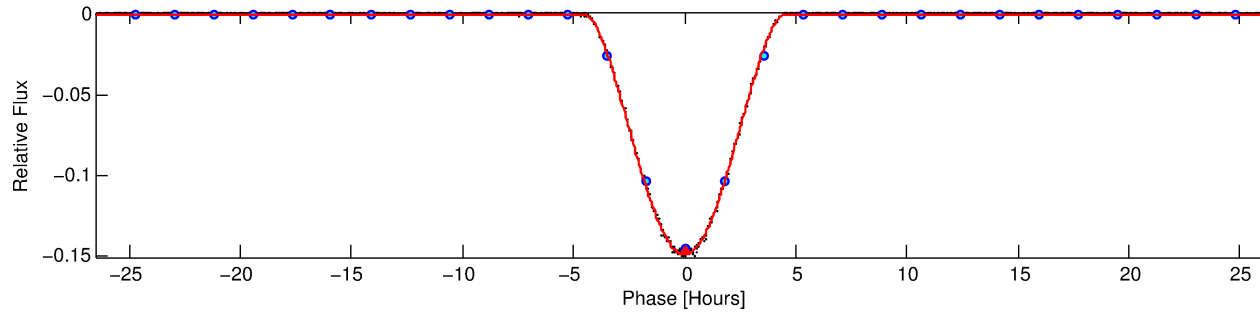
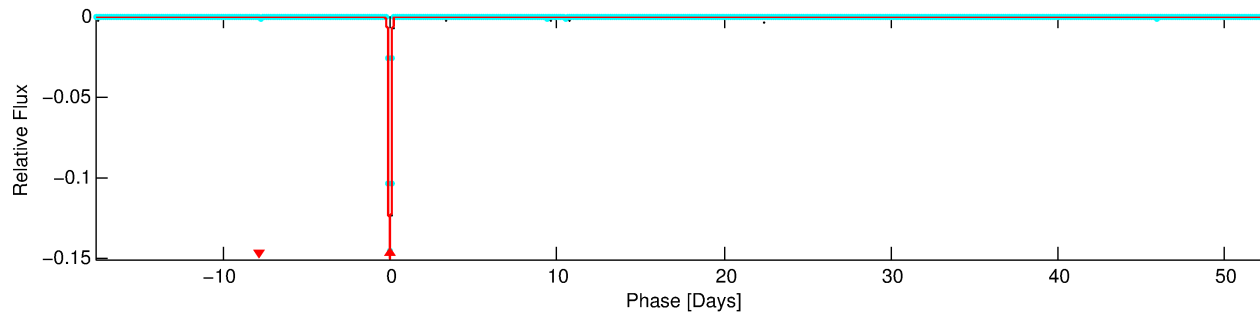
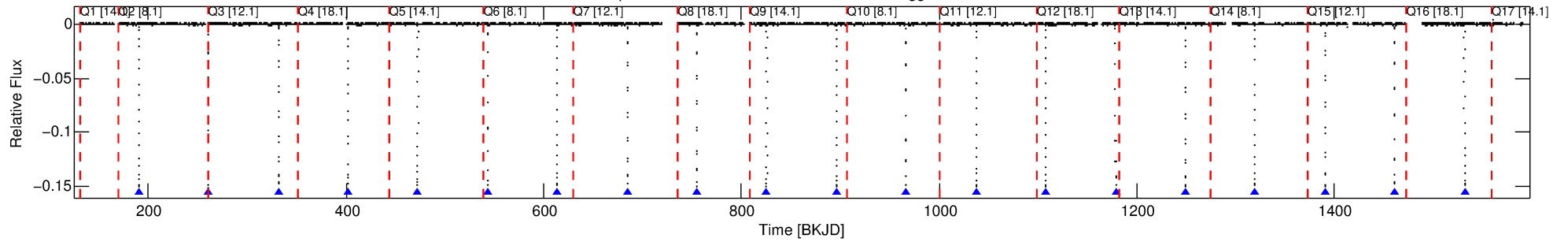
Ephemeris Match Information For 006947164-01

No Significant Match Found

DV One-Page Summary

KIC: 6947164 Candidate: 1 of 1 Period: 70.583 d
KOI: K03531.01 Corr: 0.999

Kp: 14.62 R*: 0.90 Rs Teff: 5973.0 K Logg: 4.52 Fe/H: -0.220



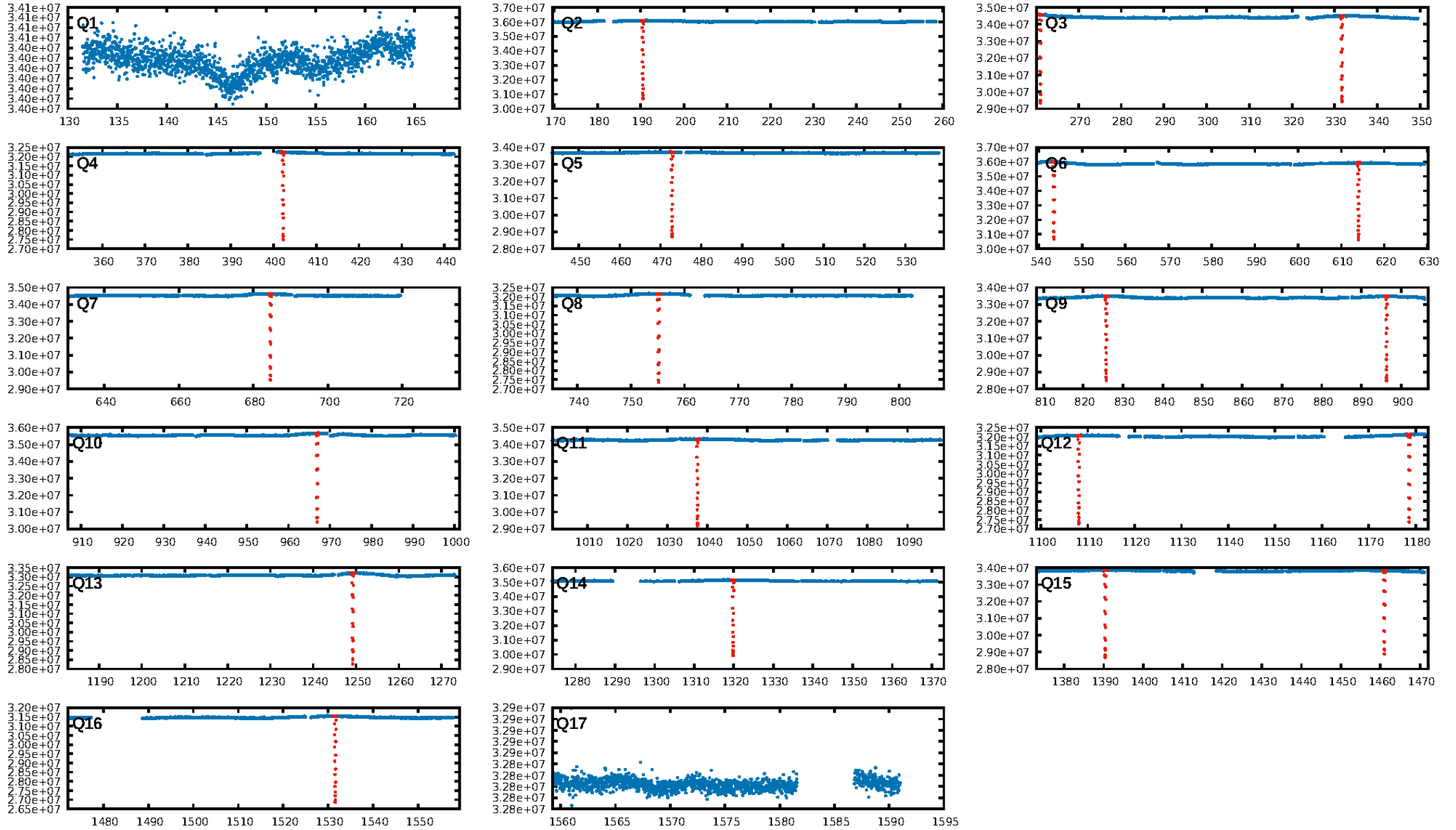
DV Fit Results:

Period = 70.58285 [0.00000] d
Epoch = 190.4995 [0.0000] BKJD
Rp/R* = 0.5247 [0.0777]
a/R* = 75.09 [1.07]
b = 0.90 [0.11]
Seff = 8.46 [3.34]
Teq = 435 [43] K
Rp = 51.76 [17.31] Re
a = 0.3319 [0.0849] AU
Ag = 3.33 [1.75] [1.33σ]
Teffp = 909 [88] K [4.86σ]

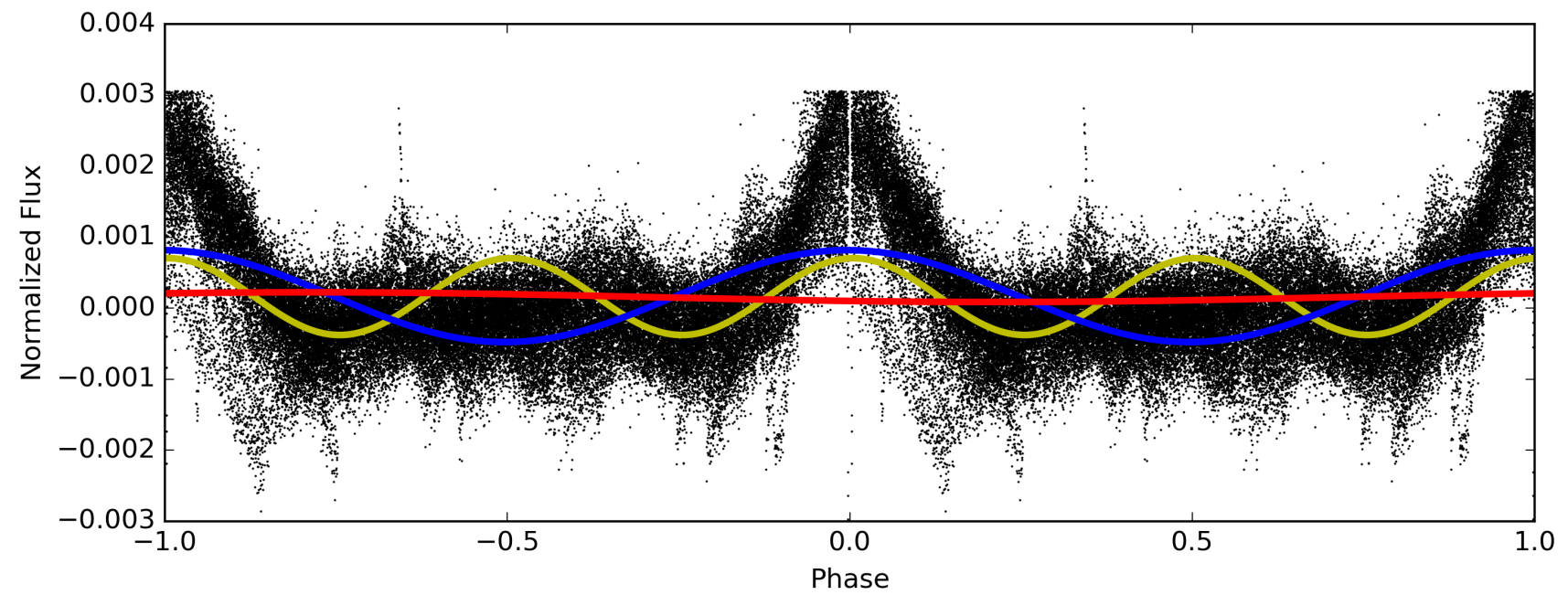
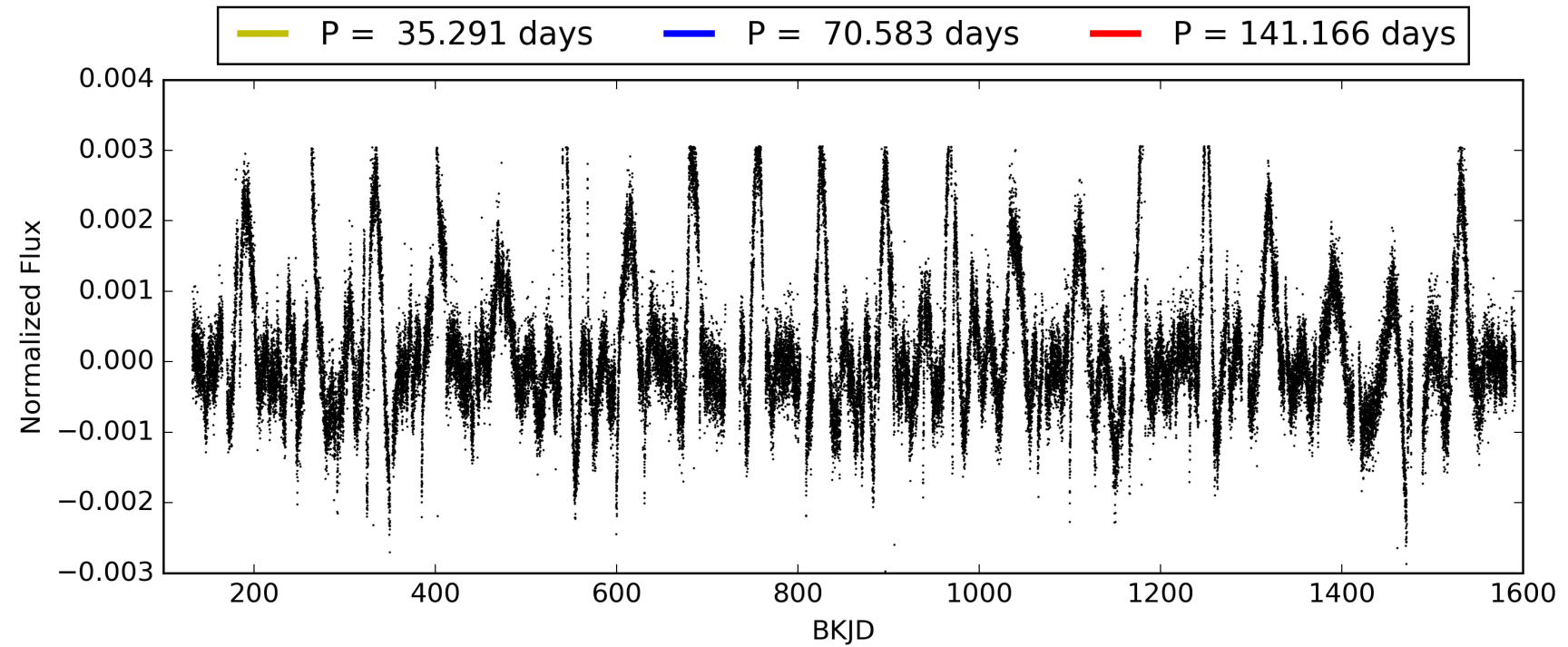
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 2.9%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [20/20]
GhostDiagnostic-chr: 4.584
Centroid-sig: 0.0%
Centroid-so: 0.085 arcsec [37.48σ]
OotOffset-rm: 0.003 arcsec [0.05σ]
KicOffset-rm: 0.043 arcsec [0.65σ]
OotOffset-st: 3/4/3/3 [13]
KicOffset-st: 3/4/3/3 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 006947164-01, PDC Light Curves

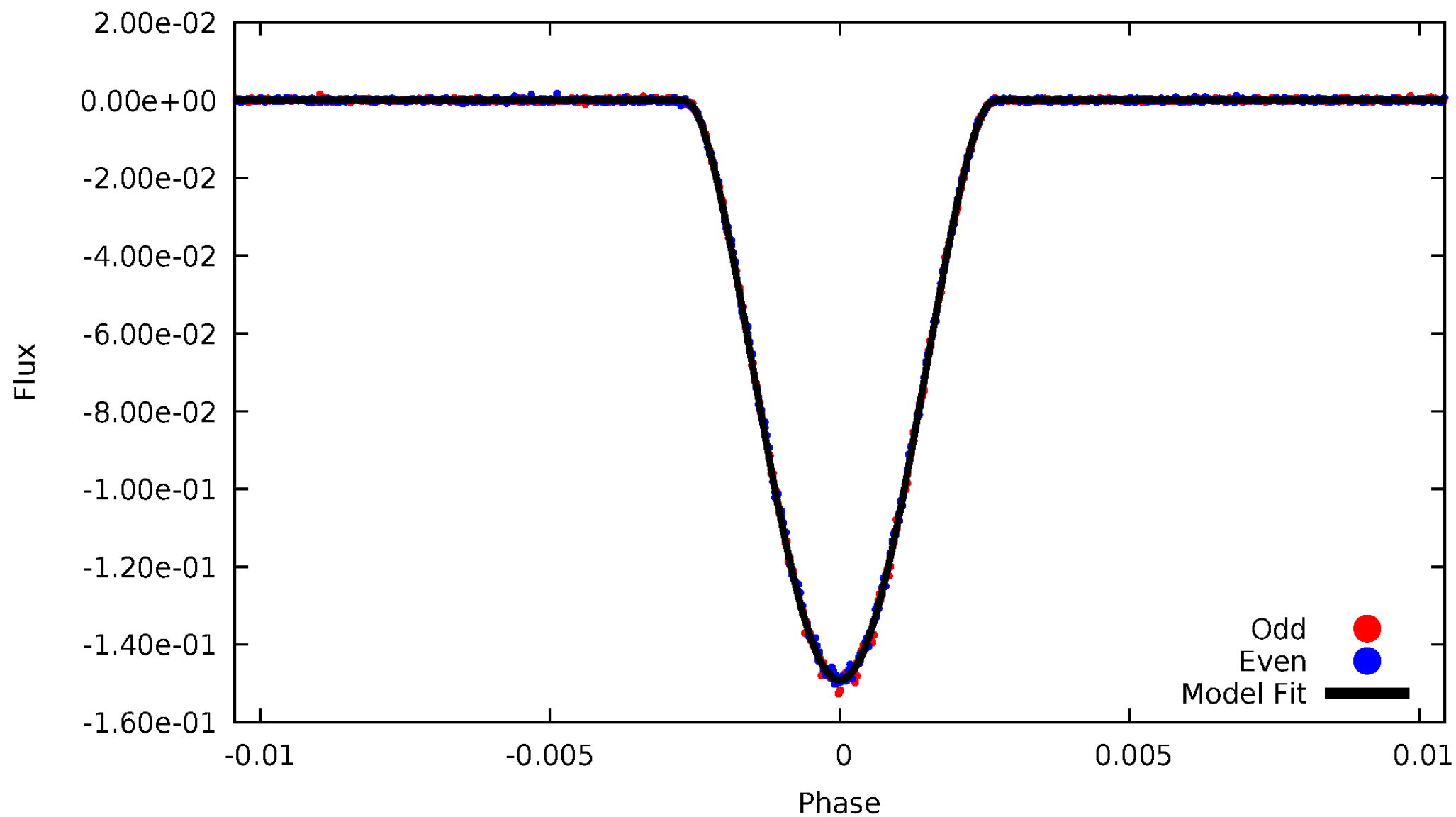


TCE 006947164-01



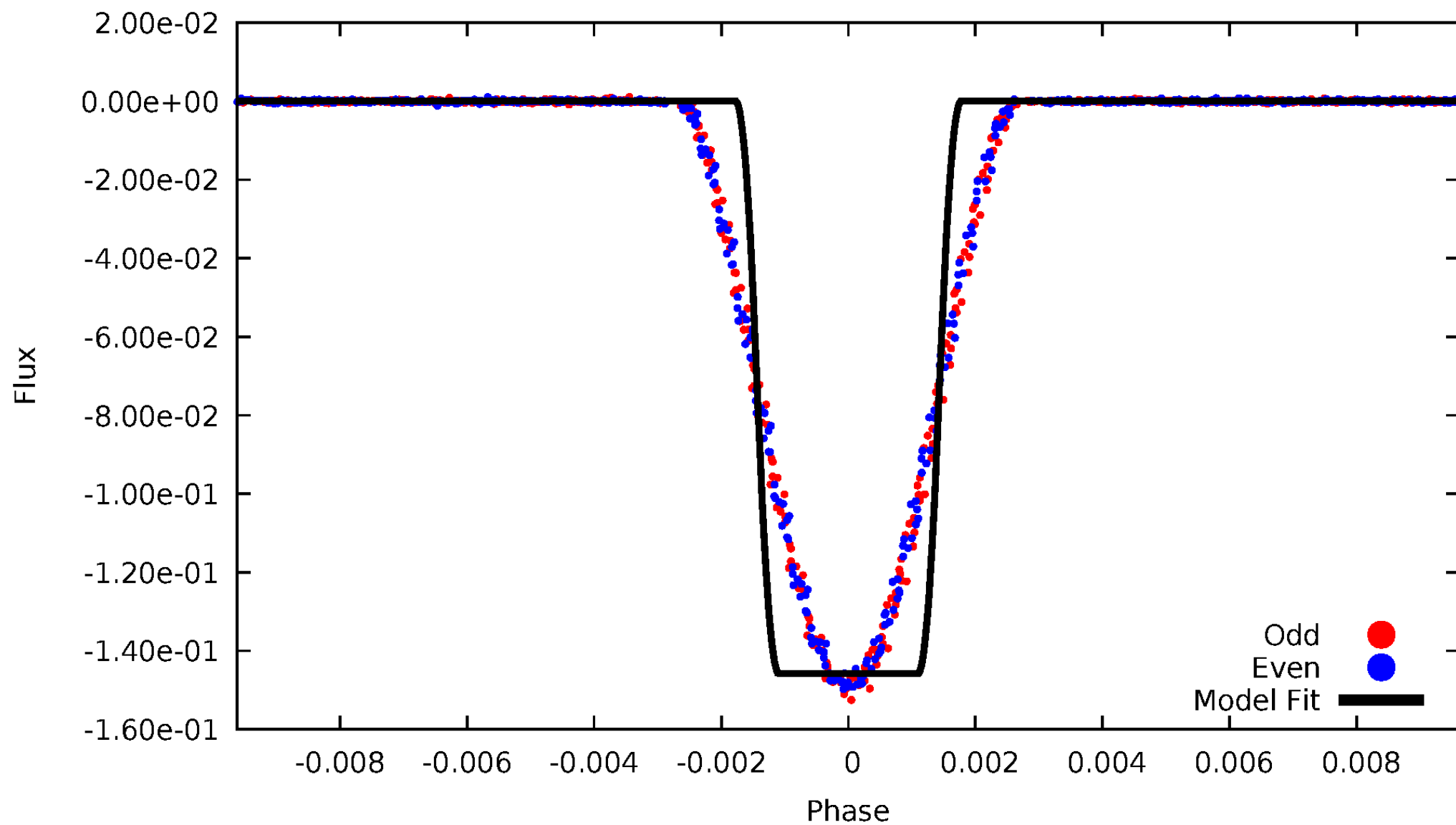
DV Odd/Even

TCE 006947164-01



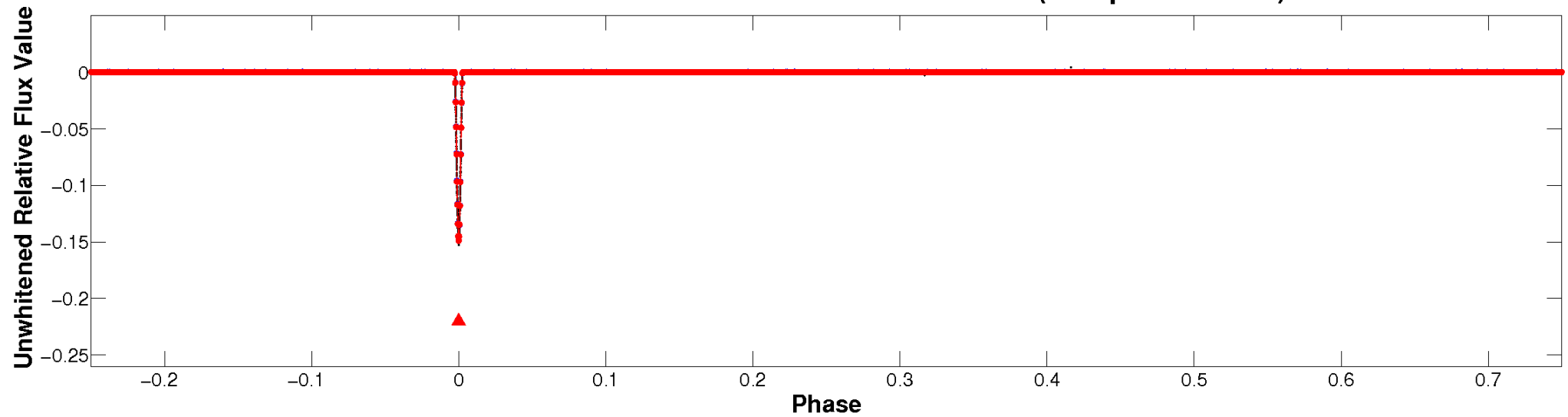
ALT Odd/Even

TCE 006947164-01

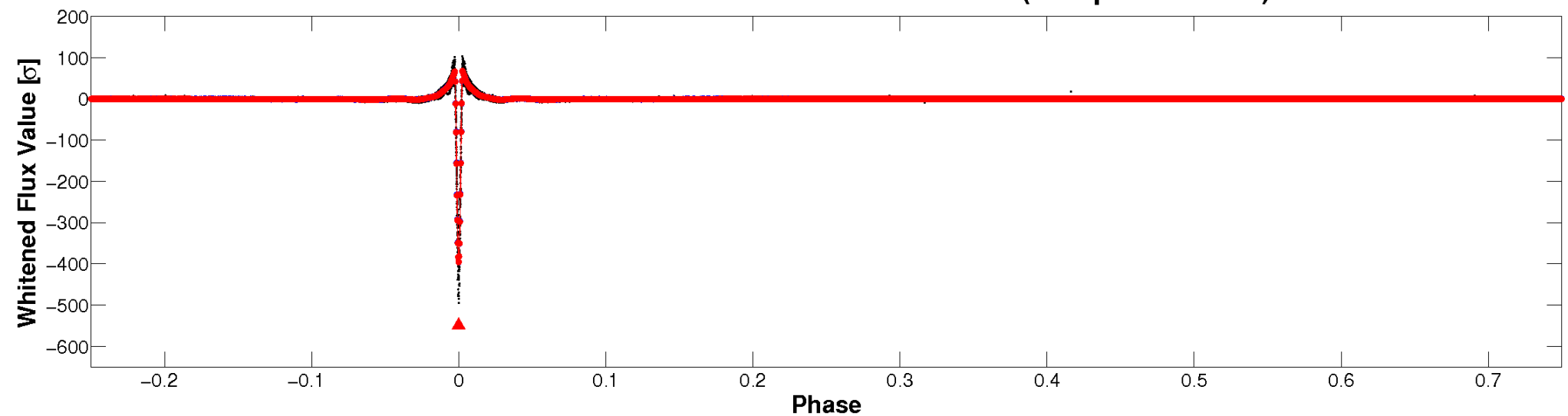


Non-Whitened Vs. Whitened Light Curve

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

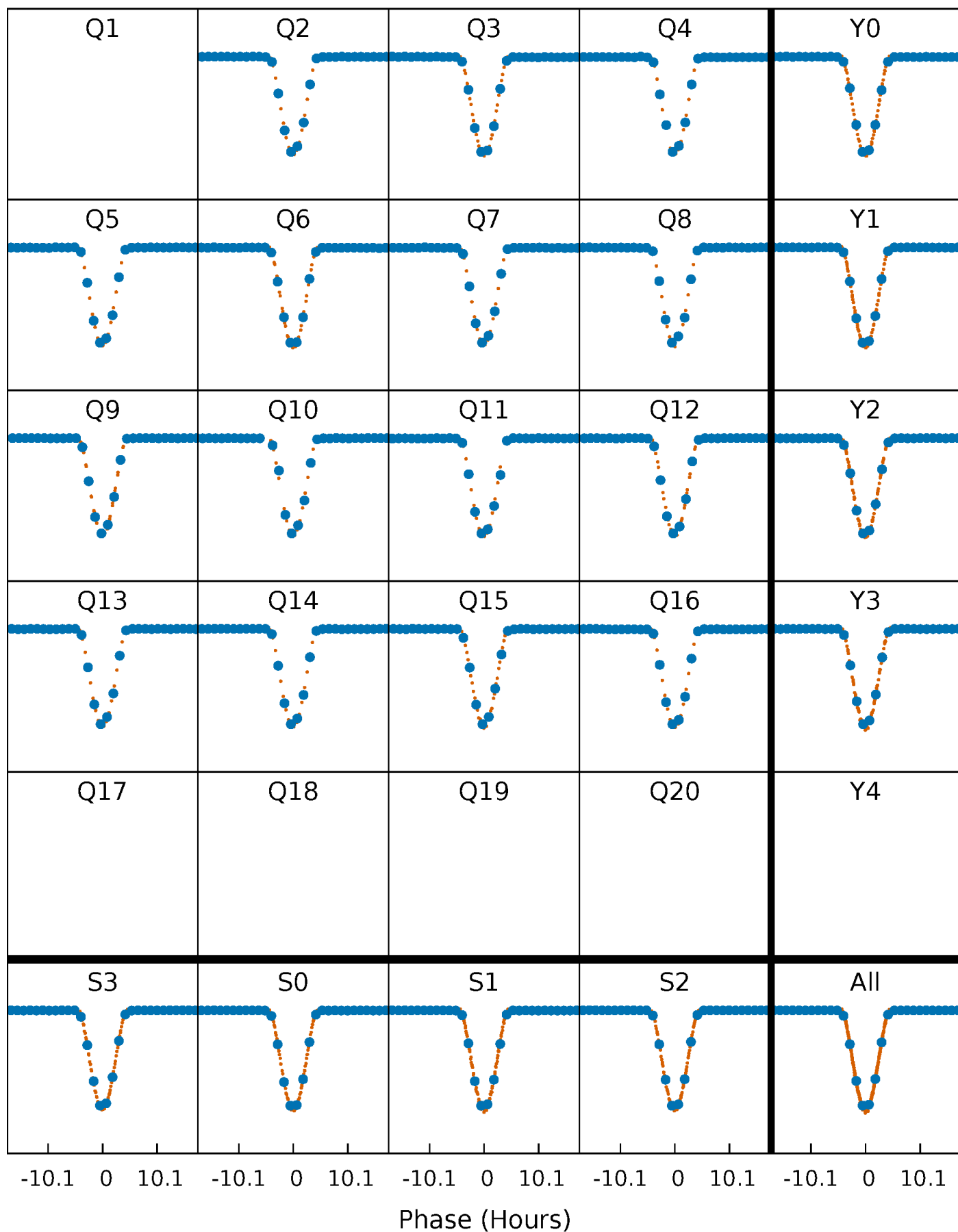


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



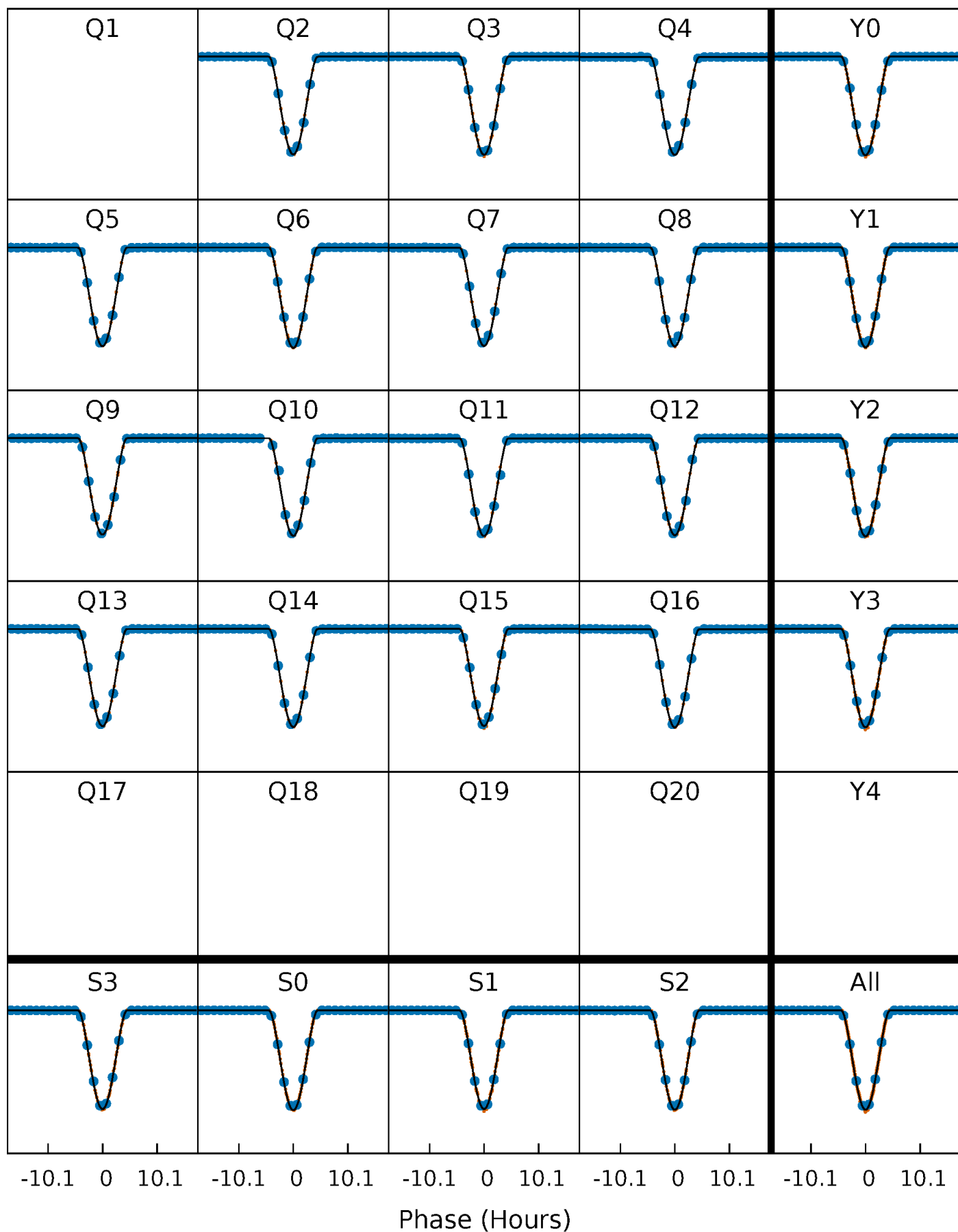
PDC Quarter-Phased Transit Curves

TCE 006947164-01 P= 70.582851 Days $T_0=190.499535$ (BKJD)



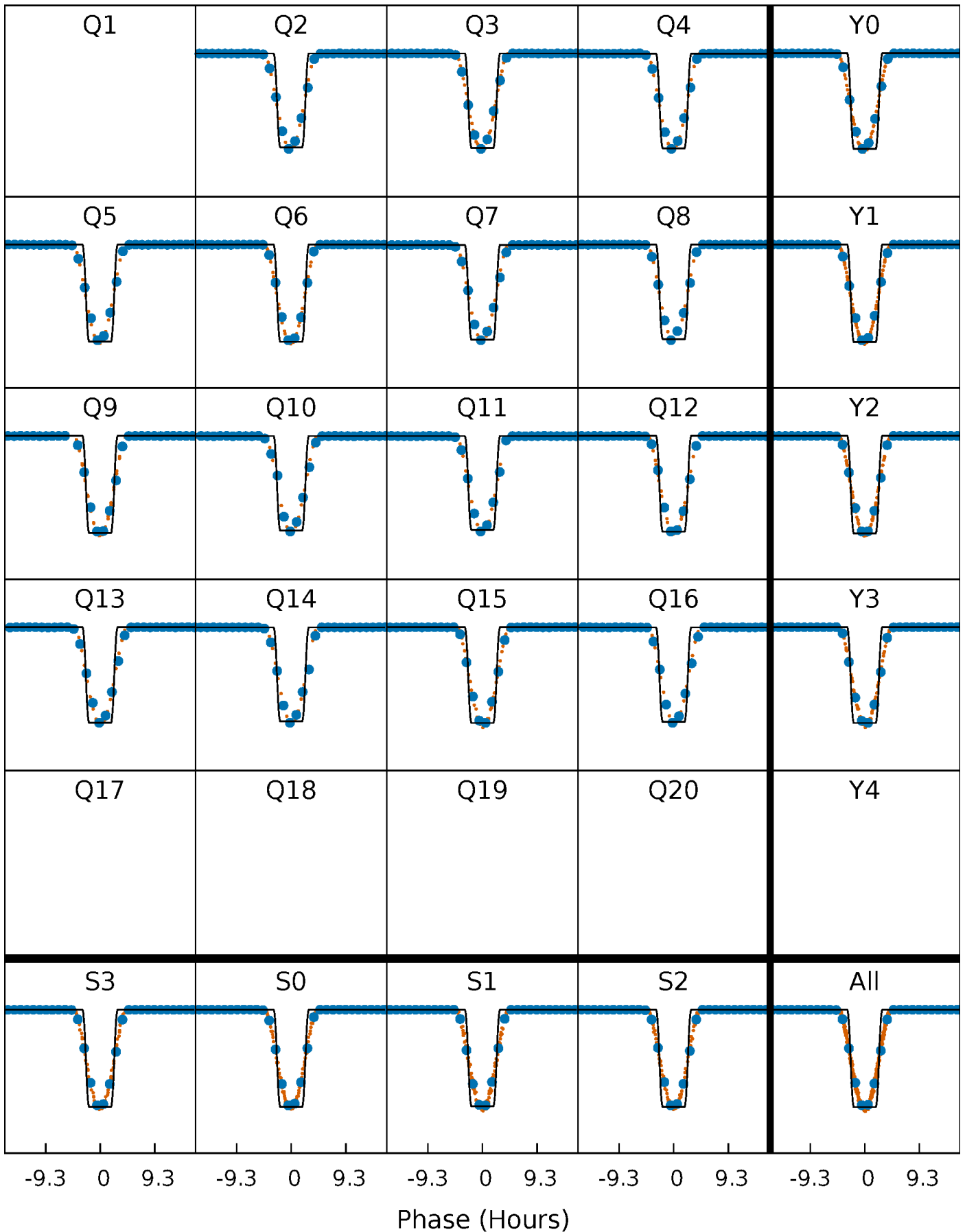
DV Quarter-Phased Transit Curves

TCE 006947164-01 P= 70.582851 Days $T_0=190.499535$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

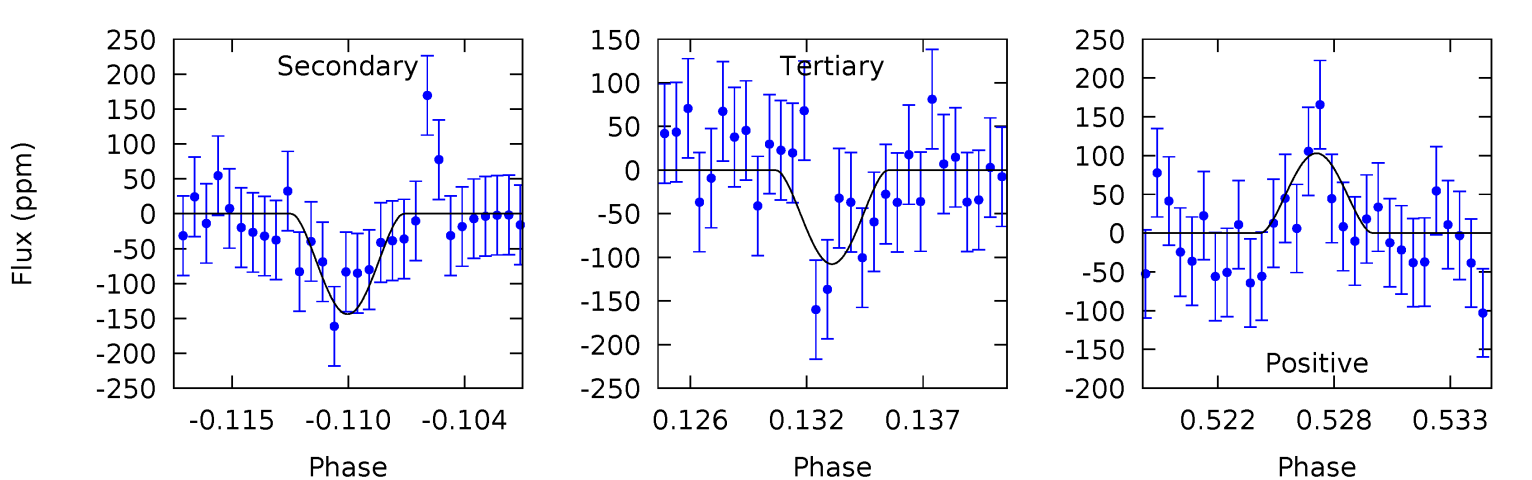
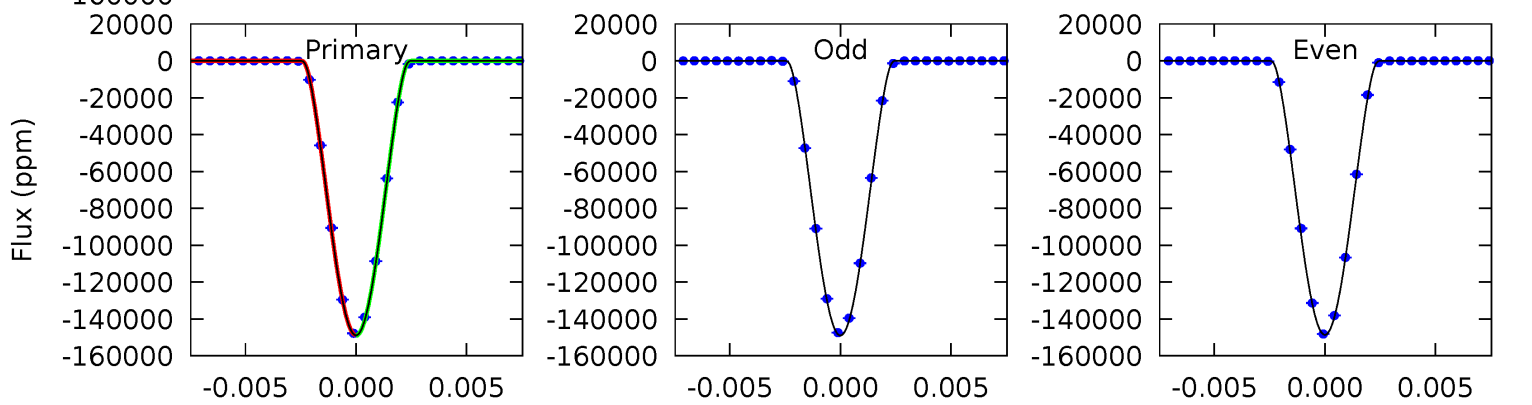
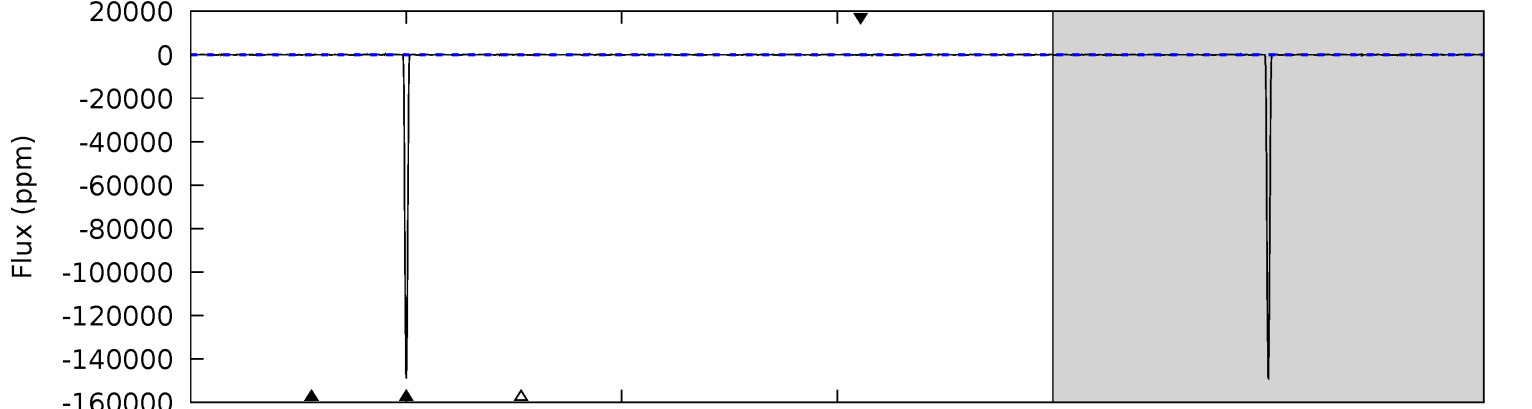
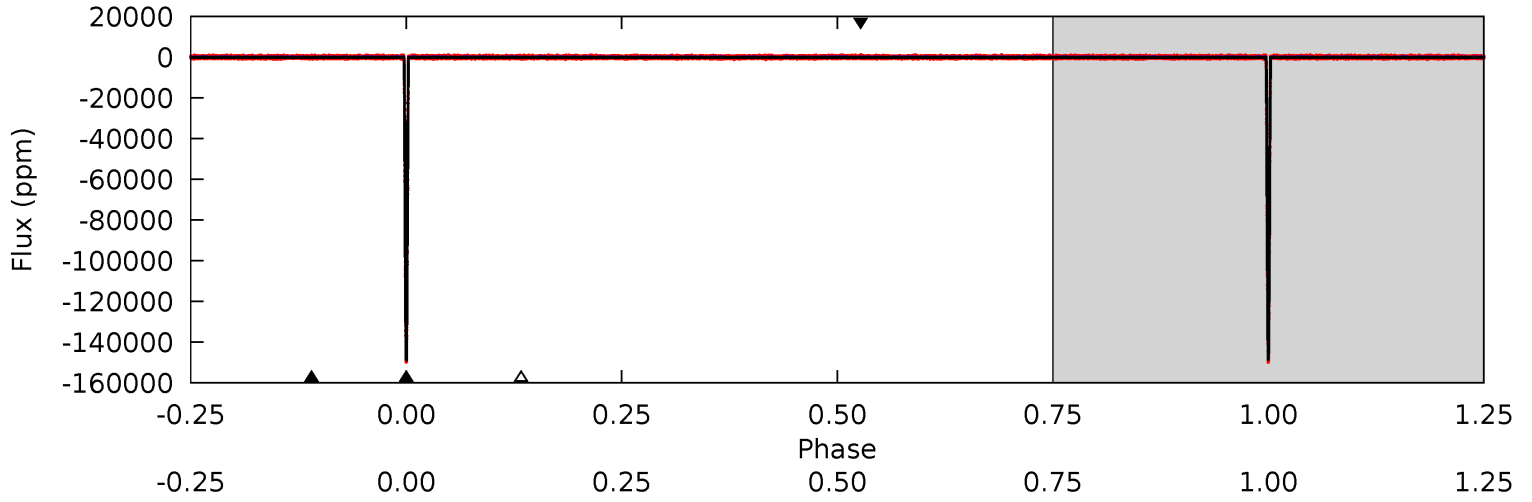
TCE 006947164-01 P= 70.582219 Days $T_0=190.505613$ (BKJD)



DV Model-Shift Uniqueness Test

006947164-01, P = 70.582851 Days, E = 119.916684 Days

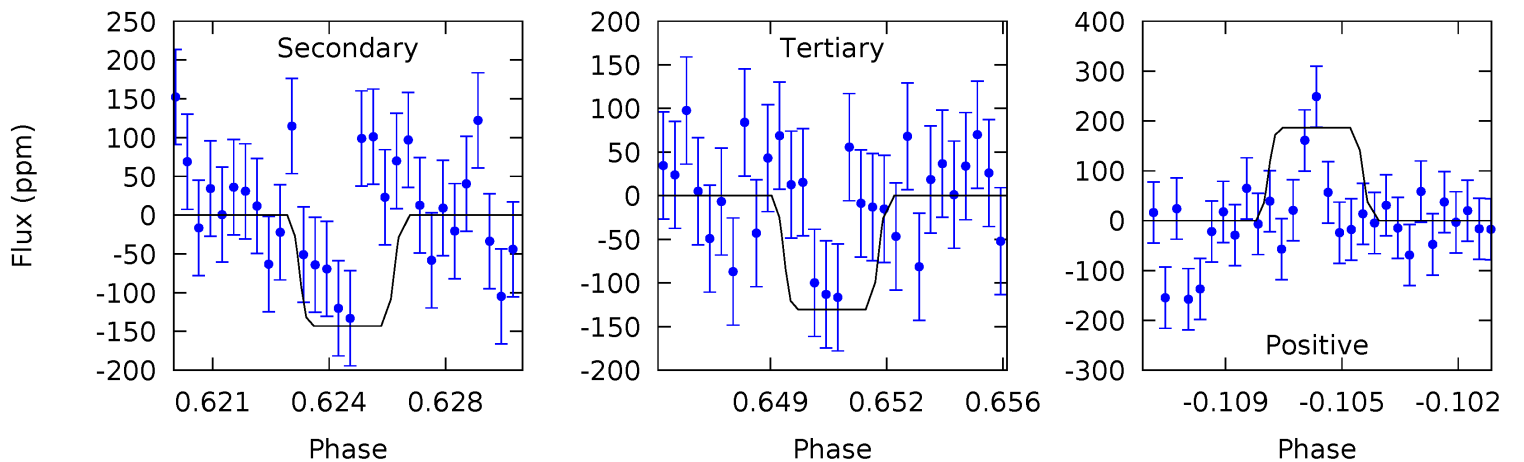
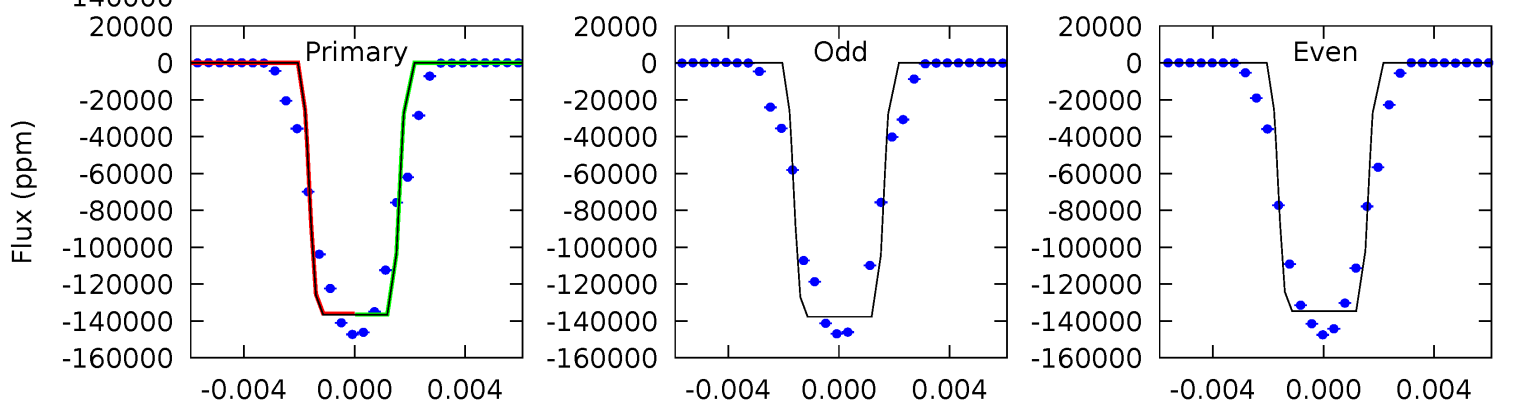
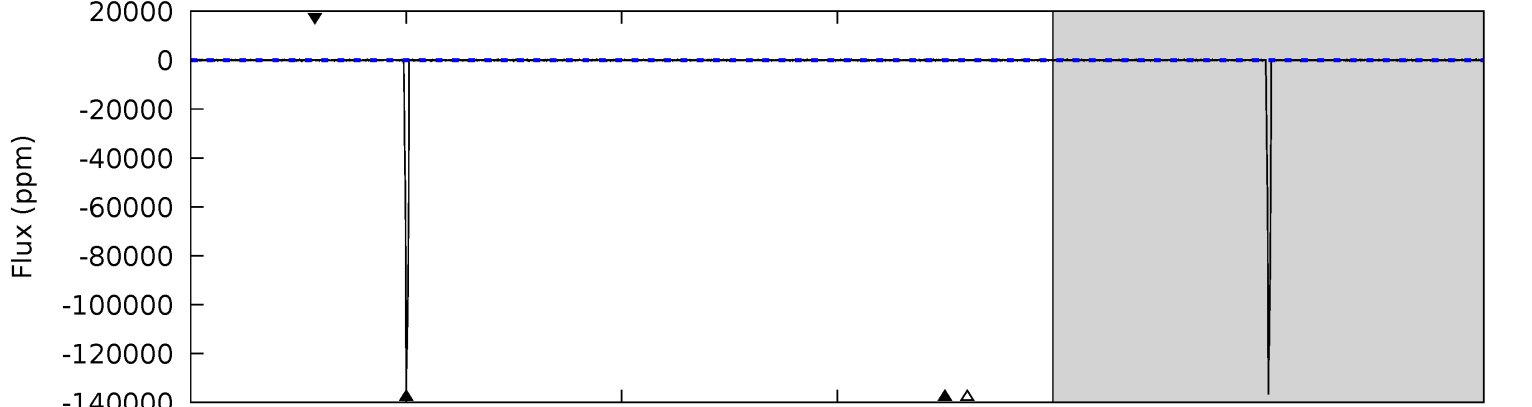
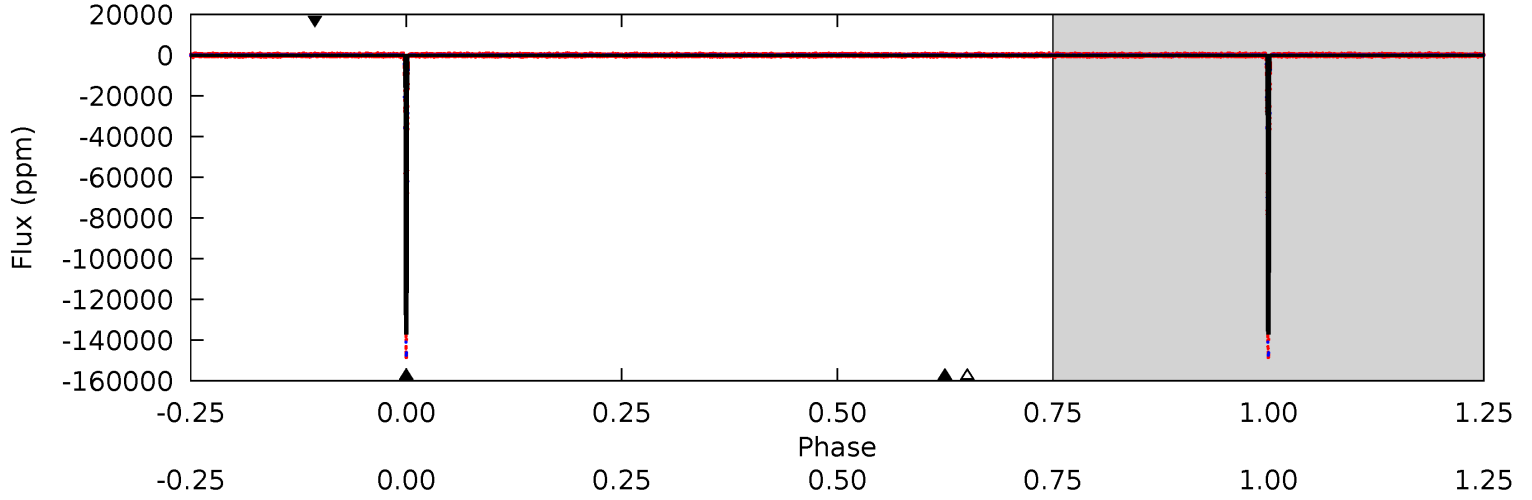
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9060	8.76	6.56	6.27	5.14	2.78	2.13	9054	9054	2.21	2.50	11.3	1.00	0.00	0



Alt Model-Shift Uniqueness Test

006947164-01, P = 70.582219 Days, E = 119.923394 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4013	4.20	3.84	5.48	5.22	2.92	1.10	4009	4007	0.36	-1.28	45.7	1.00	0.00	0



Stellar Parameters For KIC 006947164

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5973^{+161}_{-178}	$4.516^{+0.052}_{-0.208}$	$-0.220^{+0.300}_{-0.300}$	$0.904^{+0.271}_{-0.090}$	$0.980^{+0.118}_{-0.130}$	$1.867^{+0.394}_{-1.004}$
	+3%/-3%	+1%/-5%	+136%/-136%	+30%/-10%	+12%/-13%	+21%/-54%
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 006947164-01 / KOI 3531.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-144 ± 16	$53.78^{+11.52}_{-9.29}$	620^{+46}_{-29}	1903^{+73}_{-69}	$2.939^{+1.372}_{-0.955}$
Alt.	-143 ± 34	$39.11^{+9.84}_{-8.48}$	618^{+43}_{-28}	2039^{+117}_{-104}	$5.500^{+3.966}_{-2.270}$

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 $A_{obs} \gg 1.0$

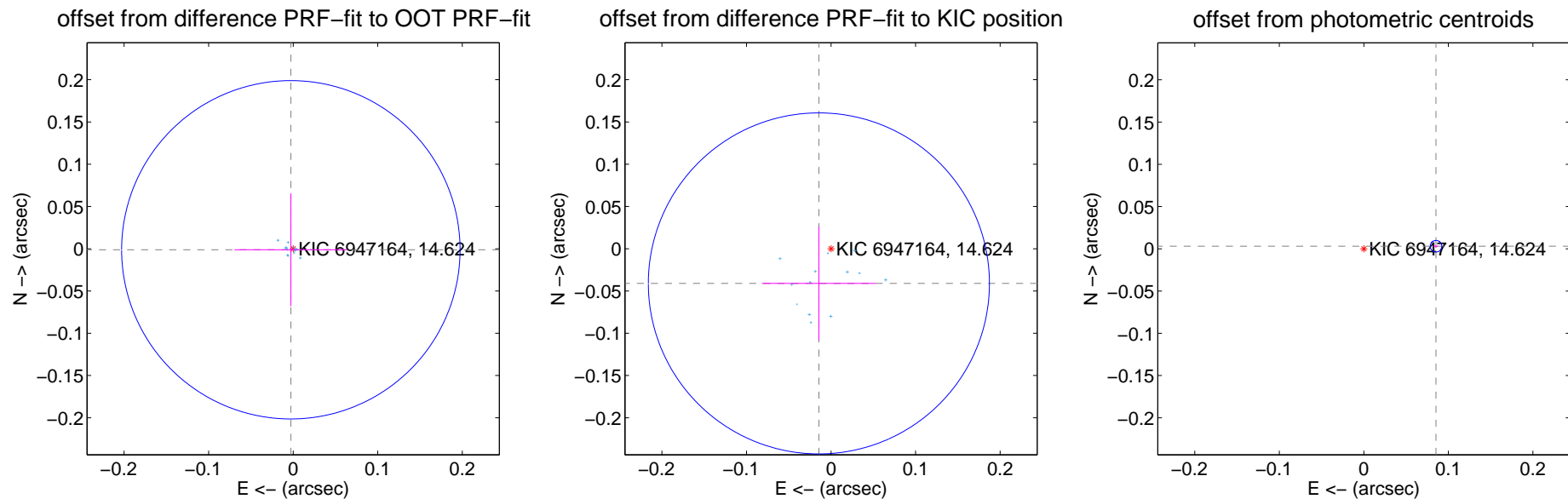
DV Centroid Data

Supplemental centroid analysis for 006947164-01. Kepler magnitude: 14.62. Transit SNR 3472.29

There are 13 quarters with good PRF difference image offsets

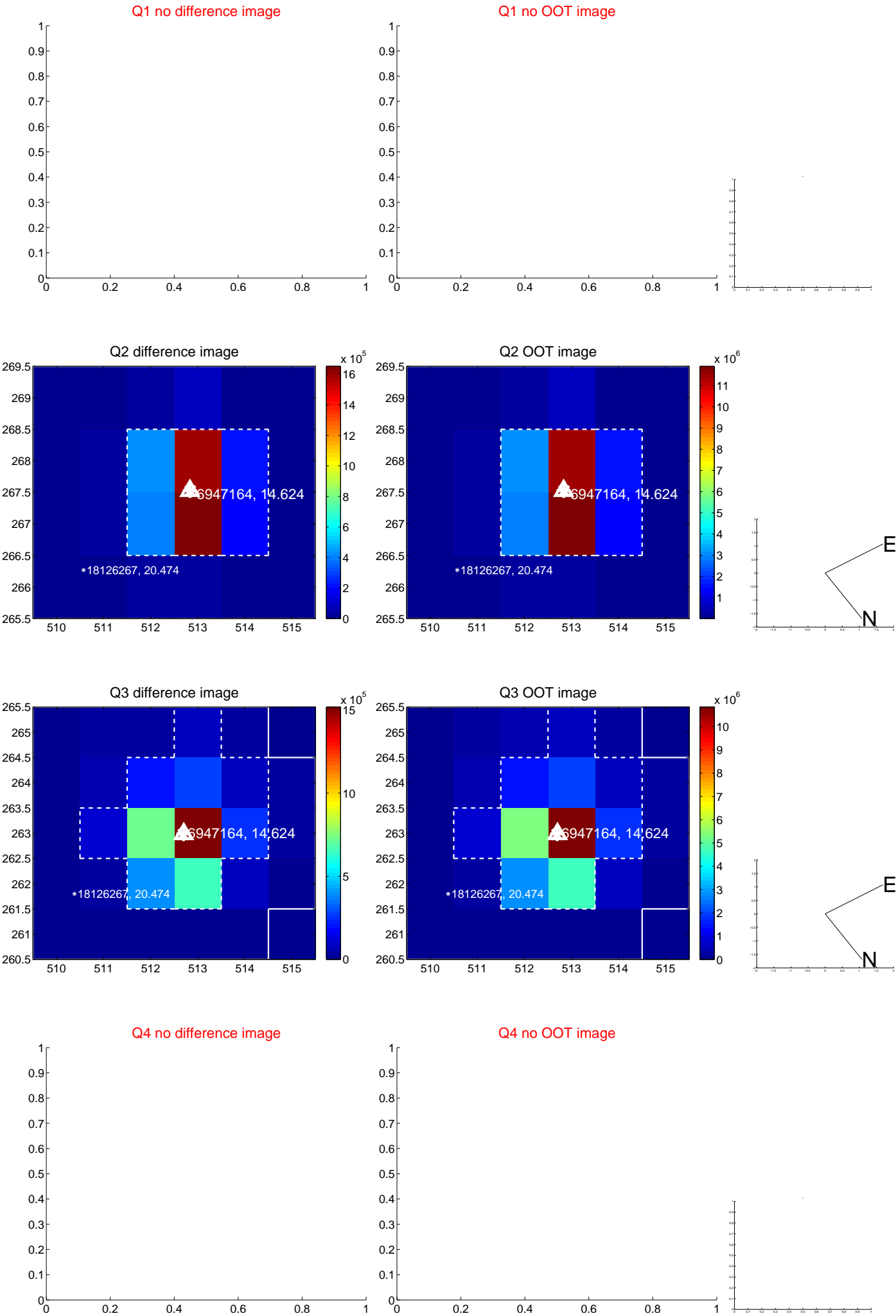
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.003 ± 0.067	0.05	0.003 ± 0.067	-0.001 ± 0.067
PRF-fit source offset from KIC position	0.043 ± 0.067	0.65	0.014 ± 0.067	-0.041 ± 0.067
photometric centroid source offset	0.09 ± 0.00	37.48	-0.09 ± 0.00	0.00 ± 0.00

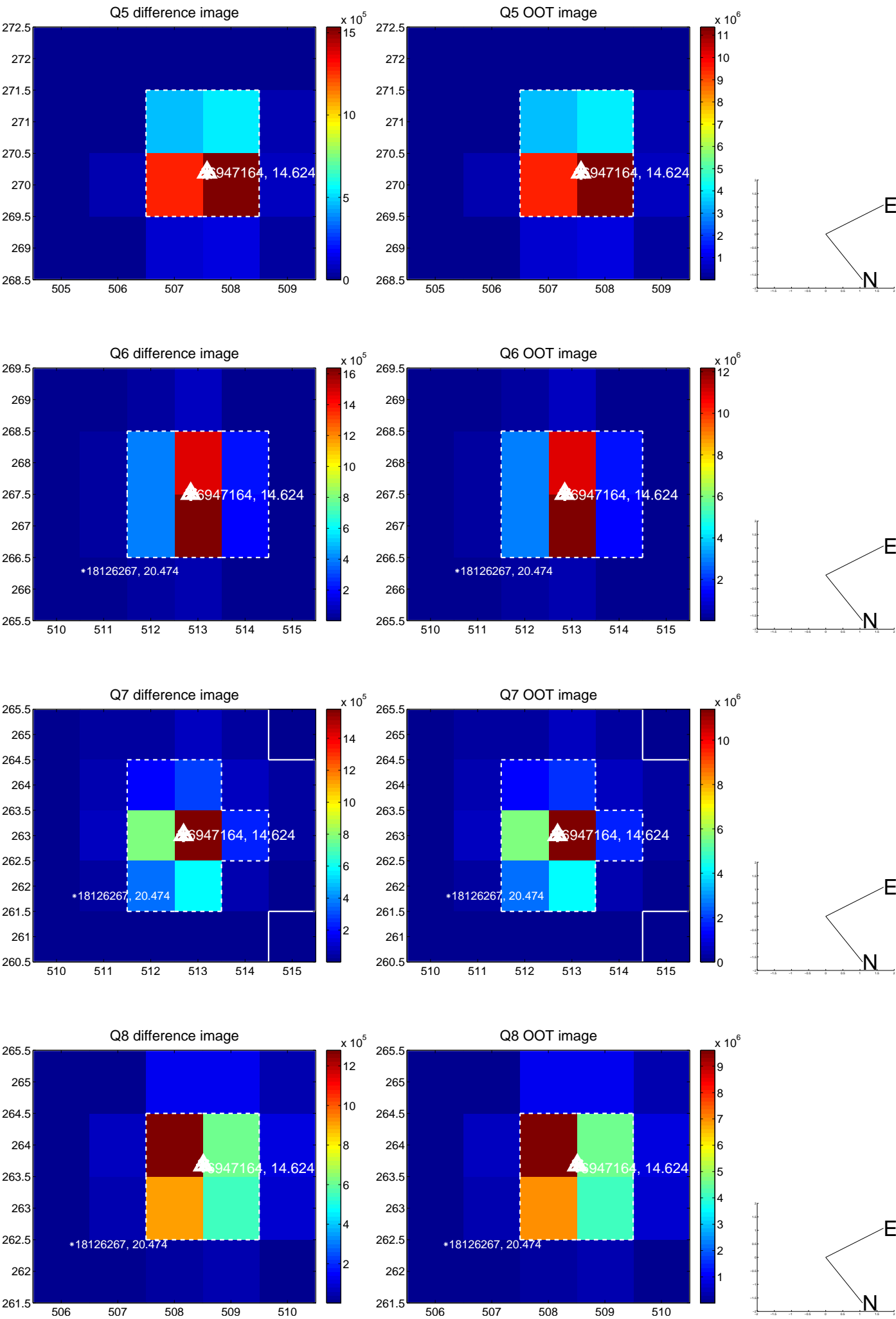


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

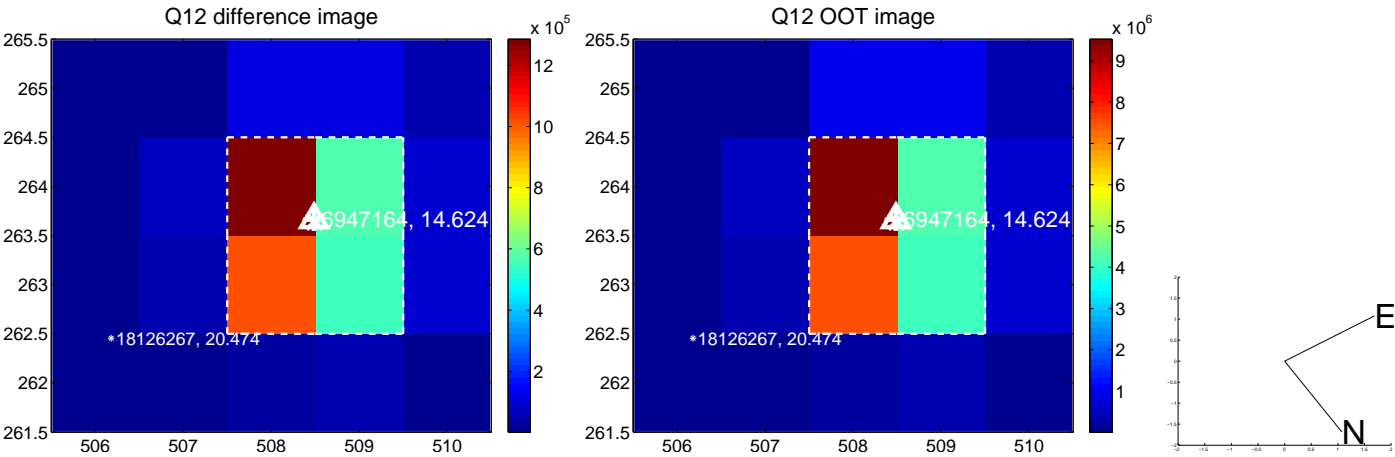
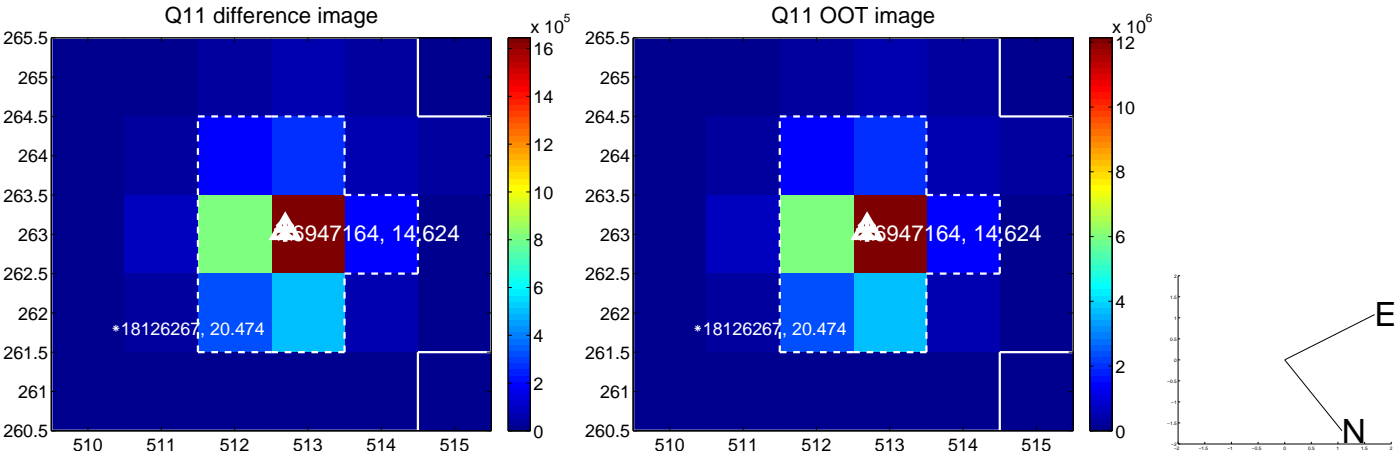
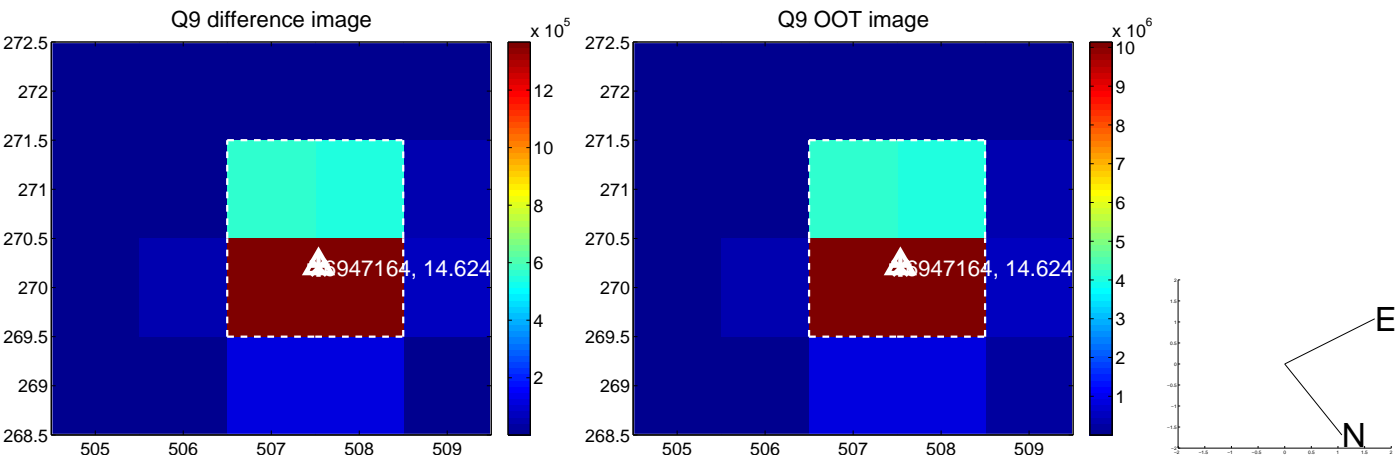
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



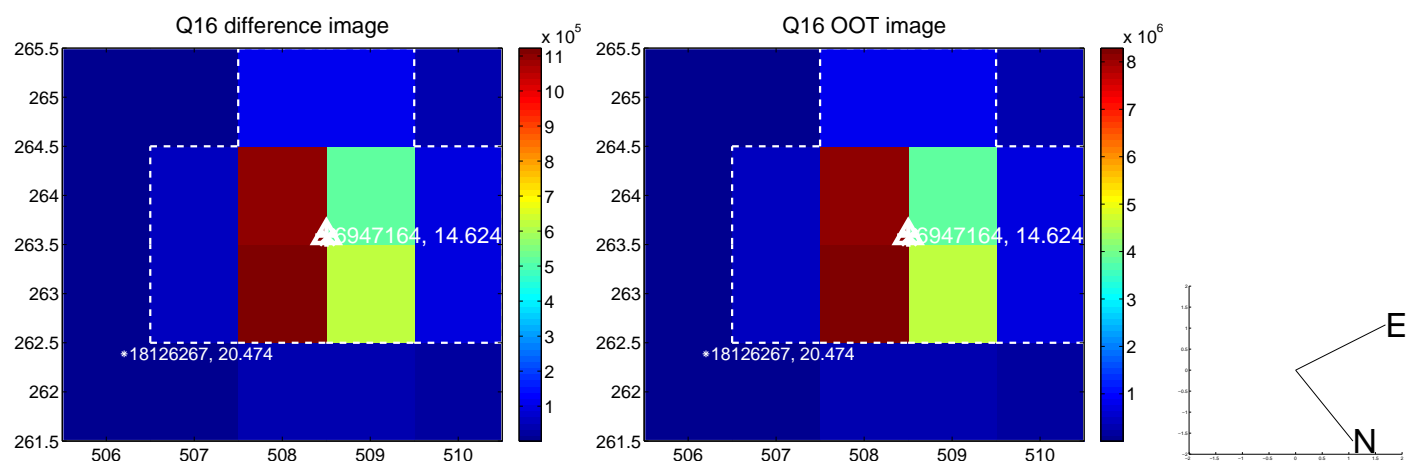
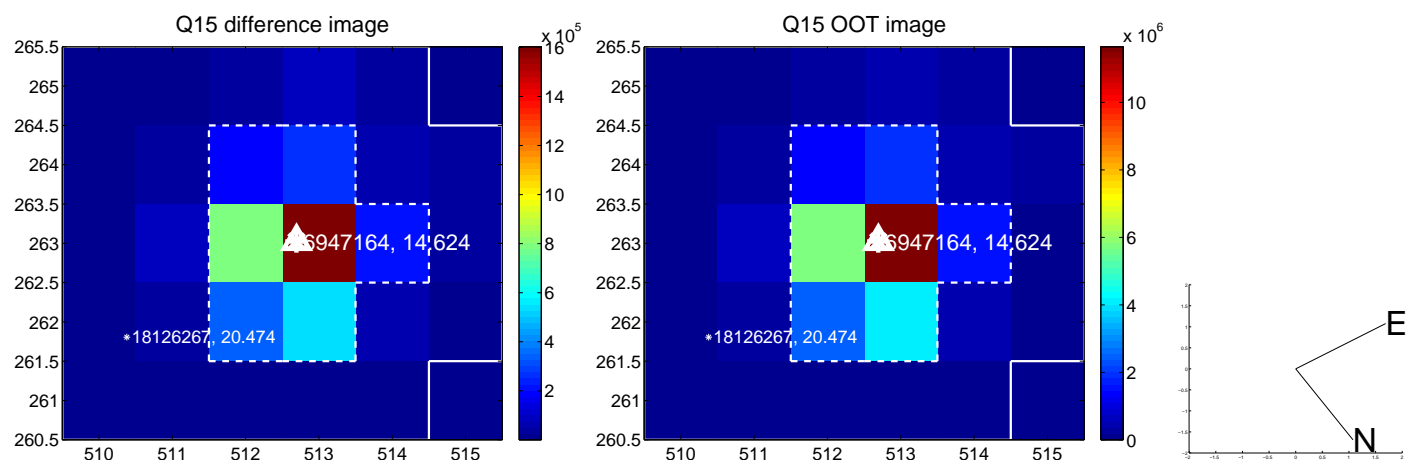
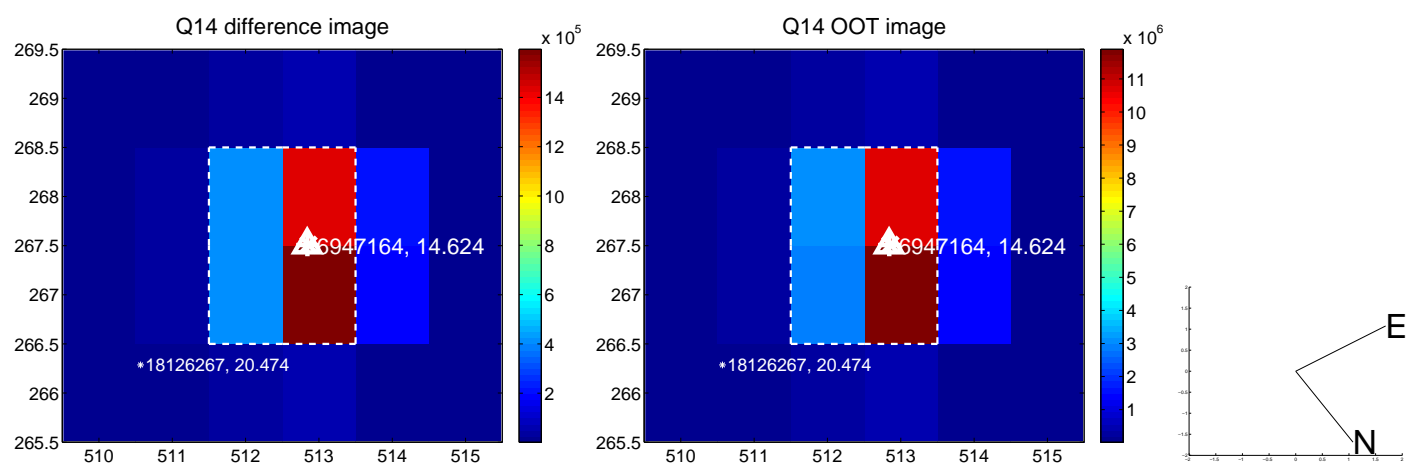
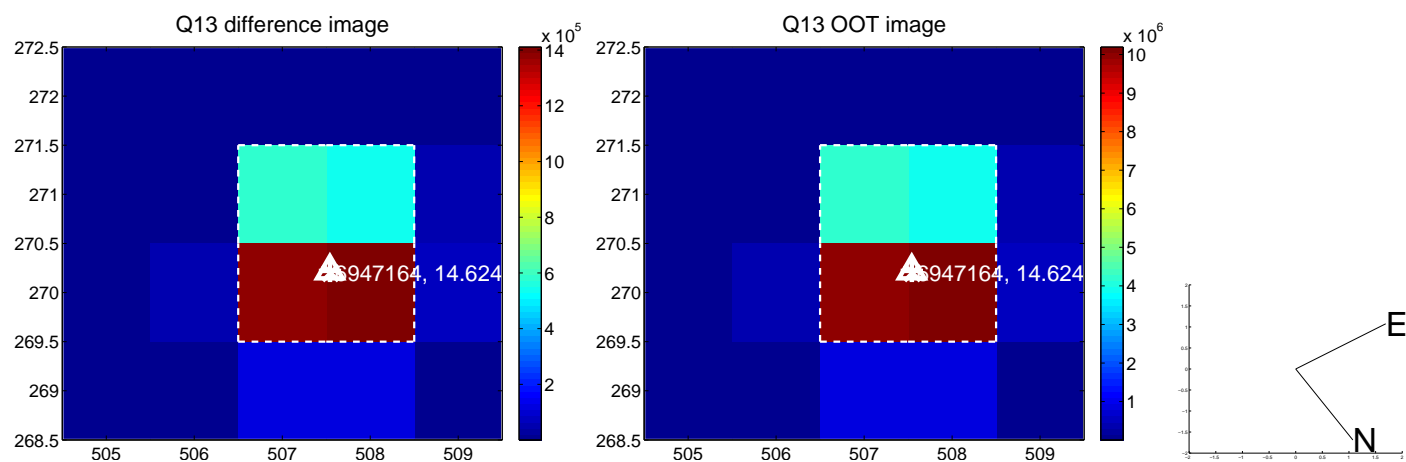
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



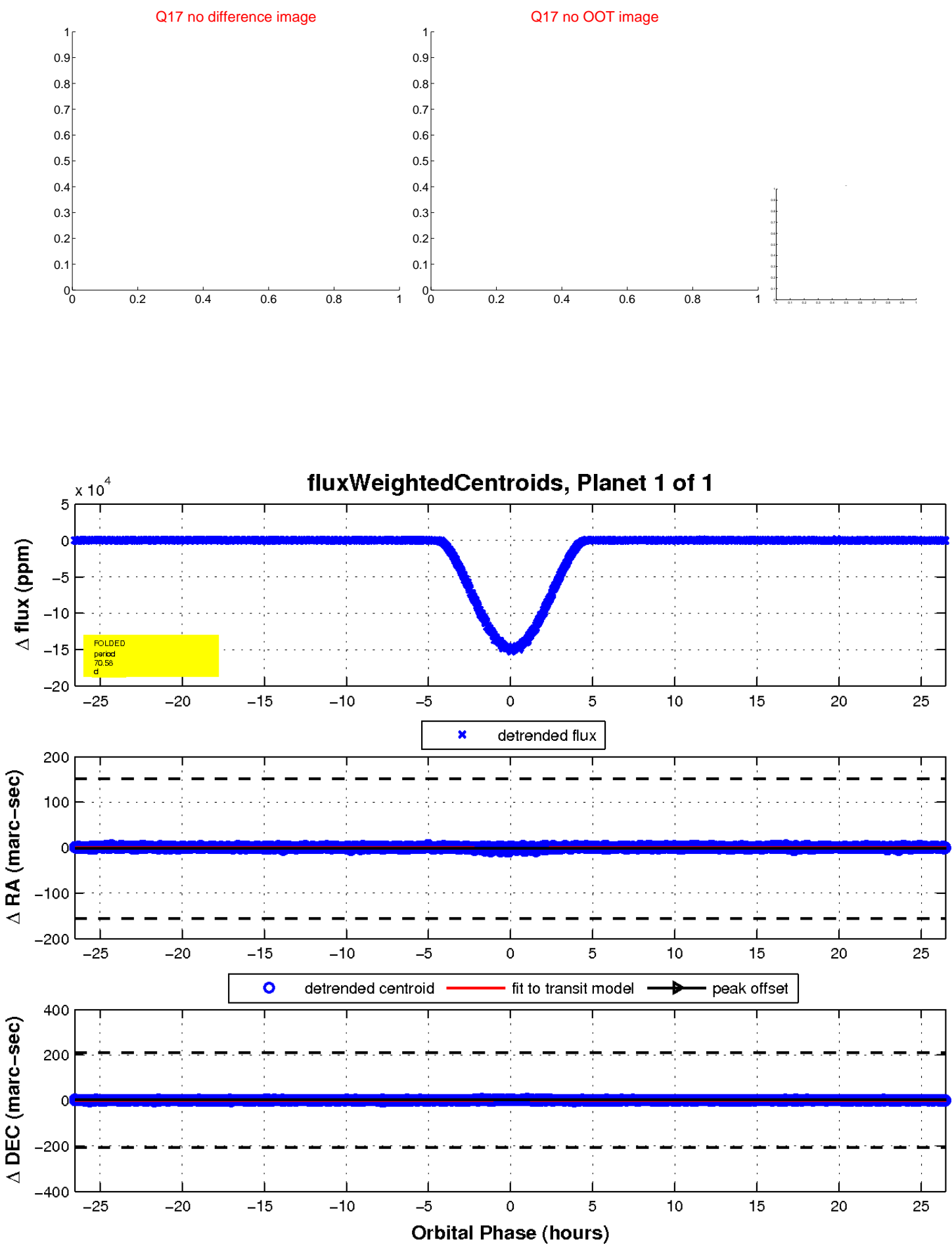
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UKIRT Image

Declination

