

KIC 007970629

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})
007970629-01	OBS	6942.01	1.025536	132.498052	108099.3	3.415	12031.5	6427.0	0.92	6267	33.58	3057.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007970629-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT

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.

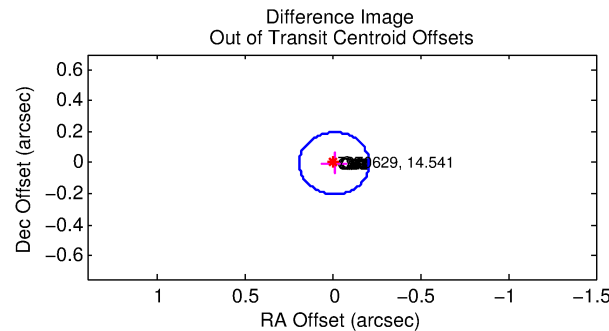
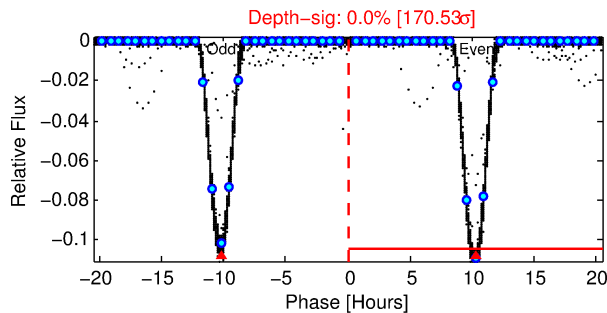
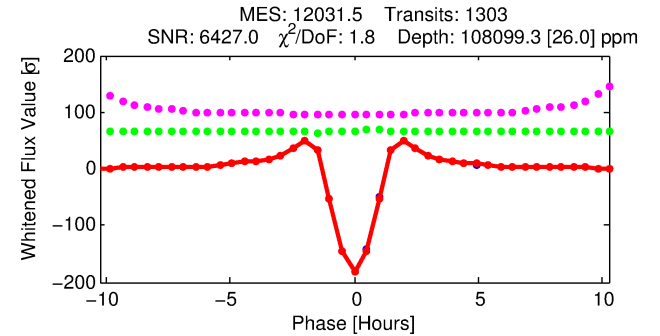
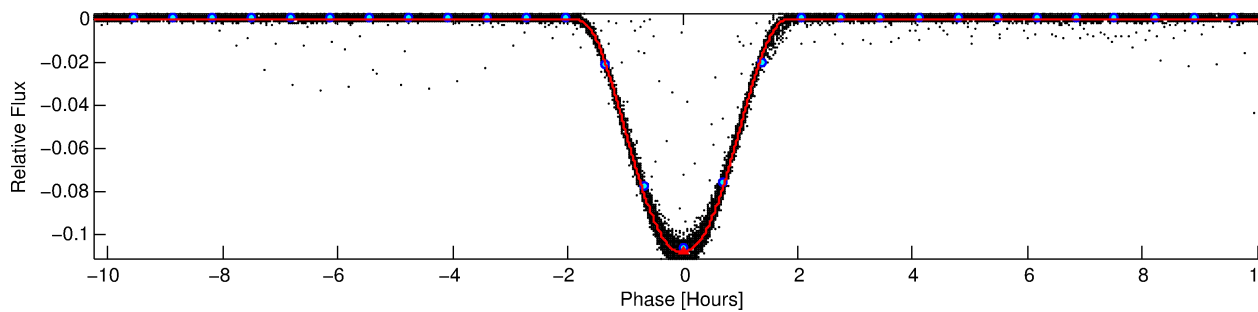
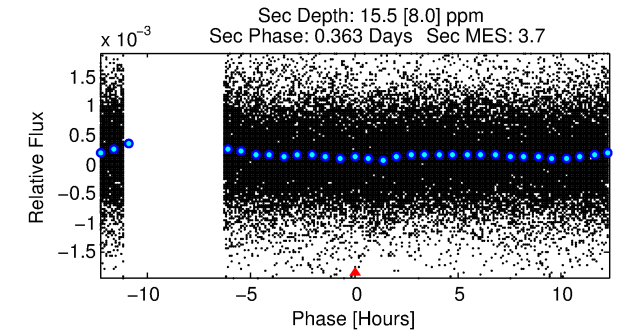
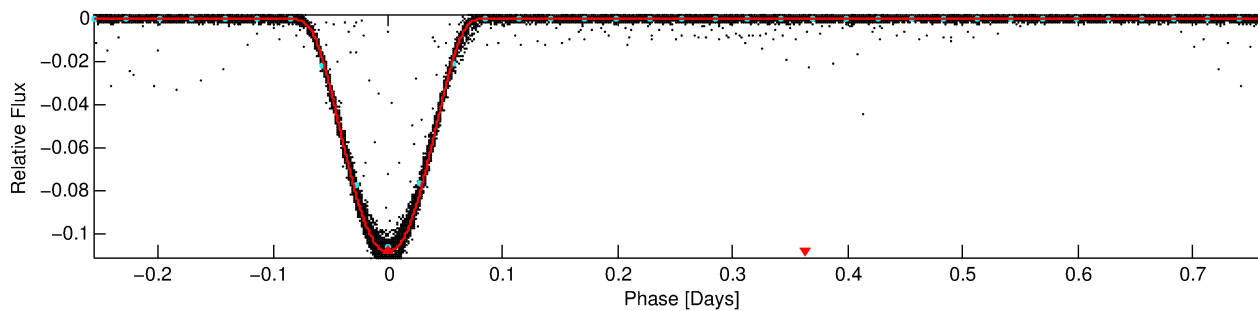
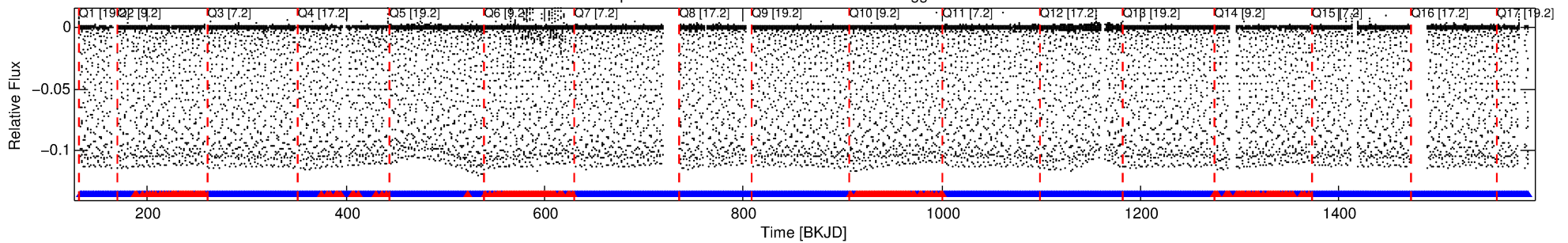
Ephemeris Match Information For 007970629-01

No Significant Match Found

DV One-Page Summary

KIC: 7970629 Candidate: 1 of 1 Period: 1.026 d
KOI: K06942.01 Corr: 0.987

Kp: 14.54 R*: 0.92 Rs Teff: 6267.0 K Logg: 4.49 Fe/H: -0.560



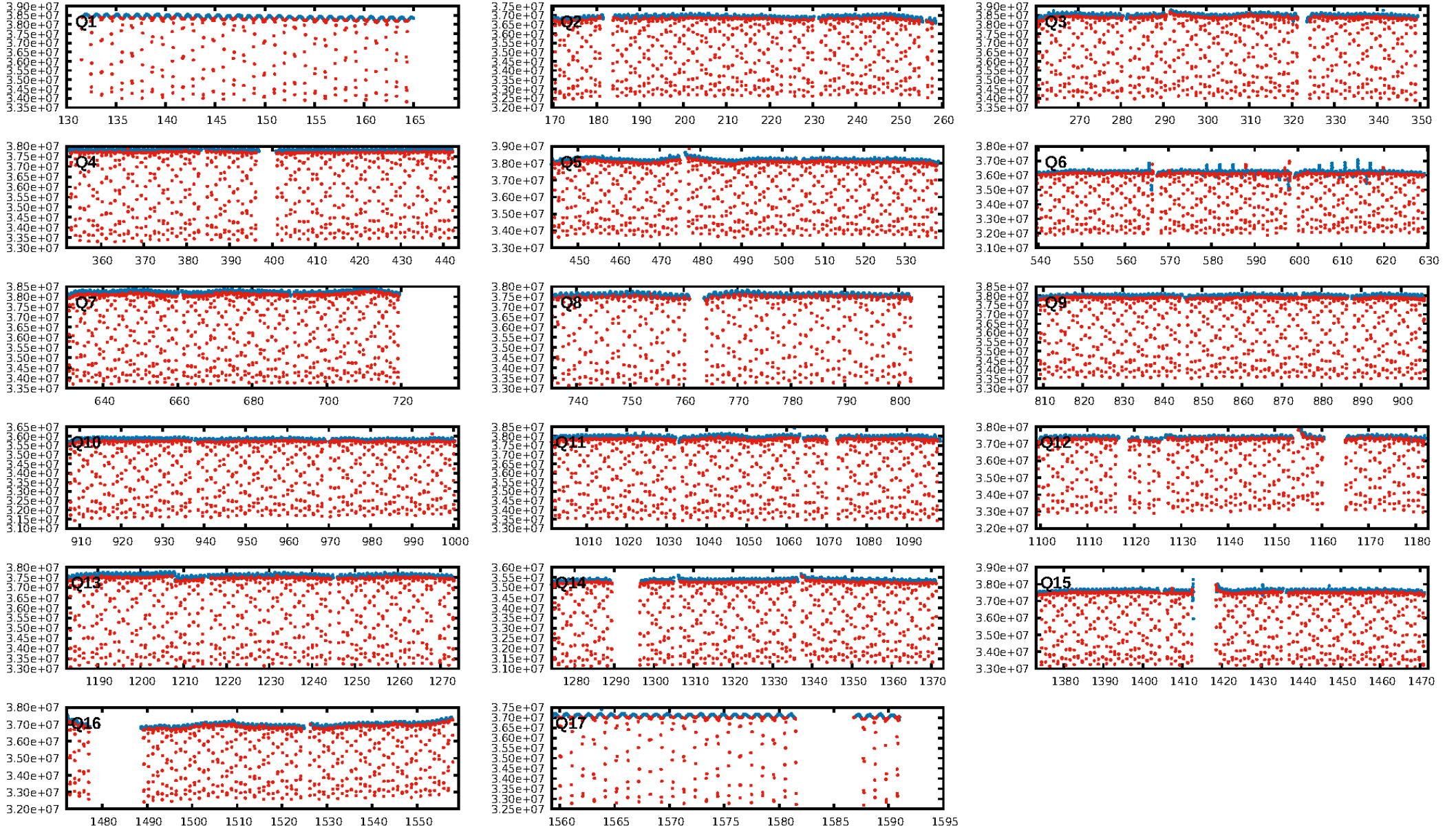
DV Fit Results:

Period = 1.02554 [0.00000] d
Epoch = 132.4981 [0.0000] BKJD
Rp/R* = 0.3348 [0.0002]
a/R* = 2.78 [0.00]
b = 0.70 [0.00]
Seff = 3057.80 [1217.85]
Teff = 1896 [189] K
Rp = 33.58 [9.97] Re
a = 0.0195 [0.0050] AU
Ag = 0.00 [0.00] [-541.16σ]
Teffp = 679 [91] K [-5.81σ]

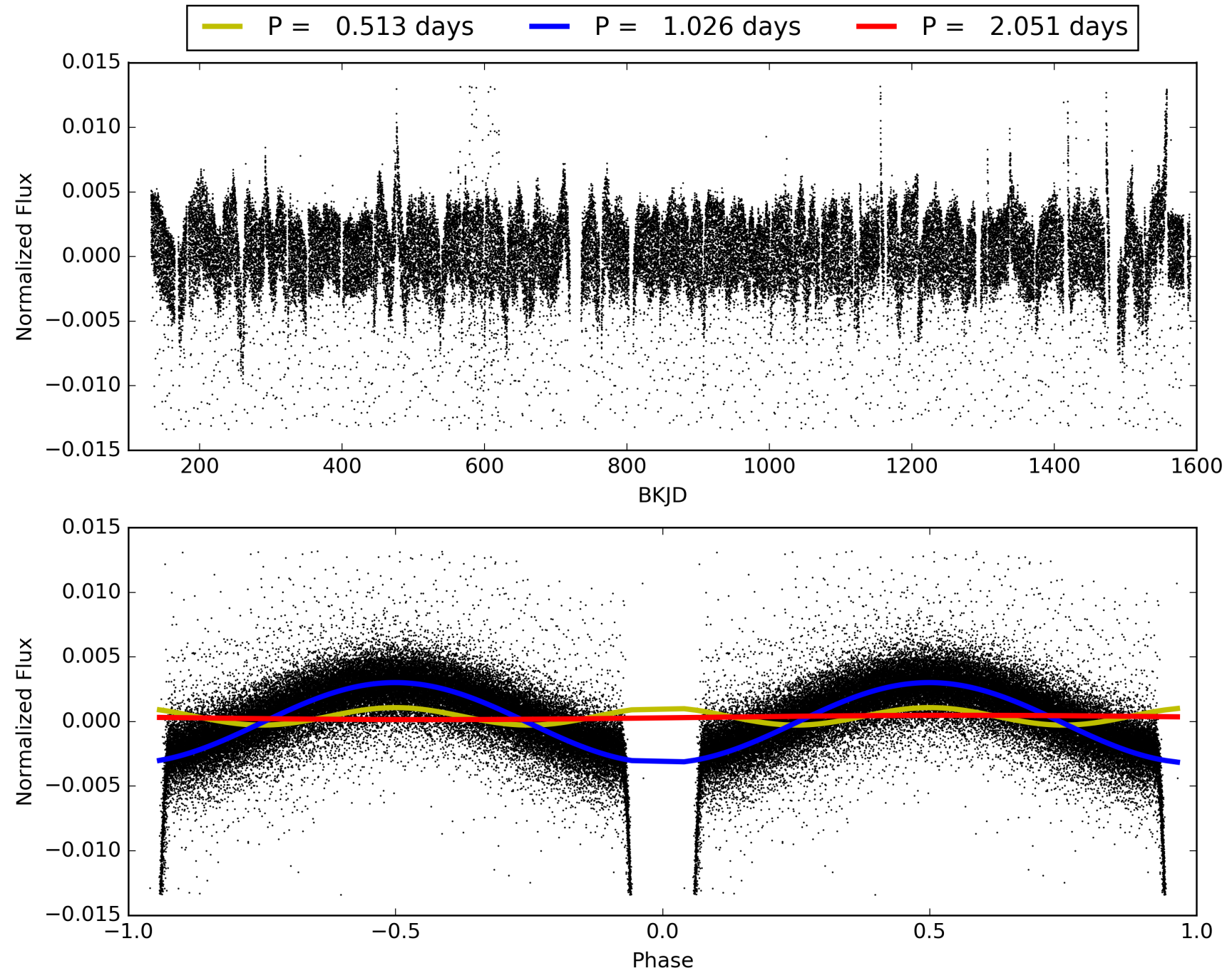
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.81 [1012/1244]
GhostDiagnostic-chr: 2.657
Centroid-sig: 0.0%
Centroid-so: 0.015 arcsec [22.83σ]
OotOffset-rm: 0.009 arcsec [0.13σ]
KicOffset-rm: 0.094 arcsec [1.36σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007970629-01, PDC Light Curves

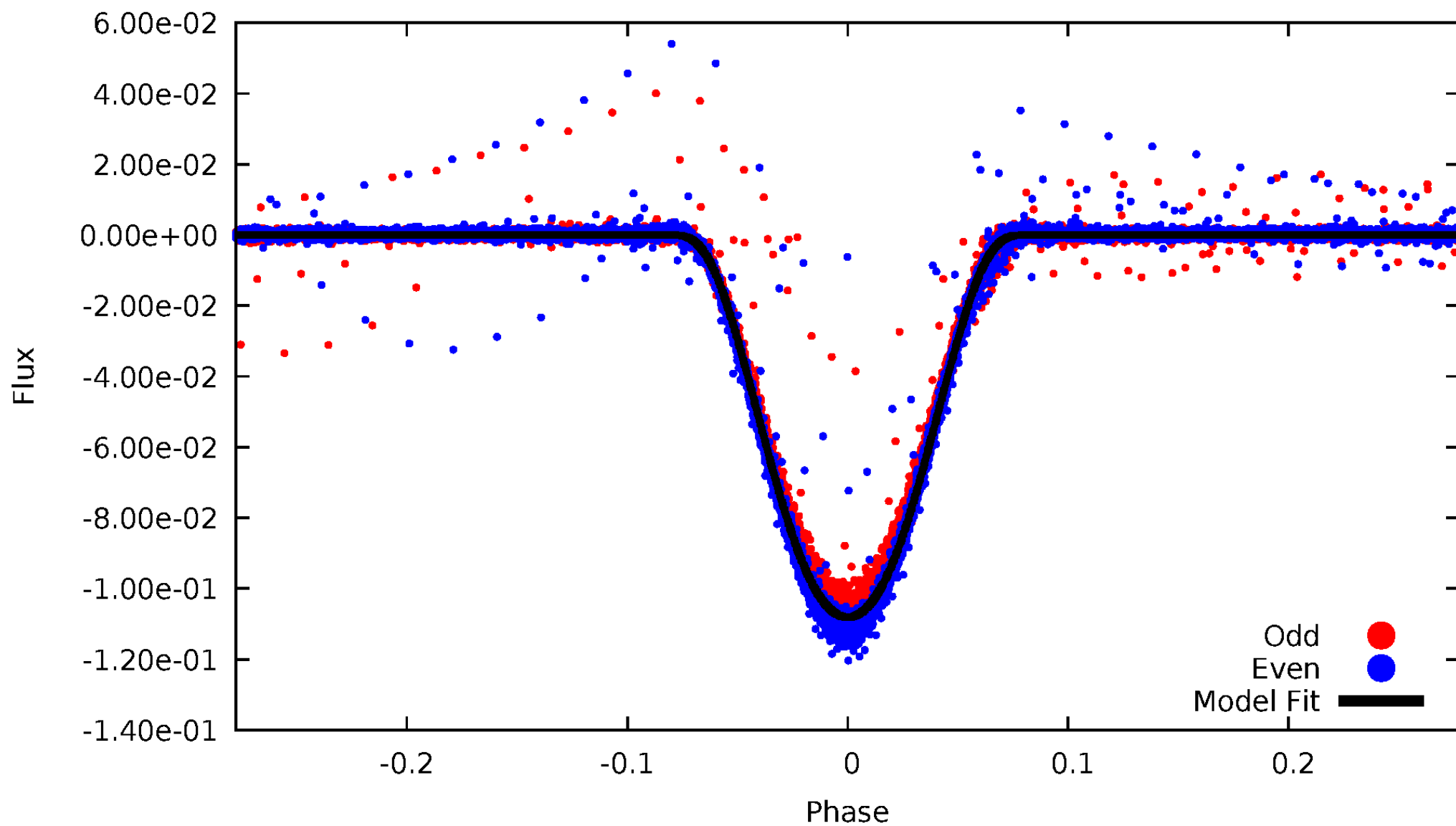


TCE 007970629-01



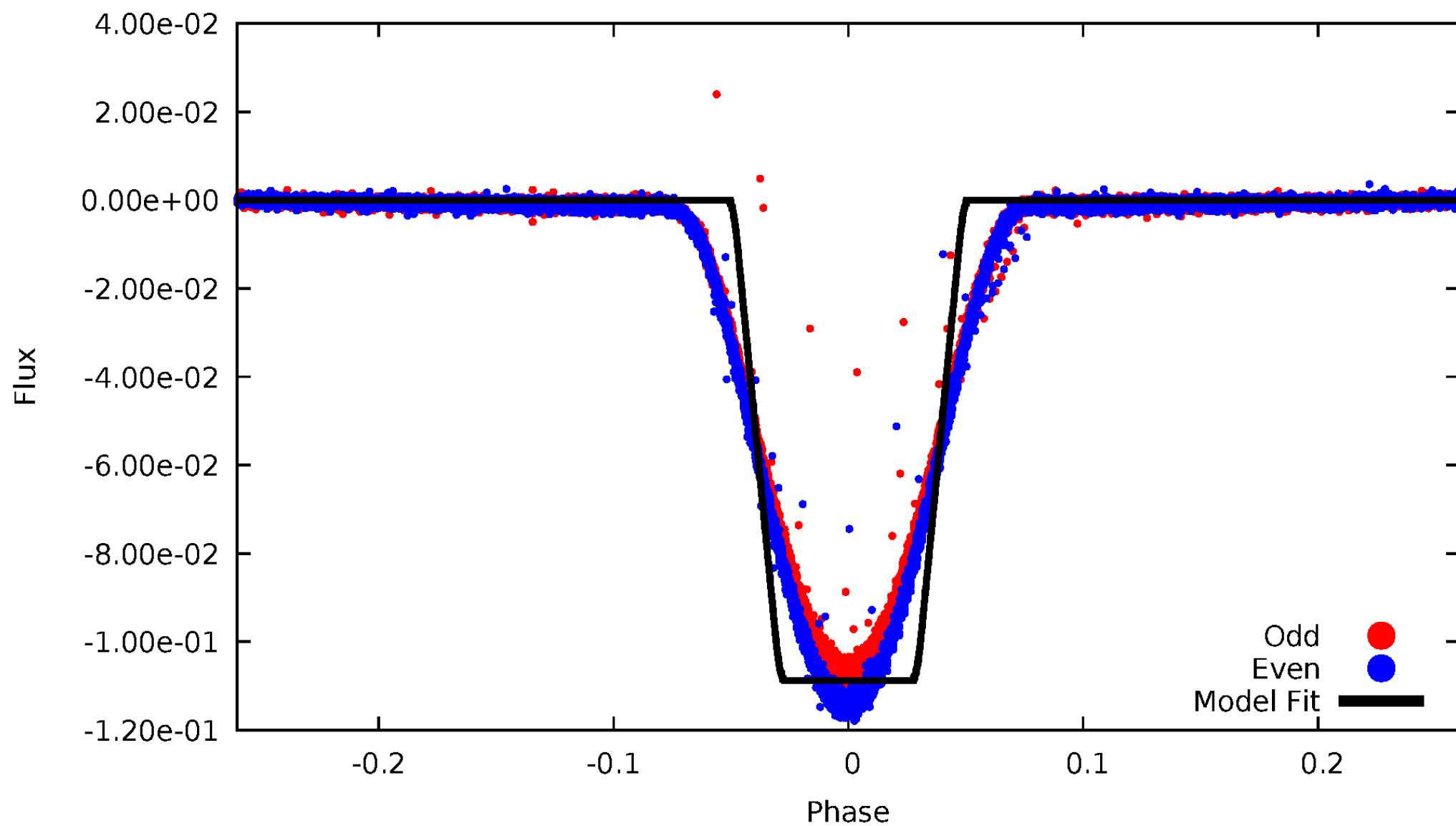
DV Odd/Even

TCE 007970629-01



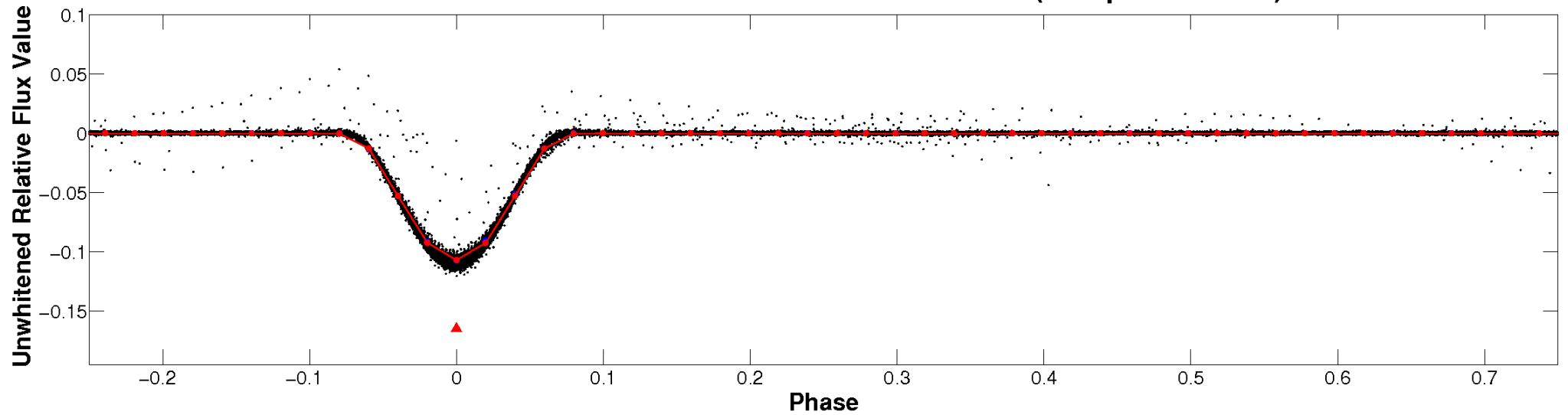
ALT Odd/Even

TCE 007970629-01

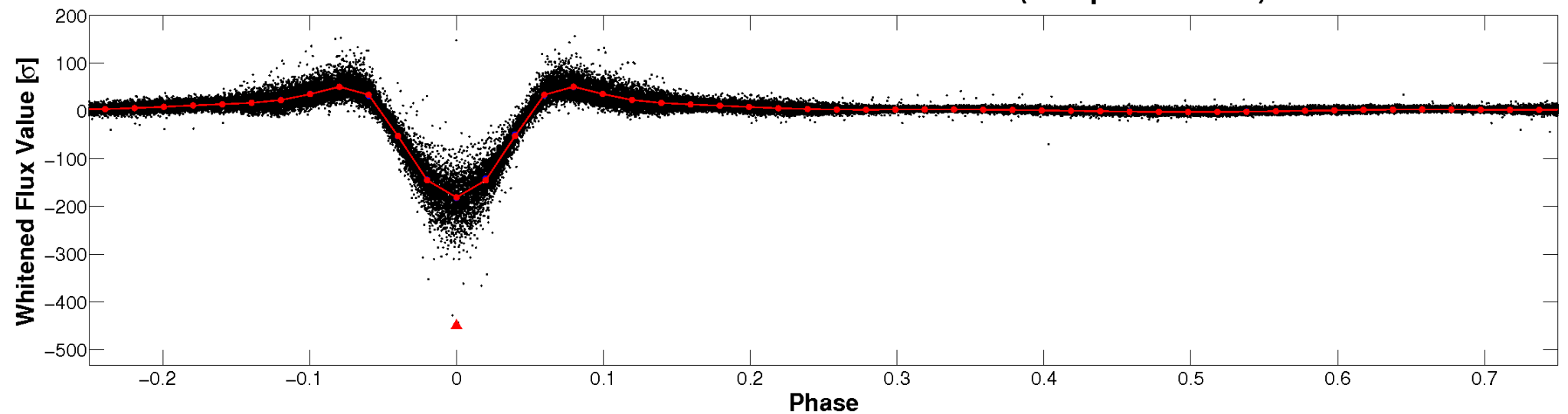


Non-Whitened Vs. Whitened Light Curve

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

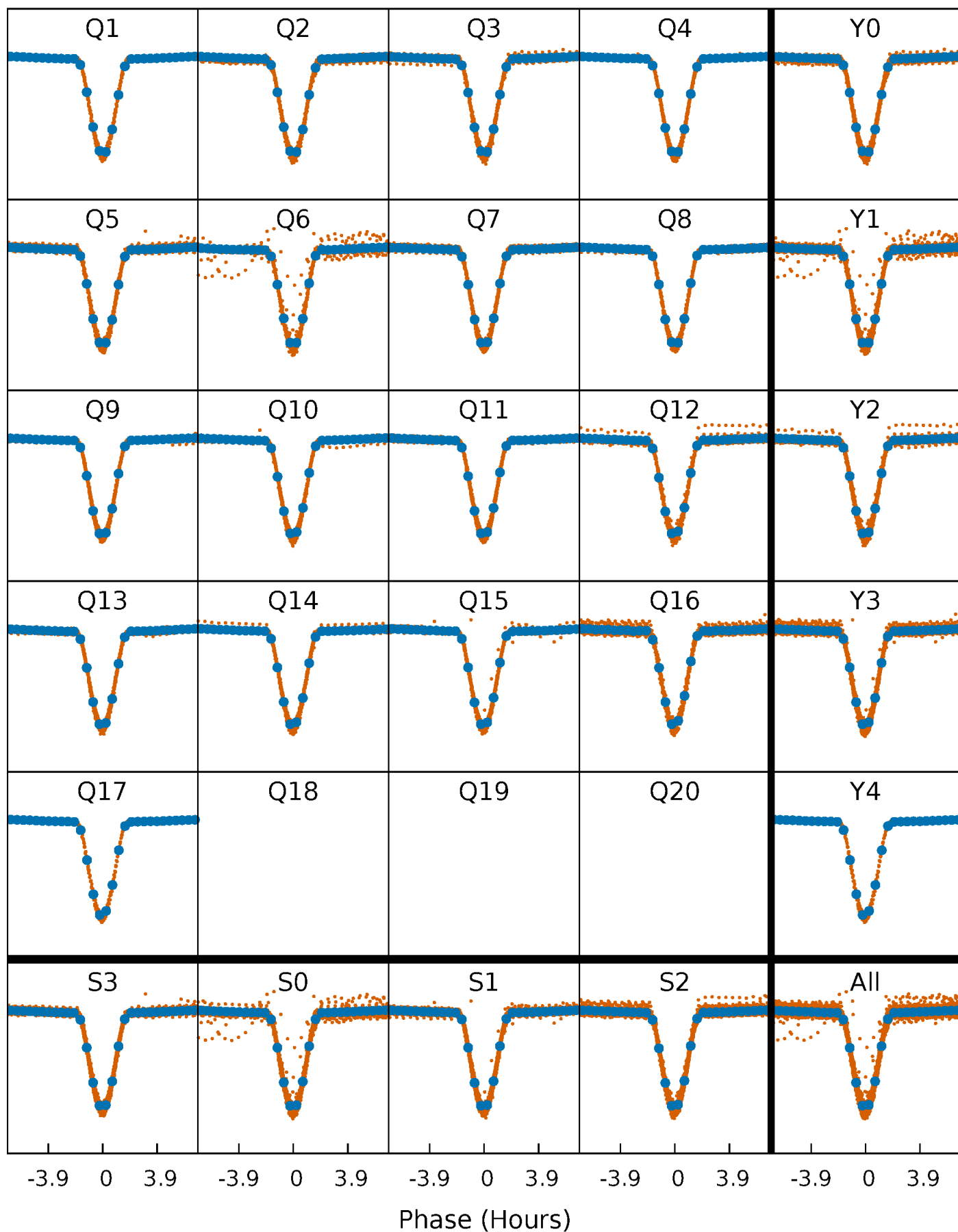


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



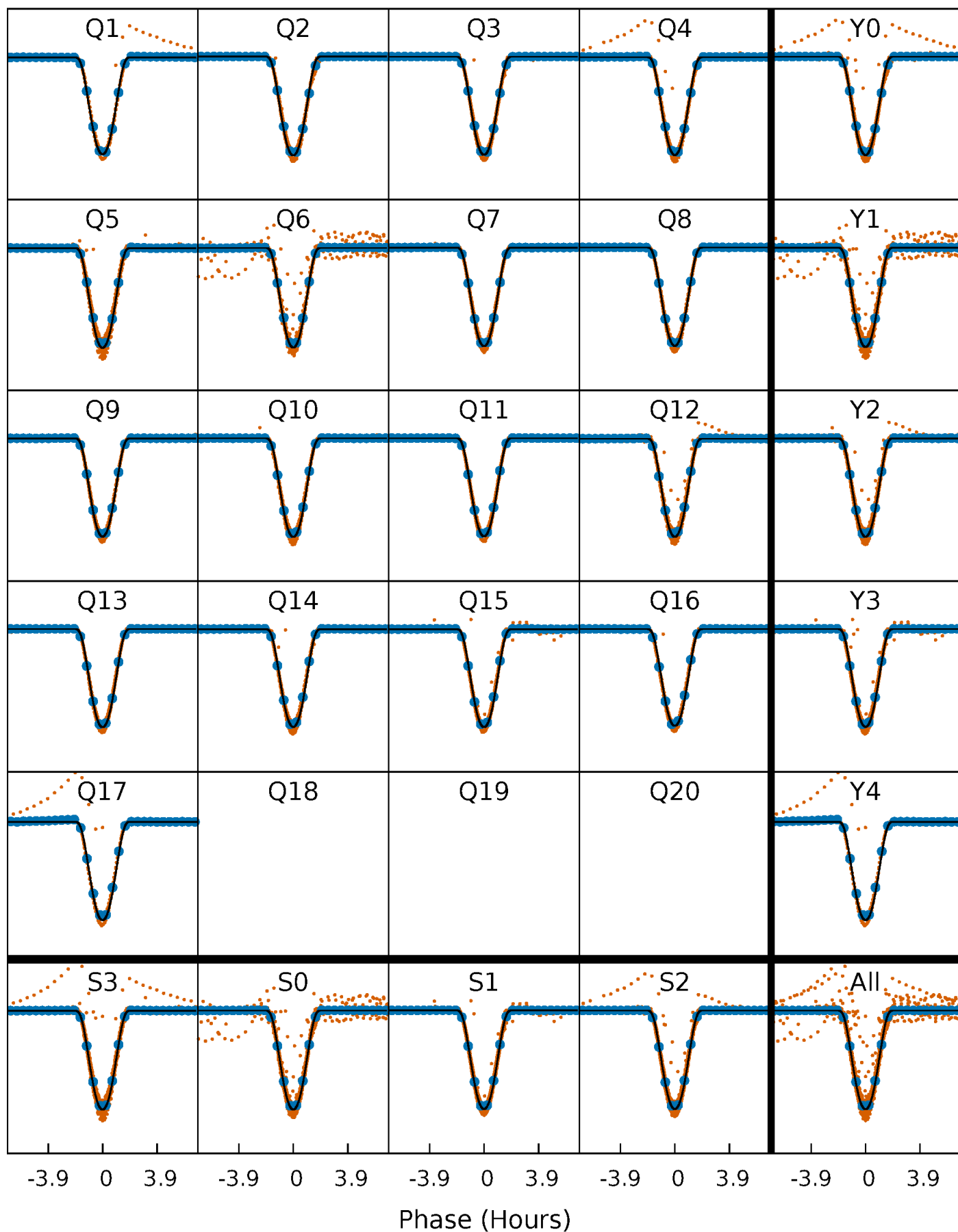
PDC Quarter-Phased Transit Curves

TCE 007970629-01 P= 1.025536 Days $T_0=132.498052$ (BKJD)



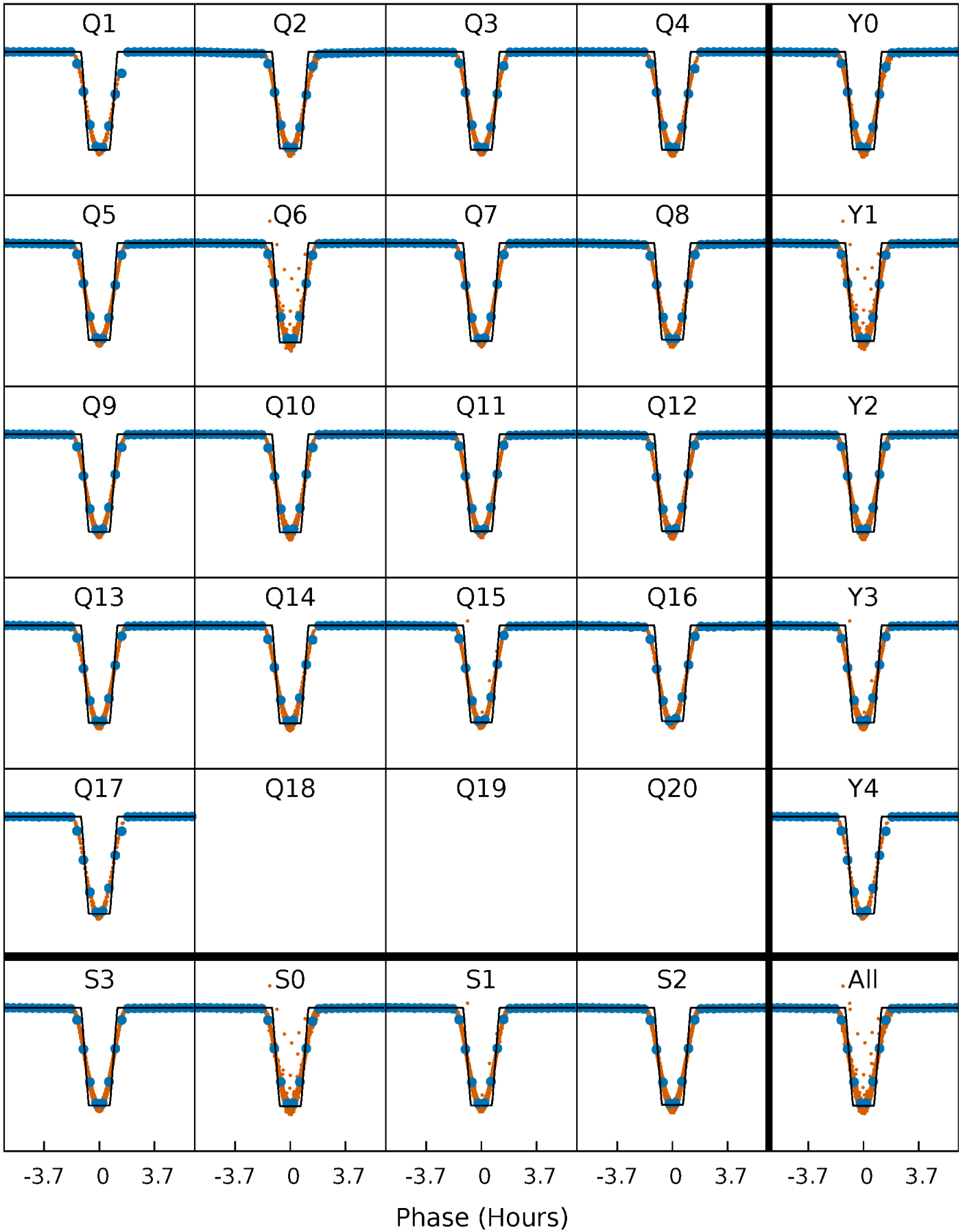
DV Quarter-Phased Transit Curves

TCE 007970629-01 P= 1.025536 Days $T_0=132.498052$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

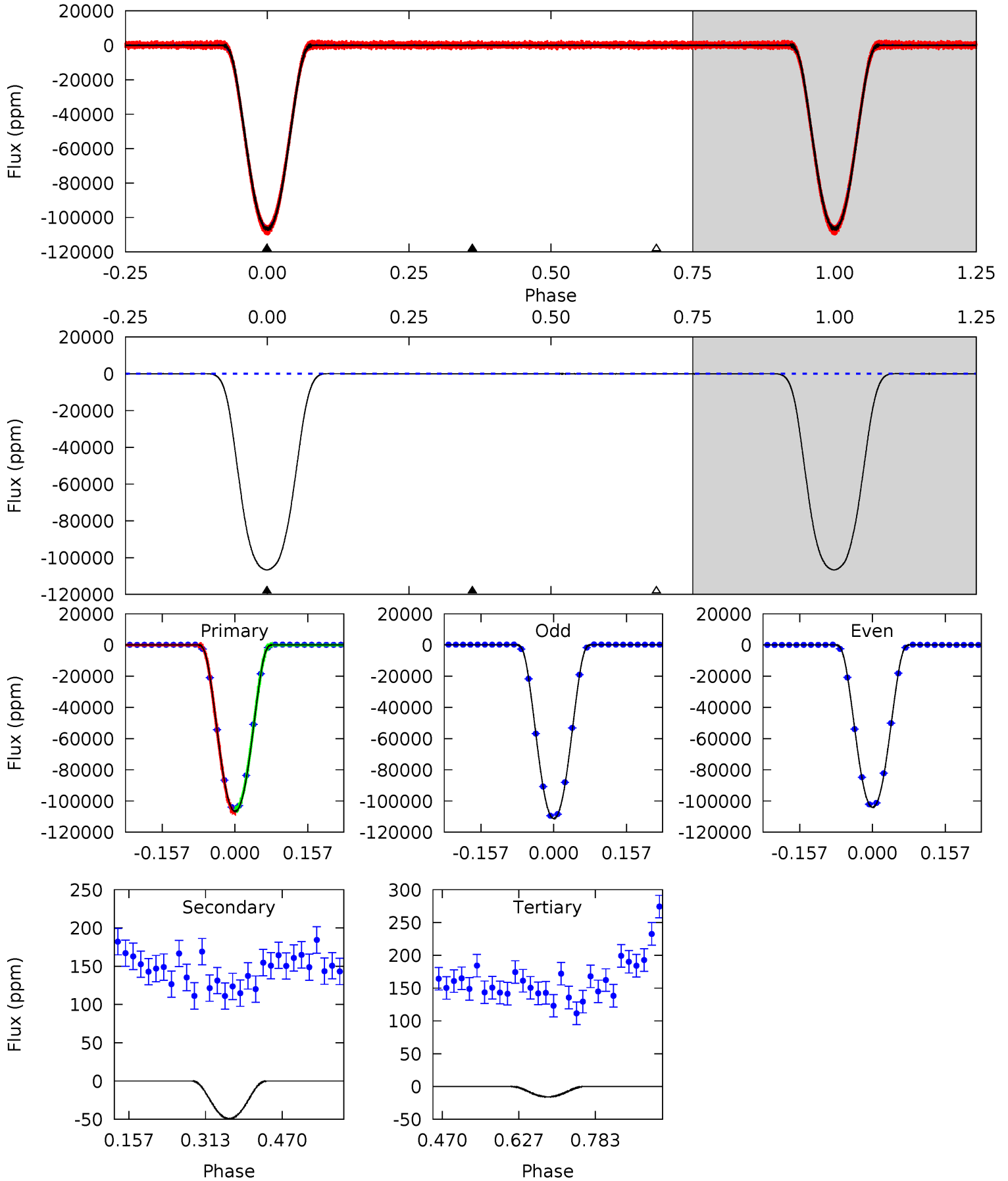
TCE 007970629-01 P= 1.025536 Days $T_0=132.498141$ (BKJD)



DV Model-Shift Uniqueness Test

007970629-01, P = 1.025536 Days, E = 131.472516 Days

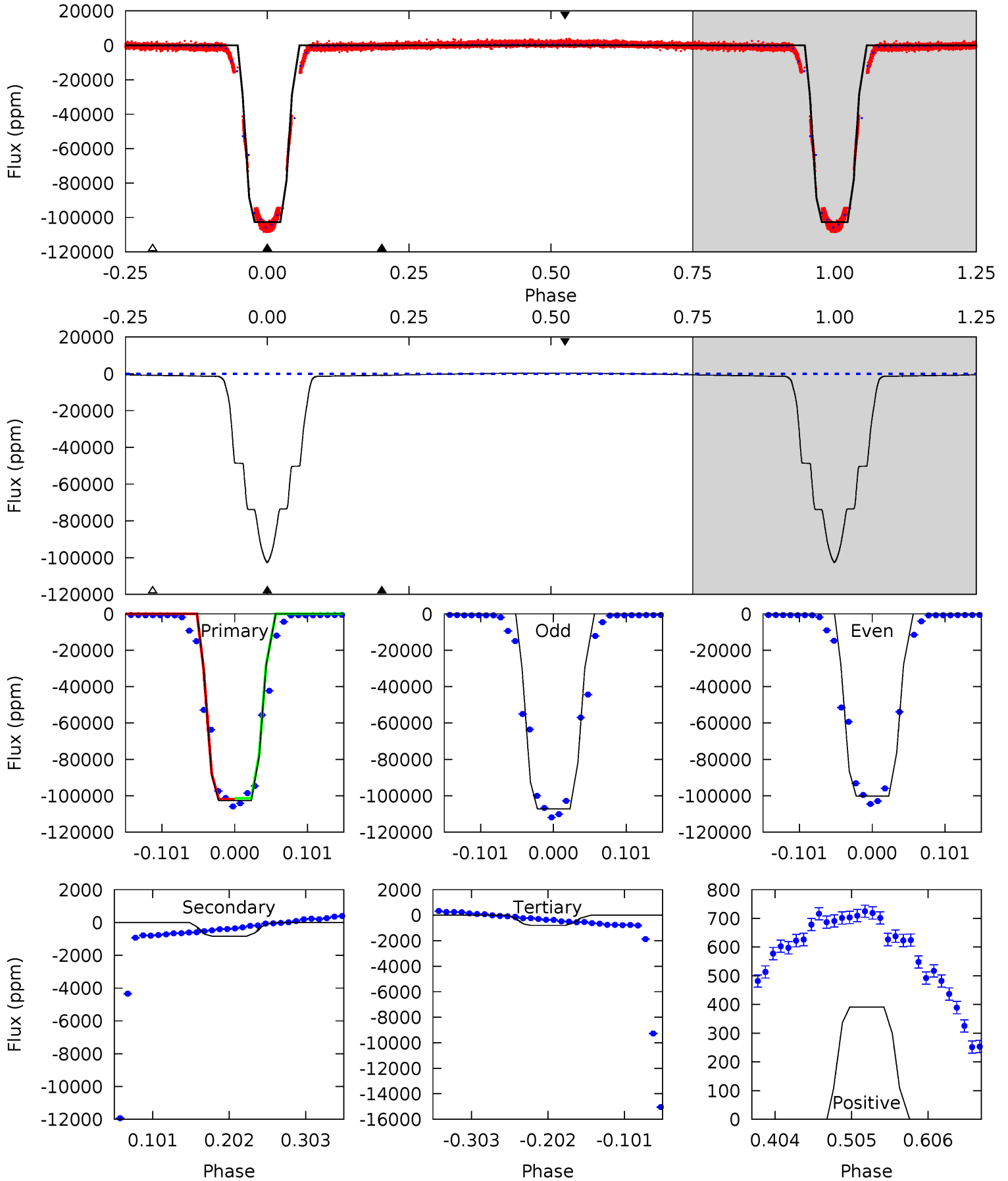
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14916	6.88	2.21	0	4.47	1.42	2.23	14914	14916	4.67	6.88	568.7	1.00	0.00	0



Alt Model-Shift Uniqueness Test

007970629-01, P = 1.025536 Days, E = 131.472605 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5917	48.2	46.1	22.5	4.56	1.64	29.4	5871	5894	2.11	25.7	229.1	1.00	0.00	0



Stellar Parameters For KIC 007970629

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6267^{+169}_{-207}	$4.487^{+0.065}_{-0.208}$	$-0.560^{+0.300}_{-0.300}$	$0.919^{+0.273}_{-0.091}$	$0.946^{+0.117}_{-0.105}$	$1.715^{+0.467}_{-0.880}$
	+3%/-3%	+1%/-5%	+54%/-54%	+30%/-10%	+12%/-11%	+27%/-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 007970629-01 / KOI 6942.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-49 ± 7	$34.26^{+5.92}_{-2.35}$	2706^{+202}_{-127}	-2906^{+77}_{-122}	$0.008^{+0.002}_{-0.002}$
Alt.	-836 ± 17	$34.02^{+5.24}_{-2.65}$	2698^{+204}_{-137}	-2654^{+115}_{-183}	$0.151^{+0.022}_{-0.036}$

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

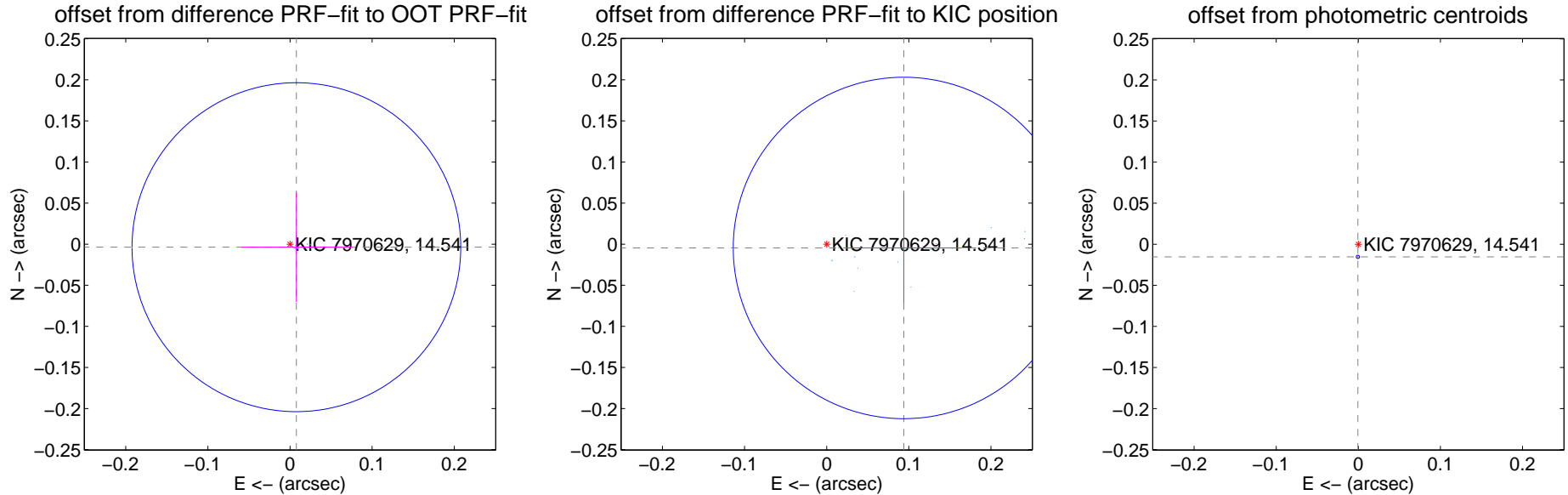
DV Centroid Data

Supplemental centroid analysis for 007970629-01. Kepler magnitude: 14.54. Transit SNR 6427.03

There are 17 quarters with good PRF difference image offsets

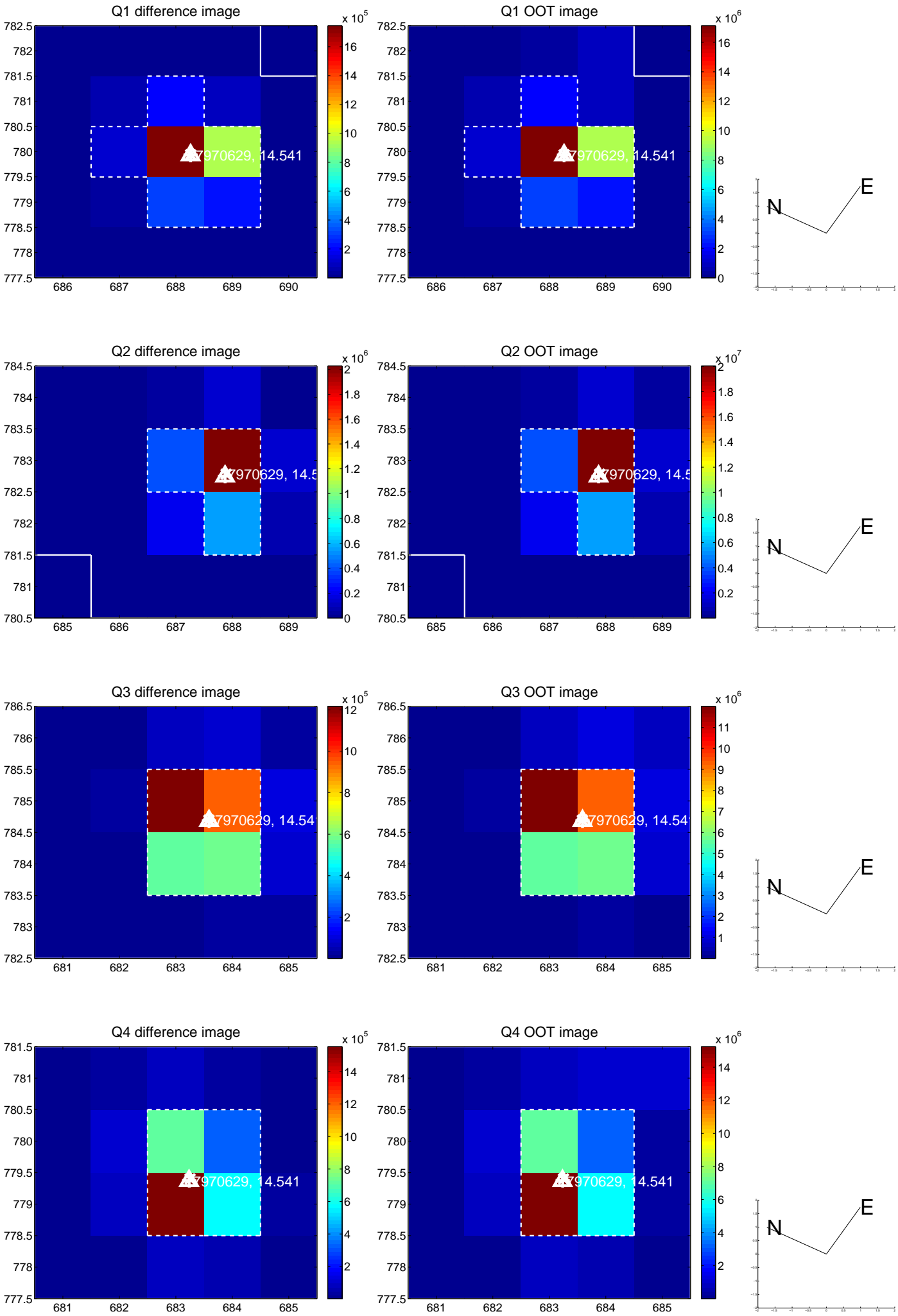
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.009 ± 0.067	0.13	-0.008 ± 0.067	-0.004 ± 0.067
PRF-fit source offset from KIC position	0.094 ± 0.069	1.36	-0.094 ± 0.069	-0.005 ± 0.067
photometric centroid source offset	0.02 ± 0.00	22.83	0.00 ± 0.00	-0.02 ± 0.00

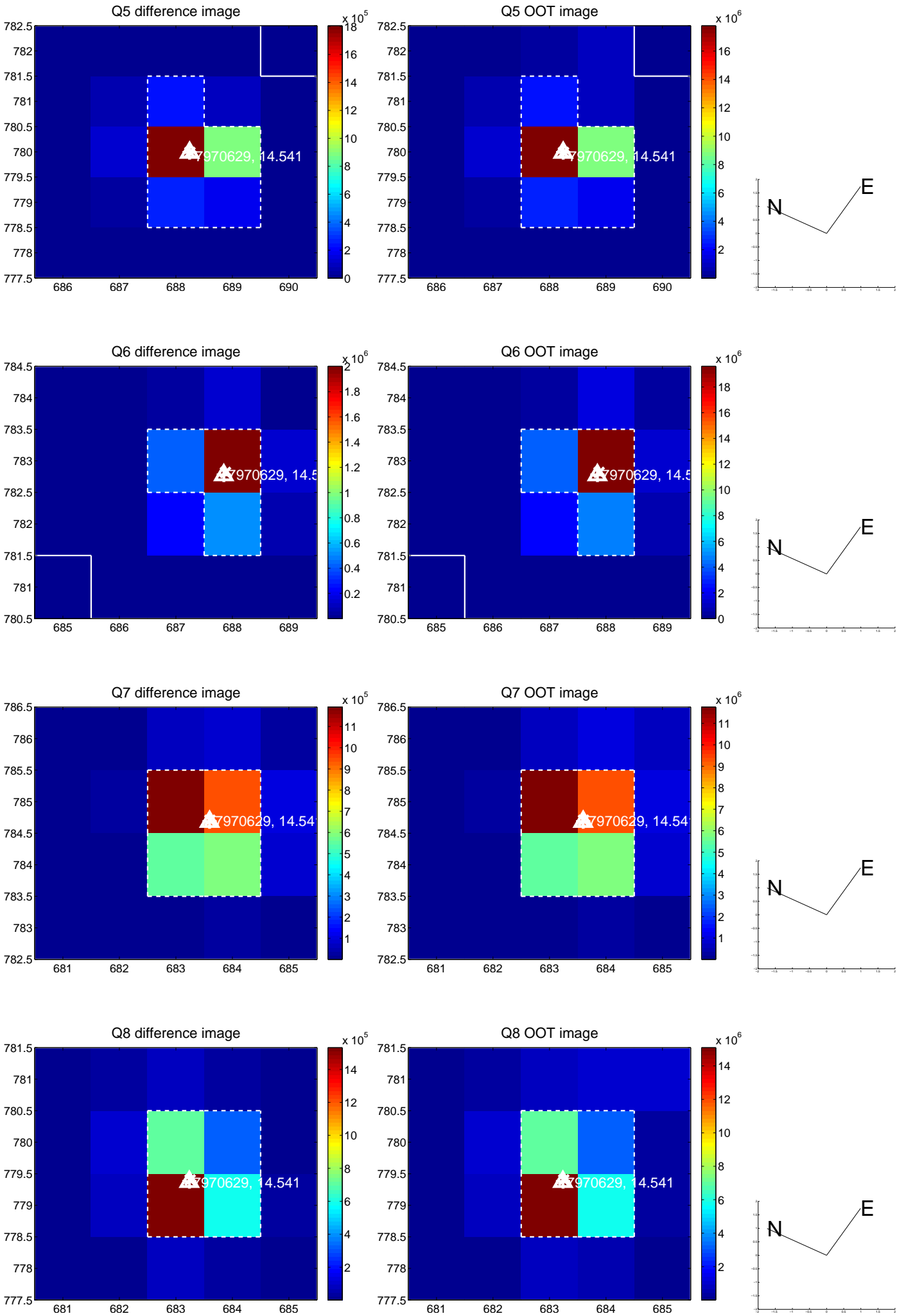


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

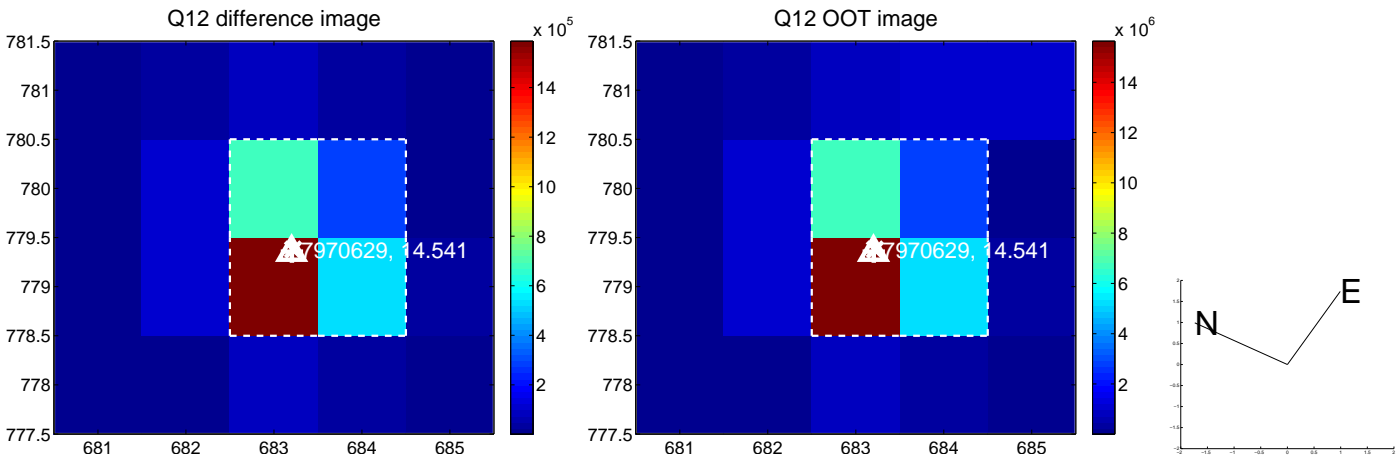
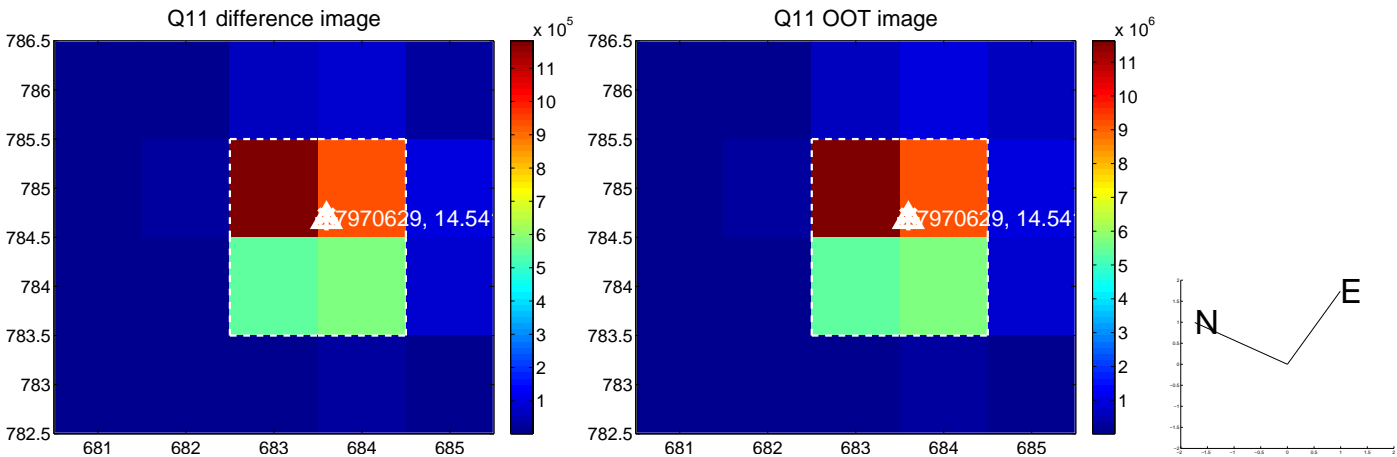
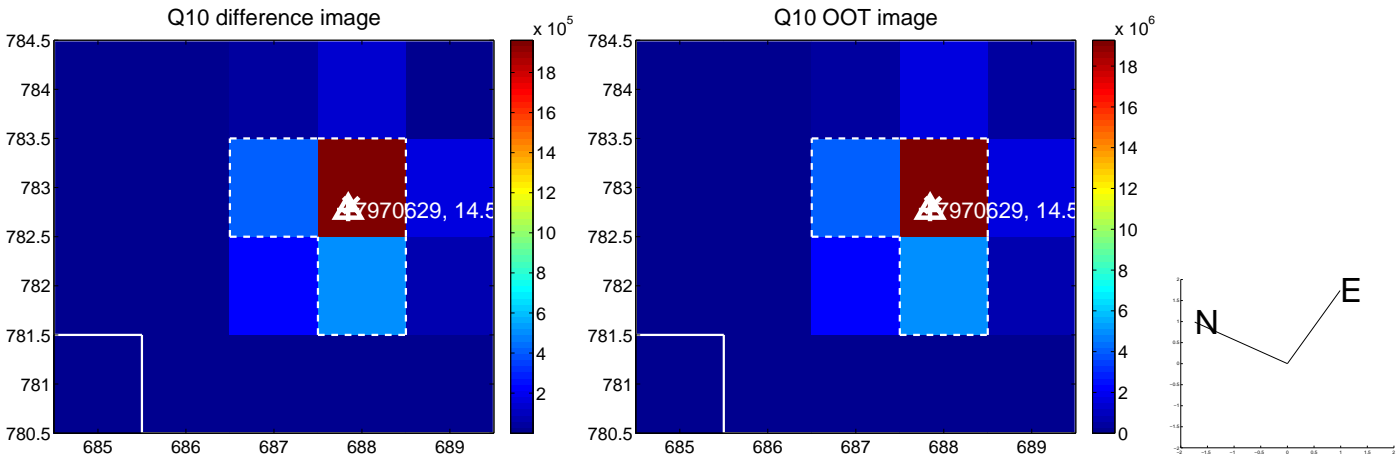
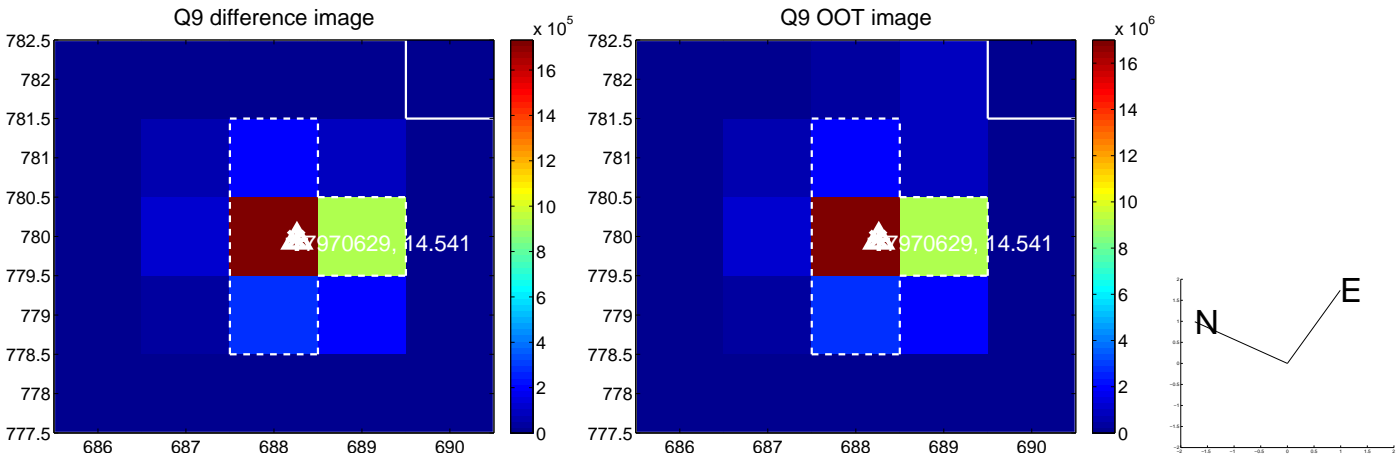
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



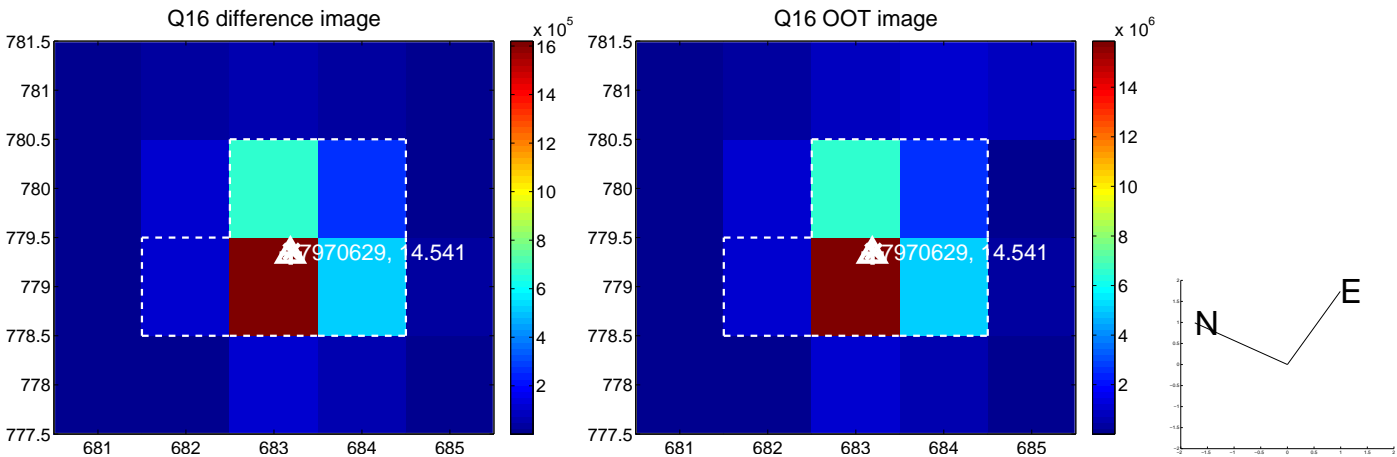
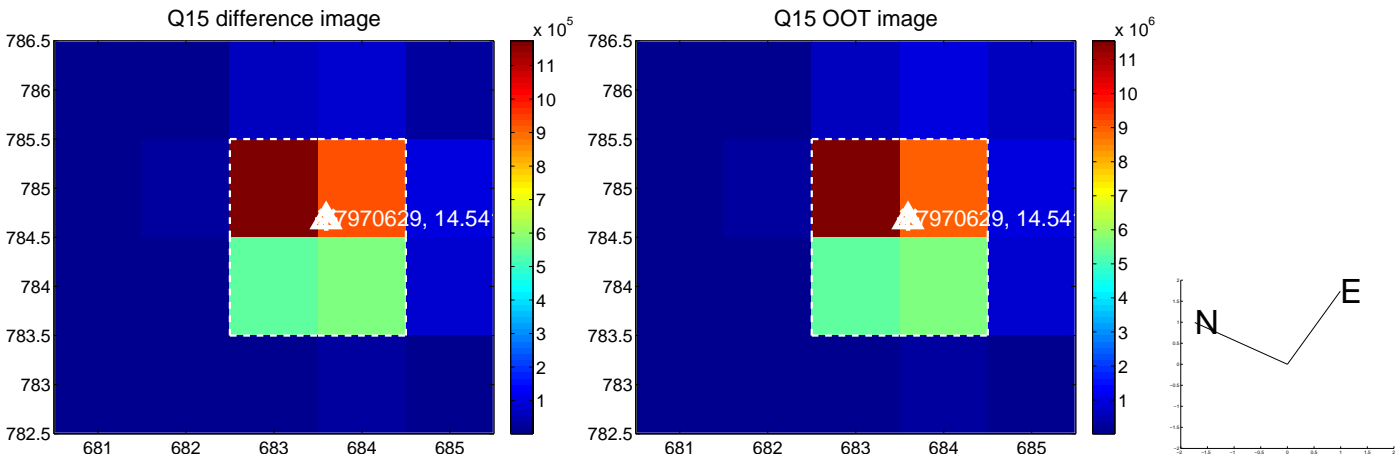
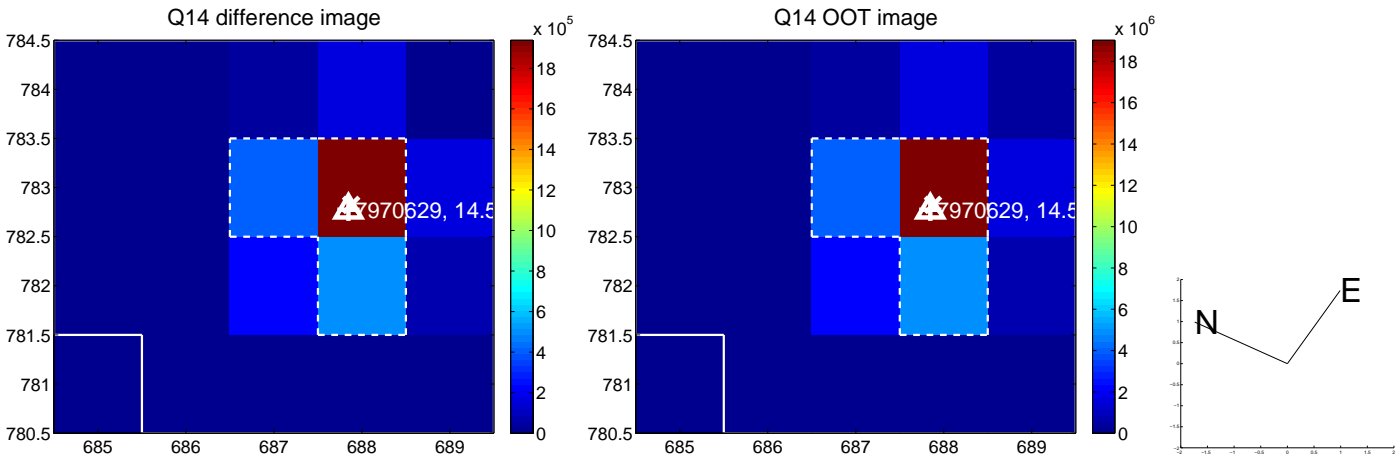
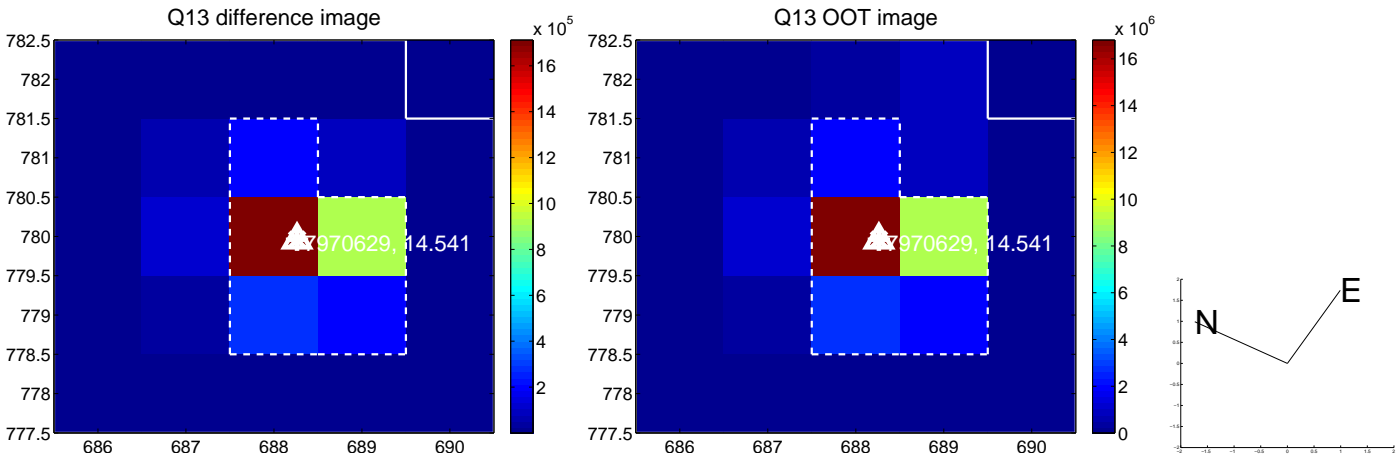
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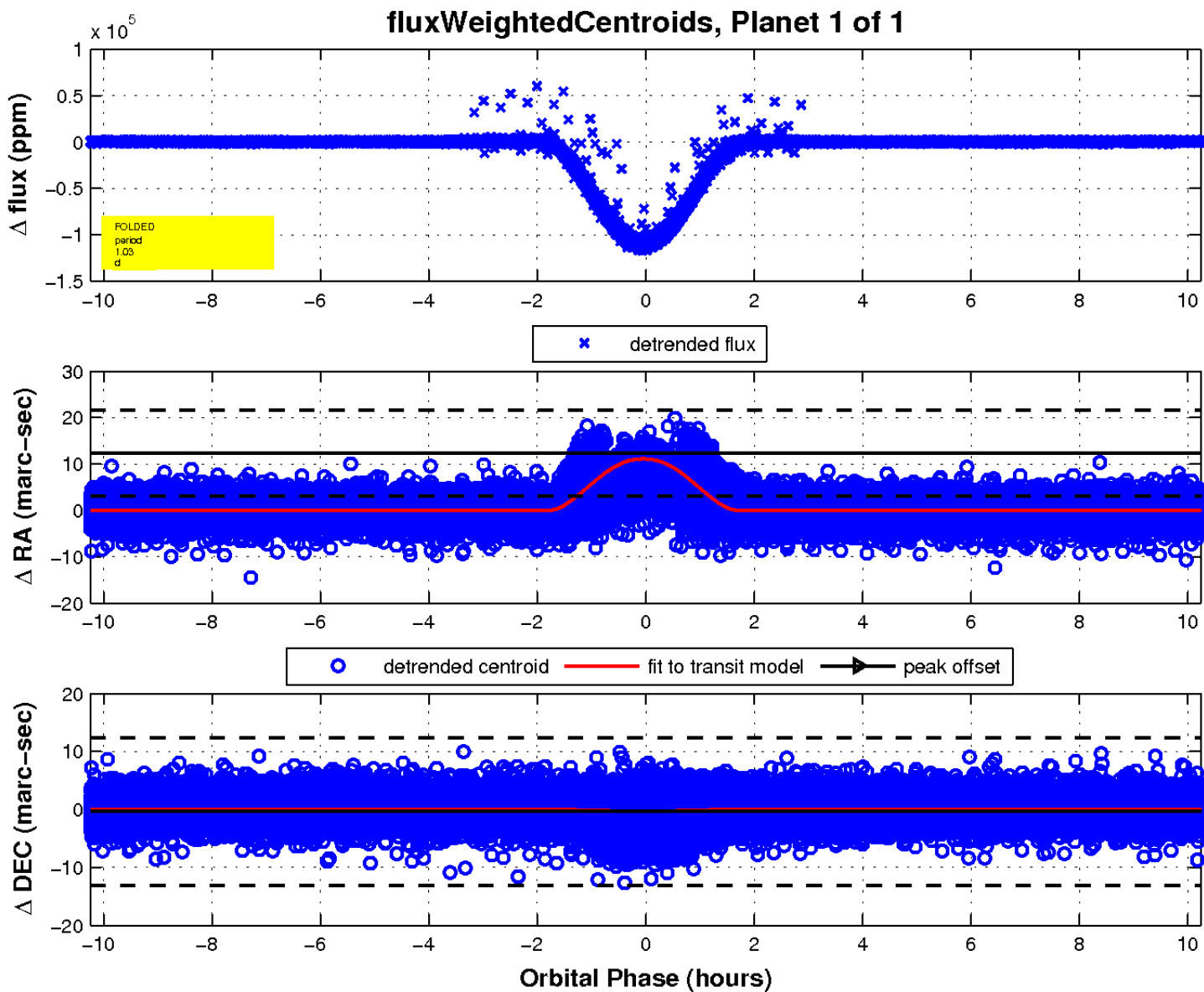
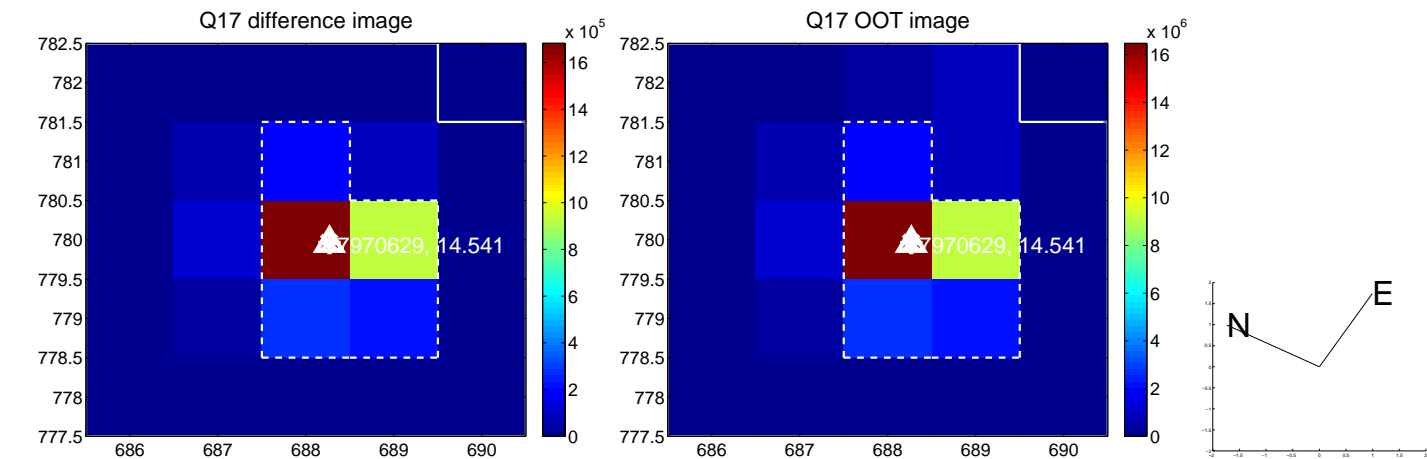
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UKIRT Image

Declination

