

KIC 004484356

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})
004484356-01	OBS	6420.01	0.572083	132.018010	127481.4	2.235	6615.5	3066.4	0.64	5233	27.57	2055.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004484356-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—SEASONAL_DEPTH_DV

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.

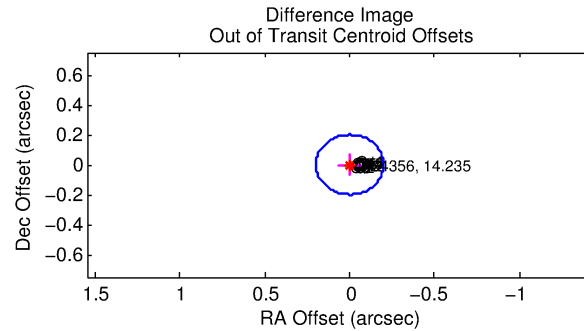
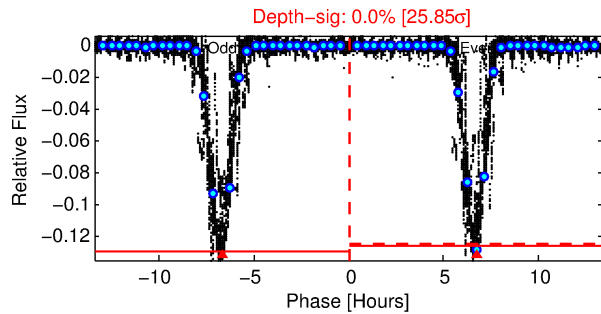
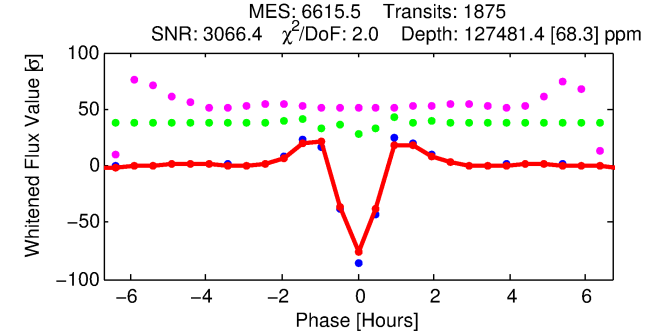
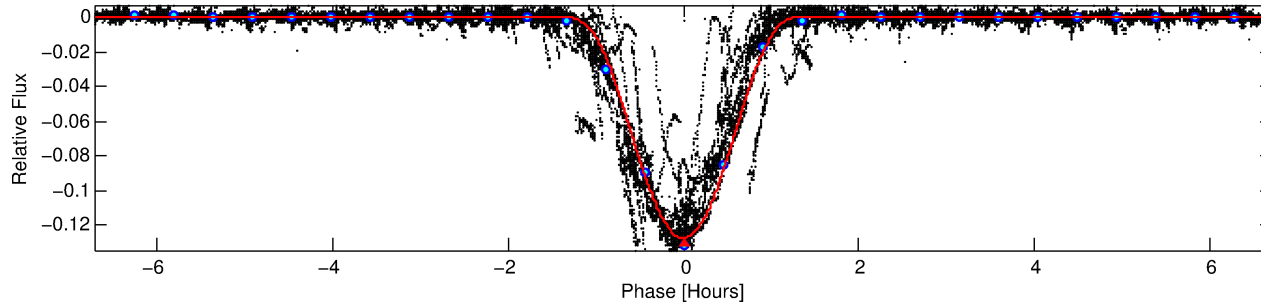
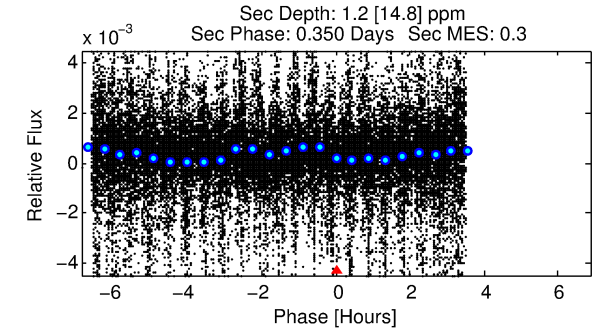
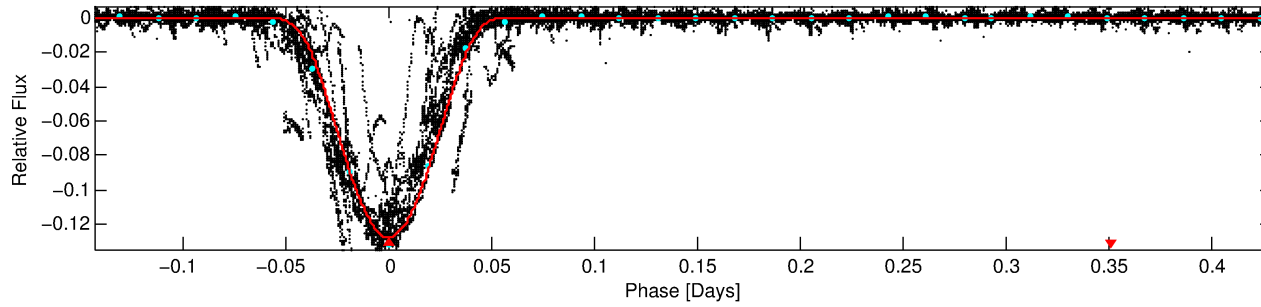
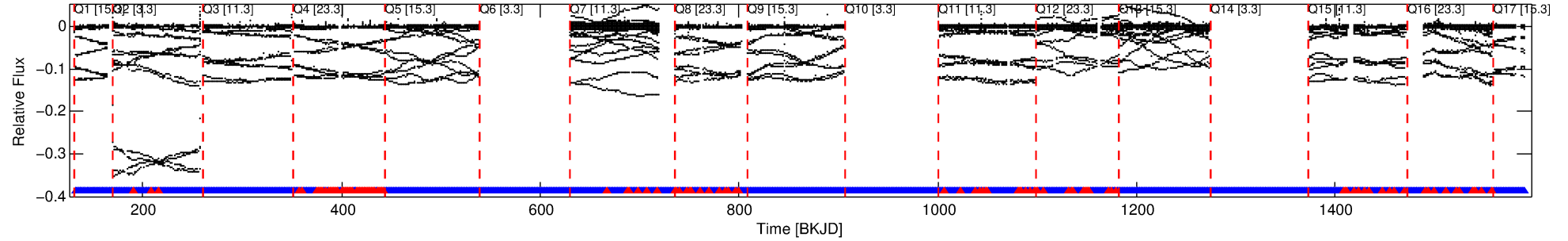
Ephemeris Match Information For 004484356-01

No Significant Match Found

DV One-Page Summary

KIC: 4484356 Candidate: 1 of 1 Period: 0.572 d
KOI: K06420.01 Corr: 0.959

Kp: 14.23 R*: 0.64 Rs Teff: 5233.0 K Logg: 4.62 Fe/H: -0.960



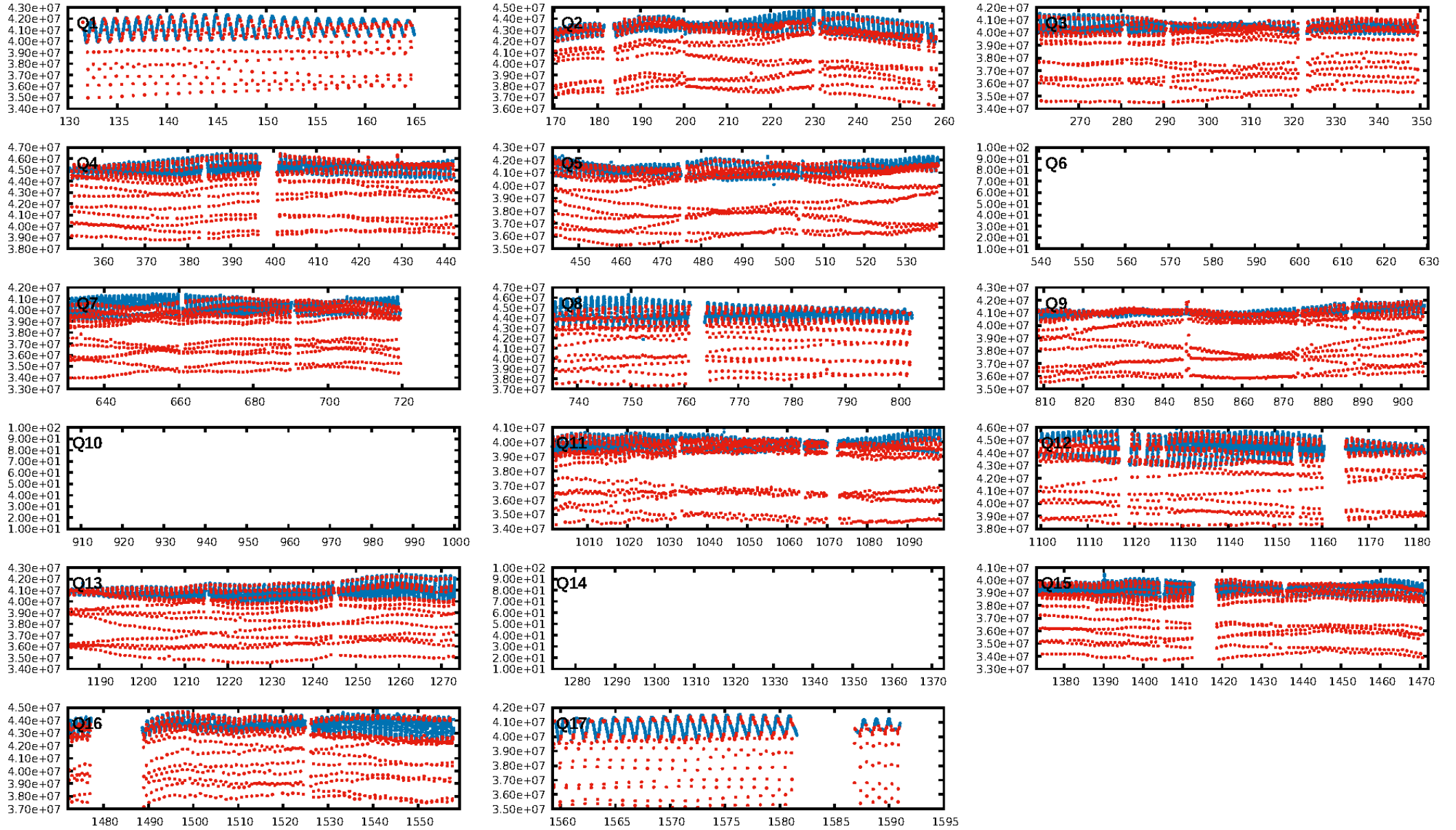
DV Fit Results:

Period = 0.57208 [0.00000] d
Epoch = 132.0180 [0.0000] BKJD
Rp/R* = 0.3954 [0.0019]
a/R* = 2.52 [0.00]
b = 0.74 [0.00]
Seff = 2055.66 [344.47]
Teq = 1717 [72] K
Rp = 27.57 [2.42] Re
a = 0.0116 [0.0009] AU
Ag = 0.00 [0.00] [-701.40σ]
Teffp = 277 [836] K [-1.72σ]

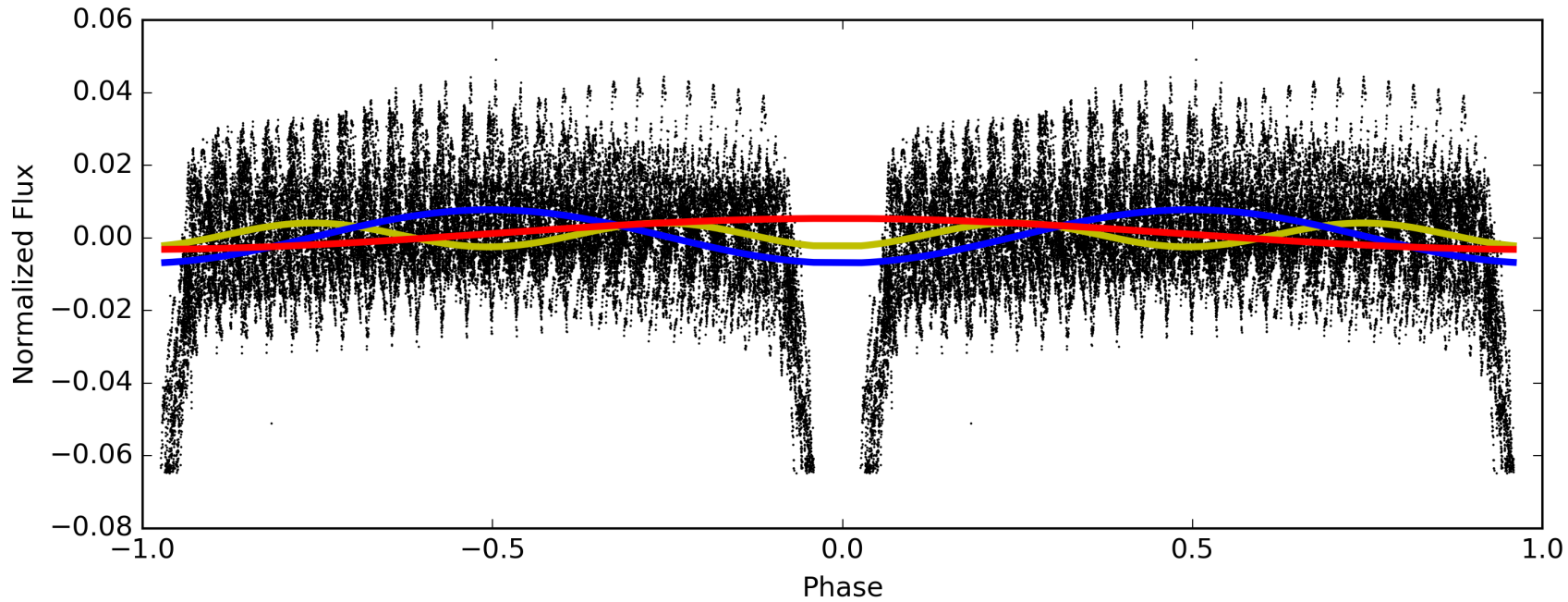
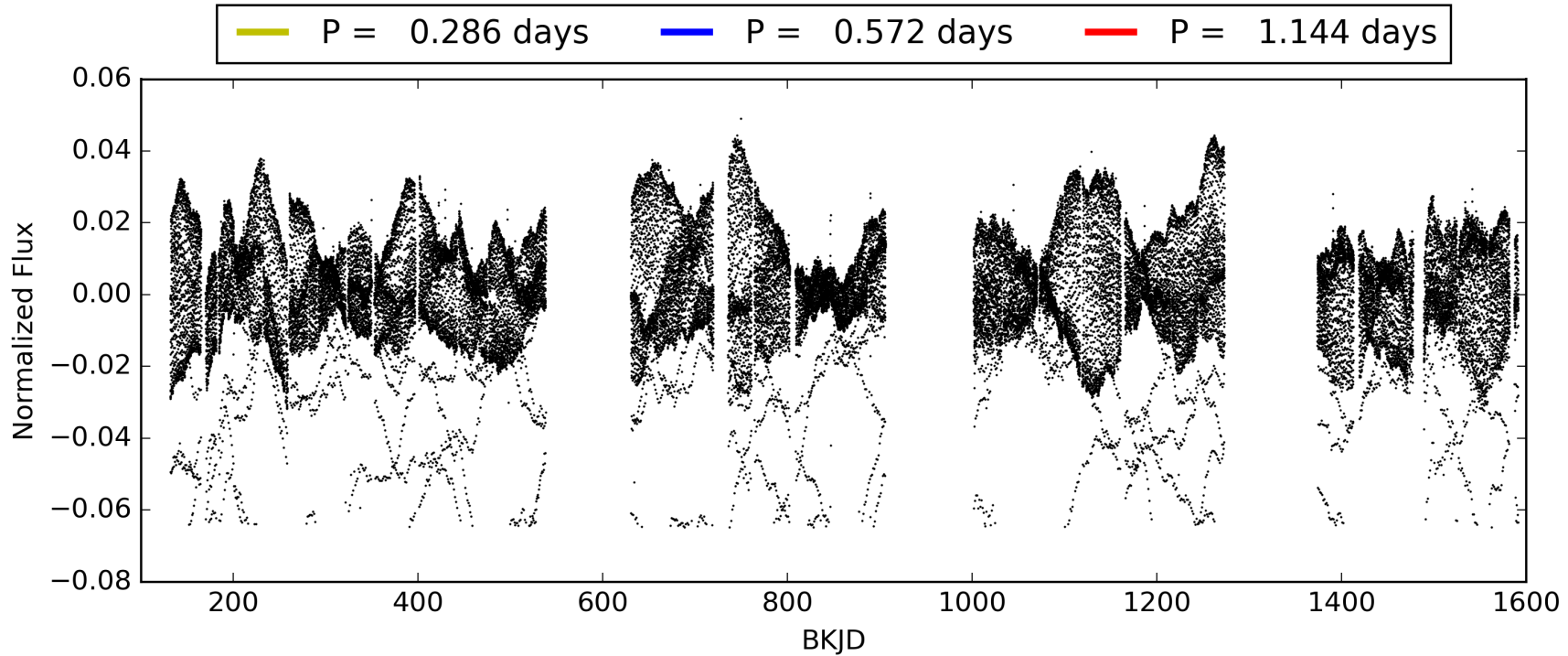
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.91 [1619/1770]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.246 arcsec [351.57σ]
OotOffset-rm: 0.002 arcsec [0.04σ]
KicOffset-rm: 0.176 arcsec [2.43σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 004484356-01, PDC Light Curves

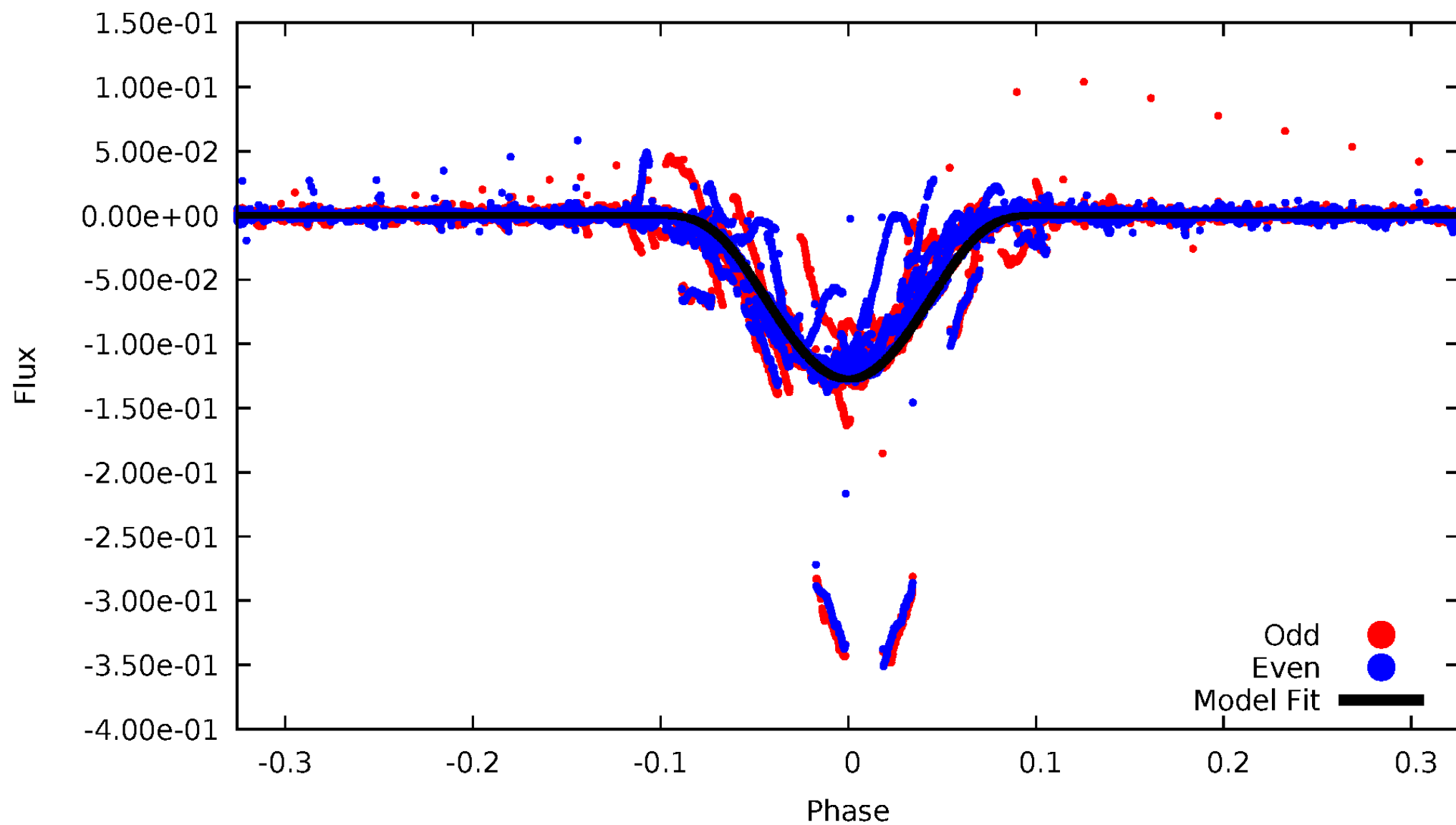


TCE 004484356-01



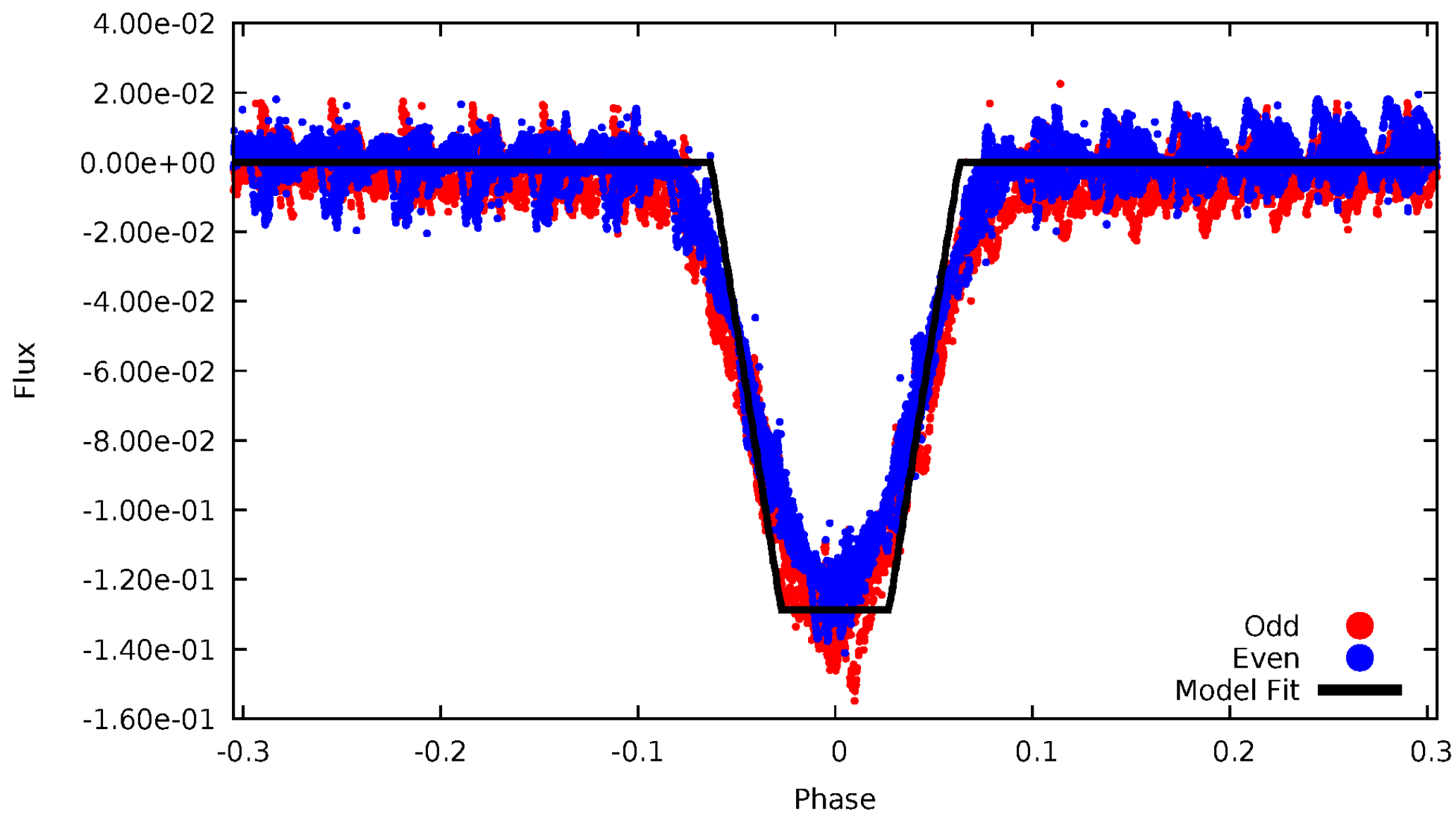
DV Odd/Even

TCE 004484356-01



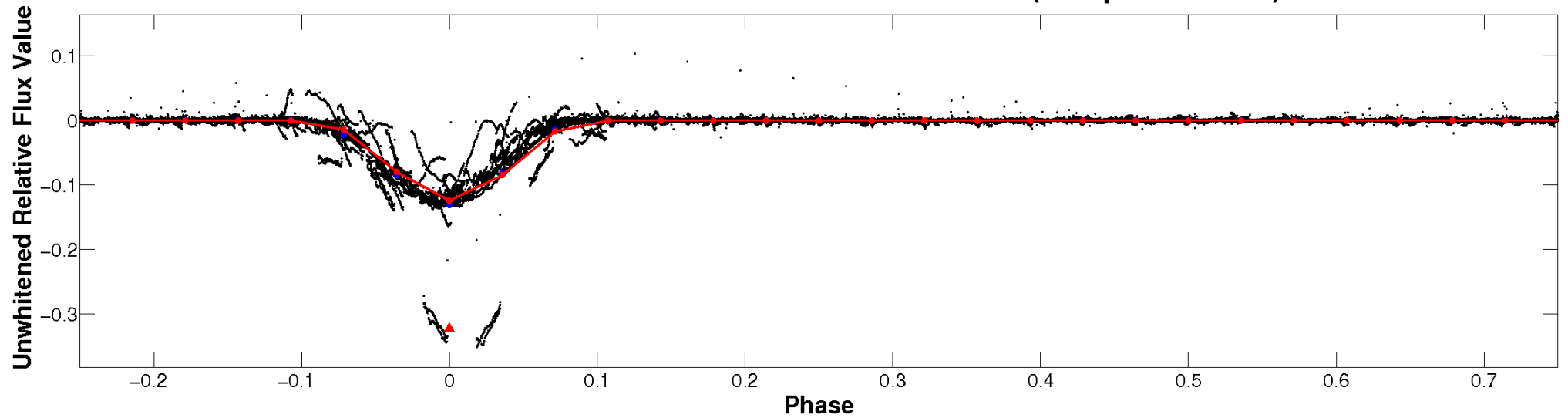
ALT Odd/Even

TCE 004484356-01

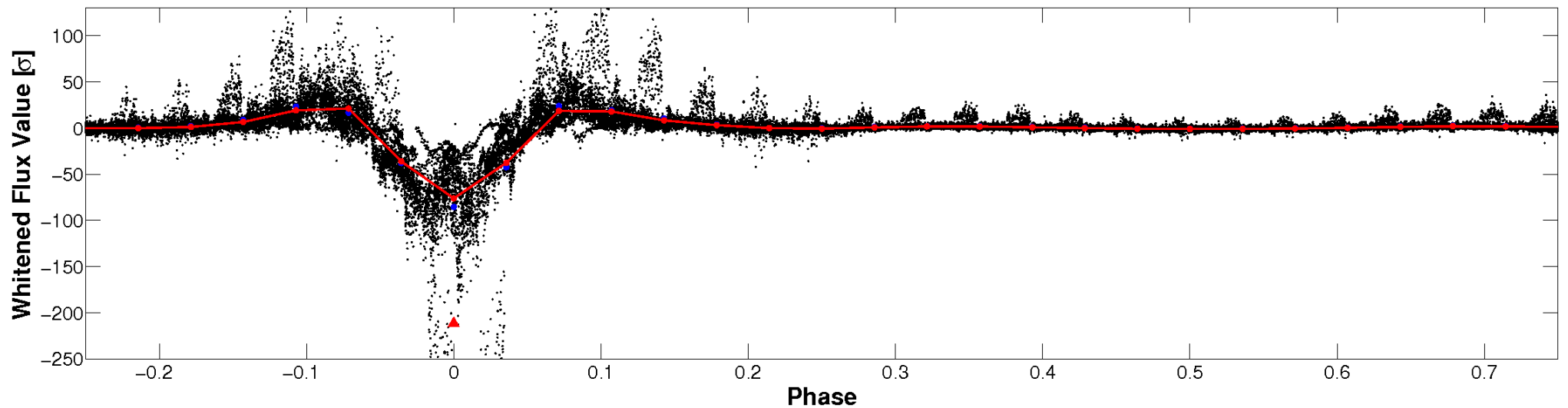


Non-Whitened Vs. Whitened Light Curve

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

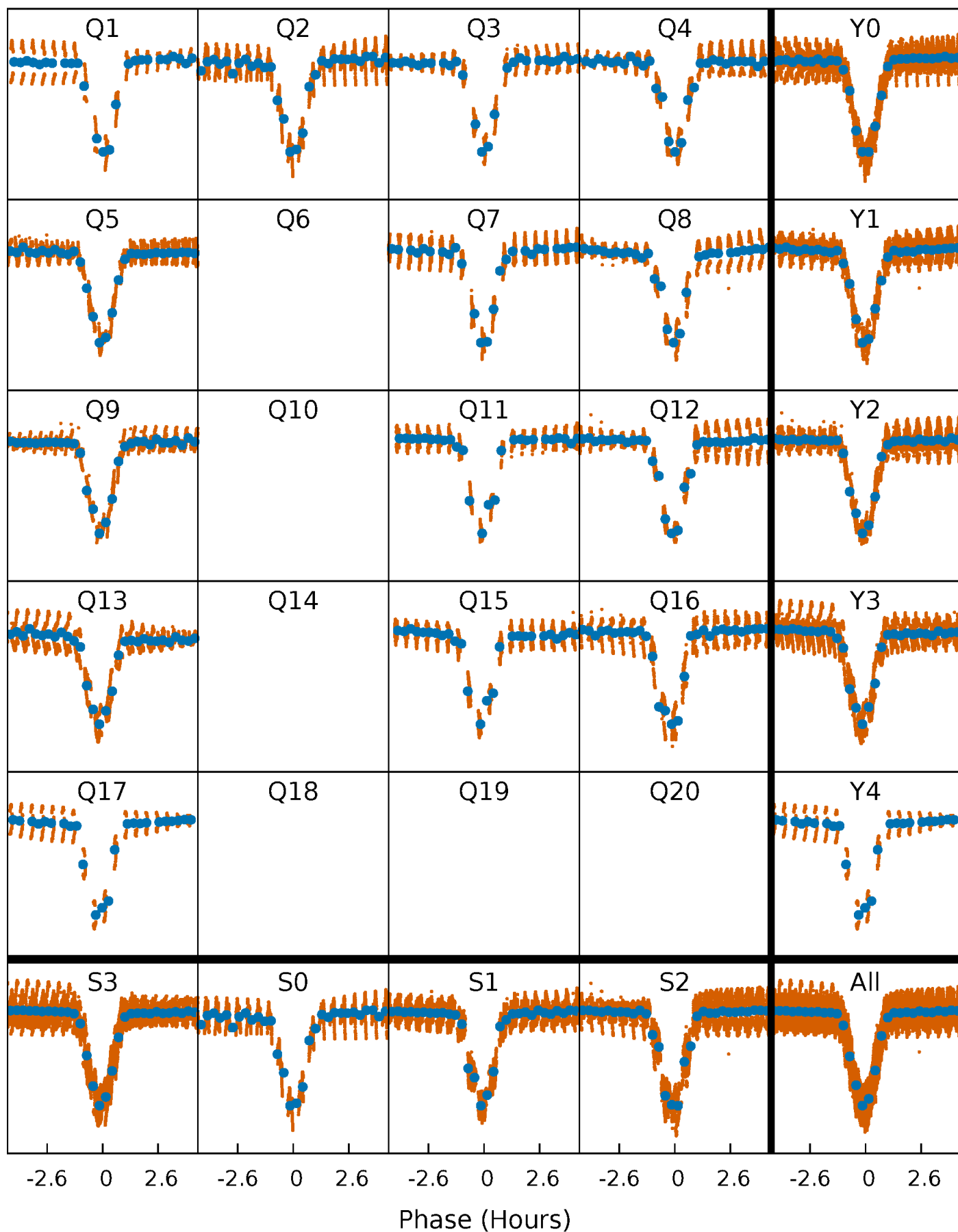


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



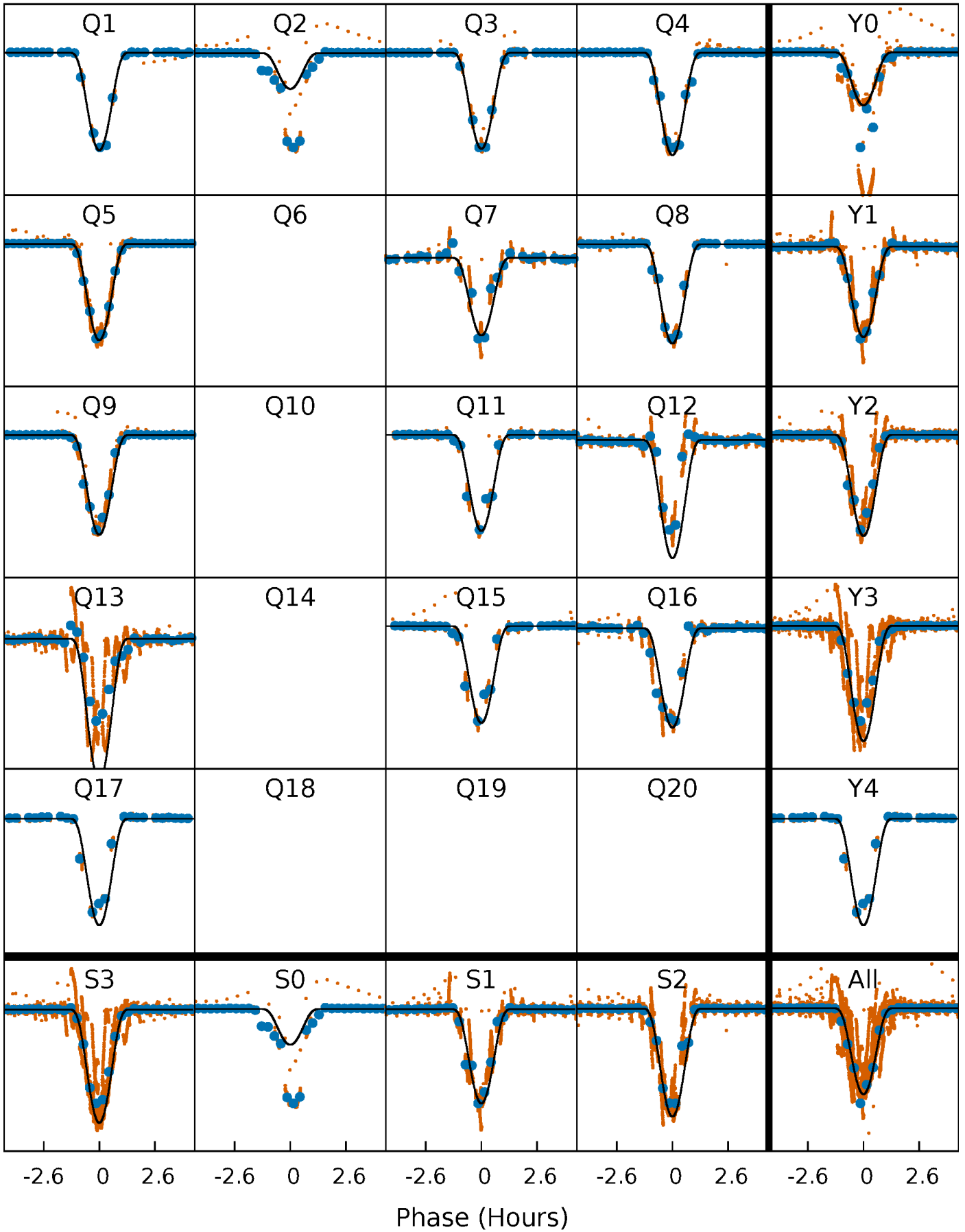
PDC Quarter-Phased Transit Curves

TCE 004484356-01 P= 0.572083 Days $T_0=132.018010$ (BKJD)



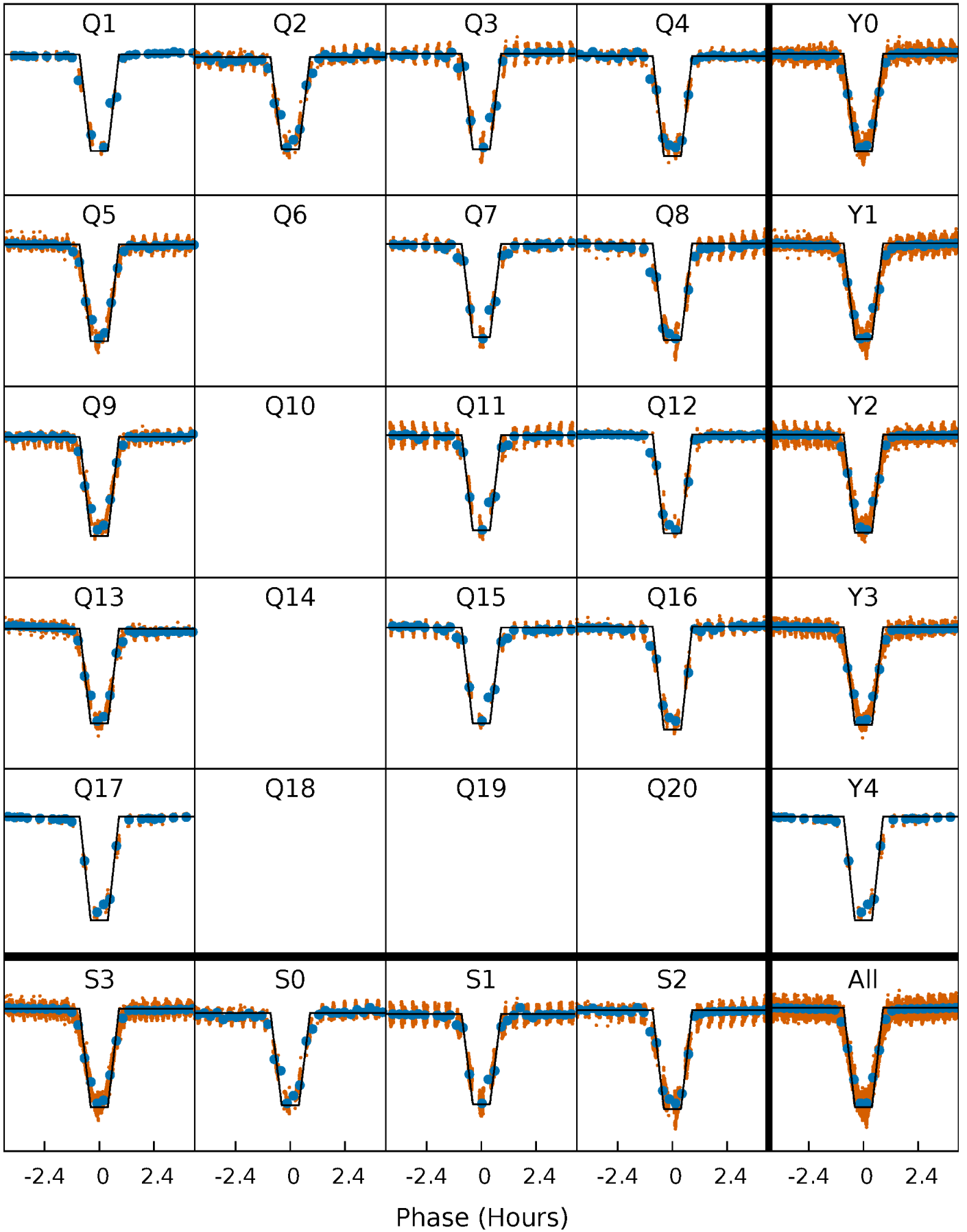
DV Quarter-Phased Transit Curves

TCE 004484356-01 P= 0.572083 Days $T_0=132.018010$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

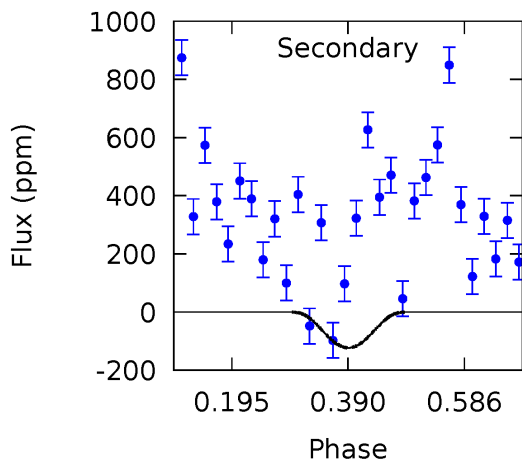
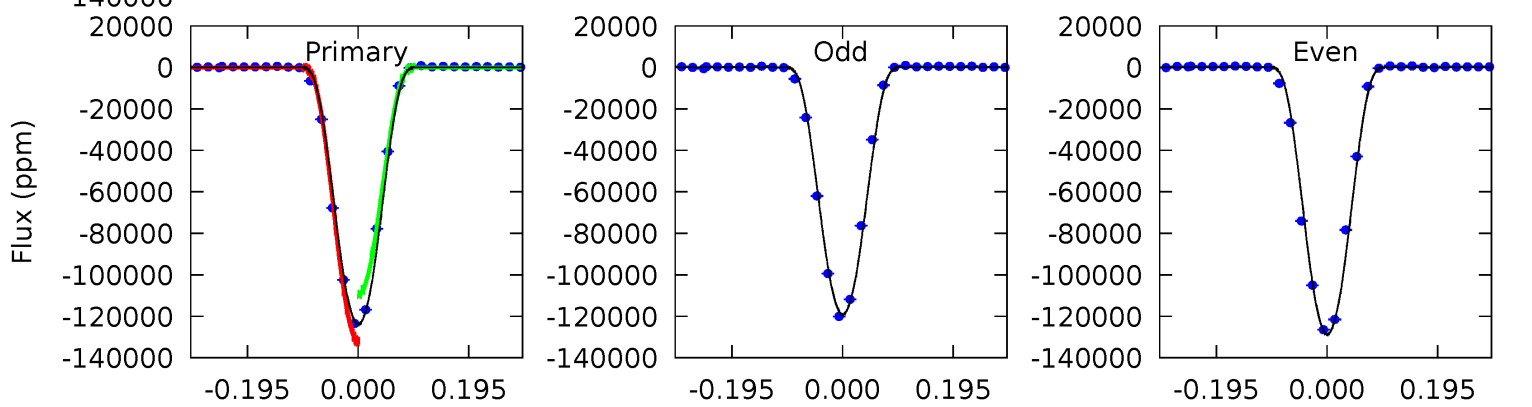
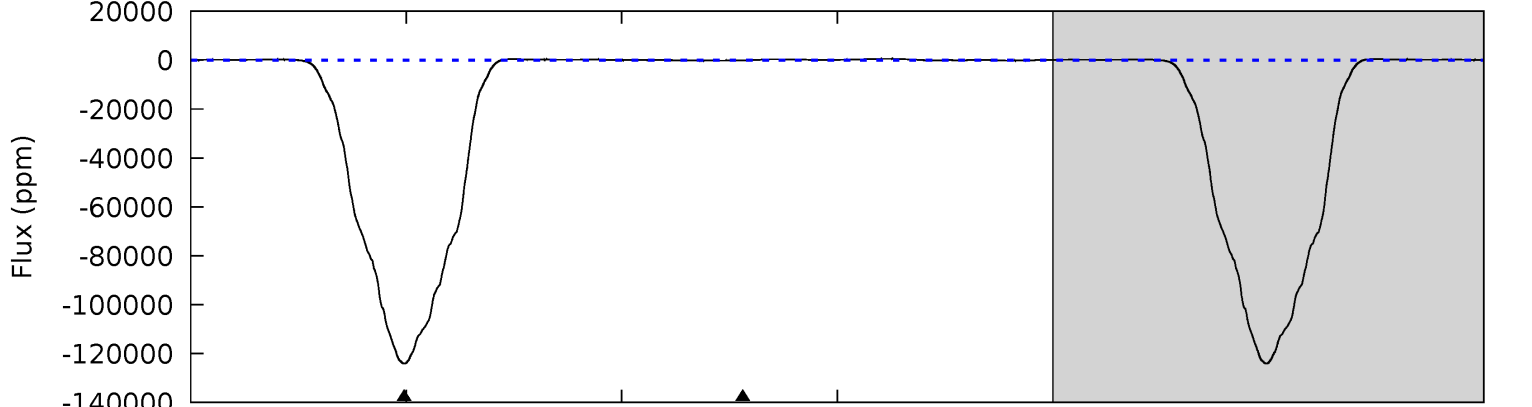
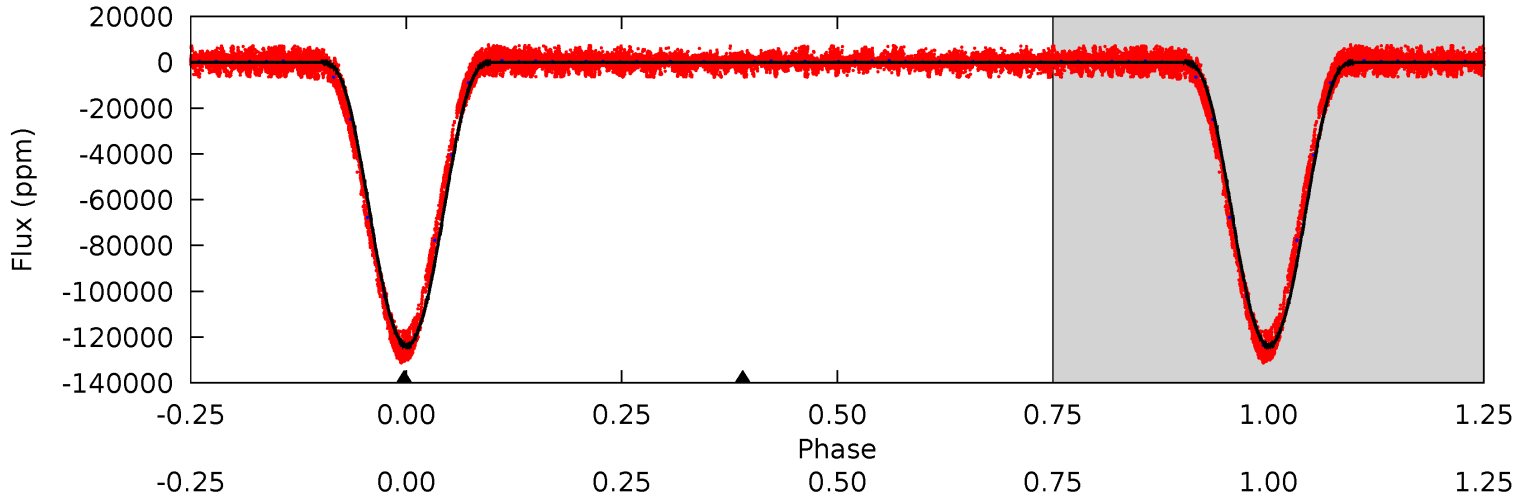
TCE 004484356-01 P= 0.572079 Days $T_0=132.019753$ (BKJD)



DV Model-Shift Uniqueness Test

004484356-01, P = 0.572083 Days, E = 131.445927 Days

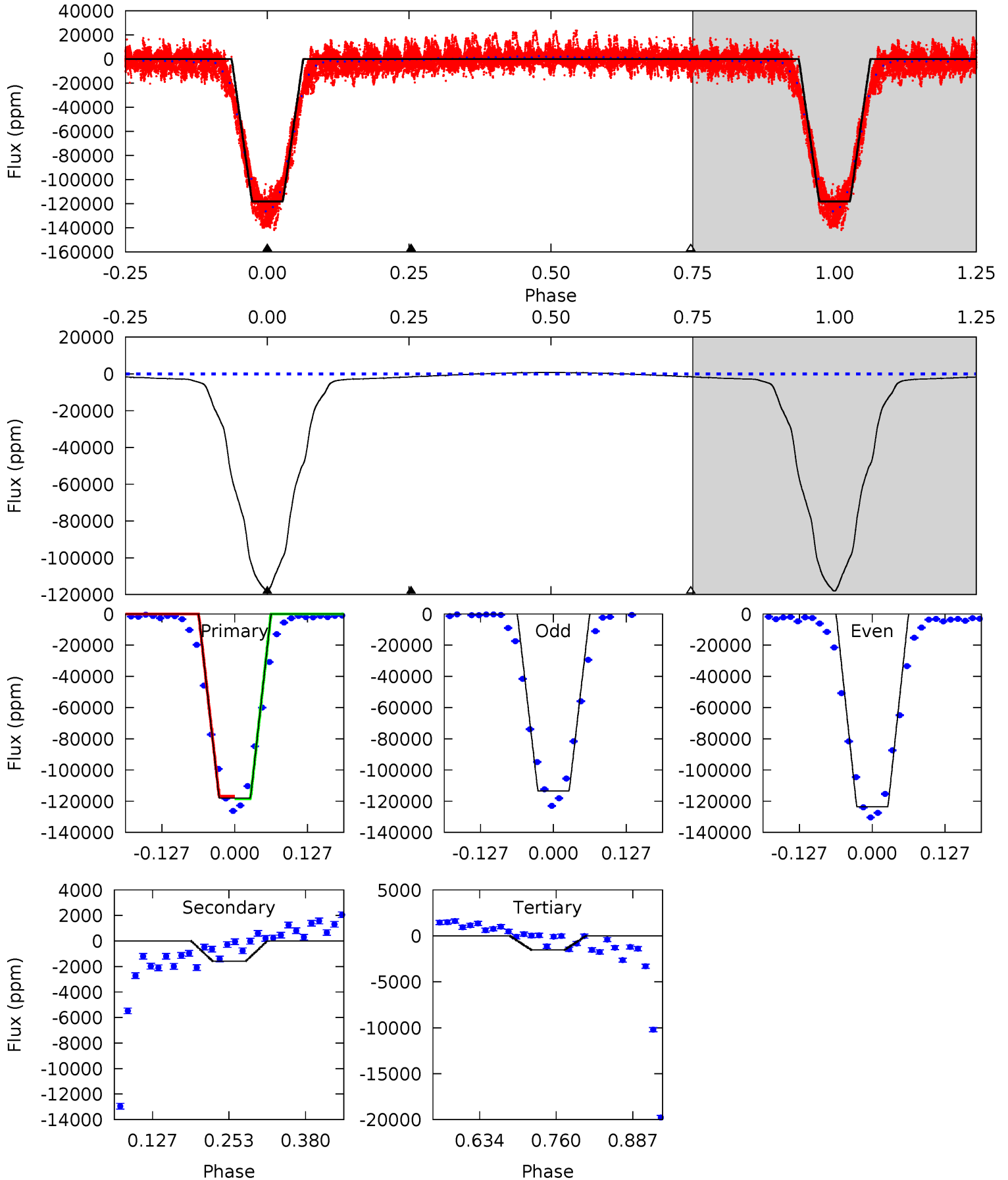
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4970	4.93	0	0	4.42	1.30	4.24	4970	4970	4.93	4.93	193.0	1.07	0.00	0



Alt Model-Shift Uniqueness Test

004484356-01, P = 0.572079 Days, E = 131.447674 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1773	23.9	23.1	0	4.51	1.53	19.1	1750	1773	0.78	23.9	73.3	1.01	0.01	11.6



Stellar Parameters For KIC 004484356

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5233^{+157}_{-157}	$4.625^{+0.066}_{-0.048}$	$-0.960^{+0.300}_{-0.300}$	$0.639^{+0.056}_{-0.051}$	$0.627^{+0.060}_{-0.023}$	$3.393^{+0.913}_{-0.600}$
	+3%/-3%	+1%/-1%	+31%/-31%	+9%/-8%	+10%/-4%	+27%/-18%
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 004484356-01 / KOI 6420.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-123 ± 25	$27.54^{+1.45}_{-1.31}$	2392^{+79}_{-85}	-2702^{+55}_{-52}	$0.012^{+0.003}_{-0.002}$
Alt.	-1589 ± 67	$25.07^{+1.30}_{-1.18}$	2385^{+94}_{-84}	-2398^{+88}_{-81}	$0.188^{+0.021}_{-0.018}$

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 $A_{obs} \gg 1.0$

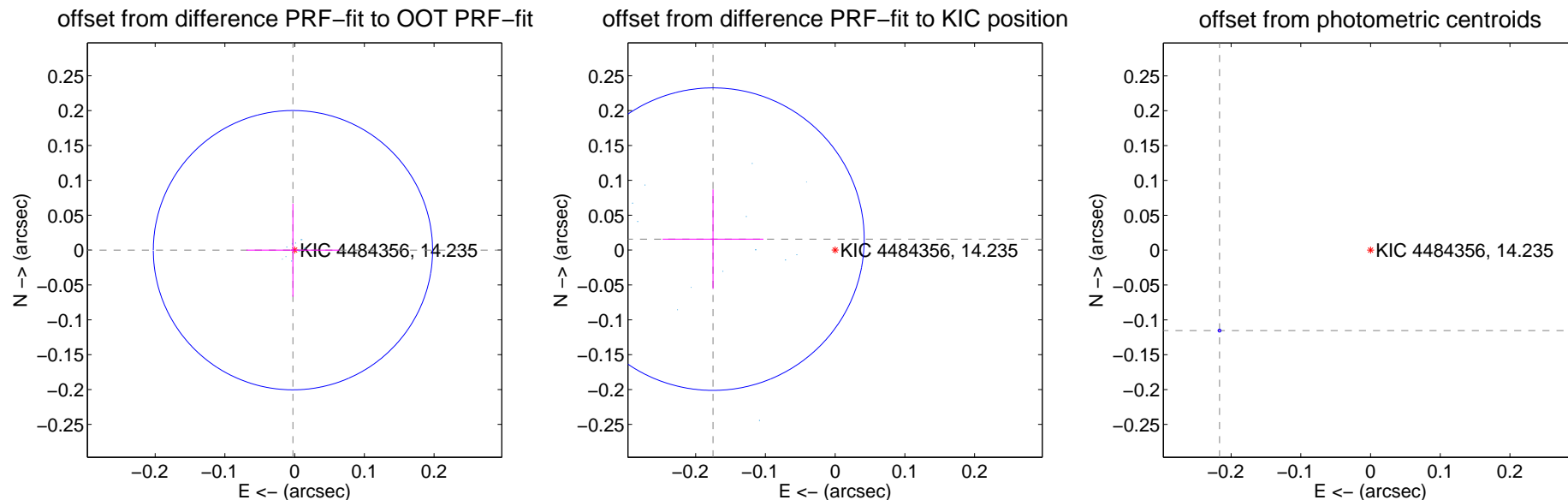
DV Centroid Data

Supplemental centroid analysis for 004484356-01. Kepler magnitude: 14.23. Transit SNR 3066.39

There are 14 quarters with good PRF difference image offsets

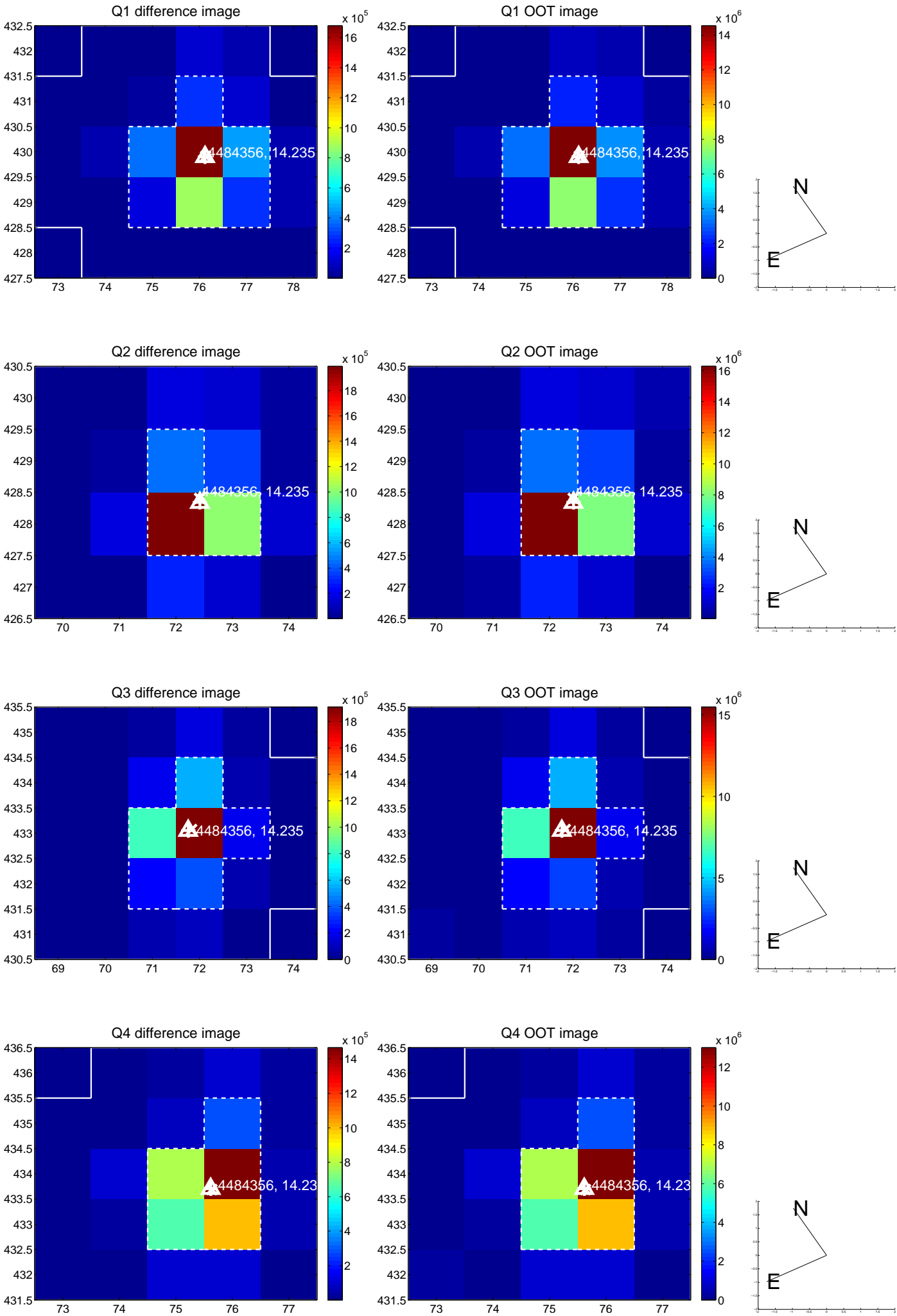
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.002 ± 0.067	0.04	0.002 ± 0.067	-0.000 ± 0.067
PRF-fit source offset from KIC position	0.176 ± 0.072	2.43	0.175 ± 0.072	0.016 ± 0.071
photometric centroid source offset	0.25 ± 0.00	351.57	0.22 ± 0.00	-0.12 ± 0.00

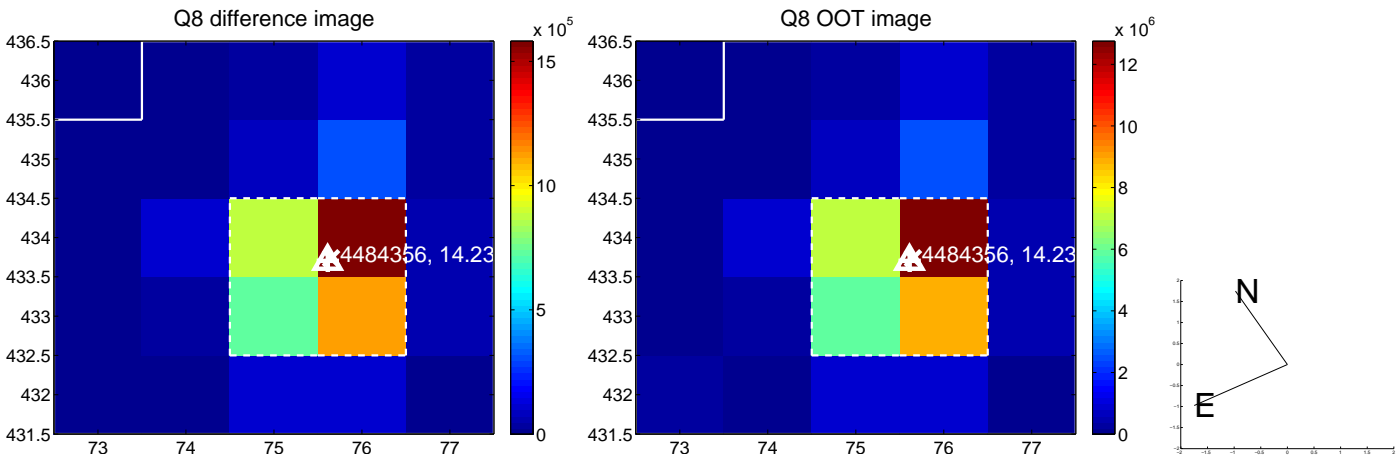
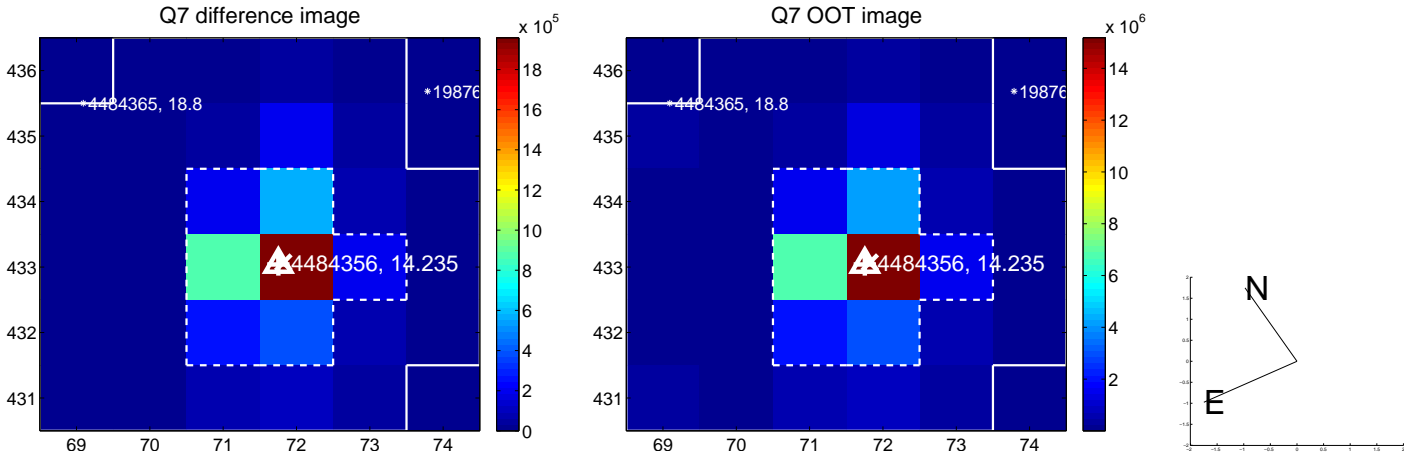
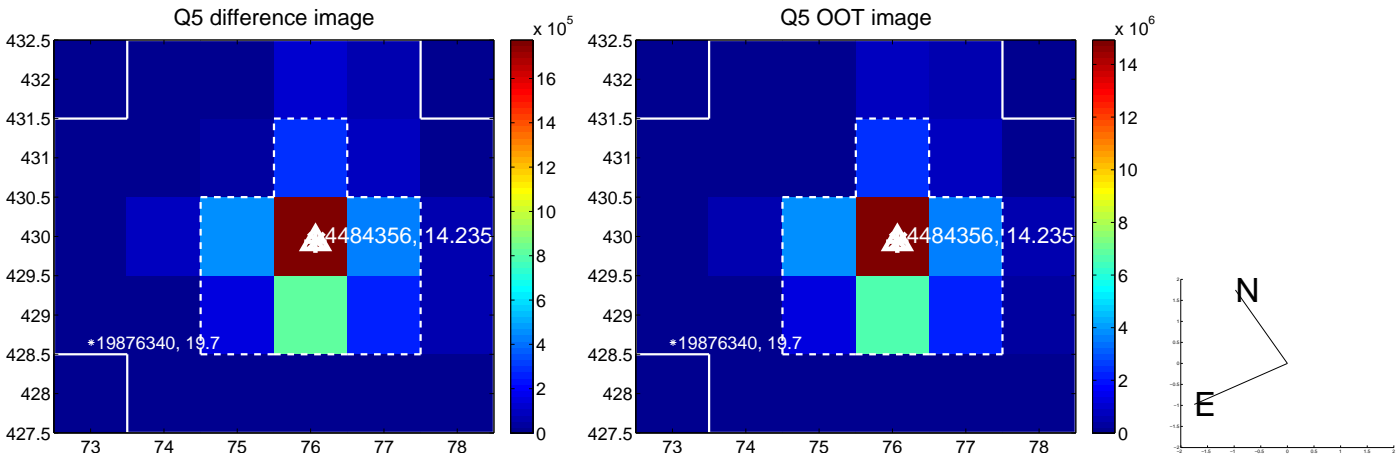


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

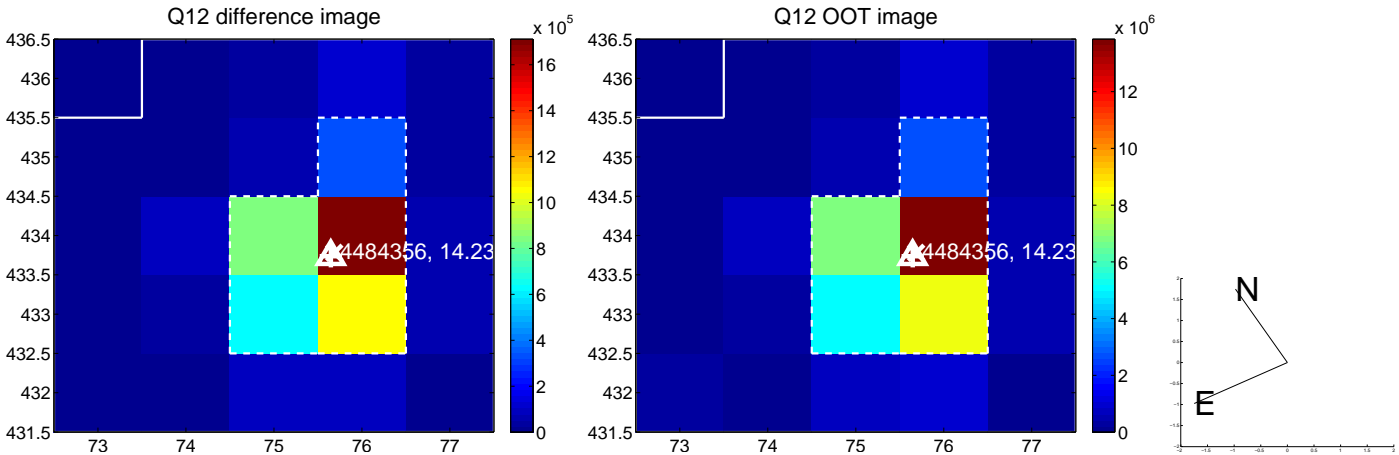
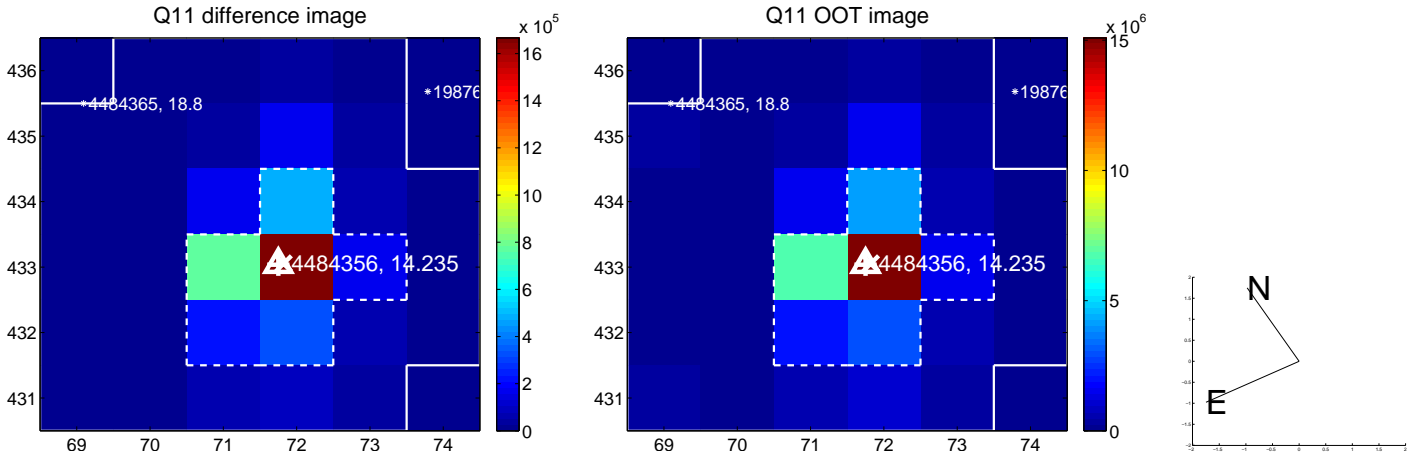
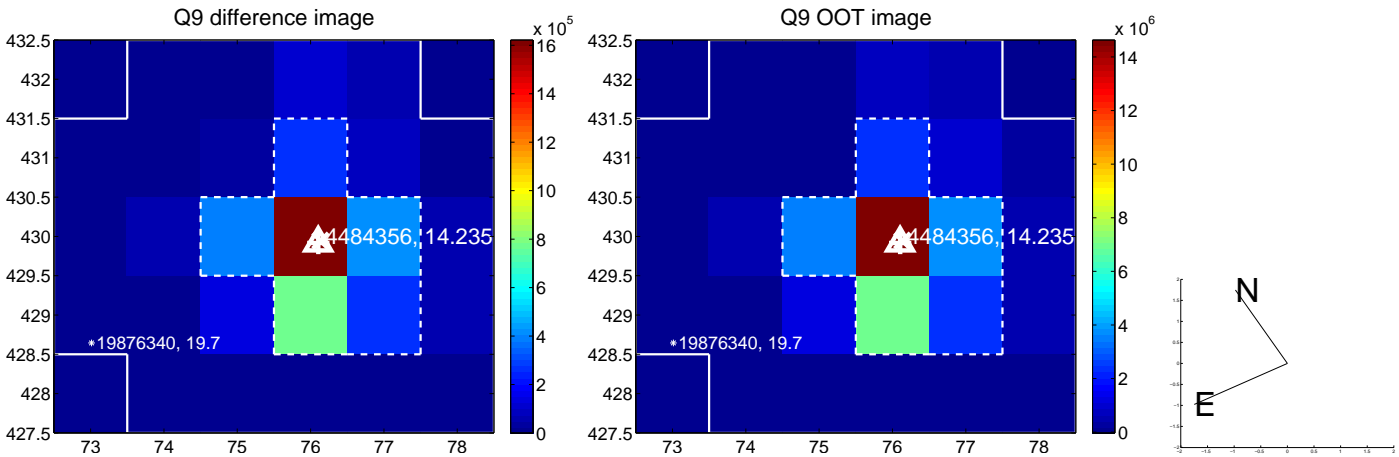
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



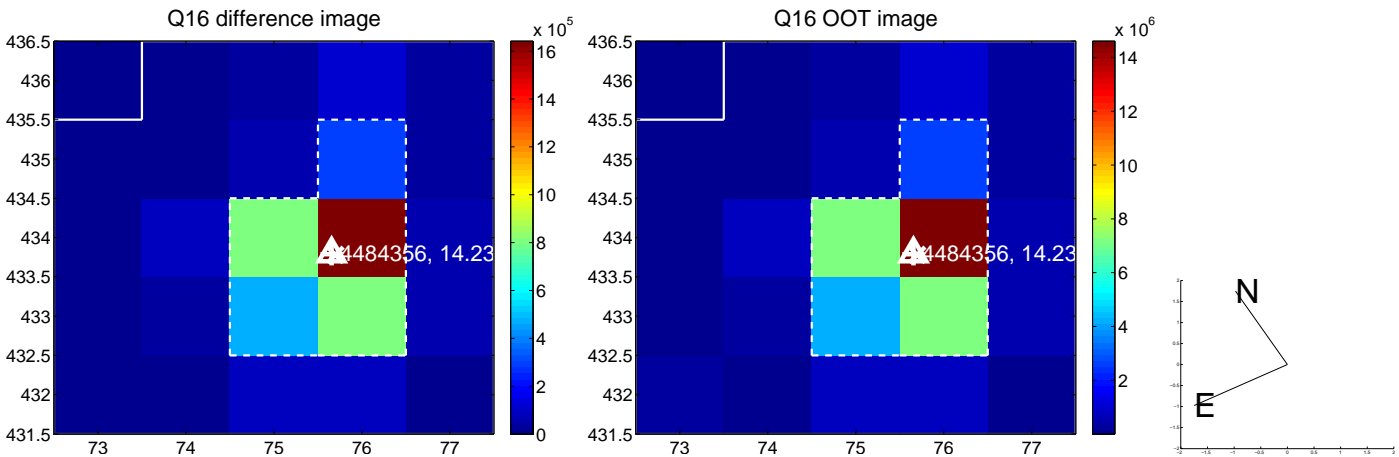
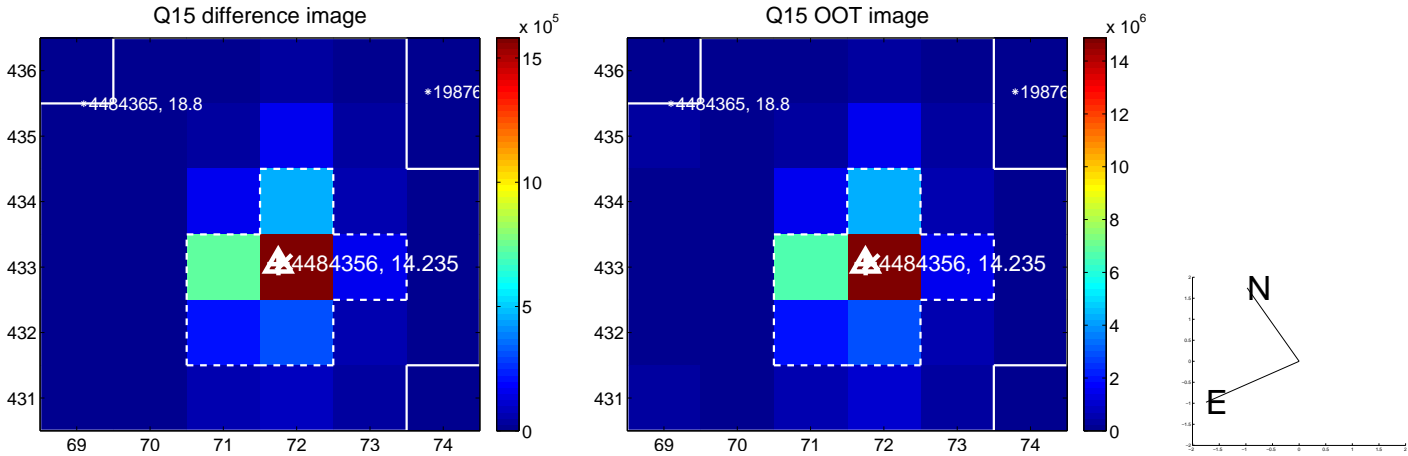
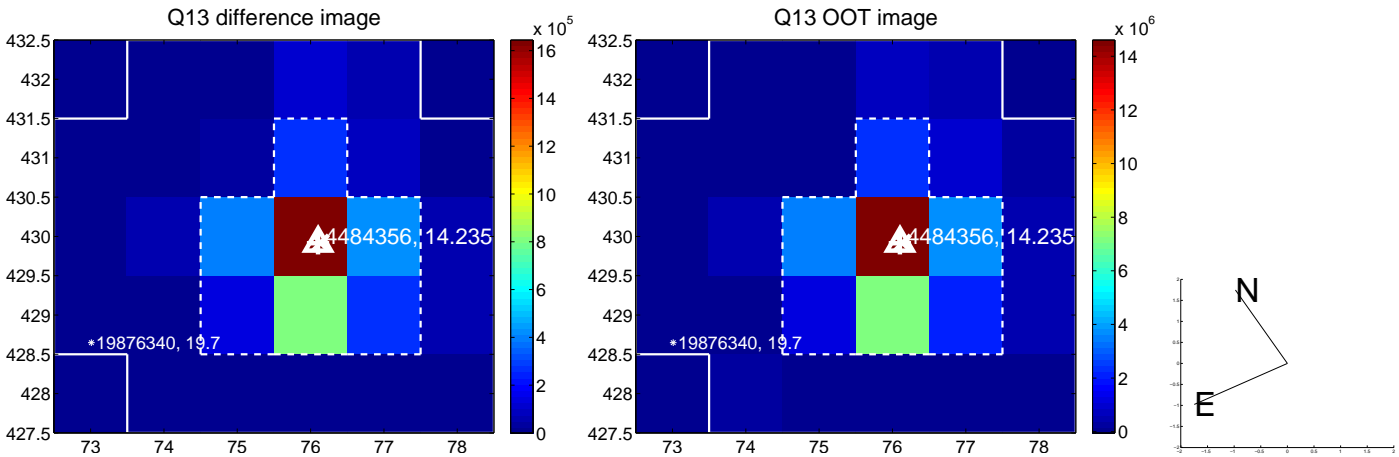
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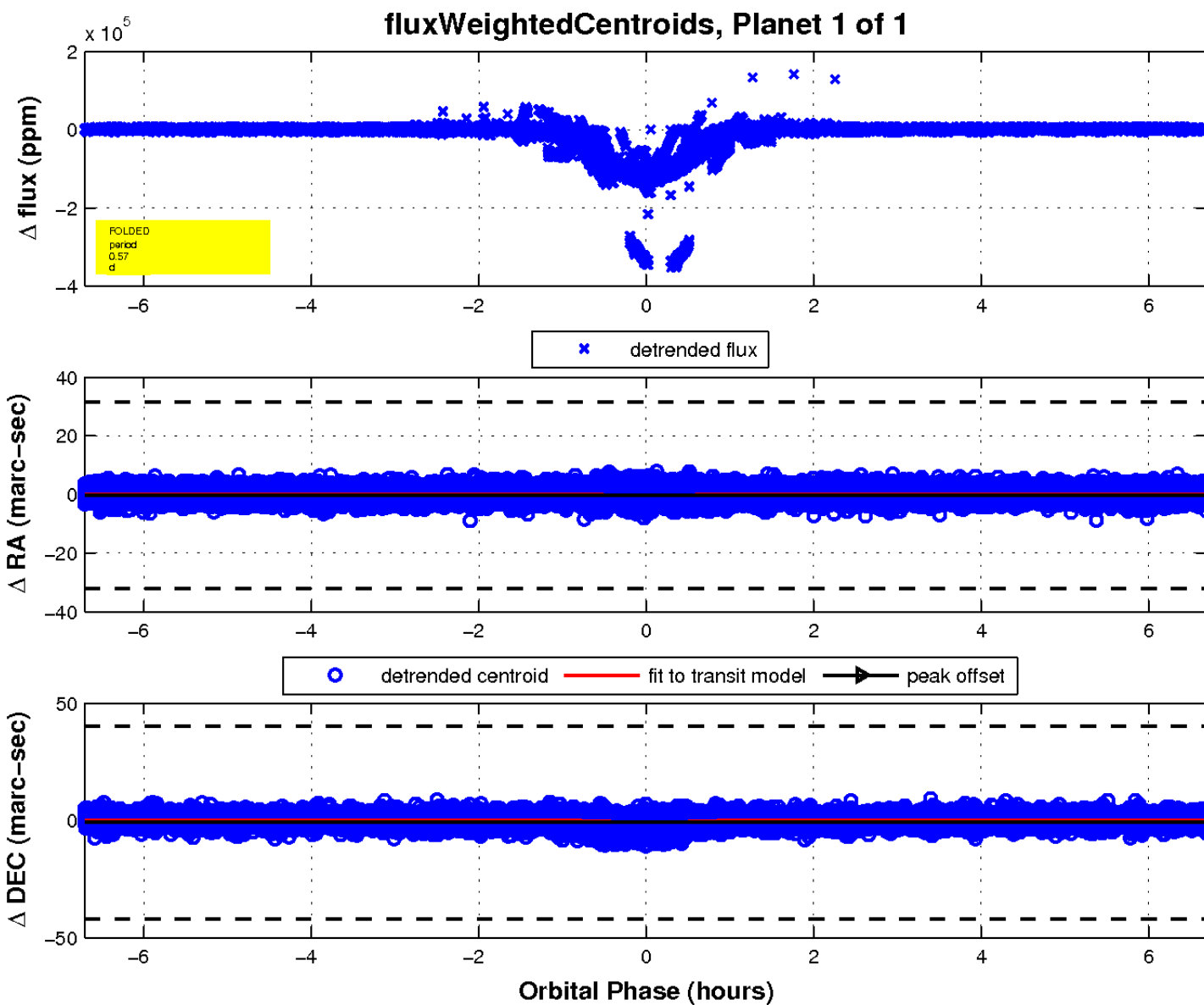
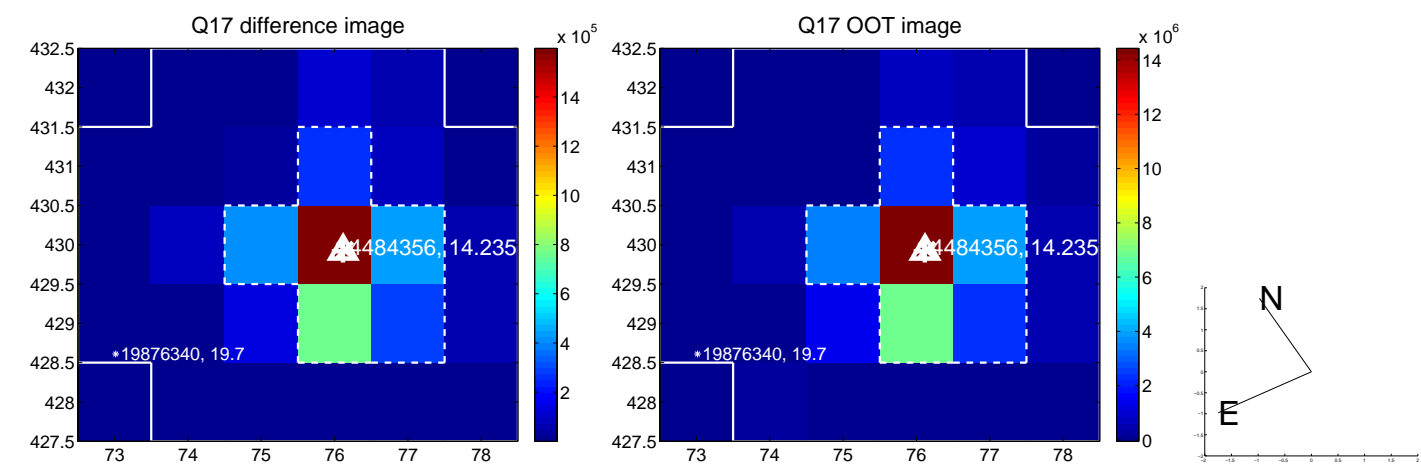
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UKIRT Image

Declination

