

KIC 010535807

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})
010535807-01	OBS	7337.01	1.481649	132.701657	45647.1	2.990	3952.1	1742.1	1.17	6478	27.30	3317.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010535807-01	OBS	FP	0.00	0	1	0	0	SWEET_EB

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.

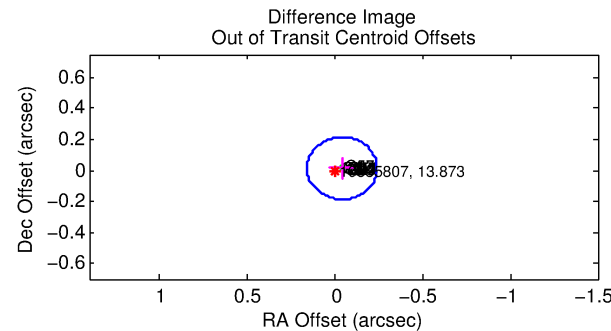
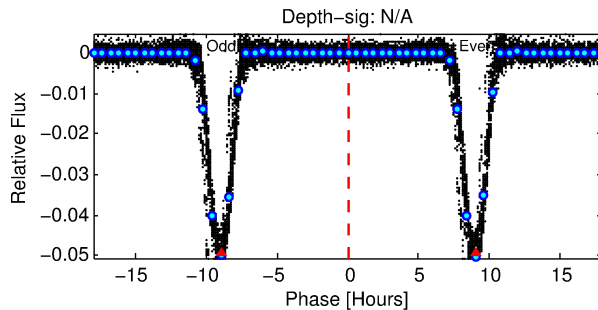
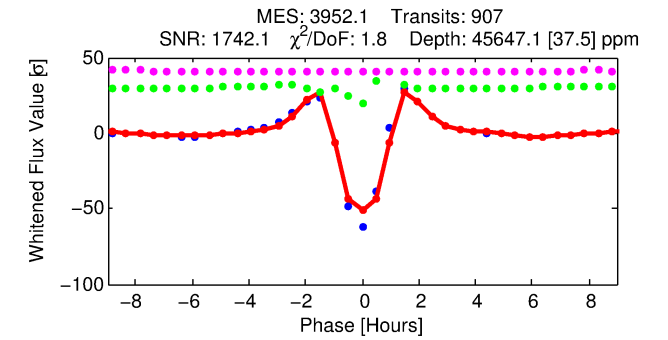
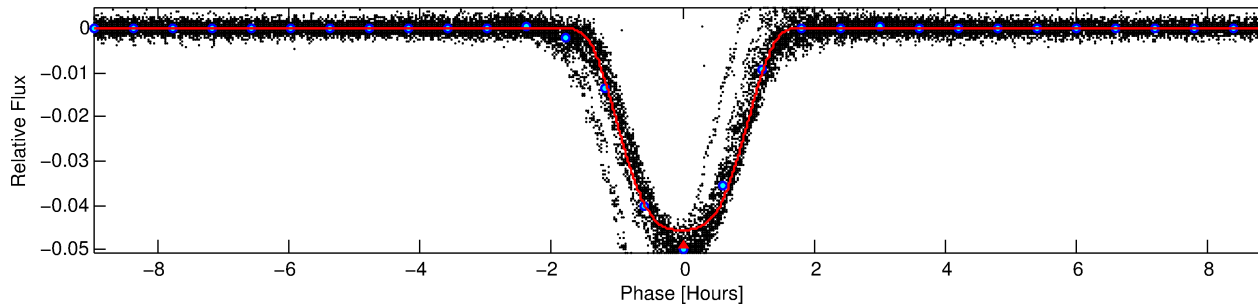
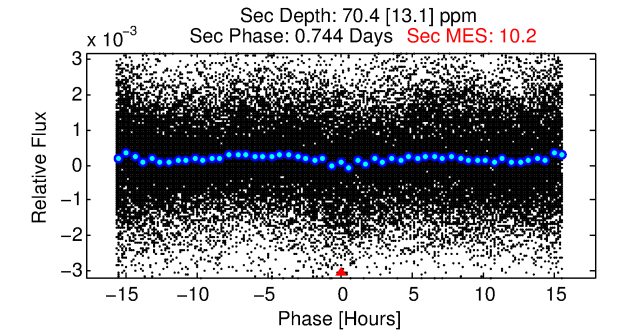
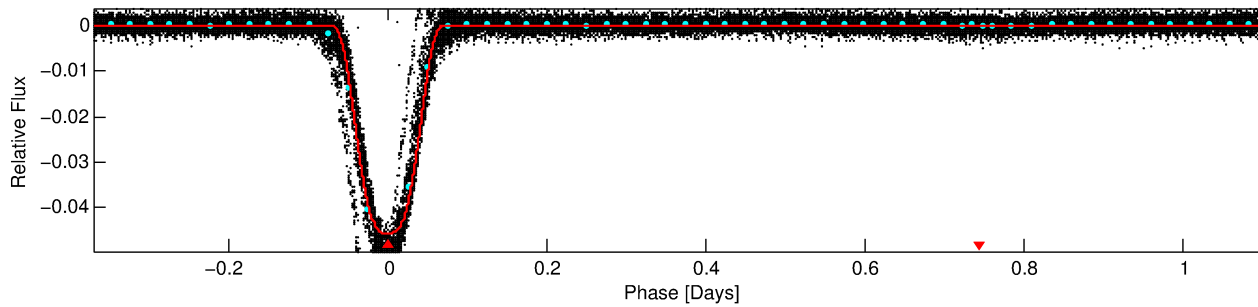
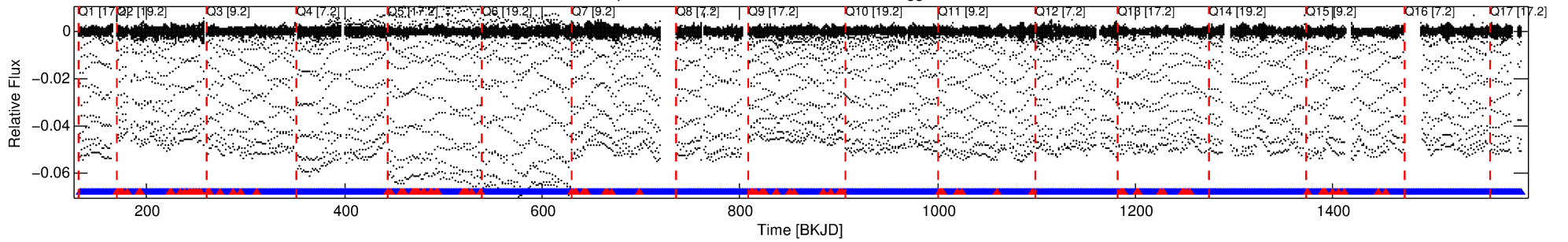
Ephemeris Match Information For 010535807-01

No Significant Match Found

DV One-Page Summary

KIC: 10535807 Candidate: 1 of 1 Period: 1.482 d
KOI: K07337.01 Corr: 0.923

Kp: 13.87 R*: 1.17 Rs Teff: 6478.0 K Logg: 4.31 Fe/H: -0.460



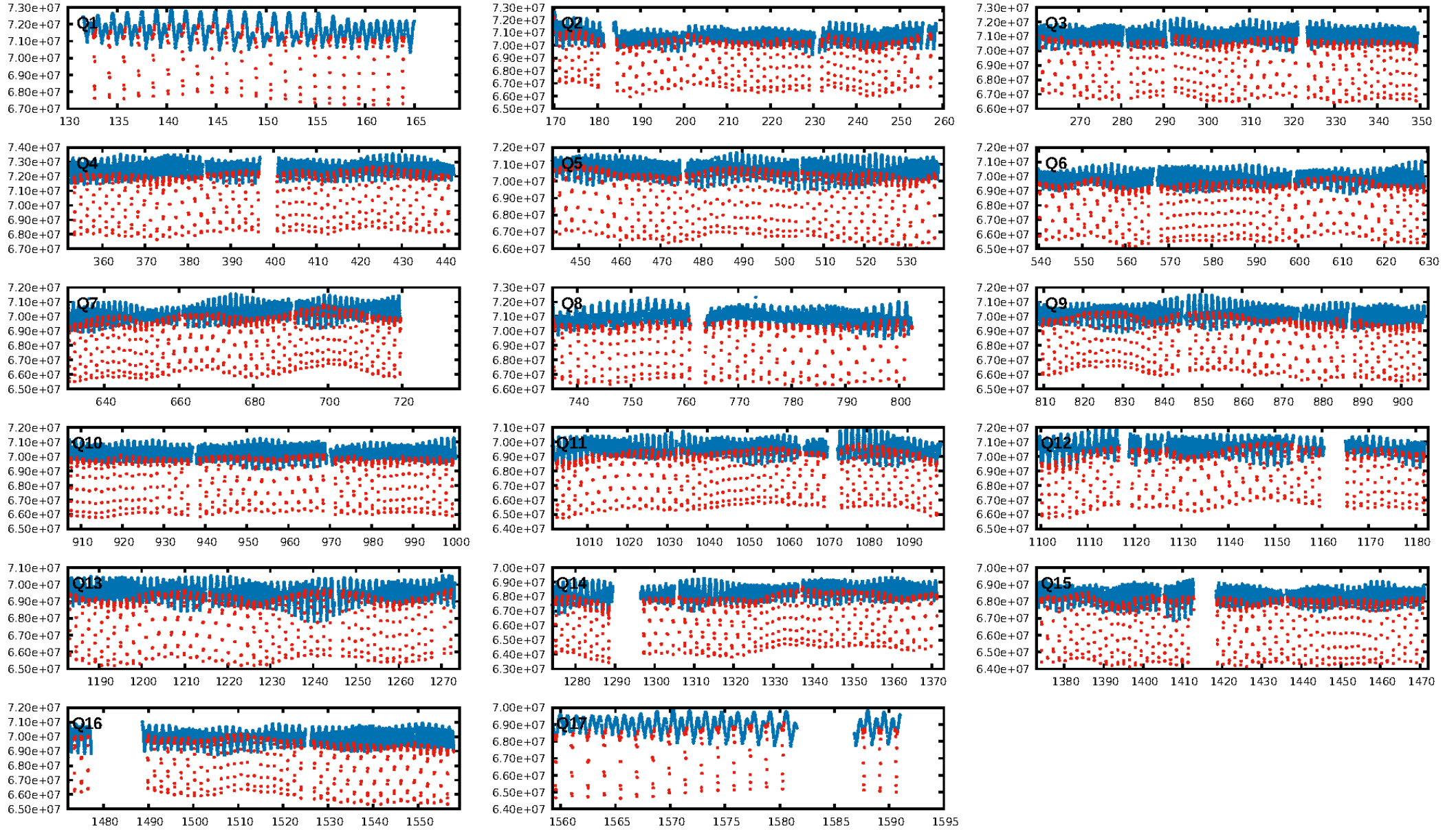
DV Fit Results:

Period = 1.48165 [0.00000] d
Epoch = 132.7017 [0.0000] BKJD
Rp/R* = 0.2131 [0.0001]
a/R* = 3.80 [0.00]
b = 0.72 [0.00]
Seff = 3317.24 [1199.45]
Teff = 1935 [175] K
Rp = 27.30 [7.37] Re
a = 0.0256 [0.0059] AU
Ag = 0.03 [0.01] [-73.58σ]
Teffp = 1286 [73] K [-3.43σ]

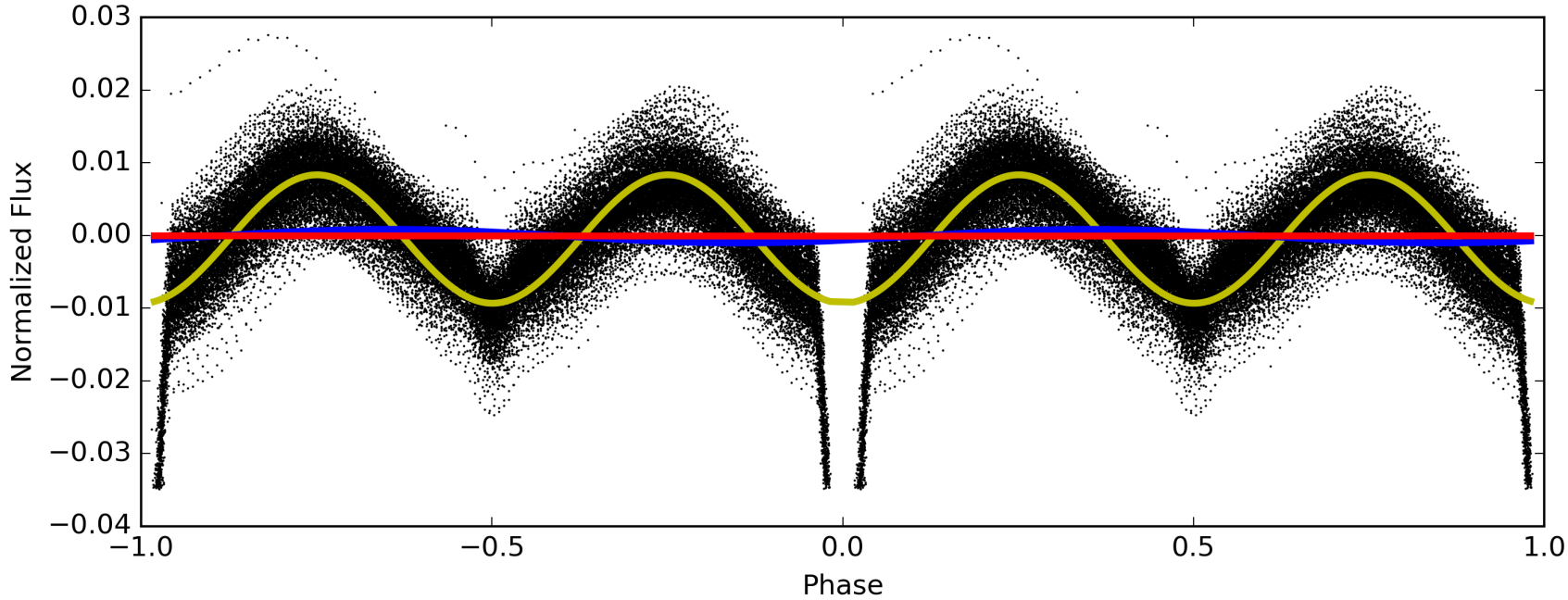
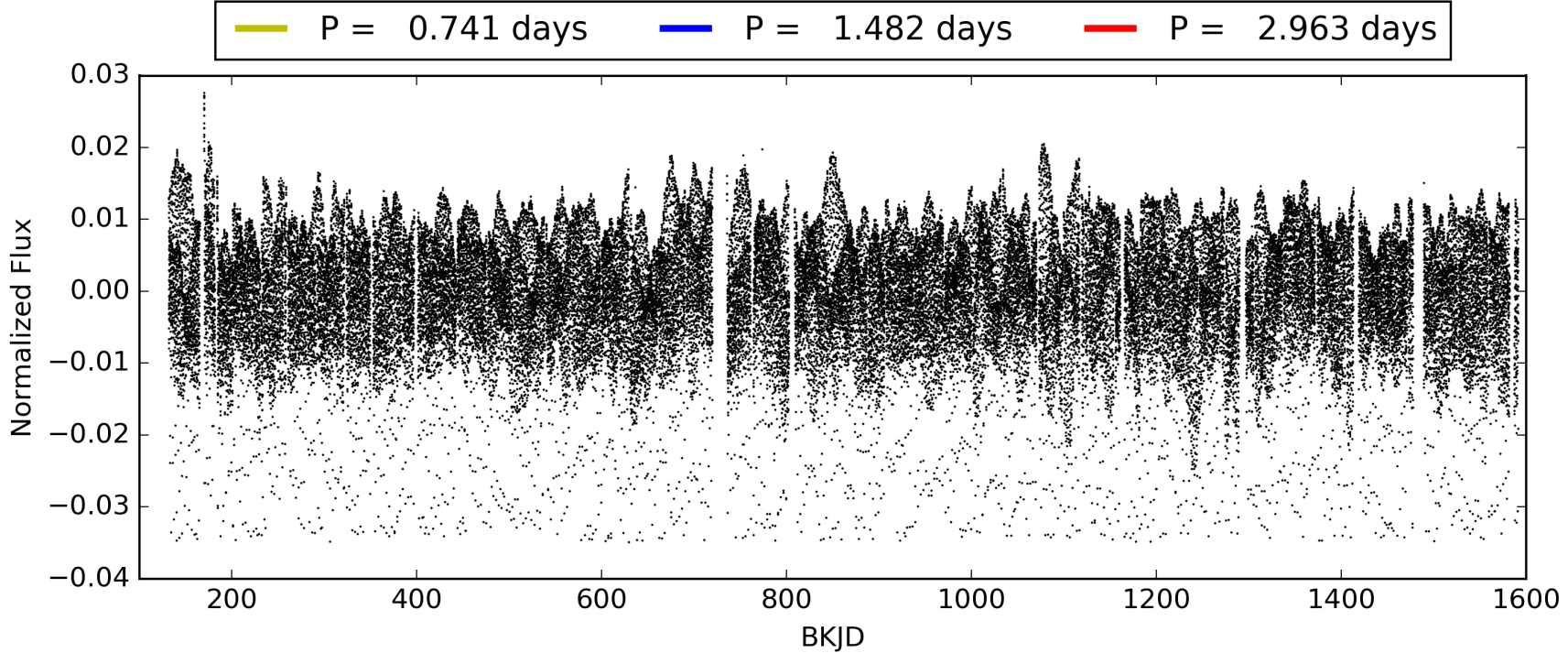
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.89 [773/867]
GhostDiagnostic-chr: 1.405
Centroid-sig: 0.0%
Centroid-so: 0.037 arcsec [29.46σ]
OotOffset-rm: 0.043 arcsec [0.64σ]
KicOffset-rm: 0.038 arcsec [0.55σ]
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 010535807-01, PDC Light Curves

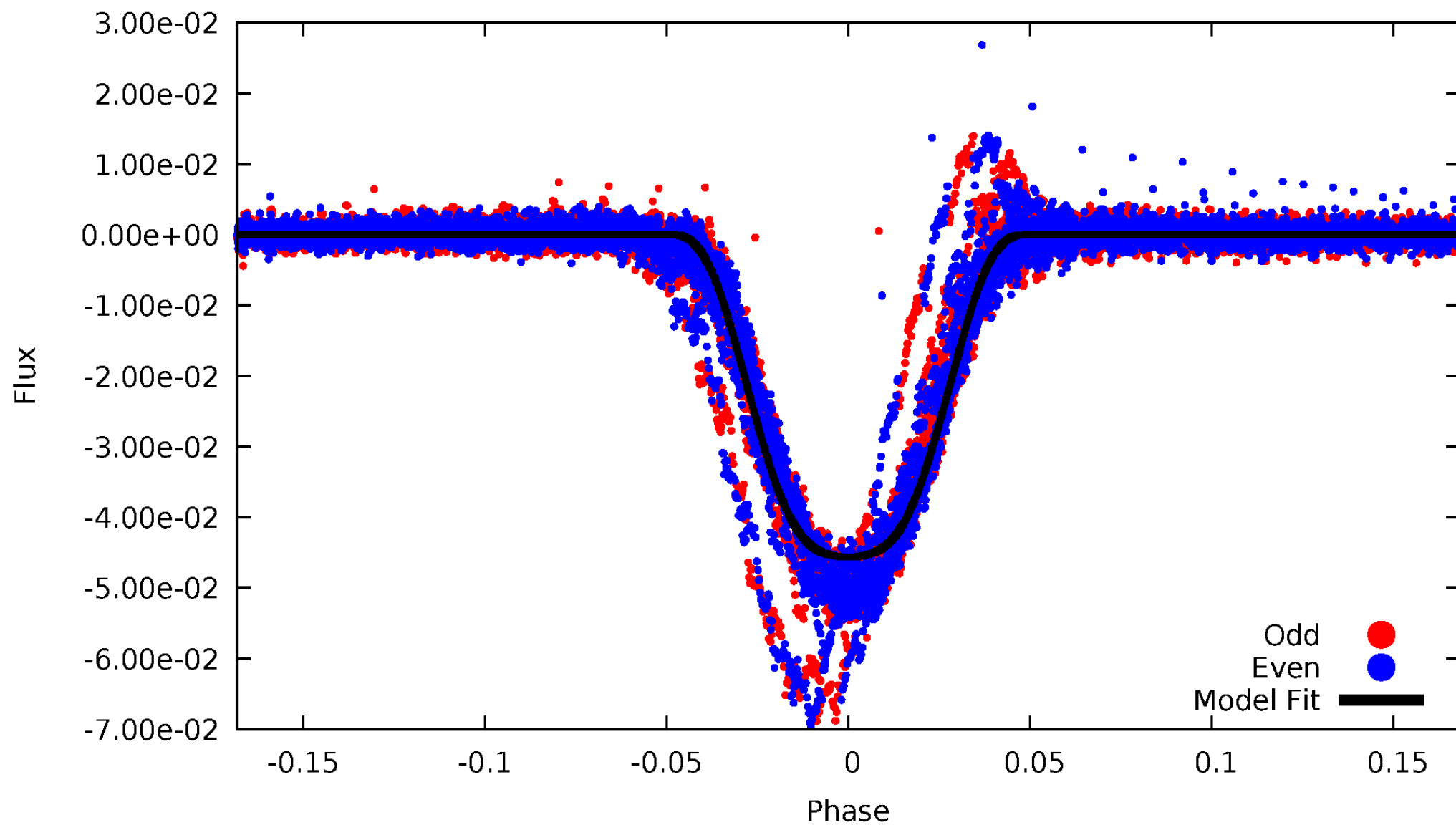


TCE 010535807-01



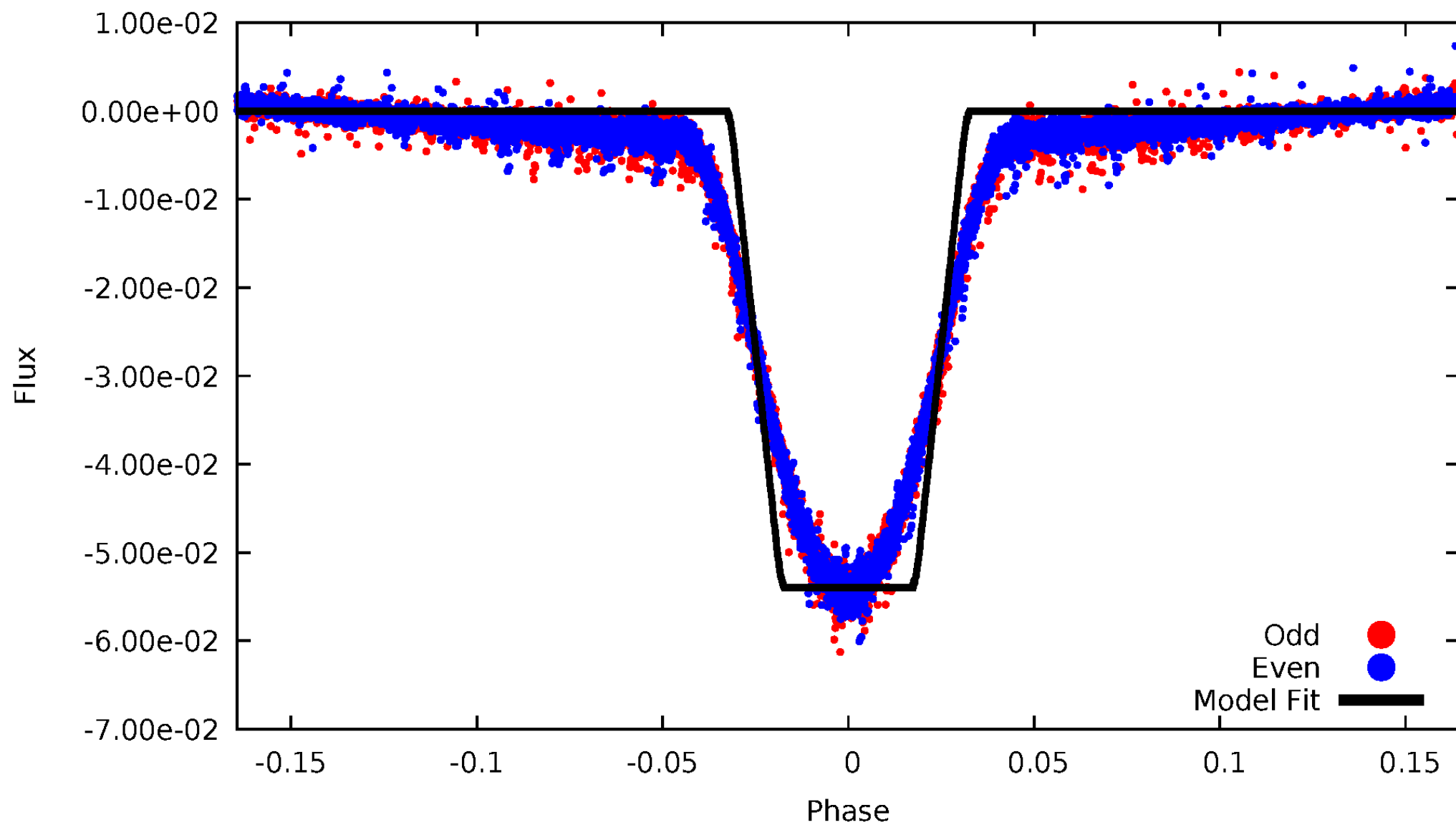
DV Odd/Even

TCE 010535807-01



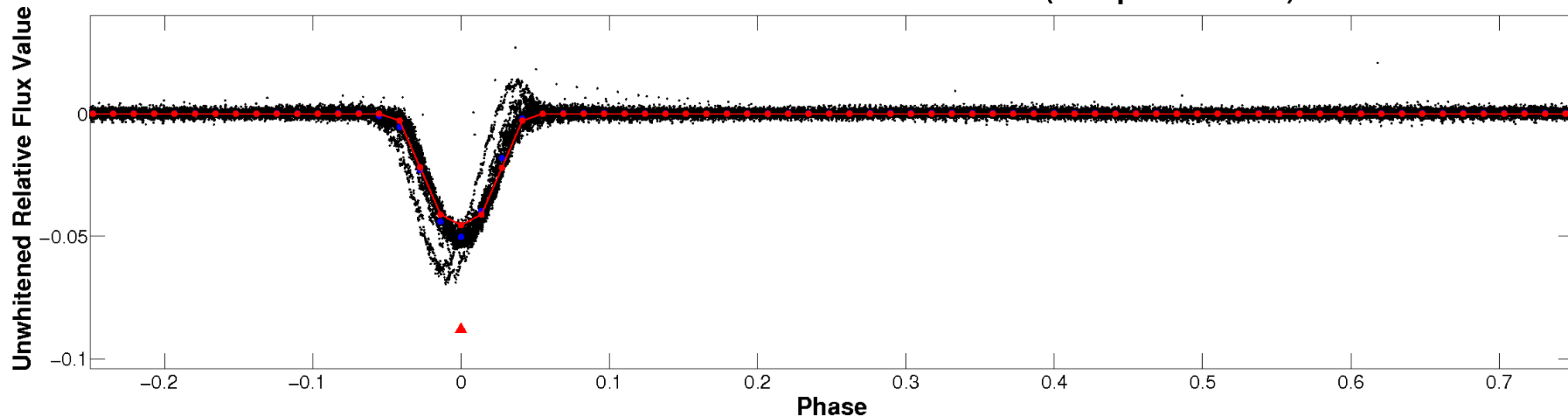
ALT Odd/Even

TCE 010535807-01

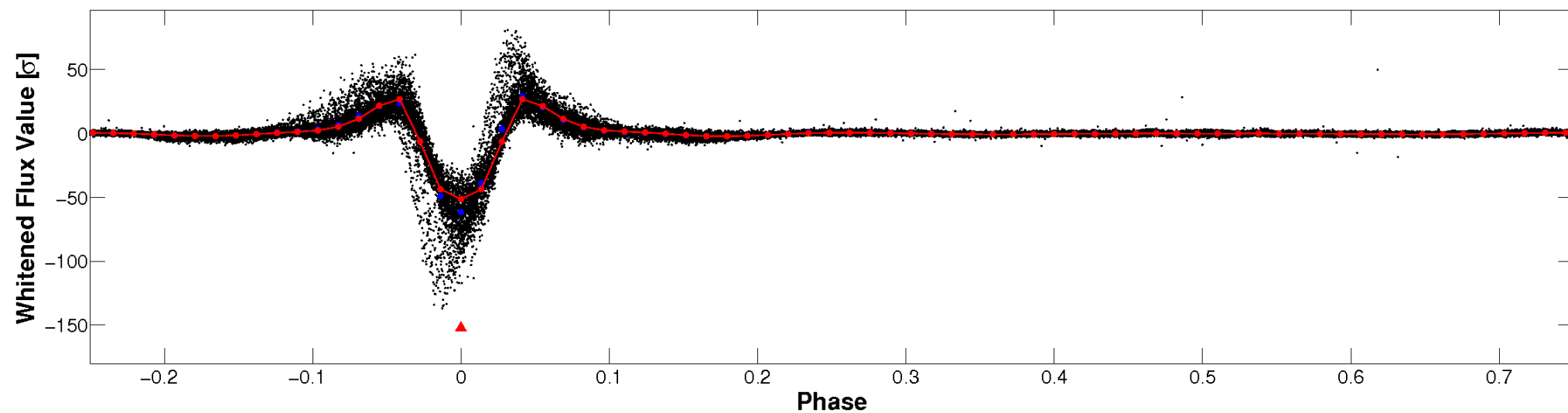


Non-Whitened Vs. Whitened Light Curve

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

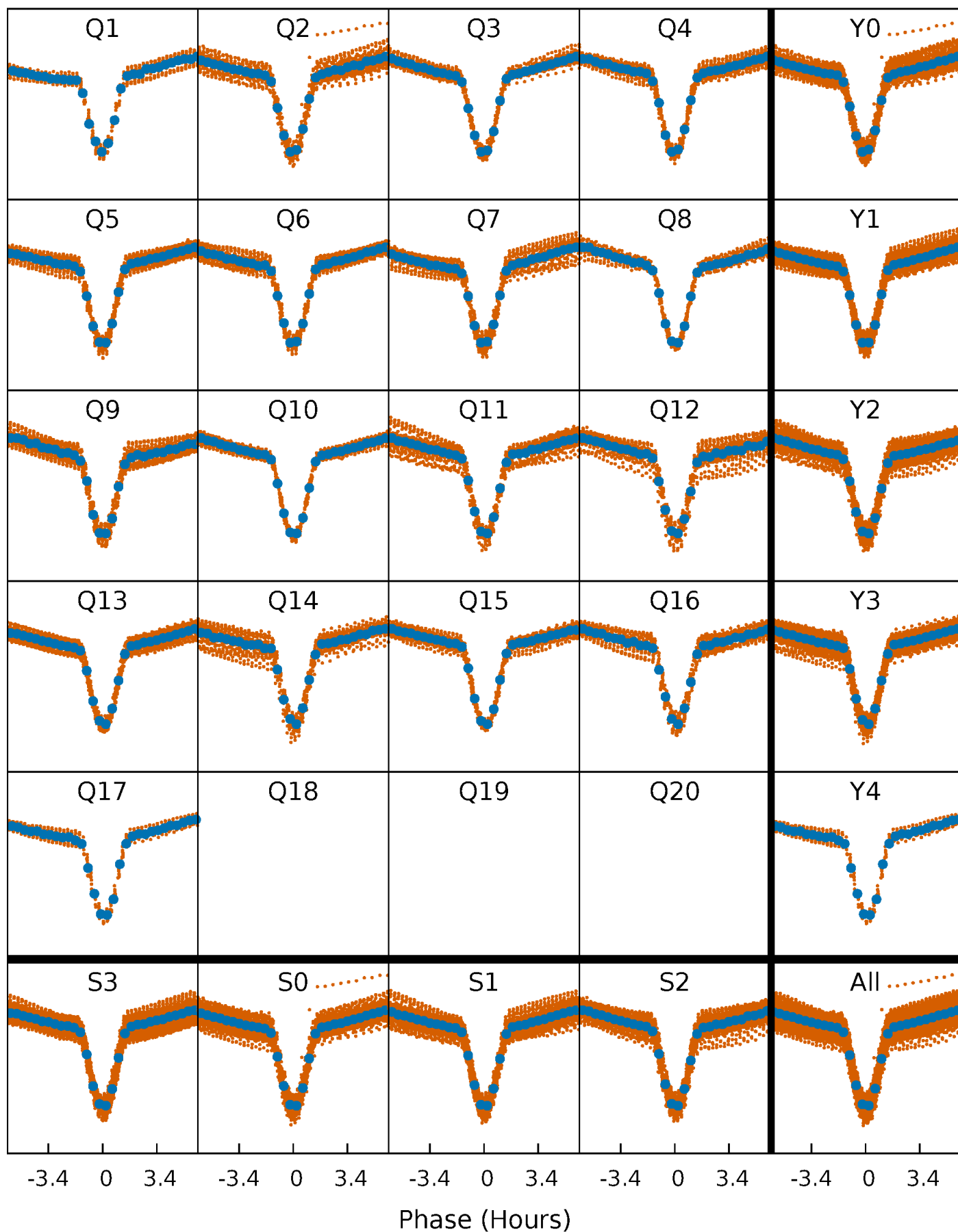


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



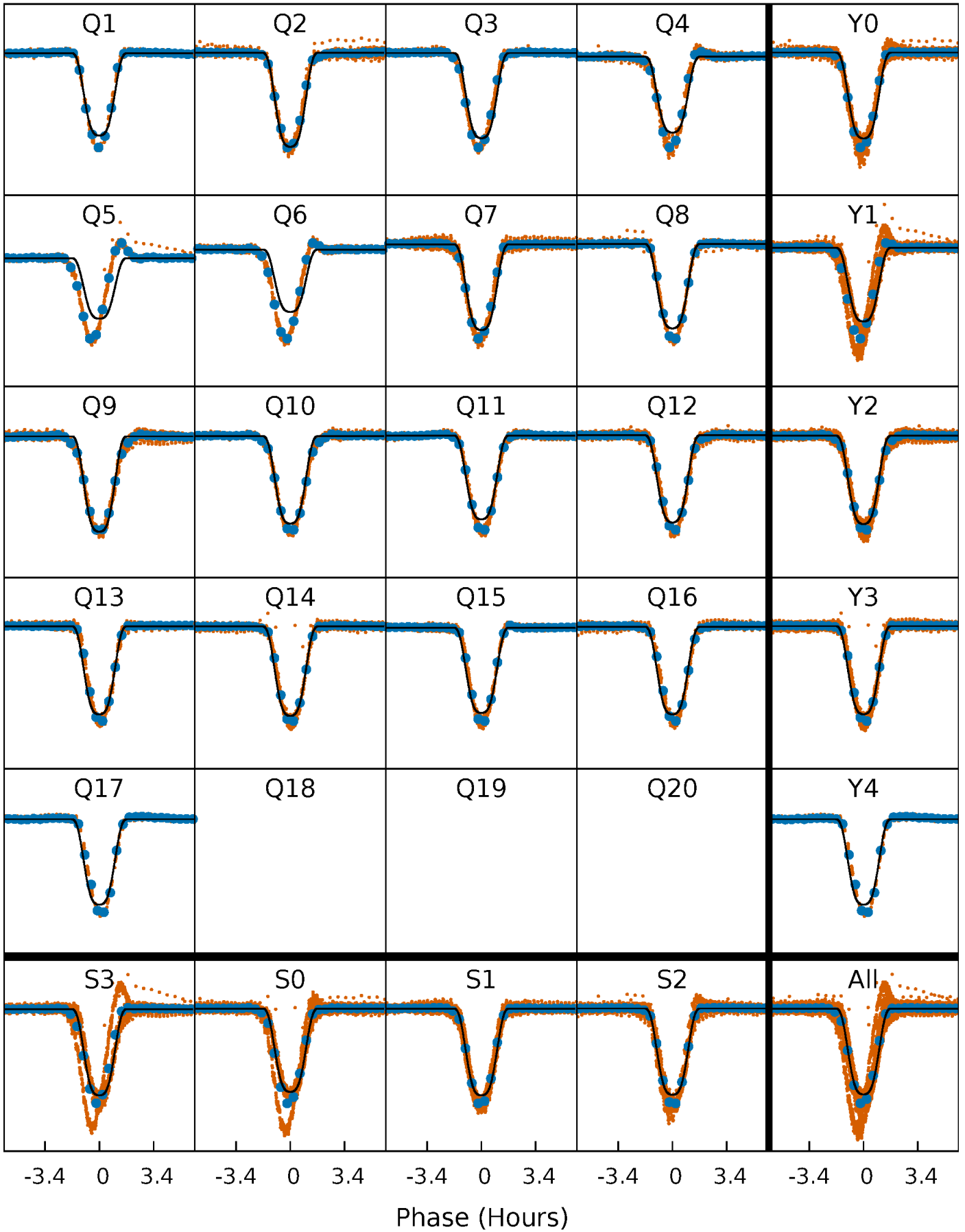
PDC Quarter-Phased Transit Curves

TCE 010535807-01 P= 1.481649 Days $T_0=132.701657$ (BKJD)



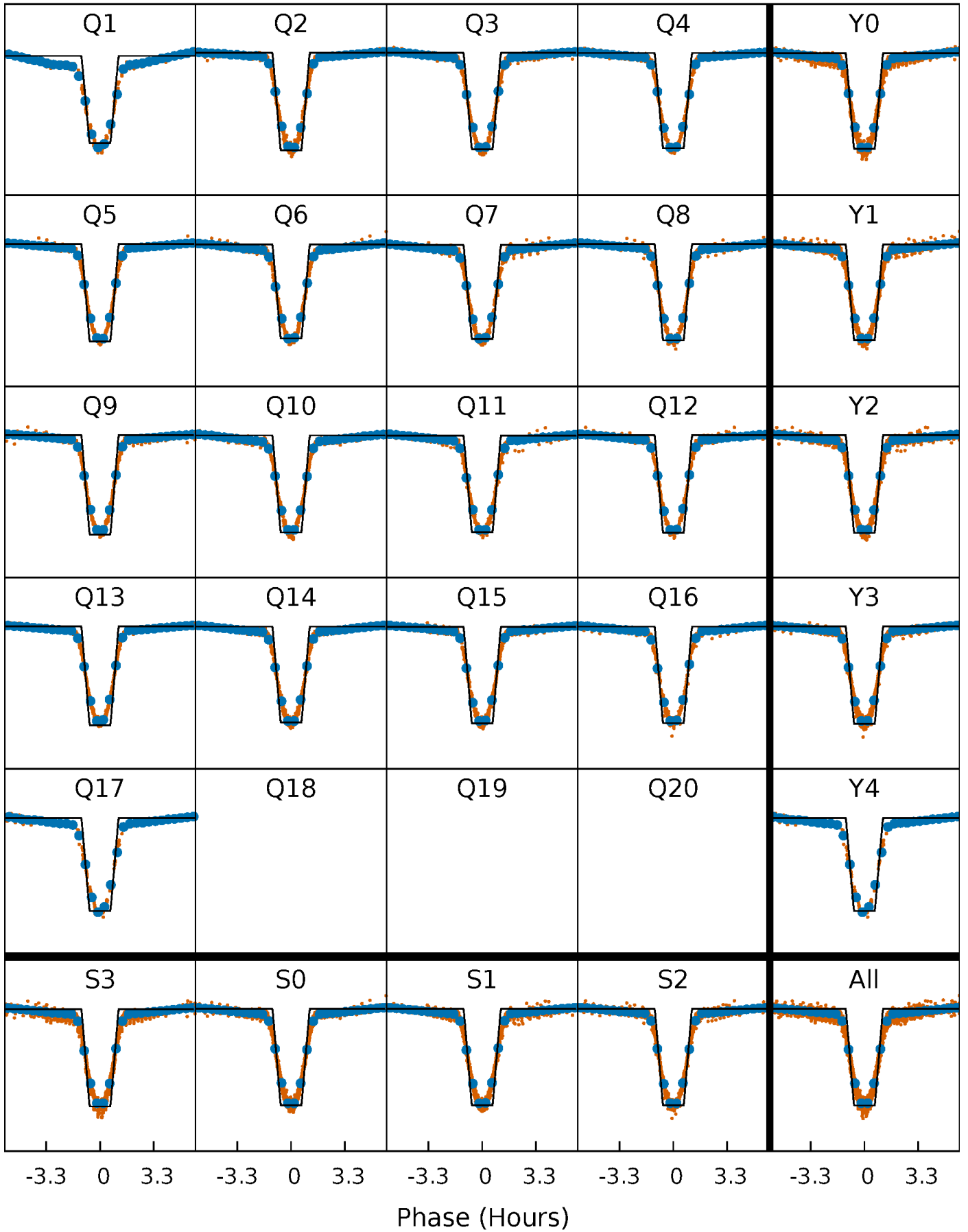
DV Quarter-Phased Transit Curves

TCE 010535807-01 P= 1.481649 Days $T_0=132.701657$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

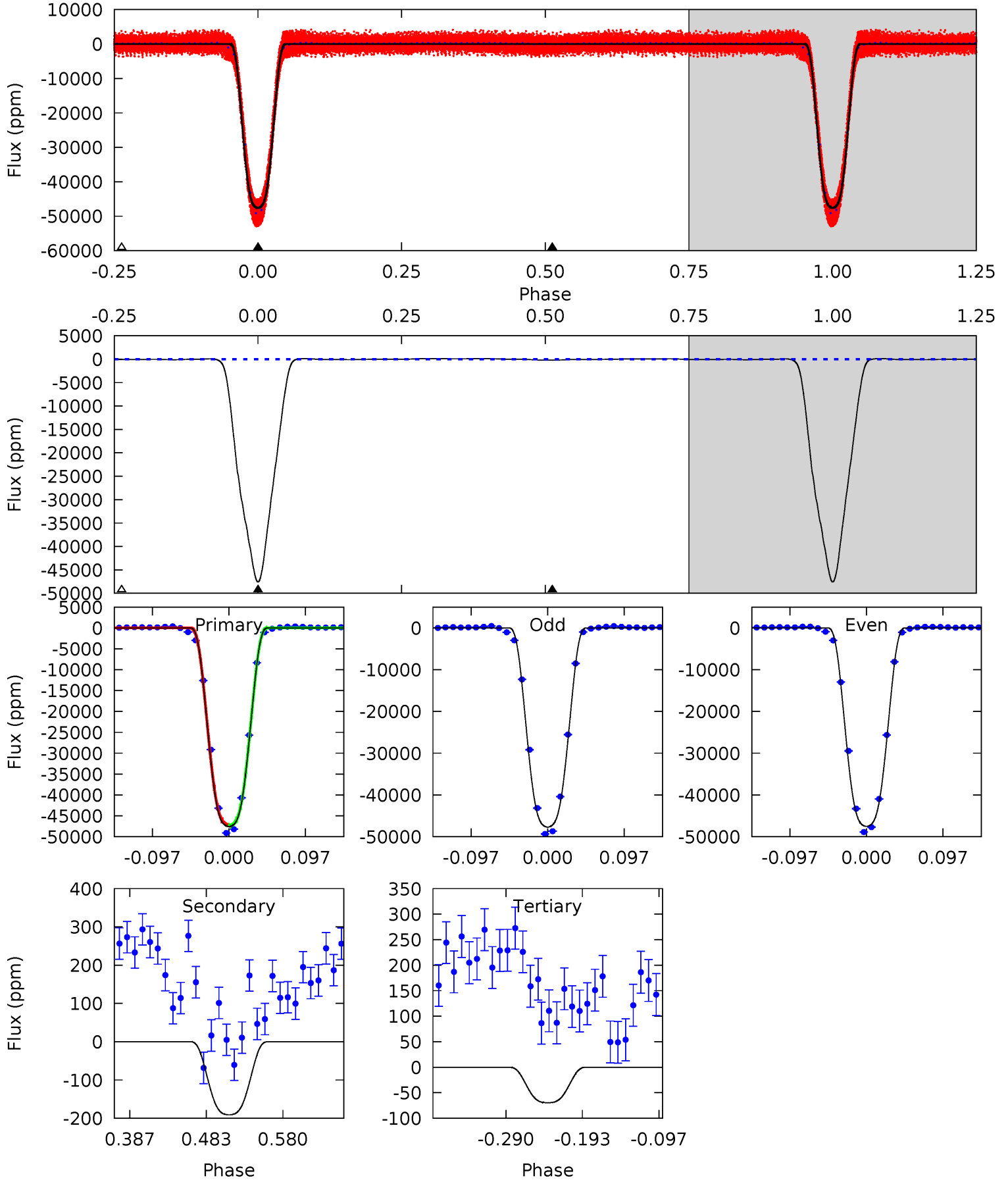
TCE 010535807-01 P= 1.481656 Days $T_0=132.699417$ (BKJD)



DV Model-Shift Uniqueness Test

010535807-01, P = 1.481649 Days, E = 131.220008 Days

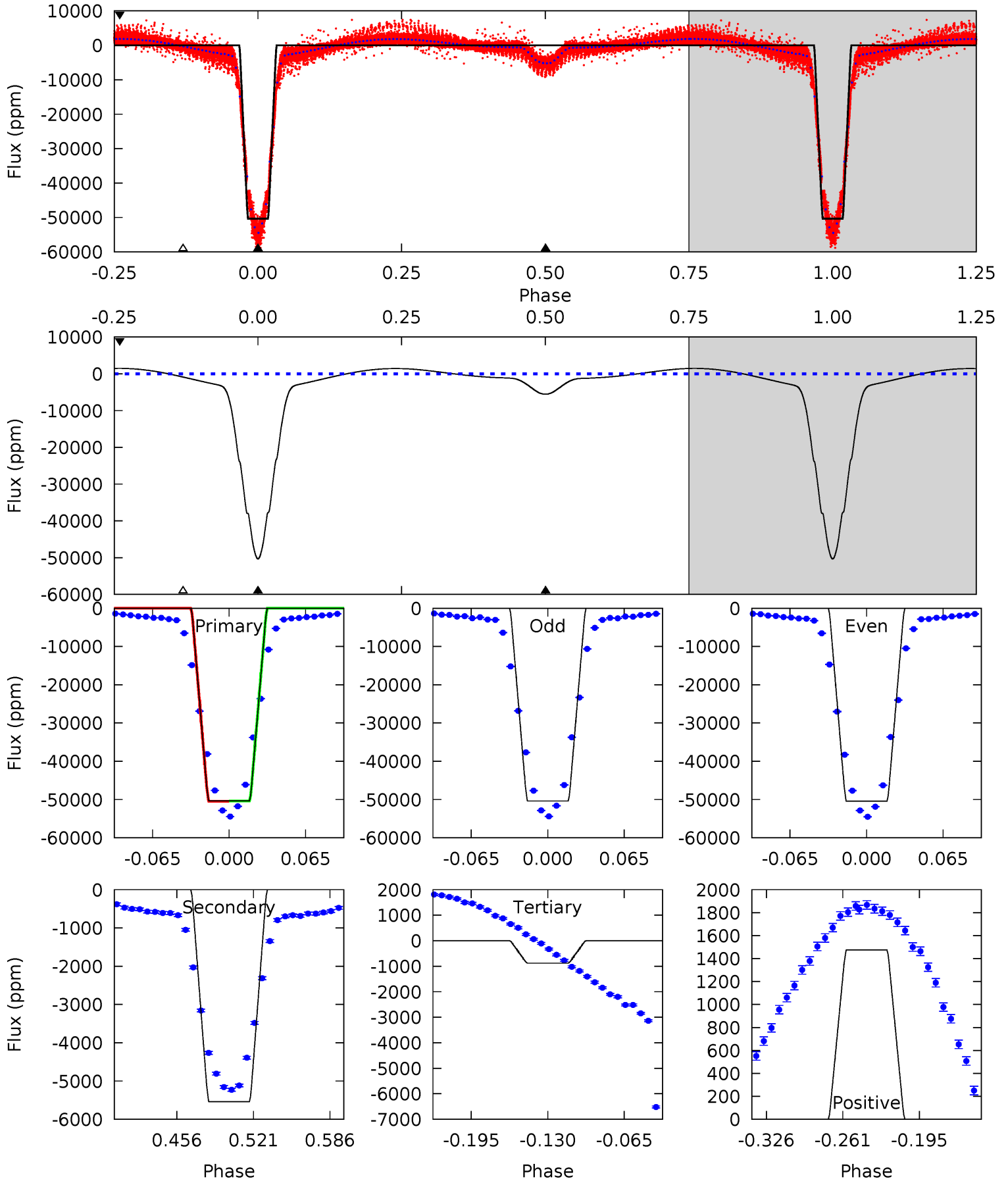
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3098	12.4	4.53	0	4.57	1.66	4.65	3093	3098	7.91	12.4	5.51	1.00	0.00	6.67



Alt Model-Shift Uniqueness Test

010535807-01, P = 1.481656 Days, E = 131.217761 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2164	238.1	37.8	63.4	4.65	1.84	52.4	2126	2100	200.3	174.7	1.44	1.00	0.03	1.83



Stellar Parameters For KIC 010535807

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6478^{+162}_{-210}	$4.307^{+0.139}_{-0.186}$	$-0.460^{+0.250}_{-0.300}$	$1.174^{+0.317}_{-0.211}$	$1.018^{+0.159}_{-0.106}$	$0.886^{+0.591}_{-0.408}$
	+3%/-3%	+3%/-4%	+54%/-65%	+27%/-18%	+16%/-10%	+67%/-46%
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 010535807-01 / KOI 7337.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-191 ± 15	$27.53^{+4.42}_{-2.77}$	2715^{+185}_{-163}	-2781^{+122}_{-142}	$0.090^{+0.025}_{-0.021}$
Alt.	-5539 ± 23	$29.99^{+4.50}_{-2.94}$	2714^{+179}_{-174}	3880^{+72}_{-79}	$2.241^{+0.469}_{-0.493}$

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

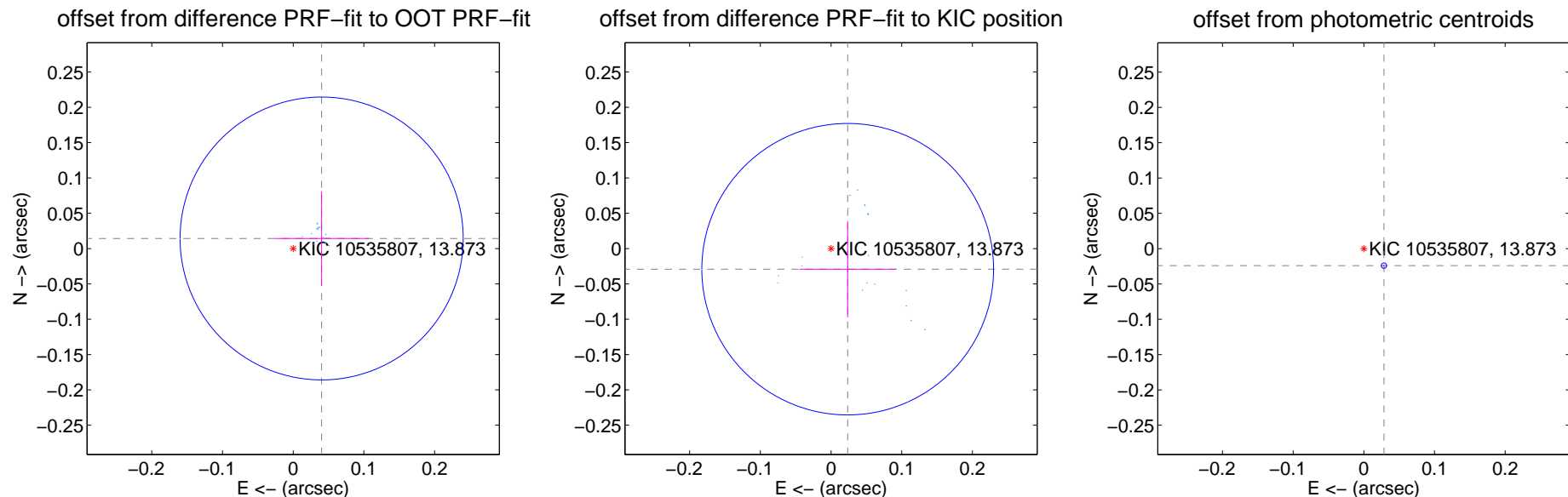
DV Centroid Data

Supplemental centroid analysis for 010535807-01. Kepler magnitude: 13.87. Transit SNR 1742.10

There are 17 quarters with good PRF difference image offsets

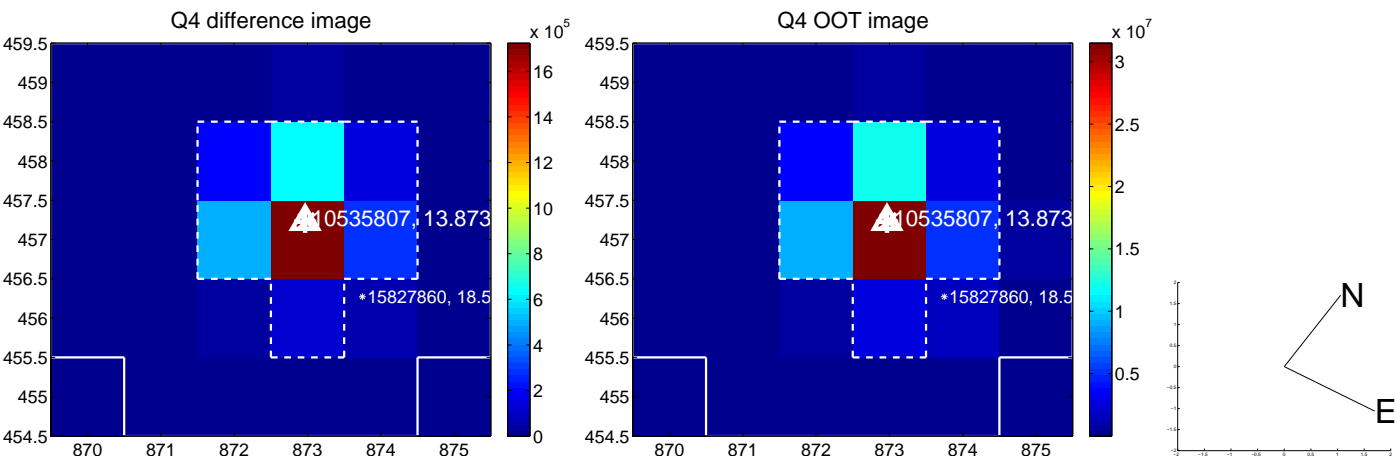
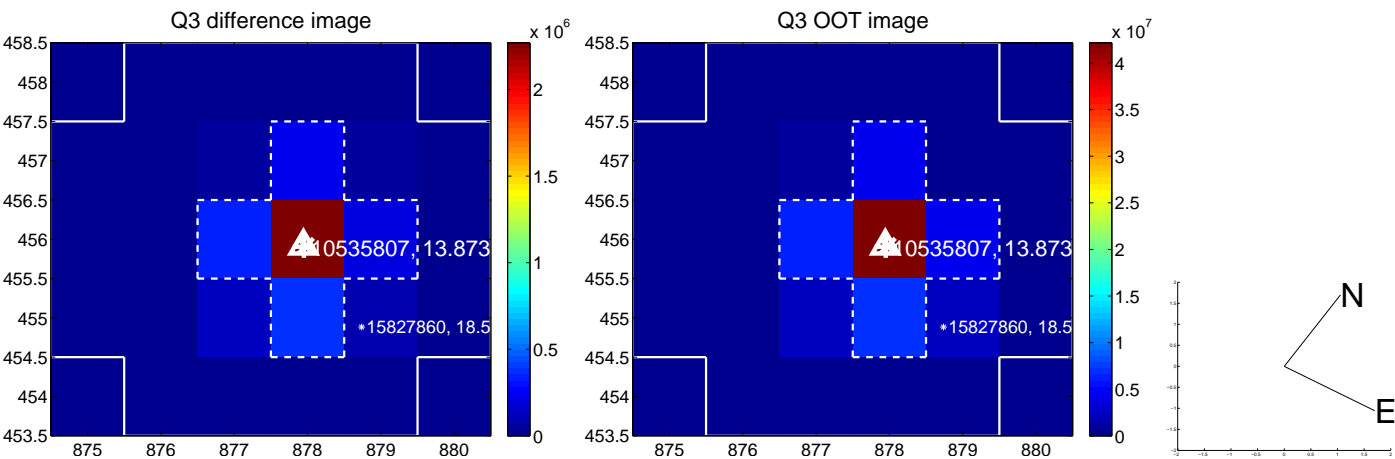
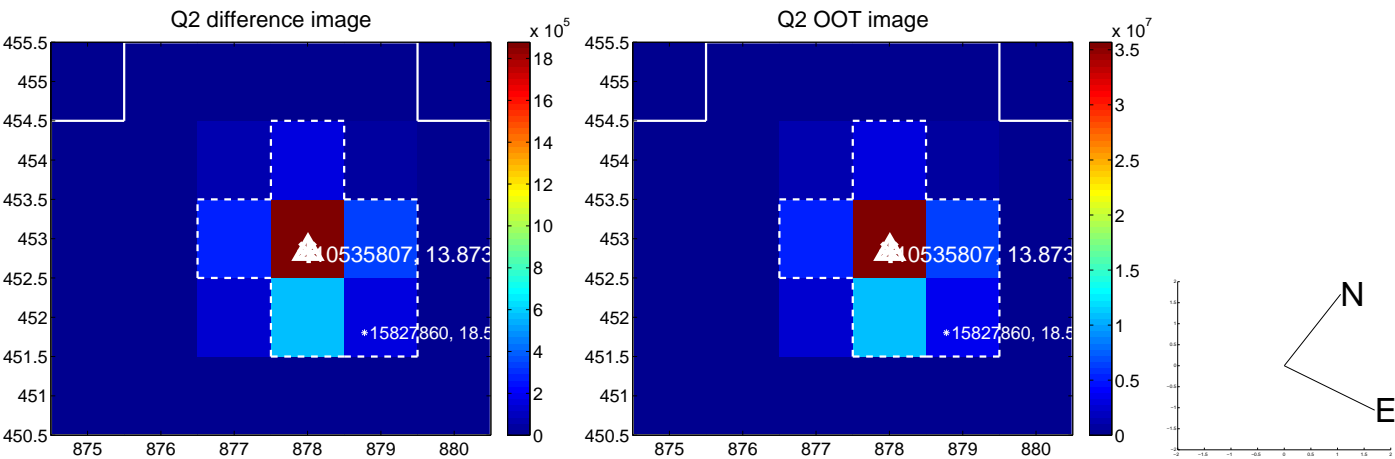
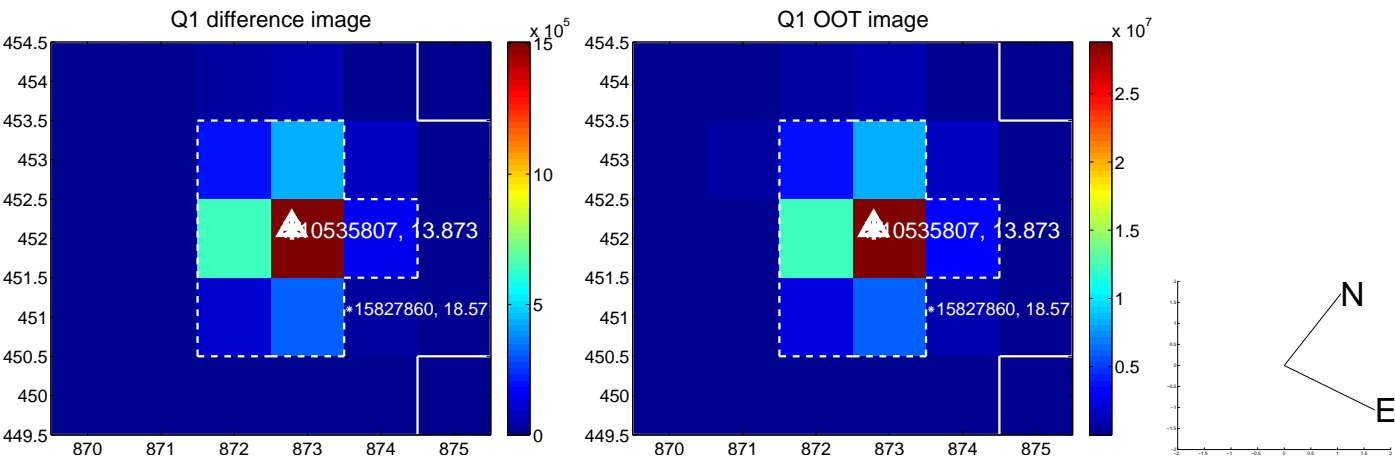
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.043 ± 0.067	0.64	-0.040 ± 0.067	0.014 ± 0.067
PRF-fit source offset from KIC position	0.038 ± 0.069	0.55	-0.024 ± 0.068	-0.029 ± 0.068
photometric centroid source offset	0.04 ± 0.00	29.46	-0.03 ± 0.00	-0.02 ± 0.00

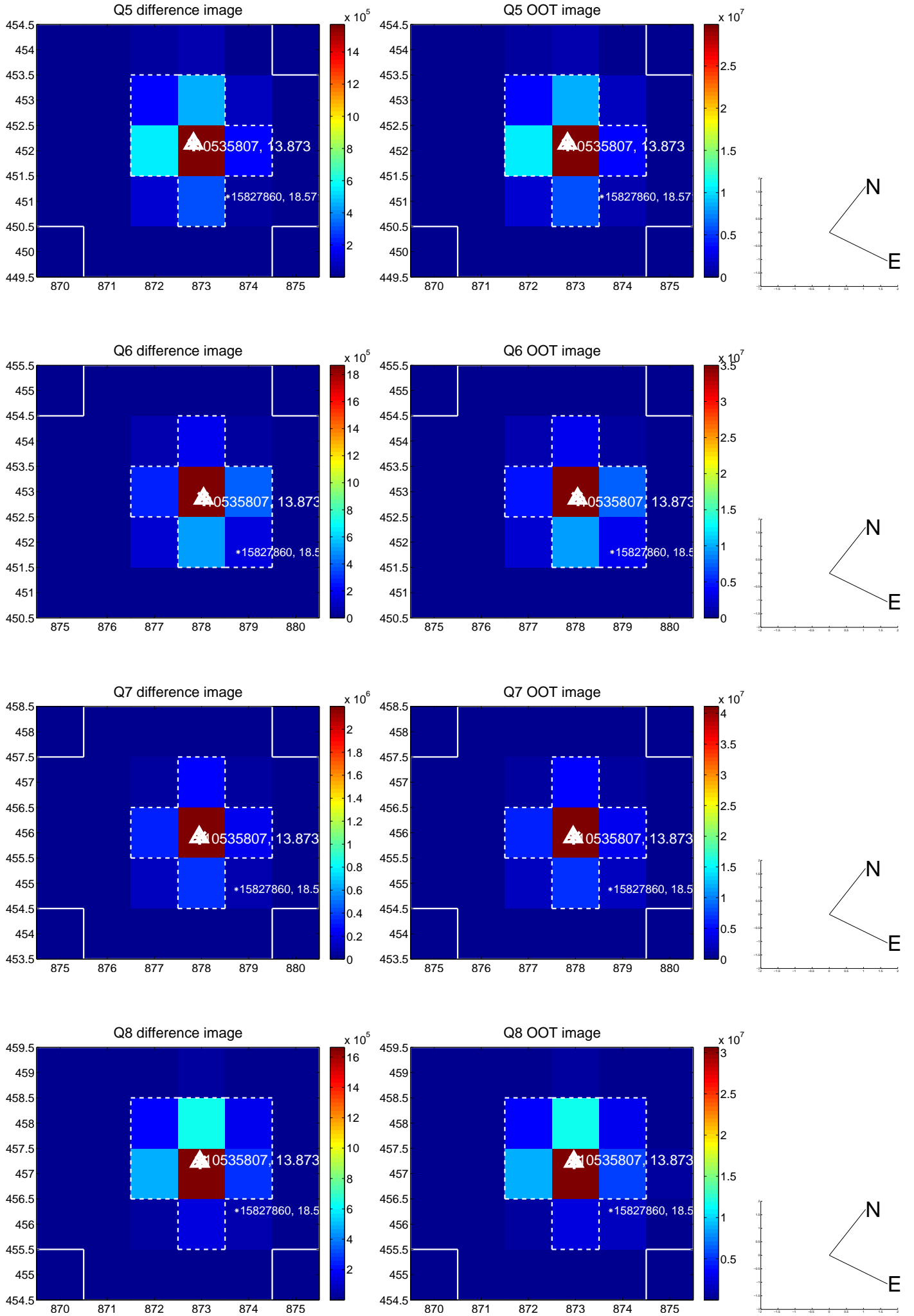


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

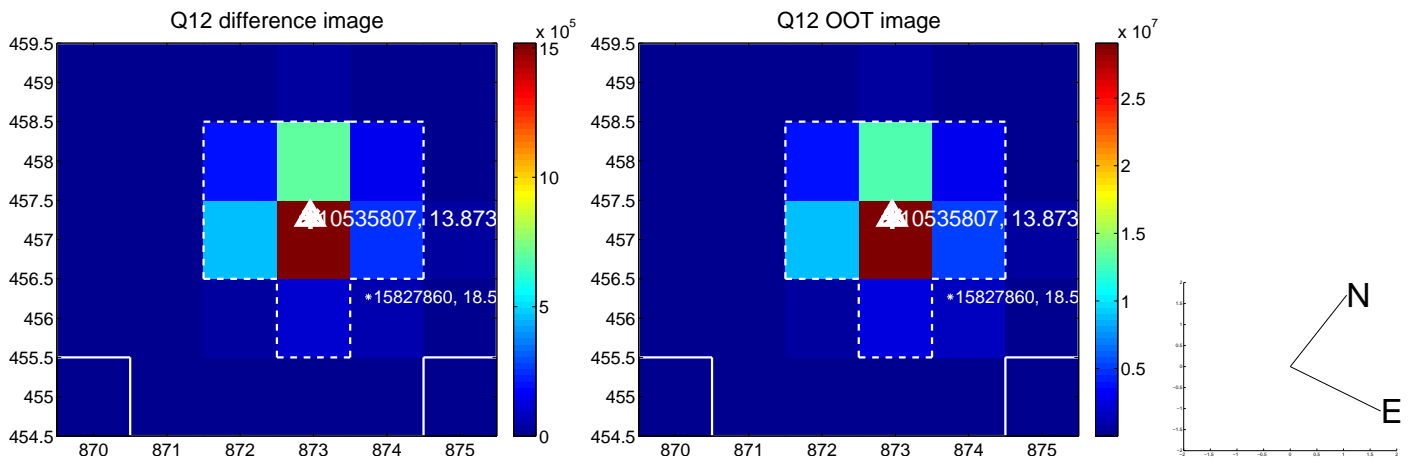
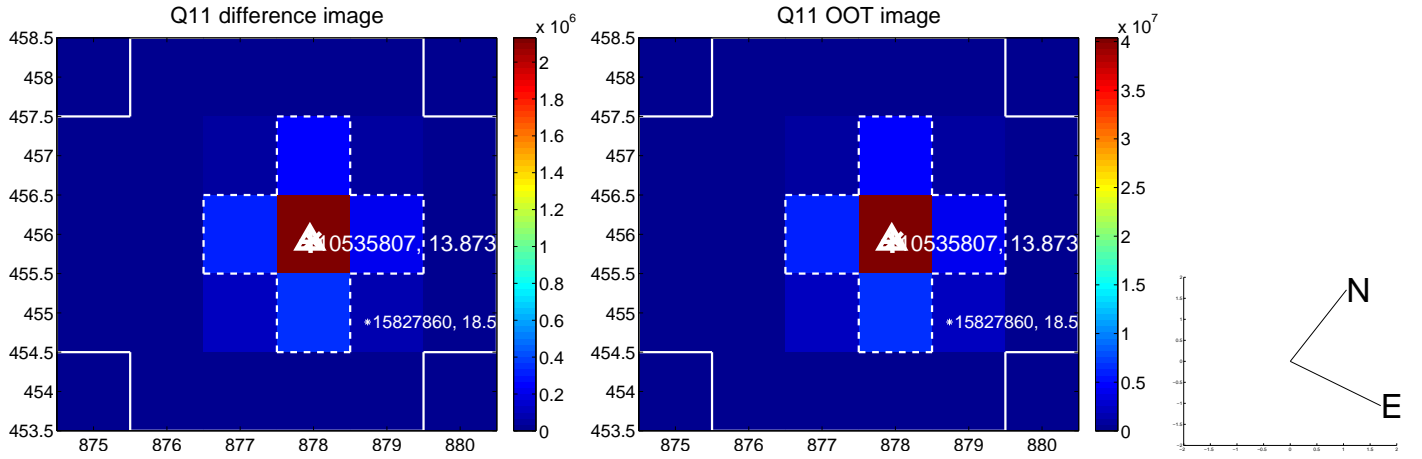
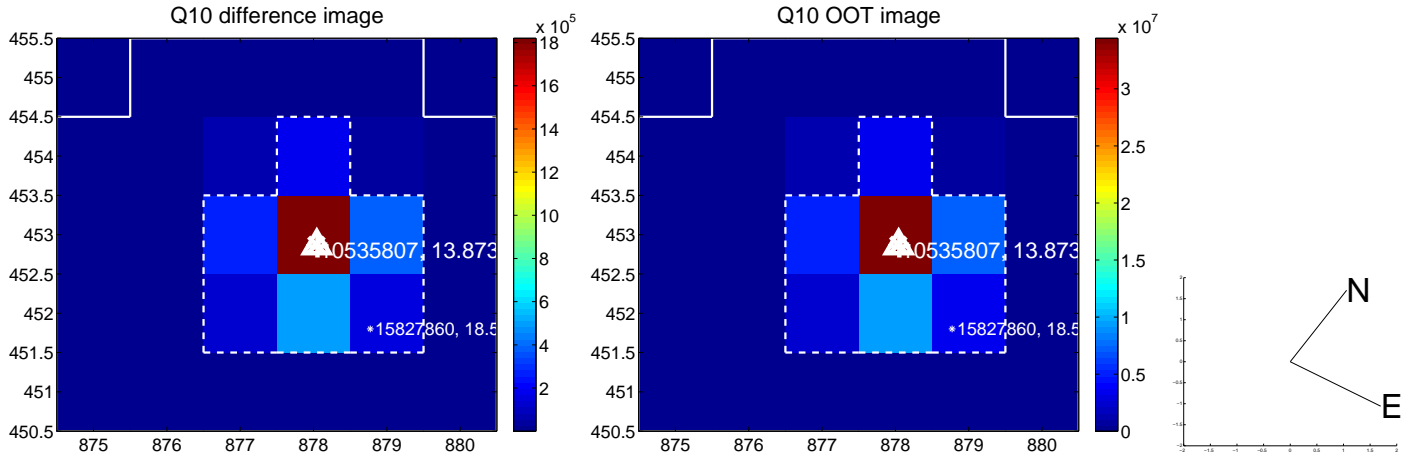
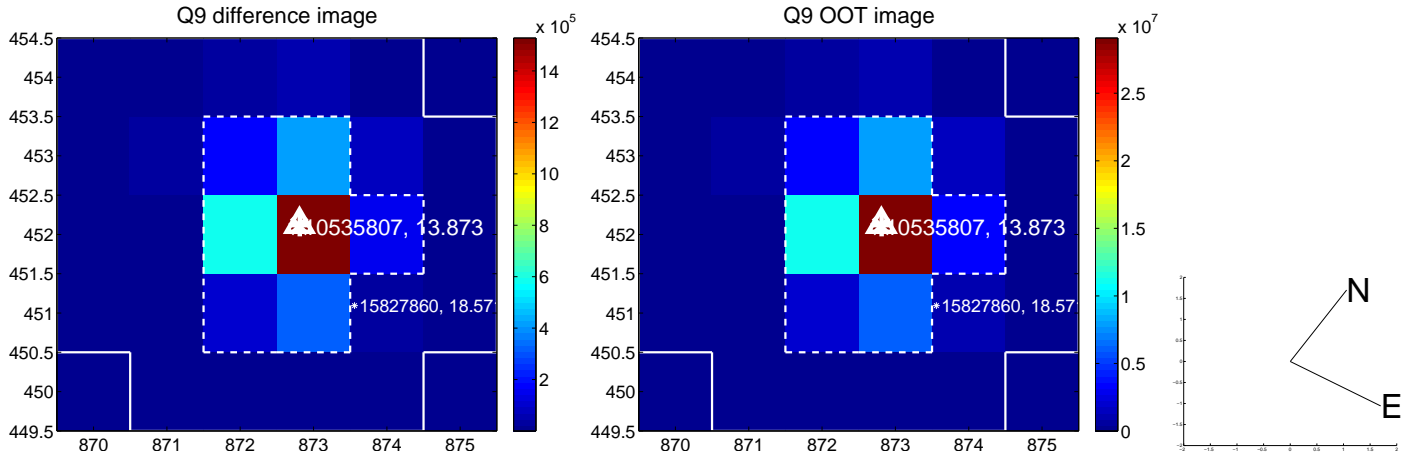
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



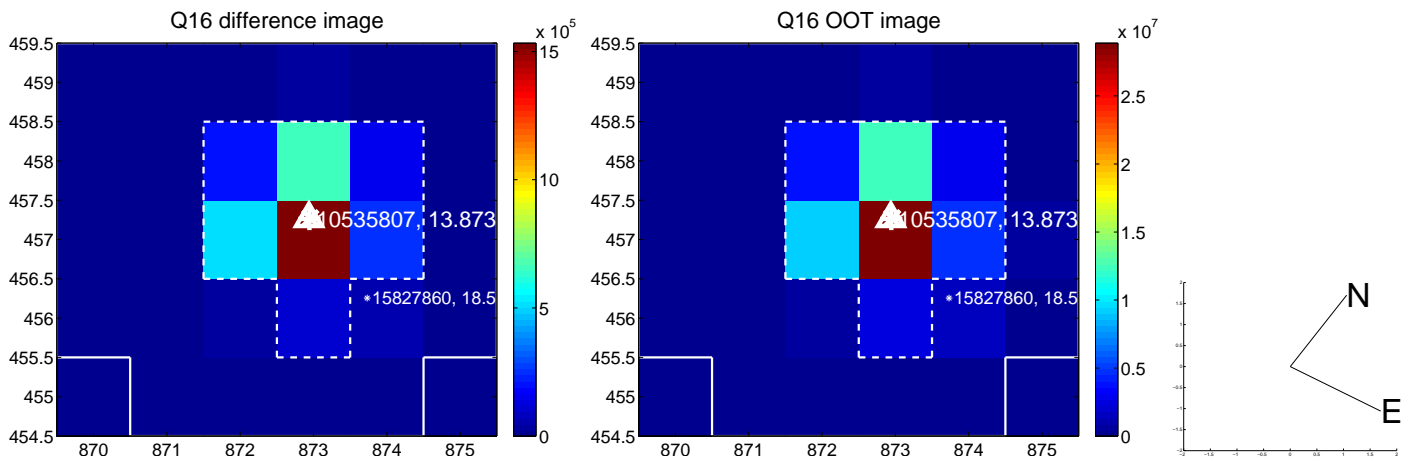
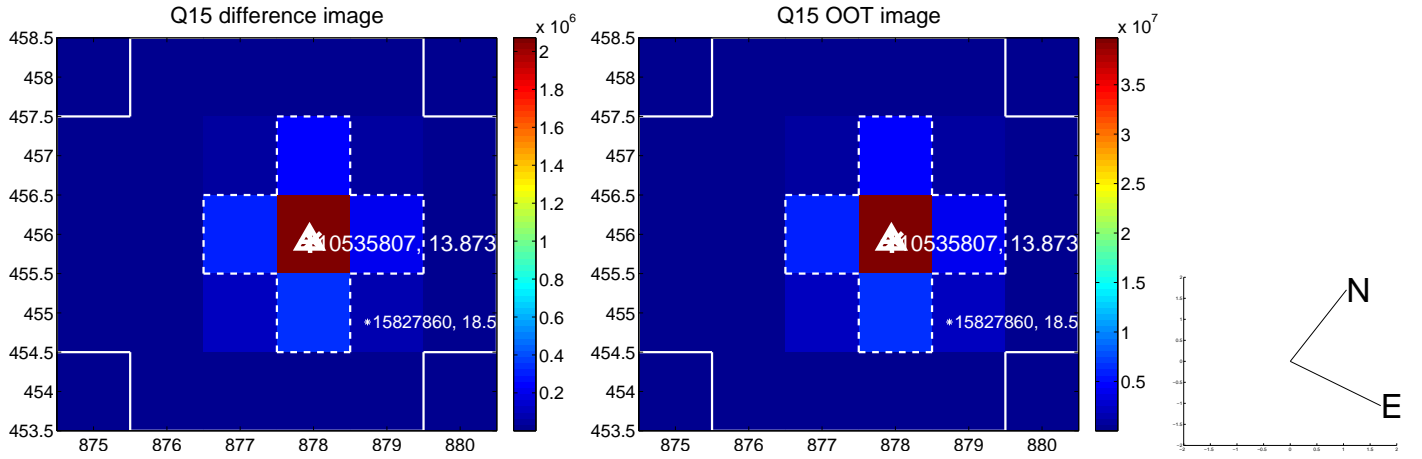
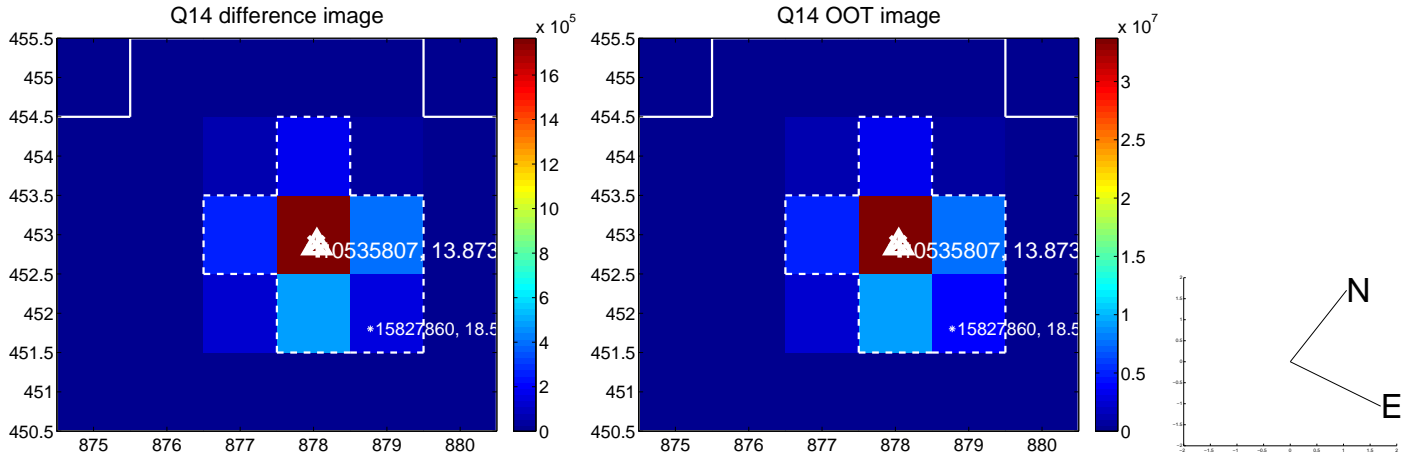
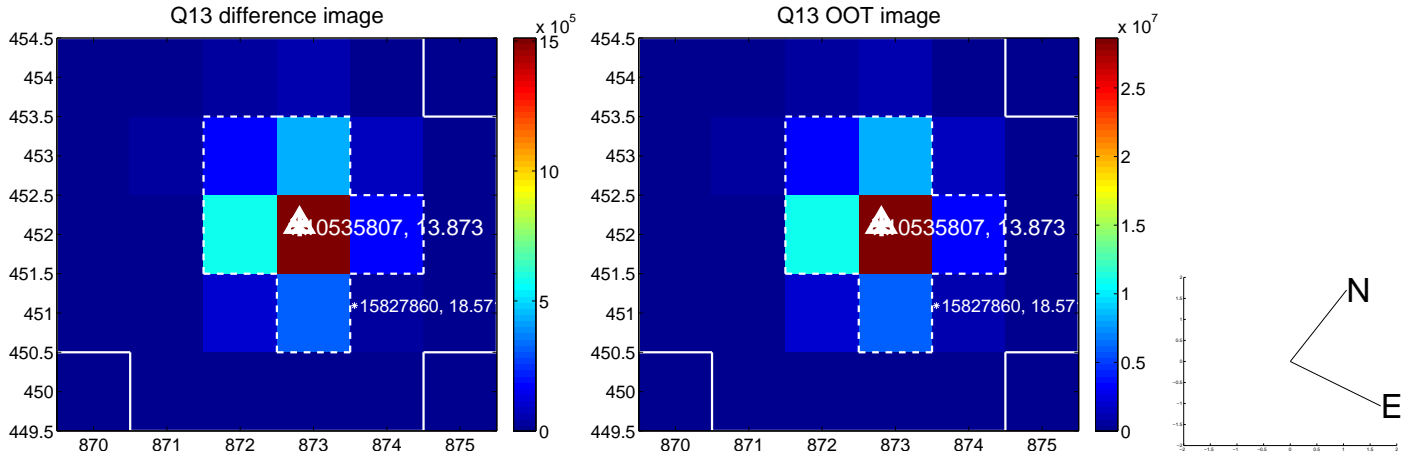
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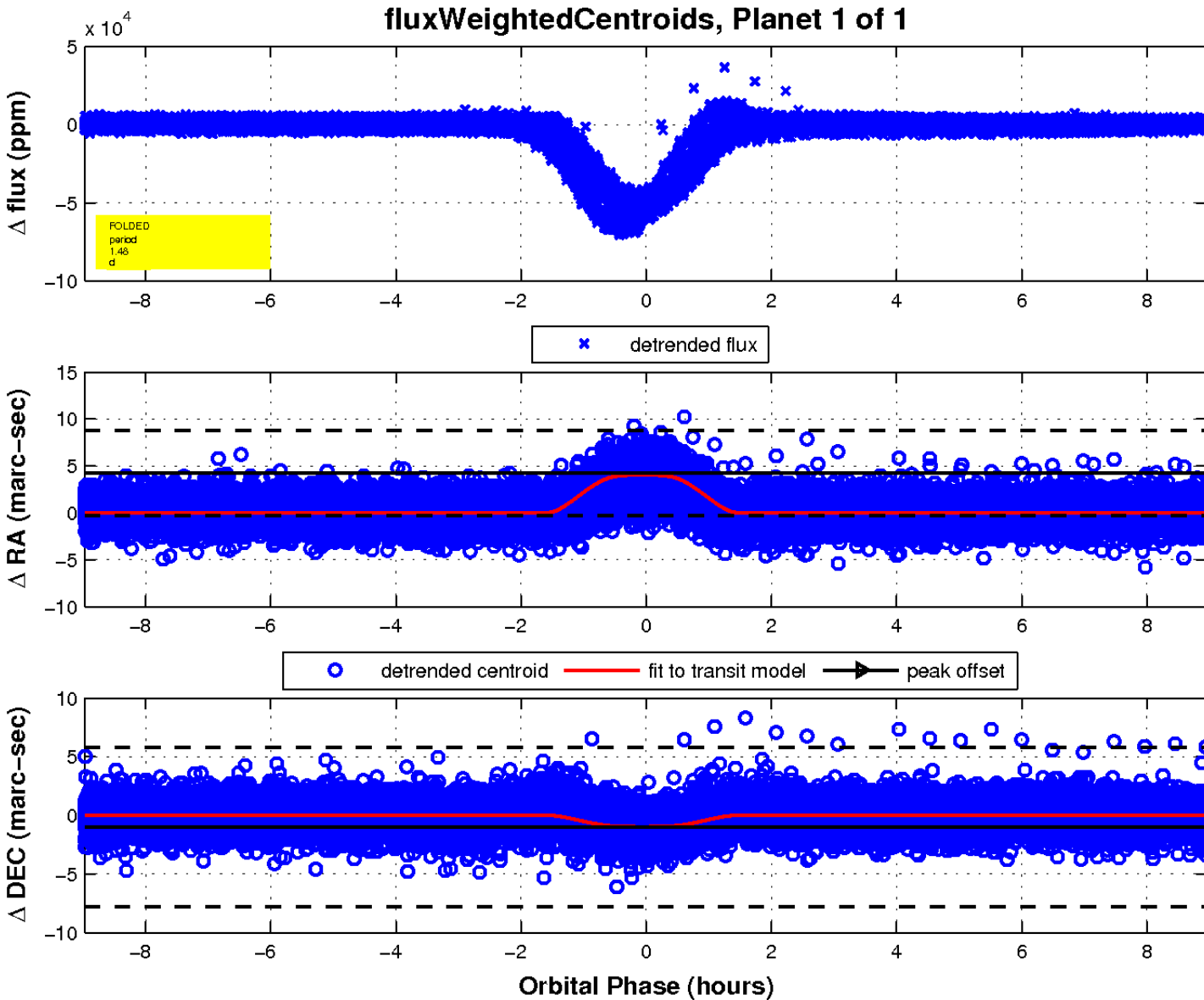
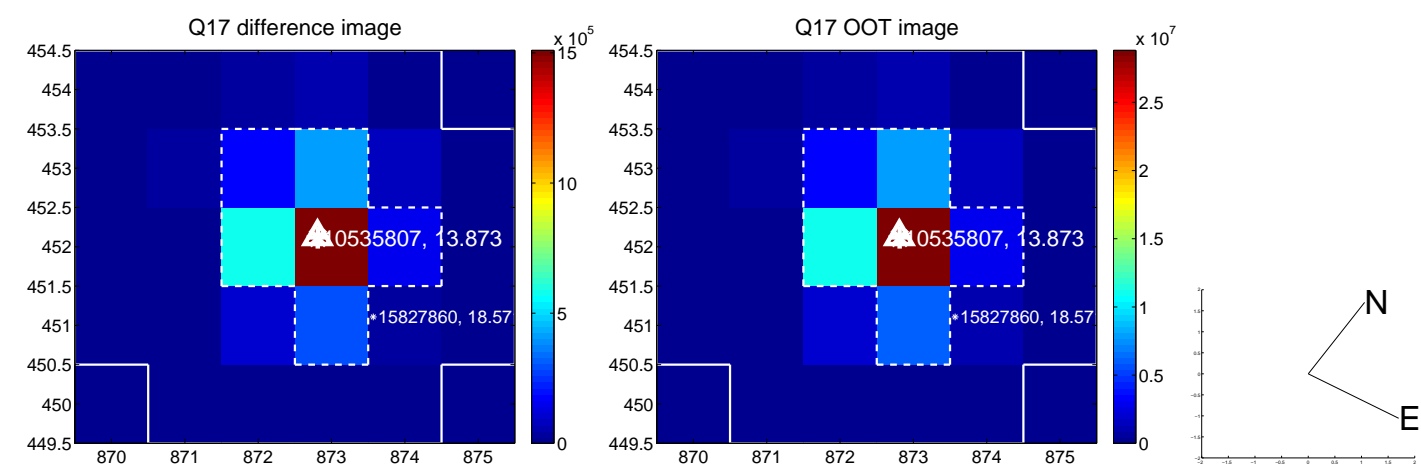
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UKIRT Image

Declination

