

KIC 012118993

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})
012118993-01	OBS	No	0.544725	131.805348	293.0	6.537	16.3	13.3	0.64	5191	2.24	2117.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012118993-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

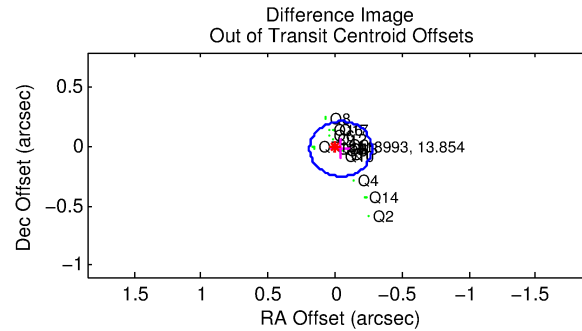
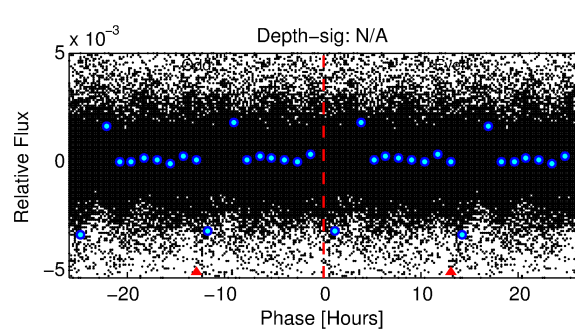
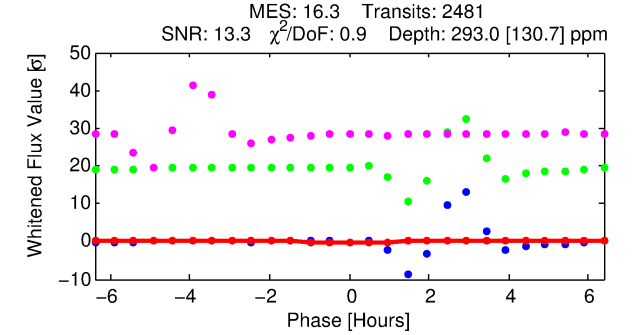
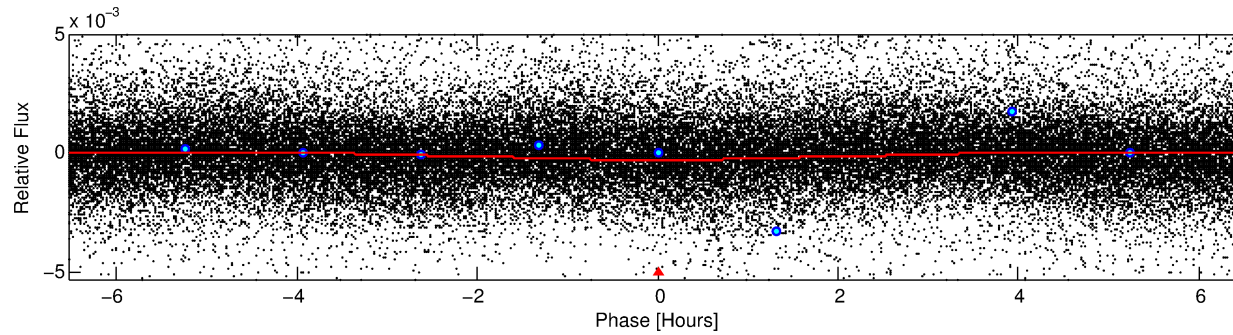
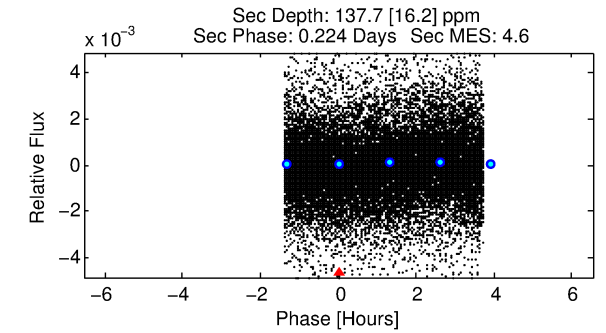
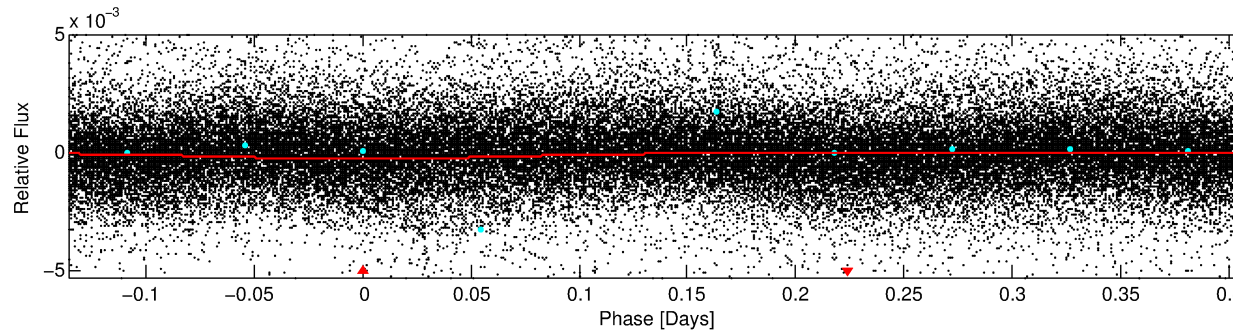
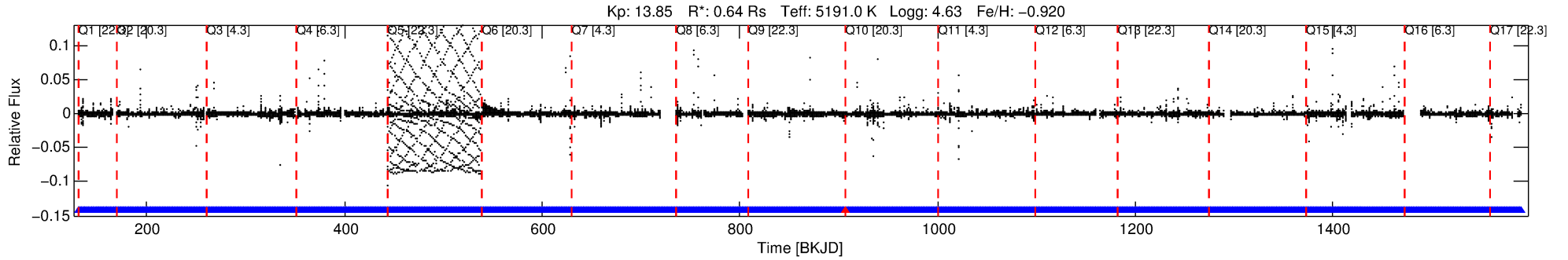
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012118993-01

No Significant Match Found

DV One-Page Summary

KIC: 12118993 Candidate: 1 of 1 Period: 0.545 d



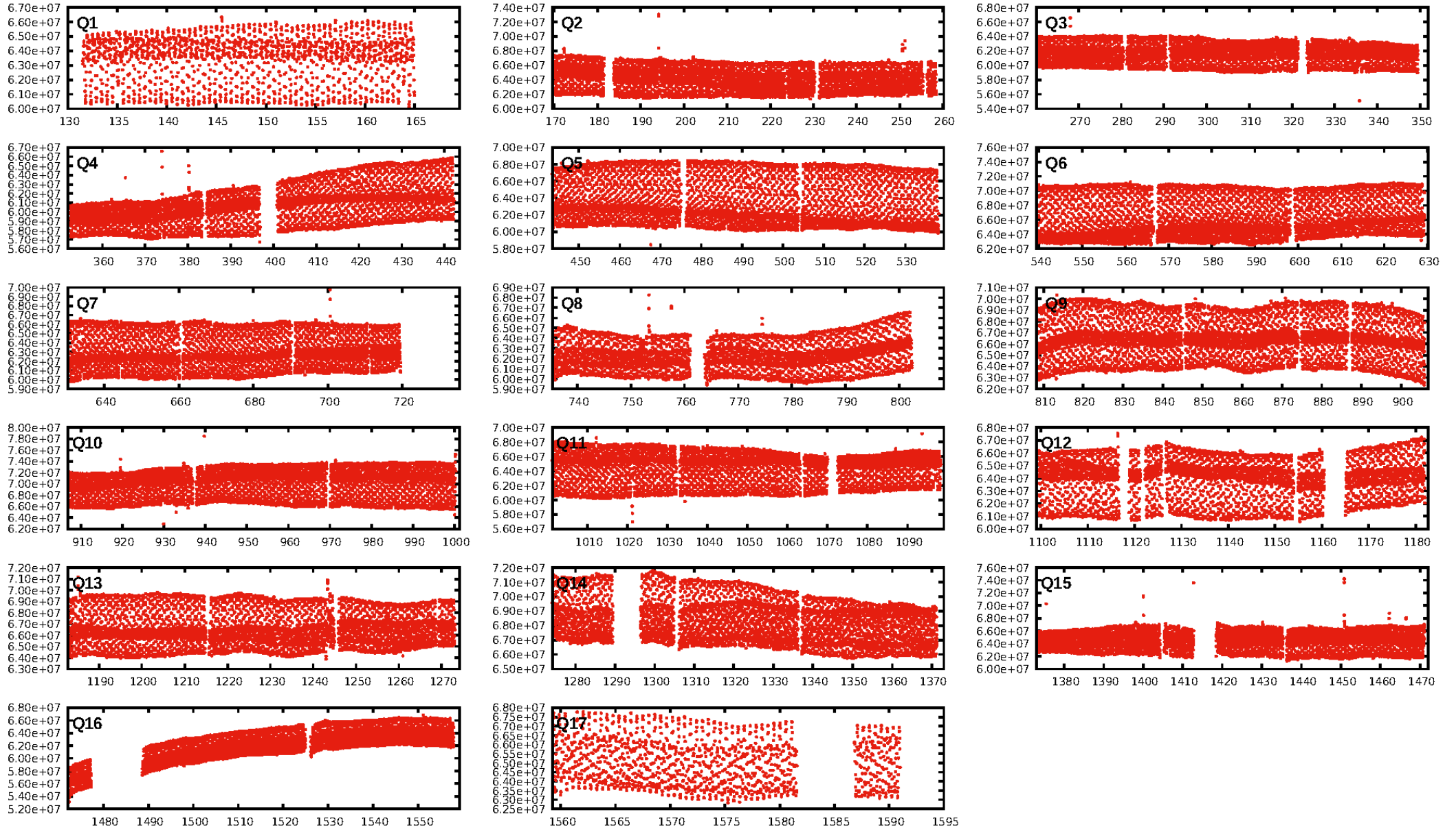
DV Fit Results:

Period = 0.54473 [0.00001] d
Epoch = 131.8053 [0.0016] BKJD
Rp/R* = 0.0322 [0.0416]
a/R* = 1.02 [0.05]
b = 1.00 [0.07]
Seff = 2117.17 [351.50]
Teq = 1730 [72] K
Rp = 2.24 [2.90] Re
a = 0.0112 [0.0008] AU
Ag = 1.88 [4.87] [0.18σ]
Teffp = 3133 [2025] K [0.69σ]

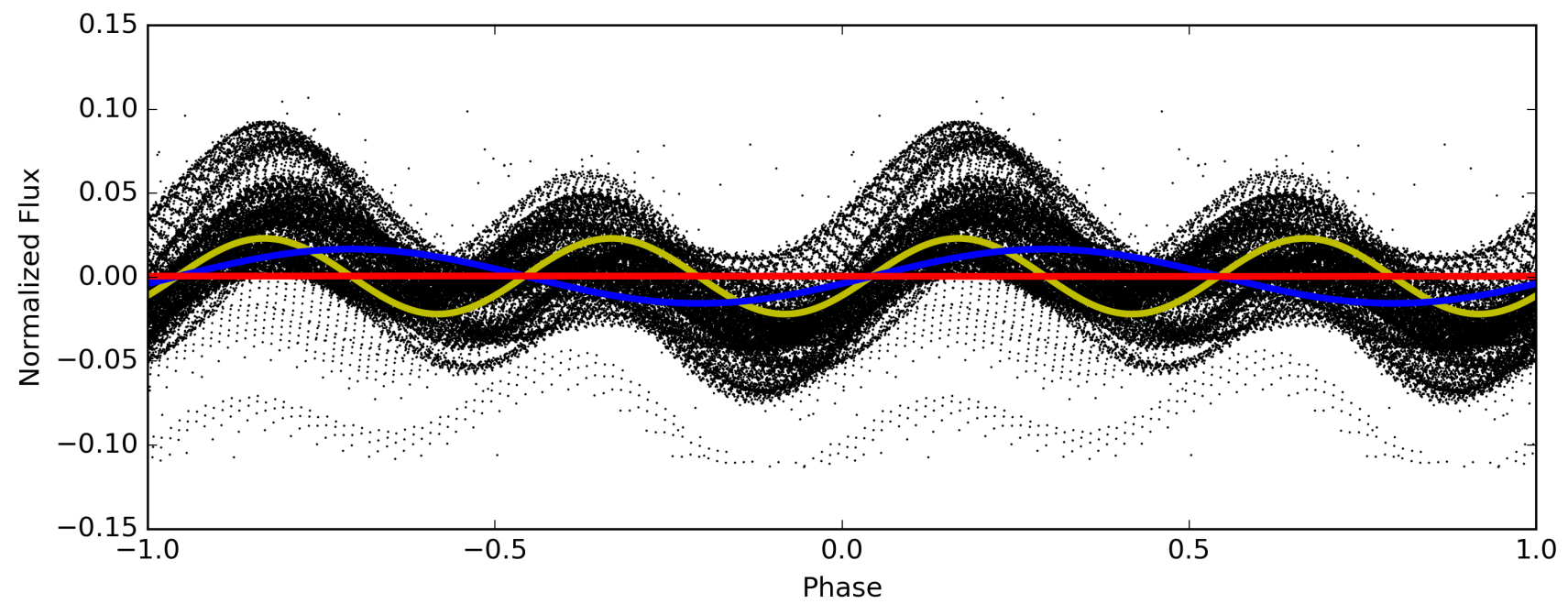
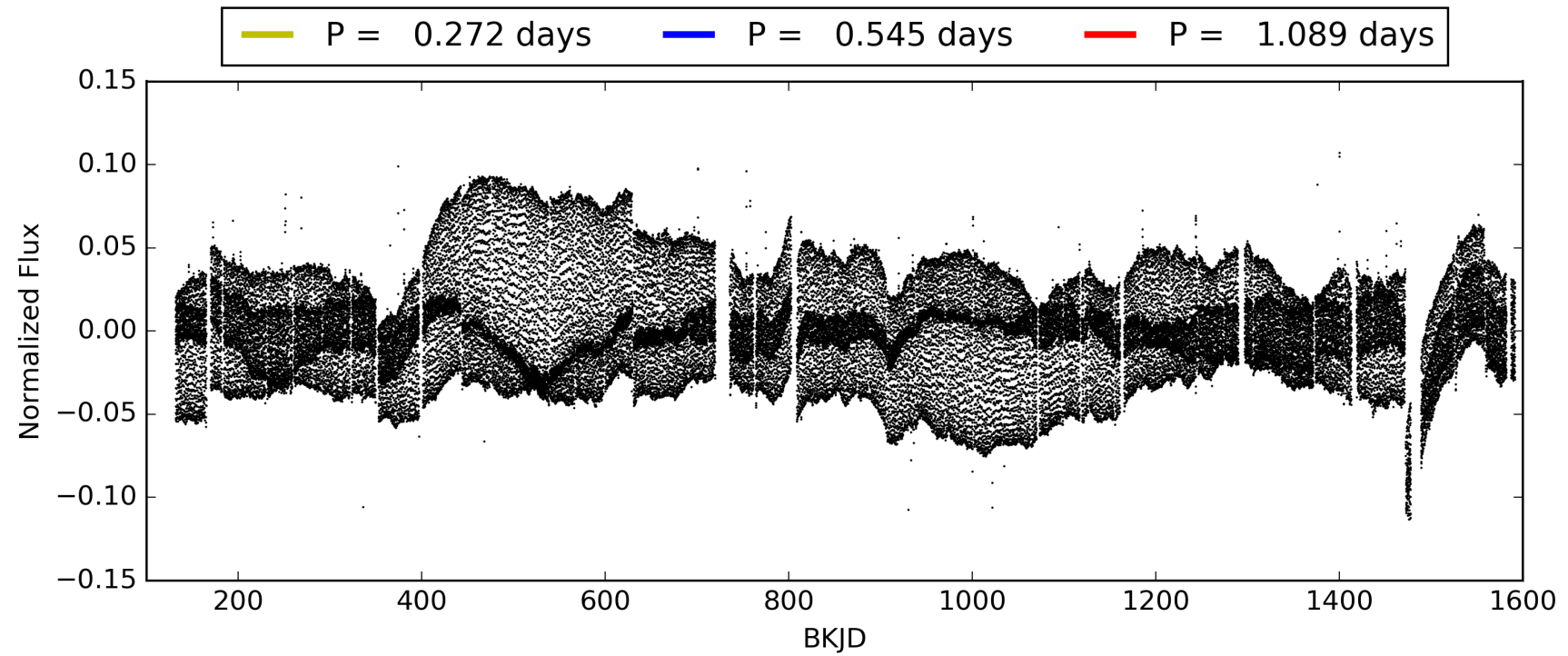
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2368/2369]
GhostDiagnostic-chr: 1.178
Centroid-sig: 1.4%
Centroid-so: 0.186 arcsec [1.89σ]
OotOffset-rm: 0.047 arcsec [0.60σ]
KicOffset-rm: 0.040 arcsec [0.49σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.76 [13/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 012118993-01, PDC Light Curves

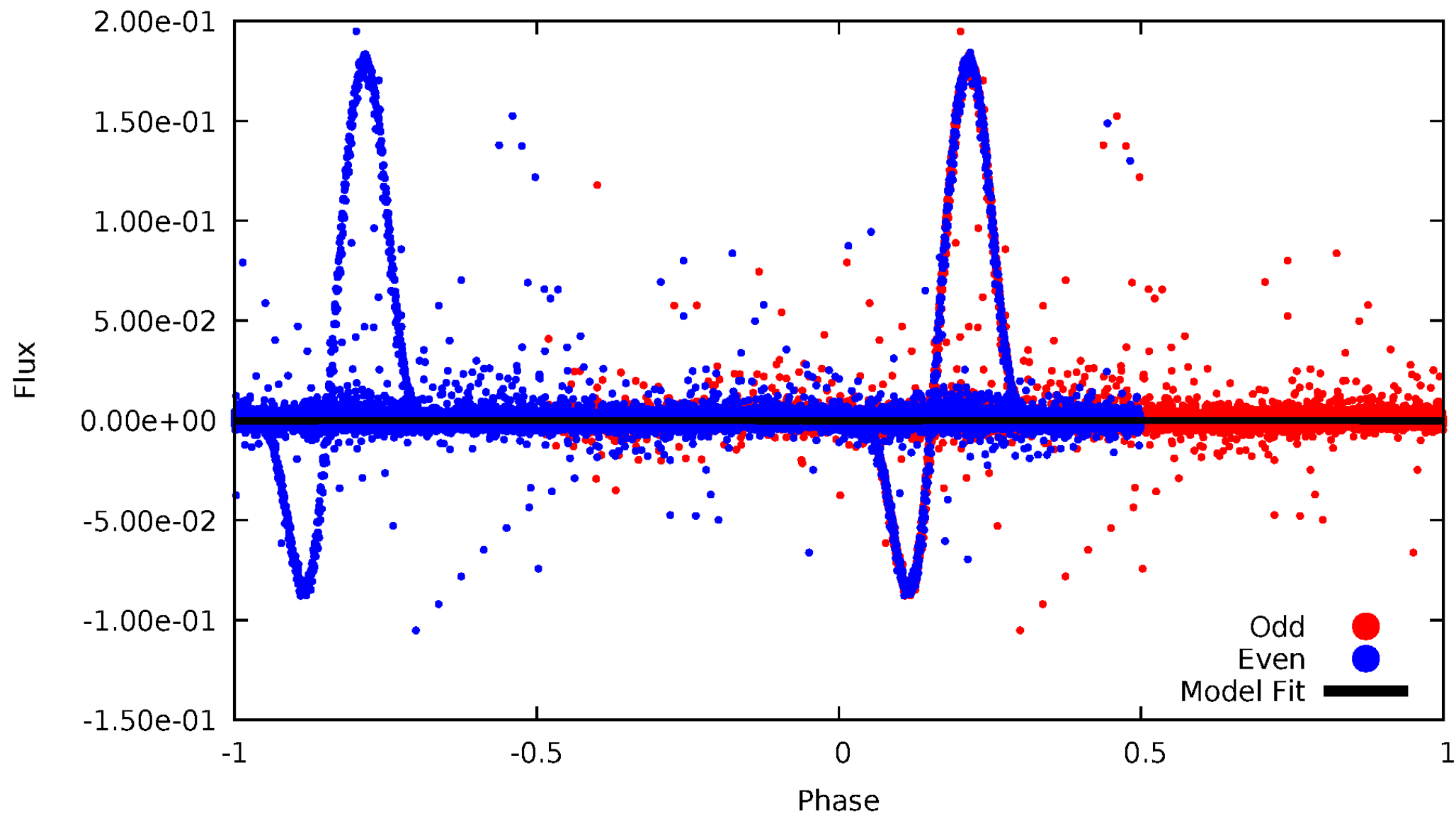


TCE 012118993-01



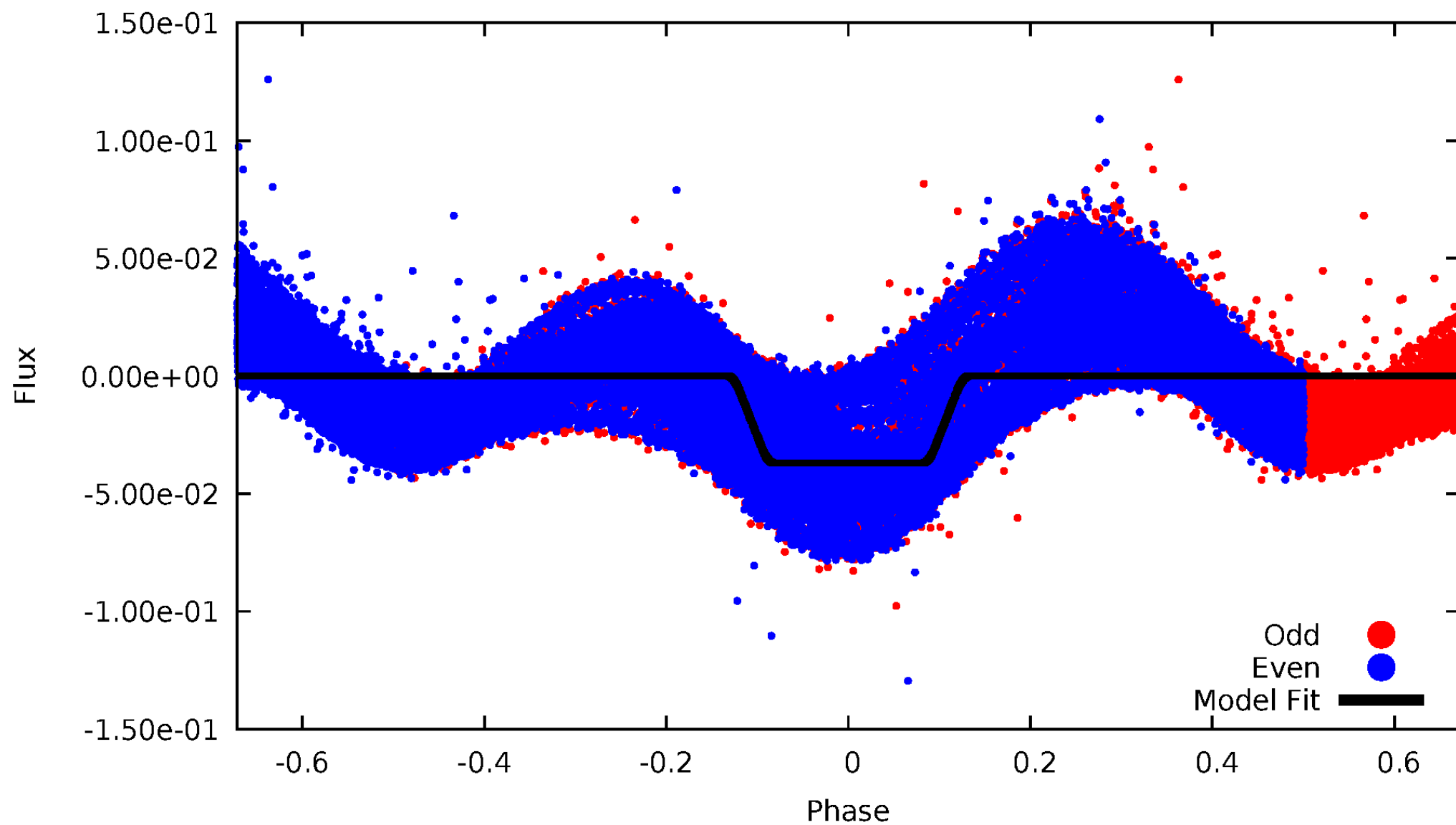
DV Odd/Even

TCE 012118993-01



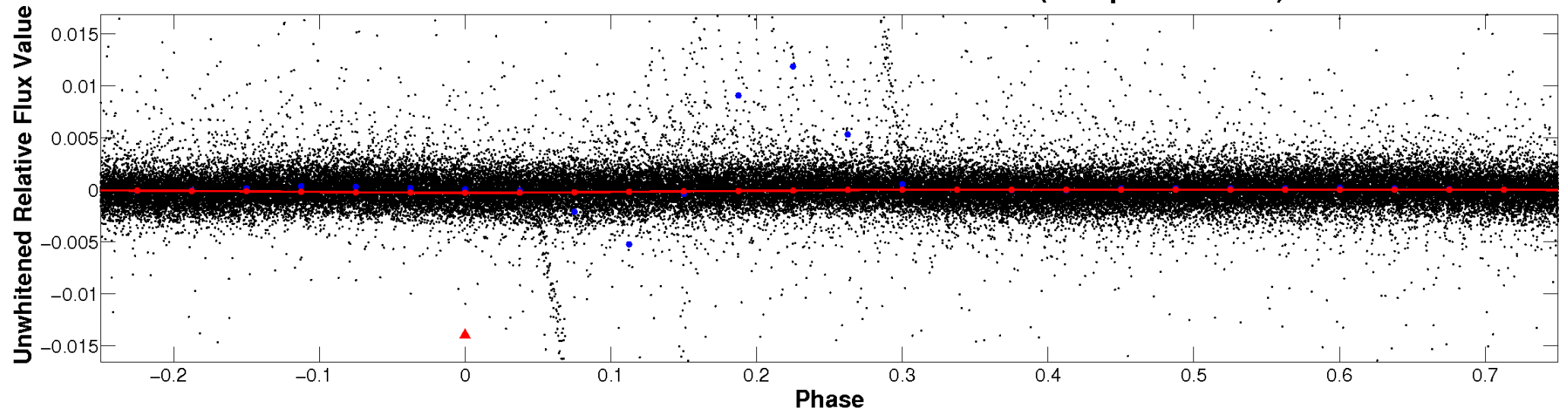
ALT Odd/Even

TCE 012118993-01

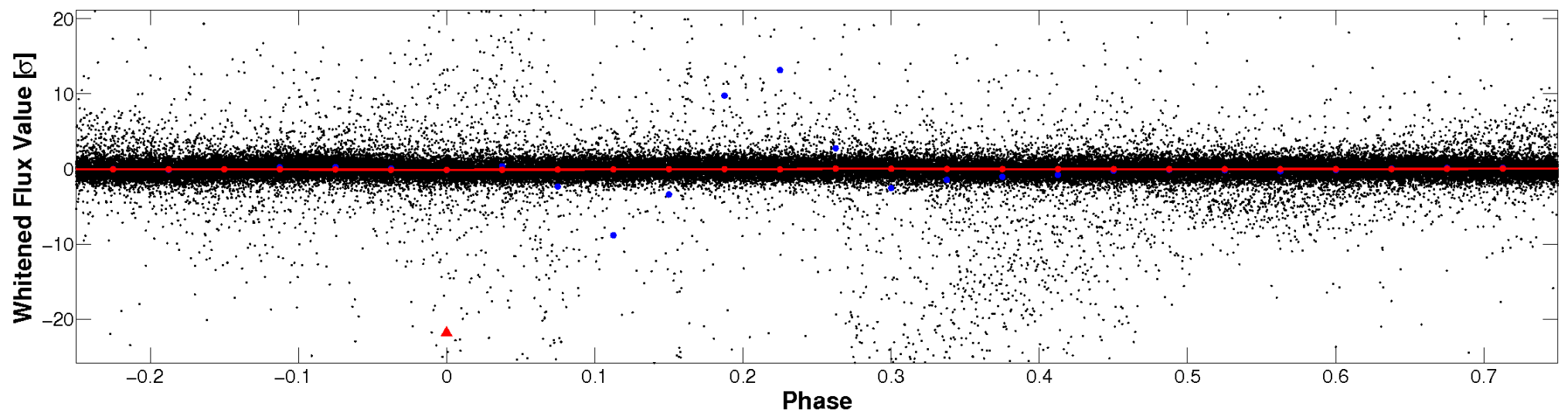


Non-Whitened Vs. Whitened Light Curve

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

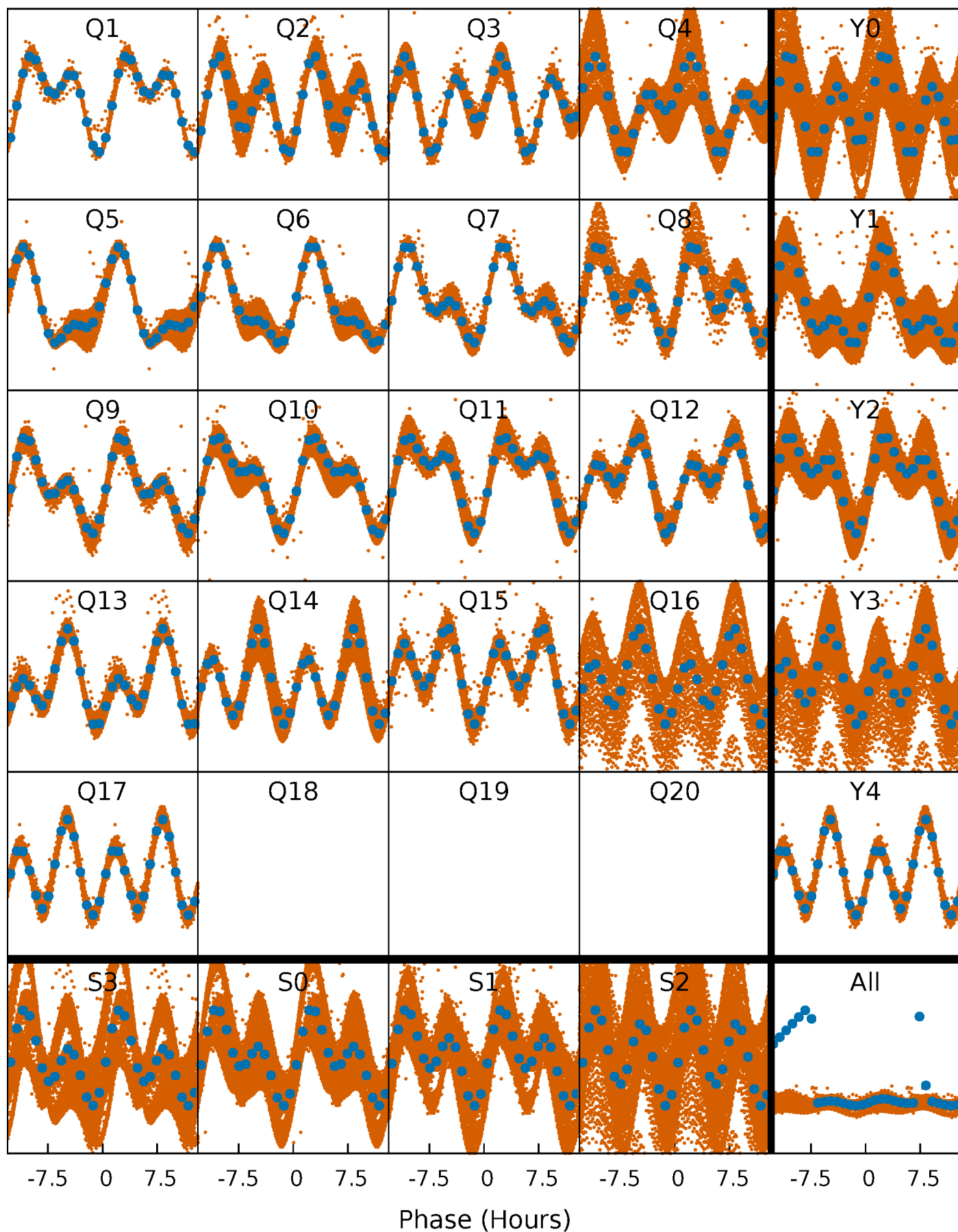


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



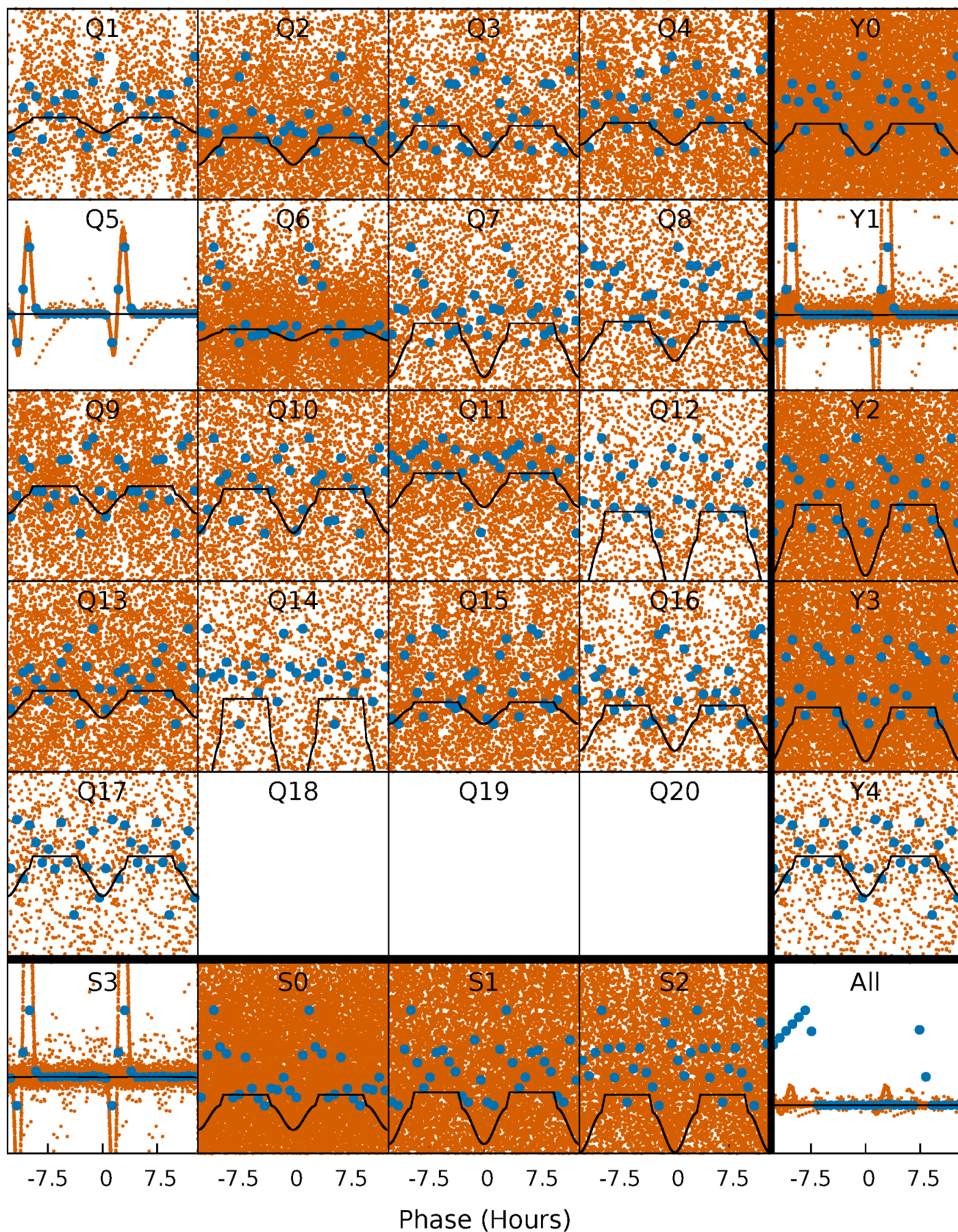
PDC Quarter-Phased Transit Curves

TCE 012118993-01 P= 0.544725 Days $T_0=131.805348$ (BKJD)



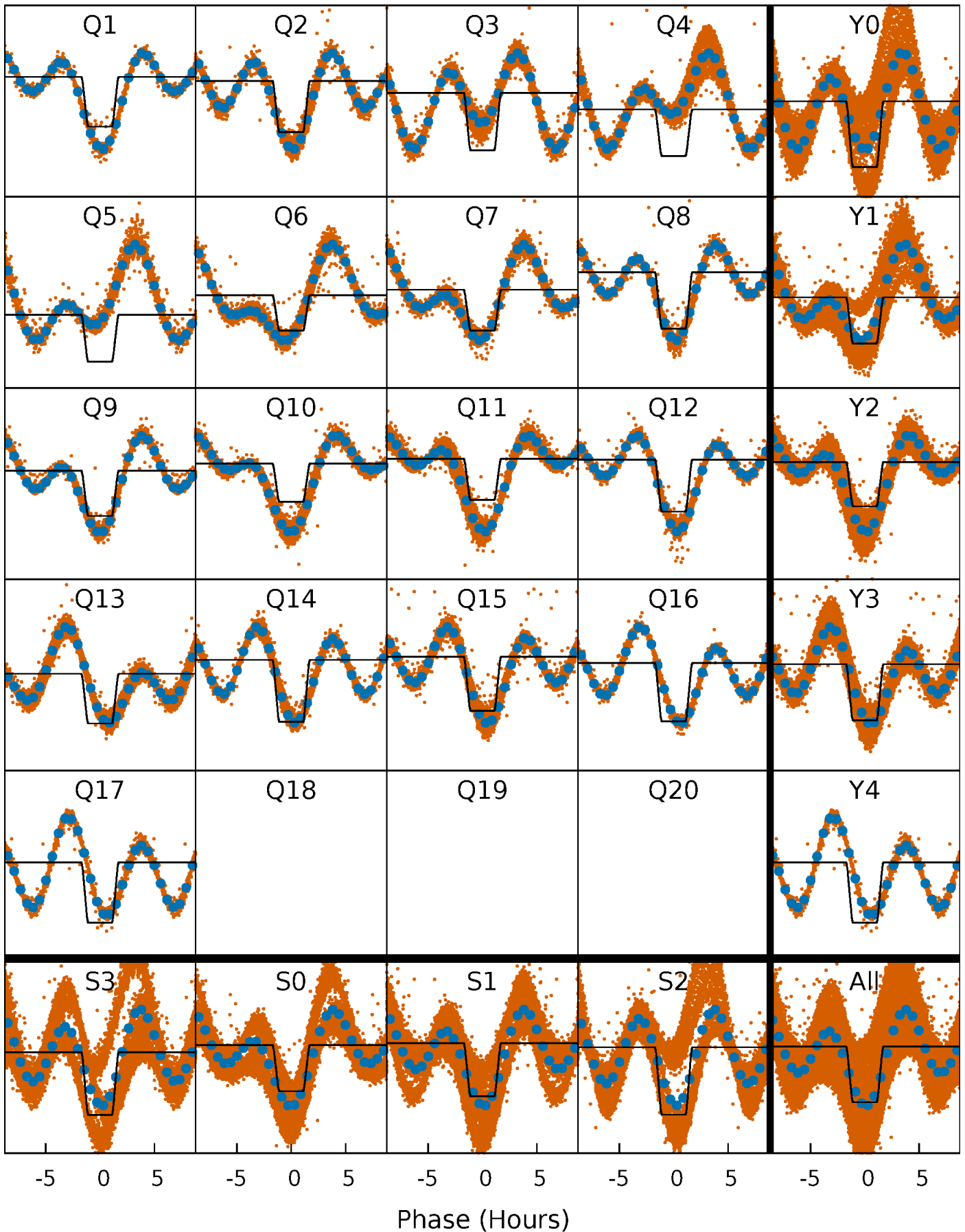
DV Quarter-Phased Transit Curves

TCE 012118993-01 P= 0.544725 Days $T_0=131.805348$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

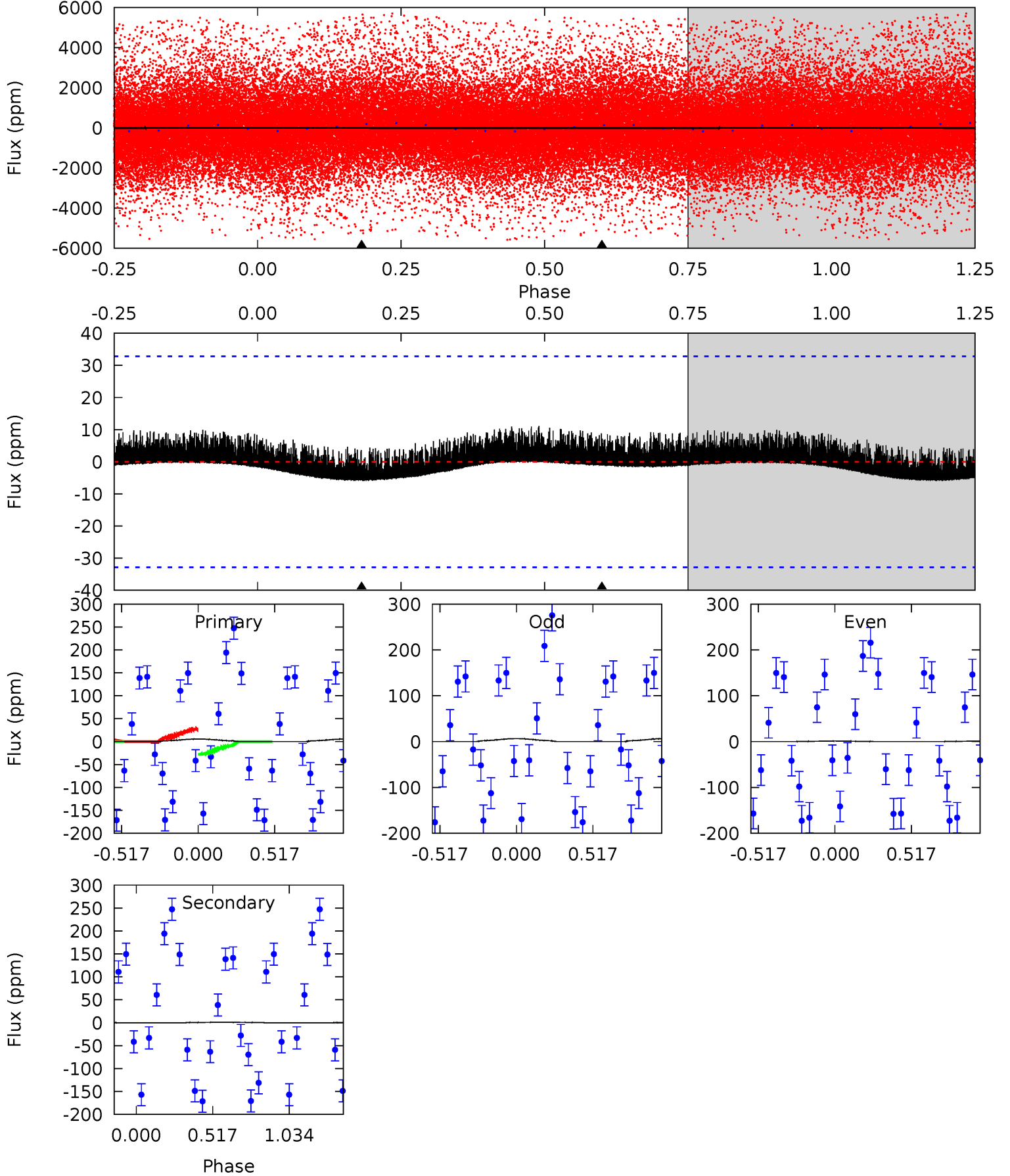
TCE 012118993-01 P= 0.544704 Days $T_0=131.777086$ (BKJD)



DV Model-Shift Uniqueness Test

012118993-01, P = 0.544725 Days, E = 131.260623 Days

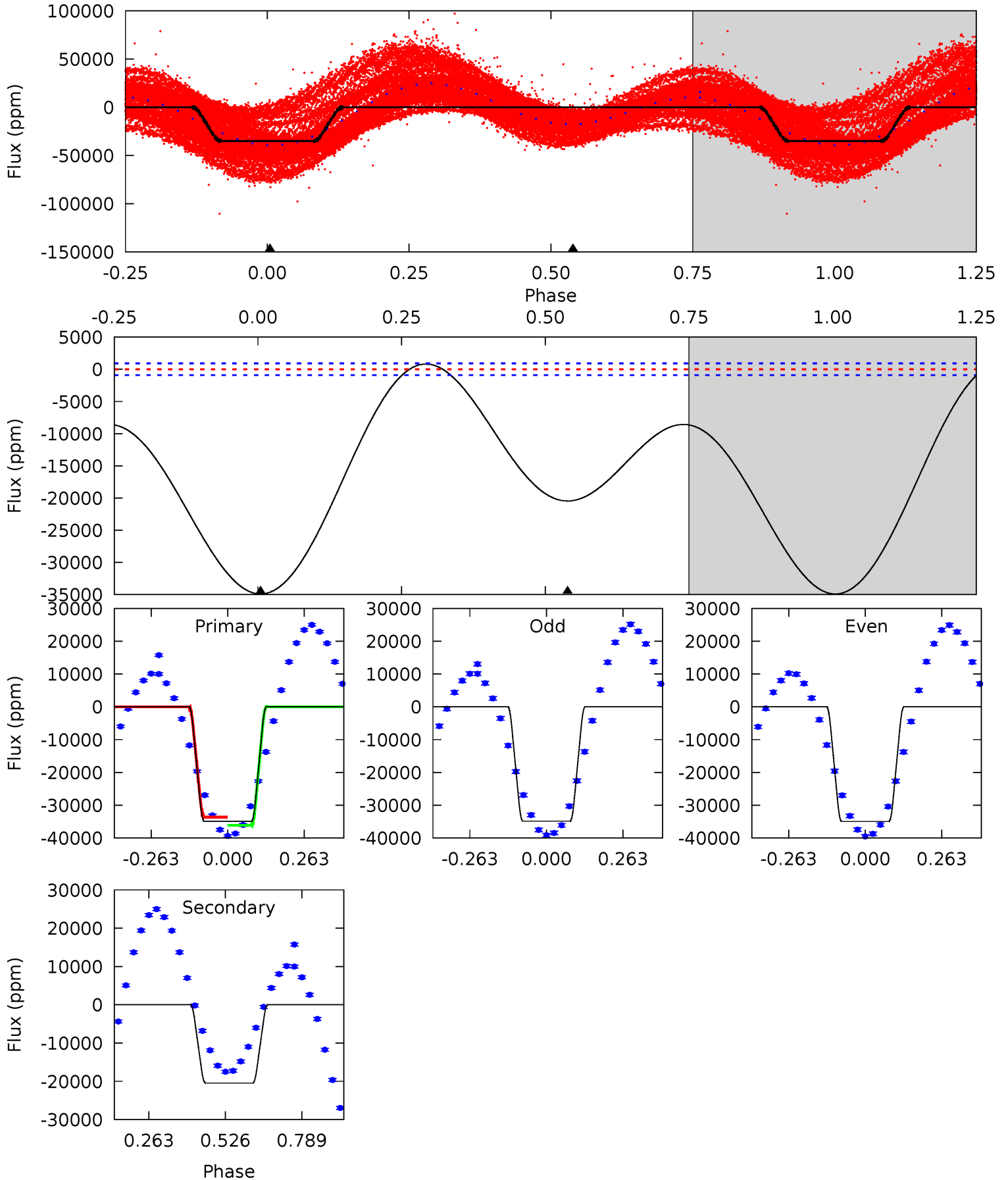
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.73	0.13	0	0	4.21	0.65	0.16	0.73	0.73	0.13	0.13	0.33	5.65	0.66	0.05



Alt Model-Shift Uniqueness Test

012118993-01, P = 0.544704 Days, E = 131.232382 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
167.1	97.9	0	0	4.36	1.12	16.9	167.1	167.1	97.9	97.9	0.26	0.91	0.02	7.03



Stellar Parameters For KIC 012118993

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5191^{+156}_{-156}	$4.626^{+0.066}_{-0.039}$	$-0.920^{+0.300}_{-0.300}$	$0.637^{+0.051}_{-0.051}$	$0.626^{+0.061}_{-0.023}$	$3.407^{+0.907}_{-0.554}$
	+3%/-3%	+1%/-1%	+33%/-33%	+8%/-8%	+10%/-4%	+27%/-16%
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 012118993-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1 ± 8	$3.07^{+2.61}_{-2.01}$	2401^{+87}_{-87}	-2706^{+220}_{-112}	$0.006^{+0.141}_{-0.063}$
Alt.	-20456 ± 209	$13.35^{+2.86}_{-3.02}$	2403^{+86}_{-83}	4567^{+521}_{-342}	$8.185^{+5.395}_{-2.604}$

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

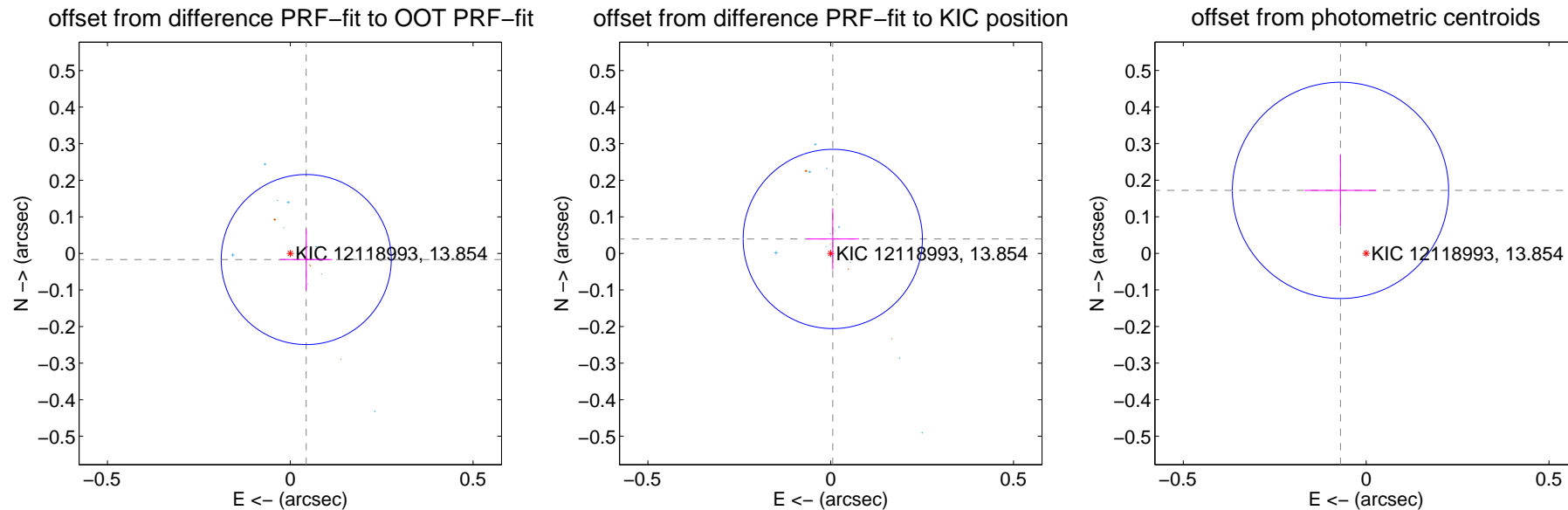
DV Centroid Data

Supplemental centroid analysis for 012118993-01. Kepler magnitude: 13.85. Transit SNR 13.31

There are 13 quarters with good PRF difference image offsets

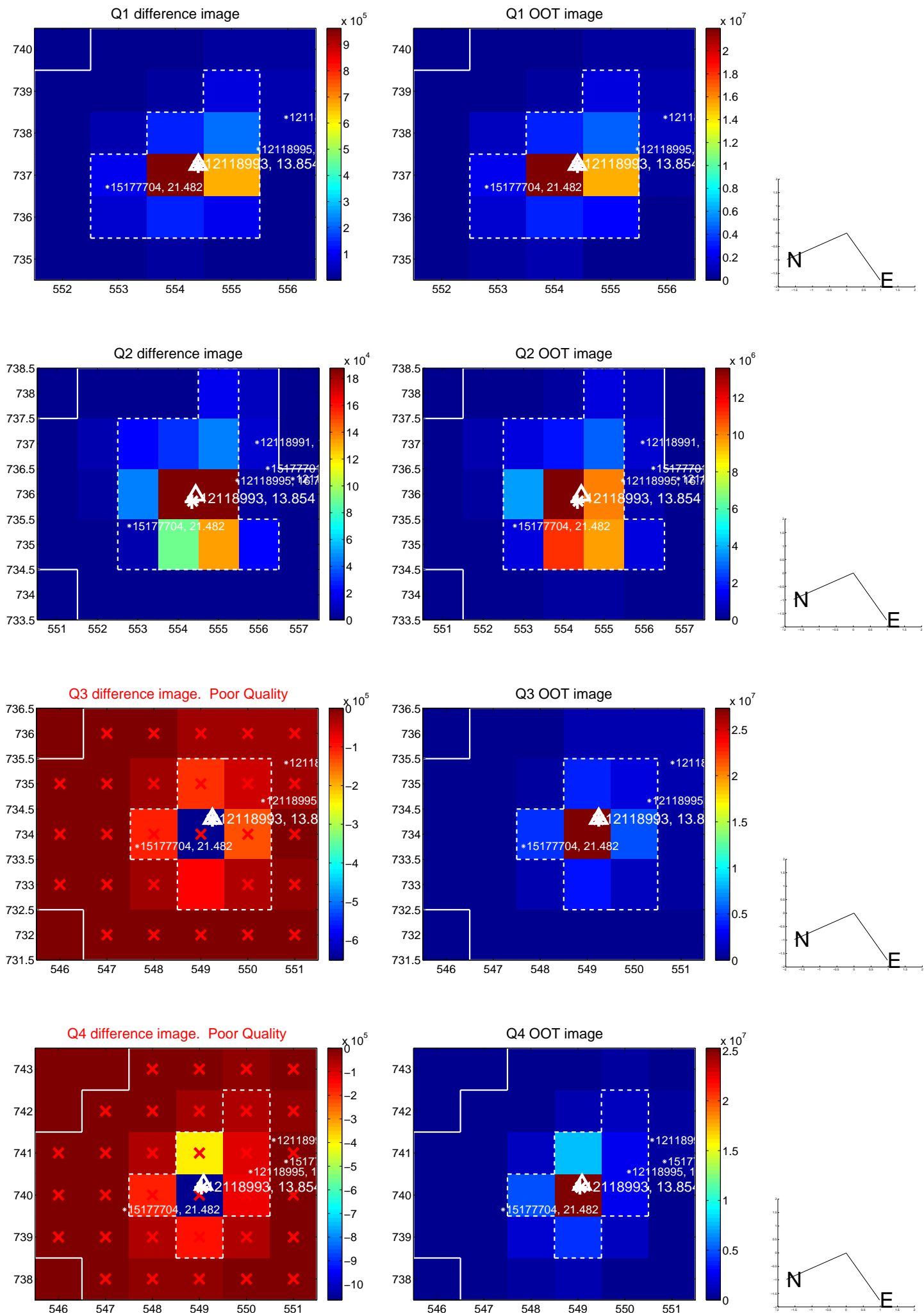
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.047 ± 0.078	0.60	-0.044 ± 0.071	-0.017 ± 0.083
PRF-fit source offset from KIC position	0.040 ± 0.082	0.49	-0.006 ± 0.071	0.039 ± 0.084
photometric centroid source offset	0.19 ± 0.10	1.89	0.07 ± 0.10	0.17 ± 0.10

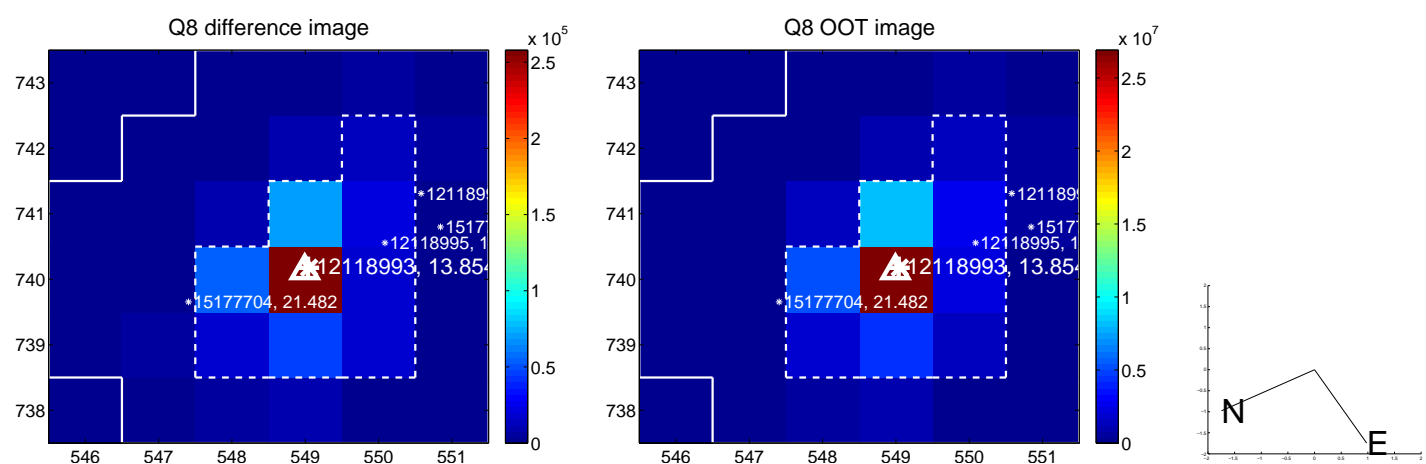
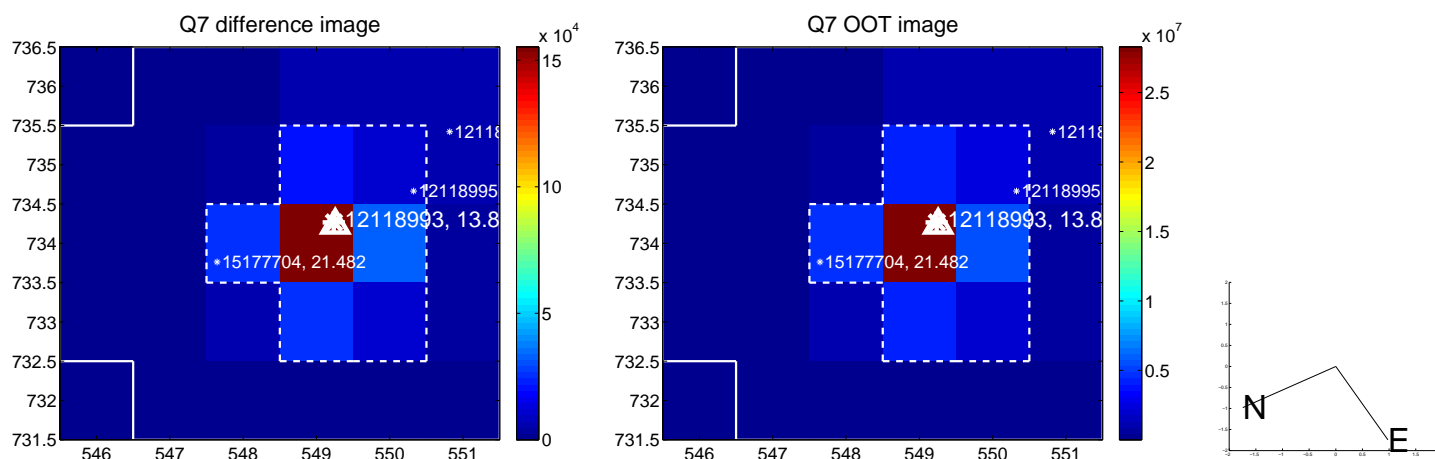
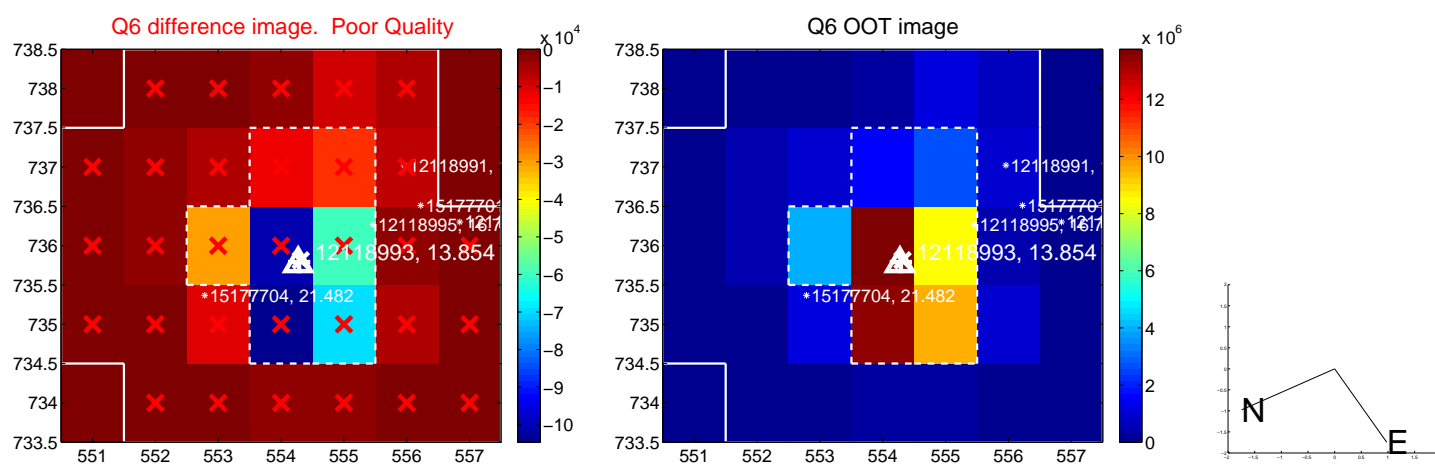
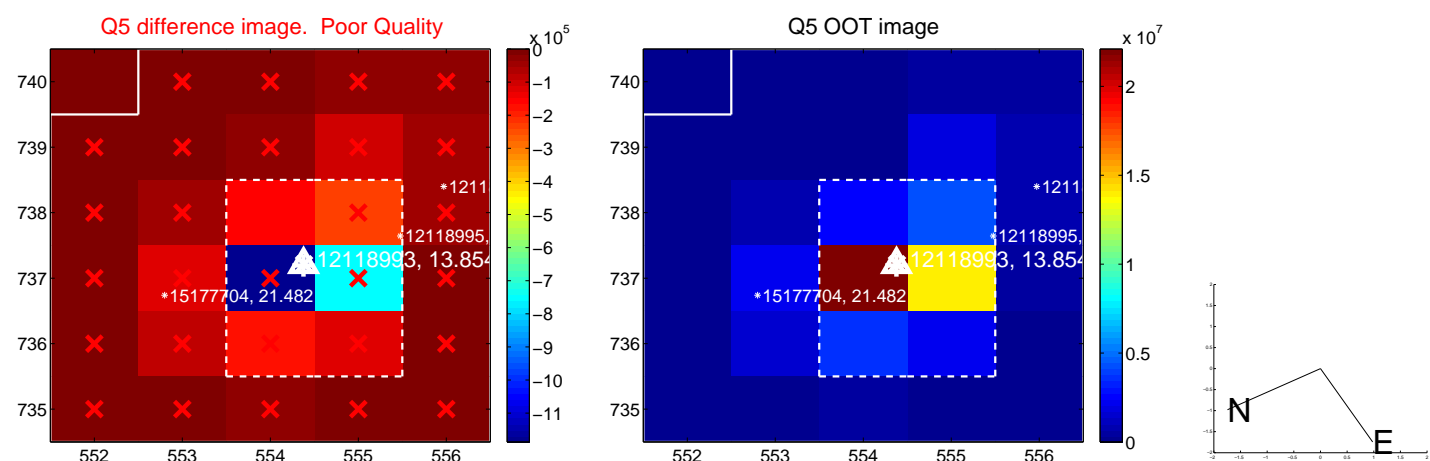


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

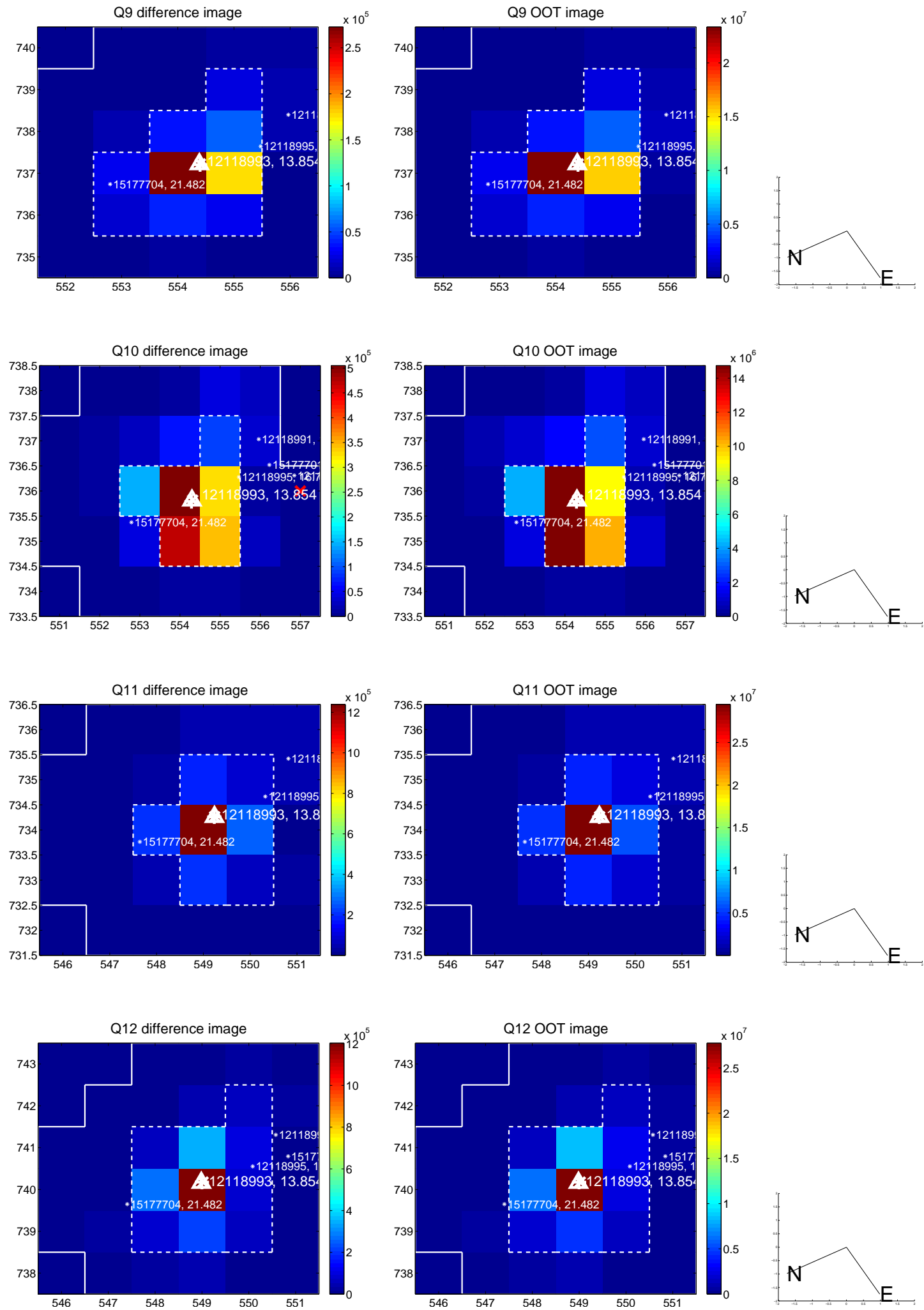
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



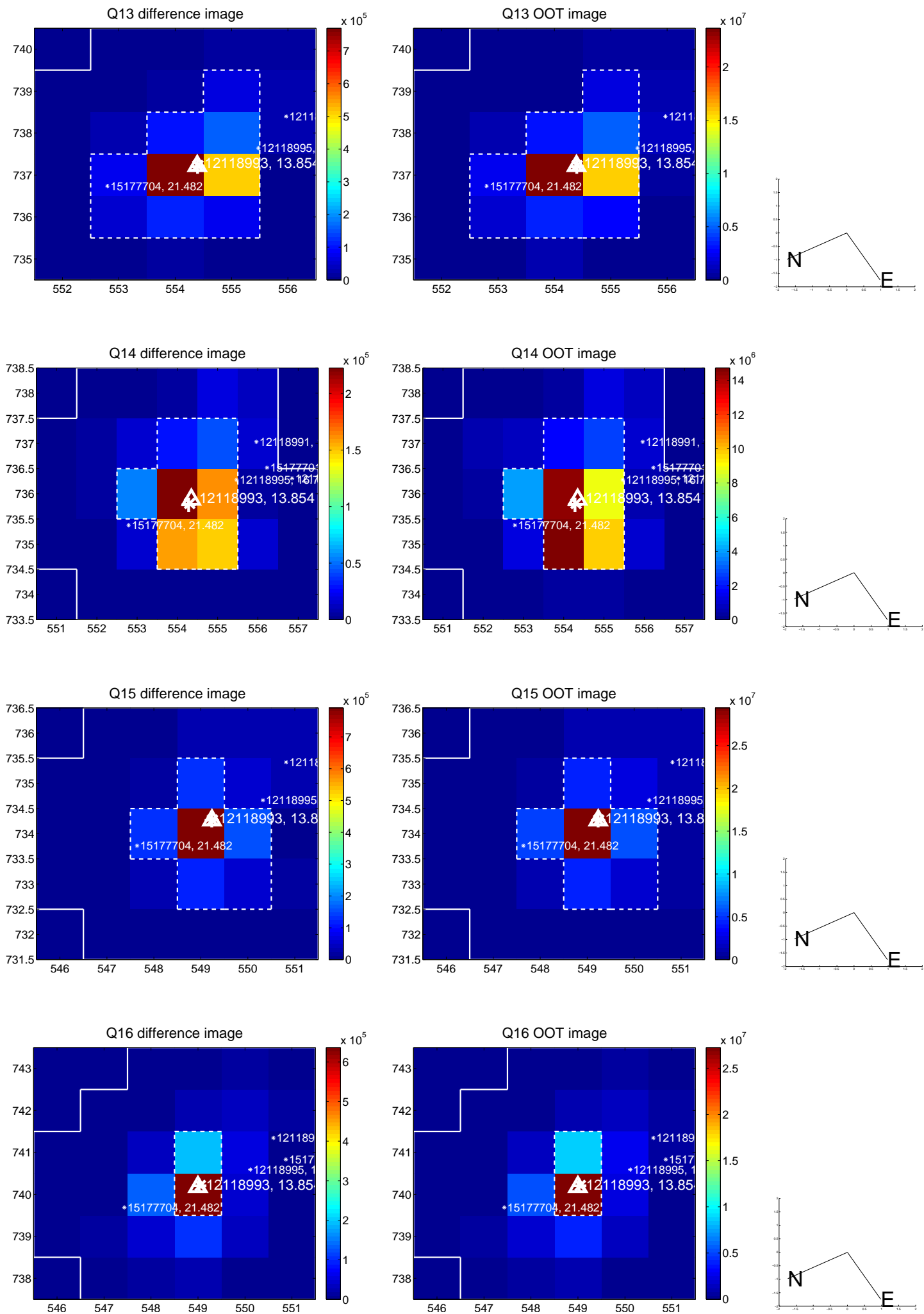
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



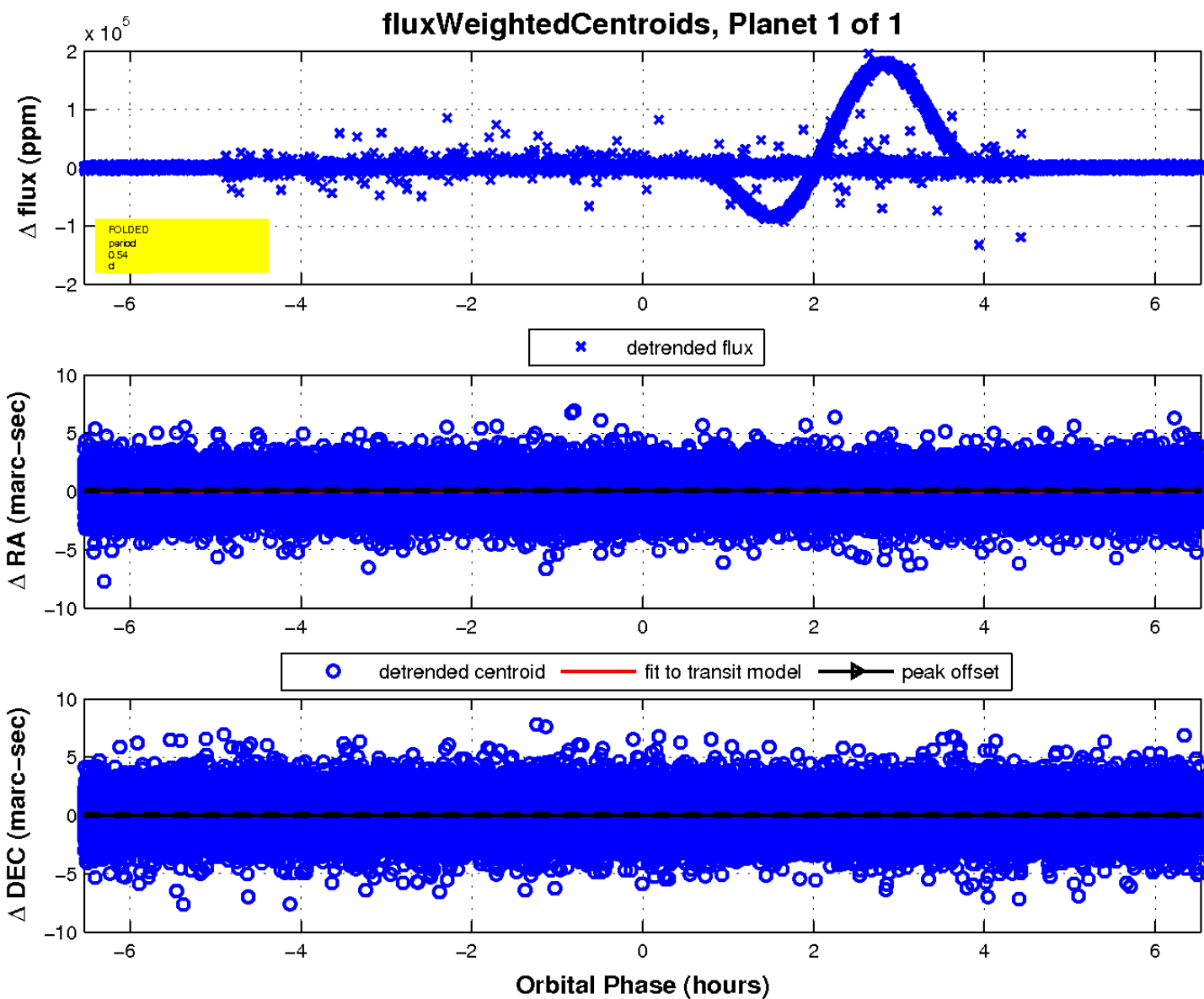
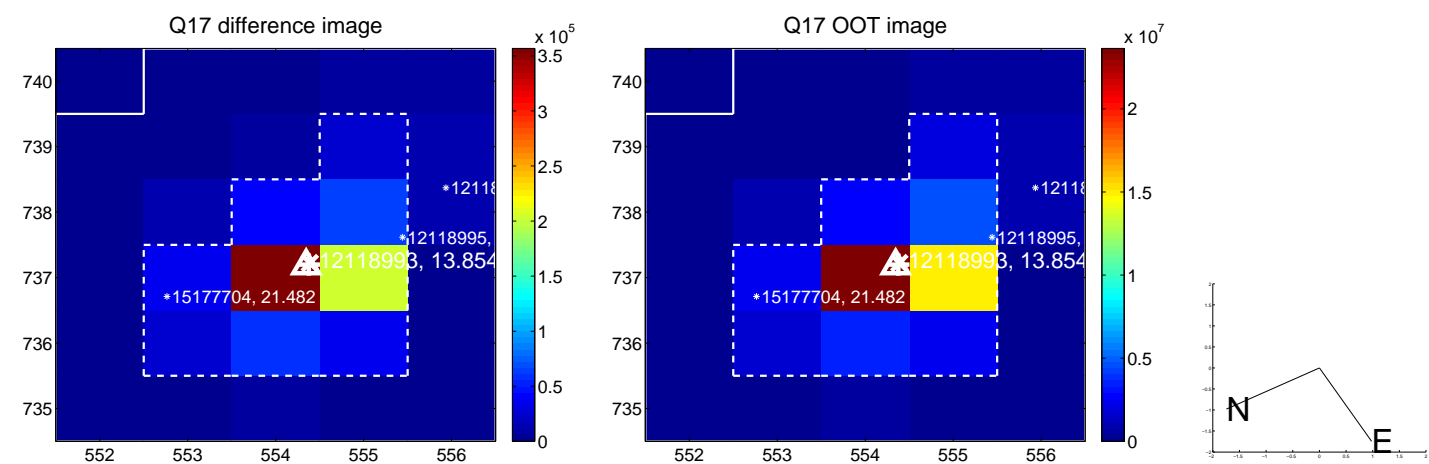
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UKIRT Image

Declination

