

KIC 009458266

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})
009458266-01	OBS	7174.01	1.584858	132.707135	35.4	1.557	7.5	7.8	0.57	4201	0.41	187.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009458266-01	OBS	PC	0.80	0	0	0	0	CENT_KIC_POS

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

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

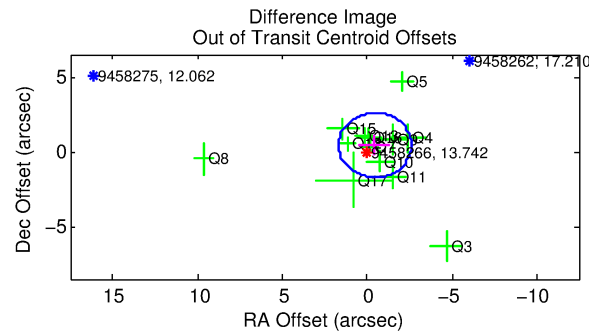
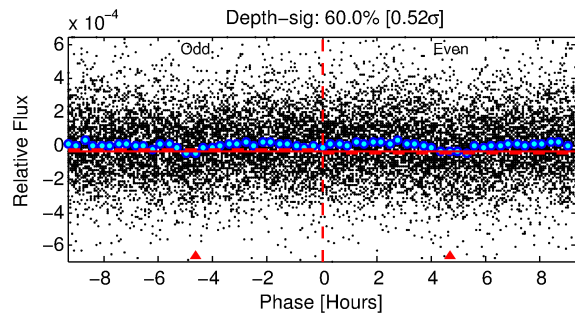
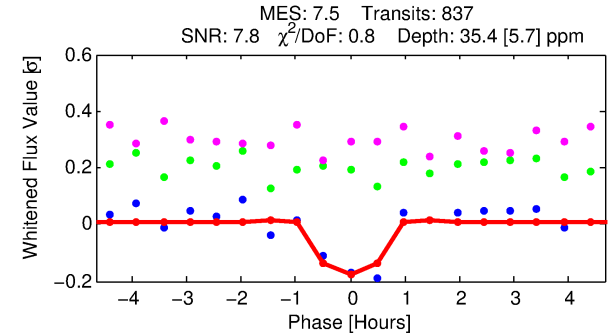
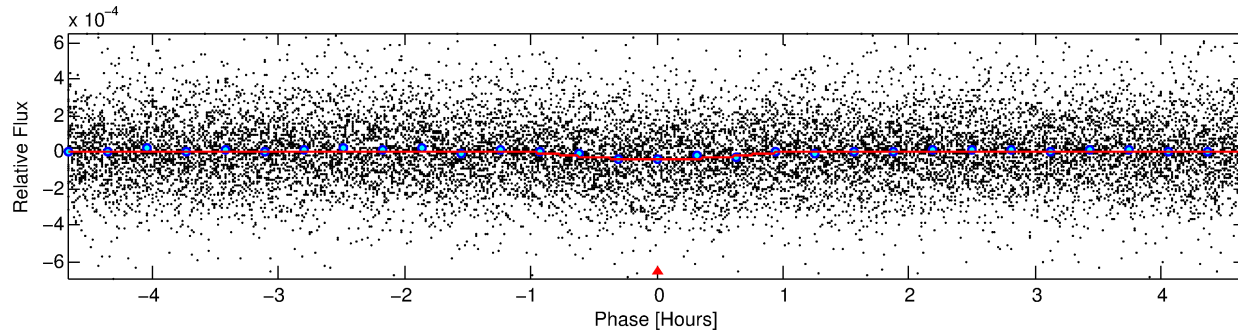
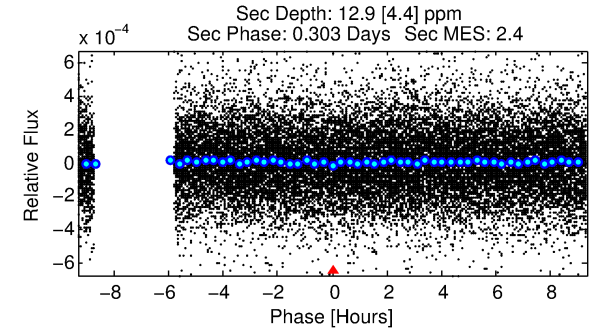
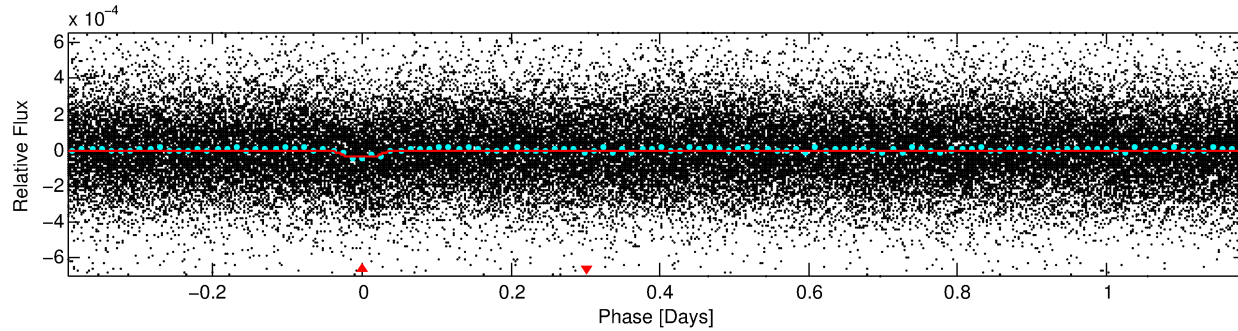
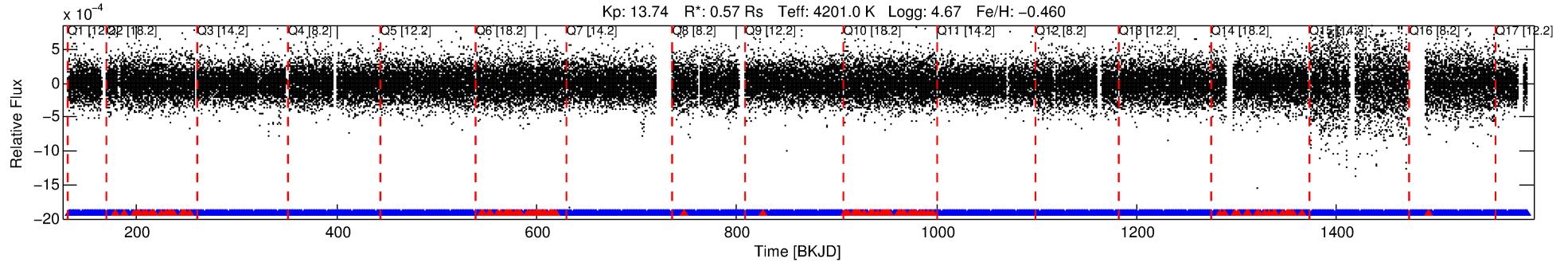
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009458266-01

No Significant Match Found

DV One-Page Summary

KIC: 9458266 Candidate: 1 of 1 Period: 1.585 d
KOI: K07174.01 Corr: 0.759



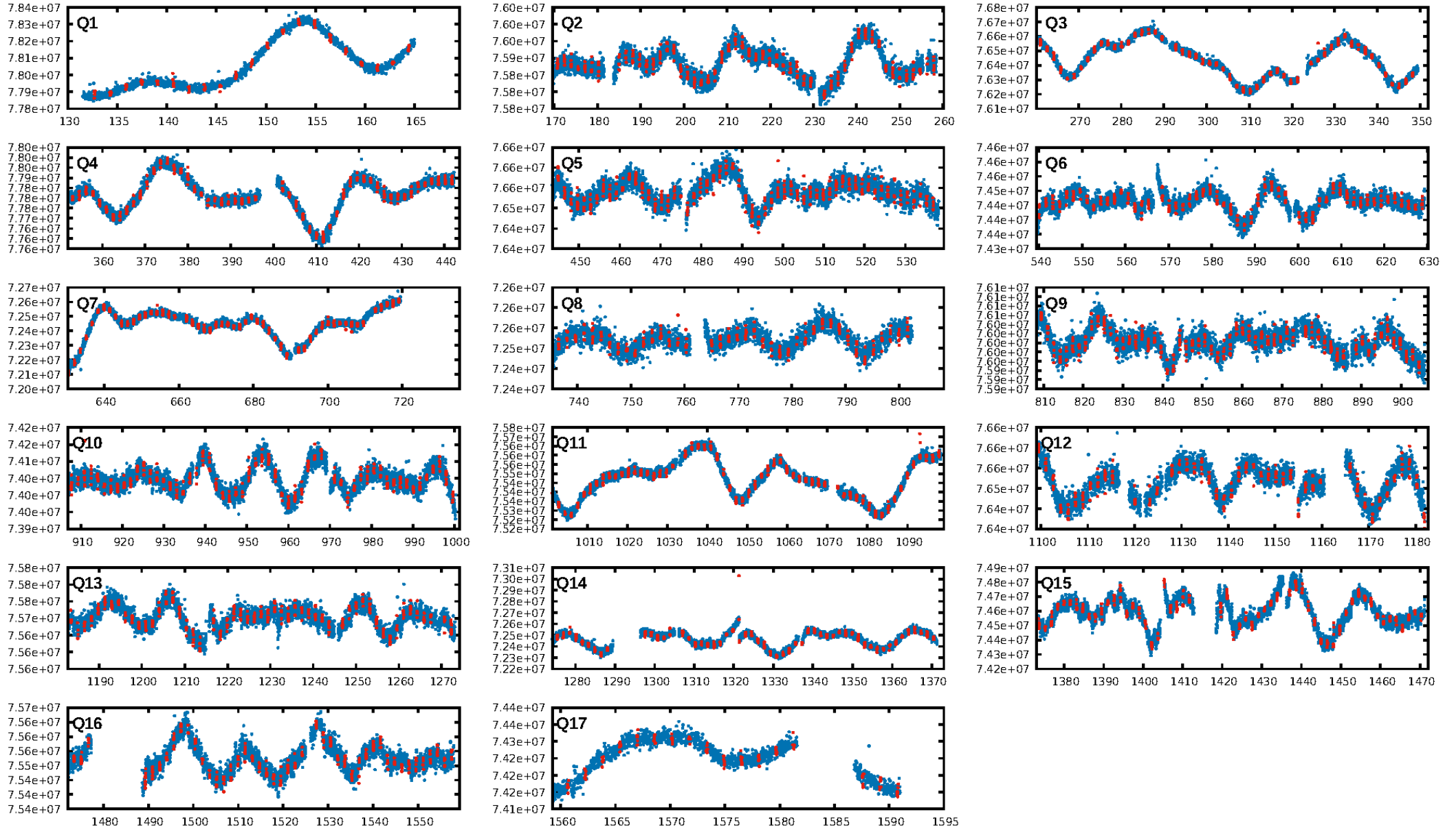
DV Fit Results:

Period = 1.58486 [0.00001] d
Epoch = 132.7071 [0.0028] BKJD
Rp/R* = 0.0066 [0.0044]
a/R* = 3.61 [9.96]
b = 0.90 [0.64]
Seff = 187.44 [33.91]
Teq = 943 [43] K
Rp = 0.41 [0.28] Re
a = 0.0218 [0.0019] AU
Ag = 20.43 [28.33] [0.69σ]
Teffp = 3101 [1076] K [2.00σ]

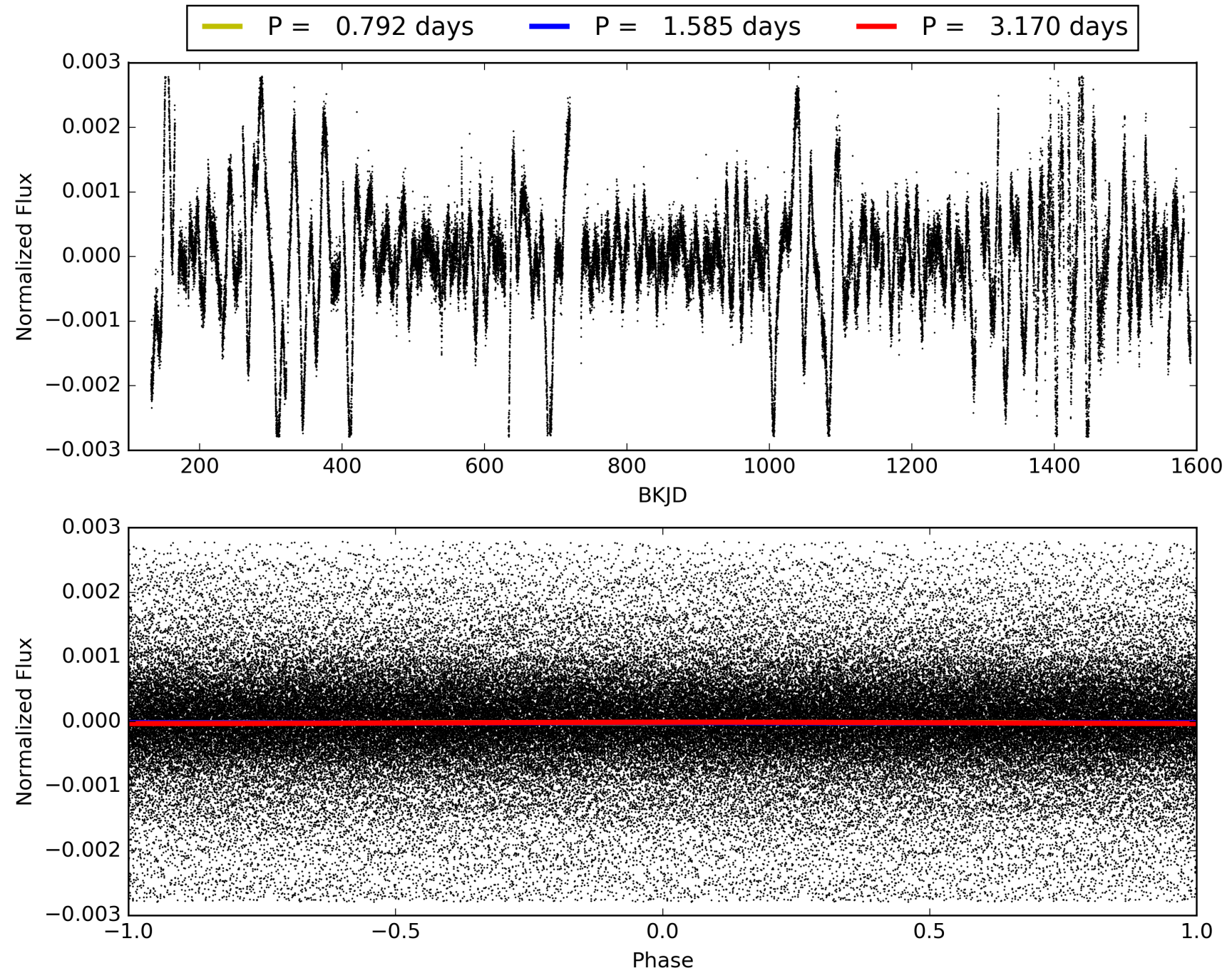
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.47e-14
RollingBand-fgt: 0.88 [704/799]
GhostDiagnostic-chr: 1.415
Centroid-sig: 0.2%
Centroid-so: 1.926 arcsec [1.25σ]
OotOffset-rm: 0.635 arcsec [0.89σ]
KicOffset-rm: 1.335 arcsec [1.97σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 0.62 [8/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009458266-01, PDC Light Curves

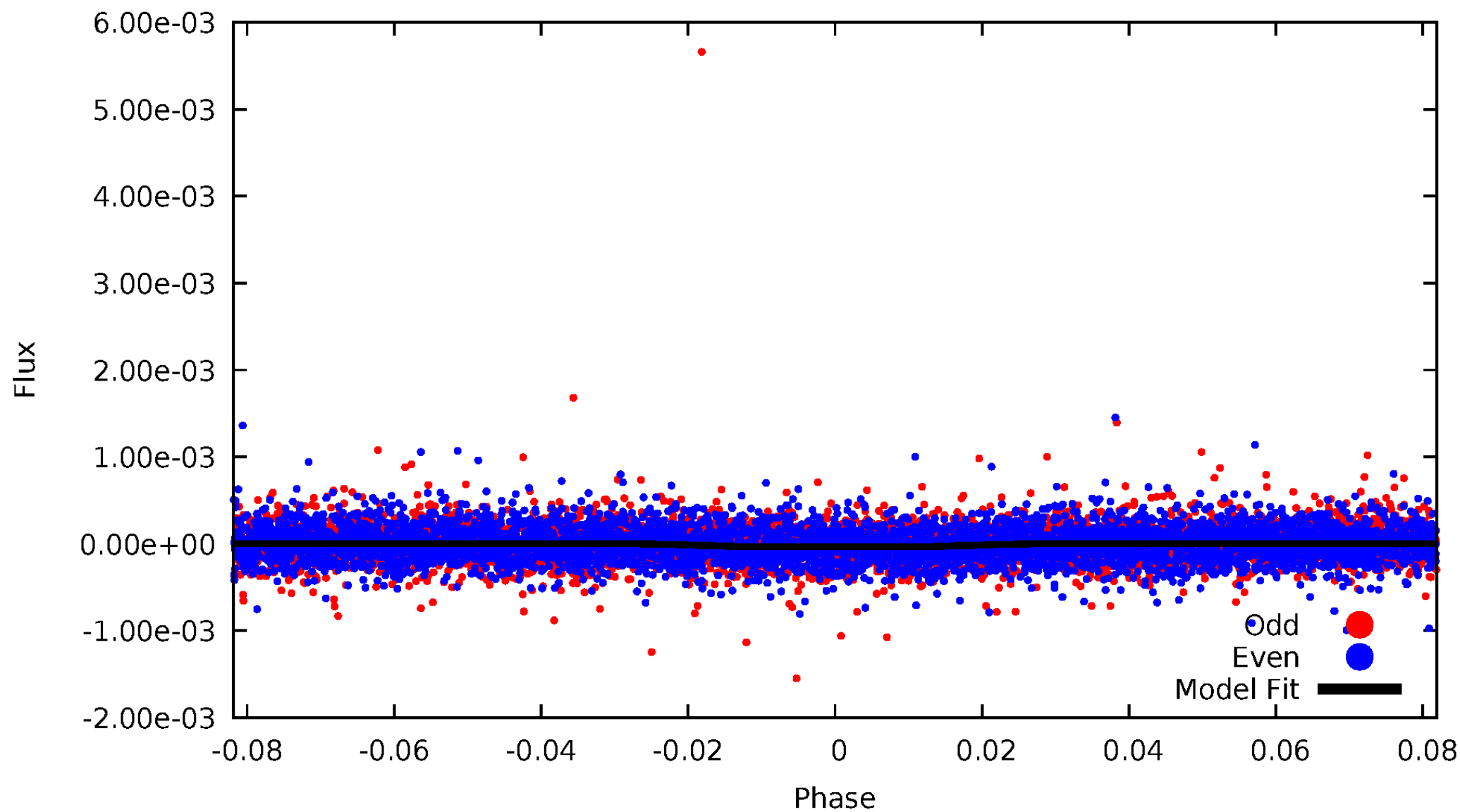


TCE 009458266-01



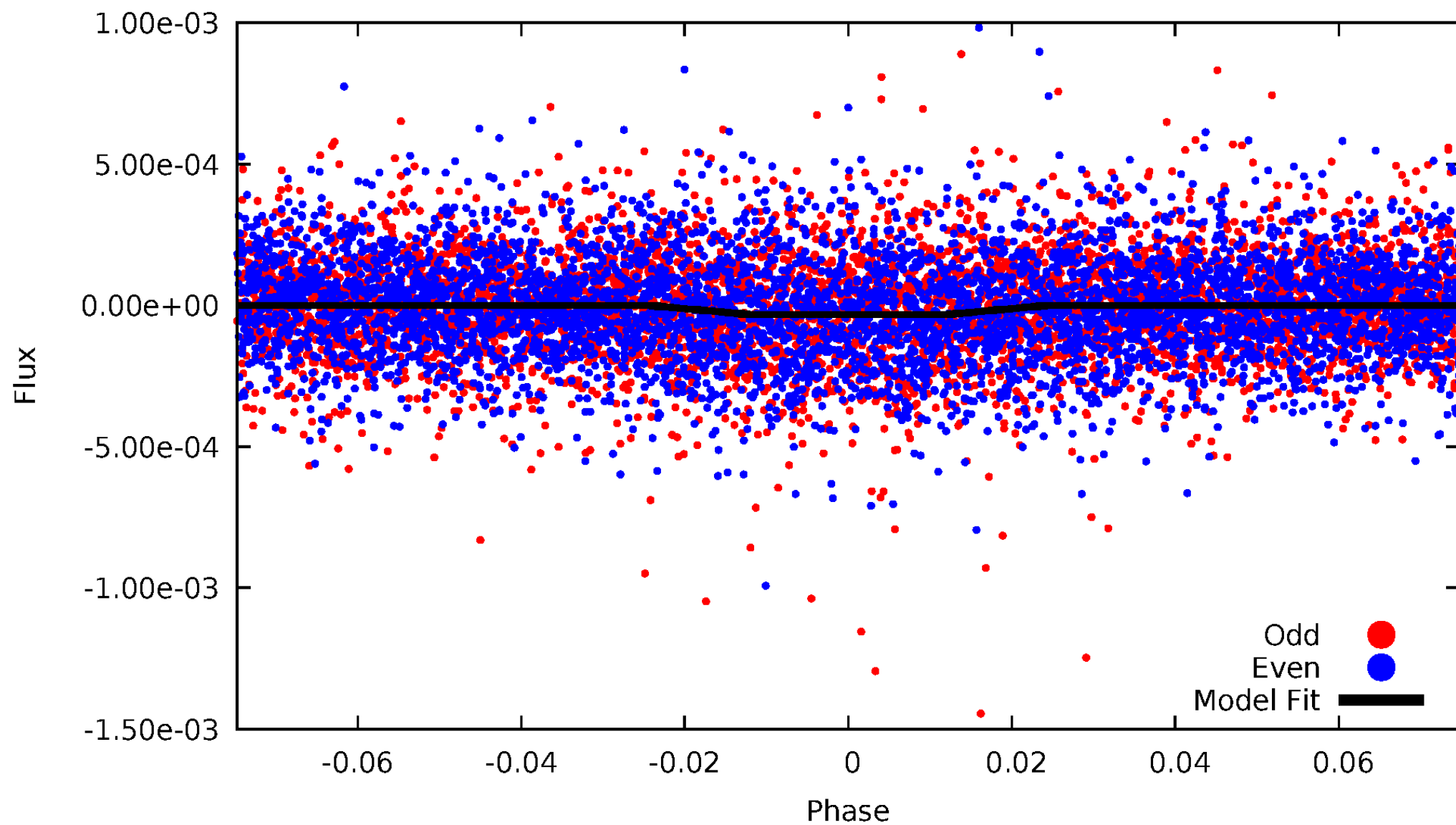
DV Odd/Even

TCE 009458266-01

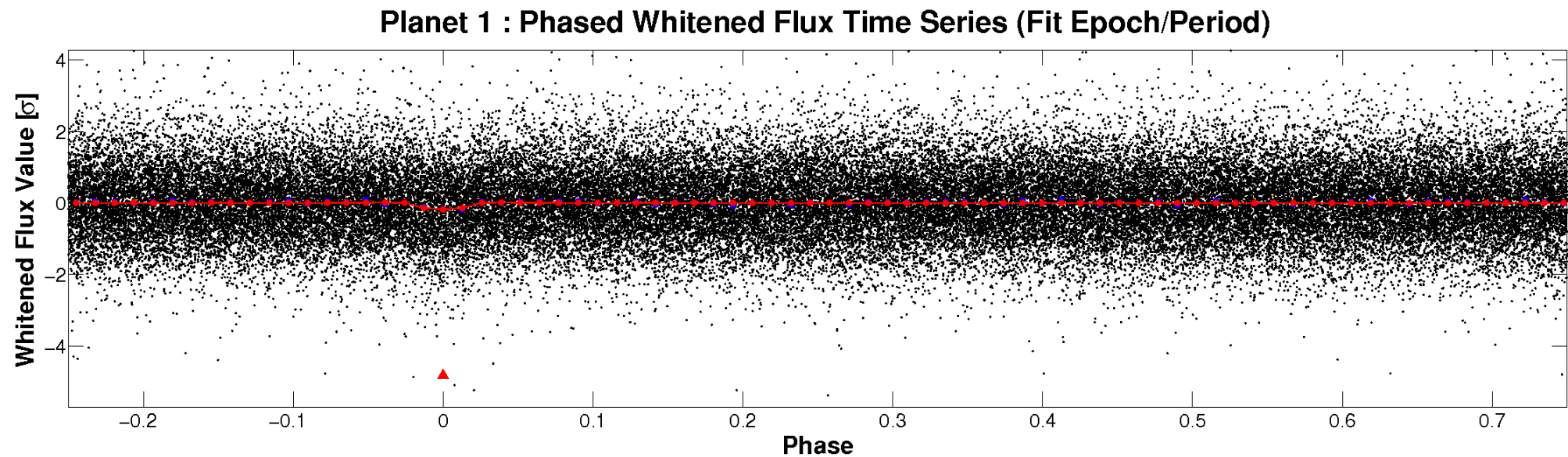
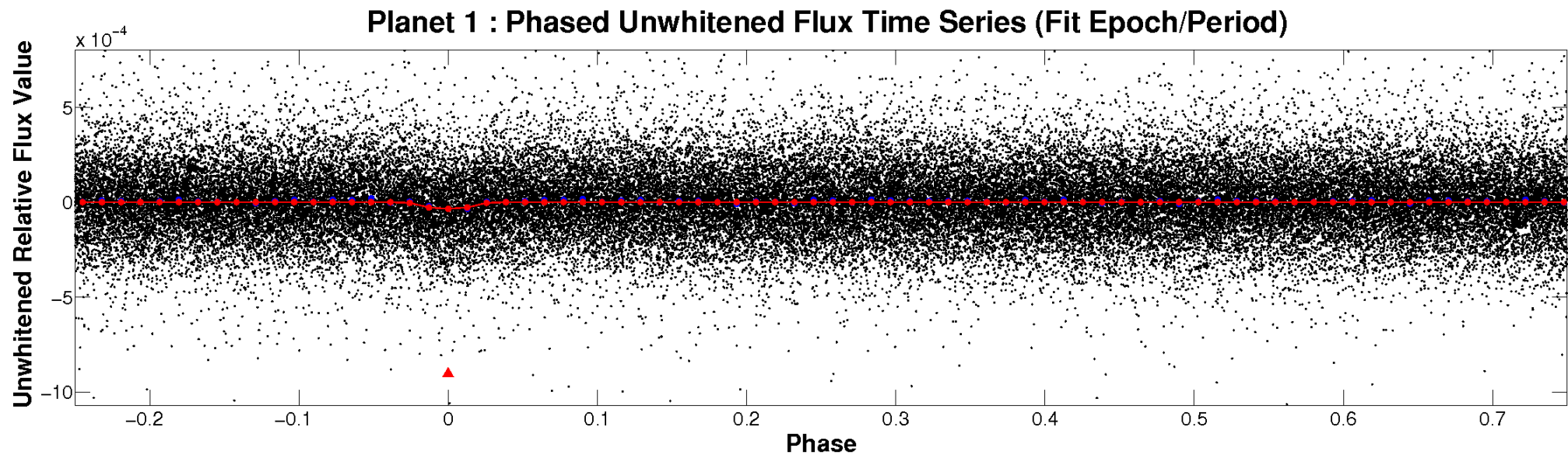


ALT Odd/Even

TCE 009458266-01

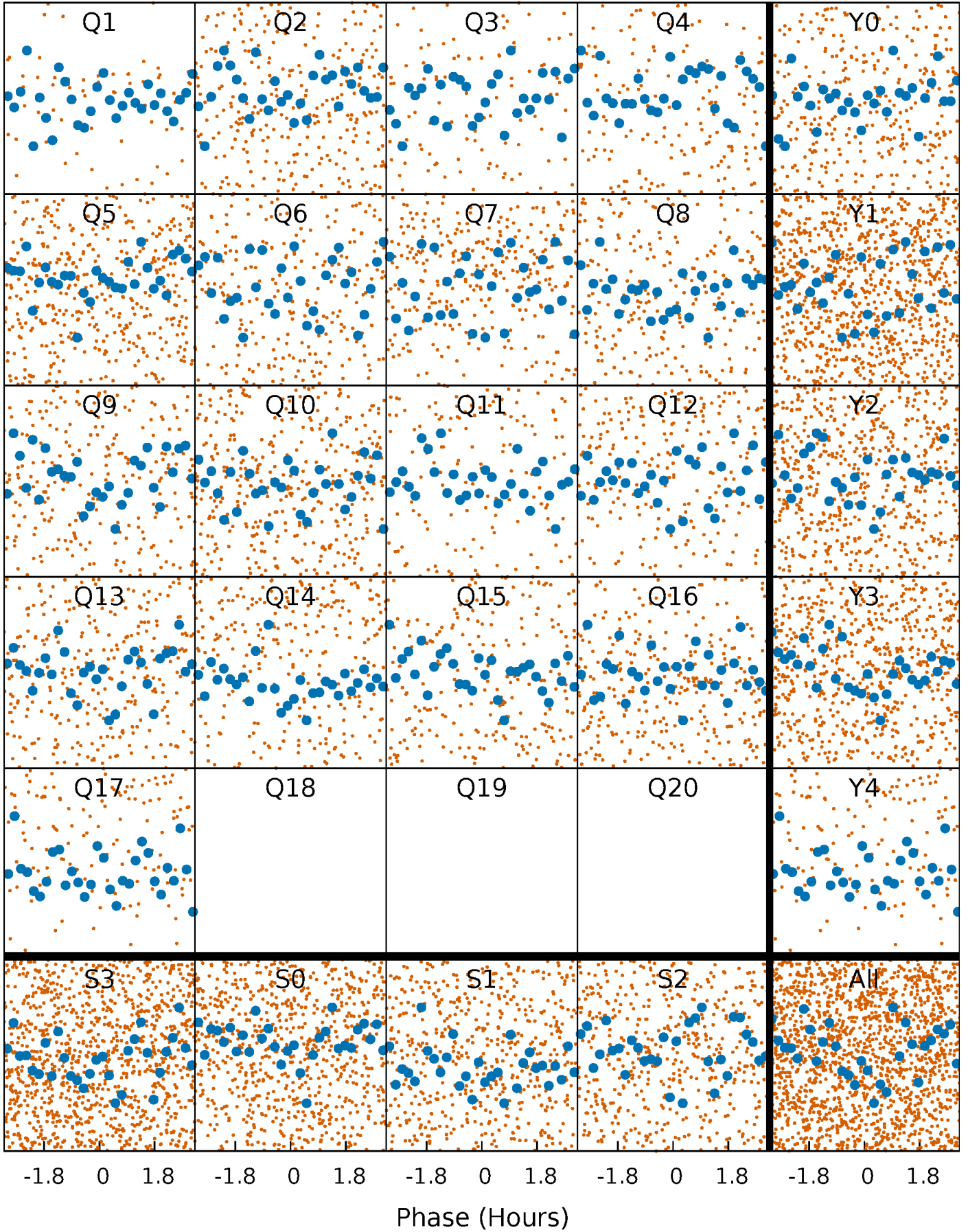


Non-Whitened Vs. Whitened Light Curve



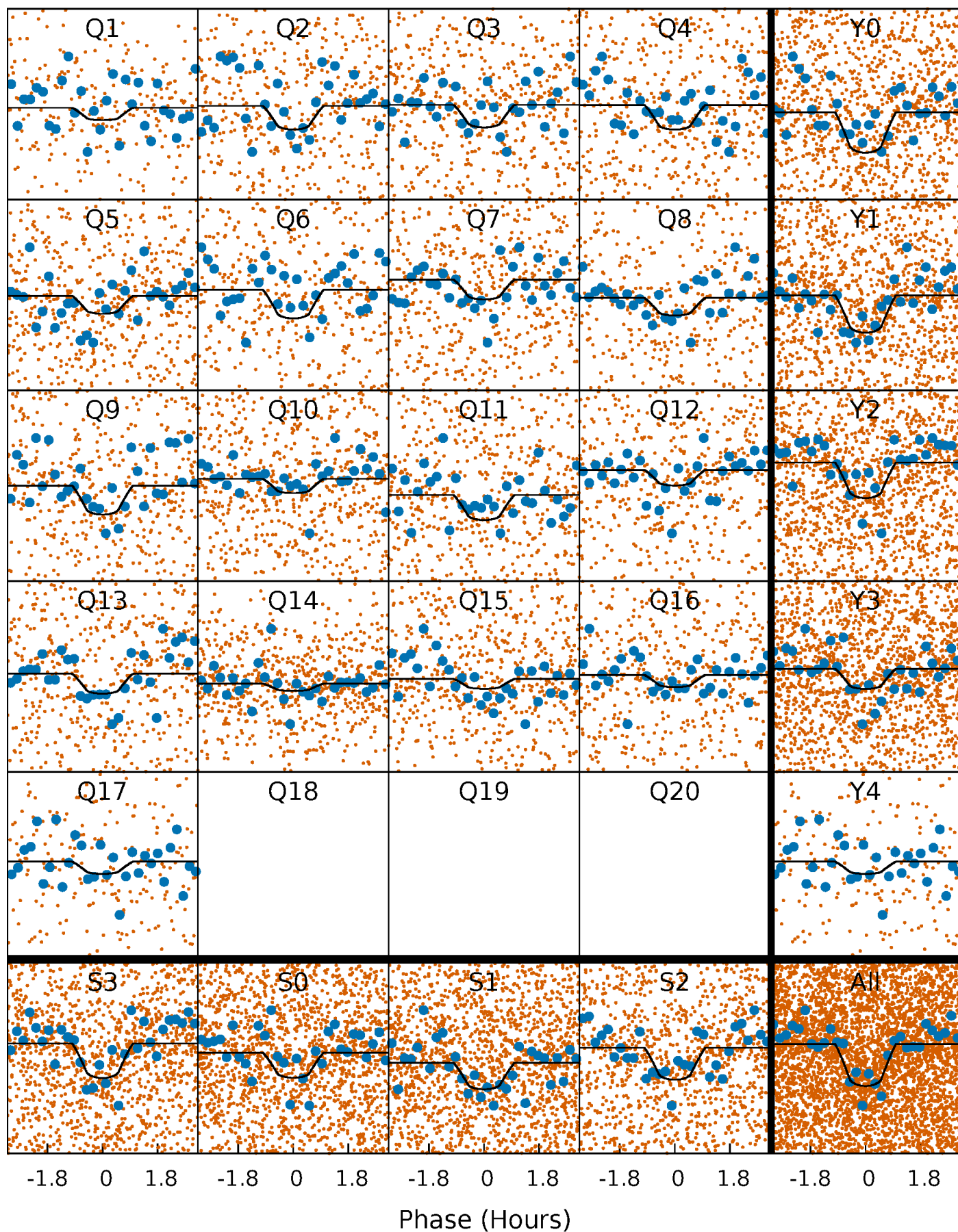
PDC Quarter-Phased Transit Curves

TCE 009458266-01 P= 1.584858 Days $T_0=132.707135$ (BKJD)



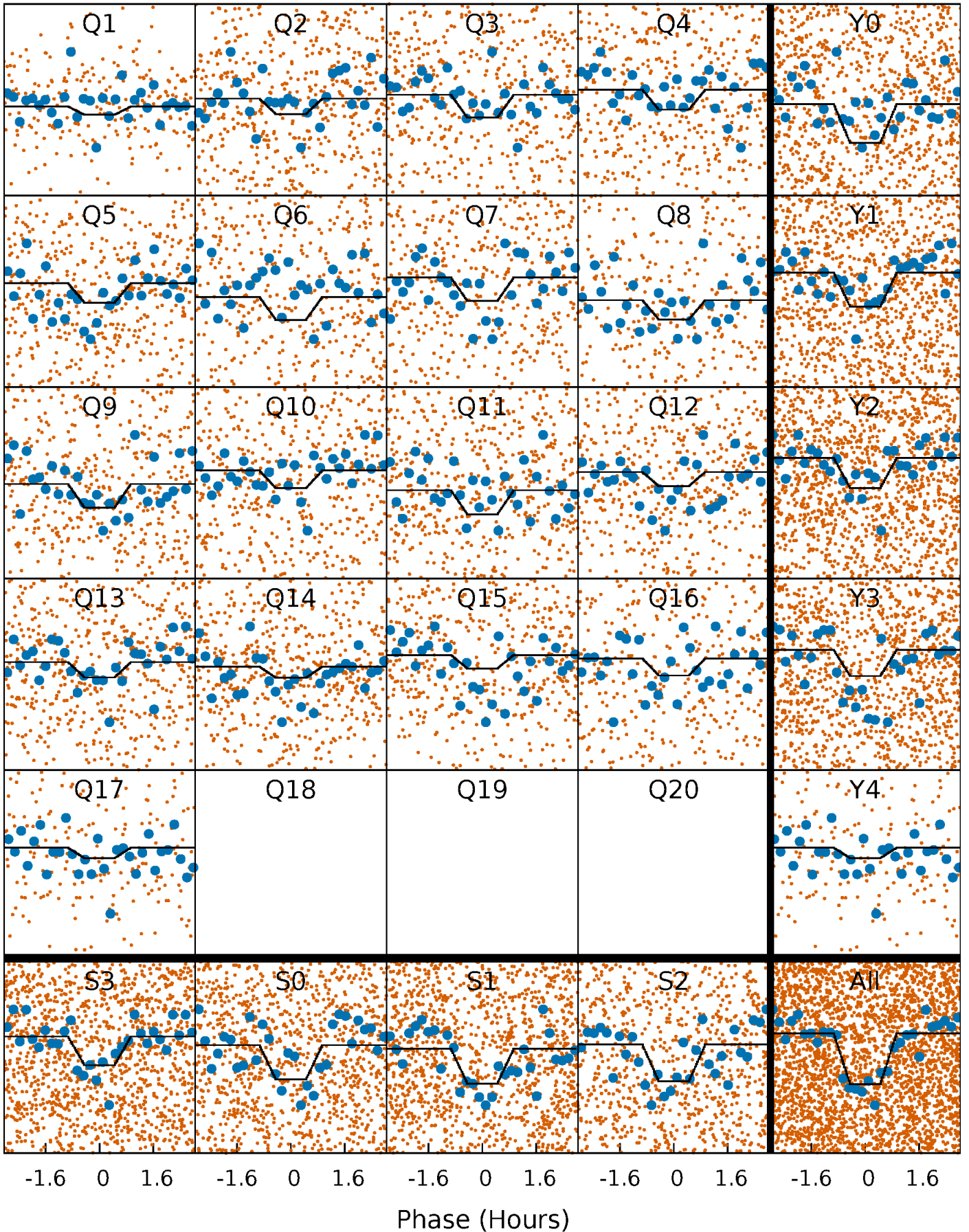
DV Quarter-Phased Transit Curves

TCE 009458266-01 P= 1.584858 Days $T_0=132.707135$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

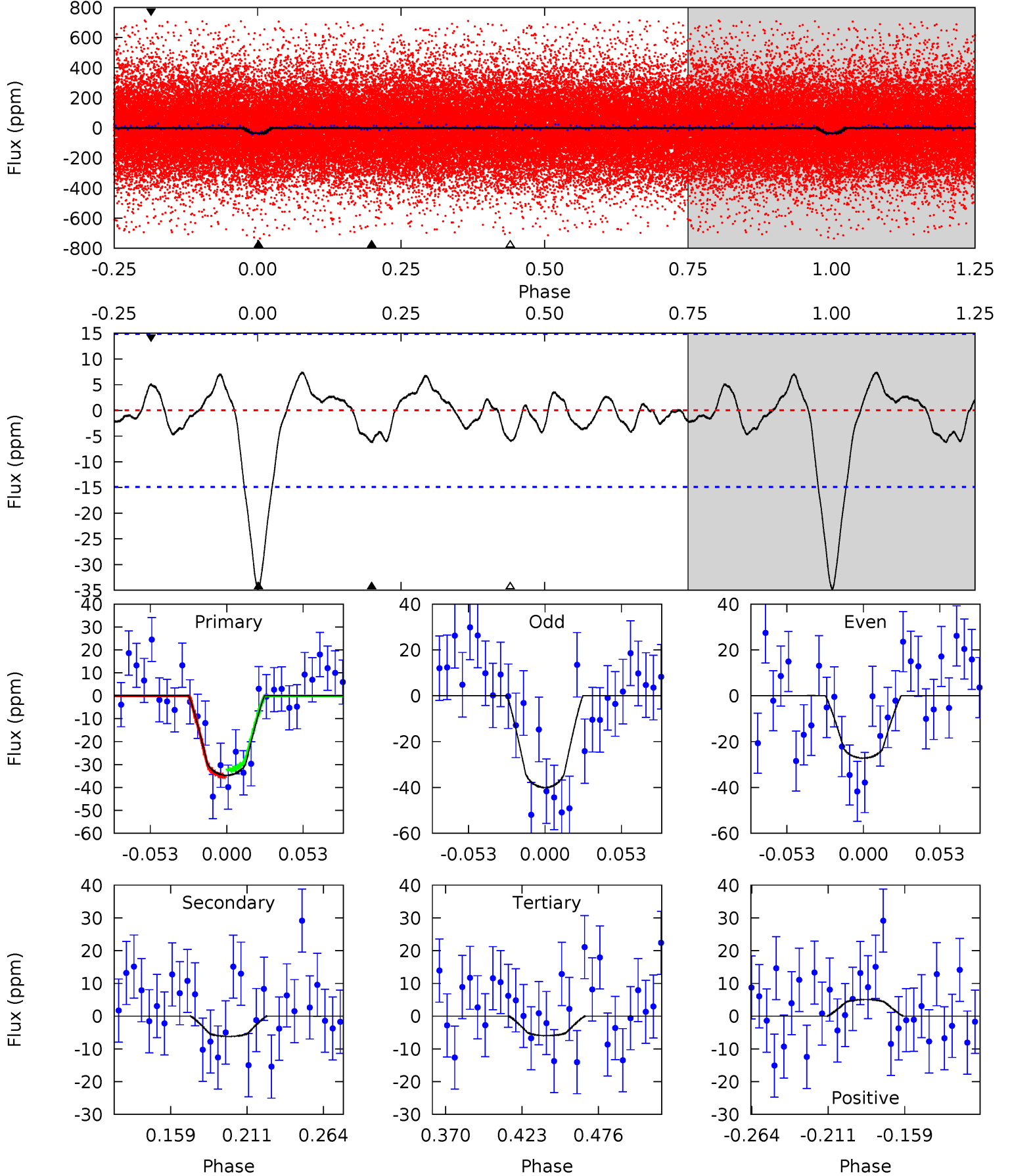
TCE 009458266-01 P= 1.584886 Days $T_0=132.692531$ (BKJD)



DV Model-Shift Uniqueness Test

009458266-01, P = 1.584858 Days, E = 131.122277 Days

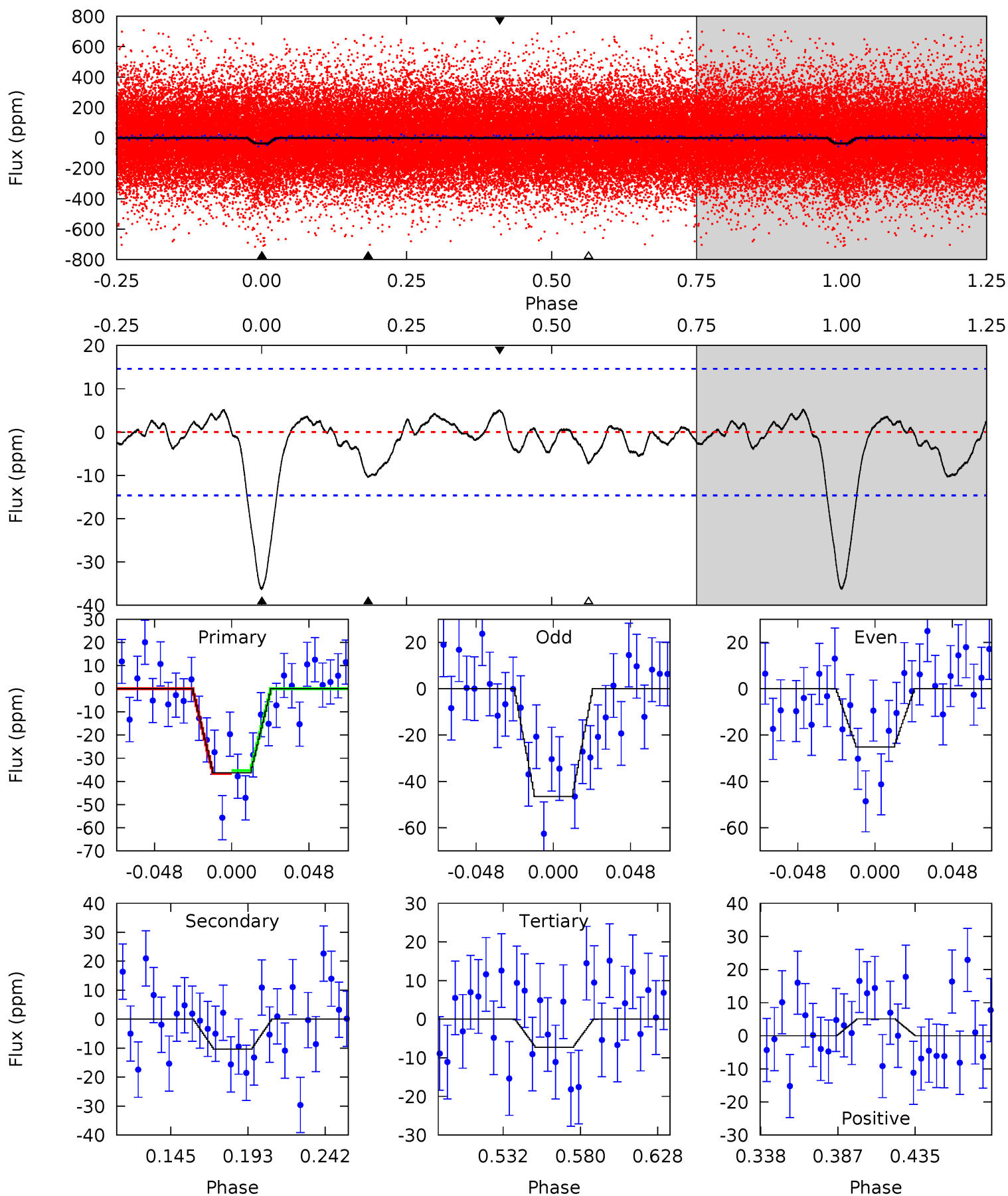
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	1.95	1.88	1.60	4.70	1.94	0.94	9.08	9.36	0.08	0.35	2.03	1.08	0.18	0.44



Alt Model-Shift Uniqueness Test

009458266-01, P = 1.584886 Days, E = 131.107645 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	3.34	2.34	1.64	4.72	1.97	0.83	9.36	10.1	1.00	1.71	3.44	0.98	0.13	0.21



Stellar Parameters For KIC 009458266

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4201^{+127}_{-140}	$4.675^{+0.065}_{-0.025}$	$-0.460^{+0.300}_{-0.300}$	$0.566^{+0.049}_{-0.060}$	$0.552^{+0.062}_{-0.051}$	$4.295^{+1.348}_{-0.548}$
	+3%/-3%	+1%/-1%	+65%/-65%	+9%/-11%	+11%/-9%	+31%/-13%
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 009458266-01 / KOI 7174.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6 ± 3	$0.41^{+0.27}_{-0.24}$	1303^{+47}_{-51}	2993^{+816}_{-463}	$8.903^{+35.087}_{-6.209}$
Alt.	-10 ± 3	$0.39^{+0.25}_{-0.24}$	1305^{+49}_{-49}	3312^{+1200}_{-490}	17^{+93}_{-11}

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 $A_{obs} \gg 1.0$

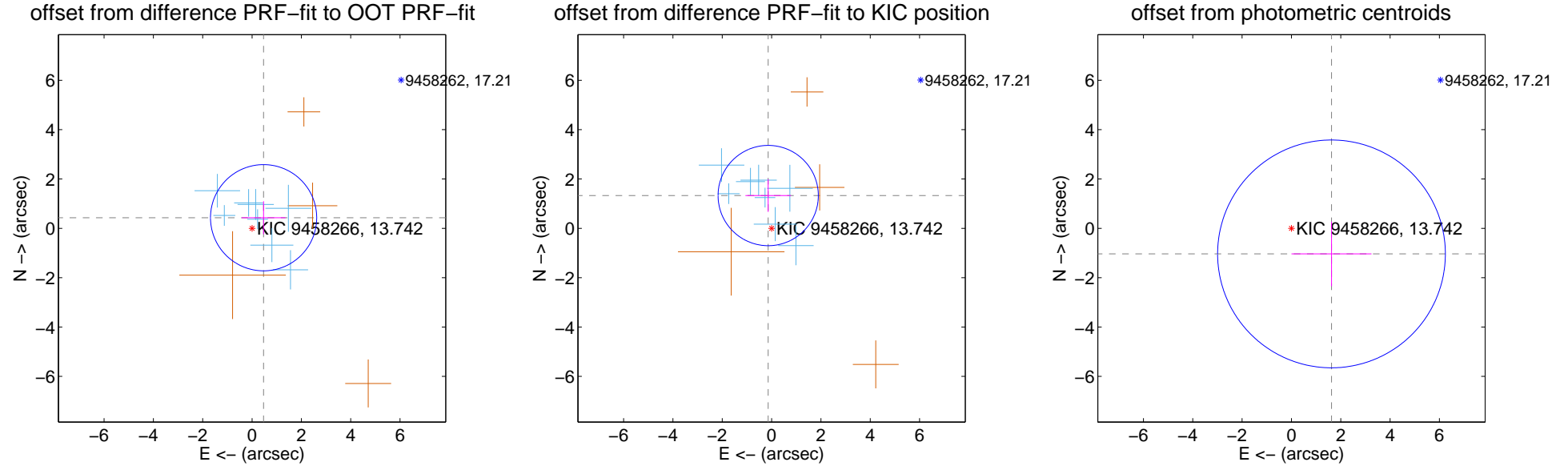
DV Centroid Data

Supplemental centroid analysis for 009458266-01. Kepler magnitude: 13.74. Transit SNR 7.80

There are 8 quarters with good PRF difference image offsets

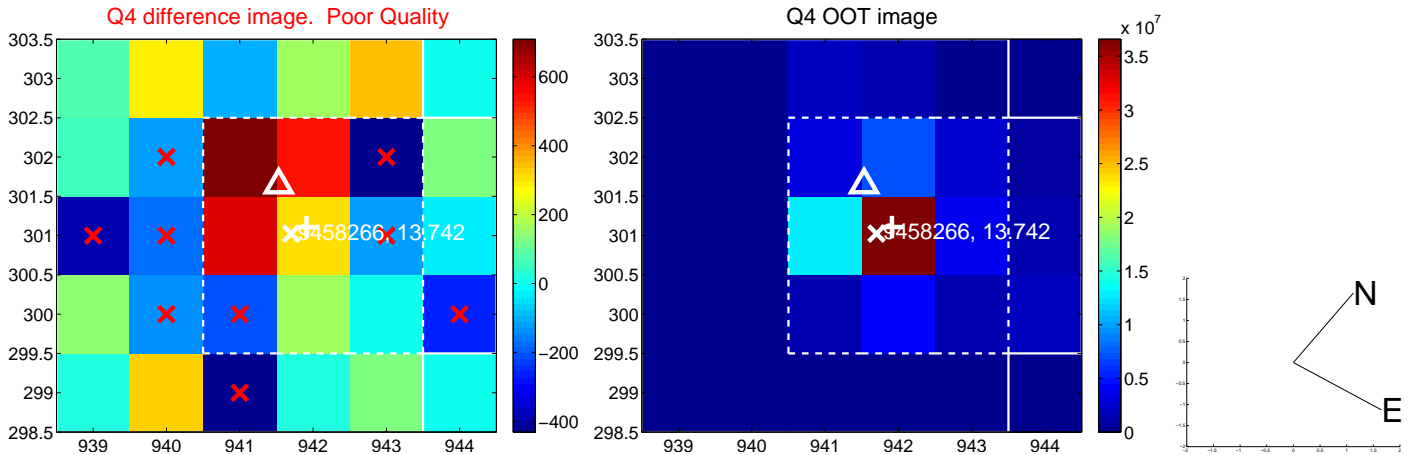
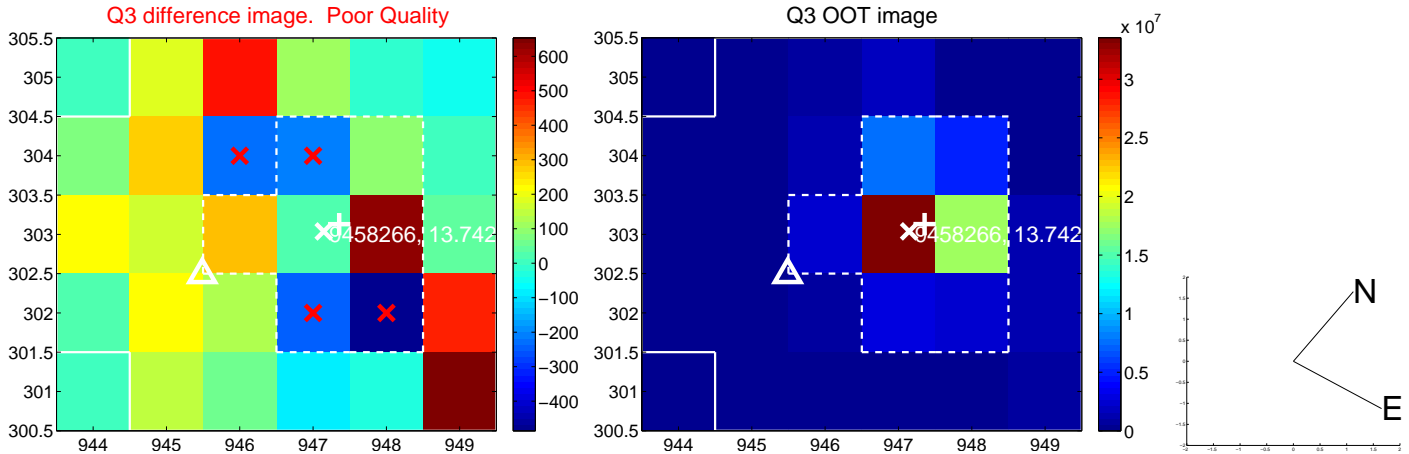
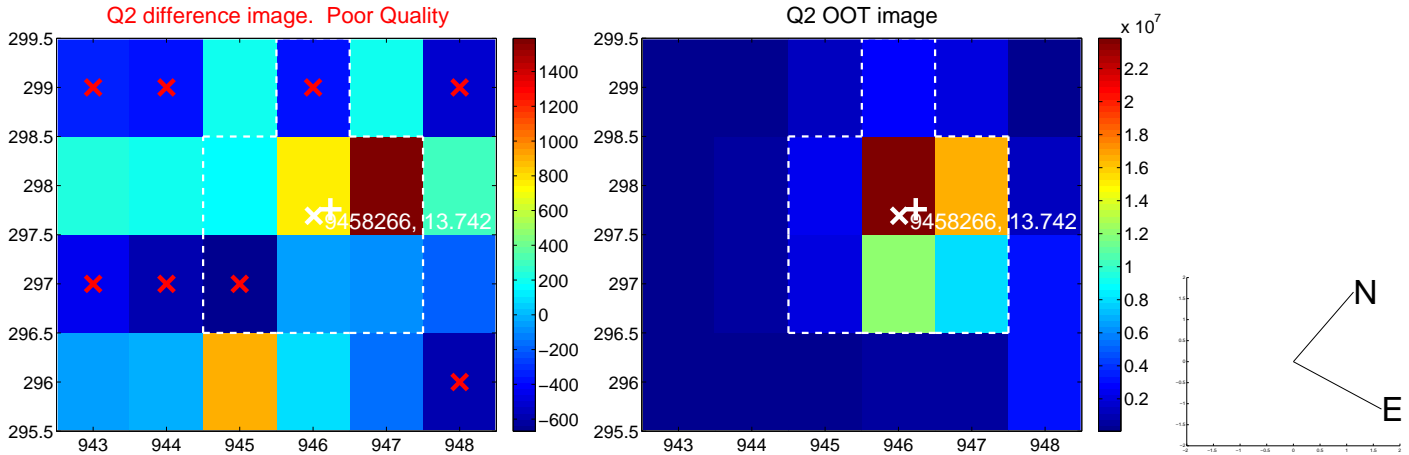
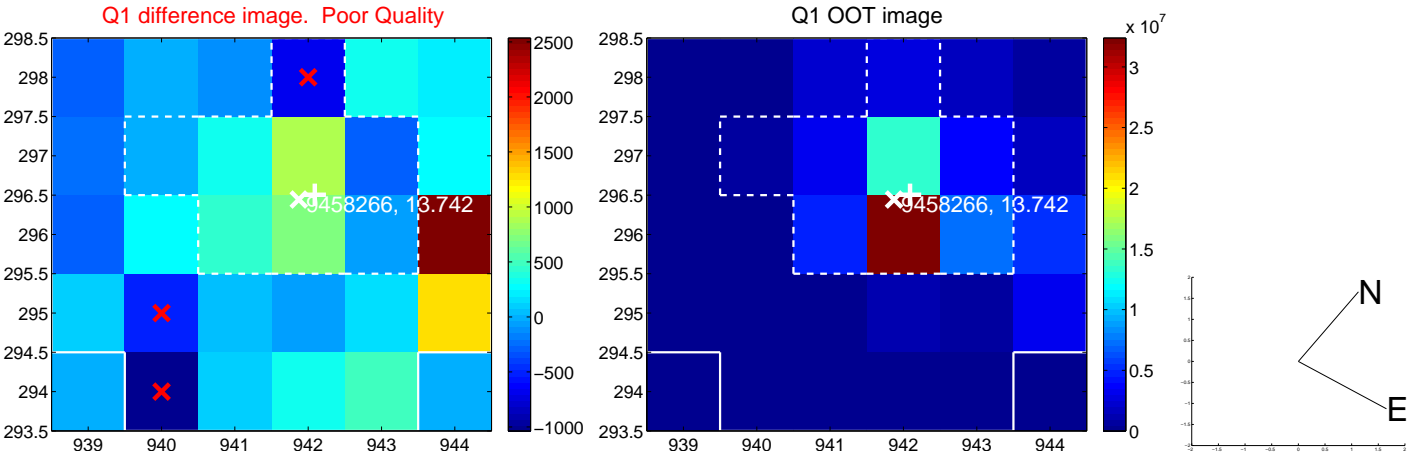
The direct PRF centroid is offset from the target star catalog position by about 1.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.635 ± 0.718	0.89	-0.468 ± 0.892	0.430 ± 0.669
PRF-fit source offset from KIC position	1.335 ± 0.677	1.97	0.138 ± 0.925	1.328 ± 0.660
photometric centroid source offset	1.93 ± 1.54	1.25	-1.62 ± 1.62	-1.04 ± 1.31

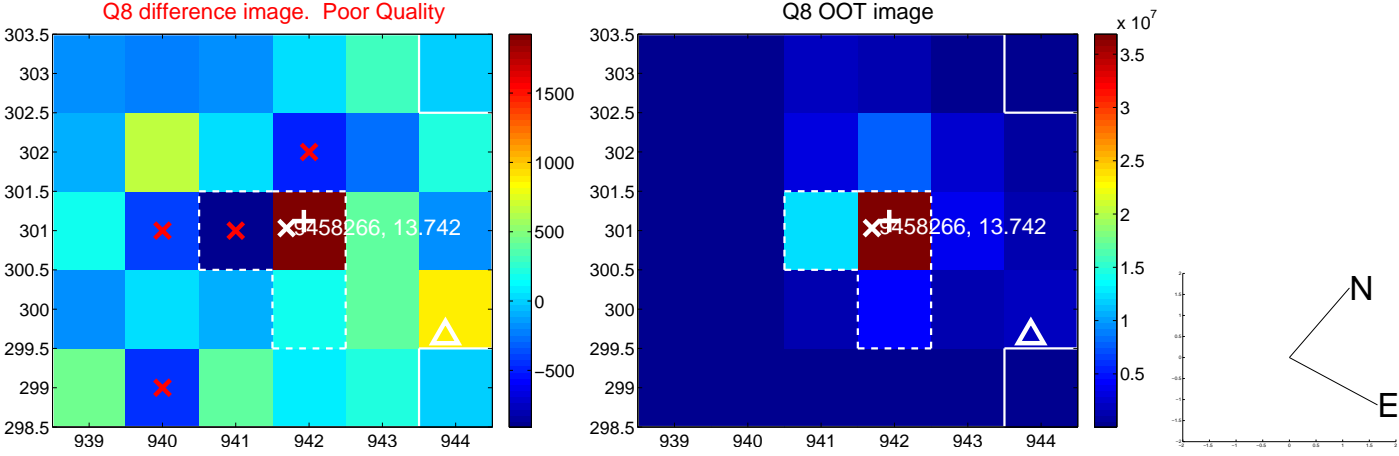
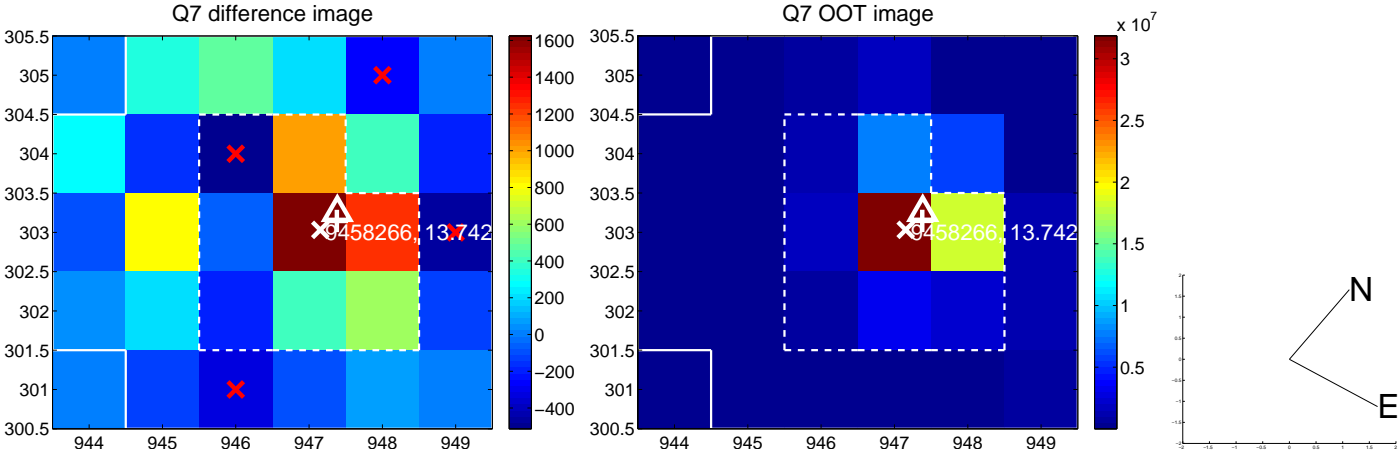
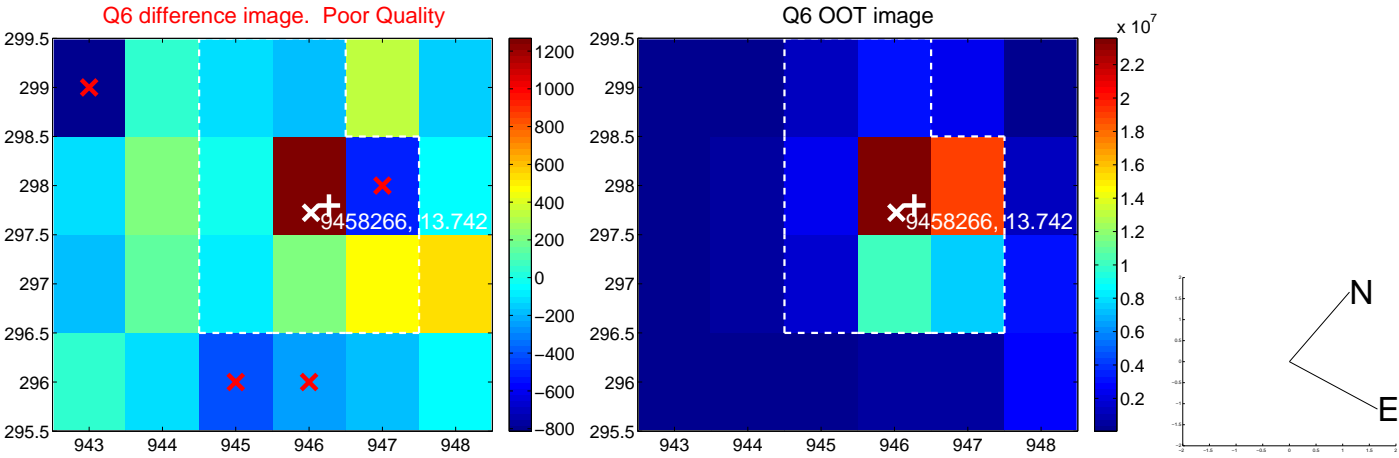
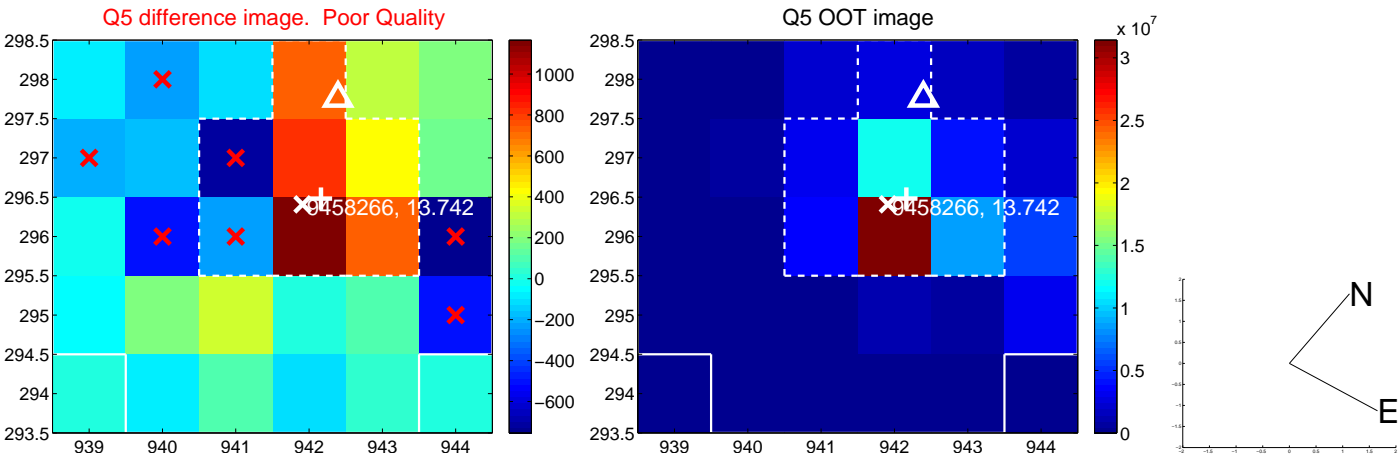


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

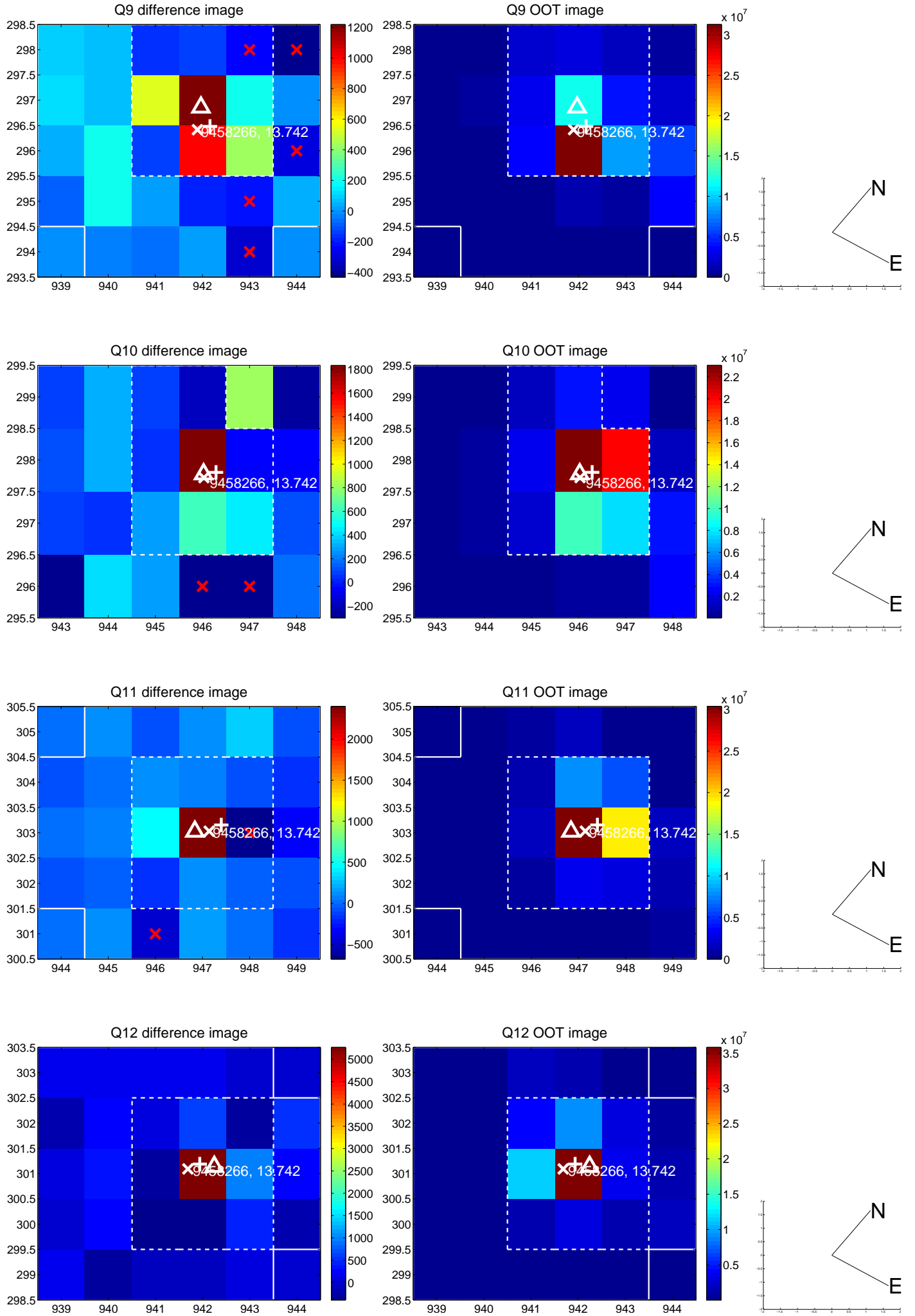
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



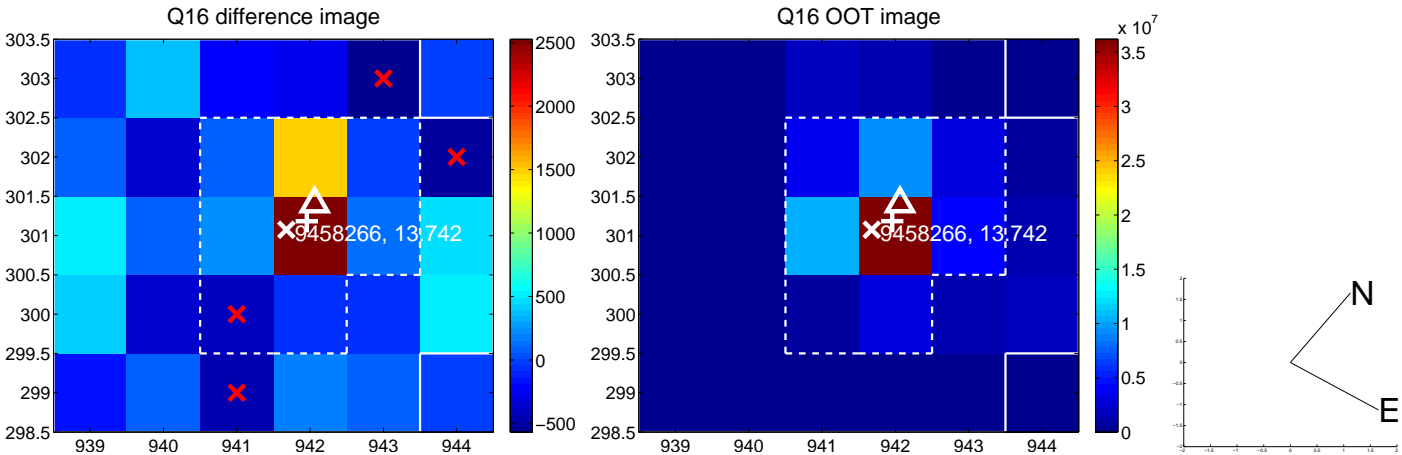
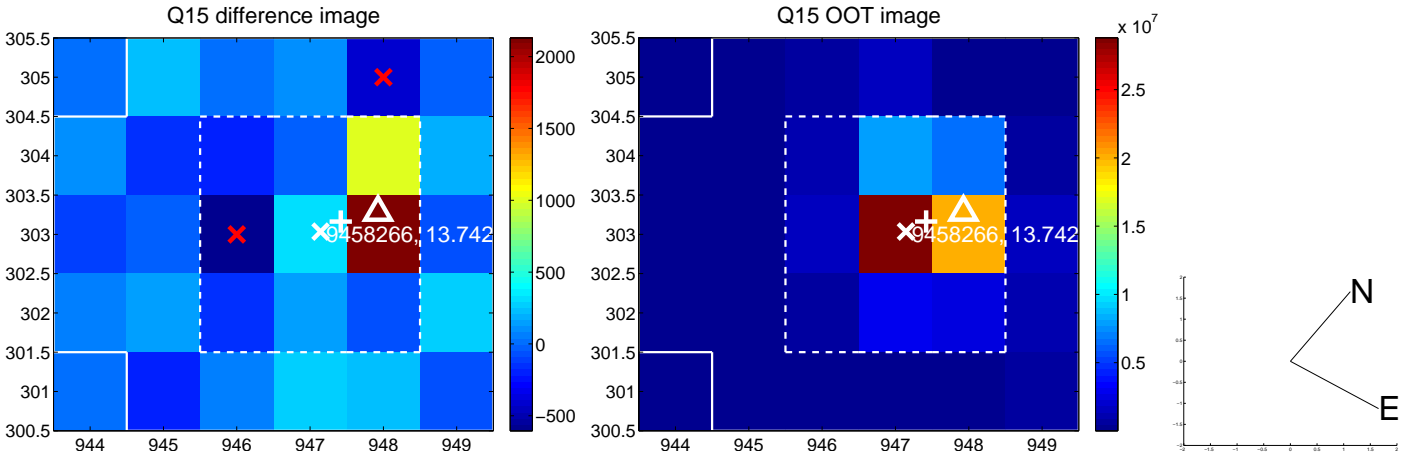
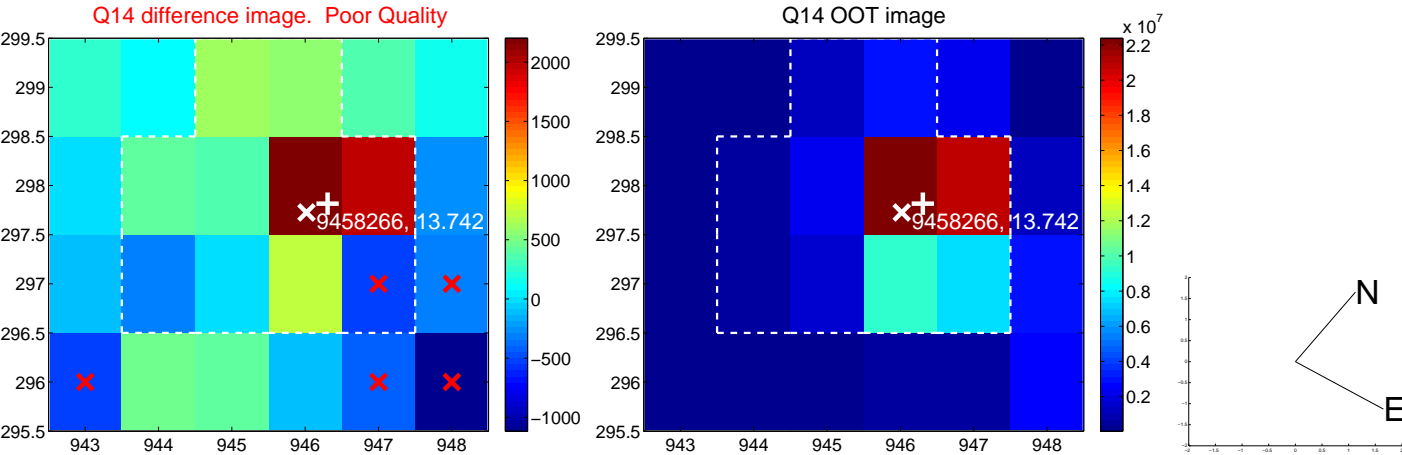
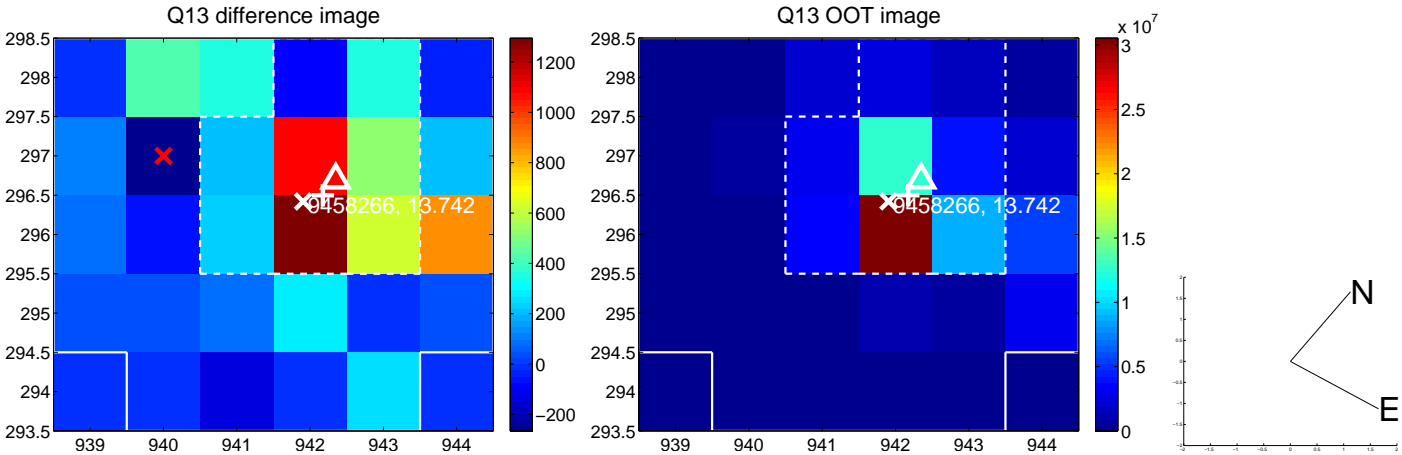
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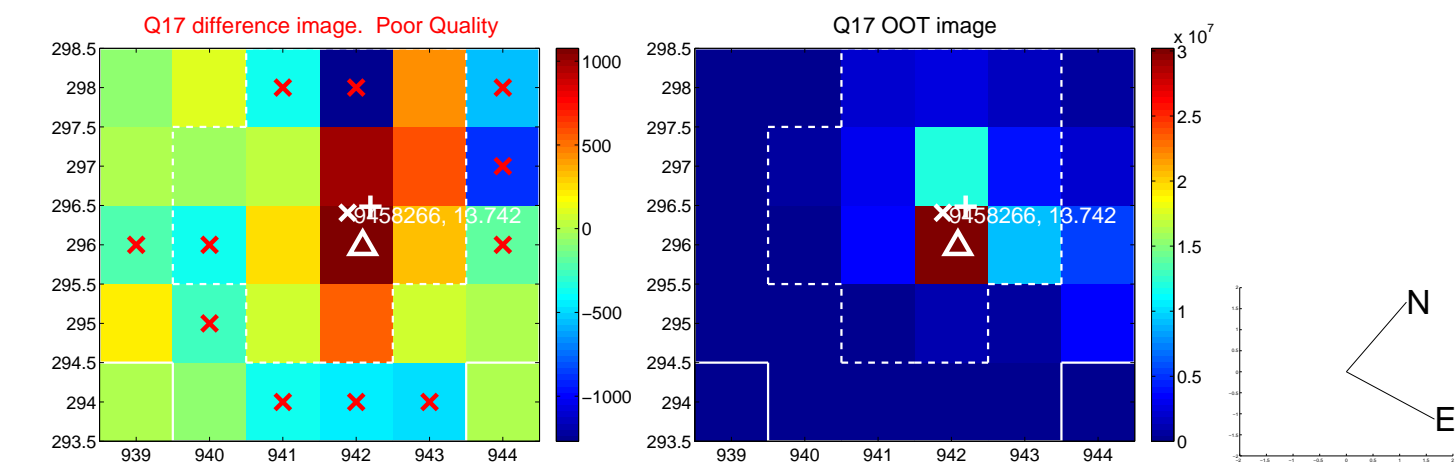
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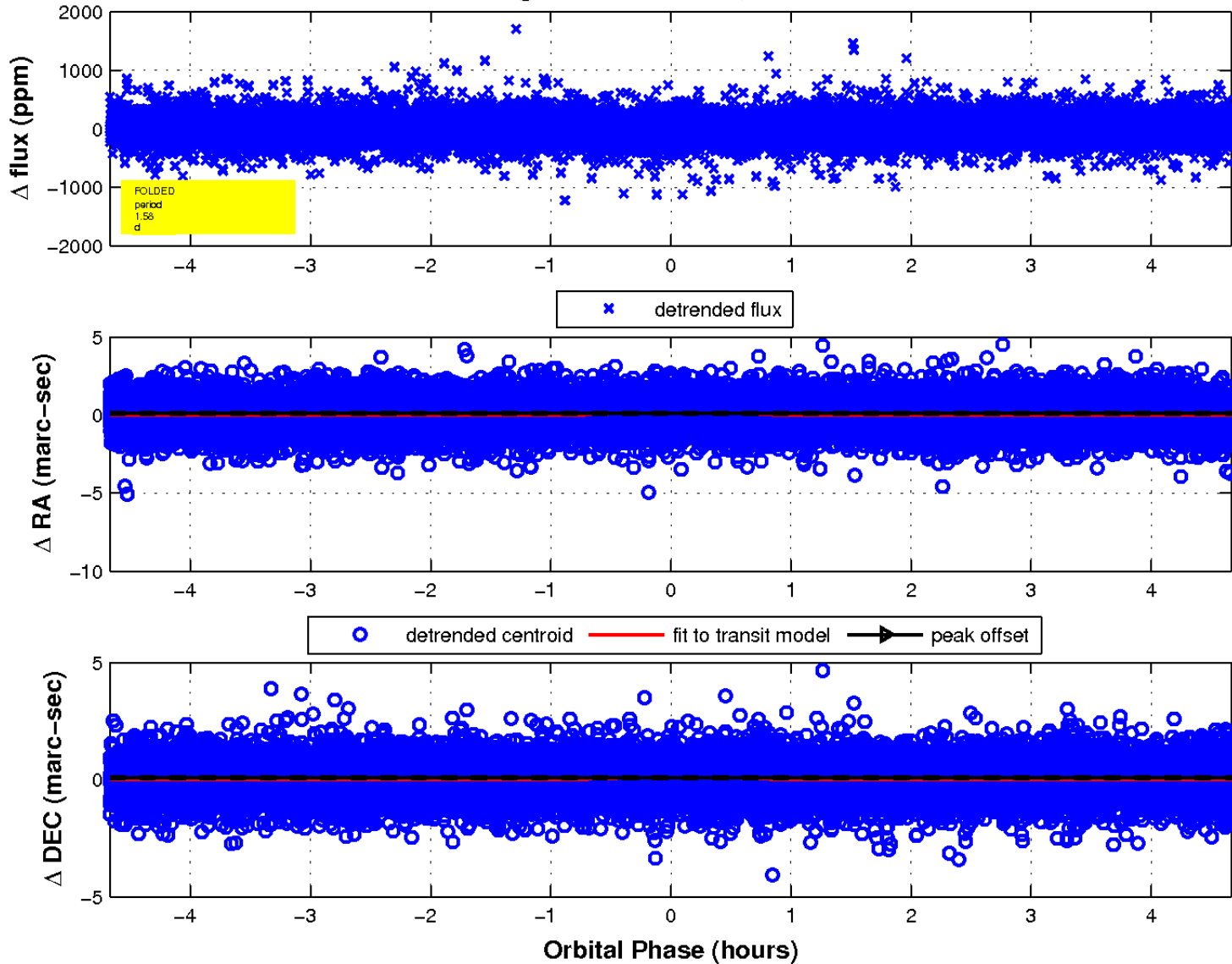
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

