

KIC 009907129

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})
009907129-01	OBS	3127.01	9.705713	140.373450	141.0	7.362	12.1	12.5	1.39	5808	1.96	238.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009907129-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

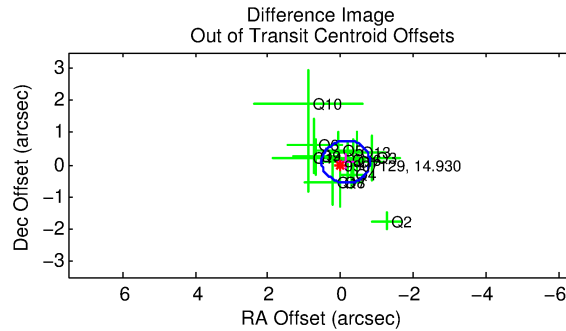
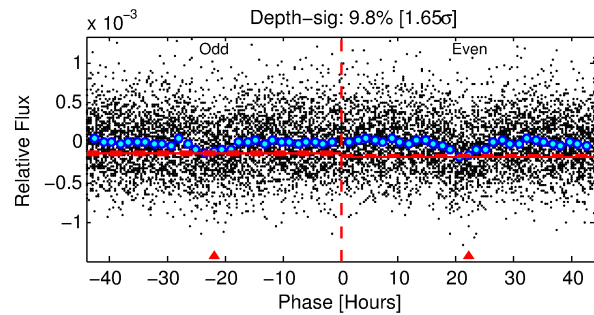
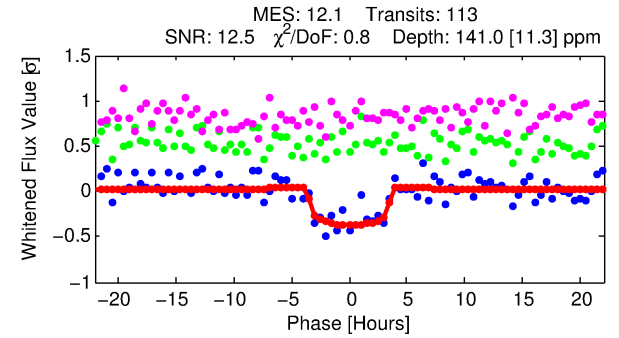
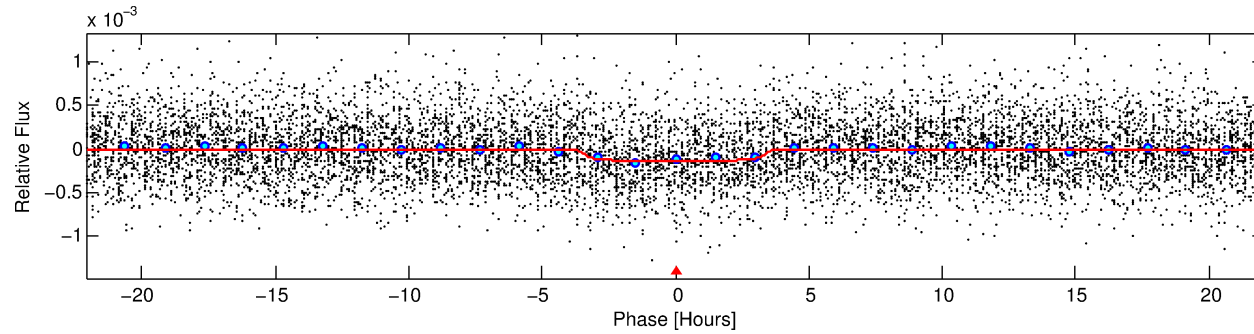
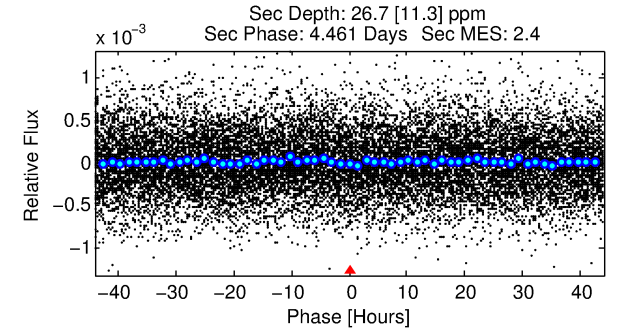
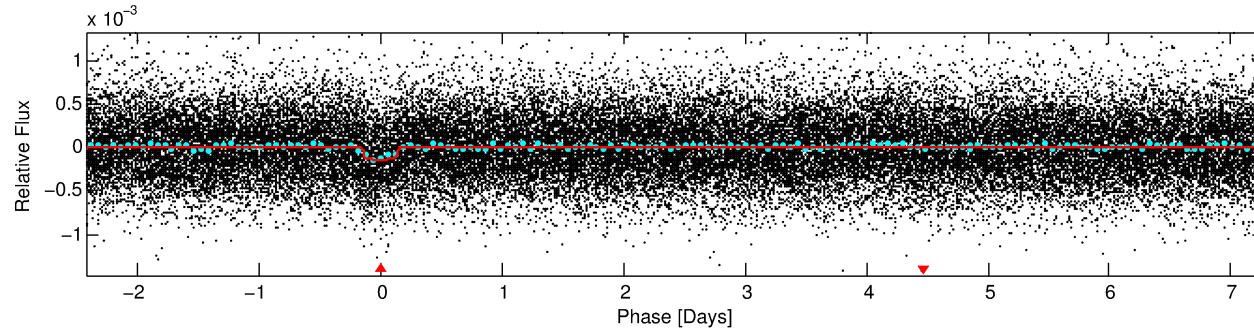
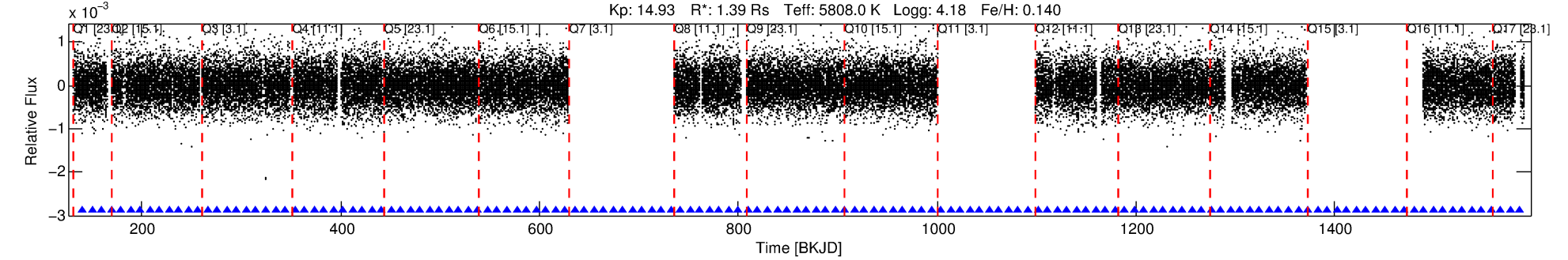
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009907129-01

No Significant Match Found

DV One-Page Summary

KIC: 9907129 Candidate: 1 of 1 Period: 9.706 d
KOI: K03127.01 Corr: 0.969



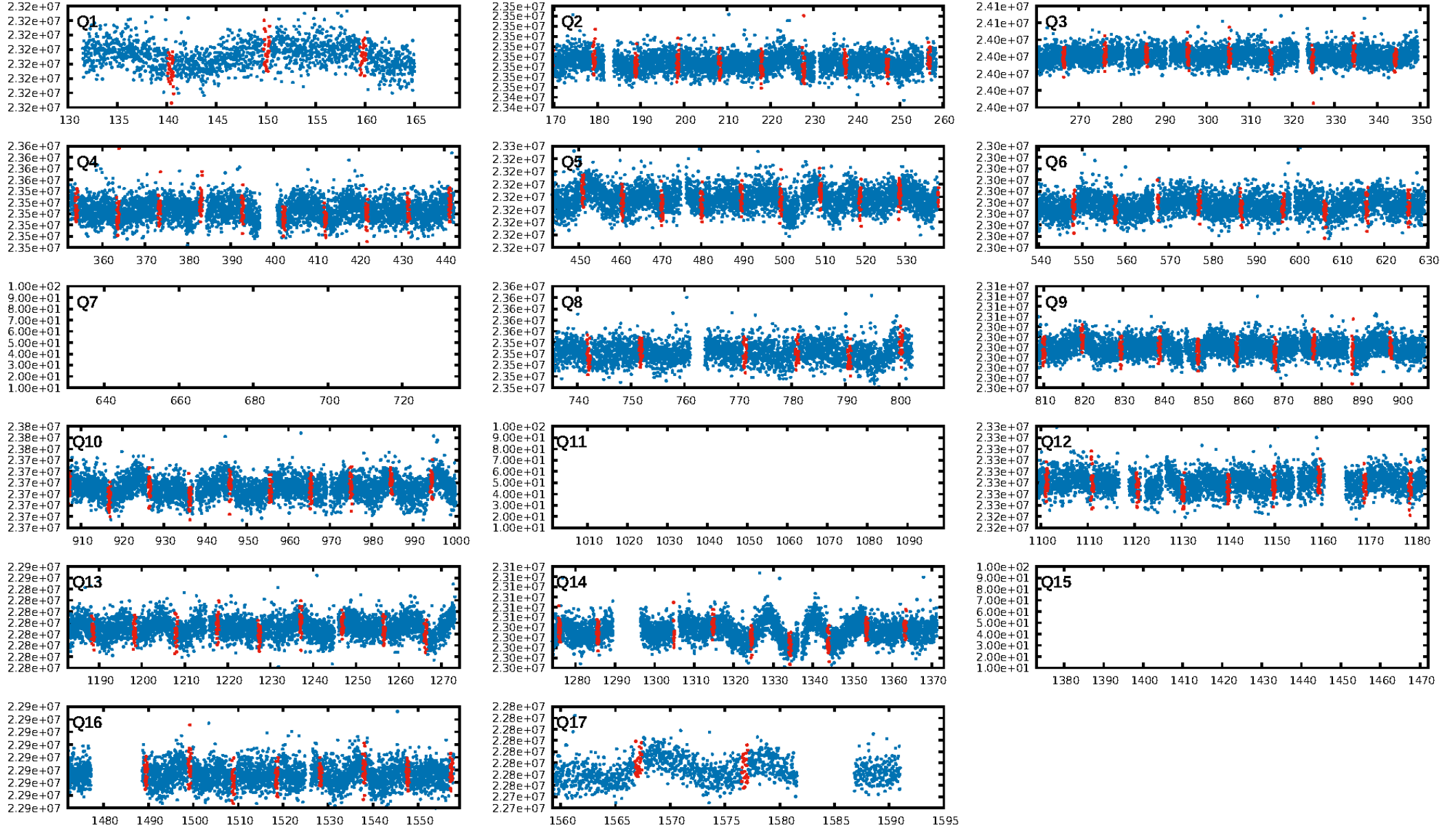
DV Fit Results:

Period = 9.70571 [0.00013] d
Epoch = 140.3735 [0.0099] BKJD
Rp/R* = 0.0130 [0.0024]
a/R* = 4.71 [3.98]
b = 0.90 [0.18]
Seff = 238.01 [72.15]
Teff = 1002 [76] K
Rp = 1.96 [0.53] Re
a = 0.0906 [0.0168] AU
Ag = 31.32 [20.10] [1.51σ]
Teffp = 3663 [523] K [5.04σ]

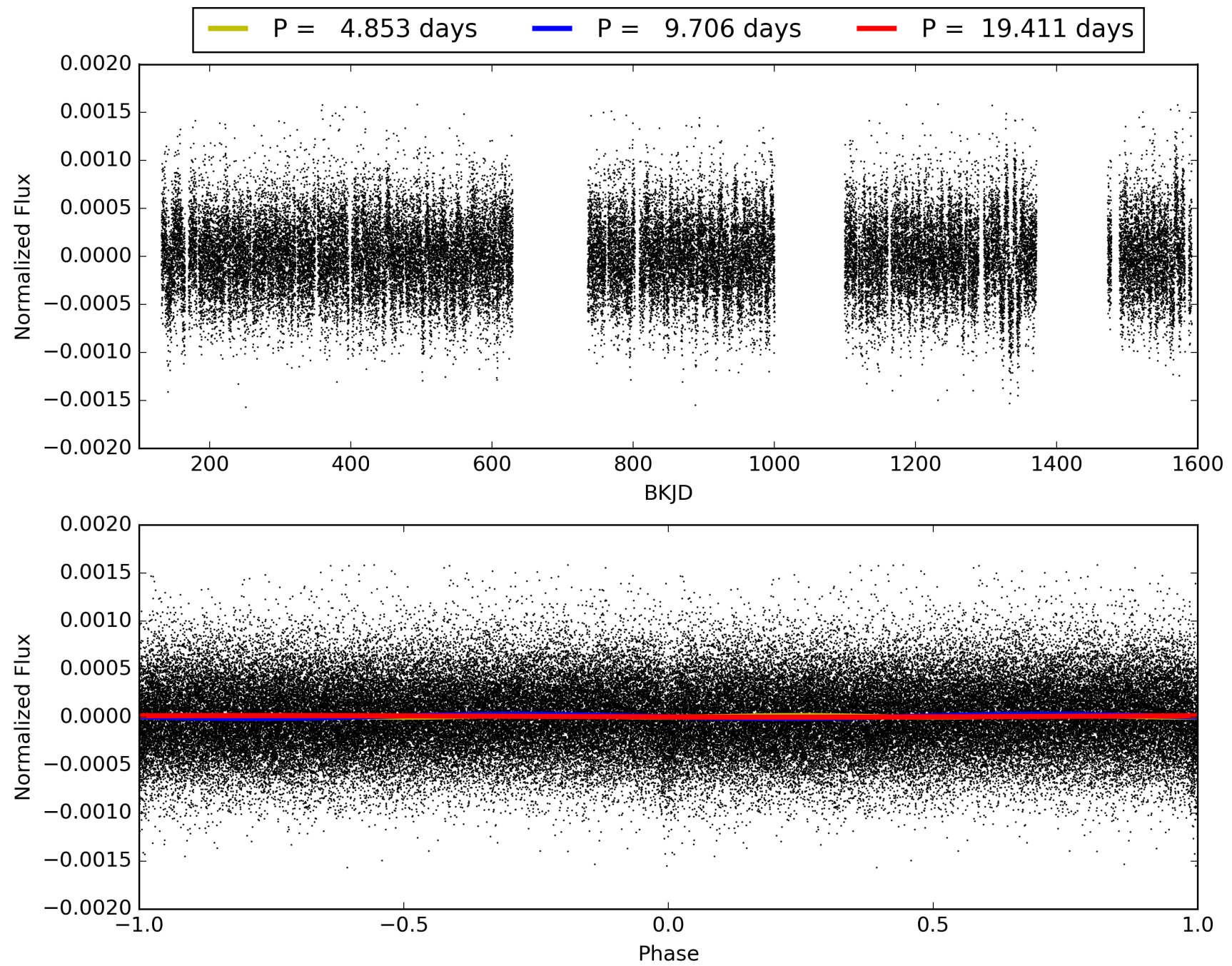
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.13e-33
RollingBand-fgt: 1.00 [108/108]
GhostDiagnostic-chr: 2.467
Centroid-sig: 25.5%
Centroid-so: 1.163 arcsec [1.07σ]
OotOffset-rm: 0.166 arcsec [0.76σ]
KicOffset-rm: 0.146 arcsec [0.65σ]
OotOffset-st: 4/1/3/5 [13]
KicOffset-st: 4/1/3/5 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 009907129-01, PDC Light Curves

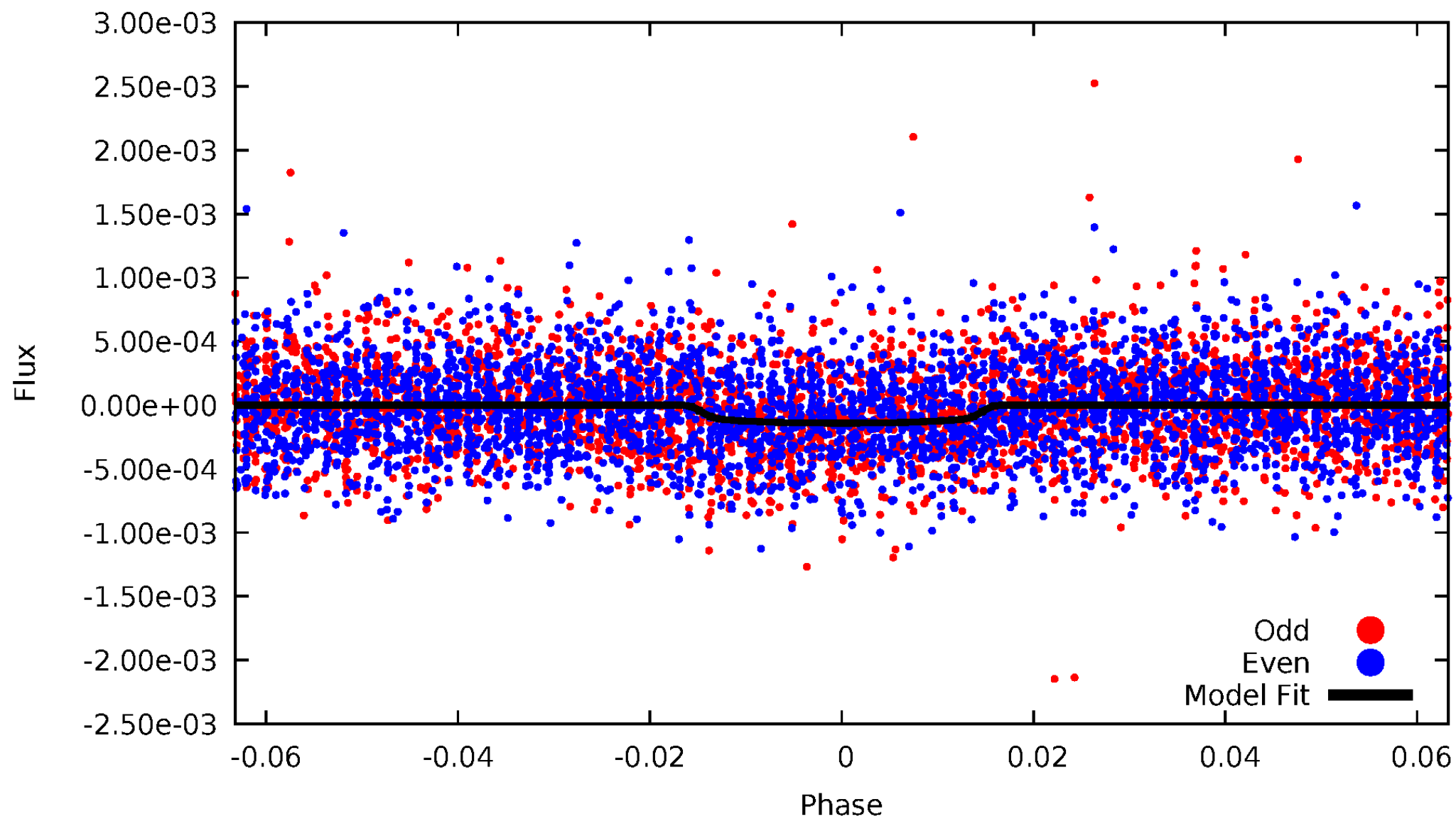


TCE 009907129-01



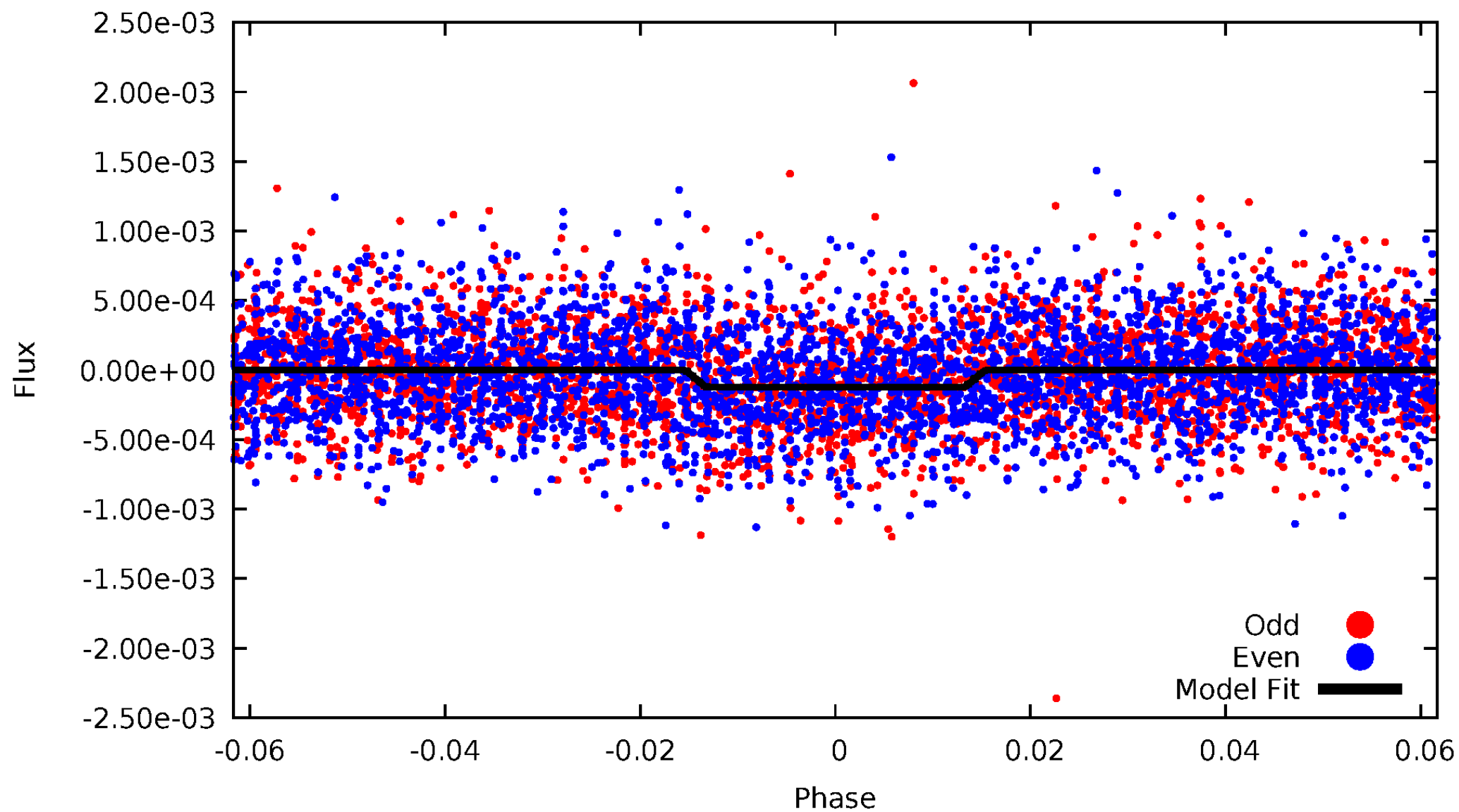
DV Odd/Even

TCE 009907129-01



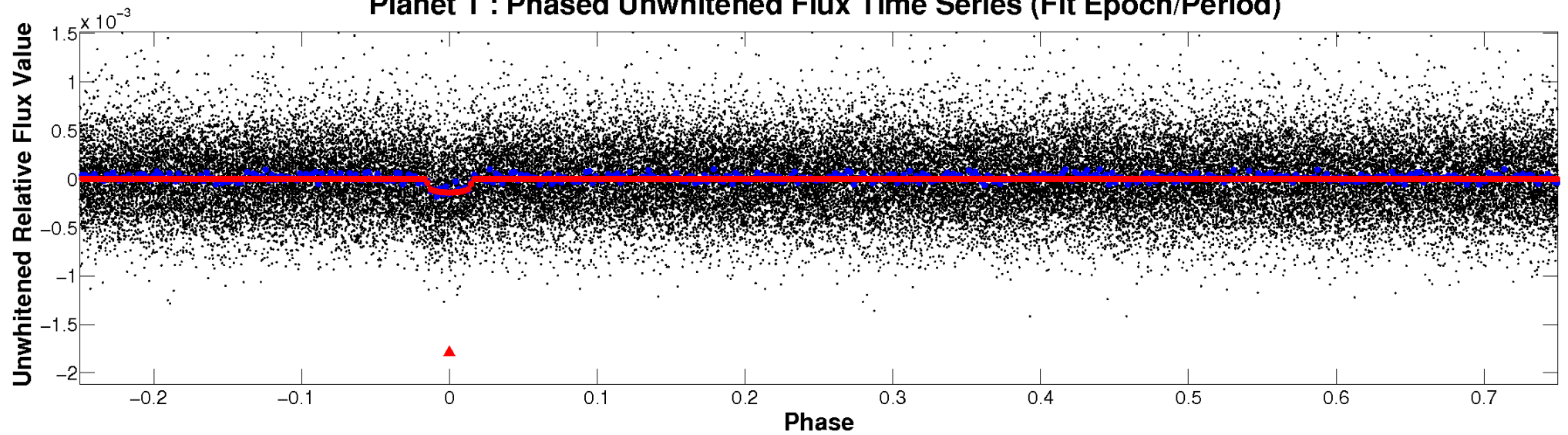
ALT Odd/Even

TCE 009907129-01

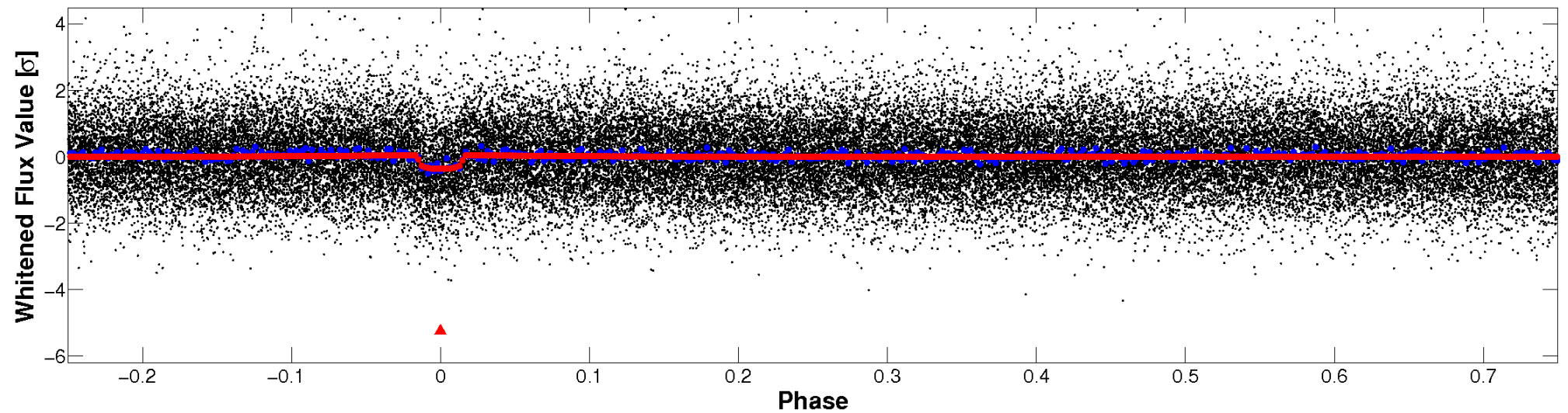


Non-Whitened Vs. Whitened Light Curve

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

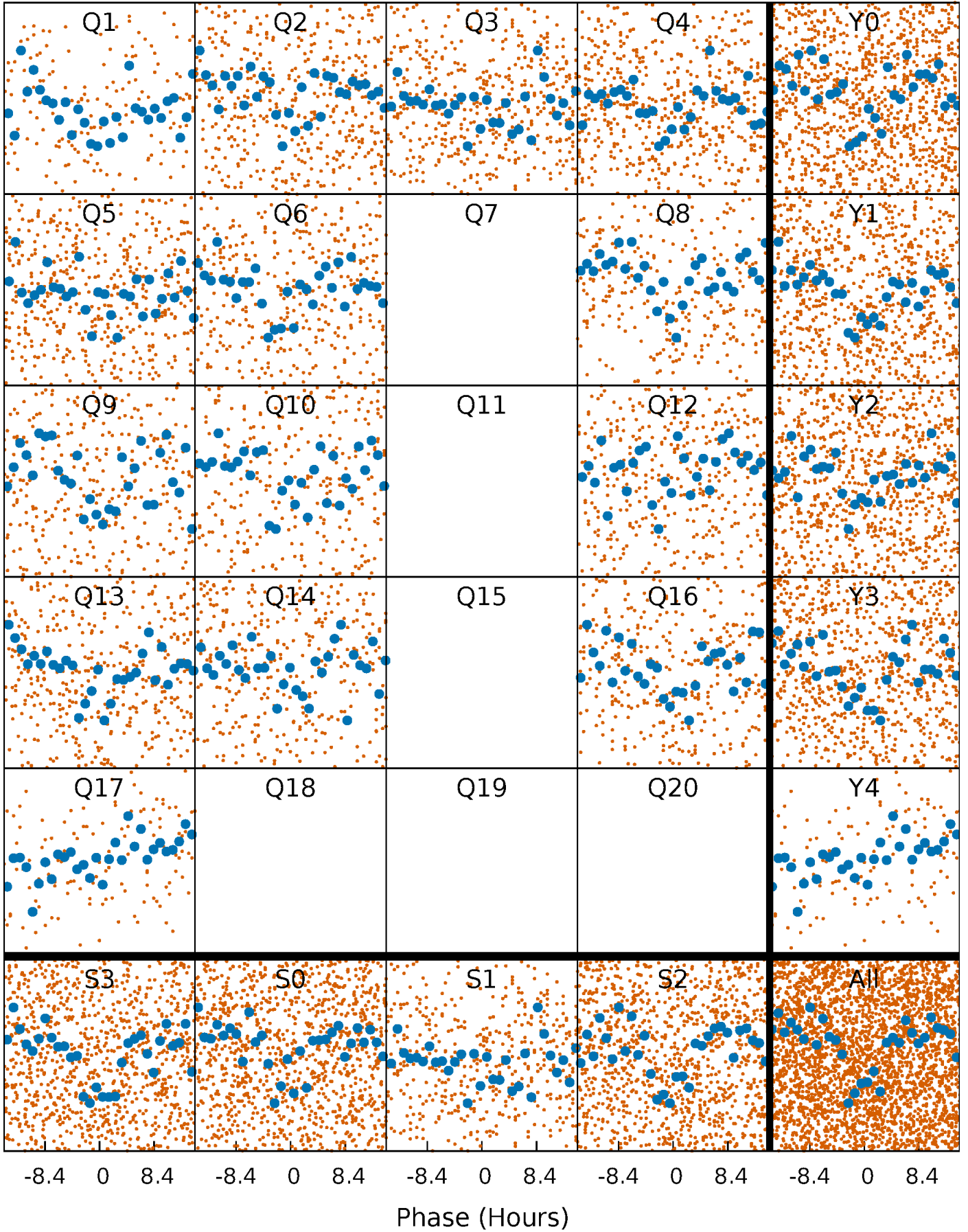


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



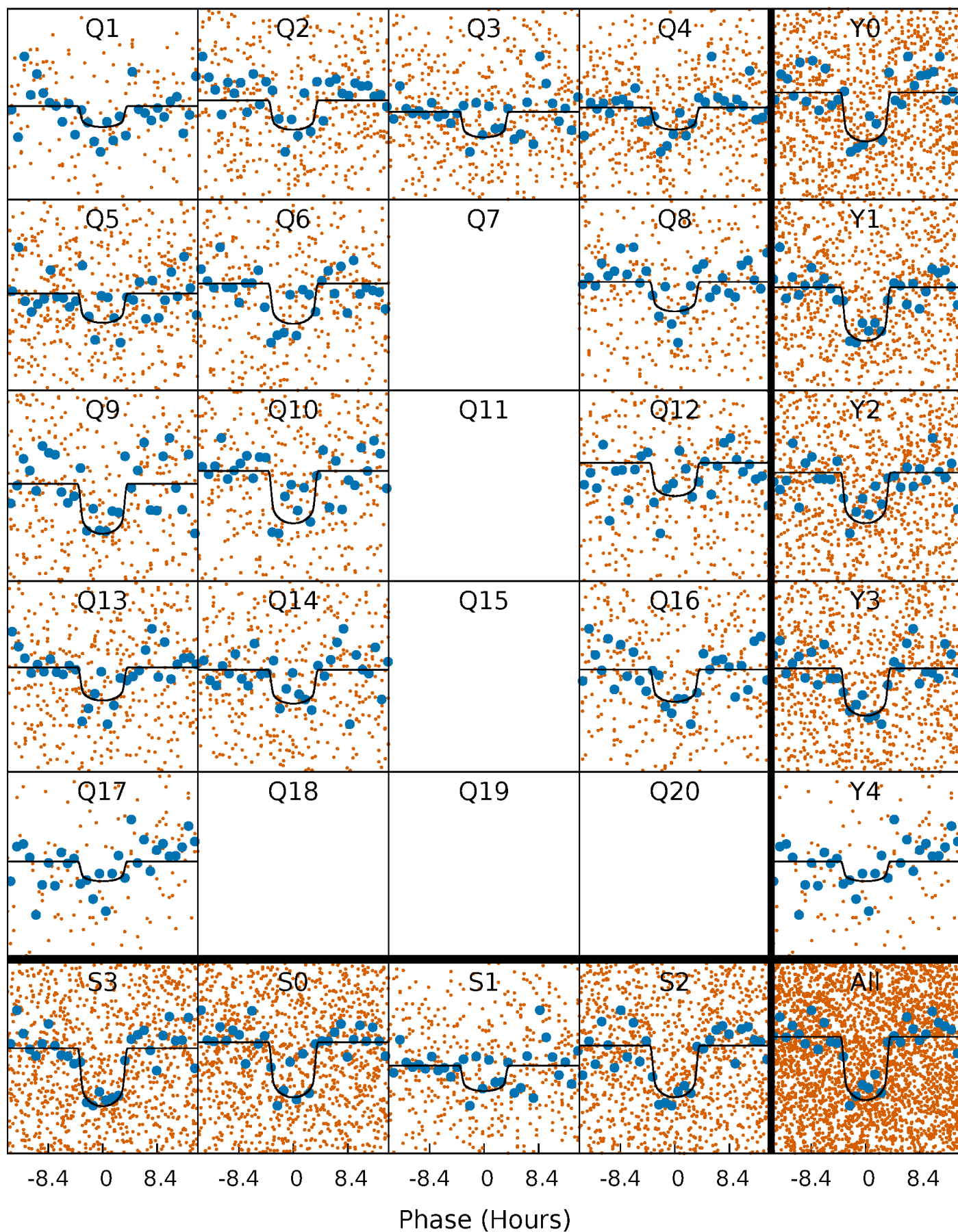
PDC Quarter-Phased Transit Curves

TCE 009907129-01 P= 9.705713 Days $T_0=140.373450$ (BKJD)



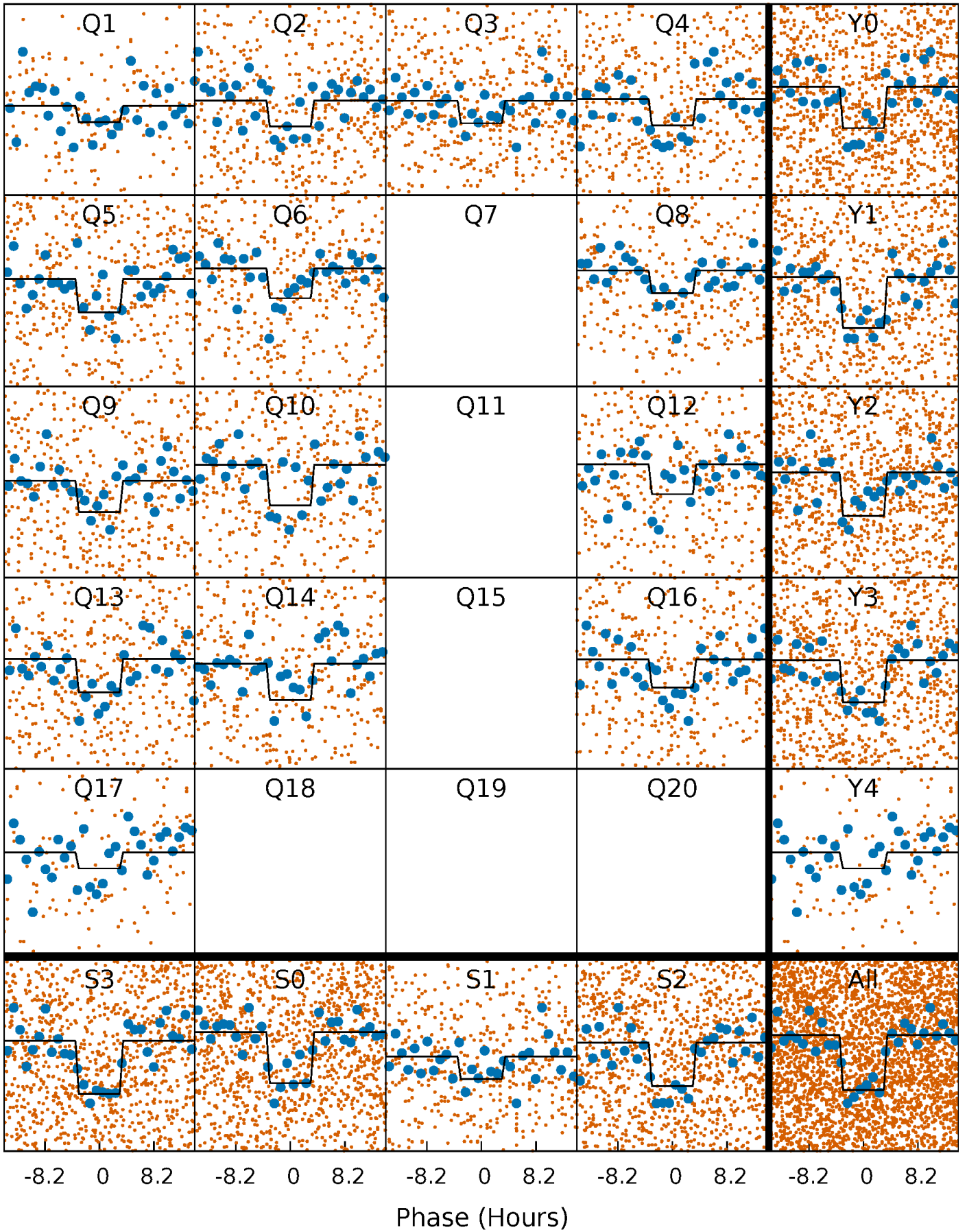
DV Quarter-Phased Transit Curves

TCE 009907129-01 P= 9.705713 Days $T_0=140.373450$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

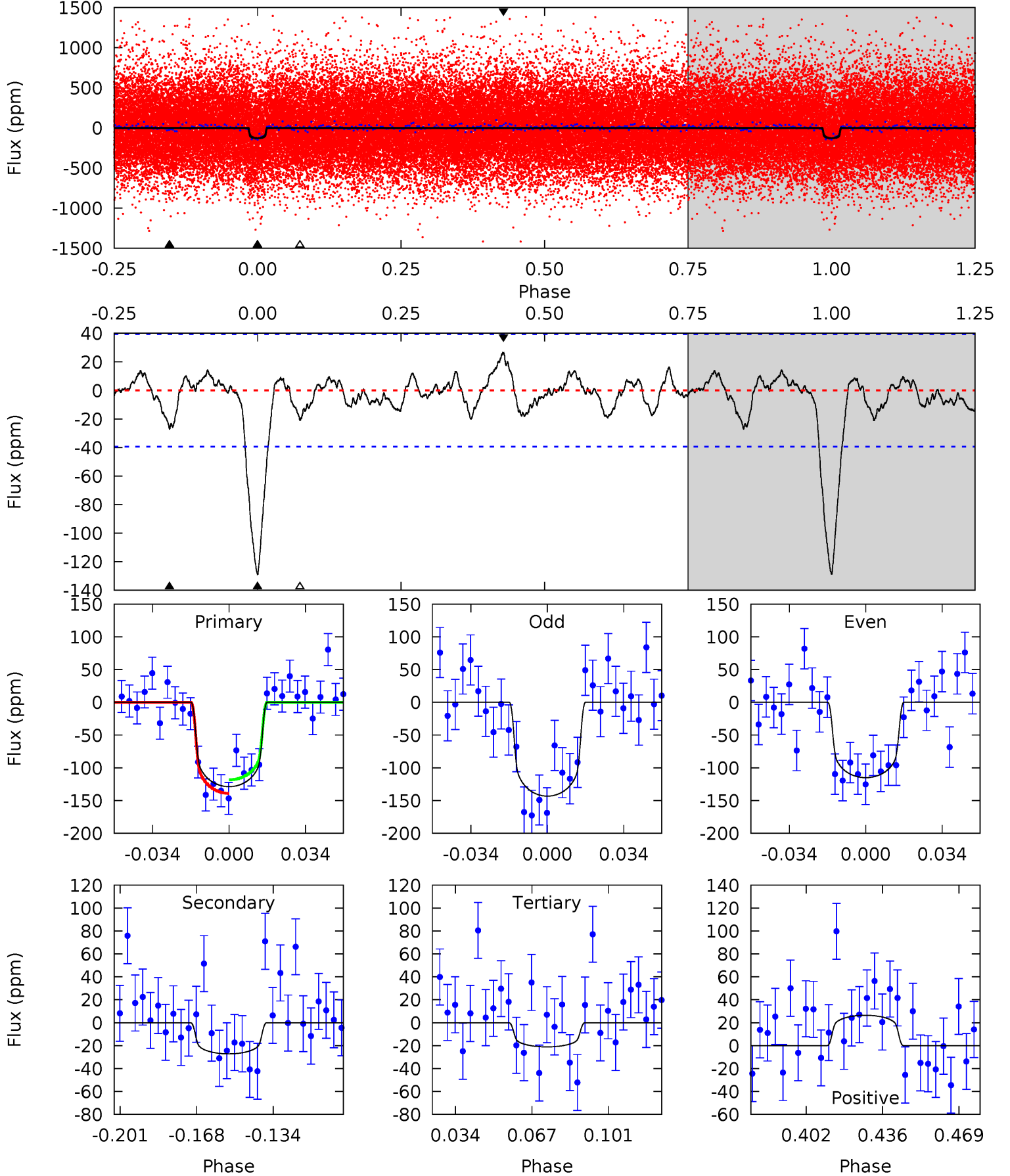
TCE 009907129-01 P= 9.705782 Days $T_0=140.367398$ (BKJD)



DV Model-Shift Uniqueness Test

009907129-01, P = 9.705713 Days, E = 130.667737 Days

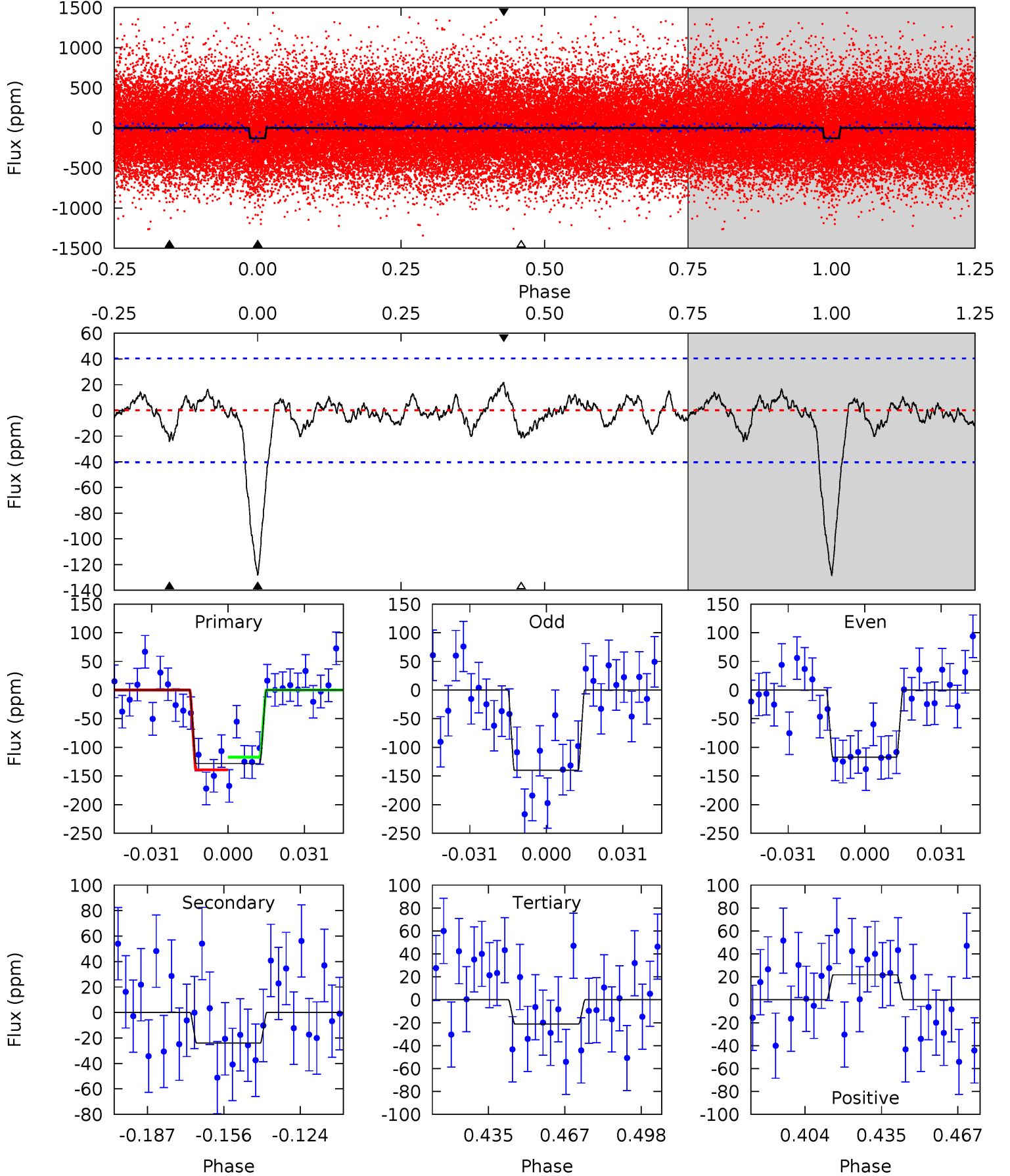
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	3.30	2.56	3.21	4.79	2.13	1.07	13.1	12.4	0.74	0.09	1.71	1.06	0.17	1.26



Alt Model-Shift Uniqueness Test

009907129-01, P = 9.705782 Days, E = 130.661616 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	2.86	2.52	2.58	4.80	2.16	0.96	12.7	12.7	0.34	0.27	1.36	1.04	0.14	1.32



Stellar Parameters For KIC 009907129

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5808^{+78}_{-78}	$4.178^{+0.176}_{-0.095}$	$0.140^{+0.150}_{-0.150}$	$1.385^{+0.239}_{-0.263}$	$1.056^{+0.097}_{-0.073}$	$0.559^{+0.451}_{-0.182}$
	+1%/-1%	+4%/-2%	+107%/-107%	+17%/-19%	+9%/-7%	+81%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009907129-01 / KOI 3127.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-27 ± 8	$1.93^{+0.43}_{-0.41}$	1388^{+64}_{-76}	3975^{+382}_{-337}	32^{+23}_{-14}
Alt.	-24 ± 8	$1.66^{+0.43}_{-0.41}$	1390^{+62}_{-69}	4089^{+501}_{-396}	38^{+34}_{-17}

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 $A_{obs} \gg 1.0$

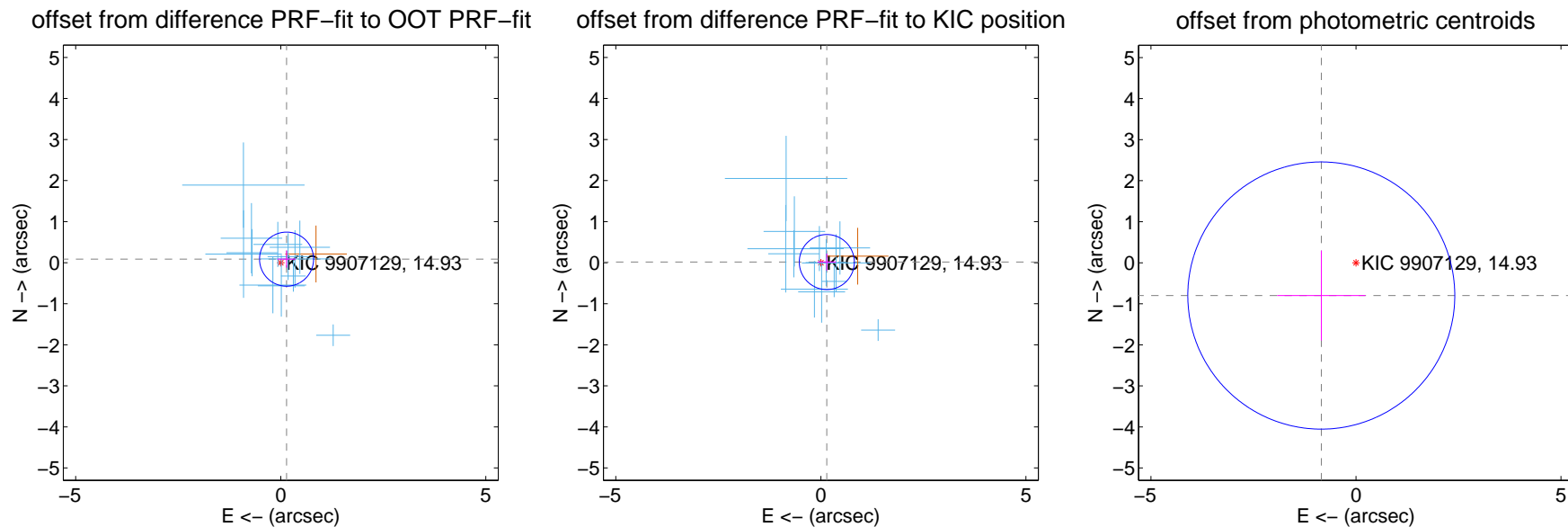
DV Centroid Data

Supplemental centroid analysis for 009907129-01. Kepler magnitude: 14.93. Transit SNR 12.49

There are 12 quarters with good PRF difference image offsets

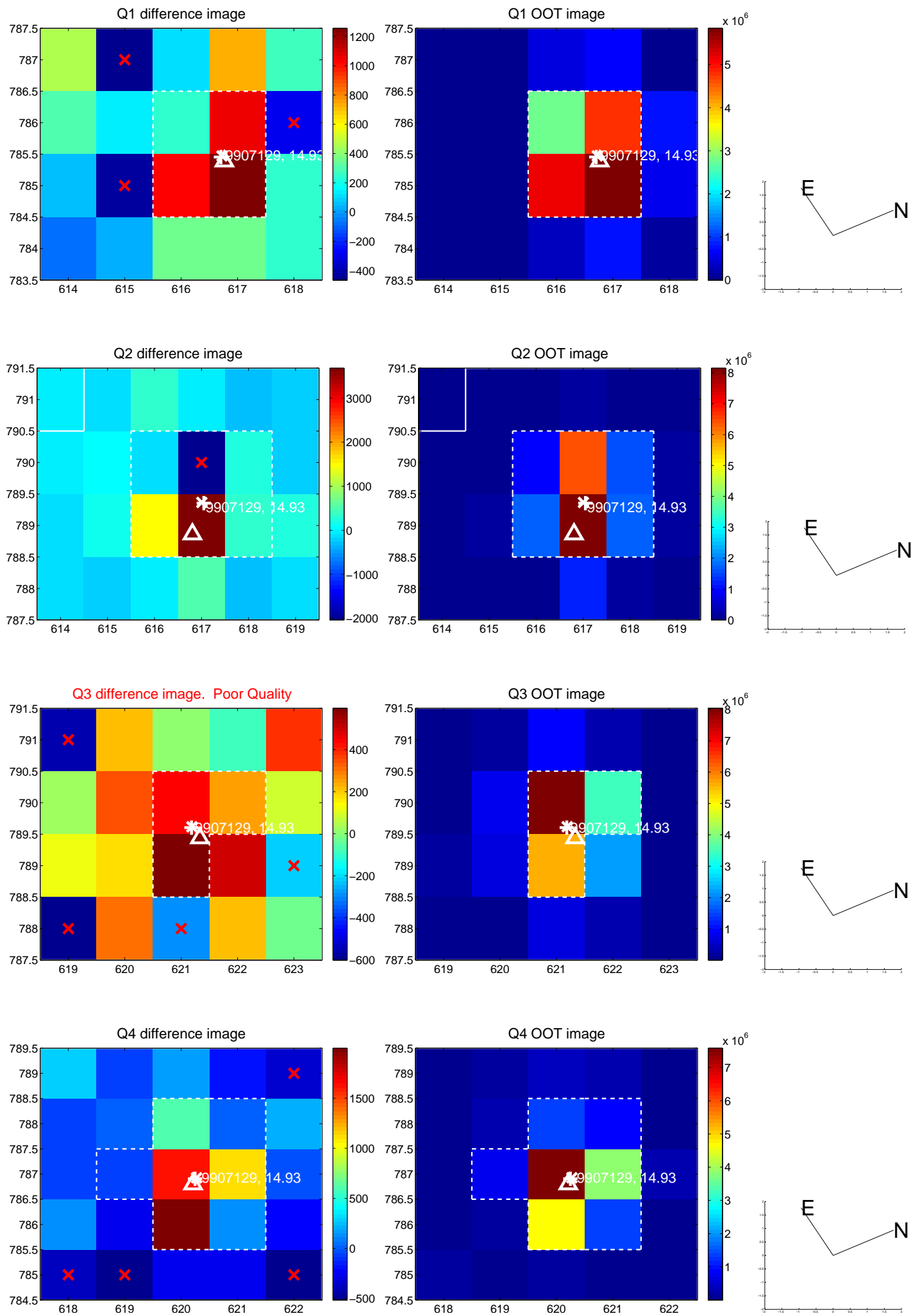
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.166 ± 0.220	0.76	-0.142 ± 0.224	0.086 ± 0.208
PRF-fit source offset from KIC position	0.146 ± 0.224	0.65	-0.145 ± 0.224	0.015 ± 0.208
photometric centroid source offset	1.16 ± 1.08	1.07	0.85 ± 1.08	-0.80 ± 1.10

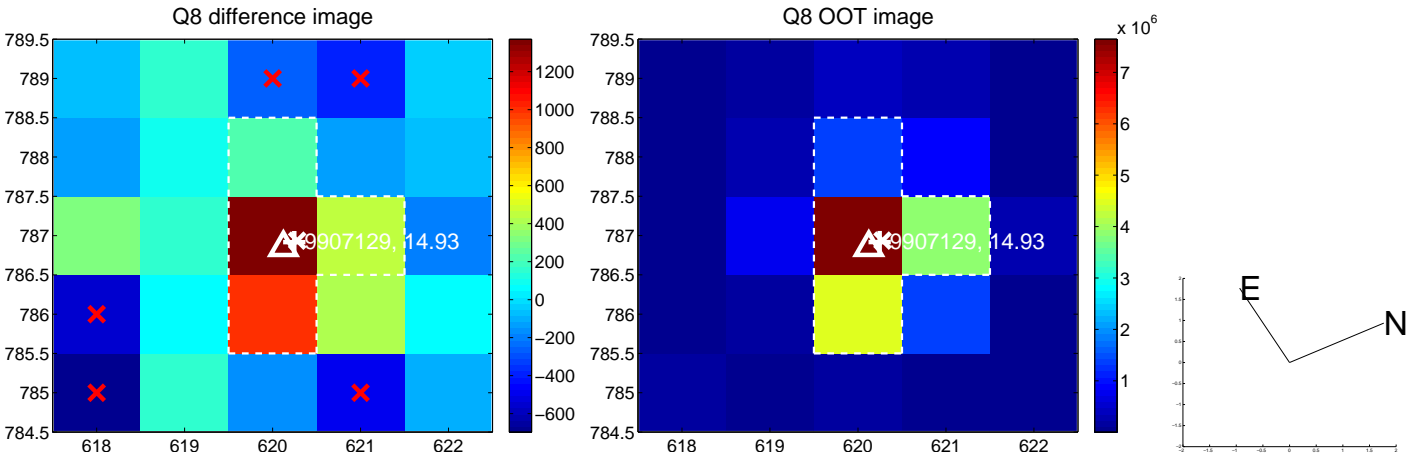
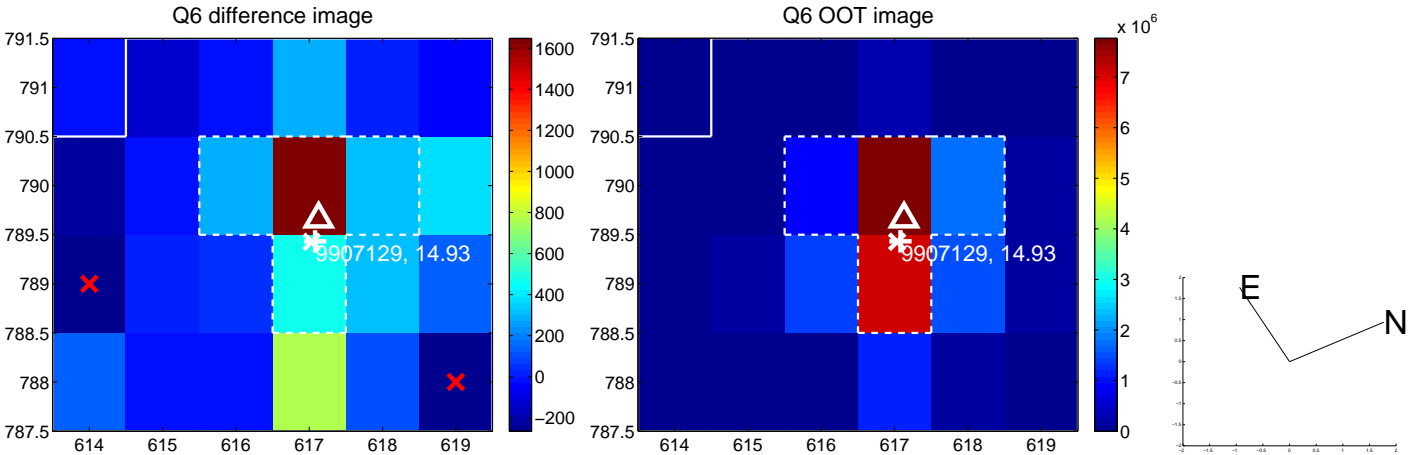
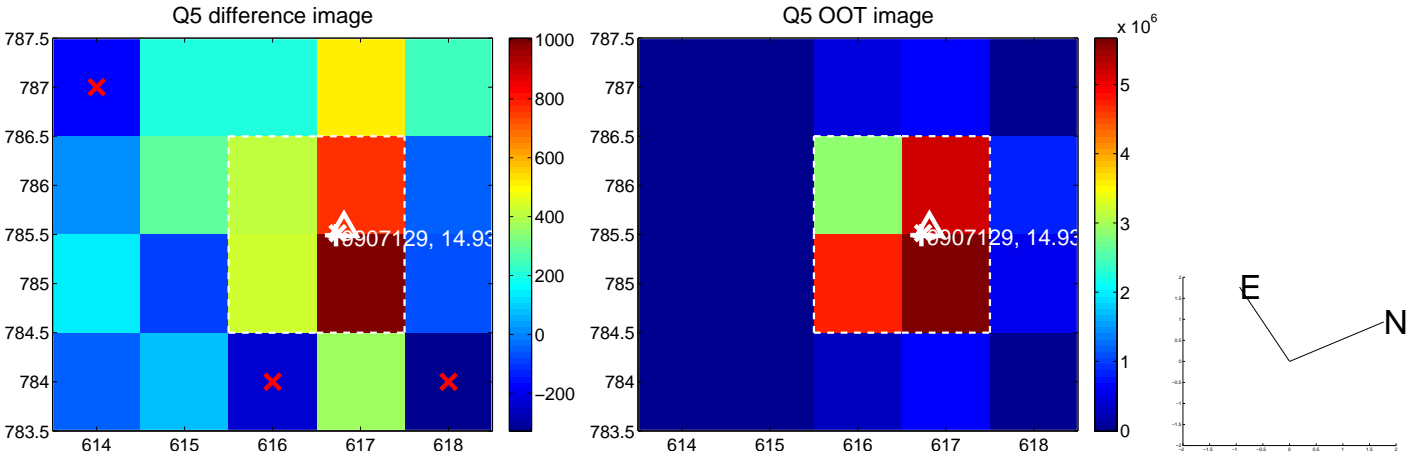


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

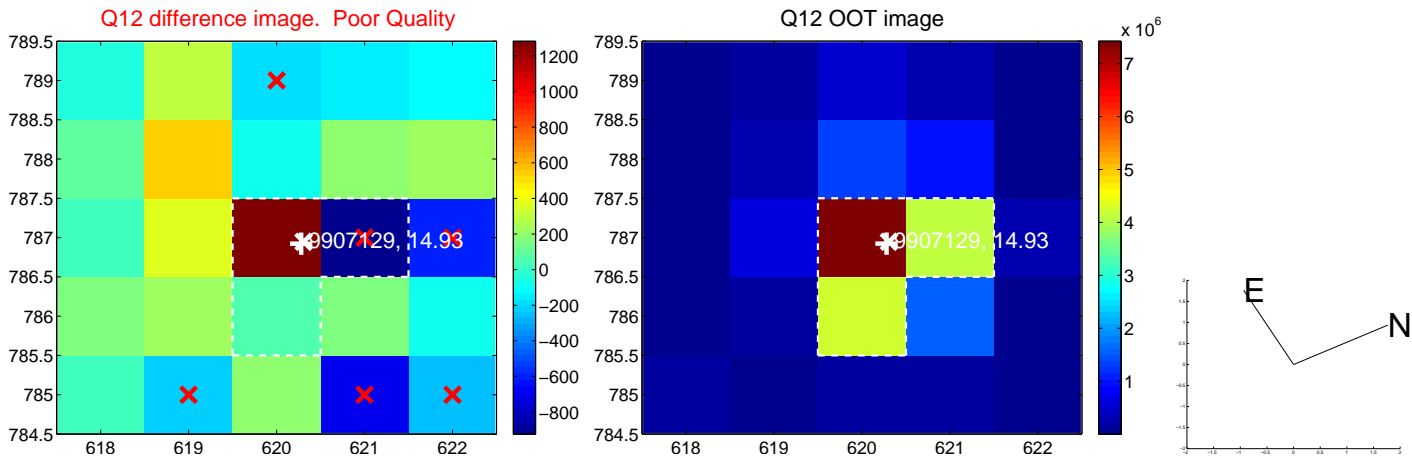
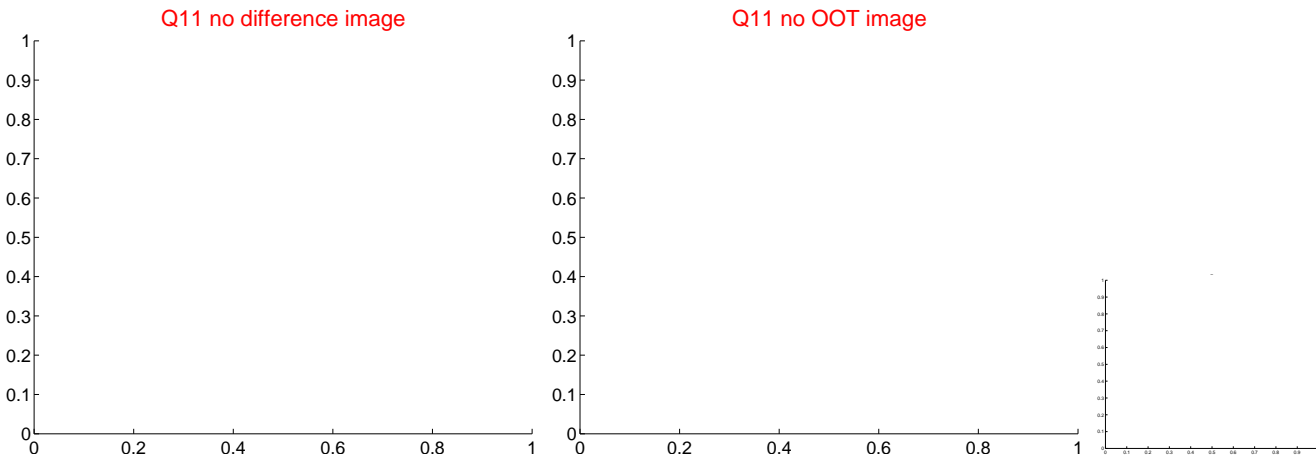
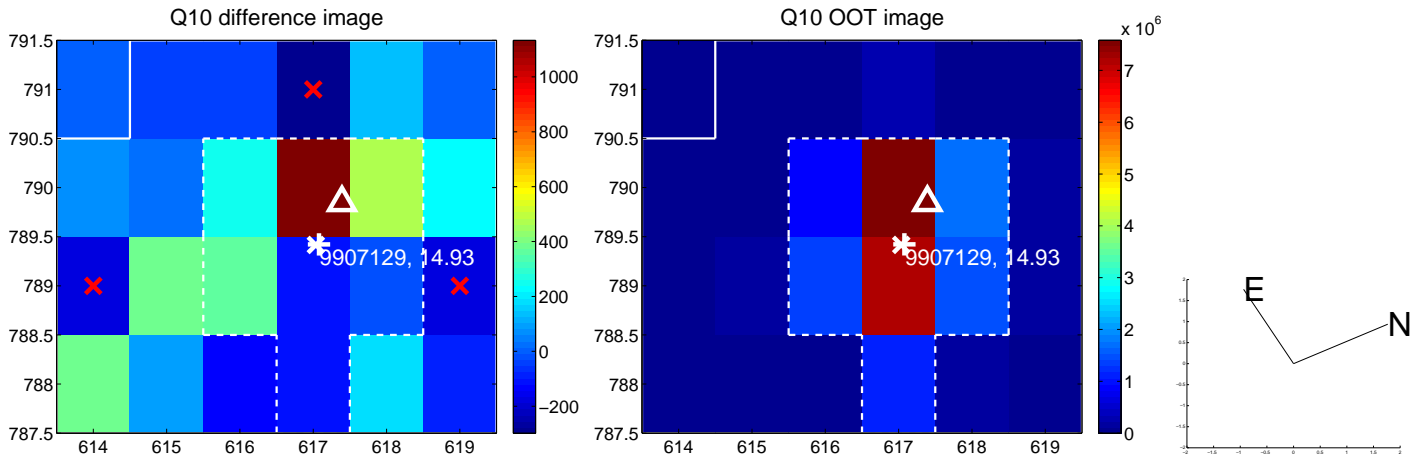
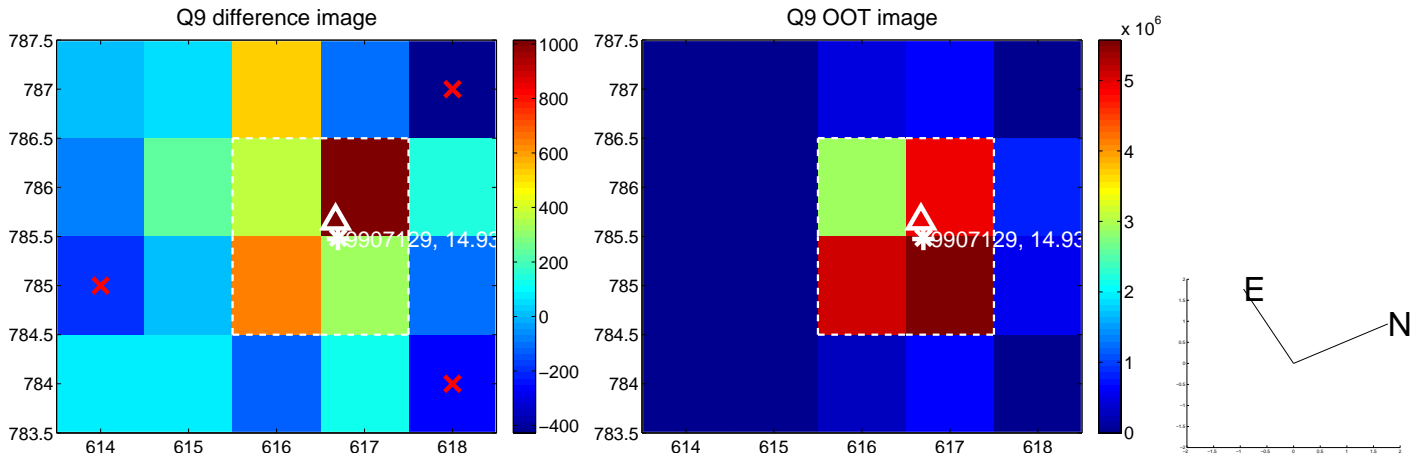
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



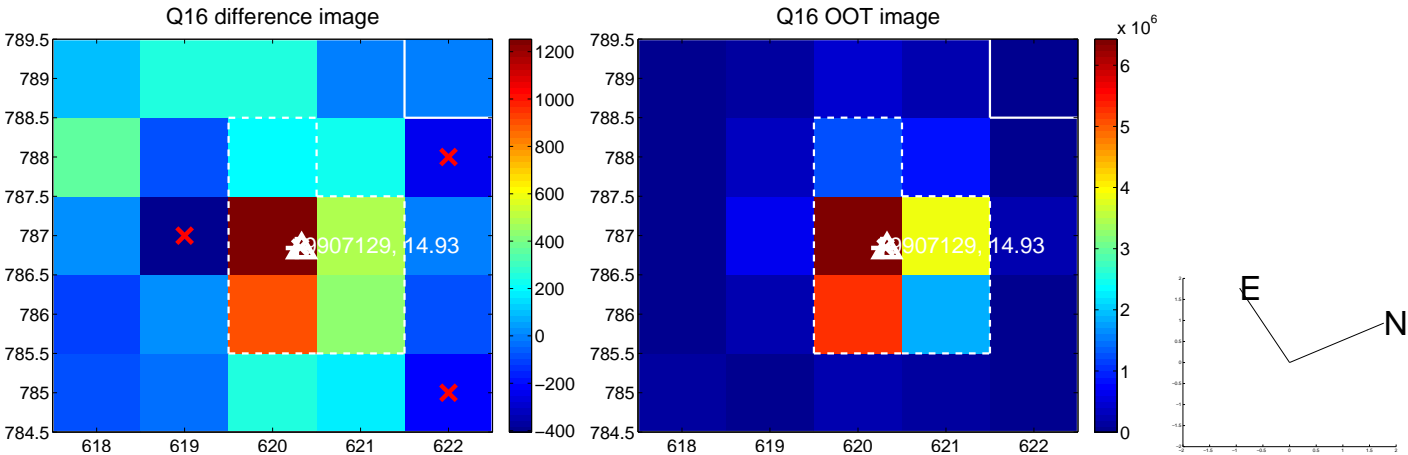
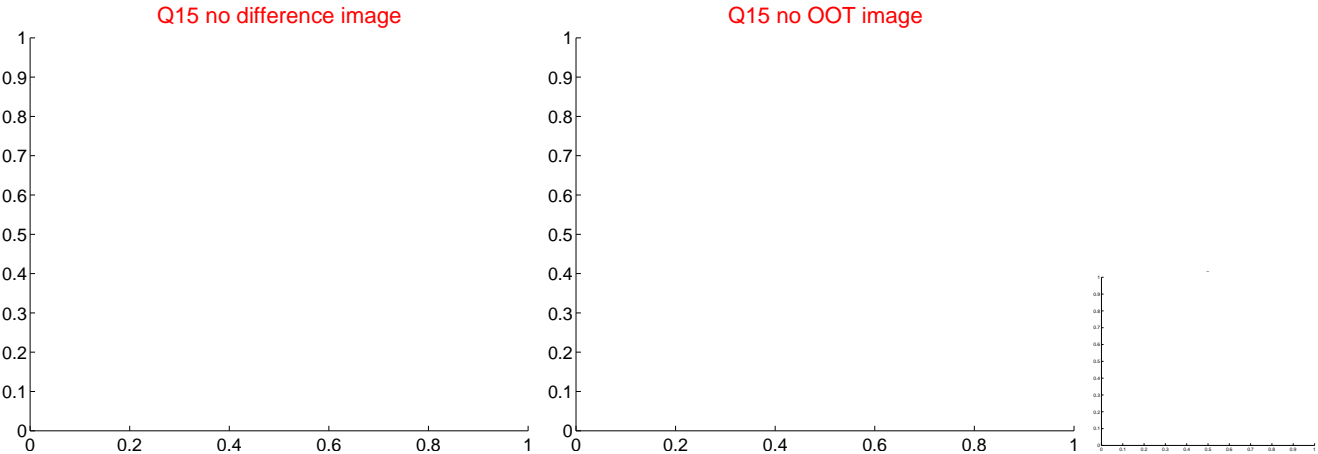
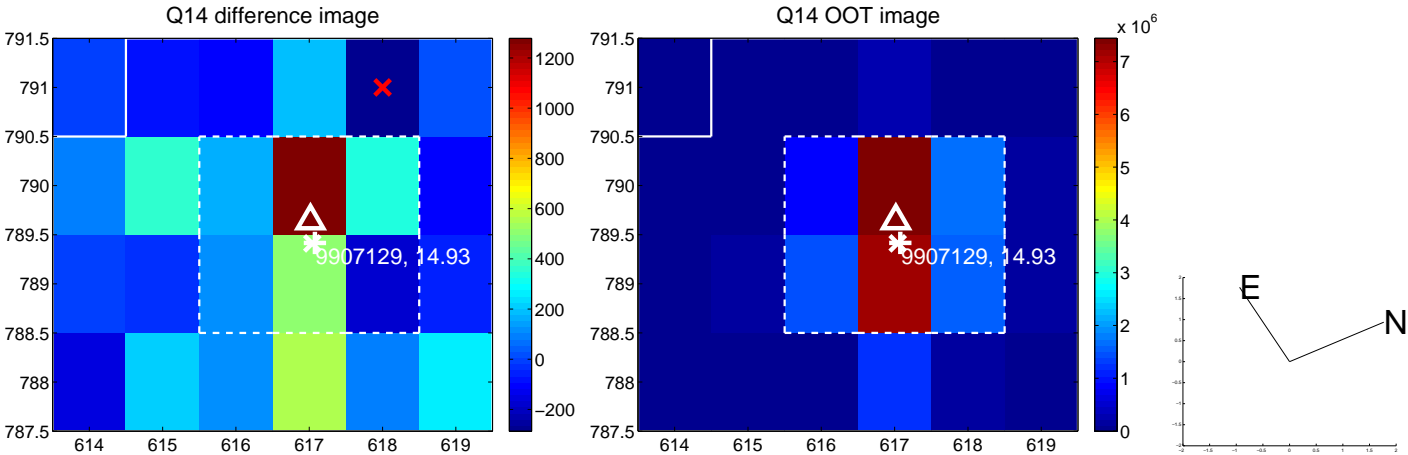
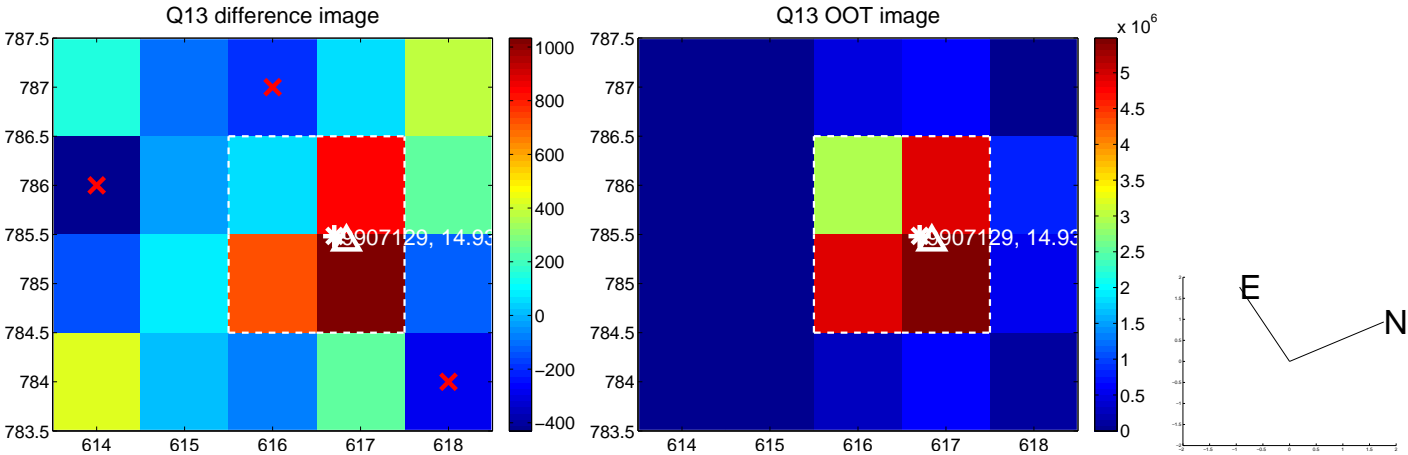
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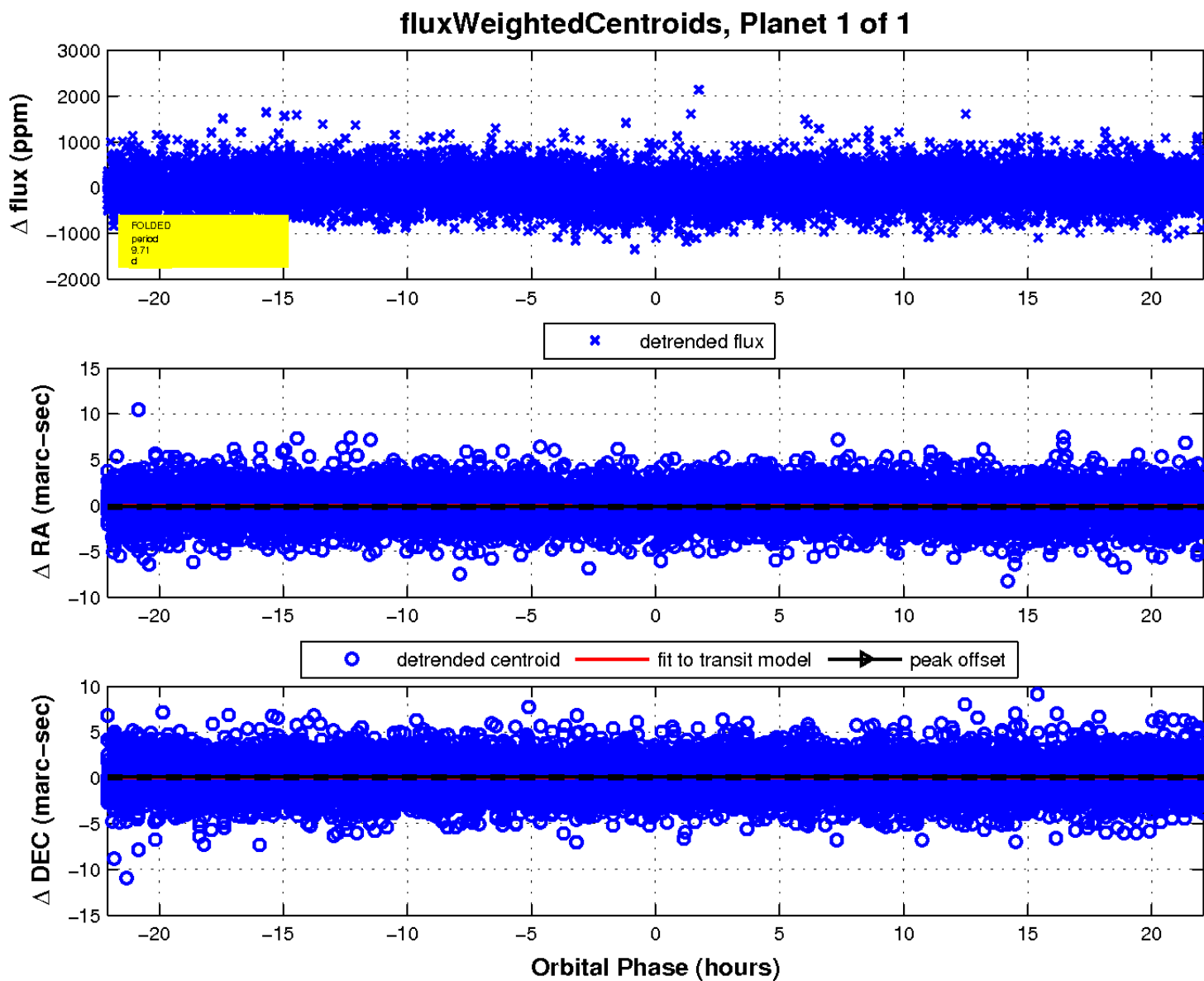
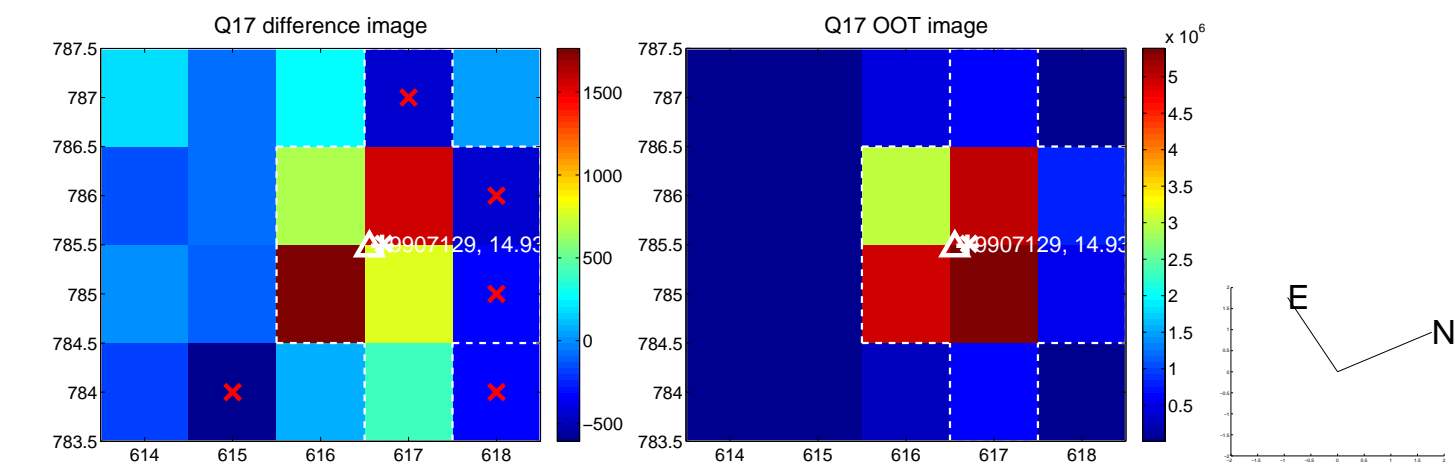
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UKIRT Image

Declination

