

KIC 007041309

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})
007041309-01	OBS	No	0.559930	131.619142	32.6	4.678	7.4	6.3	0.75	5030	0.42	2154.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007041309-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

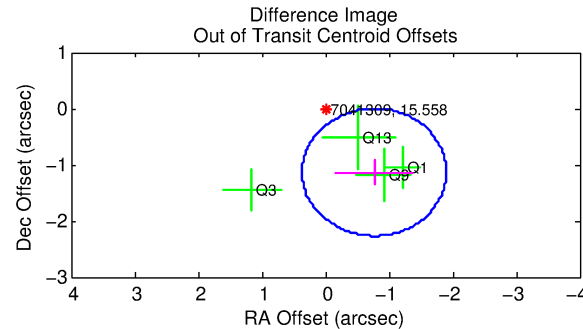
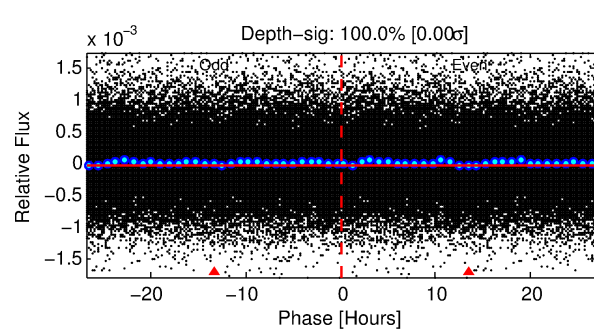
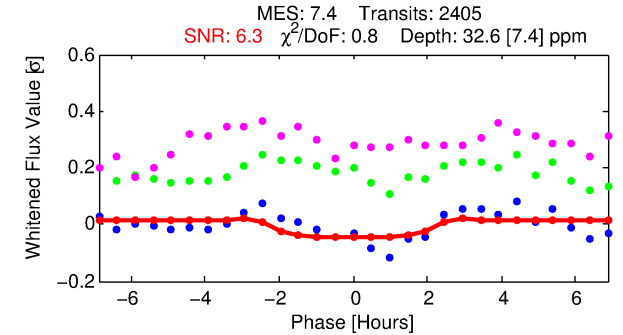
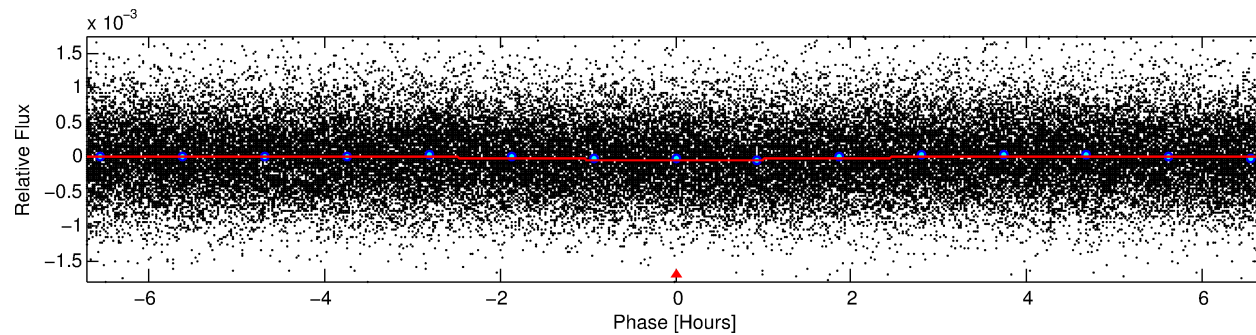
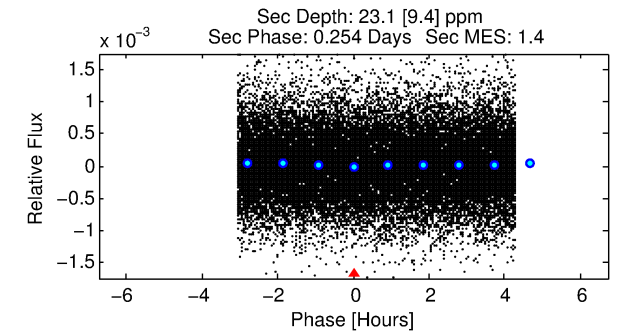
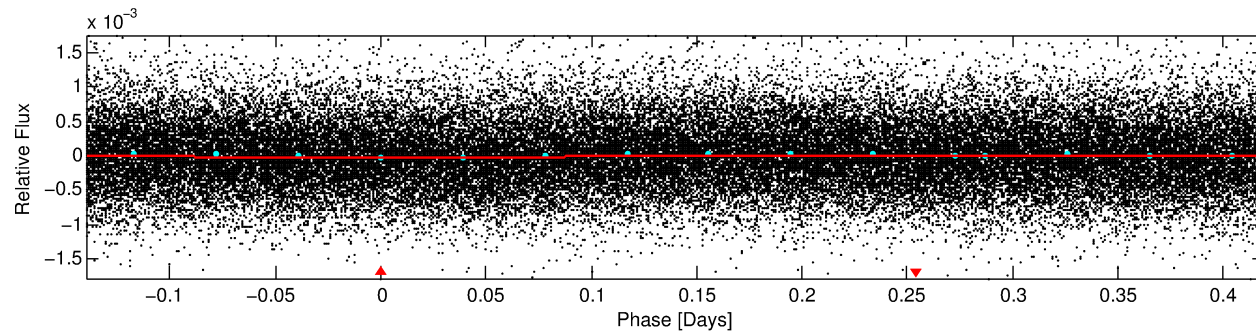
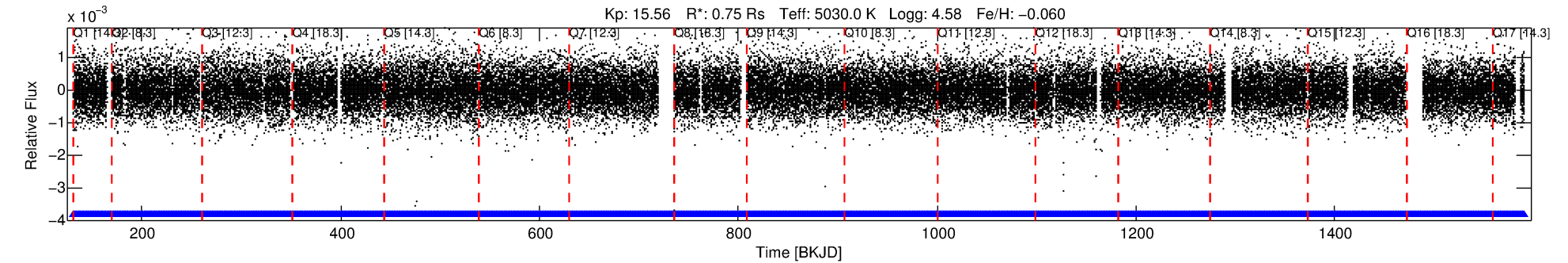
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007041309-01

No Significant Match Found

DV One-Page Summary

KIC: 7041309 Candidate: 1 of 1 Period: 0.560 d



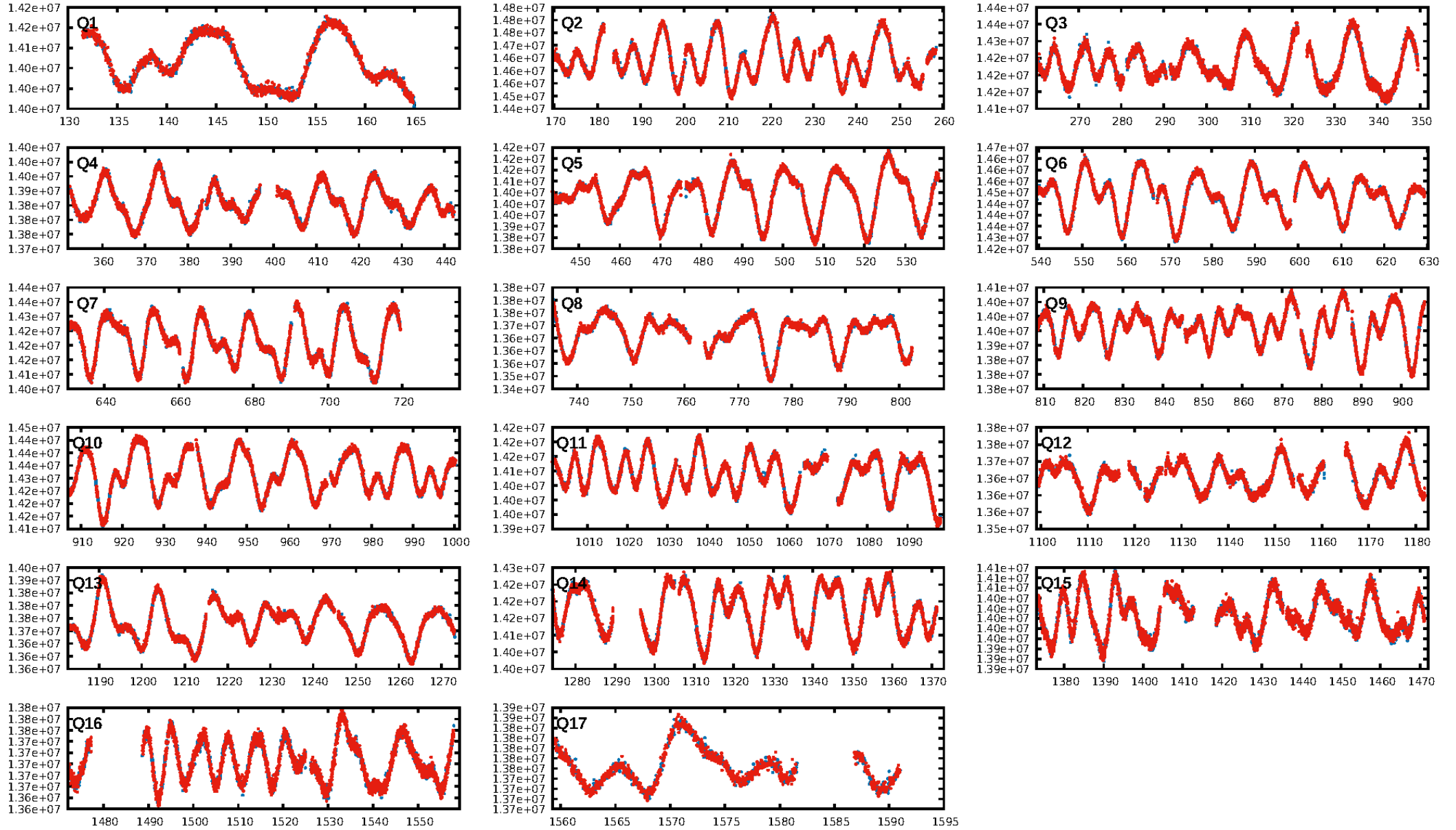
DV Fit Results:

Period = 0.55993 [0.00002] d
Epoch = 131.6191 [0.0070] BKJD
Rp/R* = 0.0051 [0.0072]
a/R* = 1.12 [1.07]
b = 0.30 [14.91]
Seff = 2154.84 [359.41]
Teff = 1737 [72] K
Rp = 0.42 [0.59] Re
a = 0.0123 [0.0010] AU
Ag = 10.76 [30.34] [0.32σ]
Teffp = 4865 [3429] K [0.91σ]

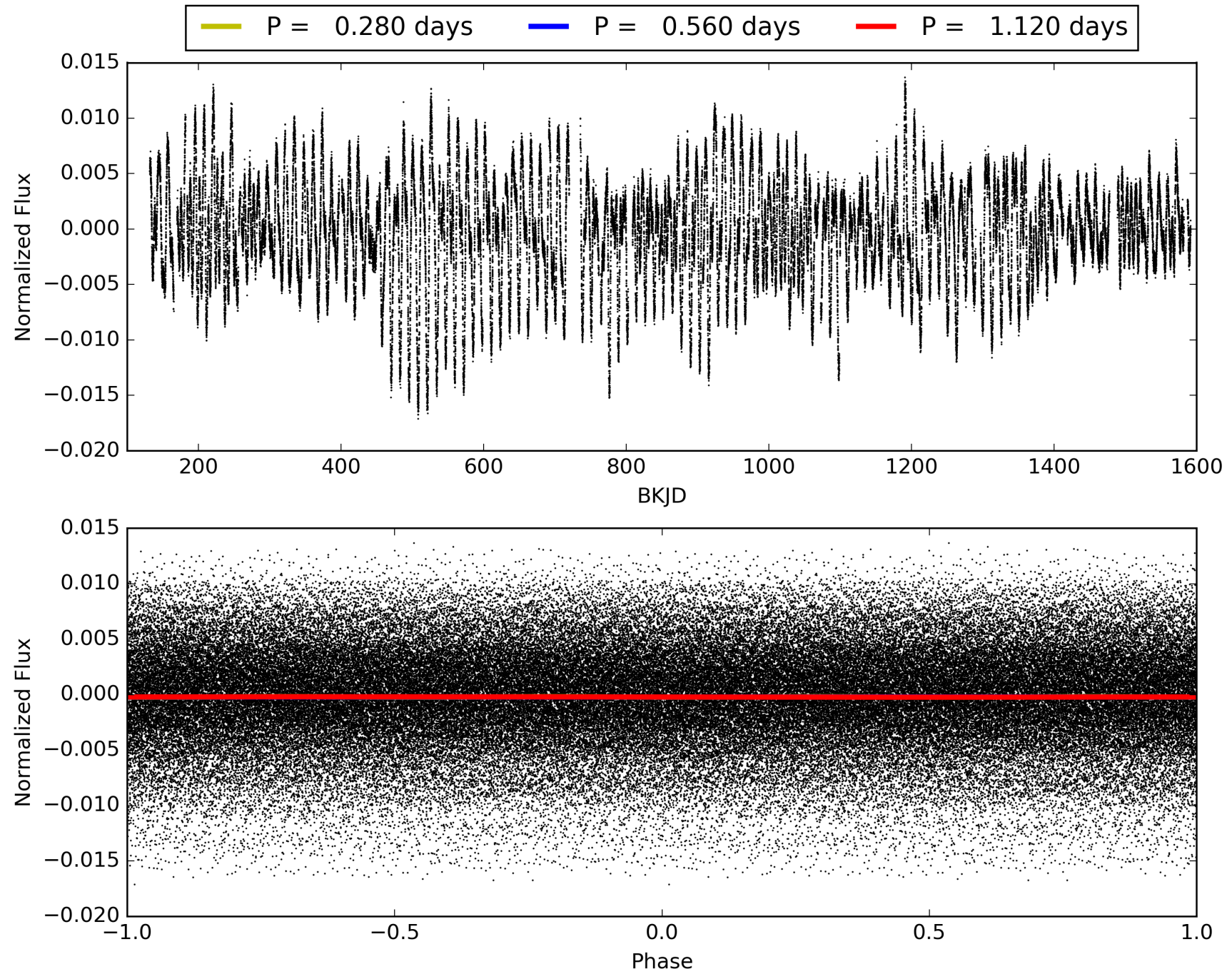
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2297/2297]
GhostDiagnostic-chr: 0.01341
Centroid-sig: 3.3%
Centroid-so: 2.455 arcsec [1.47σ]
OotOffset-rm: 1.369 arcsec [3.63σ]
KicOffset-rm: 1.435 arcsec [3.78σ]
OotOffset-st: 0/1/0/3 [4]
KicOffset-st: 0/1/0/3 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007041309-01, PDC Light Curves

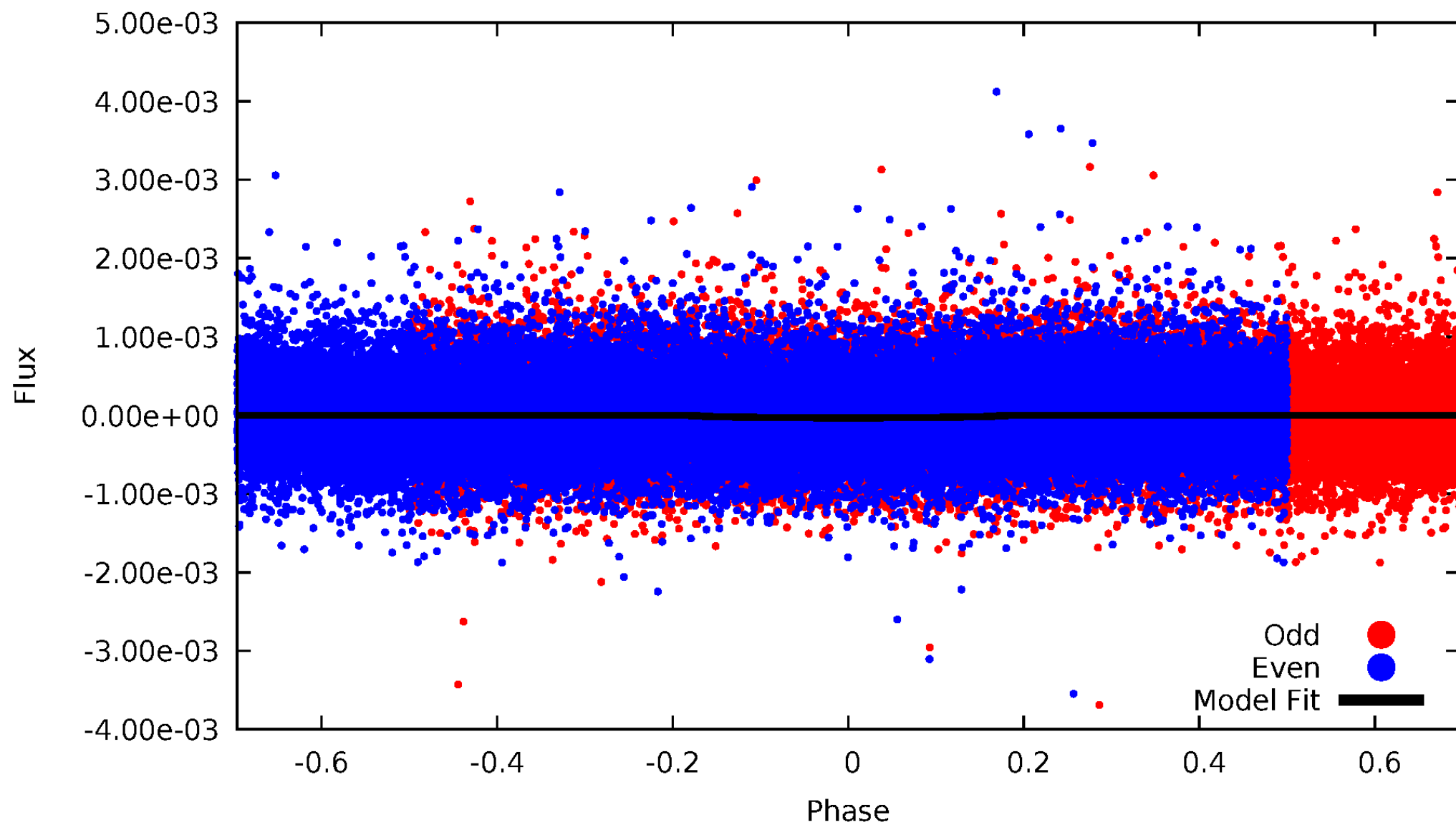


TCE 007041309-01



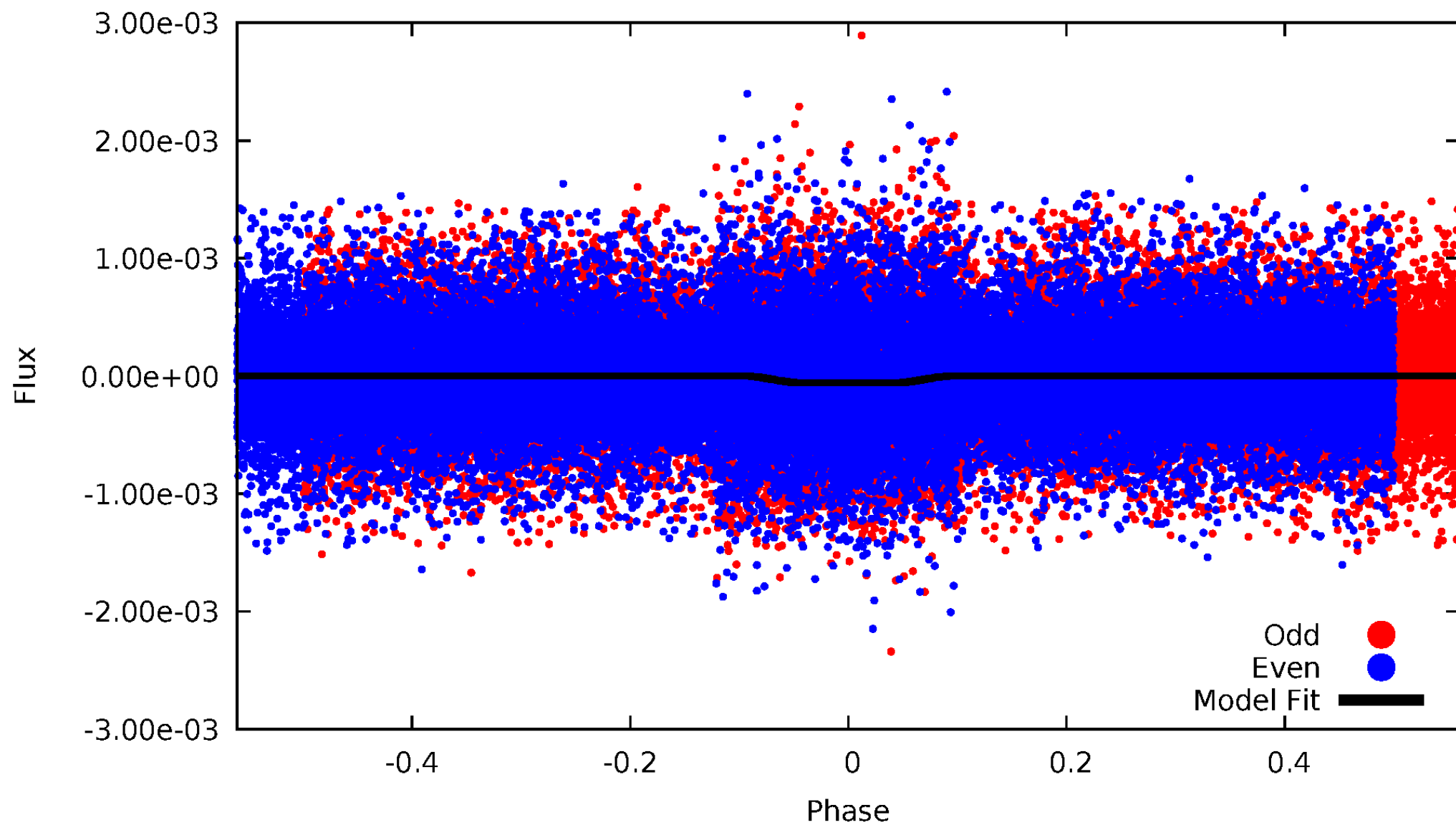
DV Odd/Even

TCE 007041309-01



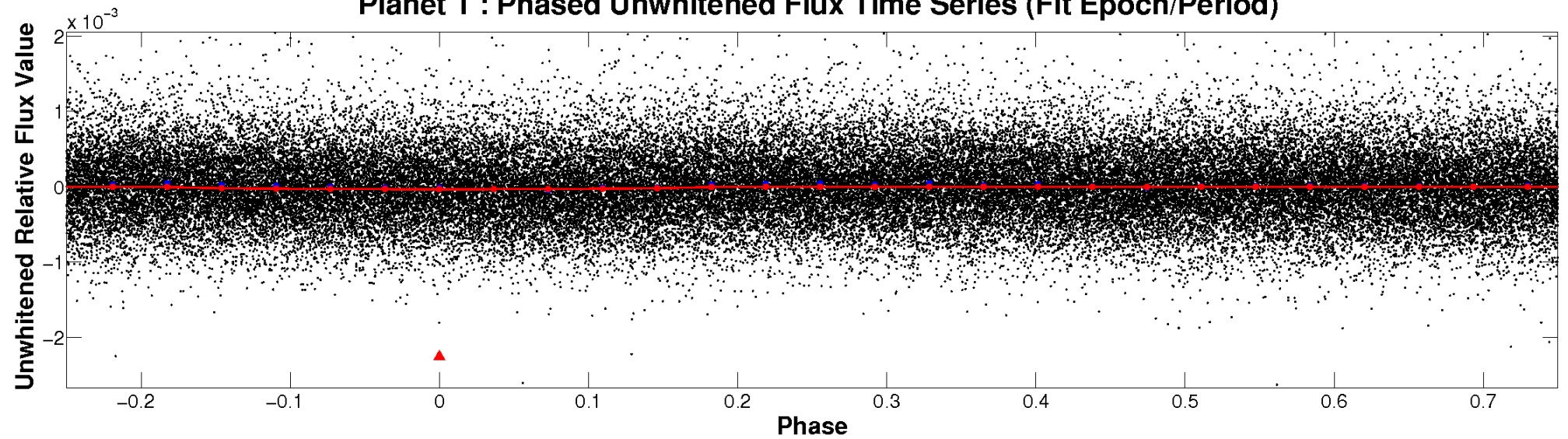
ALT Odd/Even

TCE 007041309-01

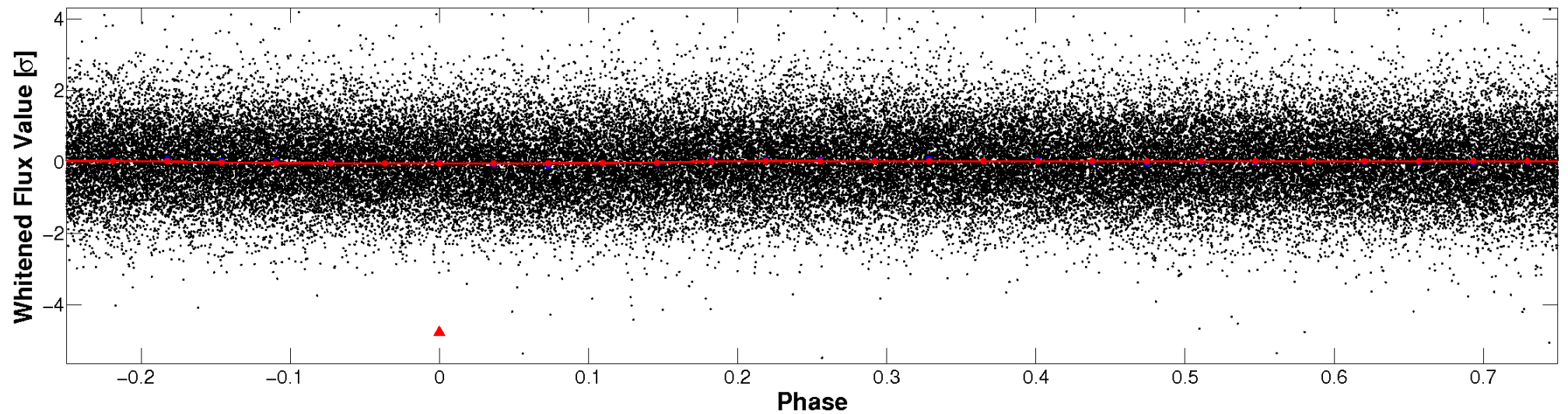


Non-Whitened Vs. Whitened Light Curve

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

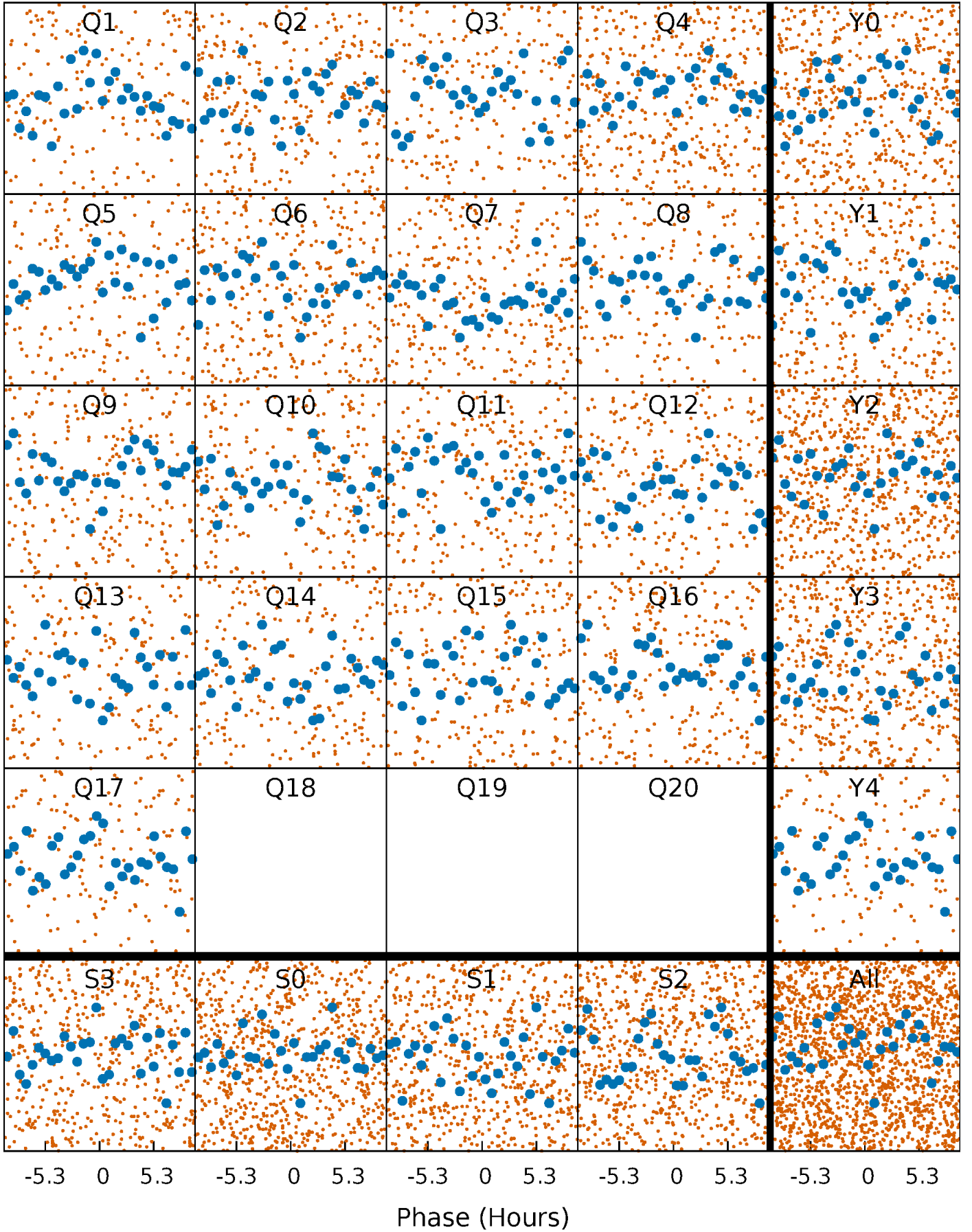


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



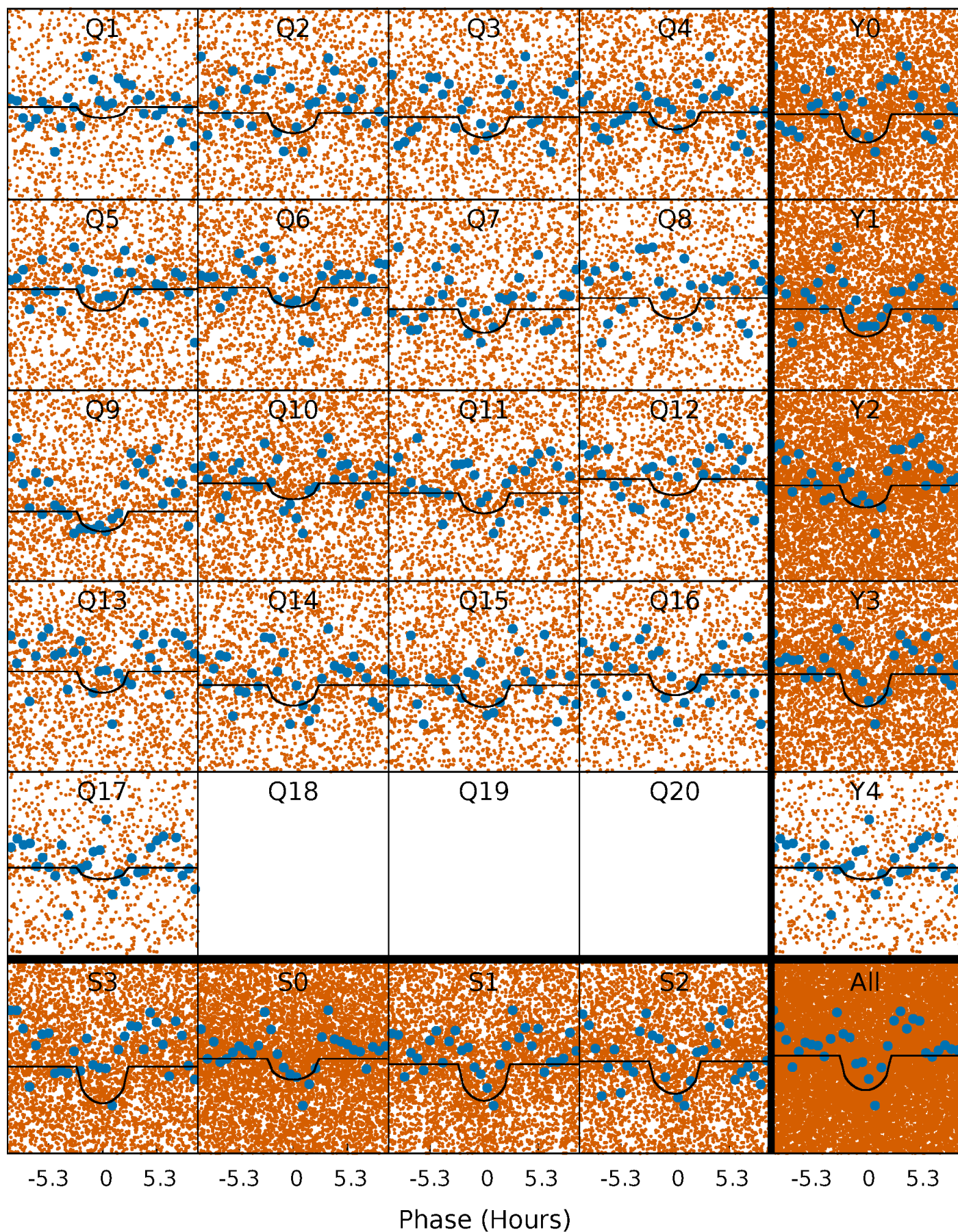
PDC Quarter-Phased Transit Curves

TCE 007041309-01 P= 0.559930 Days $T_0=131.619142$ (BKJD)



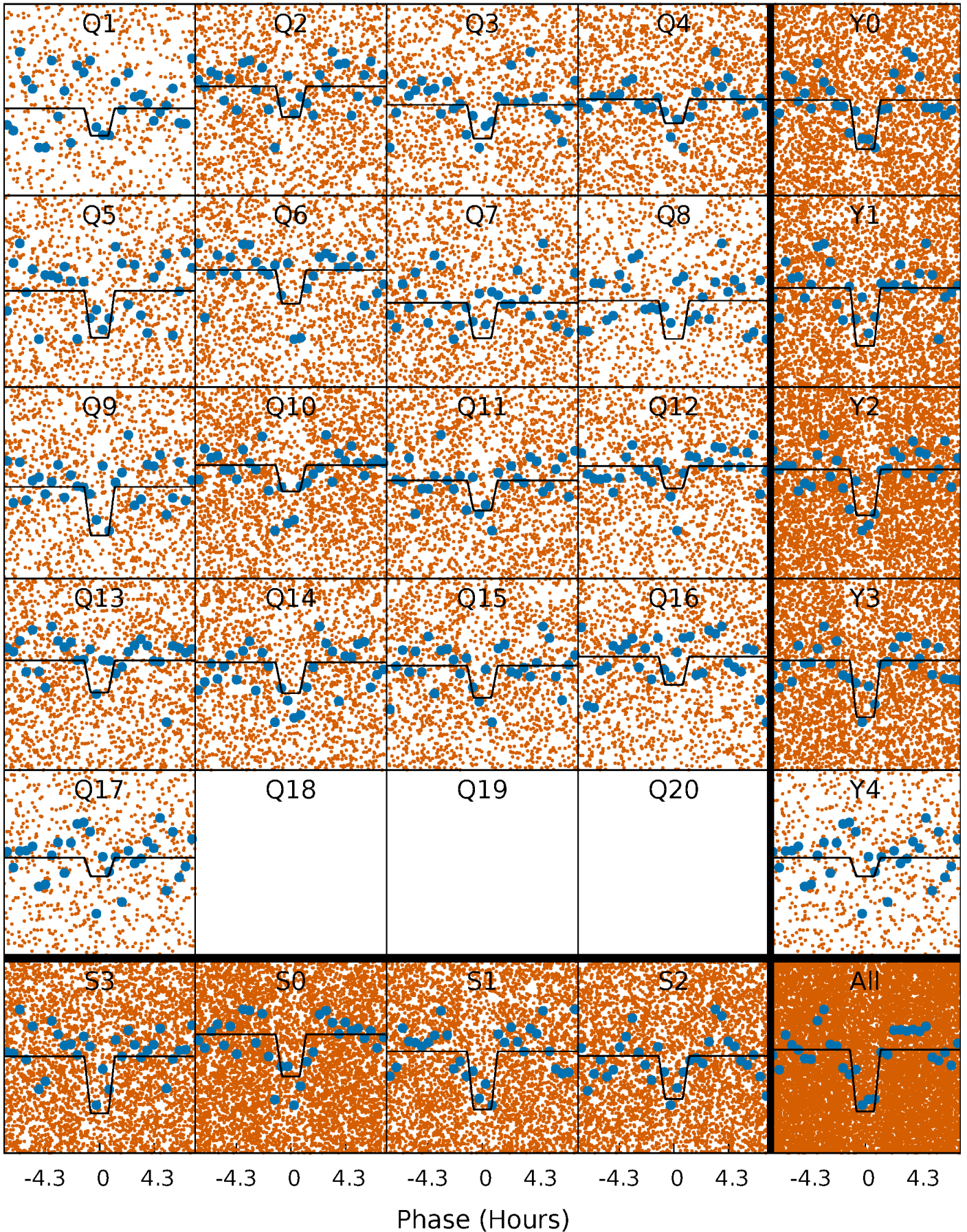
DV Quarter-Phased Transit Curves

TCE 007041309-01 P= 0.559930 Days $T_0=131.619142$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

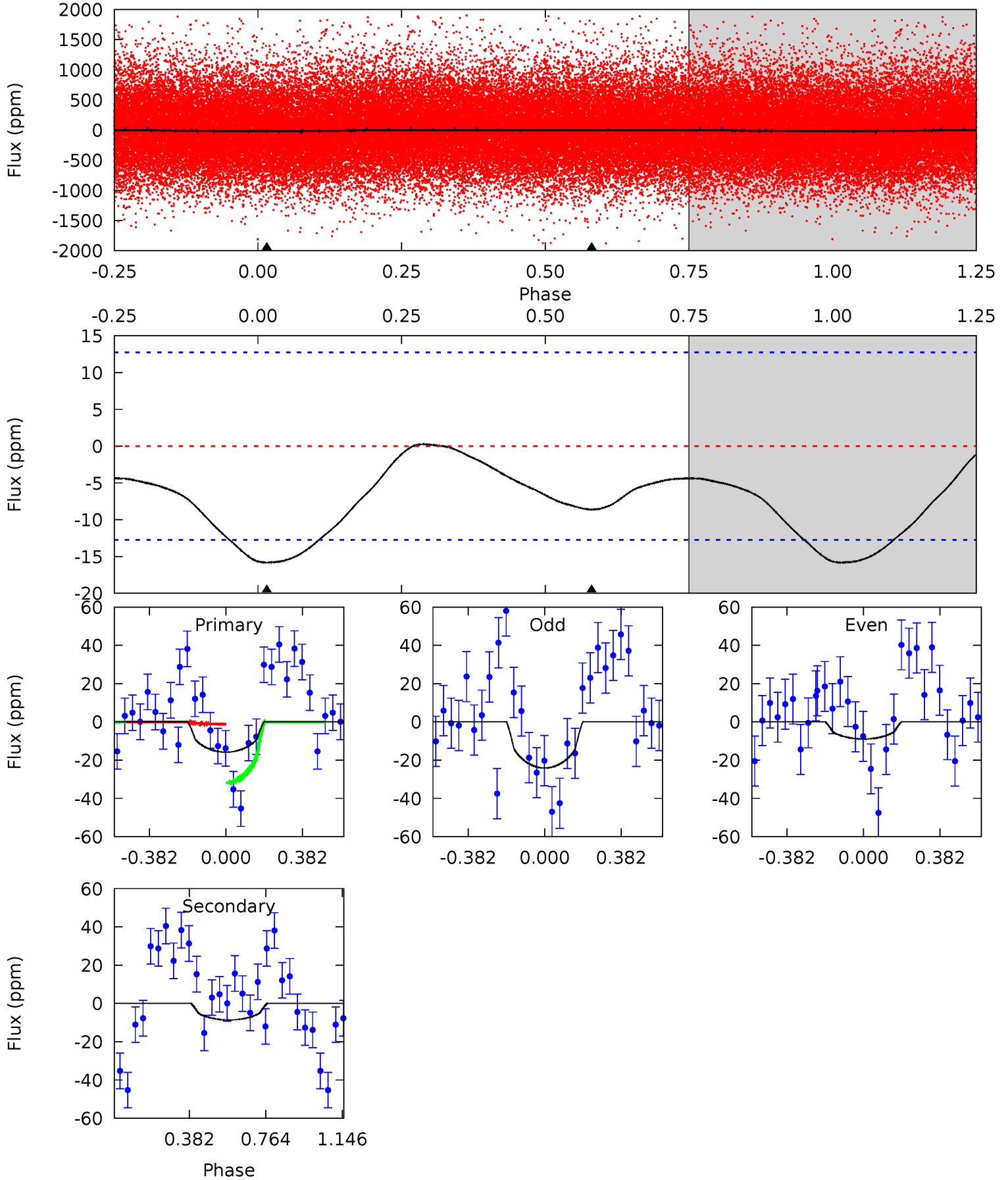
TCE 007041309-01 P= 0.559951 Days $T_0=131.620593$ (BKJD)



DV Model-Shift Uniqueness Test

007041309-01, P = 0.559930 Days, E = 131.059212 Days

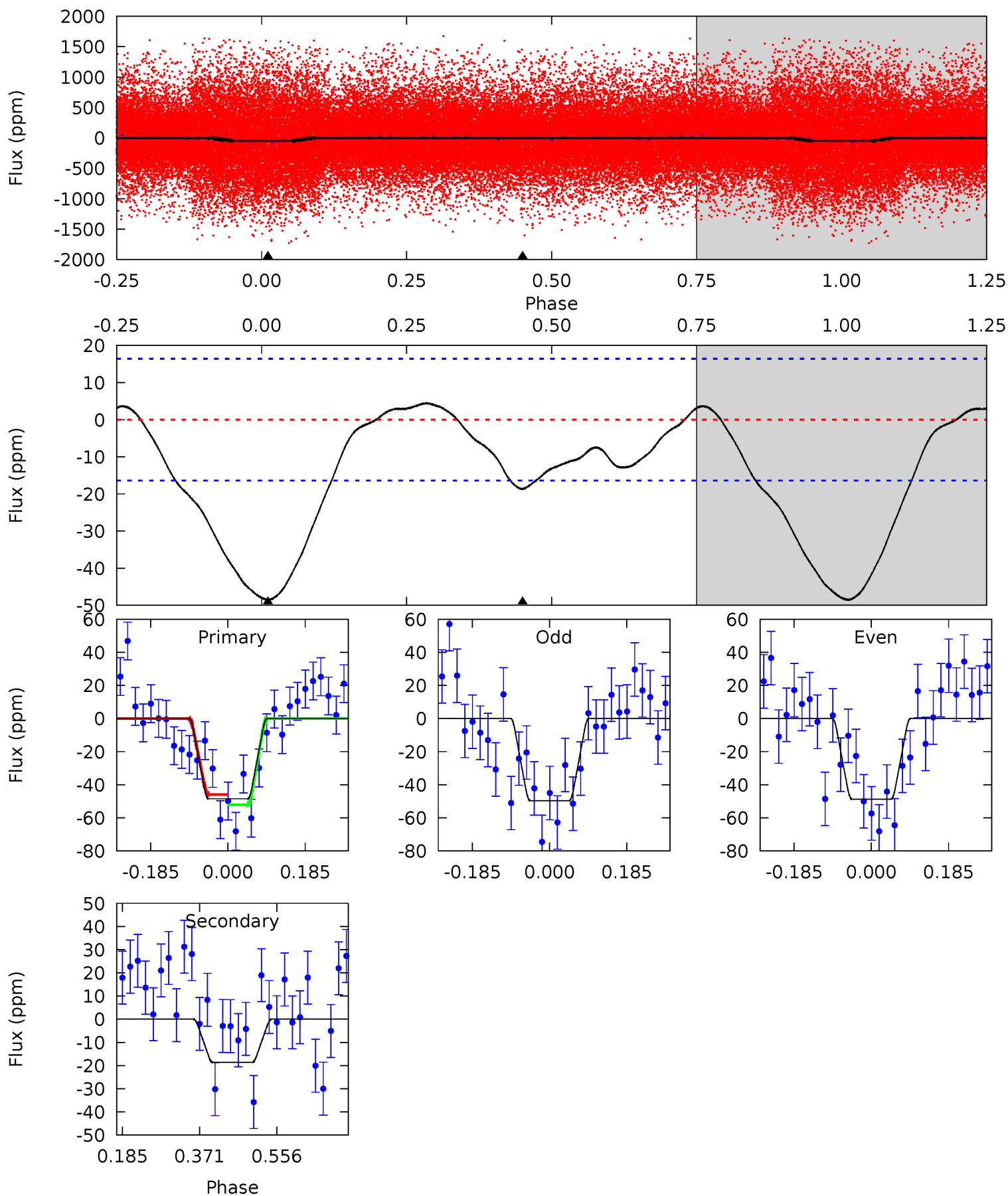
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.31	2.89	0	0	4.28	0.87	0.13	5.31	5.31	2.89	2.89	2.53	1.09	0.02	5.24



Alt Model-Shift Uniqueness Test

007041309-01, P = 0.559951 Days, E = 131.060642 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	5.04	0	0	4.43	1.32	1.33	13.1	13.1	5.04	5.04	0.11	1.26	0.08	0.84



Stellar Parameters For KIC 007041309

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5030^{+151}_{-151}	$4.580^{+0.040}_{-0.060}$	$-0.060^{+0.300}_{-0.300}$	$0.751^{+0.079}_{-0.065}$	$0.783^{+0.071}_{-0.071}$	$2.598^{+0.527}_{-0.524}$
	+3%/-3%	+1%/-1%	+500%/-500%	+11%/-9%	+9%/-9%	+20%/-20%
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 007041309-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9 ± 3	$0.63^{+0.50}_{-0.41}$	2434^{+88}_{-82}	3450^{+1686}_{-860}	$1.790^{+11.257}_{-1.289}$
Alt.	-19 ± 4	$0.75^{+0.52}_{-0.44}$	2441^{+87}_{-84}	3745^{+1625}_{-688}	$2.725^{+13.777}_{-1.770}$

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 $A_{obs} \gg 1.0$

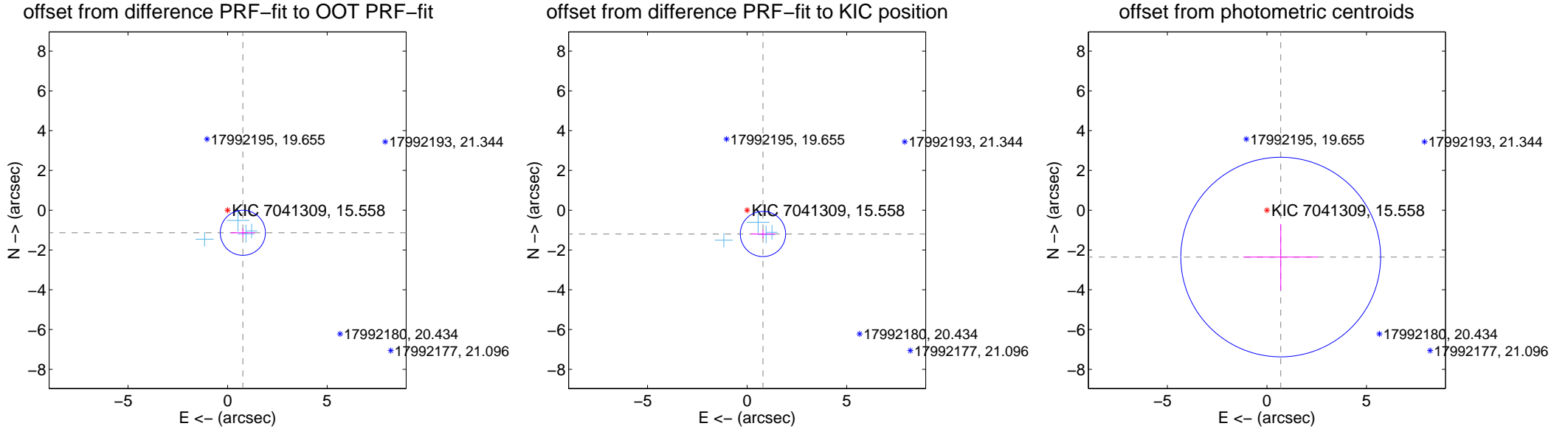
DV Centroid Data

Supplemental centroid analysis for 007041309-01. Kepler magnitude: 15.56. Transit SNR 6.33

There are 4 quarters with good PRF difference image offsets

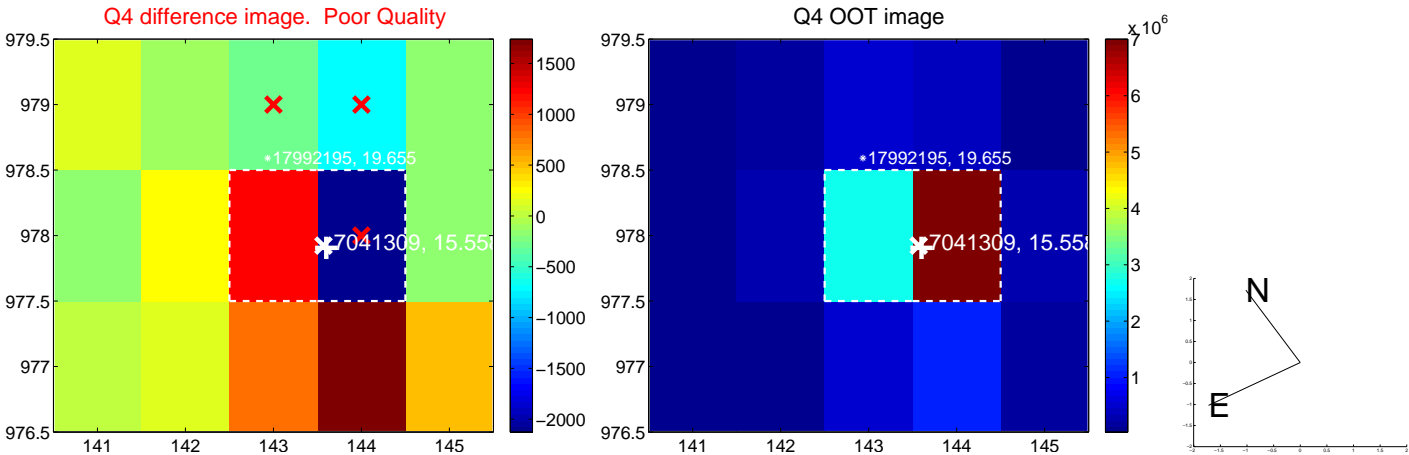
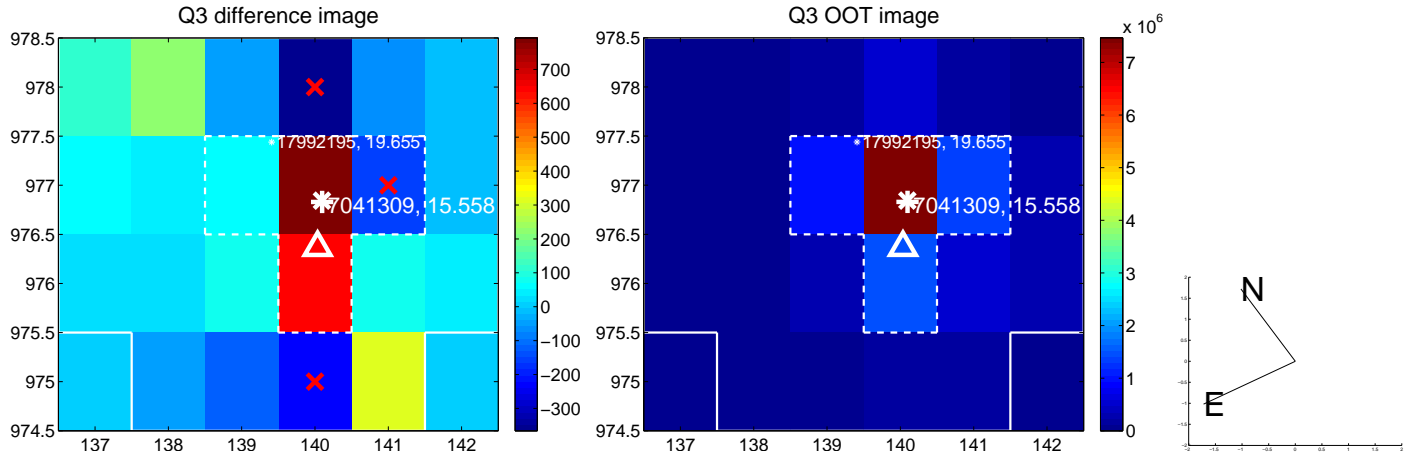
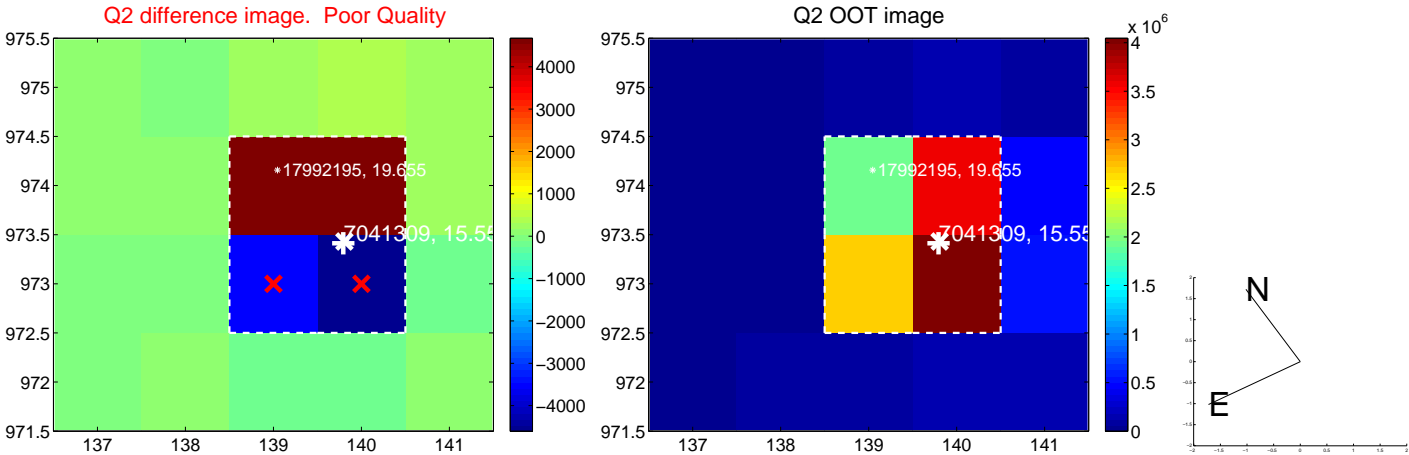
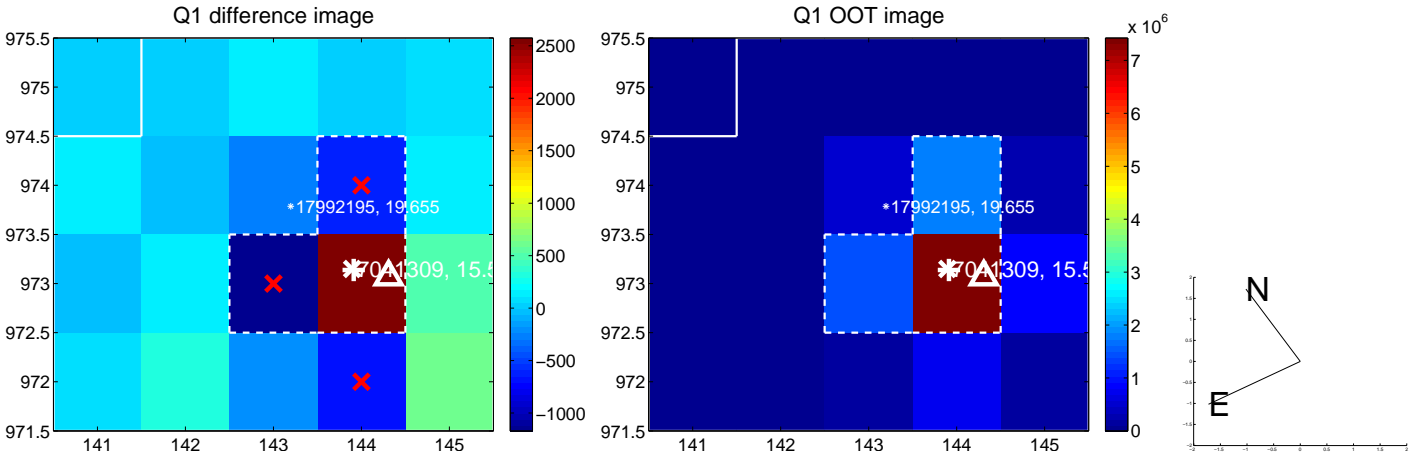
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.369 ± 0.378	3.63	-0.766 ± 0.601	-1.135 ± 0.207
PRF-fit source offset from KIC position	1.435 ± 0.379	3.78	-0.795 ± 0.616	-1.195 ± 0.199
photometric centroid source offset	2.46 ± 1.67	1.47	-0.69 ± 1.88	-2.36 ± 1.65

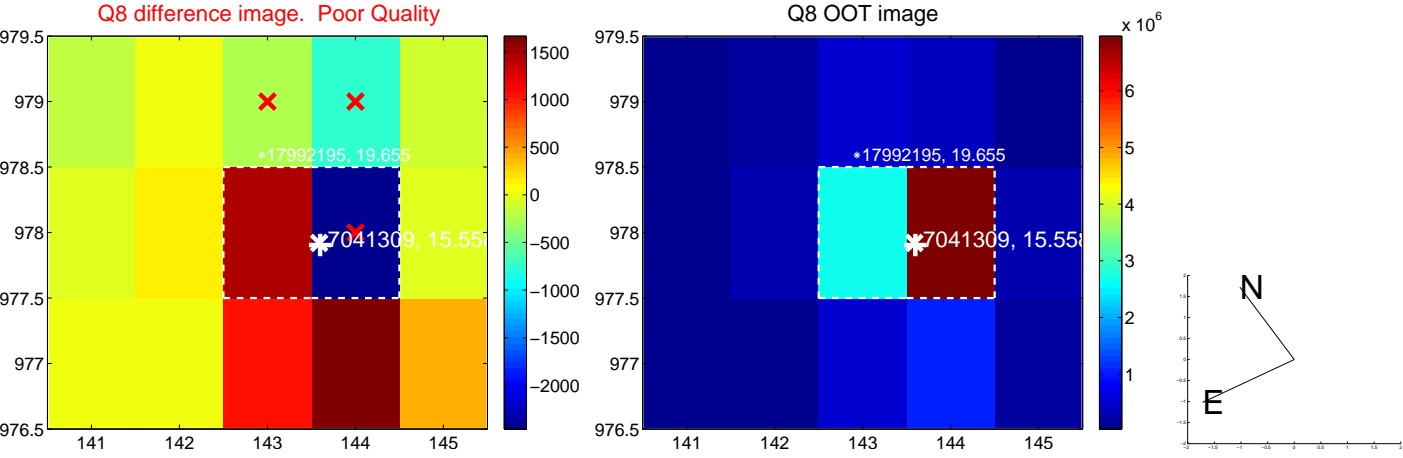
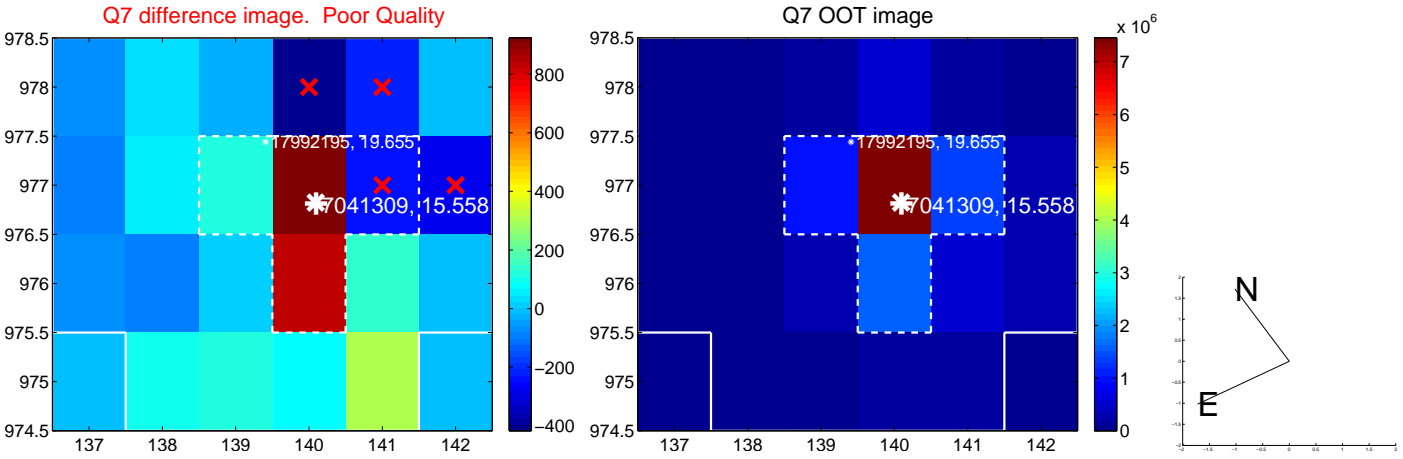
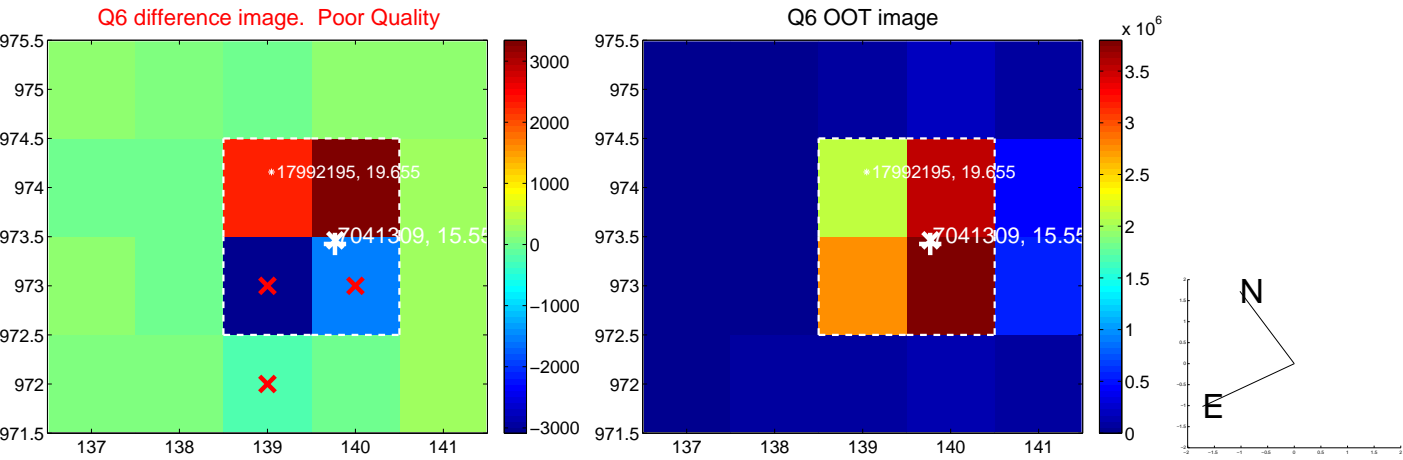
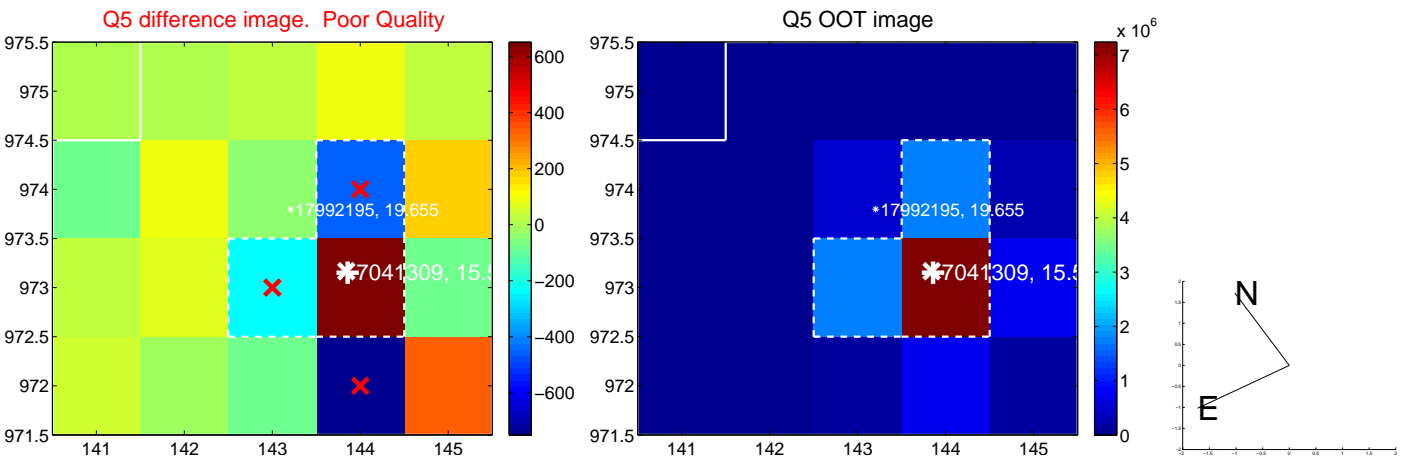


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

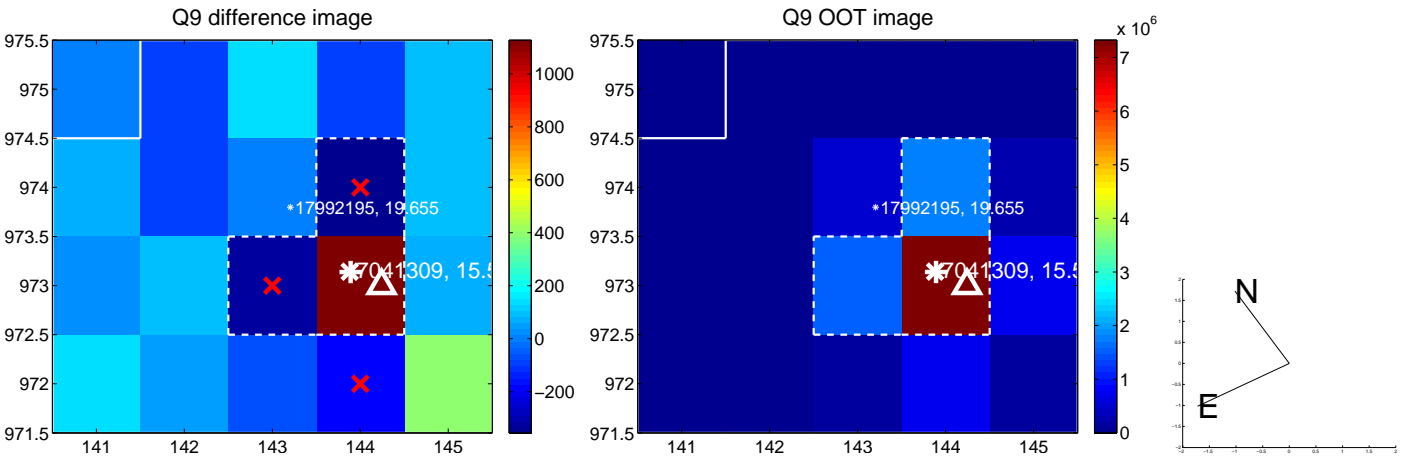
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



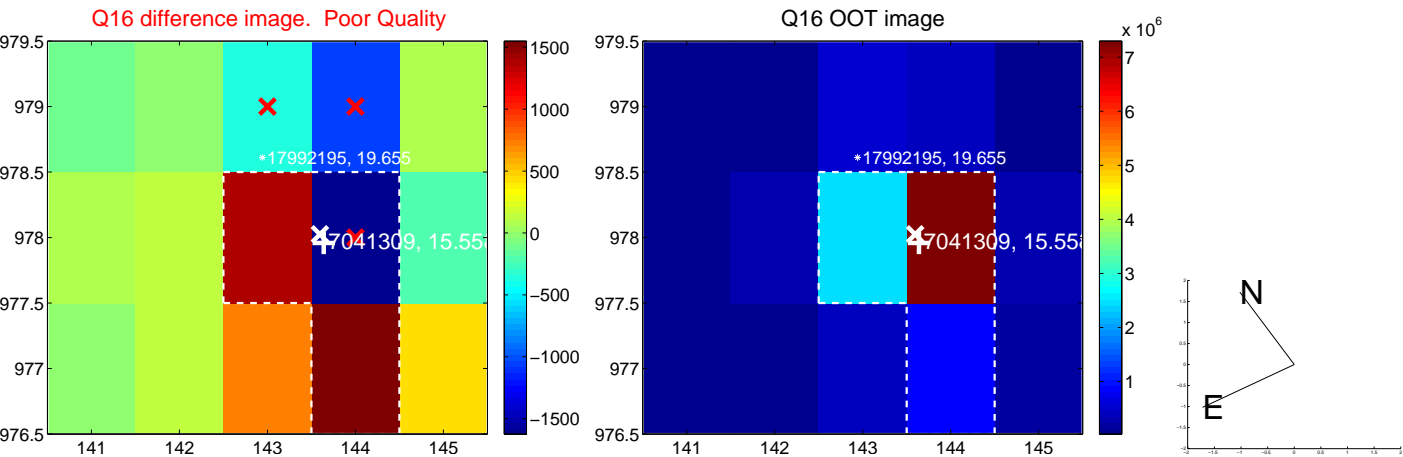
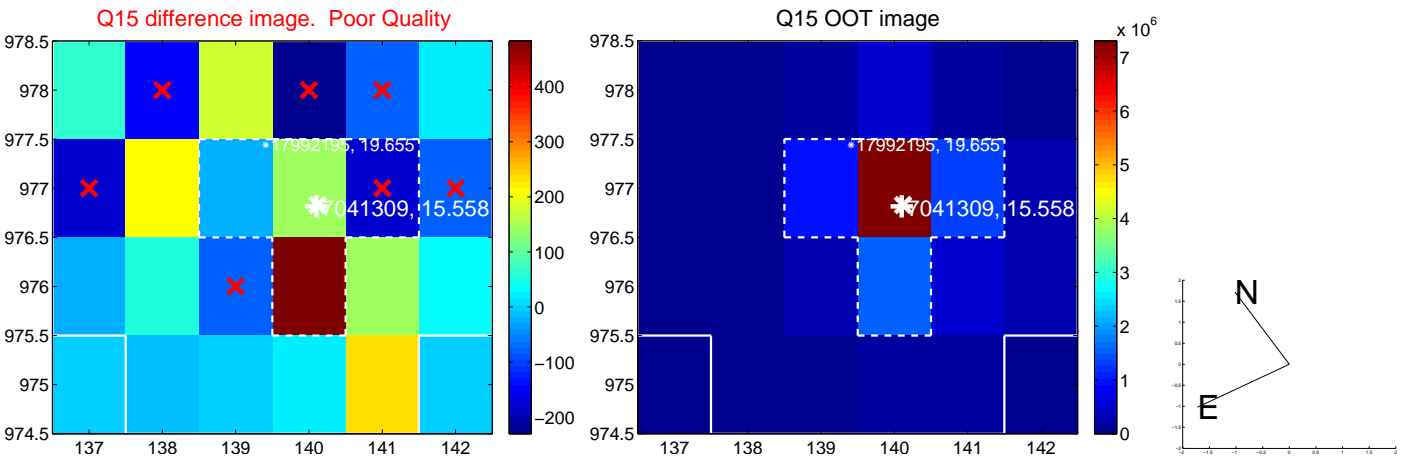
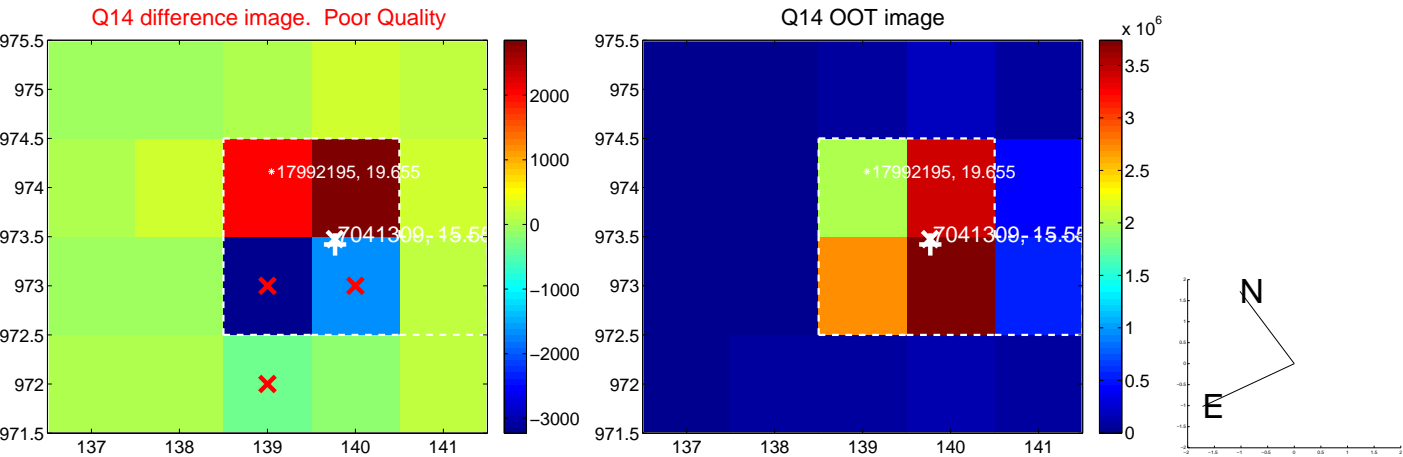
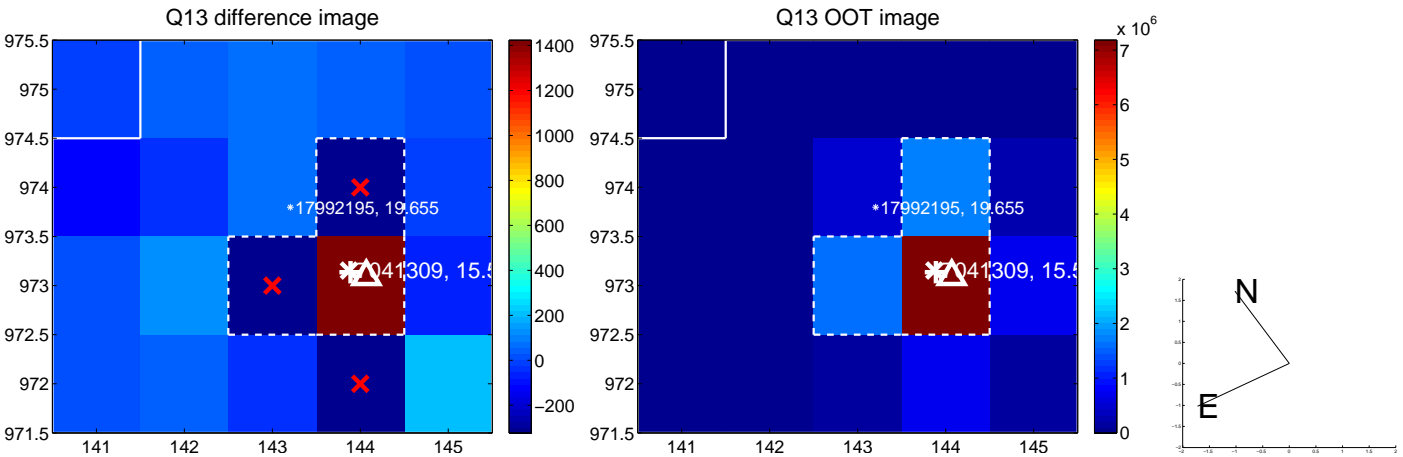
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



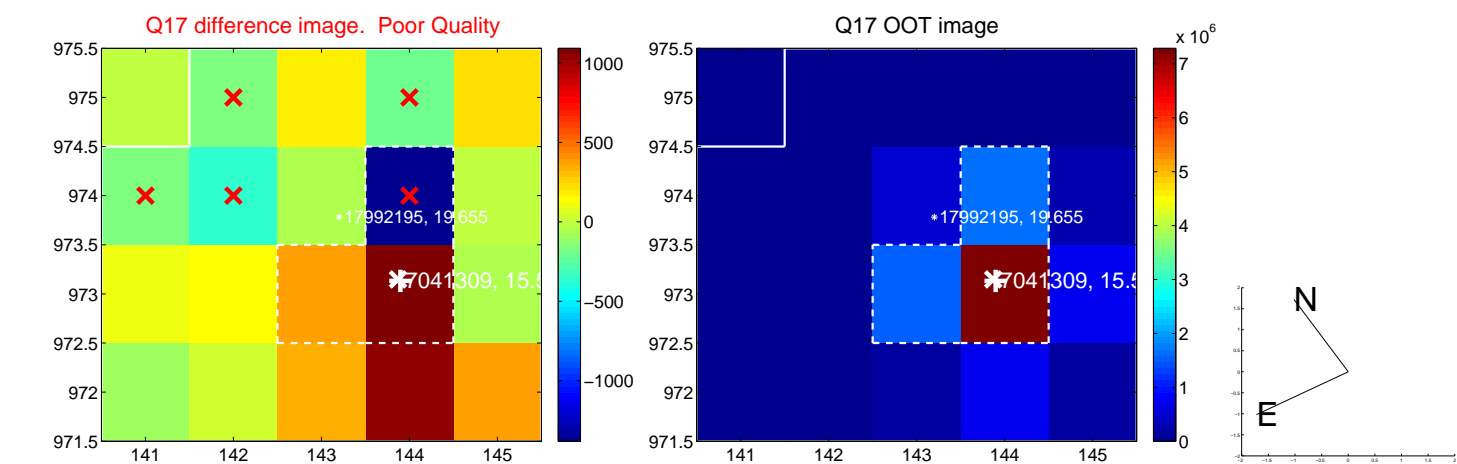
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



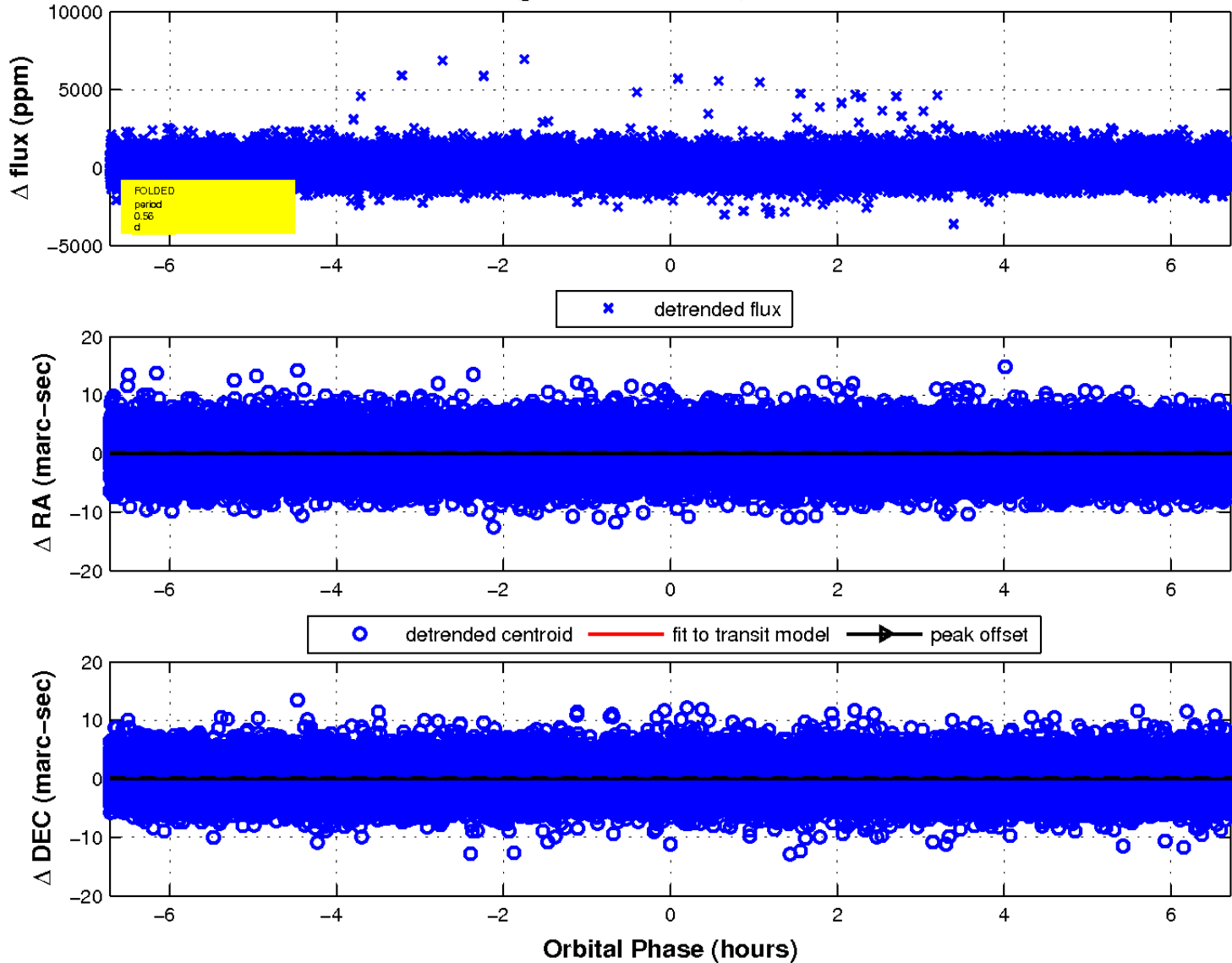
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

