

KIC 007540755

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})
007540755-01	OBS	No	1.007232	132.326739	75.4	3.028	8.2	8.9	1.68	11574	1.84	68109.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007540755-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

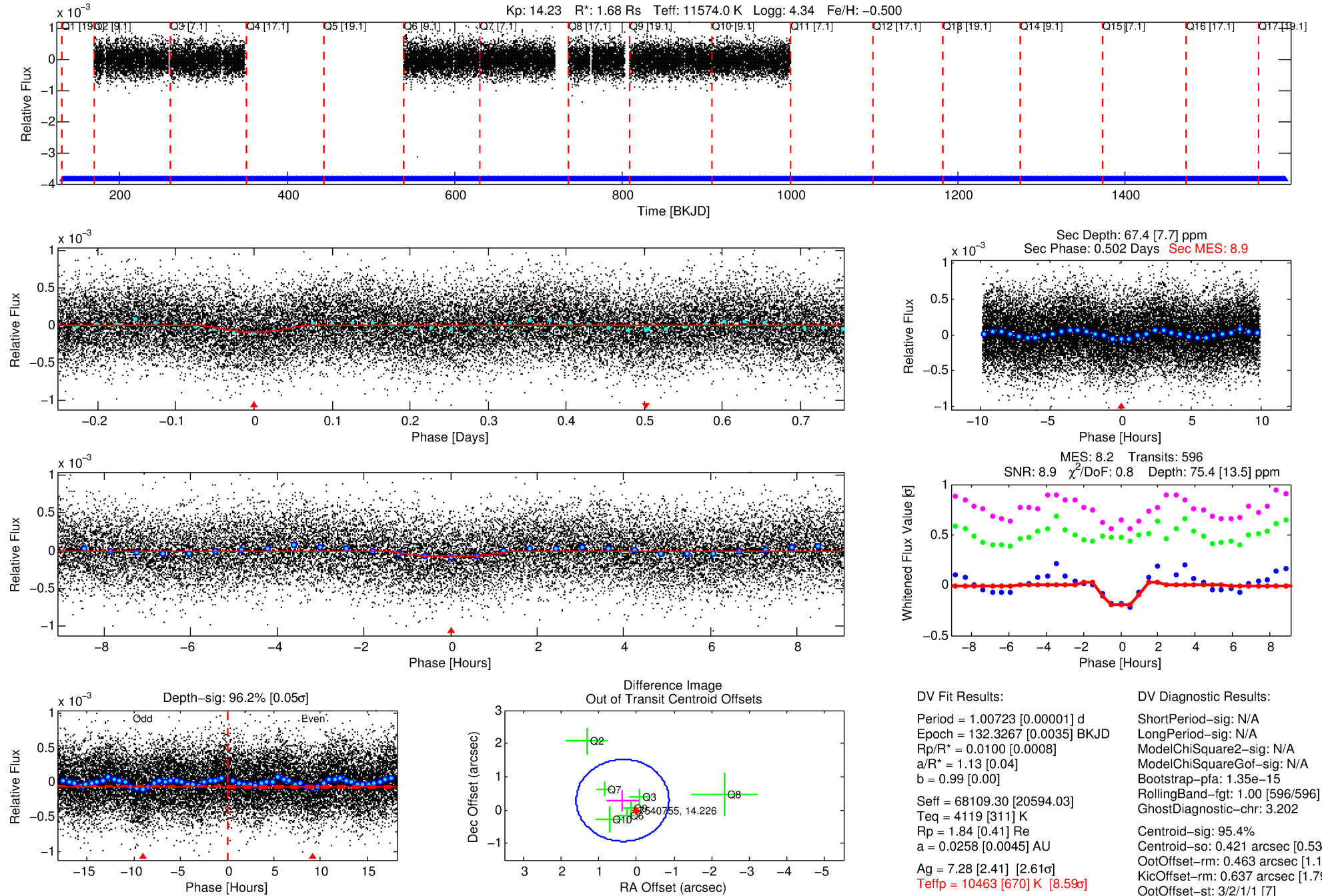
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007540755-01

No Significant Match Found

DV One-Page Summary

KIC: 7540755 Candidate: 1 of 1 Period: 1.007 d



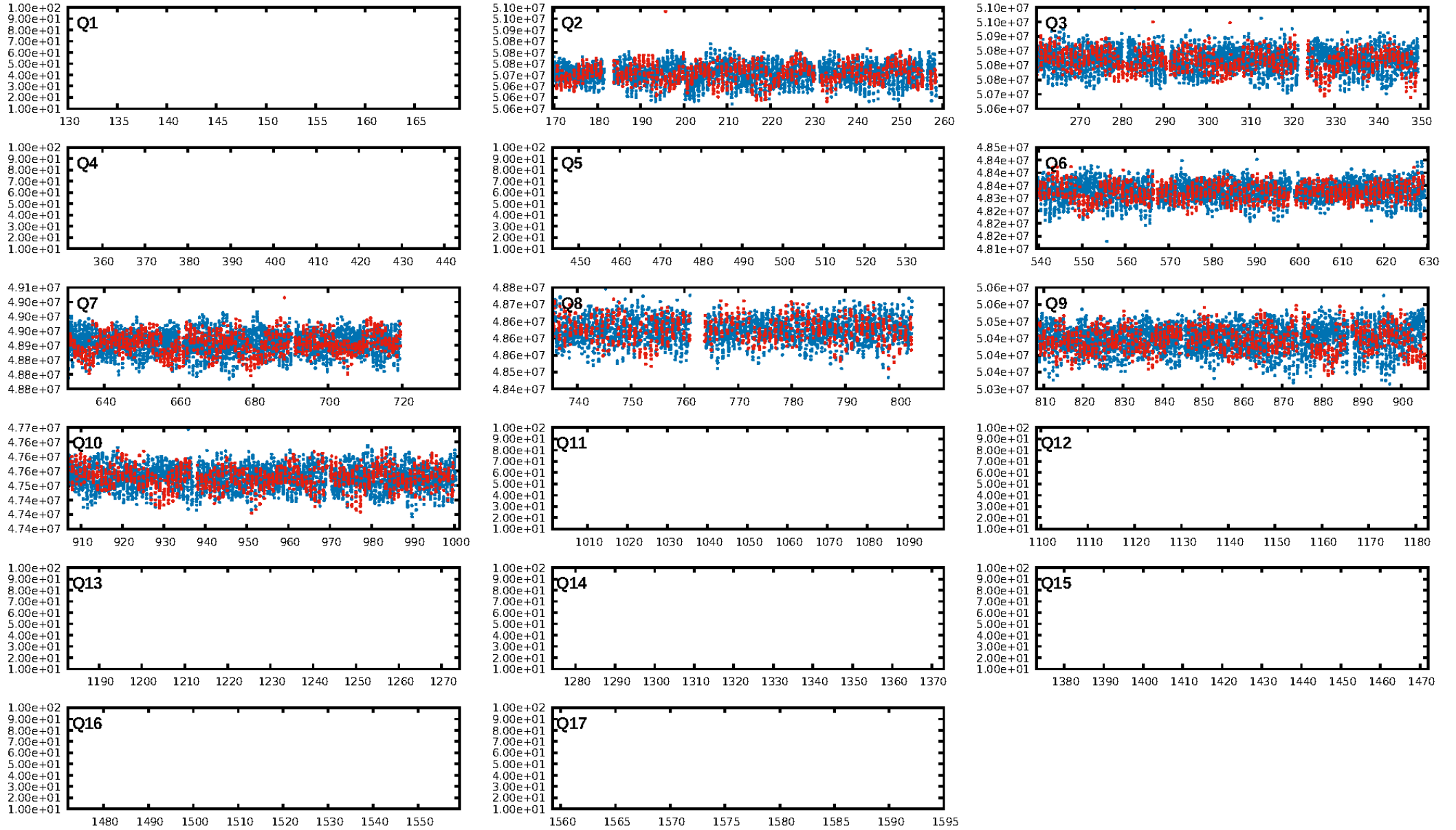
DV Fit Results:

Period = 1.00723 [0.00001] d
Epoch = 132.3267 [0.0035] BKJD
Rp/R* = 0.0100 [0.0008]
a/R* = 1.13 [0.04]
b = 0.99 [0.00]
Seff = 68109.30 [20594.03]
Teff = 4119 [311] K
Rp = 1.84 [0.41] Re
a = 0.0258 [0.0045] AU
Ag = 7.28 [2.41] [2.61 σ]
Teffp = 10463 [670] K [8.59 σ]

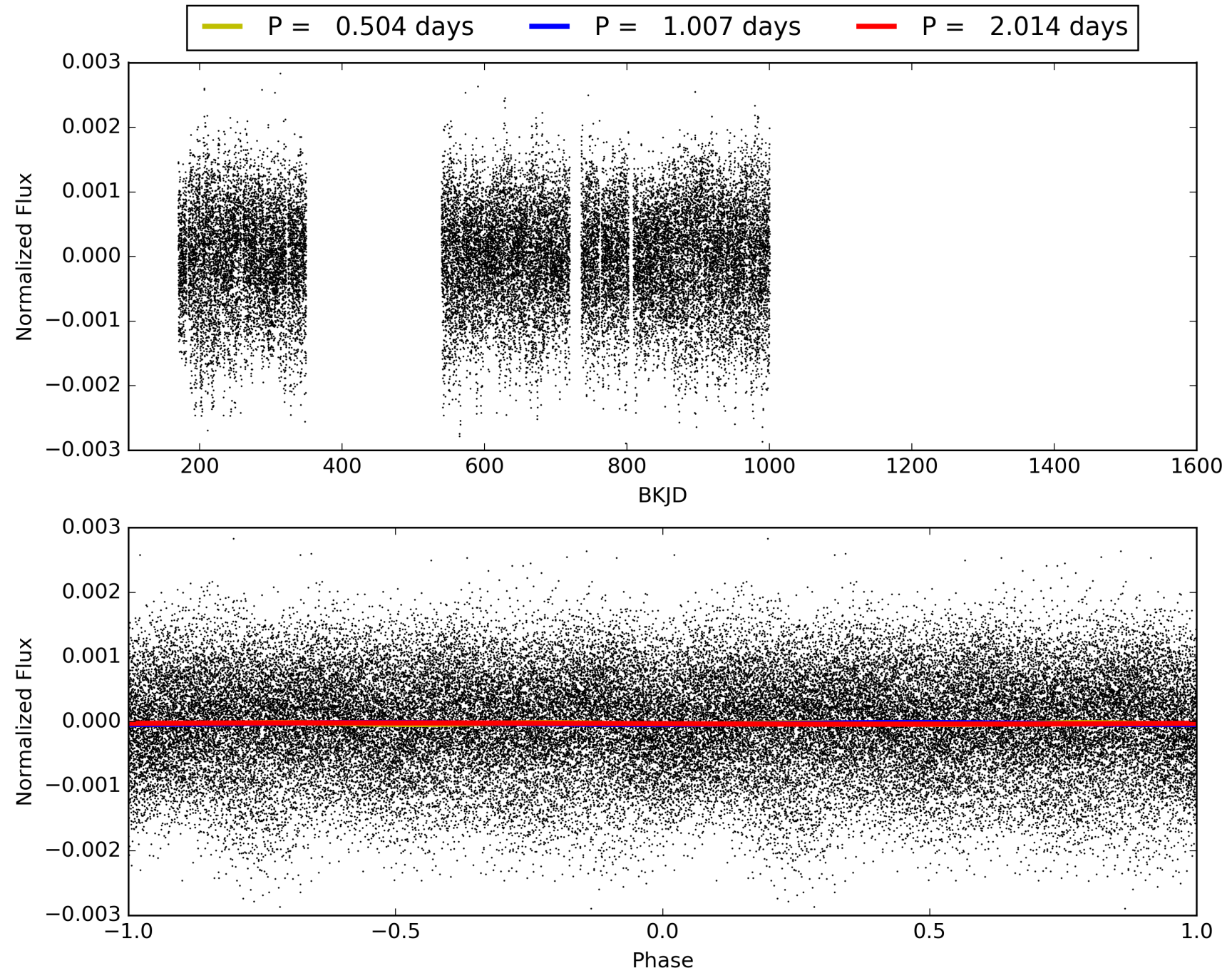
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.35e-15
RollingBand-fgt: 1.00 [596/596]
GhostDiagnostic-chr: 3.202
Centroid-sig: 95.4%
Centroid-so: 0.421 arcsec [0.53 σ]
OotOffset-rm: 0.463 arcsec [1.13 σ]
OotOffset-st: 3/2/1/1 [7]
KicOffset-rm: 0.637 arcsec [1.79 σ]
KicOffset-st: 3/2/1/1 [7]
DiffImageQuality-fgm: 0.86 [6/7]
DiffImageOverlap-fno: 1.00 [7/7]

TCE 007540755-01, PDC Light Curves

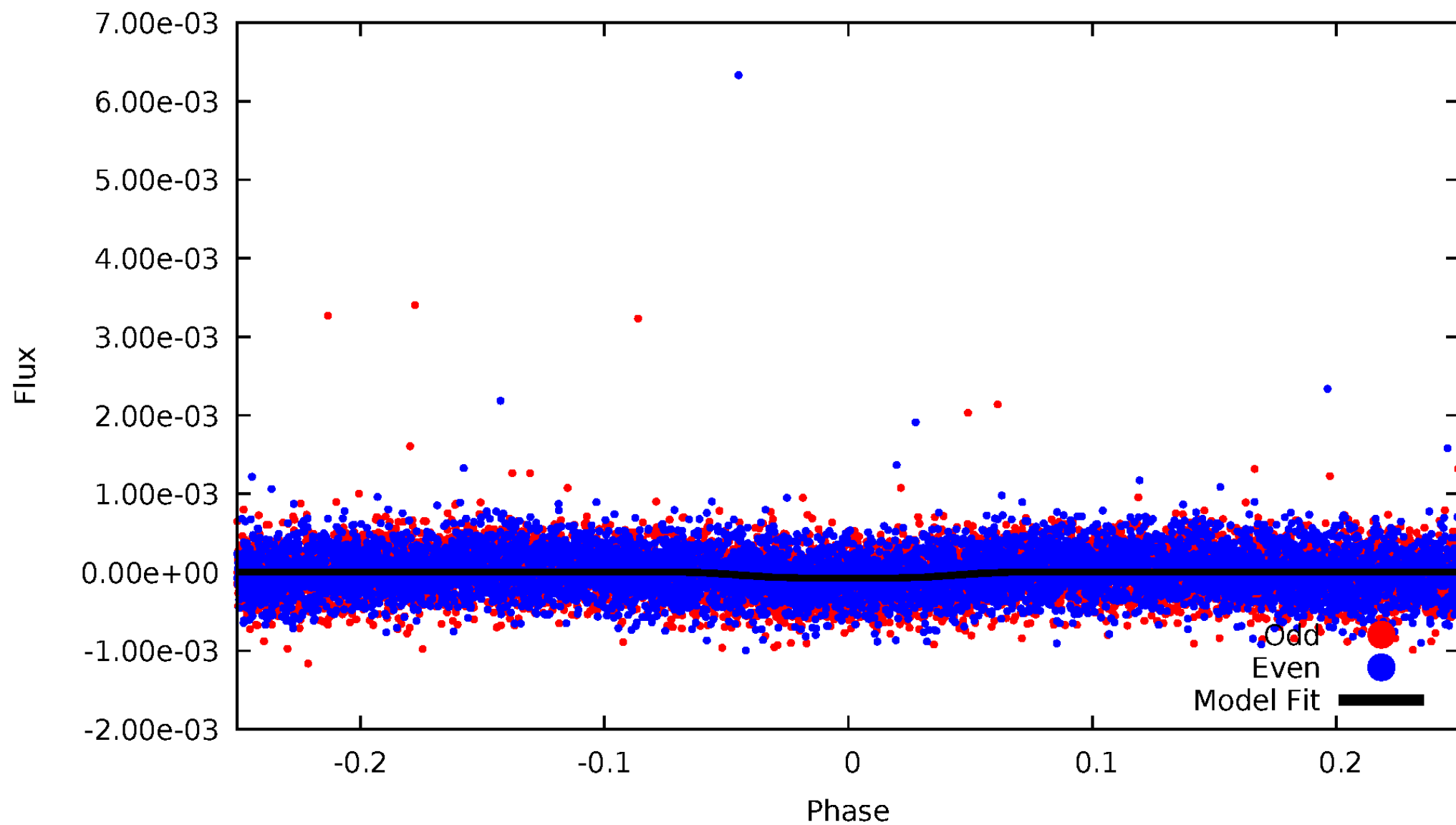


TCE 007540755-01



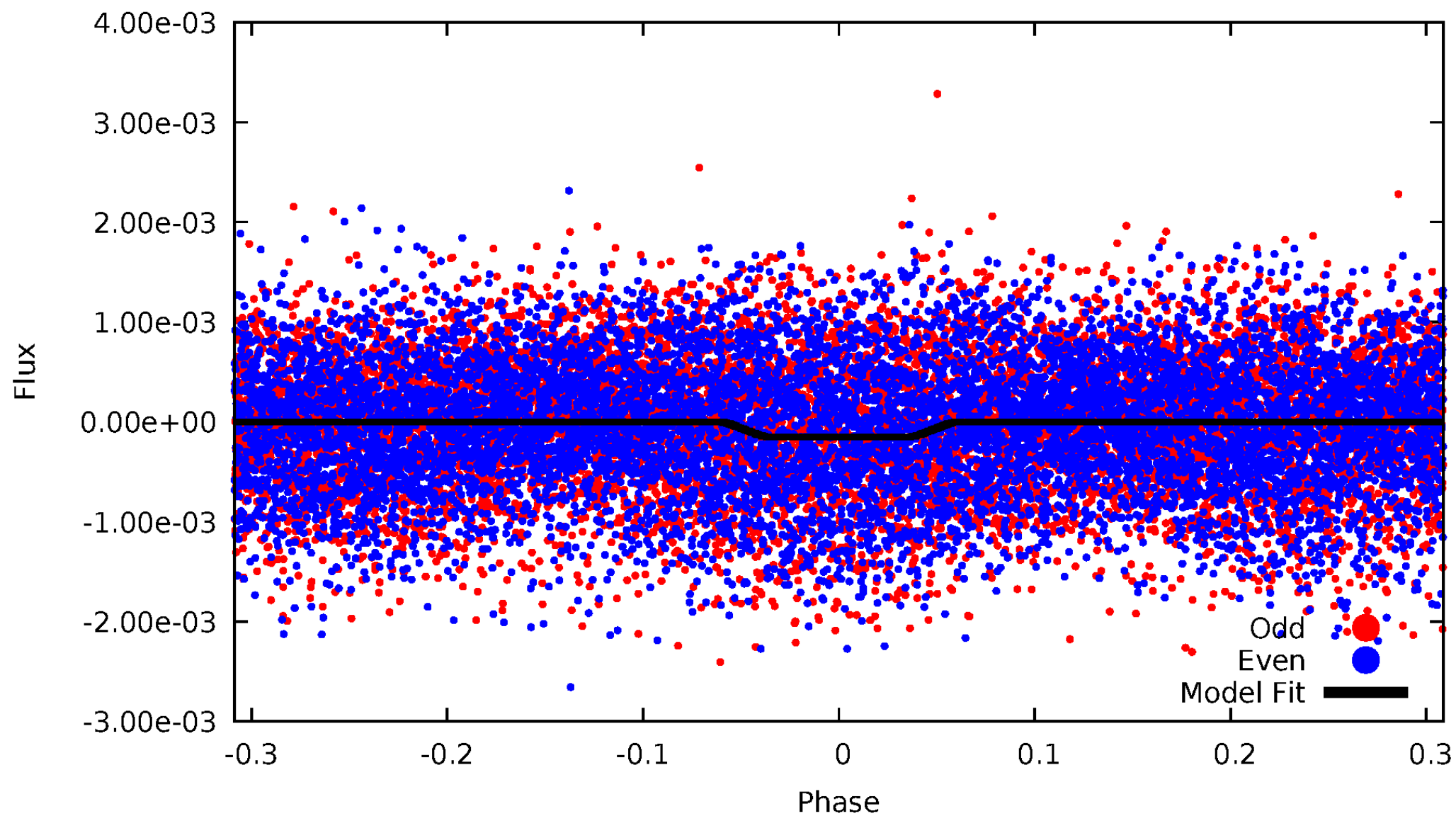
DV Odd/Even

TCE 007540755-01



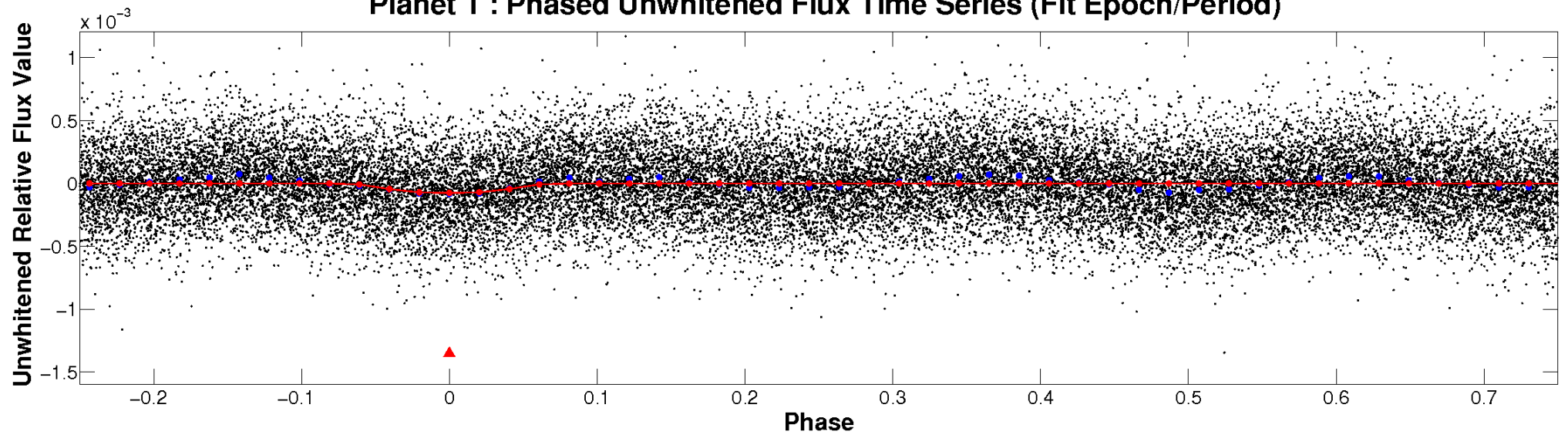
ALT Odd/Even

TCE 007540755-01

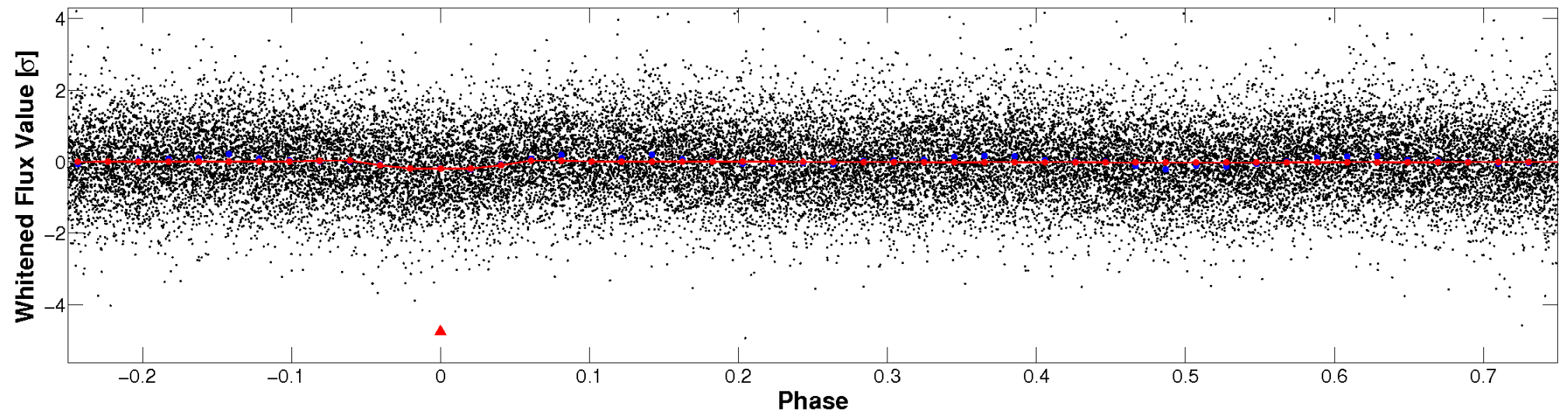


Non-Whitened Vs. Whitened Light Curve

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

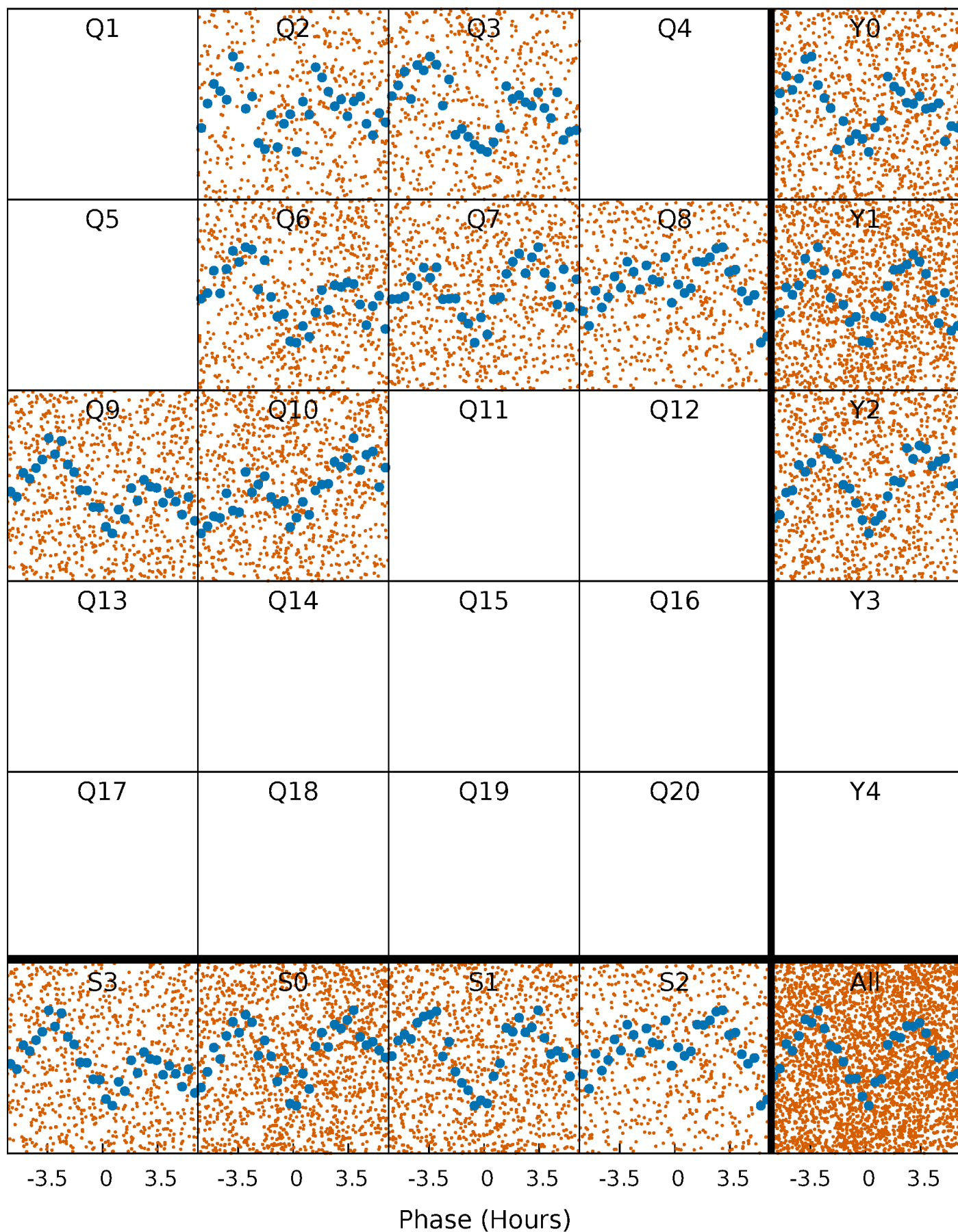


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



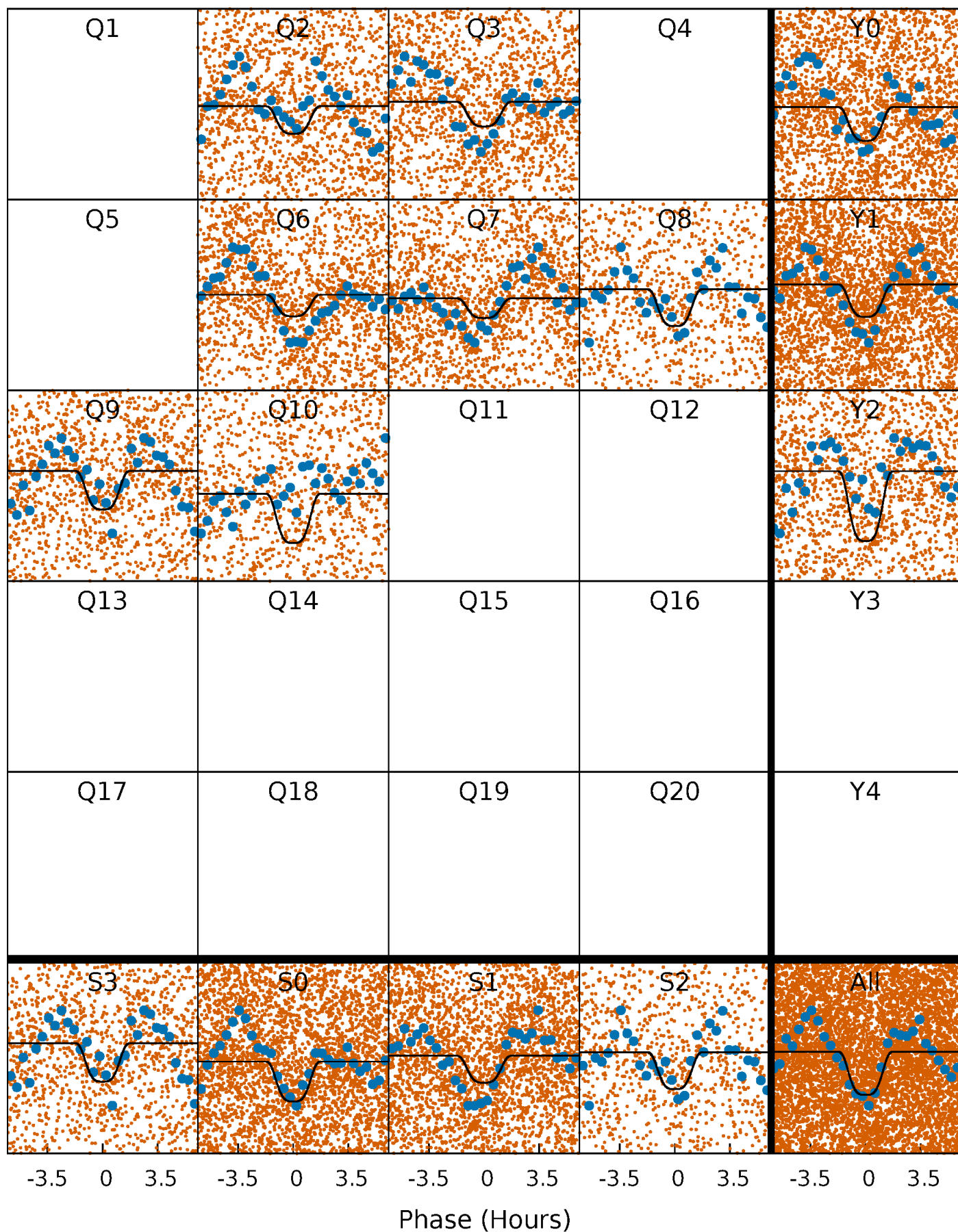
PDC Quarter-Phased Transit Curves

TCE 007540755-01 P= 1.007232 Days $T_0=132.326739$ (BKJD)



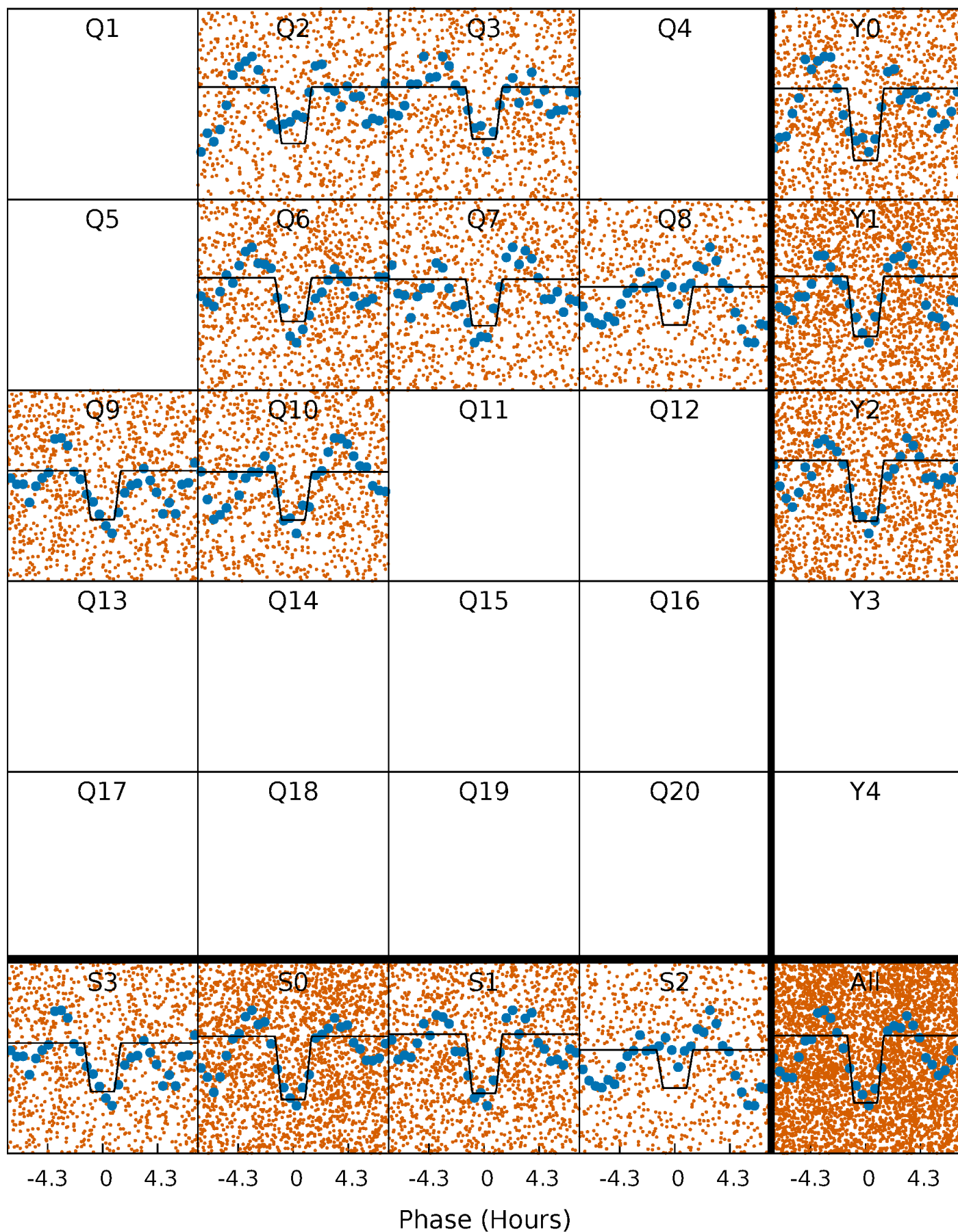
DV Quarter-Phased Transit Curves

TCE 007540755-01 P= 1.007232 Days $T_0=132.326739$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

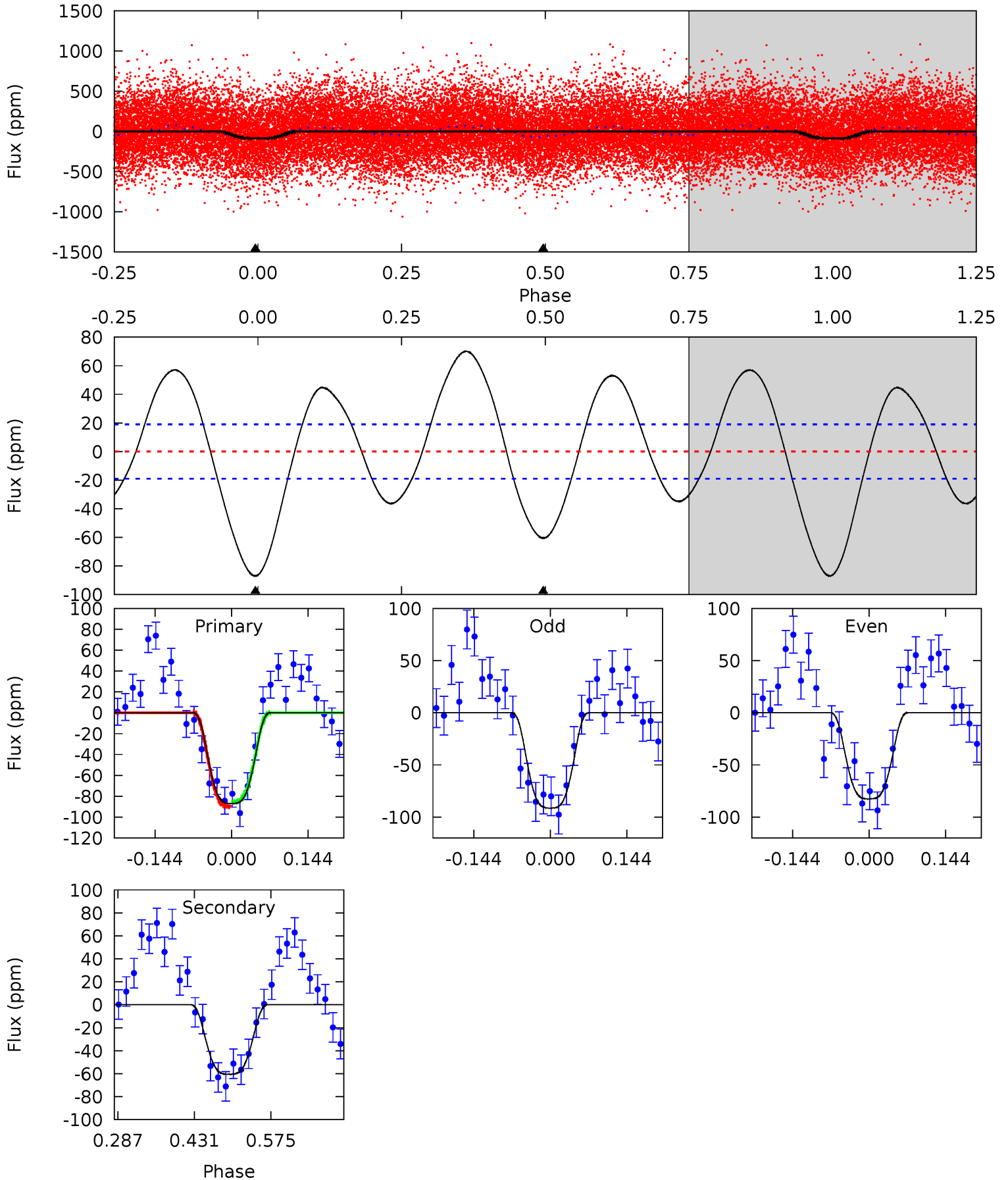
TCE 007540755-01 P= 1.007268 Days $T_0=132.305434$ (BKJD)



DV Model-Shift Uniqueness Test

007540755-01, P = 1.007232 Days, E = 132.326739 Days

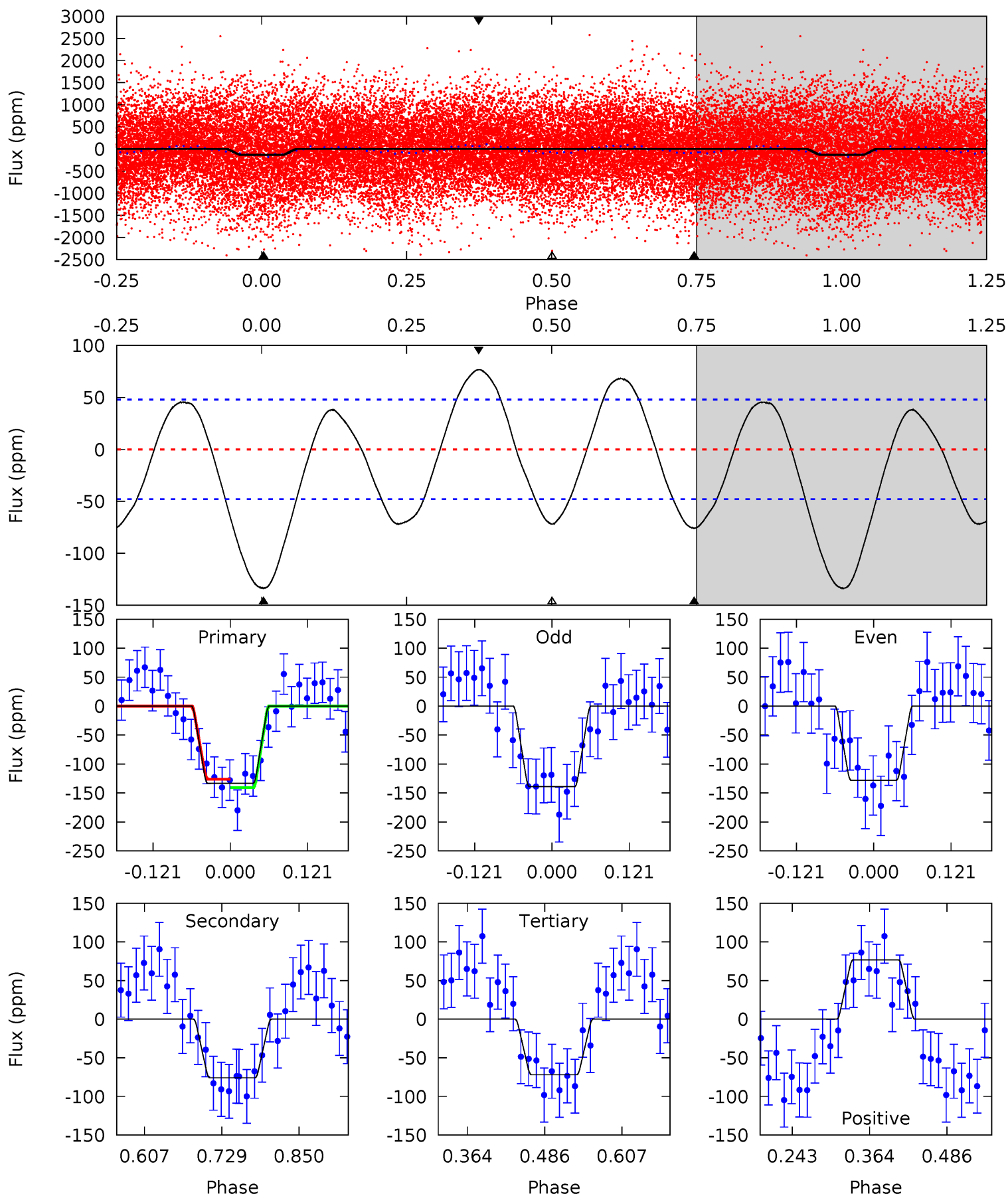
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	14.3	0	0	4.49	1.46	7.32	20.6	20.6	14.3	14.3	1.05	1.01	0.45	0.53



Alt Model-Shift Uniqueness Test

007540755-01, P = 1.007268 Days, E = 132.305434 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	7.16	6.79	7.26	4.52	1.55	4.65	5.83	5.36	0.37	-0.10	0.53	1.11	0.37	0.70



Stellar Parameters For KIC 007540755

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	11574^{+366}_{-447}	$4.342^{+0.108}_{-0.144}$	$-0.500^{+0.600}_{-0.250}$	$1.682^{+0.345}_{-0.282}$	$2.268^{+0.211}_{-0.232}$	$0.671^{+0.347}_{-0.269}$
	+3%/-4%	+2%/-3%	+120%/-50%	+21%/-17%	+9%/-10%	+52%/-40%
Source	KIC0	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 007540755-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-61 ± 4	$1.86^{+0.26}_{-0.25}$	5769^{+364}_{-336}	9340^{+805}_{-635}	$6.330^{+2.043}_{-1.479}$
Alt.	-76 ± 11	$2.28^{+0.32}_{-0.25}$	5769^{+393}_{-281}	8784^{+714}_{-639}	$5.303^{+1.563}_{-1.227}$

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 $A_{obs} \gg 1.0$

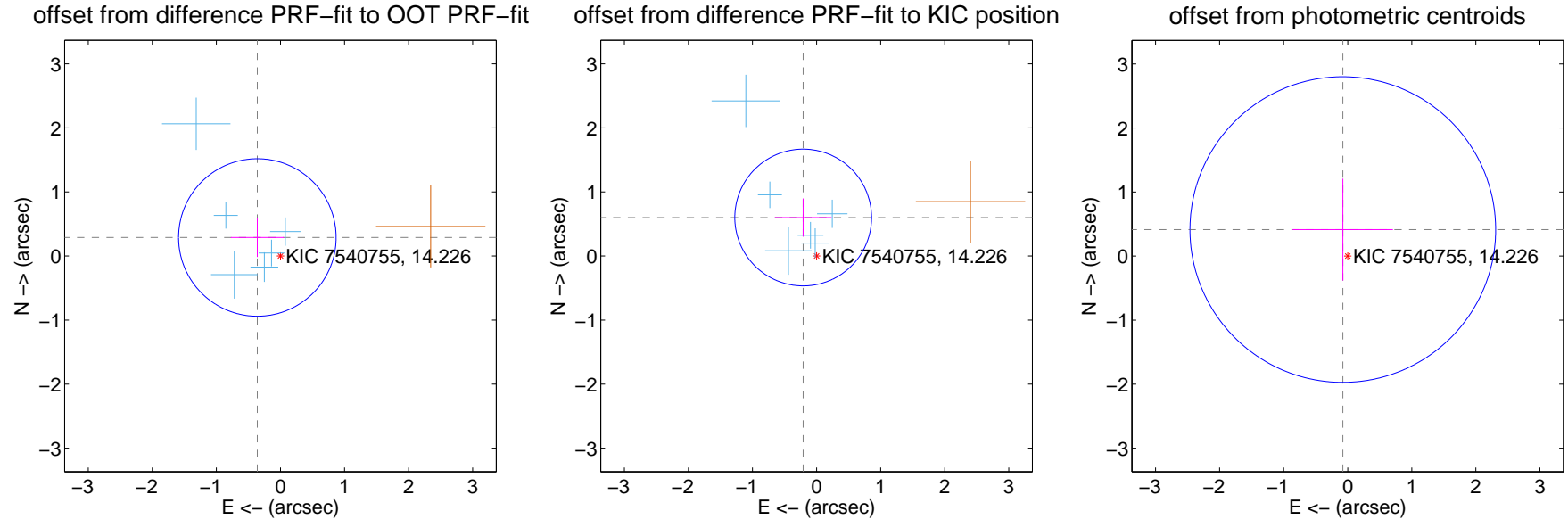
DV Centroid Data

Supplemental centroid analysis for 007540755-01. Kepler magnitude: 14.23. Transit SNR 8.88

There are 6 quarters with good PRF difference image offsets

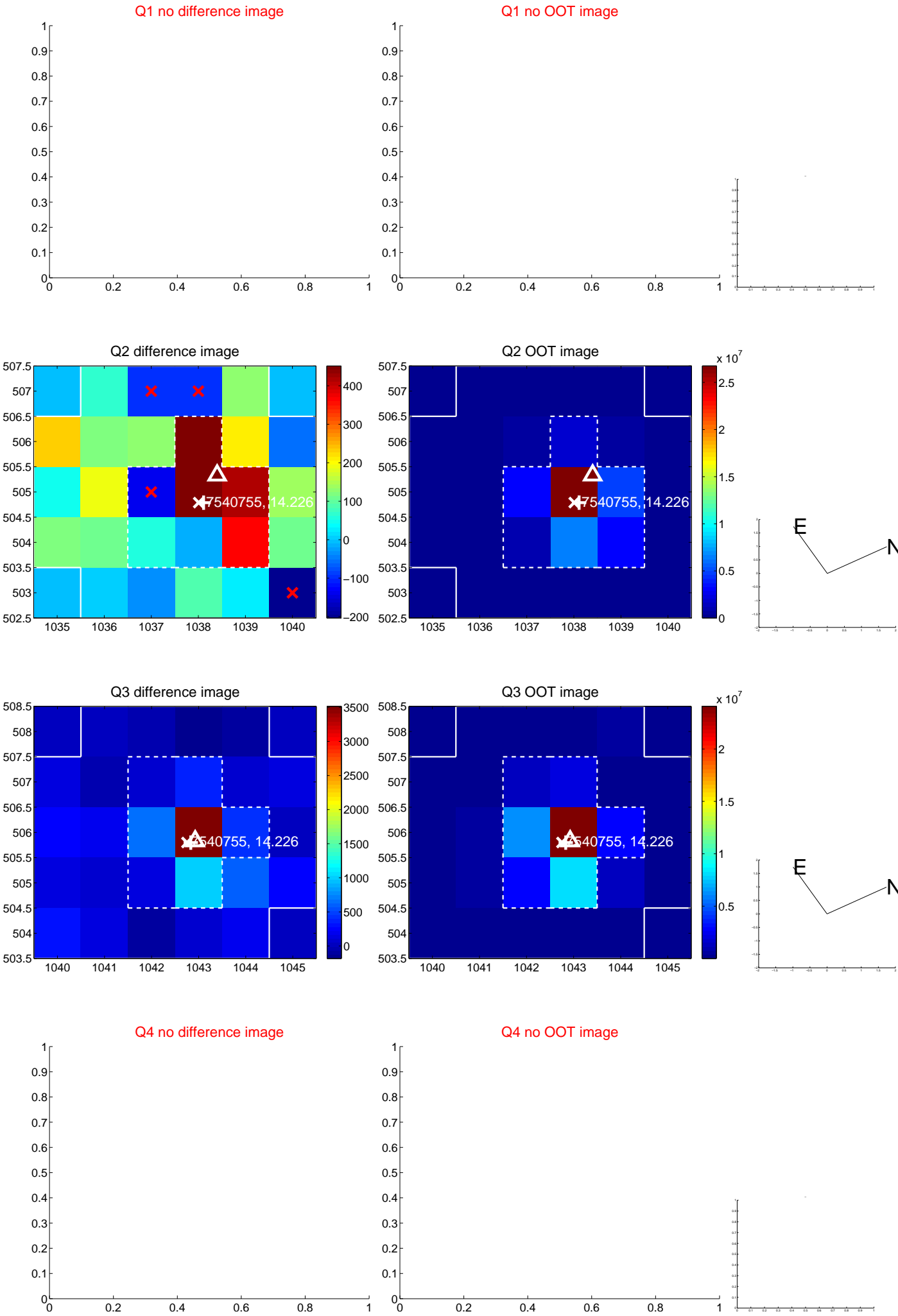
The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.463 ± 0.410	1.13	0.361 ± 0.413	0.290 ± 0.305
PRF-fit source offset from KIC position	0.637 ± 0.356	1.79	0.209 ± 0.444	0.601 ± 0.297
photometric centroid source offset	0.42 ± 0.80	0.53	0.08 ± 0.78	0.41 ± 0.80

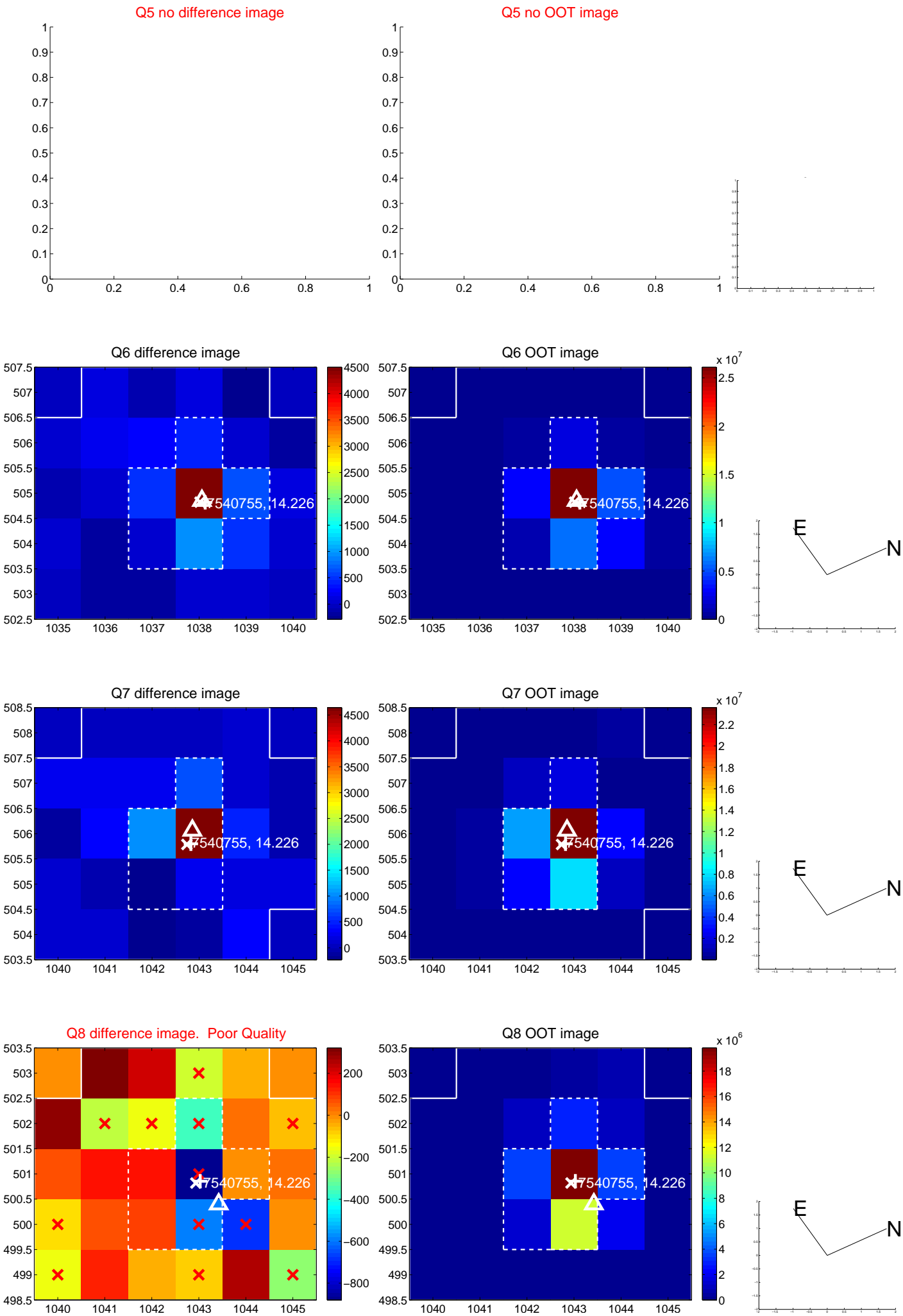


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

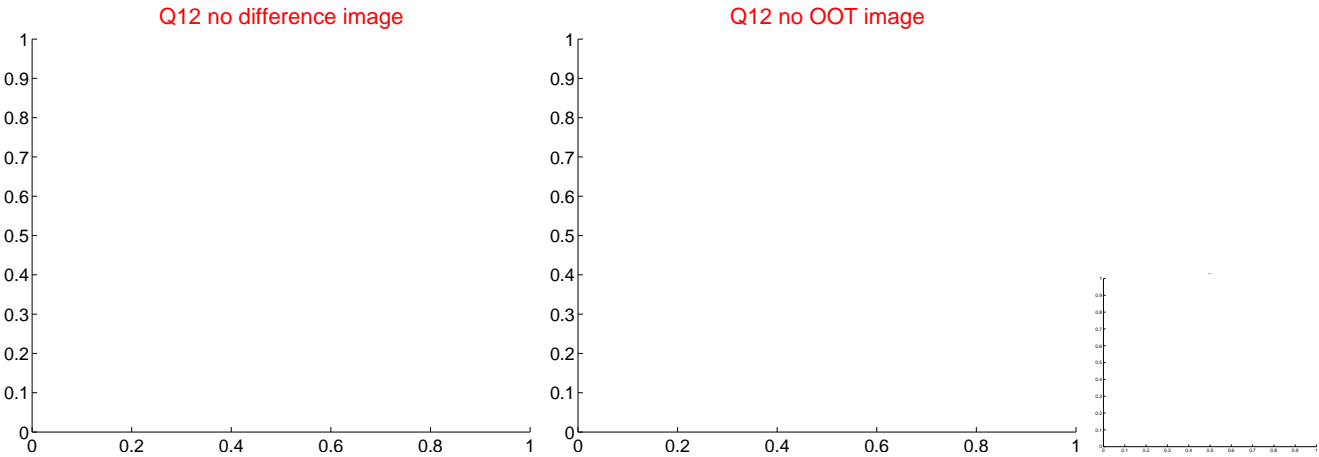
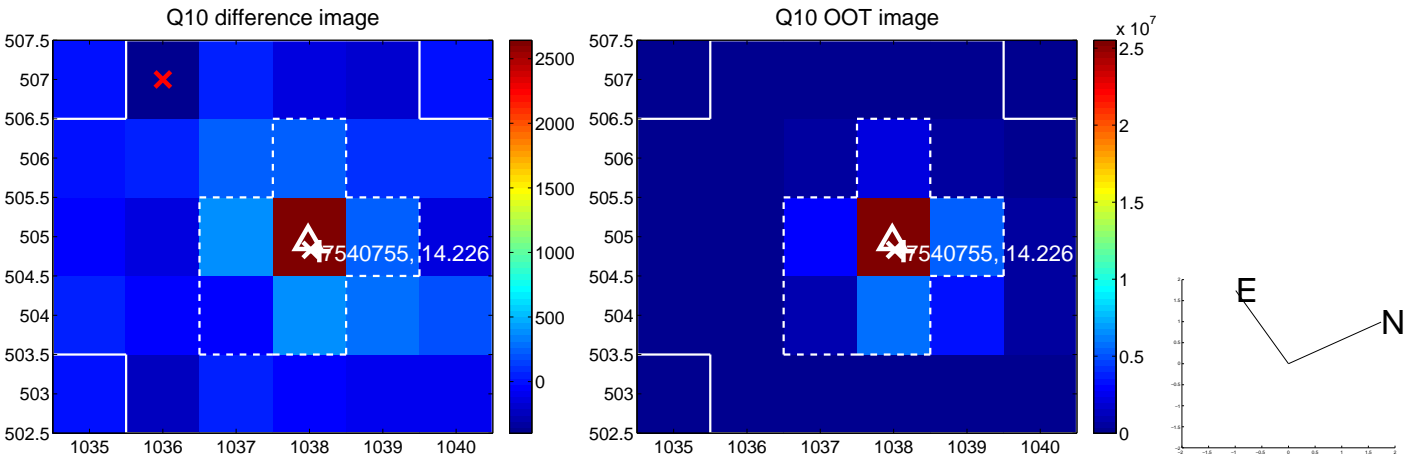
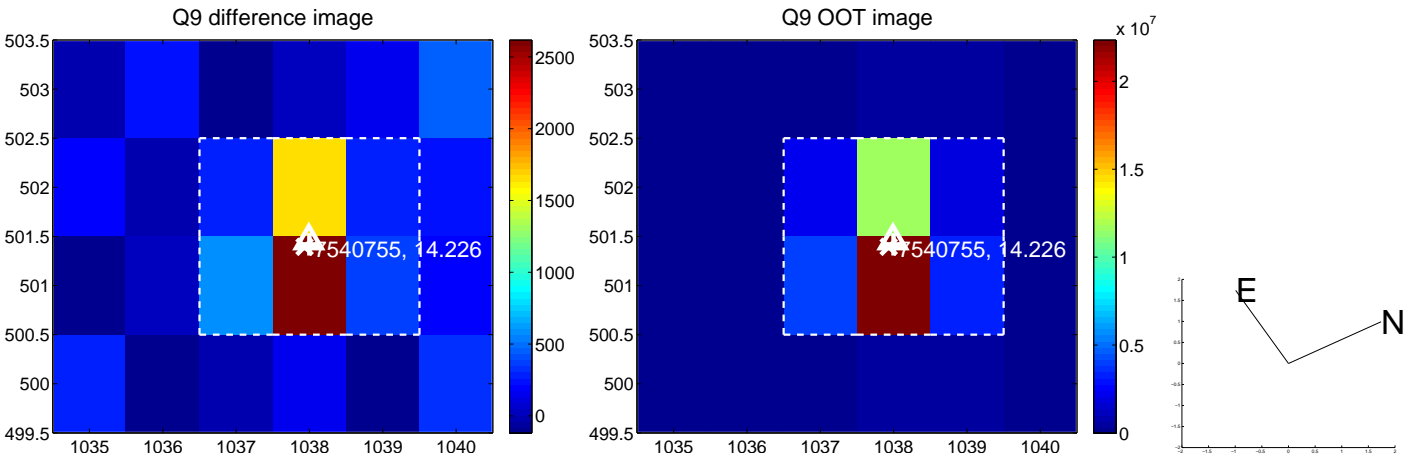
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



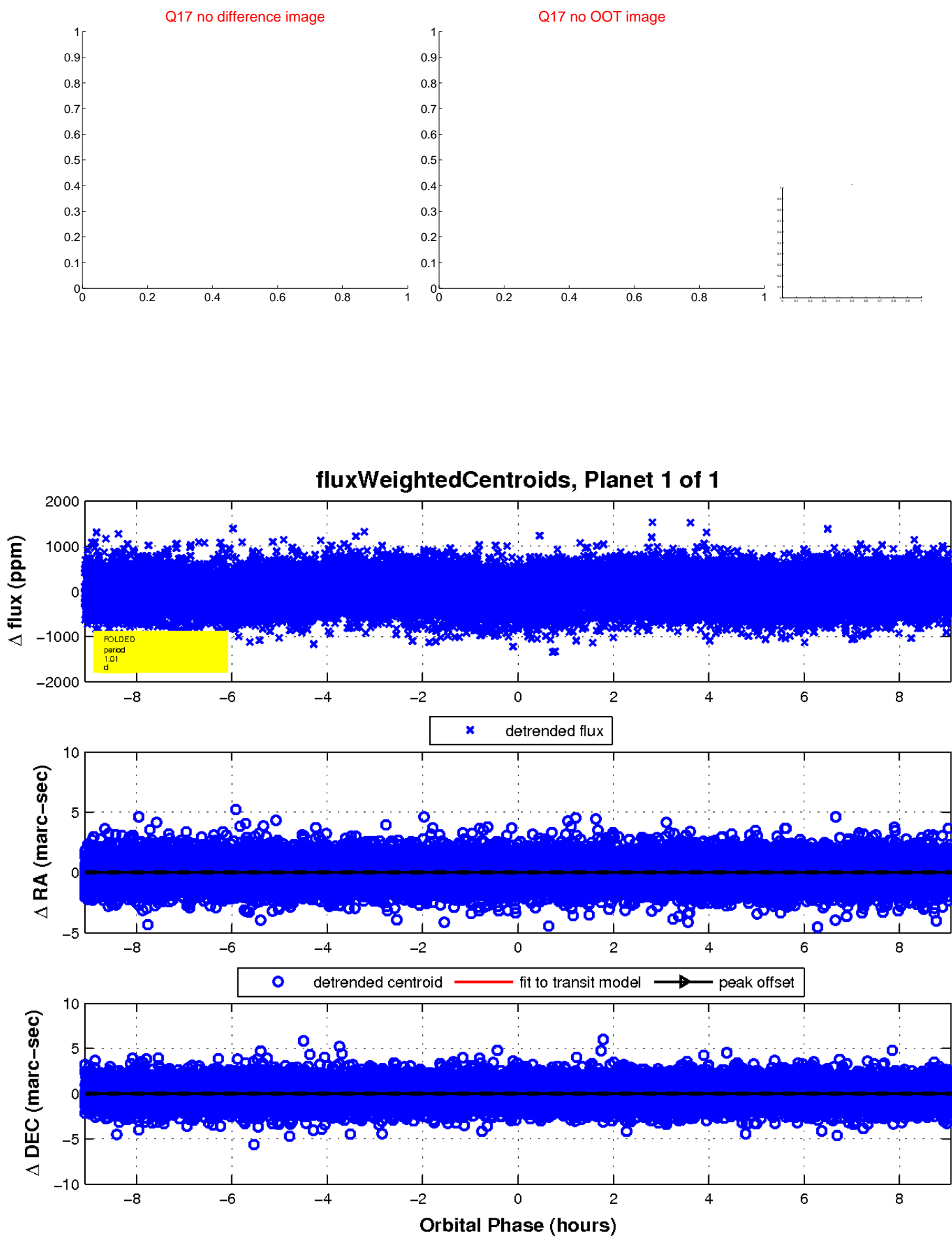
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UKIRT Image

Declination

