

KIC 007116851

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})
007116851-01	OBS	No	0.566772	131.869214	89.5	3.944	9.0	10.2	0.57	5035	0.54	1497.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007116851-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH

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.

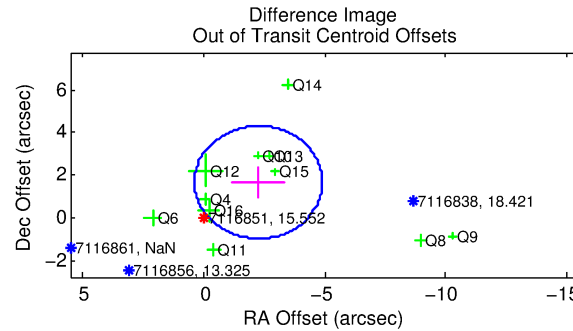
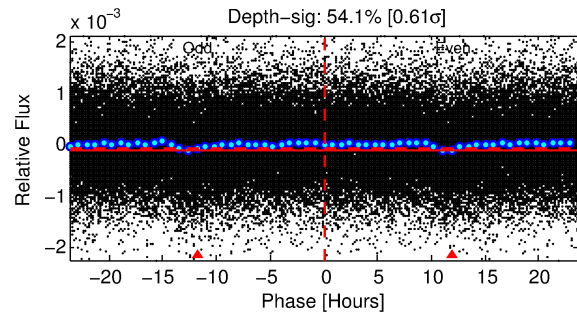
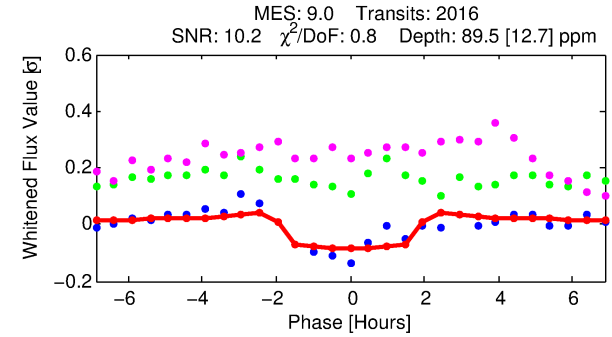
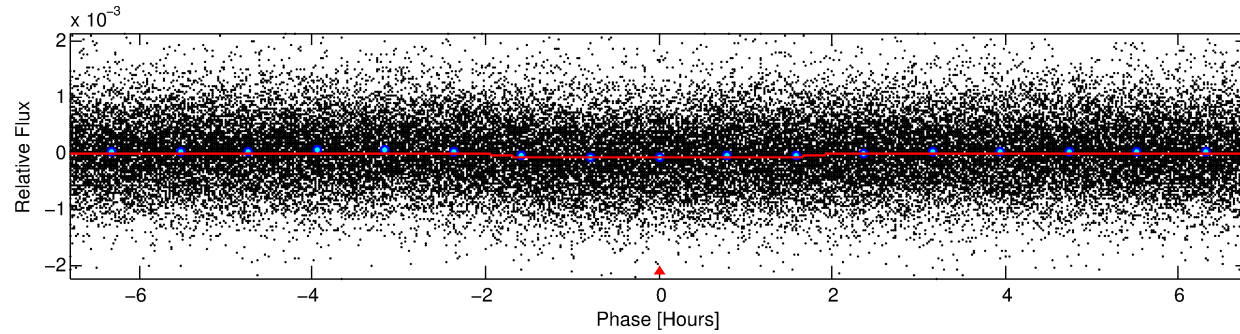
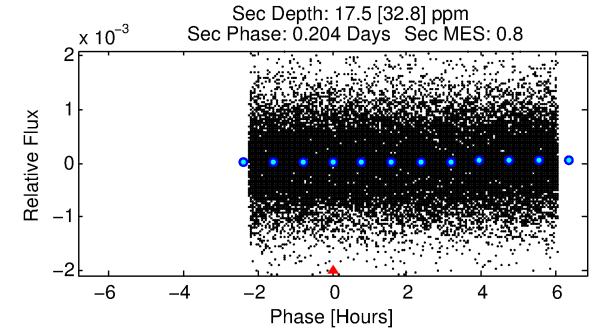
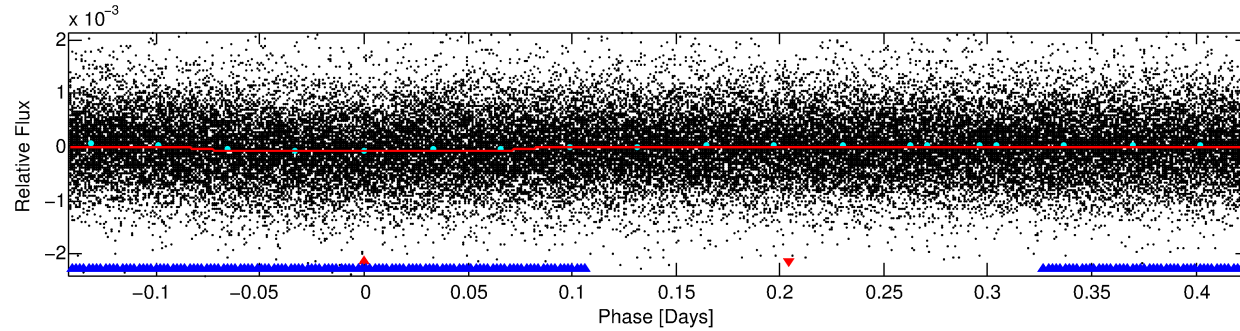
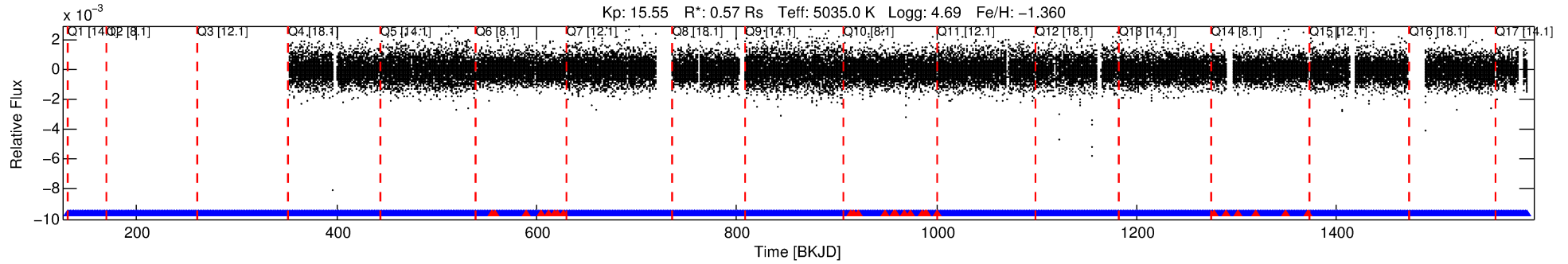
Ephemeris Match Information For 007116851-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007116851-01	7116851	RR-Lyr-pri	7198959	1:1	684.9	172	-8	7.86	15.55	7003.30	Direct-PRF	0	4.81	21.55

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7116851 Candidate: 1 of 2 Period: 0.567 d



DV Fit Results:

Period = 0.56677 [0.00001] d
Epoch = 131.8692 [0.0029] BKJD
Rp/R* = 0.0087 [0.0103]
a/R* = 1.26 [2.47]
b = 0.29 [17.09]
Seff = 1497.09 [257.84]
Teq = 1586 [68] K
Rp = 0.54 [0.64] Re
a = 0.0111 [0.0007] AU
Ag = 4.12 [12.52] [0.25σ]
Teffp = 3494 [2655] K [0.72σ]

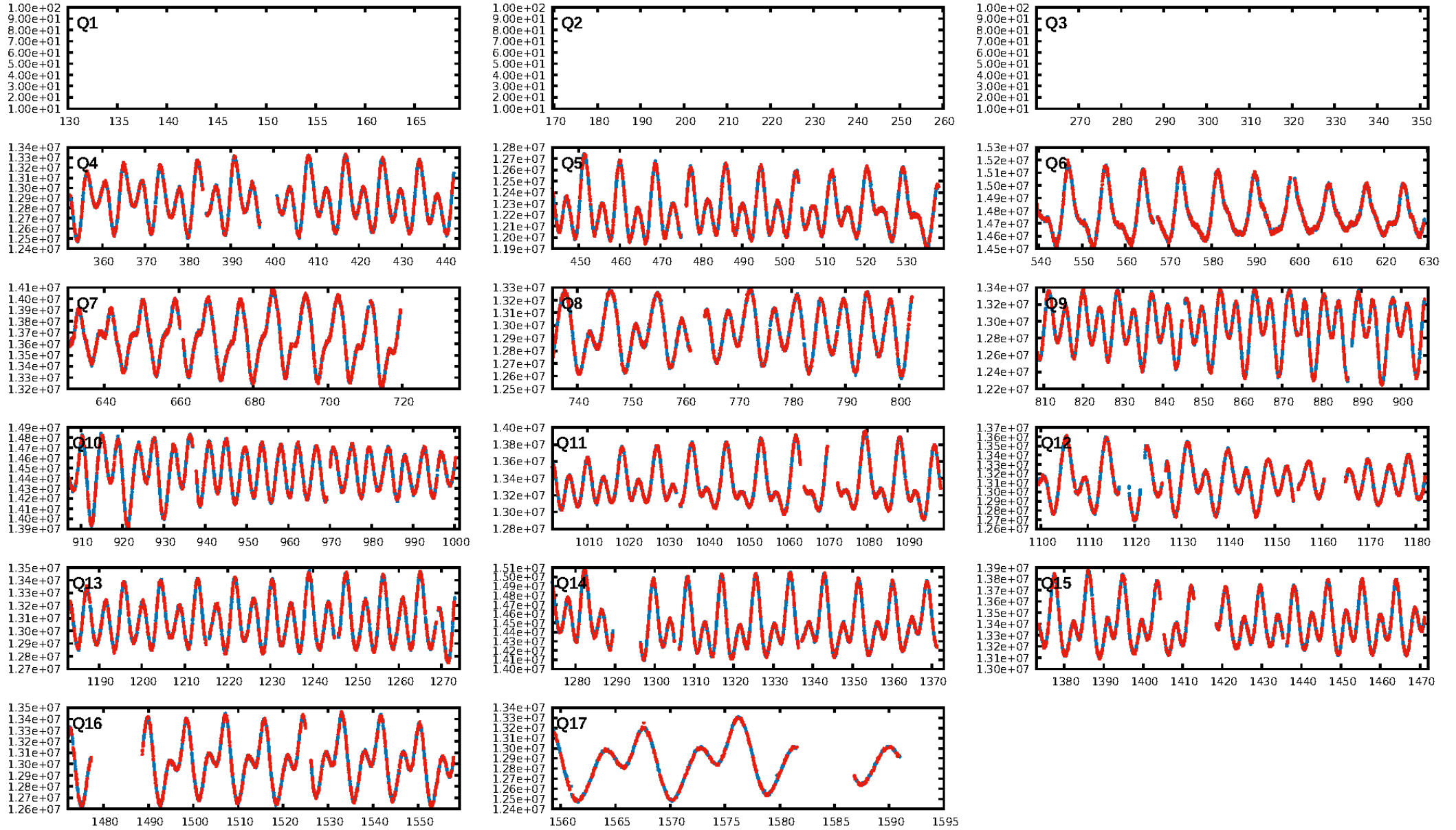
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [43.05σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.05e-17
RollingBand-fgt: 0.99 [1940/1968]
GhostDiagnostic-chr: -0.158
Centroid-sig: 0.0%
Centroid-so: 1.348 arcsec [1.82σ]
OotOffset-rm: 2.817 arcsec [3.21σ]
KicOffset-rm: 1.110 arcsec [1.09σ]
OotOffset-st: 3/2/4/2 [11]
KicOffset-st: 3/2/4/2 [11]
DiffImageQuality-fgm: 0.36 [4/11]
DiffImageOverlap-fno: 1.00 [14/14]

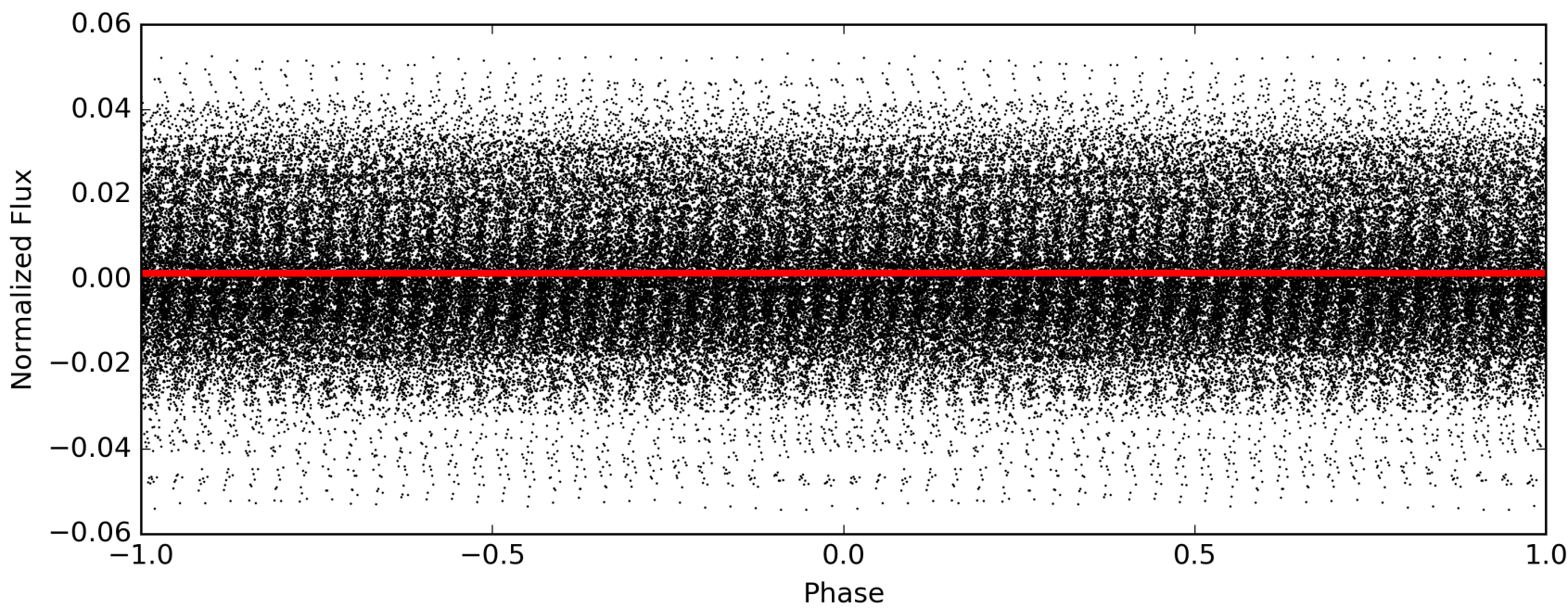
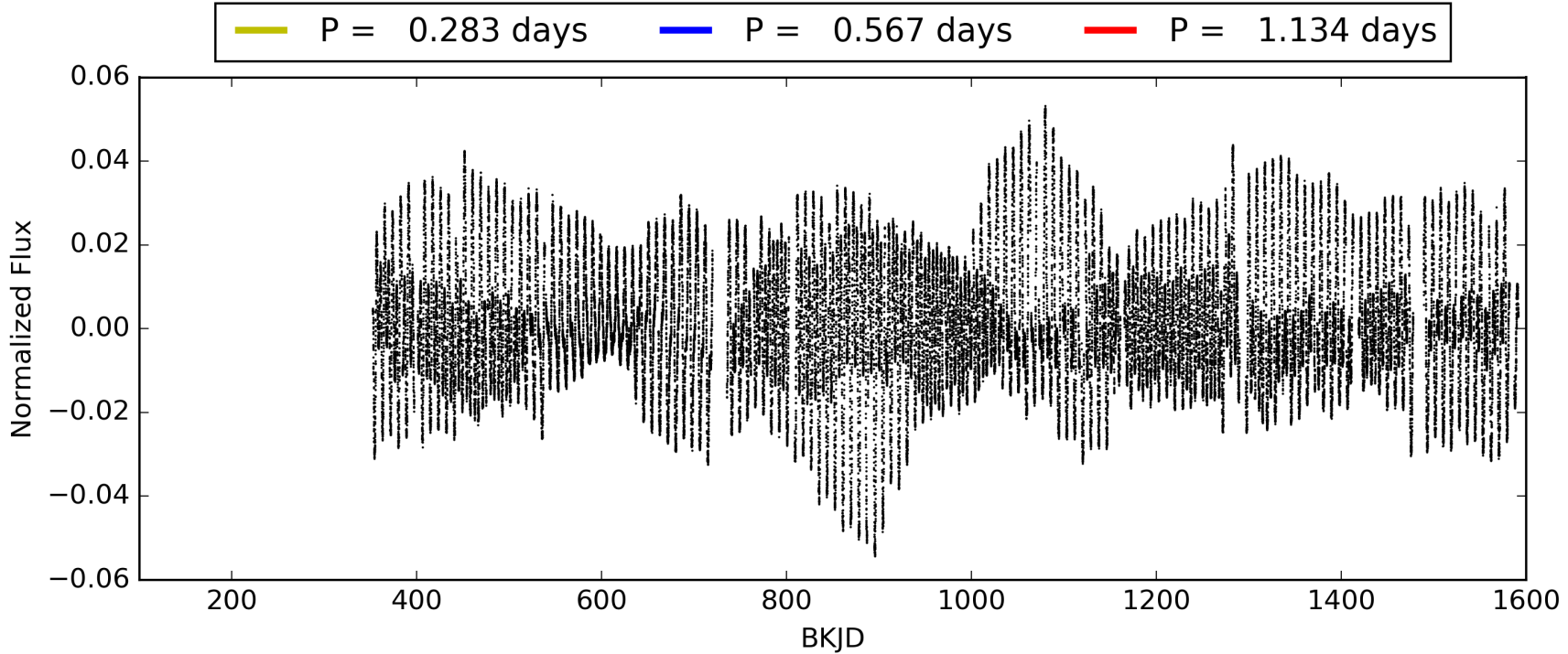
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:43:53 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007116851-01, PDC Light Curves

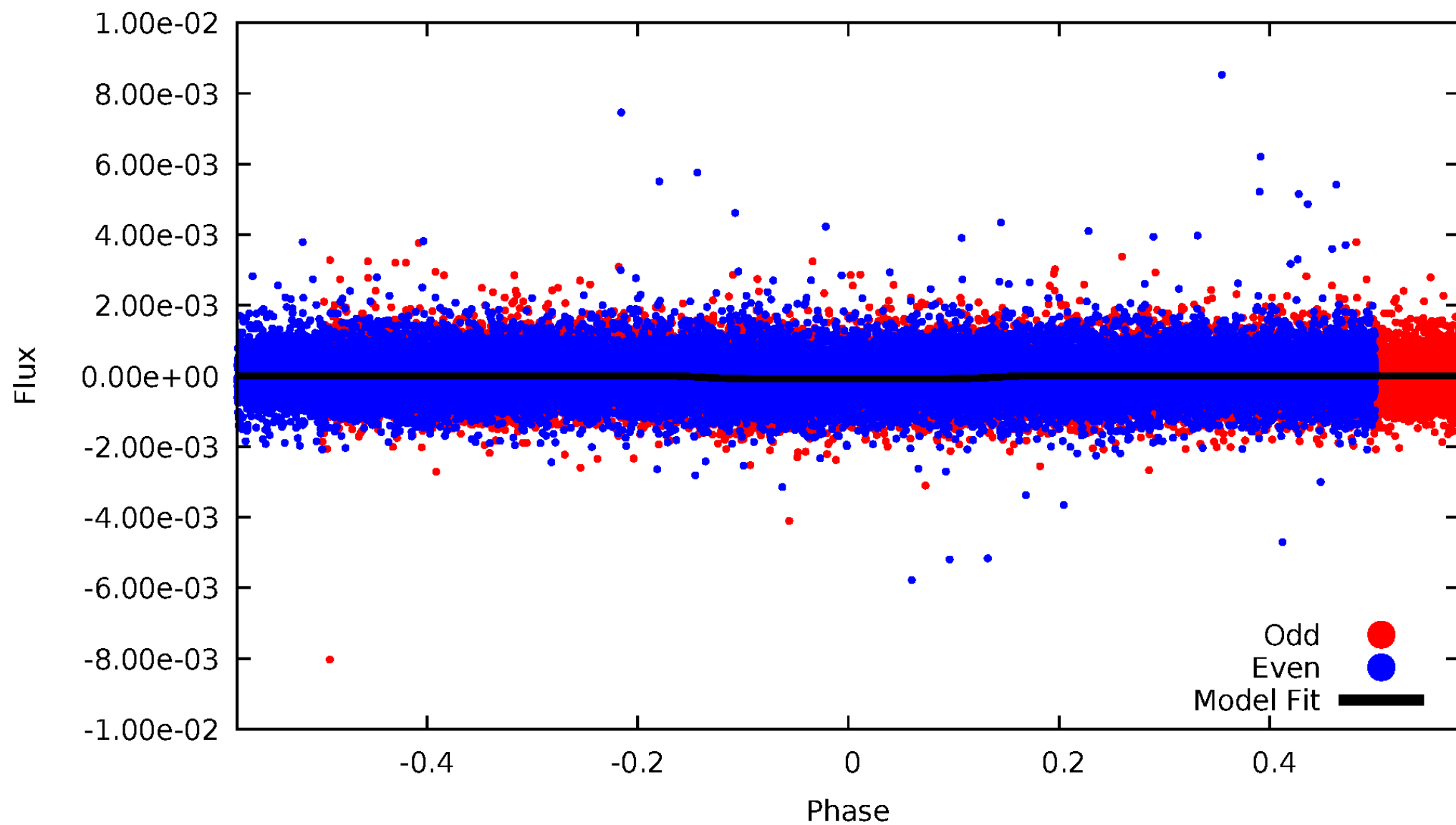


TCE 007116851-01



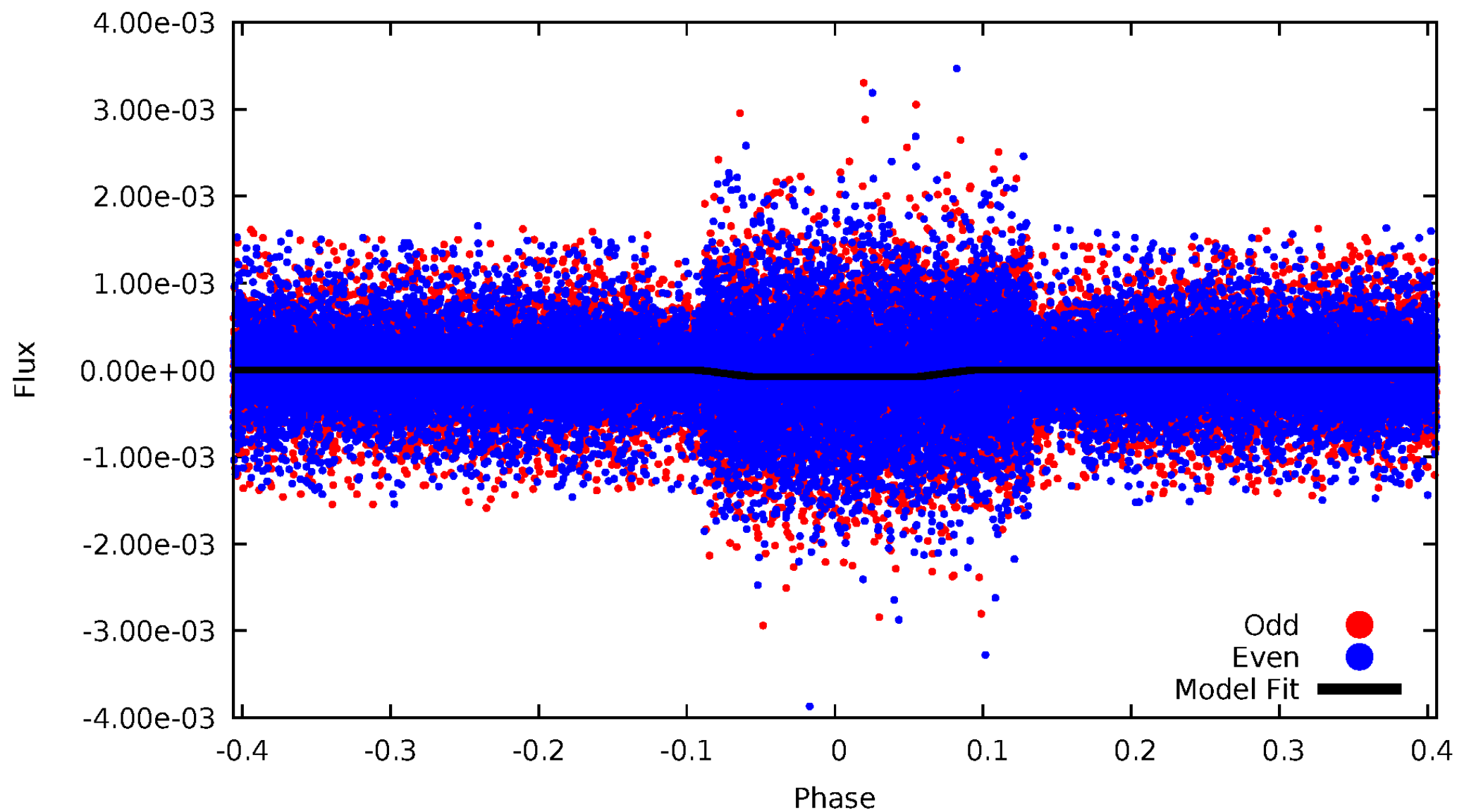
DV Odd/Even

TCE 007116851-01



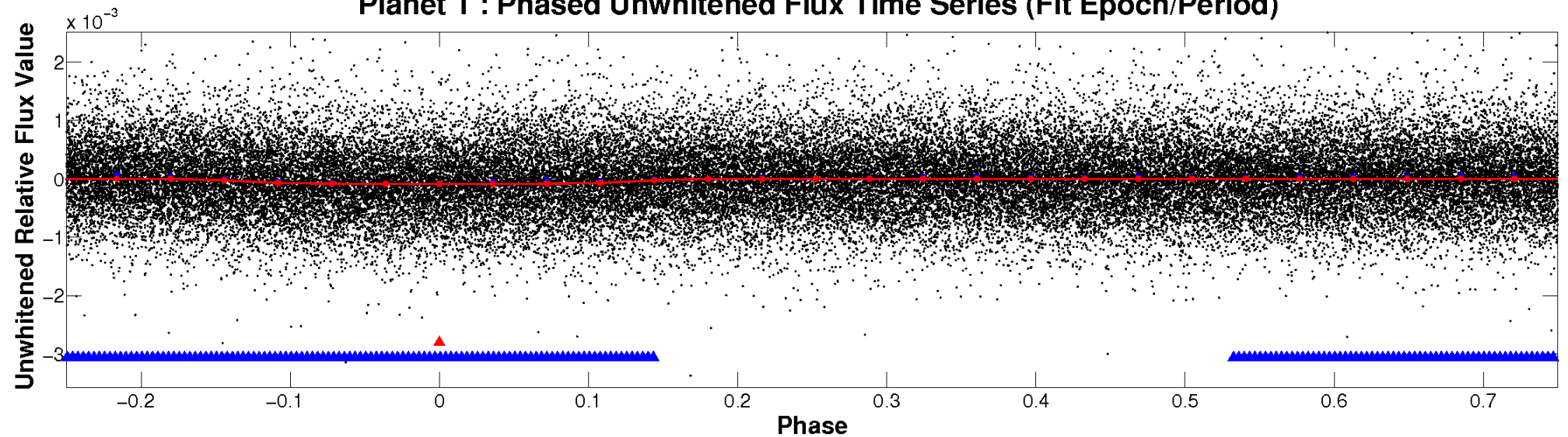
ALT Odd/Even

TCE 007116851-01

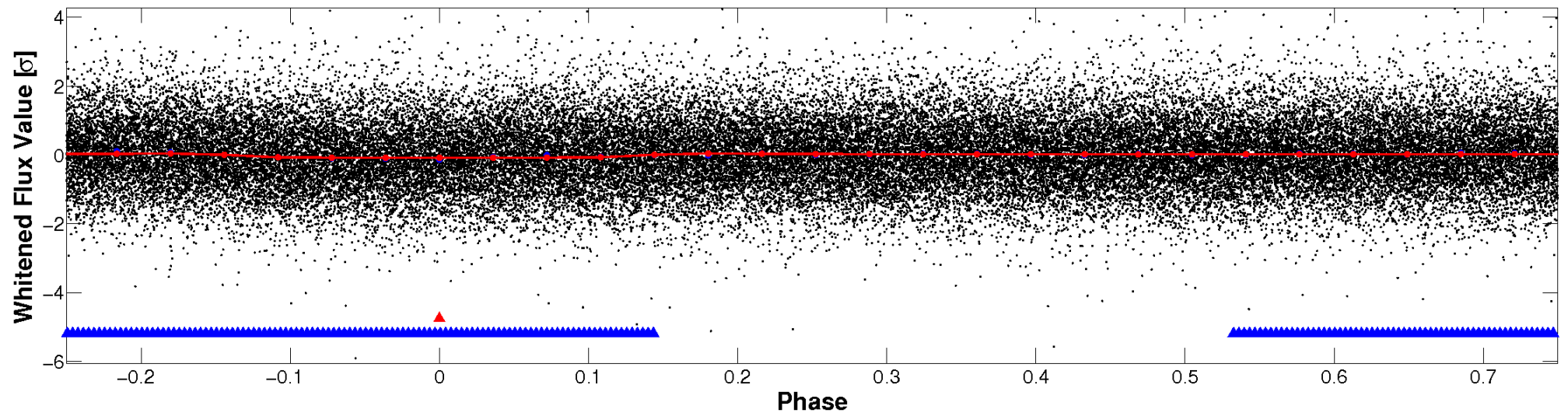


Non-Whitened Vs. Whitened Light Curve

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

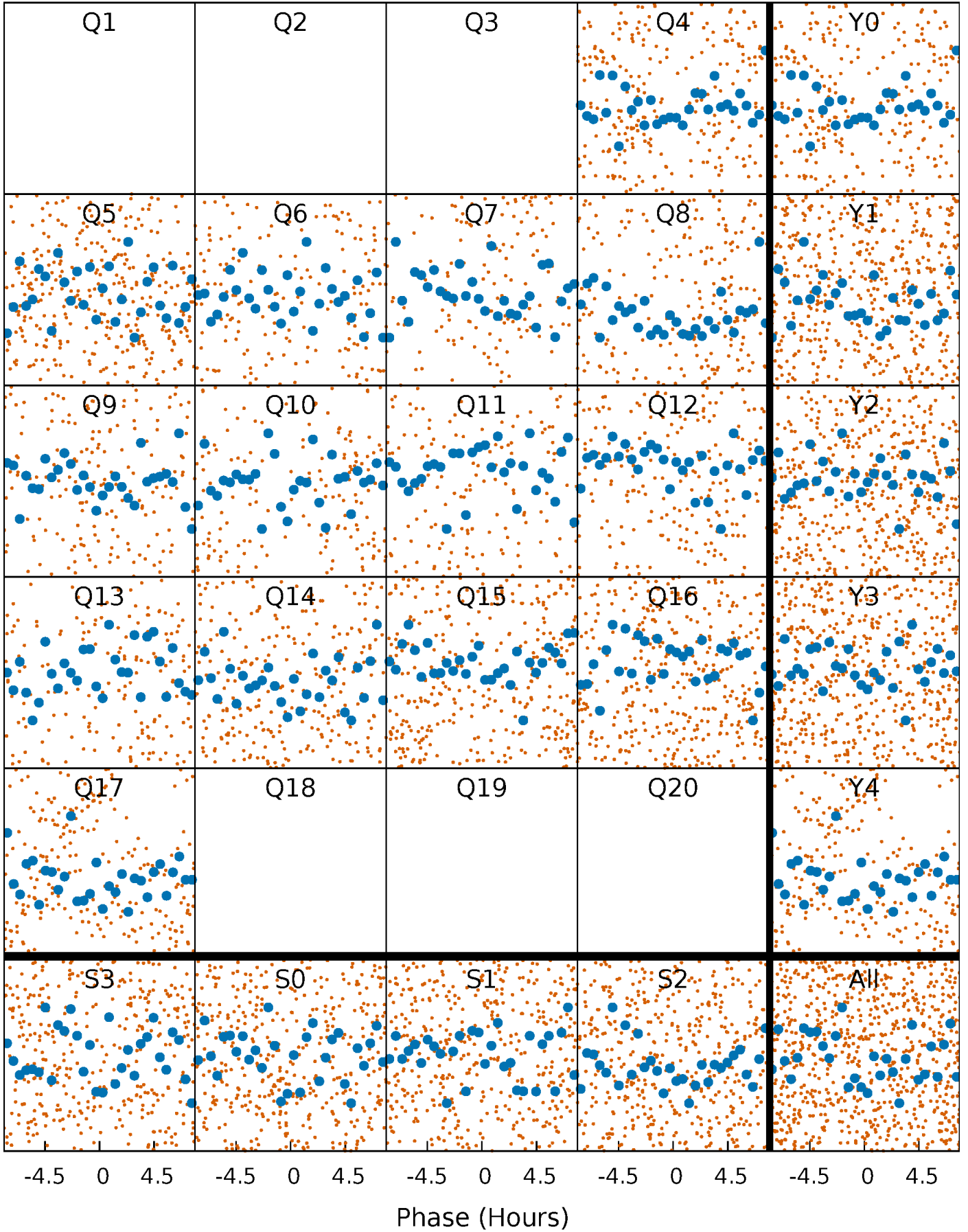


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



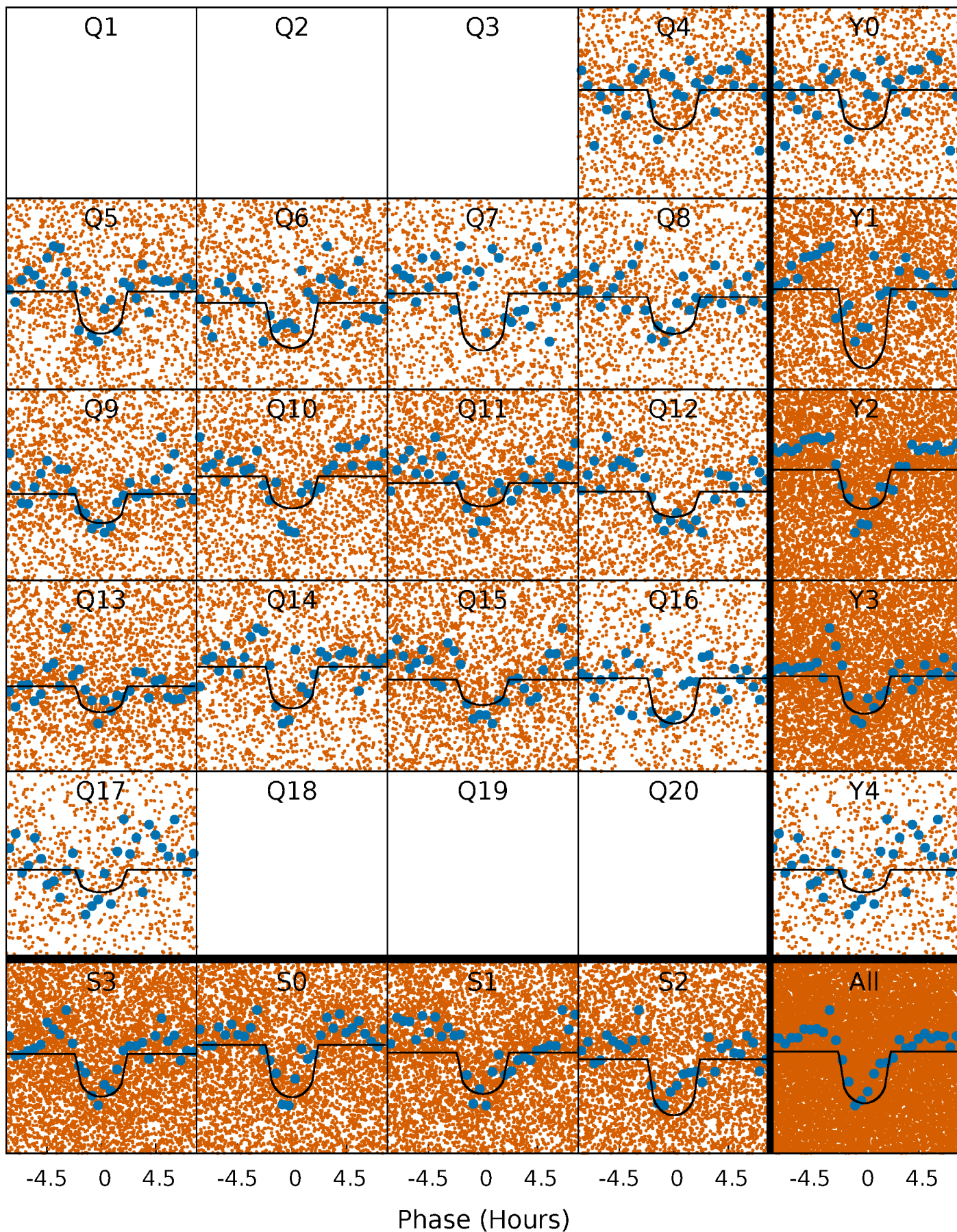
PDC Quarter-Phased Transit Curves

TCE 007116851-01 P= 0.566772 Days $T_0=131.869214$ (BKJD)



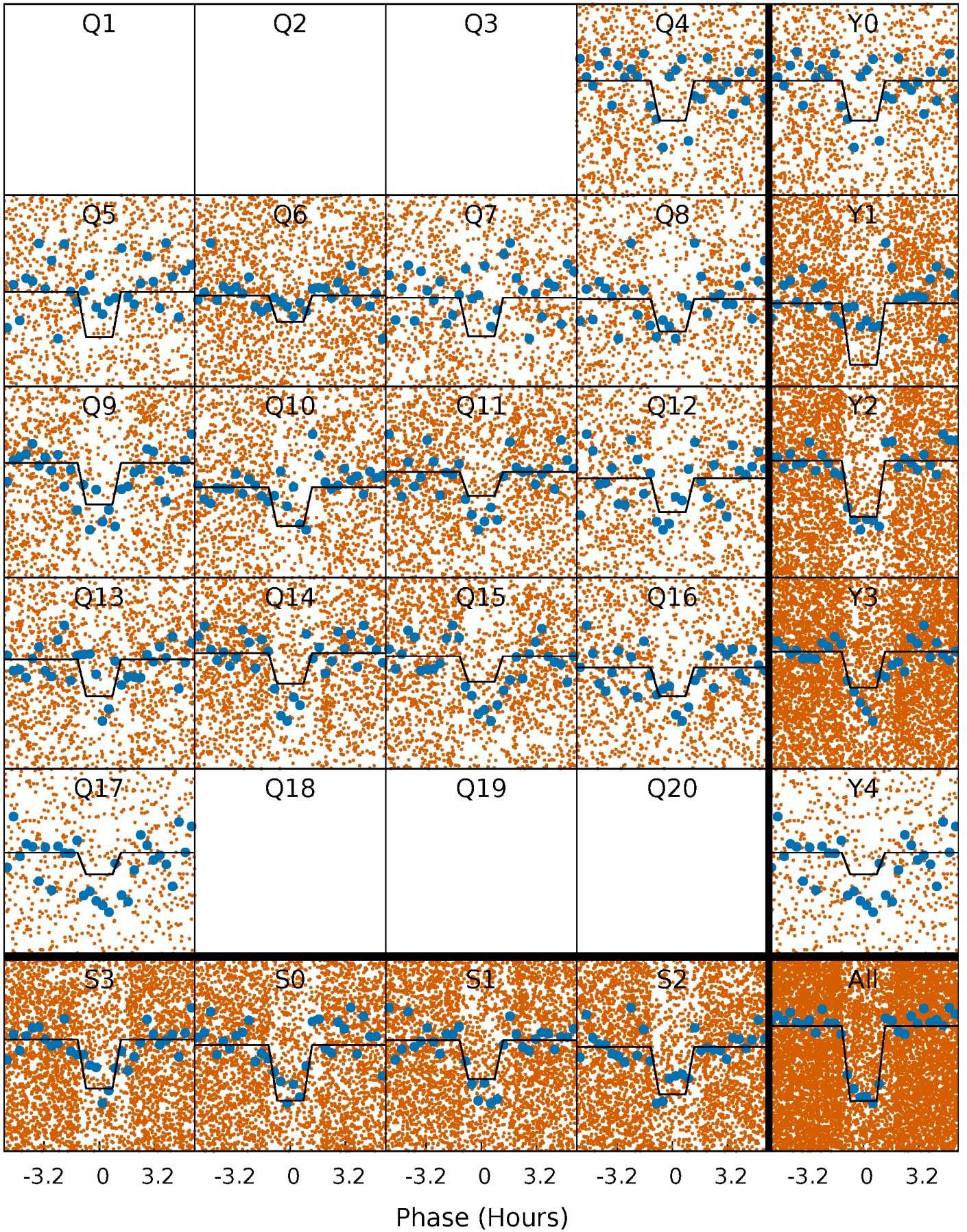
DV Quarter-Phased Transit Curves

TCE 007116851-01 P= 0.566772 Days $T_0=131.869214$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

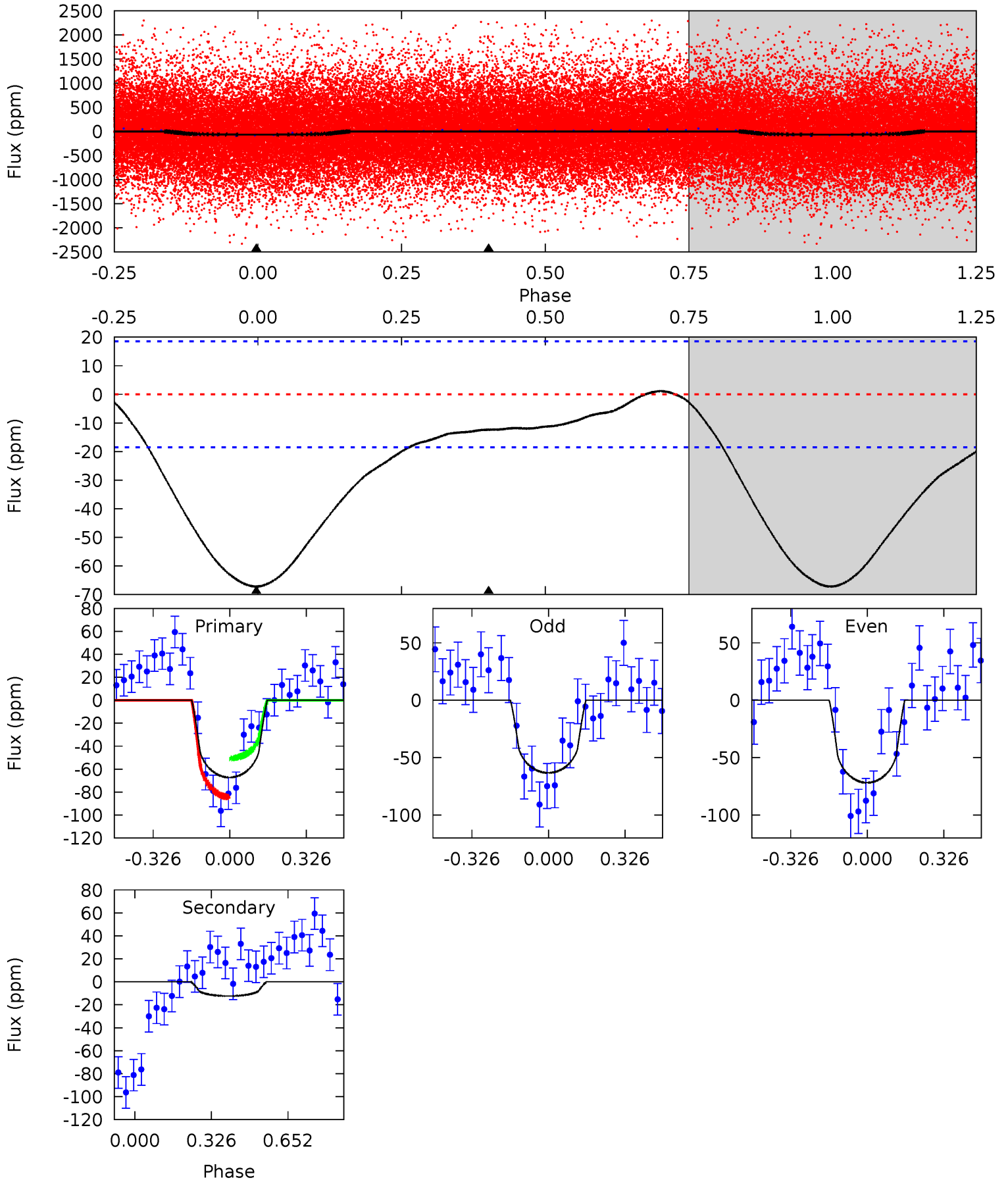
TCE 007116851-01 P= 0.566769 Days $T_0=131.847371$ (BKJD)



DV Model-Shift Uniqueness Test

007116851-01, $P = 0.566772$ Days, $E = 131.869214$ Days

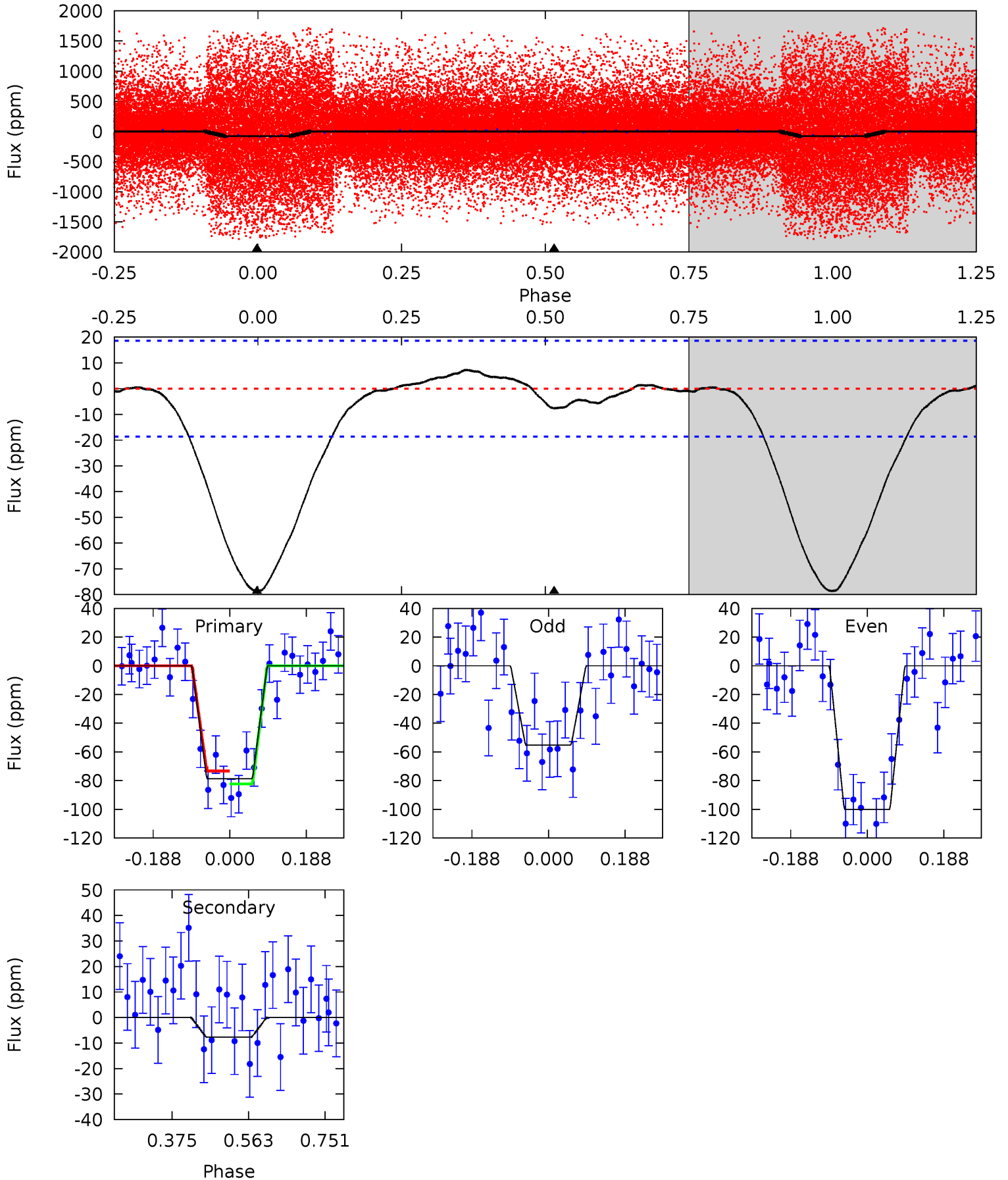
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	2.89	0	0	4.31	0.98	0.27	15.6	15.6	2.89	2.89	1.01	1.05	0.02	3.95



Alt Model-Shift Uniqueness Test

007116851-01, P = 0.566769 Days, E = 131.847371 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	1.82	0	0	4.43	1.32	0.42	18.7	18.7	1.82	1.82	5.31	1.10	0.08	1.06



Stellar Parameters For KIC 007116851

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5035^{+182}_{-182}	$4.688^{+0.054}_{-0.027}$	$-1.360^{+0.300}_{-0.300}$	$0.568^{+0.034}_{-0.037}$	$0.574^{+0.043}_{-0.021}$	$4.403^{+0.862}_{-0.494}$
	+4%/-4%	+1%/-1%	+22%/-22%	+6%/-7%	+7%/-4%	+20%/-11%
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 007116851-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-12 ± 4	$0.71^{+0.56}_{-0.45}$	2206^{+83}_{-89}	3149^{+1451}_{-754}	$1.587^{+10.920}_{-1.136}$
Alt.	-8 ± 4	$0.69^{+0.52}_{-0.44}$	2203^{+93}_{-90}	2895^{+1152}_{-5049}	$0.989^{+5.410}_{-0.757}$

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

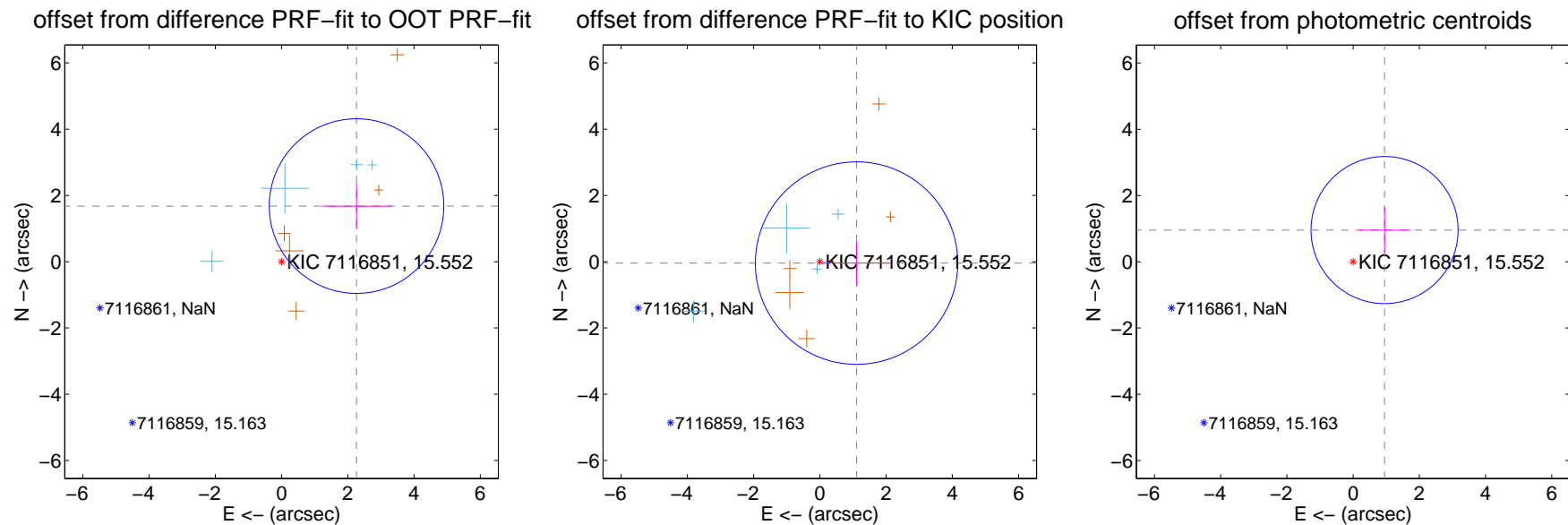
DV Centroid Data

Supplemental centroid analysis for 007116851-01. Kepler magnitude: 15.55. Transit SNR 10.19

There are 4 quarters with good PRF difference image offsets

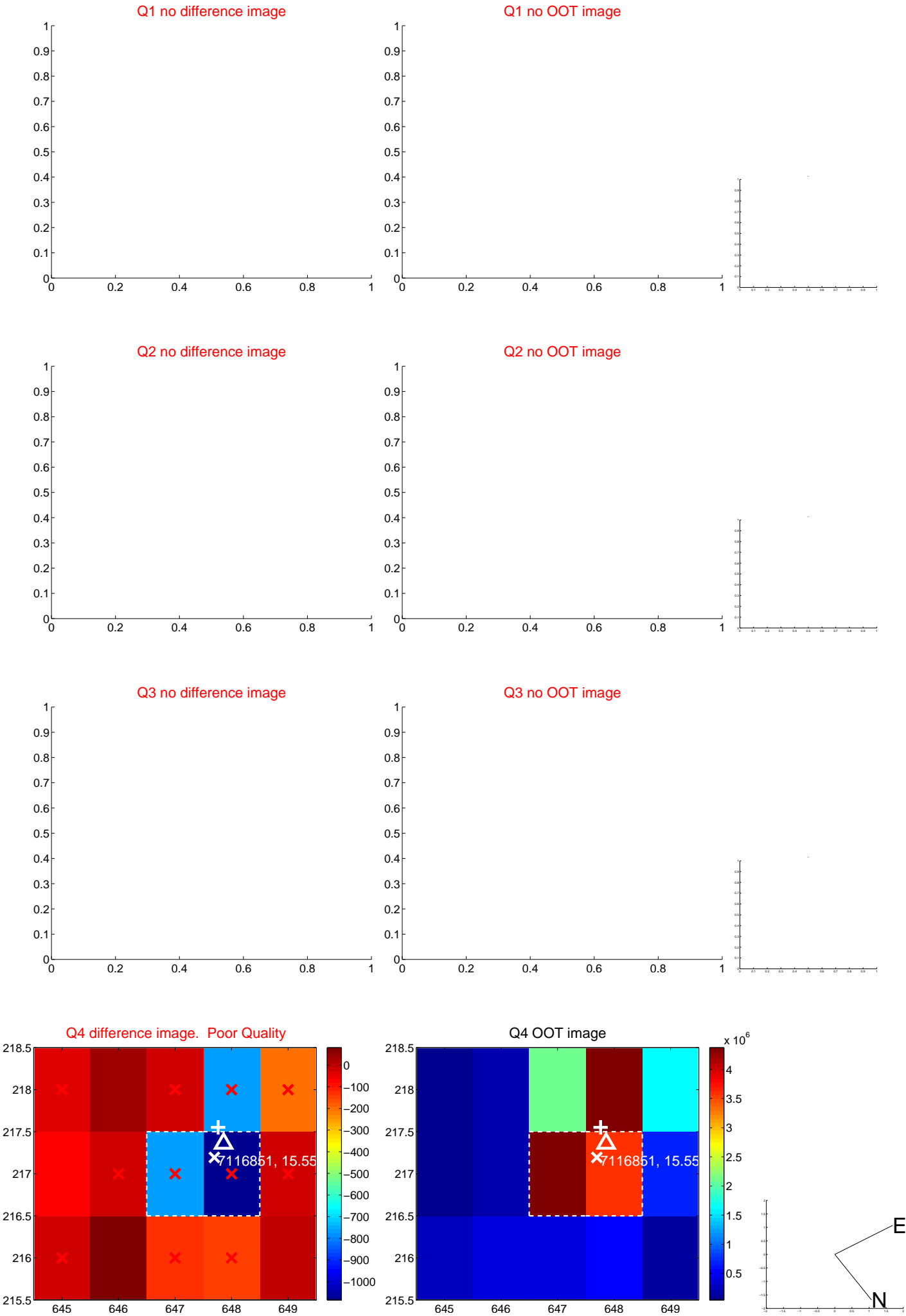
The direct PRF centroid is offset from the target star catalog position by about 1.70 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.817 ± 0.878	3.21	-2.263 ± 1.048	1.678 ± 0.697
PRF-fit source offset from KIC position	1.110 ± 1.018	1.09	-1.109 ± 1.014	-0.042 ± 0.666
photometric centroid source offset	1.35 ± 0.74	1.82	-0.95 ± 0.78	0.96 ± 0.70

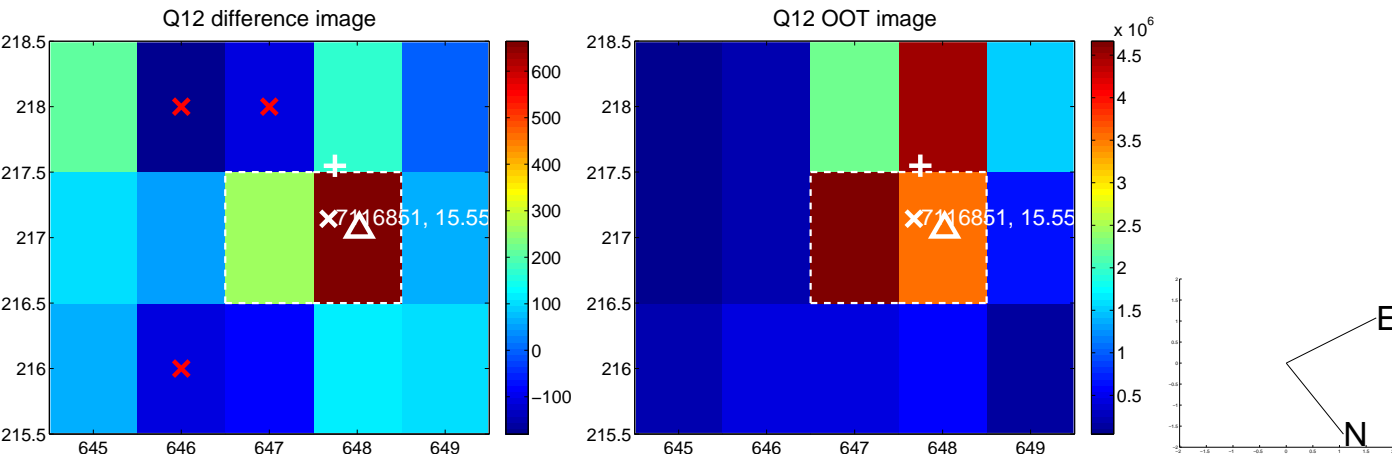
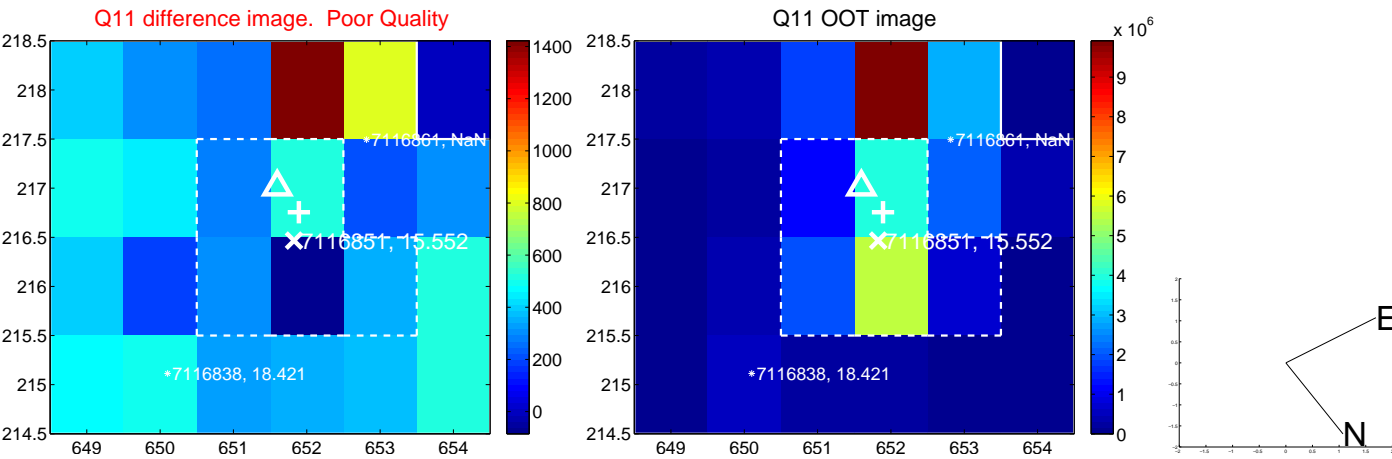
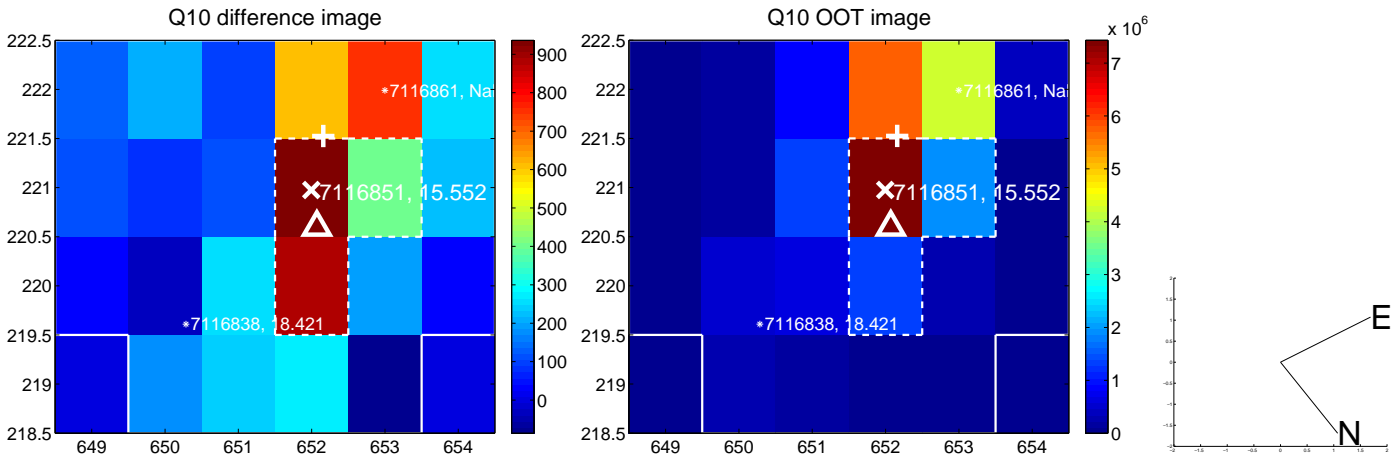
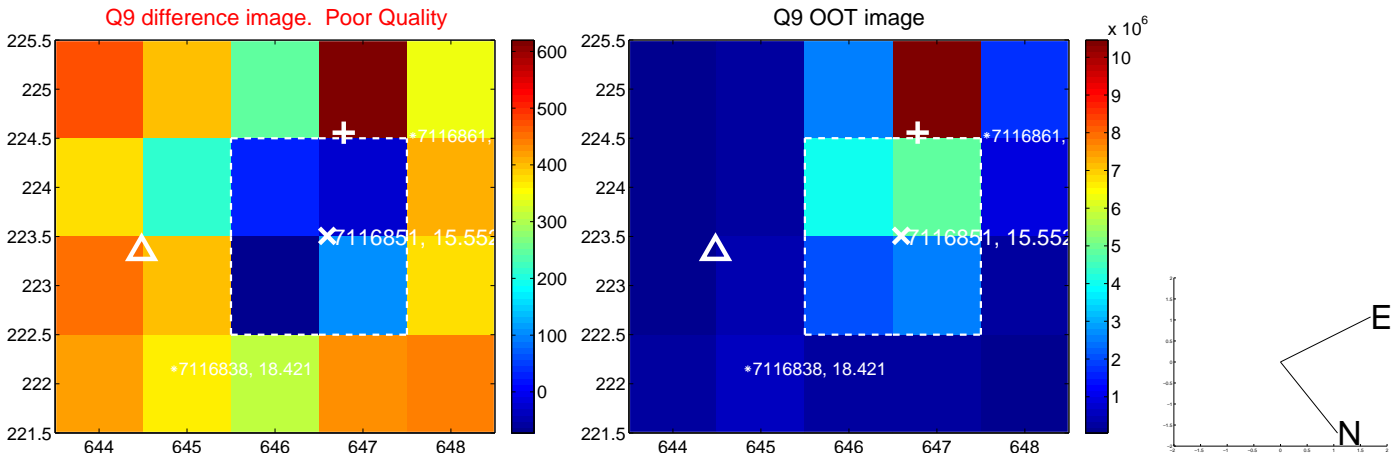


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

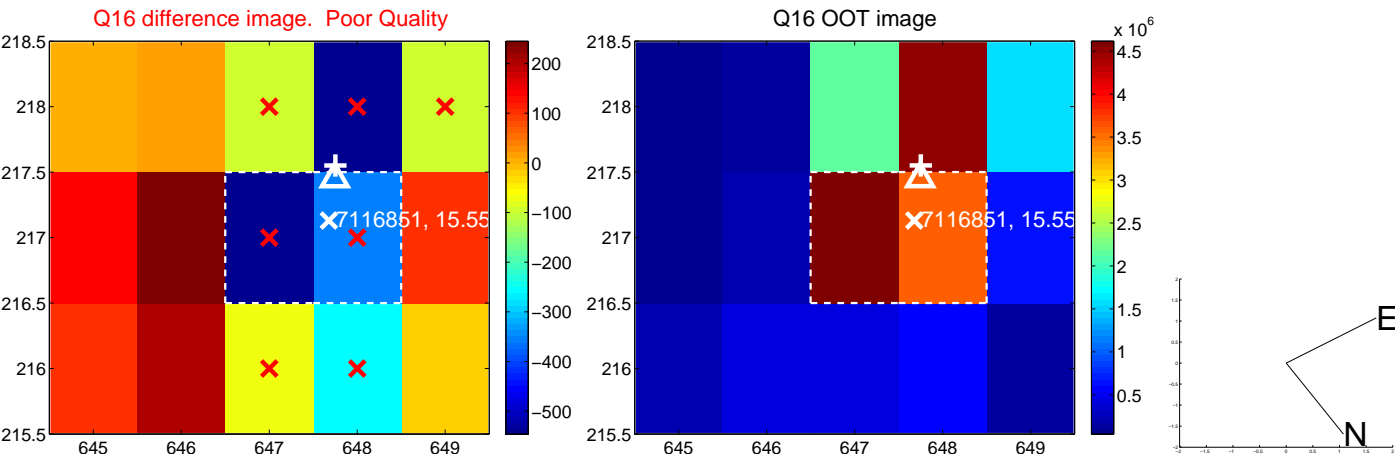
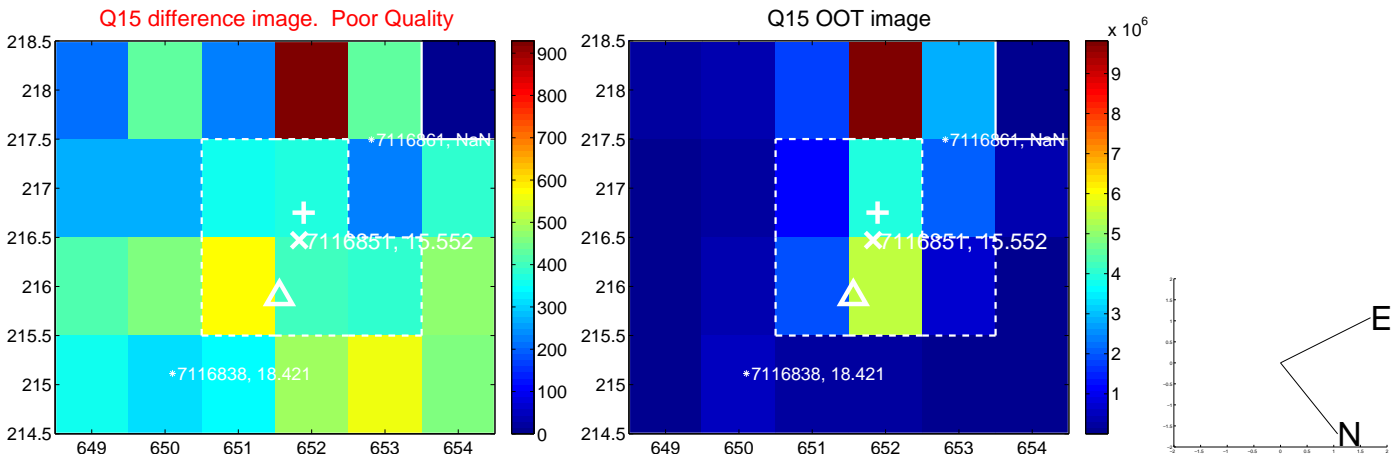
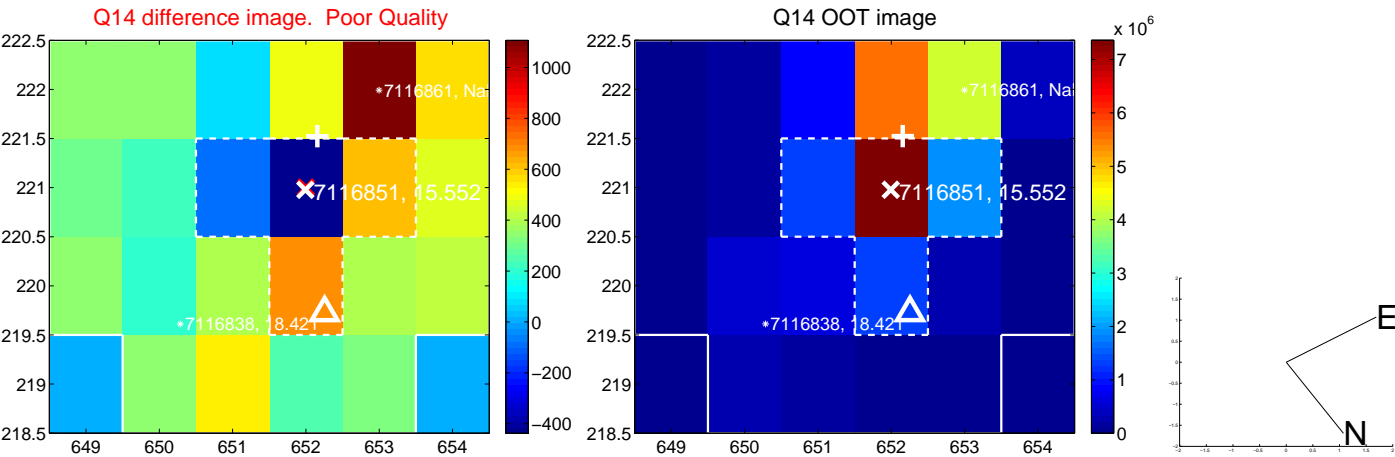
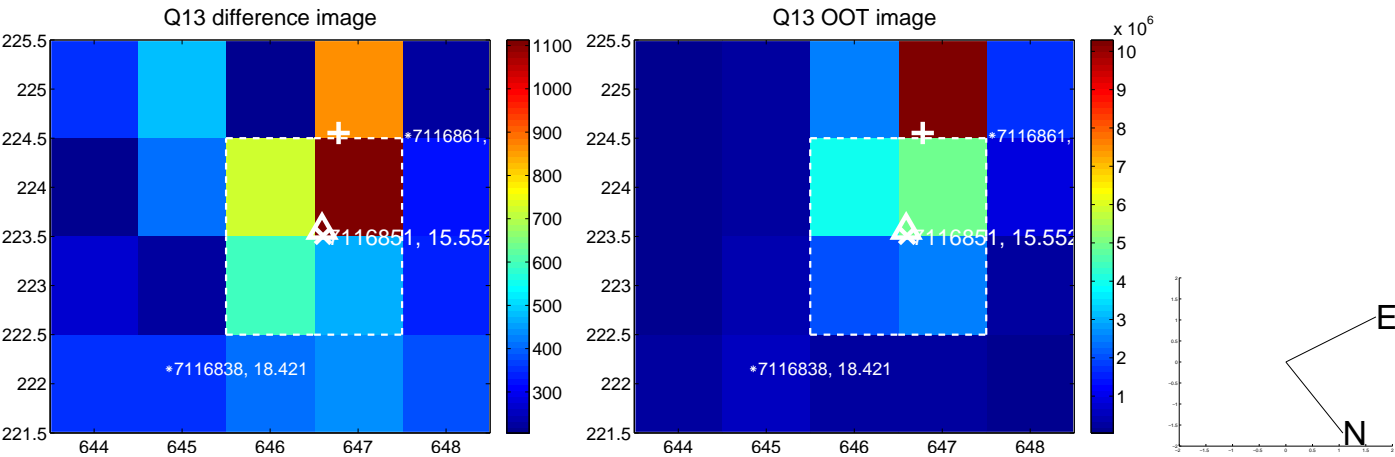
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



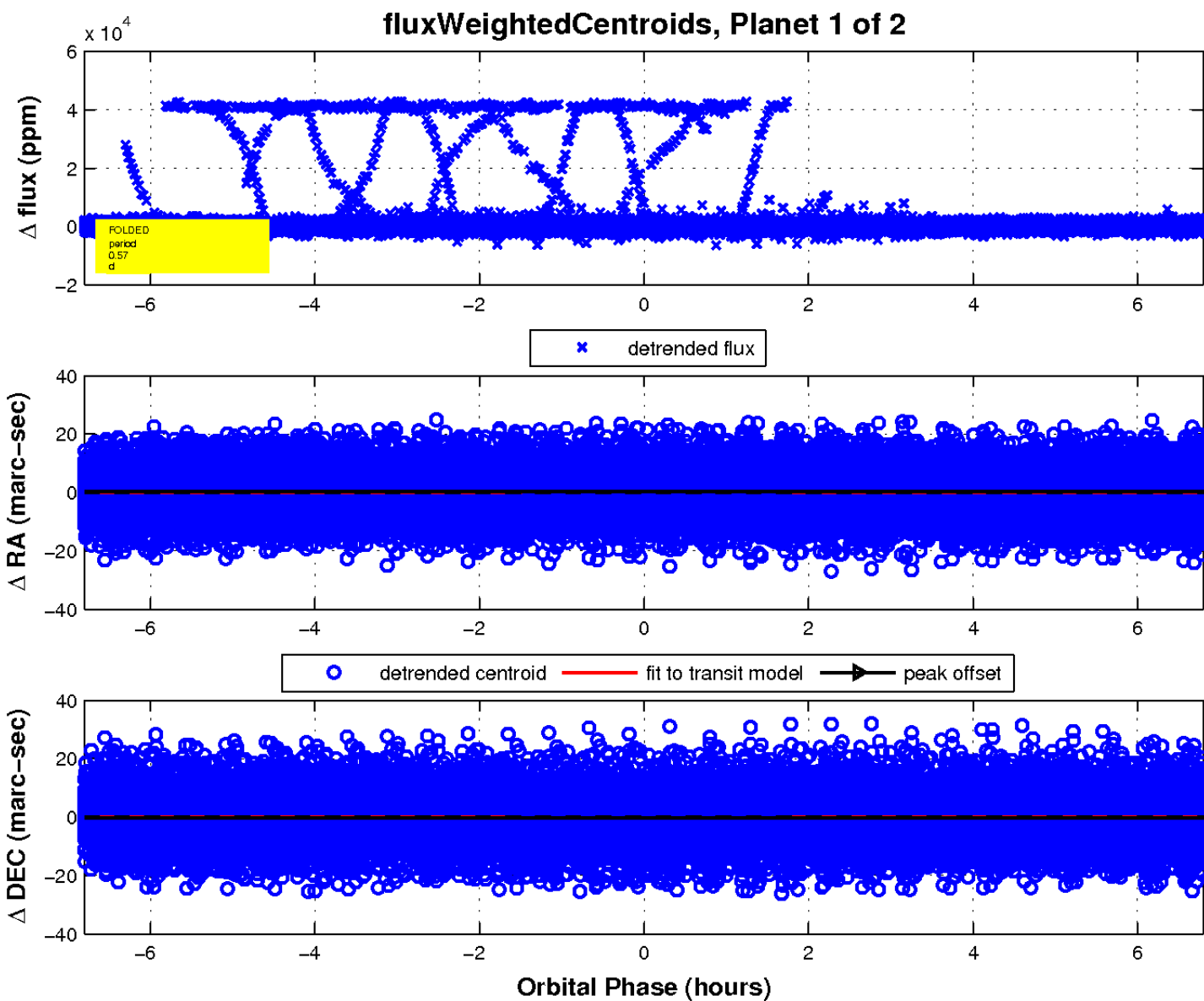
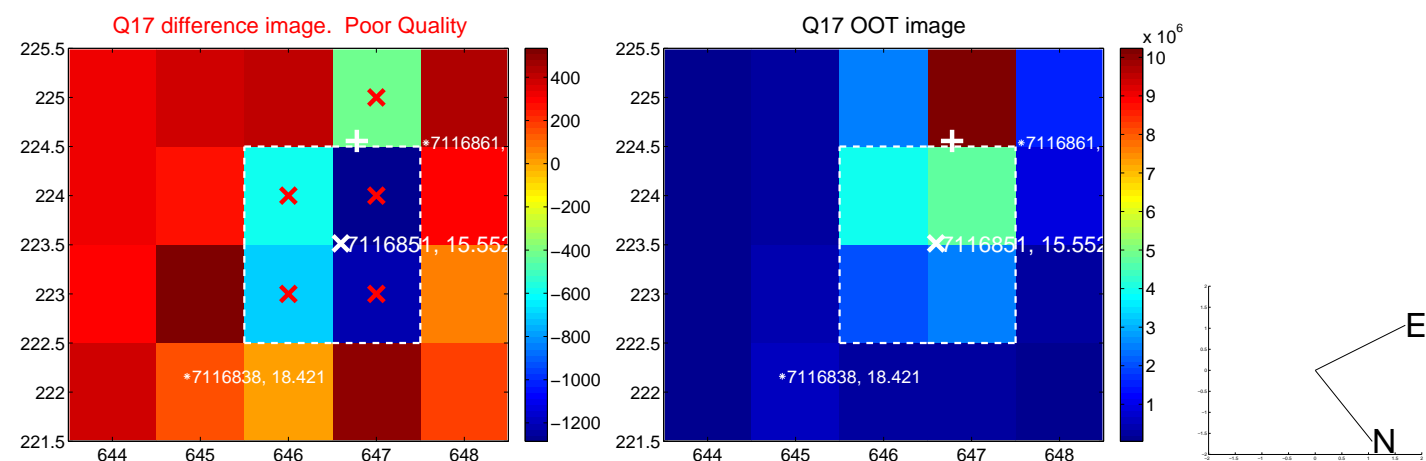
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

