

KIC 008842025

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})
008842025-01	OBS	No	0.618238	131.754792	124.6	6.710	13.8	15.4	1.40	6359	1.68	13463.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008842025-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

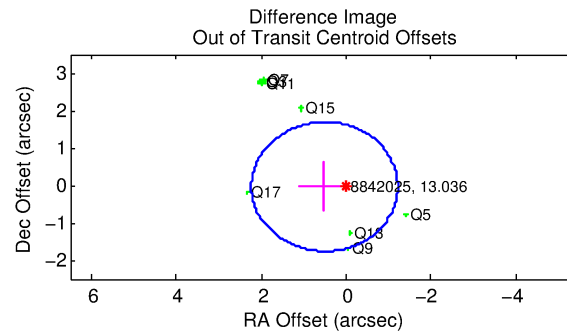
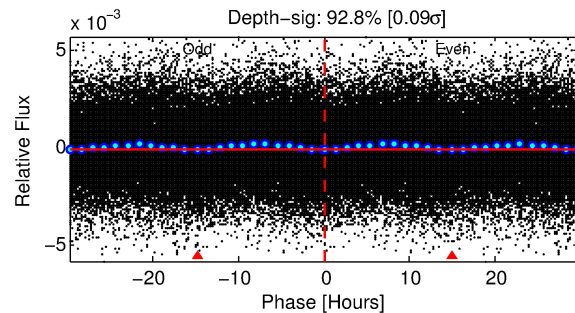
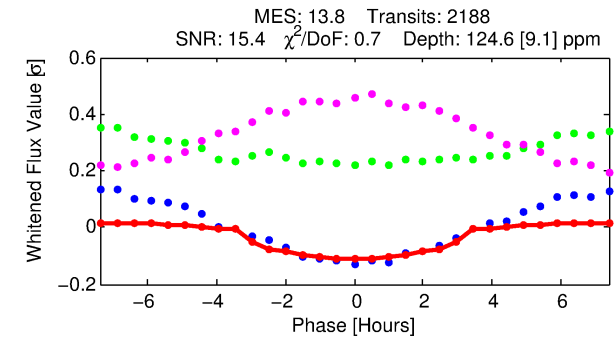
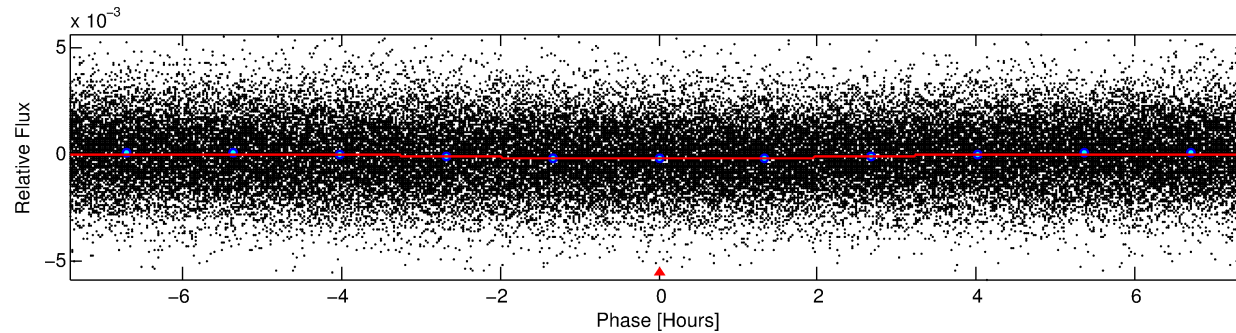
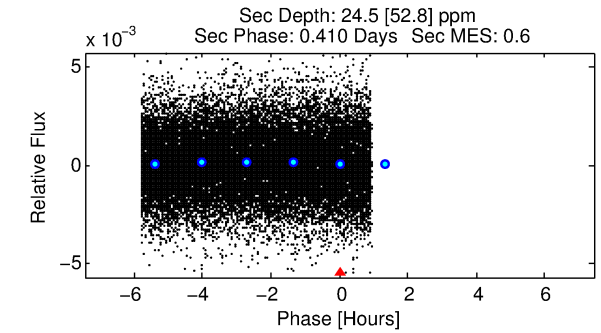
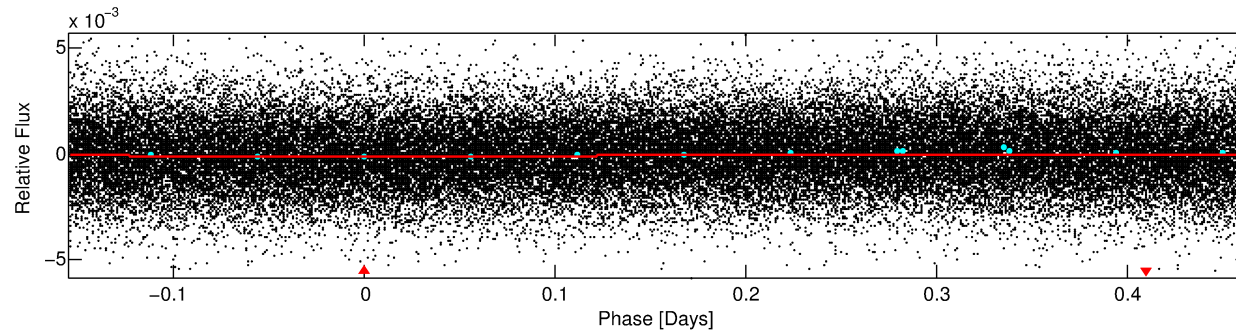
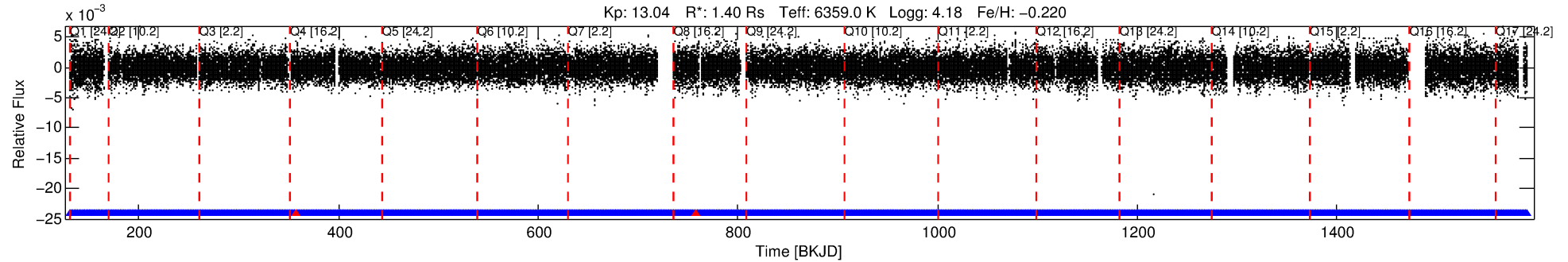
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008842025-01

No Significant Match Found

DV One-Page Summary

KIC: 8842025 Candidate: 1 of 1 Period: 0.618 d



DV Fit Results:

Period = 0.61824 [0.00001] d
Epoch = 131.7548 [0.0052] BKJD
Rp/R* = 0.0109 [0.0031]
a/R* = 1.02 [0.05]
b = 0.69 [1.15]
Seff = 13463.35 [5351.13]
Teq = 2747 [273] K
Rp = 1.67 [0.70] Re
a = 0.0146 [0.0038] AU
Ag = 1.03 [2.33] [0.01σ]
Teffp = 4280 [2386] K [0.64σ]

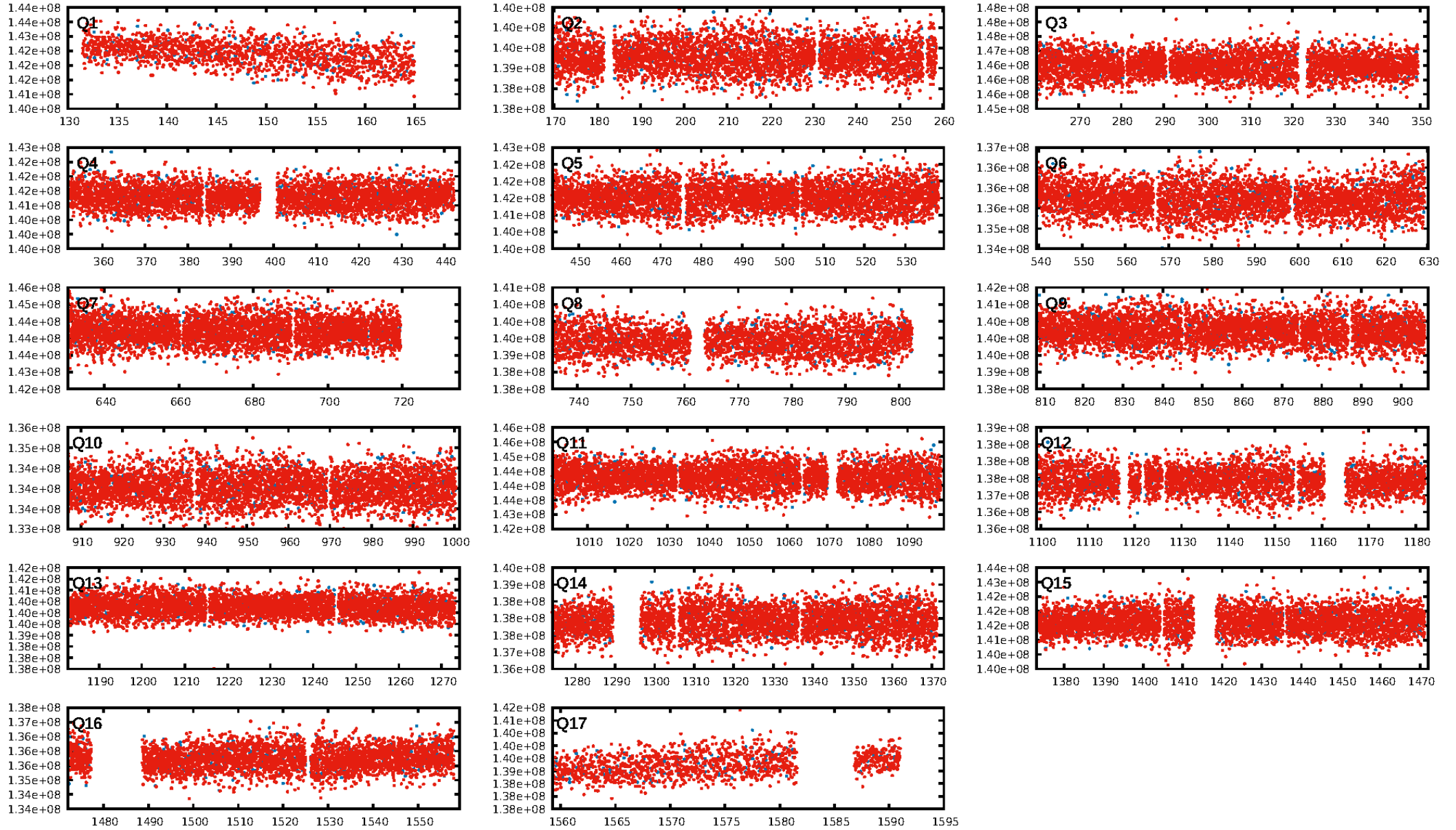
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2088/2090]
GhostDiagnostic-chr: 1.439
Centroid-sig: 0.0%
Centroid-so: 0.248 arcsec [2.24σ]
OotOffset-rm: 0.503 arcsec [0.87σ]
OotOffset-st: 0/4/0/4 [8]
KicOffset-rm: 0.521 arcsec [0.91σ]
KicOffset-st: 0/4/0/4 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 1.00 [17/17]

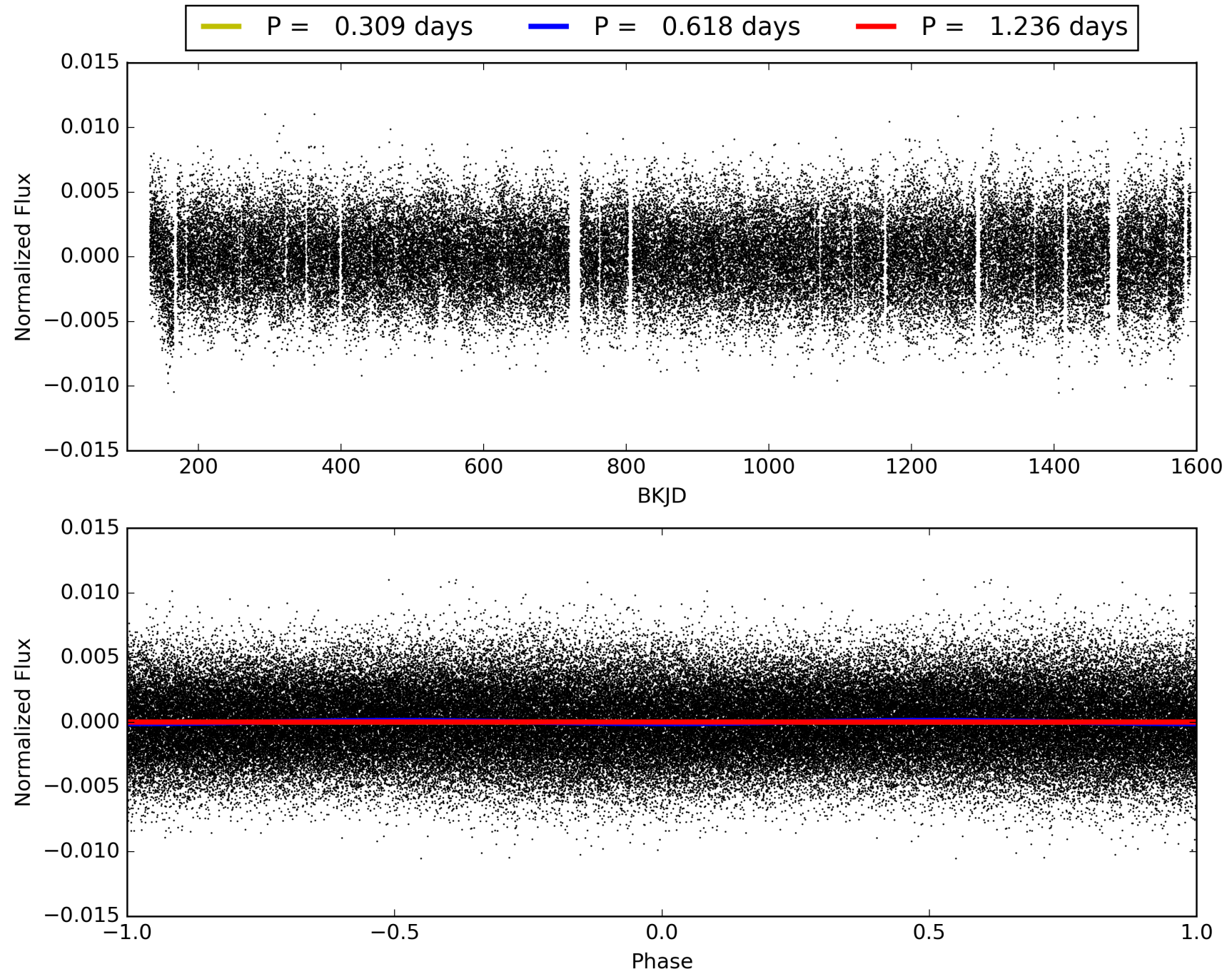
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:12:43 Z

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

TCE 008842025-01, PDC Light Curves

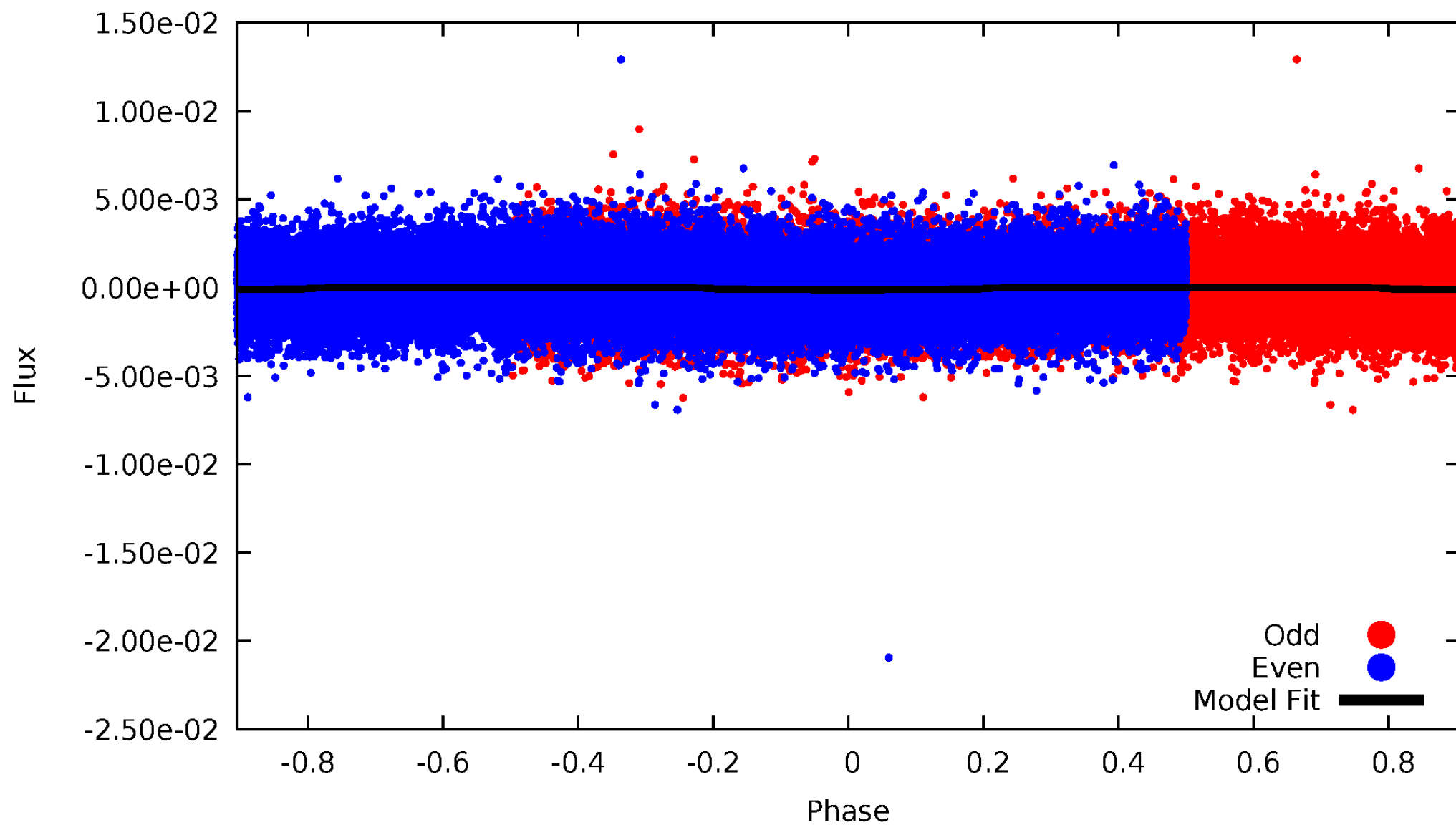


TCE 008842025-01



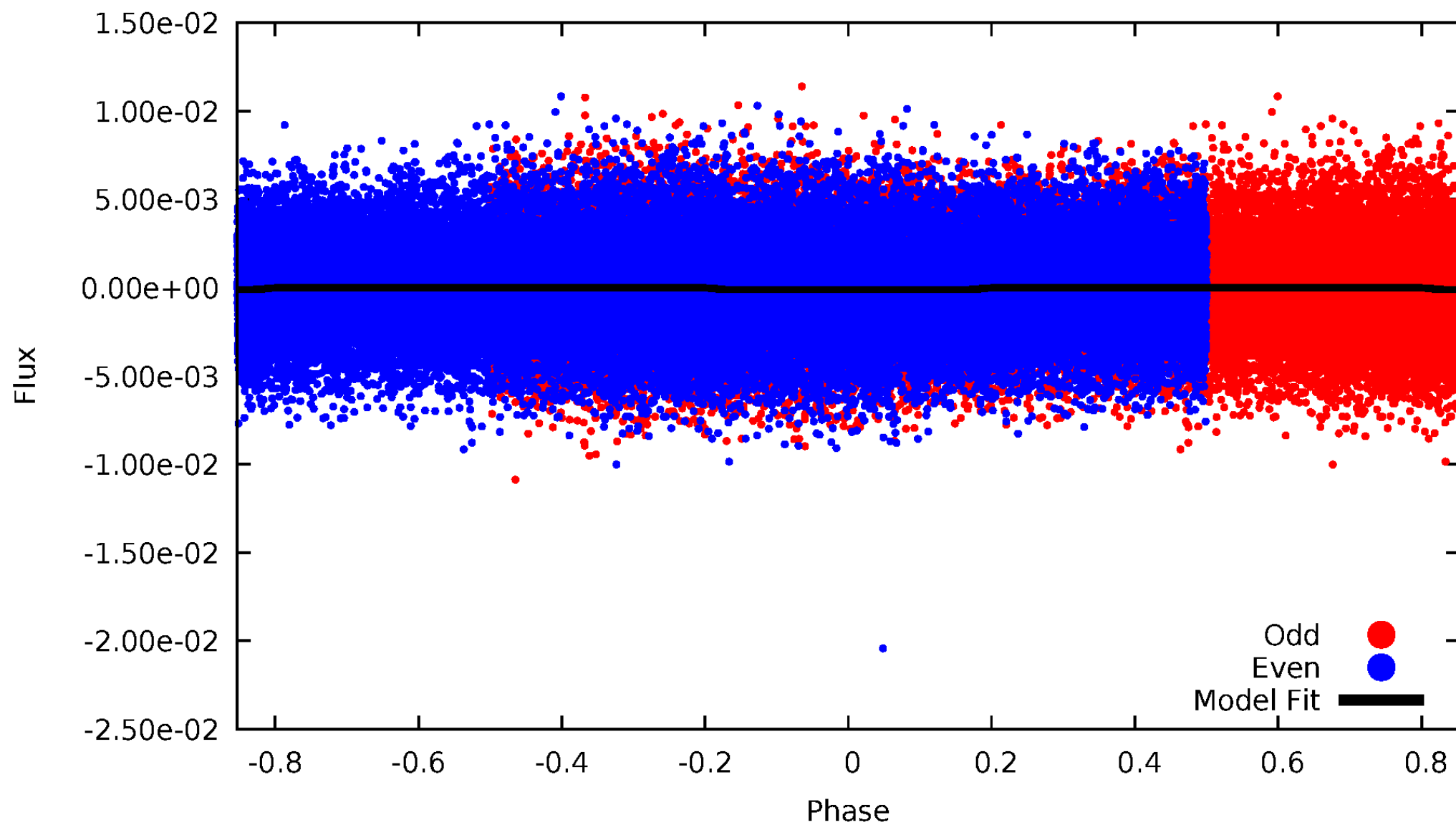
DV Odd/Even

TCE 008842025-01



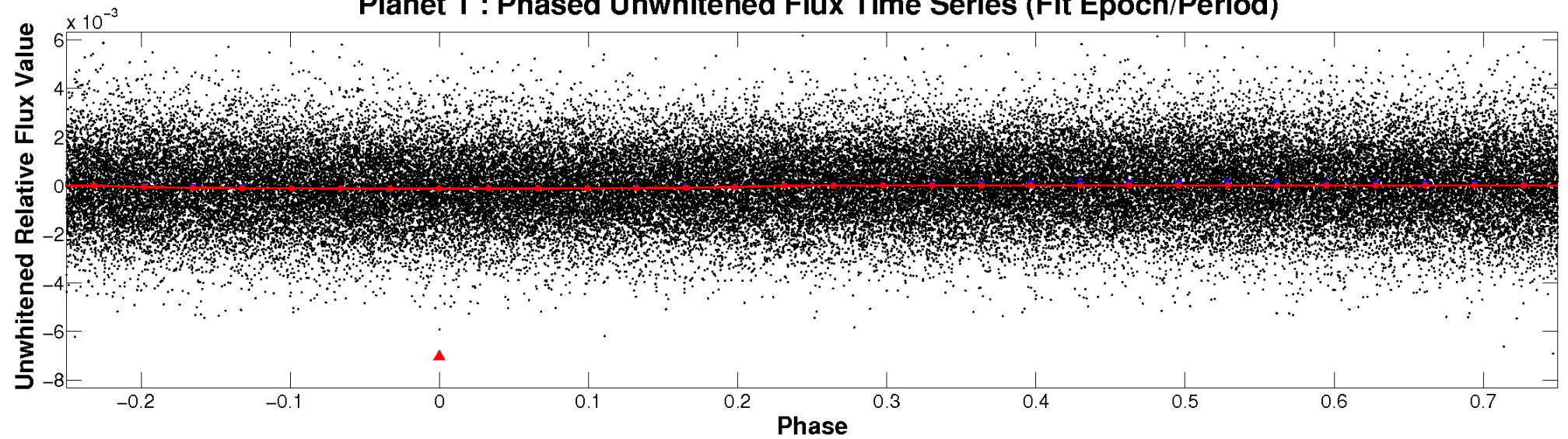
ALT Odd/Even

TCE 008842025-01

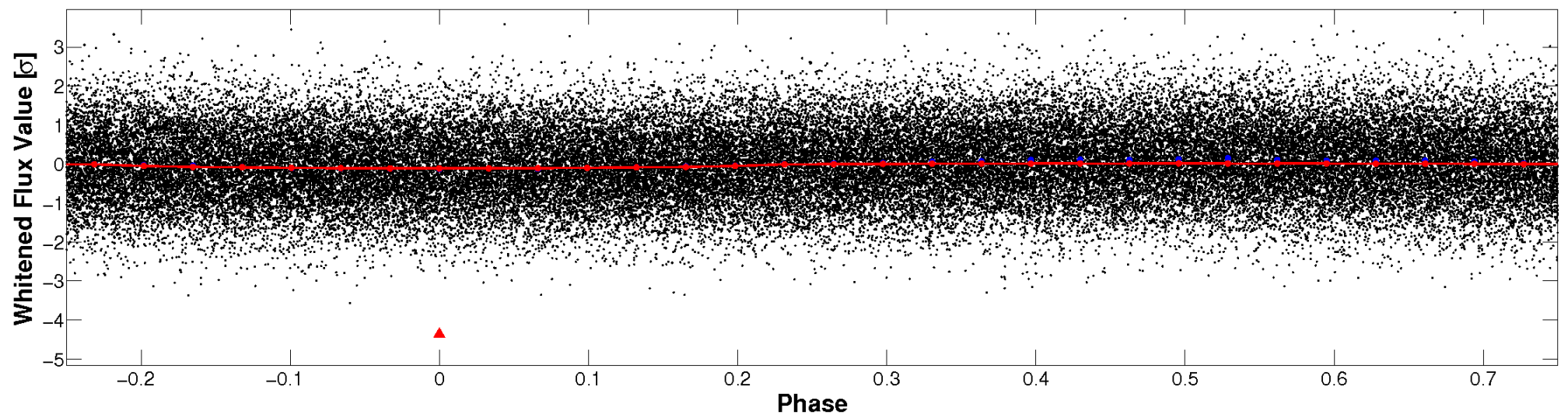


Non-Whitened Vs. Whitened Light Curve

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

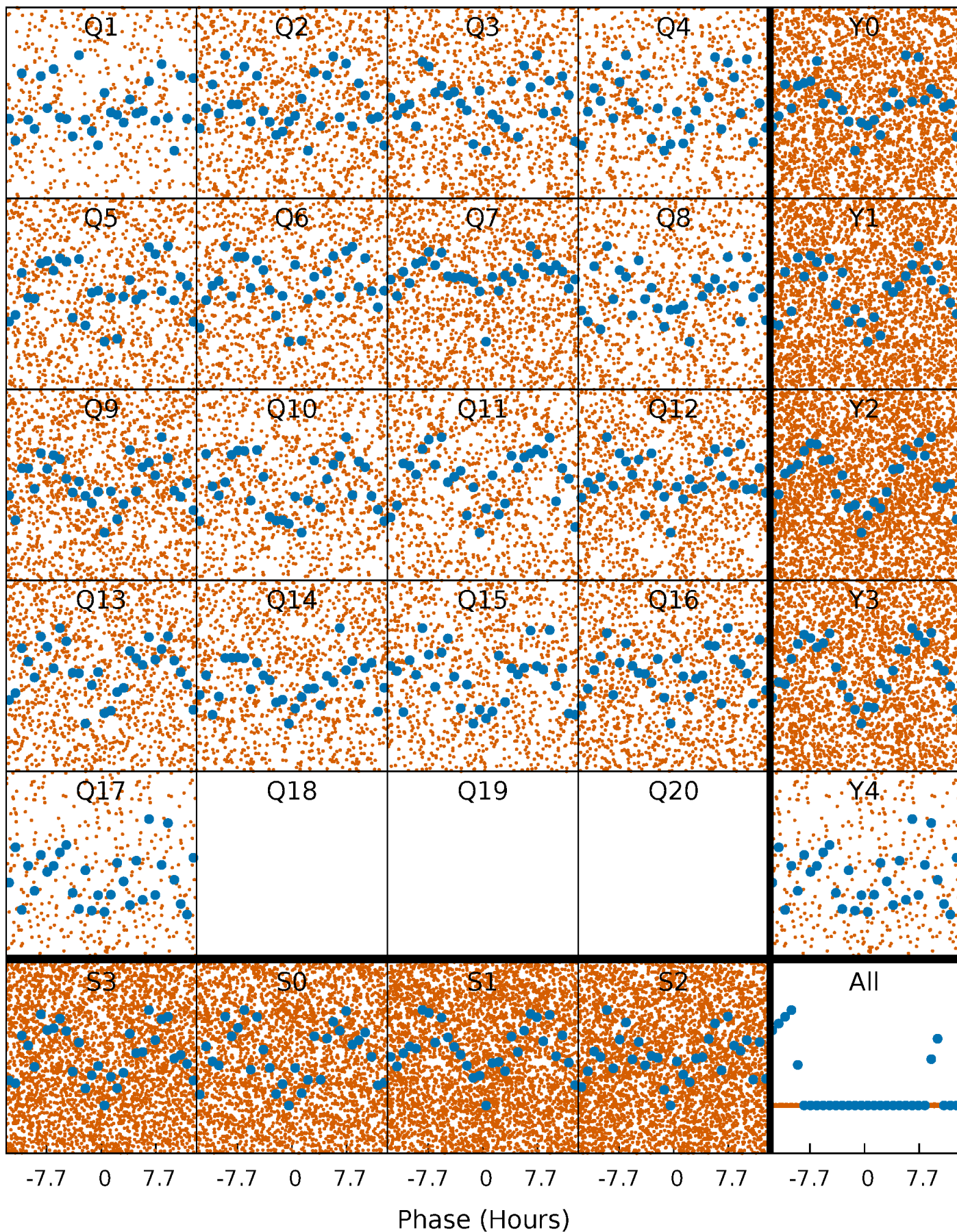


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



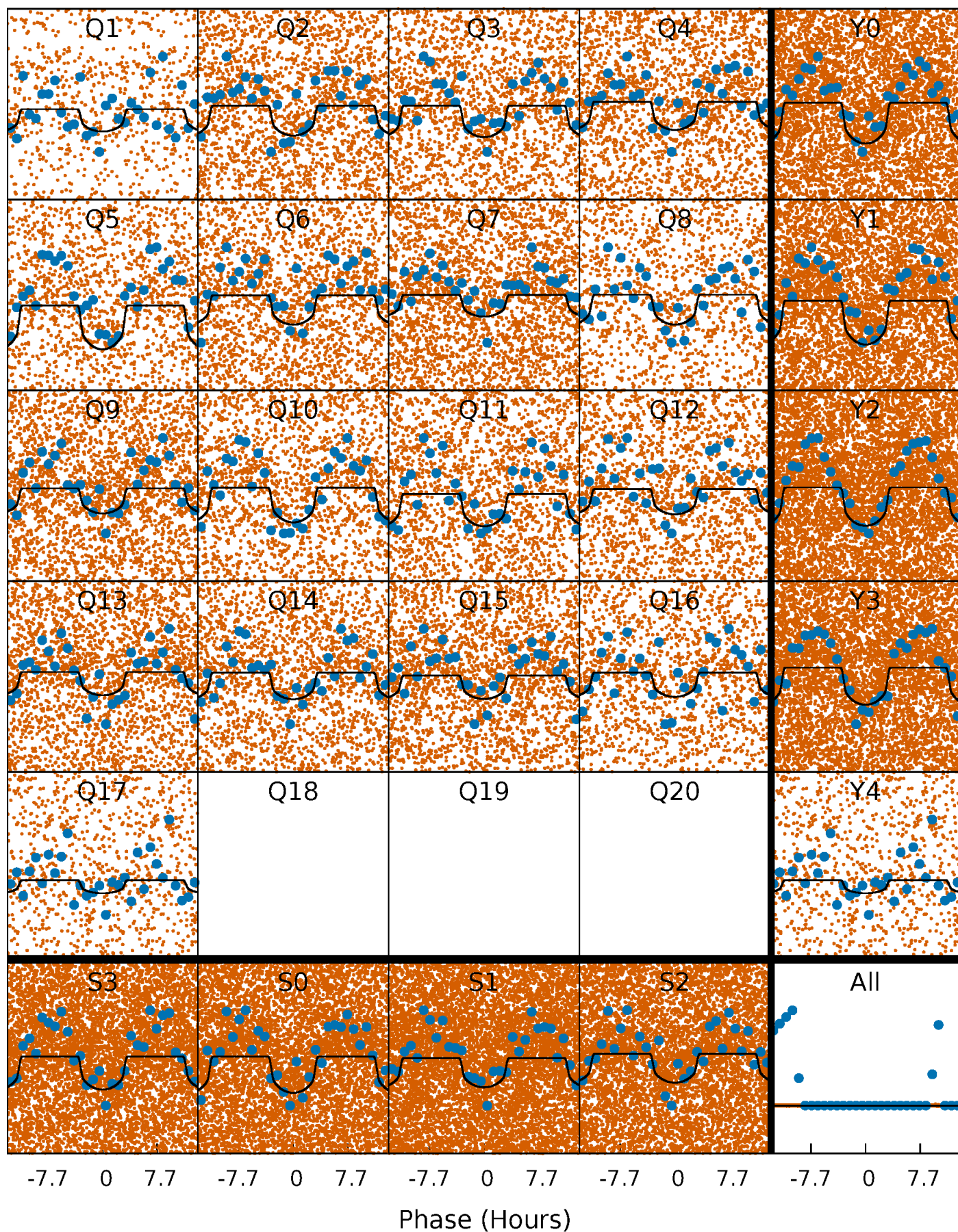
PDC Quarter-Phased Transit Curves

TCE 008842025-01 P= 0.618238 Days $T_0=131.754792$ (BKJD)



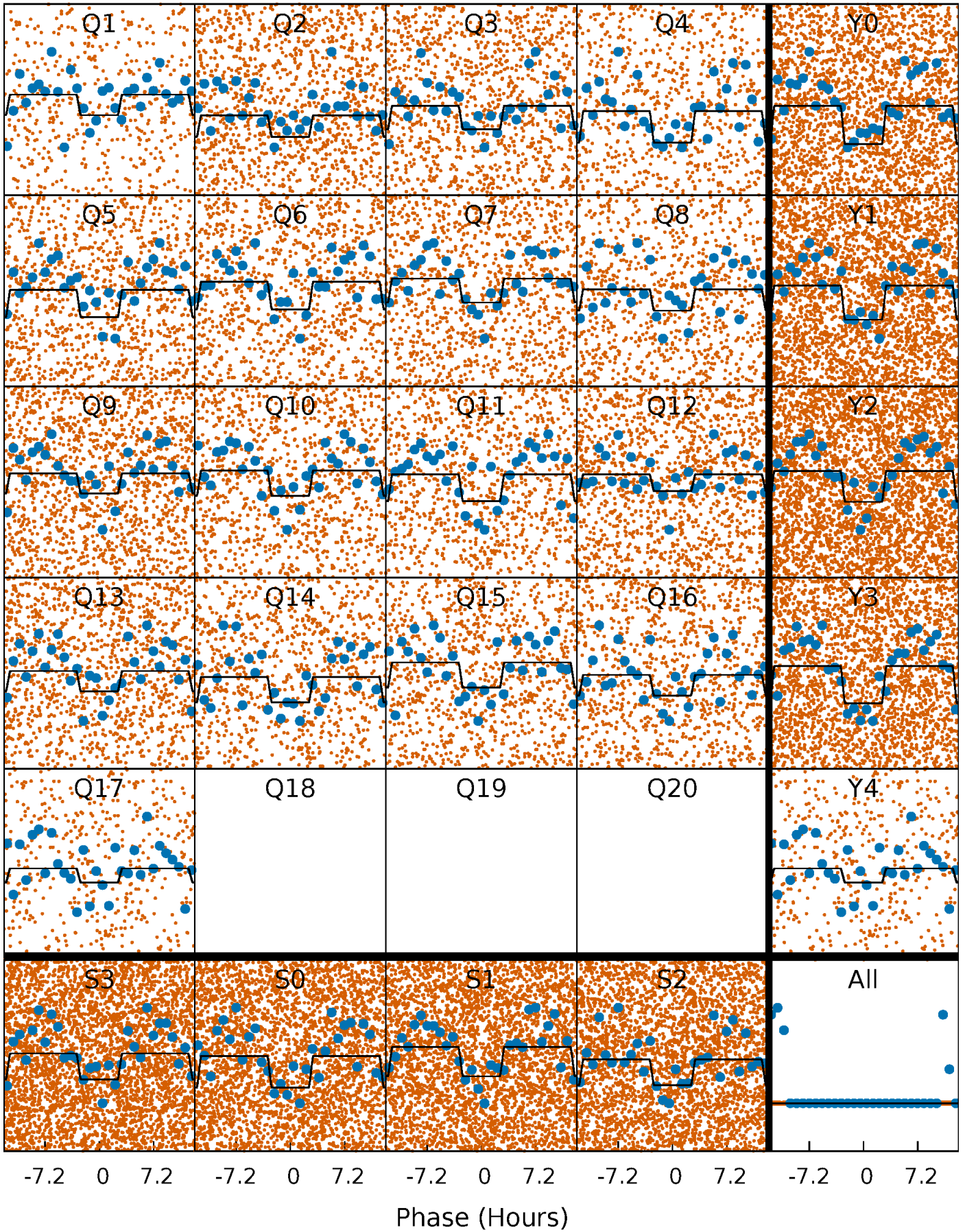
DV Quarter-Phased Transit Curves

TCE 008842025-01 P= 0.618238 Days $T_0=131.754792$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

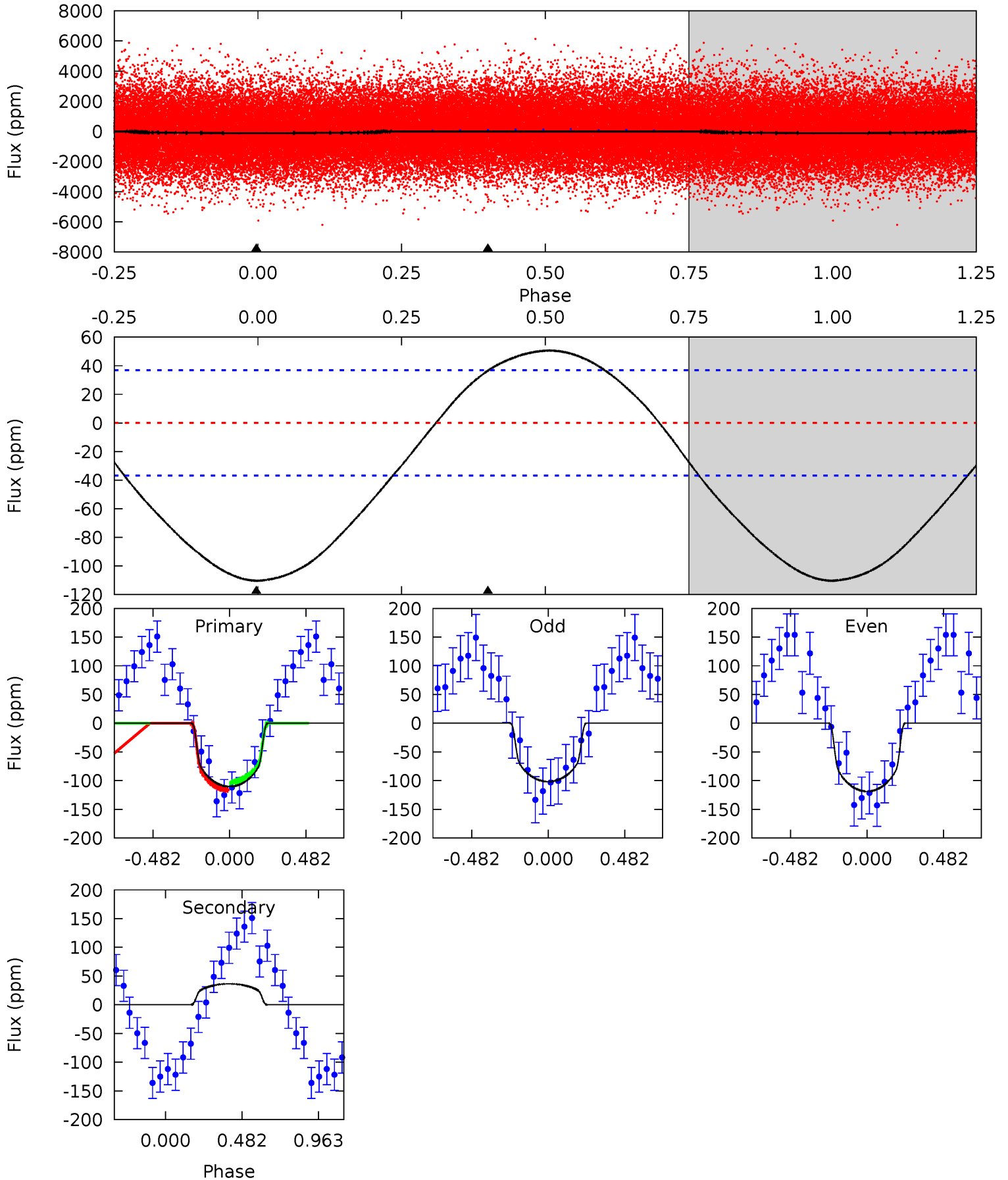
TCE 008842025-01 P= 0.618242 Days $T_0=131.754955$ (BKJD)



DV Model-Shift Uniqueness Test

008842025-01, P = 0.618238 Days, E = 131.136554 Days

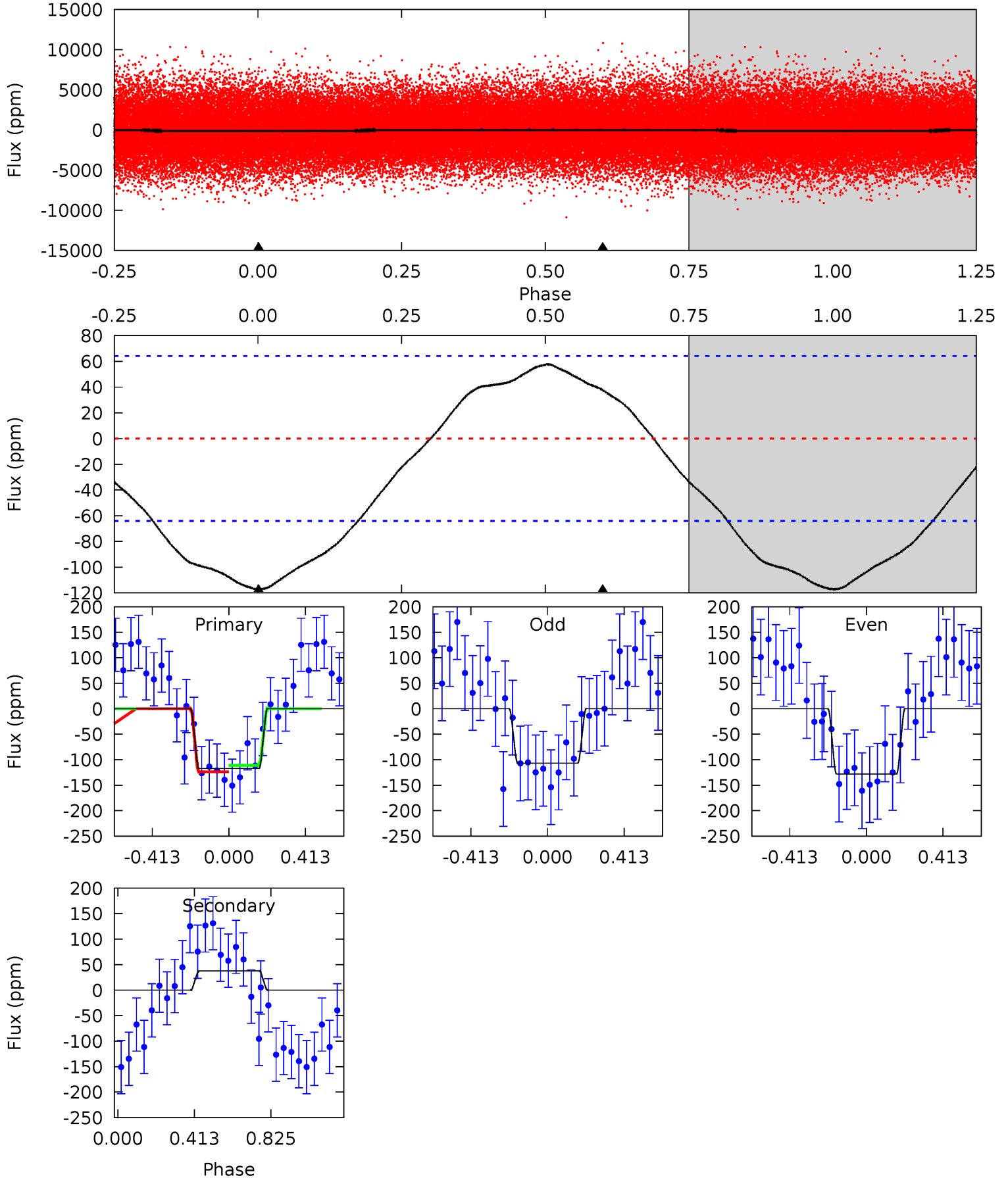
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	-4.19	0	0	4.22	0.70	1.65	12.7	12.7	-4.19	-4.19	1.01	1.03	0.31	0.78



Alt Model-Shift Uniqueness Test

008842025-01, P = 0.618242 Days, E = 131.136713 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.79	-2.50	0	0	4.26	0.82	0.99	7.79	7.79	-2.50	-2.50	0.70	1.06	0.33	0.39



Stellar Parameters For KIC 008842025

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6359^{+175}_{-194}	$4.183^{+0.209}_{-0.171}$	$-0.220^{+0.250}_{-0.300}$	$1.404^{+0.422}_{-0.346}$	$1.092^{+0.177}_{-0.145}$	$0.556^{+0.627}_{-0.252}$
	+3%/-3%	+5%/-4%	+114%/-136%	+30%/-25%	+16%/-13%	+113%/-45%
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 008842025-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	36 ± 9	$1.65^{+0.56}_{-0.49}$	3832^{+278}_{-277}	-5003^{+425}_{-856}	$-1.534^{+0.731}_{-2.023}$
Alt.	38 ± 15	$1.64^{+0.57}_{-0.54}$	3809^{+296}_{-259}	-5037^{+549}_{-850}	$-1.574^{+0.840}_{-2.019}$

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

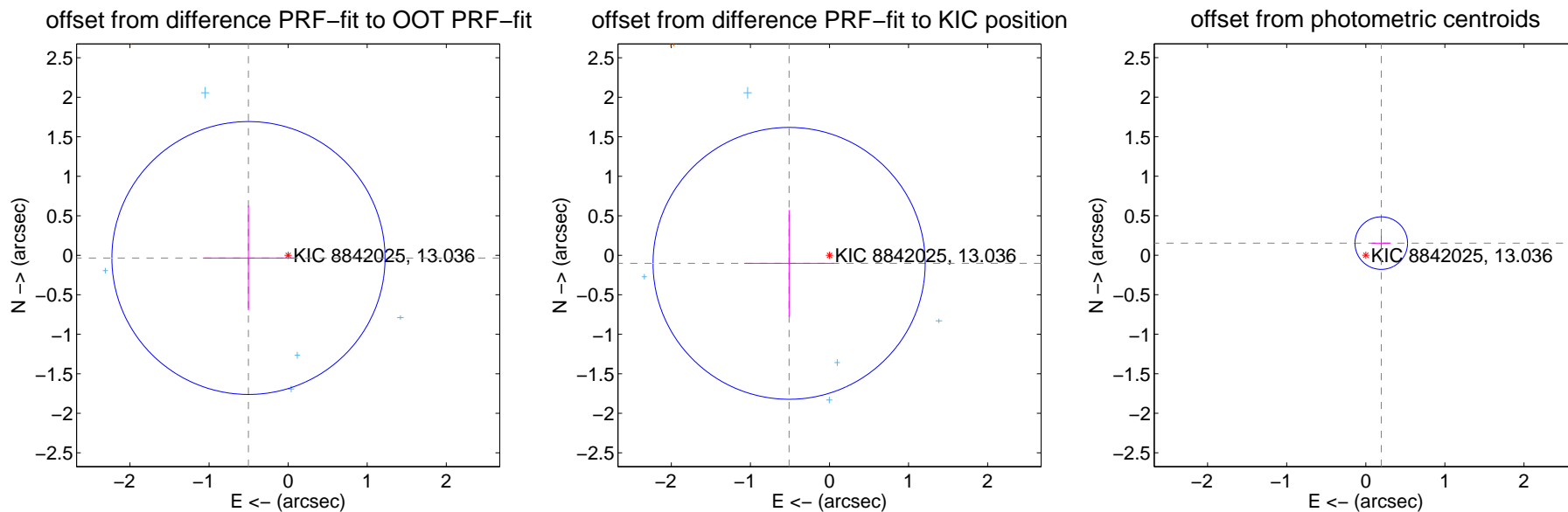
DV Centroid Data

Supplemental centroid analysis for 008842025-01. Kepler magnitude: 13.04. Transit SNR 15.40

There are 5 quarters with good PRF difference image offsets

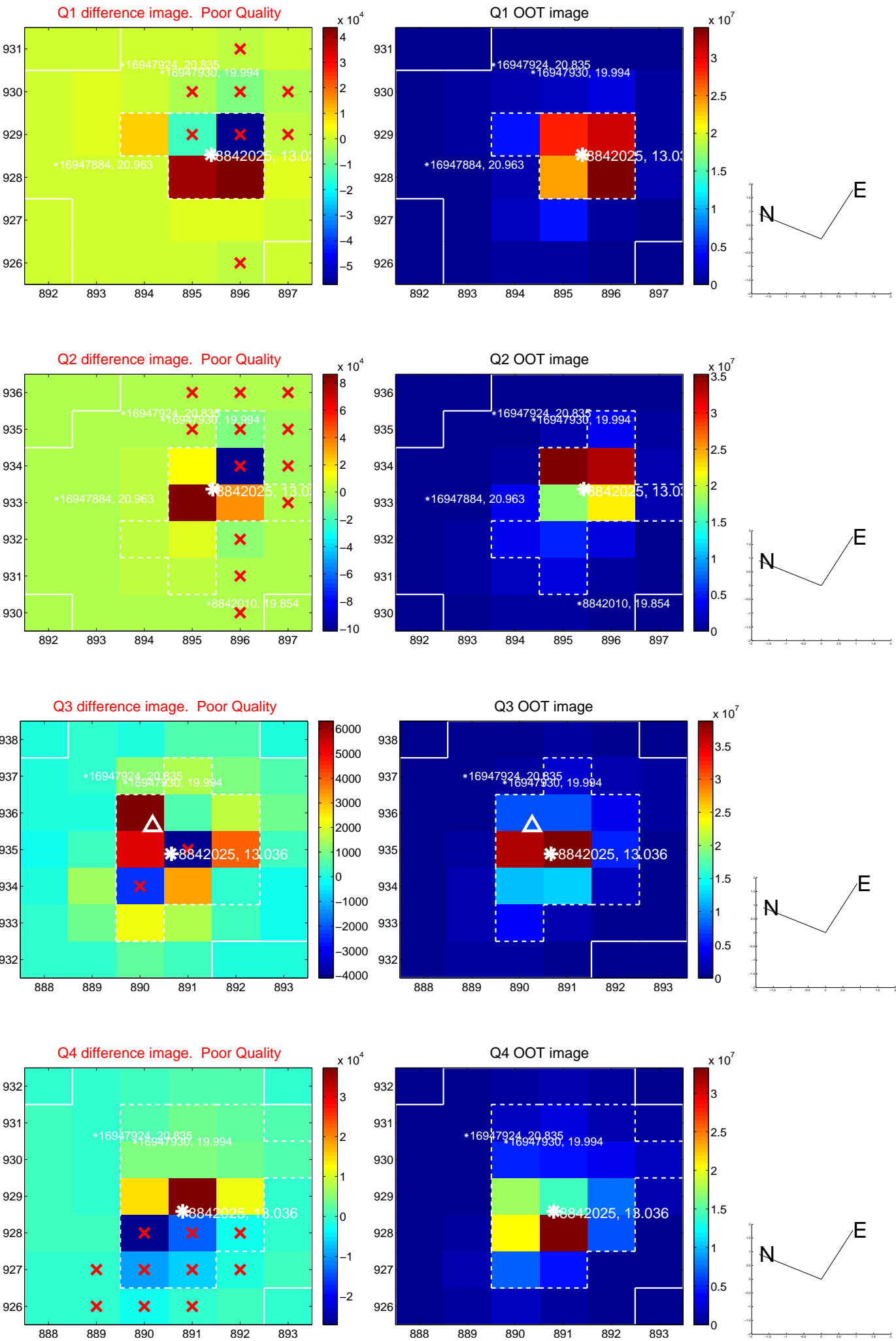
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.503 ± 0.576	0.87	0.502 ± 0.575	-0.035 ± 0.663
PRF-fit source offset from KIC position	0.521 ± 0.574	0.91	0.510 ± 0.569	-0.102 ± 0.674
photometric centroid source offset	0.25 ± 0.11	2.24	-0.20 ± 0.12	0.15 ± 0.09

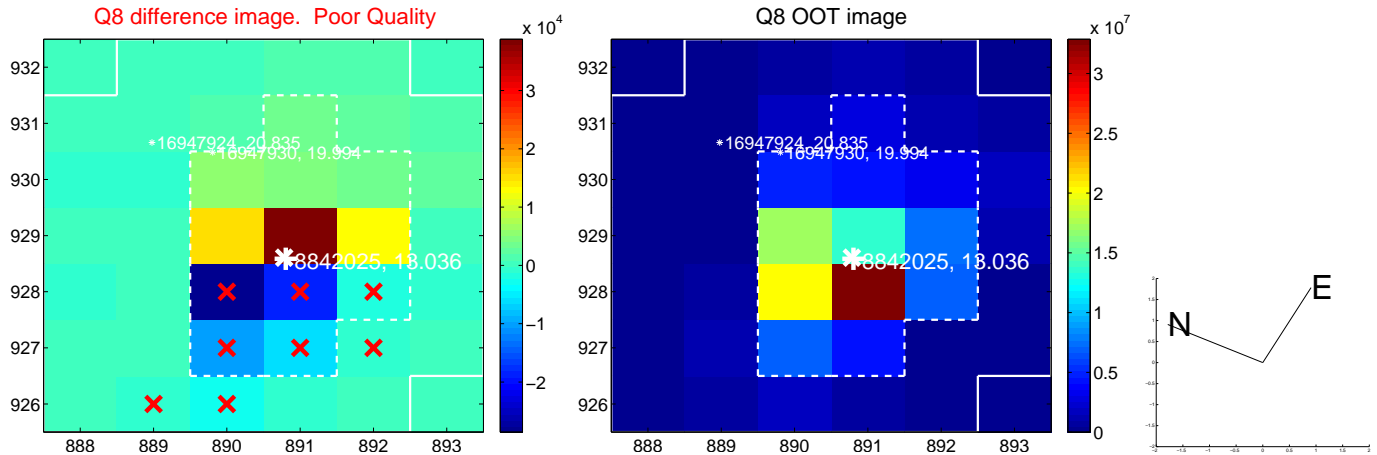
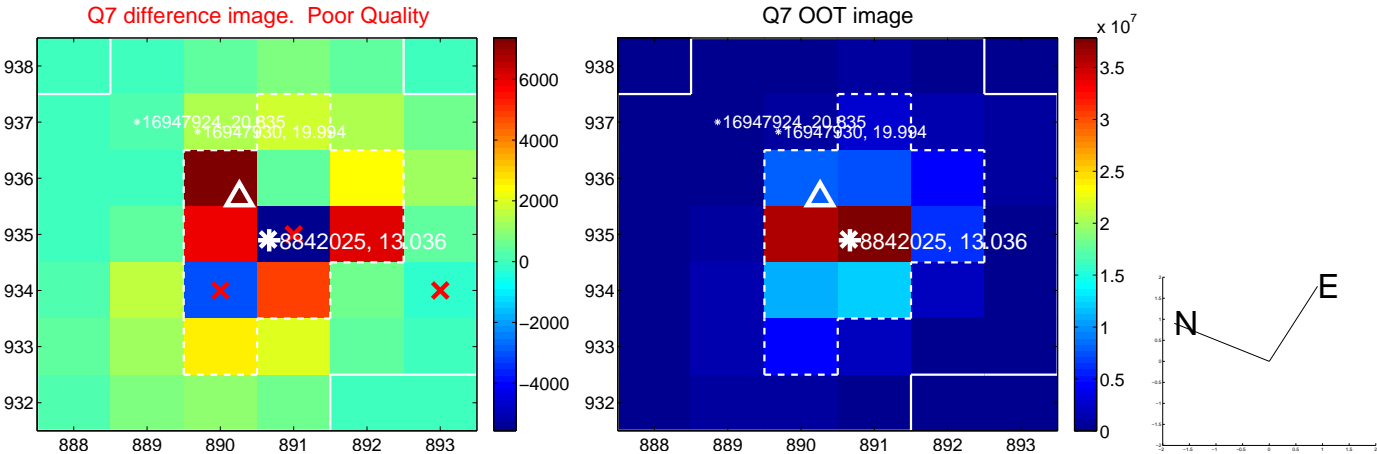
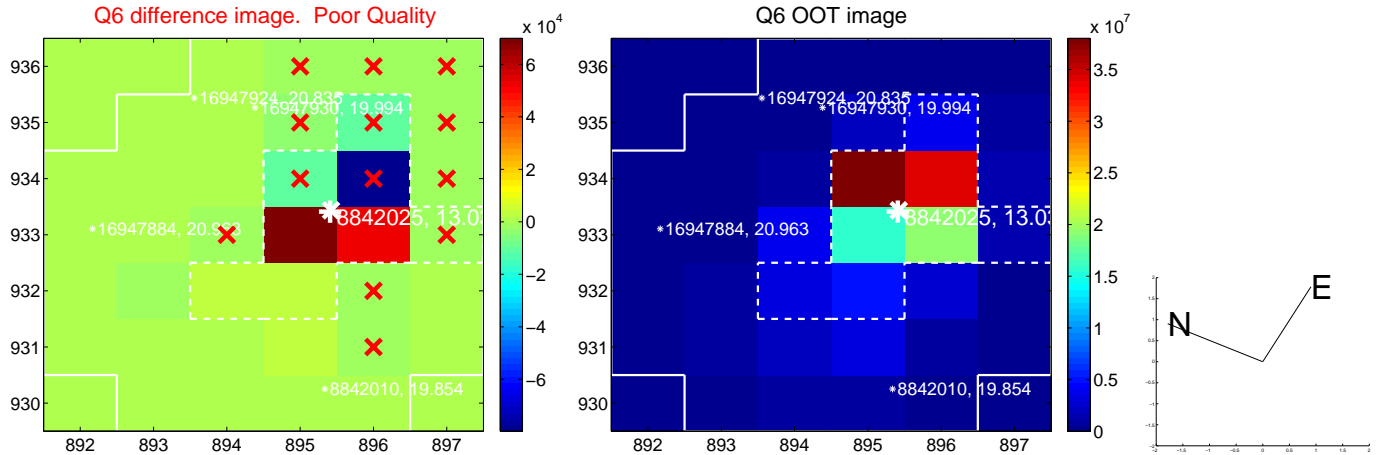
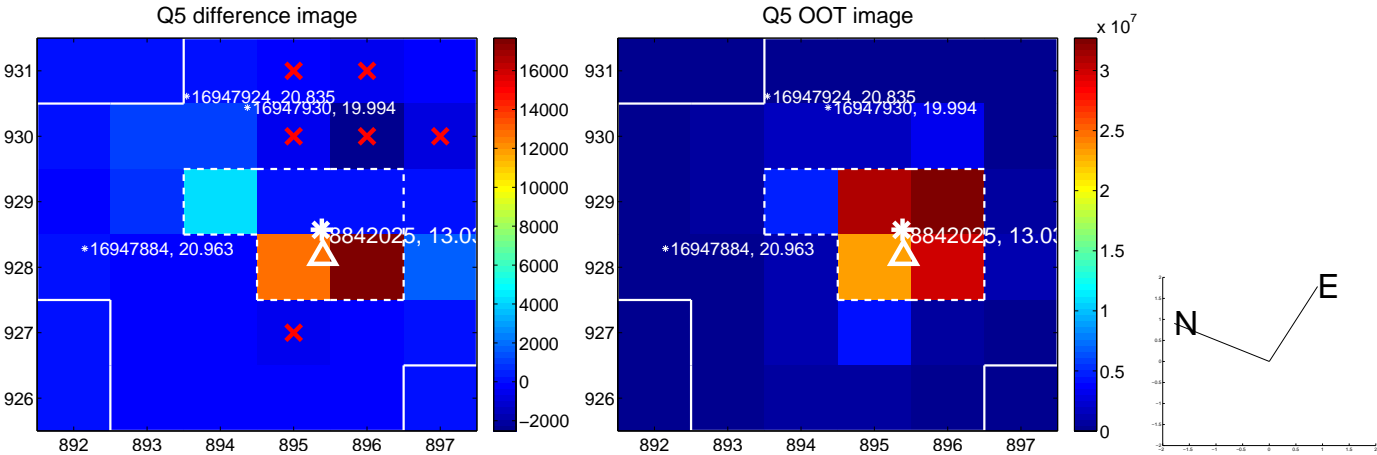


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

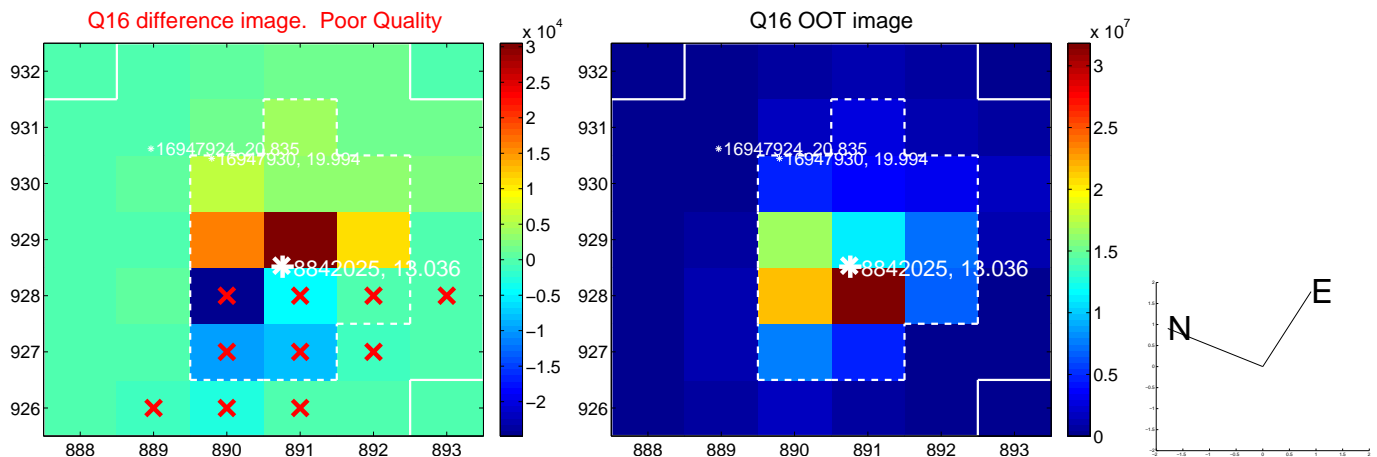
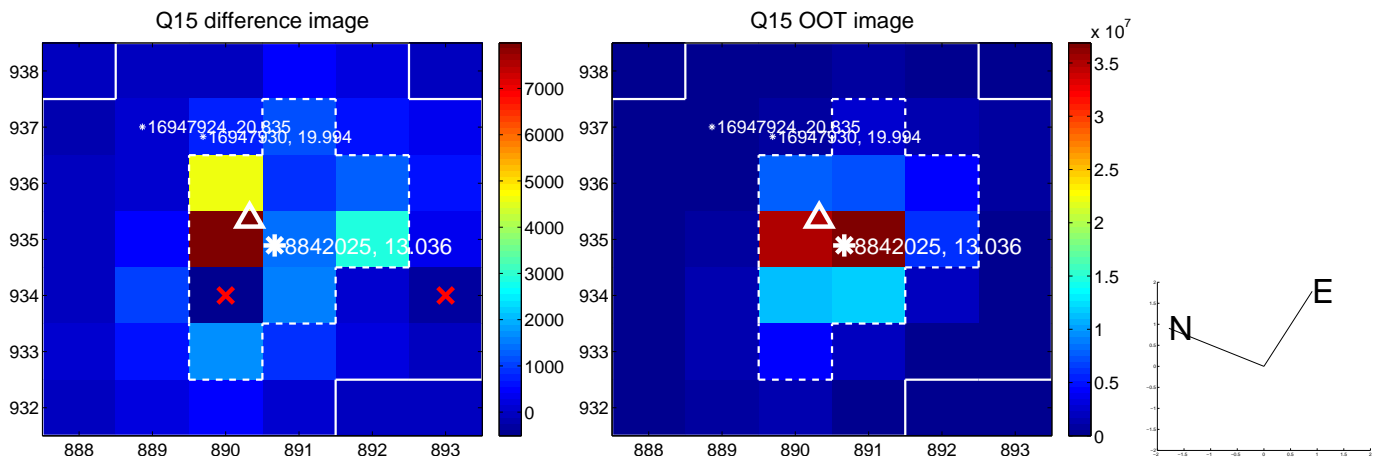
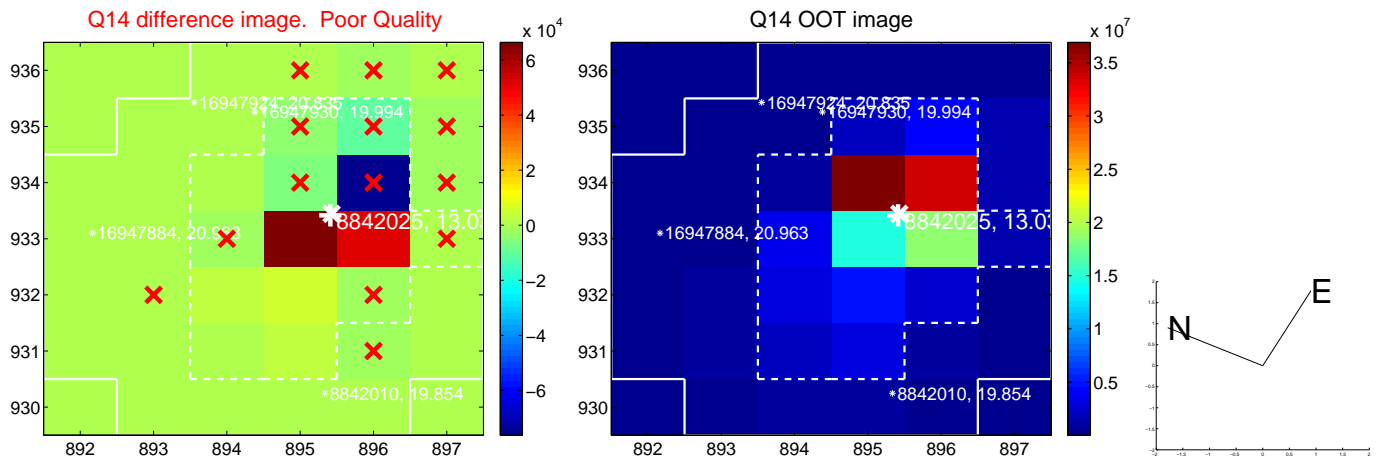
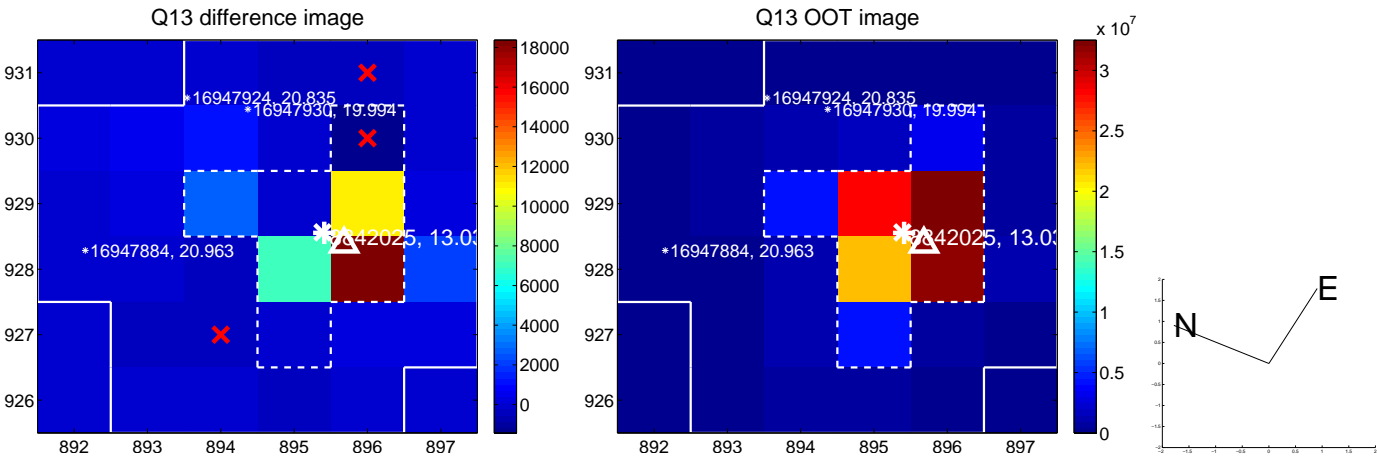
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



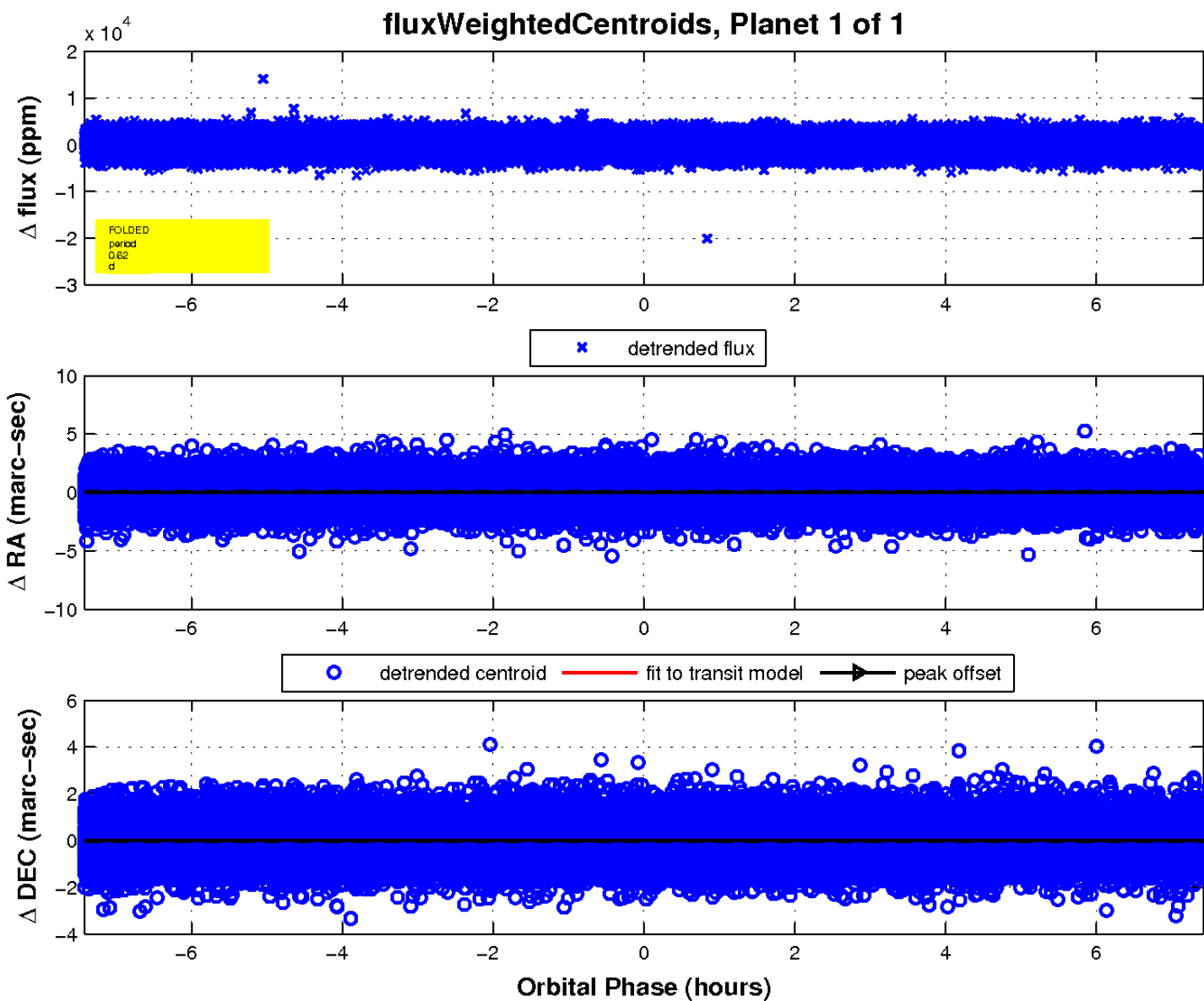
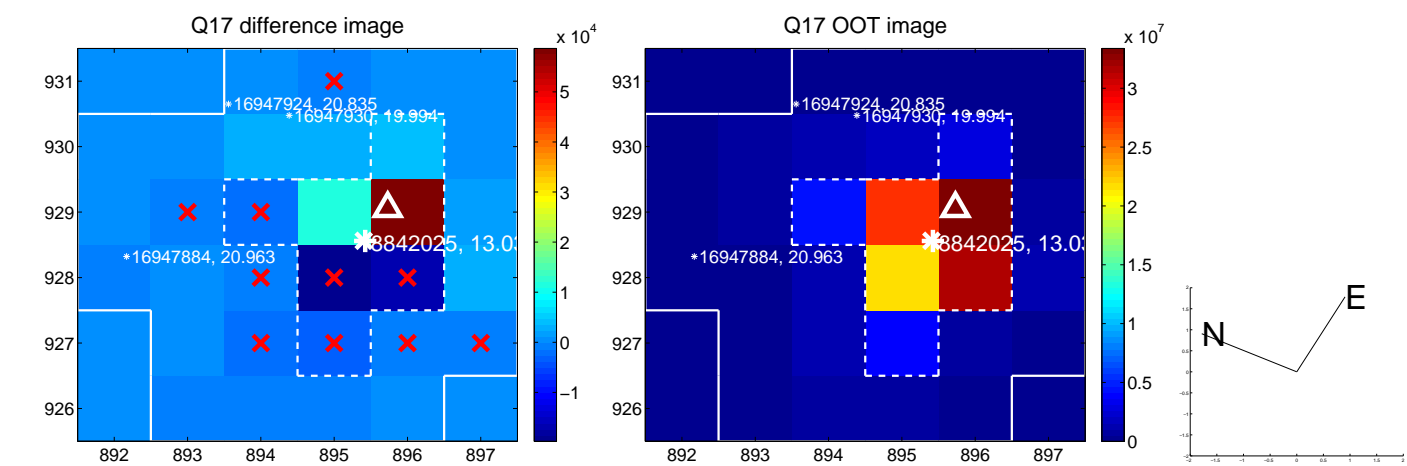
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

