KIC 006451876

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 ($S_\oplus$)
006451876-01	OBS	No	0.659627	132.125560	131.9	7.915	22.8	32.3	3.23	7877	3.96	104462.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006451876-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

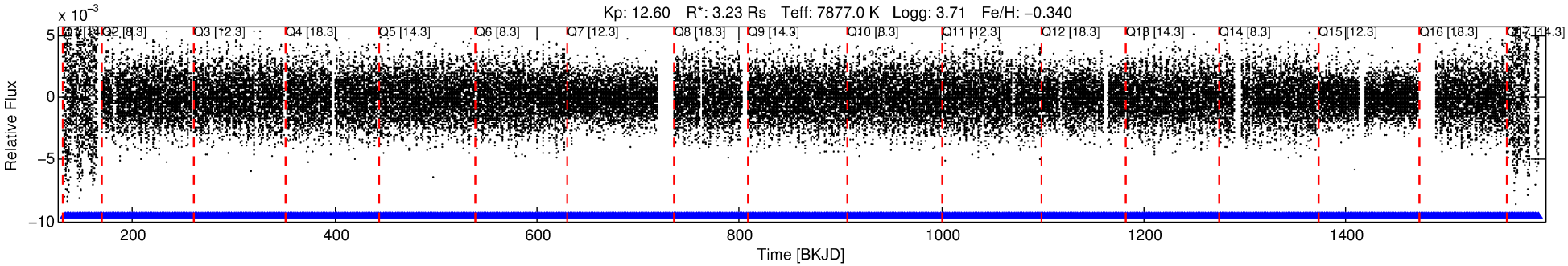
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

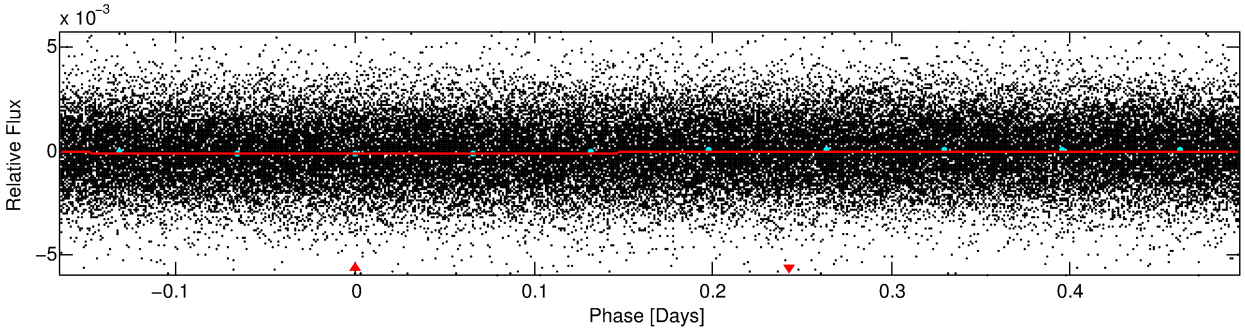
Ephemeris Match Information For 006451876-01

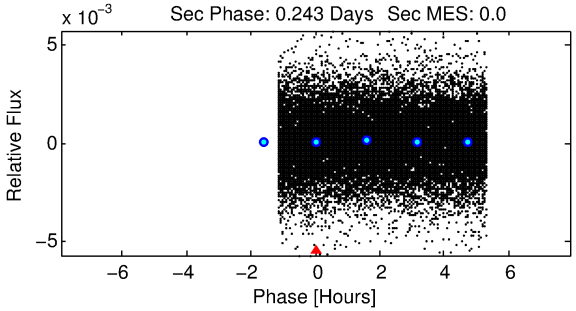
No Significant Match Found

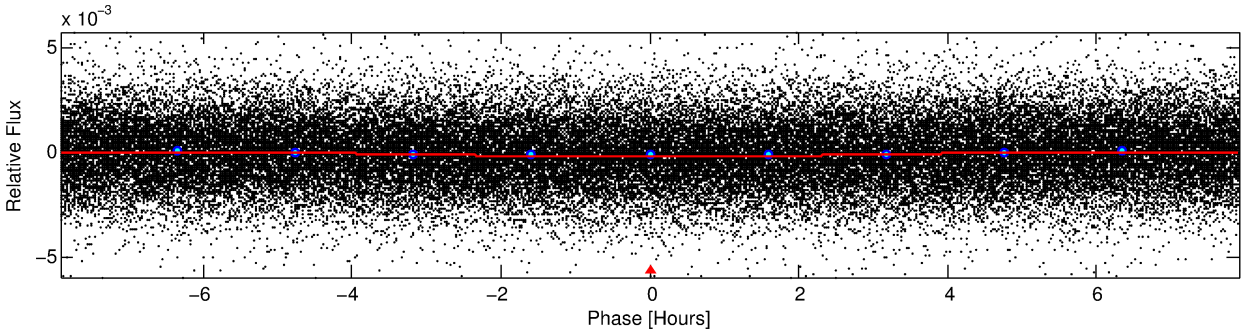
DV One-Page Summary

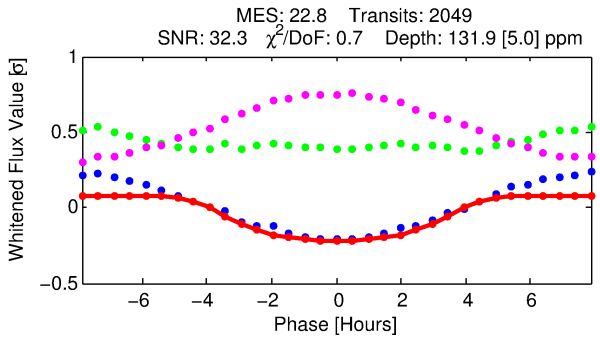
KIC: 6451876 Candidate: 1 of 1 Period: 0.660 d

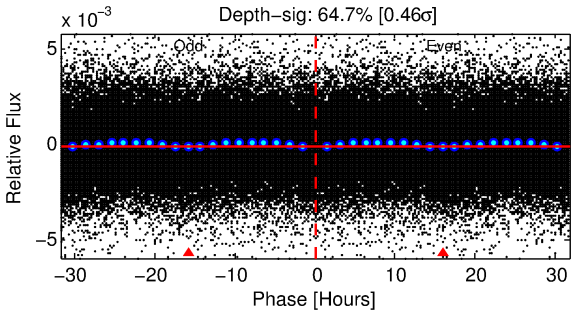


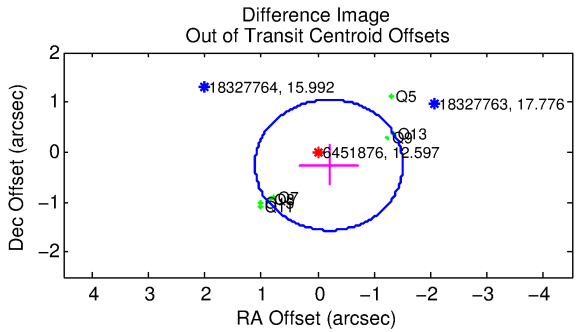












DV Fit Results:

Period = 0.65963 [0.00000] d
Epoch = 132.1256 [0.0037] BKJD
Rp/R* = 0.0112 [0.0029]
a/R* = 1.00 [0.00]
b = 0.69 [1.12]

Seff = 104462.25 [84786.08]
Teq = 4584 [930] K
Rp = 3.96 [2.26] Re
a = 0.0185 [0.0091] AU

Ag = N/A
Teffp = N/A

DV Diagnostic Results:

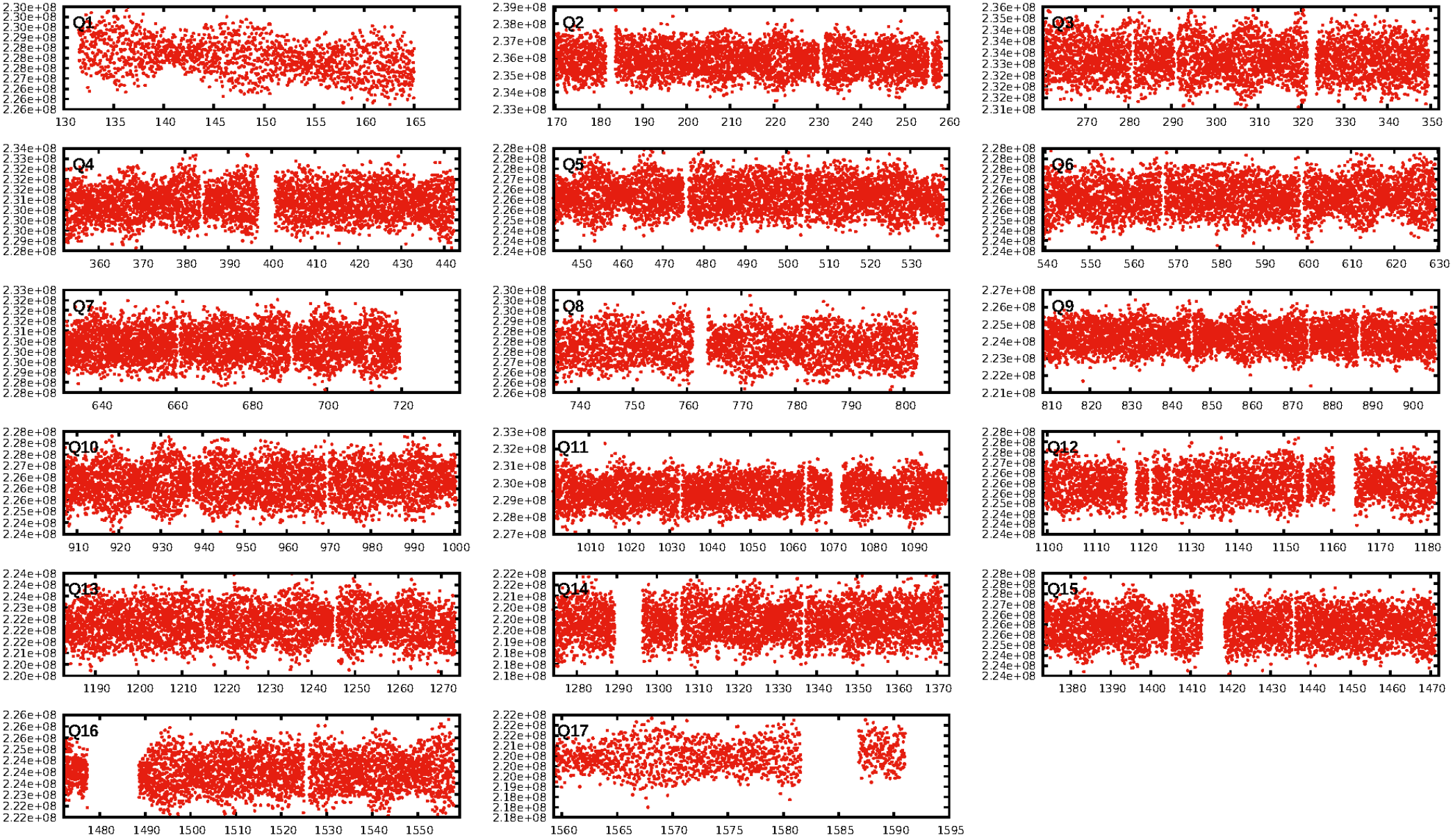
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [1957/1957]
GhostDiagnostic−chr: 1.896

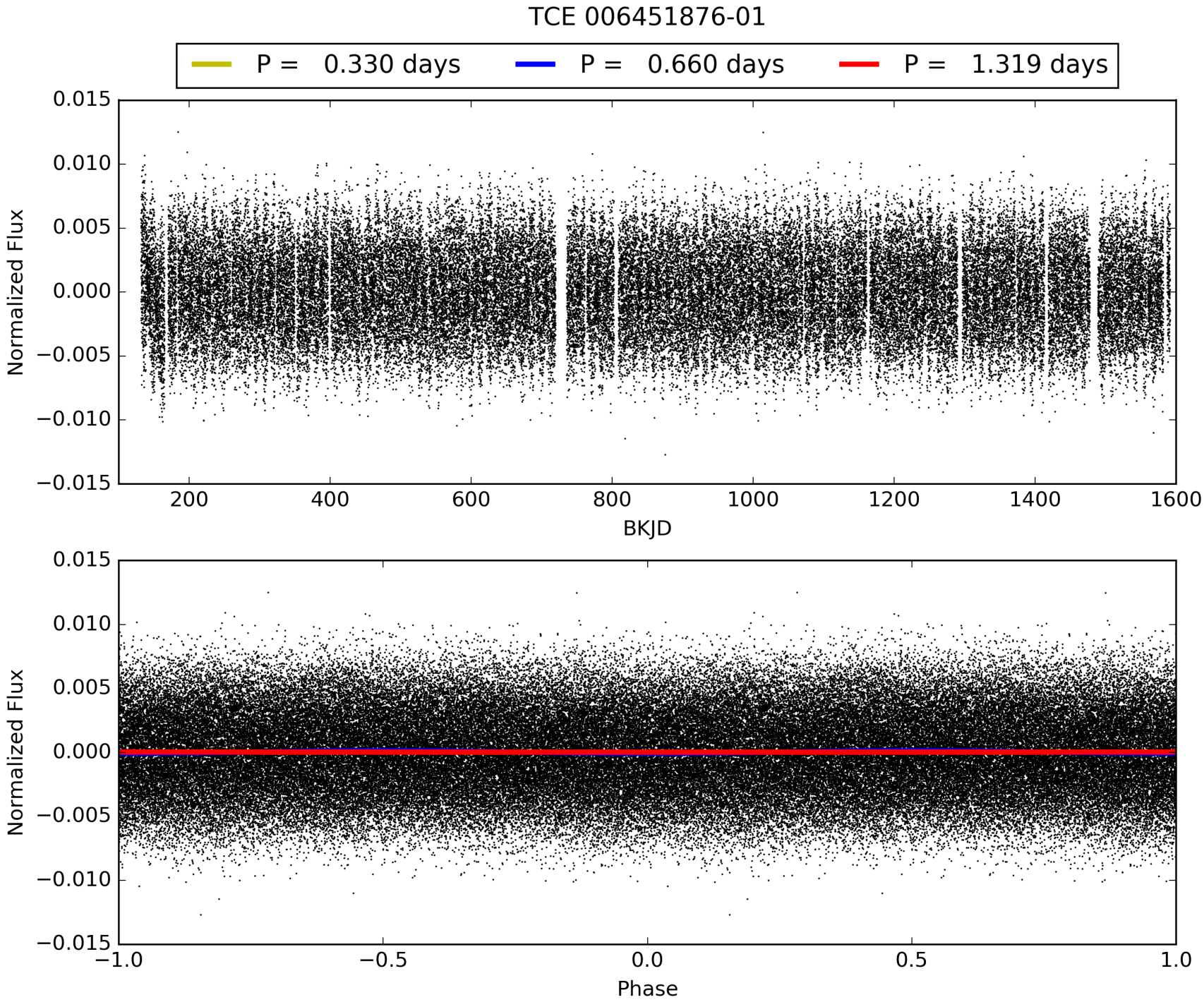
Centroid−sig: 0.0%
Centroid−so: 0.325 arcsec [5.75σ]
OotOffset−rm: 0.326 arcsec [0.75σ]
KicOffset−rm: 0.270 arcsec [0.60σ]
OotOffset−st: 0/4/0/3 [7]
KicOffset−st: 0/4/0/3 [7]
DiffImageQuality−fgm: 1.00 [7/7]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 31−Jan−2016 06:13:13 Z

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

TCE 006451876-01, PDC Light Curves

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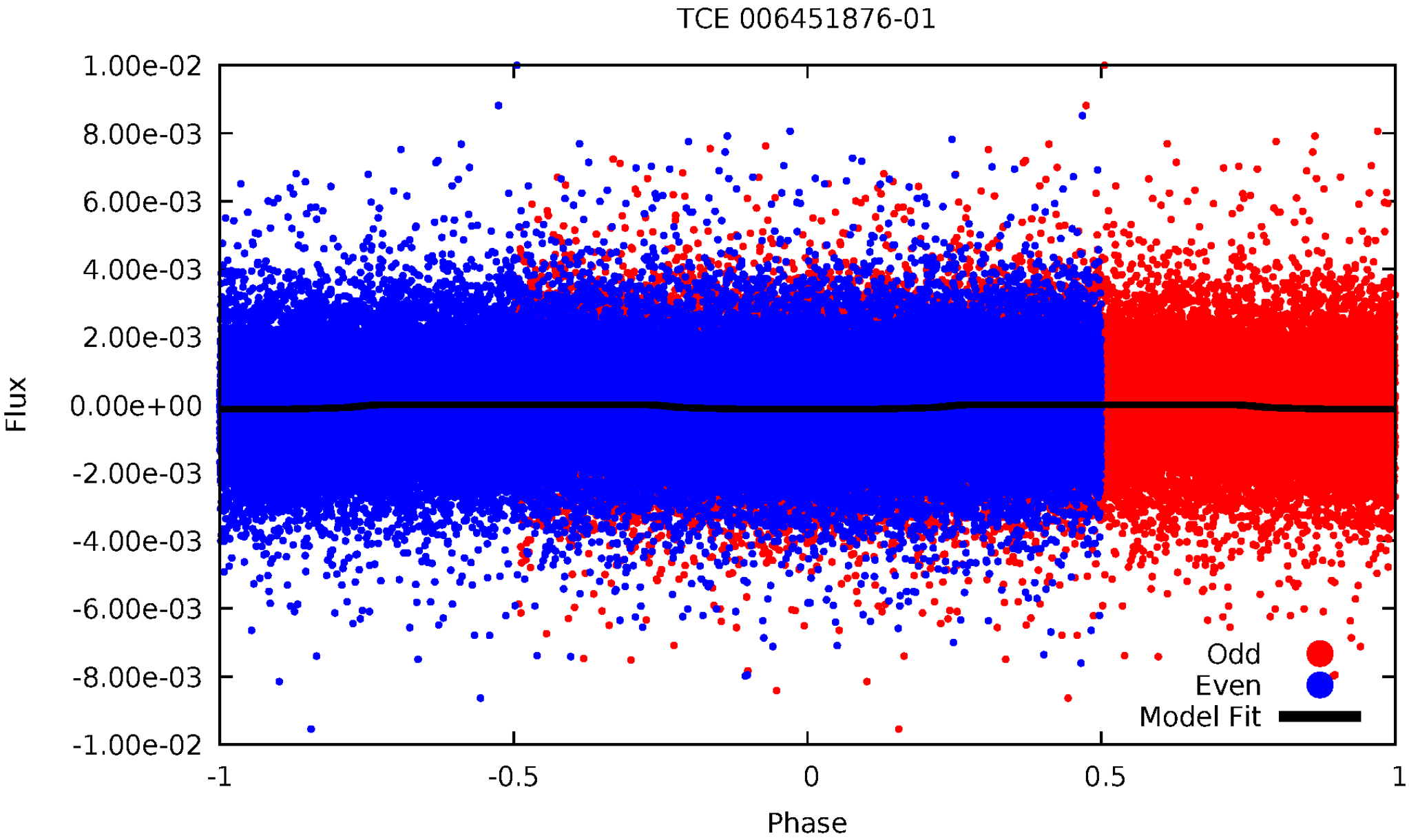
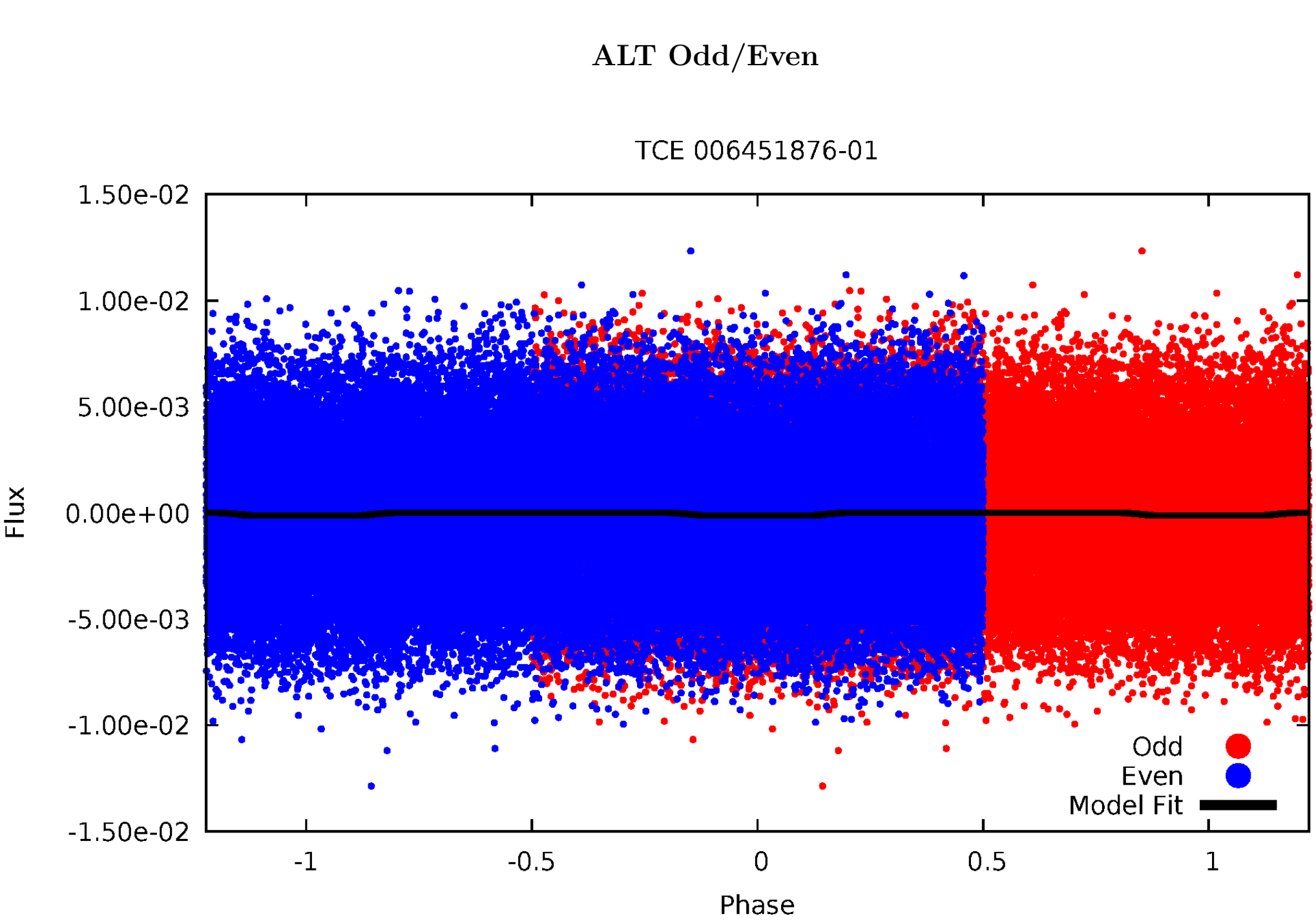
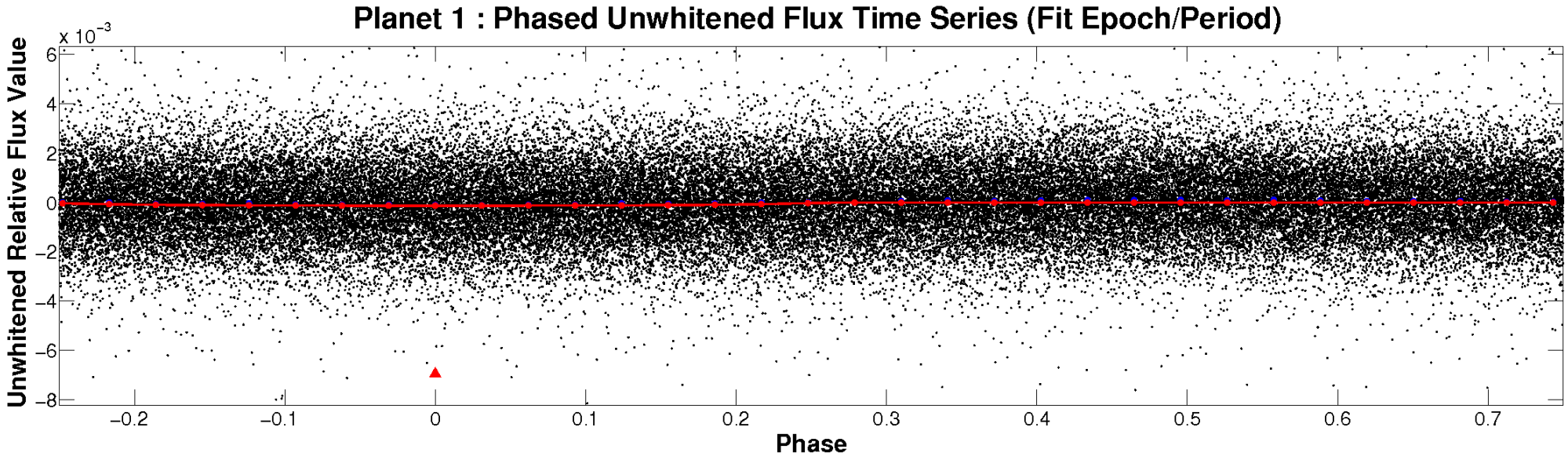
P = 0.330 days
P = 0.660 days
P = 1.319 days
Normalized Flux
0.015
0.010
0.005
0.000
−0.005
−0.010
−0.015
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.015
0.010
0.005
0.000
−0.005
−0.010
−0.015
−1.0
−0.5
0.0
0.5
1.0
Phase

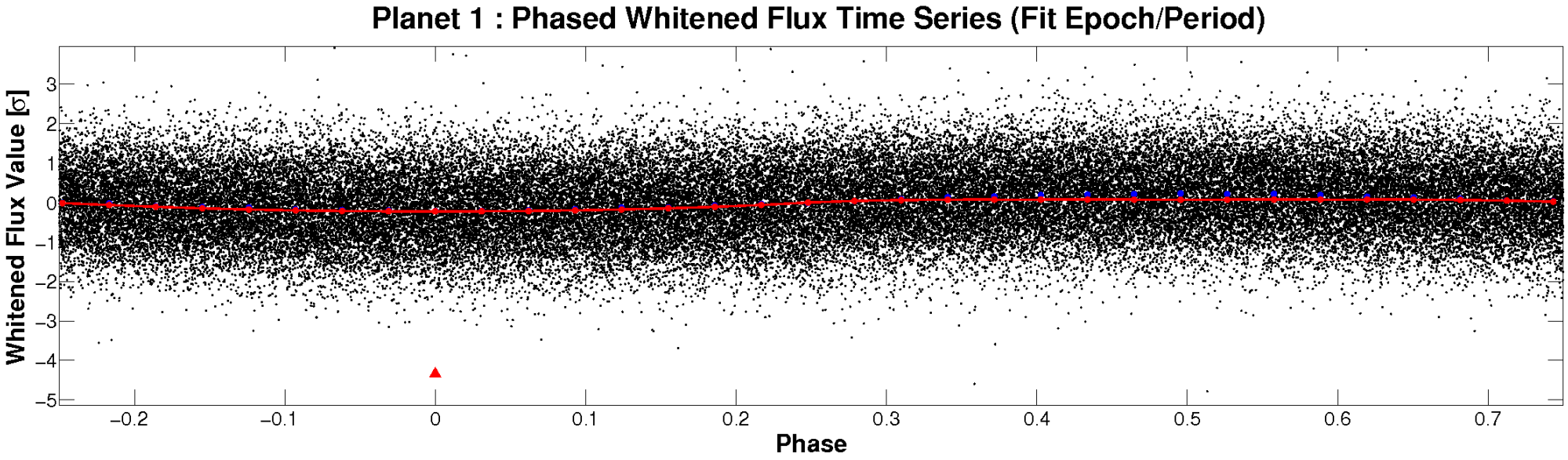
DV Odd/Even


TCE 006451876-01
1.00e-02
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
-8.00e-03
-1.00e-02
Flux
-1
-0.5
0
0.5
1
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 006451876-01
1.50e-02
1.00e-02
5.00e-03
0.00e+00
-5.00e-03
-1.00e-02
-1.50e-02
Flux
-1
-0.5
0
0.5
1
Phase
Odd
Even
Model Fit

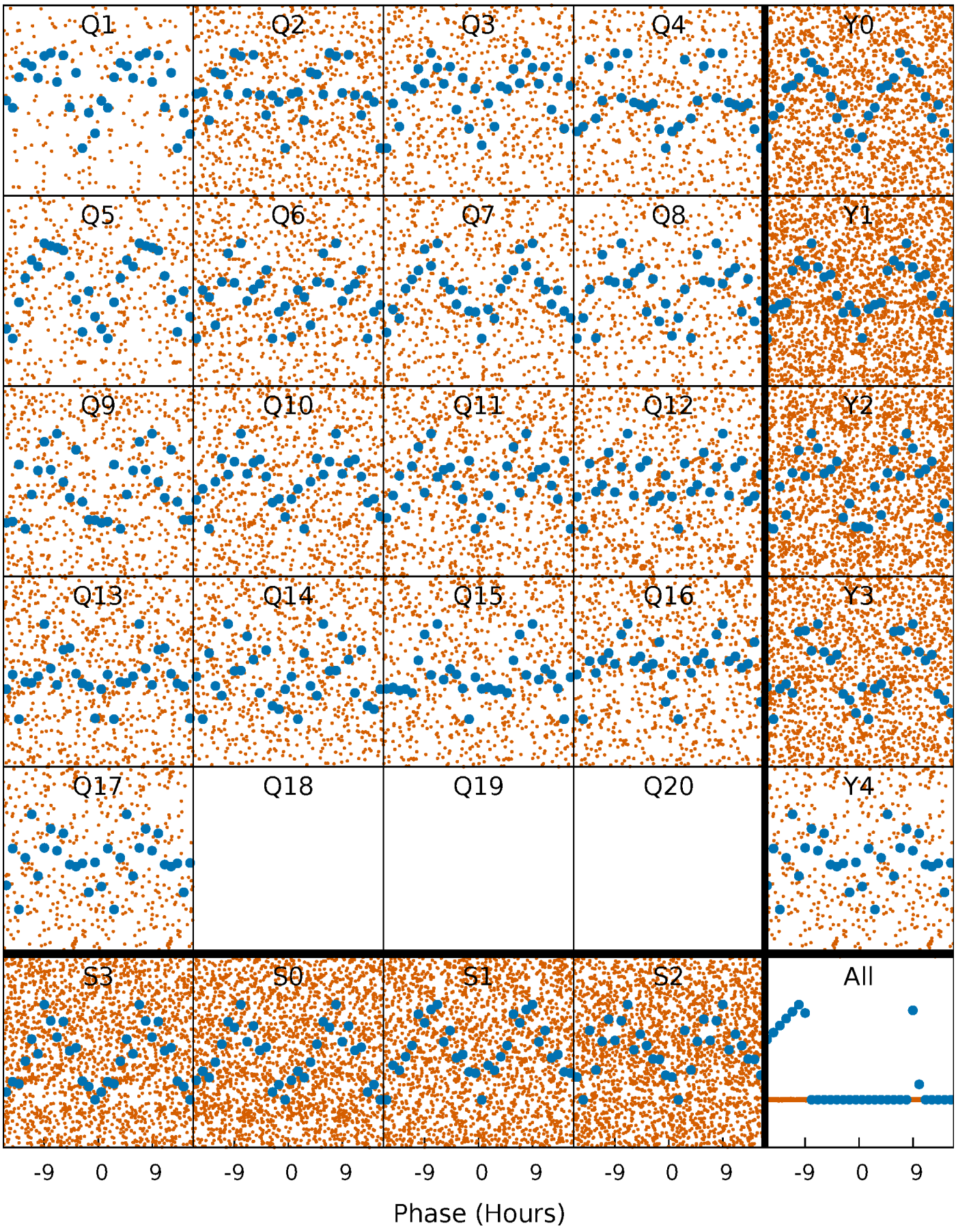
Non-Whitened Vs. Whitened Light Curve





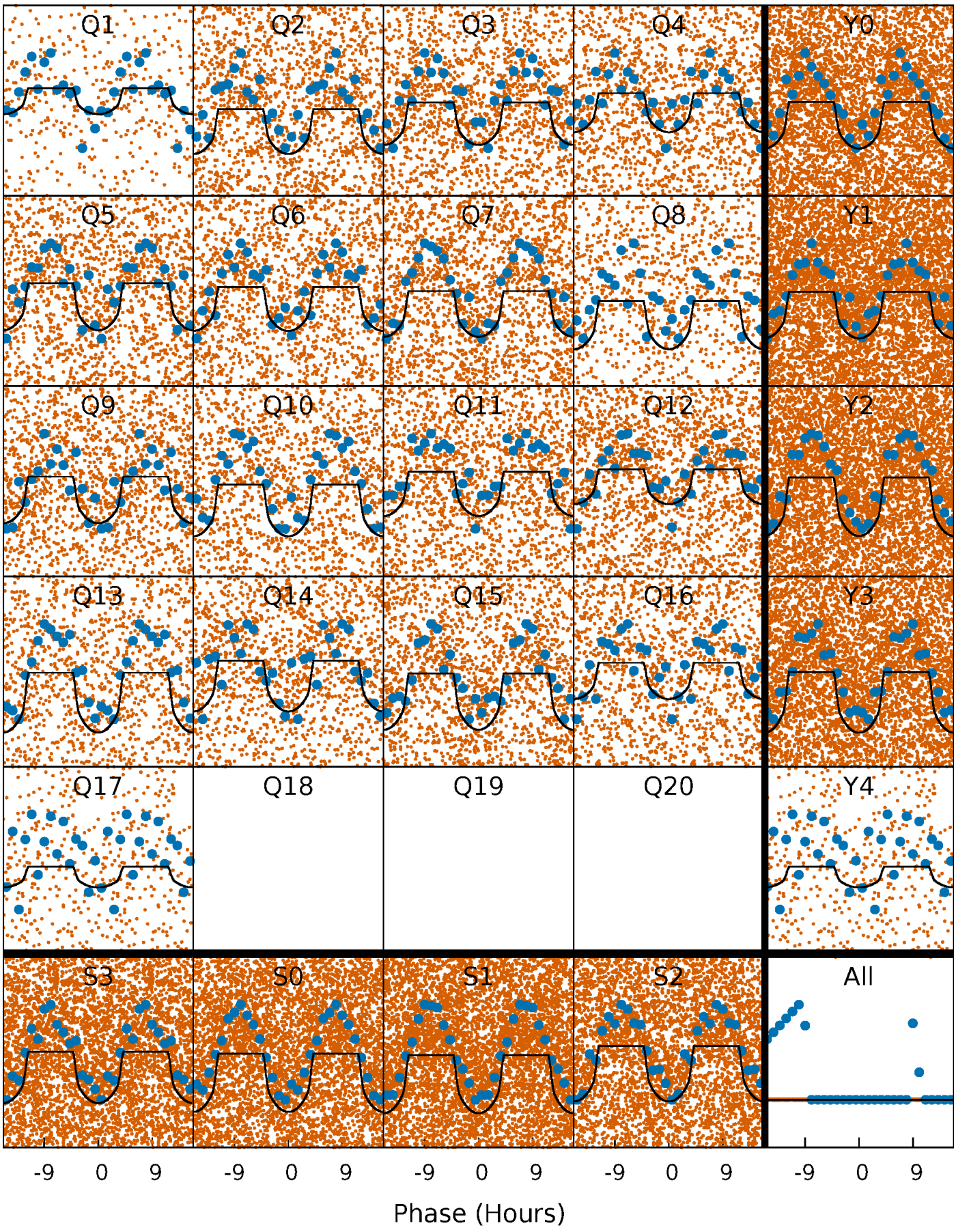
PDC Quarter-Phased Transit Curves

TCE 006451876-01 P= 0.659627 Days T_0=132.125560 (BKJD)



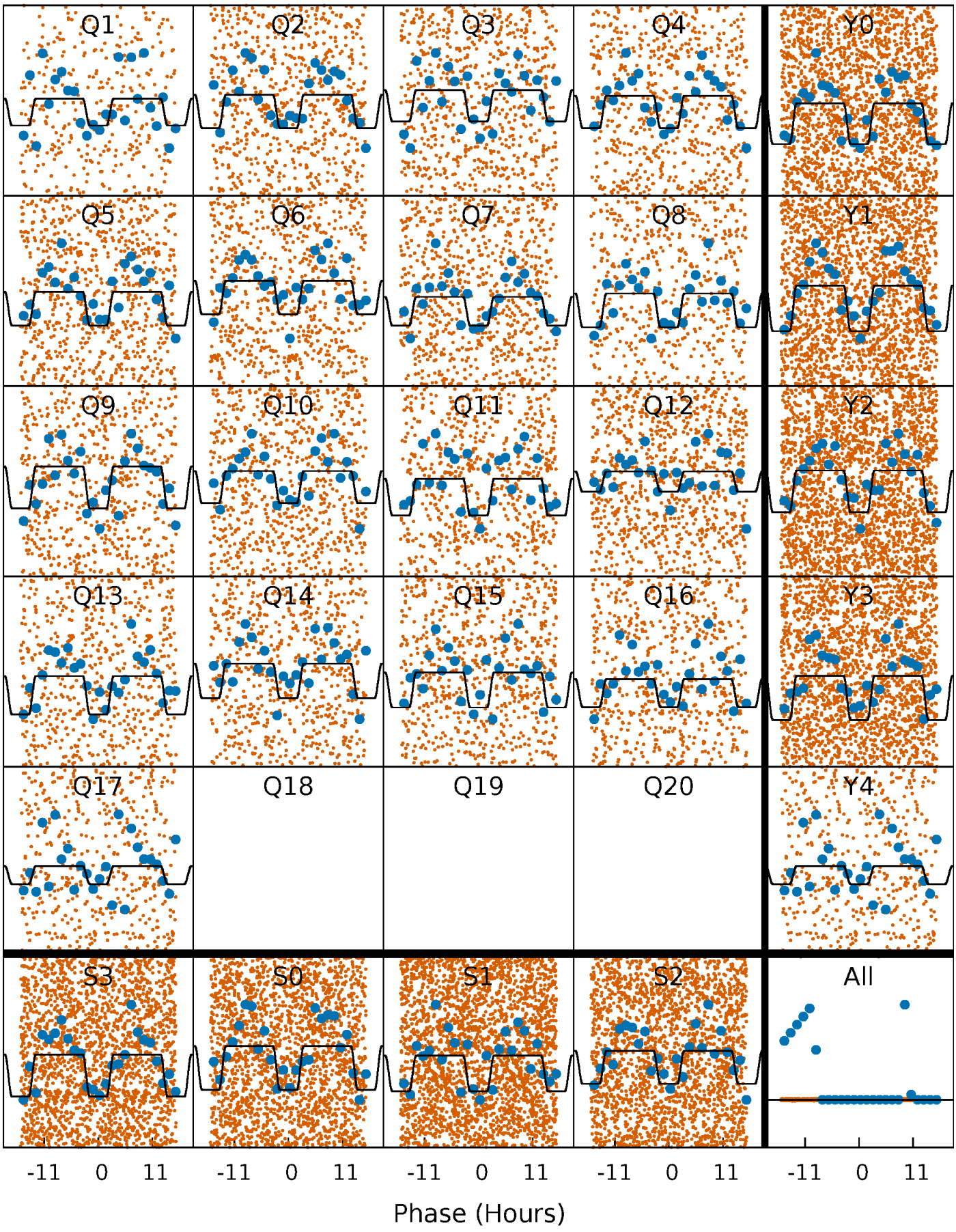
DV Quarter-Phased Transit Curves

TCE 006451876-01 P= 0.659627 Days T_0=132.125560 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

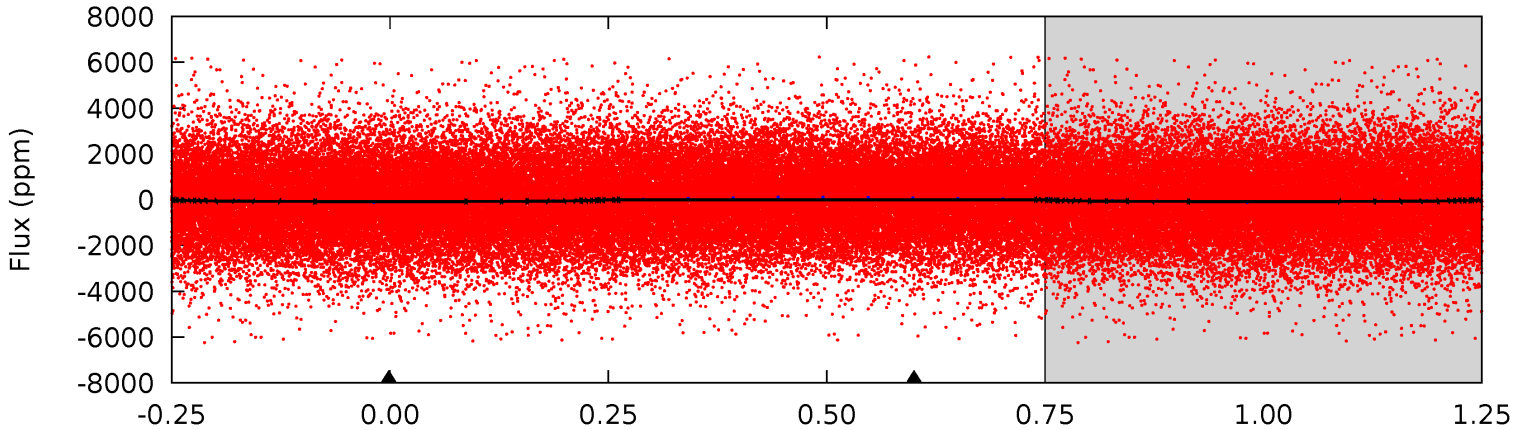
TCE 006451876-01 P= 0.659636 Days T_0=132.122776 (BKJD)

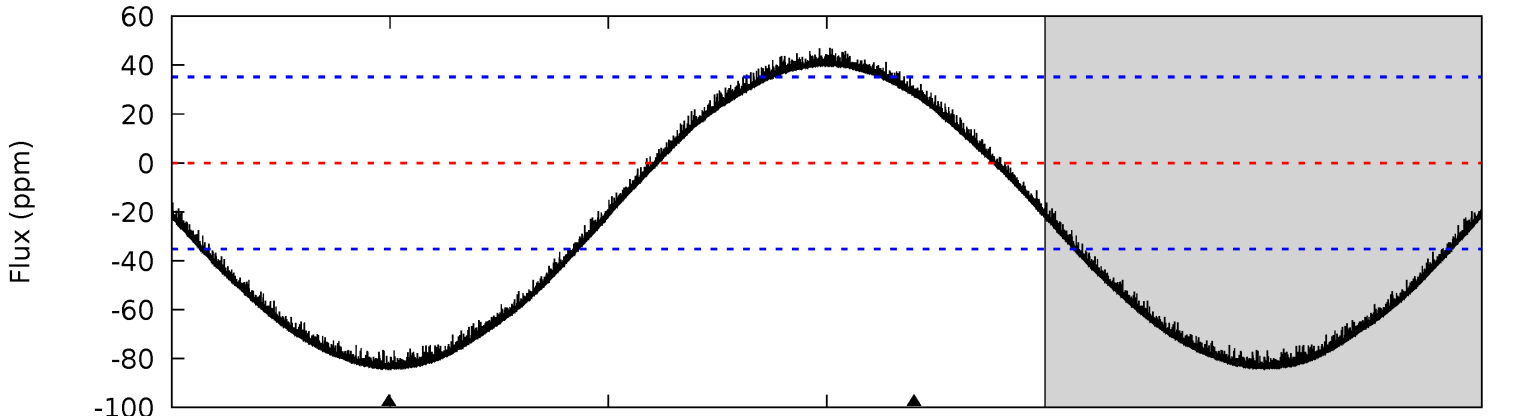


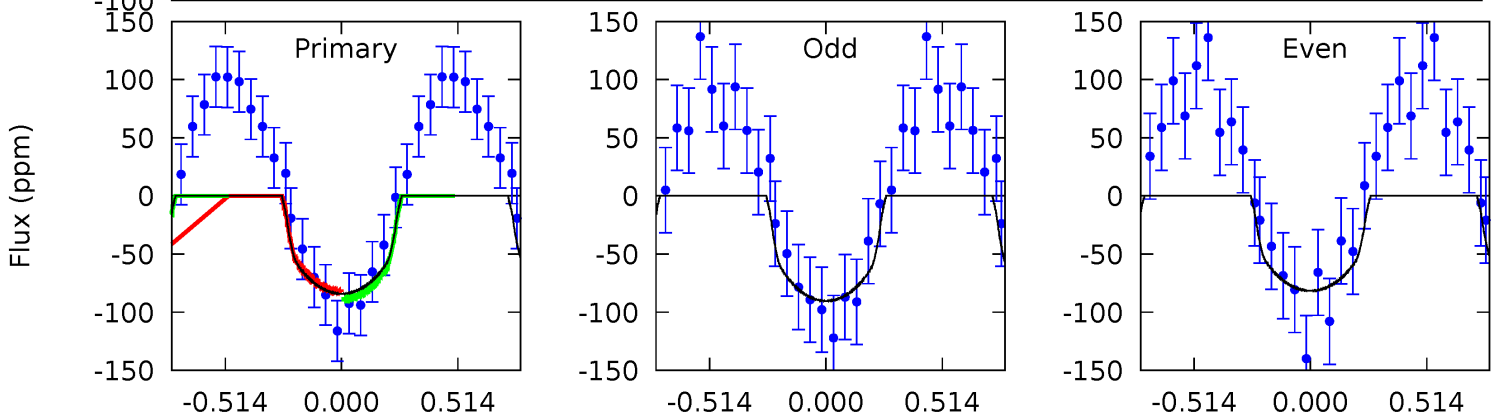
DV Model-Shift Uniqueness Test

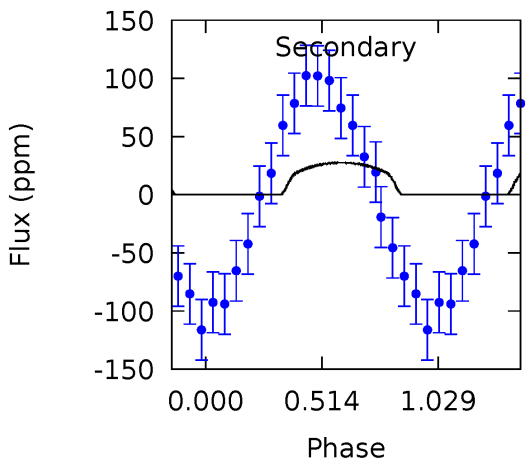
006451876-01, P = 0.659627 Days, E = 131.465933 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	-3.30	0	0	4.21	0.65	1.30	10.1	10.1	-3.30	-3.30	0.52	1.00	0.36	0.39





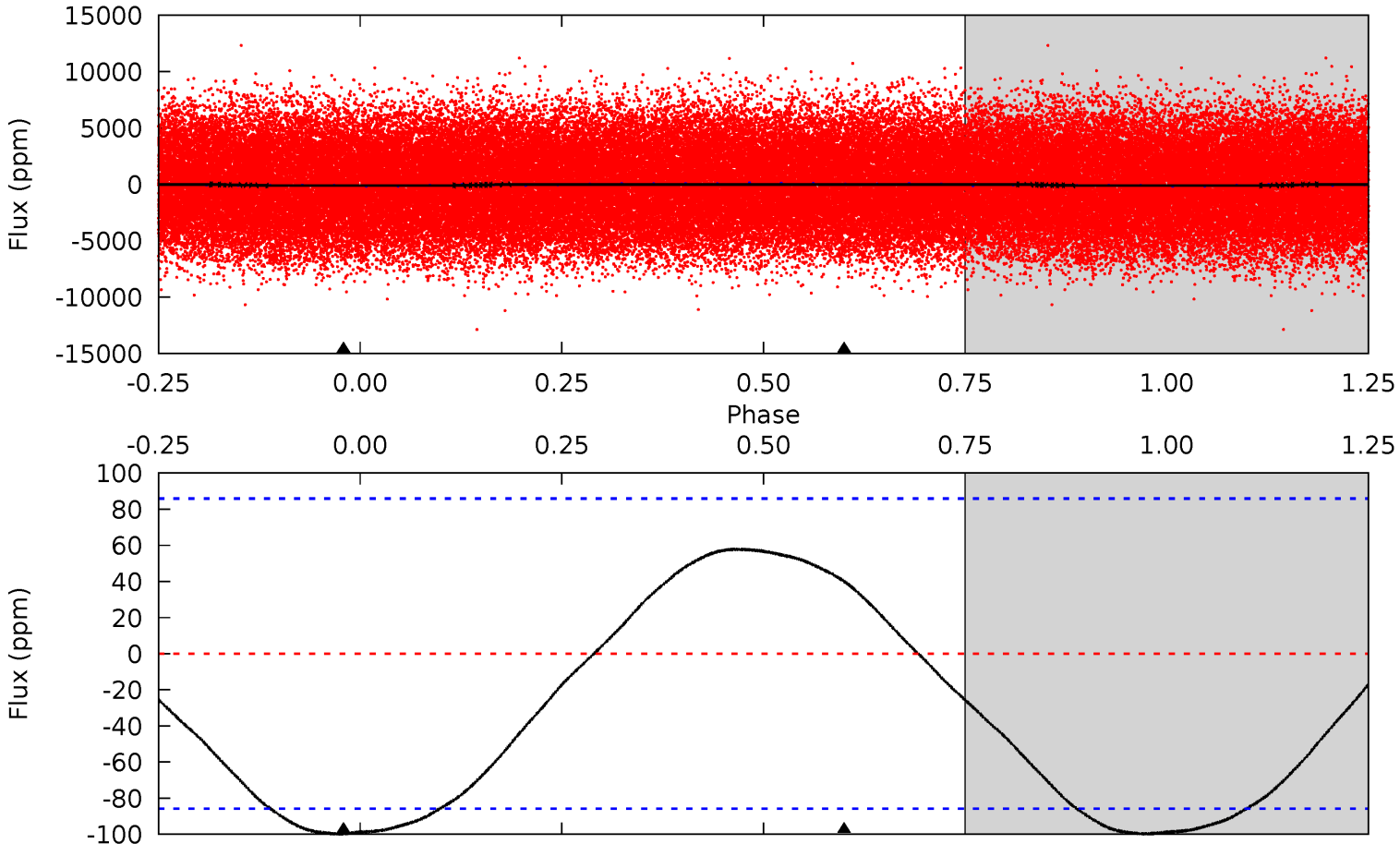


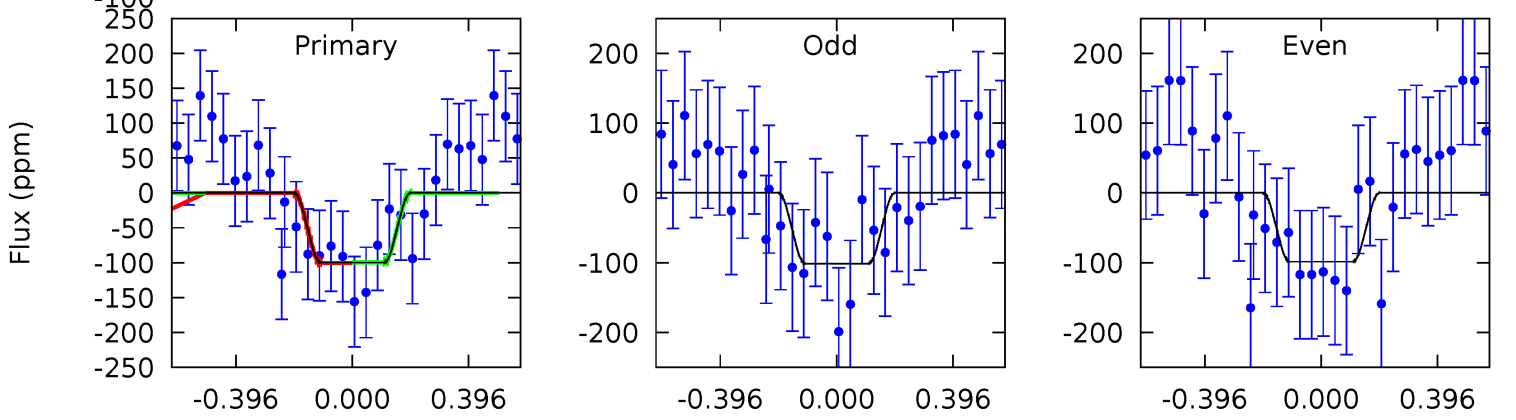


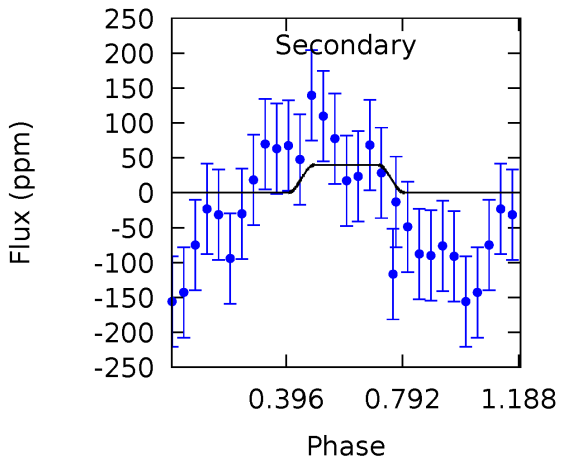
Alt Model-Shift Uniqueness Test

006451876-01, P = 0.659636 Days, E = 131.463140 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.96	-1.98	0	0	4.27	0.85	0.65	4.96	4.96	-1.98	-1.98	0.07	1.18	0.37	0.02







Stellar Parameters For KIC 006451876

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	7877^{+221}_{-332}	$3.711^{+0.468}_{-0.055}$	$-0.340^{+0.200}_{-0.300}$	$3.225^{+0.288}_{-1.635}$	$1.951^{+0.065}_{-0.522}$	$0.082^{+0.399}_{-0.016}$
	+3%/-4%	+13%/-1%	+59%/-88%	+9%/-51%	+3%/-27%	+487%/-19%
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 006451876-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	28±8	$3.48^{+1.28}_{-1.10}$	6176^{+389}_{-787}	-6052^{+519}_{-662}	$-0.411^{+0.208}_{-0.498}$
Alt.	40±20	$3.52^{+1.22}_{-1.15}$	6172^{+397}_{-793}	-6253^{+688}_{-1003}	$-0.550^{+0.357}_{-0.769}$

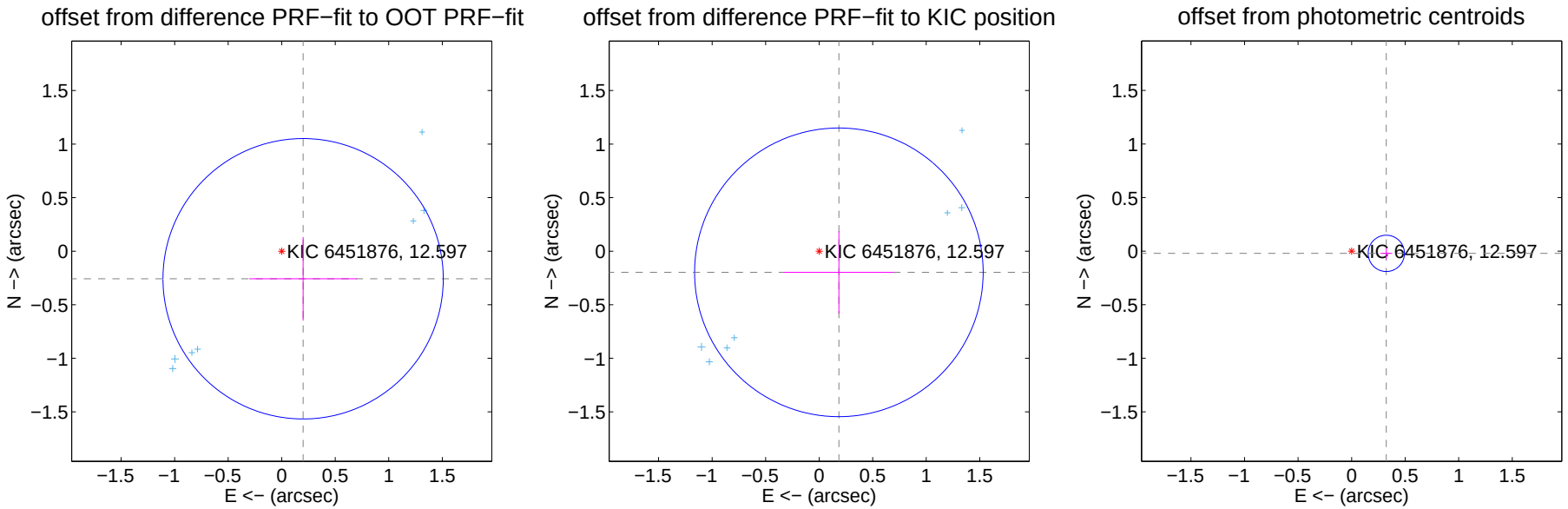
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

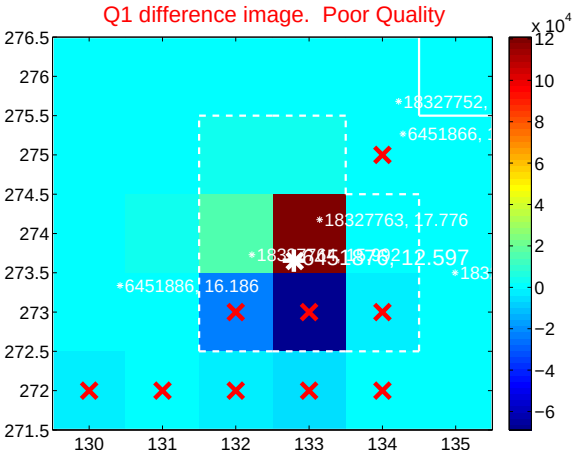
Supplemental centroid analysis for 006451876-01. Kepler magnitude: 12.60. Transit SNR 32.30
There are 7 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

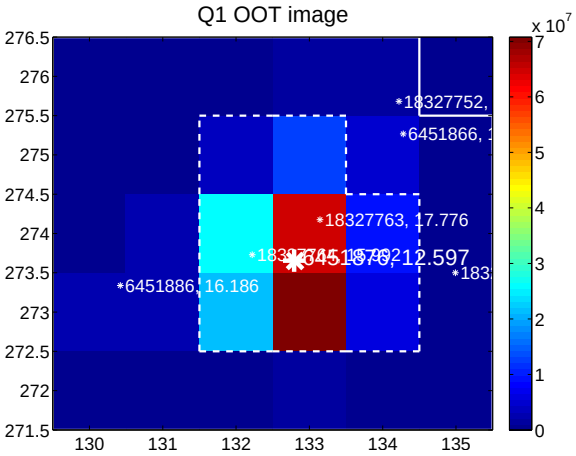
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.326 ± 0.436	0.75	-0.200 ± 0.504	-0.258 ± 0.390
PRF-fit source offset from KIC position	0.270 ± 0.449	0.60	-0.184 ± 0.513	-0.198 ± 0.385
photometric centroid source offset	0.32 ± 0.06	5.75	-0.32 ± 0.06	-0.02 ± 0.05

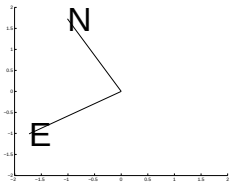


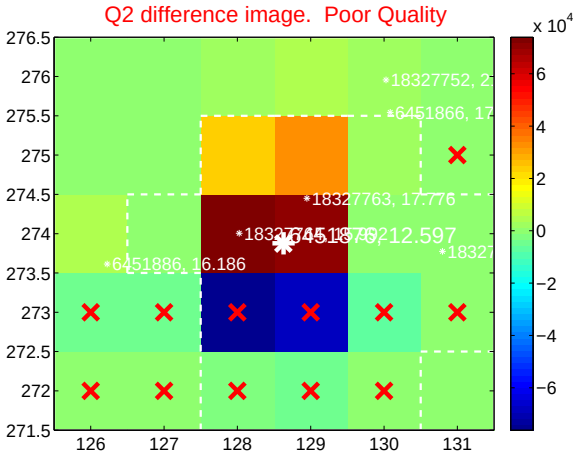
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

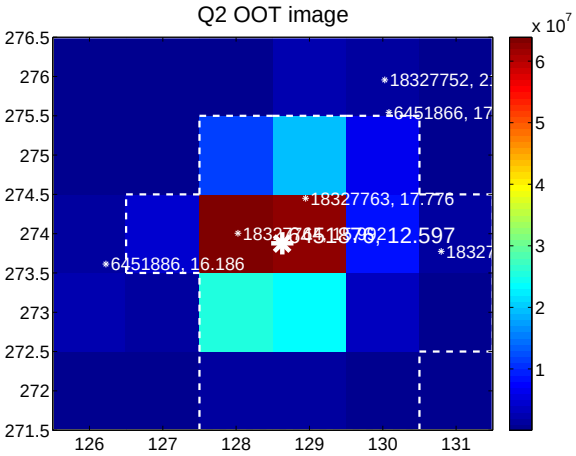
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

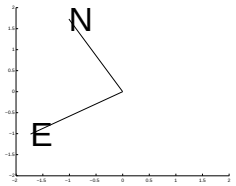


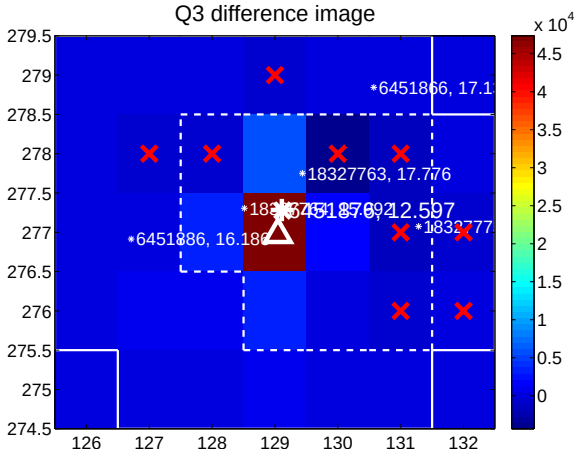


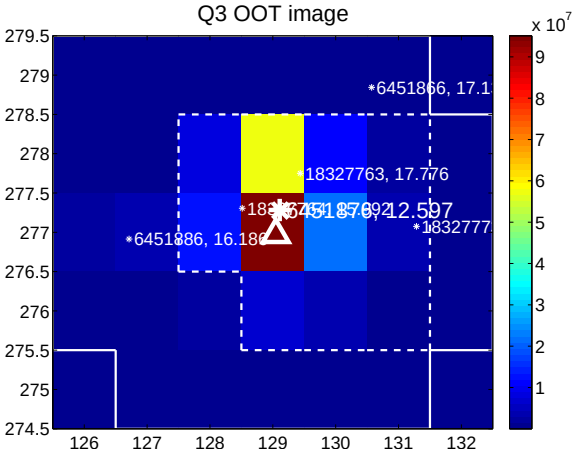


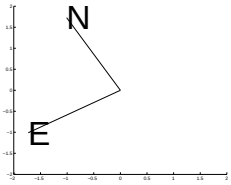


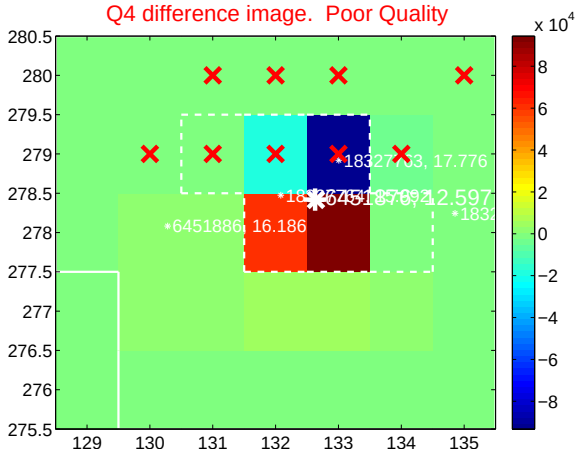


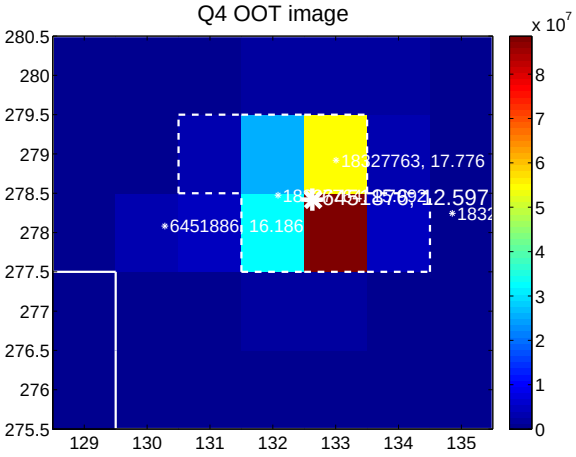


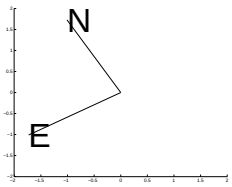




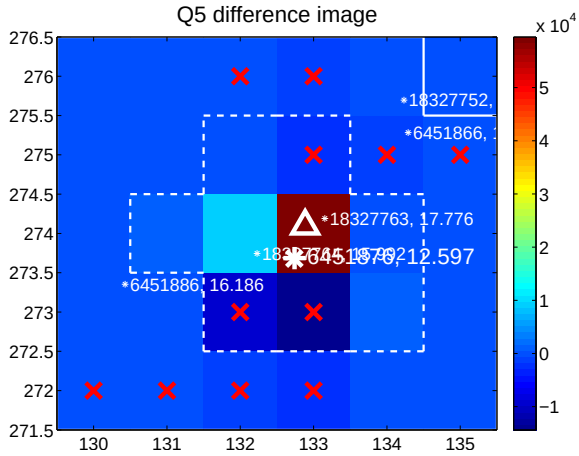


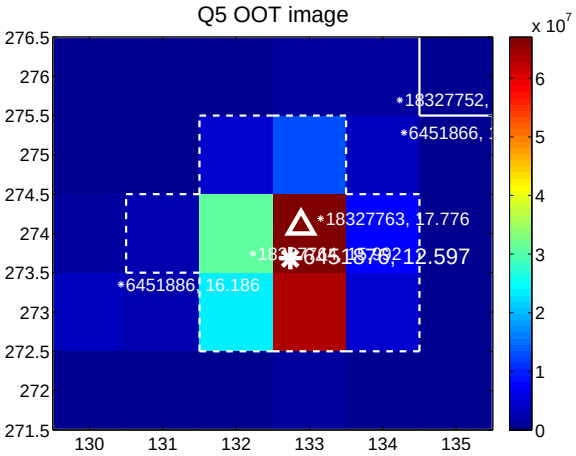


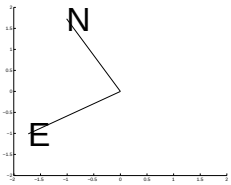


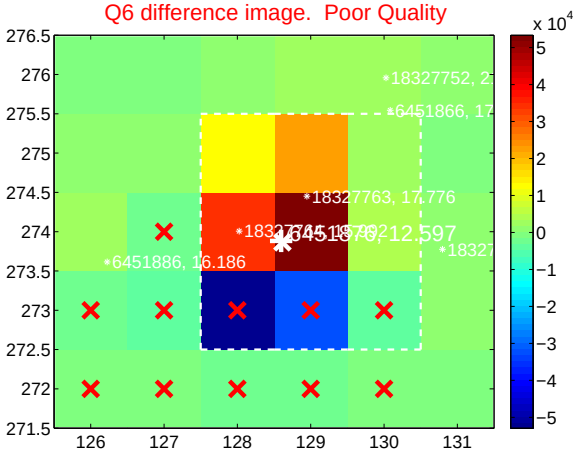


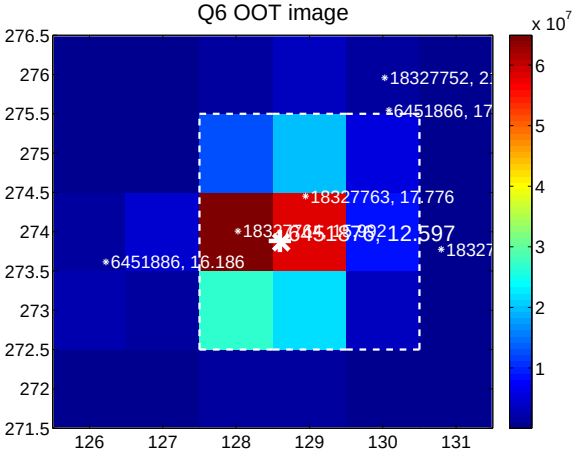
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

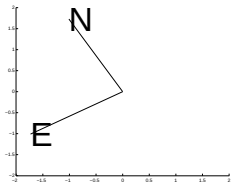


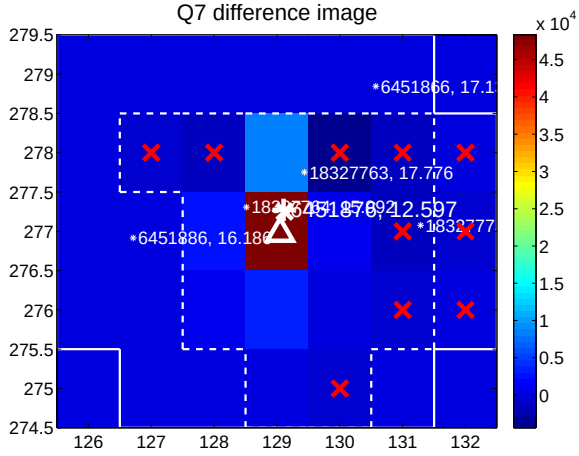


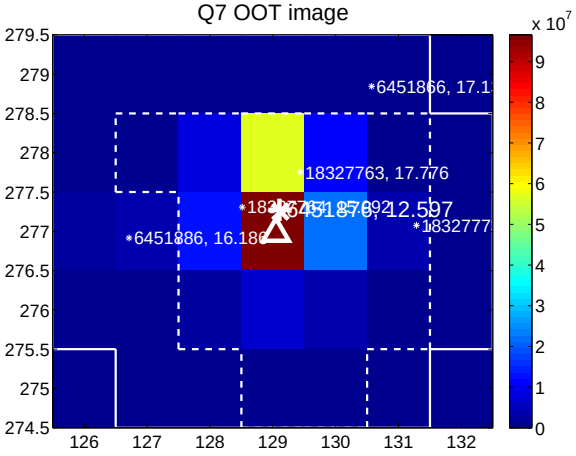


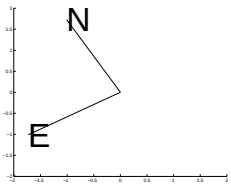


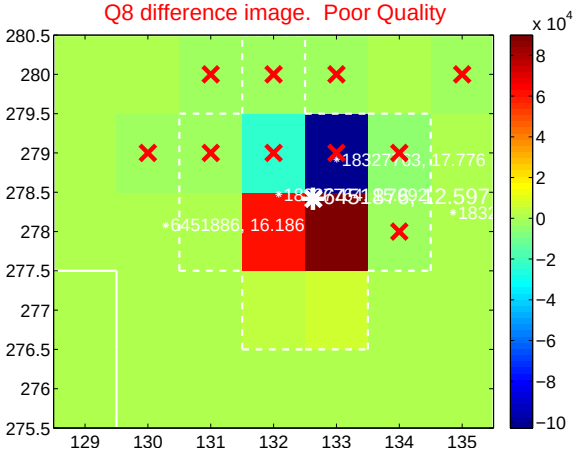


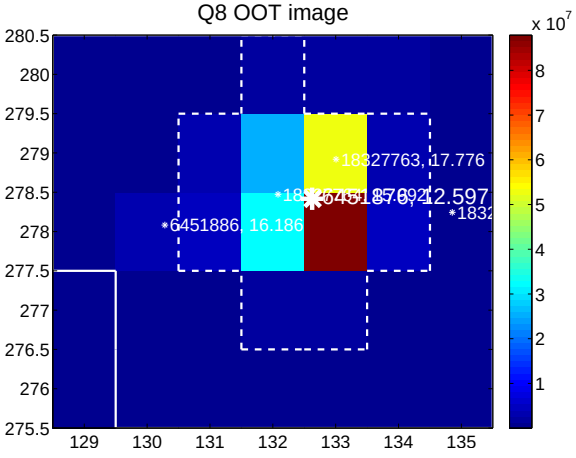


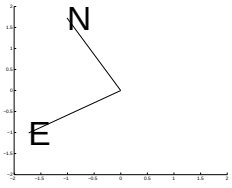




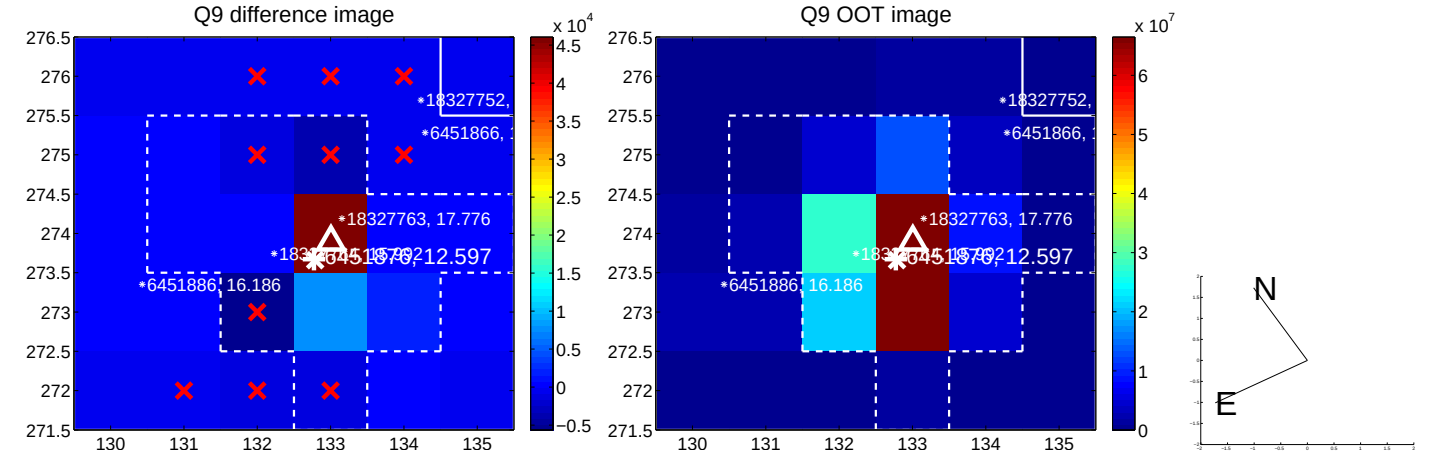


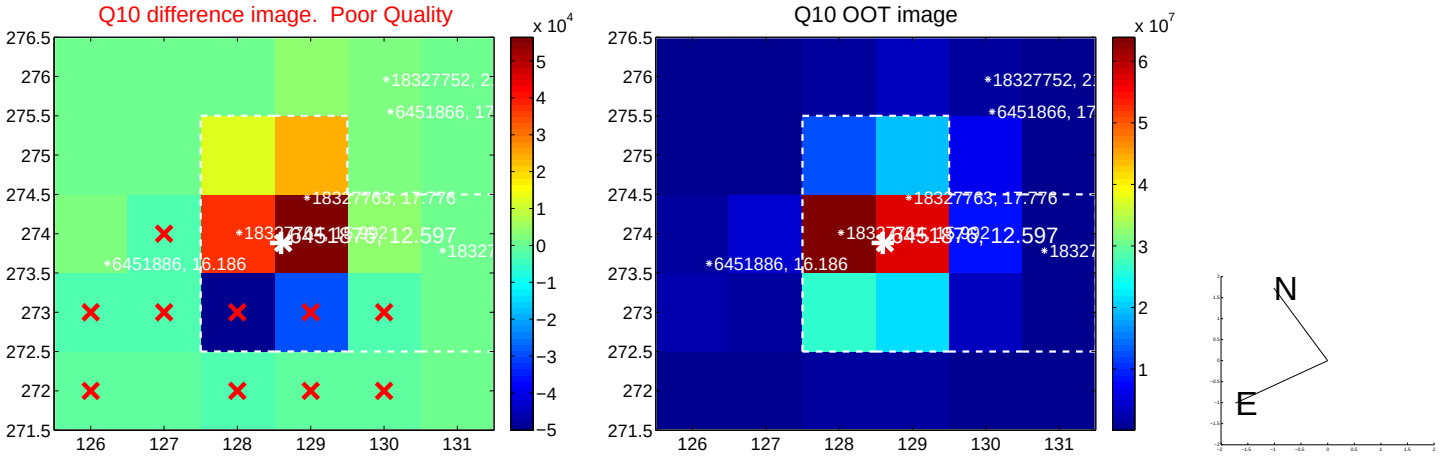


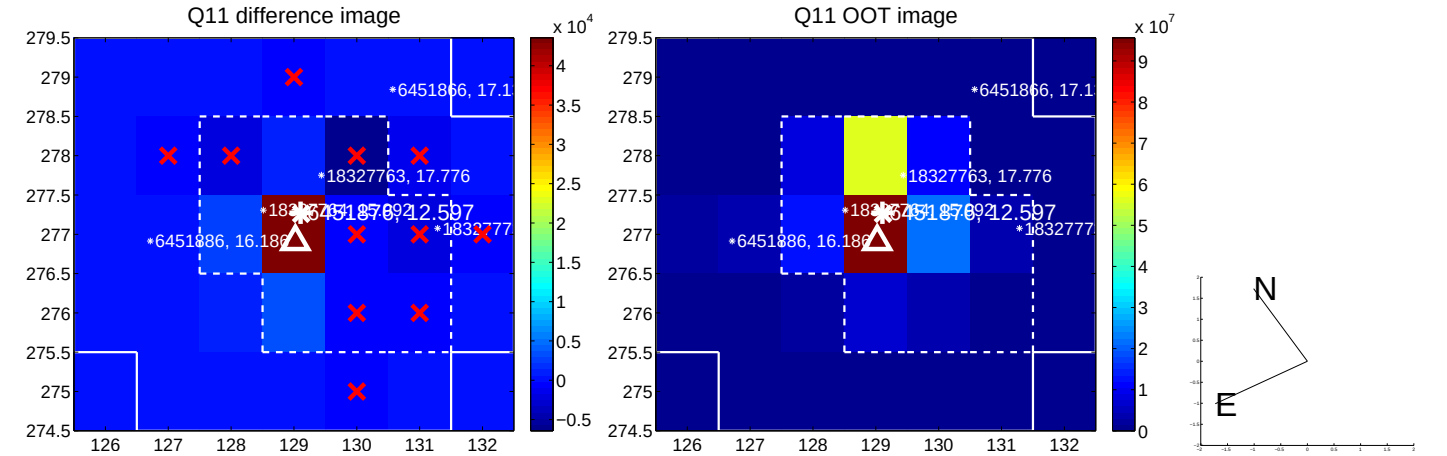


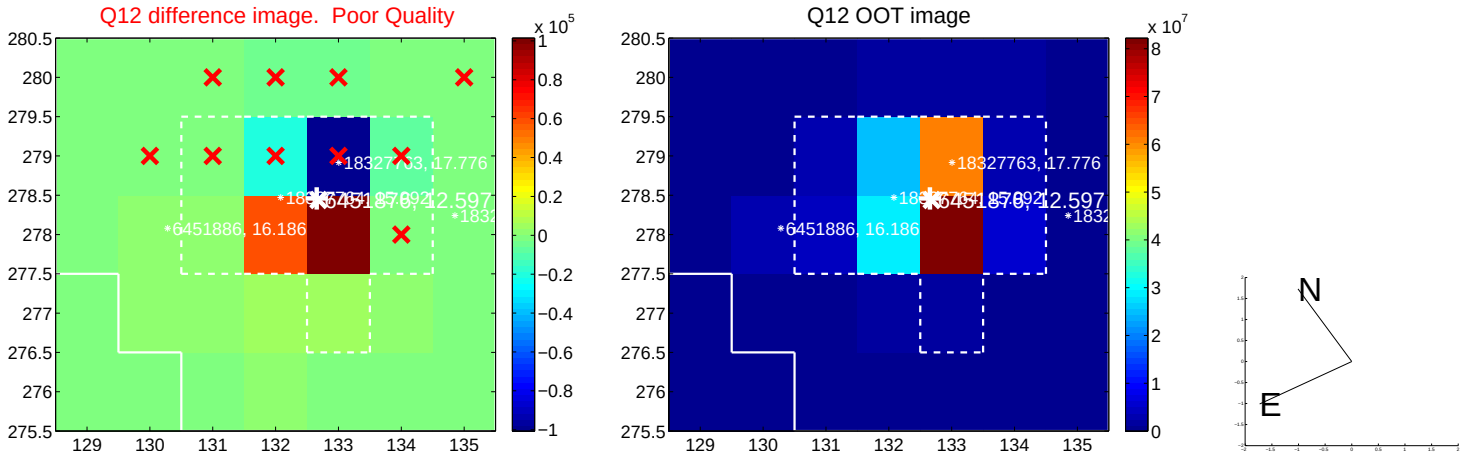


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.









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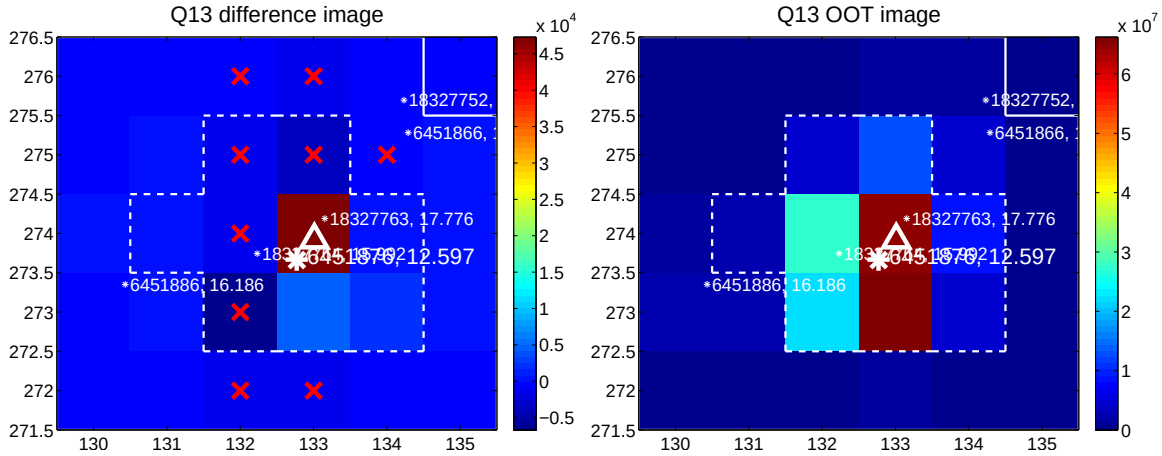

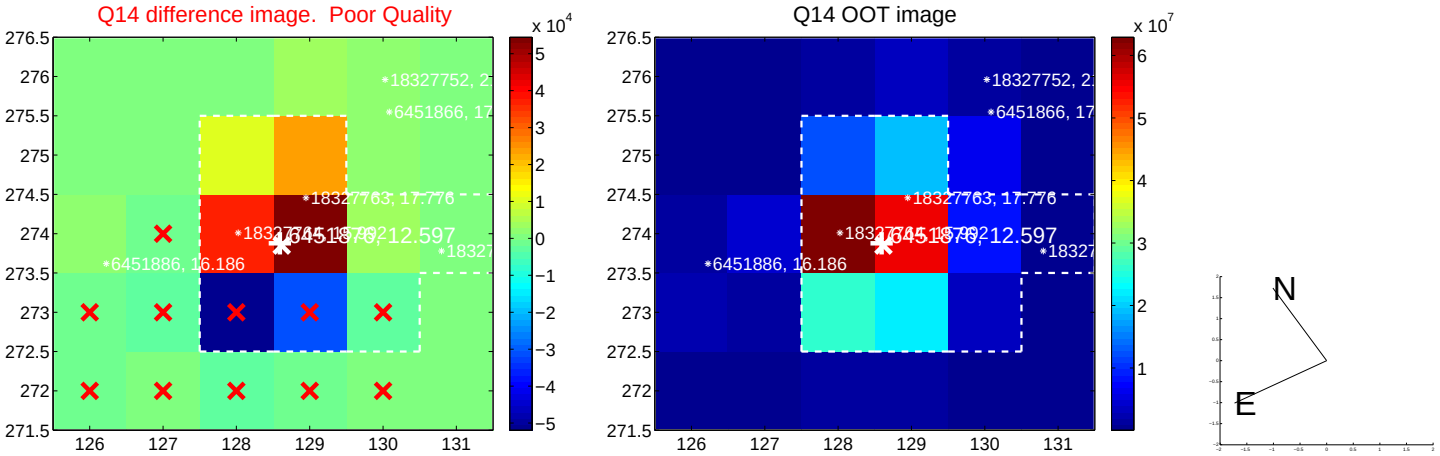

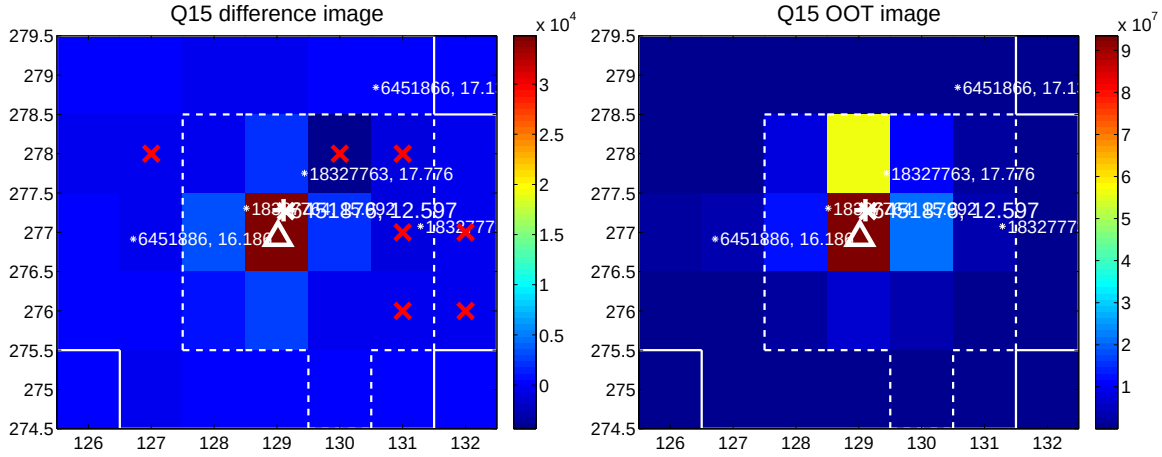

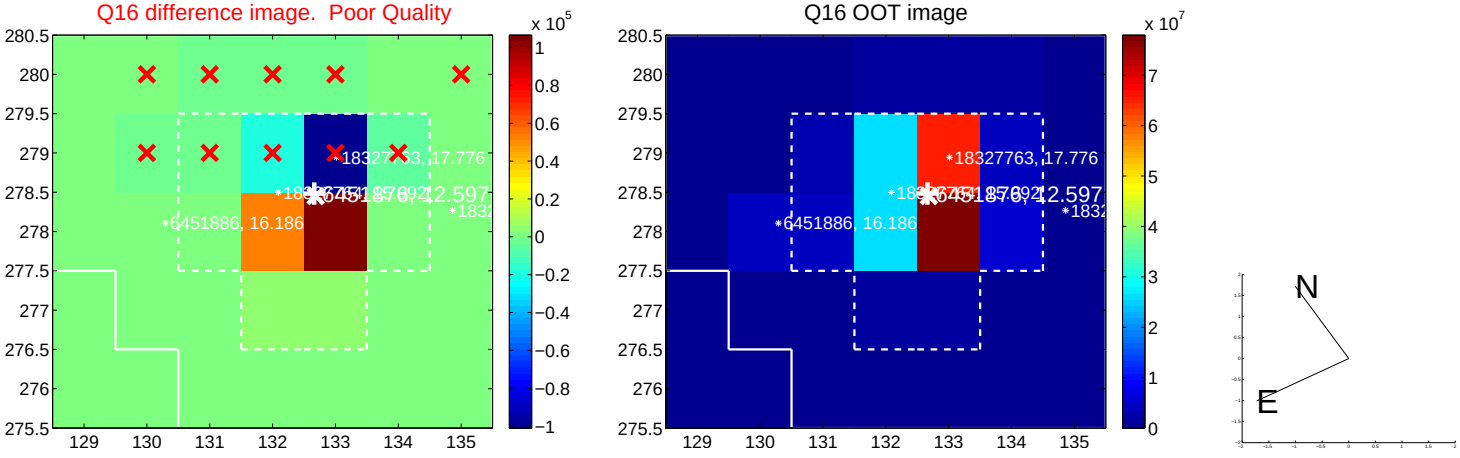

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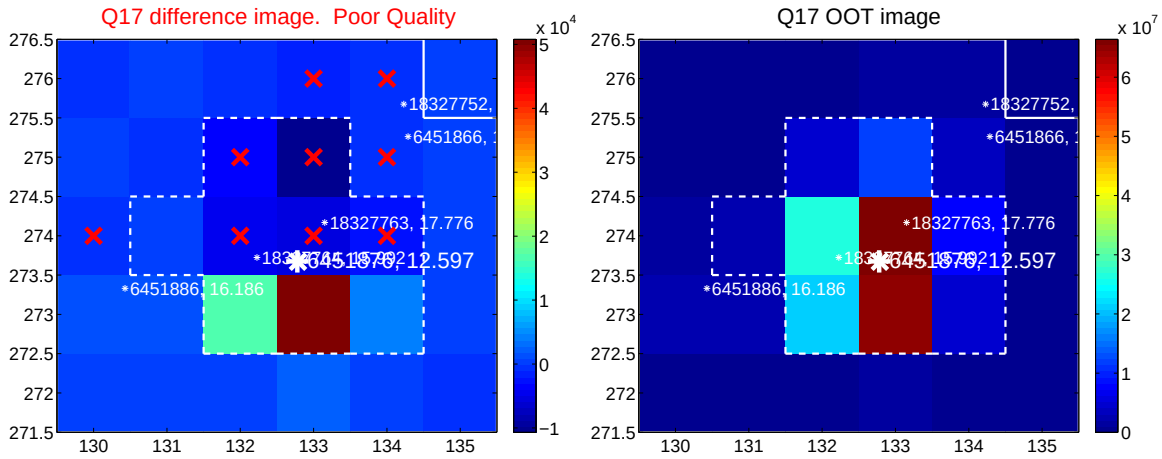

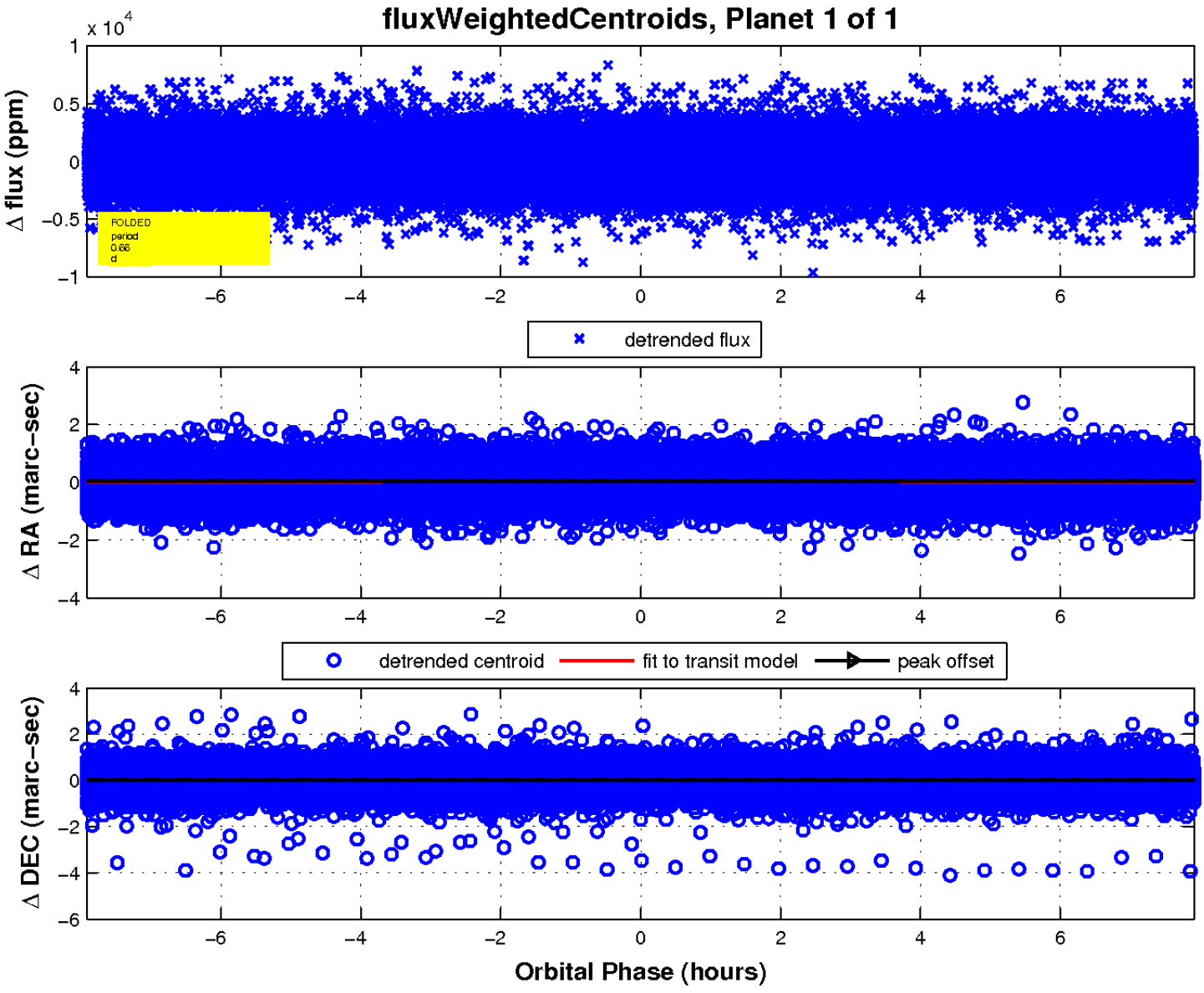
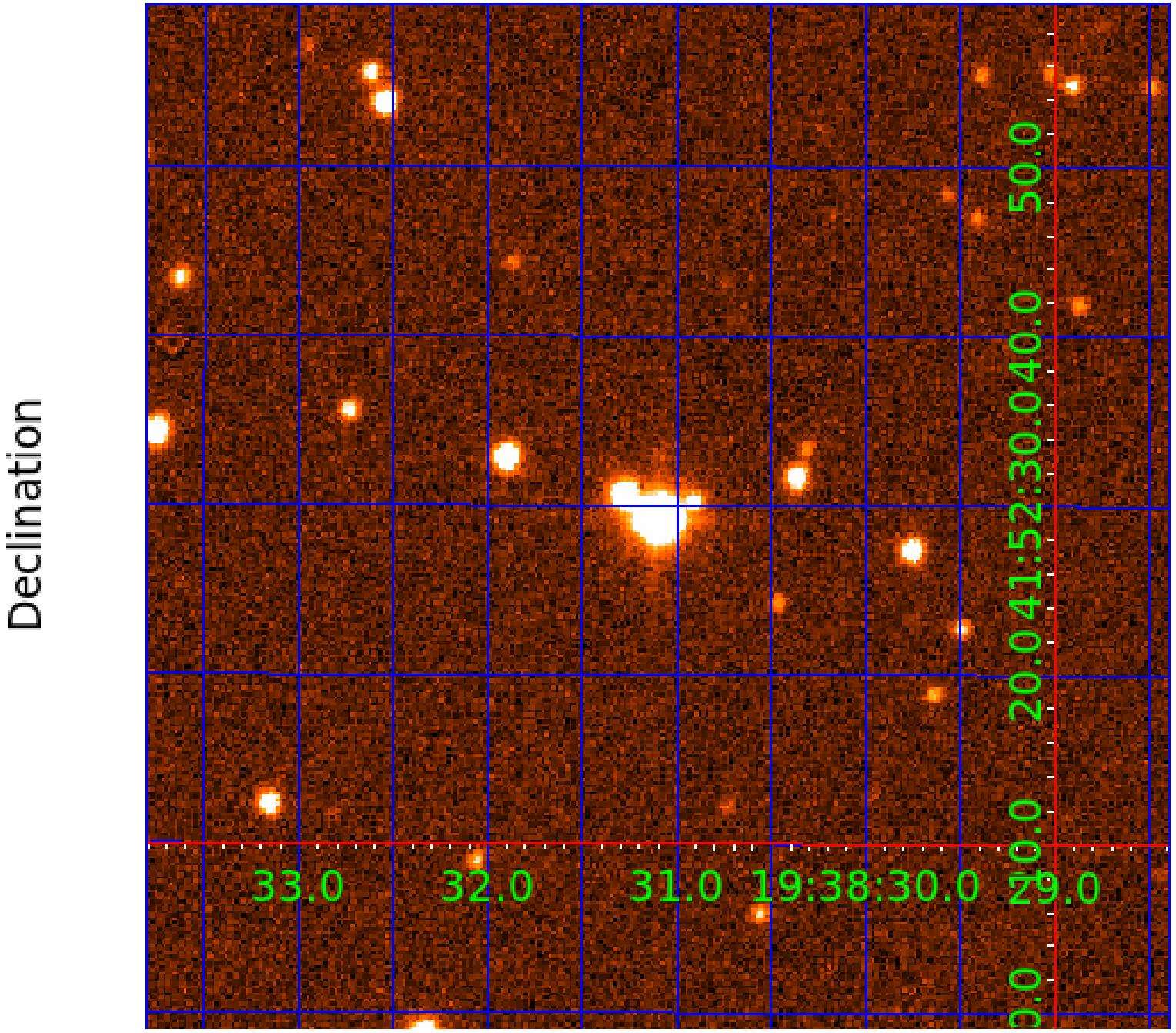
UKIRT Image