KIC 006525280

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 ($S_\oplus$)
006525280-01	OBS	4277.01	1.710293	131.615209	39.2	3.172	16.3	17.7	0.82	5774	0.60	979.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006525280-01	OBS	FP	0.00	0	0	1	1	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 006525280-01

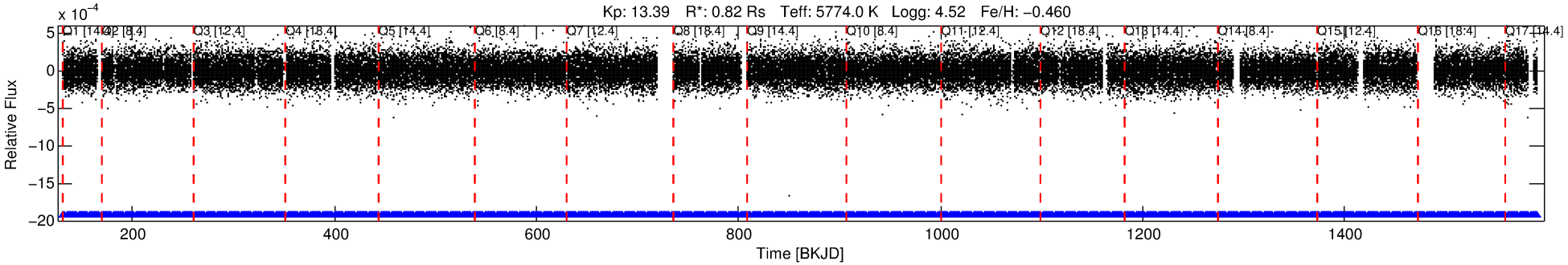
TCE (1)	KIC	Parent (2)	Parent KIC	P_1:P_2	Dist (″)	ΔRow	ΔCol	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
006525280-01	6525280	5293.01	6525196	1:1	84.8	0	21	10.15	13.38	4039.50	Direct-PRF	0	0.24	0.02

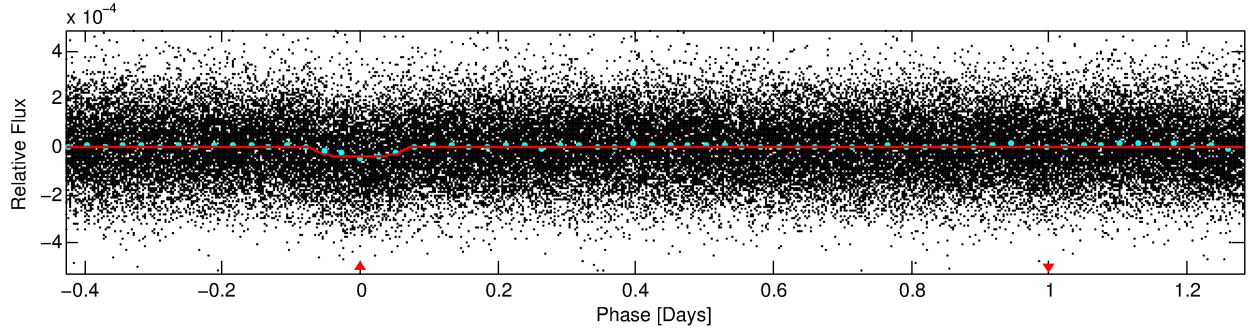
Notes: P_1:P_2 is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth dividied by the child's. σ_P and σ_T are the significance of the match 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 recieve extra scrutiny, especially if the period ratio is very large.

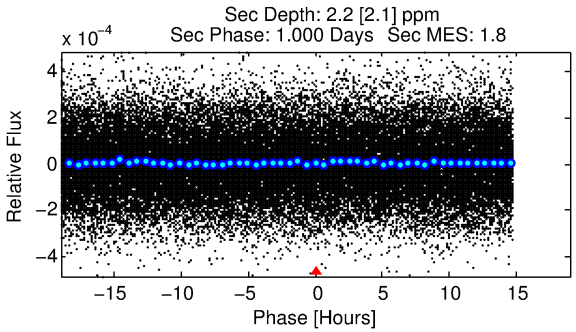
DV One-Page Summary

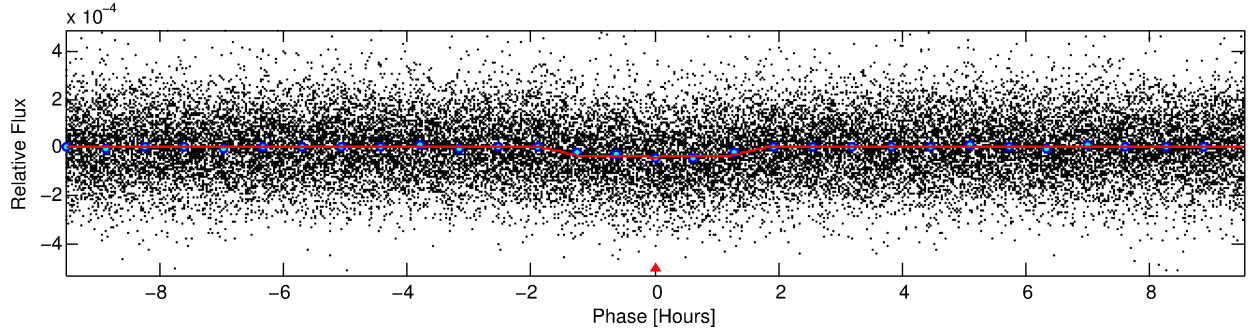
KIC: 6525280 Candidate: 1 of 1 Period: 1.710 d
KOI: K04277.01 Corr: 0.952

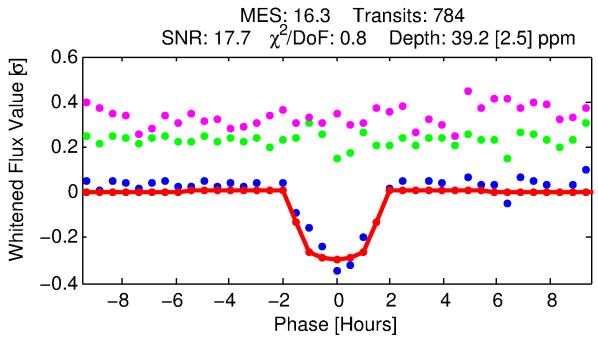
Kp: 13.39 R*: 0.82 Rs Teff: 5774.0 K Logg: 4.52 Fe/H: −0.460

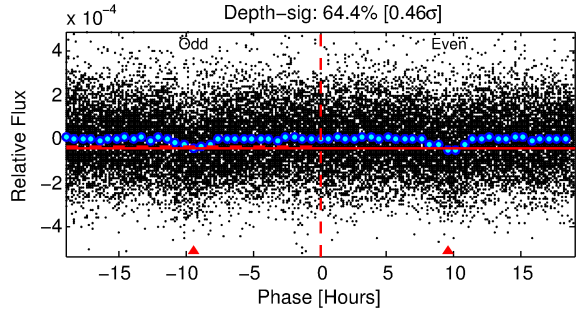


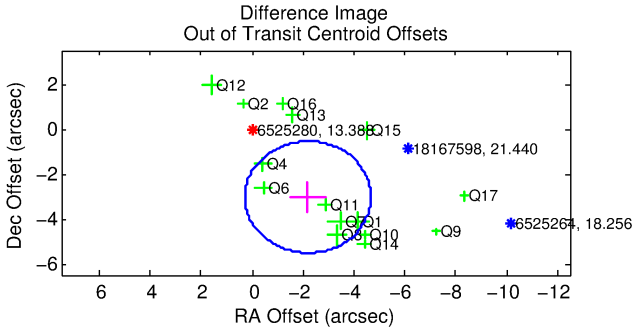












DV Fit Results:

Period = 1.71029 [0.00001] d
Epoch = 131.6152 [0.0025] BKJD
Rp/R* = 0.0067 [0.0021]
a/R* = 2.21 [2.79]
b = 0.88 [0.41]

Seff = 979.51 [175.60]
Teq = 1427 [64] K
Rp = 0.60 [0.20] Re
a = 0.0263 [0.0029] AU

Ag = 2.29 [2.70] [0.48σ]
Teffp = 2712 [794] K [1.61σ]

DV Diagnostic Results:

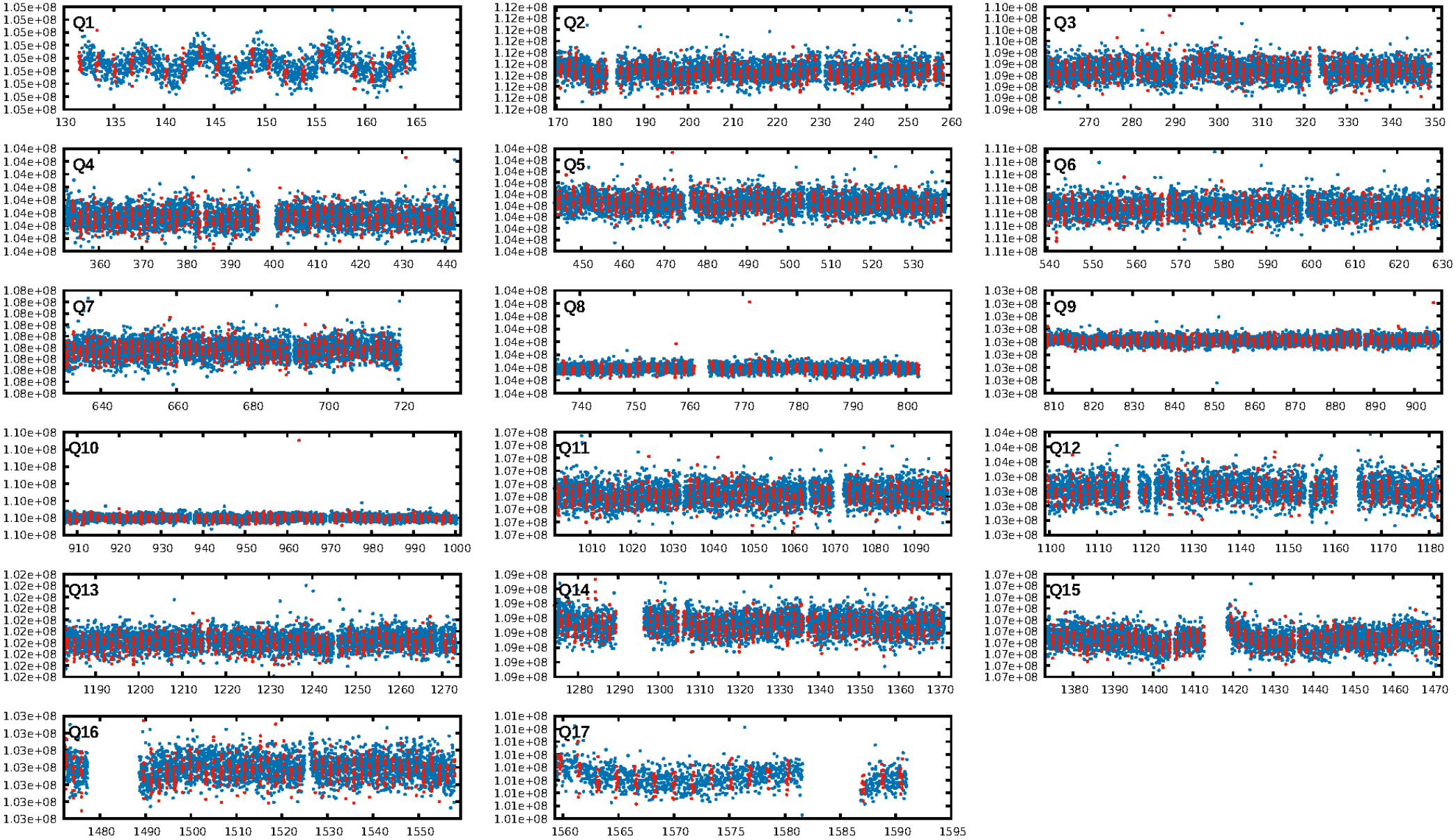
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 8.40e−58
RollingBand−fgt: 1.00 [748/748]
GhostDiagnostic−chr: 0.09337

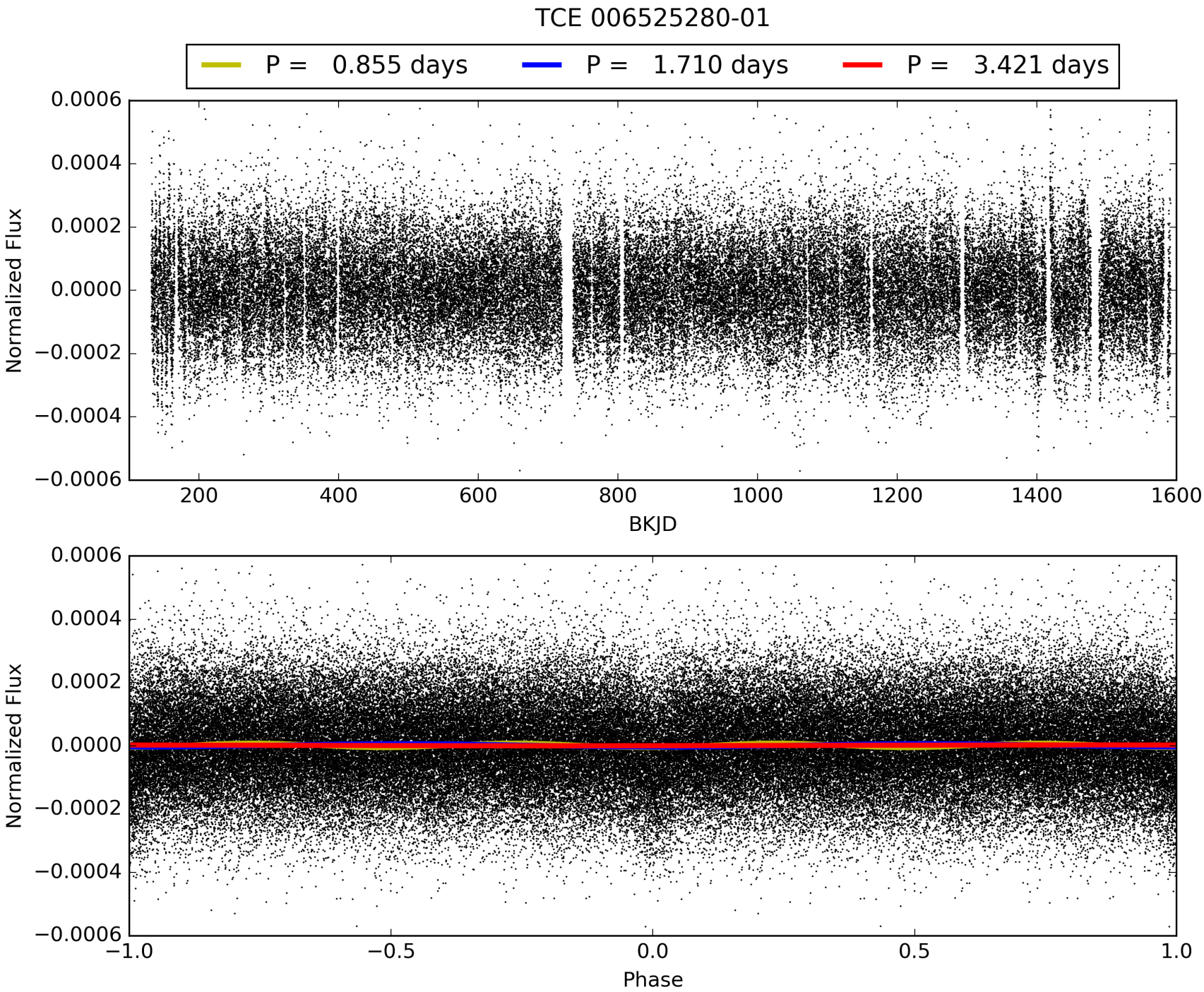
Centroid−sig: N/A
Centroid−so: 2.363 arcsec [3.18σ]
OotOffset−rm: 3.746 arcsec [4.53σ]
KicOffset−rm: 4.683 arcsec [5.48σ]
OotOffset−st: 4/3/4/4 [15]
KicOffset−st: 4/3/4/4 [15]
DiffImageQuality−fgm: 0.13 [2/15]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 16:24:25 Z

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

TCE 006525280-01, PDC Light Curves

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P = 1.710 days
P = 3.421 days
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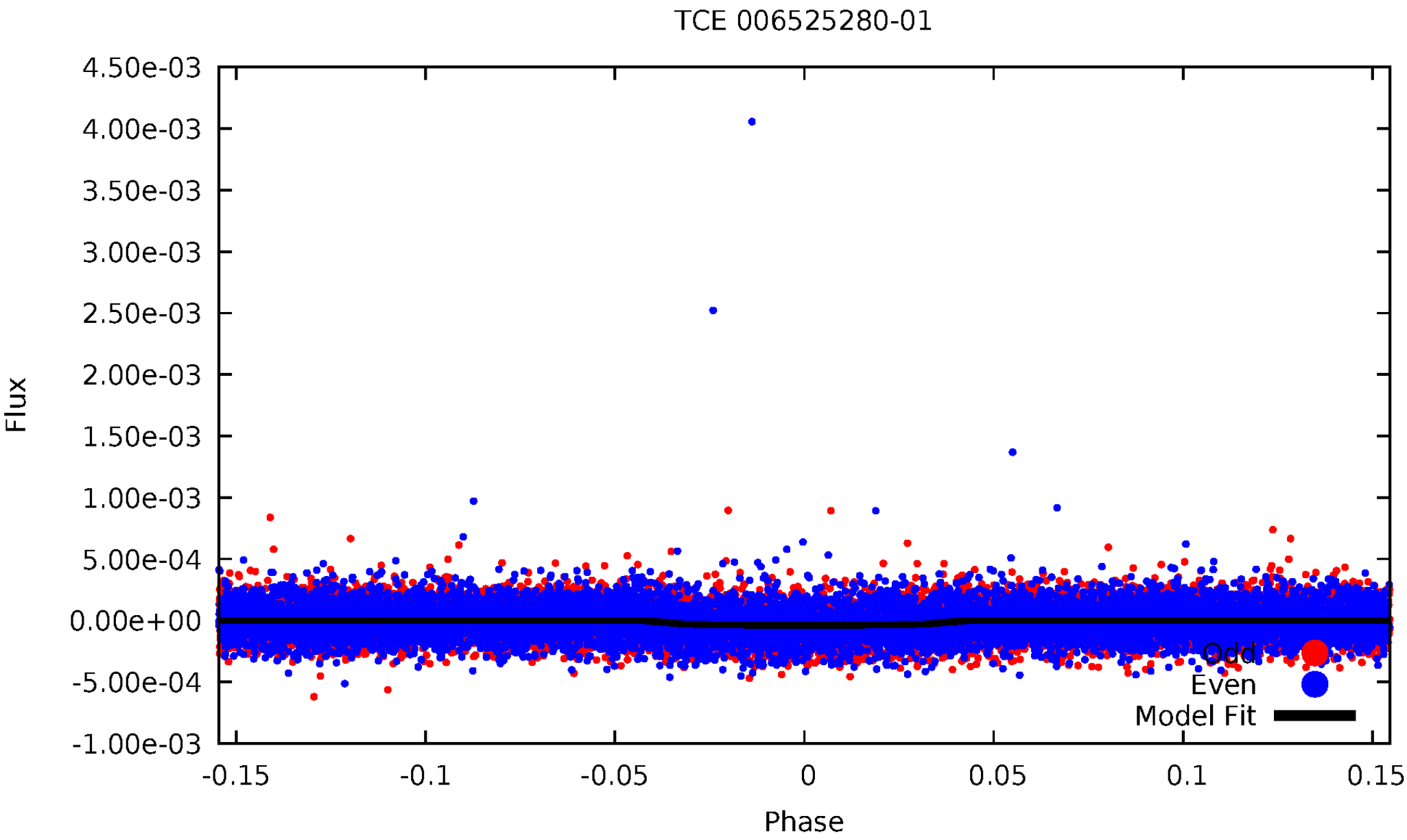
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
−1.0
−0.5
0.0
0.5
1.0
Phase

DV Odd/Even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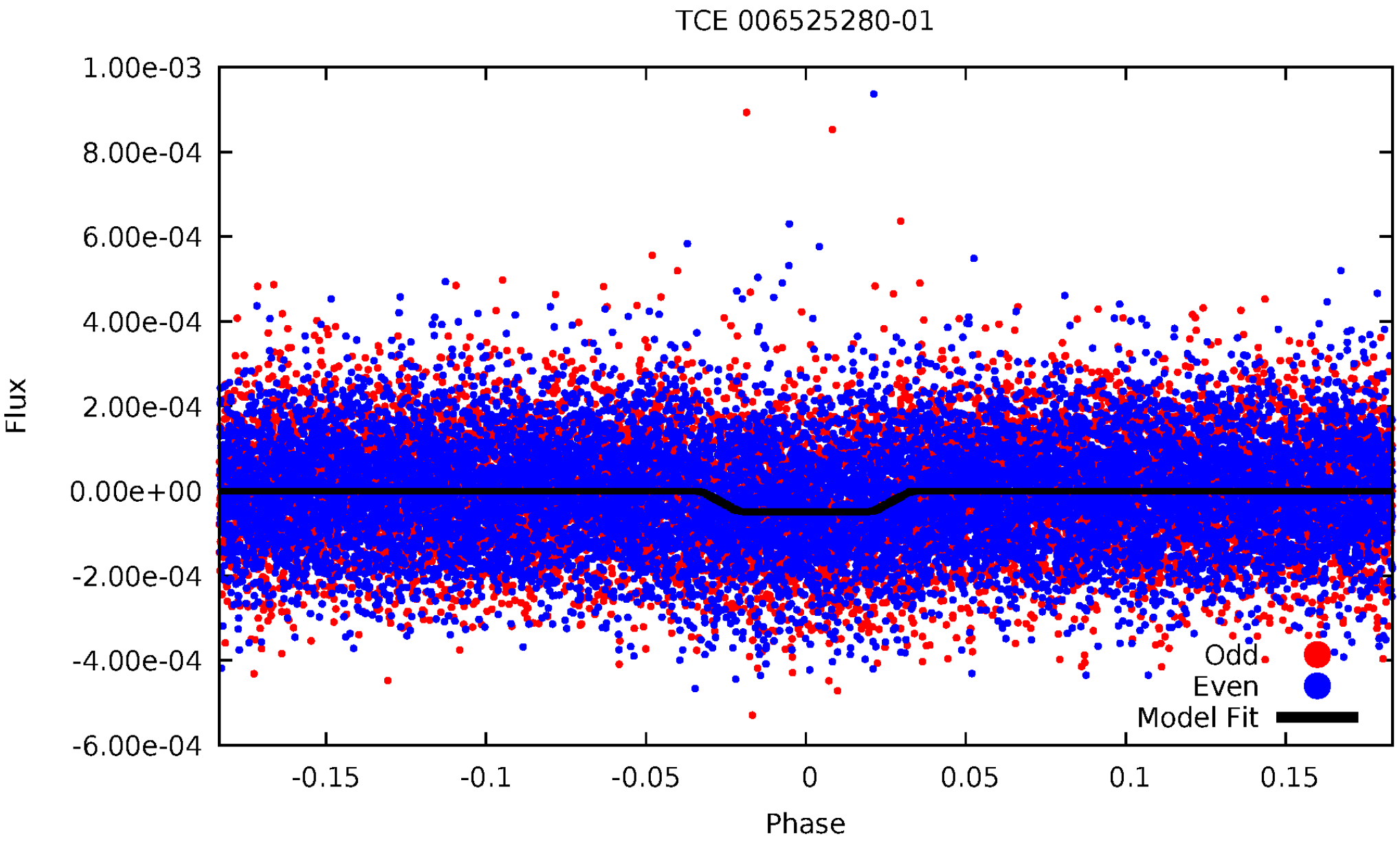
4.50e-03
4.00e-03
3.50e-03
3.00e-03
2.50e-03
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
Flux
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
Phase
Odd
Even
Model Fit

ALT Odd/Even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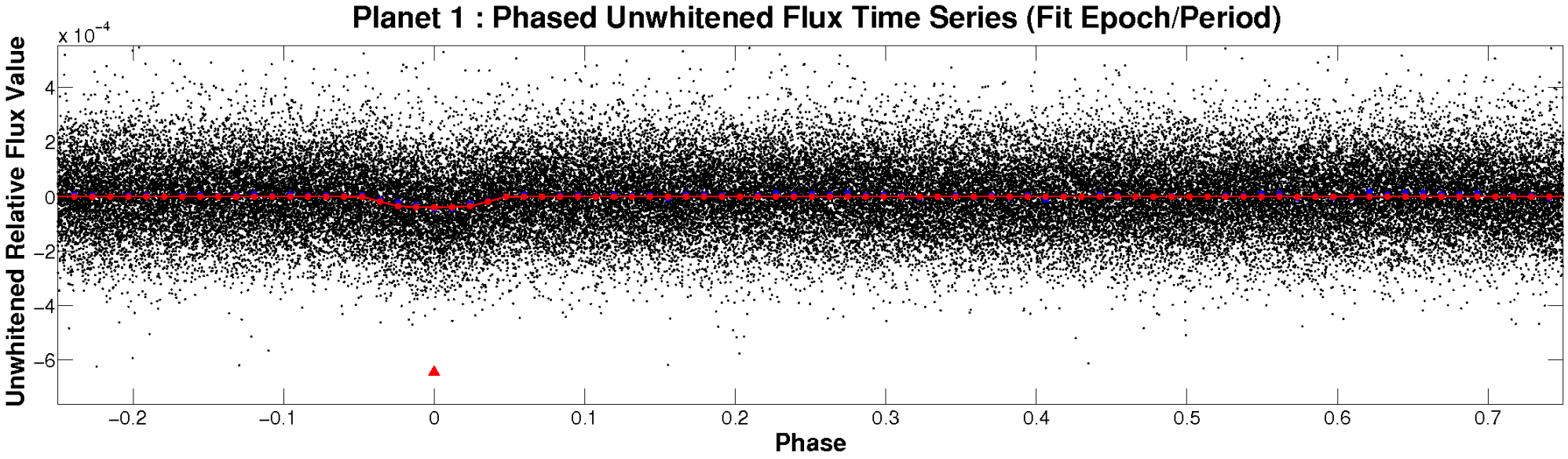
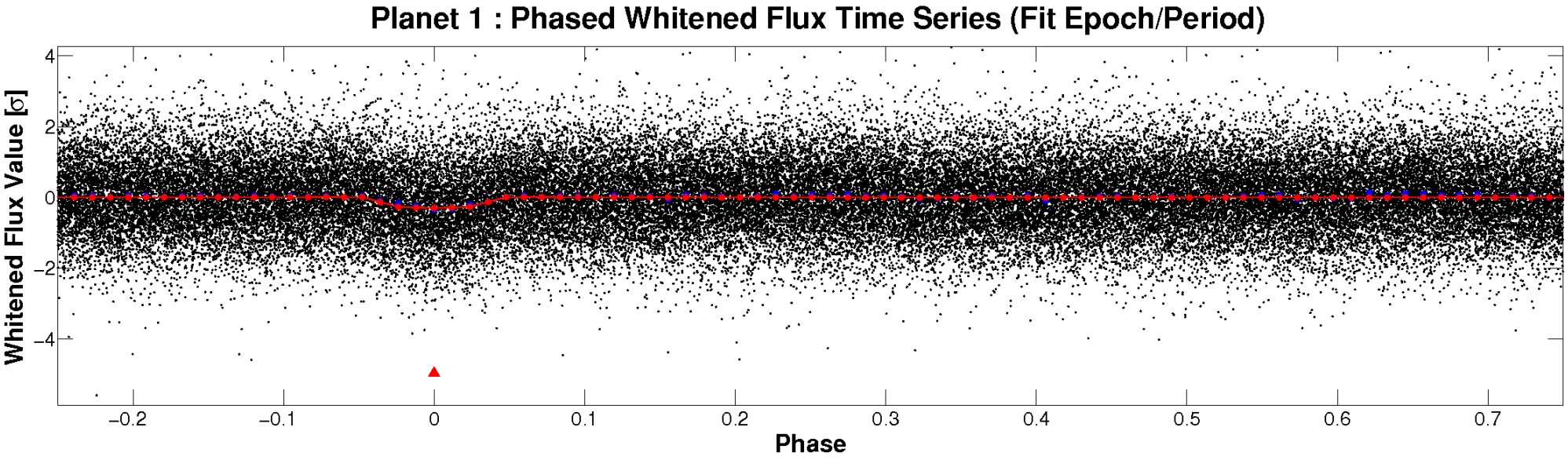
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
Flux
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
Phase
Odd
Even
Model Fit

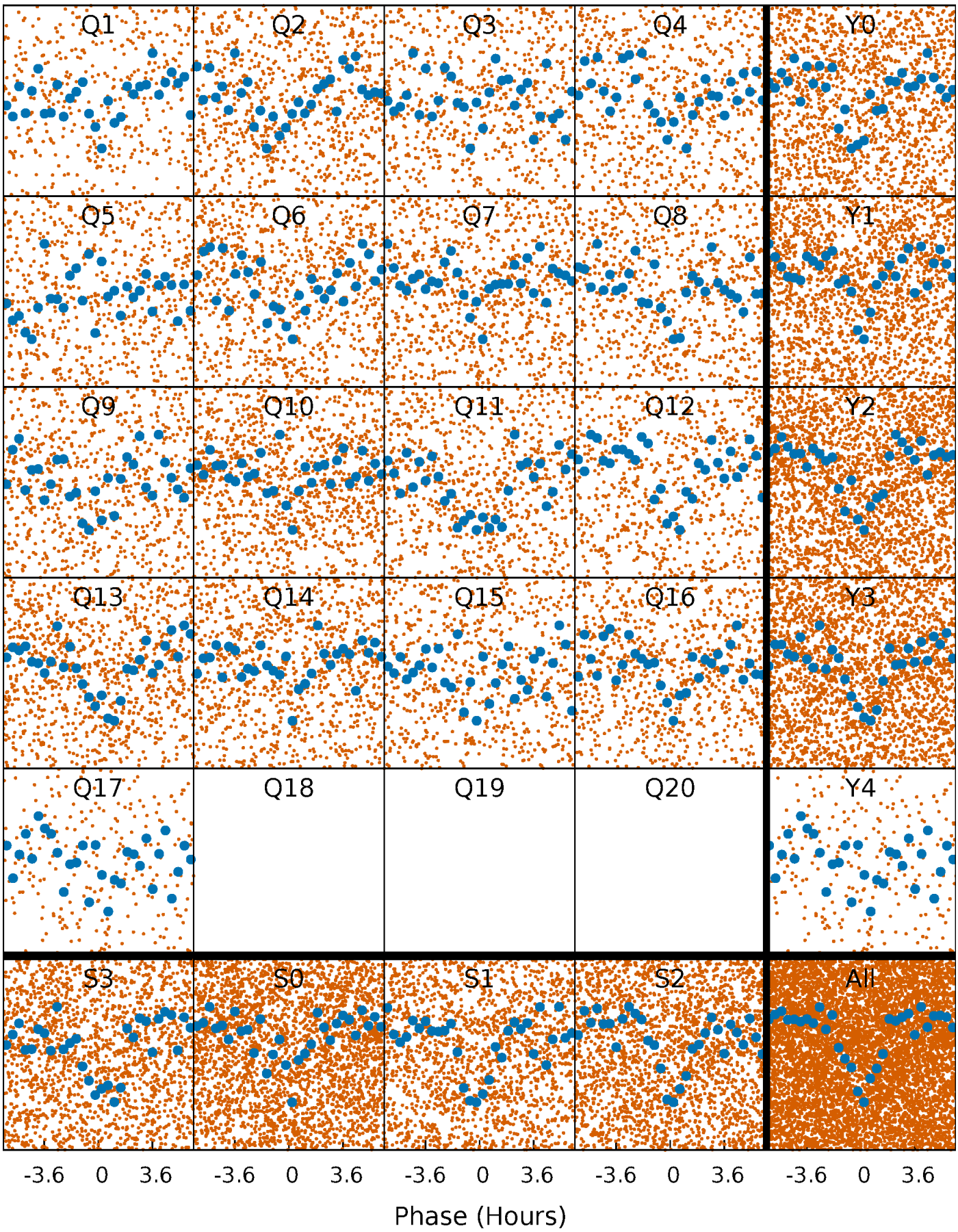
Non-Whitened Vs. Whitened Light Curve





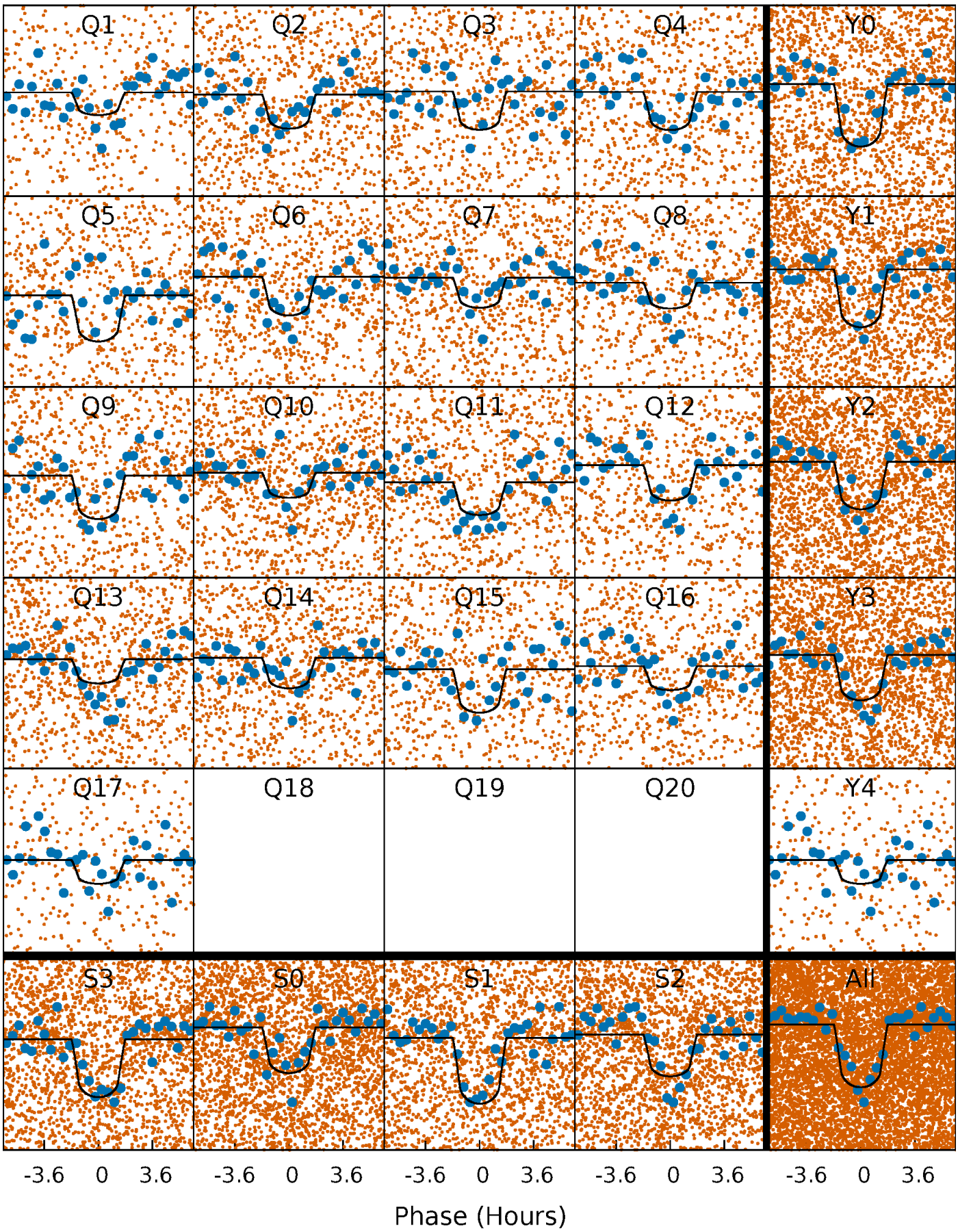
PDC Quarter-Phased Transit Curves

TCE 006525280-01 P= 1.710293 Days T_0=131.615209 (BKJD)



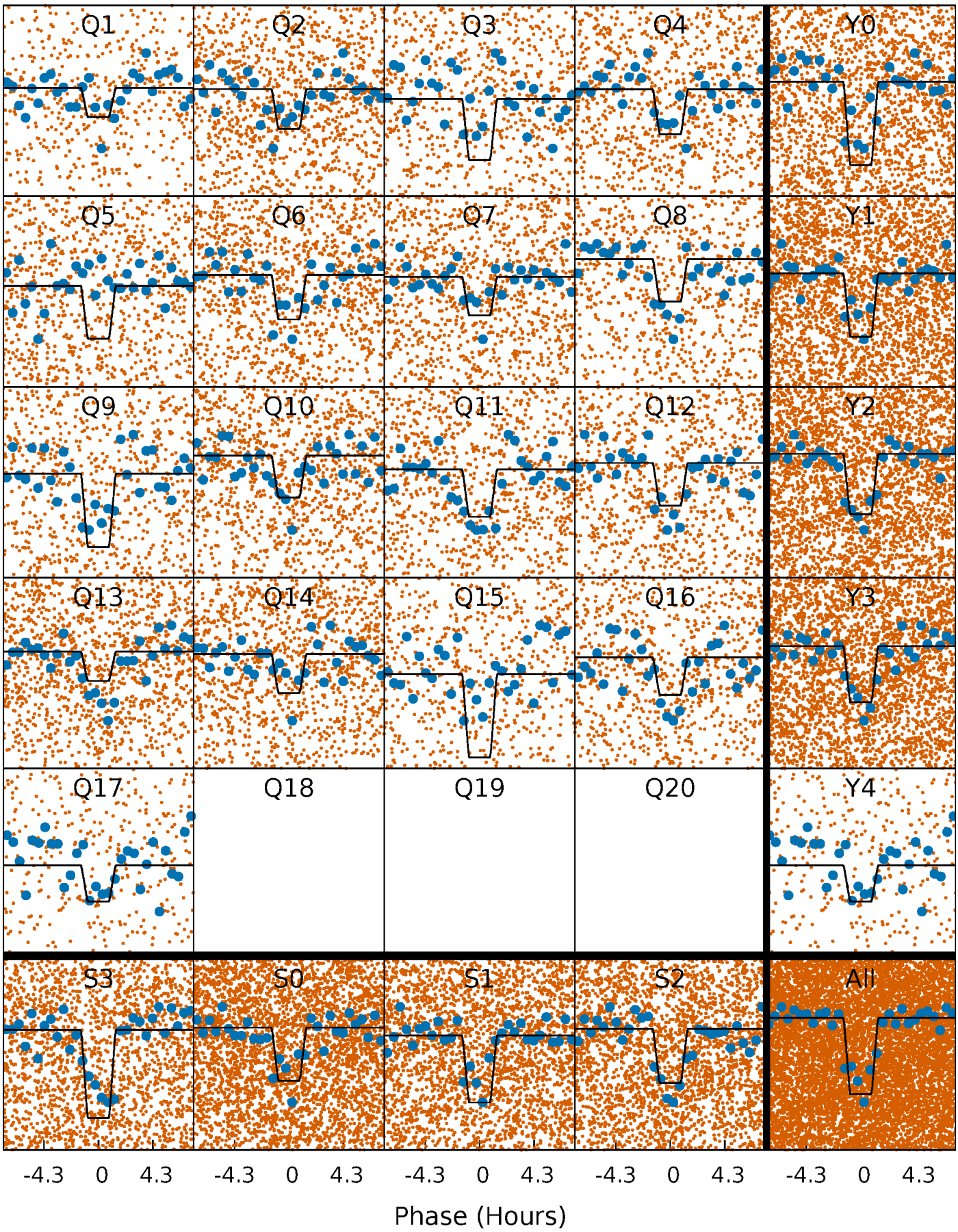
DV Quarter-Phased Transit Curves

TCE 006525280-01 P= 1.710293 Days T_0=131.615209 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

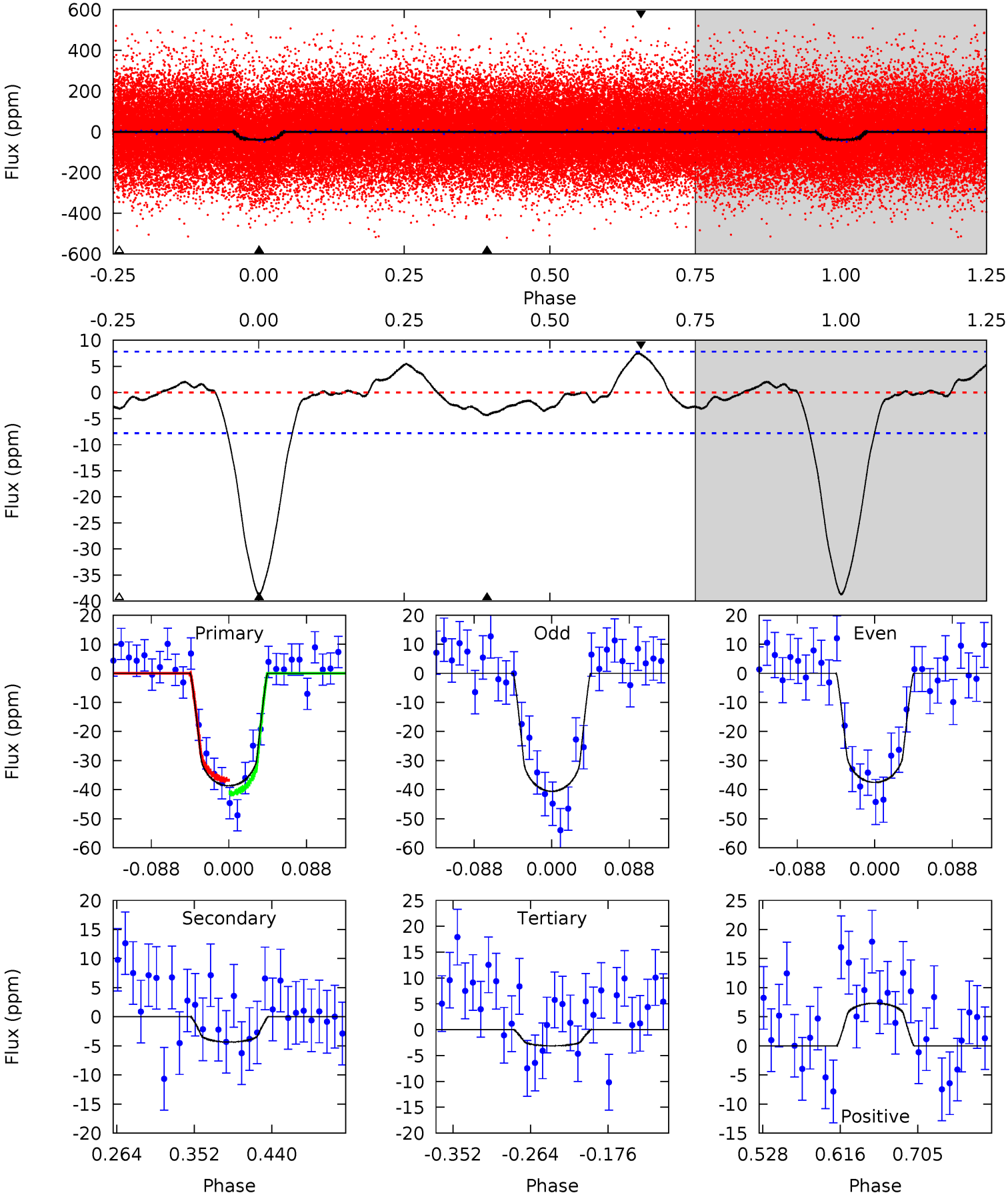
TCE 006525280-01 P= 1.710311 Days T_0=131.609475 (BKJD)



DV Model-Shift Uniqueness Test

006525280-01, P = 1.710293 Days, E = 129.904916 Days

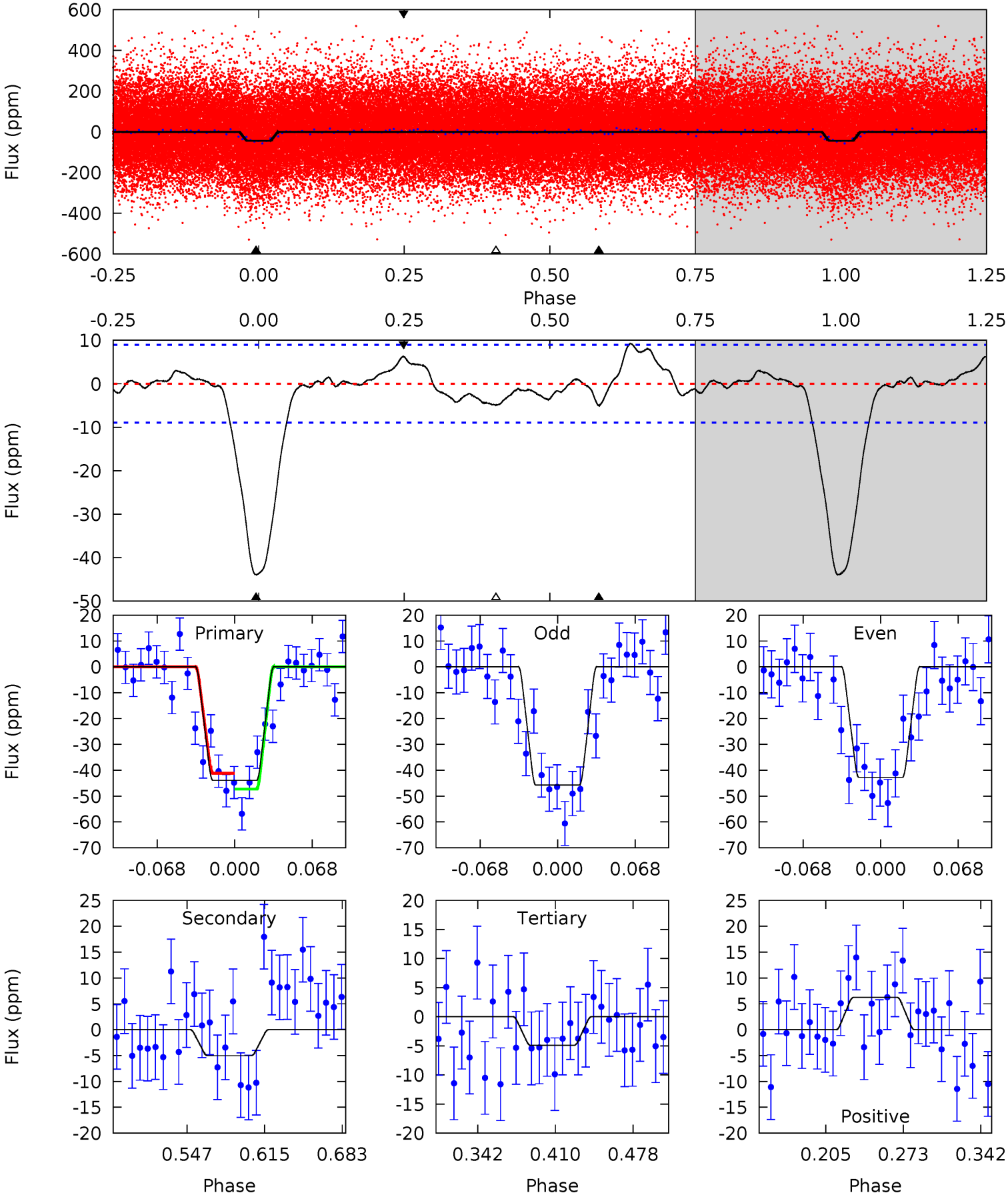
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.7	2.55	1.83	4.30	4.59	1.71	1.56	20.9	18.4	0.72	-1.75	0.89	0.91	0.16	1.34



Alt Model-Shift Uniqueness Test

006525280-01, P = 1.710311 Days, E = 129.899164 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	2.61	2.55	3.25	4.64	1.82	1.50	20.3	19.6	0.06	-0.63	0.78	0.92	0.17	1.59



Stellar Parameters For KIC 006525280

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5774^{+77}_{-77}	$4.524^{+0.053}_{-0.098}$	$-0.460^{+0.150}_{-0.150}$	$0.825^{+0.101}_{-0.051}$	$0.831^{+0.053}_{-0.047}$	$2.083^{+0.425}_{-0.607}$
	+1%/-1%	+1%/-2%	+33%/-33%	+12%/-6%	+6%/-6%	+20%/-29%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006525280-01 / KOI 4277.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4±2	$0.62^{+0.19}_{-0.21}$	2004^{+71}_{-54}	3584^{+572}_{-401}	$4.172^{+6.053}_{-2.040}$
Alt.	-5±2	$0.64^{+0.19}_{-0.19}$	2005^{+68}_{-53}	3641^{+565}_{-430}	$4.605^{+5.524}_{-2.426}$

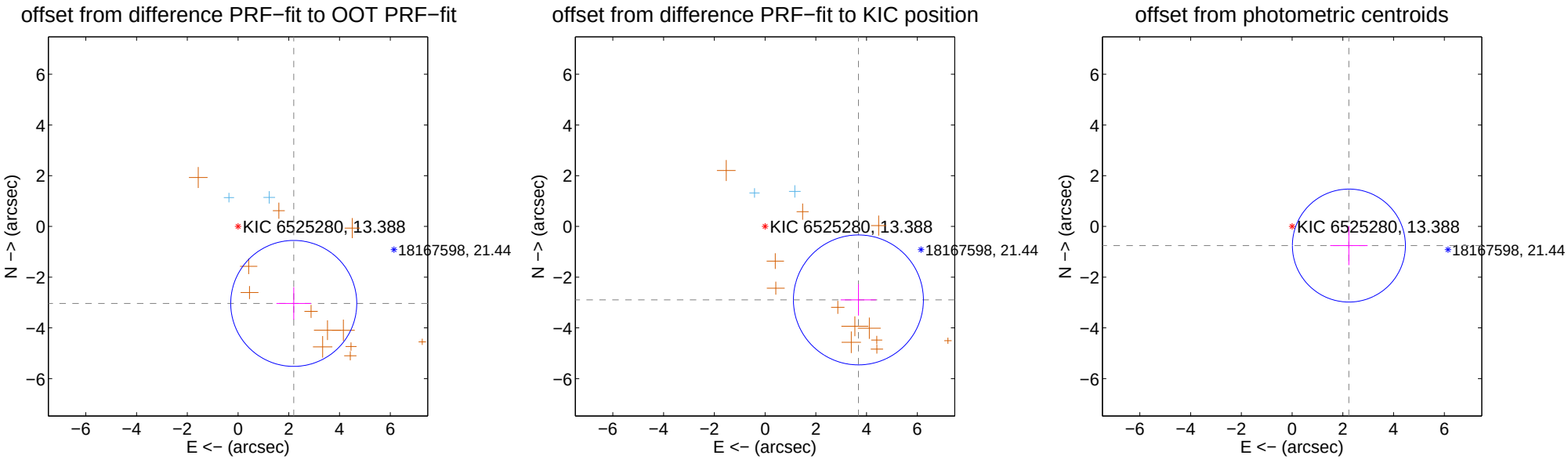
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

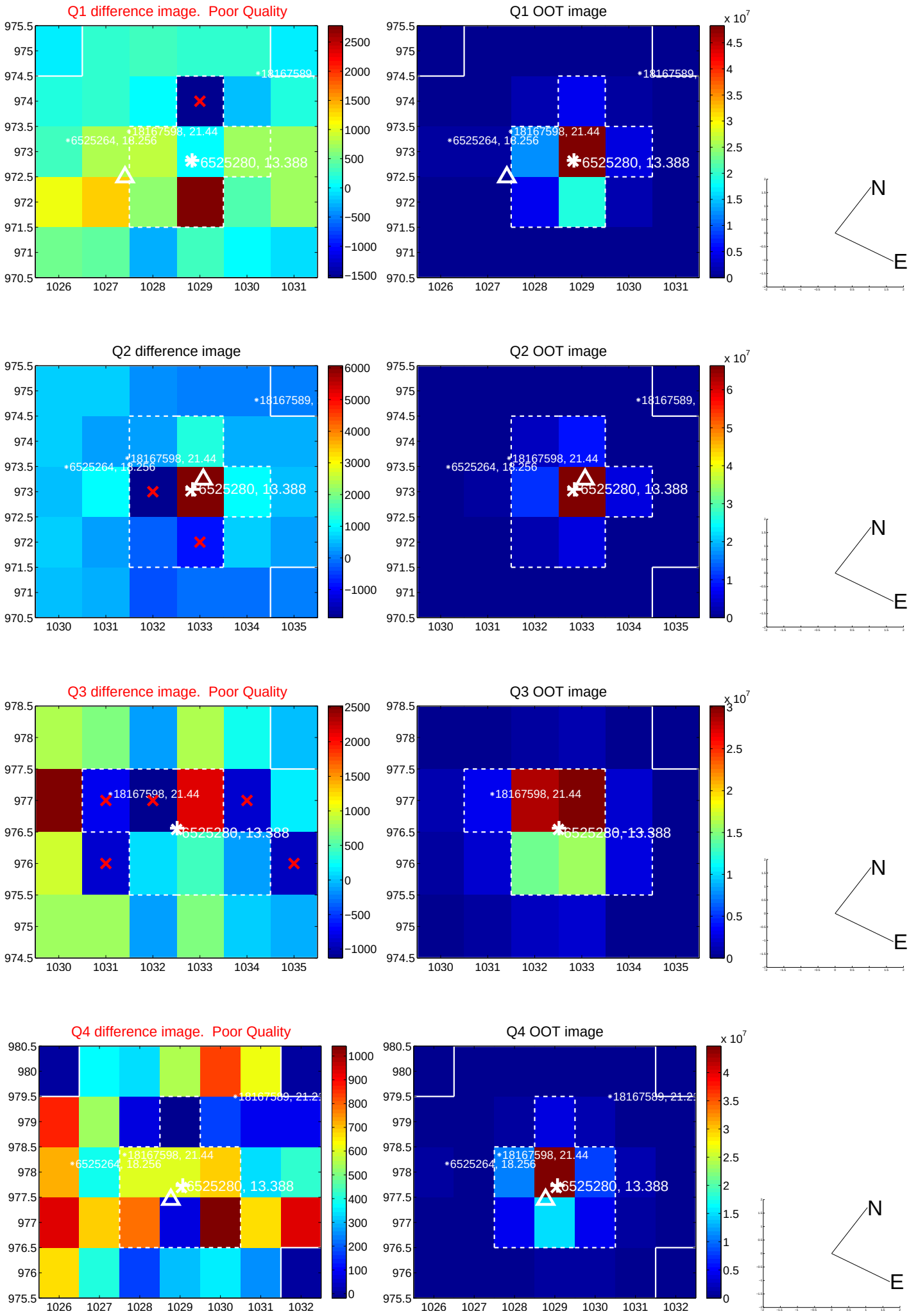
Supplemental centroid analysis for 006525280-01. Kepler magnitude: 13.39. Transit SNR 17.67
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.746 ± 0.828	4.53	-2.195 ± 0.682	-3.035 ± 0.640
PRF-fit source offset from KIC position	4.683 ± 0.854	5.48	-3.679 ± 0.697	-2.897 ± 0.619
photometric centroid source offset	2.36 ± 0.74	3.18	-2.24 ± 0.74	-0.75 ± 0.77

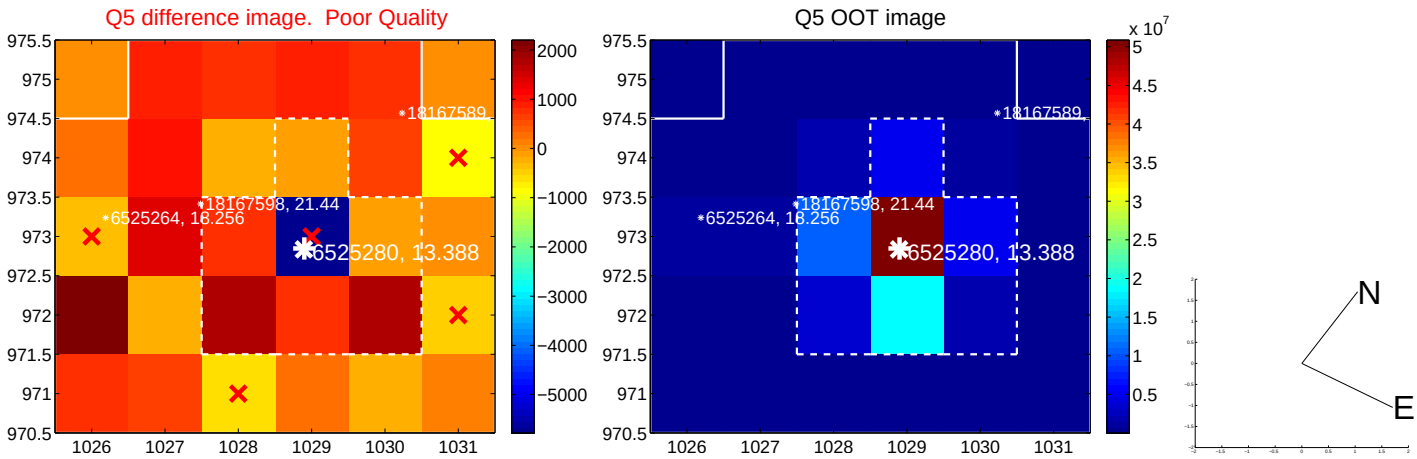


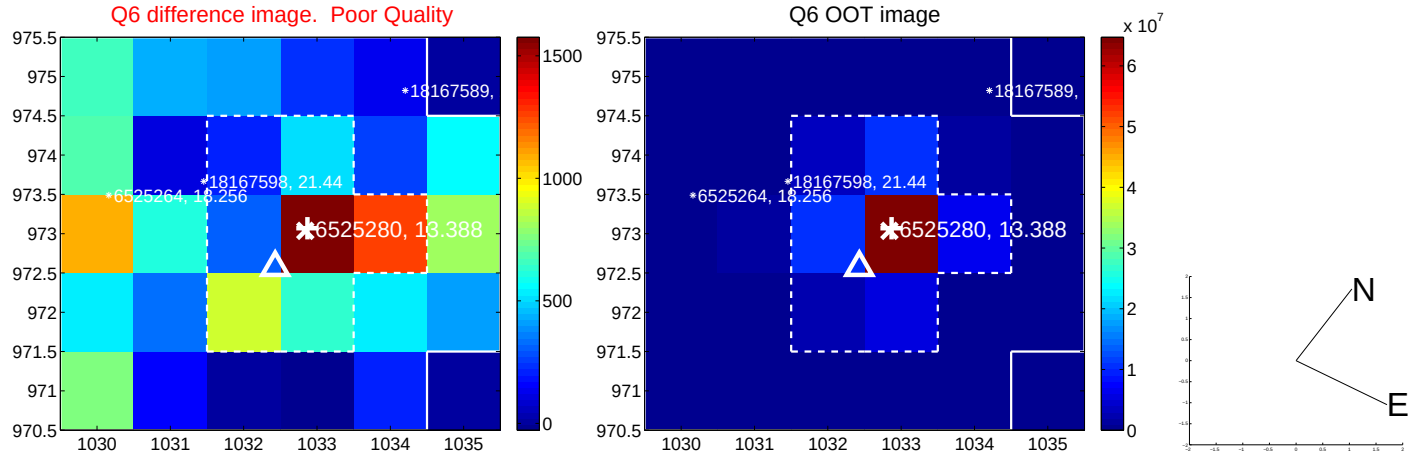
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

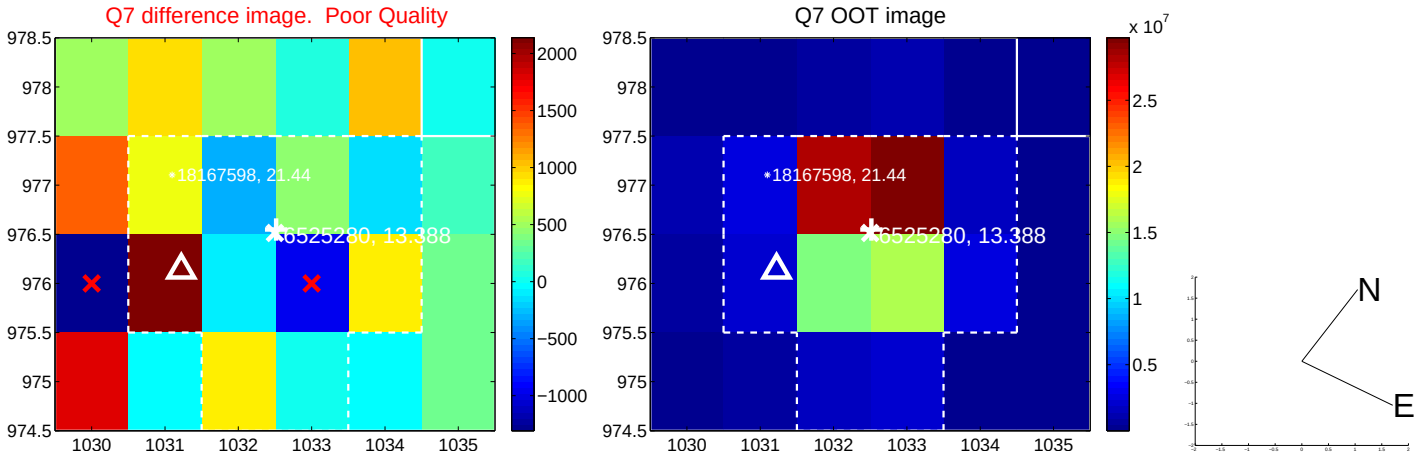
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

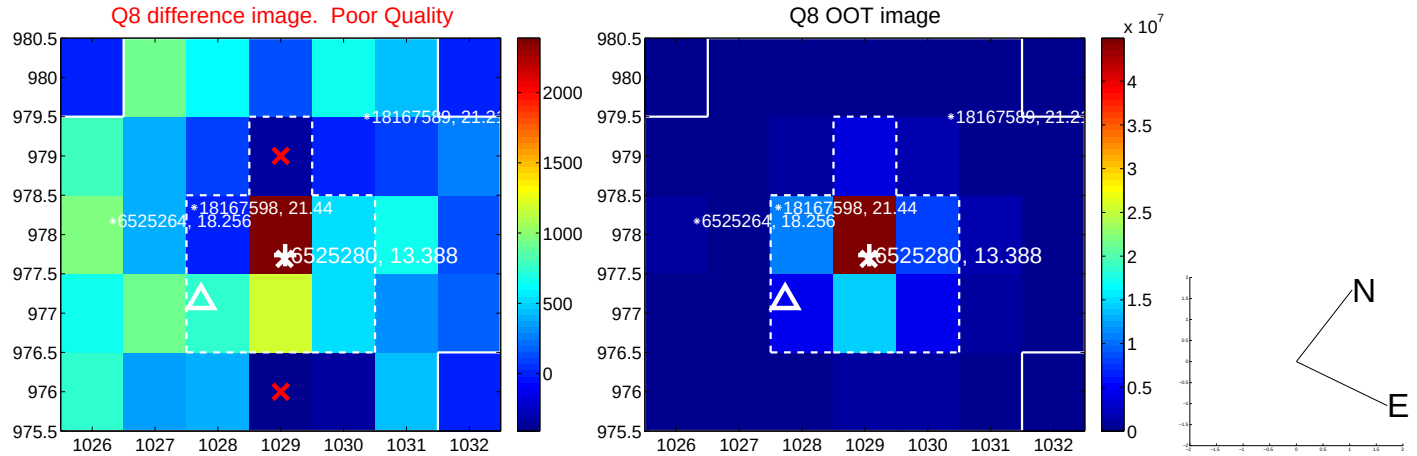


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

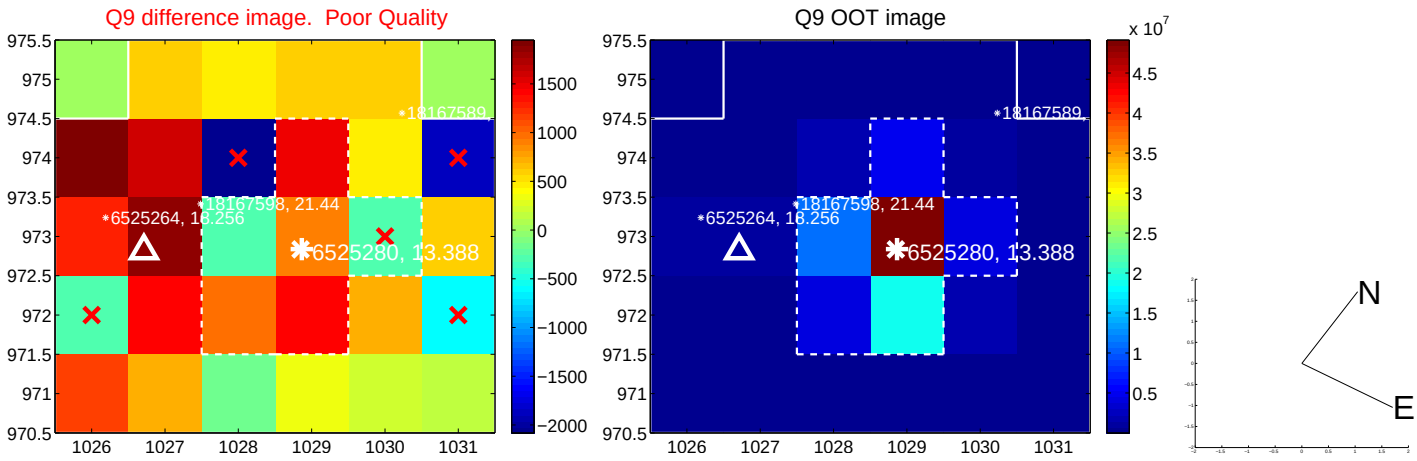


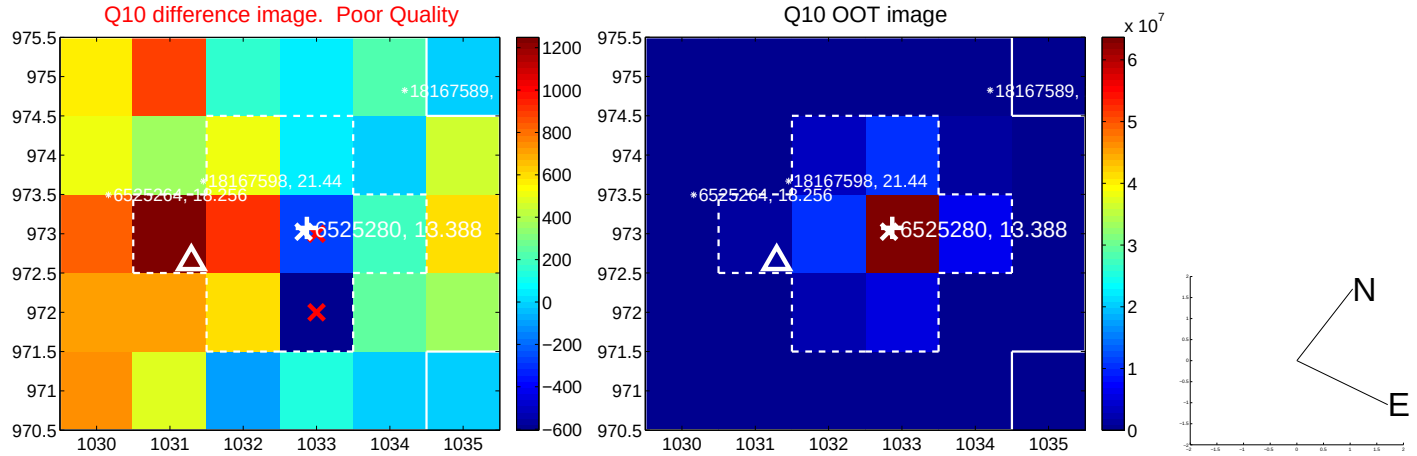


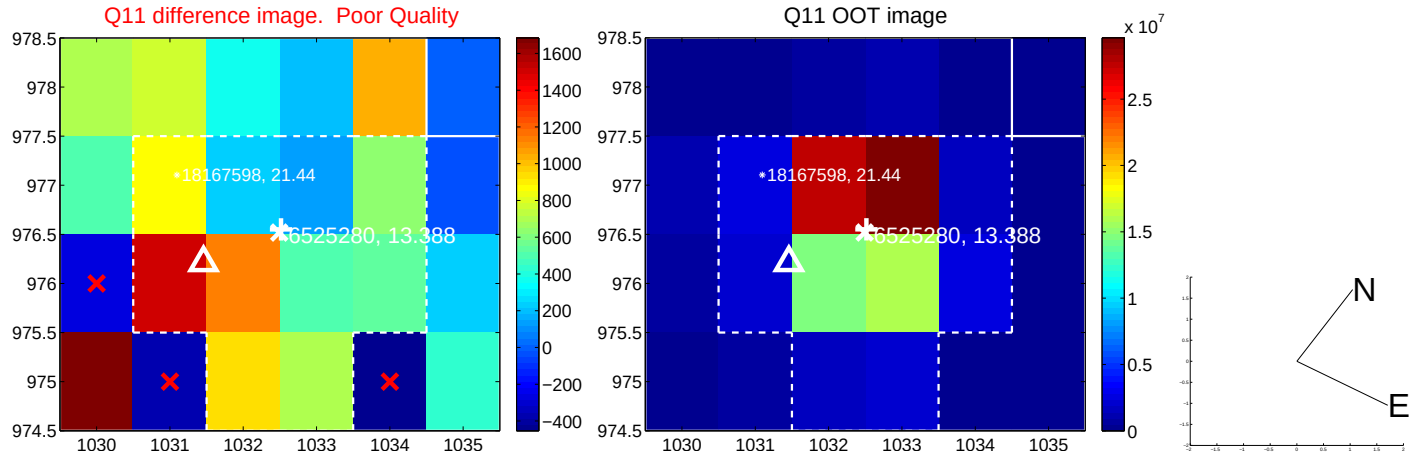


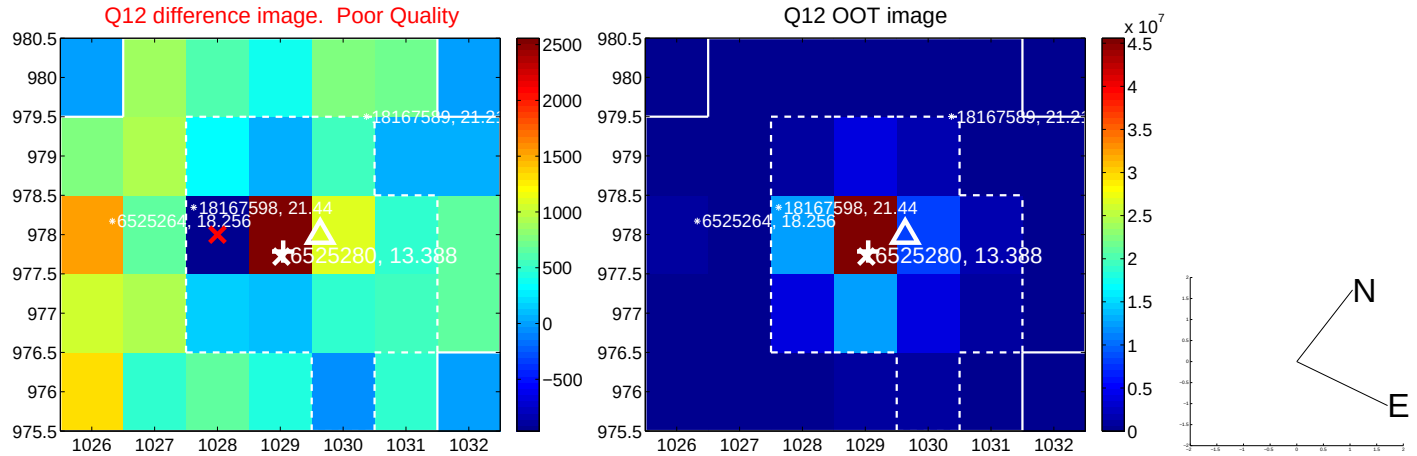


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

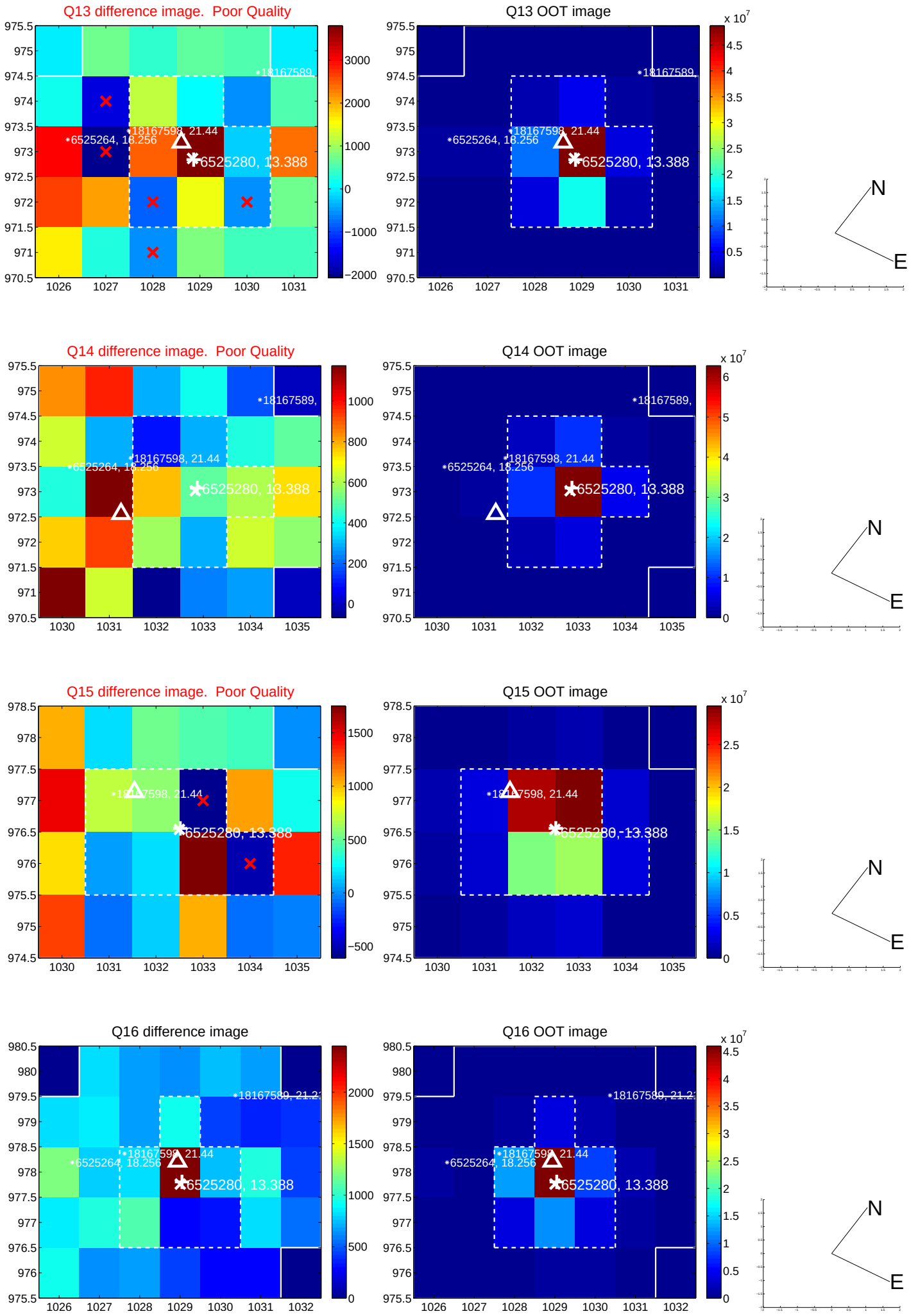




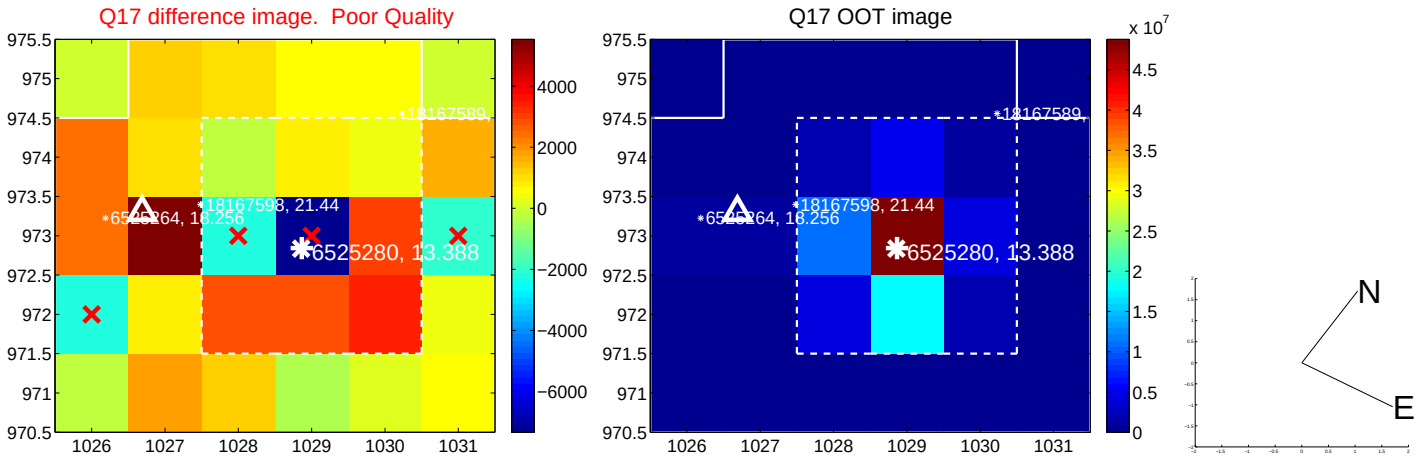


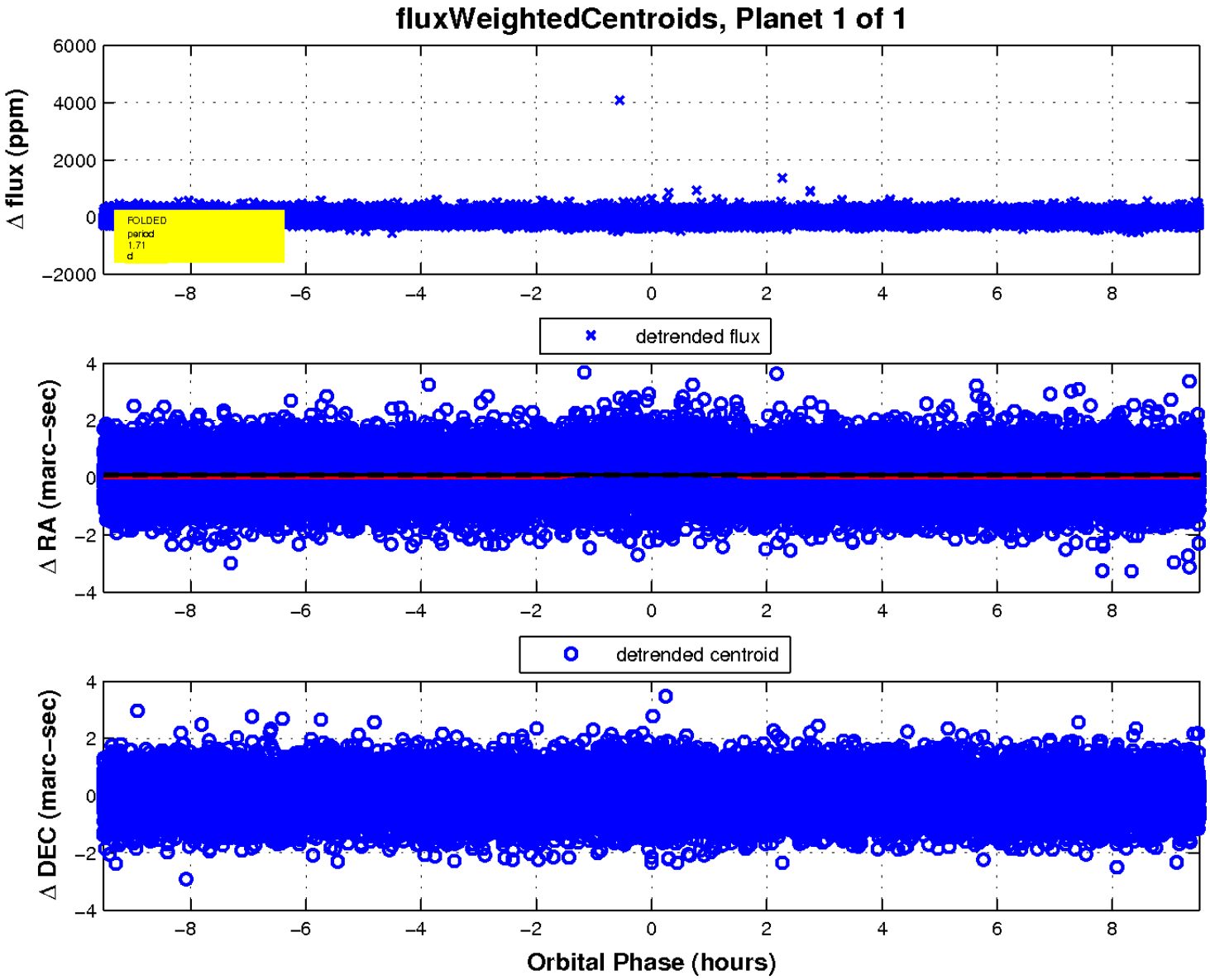


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

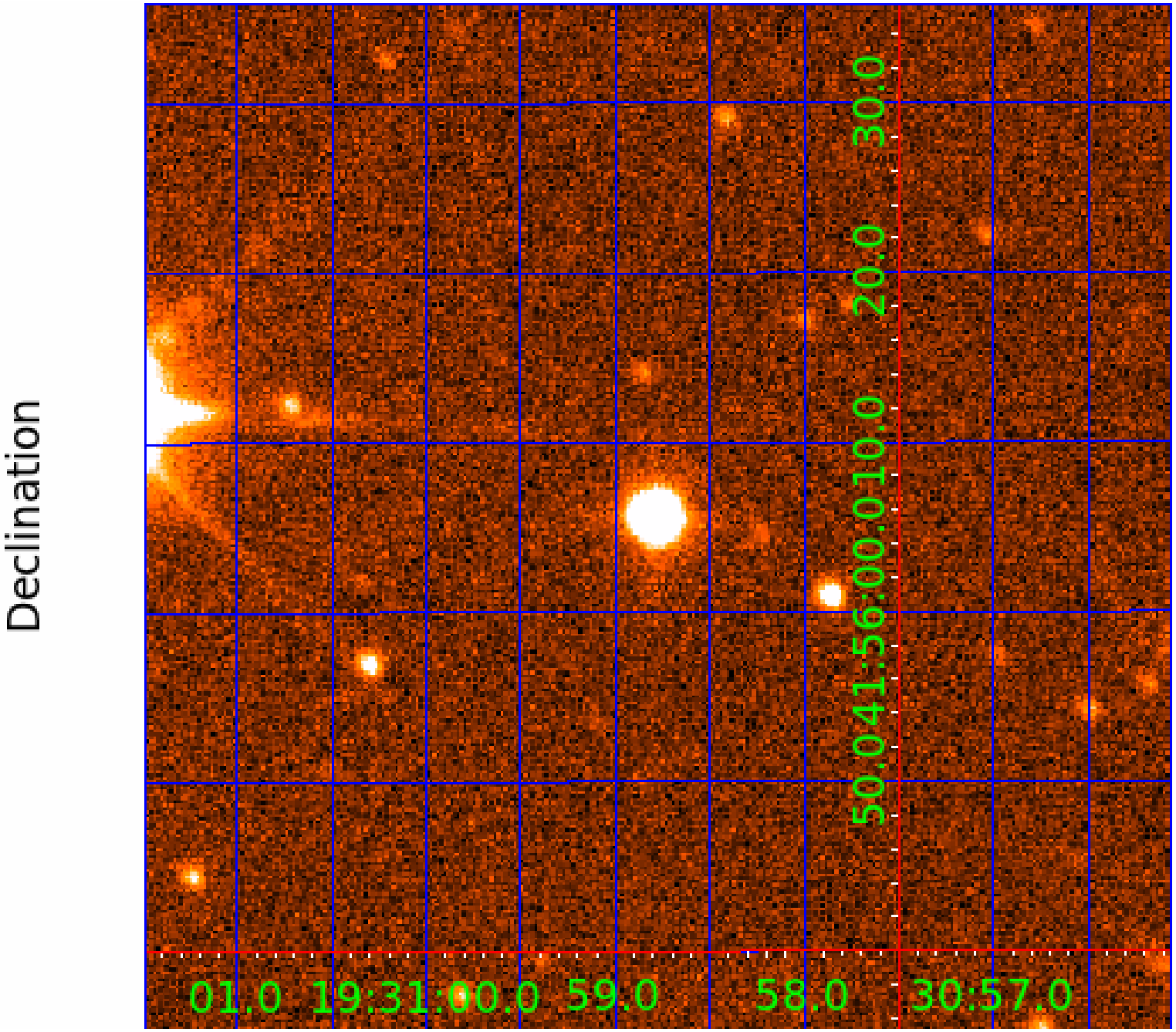


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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