

KIC 011180361

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})
011180361-01	OBS	0971.01	0.533060	131.775580	102.4	0.910	13.5	30.1	4.05	8523	4.80	0.00
011180361-02	OBS	No	0.596751	131.667444	17.2	2.000	9.0	-1.0	4.05	8523	1.71	240573.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011180361-01	OBS	PC	1.00	0	0	0	0	PLANET_IN_STAR—CENT_SATURATED
011180361-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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 011180361-01

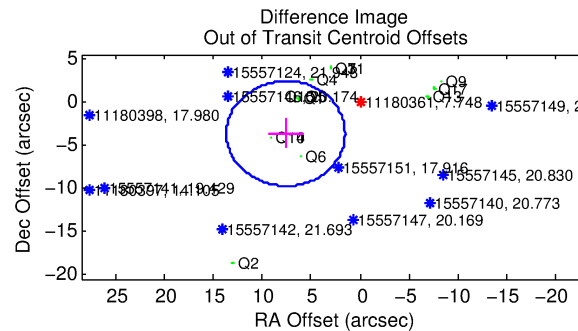
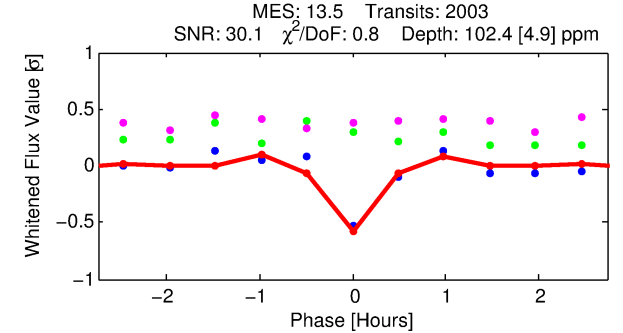
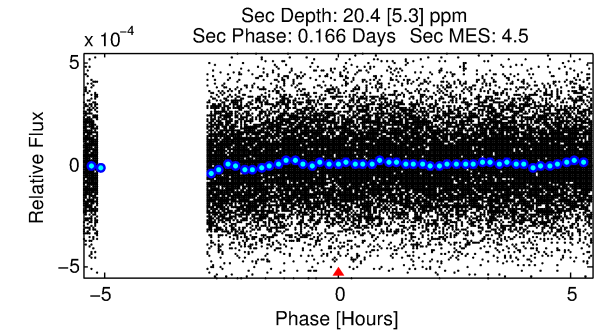
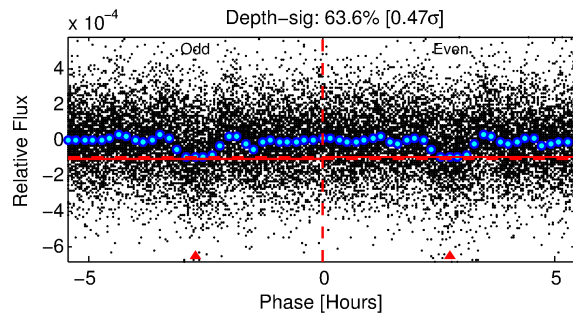
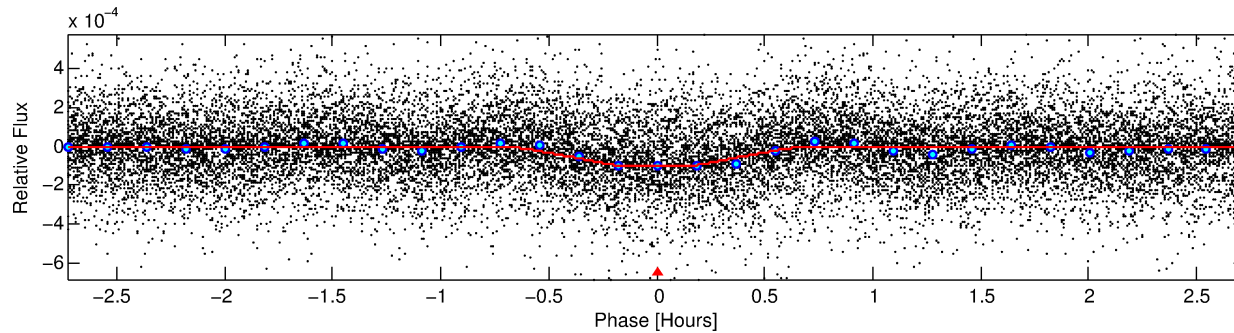
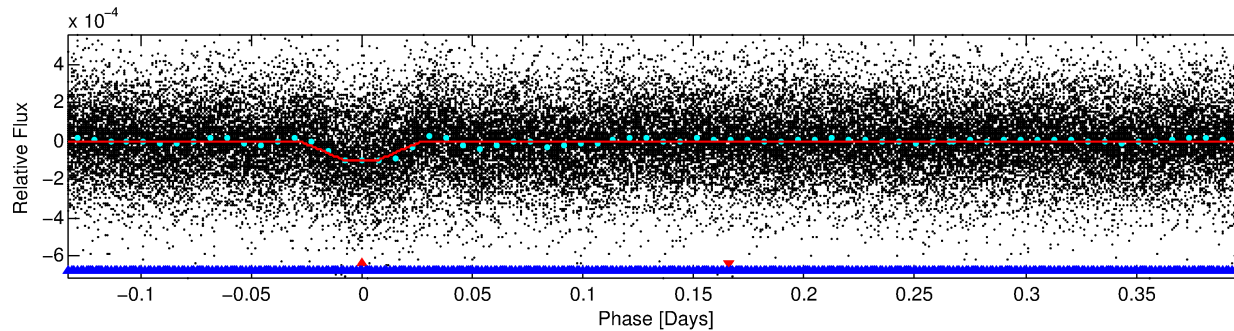
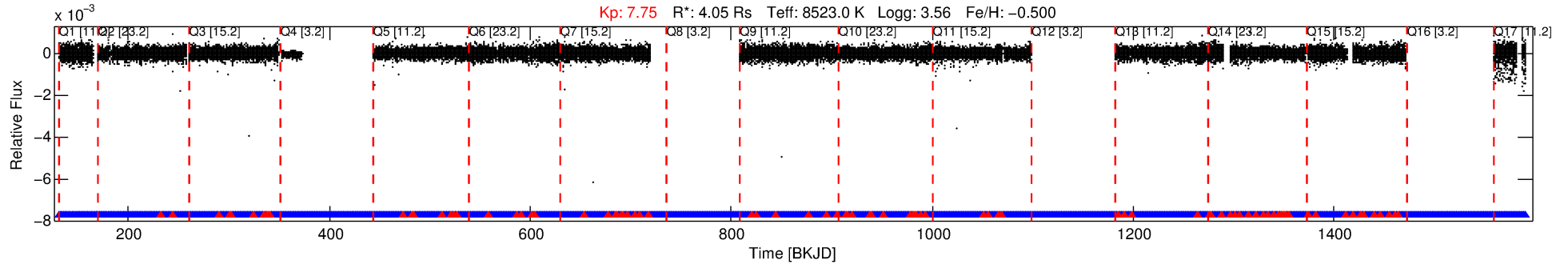
No Significant Match Found

DV One-Page Summary

KIC: 11180361 Candidate: 1 of 2 Period: 0.533 d

KOI: K00971 Corr: No Ephemeris Match

Kp: 7.75 R*: 4.05 Rs Teff: 8523.0 K Logg: 3.56 Fe/H: -0.500



DV Fit Results:

Period = 0.53306 [0.00000] d
Epoch = 131.7756 [0.0004] BKJD
Rp/R* = 0.0109 [0.0009]
a/R* = 2.24 [0.97]
b = 0.90 [0.11]
Seff = N/A
Teq = N/A
Rp = 4.80 [2.83] Re
a = N/A
Ag = N/A
Teff = N/A

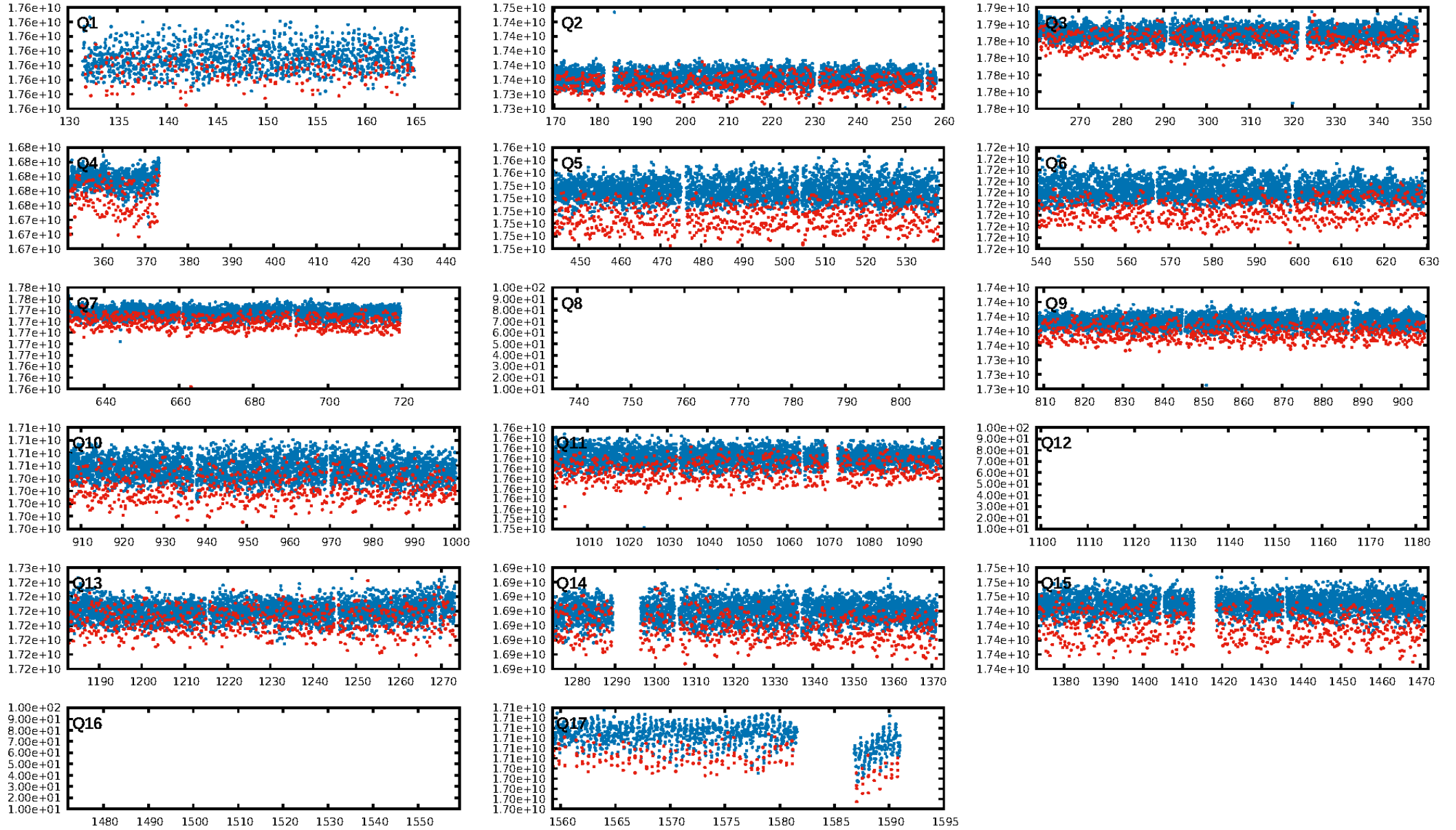
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 51.3% [0.70σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [1763/1851]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 2.012 arcsec [6.08σ]
OotOffset-rm: 8.448 arcsec [4.18σ]
KicOffset-rm: 12.090 arcsec [3.99σ]
OotOffset-st: 4/4/1/5 [14]
KicOffset-st: 4/4/1/5 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 1.00 [14/14]

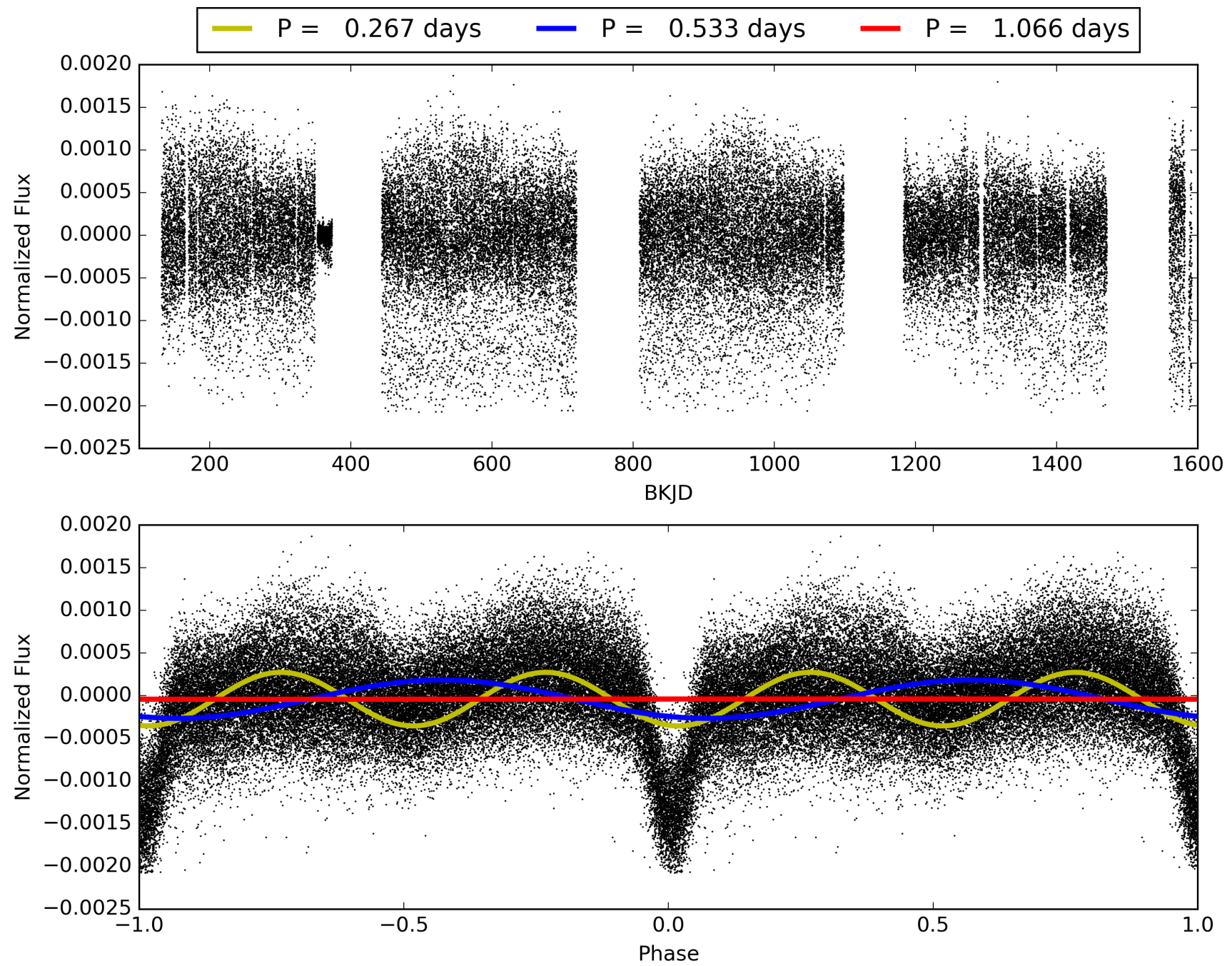
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:53:33 Z

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

TCE 011180361-01, PDC Light Curves

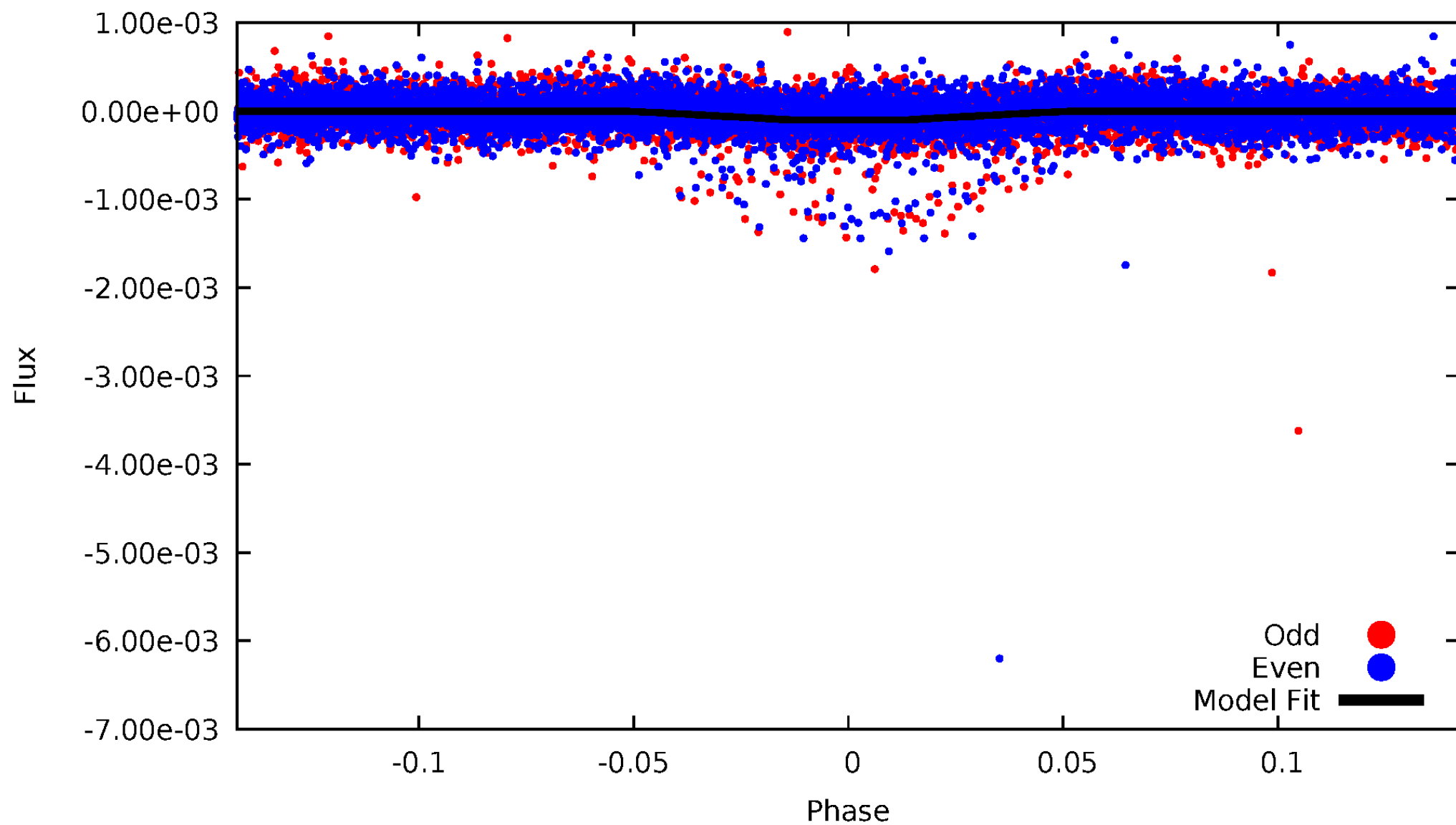


TCE 011180361-01



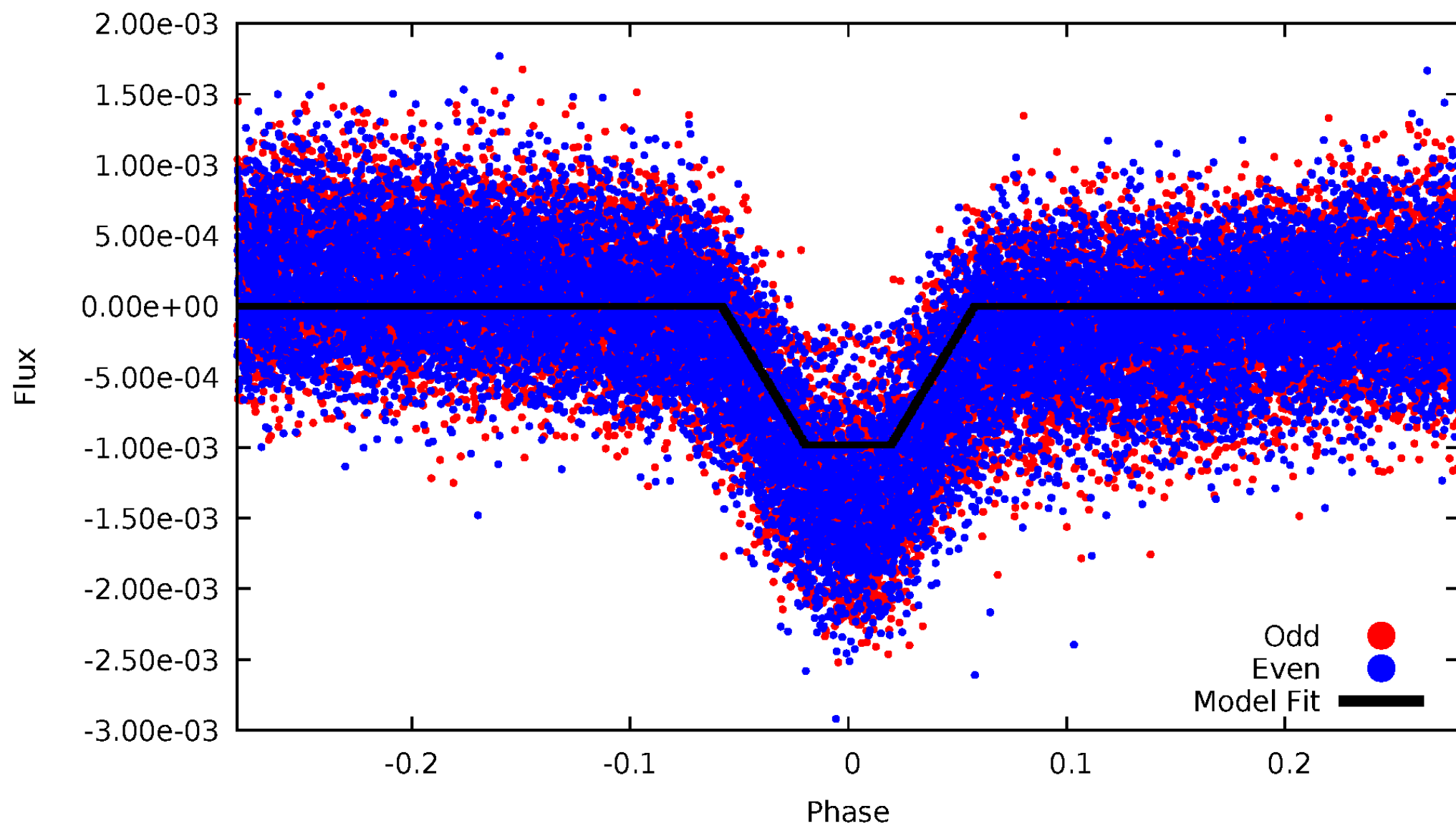
DV Odd/Even

TCE 011180361-01

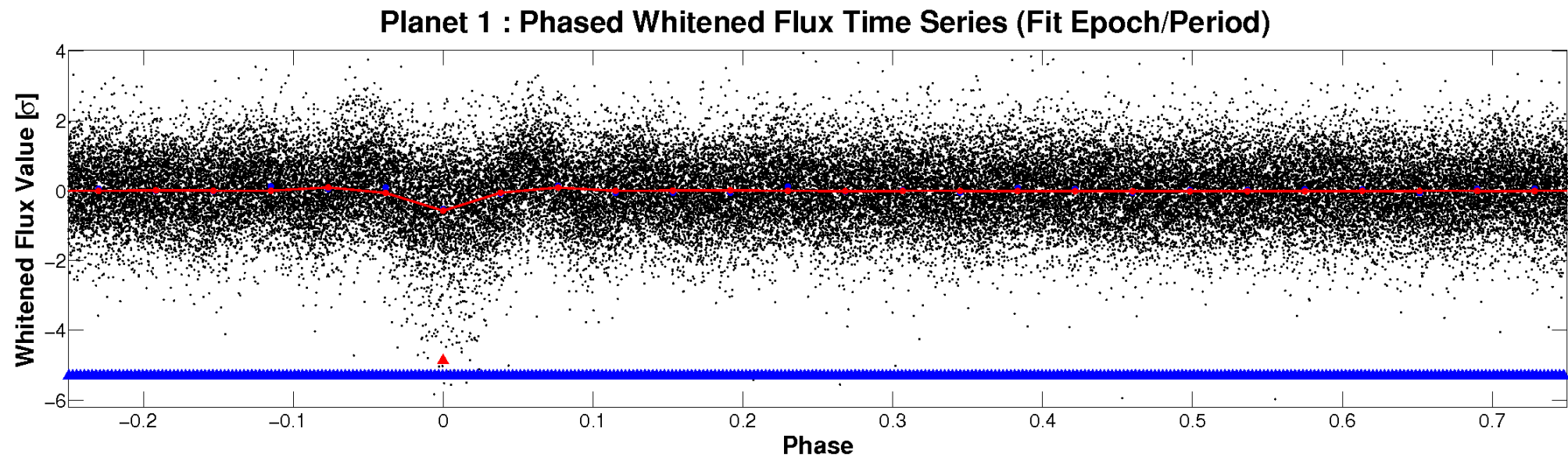
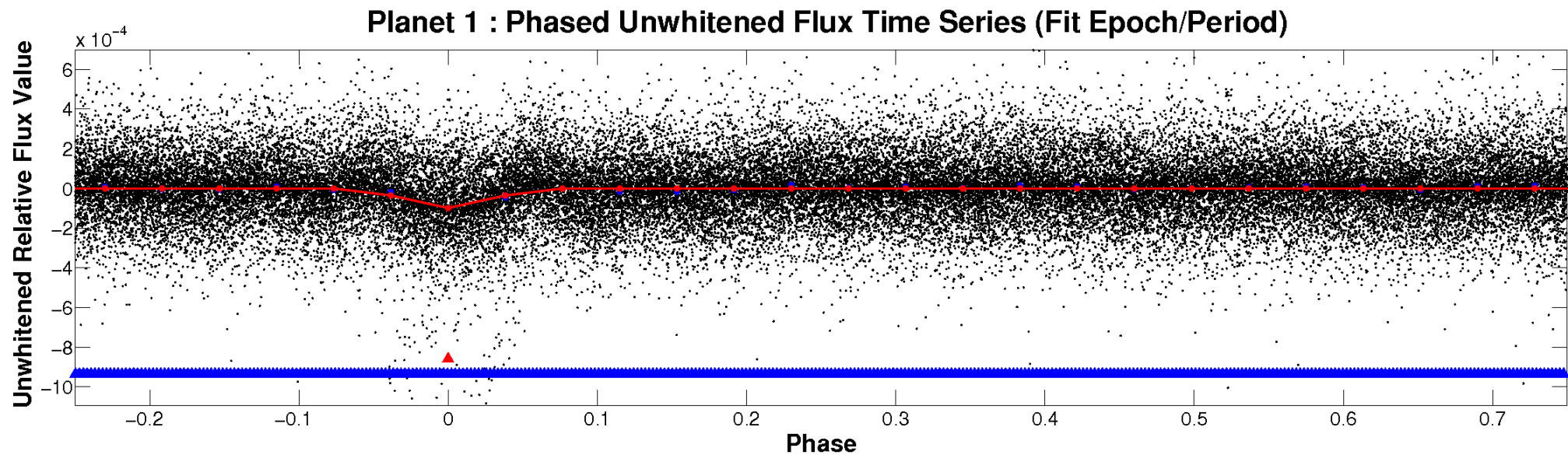


ALT Odd/Even

TCE 011180361-01

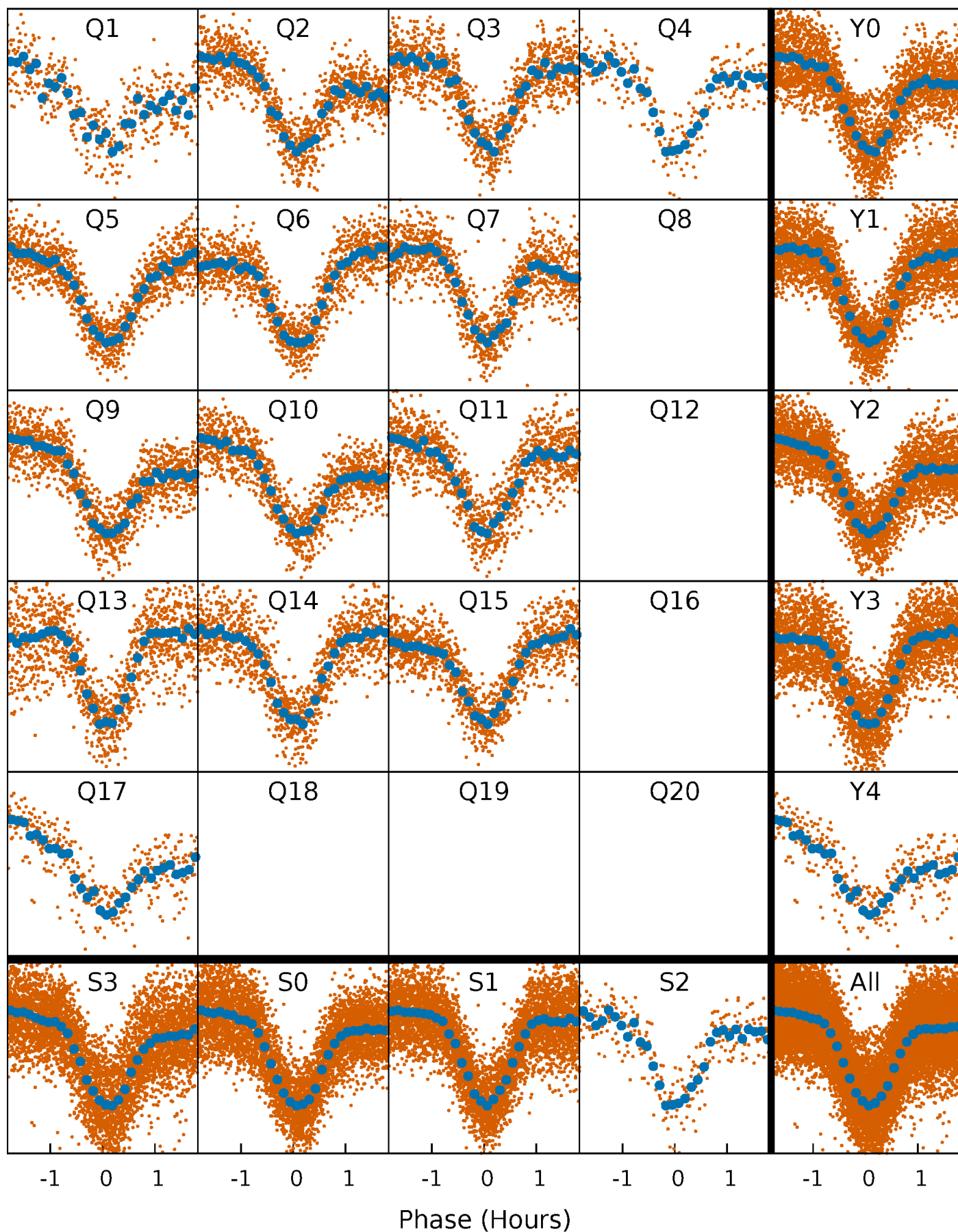


Non-Whitened Vs. Whitened Light Curve



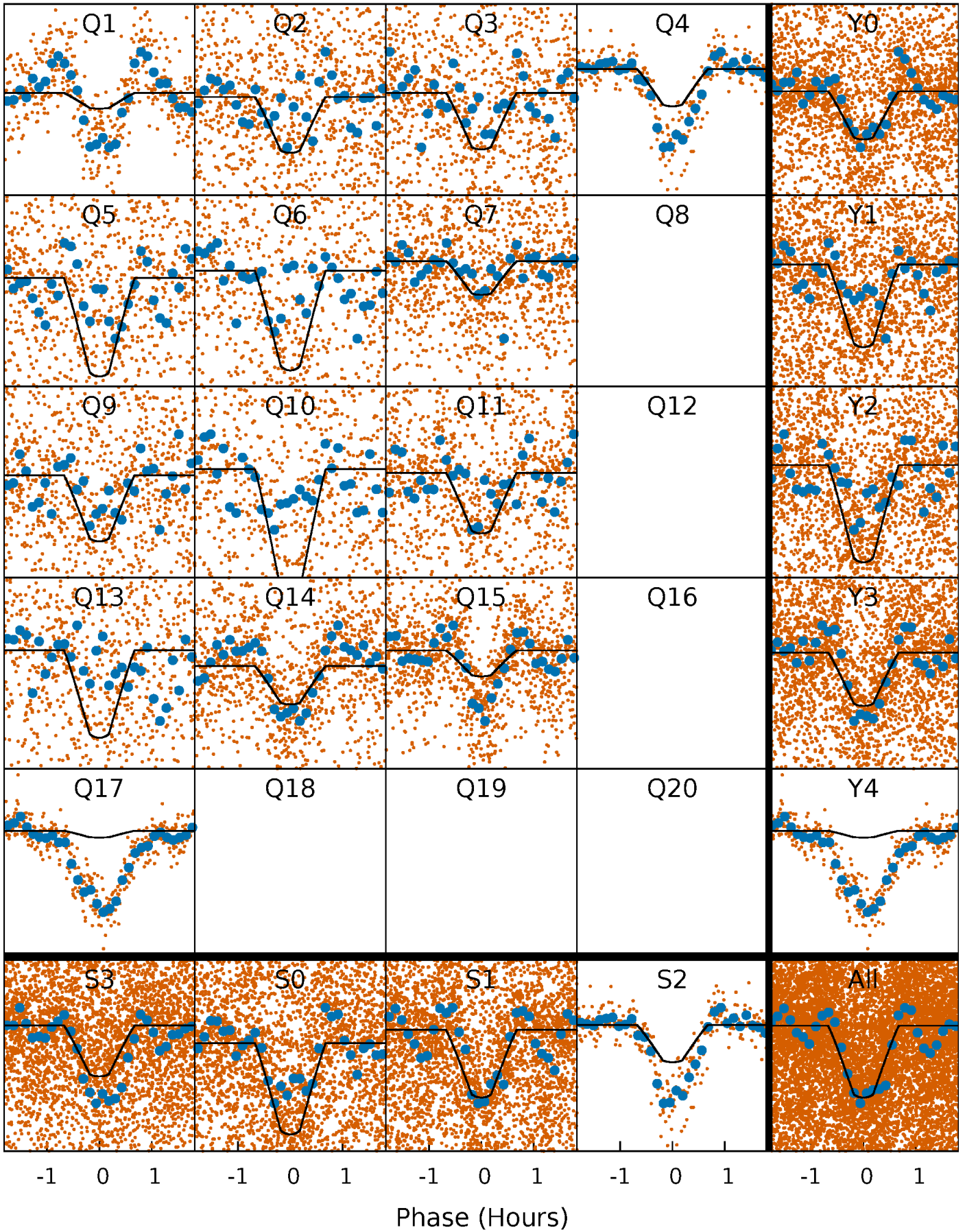
PDC Quarter-Phased Transit Curves

TCE 011180361-01 P= 0.533060 Days $T_0=131.775580$ (BKJD)



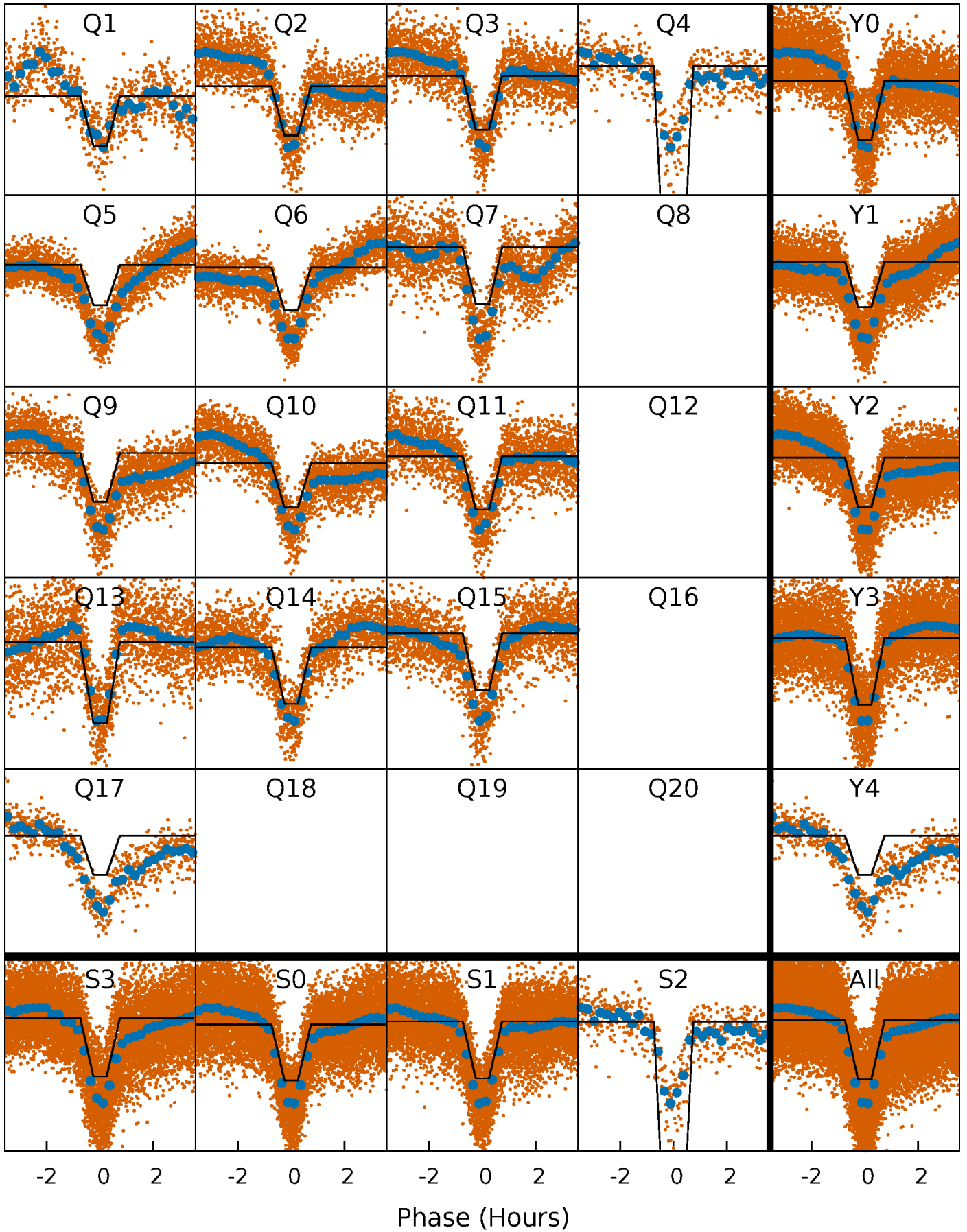
DV Quarter-Phased Transit Curves

TCE 011180361-01 P= 0.533060 Days $T_0=131.775580$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

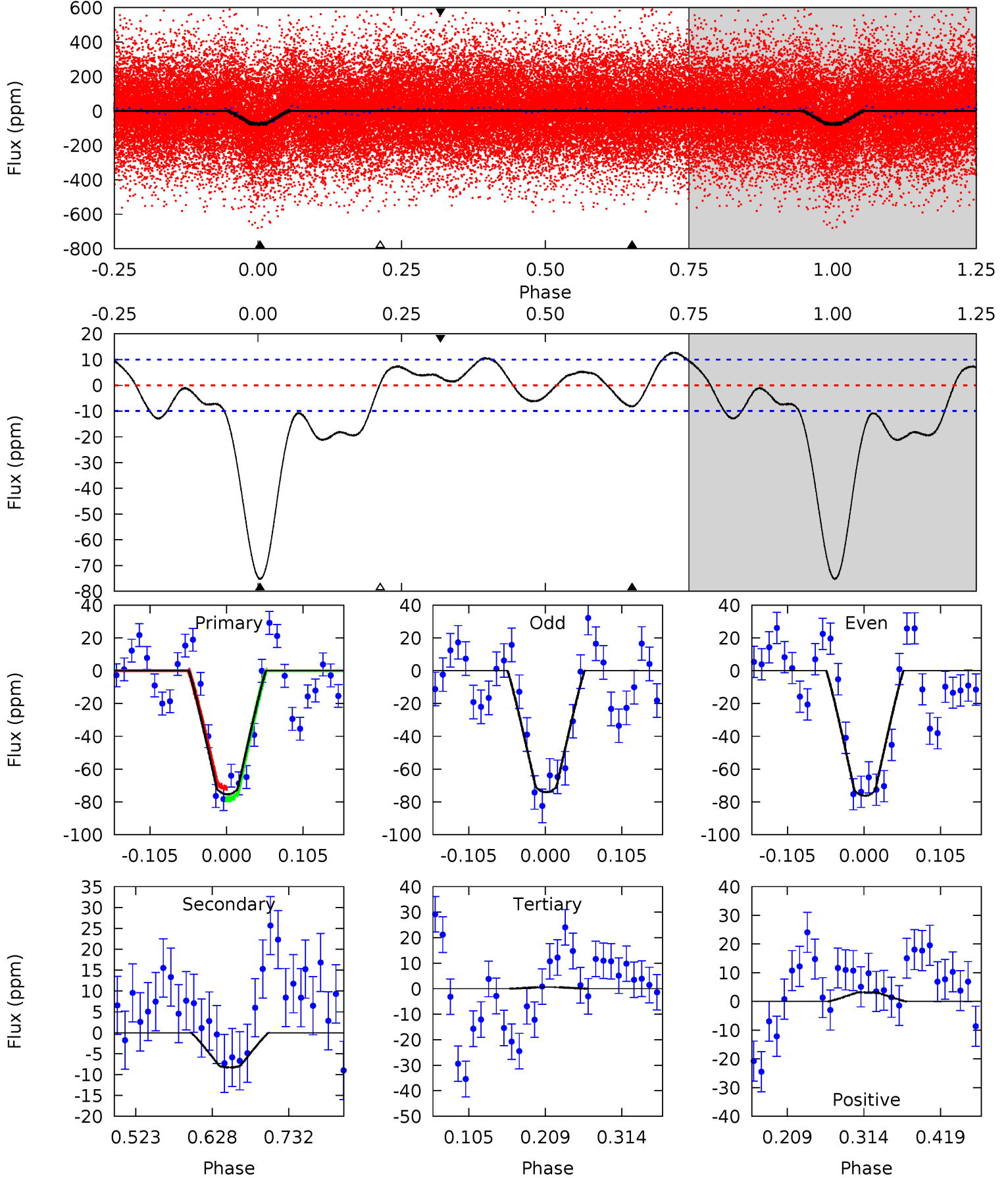
TCE 011180361-01 P= 0.533060 Days $T_0=131.779723$ (BKJD)



DV Model-Shift Uniqueness Test

011180361-01, P = 0.533060 Days, E = 131.242520 Days

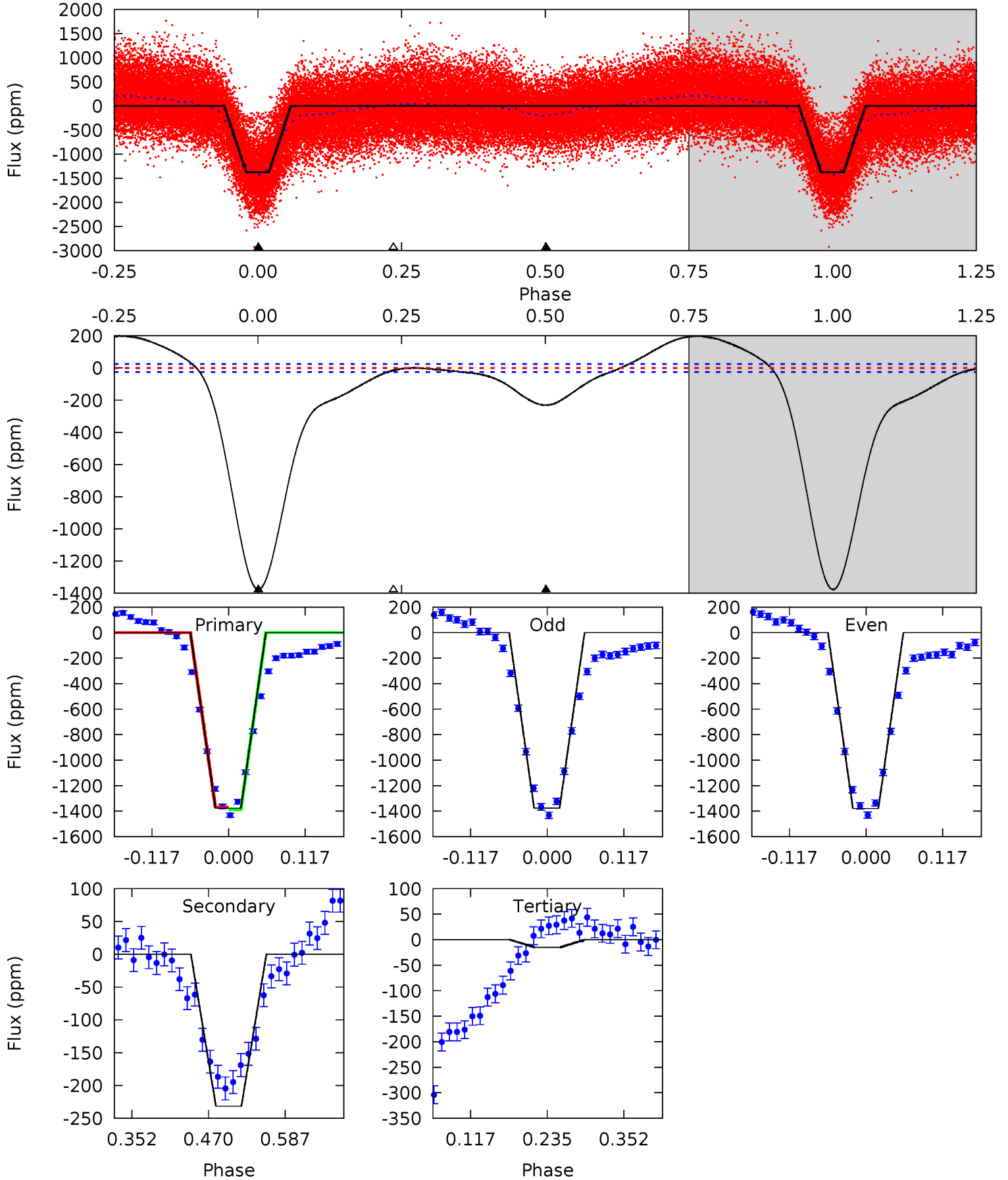
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.3	3.78	-0.27	1.47	4.56	1.62	4.02	34.6	32.9	4.05	2.31	0.51	1.24	0.15	1.56



Alt Model-Shift Uniqueness Test

011180361-01, P = 0.533060 Days, E = 131.246663 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
250.1	42.0	2.73	0	4.53	1.57	19.9	247.3	250.1	39.3	42.0	0.31	1.00	0.13	1.89



Stellar Parameters For KIC 011180361

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8523^{+267}_{-326}	$3.559^{+0.639}_{-0.071}$	$-0.500^{+0.150}_{-0.300}$	$4.051^{+0.788}_{-2.363}$	$2.166^{+0.377}_{-0.700}$	$0.046^{+0.414}_{-0.015}$
	+3%/-4%	+18%/-2%	+30%/-60%	+19%/-58%	+17%/-32%	+902%/-34%
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 011180361-01 / KOI 0971.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-8 ± 2	$4.35^{+0.97}_{-1.33}$	7775^{+655}_{-1161}	-5771^{+1125}_{-549}	$0.071^{+0.064}_{-0.028}$
Alt.	-231 ± 6	$12.63^{+2.33}_{-4.06}$	7736^{+668}_{-1180}	-4500^{+8993}_{-894}	$0.225^{+0.214}_{-0.055}$

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 $A_{obs} \gg 1.0$

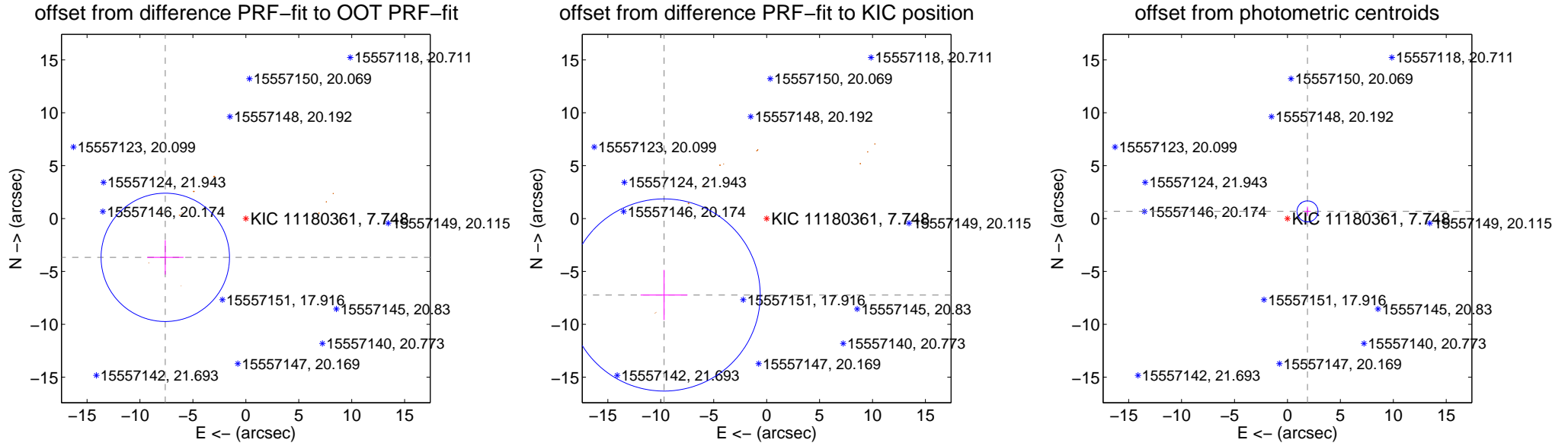
DV Centroid Data

Supplemental centroid analysis for 011180361-01. **Kepler magnitude: 7.75.** Transit SNR 30.05

There are 0 quarters with good PRF difference image offsets

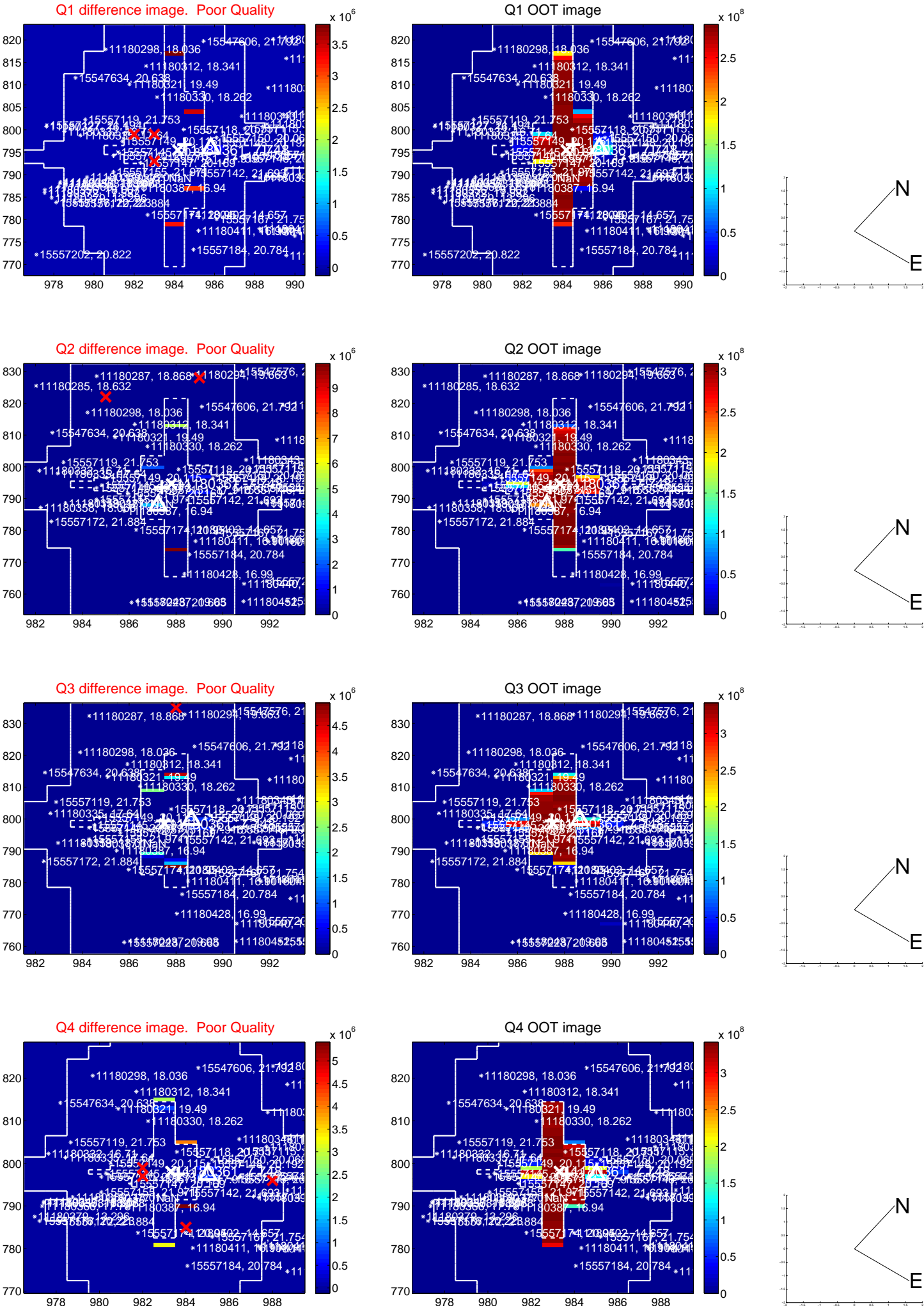
The OOT PRF centroid is offset from the target star catalog position by about 5.11 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.448 ± 2.022	4.18	7.609 ± 1.717	-3.671 ± 1.626
PRF-fit source offset from KIC position	12.090 ± 3.028	3.99	9.691 ± 2.213	-7.229 ± 2.369
photometric centroid source offset	2.01 ± 0.33	6.08	-1.89 ± 0.31	0.68 ± 0.45

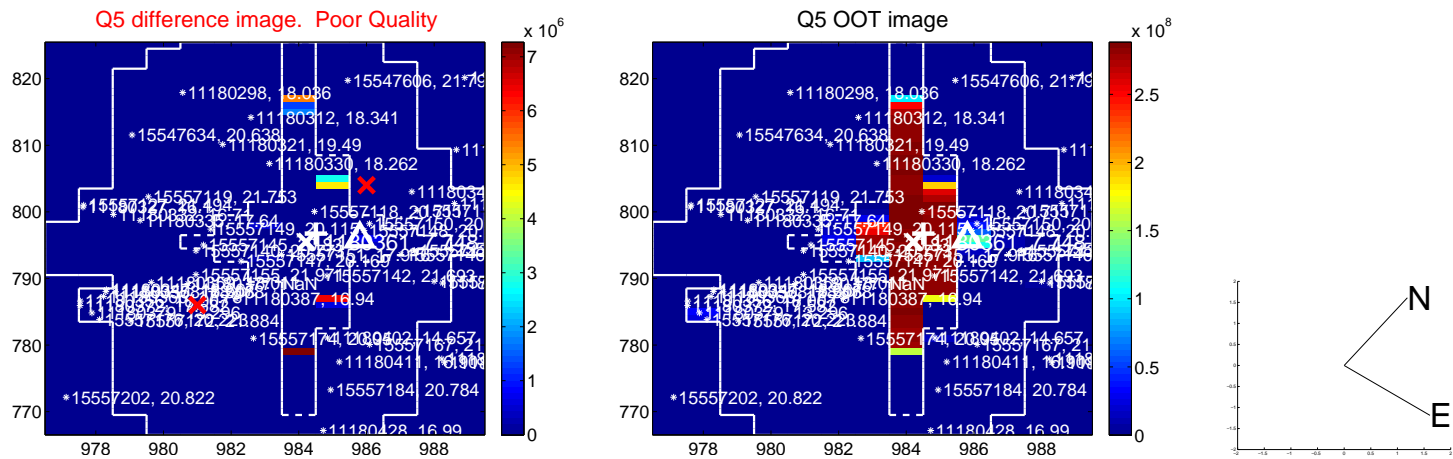


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

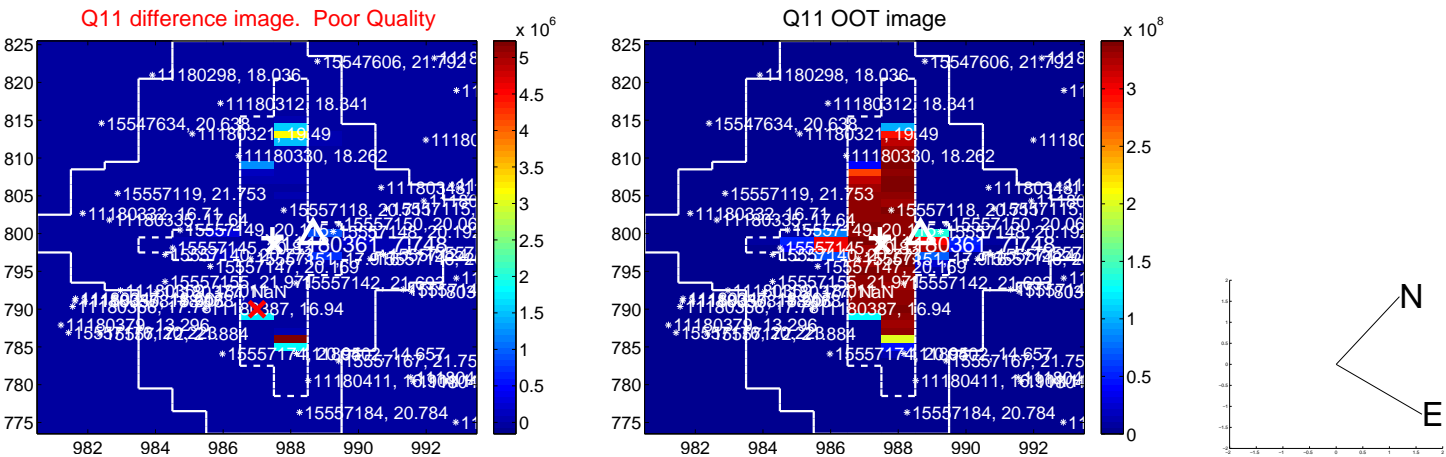
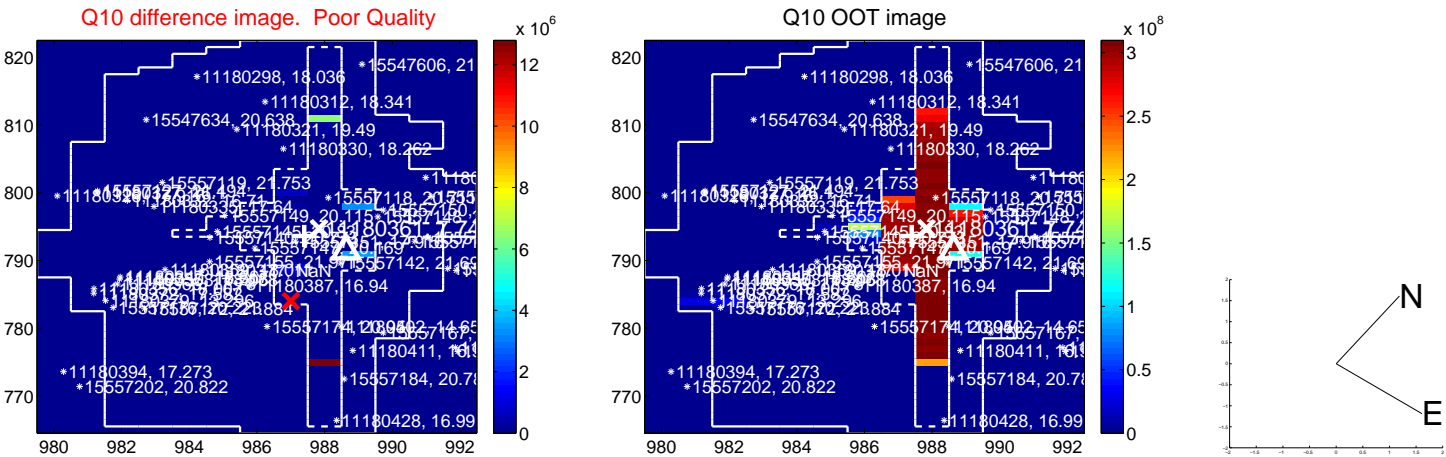
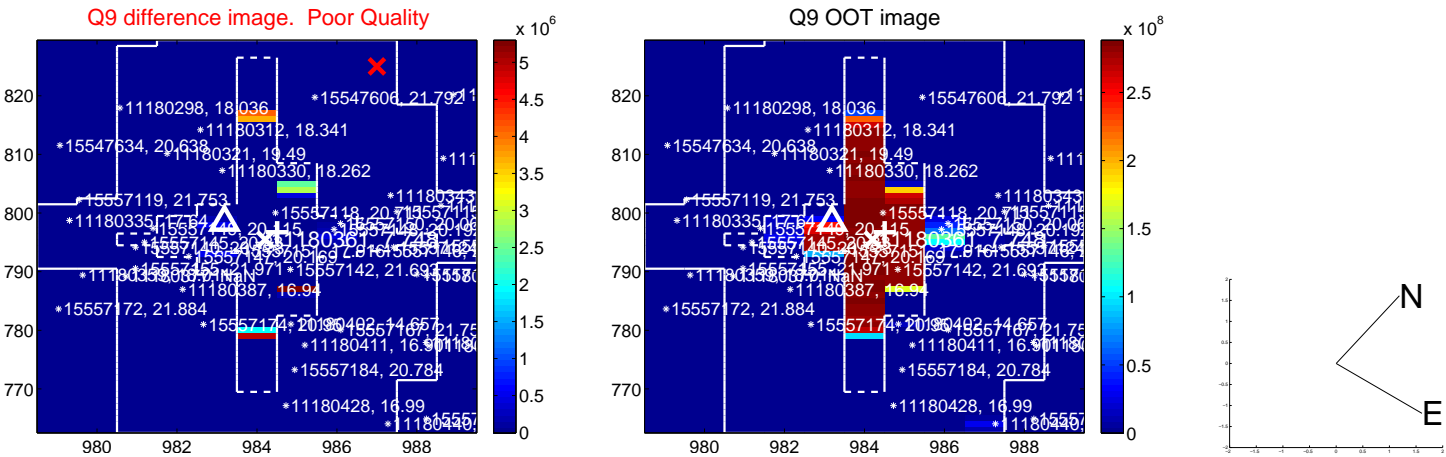
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



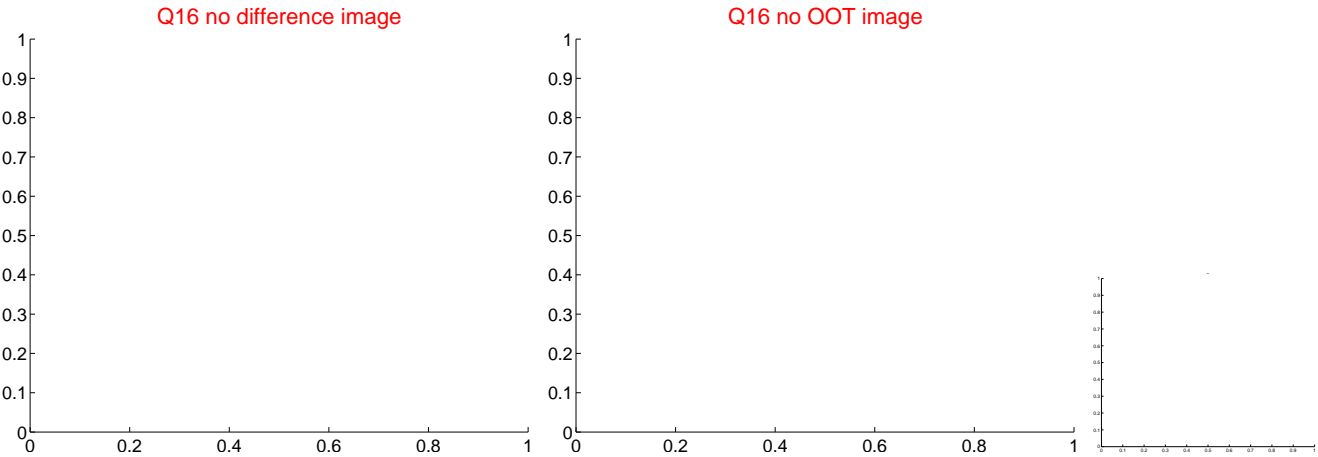
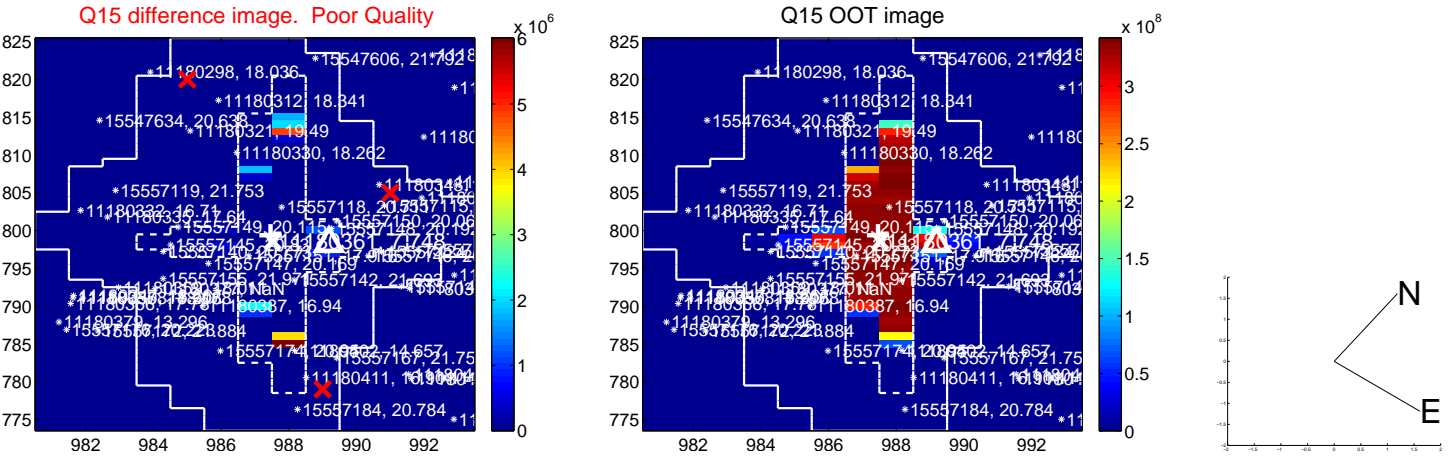
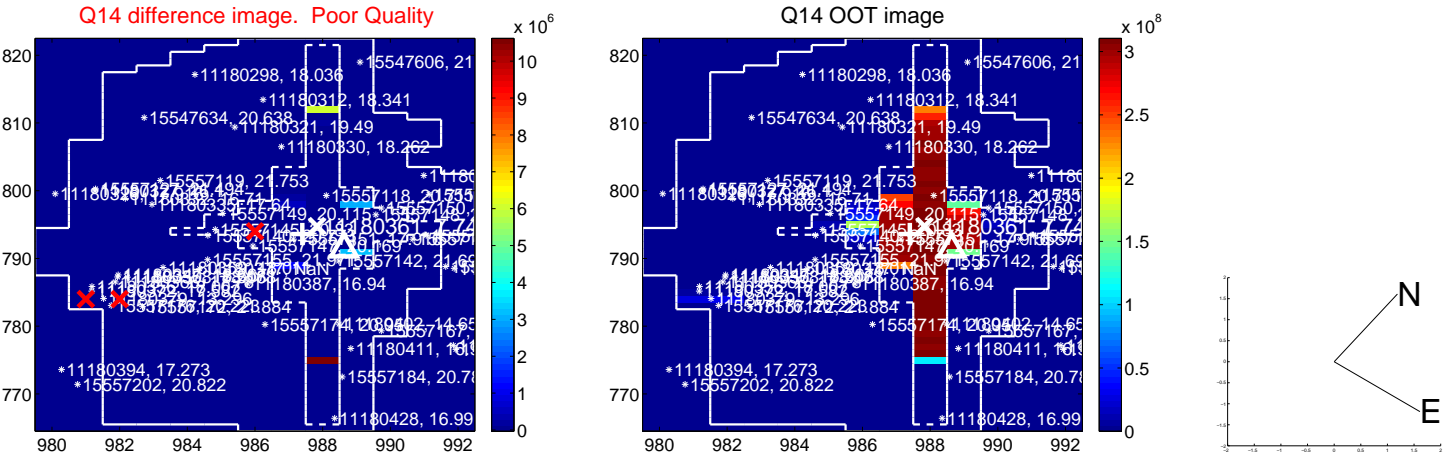
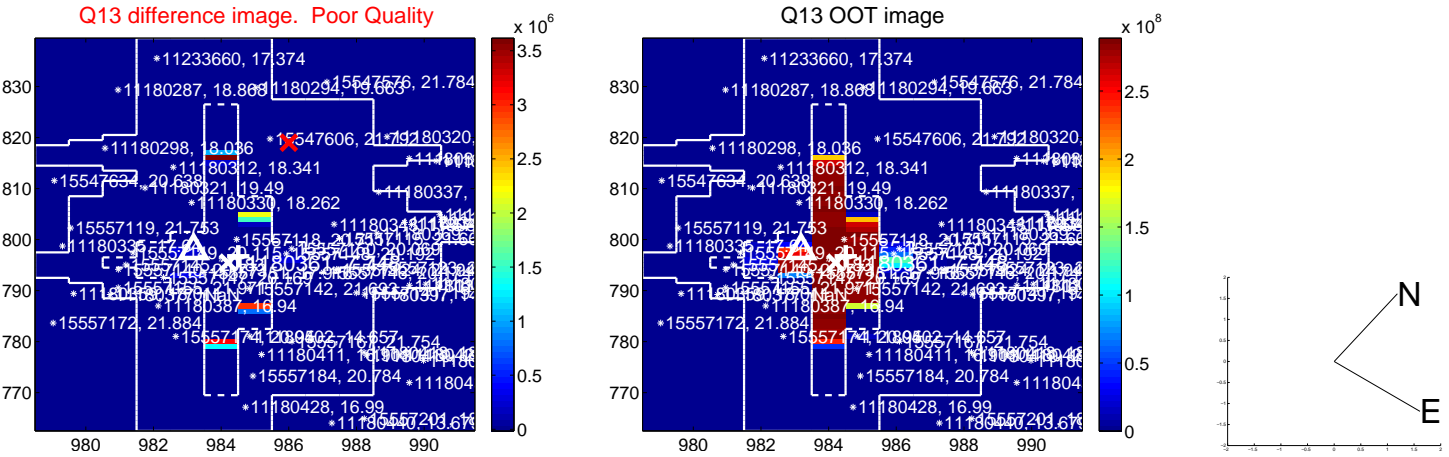
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



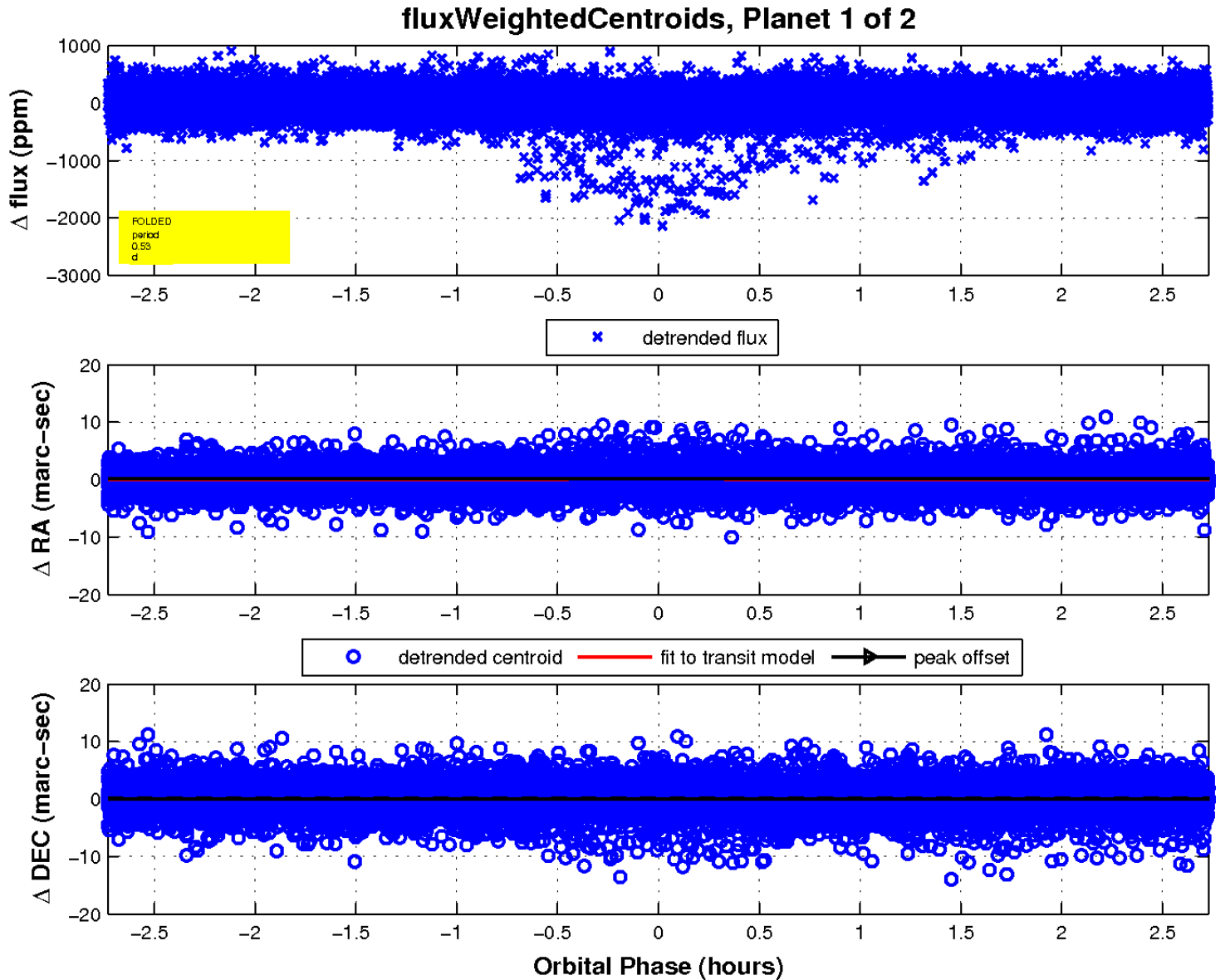
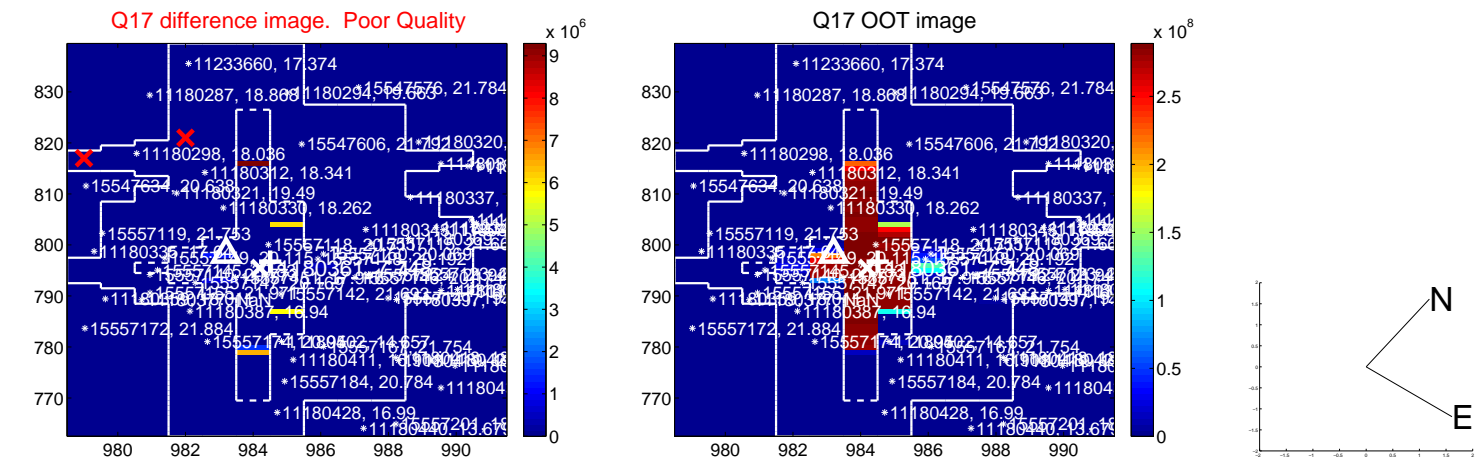
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

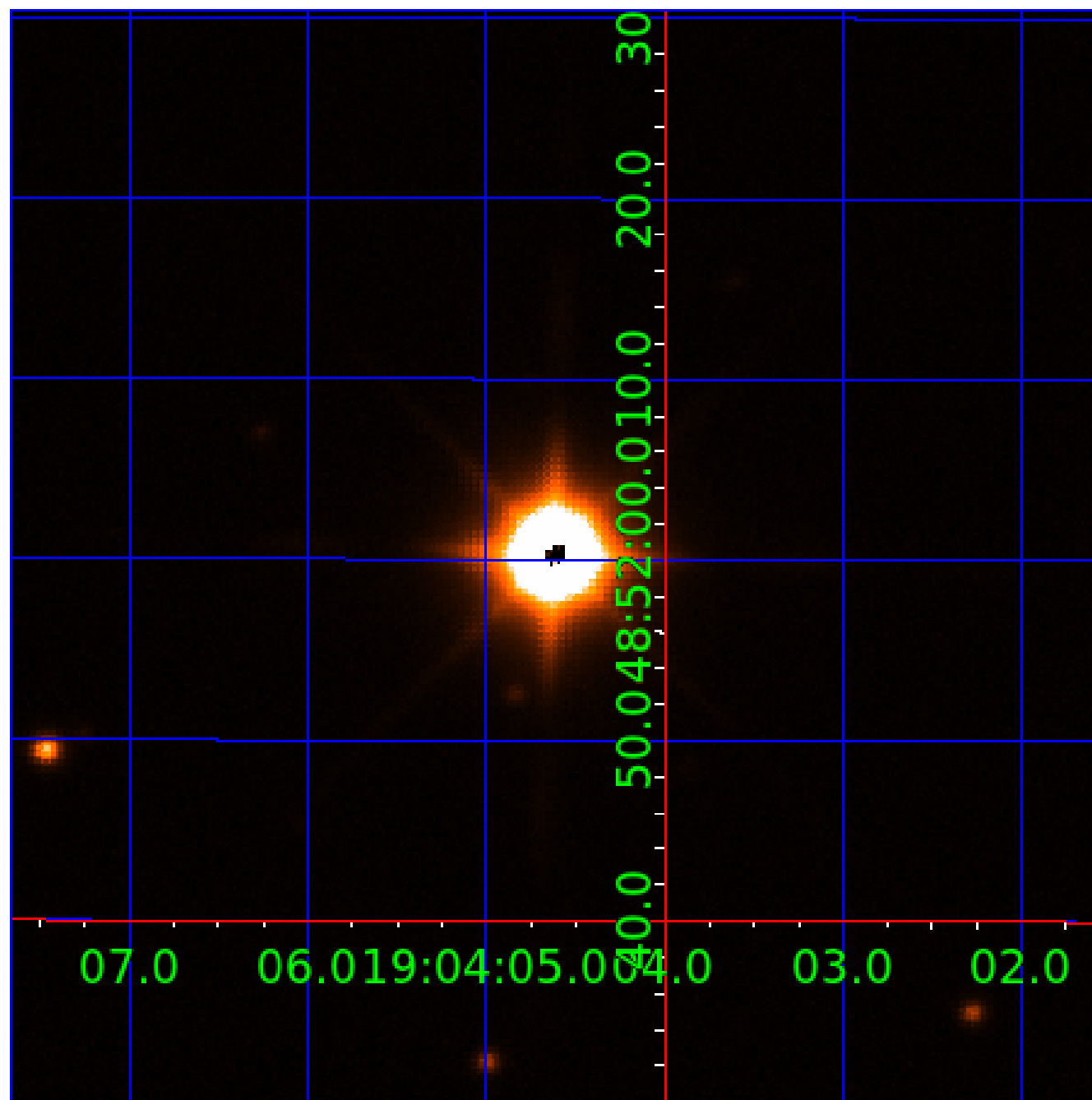


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011180361

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})
011180361-01	OBS	0971.01	0.533060	131.775580	102.4	0.910	13.5	30.1	4.05	8523	4.80	0.00
011180361-02	OBS	No	0.596751	131.667444	17.2	2.000	9.0	-1.0	4.05	8523	1.71	240573.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011180361-01	OBS	PC	1.00	0	0	0	0	PLANET_IN_STAR—CENT_SATURATED
011180361-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQU_ALT—CENT_SATURATED

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 011180361-02

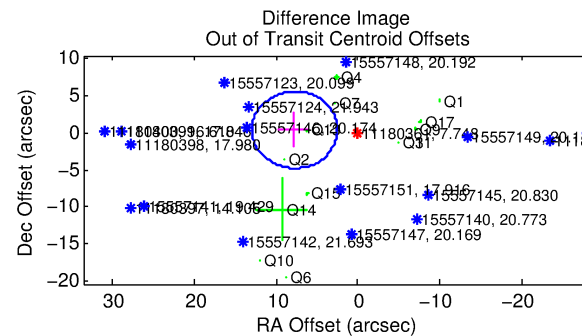
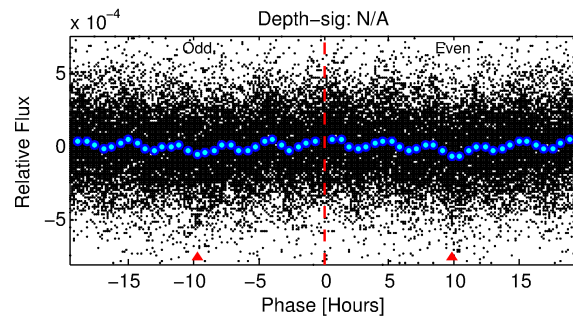
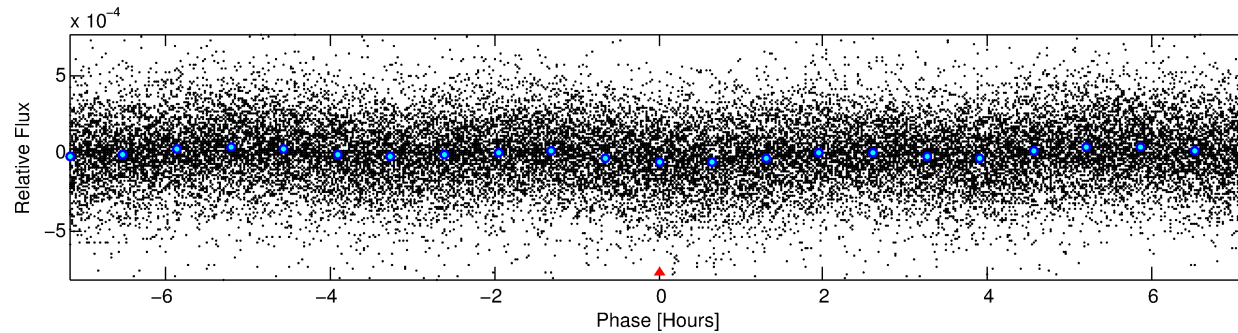
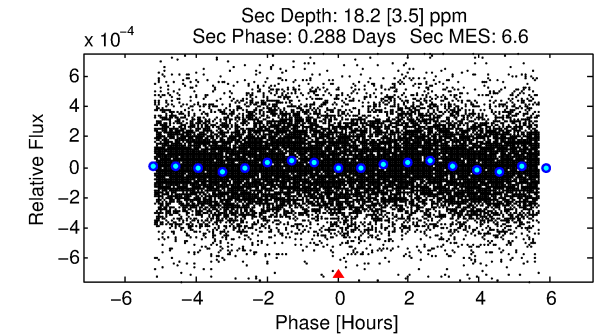
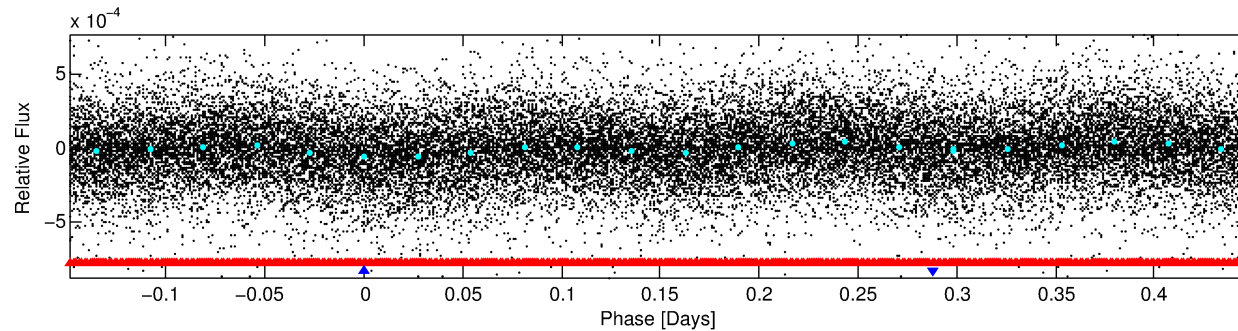
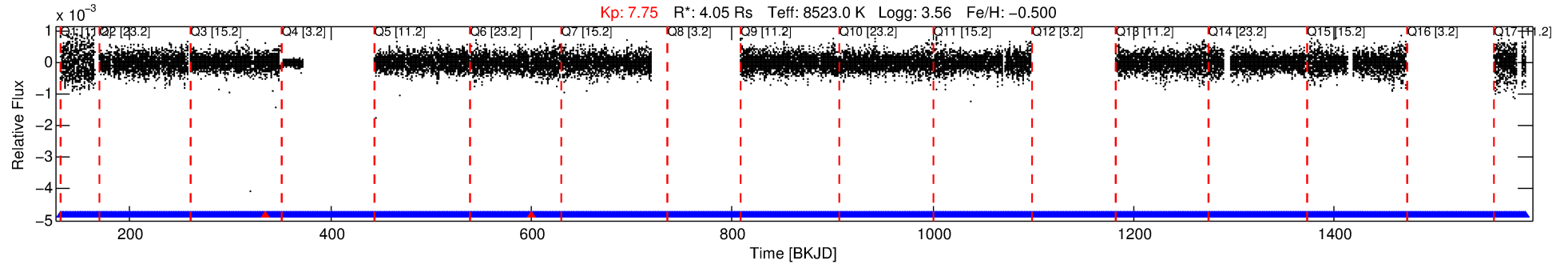
No Significant Match Found

DV One-Page Summary

KIC: 11180361 Candidate: 2 of 2 Period: 0.597 d

KOI: K00971 Corr: No Ephemeris Match

Kp: 7.75 R*: 4.05 Rs Teff: 8523.0 K Logg: 3.56 Fe/H: -0.500



TPS TCE Results:

Period = 0.59675 d

Epoch = 131.6674 BKJD

DV fit results are unavailable

DV Diagnostic Results:

ShortPeriod-sig: 51.3% [0.70 σ]

LongPeriod-sig: N/A

ModelChiSquare2-sig: N/A

ModelChiSquareGof-sig: N/A

Bootstrap-pfa: N/A

RollingBand-fgt: 1.00 [1423/1425]

GhostDiagnostic-chr: N/A

Centroid-sig: 53.5%

Centroid-so: 1.840 arcsec [2.32 σ]

OotOffset-rm: 7.777 arcsec [4.47 σ]

KicOffset-rm: 11.430 arcsec [3.40 σ]

OotOffset-st: 4/4/1/4 [13]

KicOffset-st: 4/4/1/4 [13]

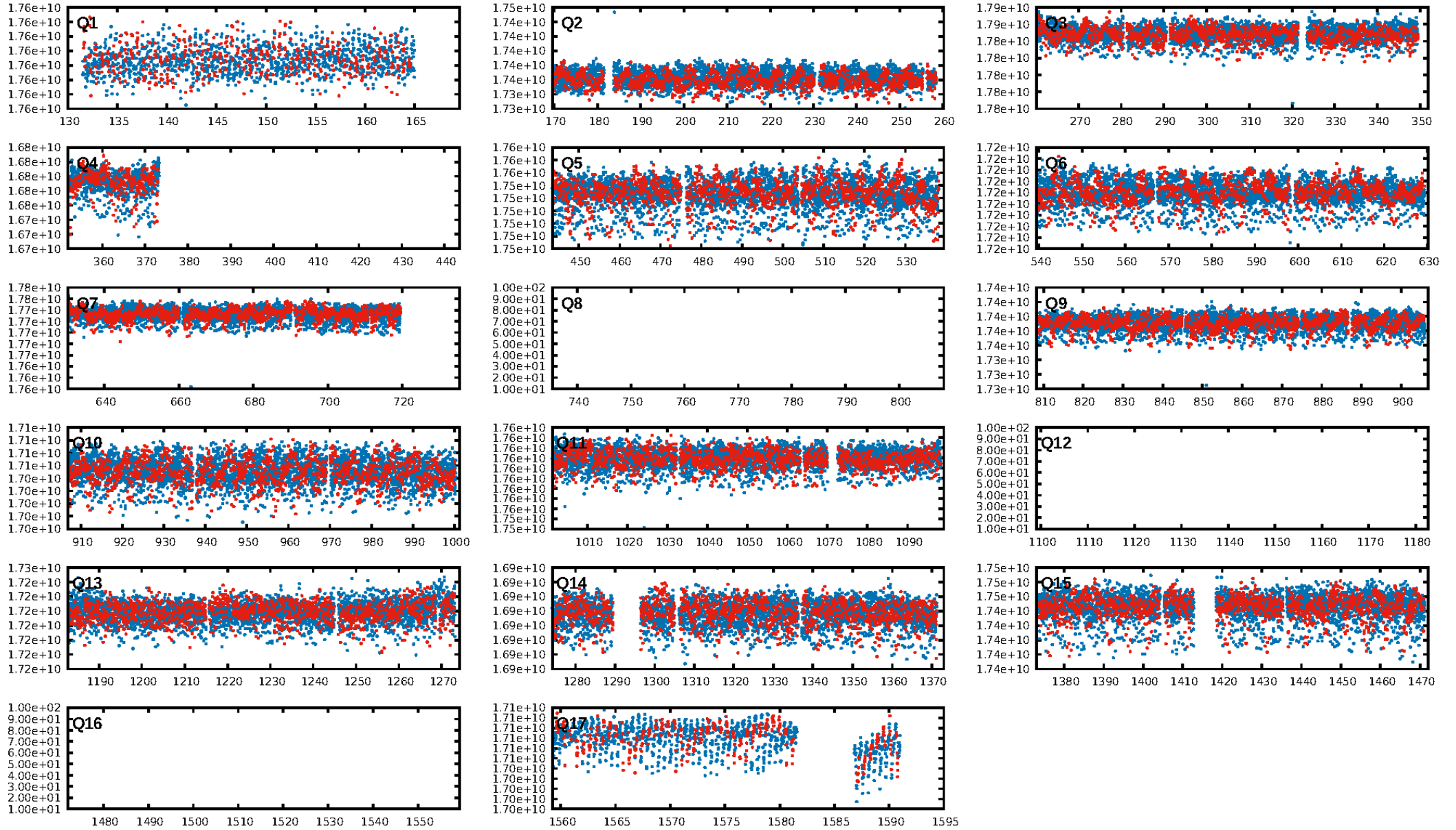
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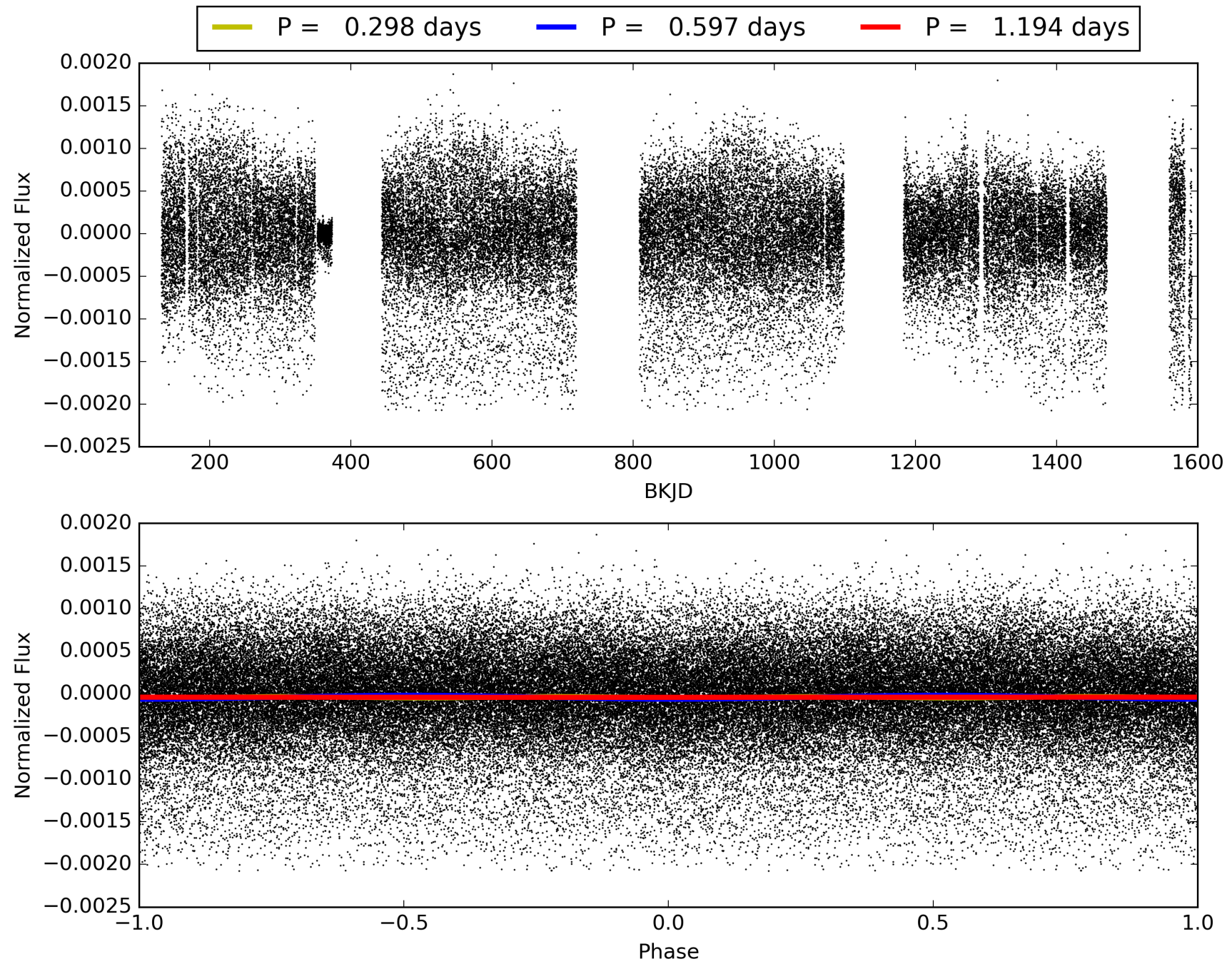
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:53:43 Z

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

TCE 011180361-02, PDC Light Curves

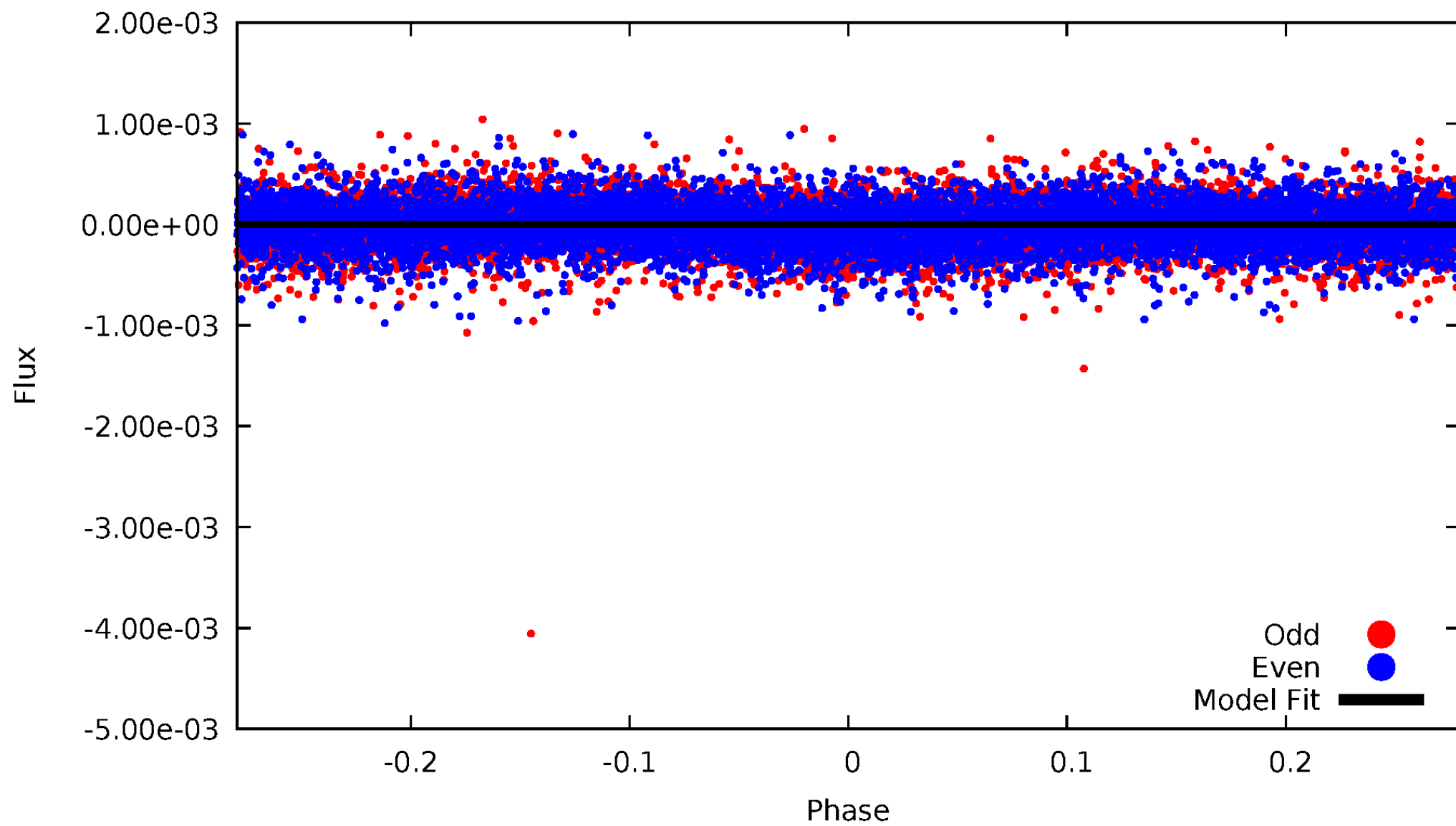


TCE 011180361-02



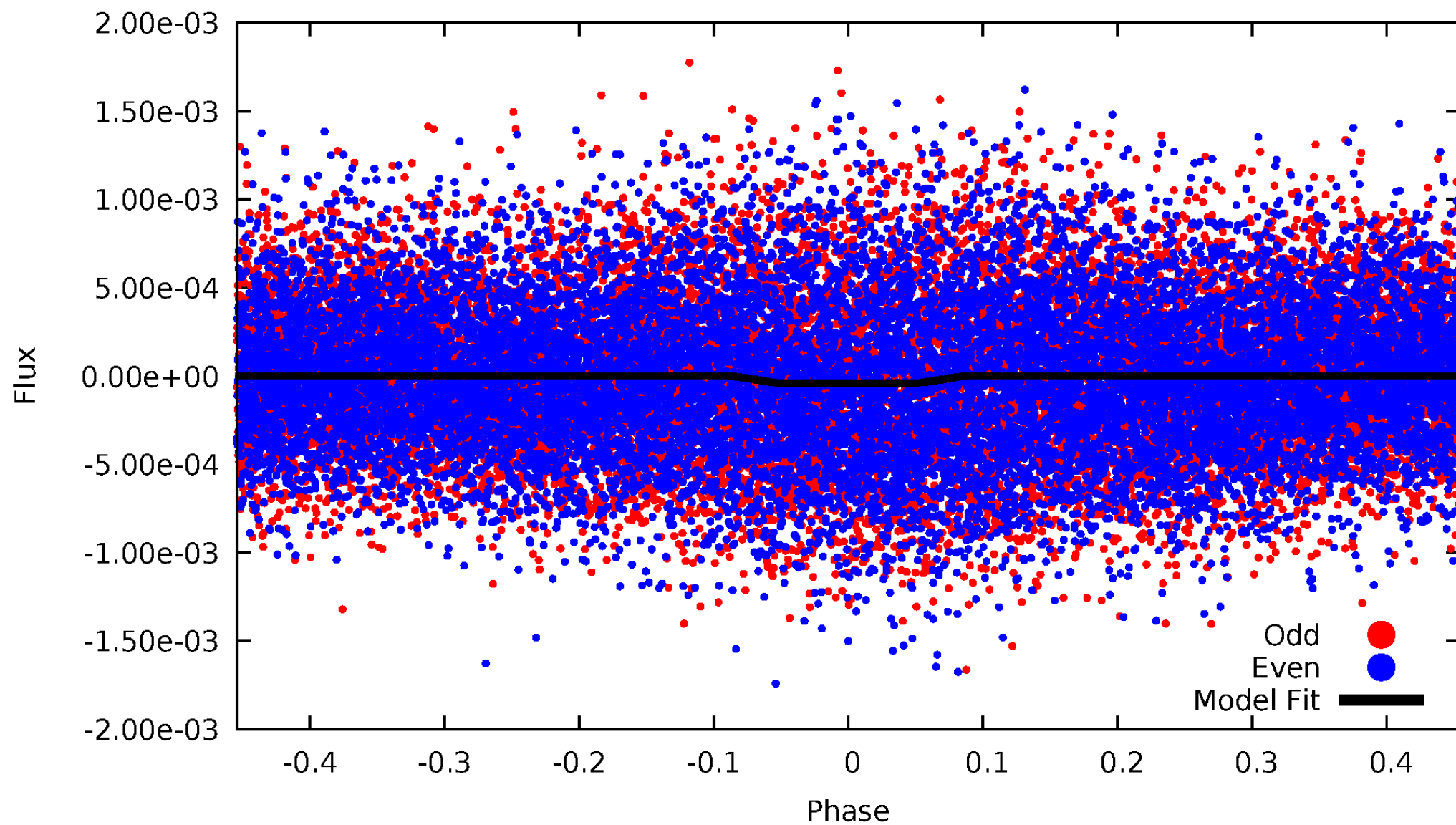
DV Odd/Even

TCE 011180361-02



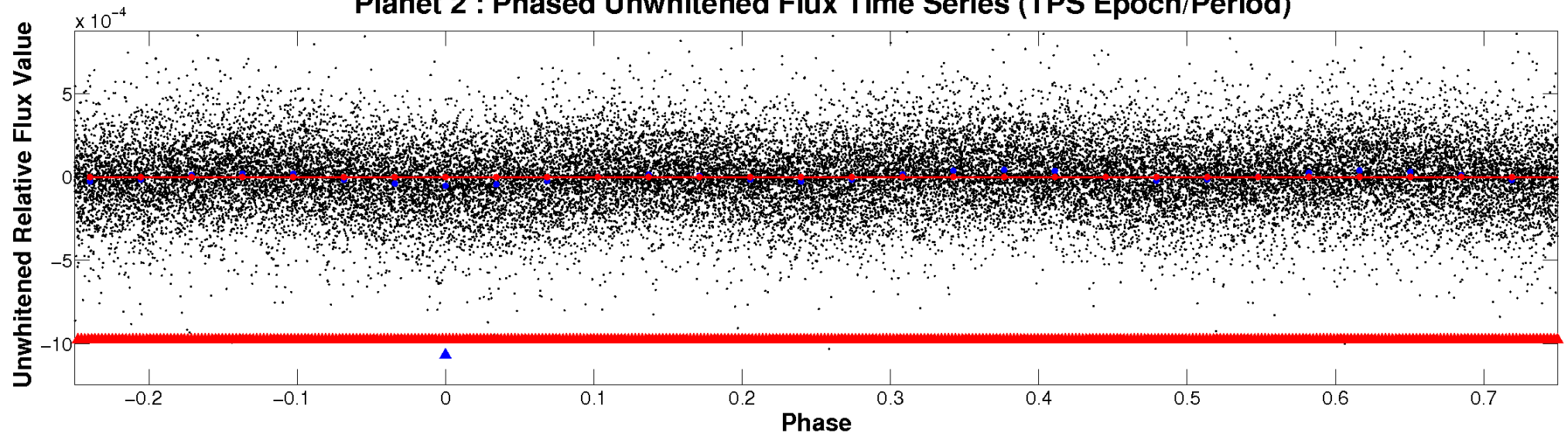
ALT Odd/Even

TCE 011180361-02

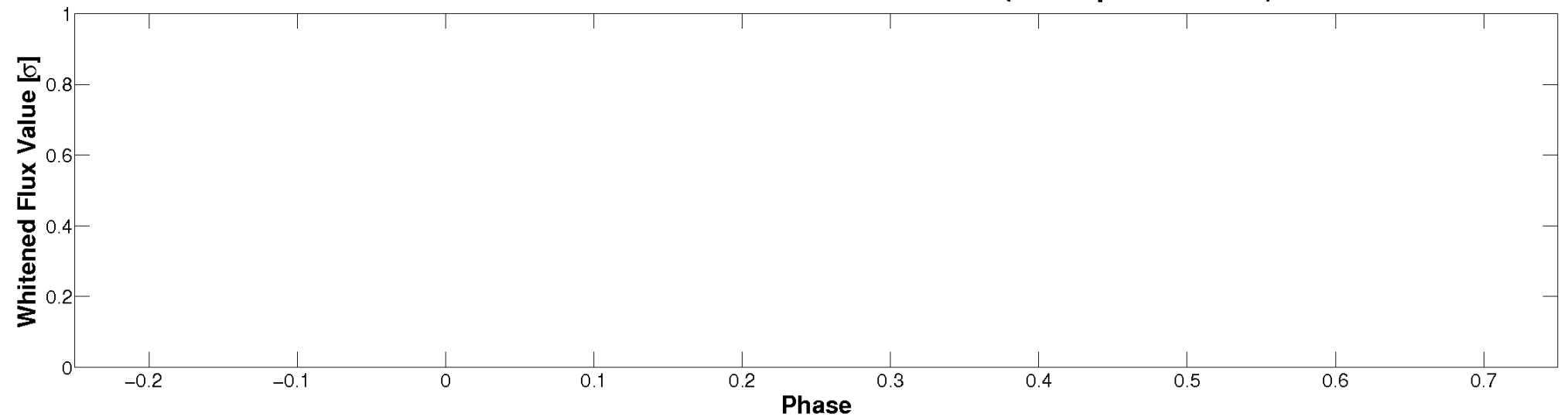


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

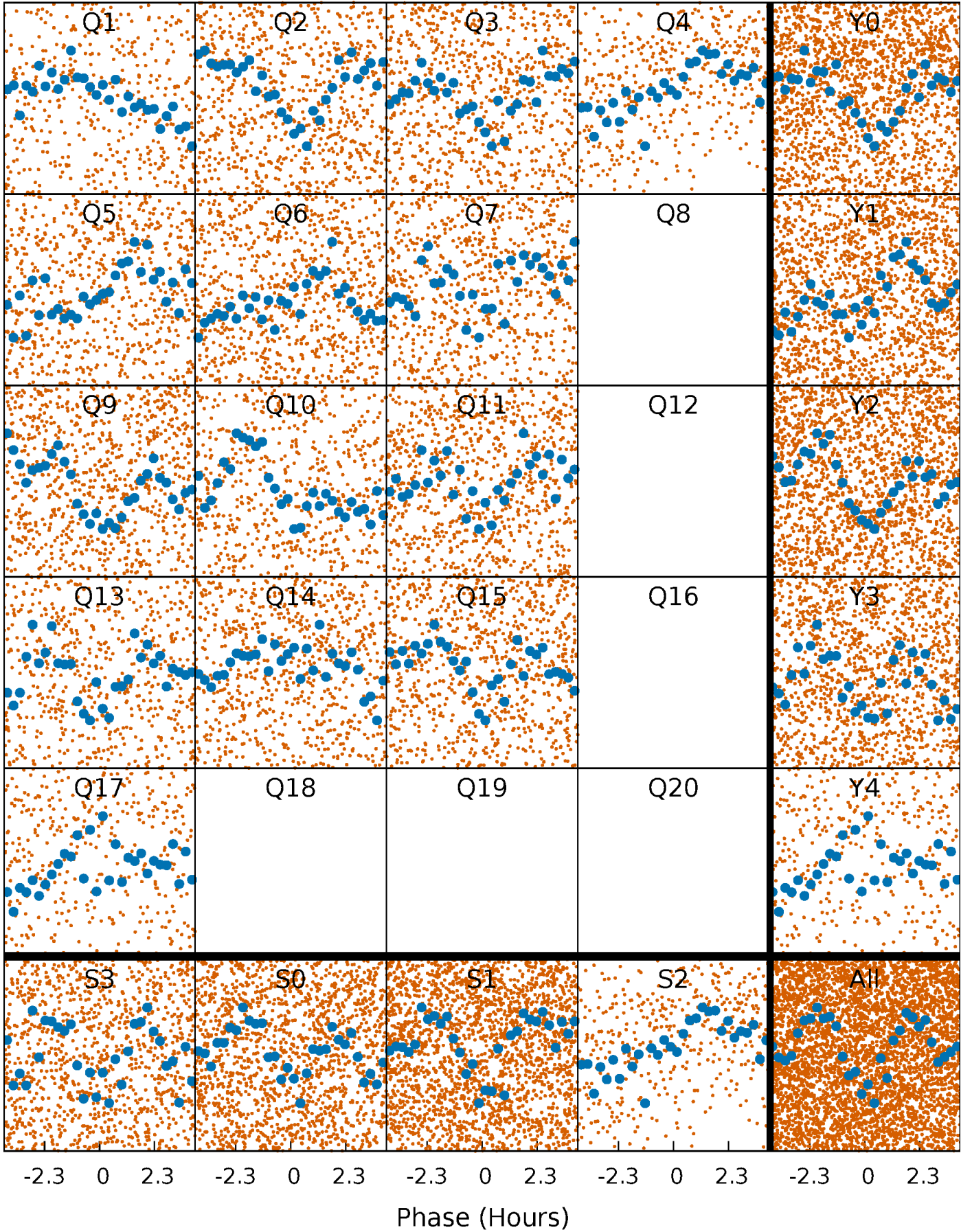


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



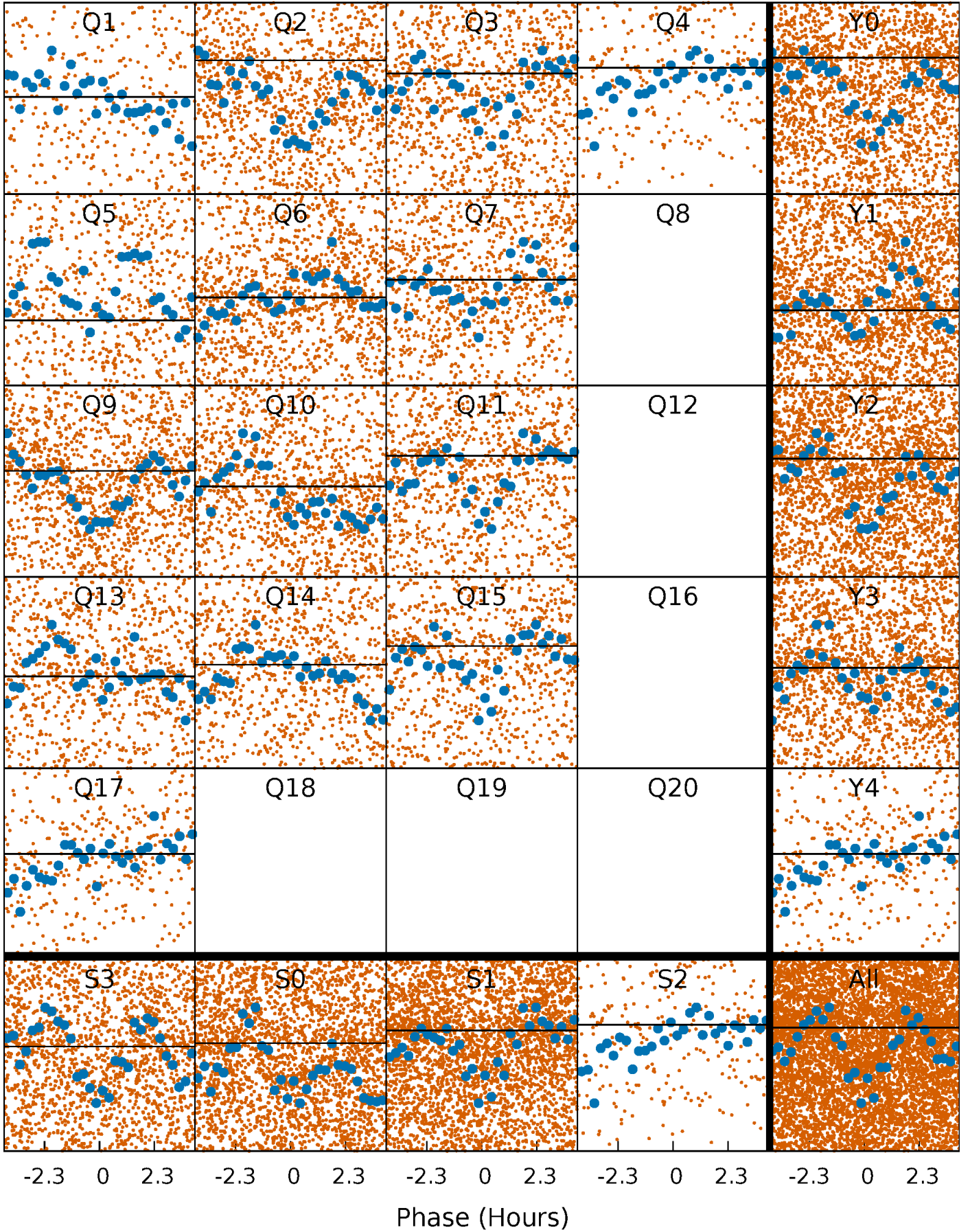
PDC Quarter-Phased Transit Curves

TCE 011180361-02 P= 0.596751 Days $T_0=131.667444$ (BKJD)



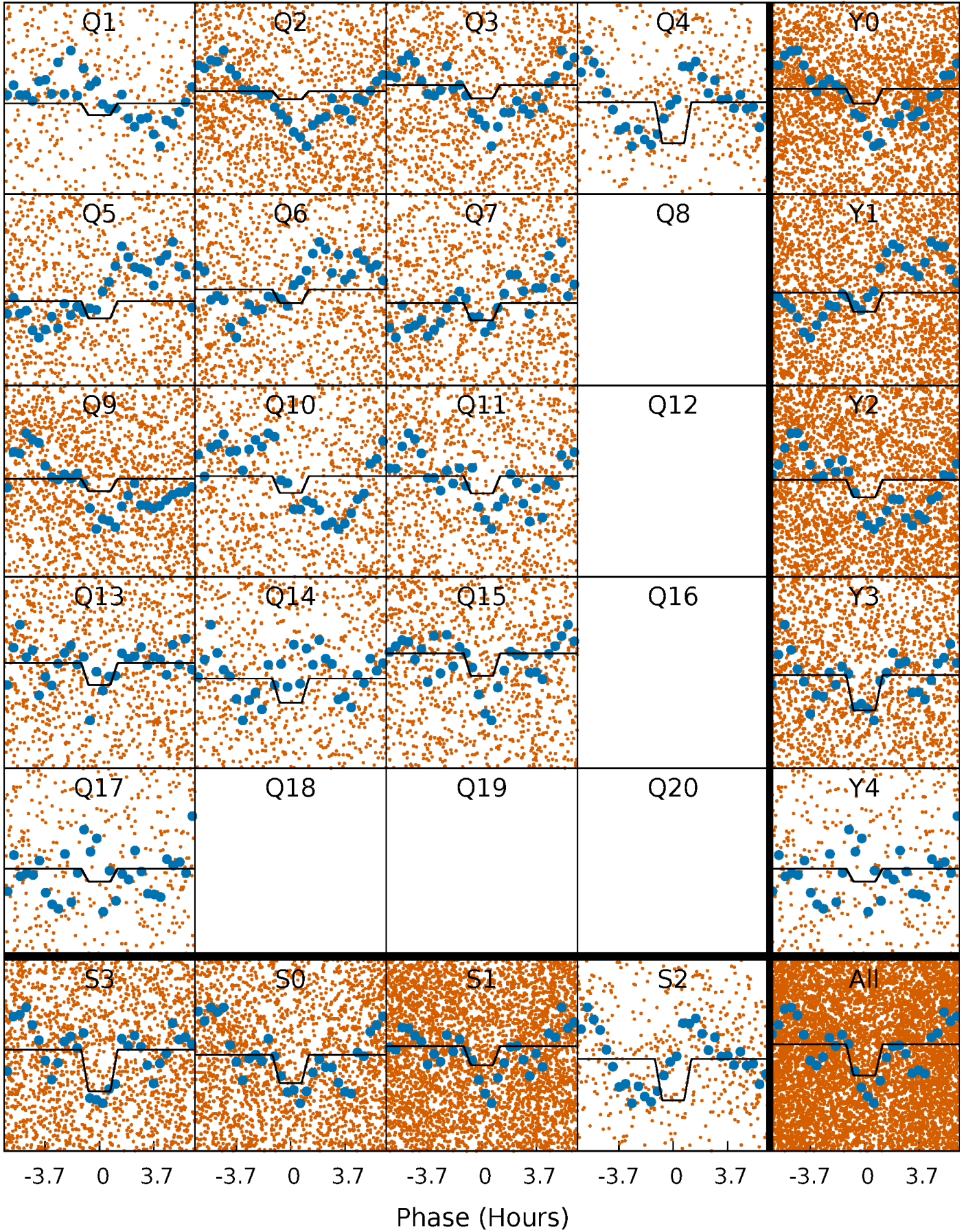
DV Quarter-Phased Transit Curves

TCE 011180361-02 P= 0.596751 Days $T_0=131.667444$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

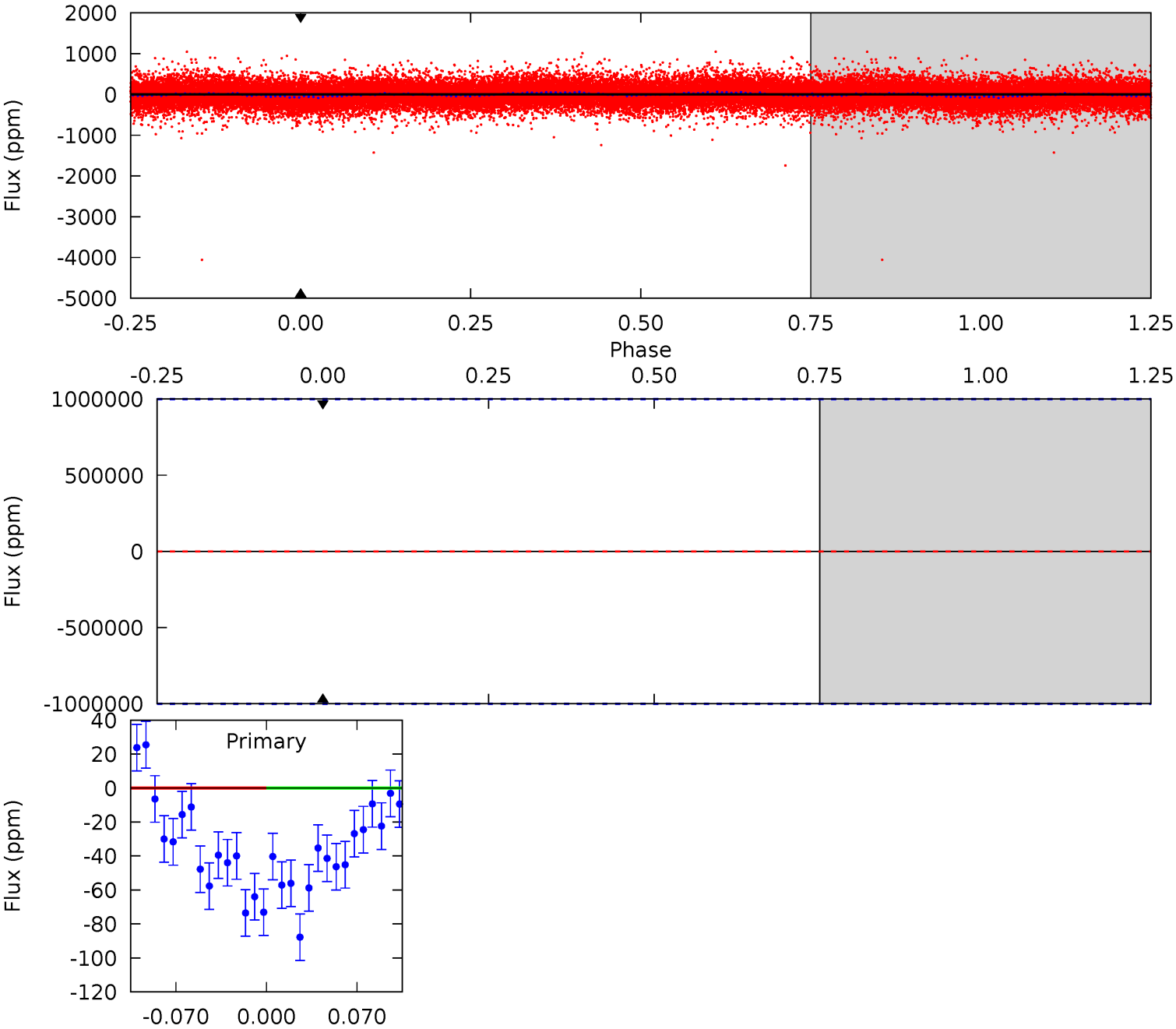
TCE 011180361-02 P= 0.596751 Days $T_0=131.656775$ (BKJD)



DV Model-Shift Uniqueness Test

011180361-02, P = 0.596751 Days, E = 131.070693 Days

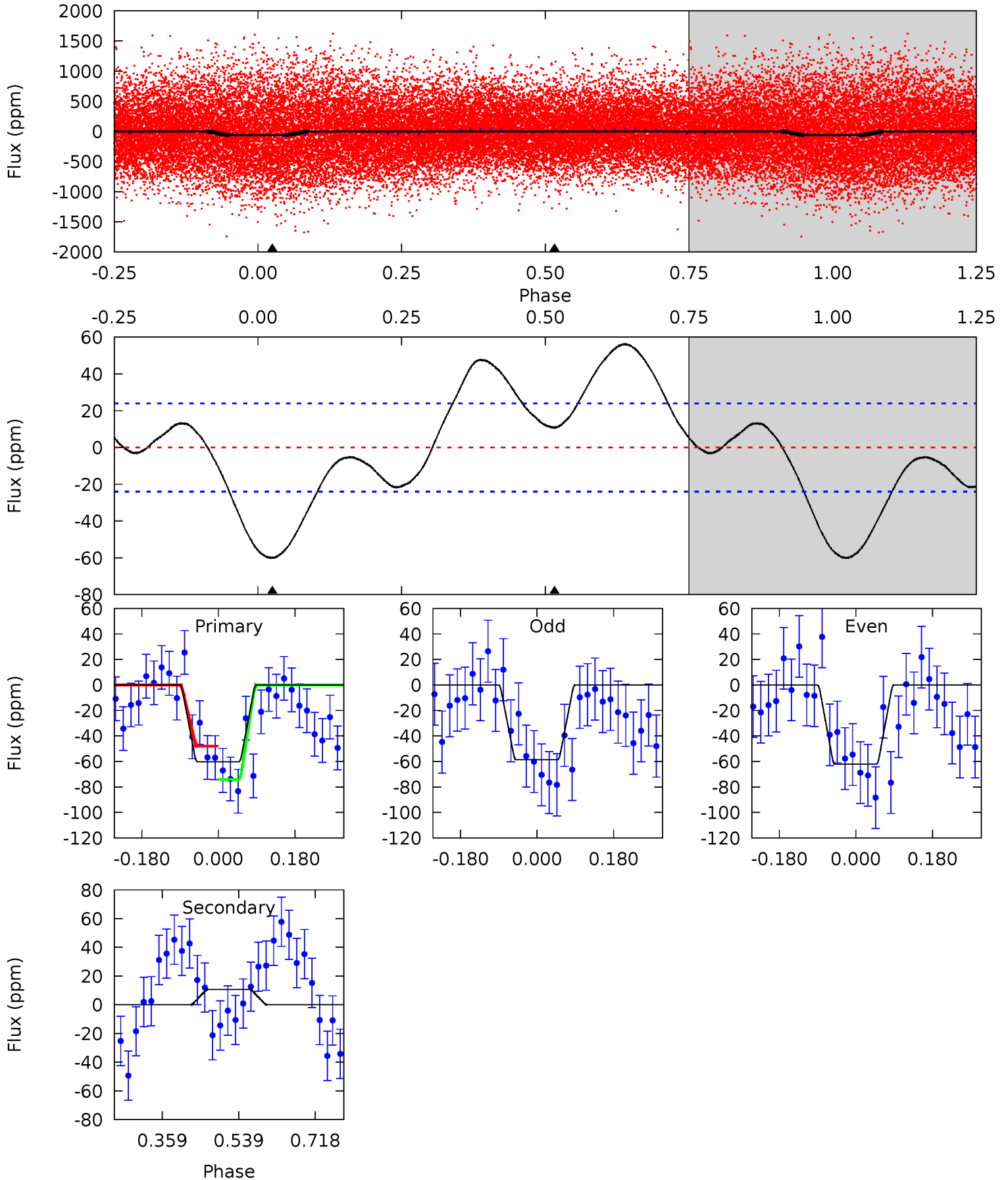
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011180361-02, P = 0.596751 Days, E = 131.060024 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	-1.99	0	0	4.44	1.34	2.69	11.1	11.1	-1.99	-1.99	0.32	0.57	0.48	2.41



Stellar Parameters For KIC 011180361

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8523^{+267}_{-326}	$3.559^{+0.639}_{-0.071}$	$-0.500^{+0.150}_{-0.300}$	$4.051^{+0.788}_{-2.363}$	$2.166^{+0.377}_{-0.700}$	$0.046^{+0.414}_{-0.015}$
	+3%/-4%	+18%/-2%	+30%/-60%	+19%/-58%	+17%/-32%	+902%/-34%
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 011180361-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$25.48^{+33.16}_{-18.74}$	7515^{+569}_{-1121}	-4901^{+88058}_{-49496}	$0.134^{+62.044}_{-46.684}$
Alt.	11 ± 5	$25.76^{+29.13}_{-19.00}$	7454^{+641}_{-1123}	-5965^{+799}_{-529}	$-0.002^{+0.002}_{-0.033}$

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 $A_{obs} \gg 1.0$

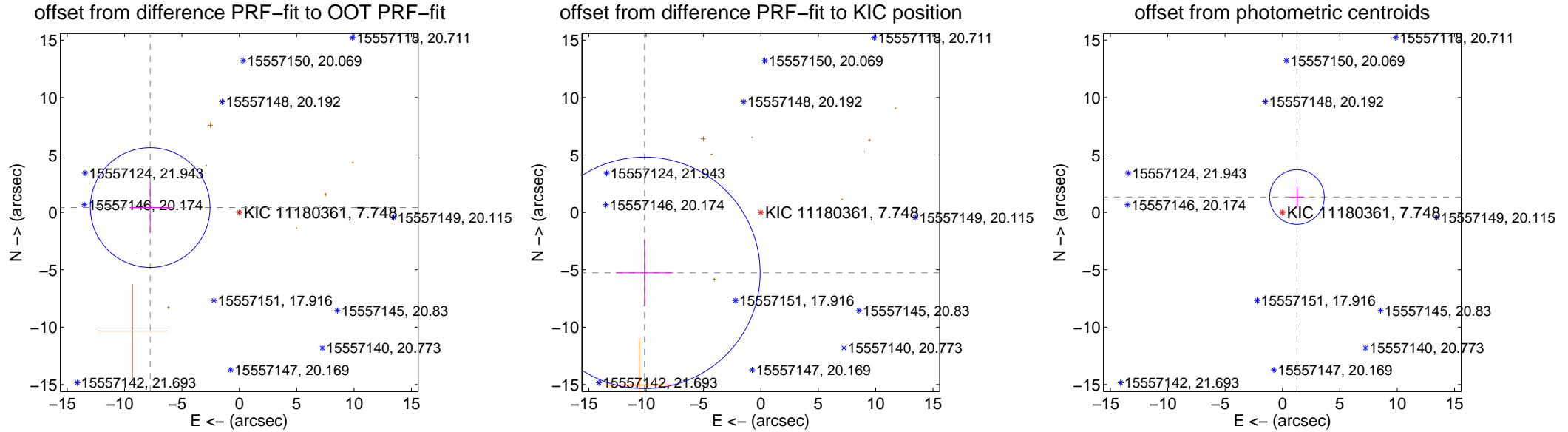
DV Centroid Data

Supplemental centroid analysis for 011180361-02. **Kepler magnitude: 7.75.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

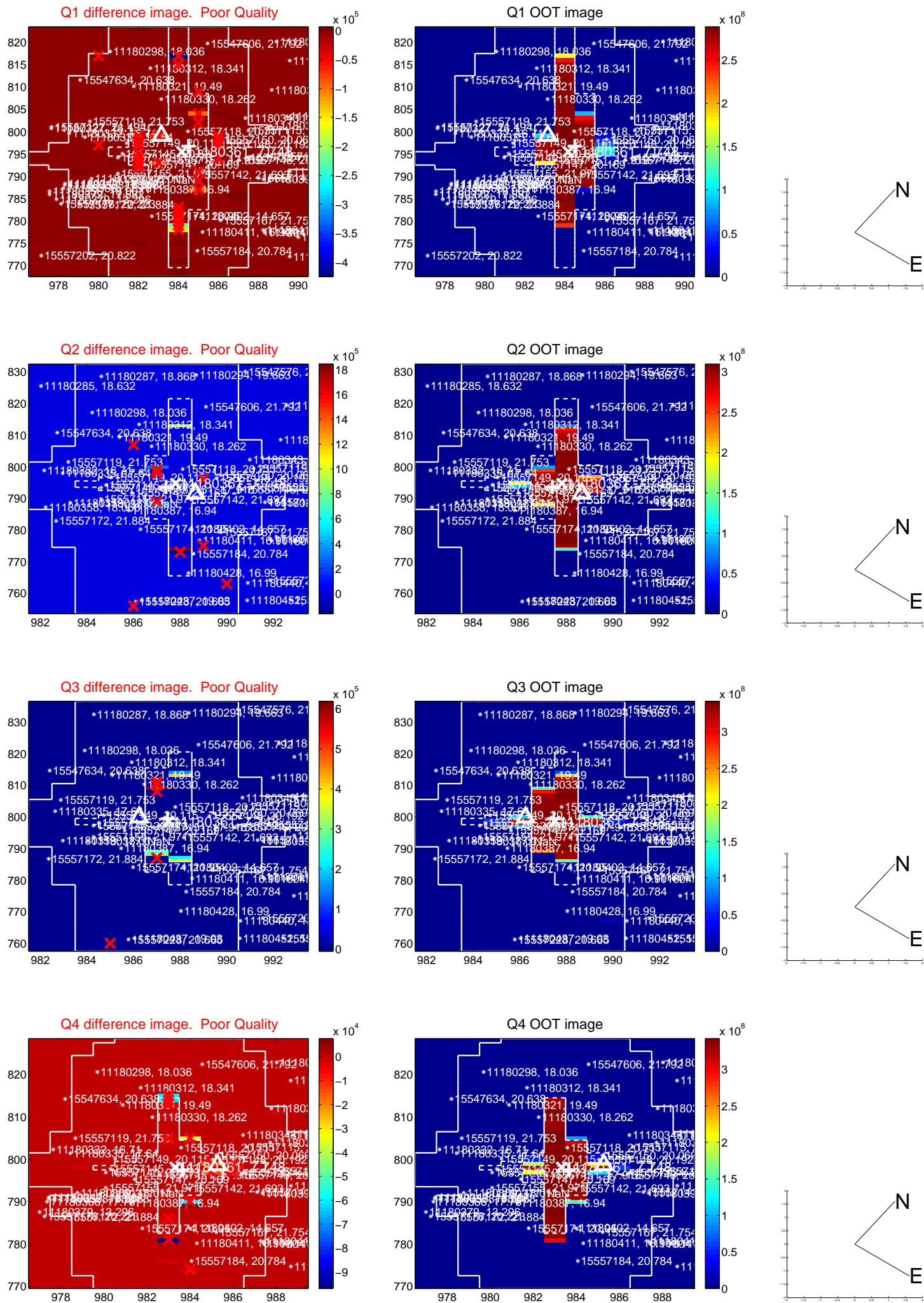
The OOT PRF centroid is offset from the target star catalog position by about 5.10 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.777 ± 1.738	4.47	7.765 ± 1.812	0.421 ± 2.210
PRF-fit source offset from KIC position	11.430 ± 3.360	3.40	10.145 ± 2.488	-5.267 ± 2.883
photometric centroid source offset	1.84 ± 0.79	2.32	-1.26 ± 0.62	1.34 ± 0.92

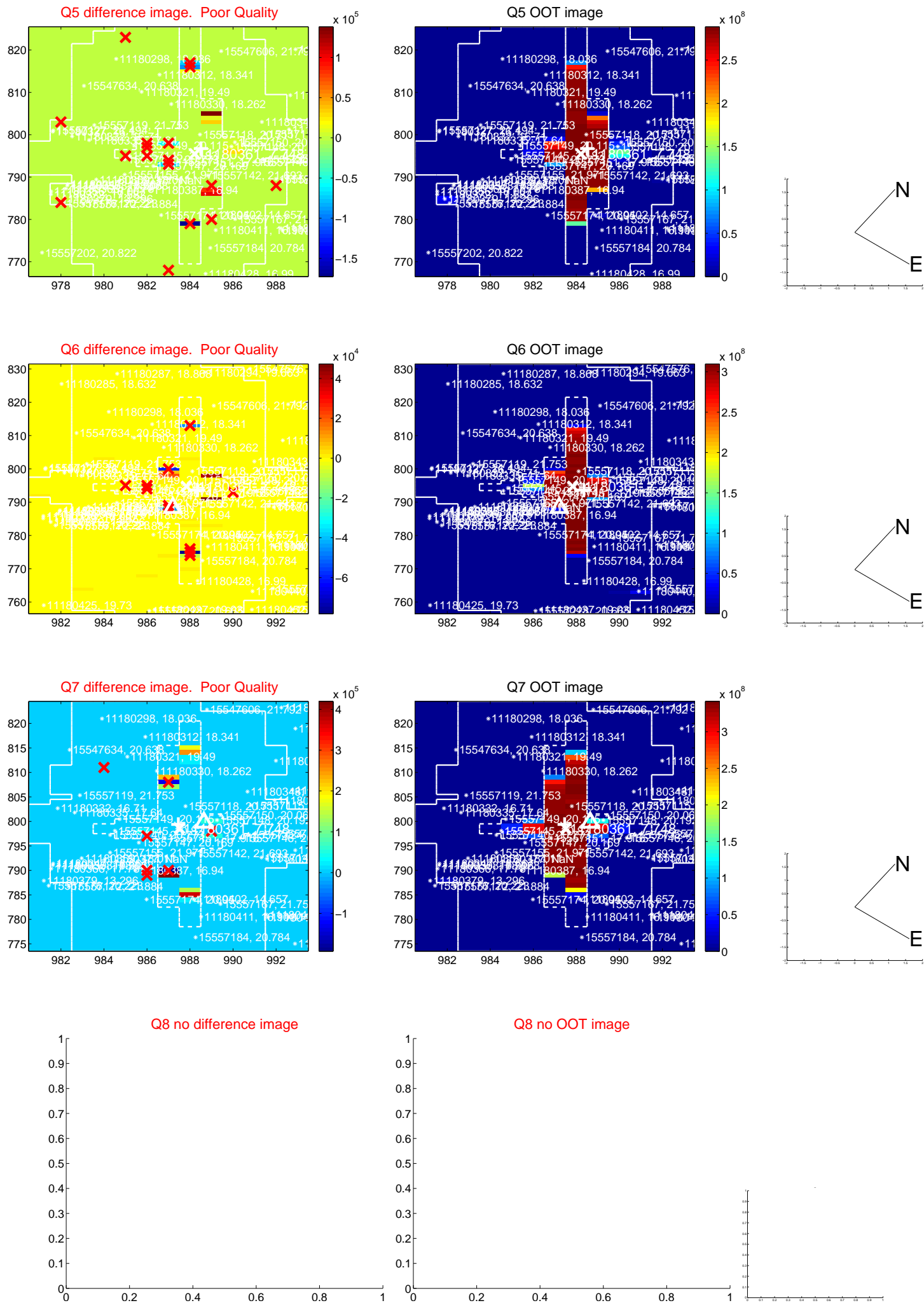


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

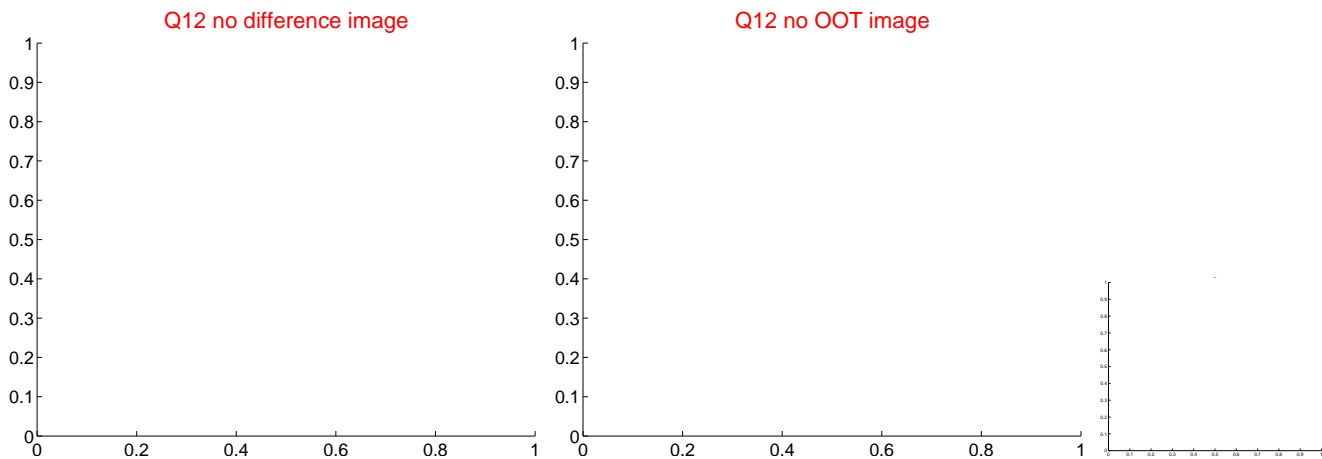
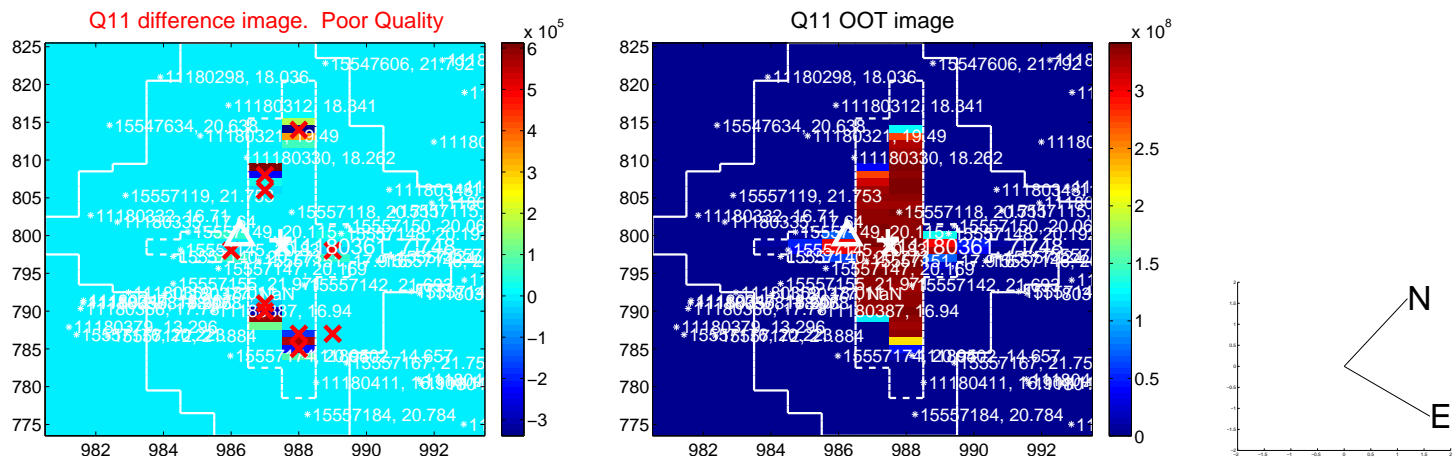
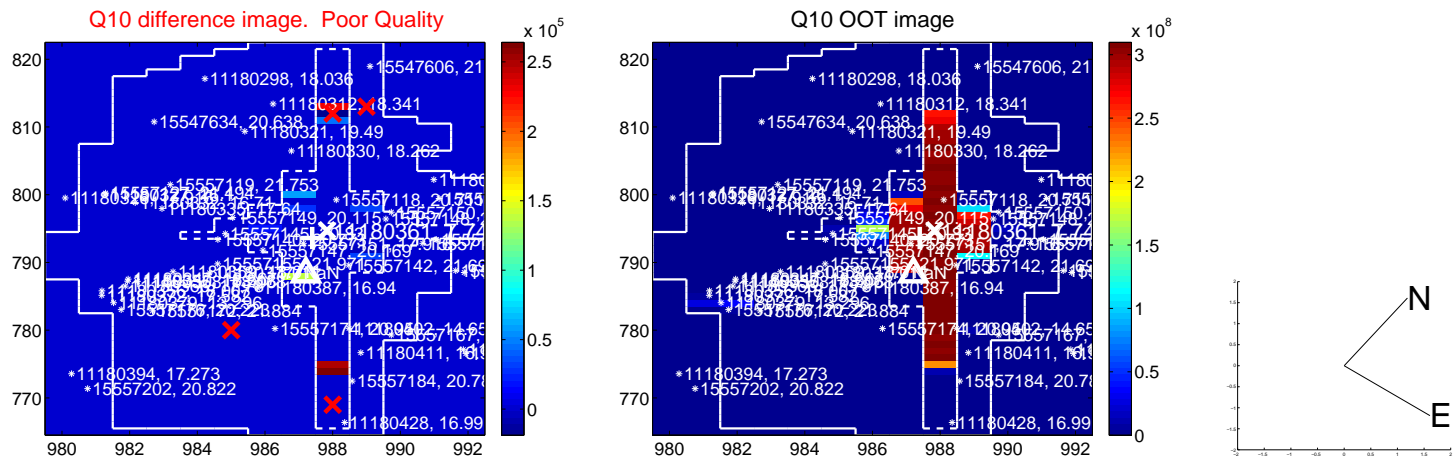
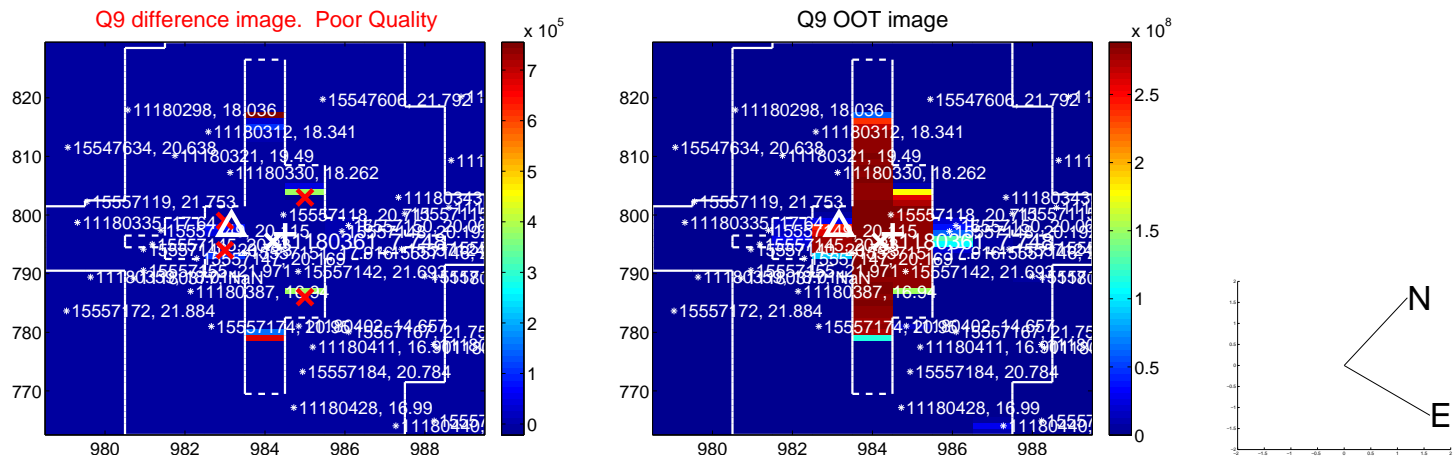
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



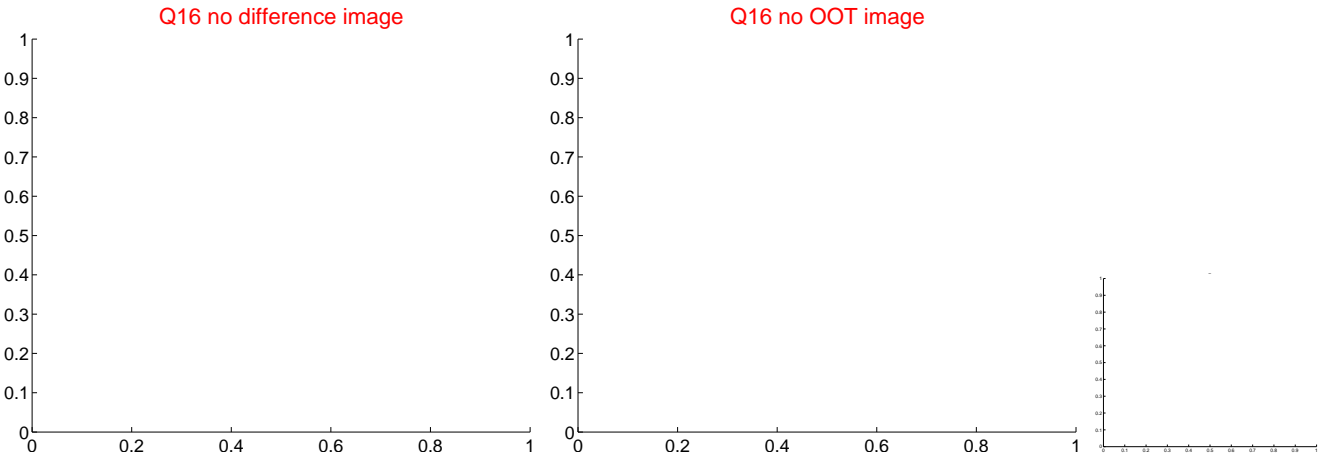
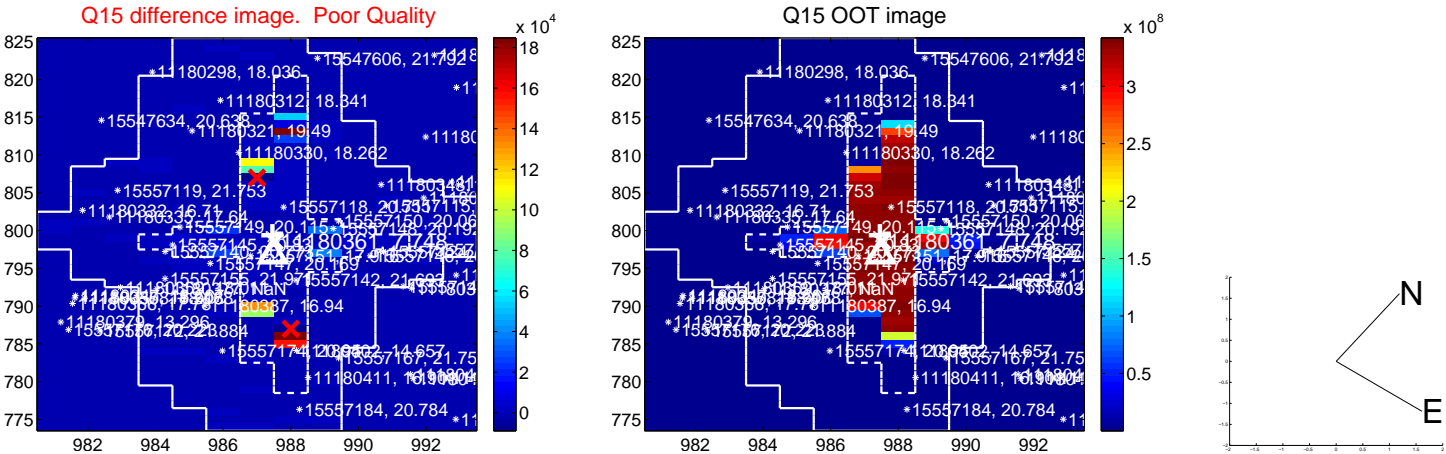
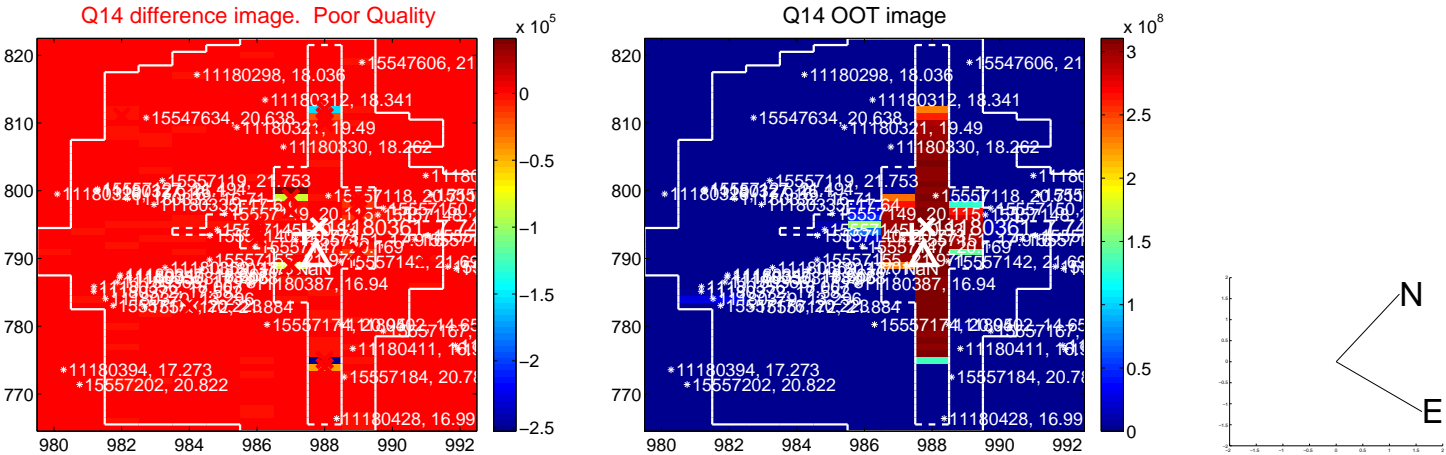
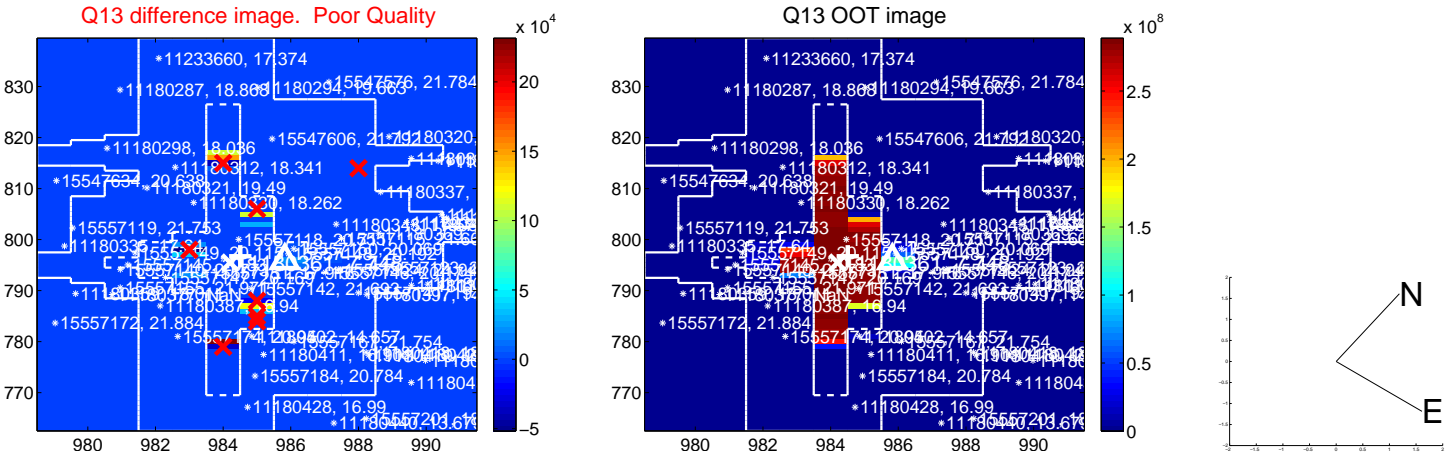
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



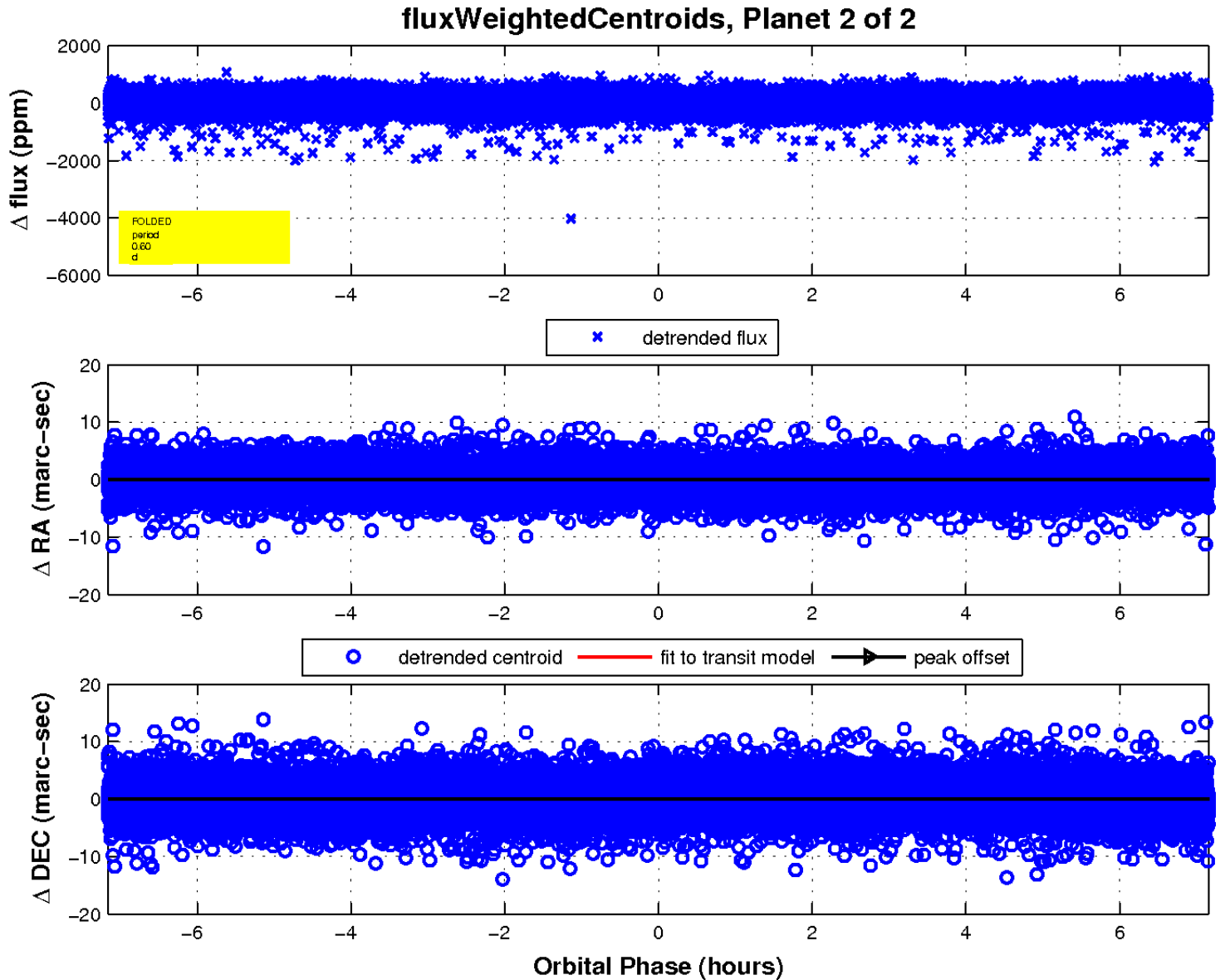
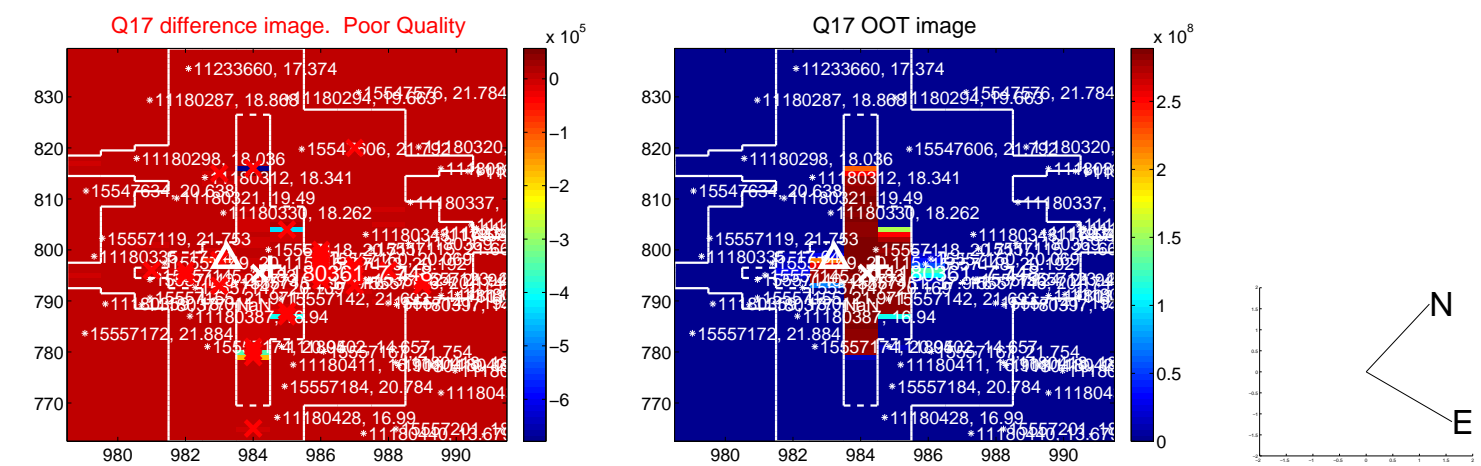
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

