

KIC 005482030

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})
005482030-01	OBS	No	0.552558	131.584878	84.9	1.782	9.7	10.1	3.49	7881	3.76	151478.13
005482030-02	OBS	No	0.552551	131.857158	72.2	2.377	10.0	9.1	3.49	7881	3.18	151481.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005482030-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005482030-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—HALO_GHOST

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

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

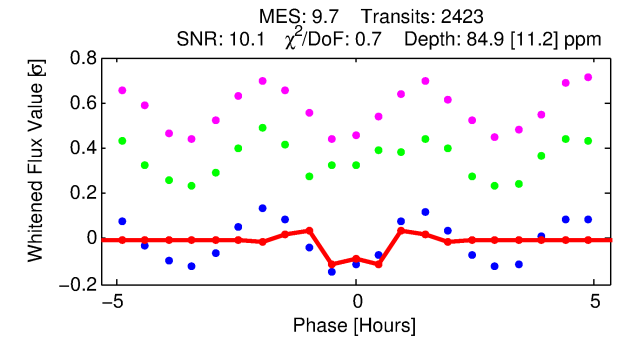
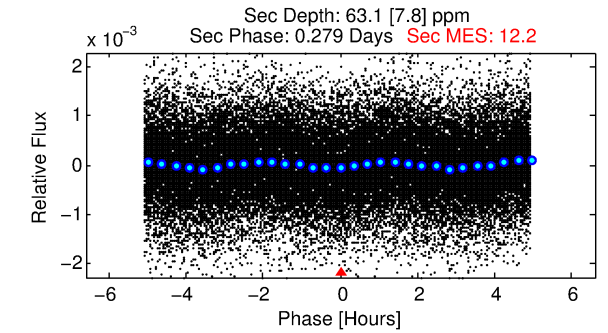
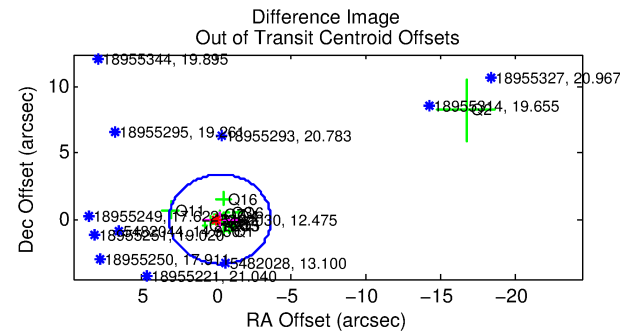
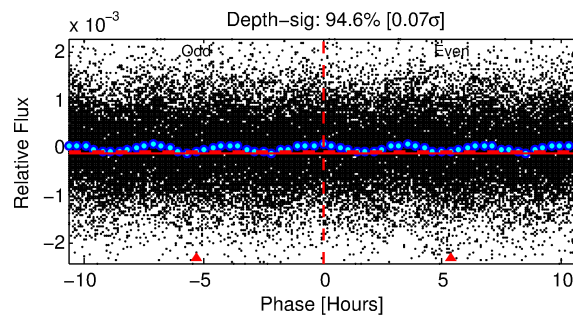
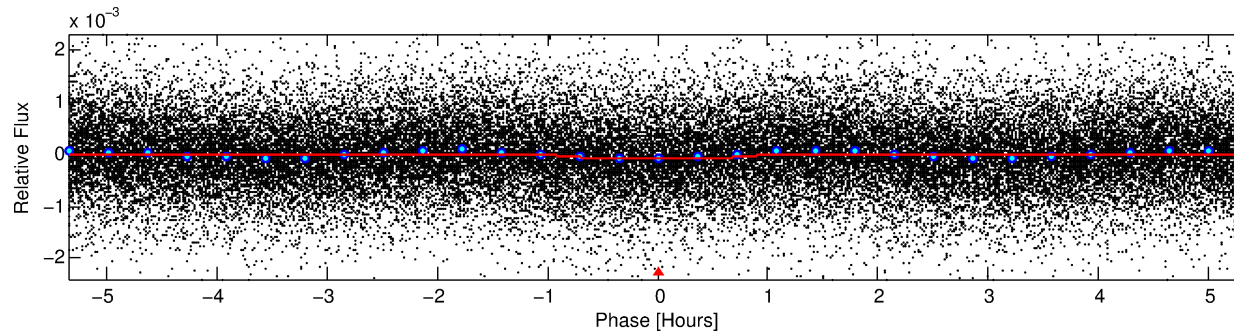
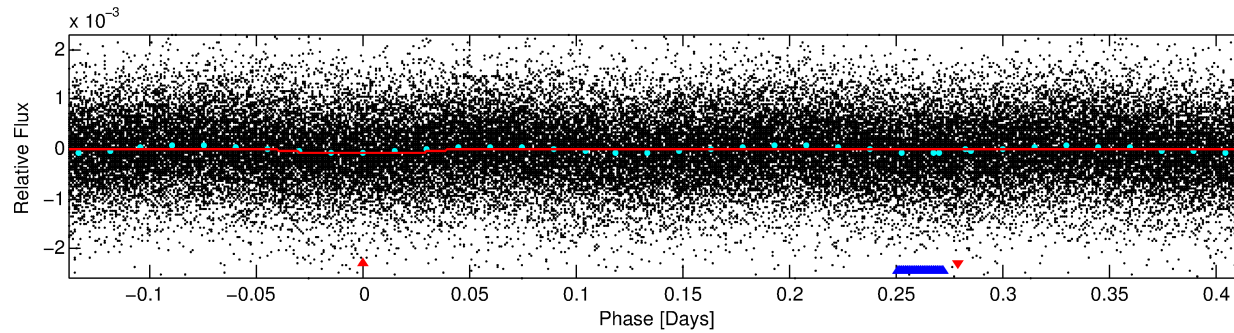
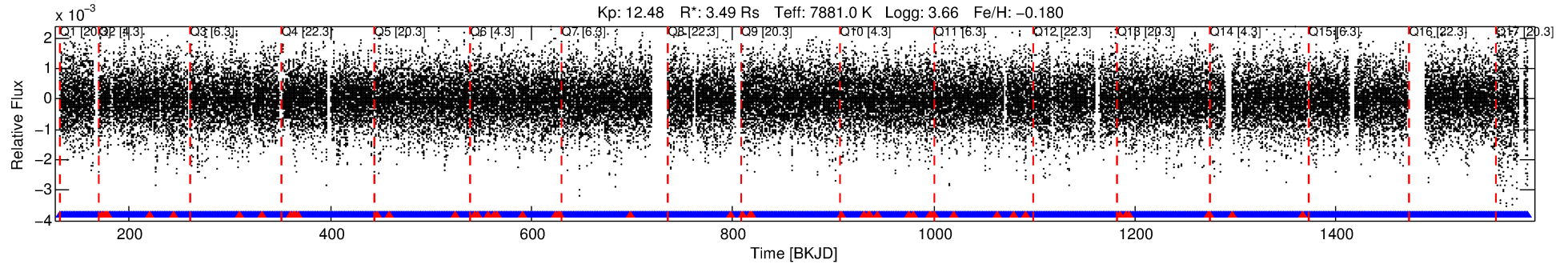
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005482030-01

No Significant Match Found

DV One-Page Summary

KIC: 5482030 Candidate: 1 of 2 Period: 0.553 d



DV Fit Results:

Period = 0.55256 [0.00001] d
Epoch = 131.5849 [0.0011] BKJD
Rp/R* = 0.0099 [0.0021]
a/R* = 1.44 [0.89]
b = 0.90 [0.26]
Seff = 151478.13 [121490.25]
Teq = 5031 [1009] K
Rp = 3.76 [2.11] Re
a = 0.0167 [0.0082] AU
Ag = 0.68 [0.61] [-0.52 σ]
Teffp = 7069 [844] K [1.55 σ]

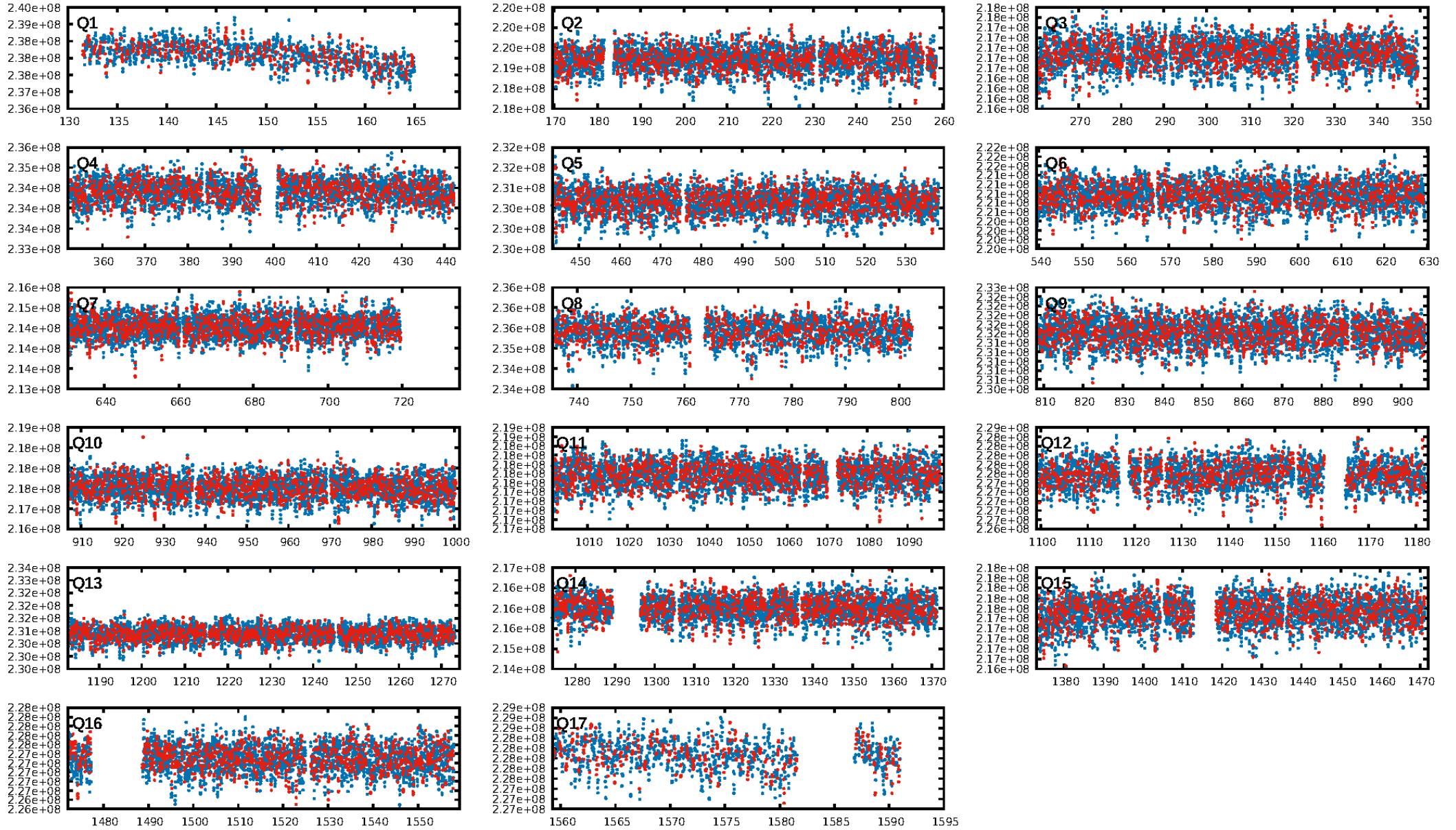
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.57e-18
RollingBand-fgt: 0.98 [2259/2313]
GhostDiagnostic-chr: -10.32
Centroid-sig: 0.9%
Centroid-so: 0.408 arcsec [1.71 σ]
OotOffset-rm: 0.316 arcsec [0.28 σ]
KicOffset-rm: 0.311 arcsec [0.24 σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.67 [10/15]
DiffImageOverlap-fno: 0.00 [0/17]

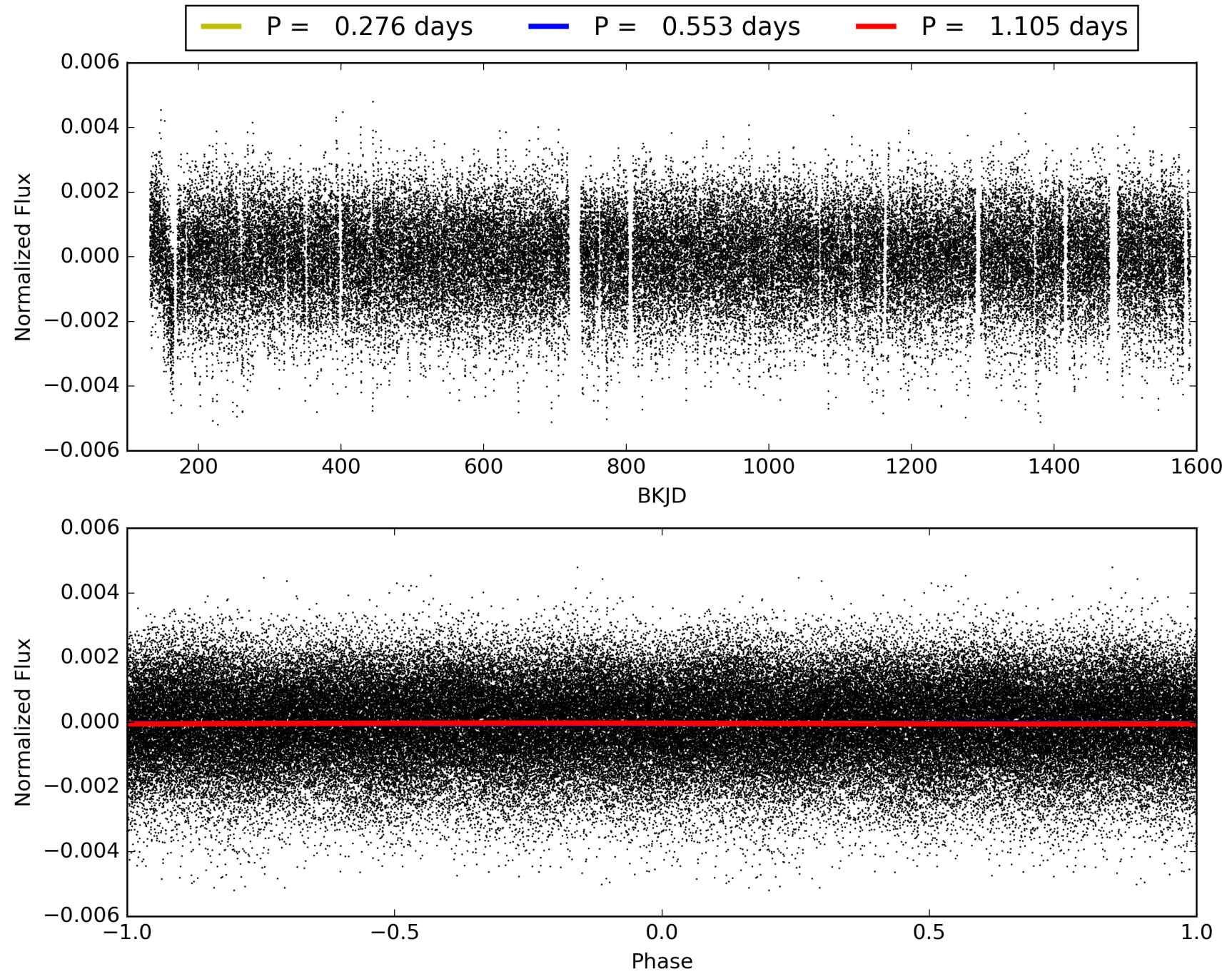
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:20:49 Z

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

TCE 005482030-01, PDC Light Curves

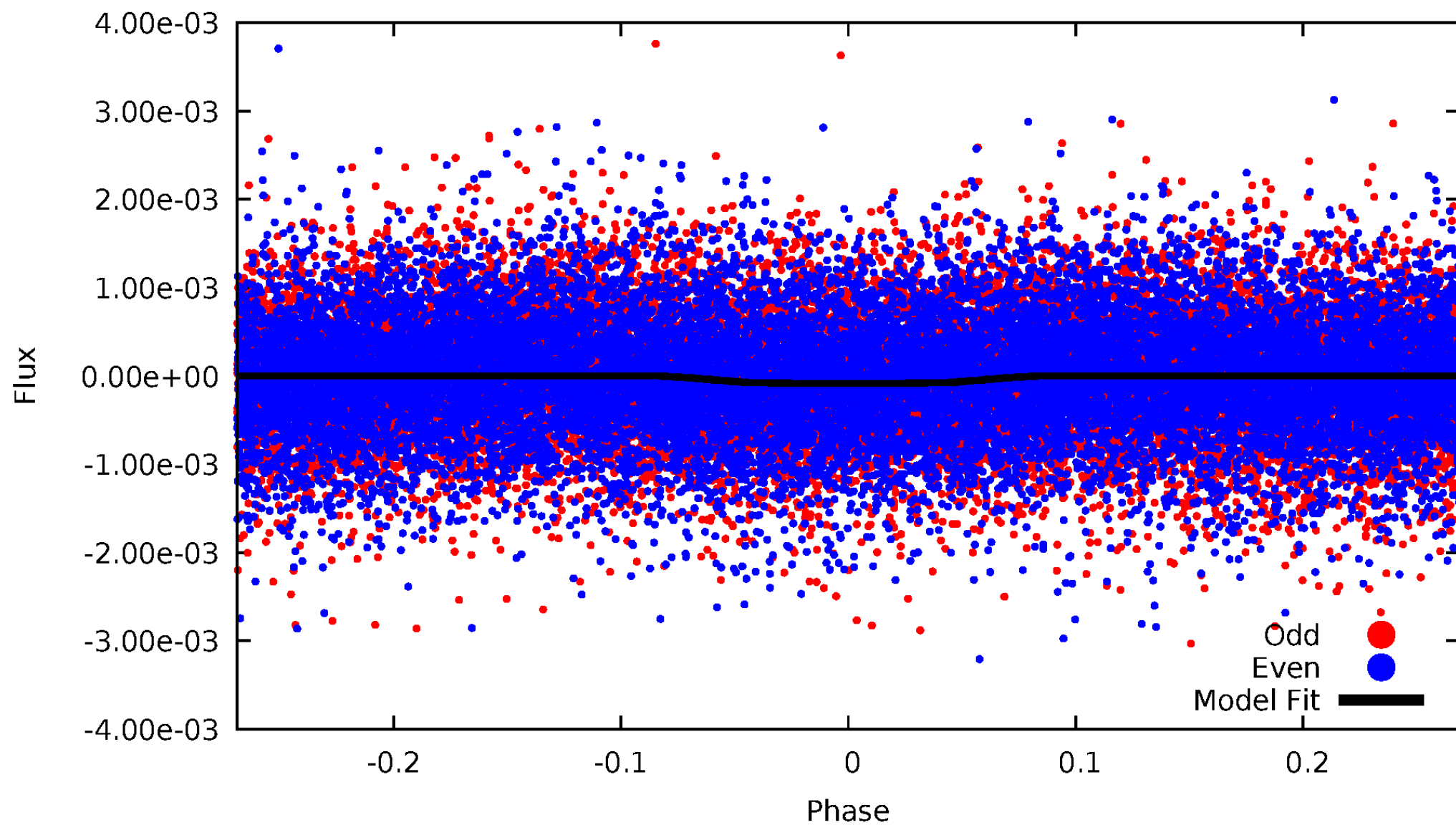


TCE 005482030-01



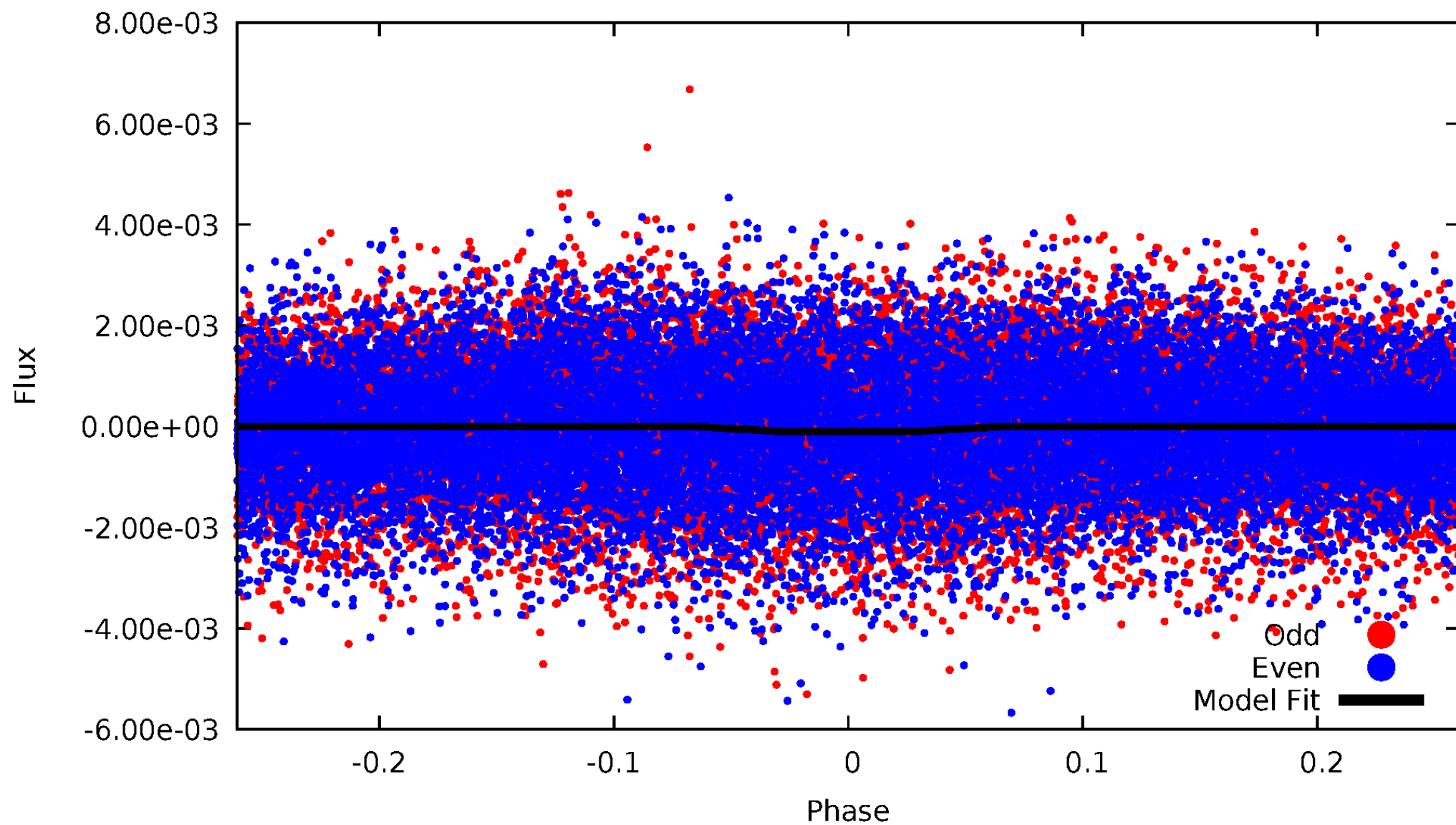
DV Odd/Even

TCE 005482030-01



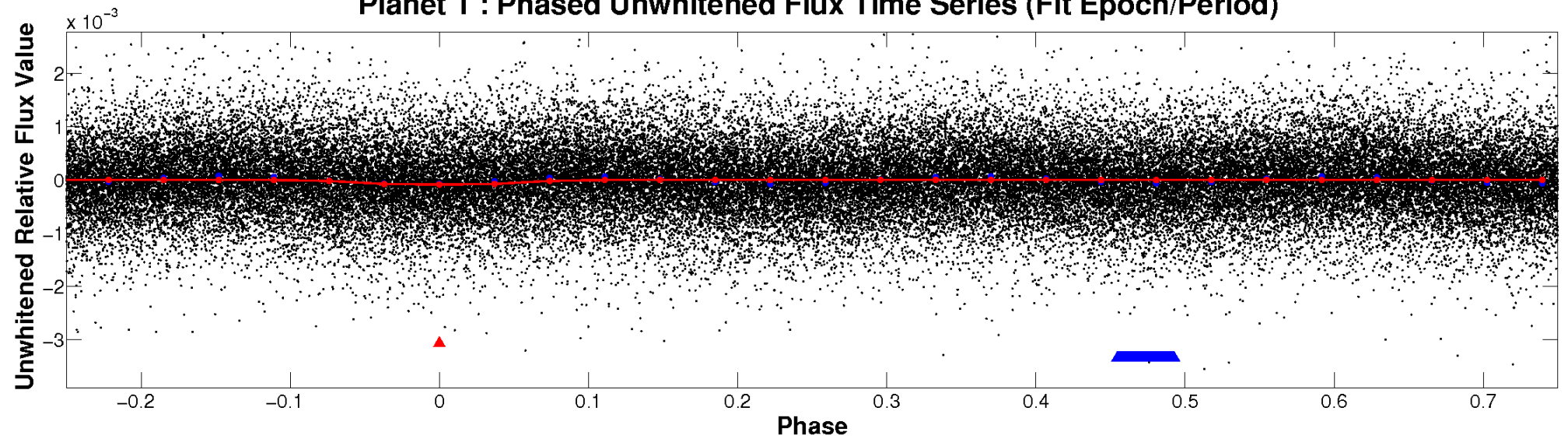
ALT Odd/Even

TCE 005482030-01

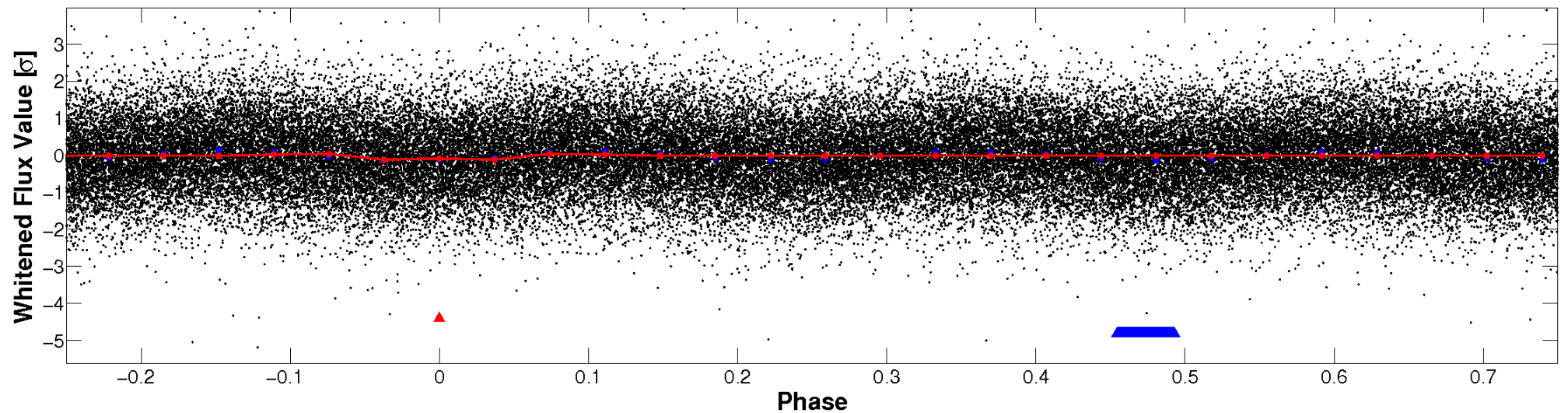


Non-Whitened Vs. Whitened Light Curve

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

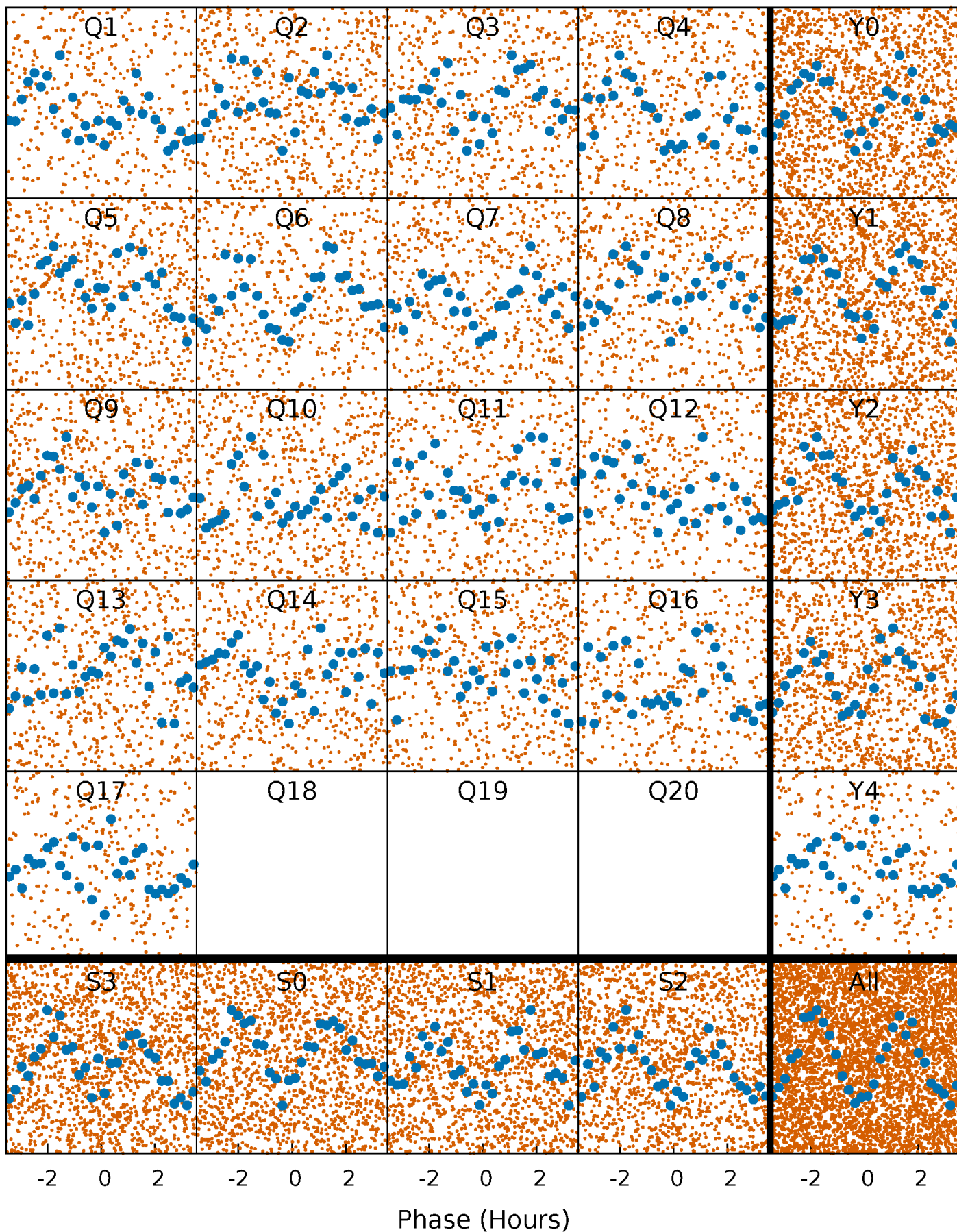


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



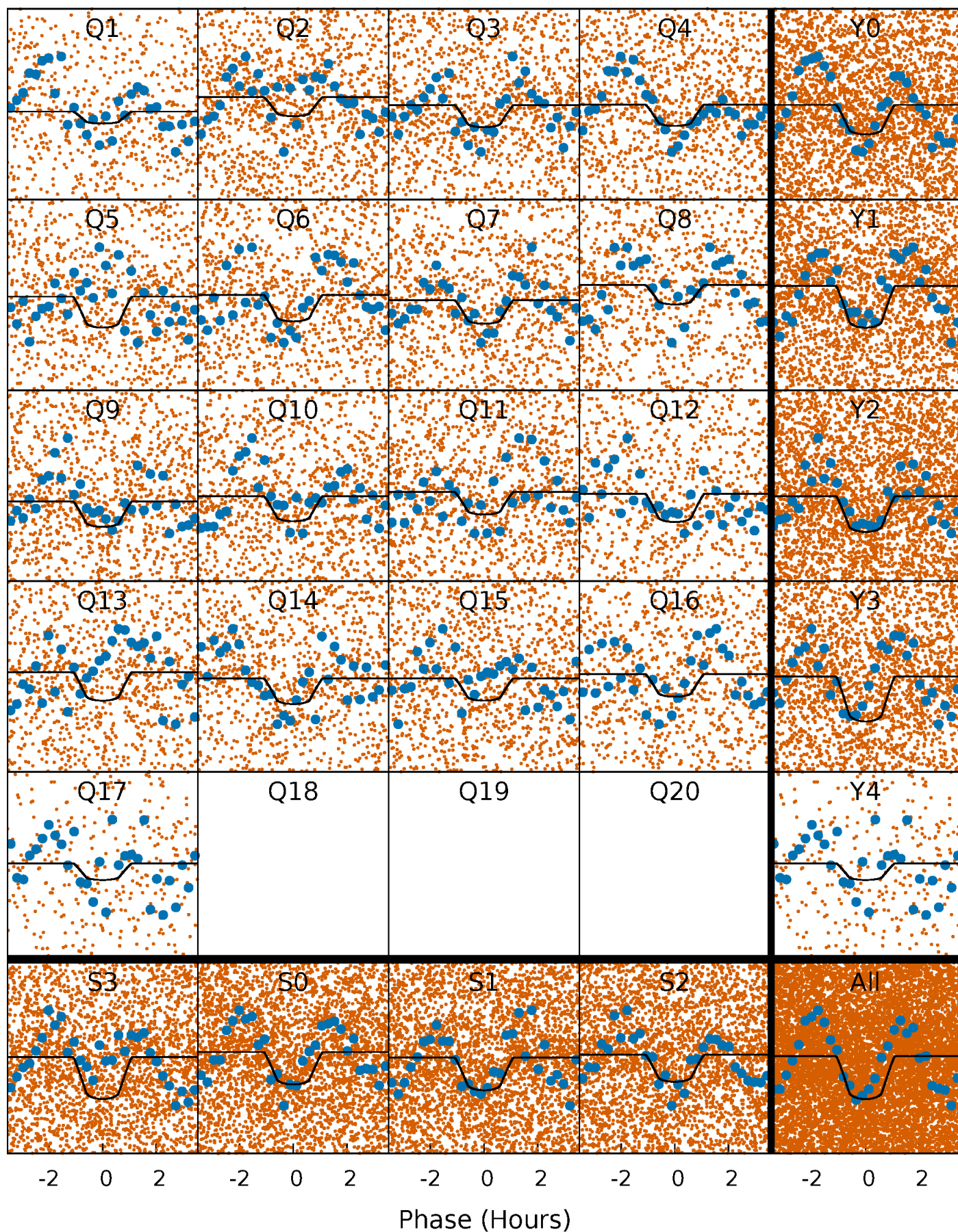
PDC Quarter-Phased Transit Curves

TCE 005482030-01 P= 0.552558 Days $T_0=131.584878$ (BKJD)



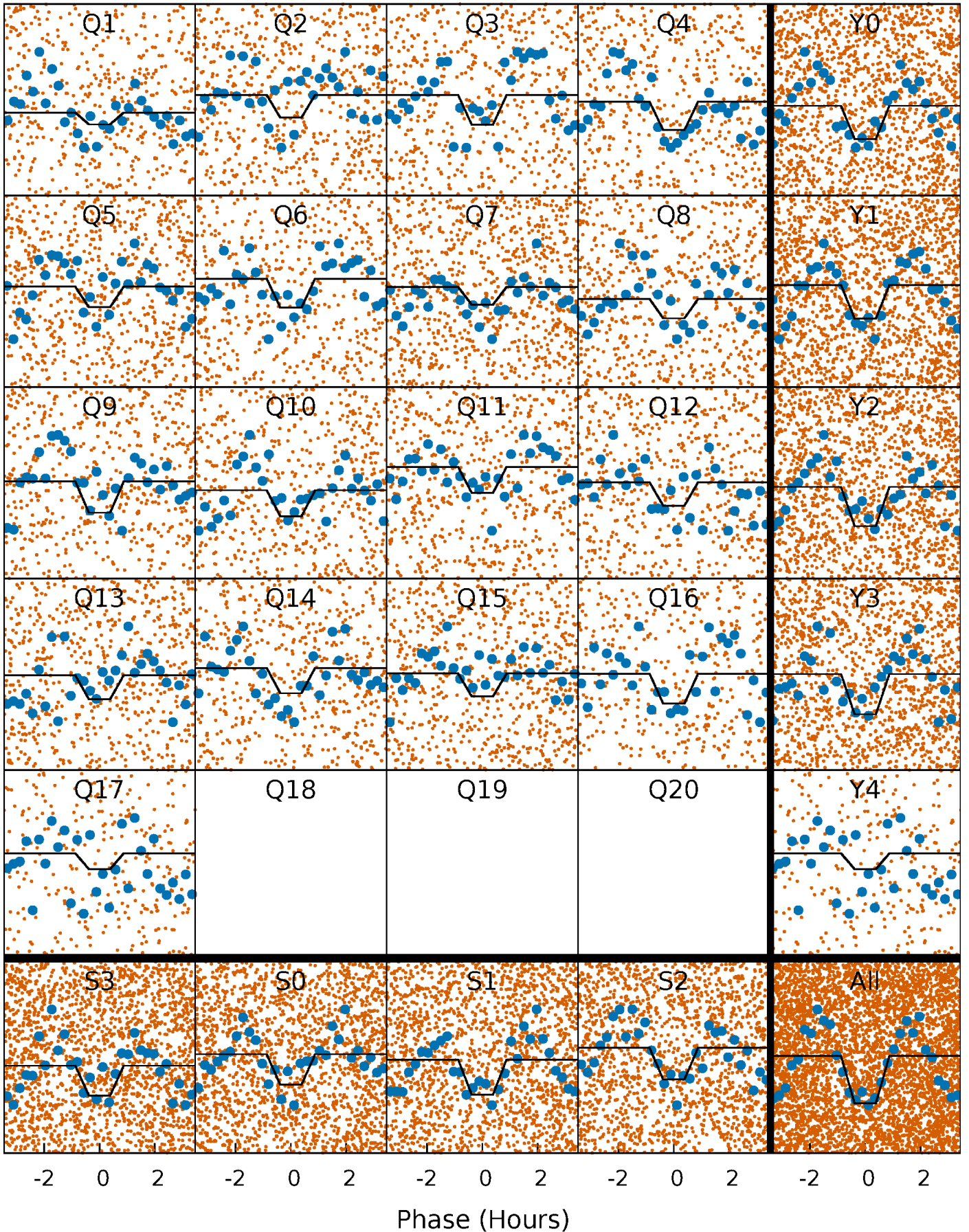
DV Quarter-Phased Transit Curves

TCE 005482030-01 P= 0.552558 Days $T_0=131.584878$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

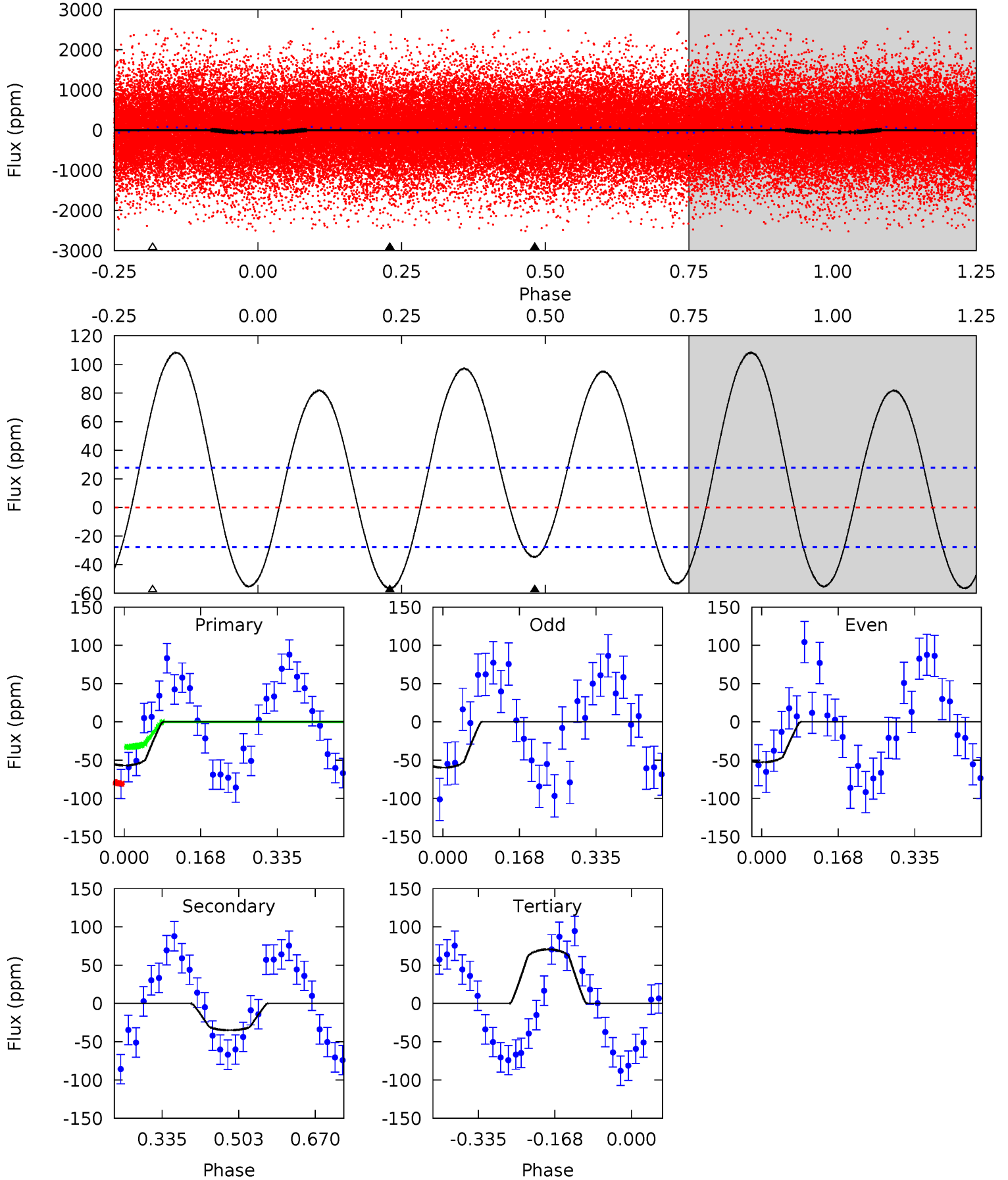
TCE 005482030-01 P= 0.552553 Days $T_0=131.583984$ (BKJD)



DV Model-Shift Uniqueness Test

005482030-01, P = 0.552558 Days, E = 131.032320 Days

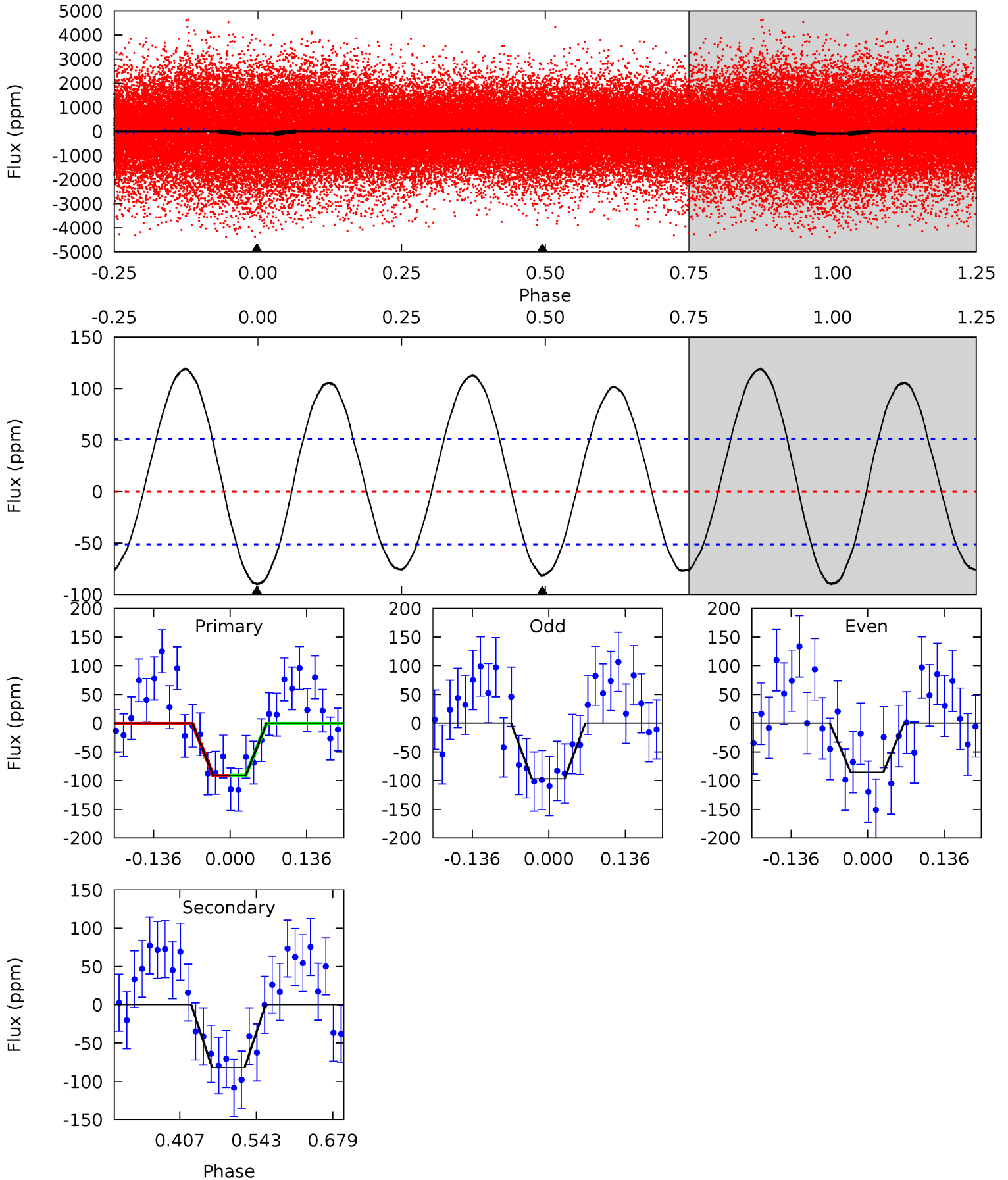
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.12	5.60	-11.3	0	4.46	1.38	8.56	20.4	9.12	16.9	5.60	0.58	0.98	0.66	3.80



Alt Model-Shift Uniqueness Test

005482030-01, P = 0.552553 Days, E = 131.031431 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.96	7.20	0	0	4.50	1.49	5.42	7.96	7.96	7.20	7.20	0.47	2.23	0.57	0.01



Stellar Parameters For KIC 005482030

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7881^{+218}_{-355}	$3.658^{+0.456}_{-0.085}$	$-0.180^{+0.200}_{-0.300}$	$3.487^{+0.727}_{-1.818}$	$2.017^{+0.328}_{-0.492}$	$0.067^{+0.353}_{-0.023}$
	+3%/-5%	+12%/-2%	+111%/-167%	+21%/-52%	+16%/-24%	+526%/-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 005482030-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-35 ± 6	$3.32^{+1.15}_{-1.02}$	6734^{+539}_{-847}	4771^{+1348}_{-8270}	$0.485^{+0.490}_{-0.210}$
Alt.	-82 ± 11	$3.47^{+1.11}_{-0.97}$	6769^{+498}_{-809}	6643^{+1348}_{-1034}	$1.045^{+0.936}_{-0.426}$

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 $A_{obs} \gg 1.0$

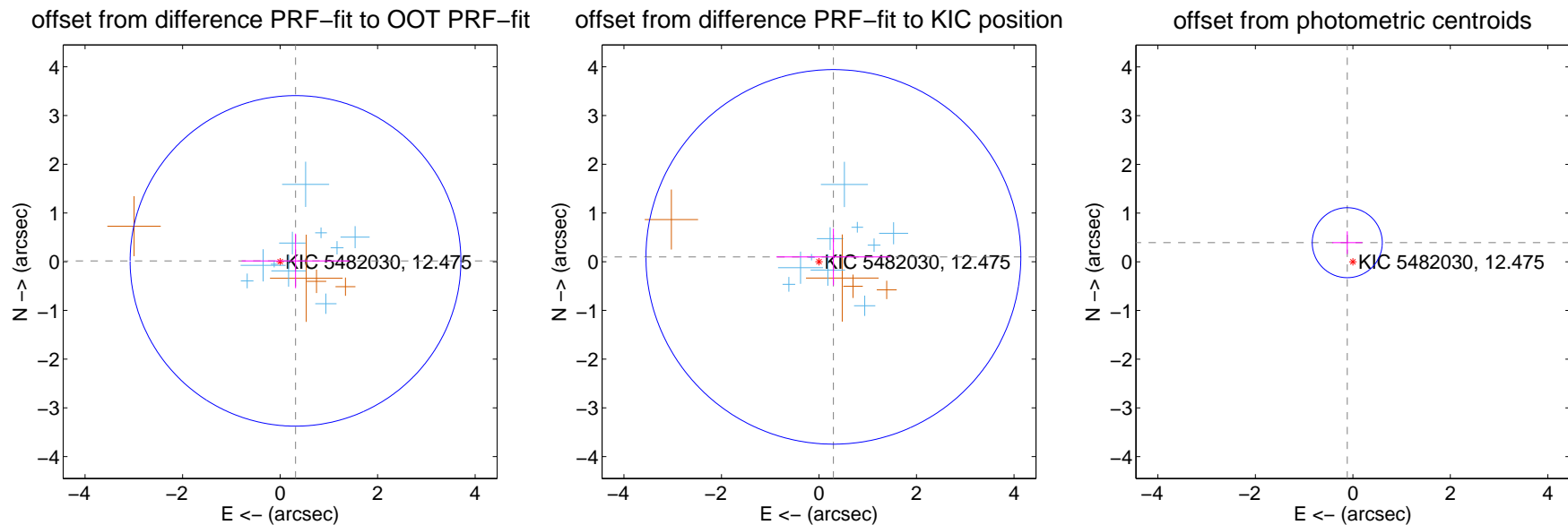
DV Centroid Data

Supplemental centroid analysis for 005482030-01. Kepler magnitude: 12.47. Transit SNR 10.15

There are 10 quarters with good PRF difference image offsets

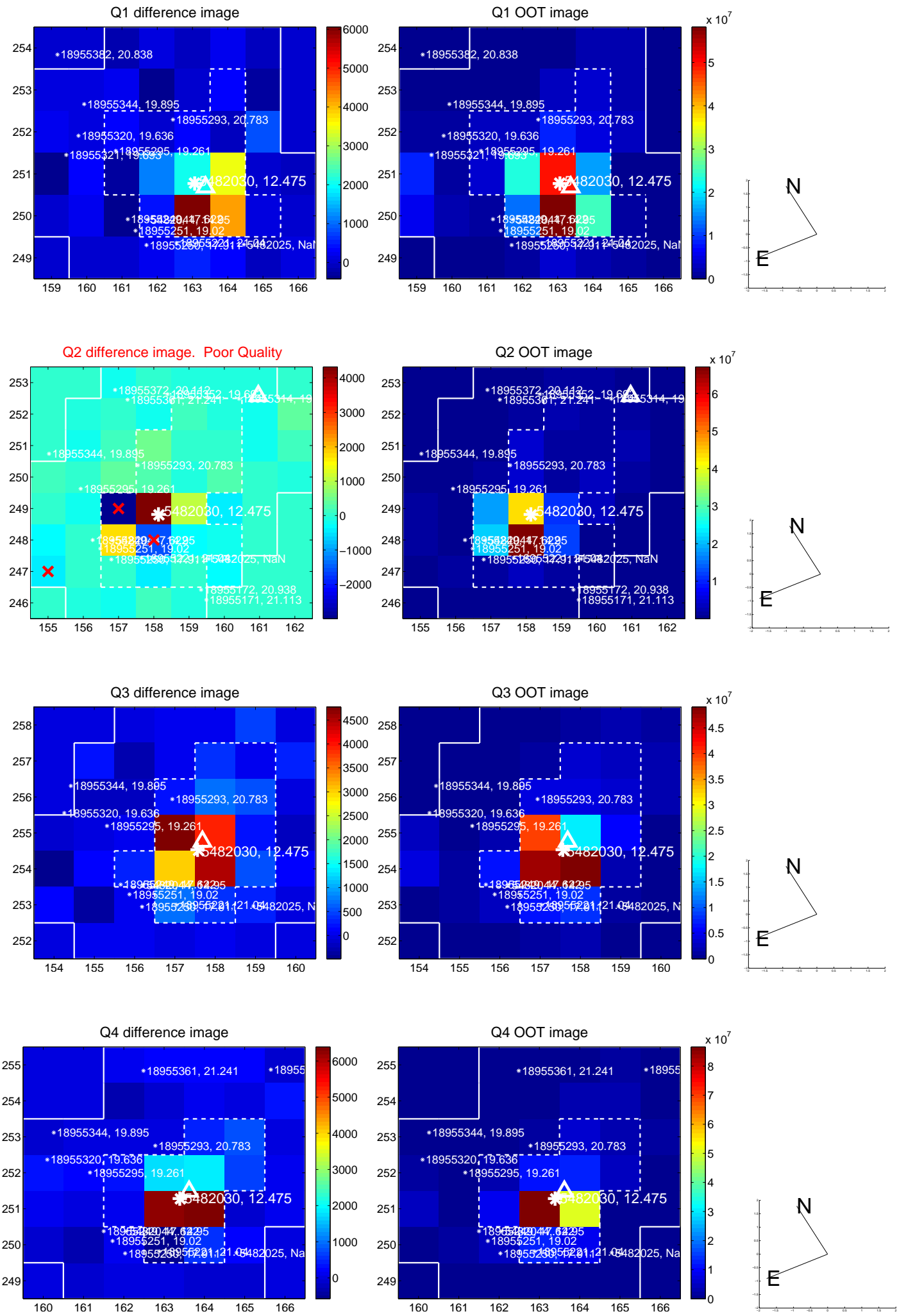
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.316 ± 1.131	0.28	-0.316 ± 1.106	0.017 ± 0.560
PRF-fit source offset from KIC position	0.311 ± 1.281	0.24	-0.295 ± 1.170	0.099 ± 0.583
photometric centroid source offset	0.41 ± 0.24	1.71	0.11 ± 0.31	0.39 ± 0.23

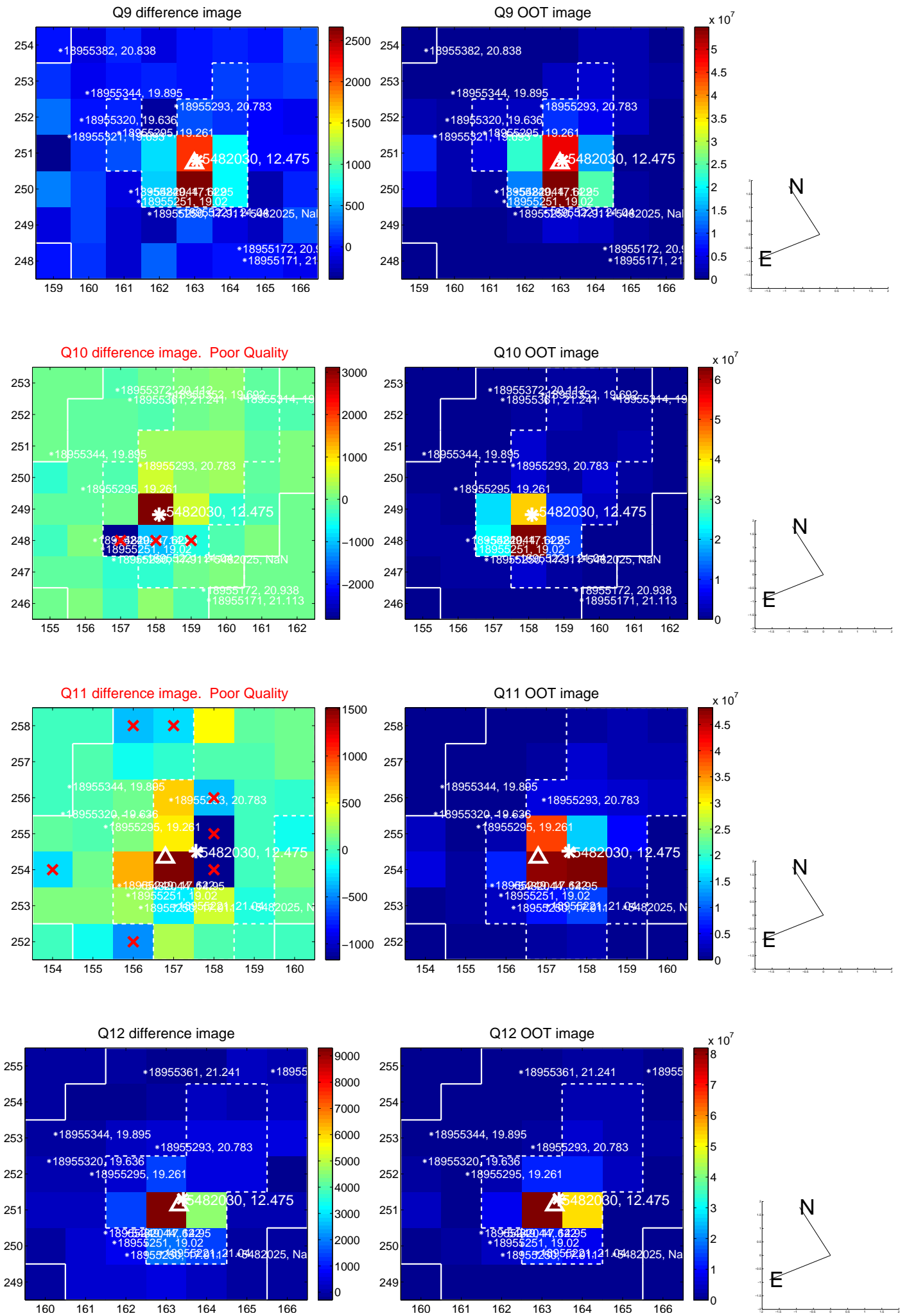


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

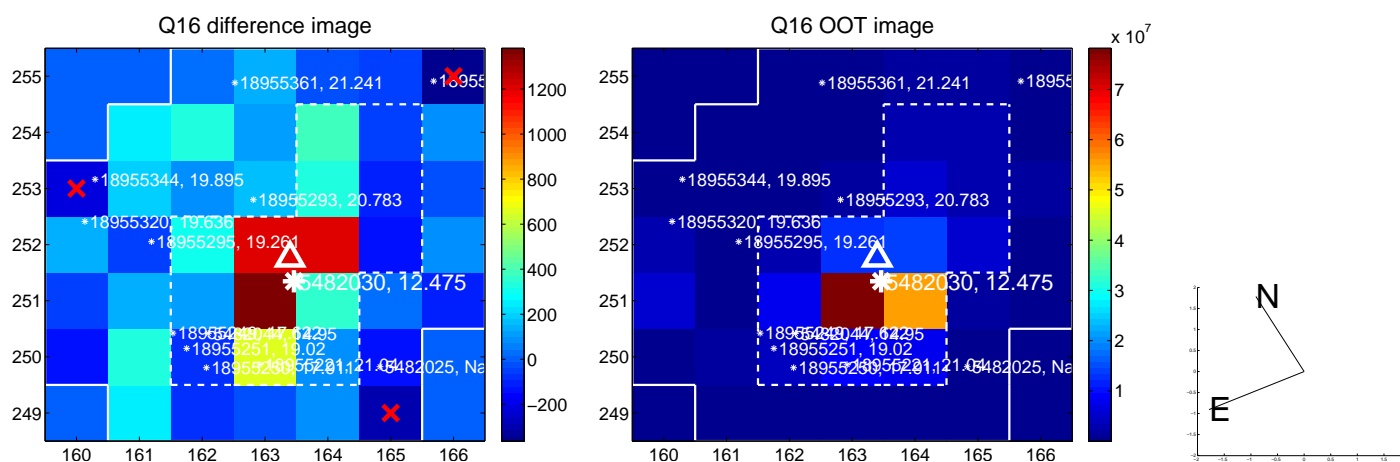
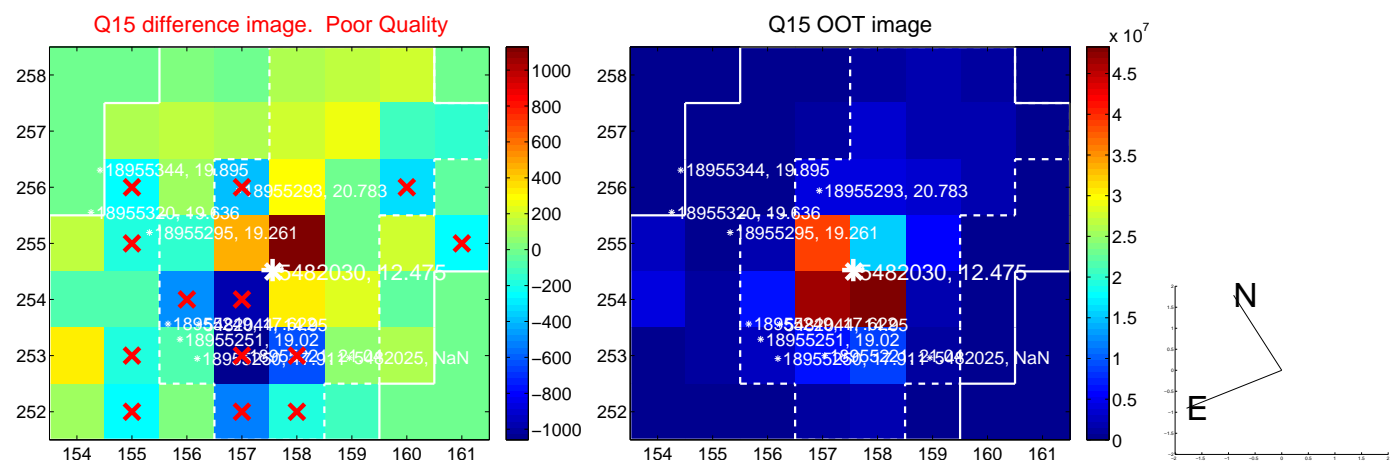
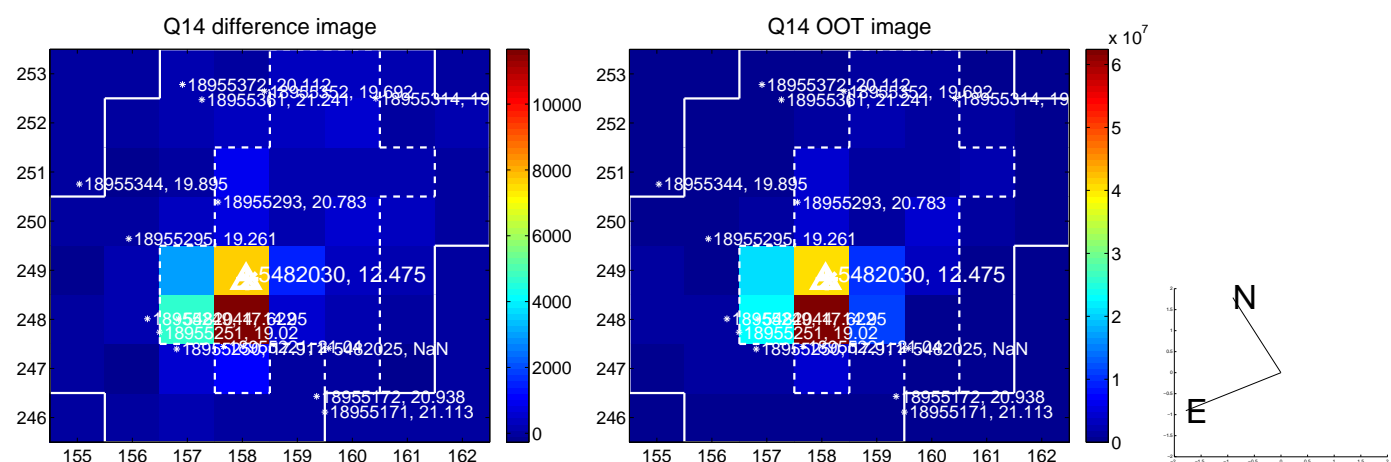
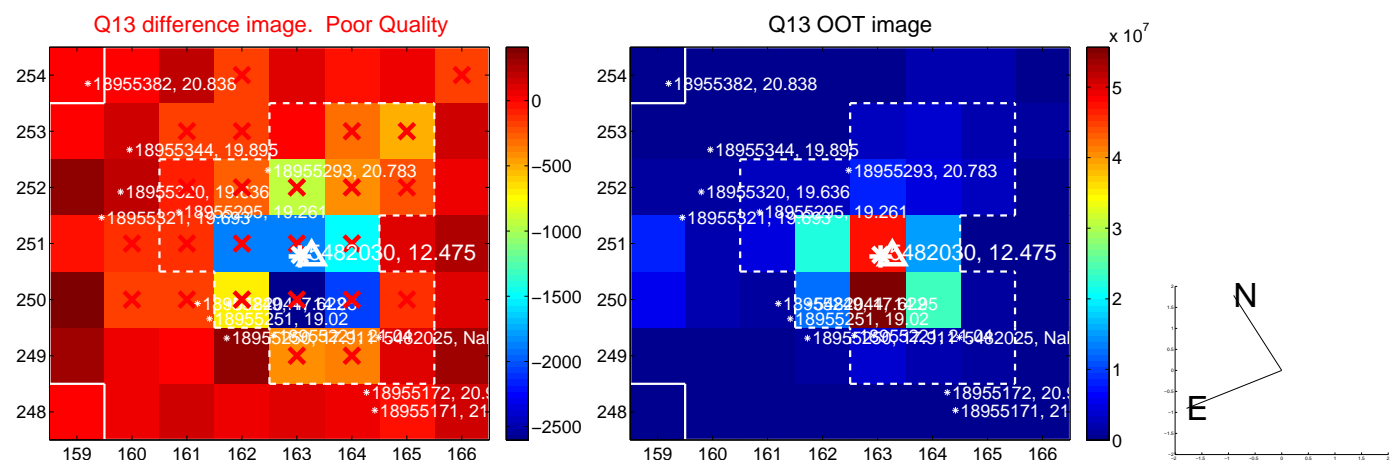
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

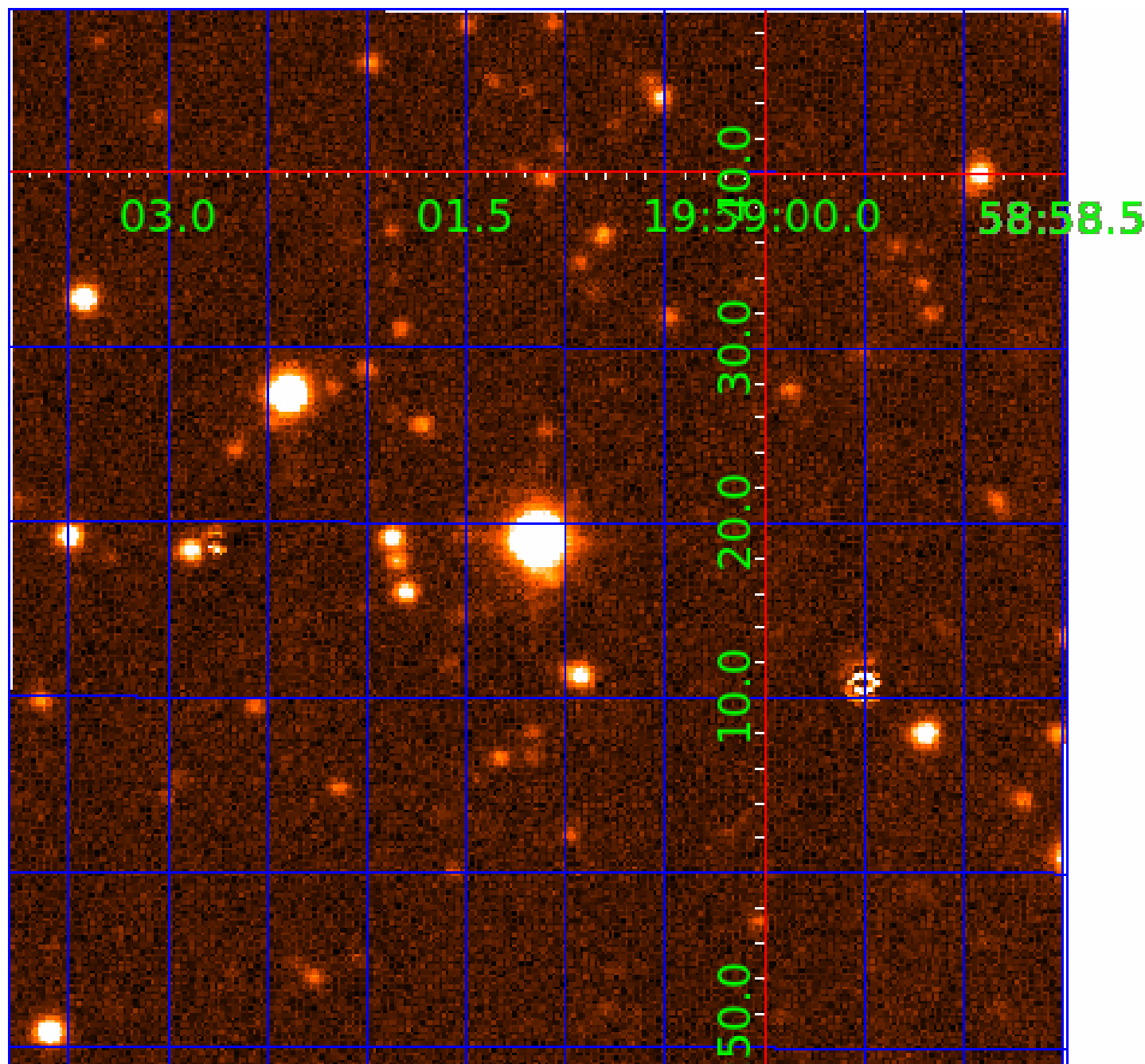


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005482030

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})
005482030-01	OBS	No	0.552558	131.584878	84.9	1.782	9.7	10.1	3.49	7881	3.76	151478.13
005482030-02	OBS	No	0.552551	131.857158	72.2	2.377	10.0	9.1	3.49	7881	3.18	151481.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005482030-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005482030-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—HALO_GHOST

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

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

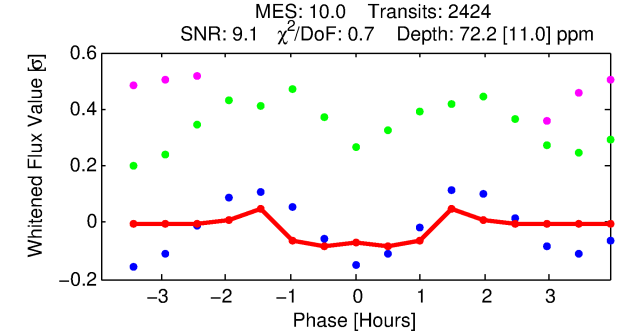
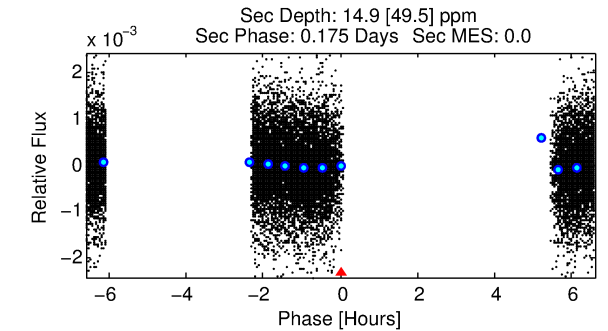
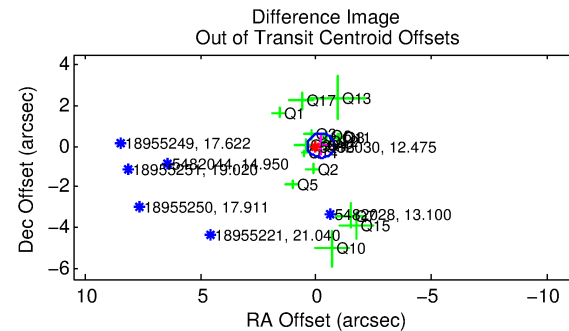
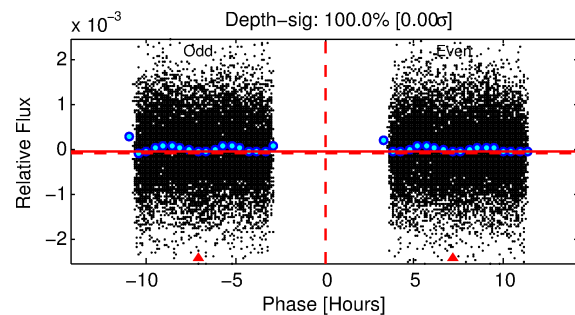
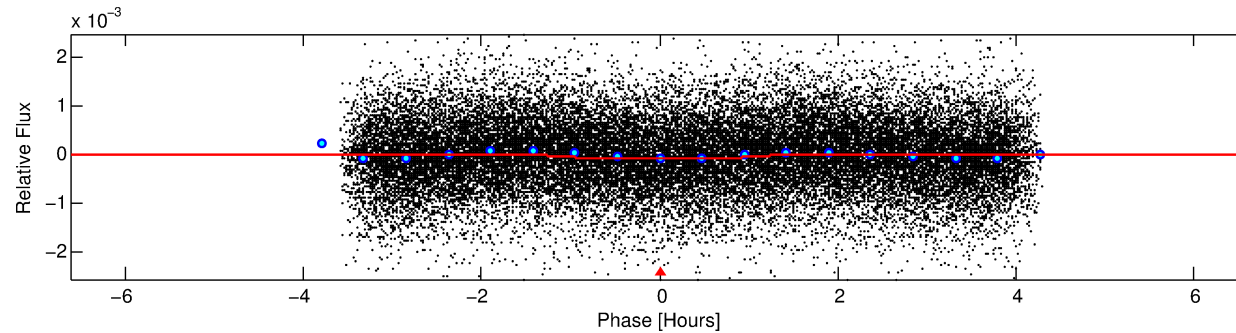
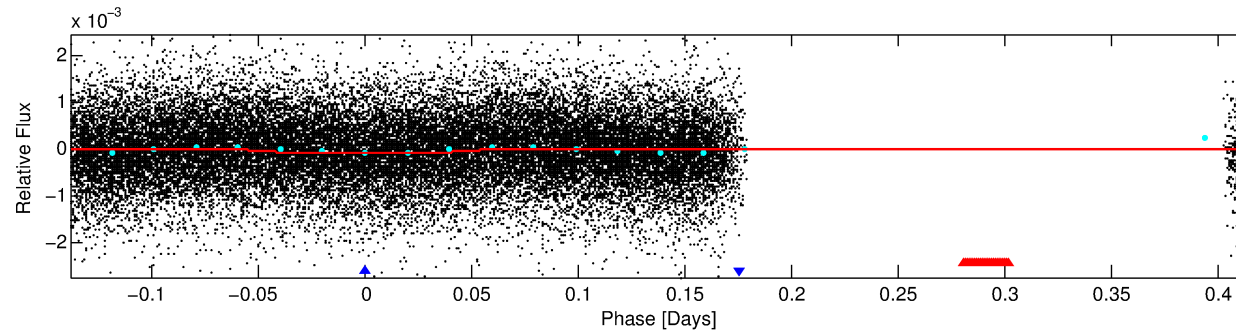
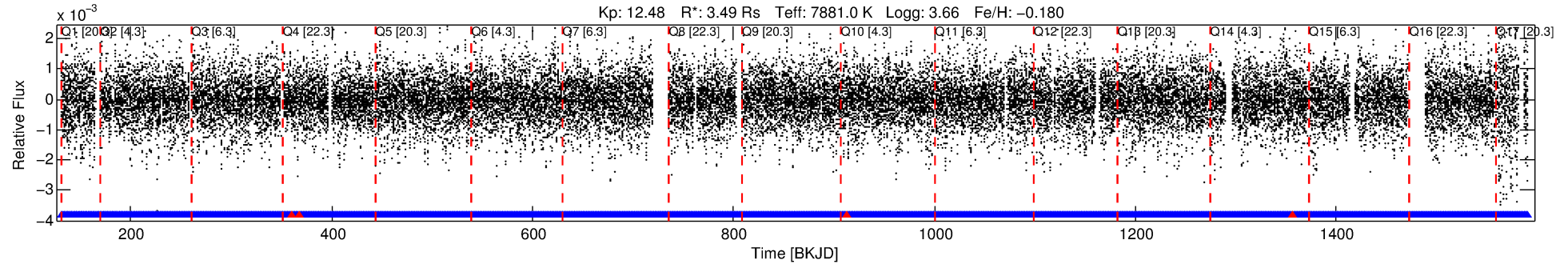
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005482030-02

No Significant Match Found

DV One-Page Summary

KIC: 5482030 Candidate: 2 of 2 Period: 0.553 d



DV Fit Results:

Period = 0.55255 [0.00001] d
Epoch = 131.8572 [0.0016] BKJD
Rp/R* = 0.0084 [0.0018]
a/R* = 1.53 [1.00]
b = 0.70 [0.84]
Seff = 151481.05 [121492.59]
Teq = 5031 [1009] K
Rp = 3.18 [1.79] Re
a = 0.0167 [0.0082] AU
Ag = 0.23 [0.77] [-1.00σ]
Teffp = 5361 [4484] K [0.07σ]

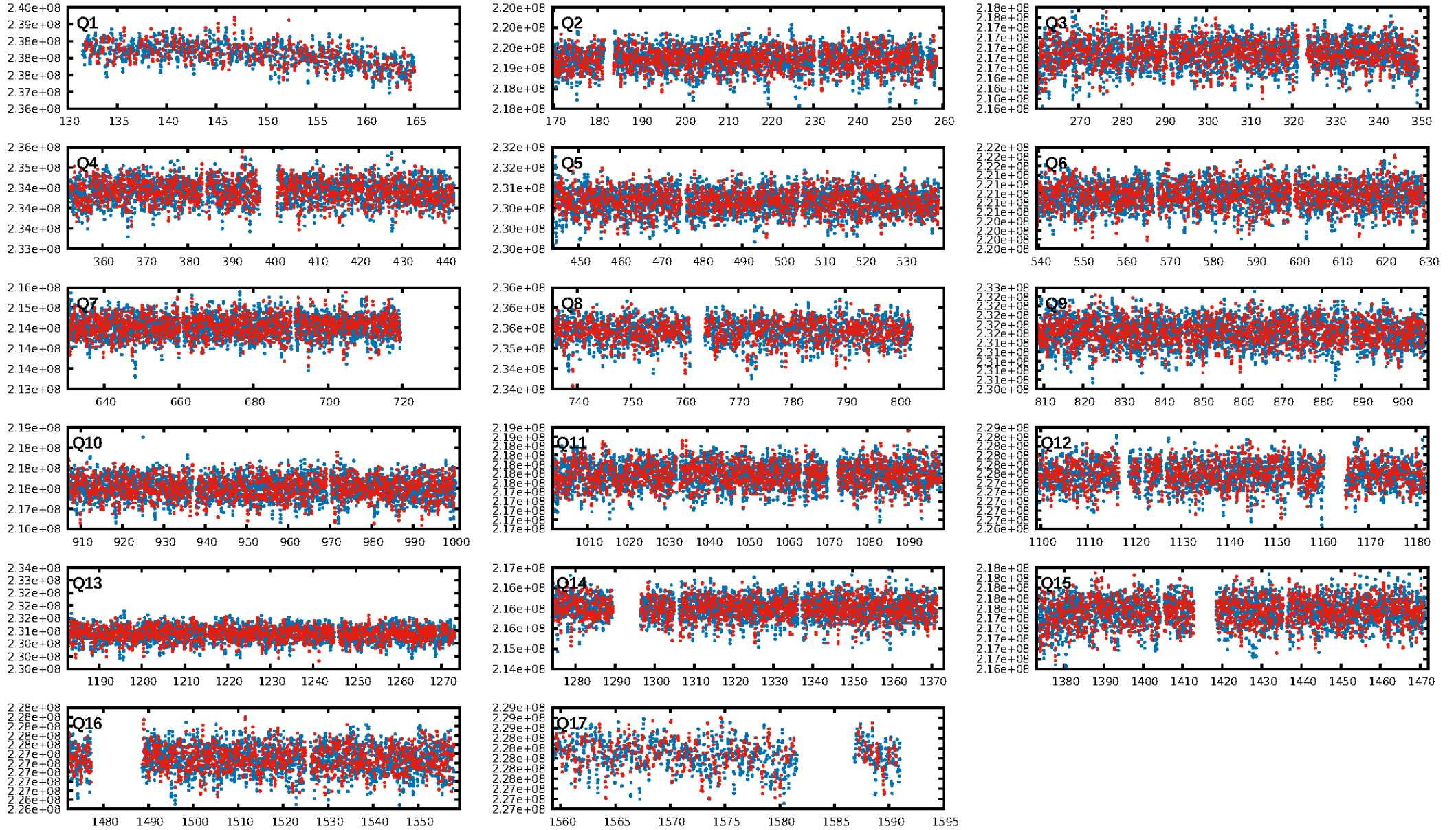
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.72e-15
RollingBand-fgt: 1.00 [2312/2316]
GhostDiagnostic-chr: -0.06964
Centroid-sig: 0.0%
Centroid-so: 0.981 arcsec [3.47σ]
OotOffset-rm: 0.205 arcsec [1.04σ]
KicOffset-rm: 0.204 arcsec [1.01σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.71 [12/17]
DiffImageOverlap-fno: 0.00 [0/17]

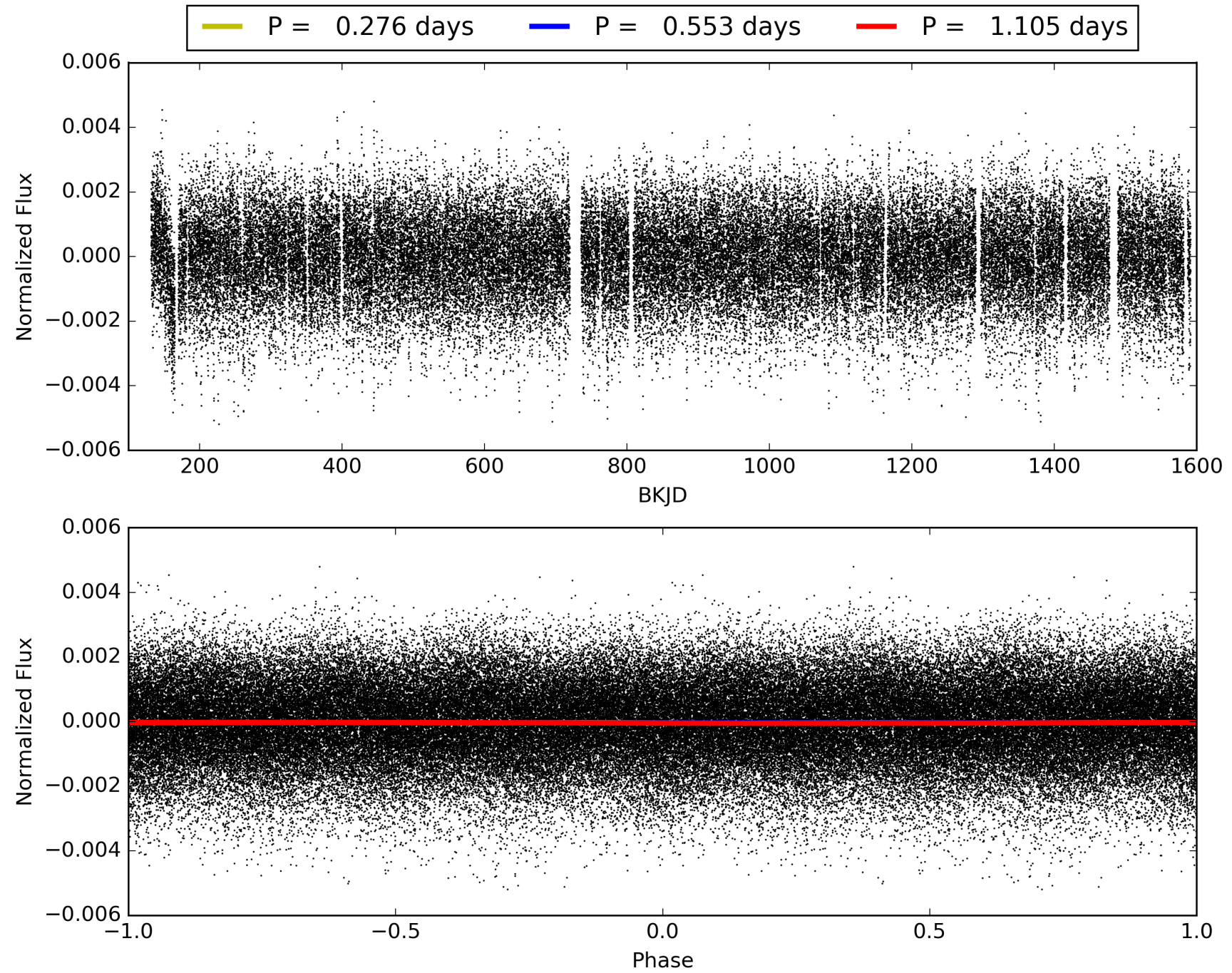
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:21:01 Z

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

TCE 005482030-02, PDC Light Curves

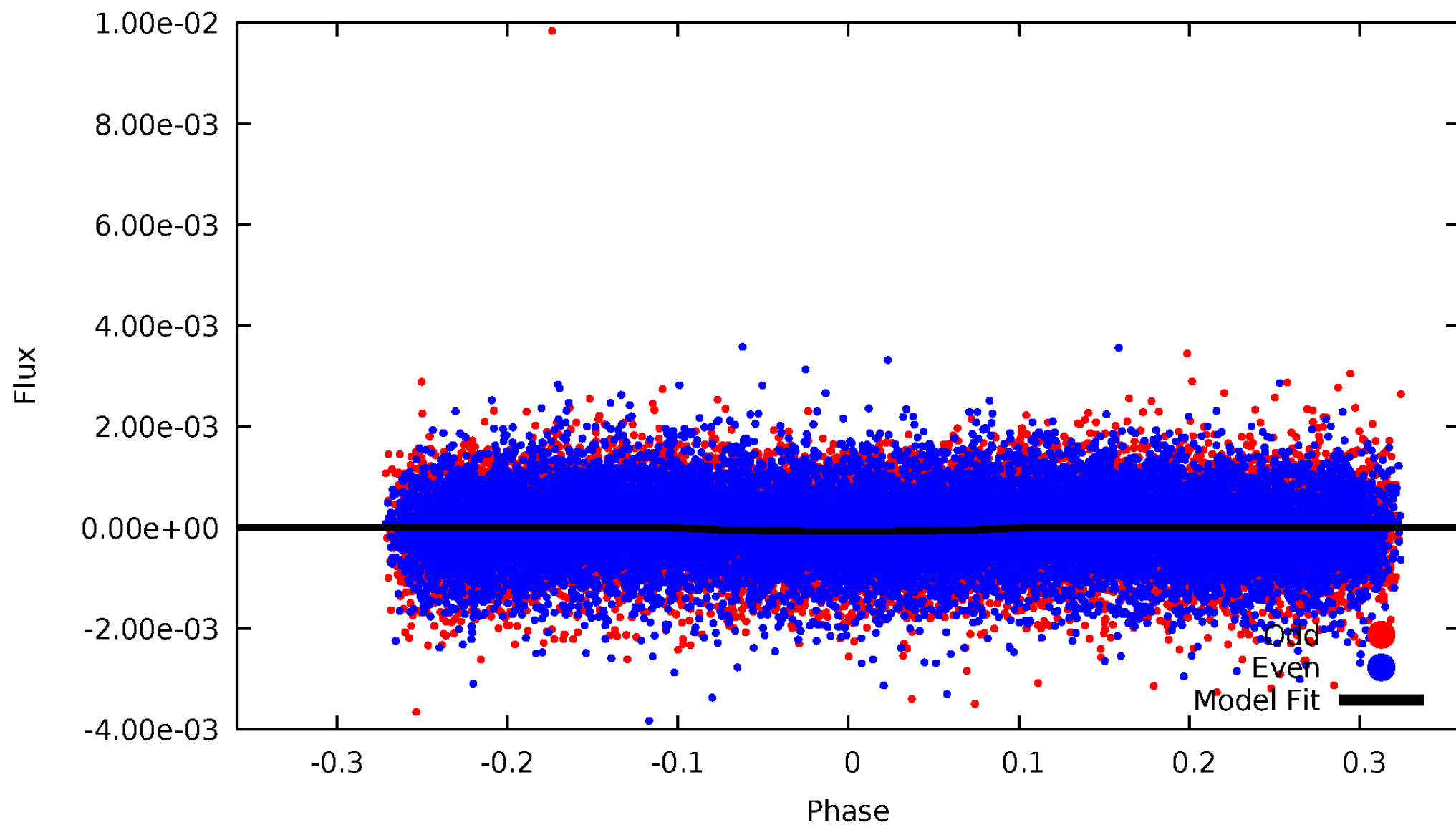


TCE 005482030-02



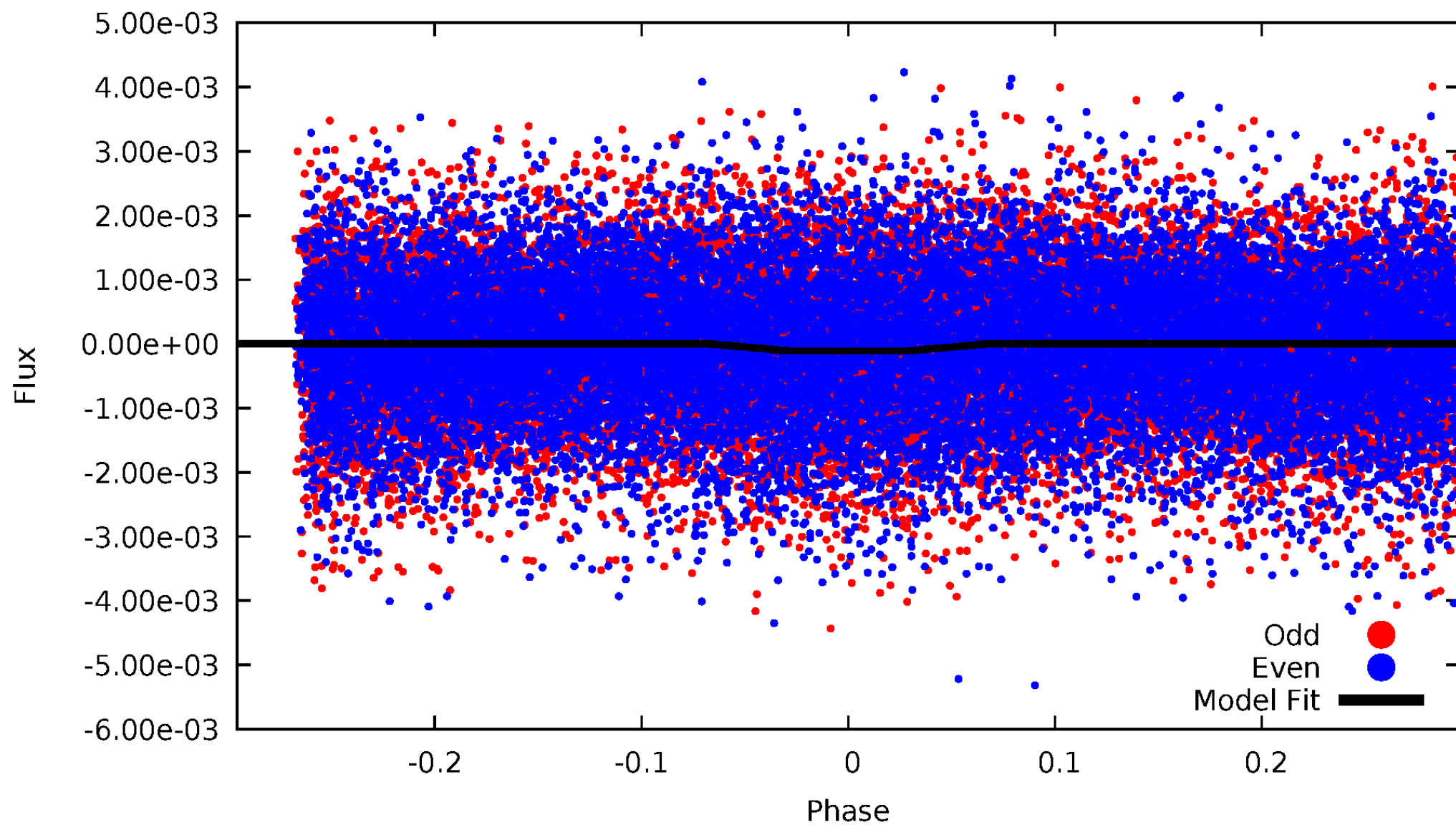
DV Odd/Even

TCE 005482030-02



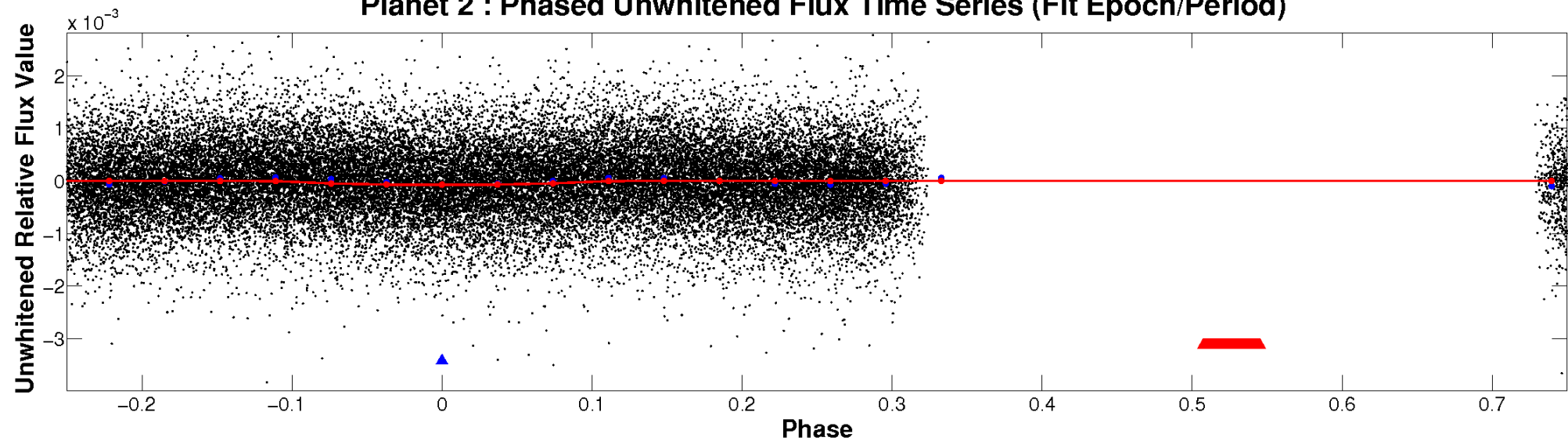
ALT Odd/Even

TCE 005482030-02

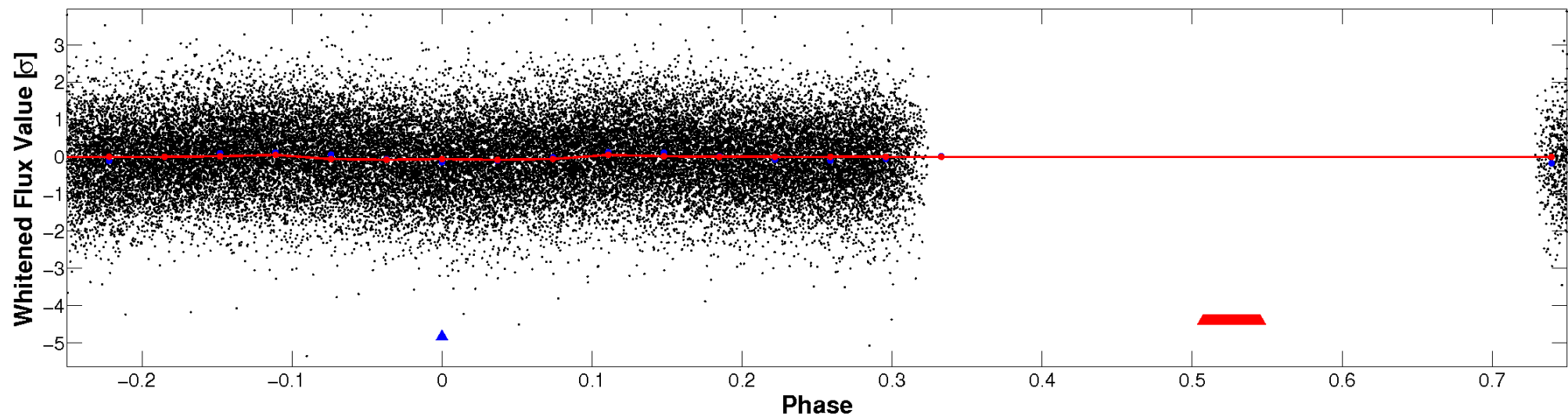


Non-Whitened Vs. Whitened Light Curve

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

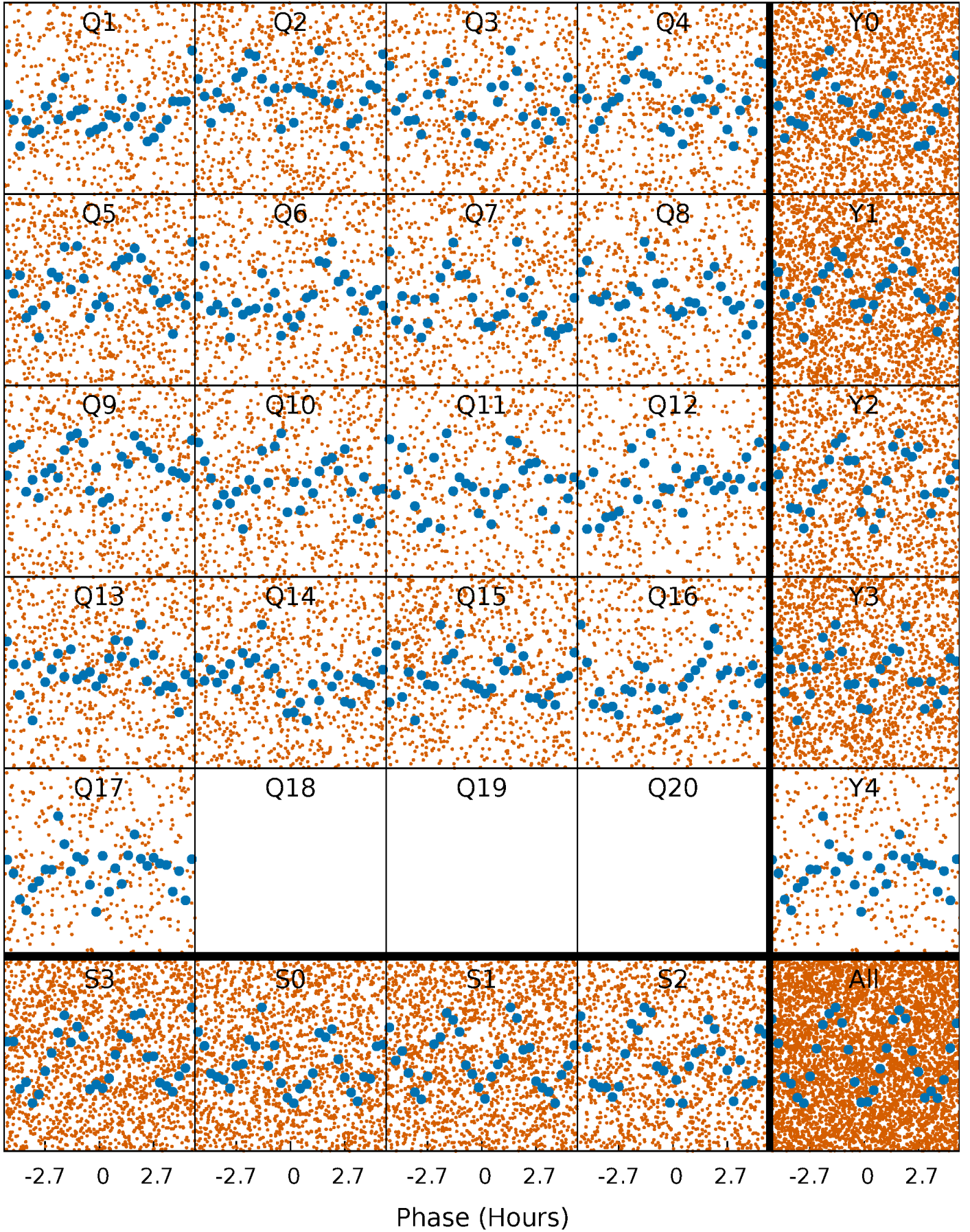


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



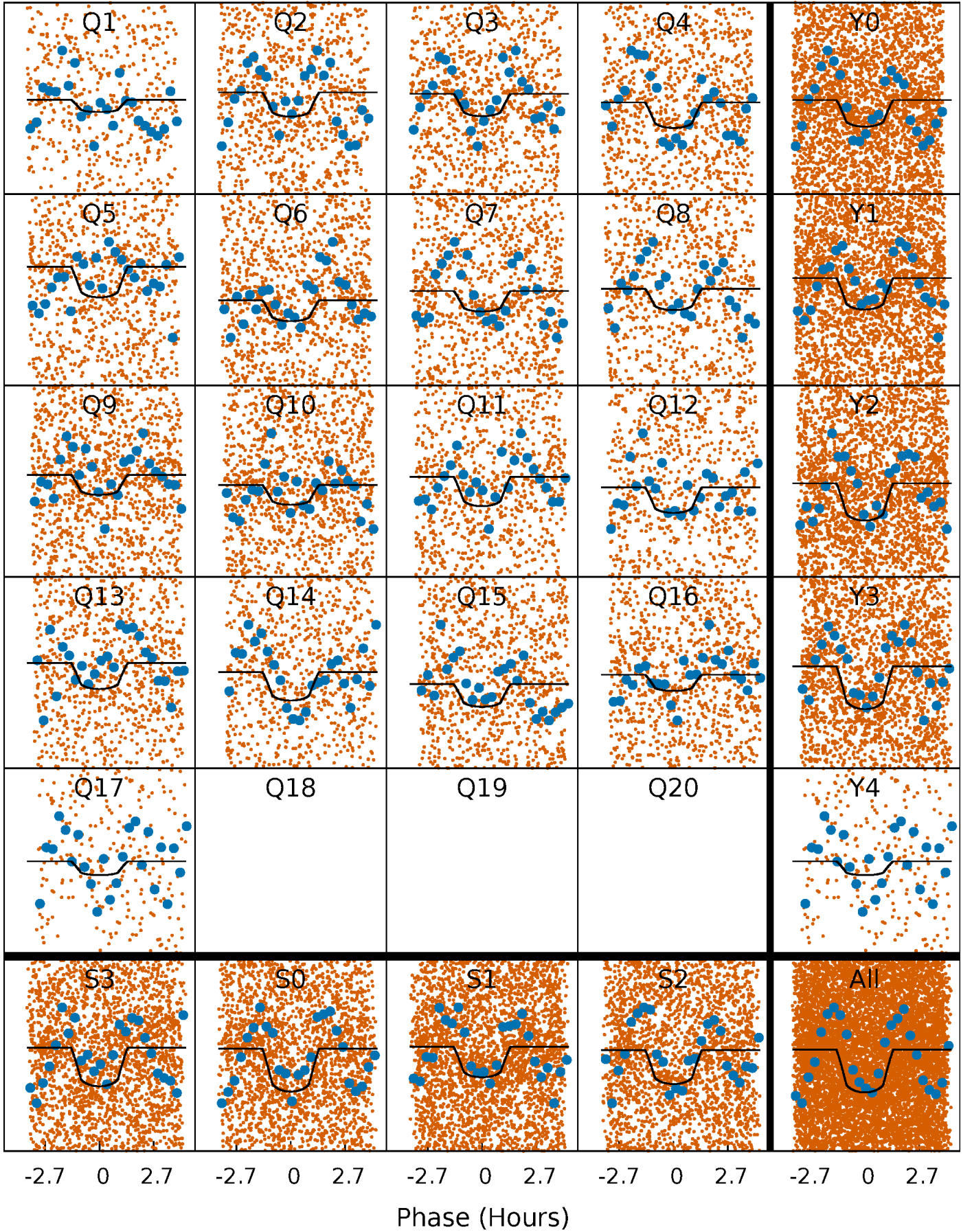
PDC Quarter-Phased Transit Curves

TCE 005482030-02 P= 0.552551 Days $T_0=131.857157$ (BKJD)



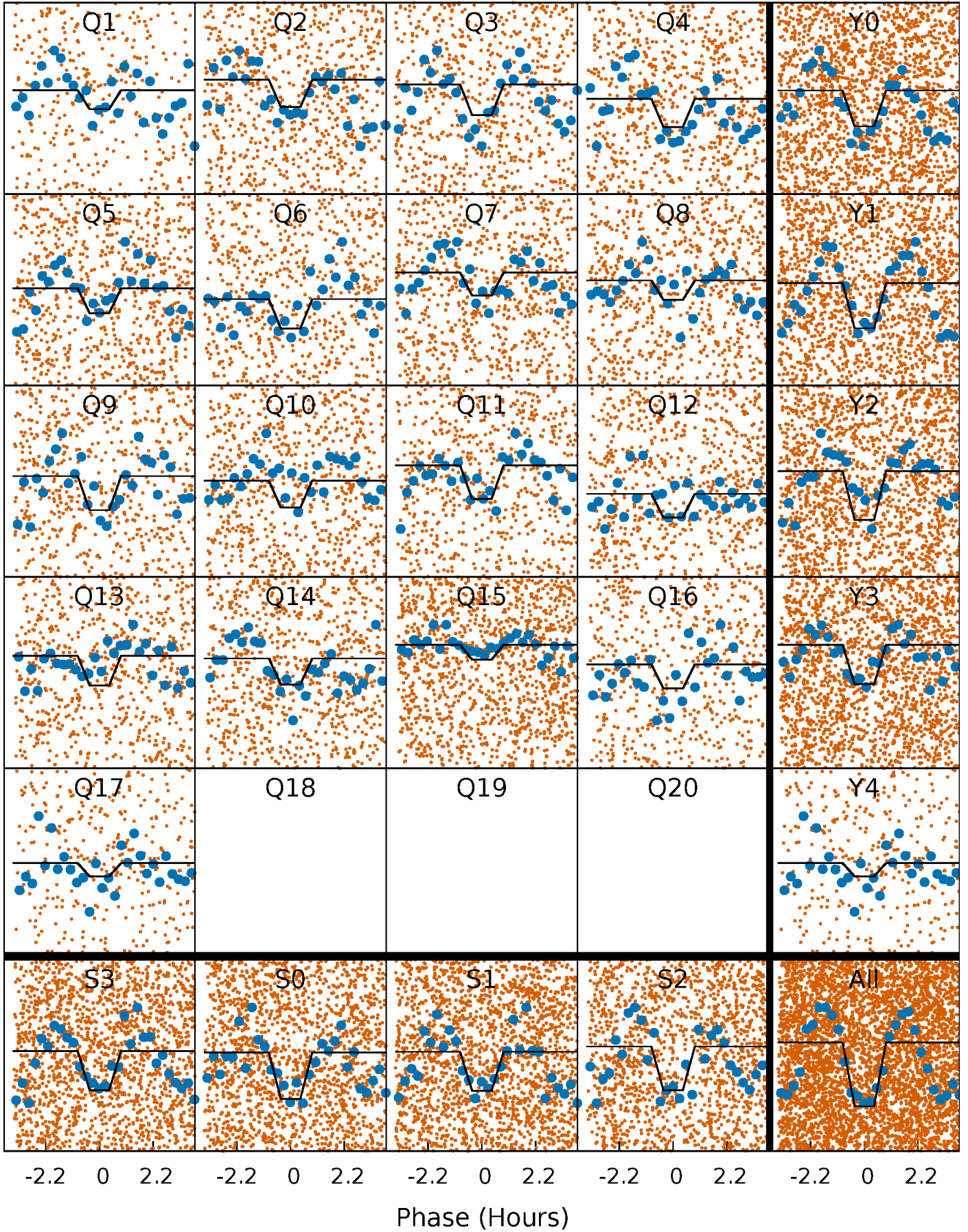
DV Quarter-Phased Transit Curves

TCE 005482030-02 P= 0.552551 Days $T_0=131.857157$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

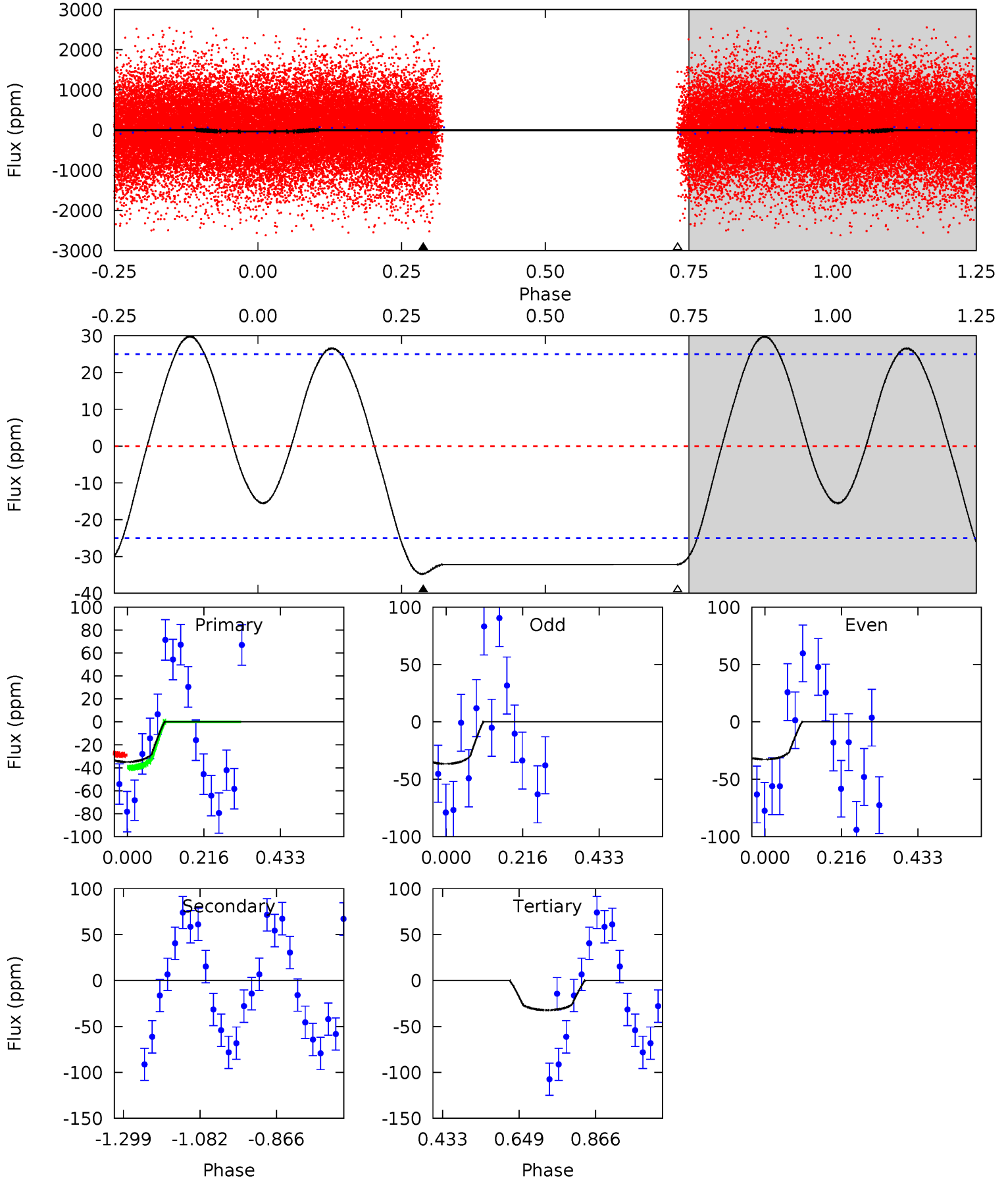
TCE 005482030-02 $P = 0.552556$ Days $T_0 = 131.854820$ (BKJD)



DV Model-Shift Uniqueness Test

005482030-02, P = 0.552551 Days, E = 131.304606 Days

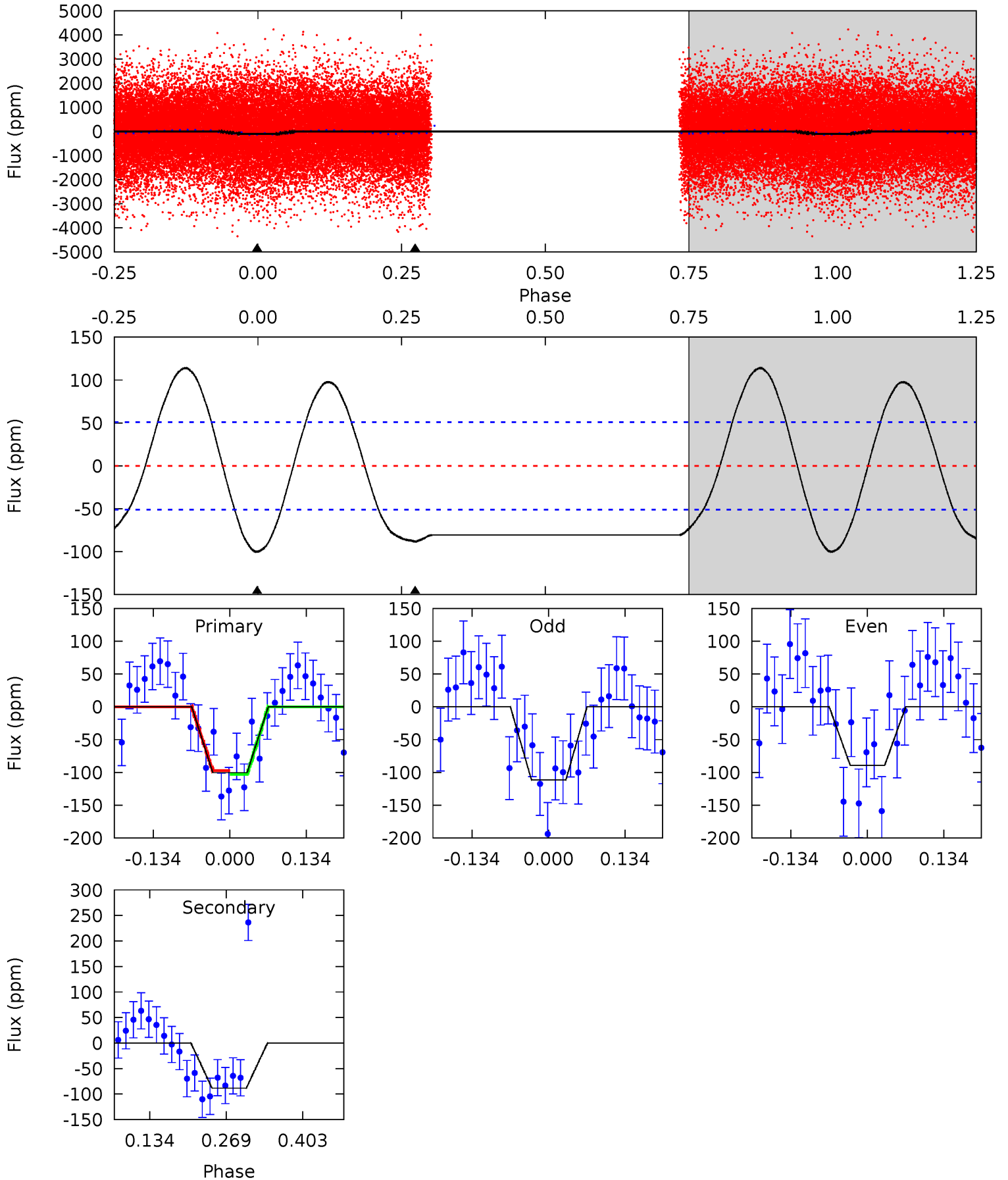
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.13	0	5.67	0	4.40	1.24	3.08	0.46	6.13	-5.67	0	0.34	1.17	0.46	0.99



Alt Model-Shift Uniqueness Test

005482030-02, P = 0.552556 Days, E = 131.302264 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.87	7.80	0	0	4.50	1.50	5.76	8.87	8.87	7.80	7.80	0.98	1.38	0.53	0.23



Stellar Parameters For KIC 005482030

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7881^{+218}_{-355}	$3.658^{+0.456}_{-0.085}$	$-0.180^{+0.200}_{-0.300}$	$3.487^{+0.727}_{-1.818}$	$2.017^{+0.328}_{-0.492}$	$0.067^{+0.353}_{-0.023}$
	+3%/-5%	+12%/-2%	+111%/-167%	+21%/-52%	+16%/-24%	+526%/-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 005482030-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 6	$2.88^{+0.98}_{-0.88}$	6743^{+522}_{-854}	-5398^{+875}_{-575}	$0.001^{+0.125}_{-0.112}$
Alt.	-88 ± 11	$3.51^{+1.07}_{-0.94}$	6728^{+508}_{-879}	6699^{+1234}_{-868}	$1.074^{+0.957}_{-0.411}$

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

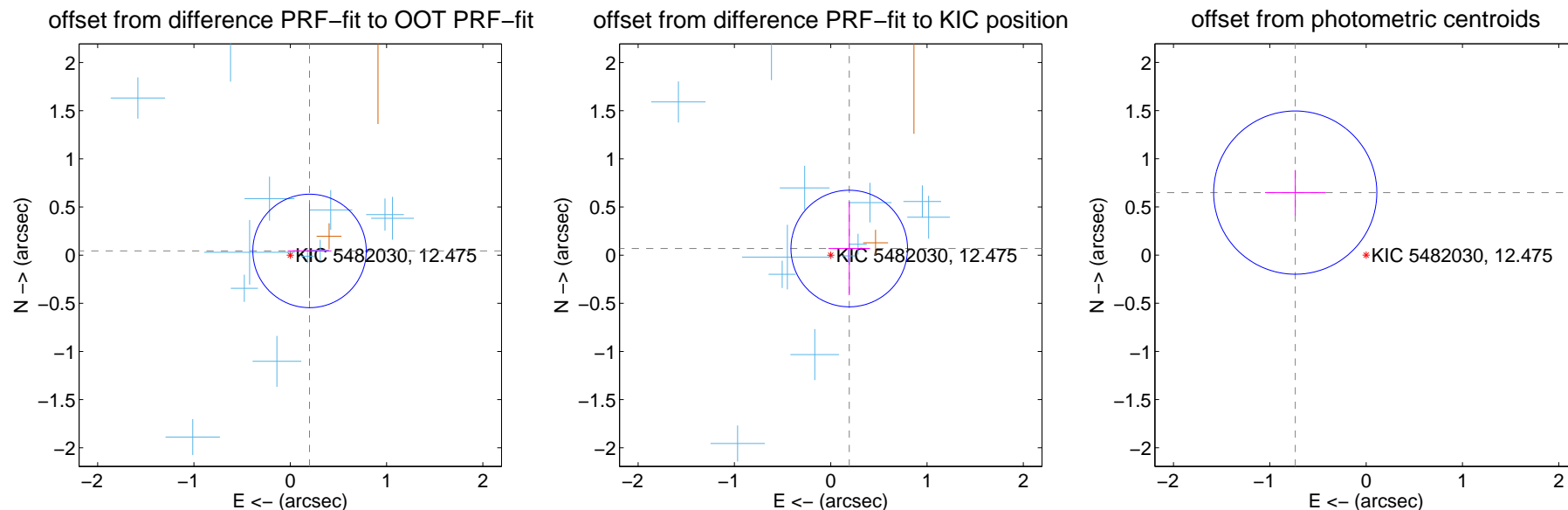
DV Centroid Data

Supplemental centroid analysis for 005482030-02. Kepler magnitude: 12.47. Transit SNR 9.08

There are 12 quarters with good PRF difference image offsets

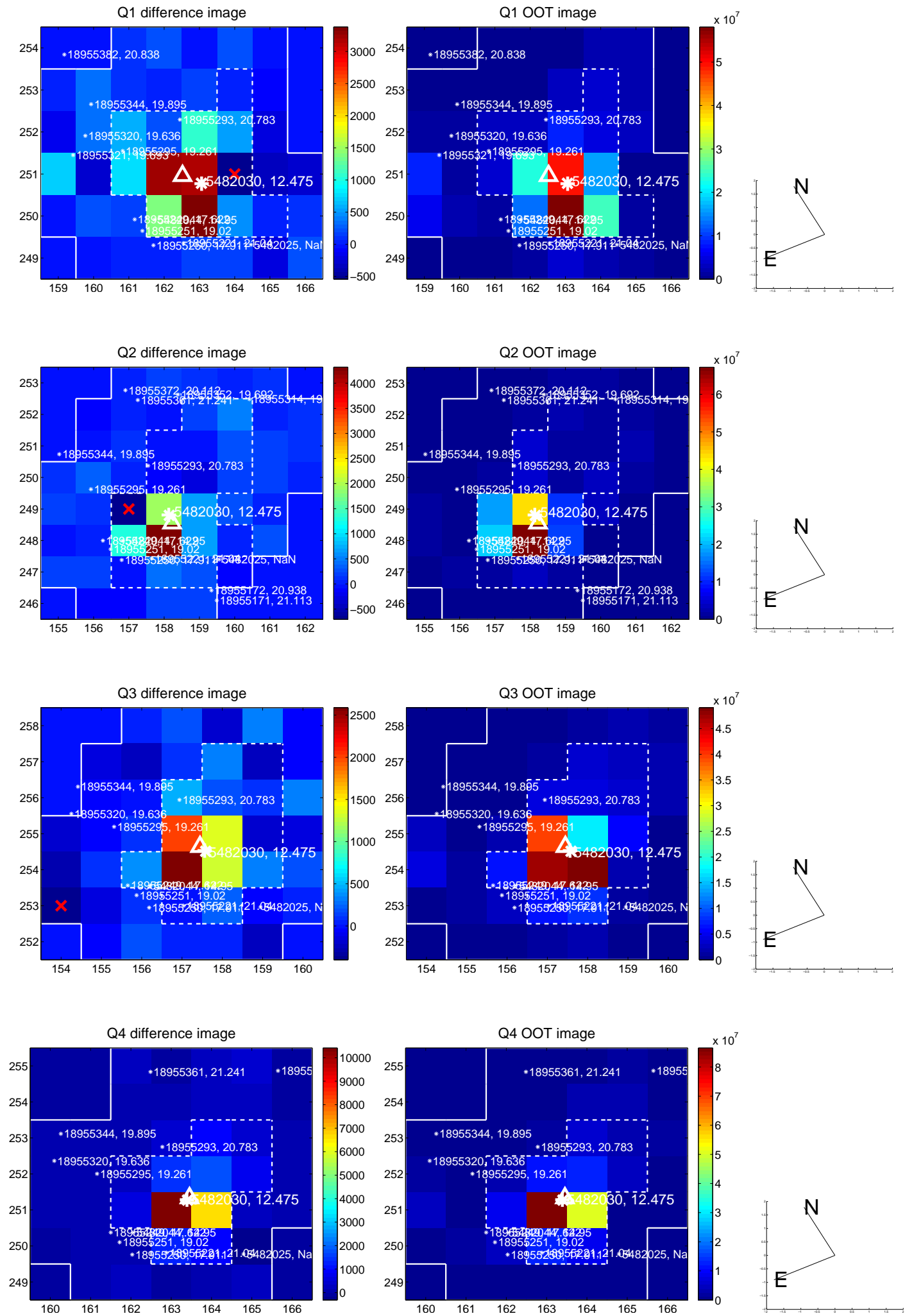
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.205 ± 0.196	1.04	-0.200 ± 0.227	0.044 ± 0.490
PRF-fit source offset from KIC position	0.204 ± 0.202	1.01	-0.192 ± 0.216	0.069 ± 0.485
photometric centroid source offset	0.98 ± 0.28	3.47	0.74 ± 0.31	0.65 ± 0.24

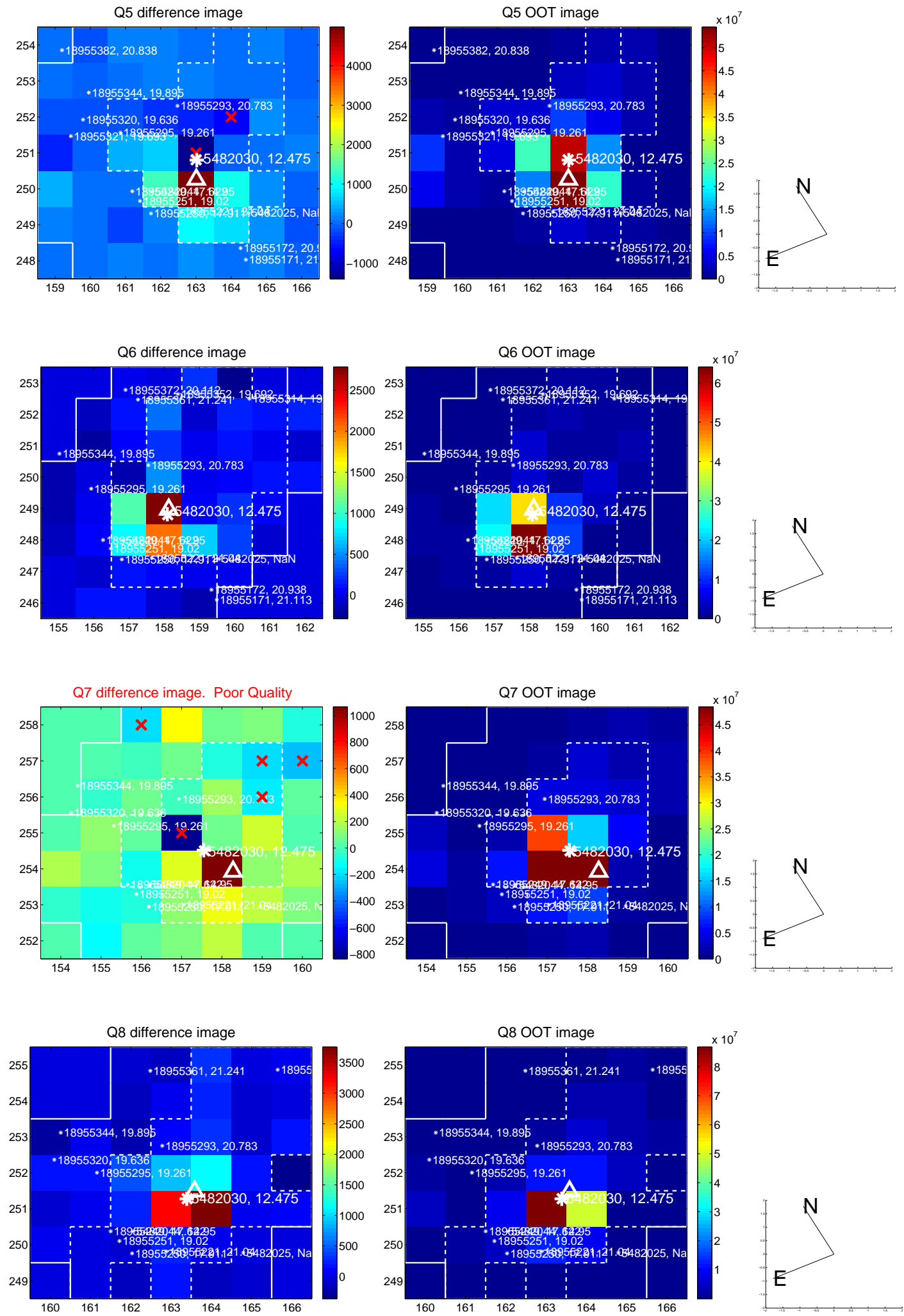


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

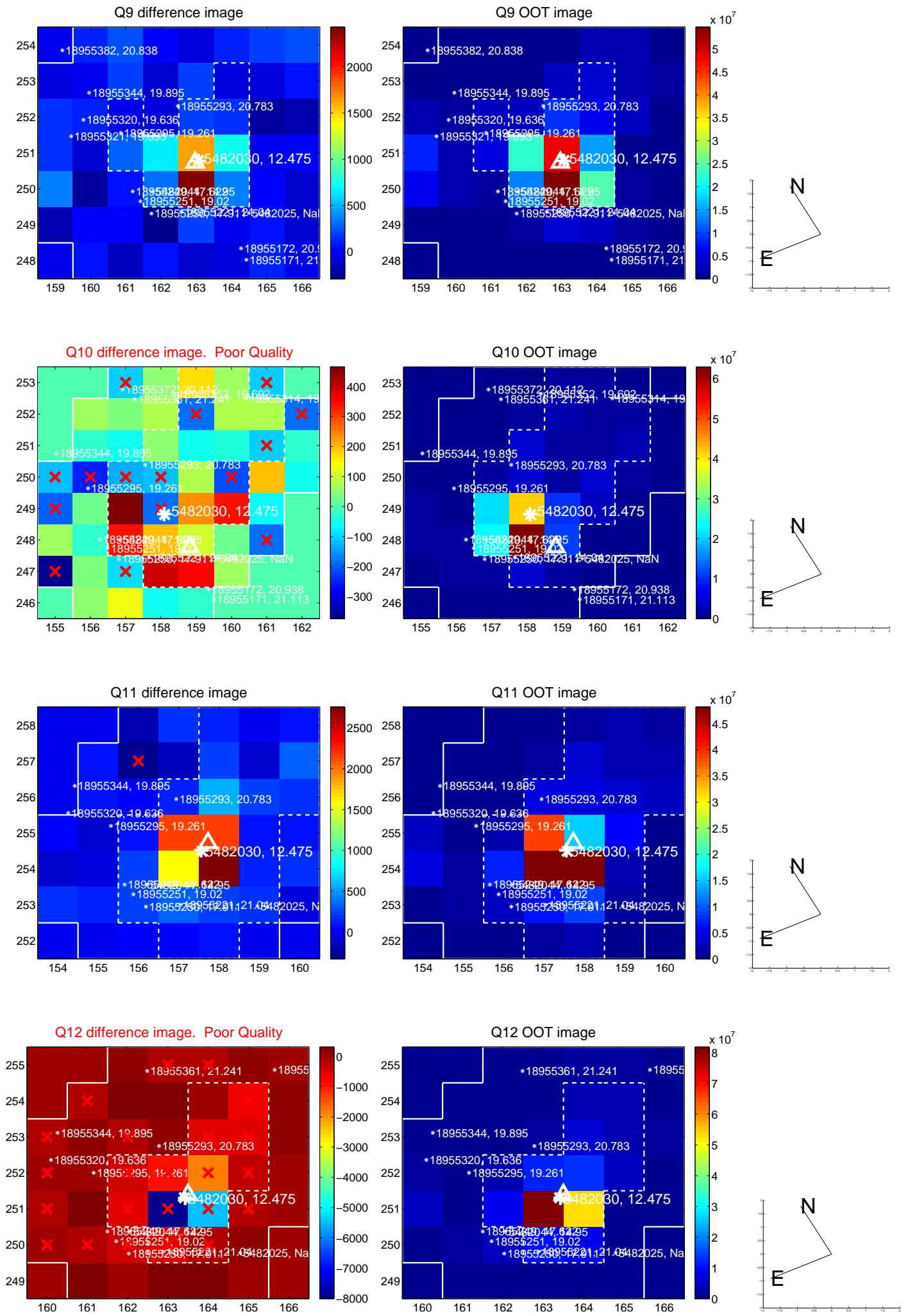
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



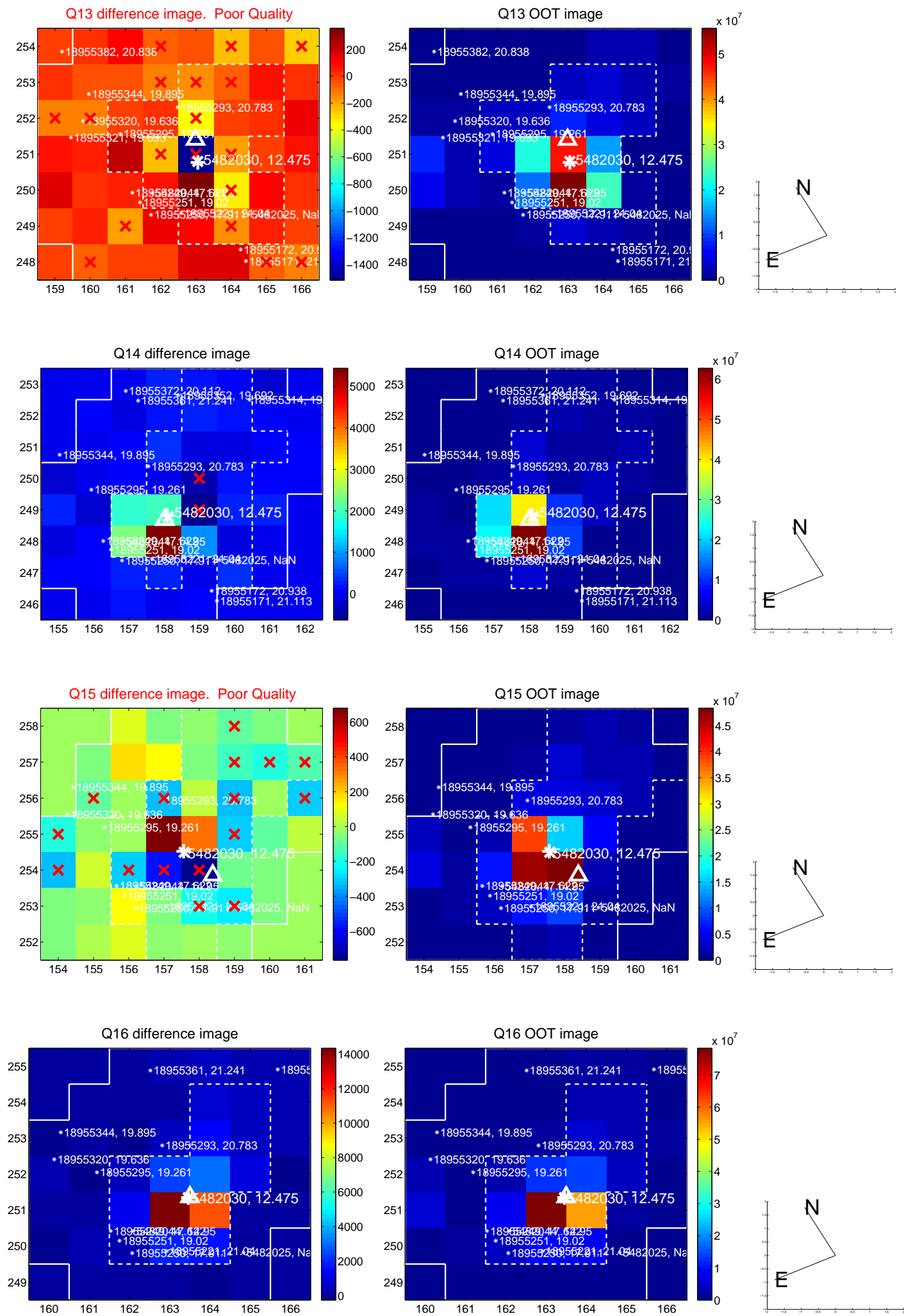
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



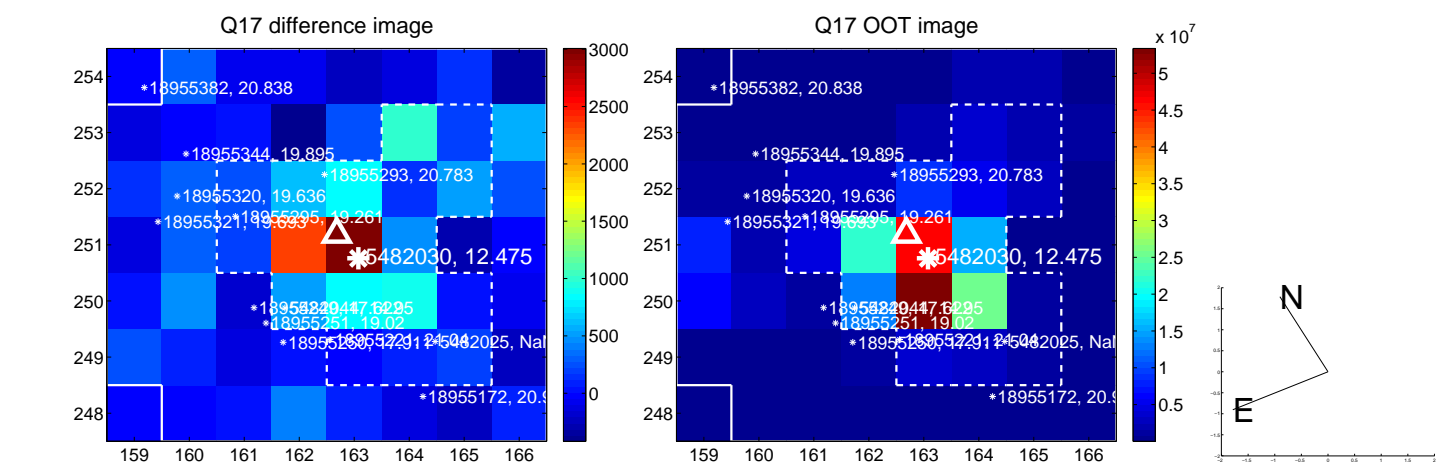
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



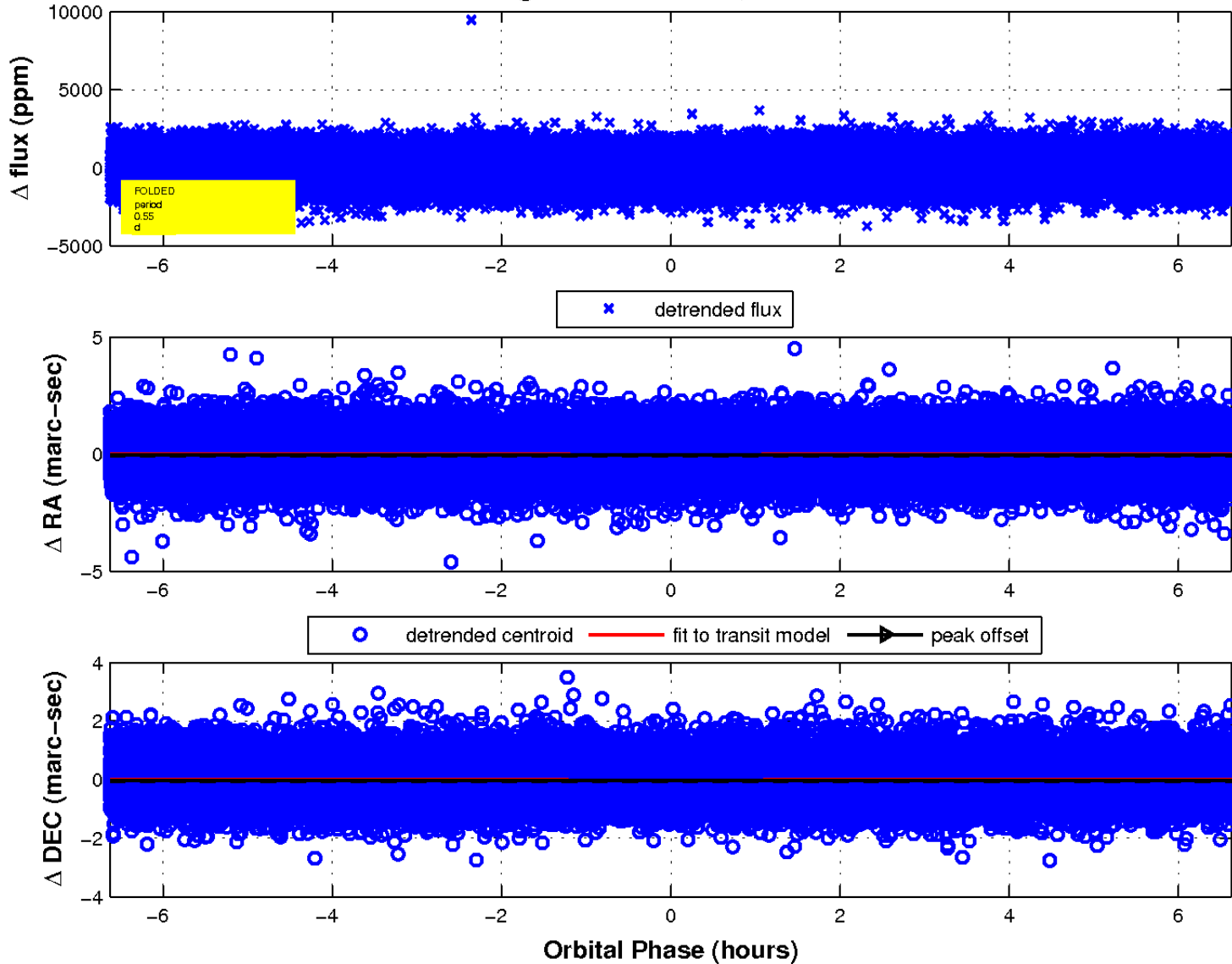
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

