

KIC 002585092

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})
002585092-01	OBS	No	6.929069	132.784297	92.8	18.353	16.6	16.1	1.40	6714	1.71	607.21
002585092-02	OBS	No	1.732143	131.935416	52.2	17.125	9.0	11.3	1.40	6714	1.44	3855.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002585092-01	OBS	FP	0.00	1	0	0	0	LPP_DV
002585092-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

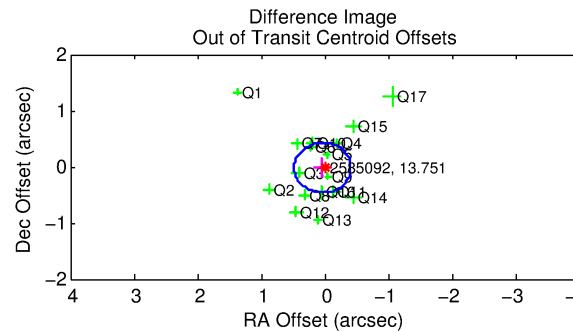
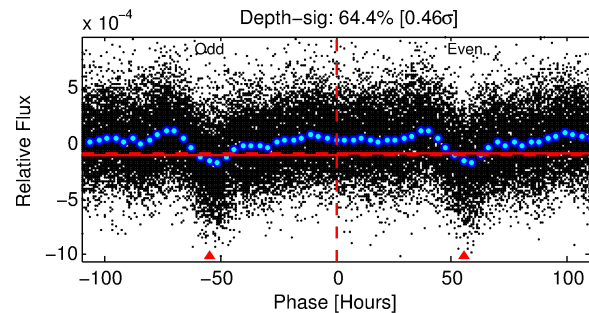
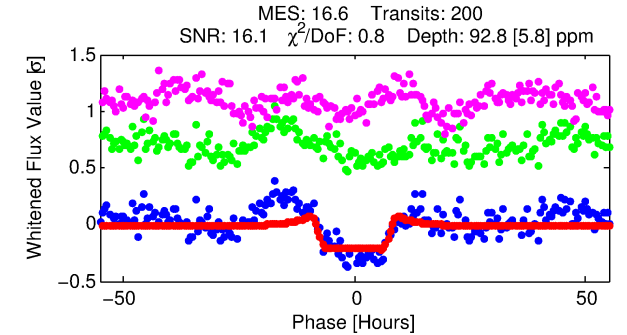
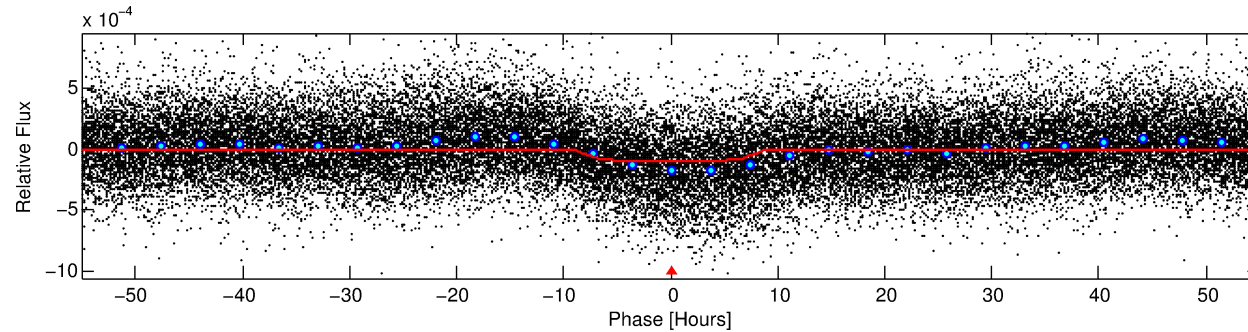
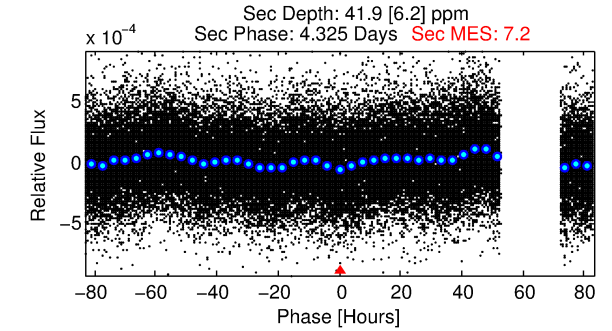
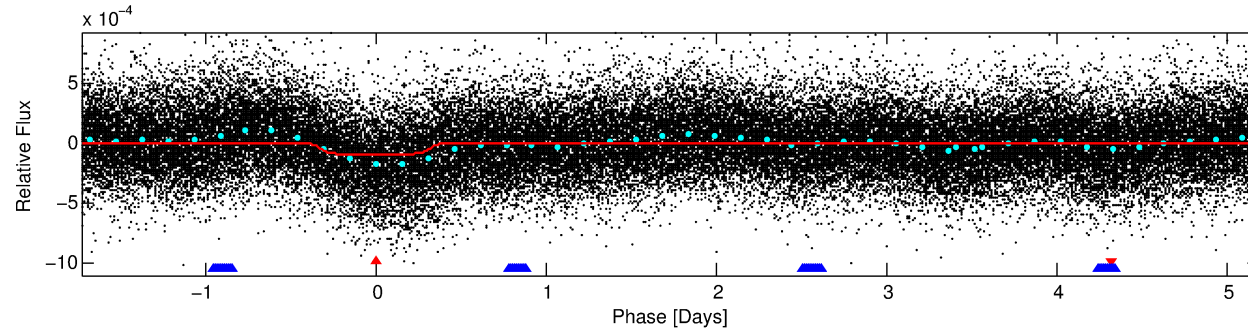
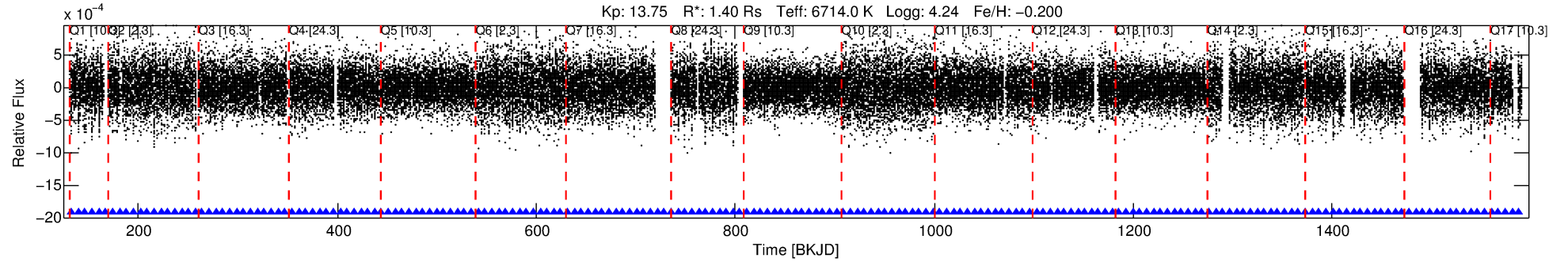
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002585092-01

No Significant Match Found

DV One-Page Summary

KIC: 2585092 Candidate: 1 of 2 Period: 6.929 d



DV Fit Results:

Period = 6.92907 [0.00013] d
Epoch = 132.7843 [0.0161] BKJD
Rp/R* = 0.0112 [0.0005]
a/R* = 1.30 [0.07]
b = 0.97 [0.01]
Seff = 607.21 [243.72]
Teq = 1266 [127] K
Rp = 1.71 [0.52] Re
a = 0.0767 [0.0195] AU
Ag = 46.28 [18.83] [2.40σ]
Teffp = 5105 [292] K [12.05σ]

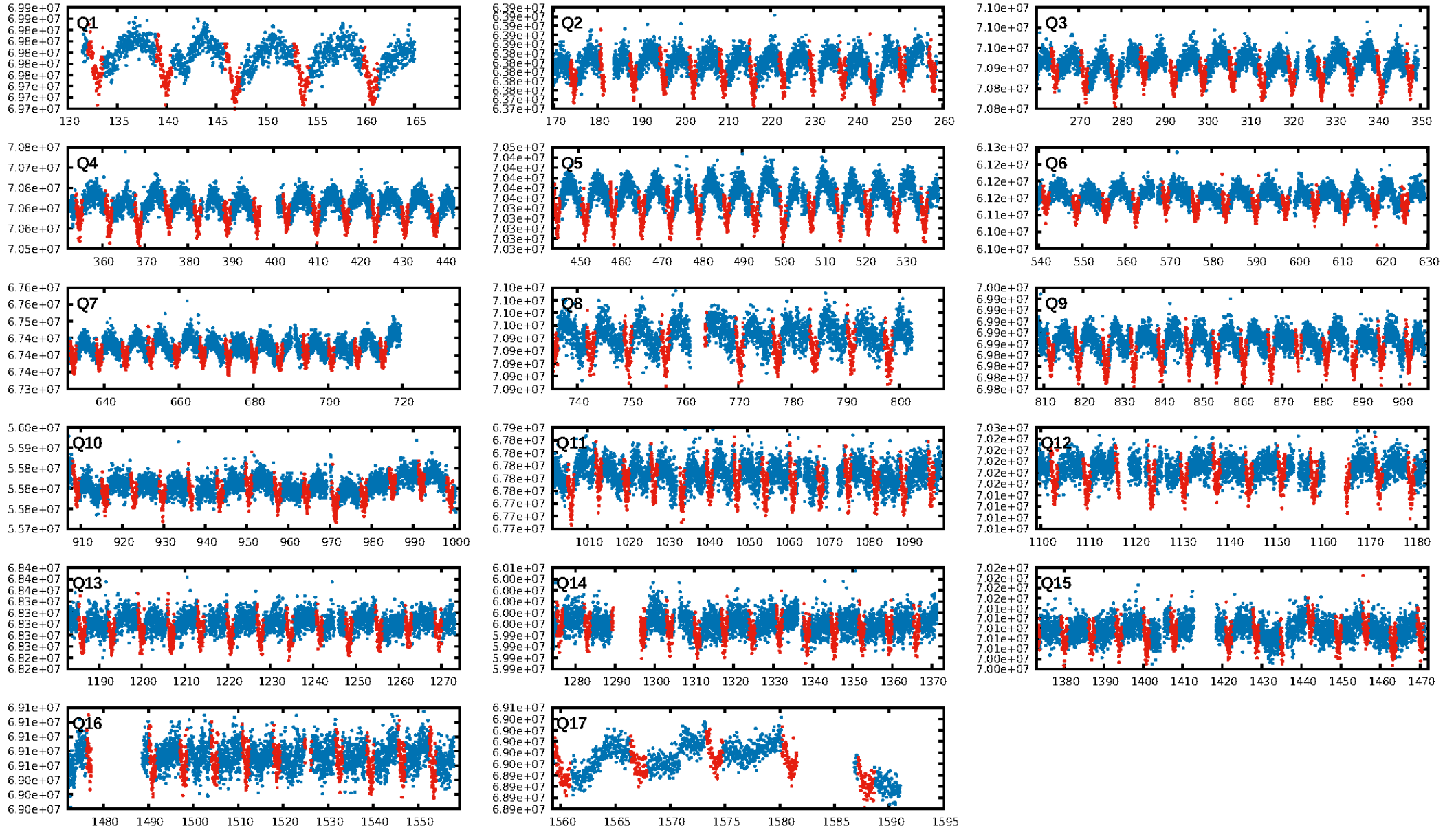
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.97σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 81.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [190/190]
GhostDiagnostic-chr: 1.775
Centroid-sig: 1.8%
Centroid-so: 1.549 arcsec [2.39σ]
OotOffset-rm: 0.041 arcsec [0.27σ]
KicOffset-rm: 0.137 arcsec [0.94σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

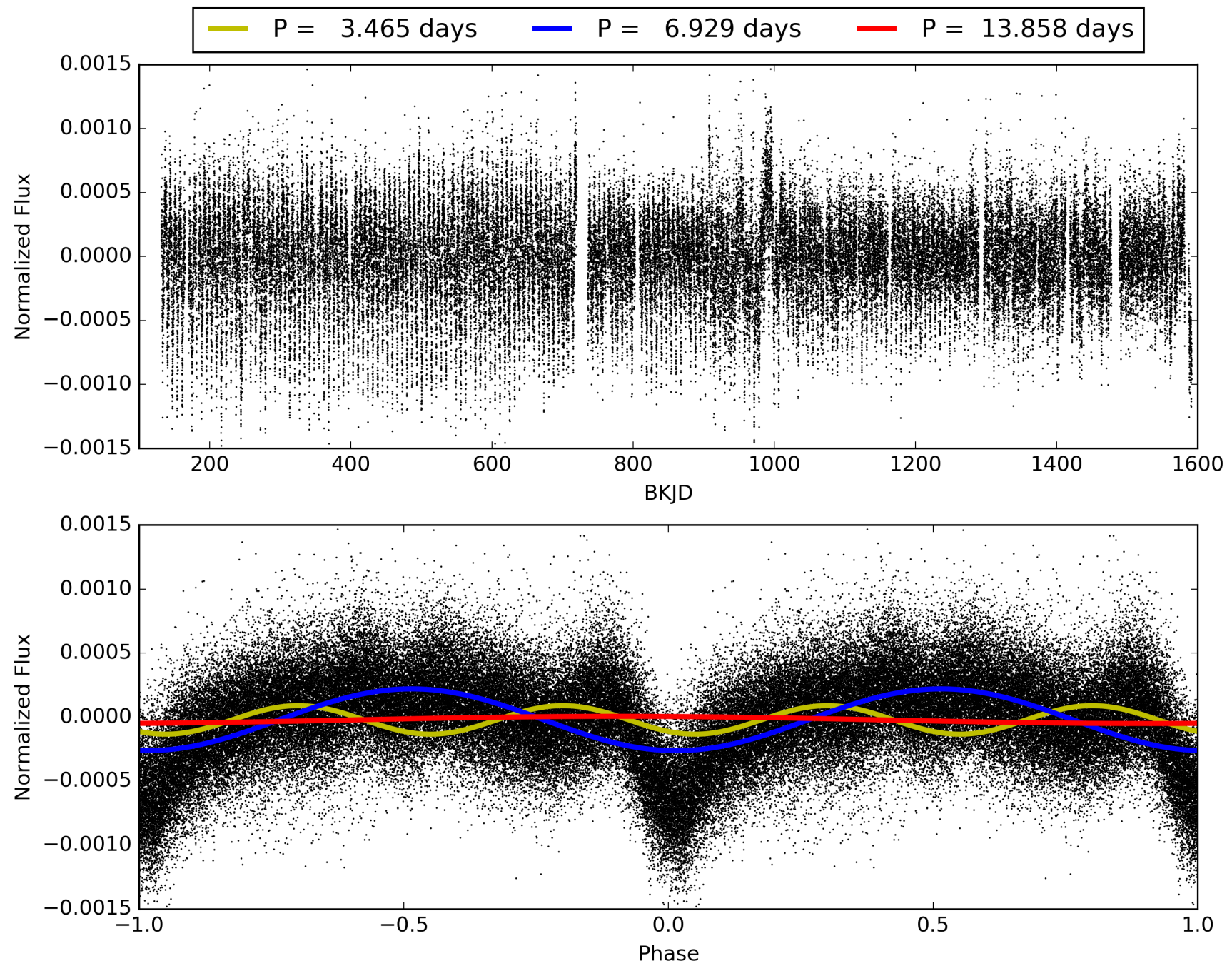
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 002585092-01, PDC Light Curves

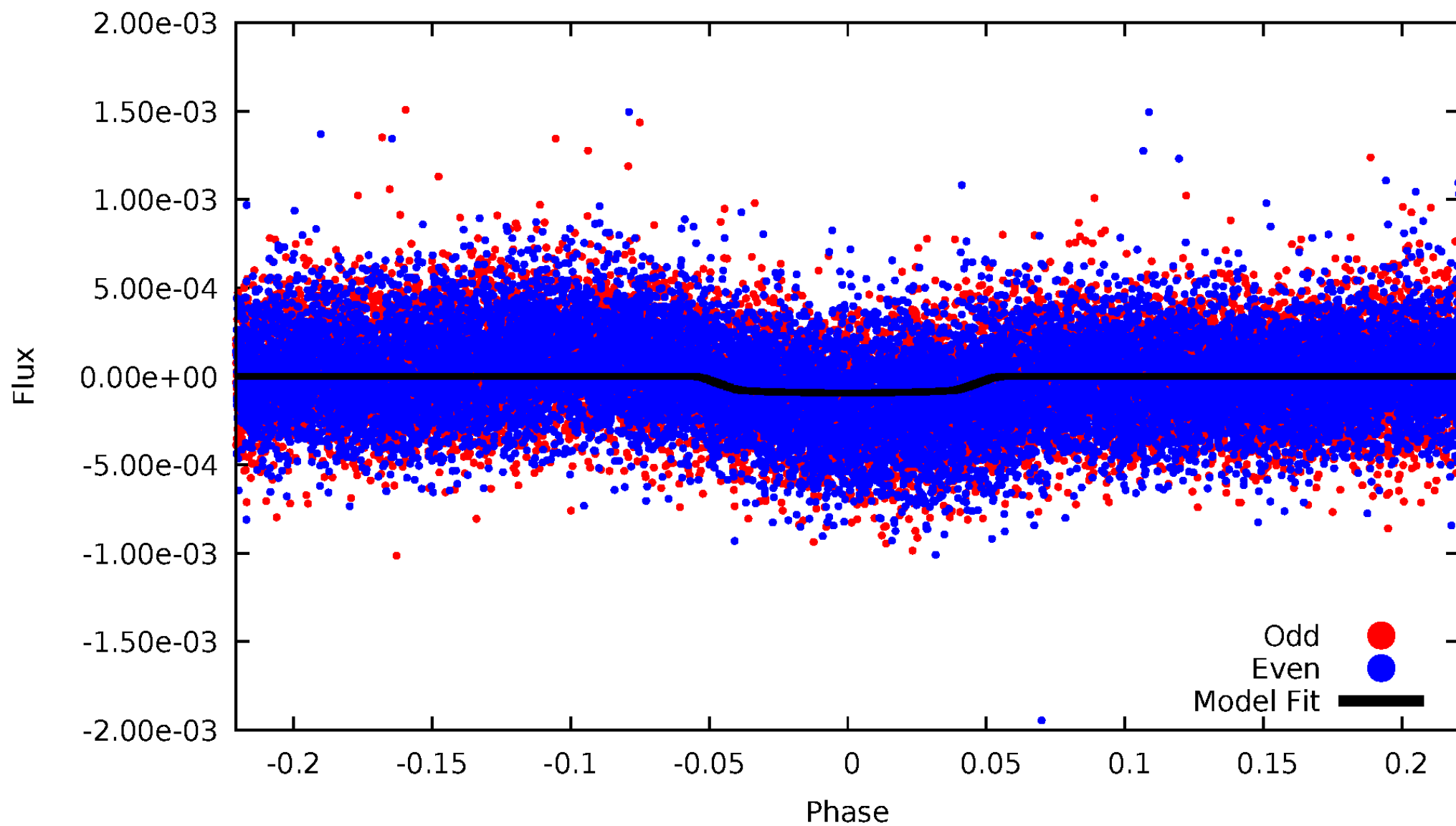


TCE 002585092-01



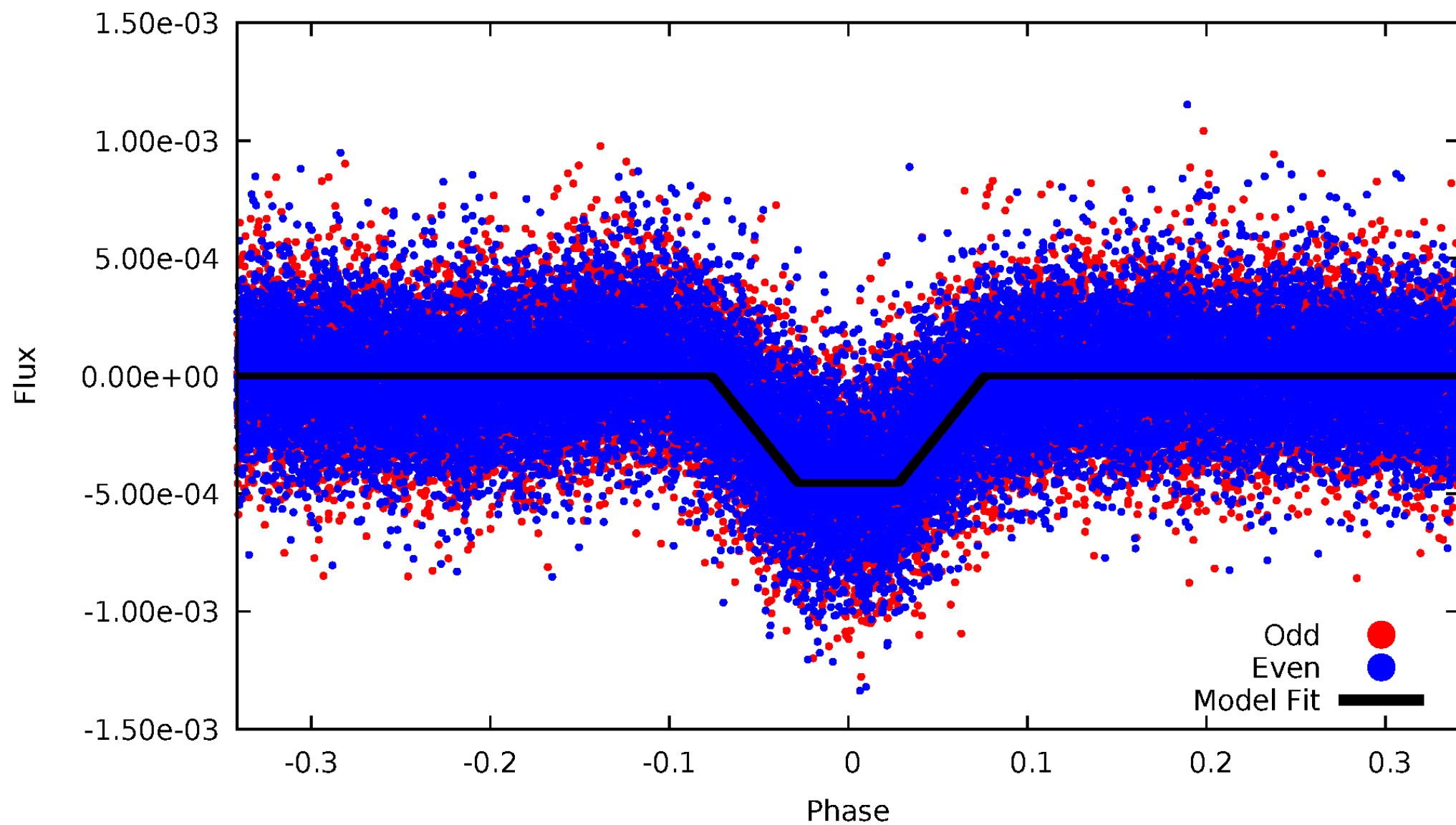
DV Odd/Even

TCE 002585092-01



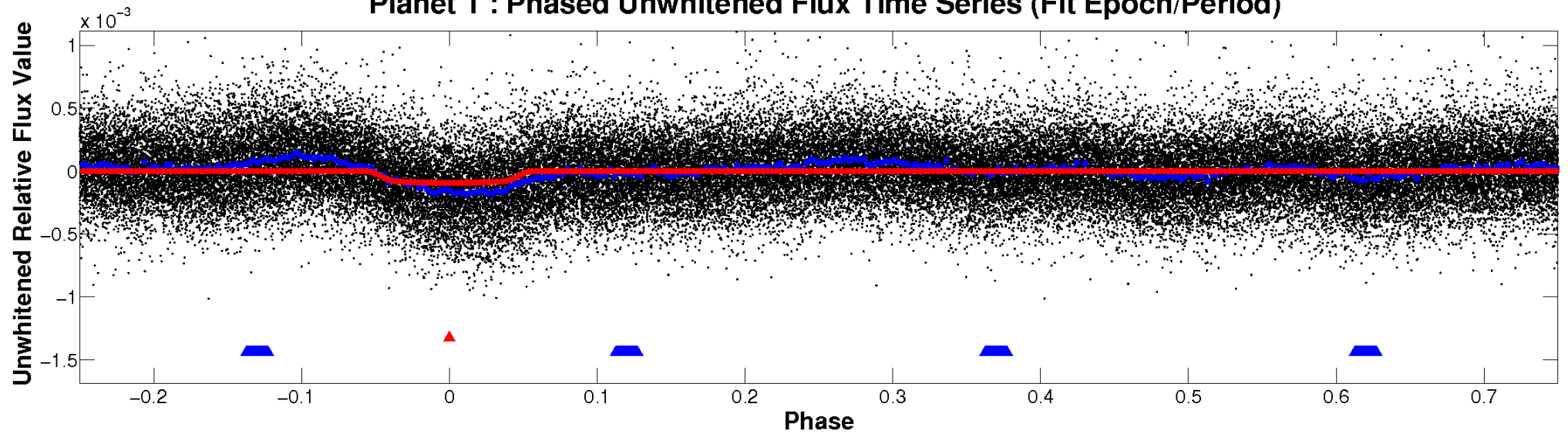
ALT Odd/Even

TCE 002585092-01

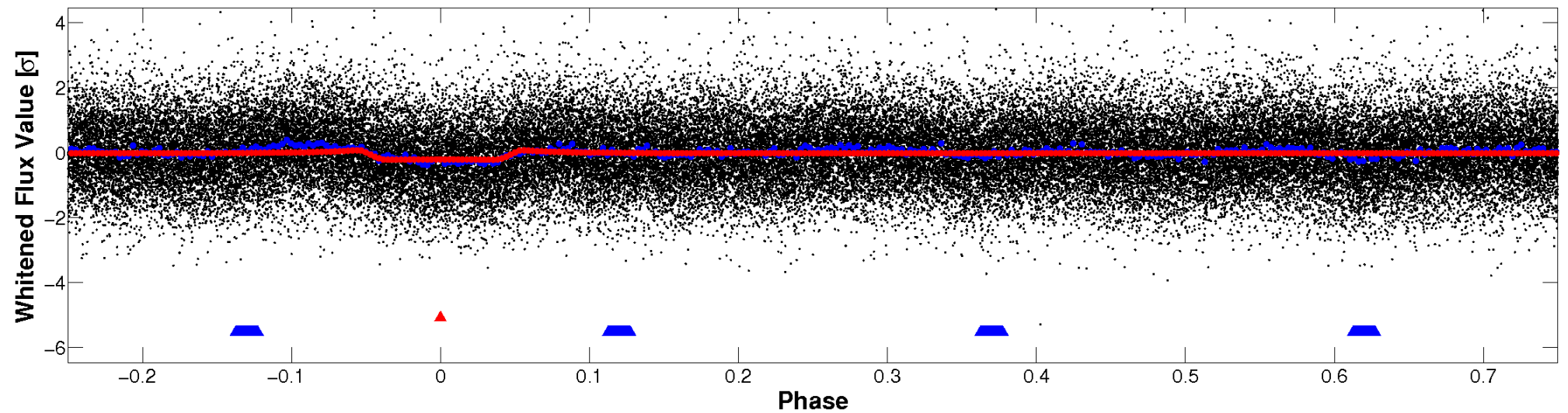


Non-Whitened Vs. Whitened Light Curve

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

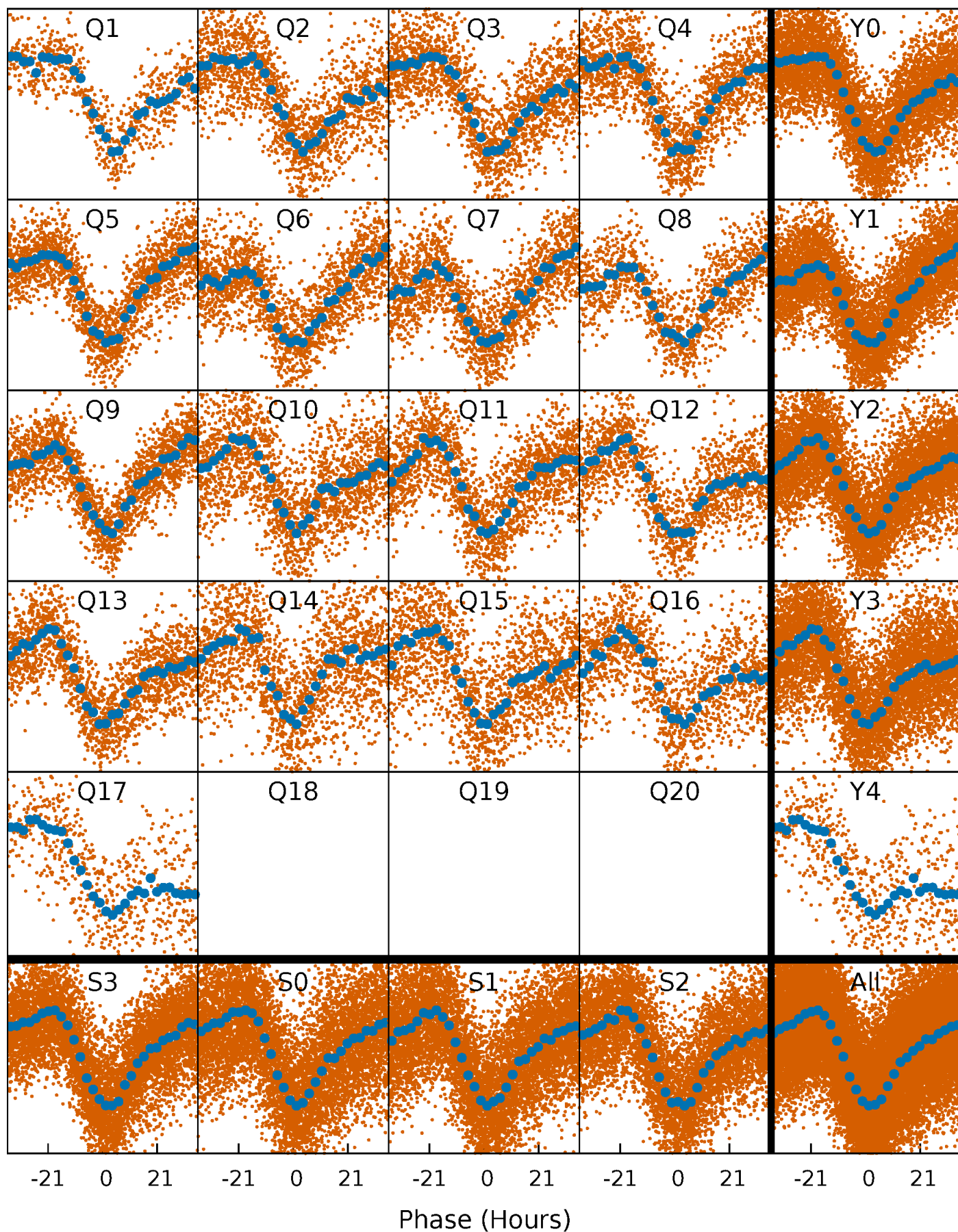


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



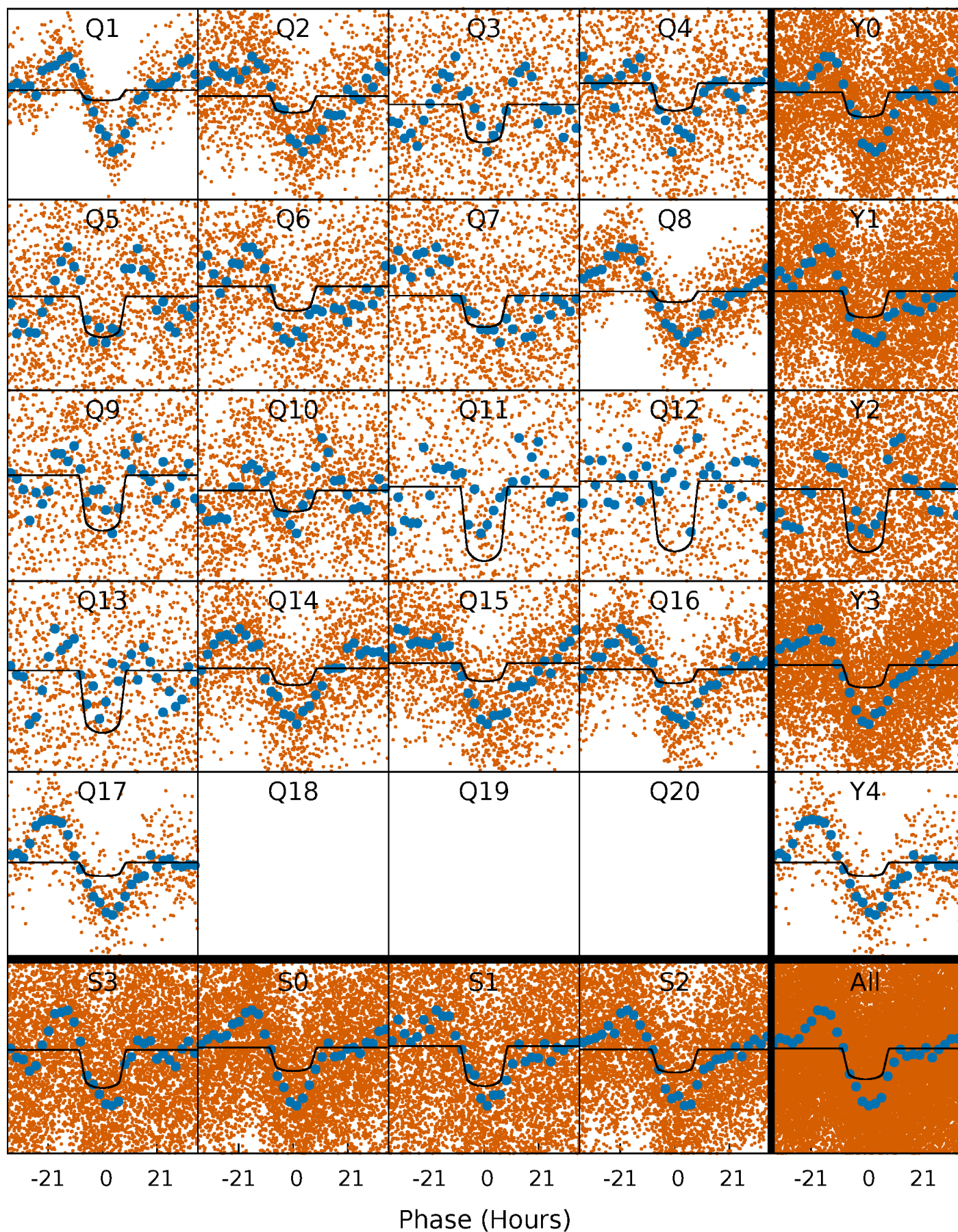
PDC Quarter-Phased Transit Curves

TCE 002585092-01 P= 6.929069 Days $T_0=132.784297$ (BKJD)



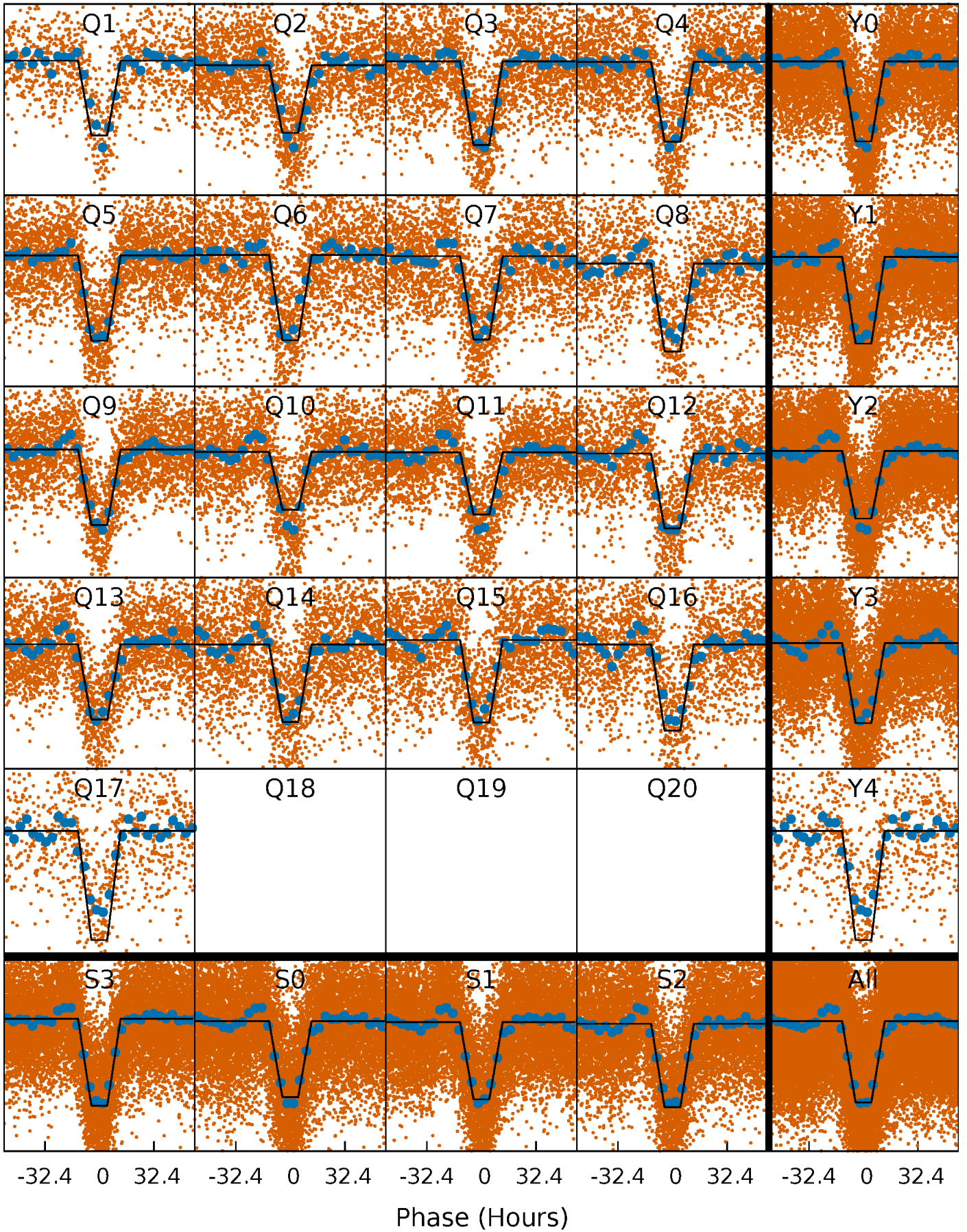
DV Quarter-Phased Transit Curves

TCE 002585092-01 P= 6.929069 Days $T_0=132.784297$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

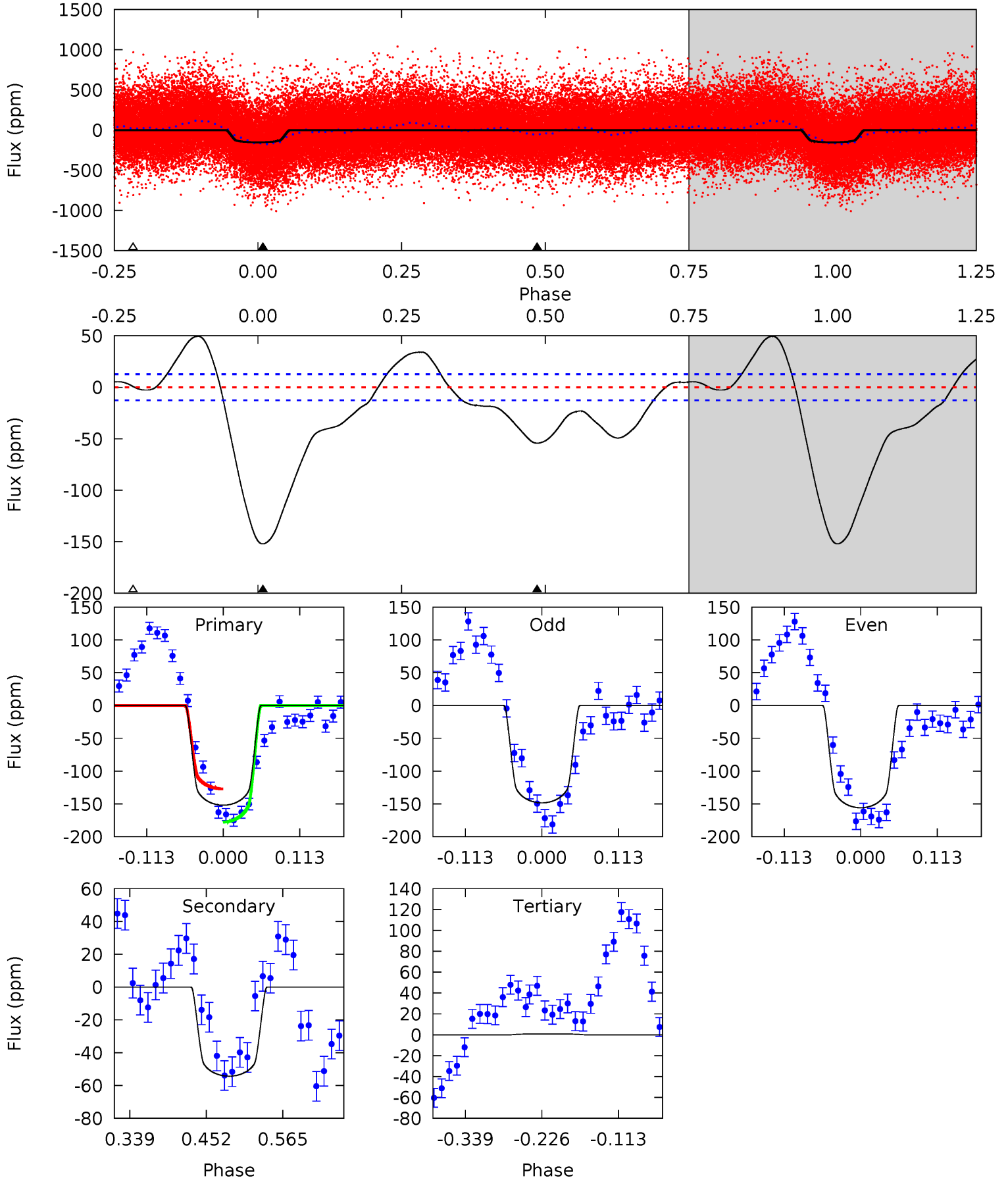
TCE 002585092-01 P= 6.928783 Days $T_0=132.852295$ (BKJD)



DV Model-Shift Uniqueness Test

002585092-01, P = 6.929069 Days, E = 125.855228 Days

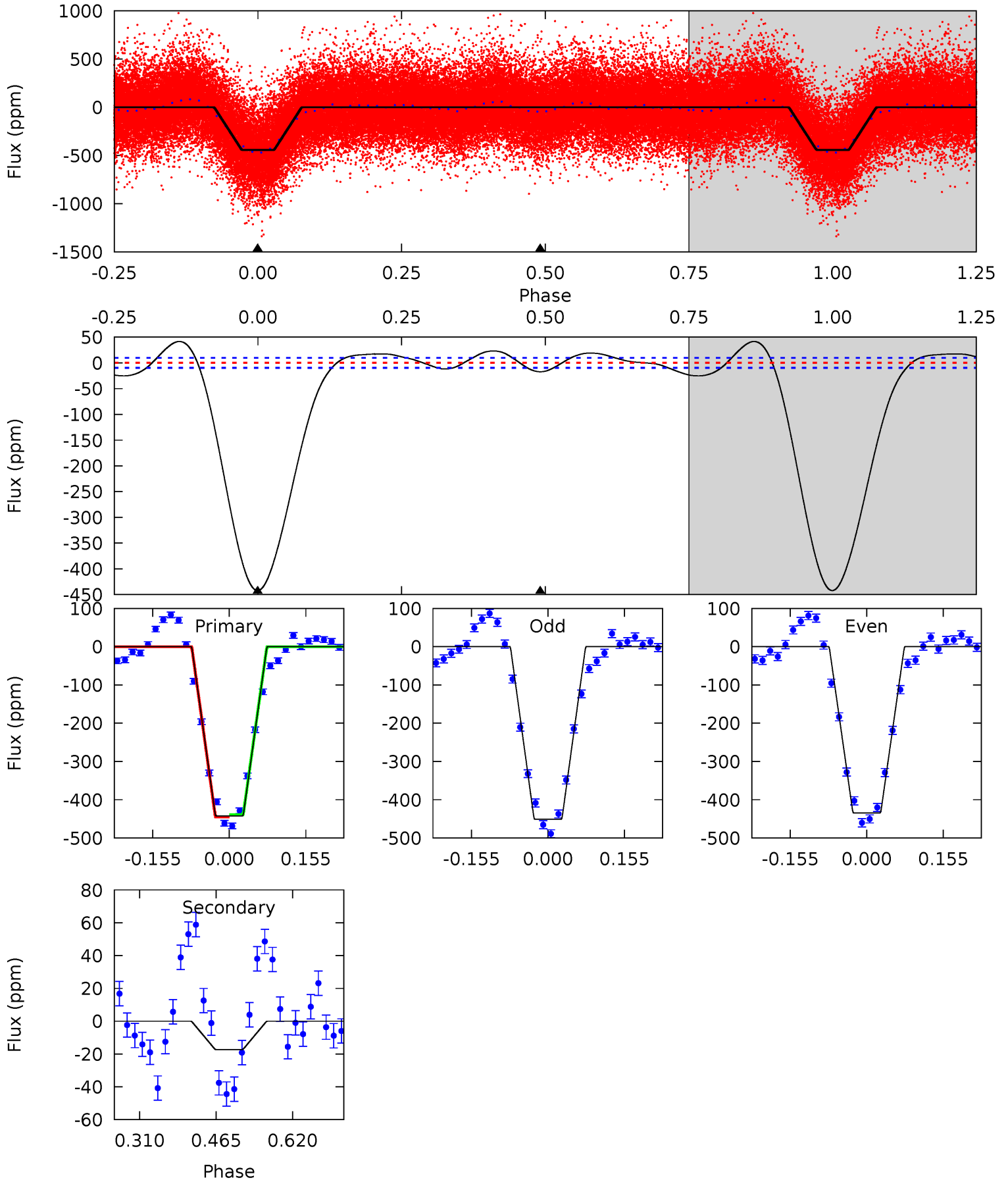
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.5	19.5	-0.27	0	4.54	1.58	9.22	54.8	54.5	19.8	19.5	1.34	1.10	0.25	9.11



Alt Model-Shift Uniqueness Test

002585092-01, P = 6.928783 Days, E = 125.923512 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
204.8	8.00	0	0	4.47	1.42	6.67	204.8	204.8	8.00	8.00	3.85	0.95	0.09	1.38



Stellar Parameters For KIC 002585092

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6714^{+165}_{-260}	$4.243^{+0.124}_{-0.202}$	$-0.200^{+0.250}_{-0.300}$	$1.400^{+0.425}_{-0.248}$	$1.259^{+0.182}_{-0.202}$	$0.646^{+0.391}_{-0.326}$
	+2%/-4%	+3%/-5%	+125%/-150%	+30%/-18%	+14%/-16%	+60%/-50%
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 002585092-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-54 ± 3	$1.74^{+0.29}_{-0.19}$	1784^{+127}_{-120}	5433^{+193}_{-193}	58^{+15}_{-15}
Alt.	-17 ± 2	$3.29^{+0.60}_{-0.34}$	1772^{+140}_{-107}	3414^{+90}_{-101}	$5.111^{+1.348}_{-1.382}$

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 $A_{obs} \gg 1.0$

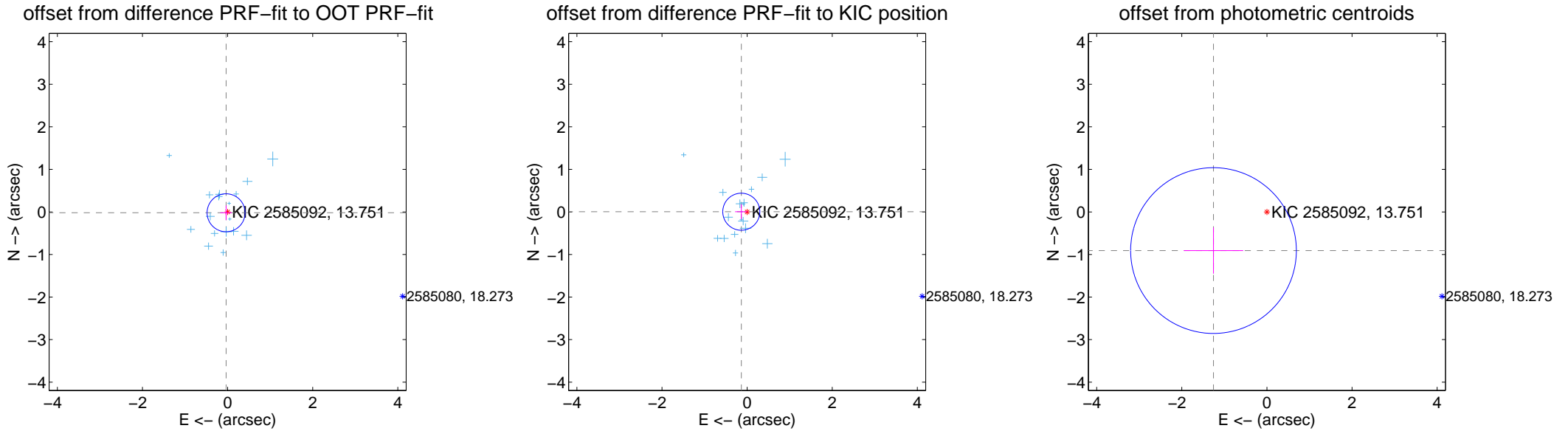
DV Centroid Data

Supplemental centroid analysis for 002585092-01. Kepler magnitude: 13.75. Transit SNR 16.10

There are 17 quarters with good PRF difference image offsets

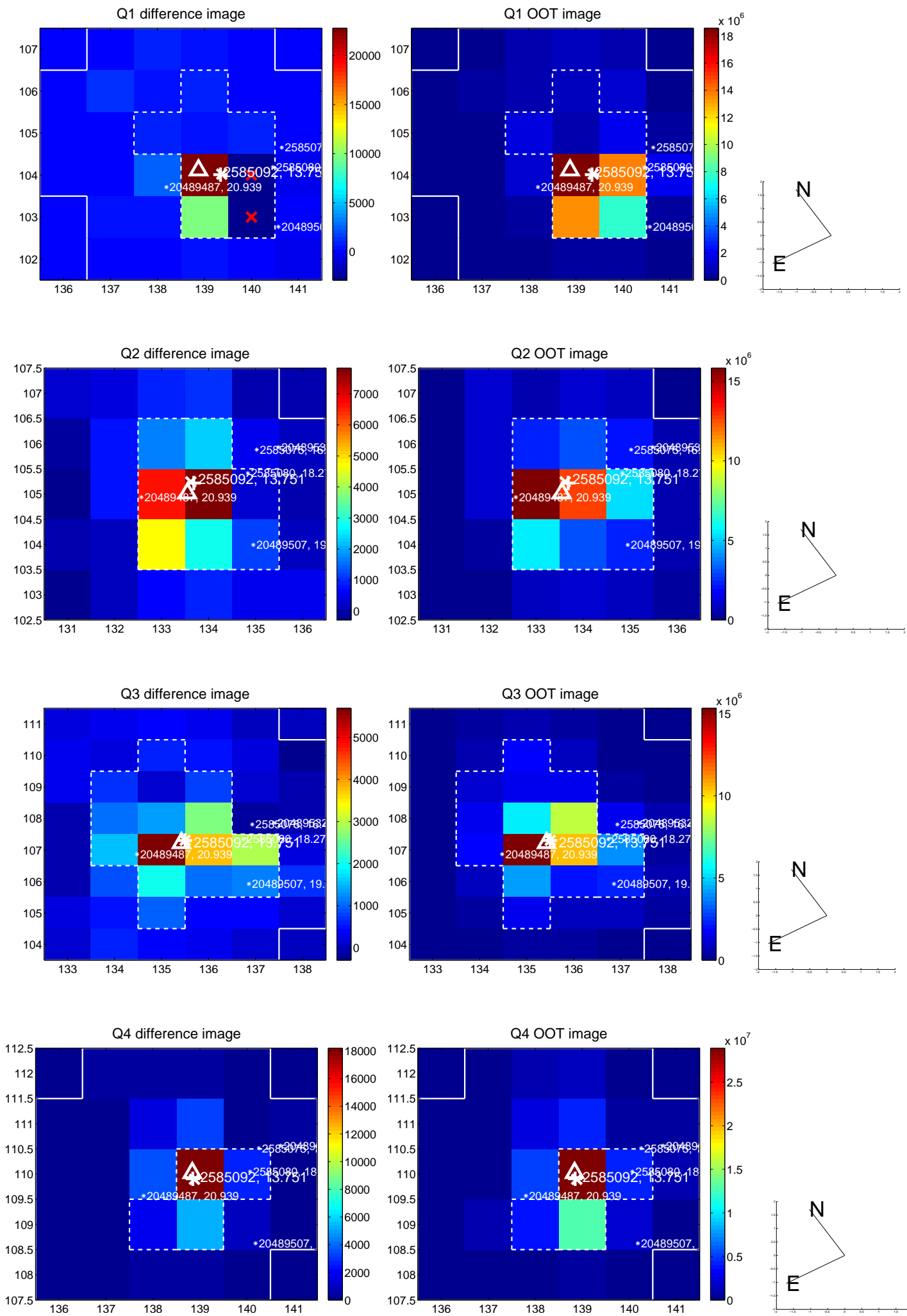
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.041 ± 0.149	0.27	0.036 ± 0.138	-0.020 ± 0.171
PRF-fit source offset from KIC position	0.137 ± 0.145	0.94	0.137 ± 0.145	0.005 ± 0.173
photometric centroid source offset	1.55 ± 0.65	2.39	1.26 ± 0.70	-0.91 ± 0.54

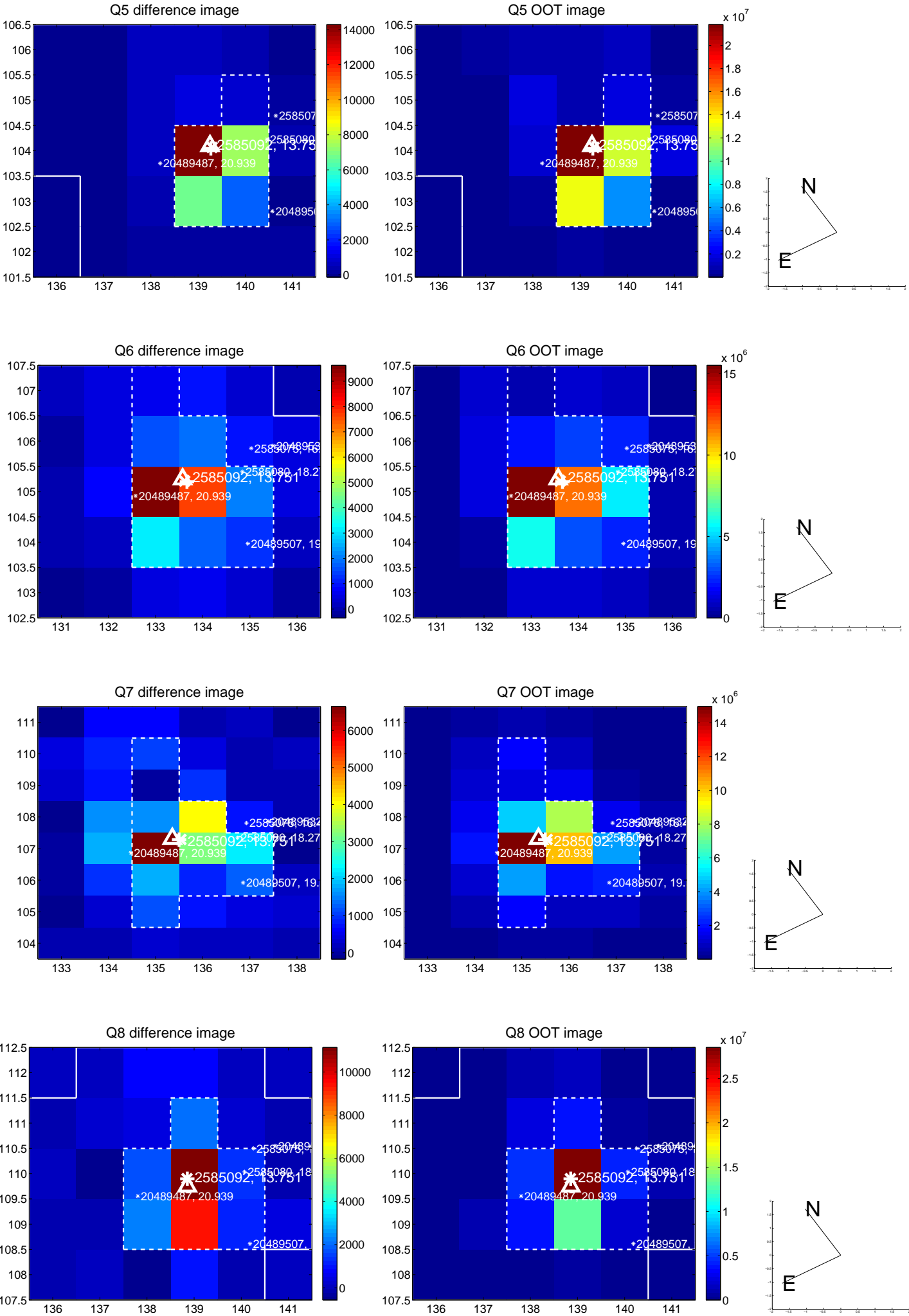


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

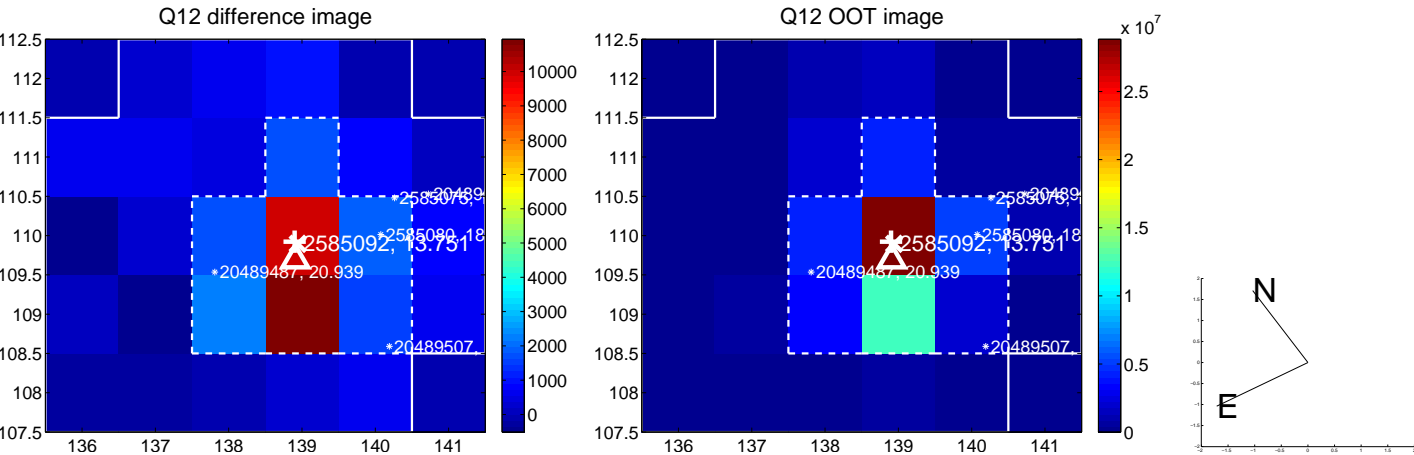
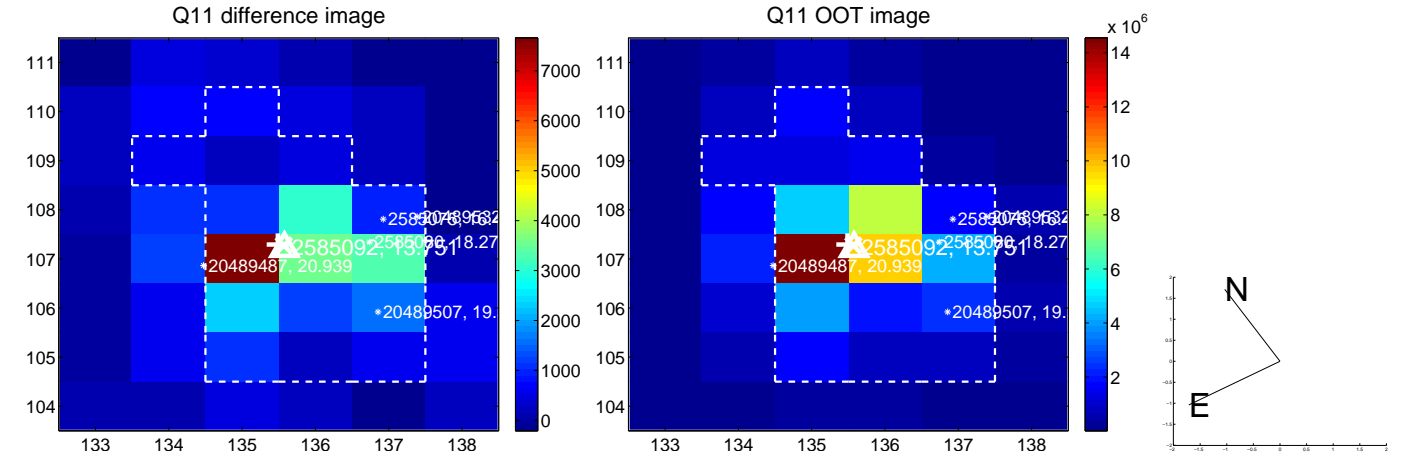
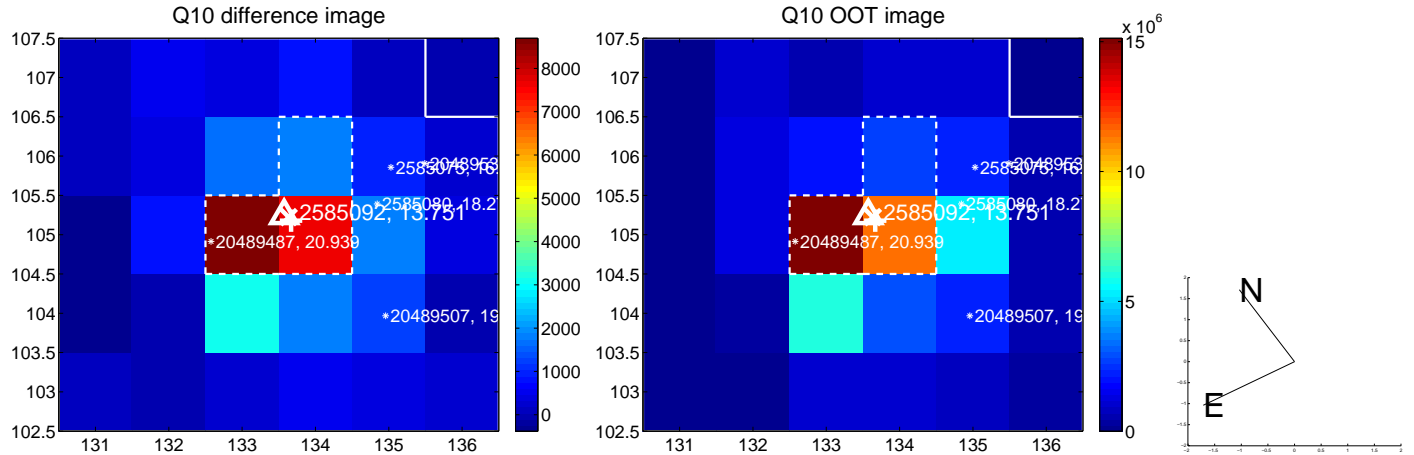
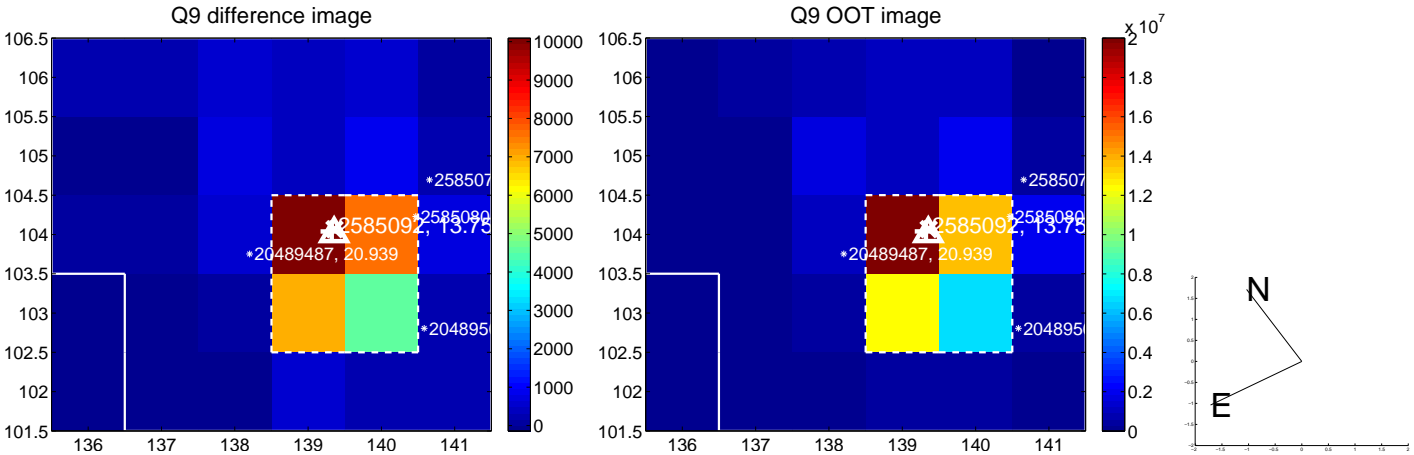
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



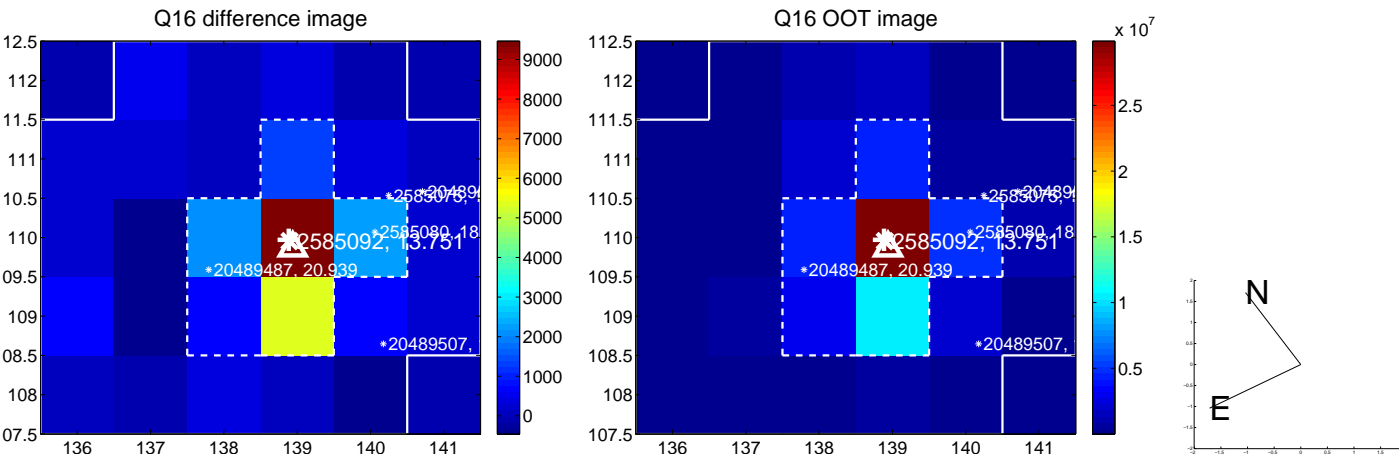
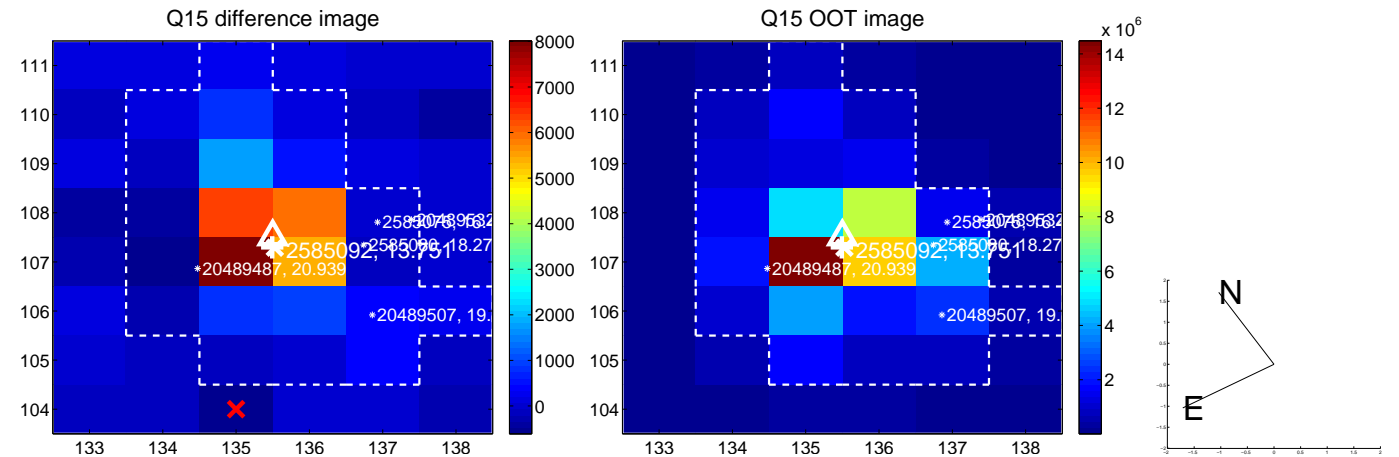
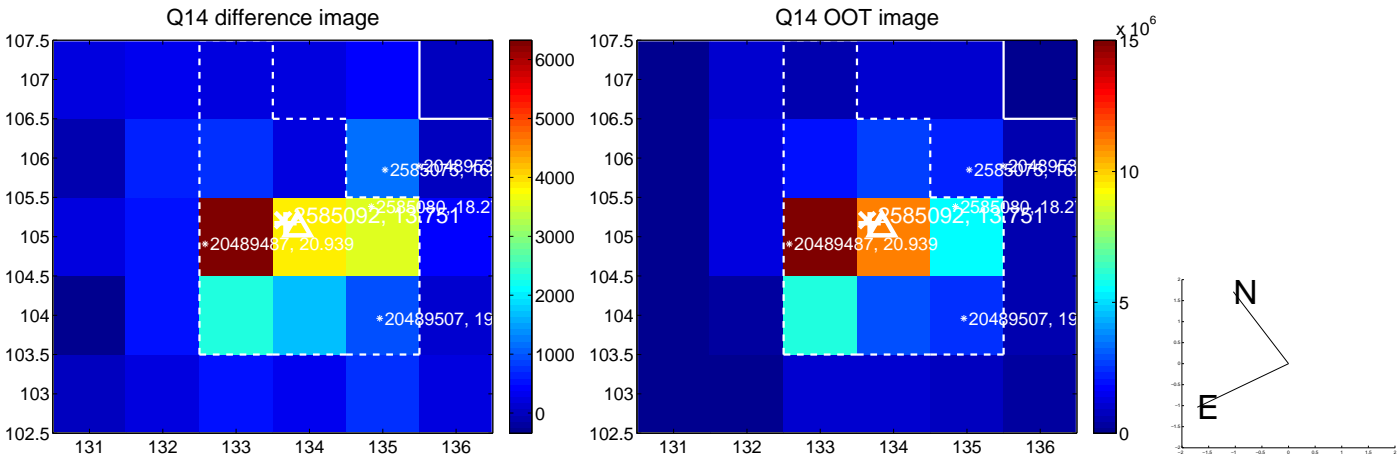
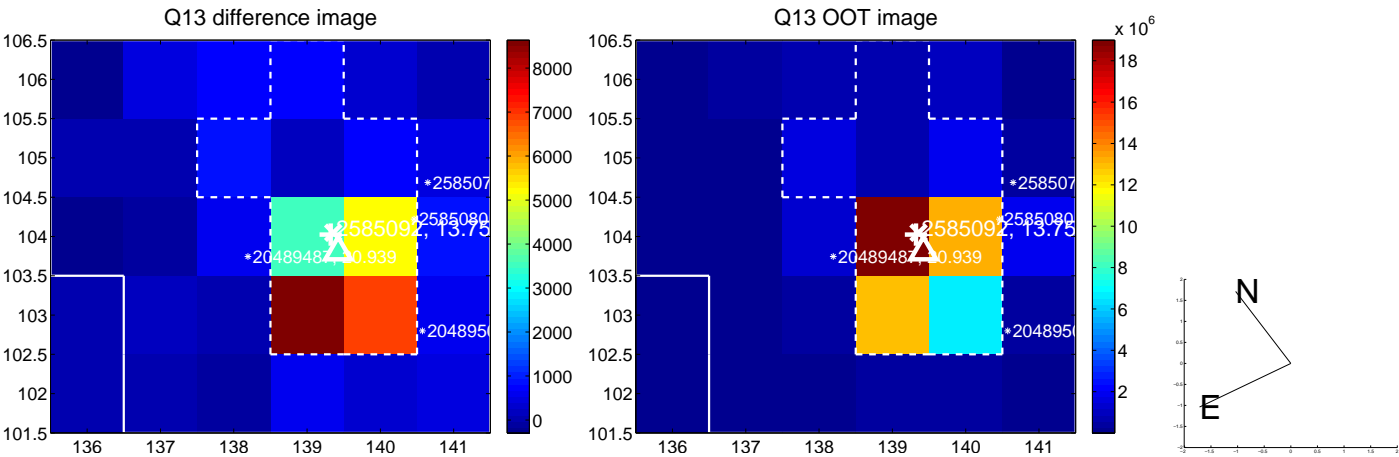
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



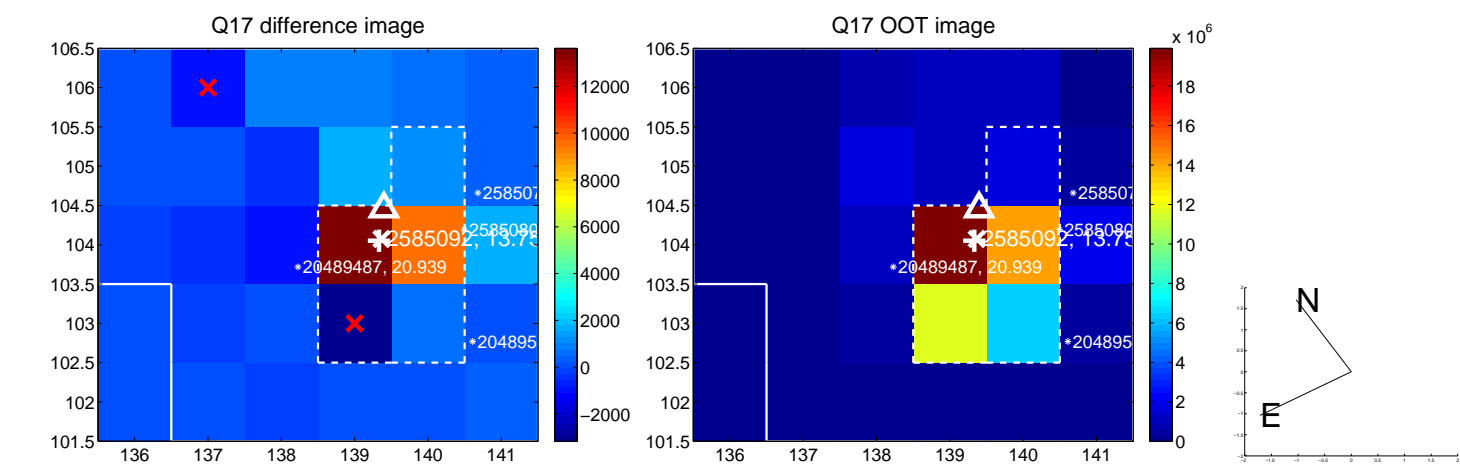
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



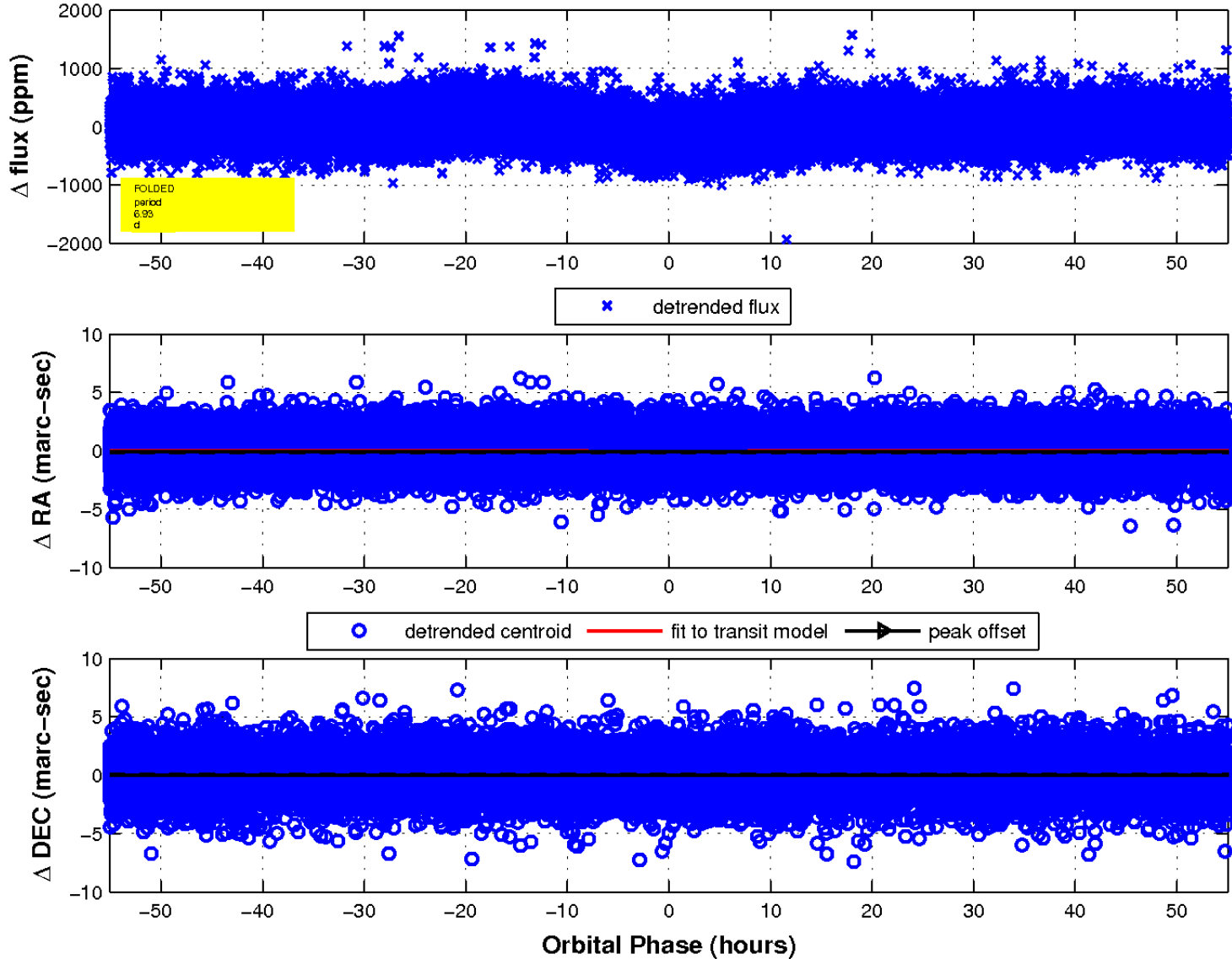
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

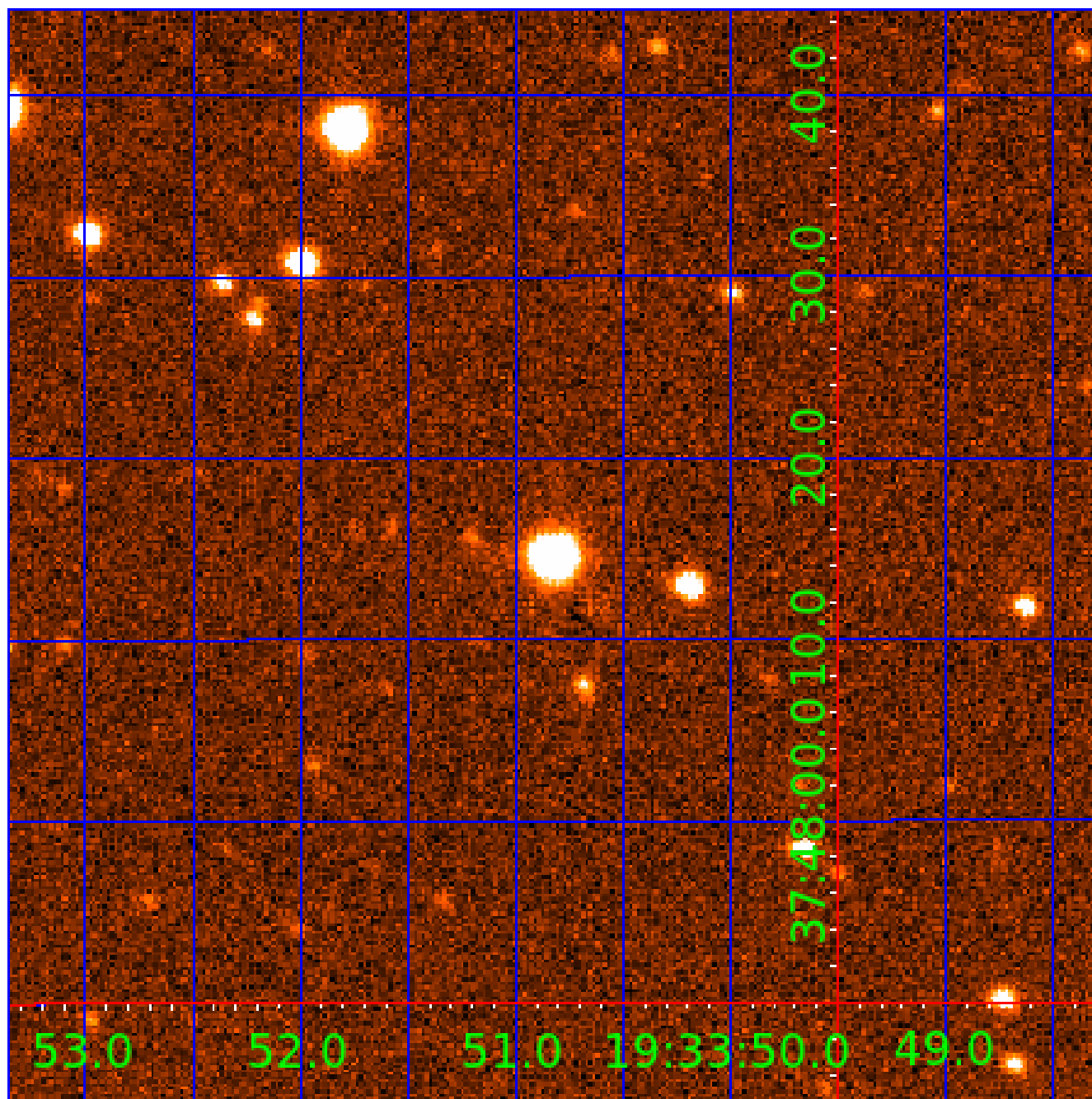


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 002585092

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})
002585092-01	OBS	No	6.929069	132.784297	92.8	18.353	16.6	16.1	1.40	6714	1.71	607.21
002585092-02	OBS	No	1.732143	131.935416	52.2	17.125	9.0	11.3	1.40	6714	1.44	3855.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002585092-01	OBS	FP	0.00	1	0	0	0	LPP_DV
002585092-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

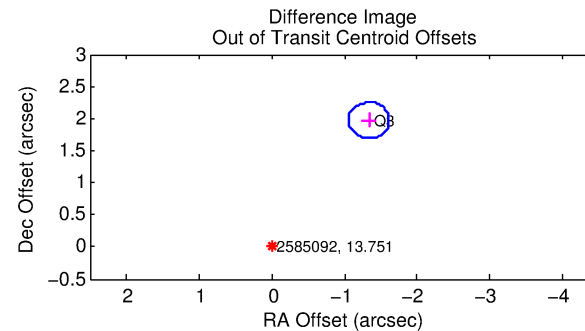
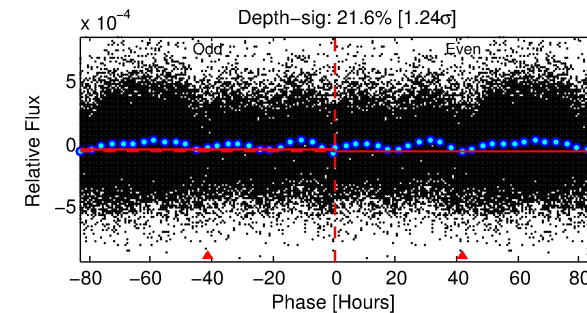
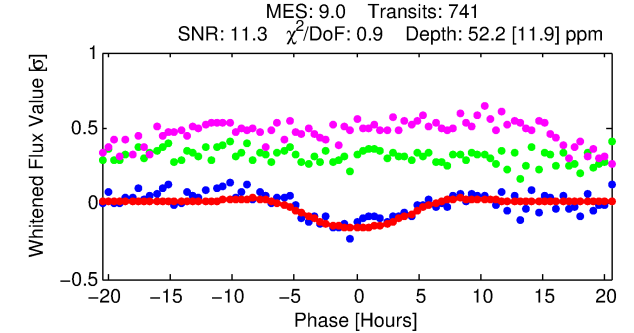
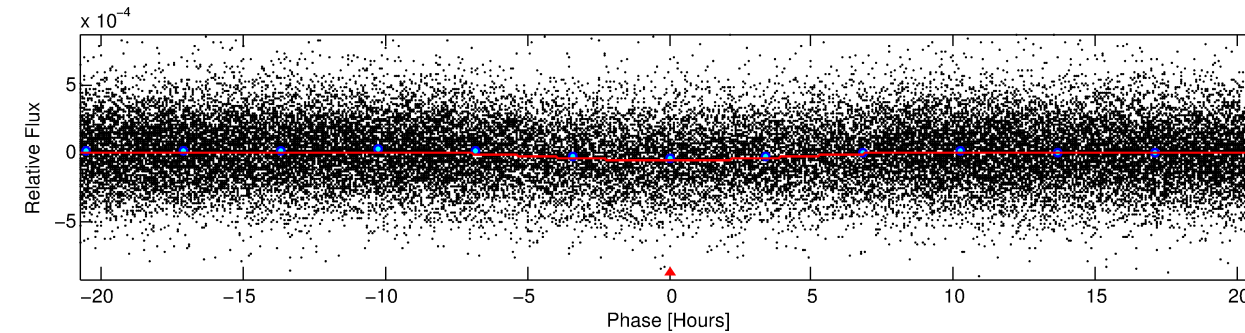
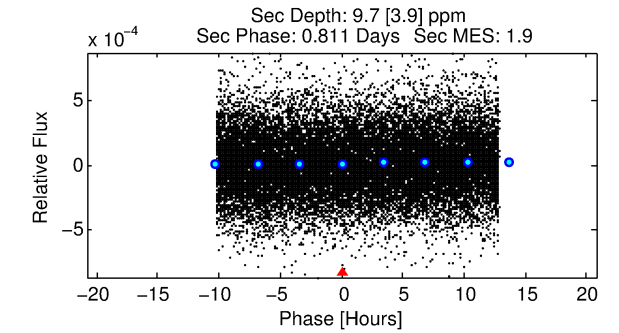
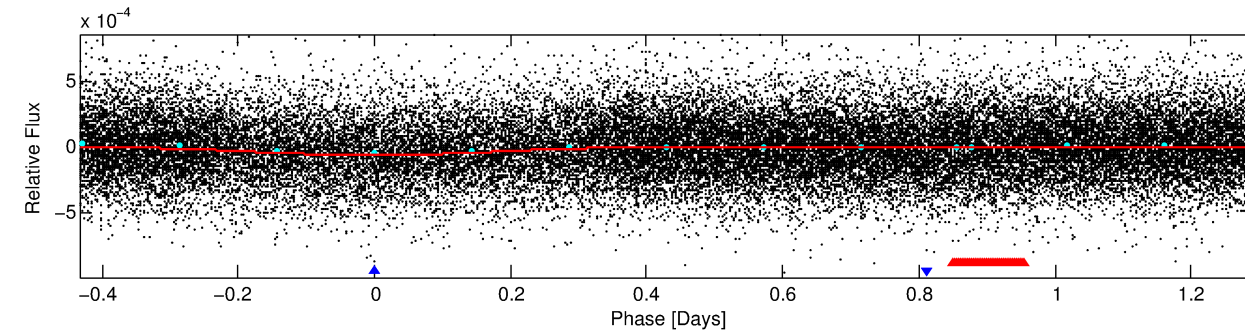
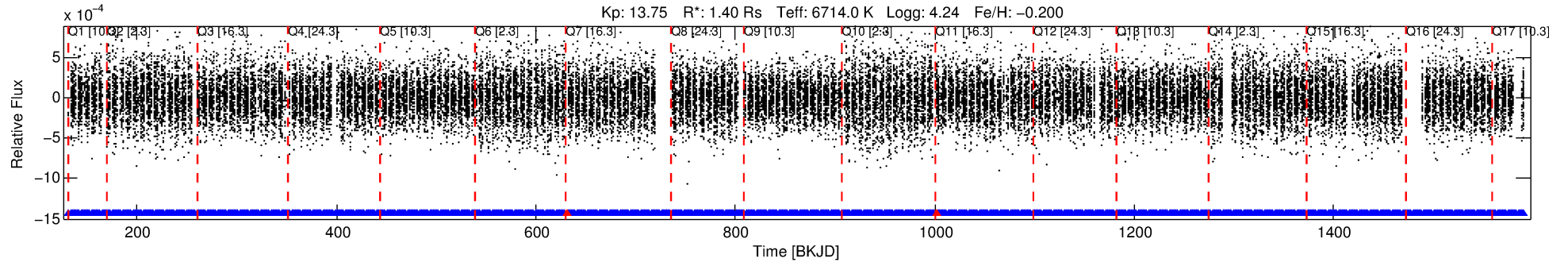
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002585092-02

No Significant Match Found

DV One-Page Summary

KIC: 2585092 Candidate: 2 of 2 Period: 1.732 d



DV Fit Results:

Period = 1.73214 [0.00006] d
Epoch = 131.9354 [0.0275] BKJD
Rp/R* = 0.0094 [0.0016]
a/R* = 1.01 [0.00]
b = 0.99 [0.01]
Seff = 3855.91 [1547.67]
Teq = 2009 [202] K
Rp = 1.44 [0.50] Re
a = 0.0304 [0.0078] AU
Ag = 2.39 [1.53] [0.91σ]
Teffp = 3863 [528] K [3.28σ]

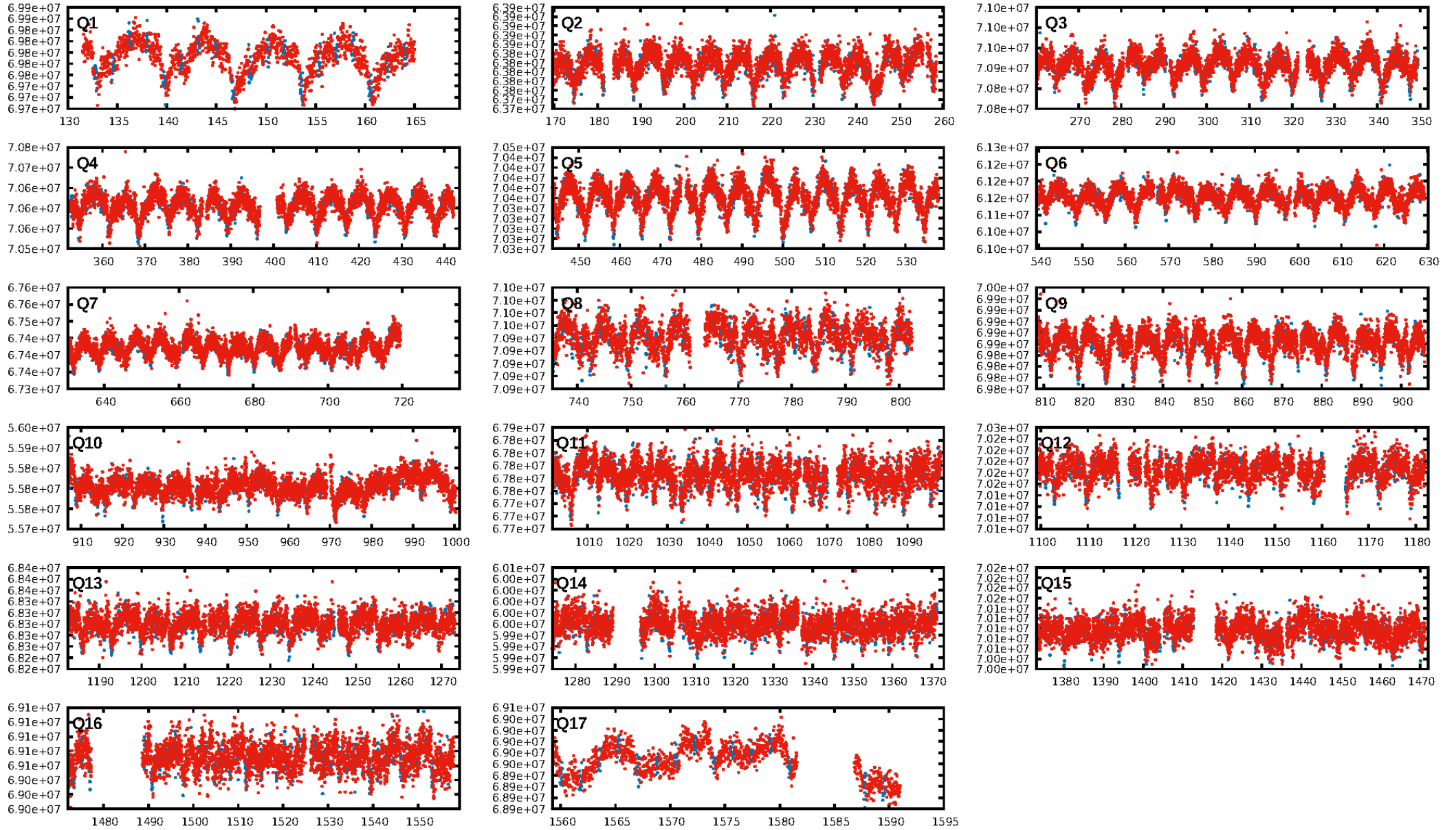
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [4.97σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [709/711]
GhostDiagnostic-chr: 0.8546
Centroid-sig: 55.4%
Centroid-so: 0.850 arcsec [1.28σ]
OotOffset-rm: 2.384 arcsec [25.58σ]
KicOffset-rm: 2.350 arcsec [25.21σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [17/17]

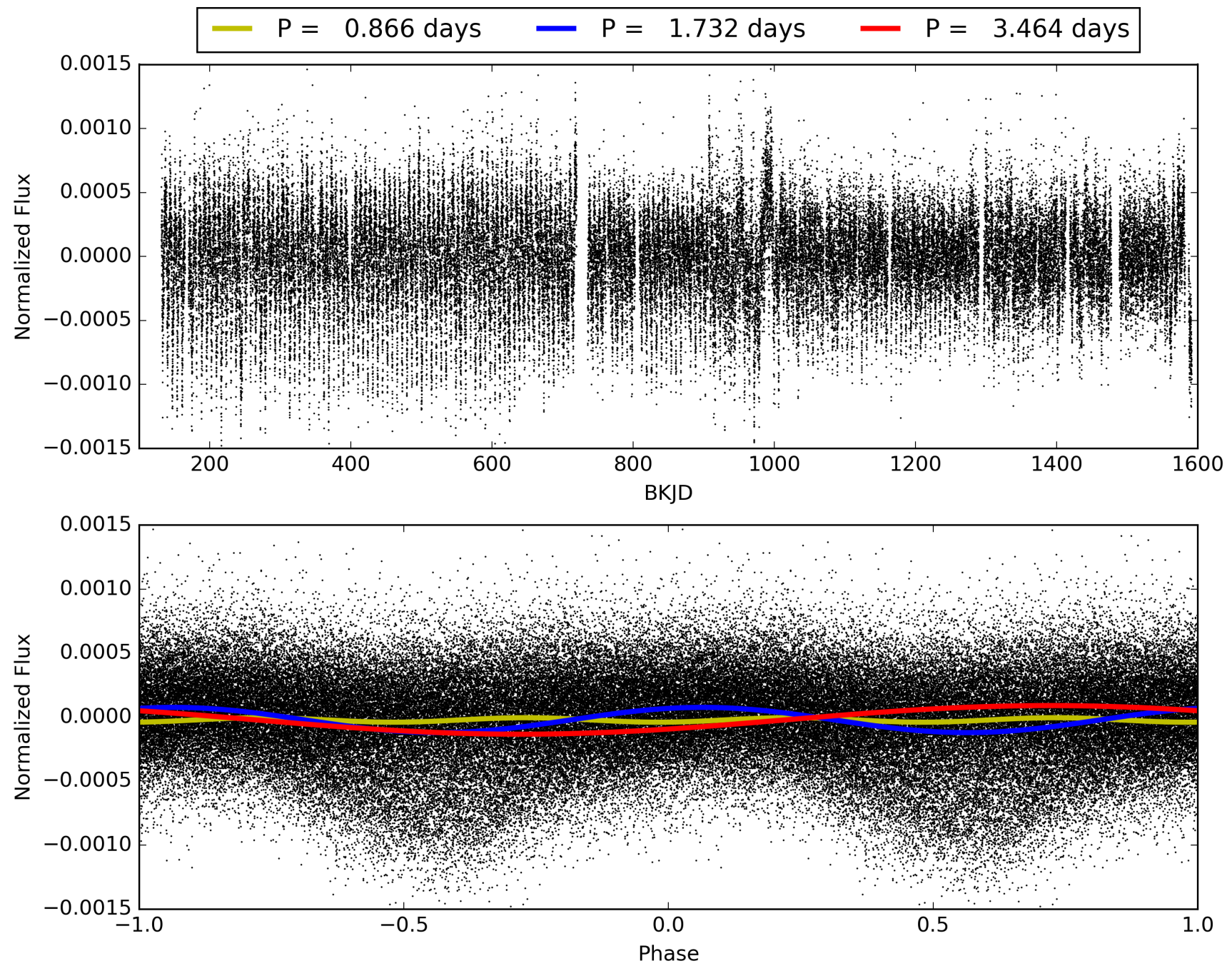
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 002585092-02, PDC Light Curves

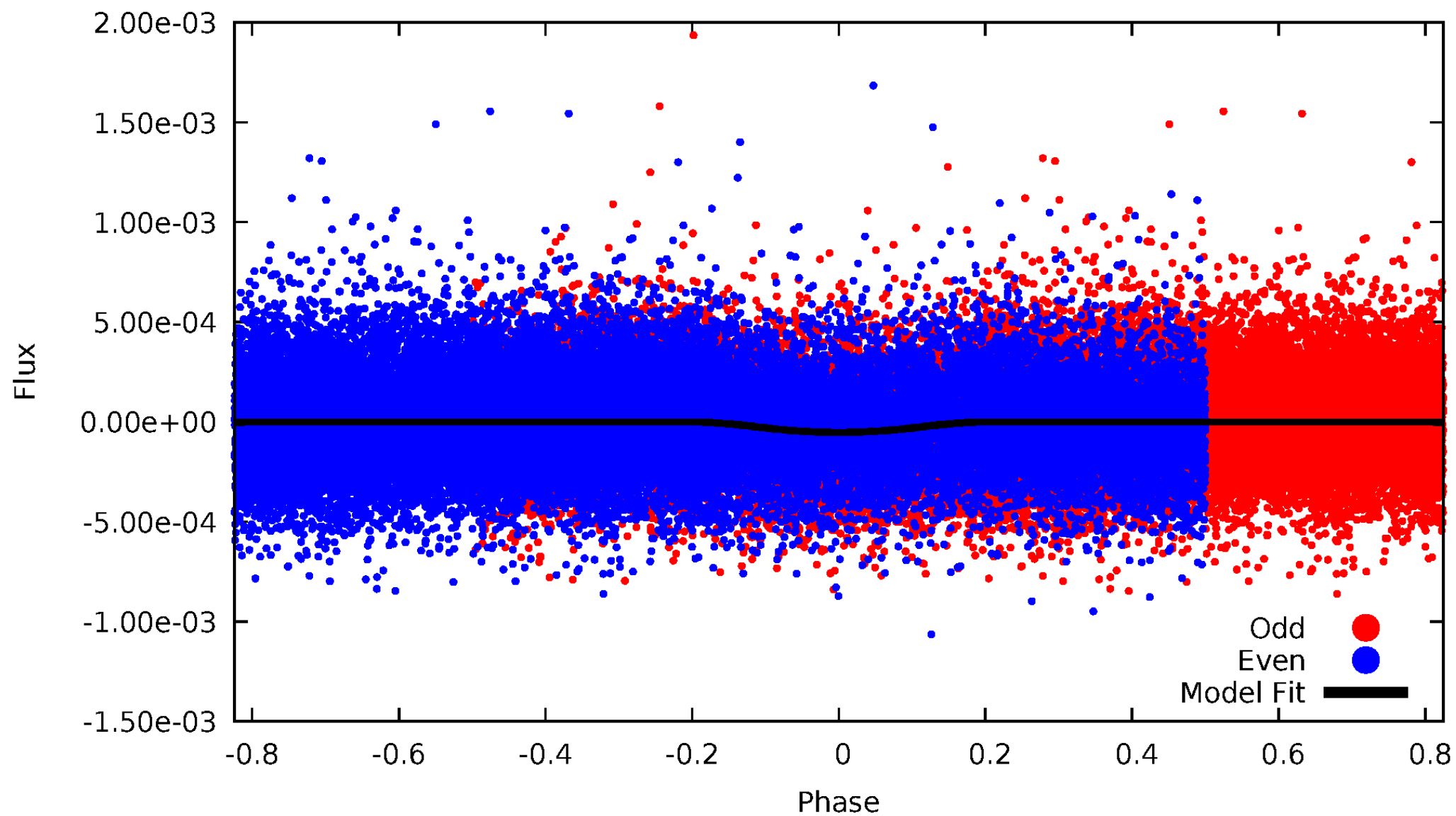


TCE 002585092-02



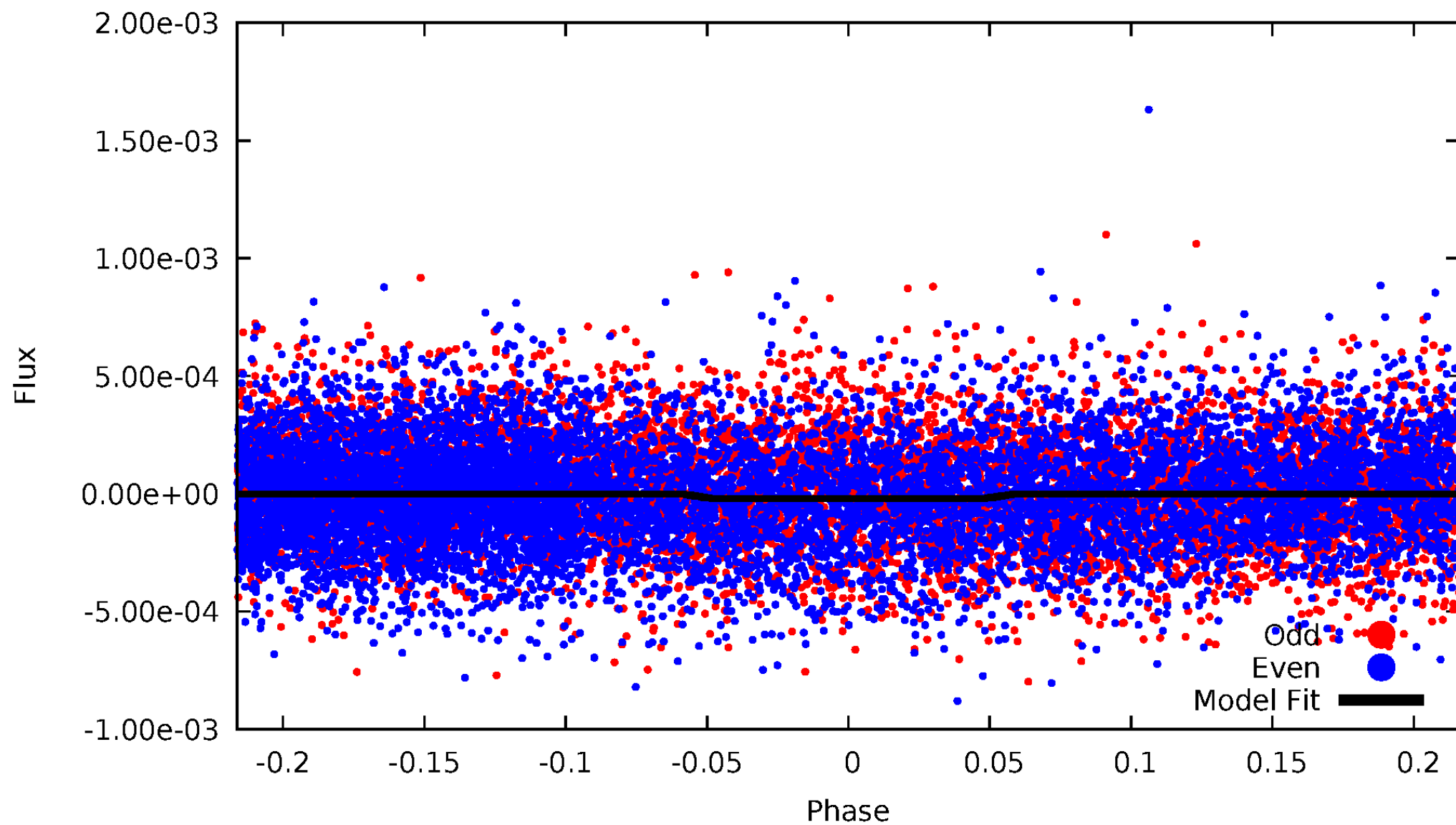
DV Odd/Even

TCE 002585092-02



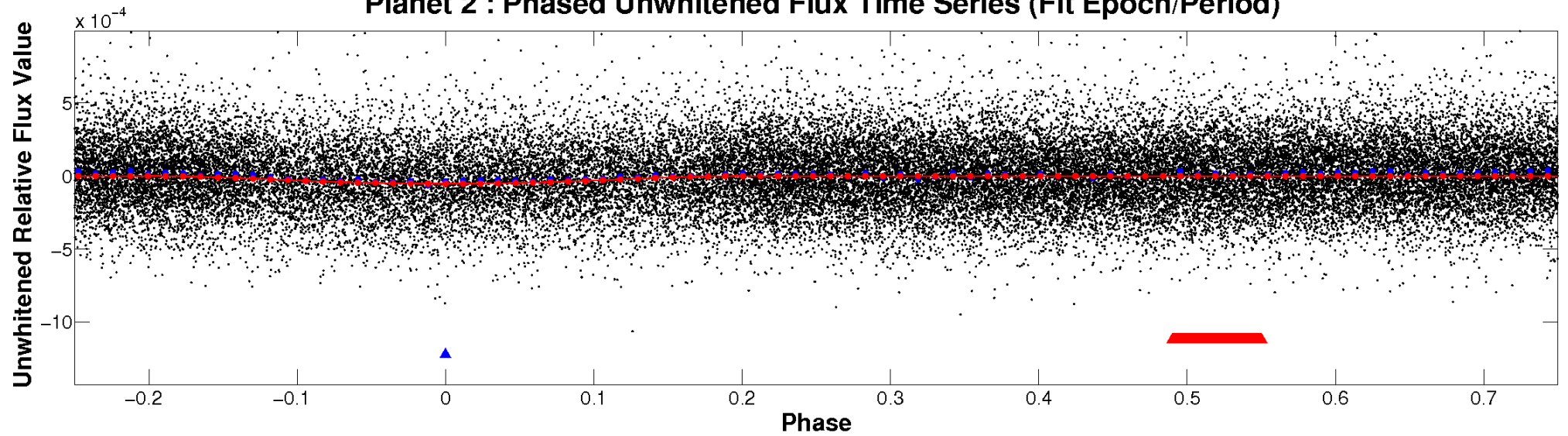
ALT Odd/Even

TCE 002585092-02

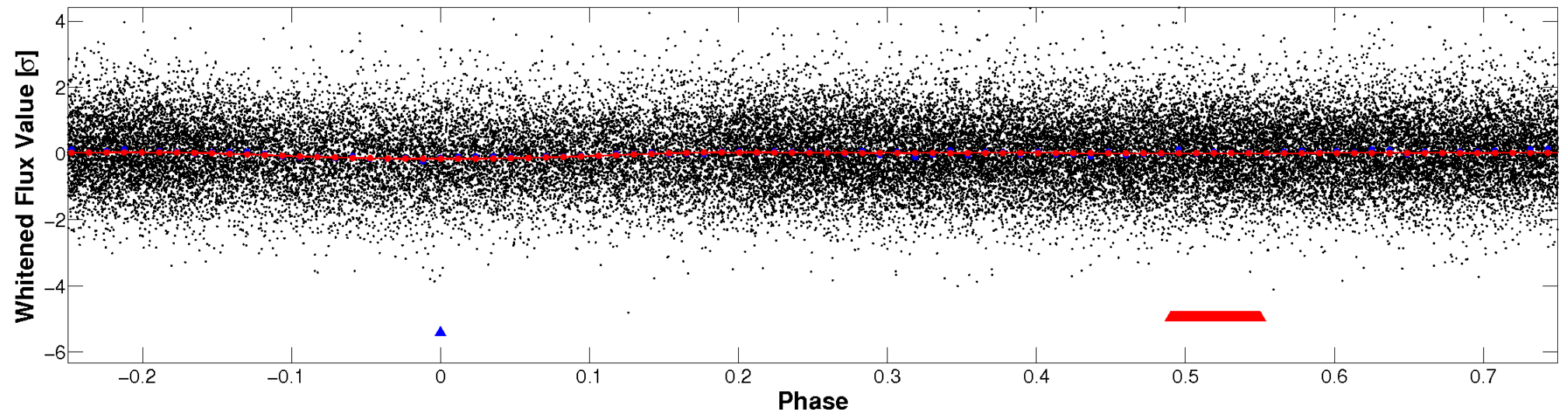


Non-Whitened Vs. Whitened Light Curve

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

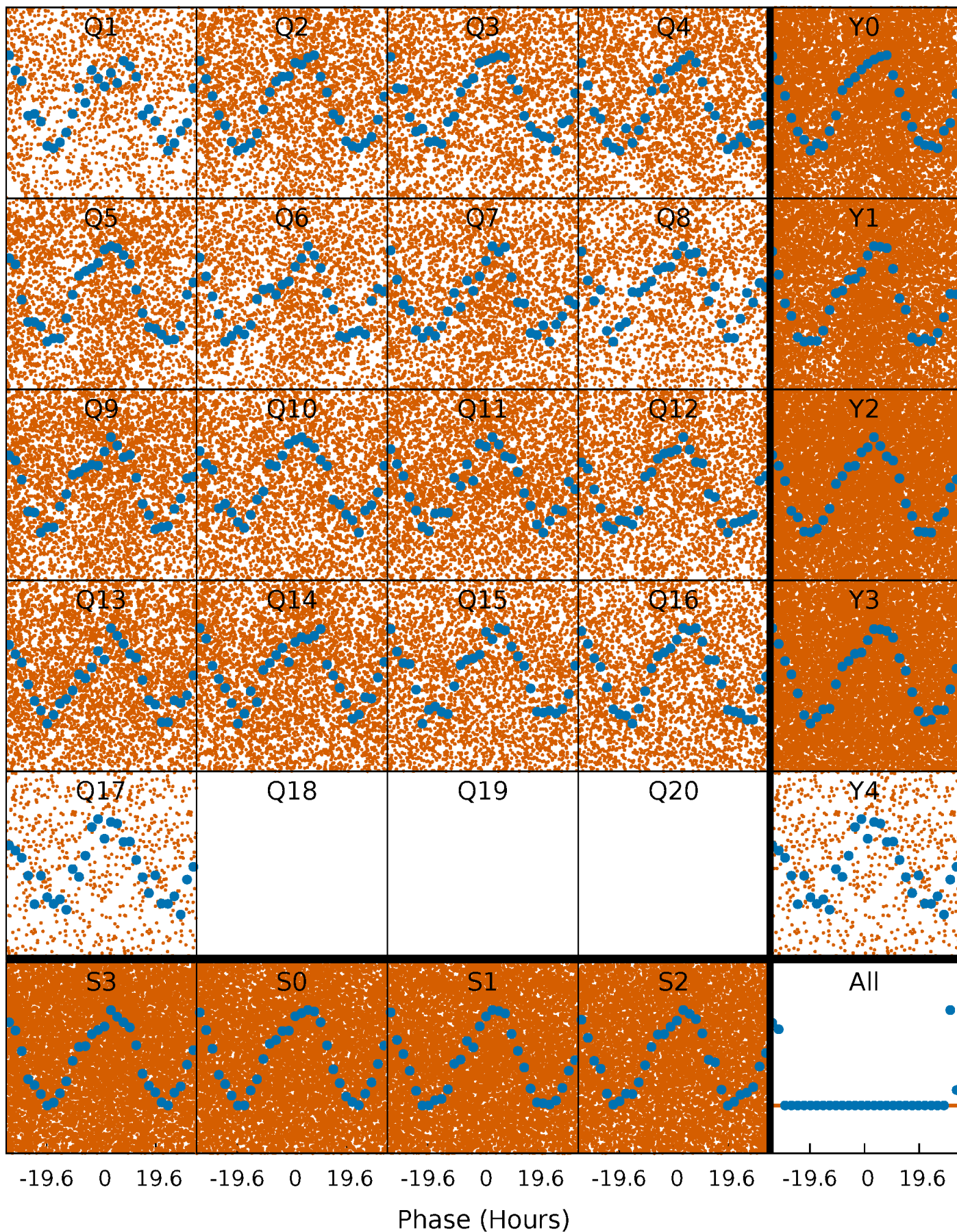


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



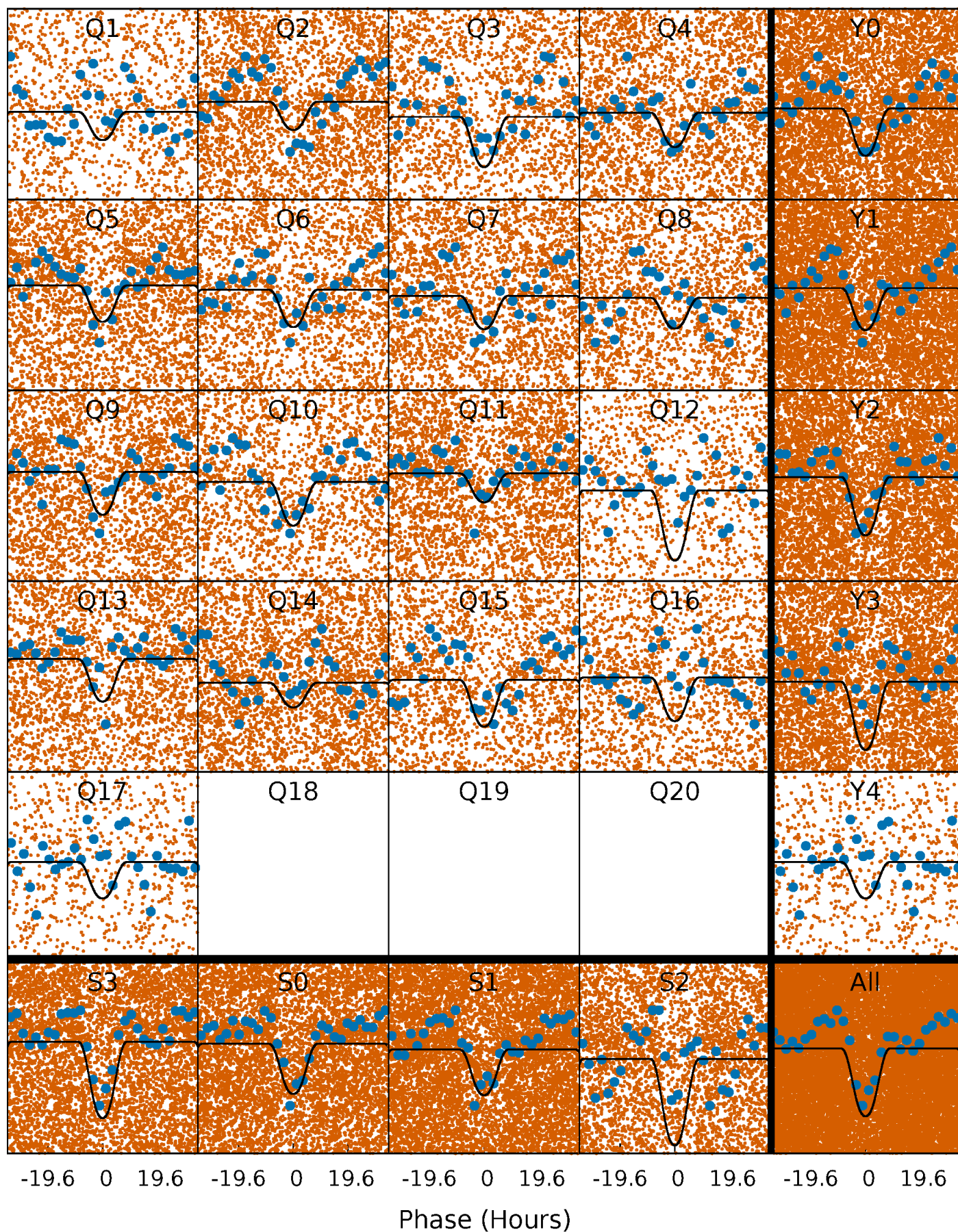
PDC Quarter-Phased Transit Curves

TCE 002585092-02 P= 1.732143 Days $T_0=131.935416$ (BKJD)



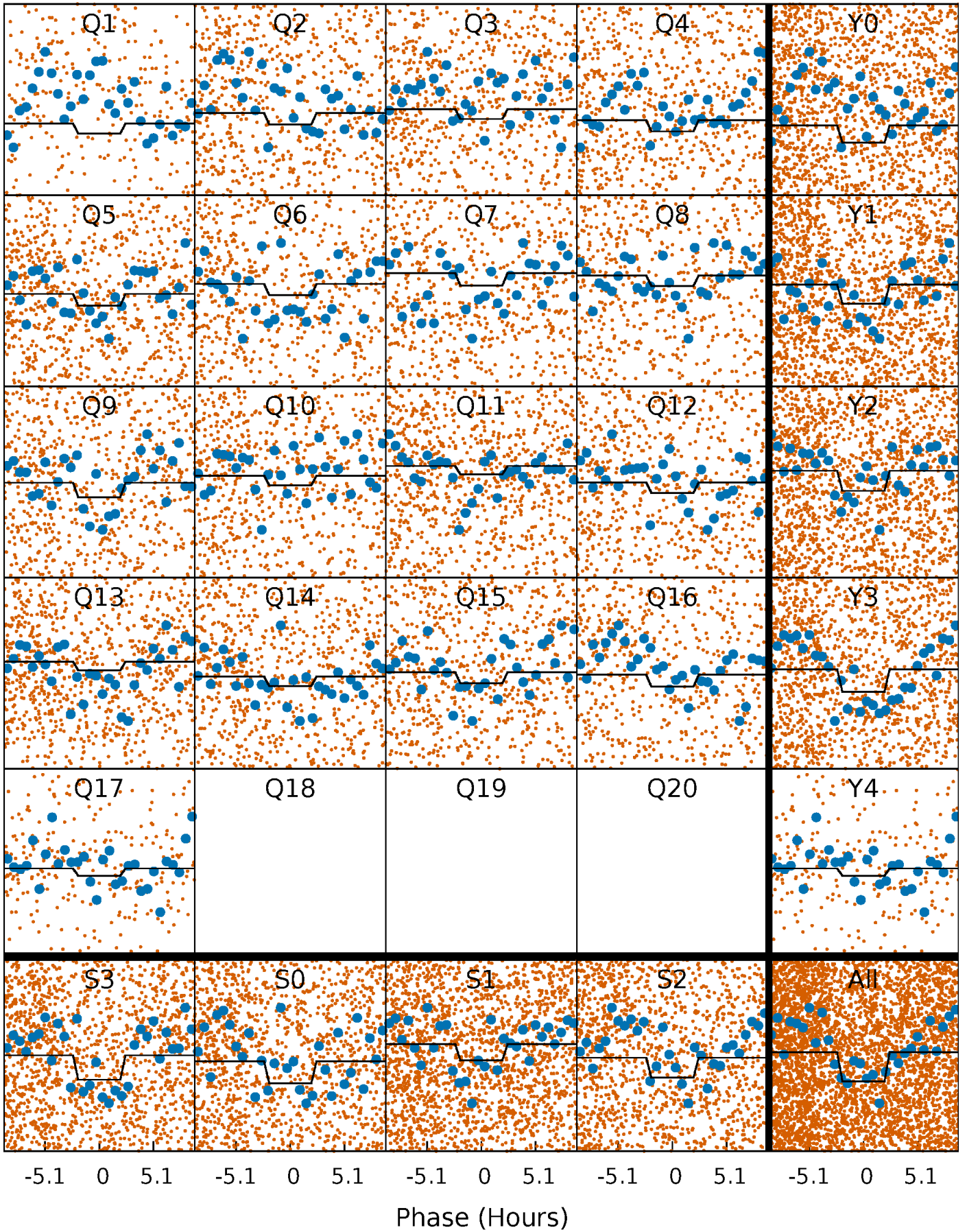
DV Quarter-Phased Transit Curves

TCE 002585092-02 P= 1.732143 Days $T_0=131.935416$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

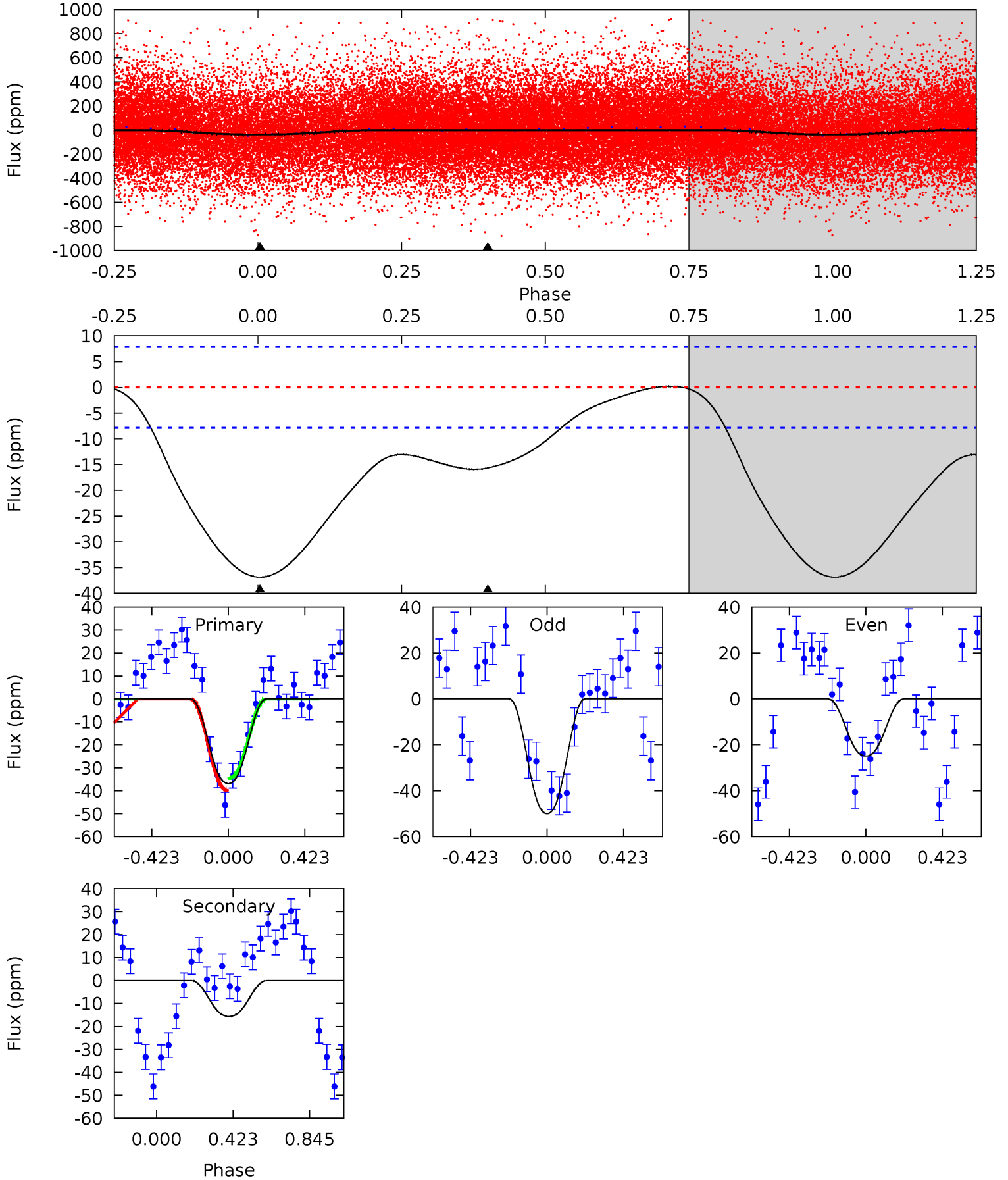
TCE 002585092-02 P= 1.732236 Days $T_0=131.809492$ (BKJD)



DV Model-Shift Uniqueness Test

002585092-02, P = 1.732143 Days, E = 130.203273 Days

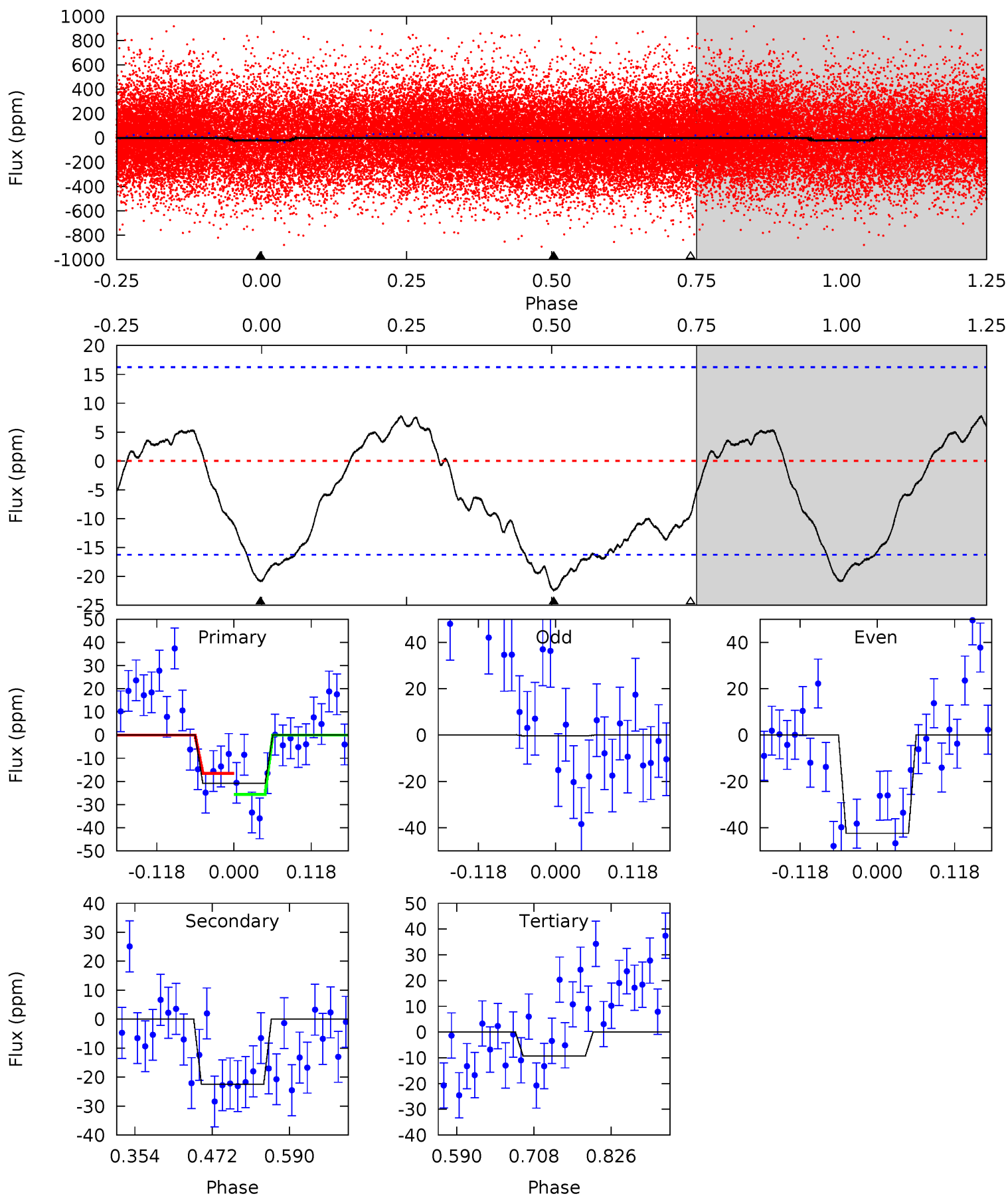
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	8.47	0	0	4.25	0.80	0.16	20.0	20.0	8.47	8.47	6.62	3.86	0.01	1.45



Alt Model-Shift Uniqueness Test

002585092-02, P = 1.732236 Days, E = 130.077256 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.80	6.26	2.60	0	4.53	1.56	1.90	3.20	5.80	3.66	6.26	5.85	0.83	0.26	1.26



Stellar Parameters For KIC 002585092

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6714^{+165}_{-260}	$4.243^{+0.124}_{-0.202}$	$-0.200^{+0.250}_{-0.300}$	$1.400^{+0.425}_{-0.248}$	$1.259^{+0.182}_{-0.202}$	$0.646^{+0.391}_{-0.326}$
	+2%/-4%	+3%/-5%	+125%/-150%	+30%/-18%	+14%/-16%	+60%/-50%
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 002585092-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-16 ± 2	$1.47^{+0.33}_{-0.29}$	2829^{+217}_{-172}	4428^{+376}_{-314}	$3.678^{+2.017}_{-1.243}$
Alt.	-22 ± 4	$0.72^{+0.24}_{-0.25}$	2818^{+209}_{-191}	6741^{+1923}_{-1044}	22^{+30}_{-10}

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 $A_{obs} \gg 1.0$

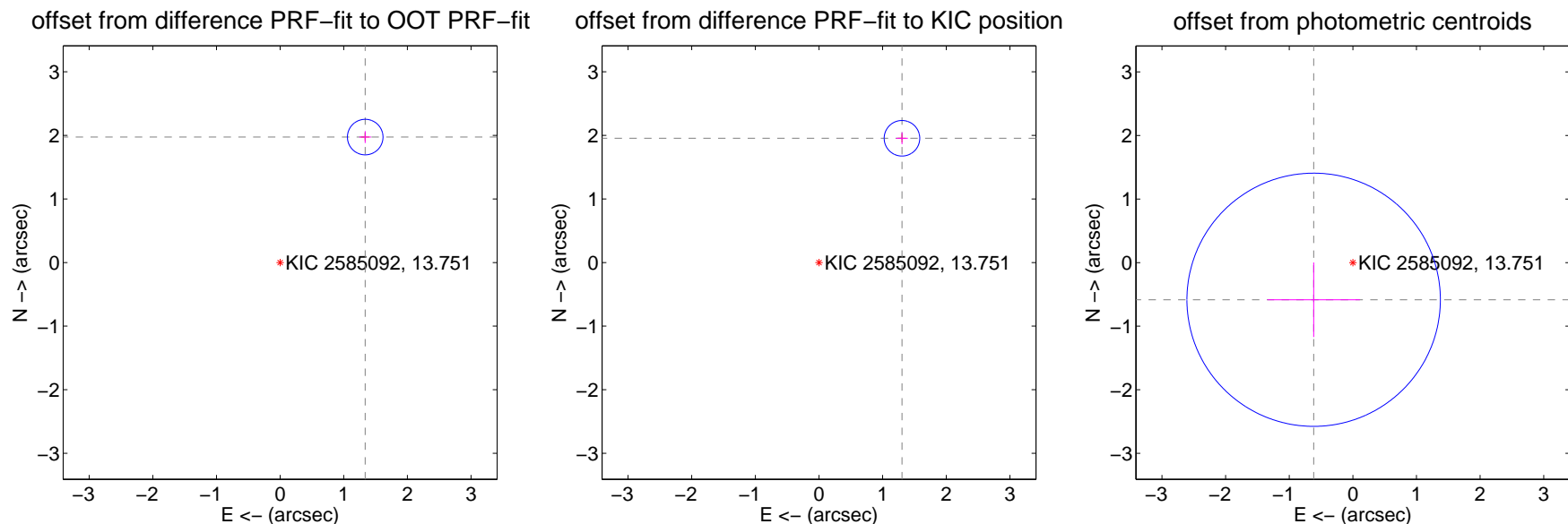
DV Centroid Data

Supplemental centroid analysis for 002585092-02. Kepler magnitude: 13.75. Transit SNR 11.33

There are 0 quarters with good PRF difference image offsets

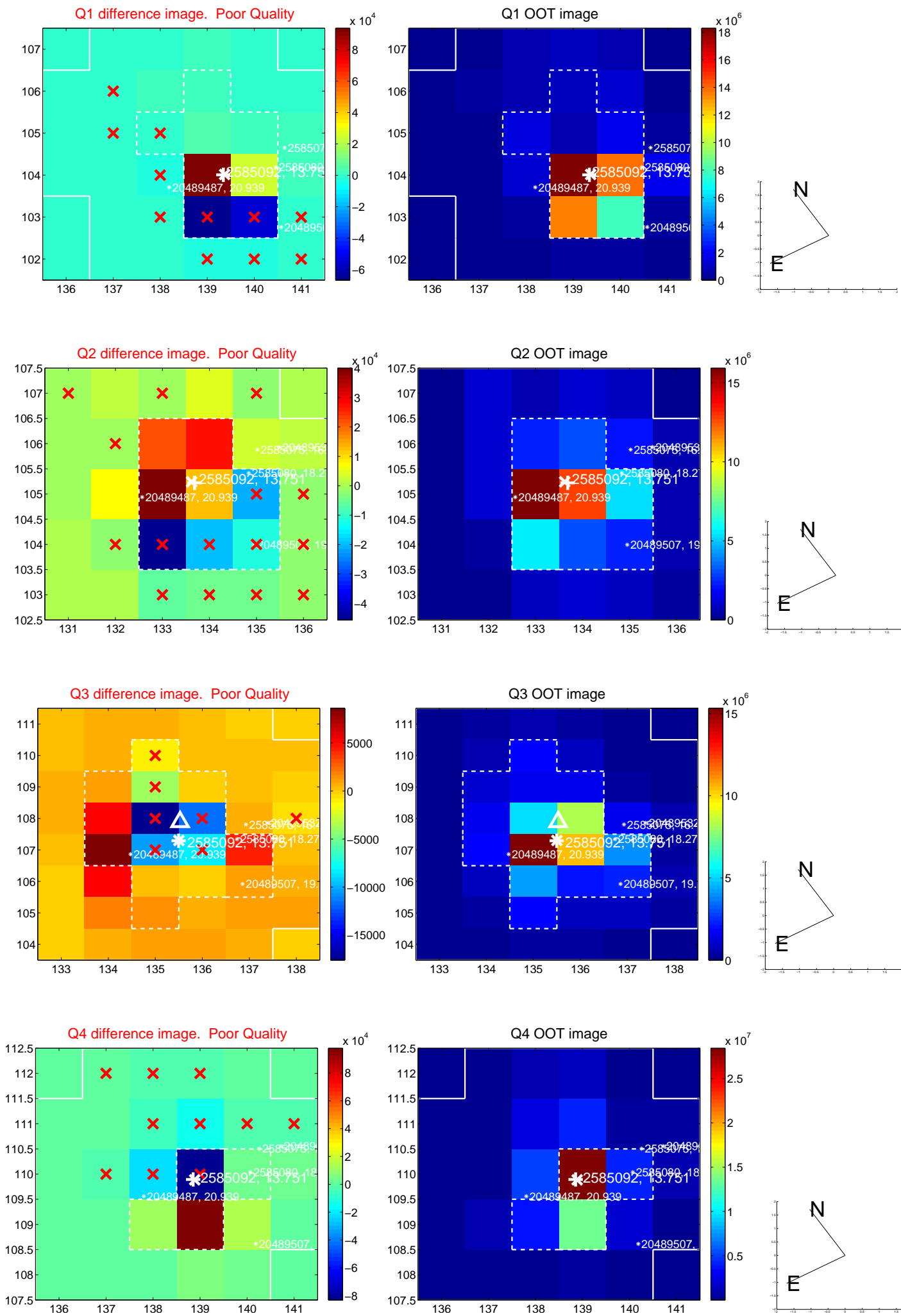
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.384 ± 0.093	25.58	-1.338 ± 0.092	1.974 ± 0.094
PRF-fit source offset from KIC position	2.350 ± 0.093	25.21	-1.304 ± 0.092	1.955 ± 0.094
photometric centroid source offset	0.85 ± 0.66	1.28	0.62 ± 0.73	-0.58 ± 0.59

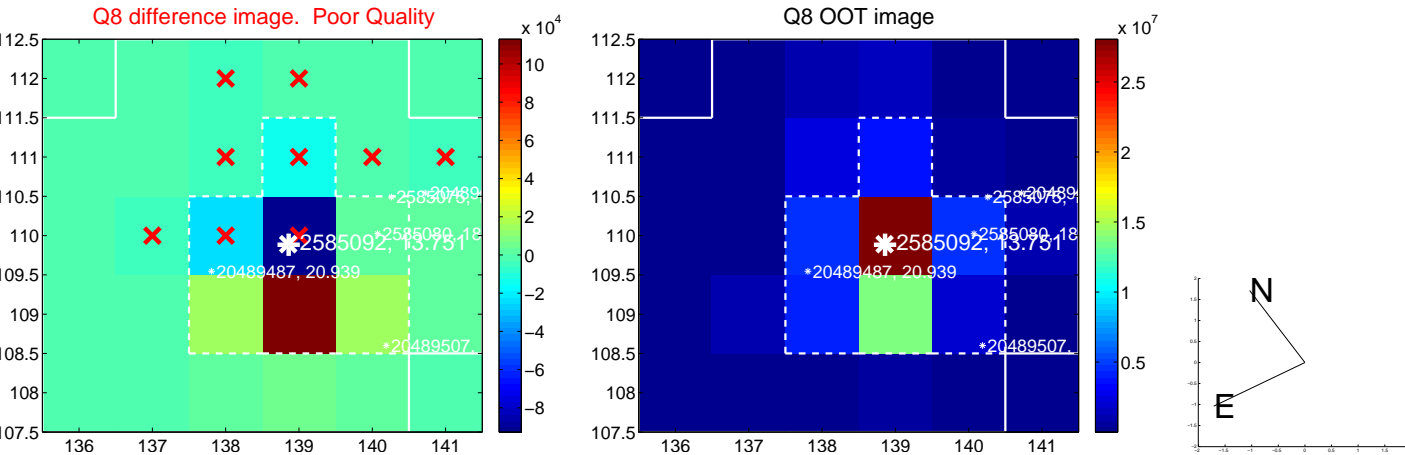
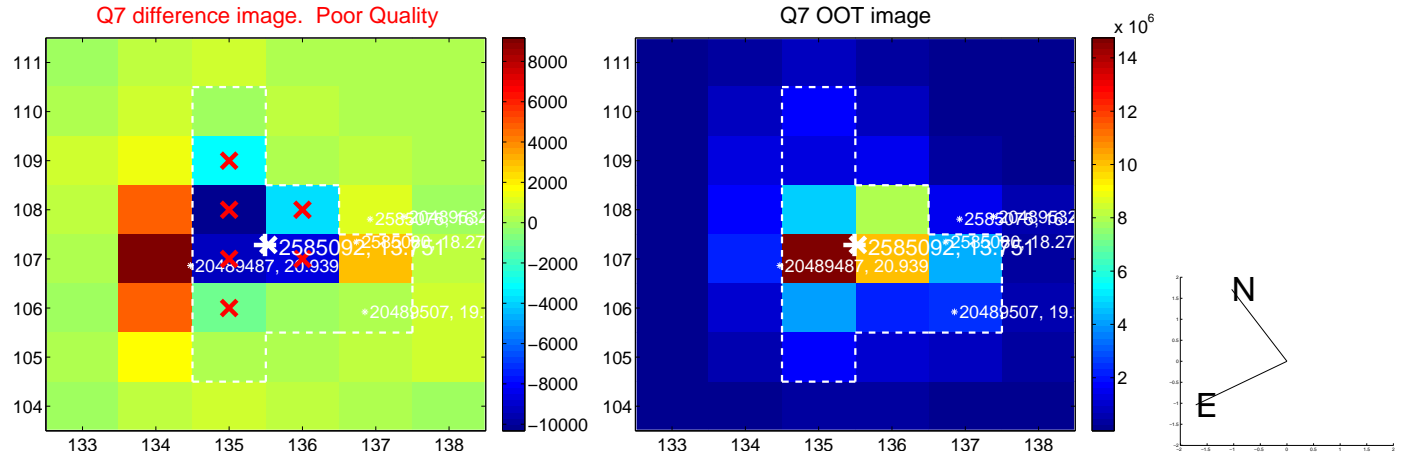
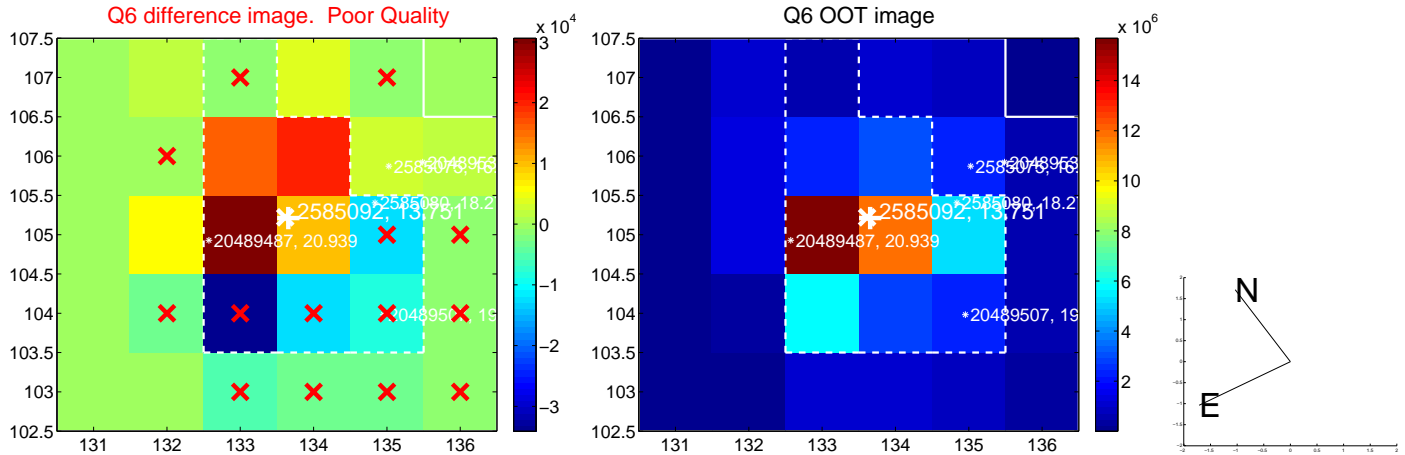
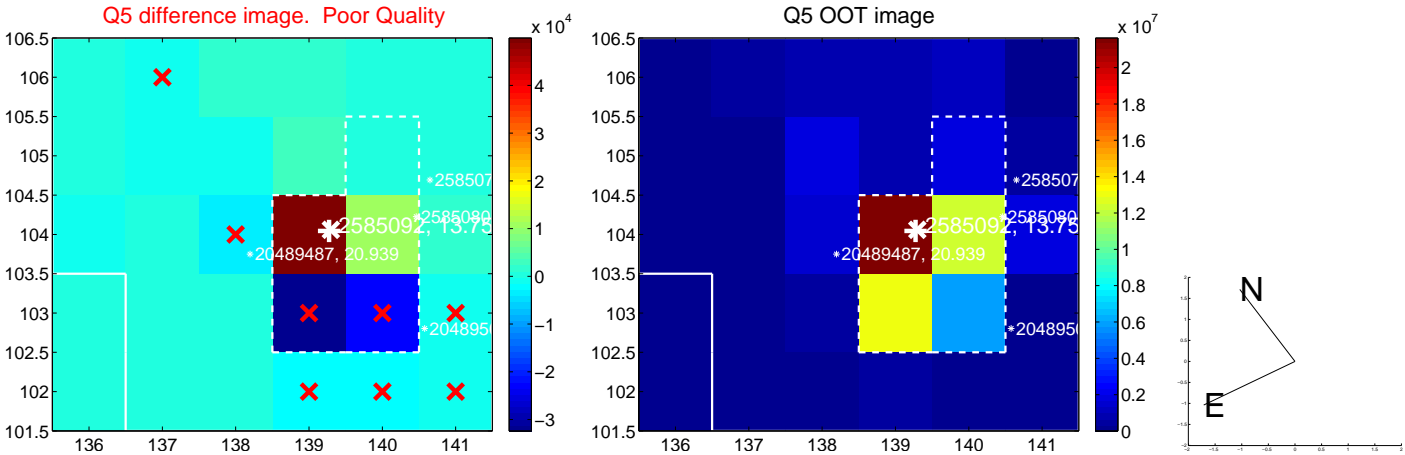


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

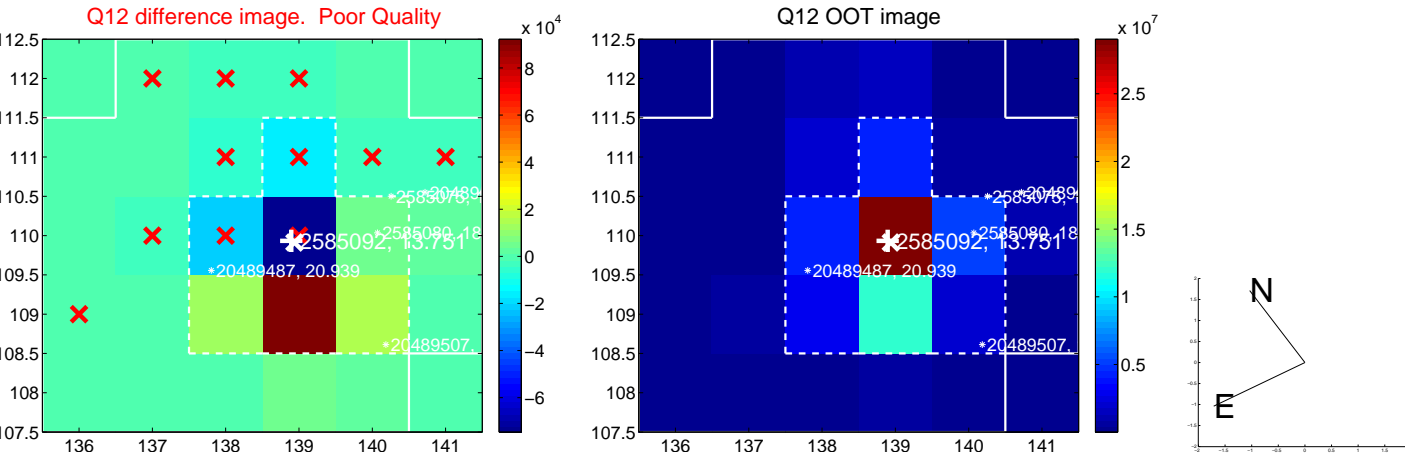
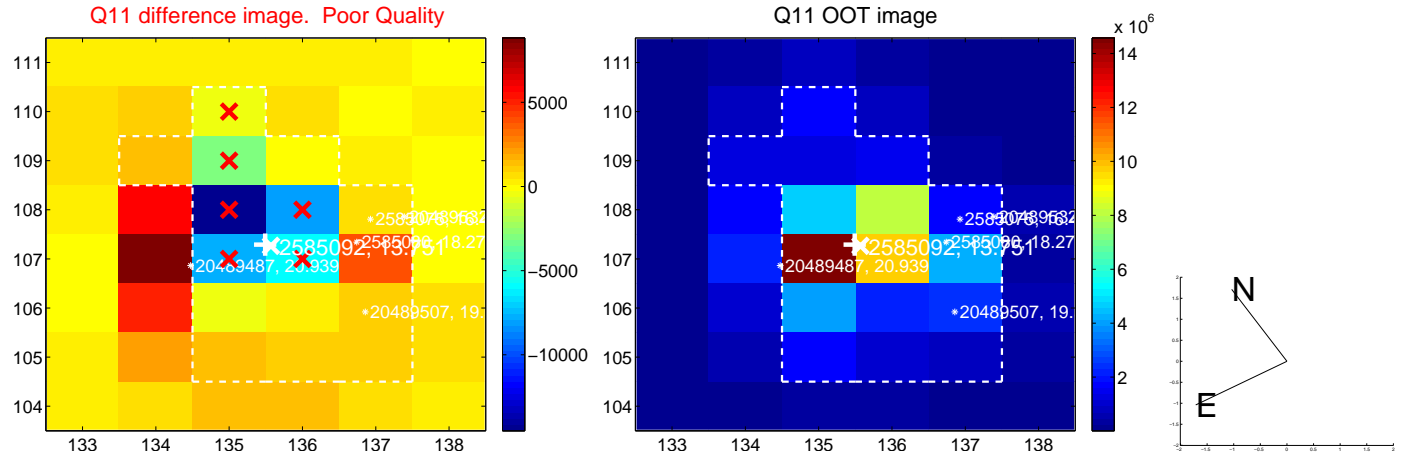
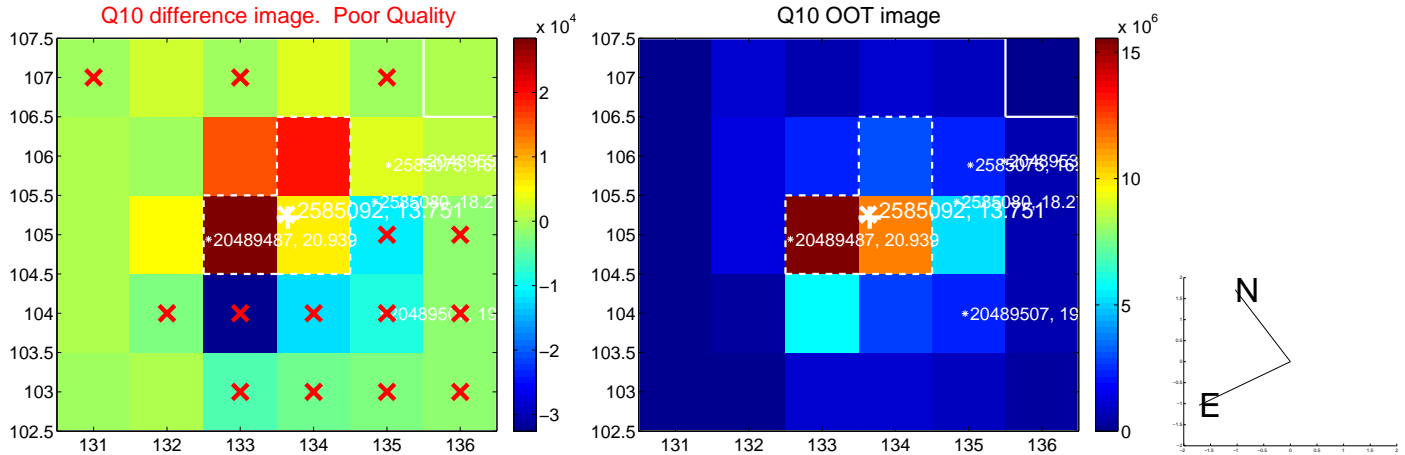
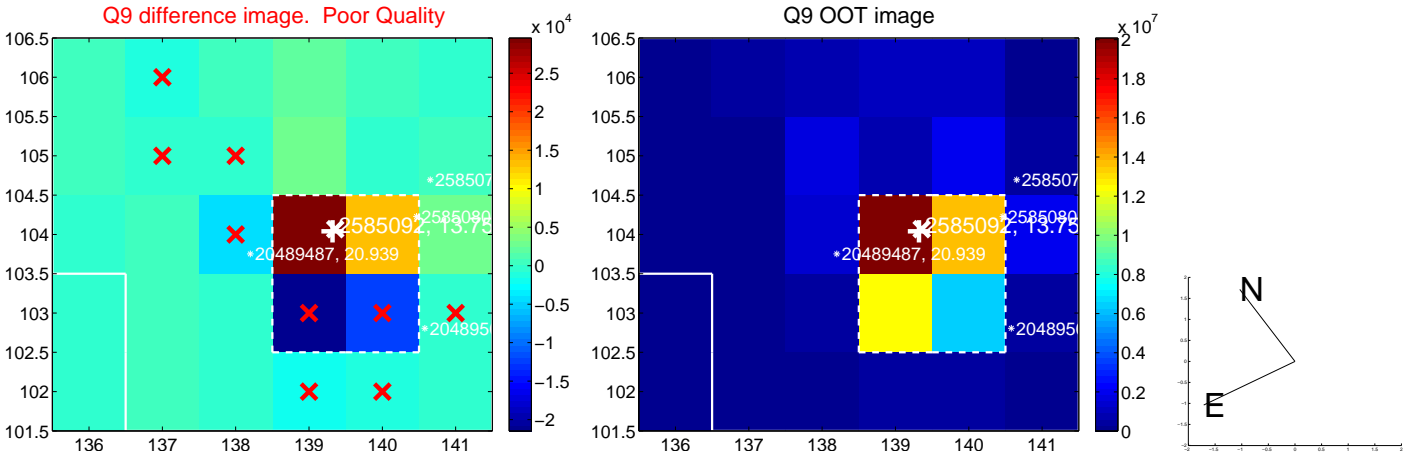
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



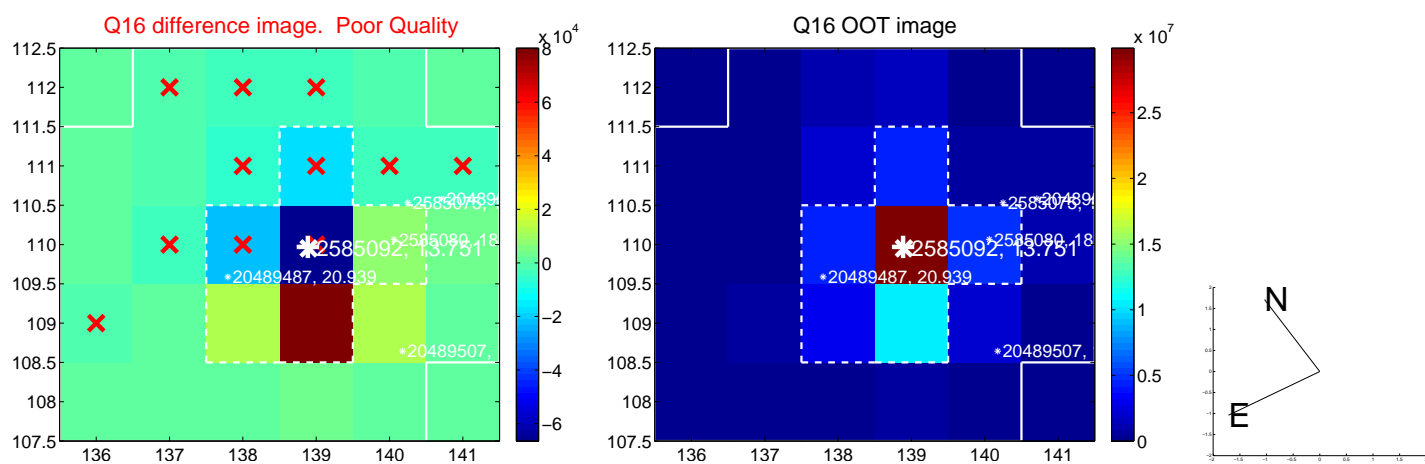
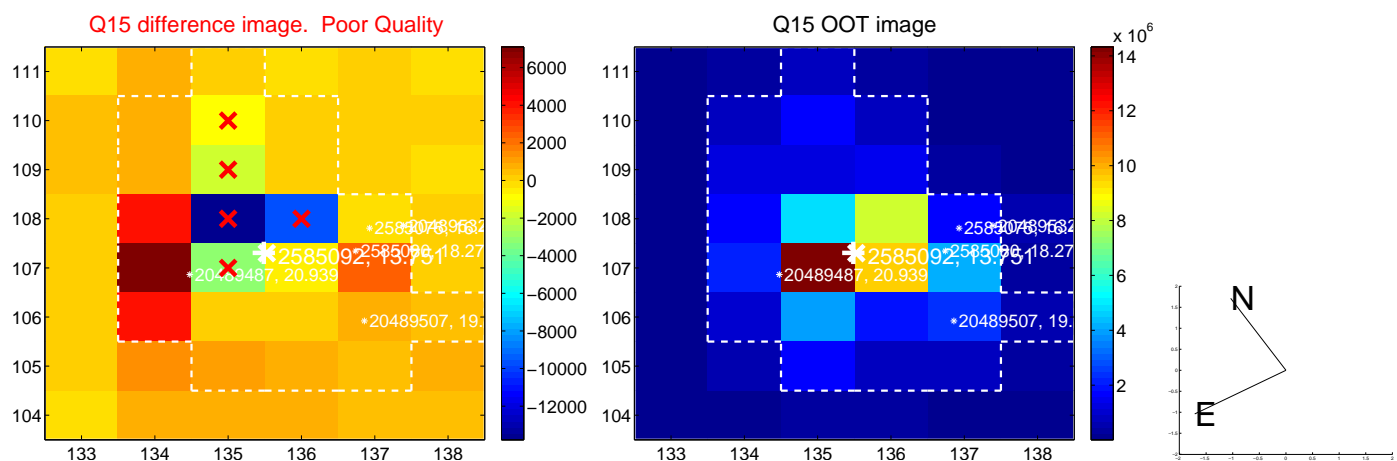
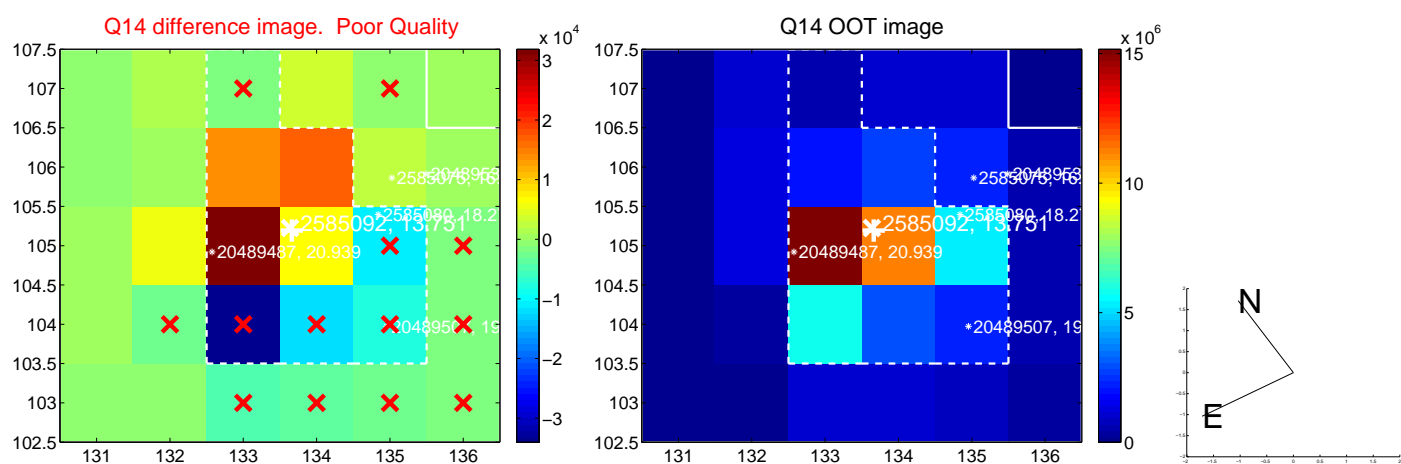
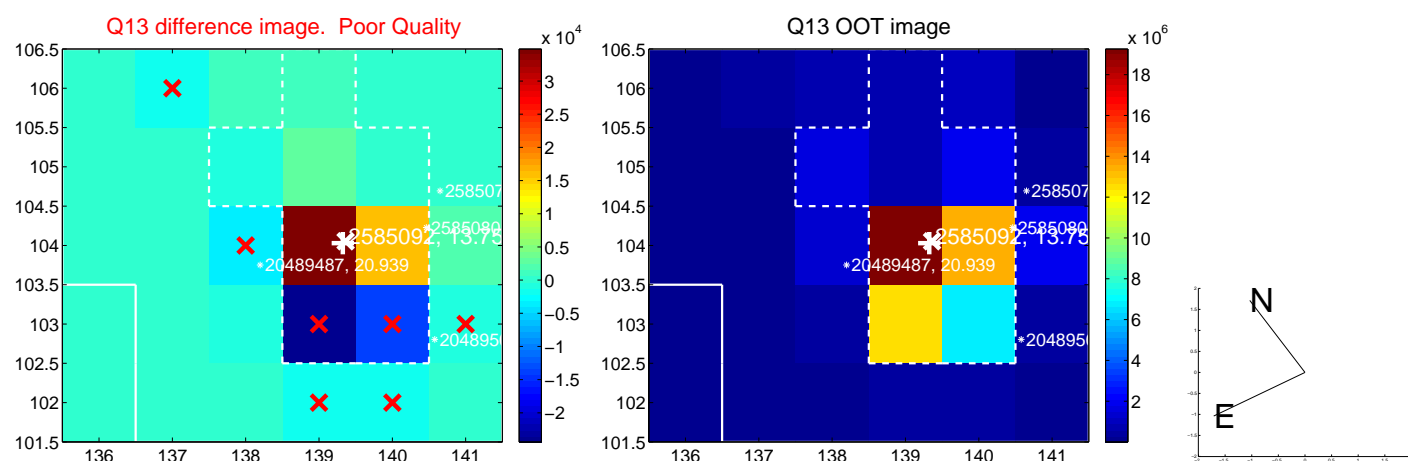
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



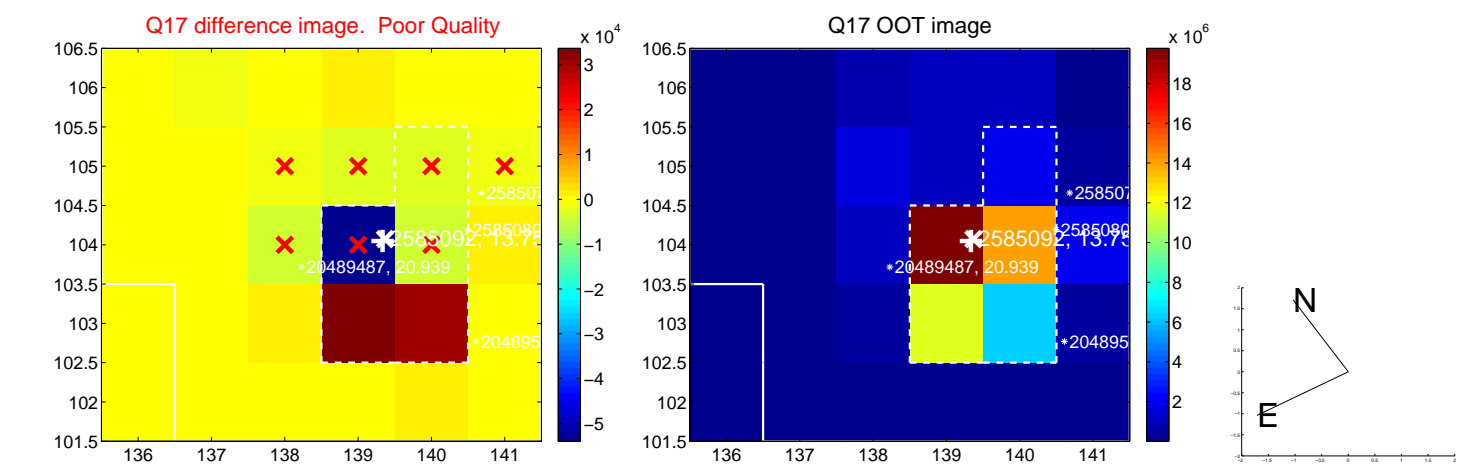
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



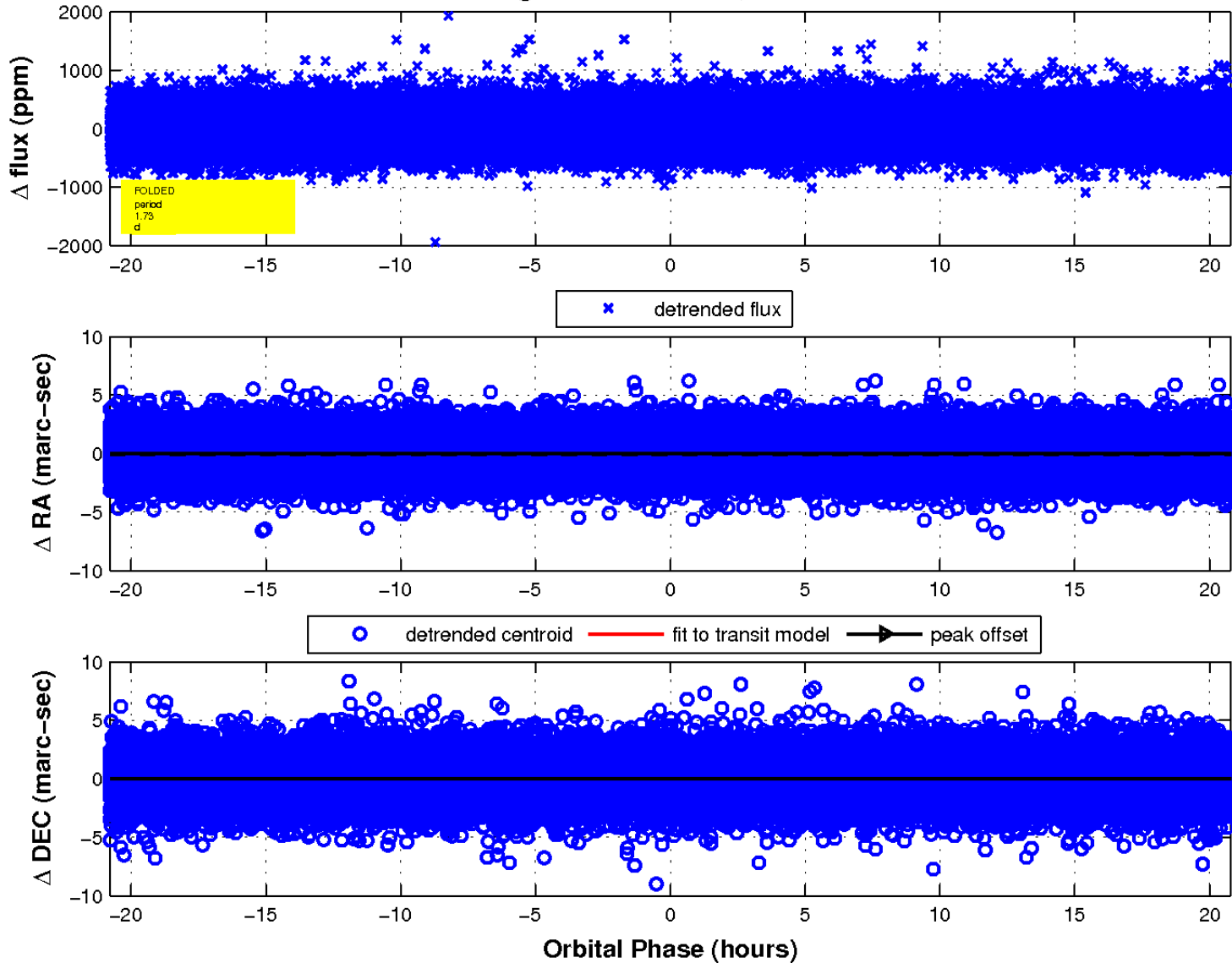
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

