

KIC 005535890

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})
005535890-01	OBS	3865.01	3.255191	134.598843	101.1	3.568	27.8	29.7	1.26	5807	1.78	882.93
005535890-02	OBS	No	3.255206	132.964447	35.3	2.916	10.6	11.6	1.26	5807	0.88	882.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005535890-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005535890-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—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.

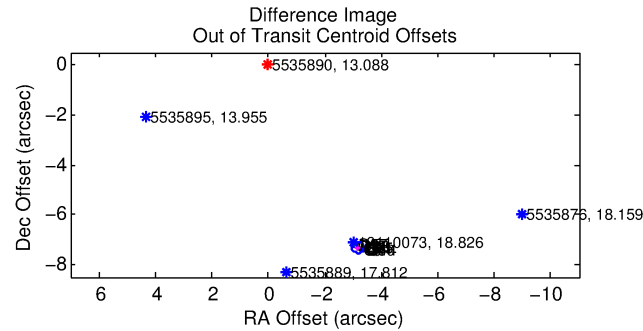
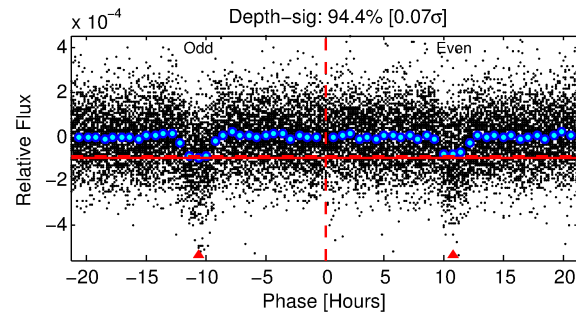
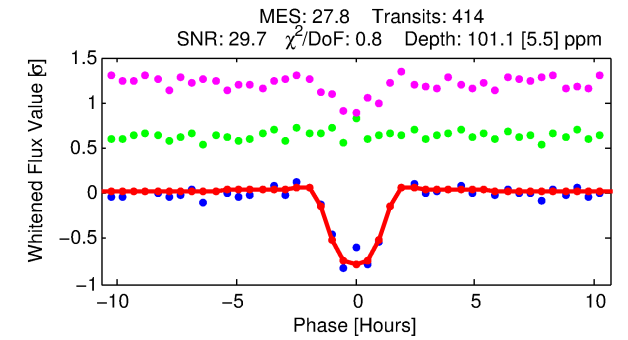
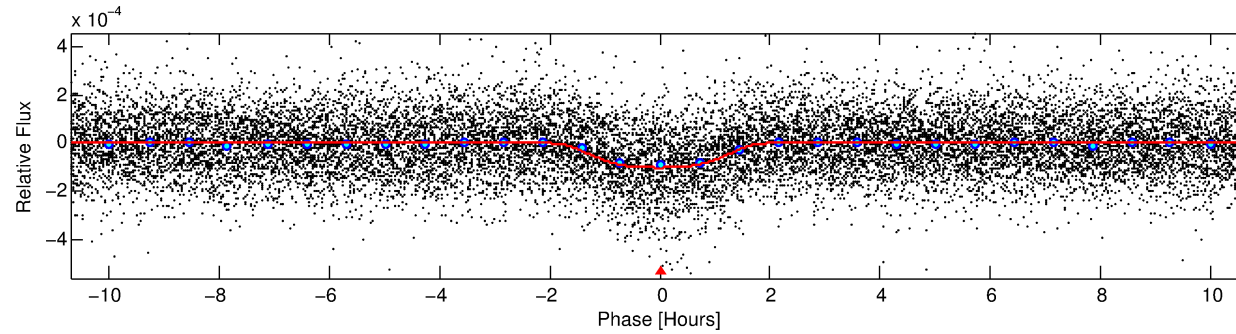
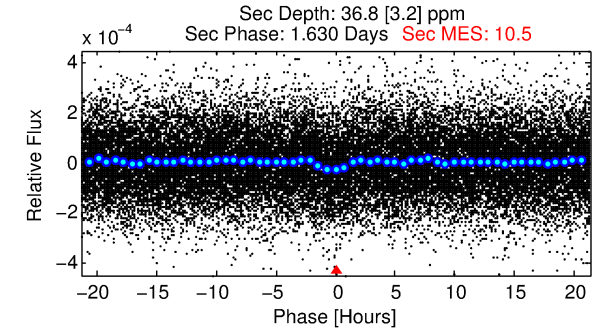
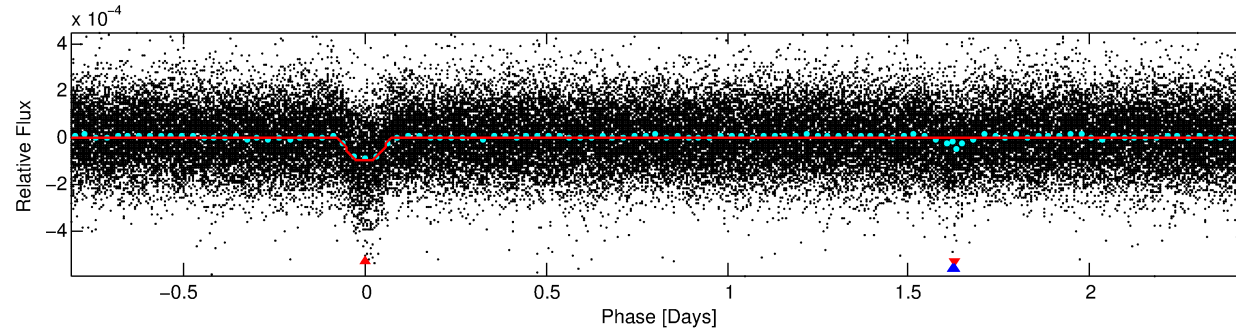
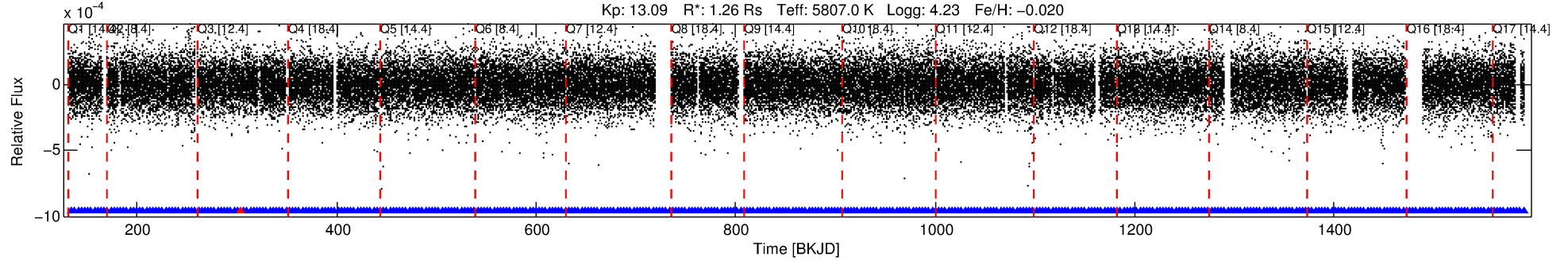
Ephemeris Match Information For 005535890-01

No Significant Match Found

DV One-Page Summary

KIC: 5535890 Candidate: 1 of 2 Period: 3.255 d
KOI: K03865.01 Corr: 0.933

Kp: 13.09 R*: 1.26 Rs Teff: 5807.0 K Logg: 4.23 Fe/H: -0.020



DV Fit Results:

Period = 3.25519 [0.00001] d
Epoch = 134.5988 [0.0022] BKJD
Rp/R* = 0.0130 [0.0005]
a/R* = 1.91 [0.11]
b = 0.99 [0.00]
Seff = 882.93 [266.14]
Teq = 1390 [105] K
Rp = 1.78 [0.33] Re
a = 0.0427 [0.0078] AU
Ag = 11.57 [3.68] [2.87σ]
Teff = 3964 [127] K [15.64σ]

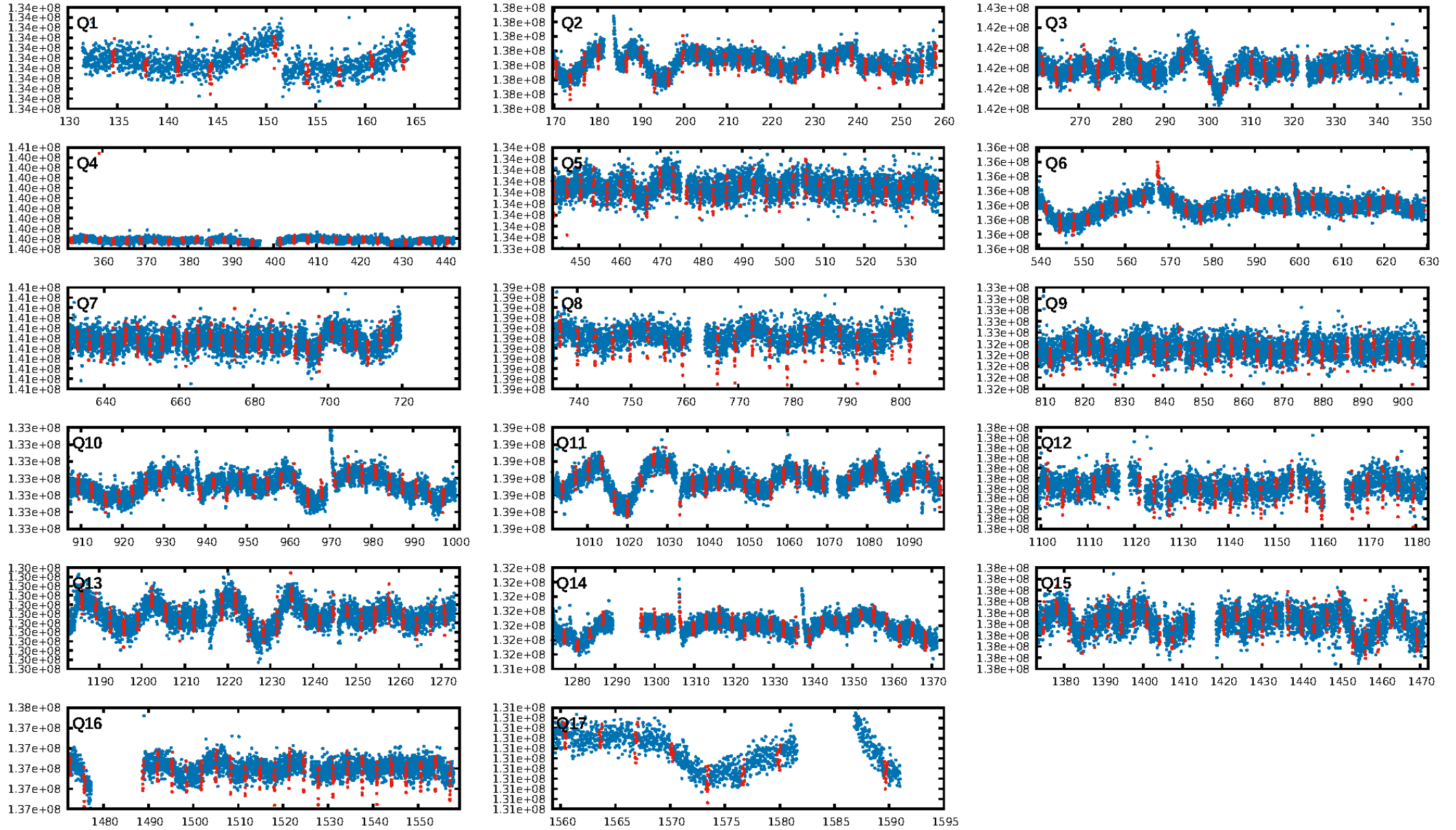
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 2.51e-157
RollingBand-fgt: 1.00 [395/396]
GhostDiagnostic-chr: -0.1718
Centroid-sig: 0.0%
Centroid-so: 65.376 arcsec [191.46σ]
OotOffset-rm: 7.978 arcsec [110.57σ]
KicOffset-rm: 7.827 arcsec [116.04σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
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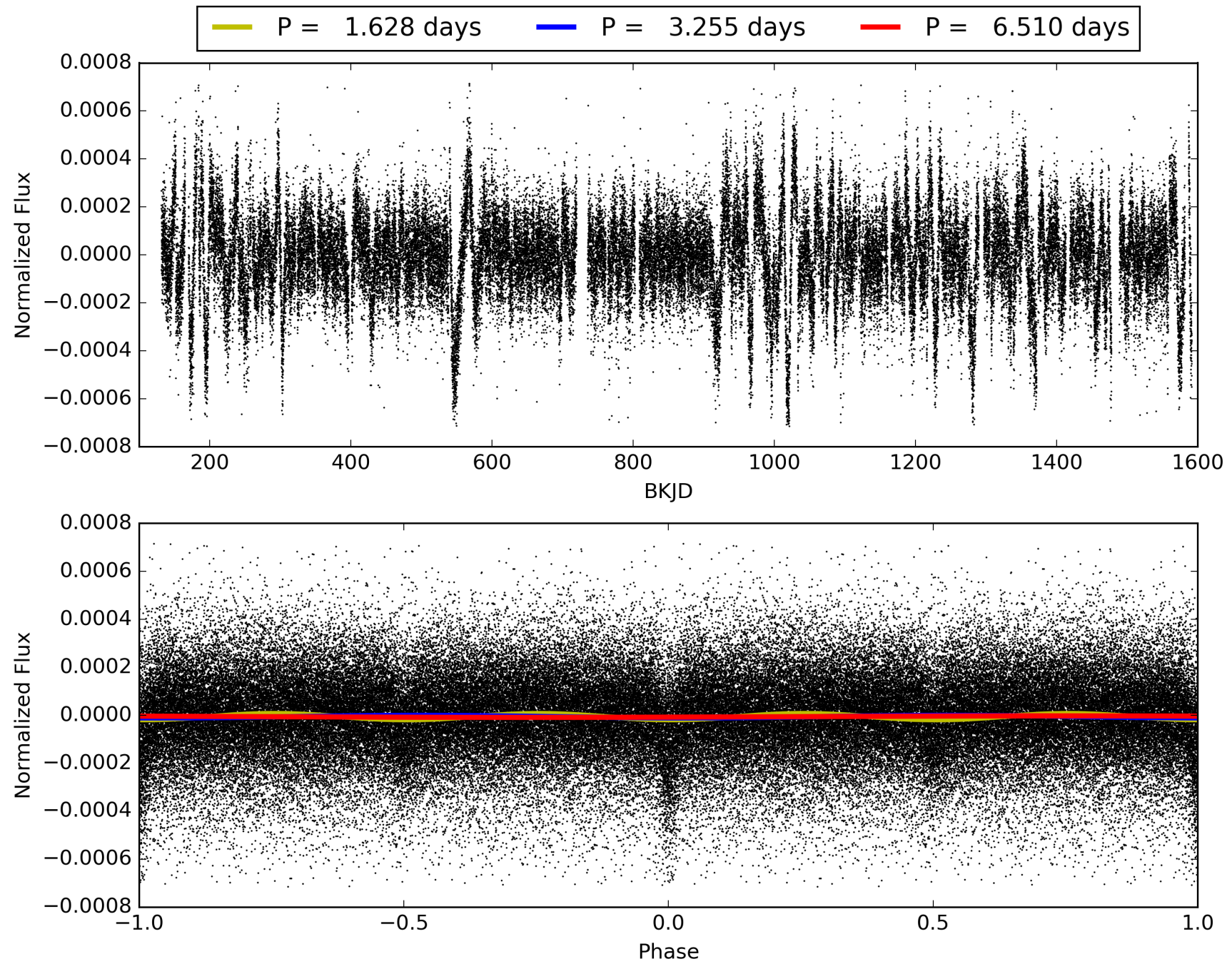
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:17:10 Z

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

TCE 005535890-01, PDC Light Curves

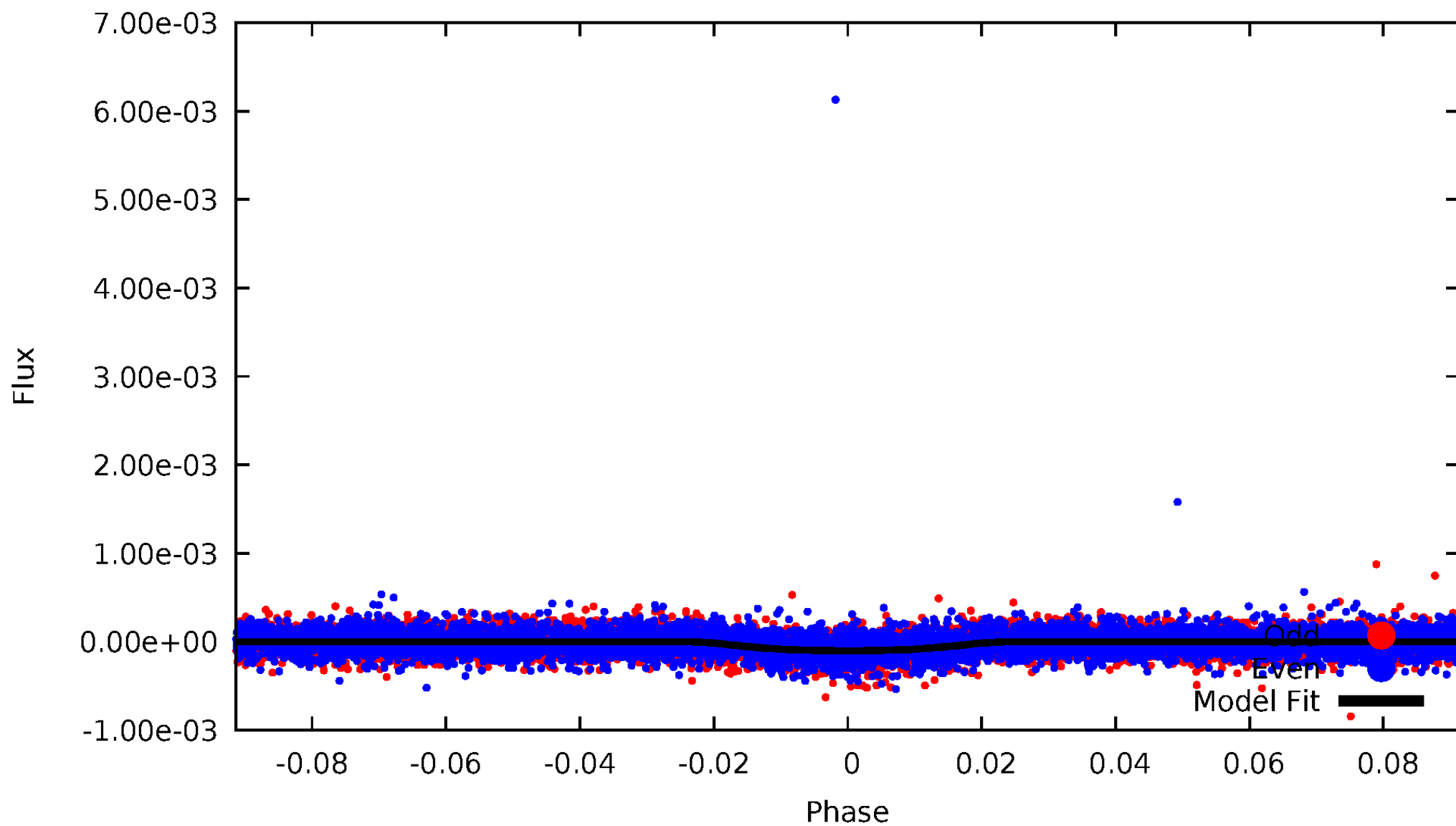


TCE 005535890-01



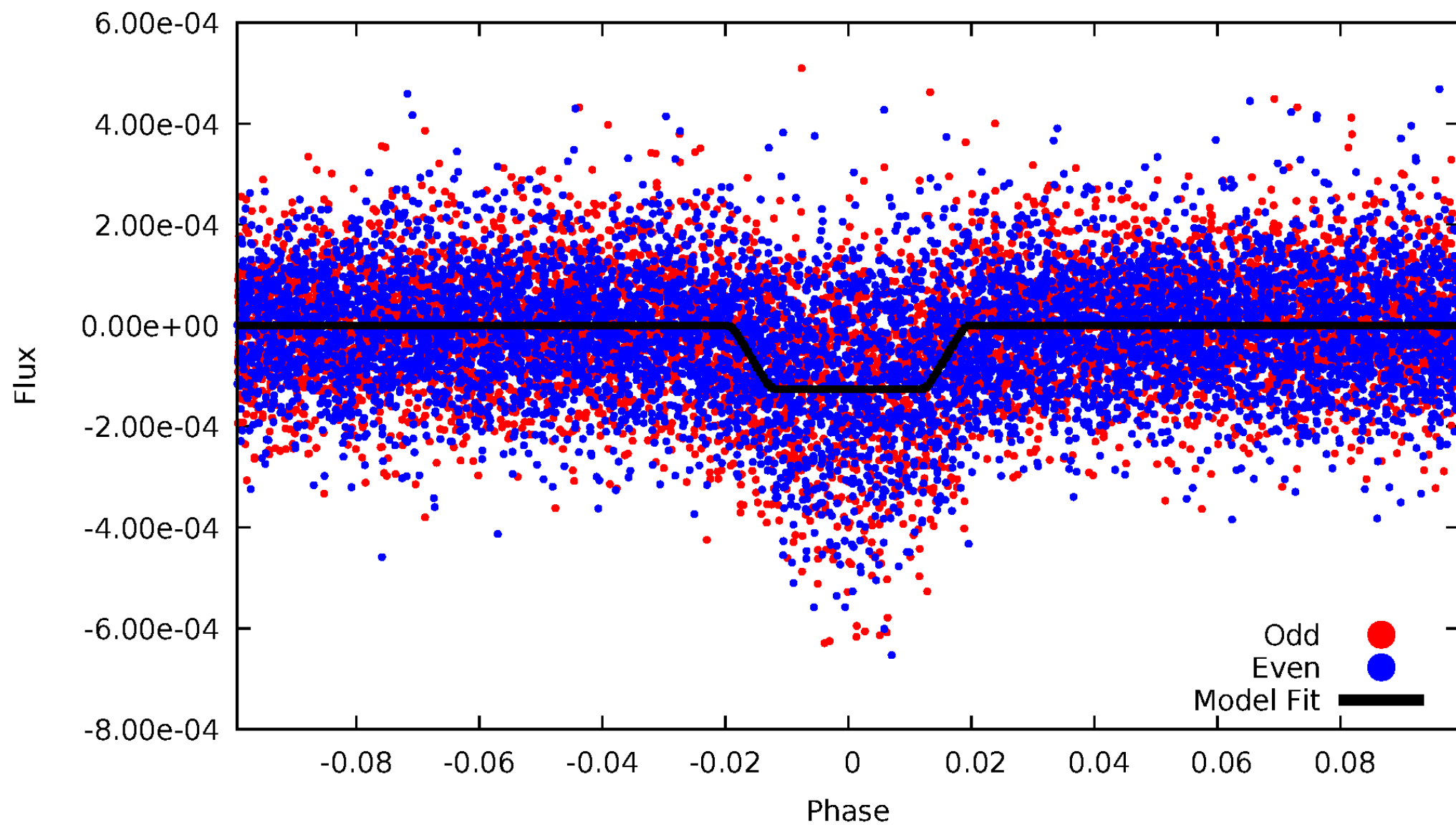
DV Odd/Even

TCE 005535890-01

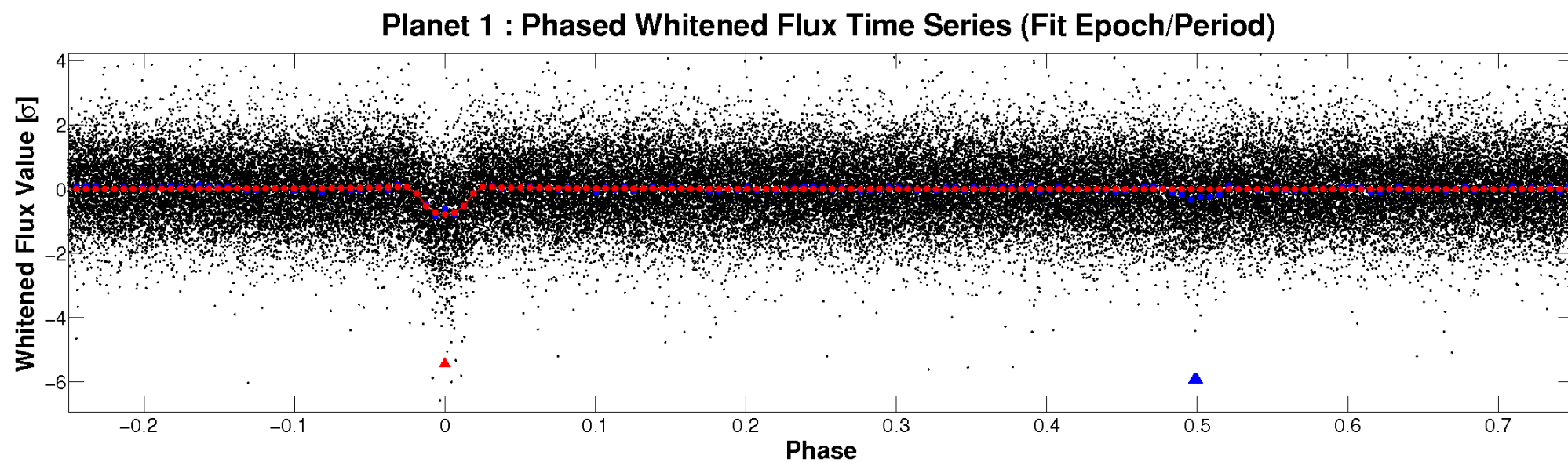
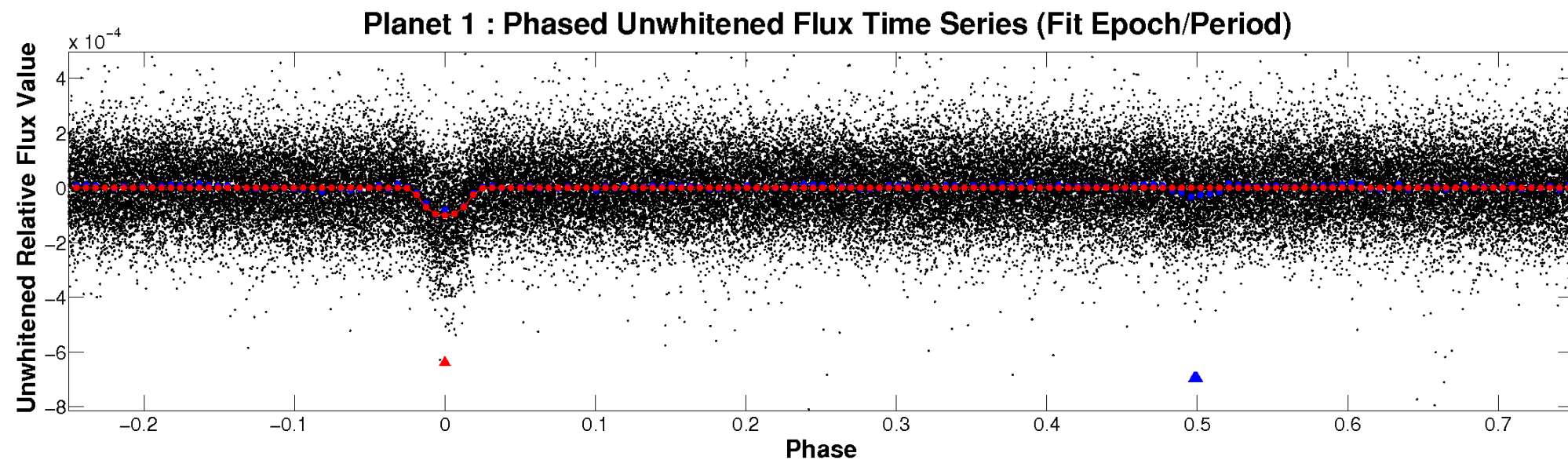


ALT Odd/Even

TCE 005535890-01

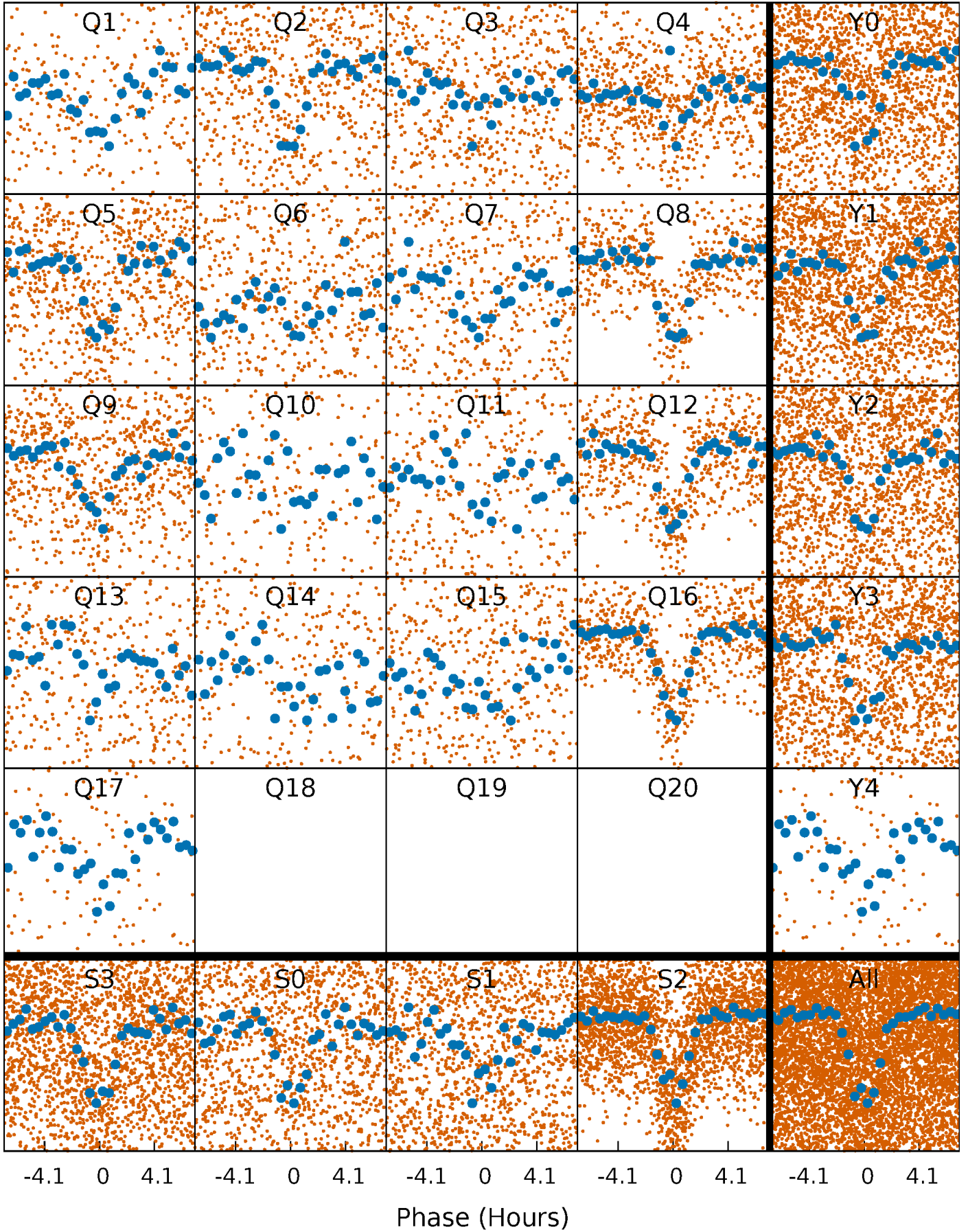


Non-Whitened Vs. Whitened Light Curve



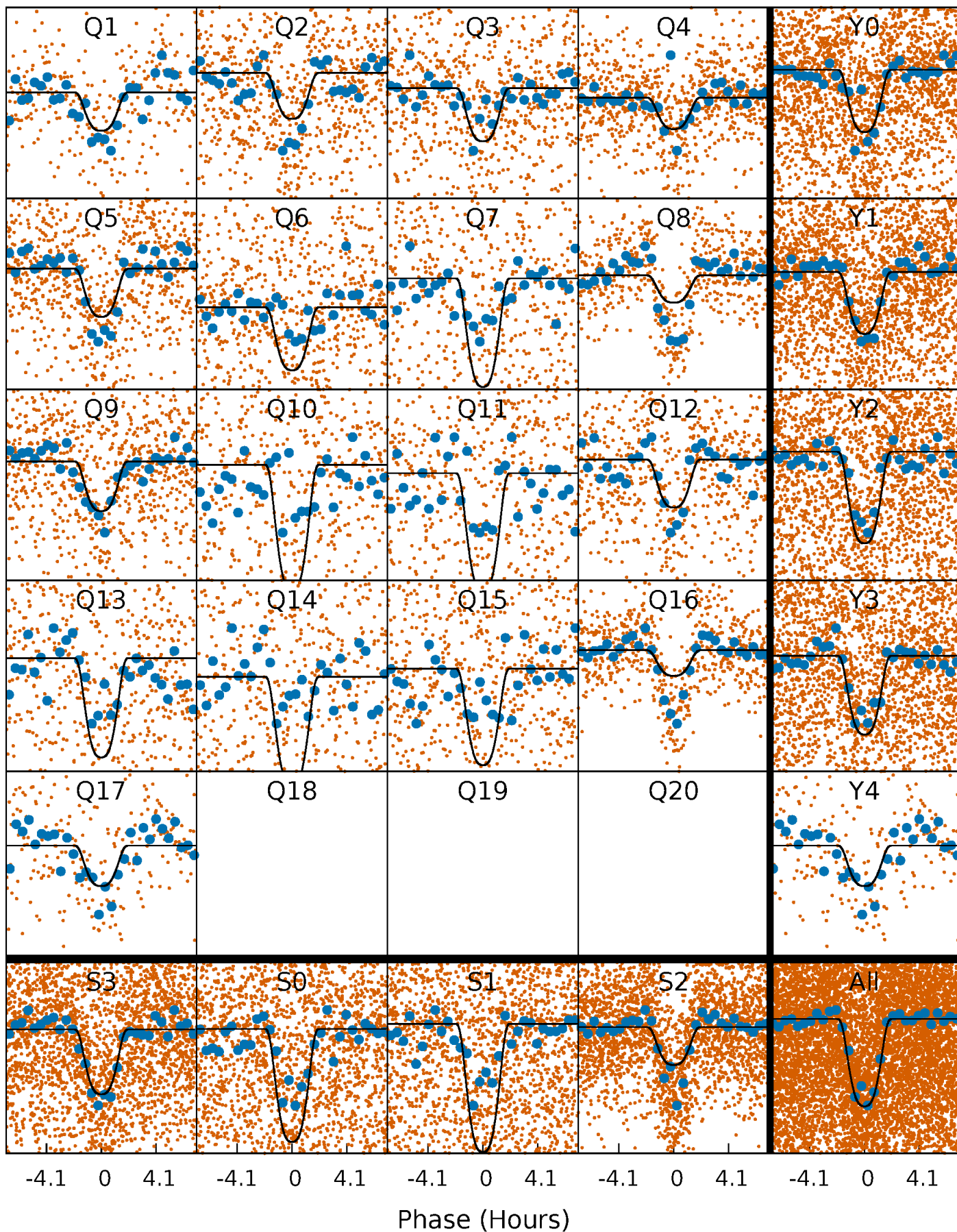
PDC Quarter-Phased Transit Curves

TCE 005535890-01 P= 3.255191 Days $T_0=134.598843$ (BKJD)



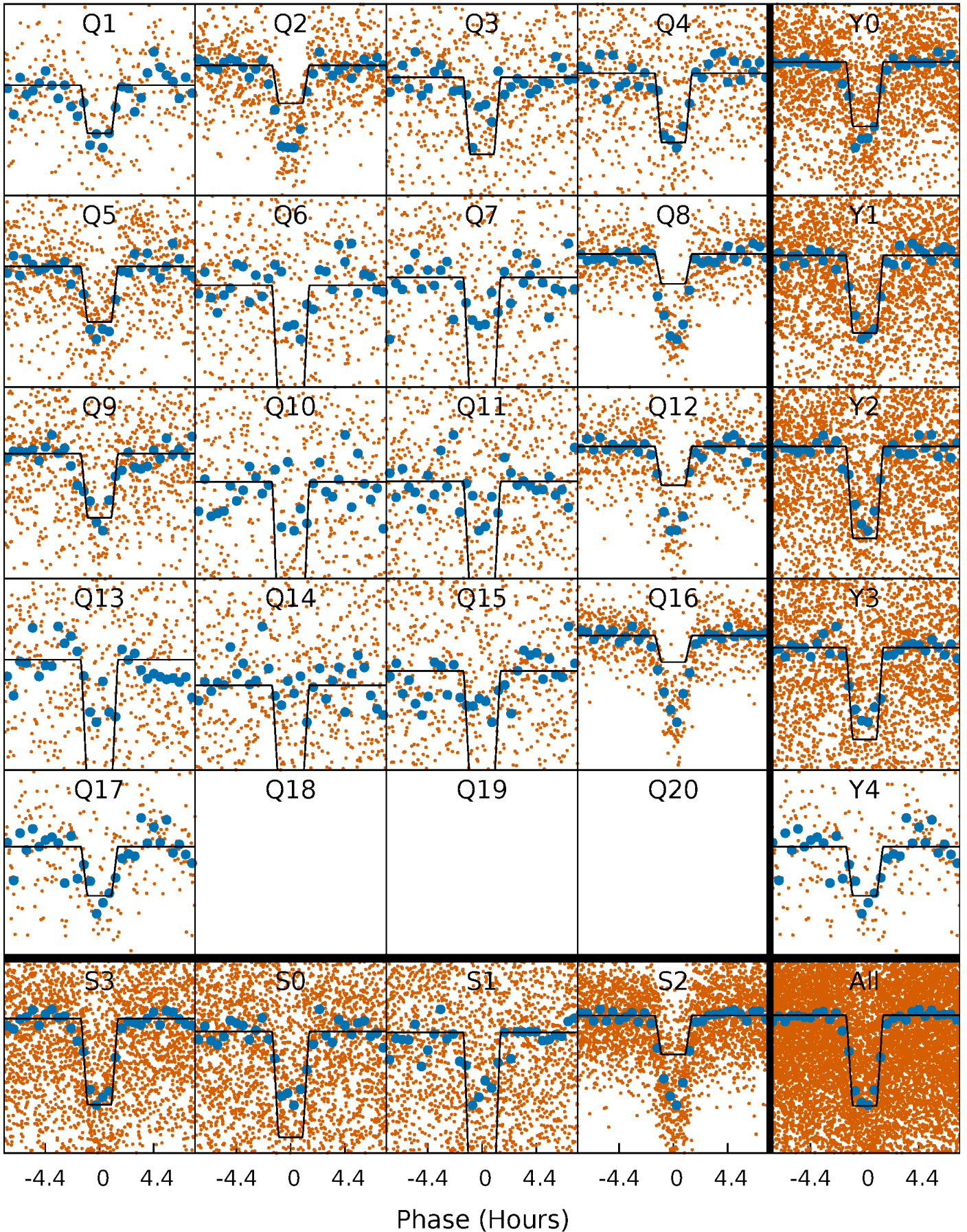
DV Quarter-Phased Transit Curves

TCE 005535890-01 P= 3.255191 Days $T_0=134.598843$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

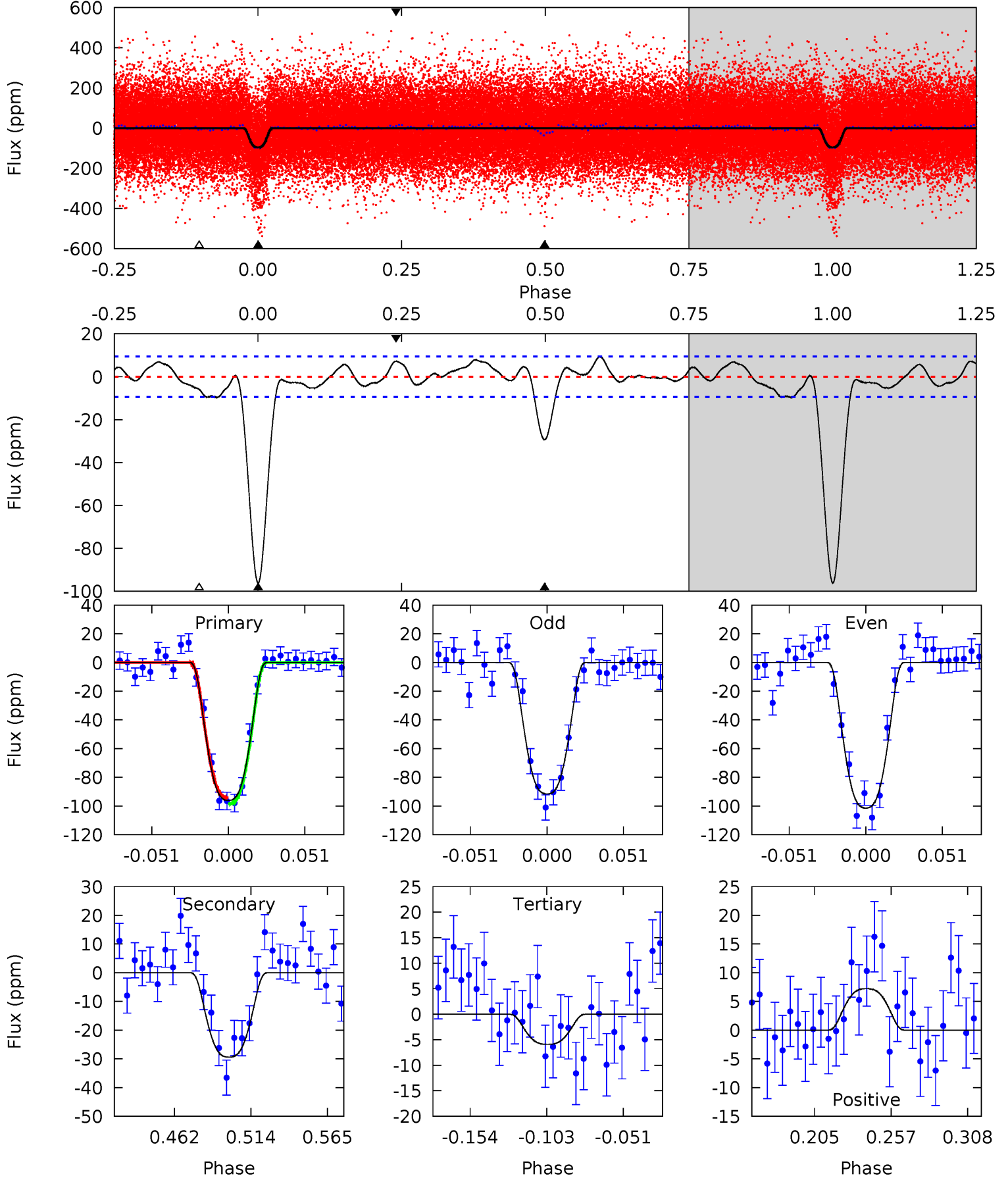
TCE 005535890-01 P= 3.255178 Days $T_0=134.601960$ (BKJD)



DV Model-Shift Uniqueness Test

005535890-01, P = 3.255191 Days, E = 131.343652 Days

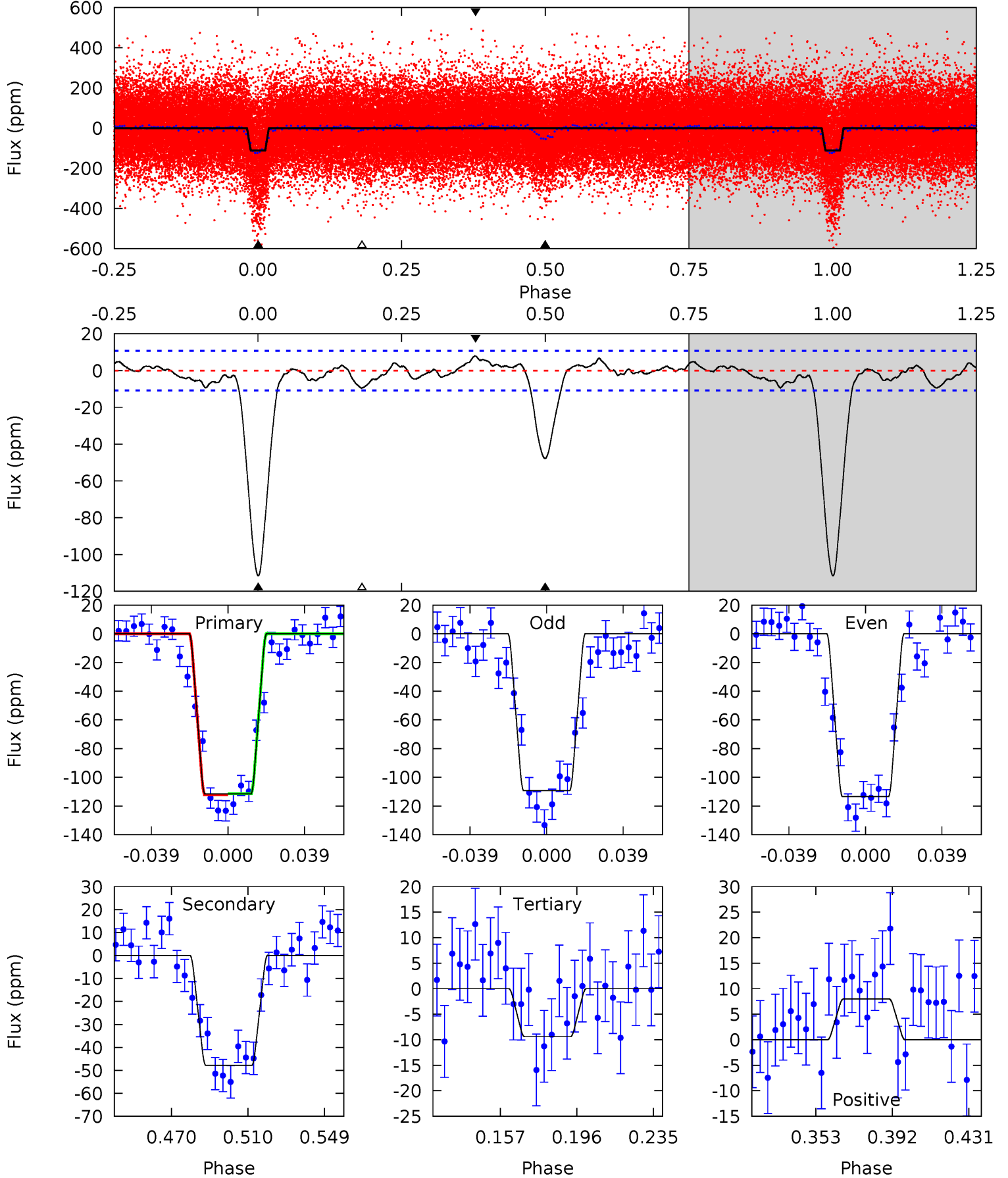
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.1	14.7	2.95	3.61	4.70	1.95	2.06	45.1	44.5	11.8	11.1	2.45	1.06	0.09	1.04



Alt Model-Shift Uniqueness Test

005535890-01, P = 3.255178 Days, E = 131.346782 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.2	21.1	4.14	3.51	4.76	2.06	1.54	45.0	45.7	16.9	17.6	0.94	1.24	0.07	0.16



Stellar Parameters For KIC 005535890

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5807^{+79}_{-79}	$4.230^{+0.176}_{-0.108}$	$-0.020^{+0.150}_{-0.150}$	$1.256^{+0.189}_{-0.230}$	$0.977^{+0.078}_{-0.064}$	$0.695^{+0.536}_{-0.221}$
	+1%/-1%	+4%/-3%	+750%/-750%	+15%/-18%	+8%/-7%	+77%/-32%
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 005535890-01 / KOI 3865.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-29 ± 2	$1.78^{+0.17}_{-0.19}$	1937^{+83}_{-105}	4025^{+83}_{-85}	$9.323^{+2.576}_{-1.513}$
Alt.	-48 ± 2	$1.52^{+0.16}_{-0.16}$	1931^{+85}_{-98}	4685^{+108}_{-108}	21^{+5}_{-4}

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

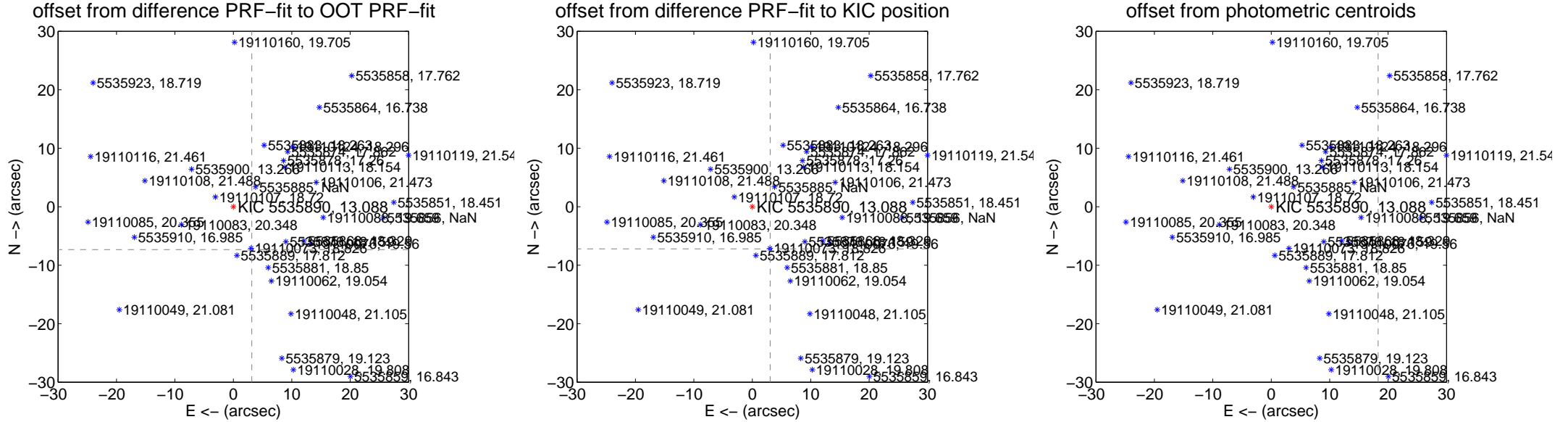
DV Centroid Data

Supplemental centroid analysis for 005535890-01. Kepler magnitude: 13.09. Transit SNR 29.71

There are 17 quarters with good PRF difference image offsets

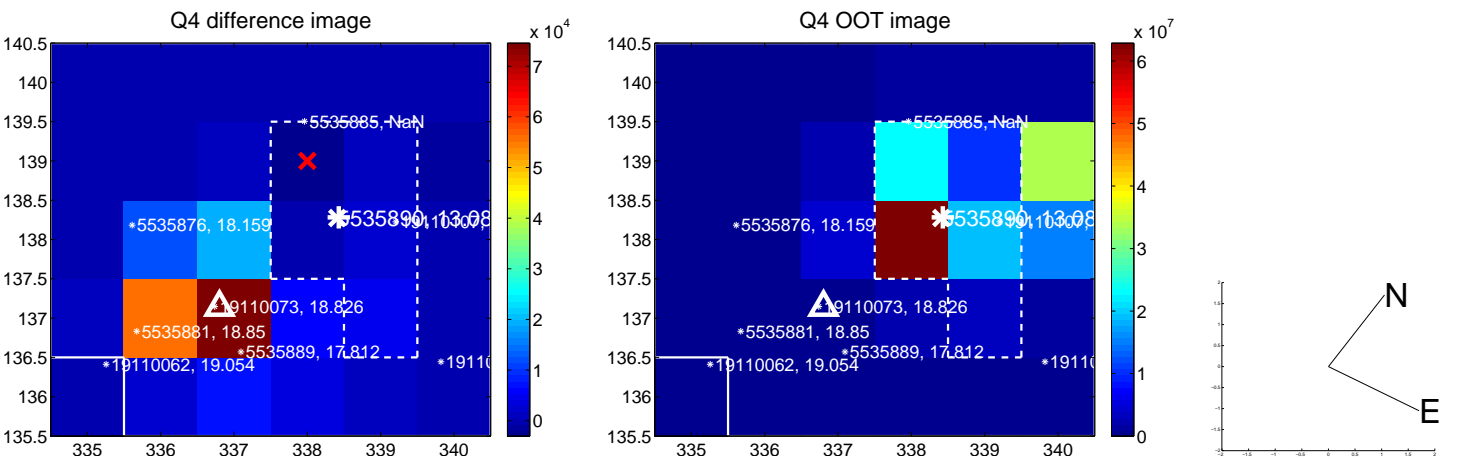
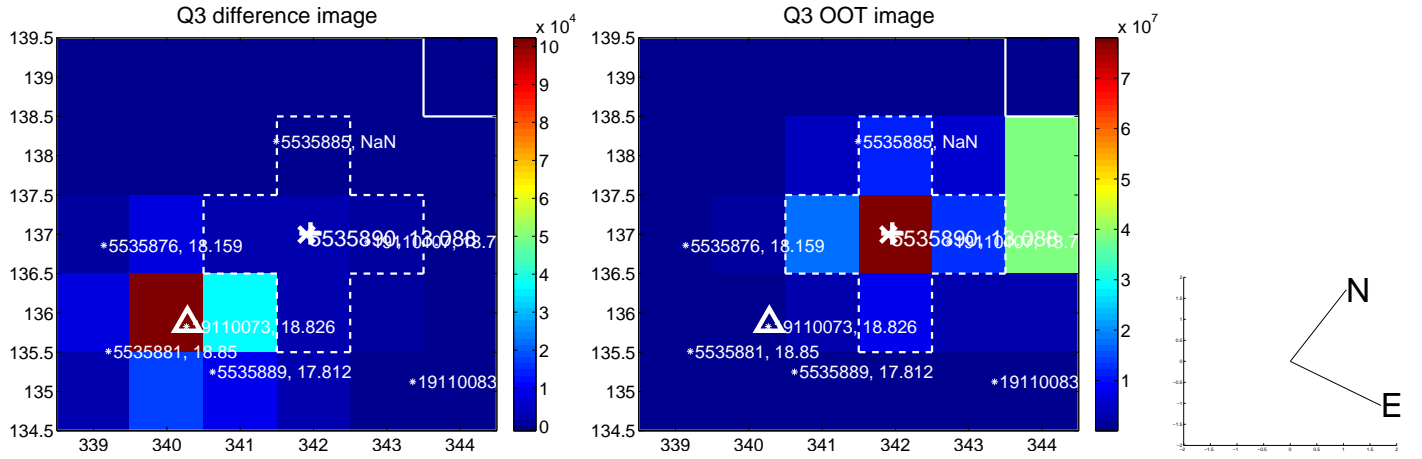
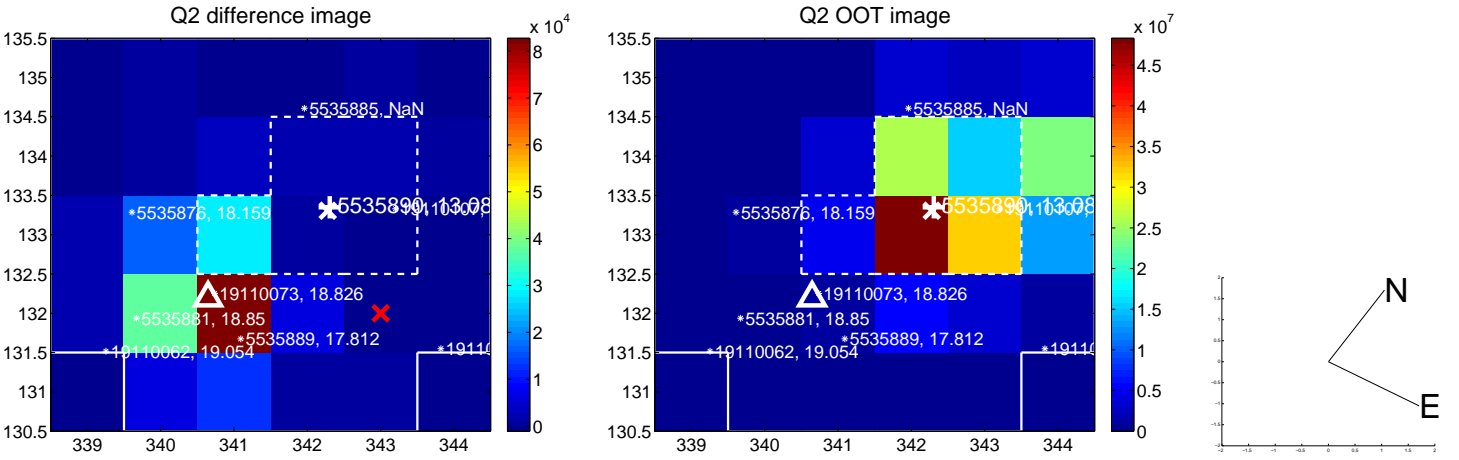
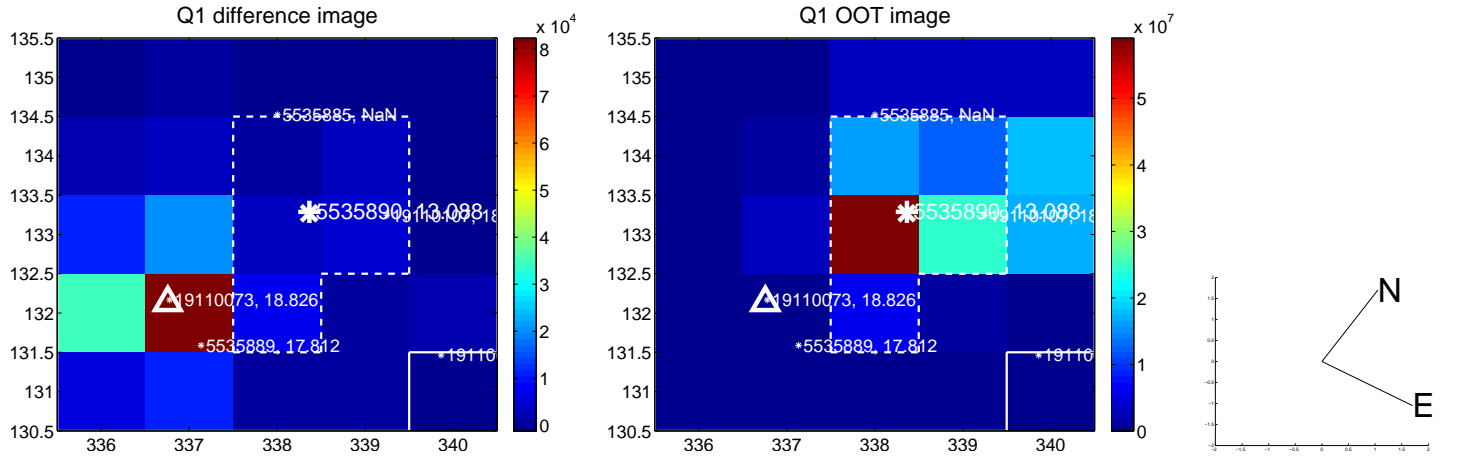
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.978 ± 0.072	110.57	-3.157 ± 0.072	-7.326 ± 0.069
PRF-fit source offset from KIC position	7.827 ± 0.067	116.04	-3.065 ± 0.071	-7.202 ± 0.067
photometric centroid source offset	65.38 ± 0.34	191.46	-18.30 ± 0.35	-62.77 ± 0.34

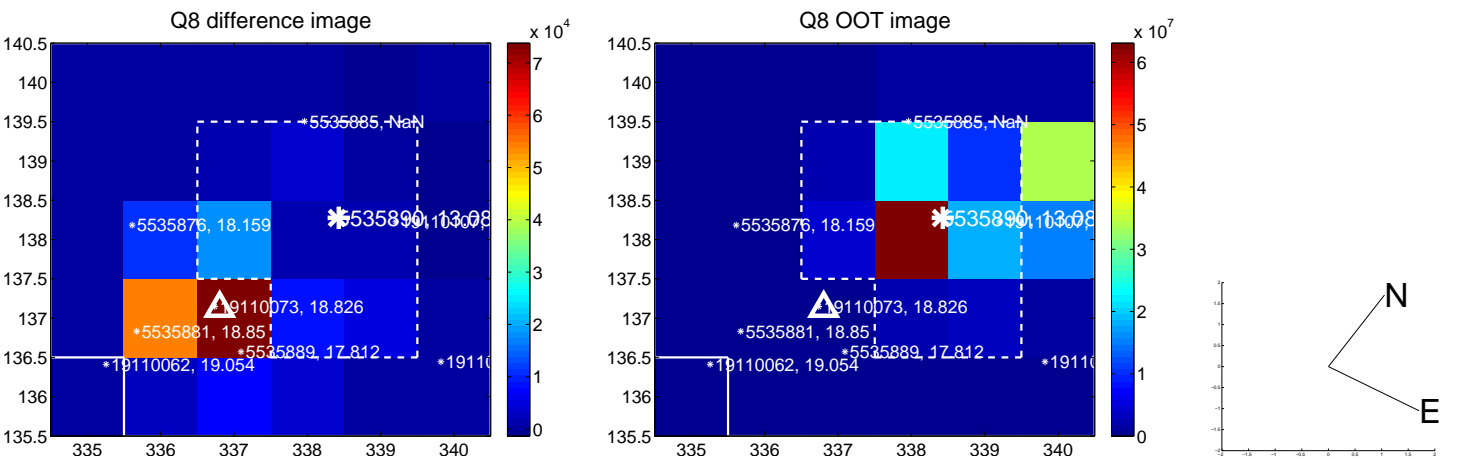
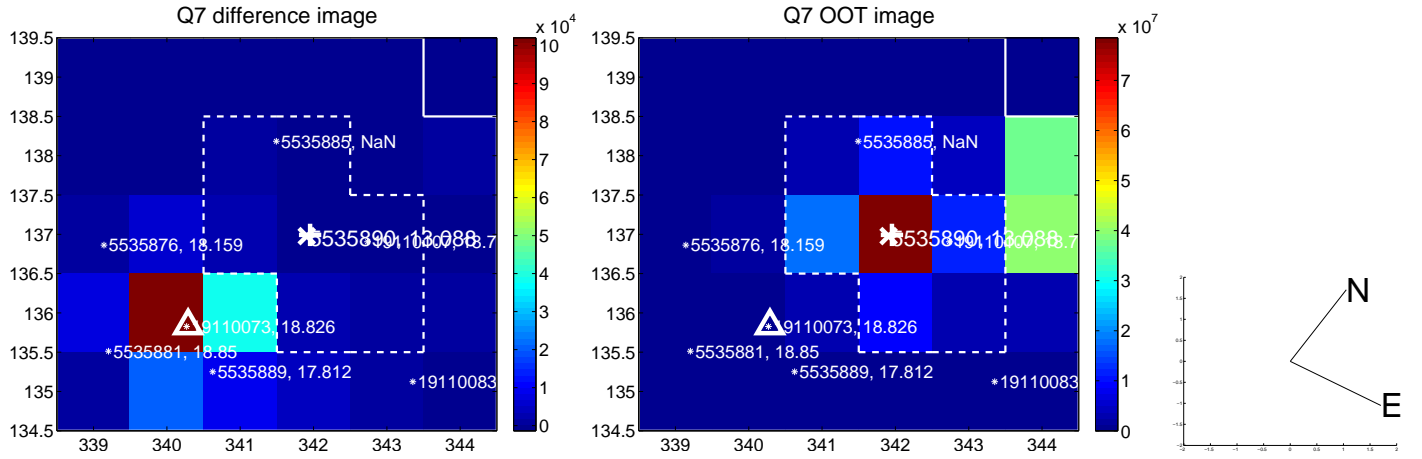
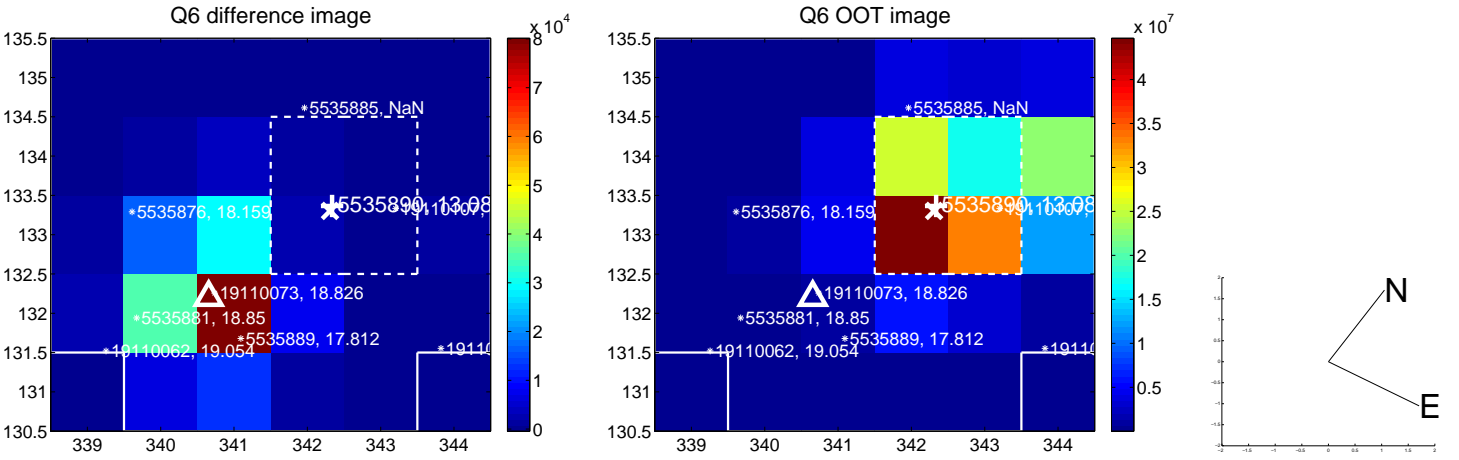
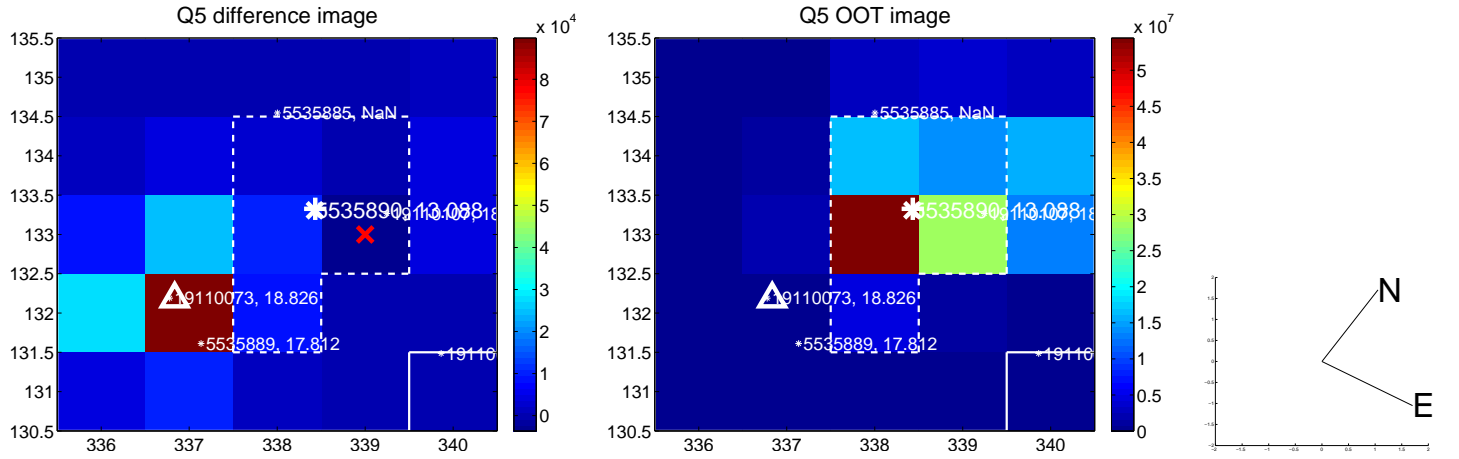


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

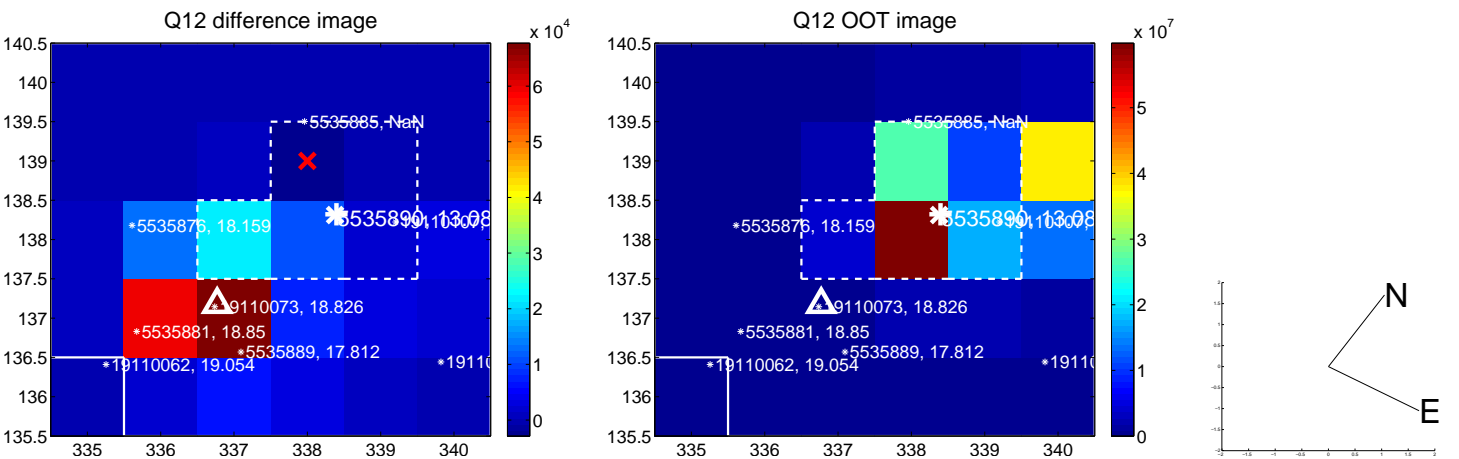
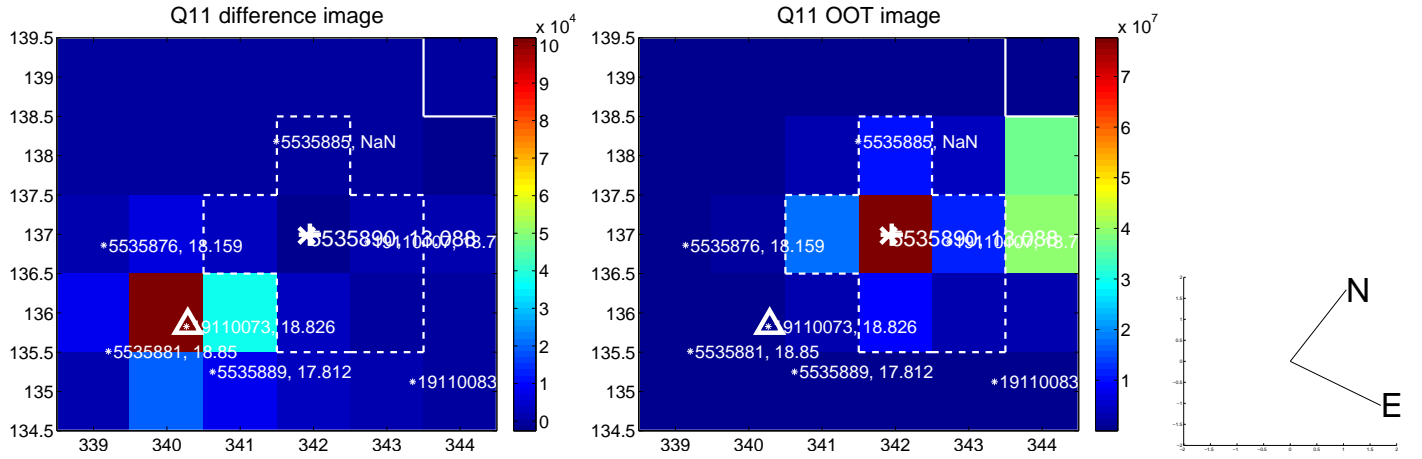
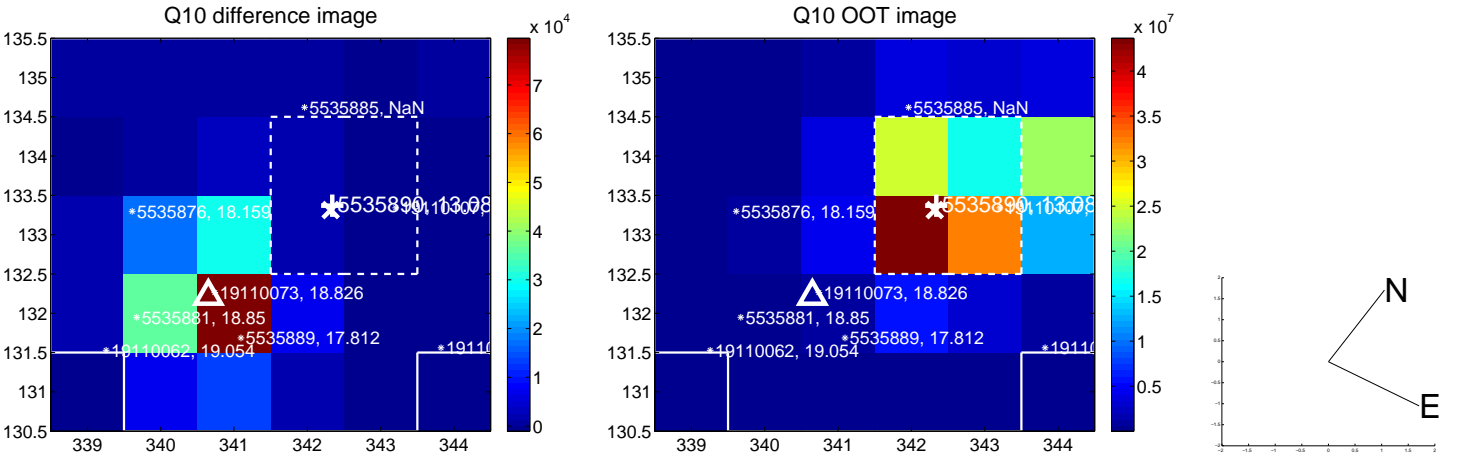
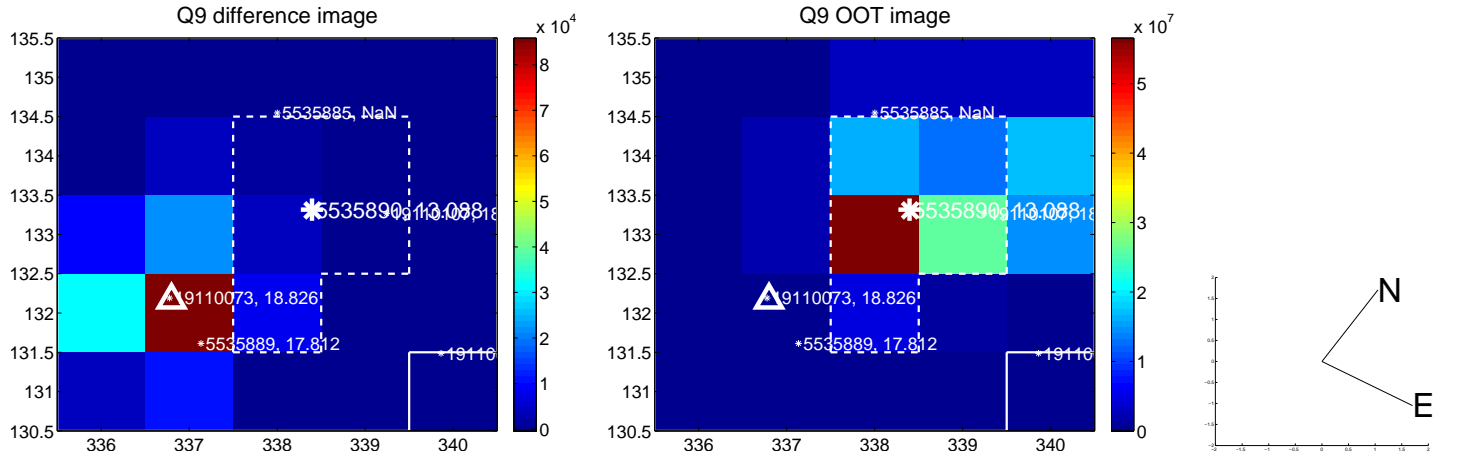
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



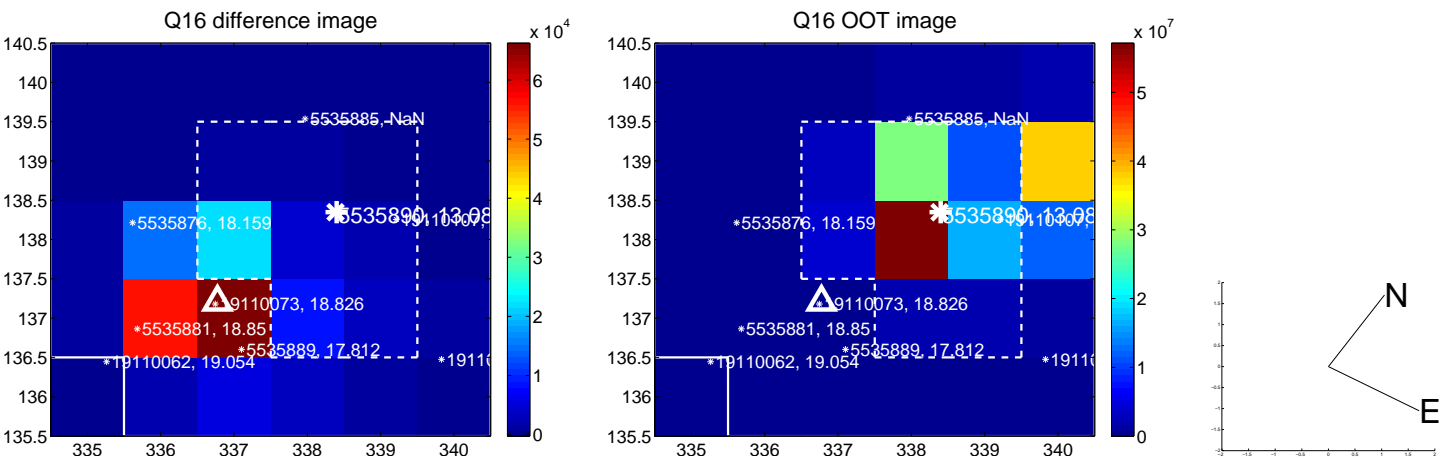
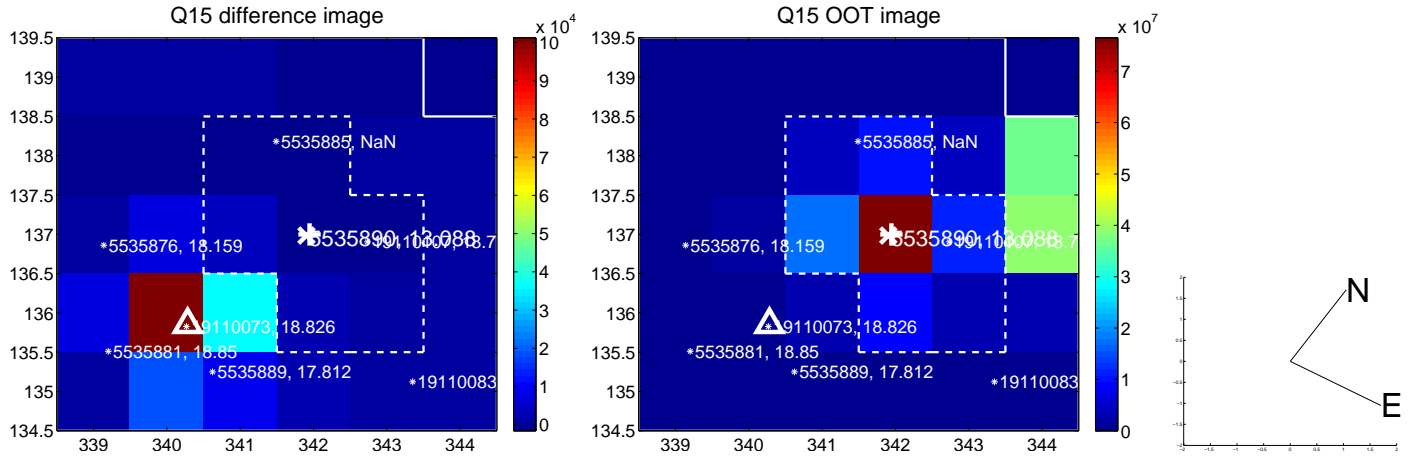
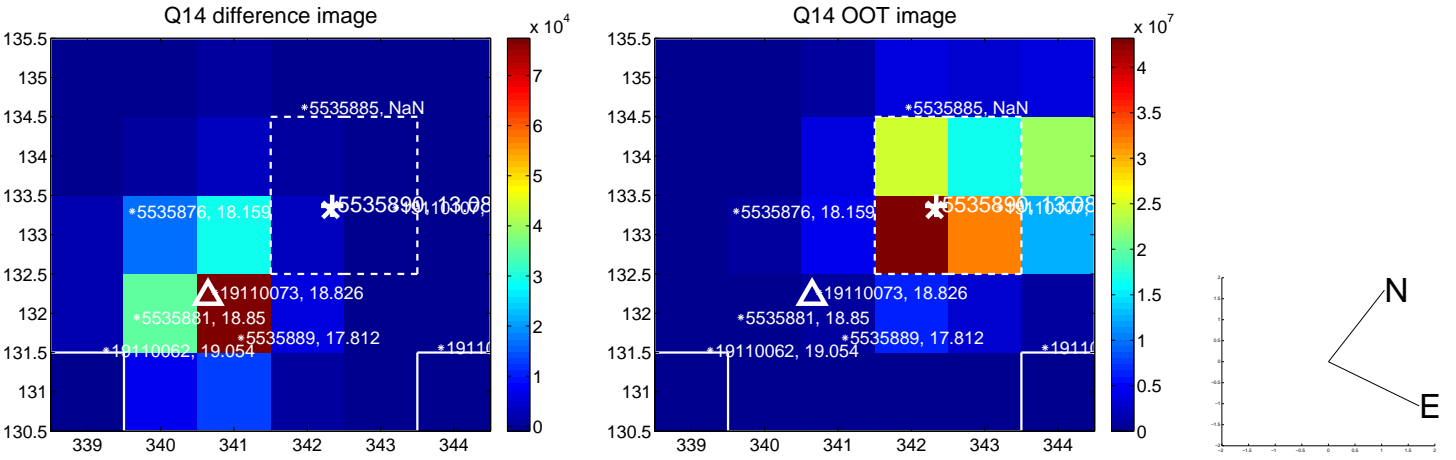
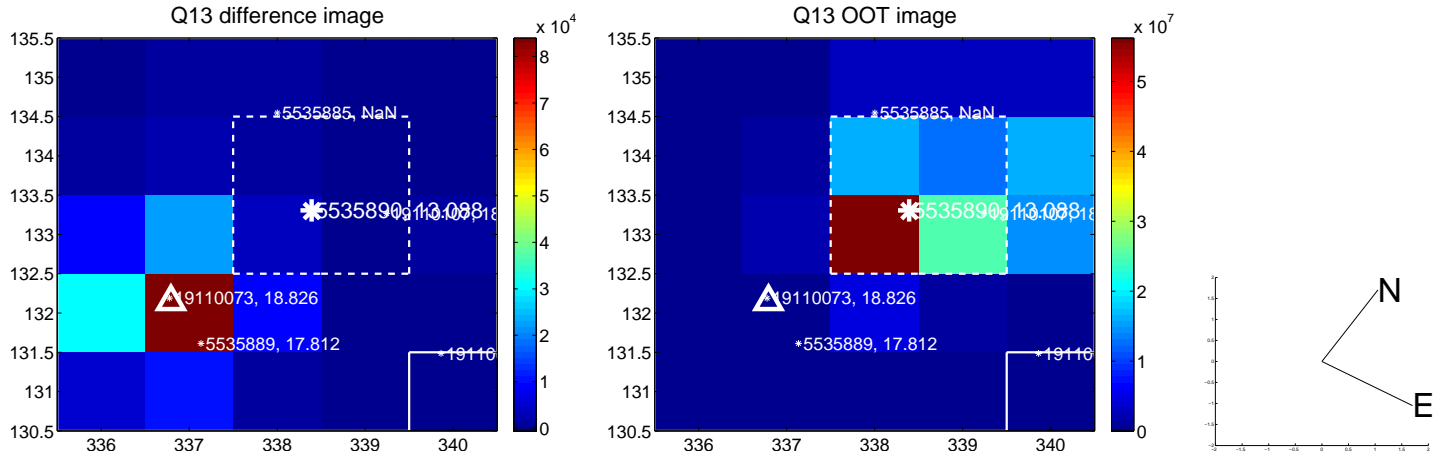
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



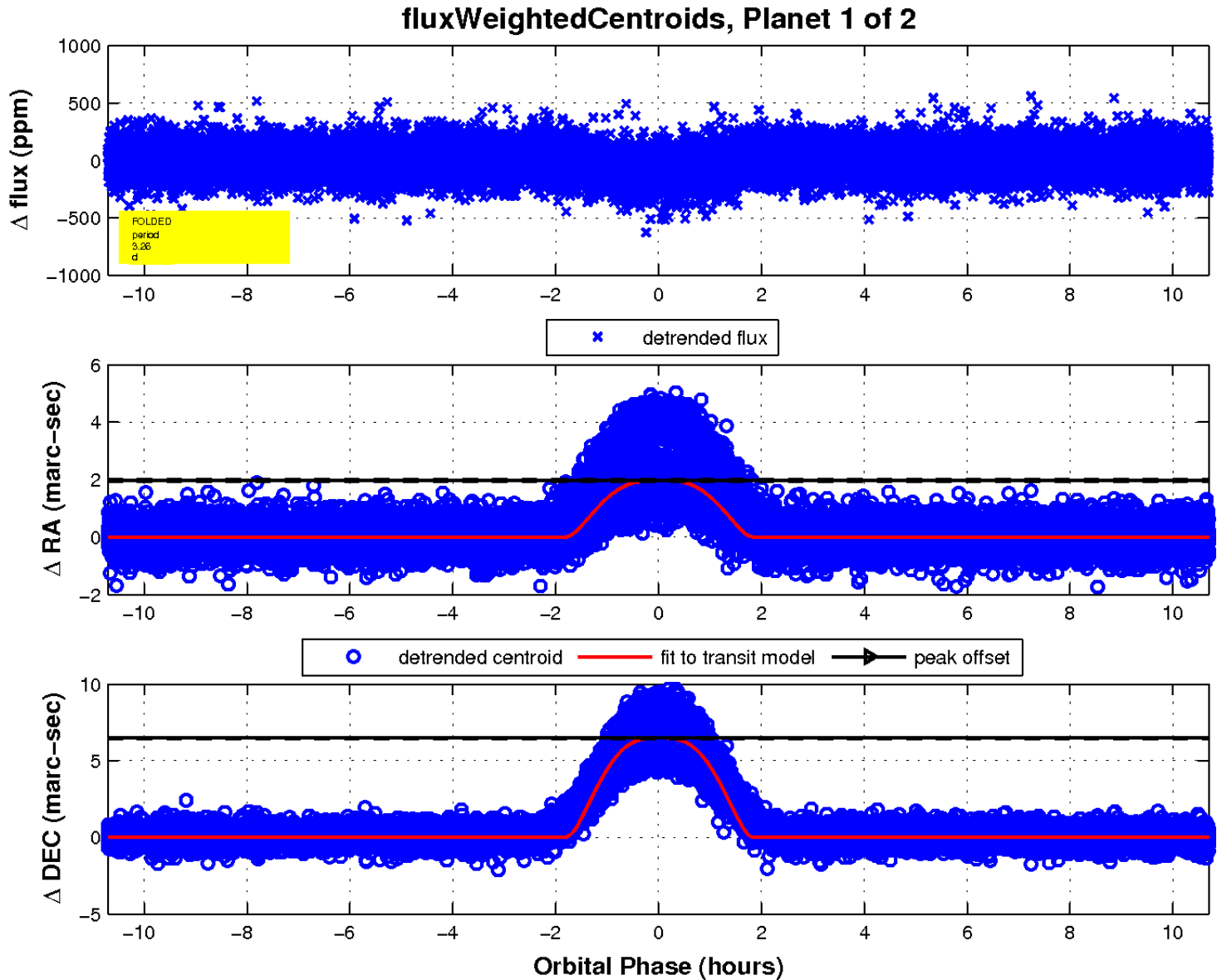
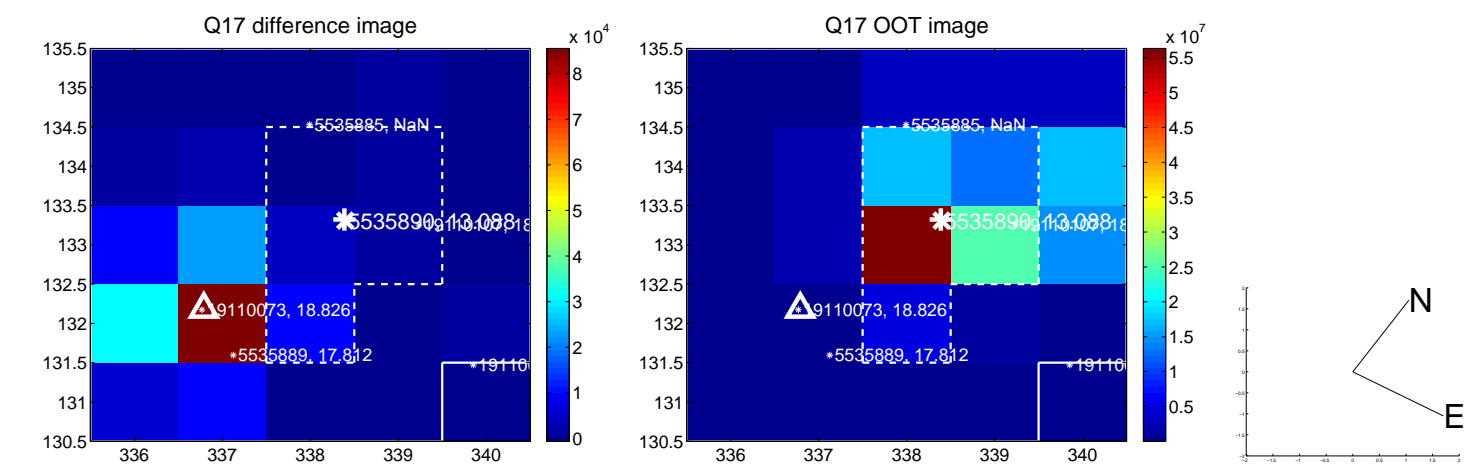
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

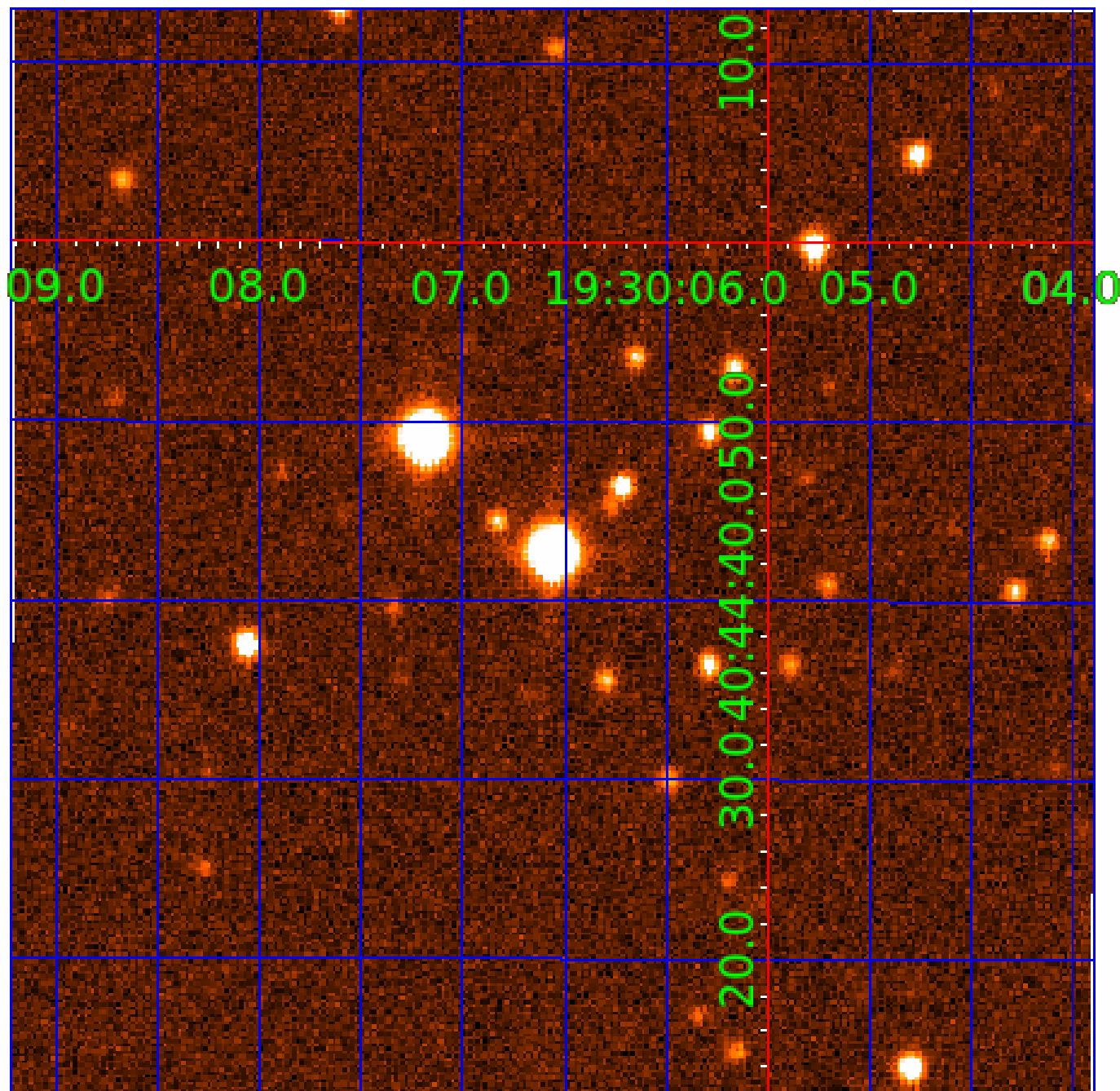


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005535890

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})
005535890-01	OBS	3865.01	3.255191	134.598843	101.1	3.568	27.8	29.7	1.26	5807	1.78	882.93
005535890-02	OBS	No	3.255206	132.964447	35.3	2.916	10.6	11.6	1.26	5807	0.88	882.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005535890-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005535890-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—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.

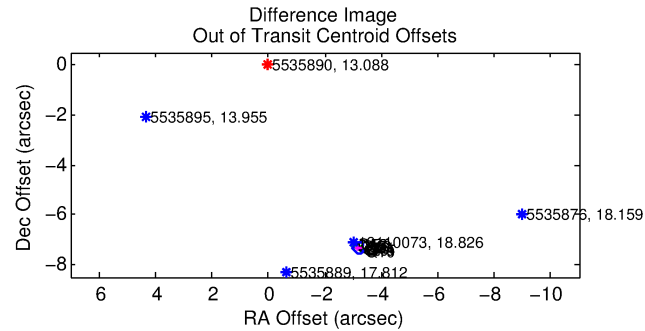
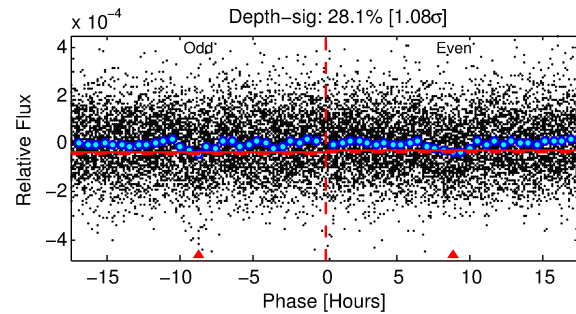
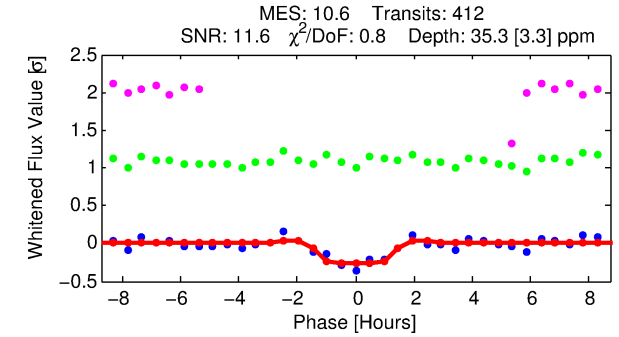
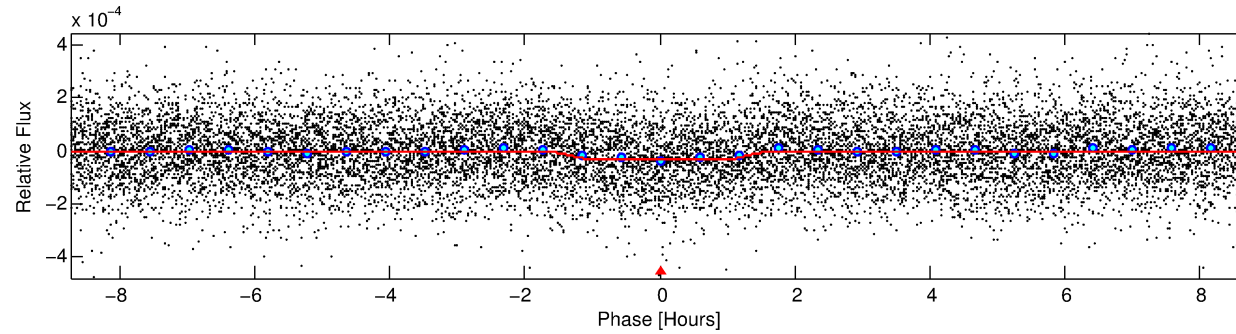
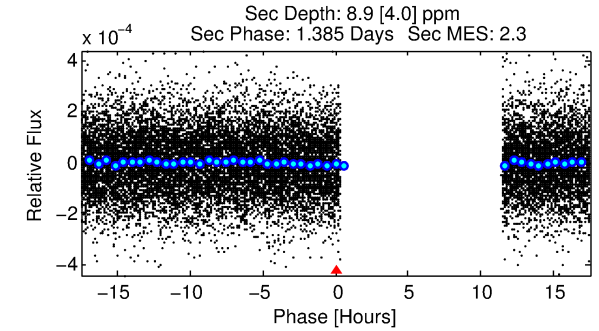
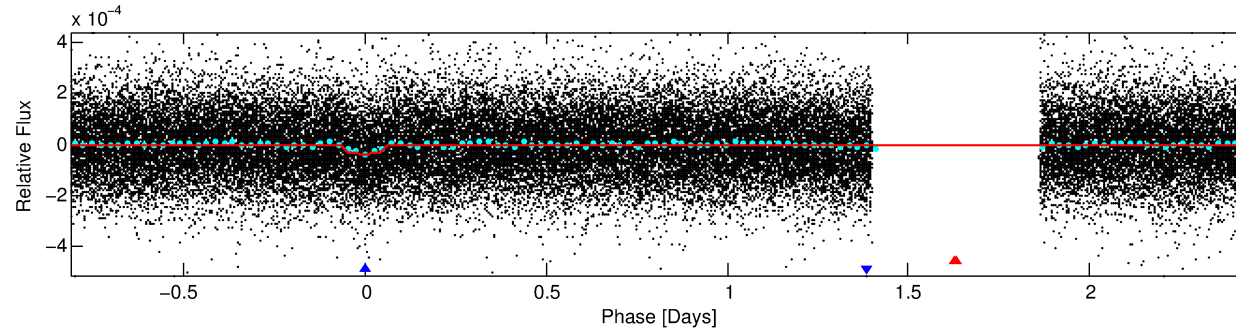
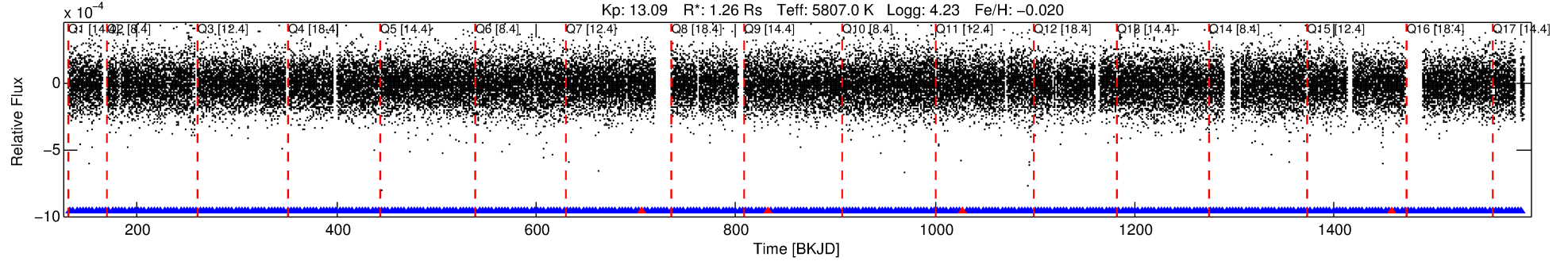
Ephemeris Match Information For 005535890-02

No Significant Match Found

DV One-Page Summary

KIC: 5535890 Candidate: 2 of 2 Period: 3.255 d
KOI: K03865 Corr: No Ephemeris Match

Kp: 13.09 R*: 1.26 Rs Teff: 5807.0 K Logg: 4.23 Fe/H: -0.020



DV Fit Results:

Period = 3.25521 [0.00002] d
Epoch = 132.9644 [0.0038] BKJD
Rp/R* = 0.0064 [0.0027]
a/R* = 4.03 [7.88]
b = 0.90 [0.47]
Seff = 882.92 [266.14]
Teq = 1390 [105] K
Rp = 0.88 [0.41] Re
a = 0.0427 [0.0078] AU
Ag = 11.49 [11.58] [0.91σ]
Teffp = 3956 [954] K [2.67σ]

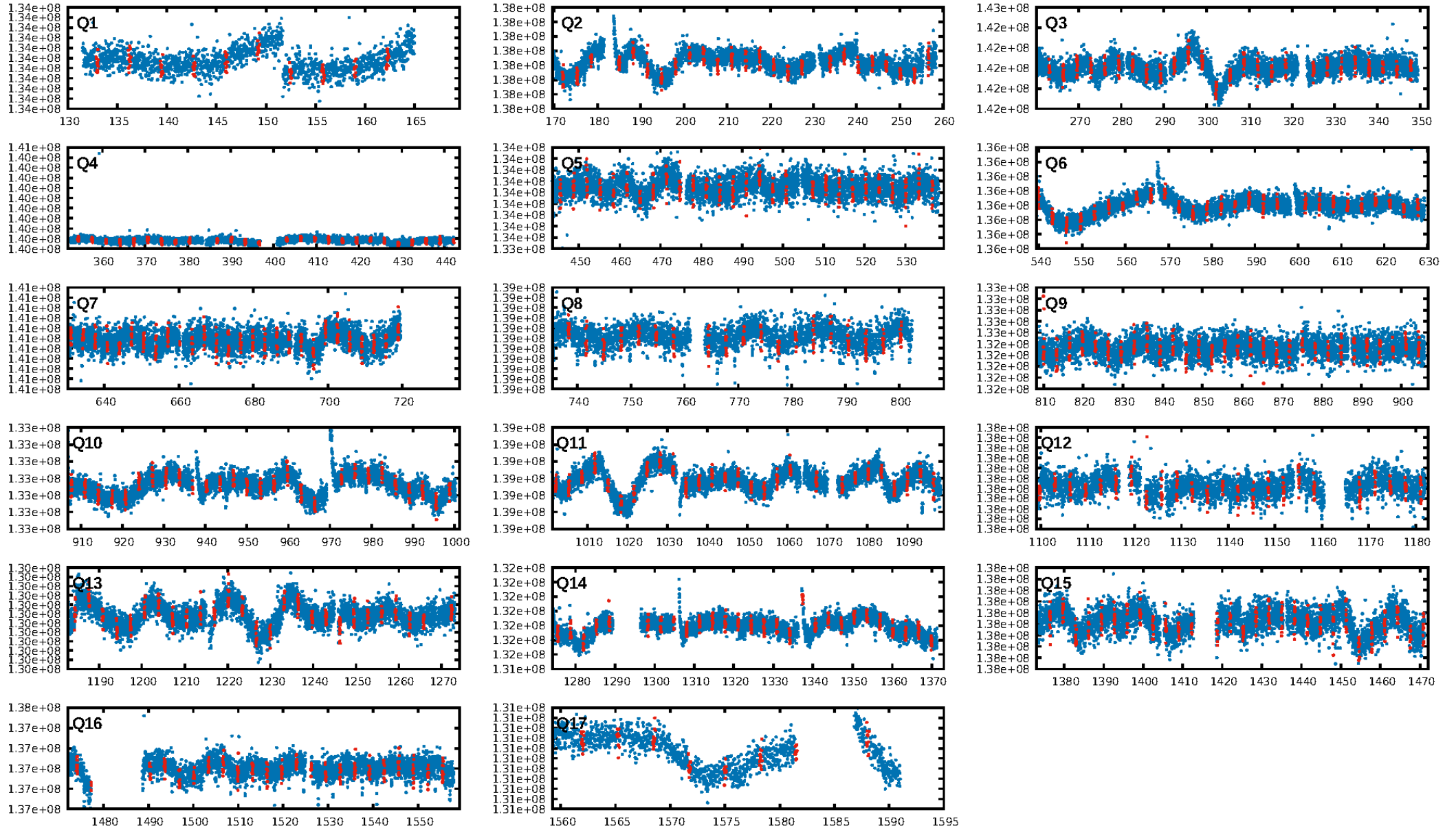
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 5.21e-25
RollingBand-fgt: 0.99 [390/394]
GhostDiagnostic-chr: -0.02472
Centroid-sig: 0.0%
Centroid-so: 84.427 arcsec [93.70σ]
OotOffset-rm: 8.000 arcsec [112.24σ]
KicOffset-rm: 7.857 arcsec [116.28σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
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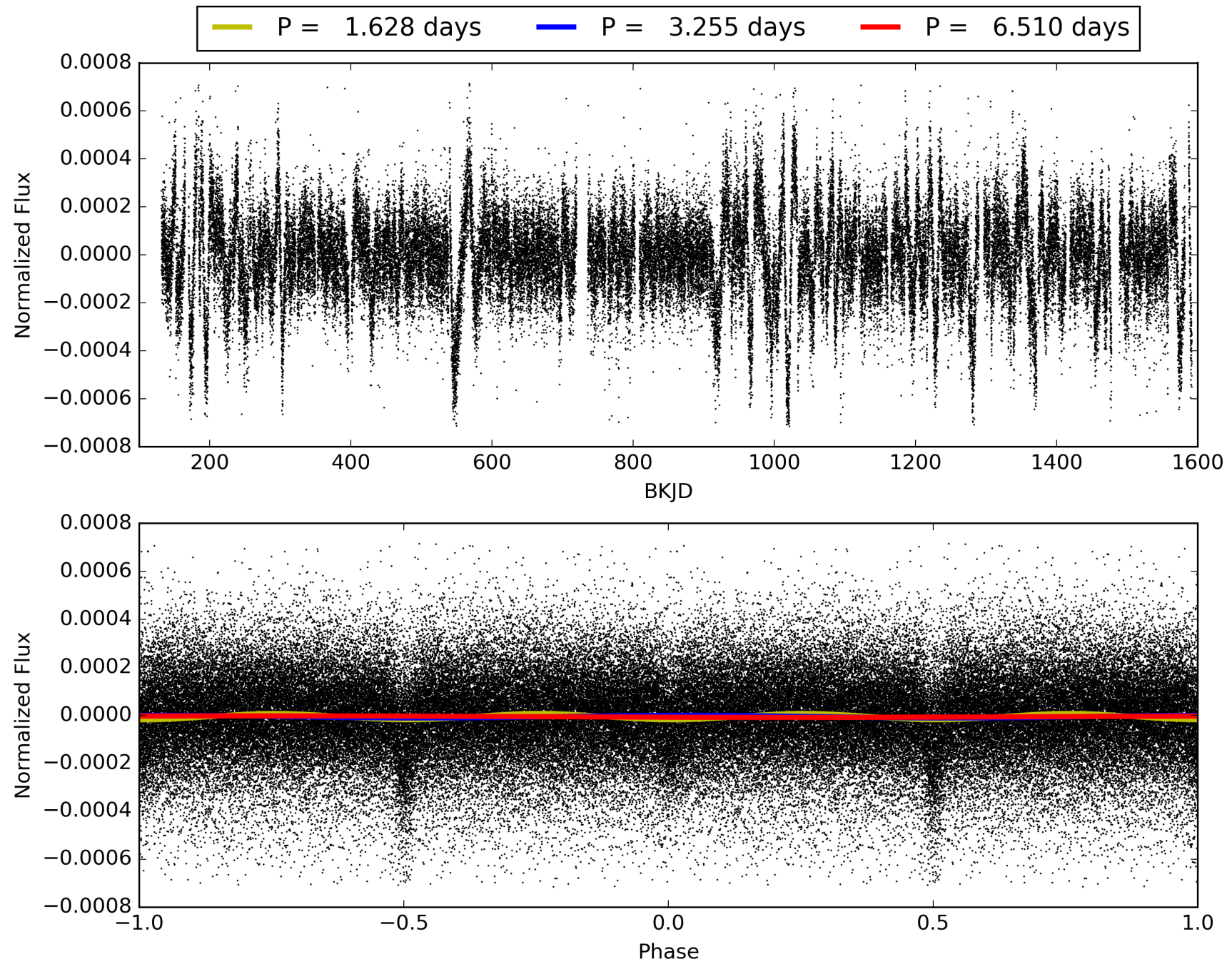
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:17:18 Z

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

TCE 005535890-02, PDC Light Curves

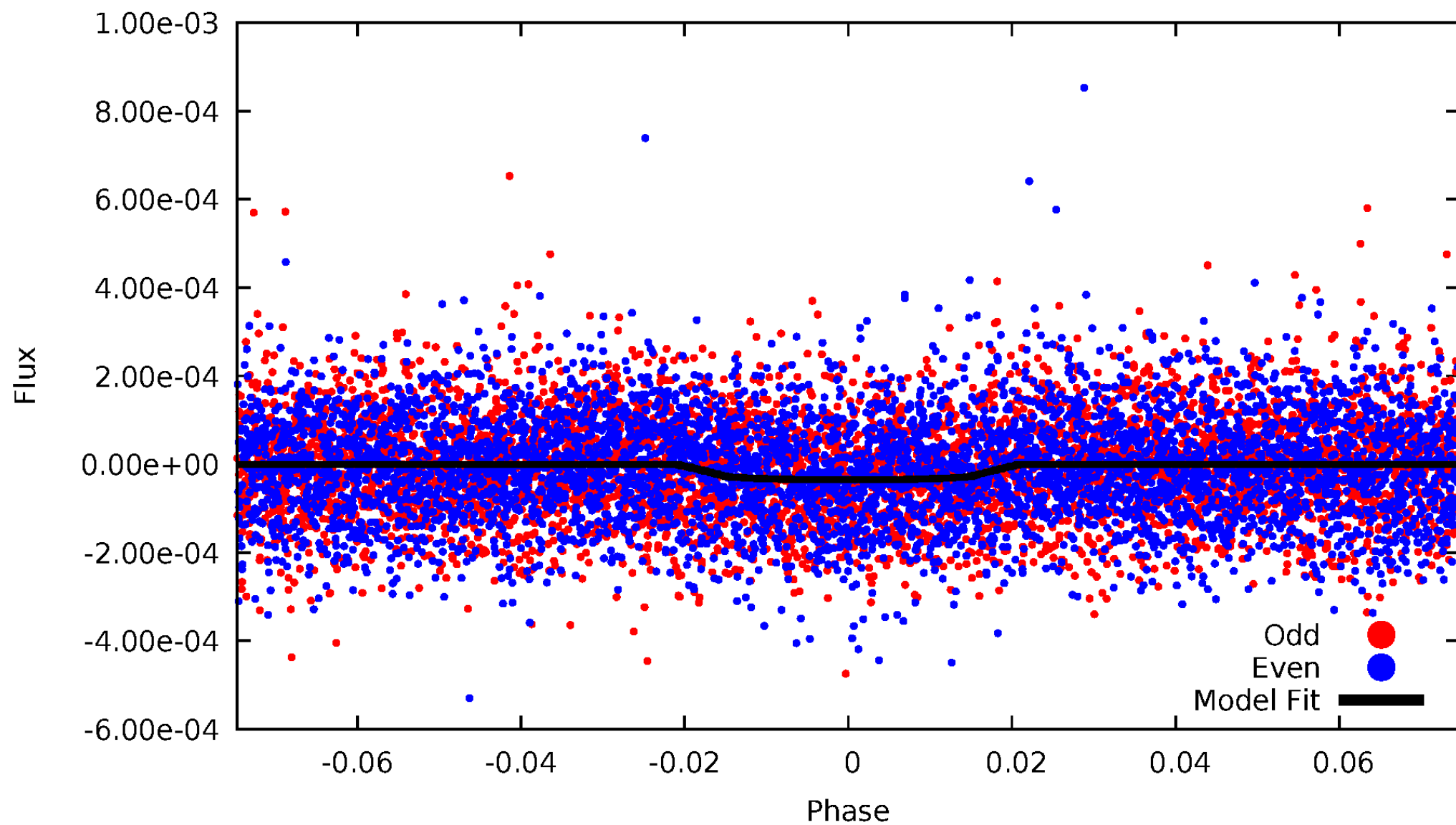


TCE 005535890-02



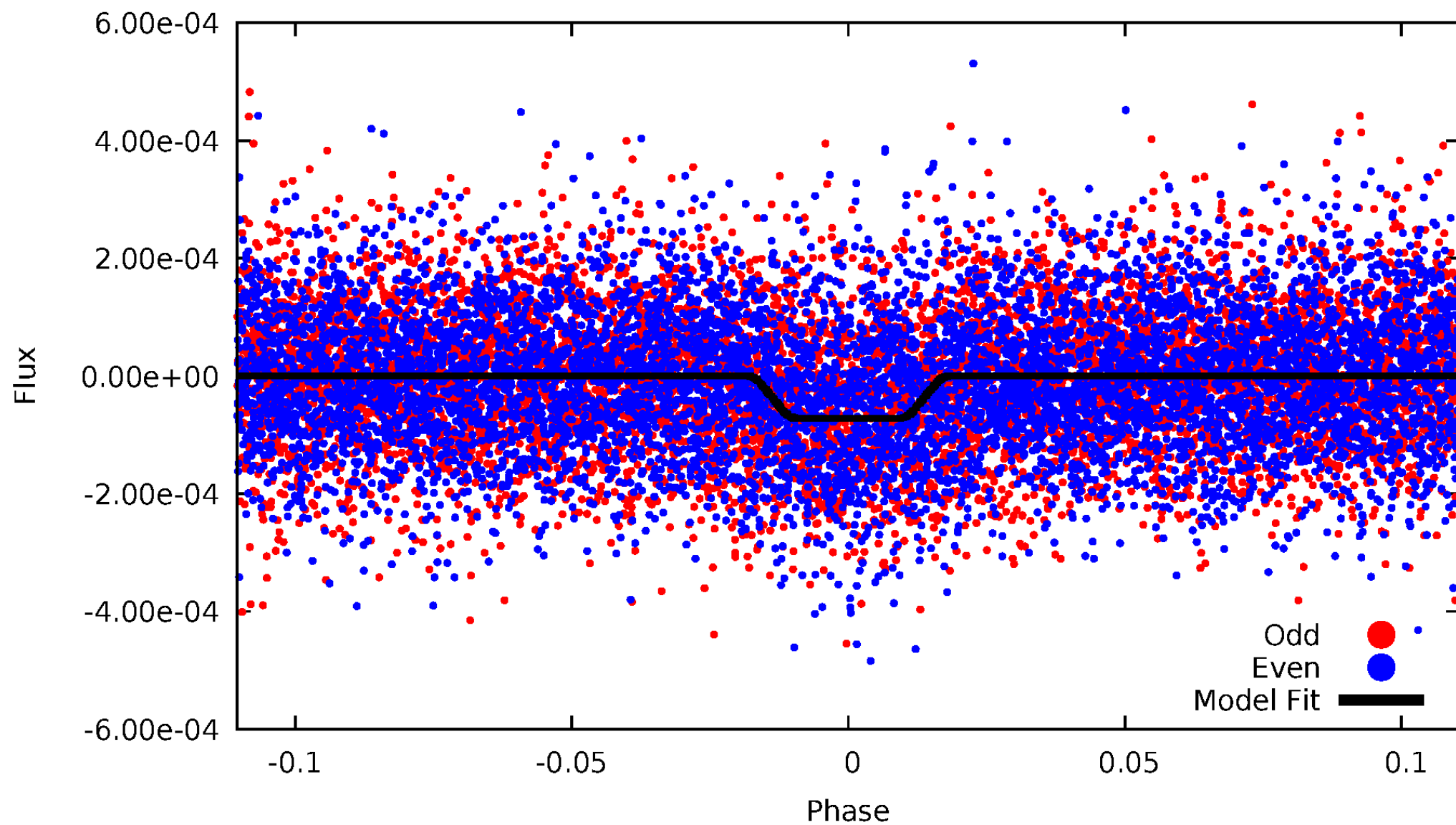
DV Odd/Even

TCE 005535890-02



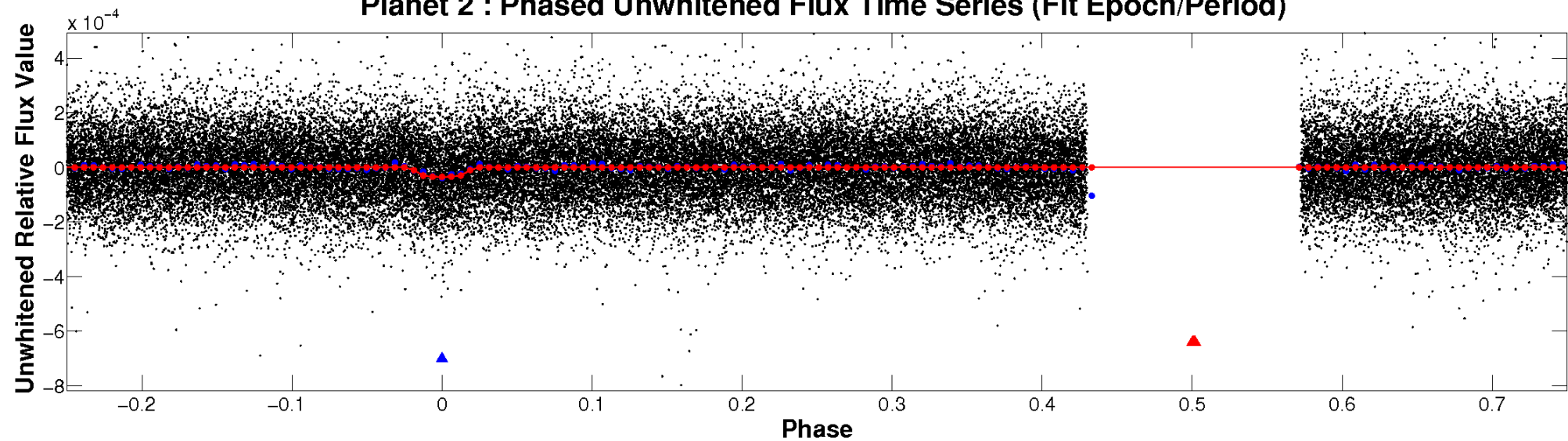
ALT Odd/Even

TCE 005535890-02

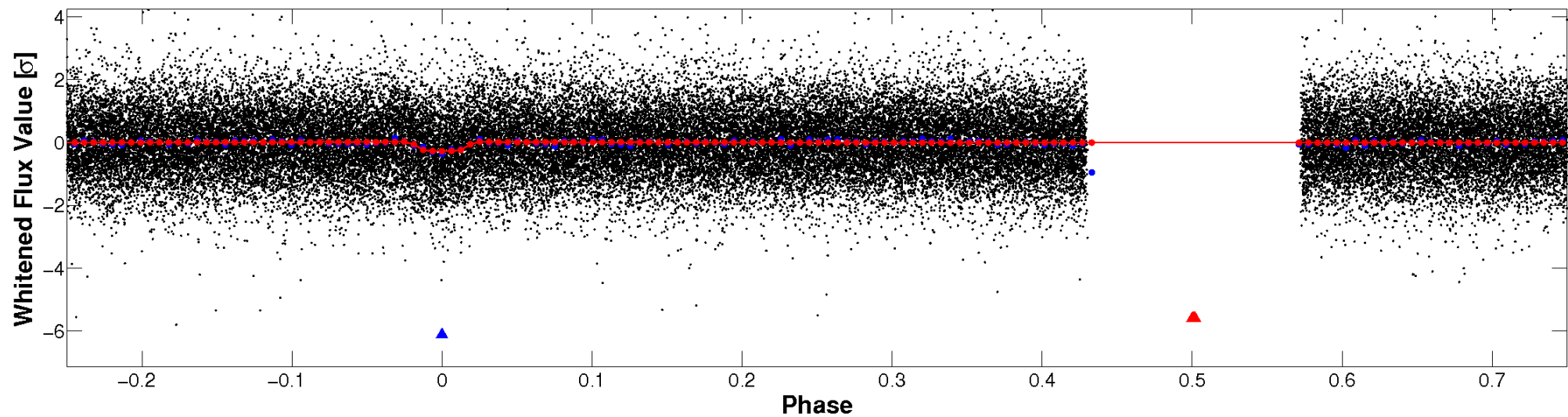


Non-Whitened Vs. Whitened Light Curve

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

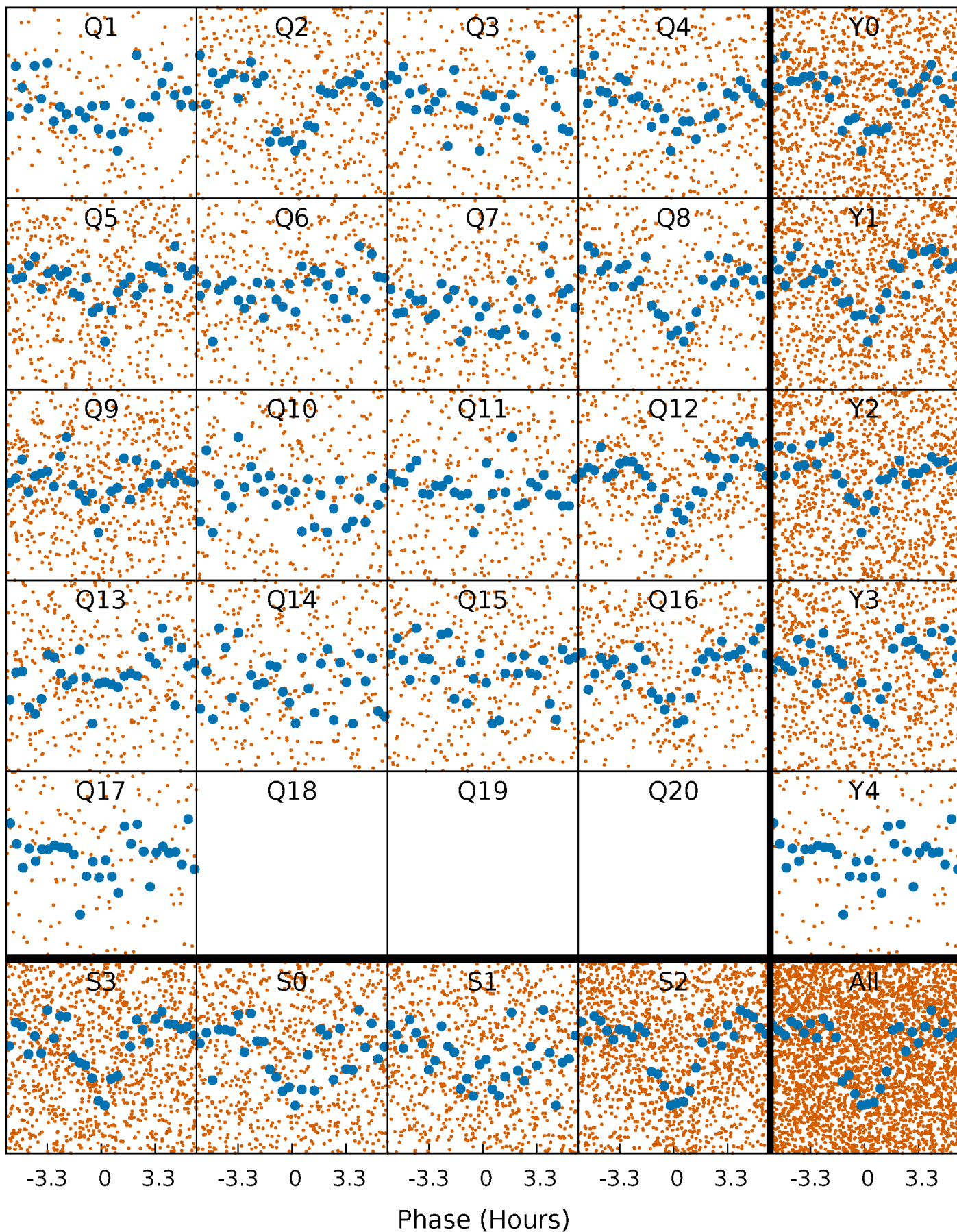


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



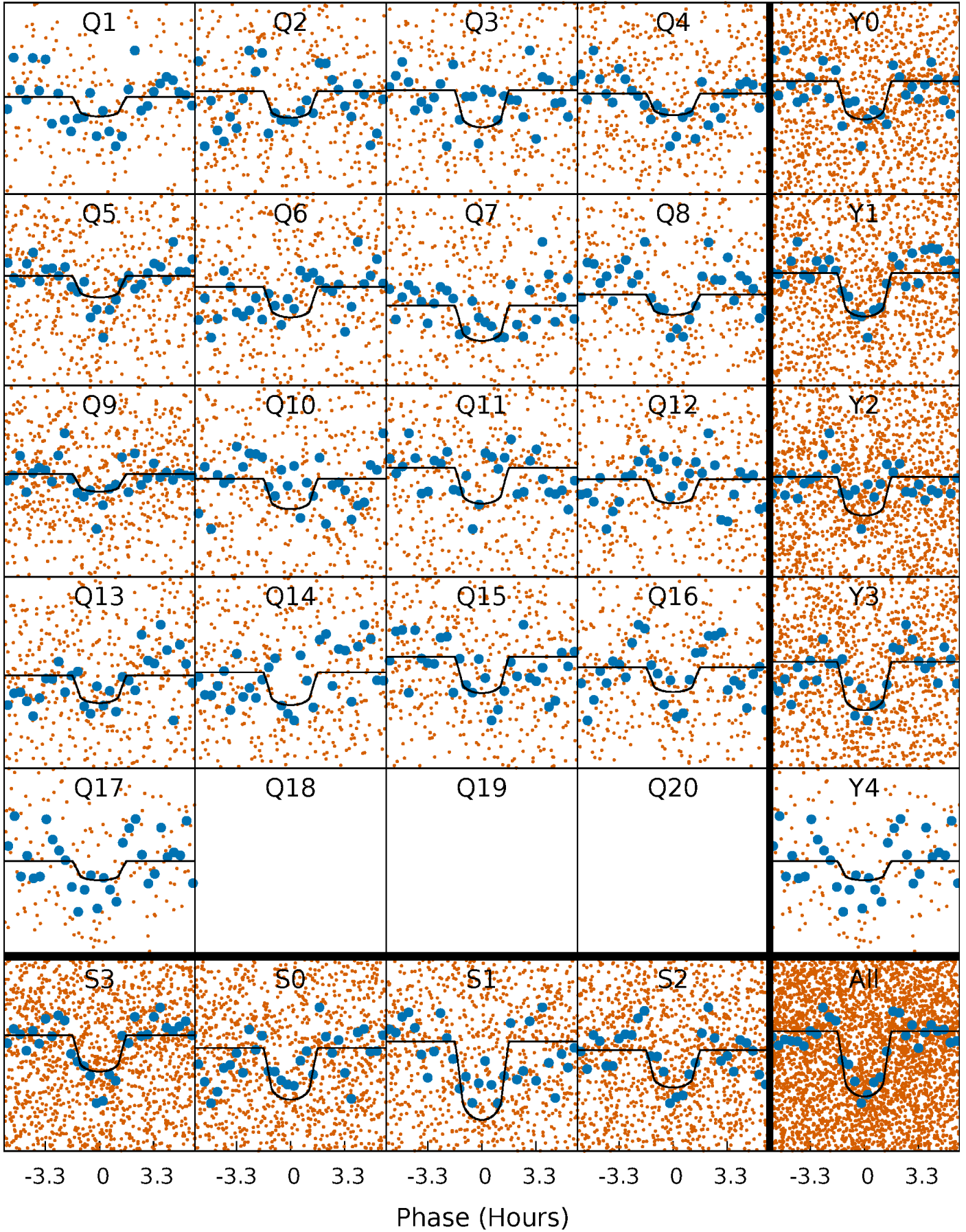
PDC Quarter-Phased Transit Curves

TCE 005535890-02 P= 3.255206 Days $T_0=132.964447$ (BKJD)



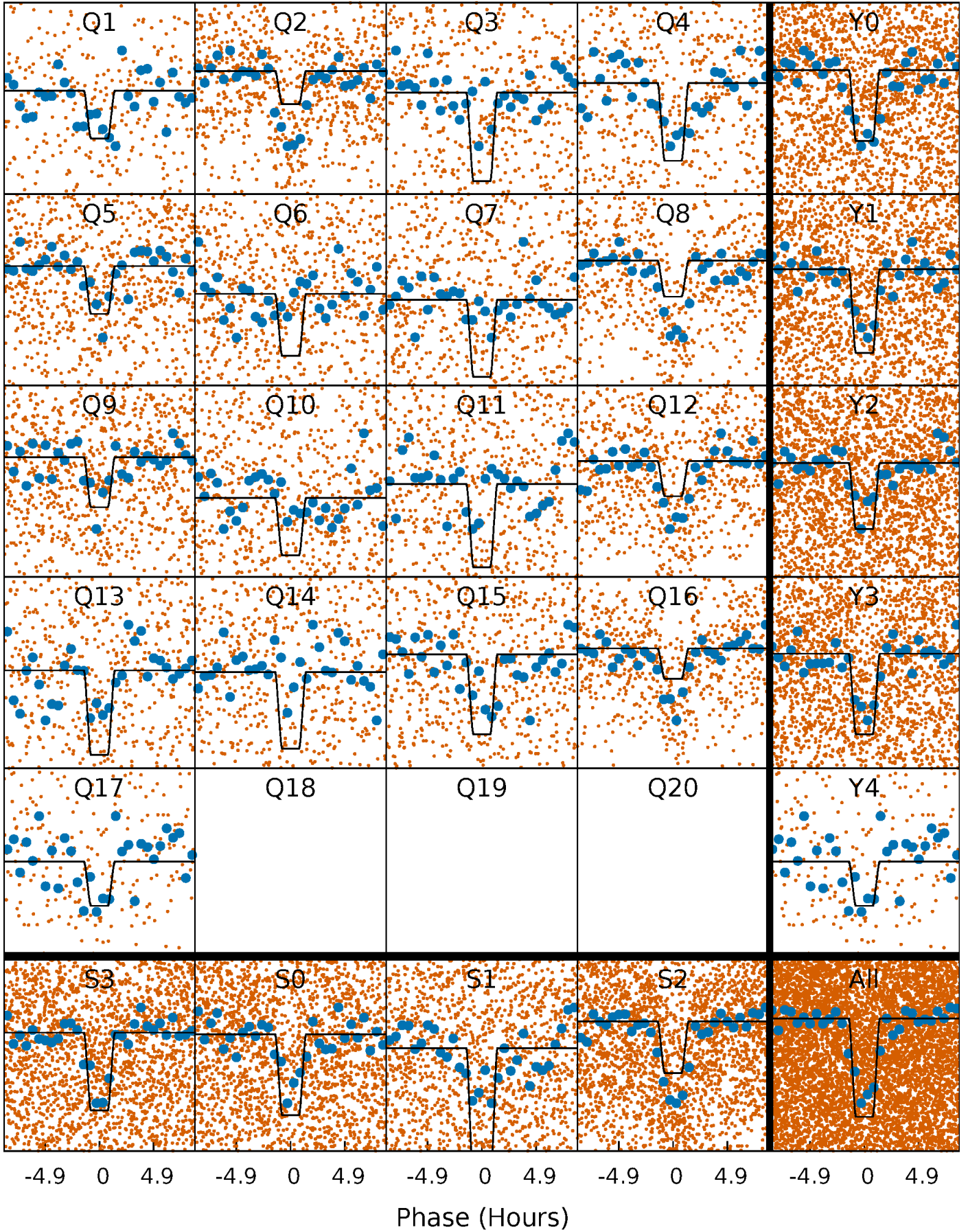
DV Quarter-Phased Transit Curves

TCE 005535890-02 P= 3.255206 Days $T_0=132.964447$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

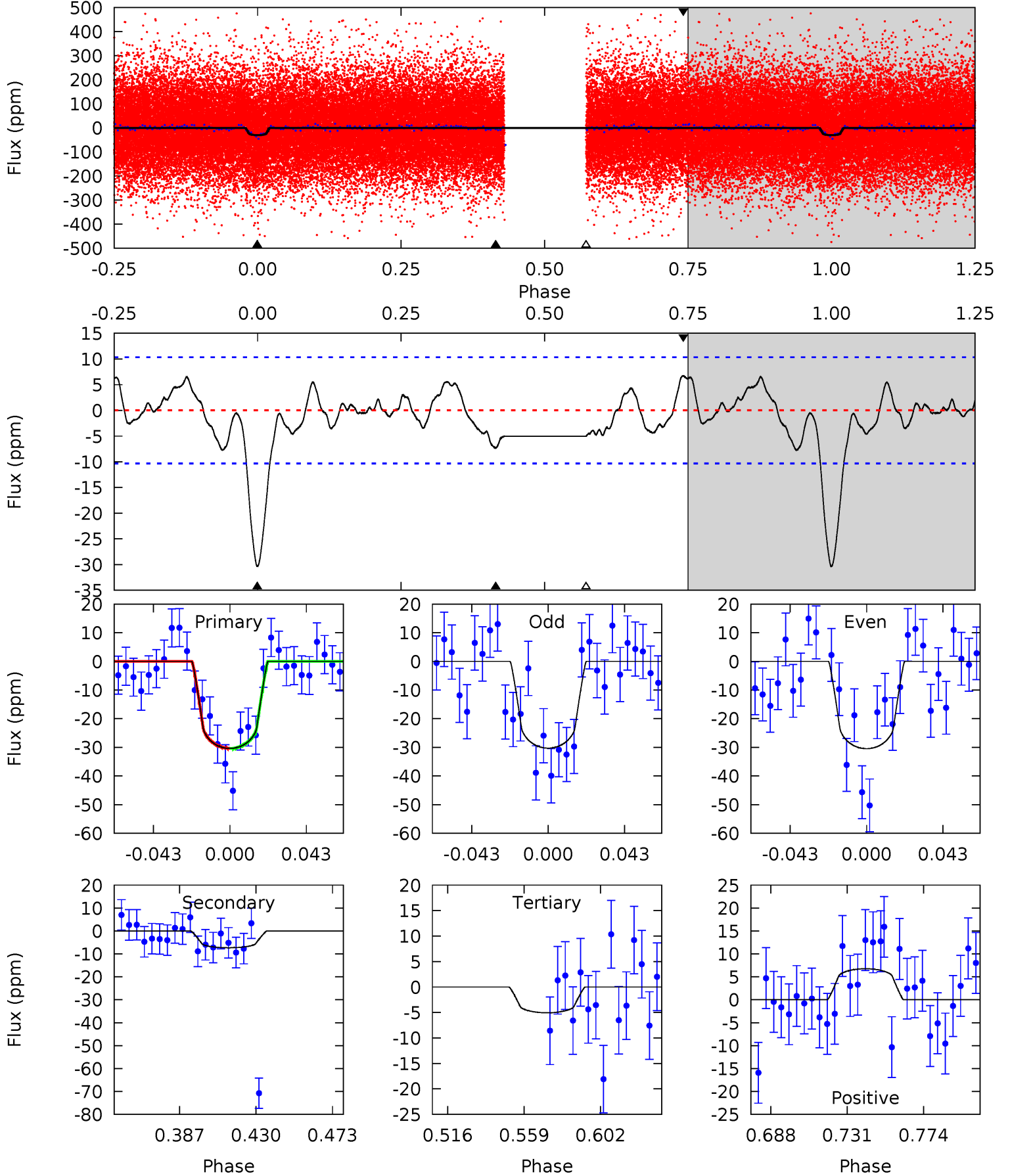
TCE 005535890-02 P= 3.255214 Days $T_0=132.962663$ (BKJD)



DV Model-Shift Uniqueness Test

005535890-02, P = 3.255206 Days, E = 129.709241 Days

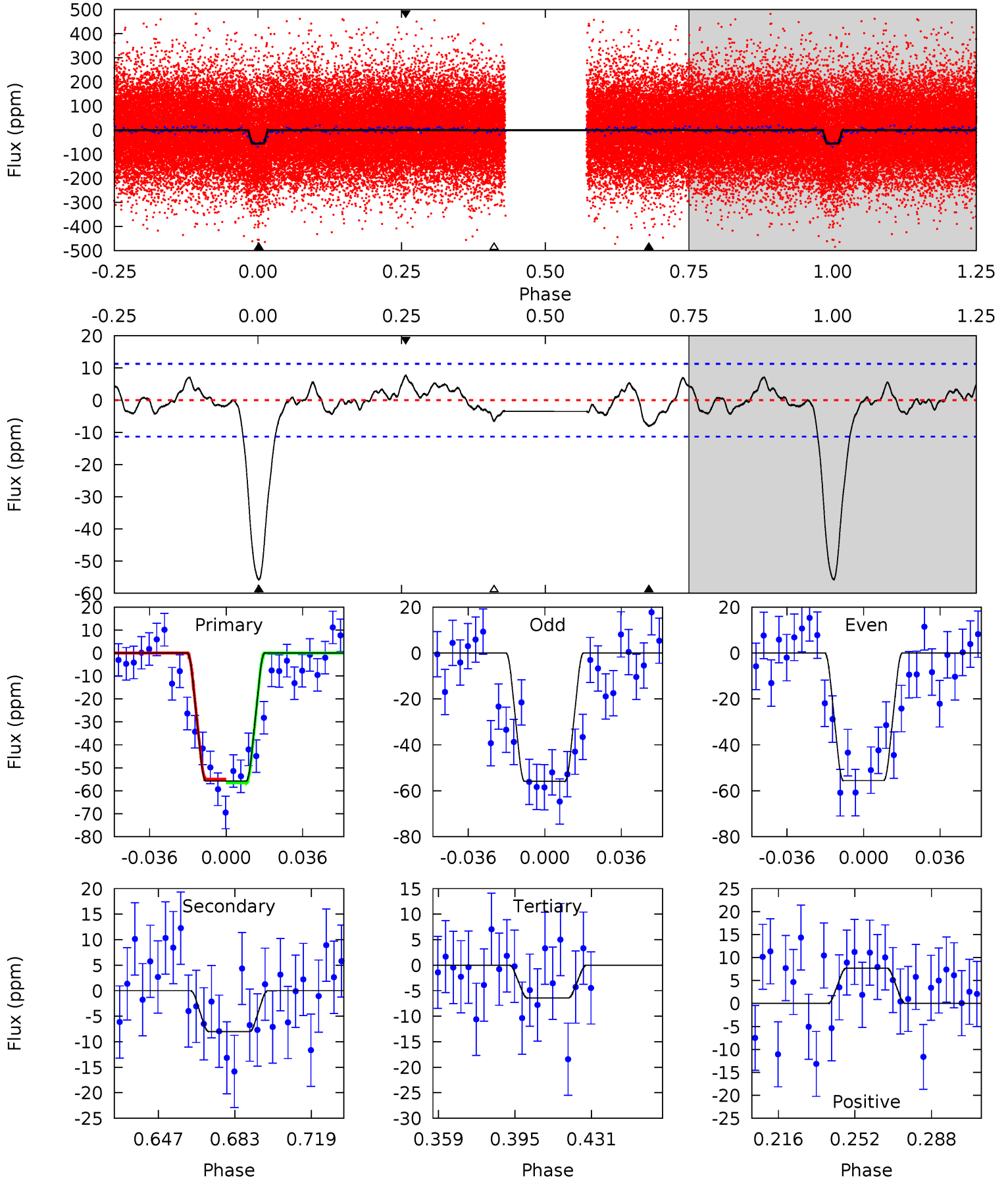
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	3.36	2.32	3.10	4.74	2.02	1.49	11.6	10.8	1.05	0.27	0.04	0.98	0.18	0.01



Alt Model-Shift Uniqueness Test

005535890-02, P = 3.255214 Days, E = 129.707449 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.5	3.39	2.72	3.25	4.78	2.10	1.28	20.8	20.3	0.67	0.14	0.08	1.04	0.12	0.34



Stellar Parameters For KIC 005535890

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5807^{+79}_{-79}	$4.230^{+0.176}_{-0.108}$	$-0.020^{+0.150}_{-0.150}$	$1.256^{+0.189}_{-0.230}$	$0.977^{+0.078}_{-0.064}$	$0.695^{+0.536}_{-0.221}$
	+1%/-1%	+4%/-3%	+750%/-750%	+15%/-18%	+8%/-7%	+77%/-32%
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 005535890-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7 ± 2	$0.85^{+0.40}_{-0.34}$	1932^{+91}_{-106}	4038^{+965}_{-552}	10^{+19}_{-6}
Alt.	-8 ± 2	$1.14^{+0.37}_{-0.39}$	1930^{+90}_{-108}	3709^{+602}_{-392}	$6.167^{+7.967}_{-3.076}$

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 $A_{obs} \gg 1.0$

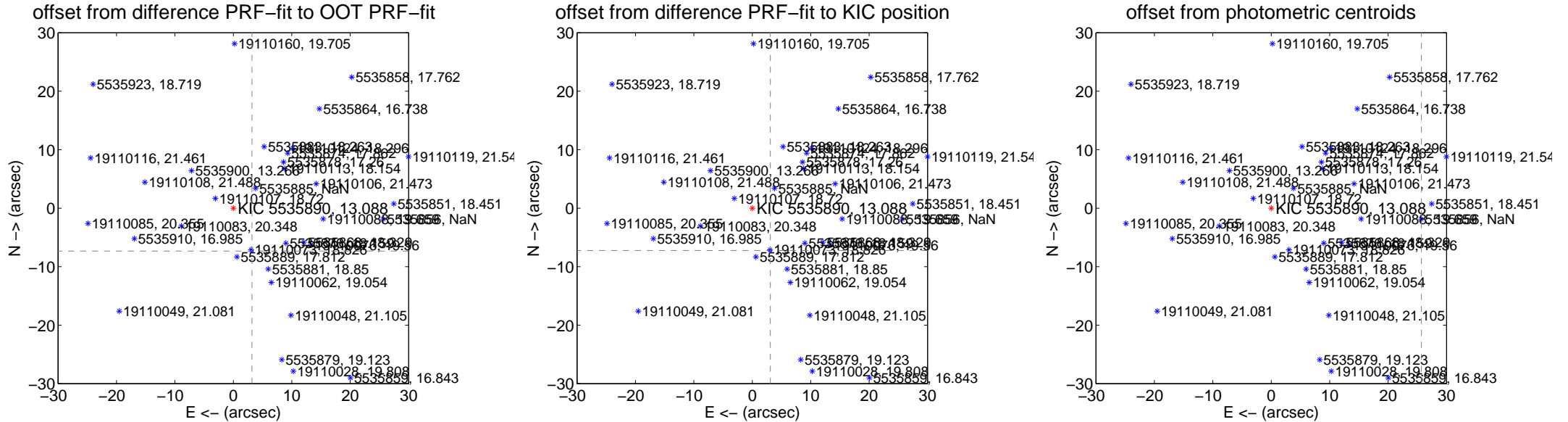
DV Centroid Data

Supplemental centroid analysis for 005535890-02. Kepler magnitude: 13.09. Transit SNR 11.57

There are 17 quarters with good PRF difference image offsets

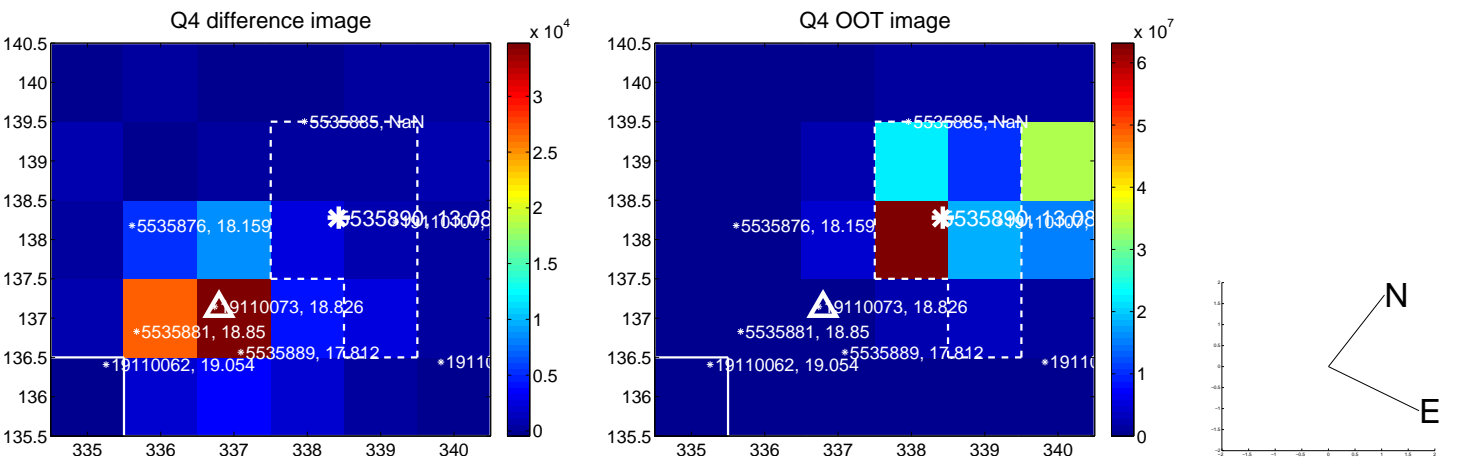
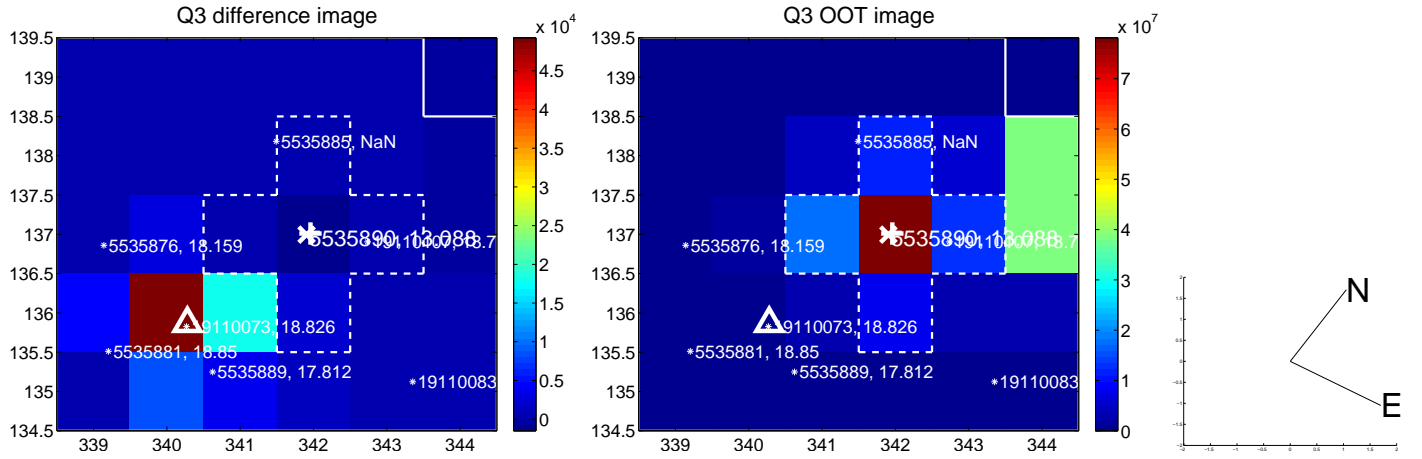
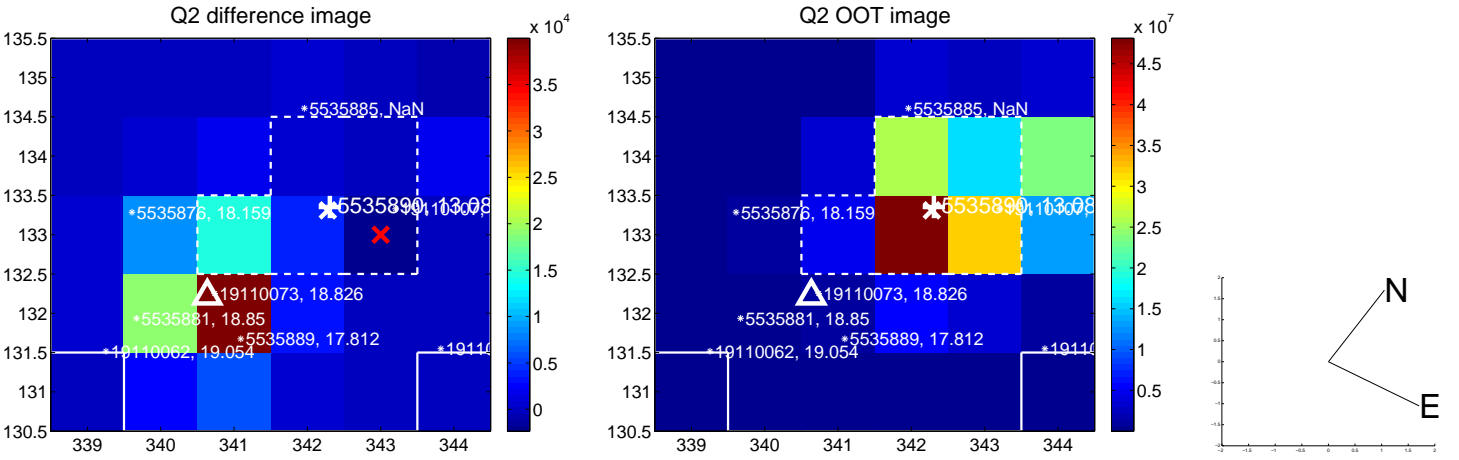
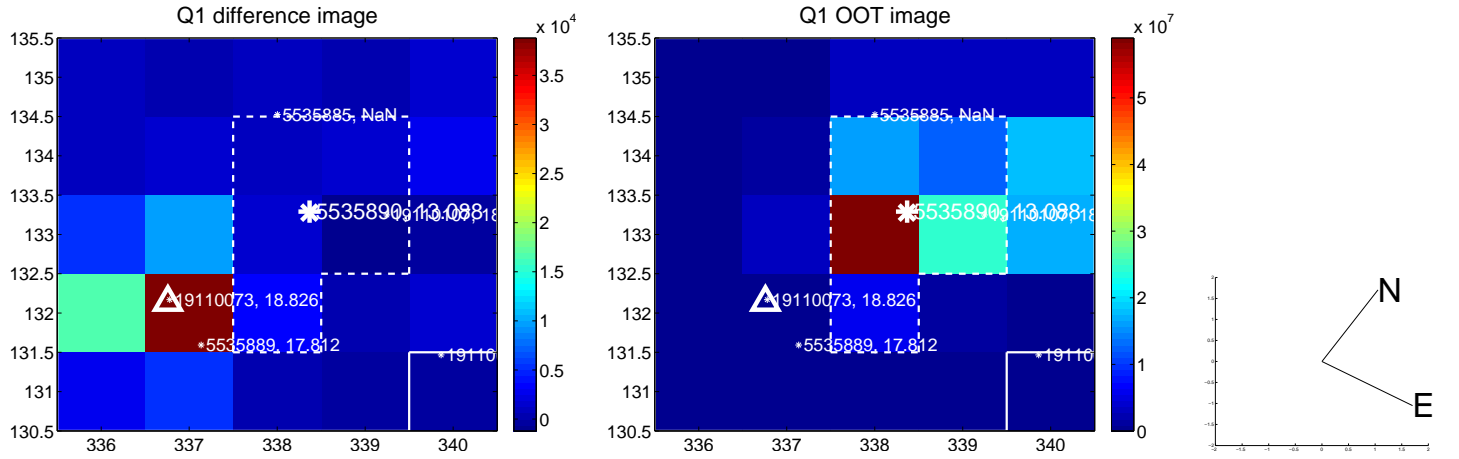
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.000 ± 0.071	112.24	-3.187 ± 0.072	-7.338 ± 0.069
PRF-fit source offset from KIC position	7.857 ± 0.068	116.28	-3.083 ± 0.069	-7.227 ± 0.067
photometric centroid source offset	84.43 ± 0.90	93.70	-25.70 ± 0.92	-80.42 ± 0.90

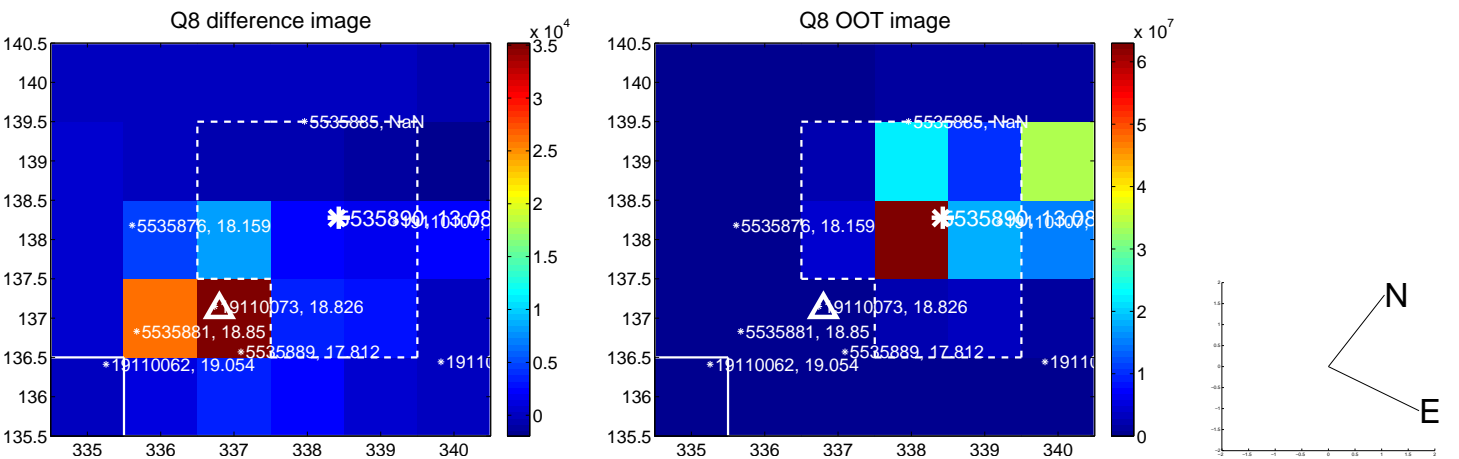
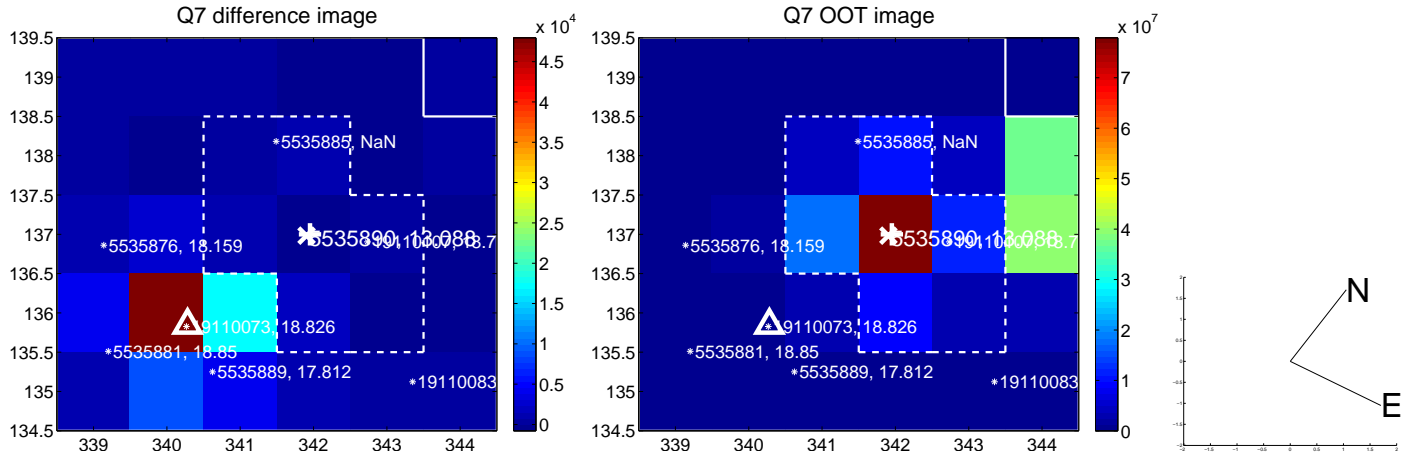
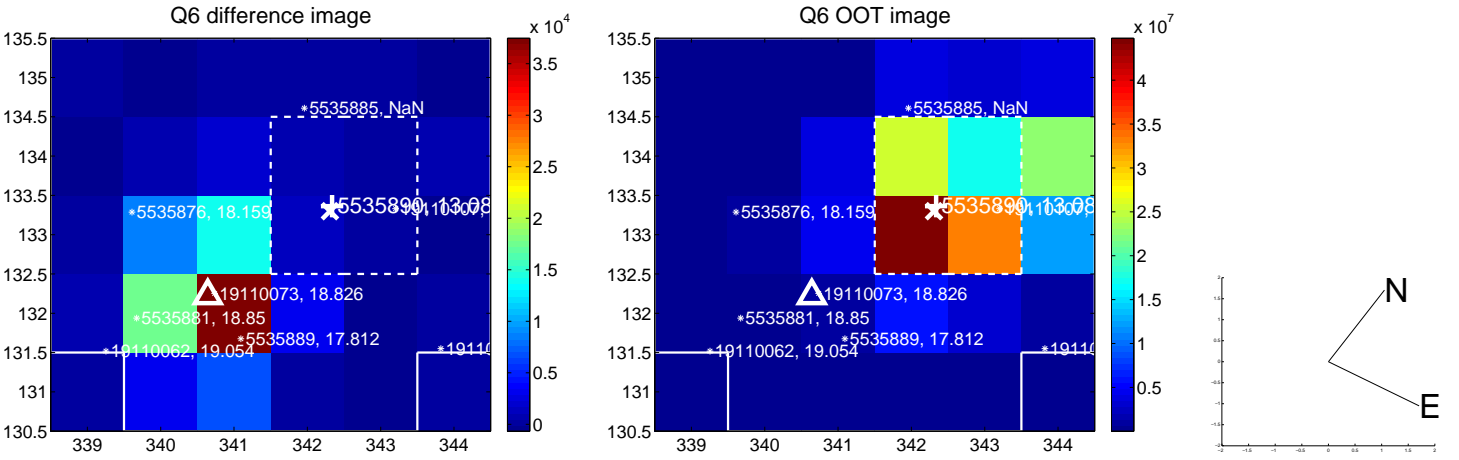
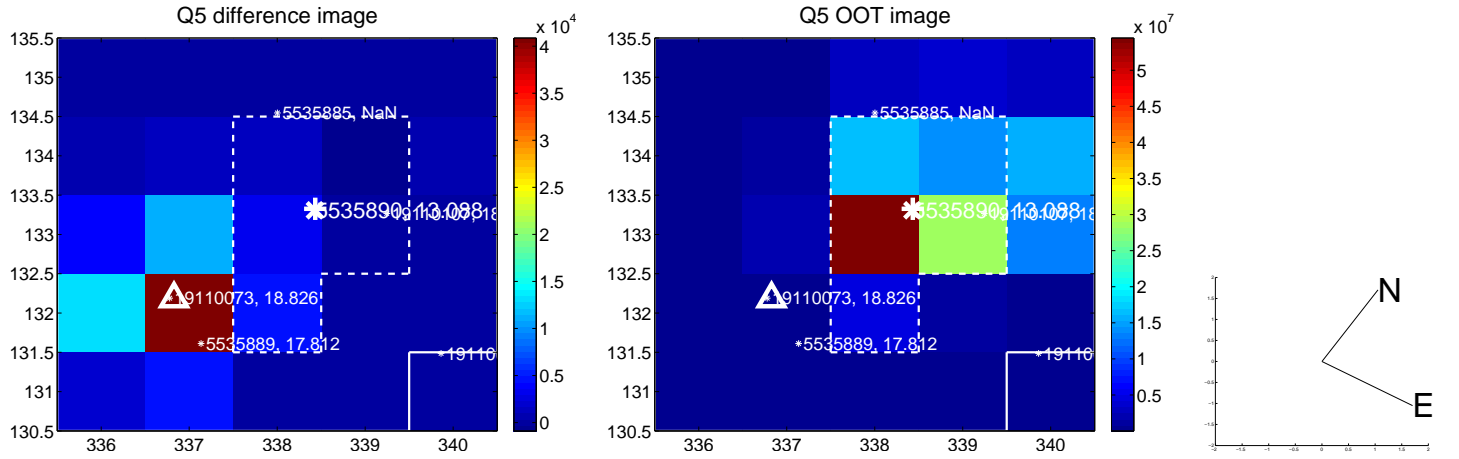


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

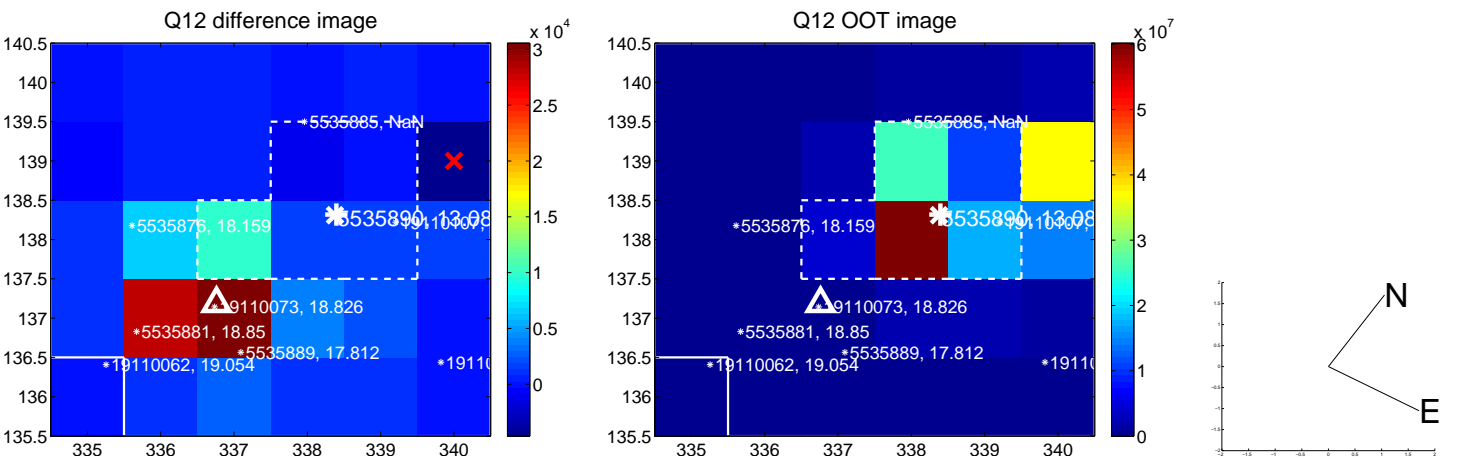
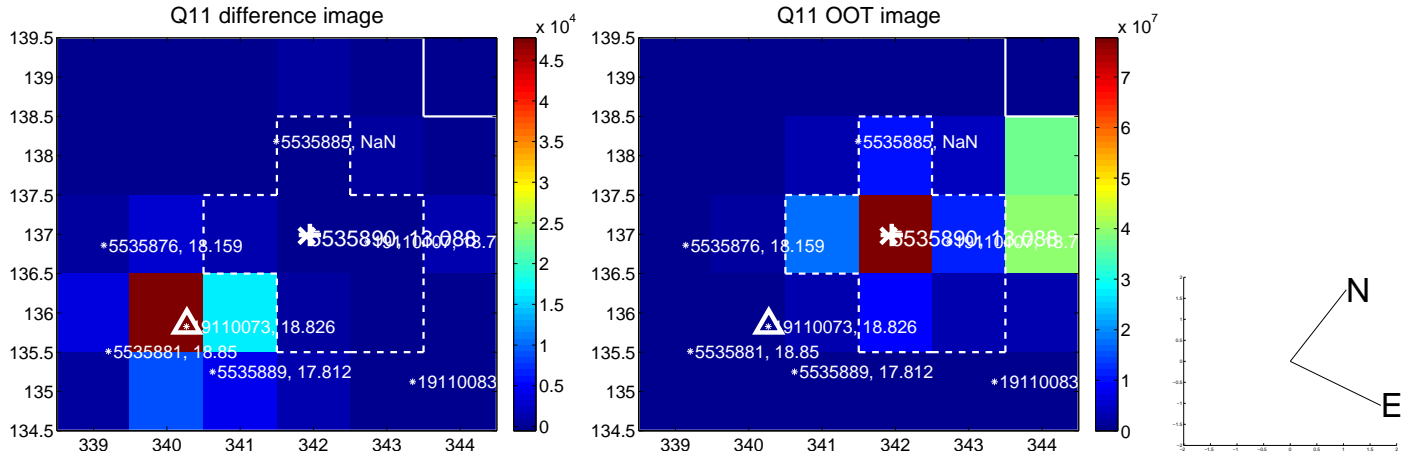
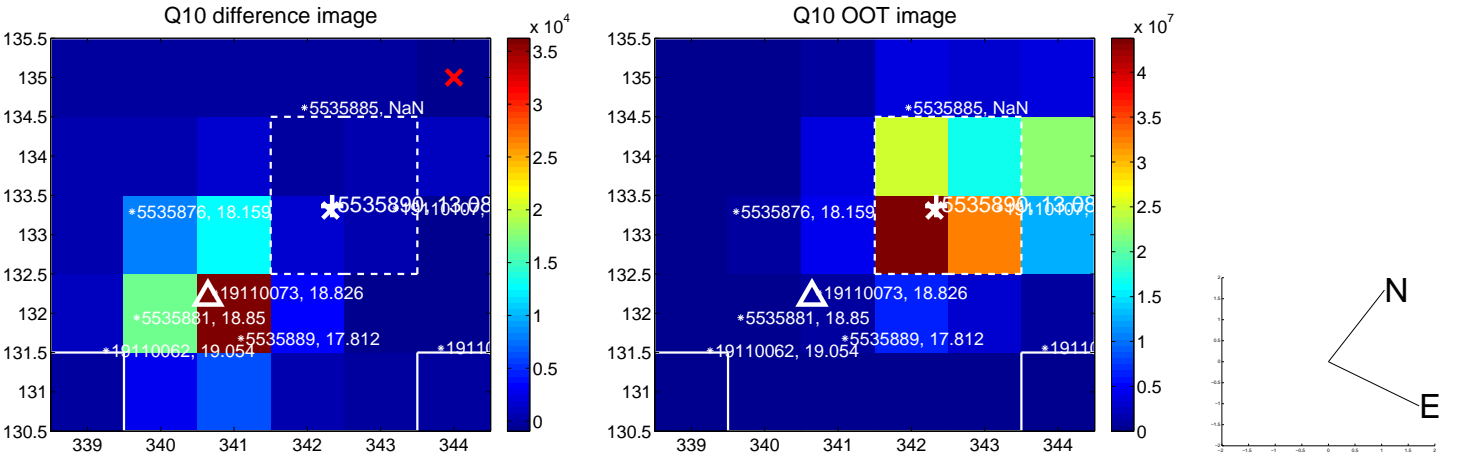
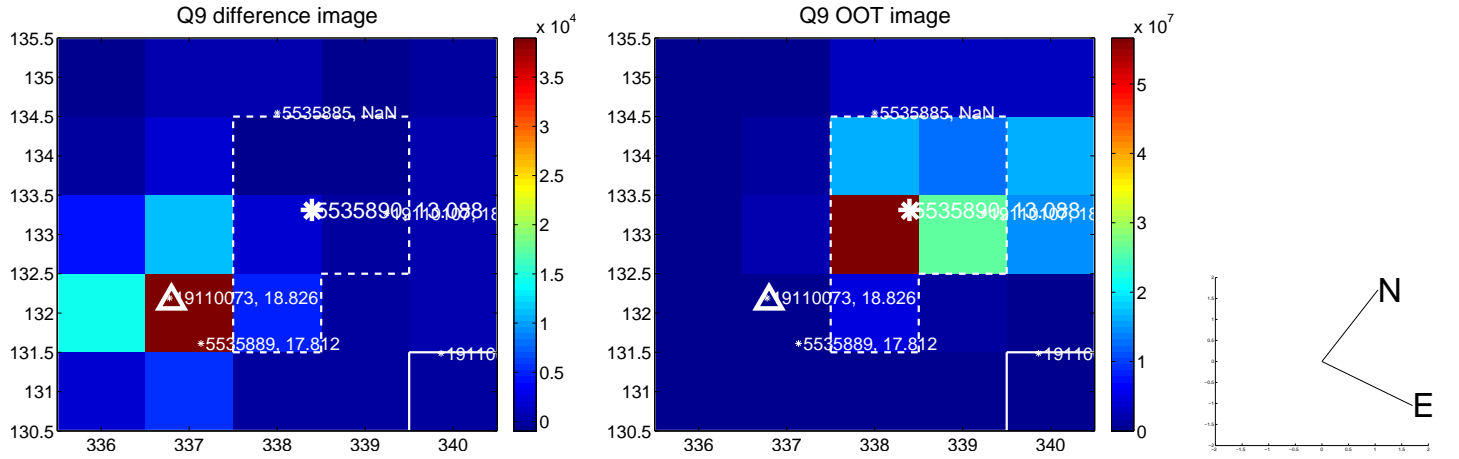
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



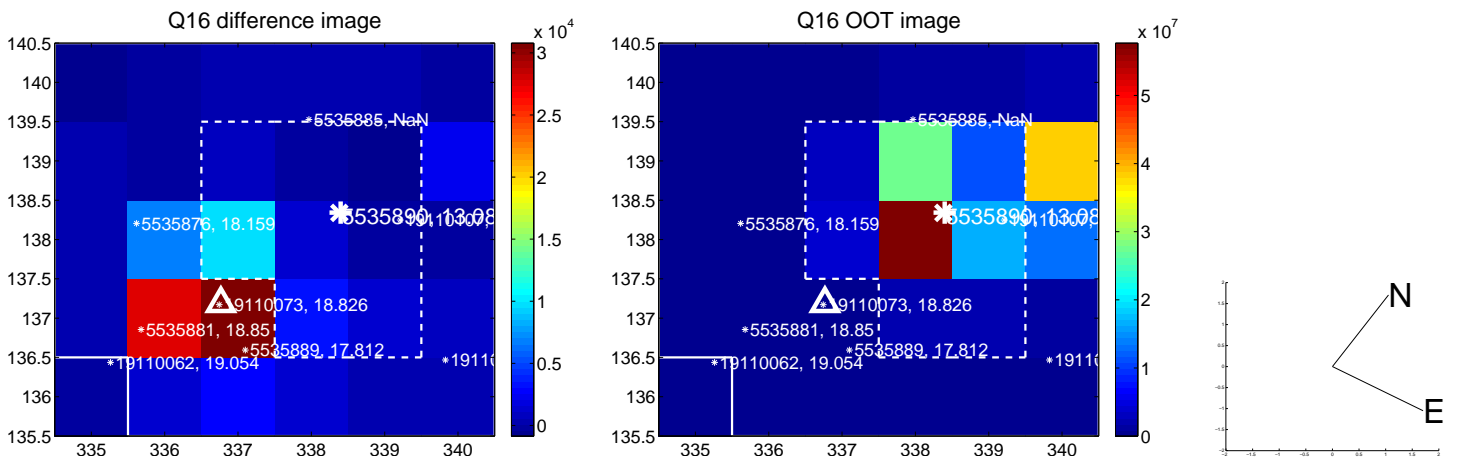
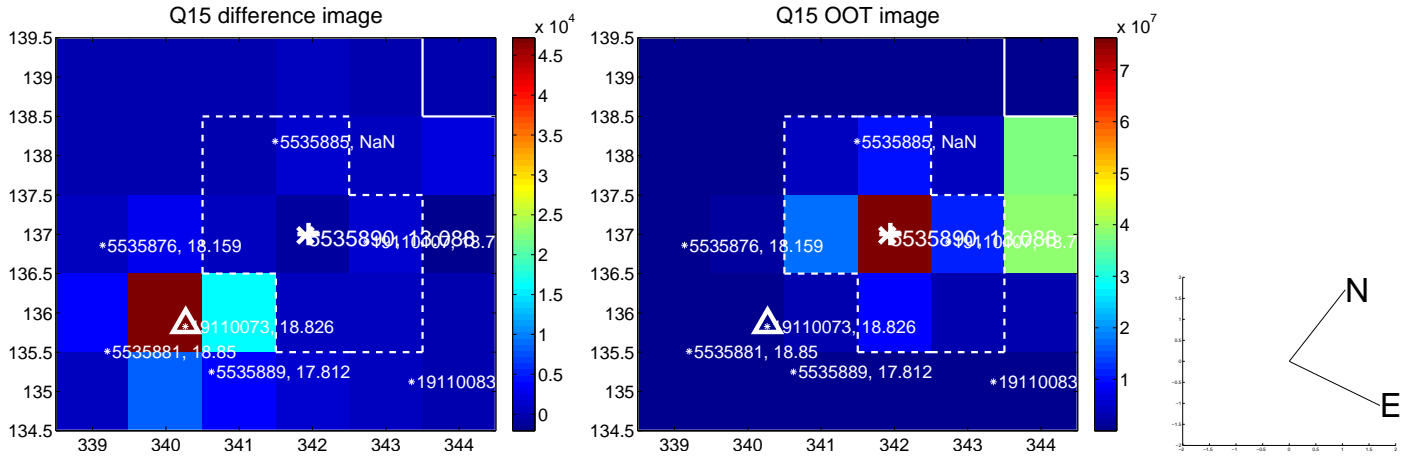
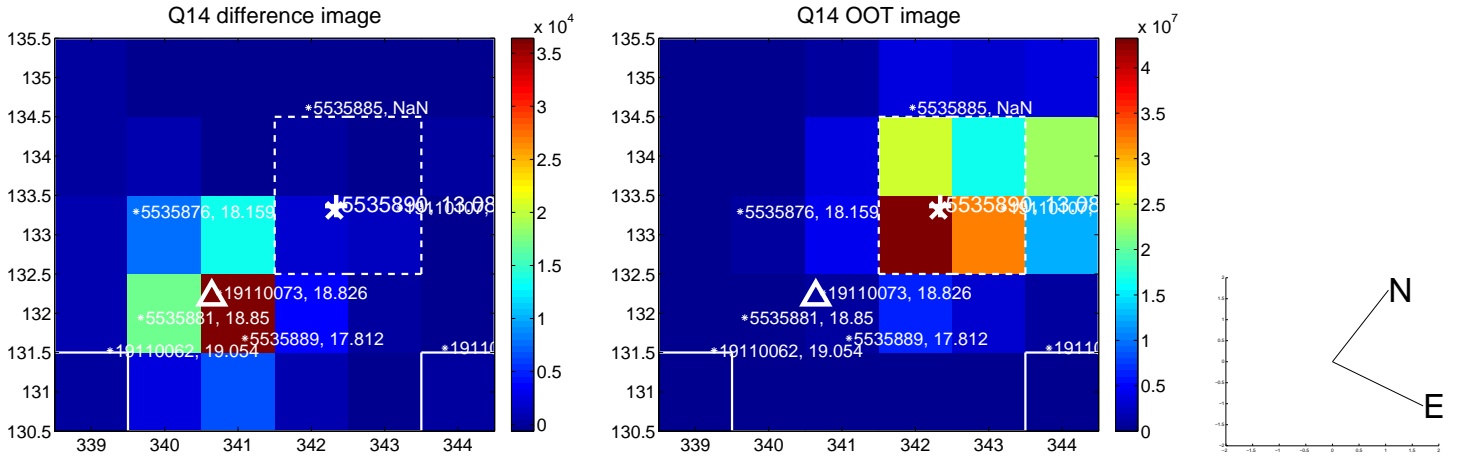
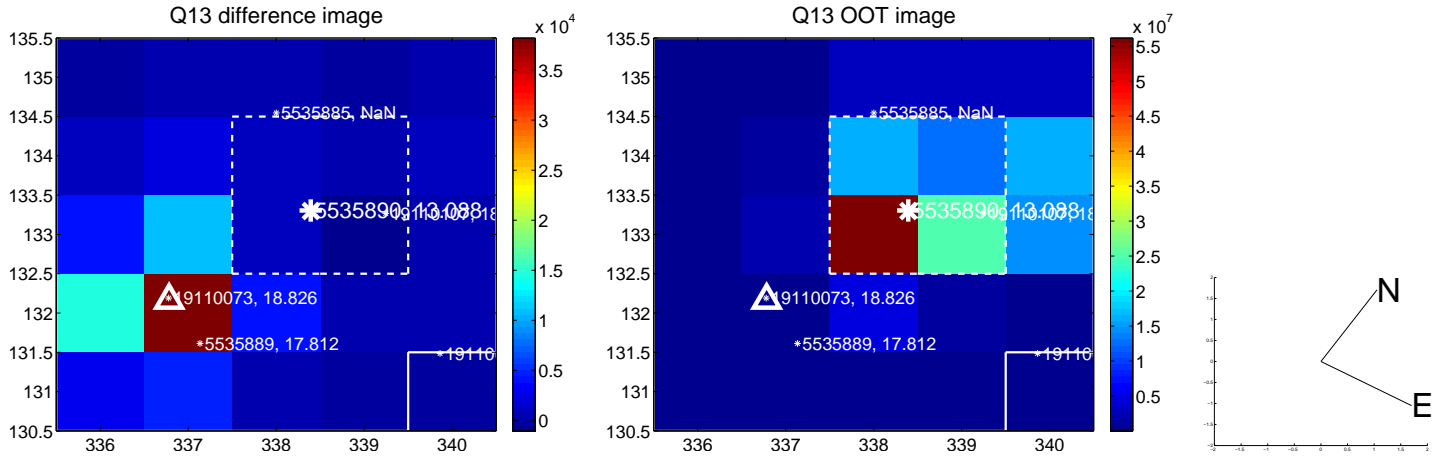
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



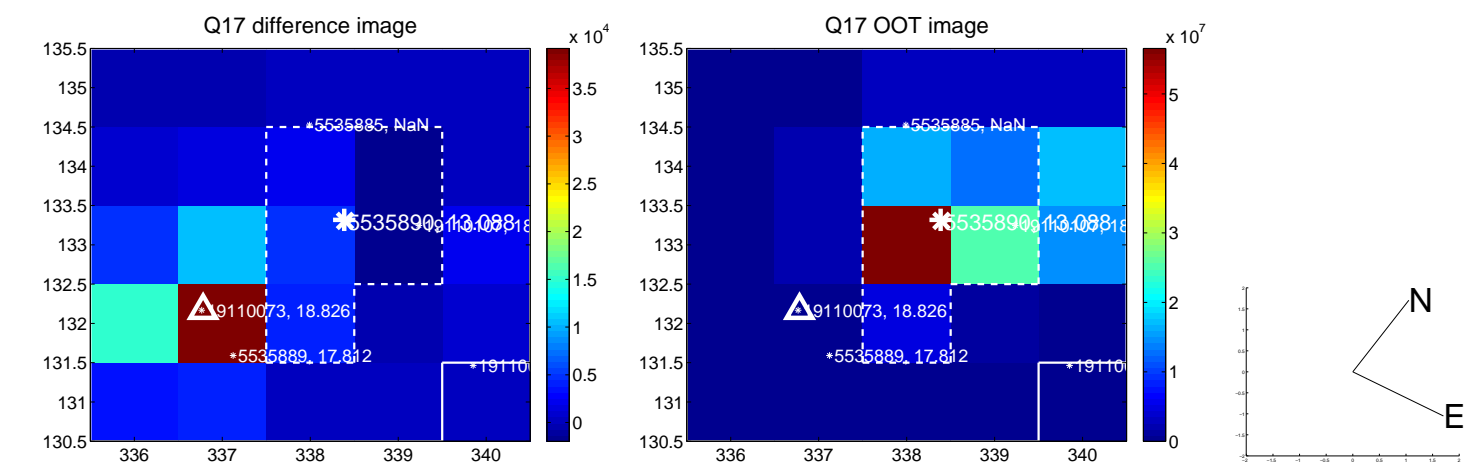
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



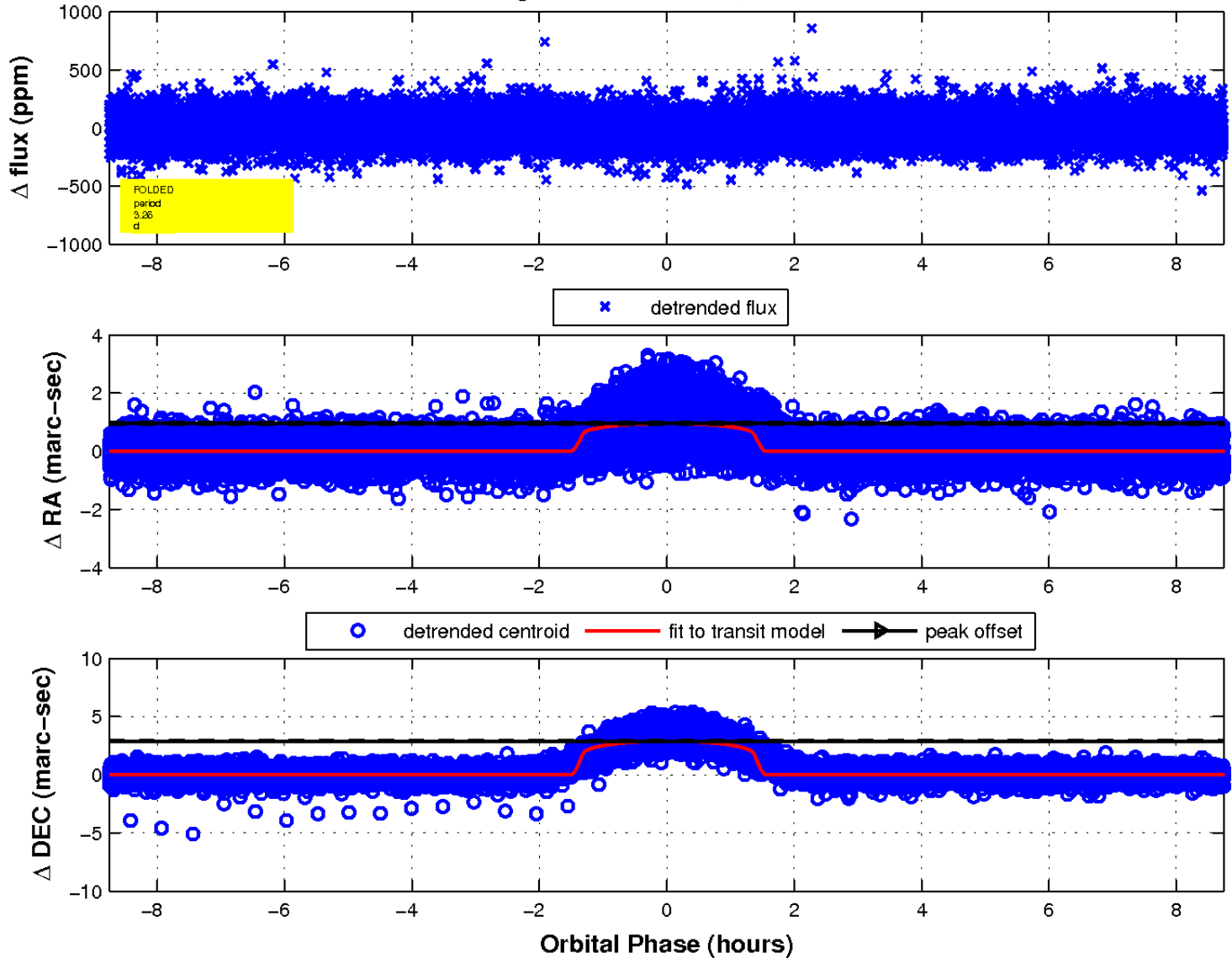
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

