

KIC 008782561

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})
008782561-01	OBS	No	0.581442	132.029625	854.1	0.840	19.1	25.3	3.63	7360	10.86	0.00
008782561-02	OBS	No	0.581438	131.745305	957.7	0.850	20.9	28.8	3.63	7360	11.50	0.00
008782561-03	OBS	No	0.581437	131.549522	935.3	1.388	9.8	17.4	3.63	7360	12.92	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008782561-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008782561-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
008782561-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

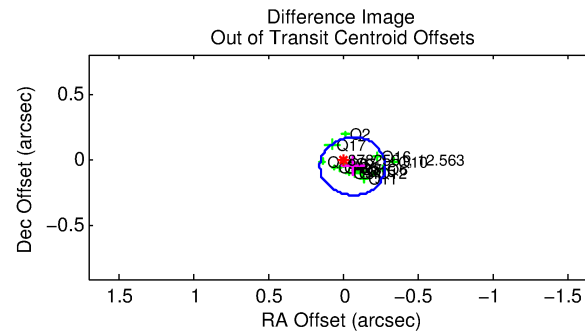
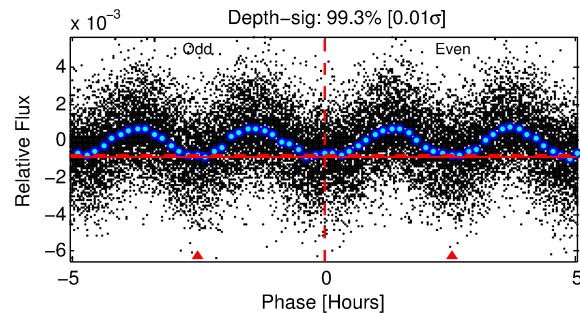
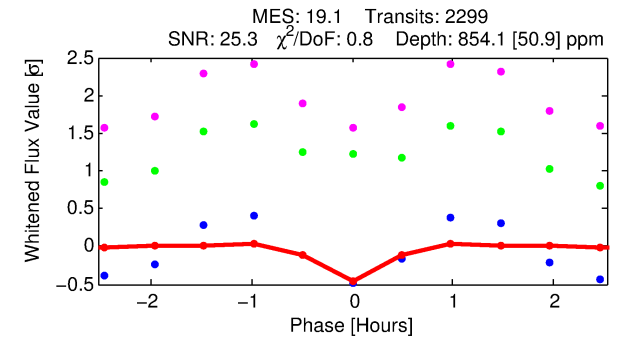
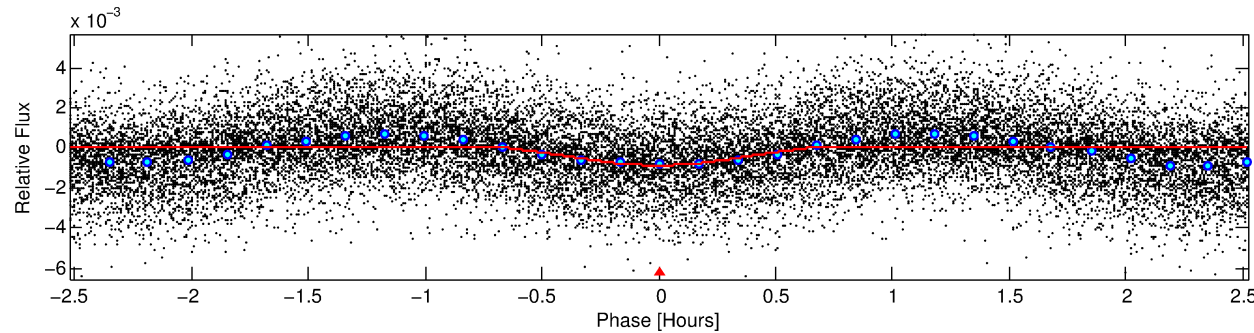
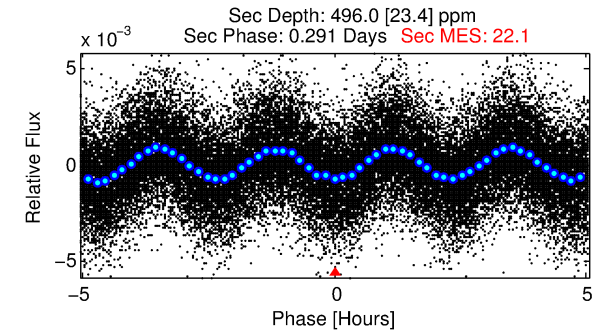
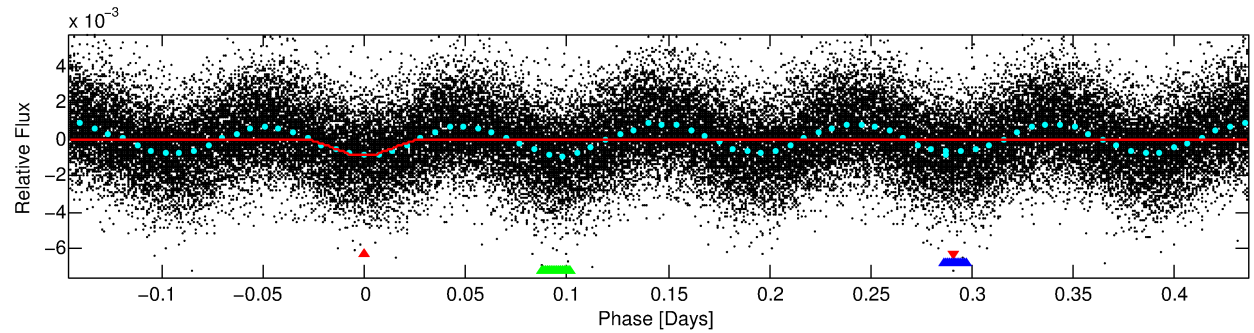
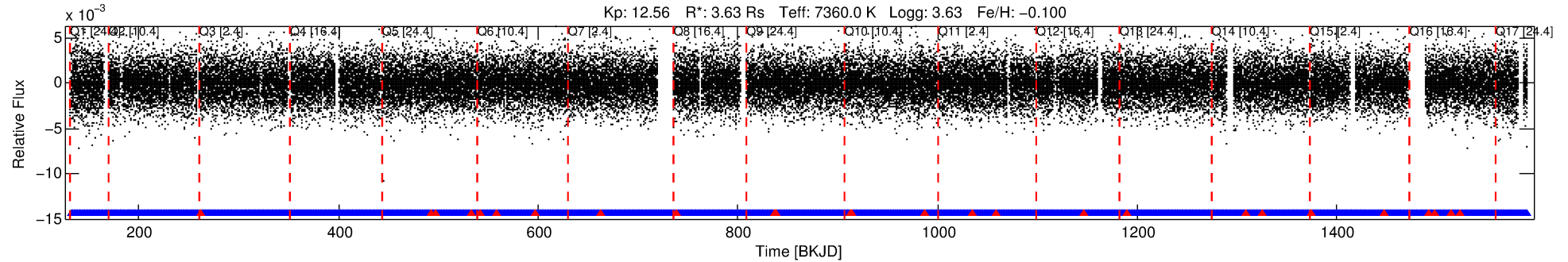
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008782561-01

No Significant Match Found

DV One-Page Summary

KIC: 8782561 Candidate: 1 of 3 Period: 0.581 d



DV Fit Results:

Period = 0.58144 [0.00000] d
Epoch = 132.0296 [0.0006] BKJD
Rp/R* = 0.0274 [0.0074]
a/R* = 5.44 [8.10]
b = 0.09 [17.52]
Seff = N/A
Teq = N/A
Rp = 10.86 [6.41] Re
a = N/A
Ag = N/A
Teffp = N/A

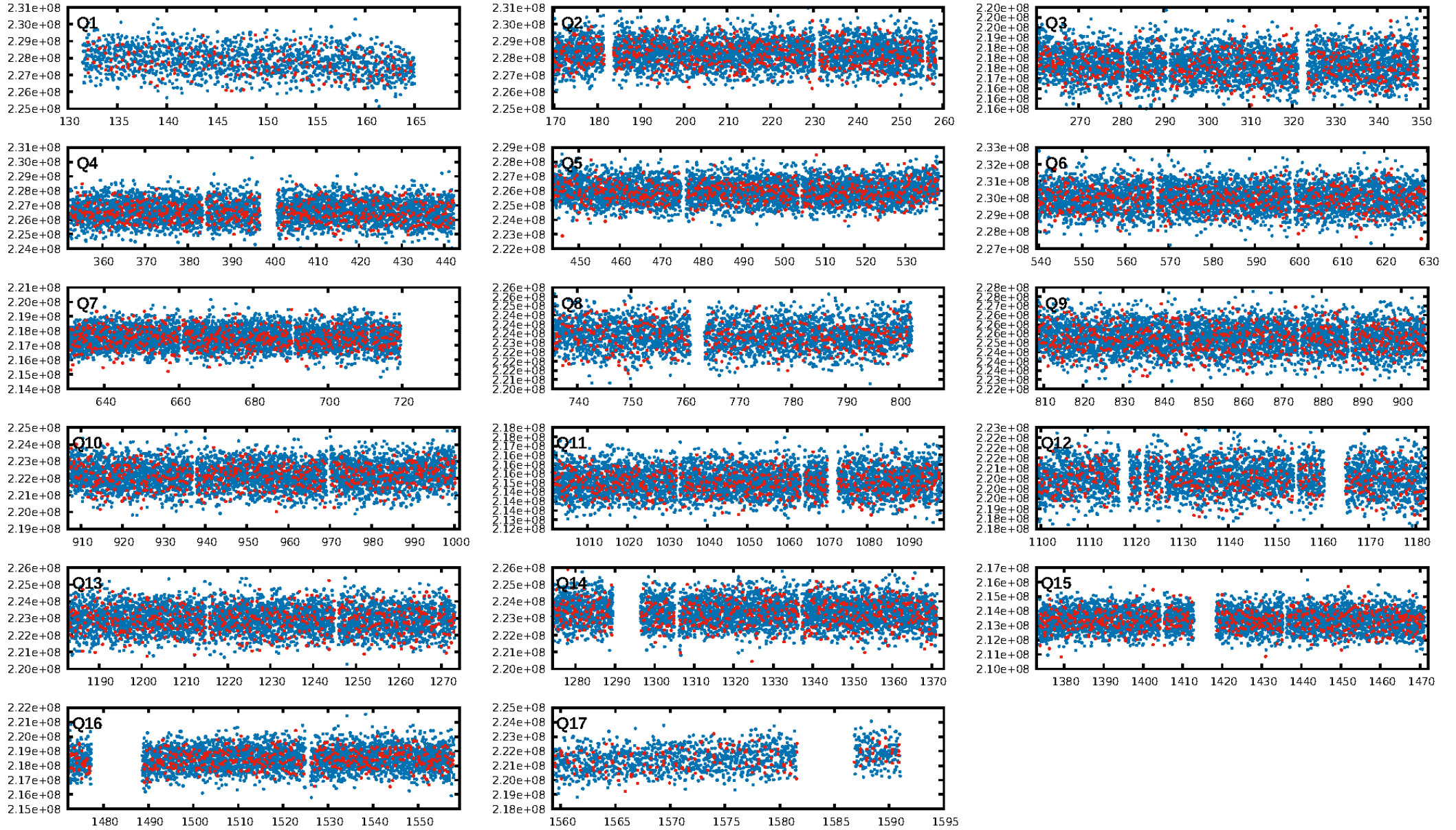
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.69e-126
RollingBand-fgt: 0.99 [2168/2195]
GhostDiagnostic-chr: 7.392
Centroid-sig: 28.9%
Centroid-so: 0.447 arcsec [8.65σ]
OotOffset-rm: 0.082 arcsec [1.13σ]
KicOffset-rm: 0.038 arcsec [0.53σ]
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]

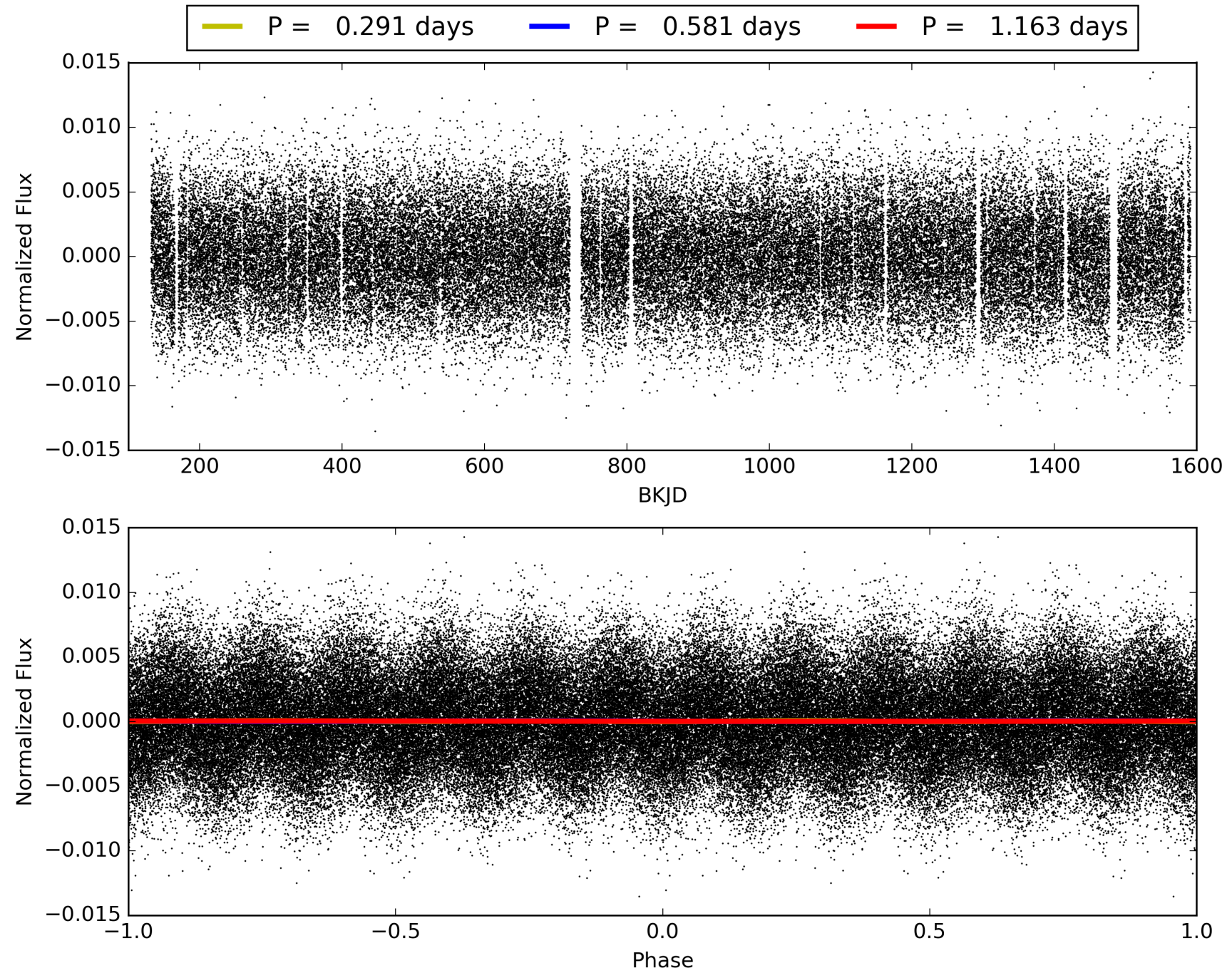
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008782561-01, PDC Light Curves

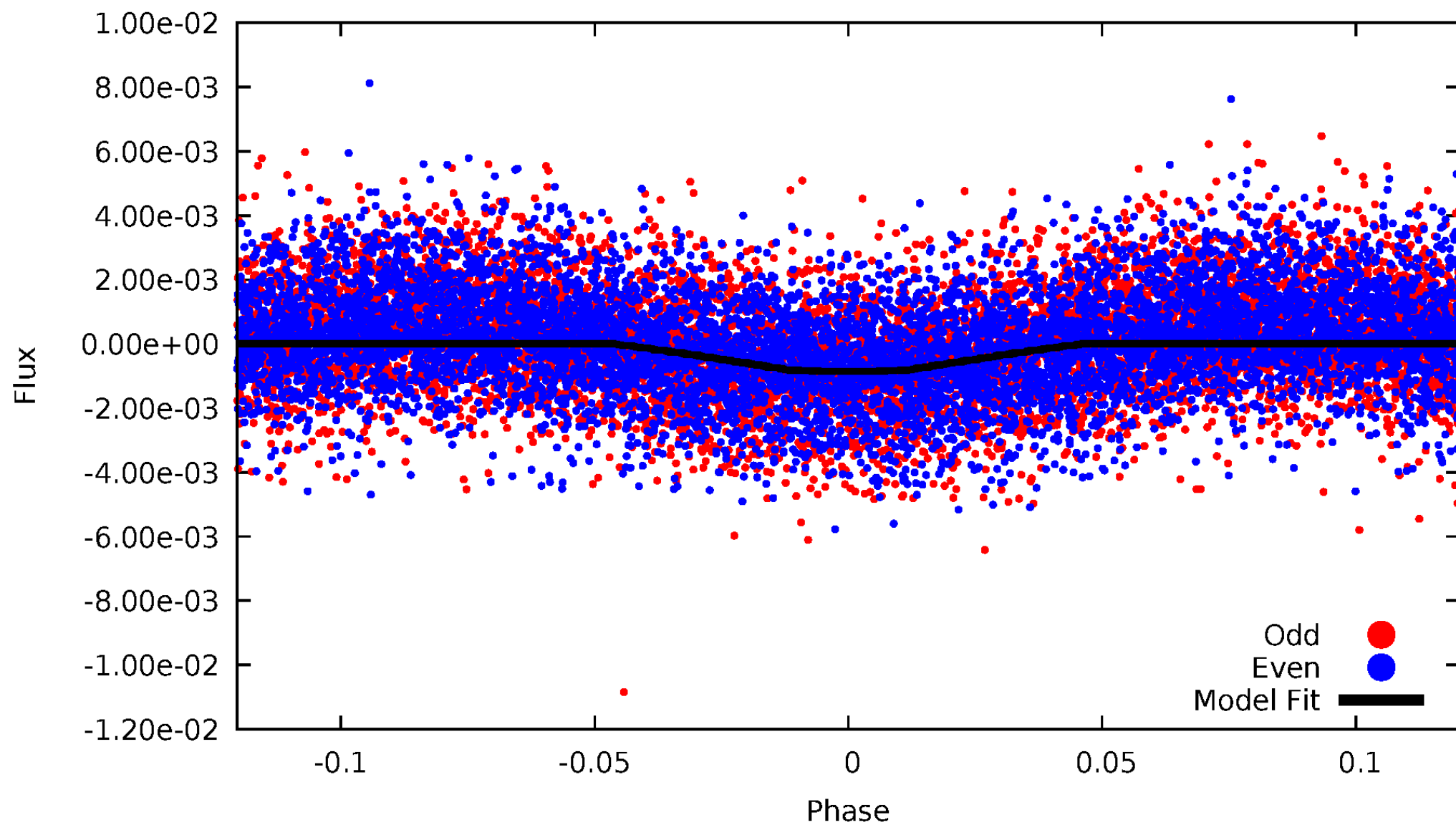


TCE 008782561-01



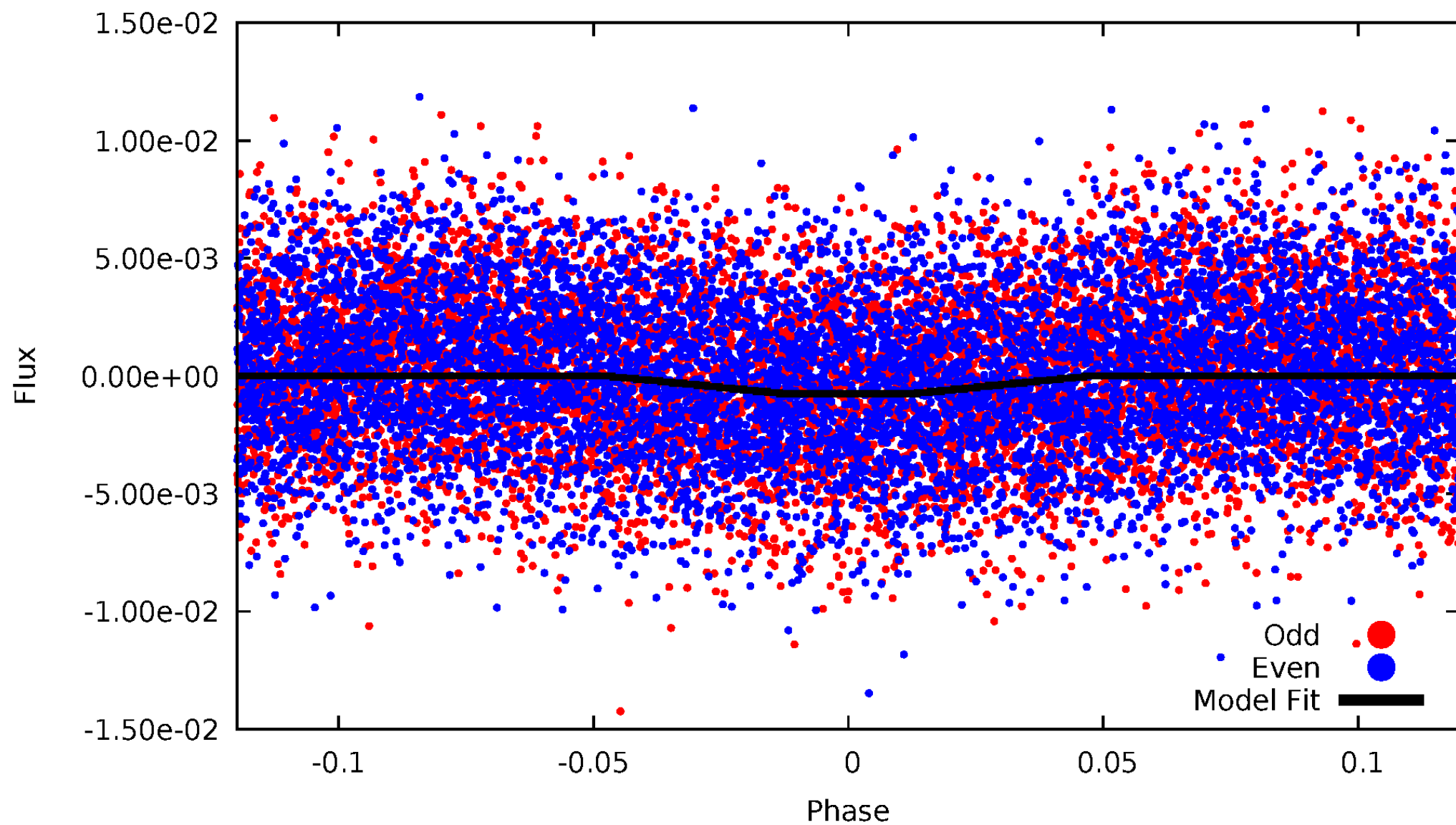
DV Odd/Even

TCE 008782561-01

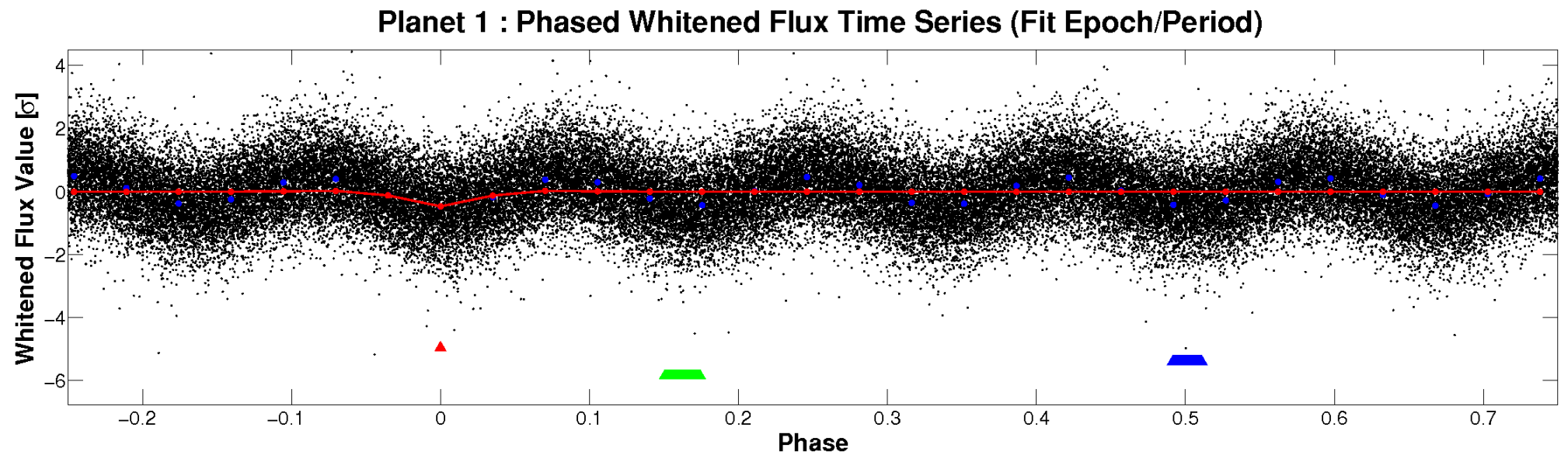
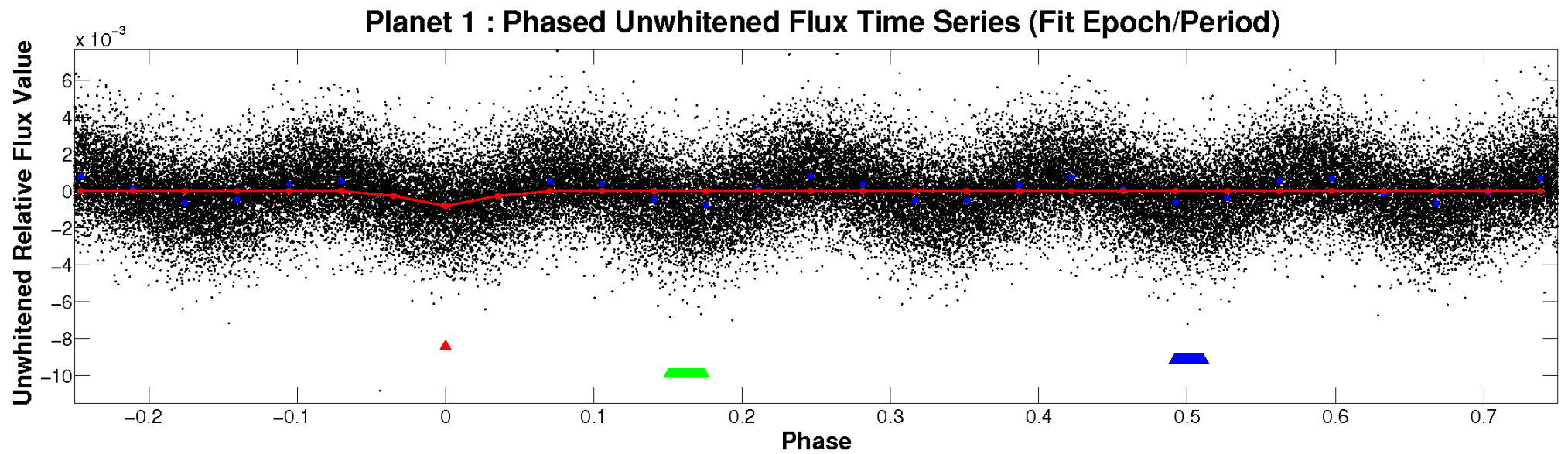


ALT Odd/Even

TCE 008782561-01

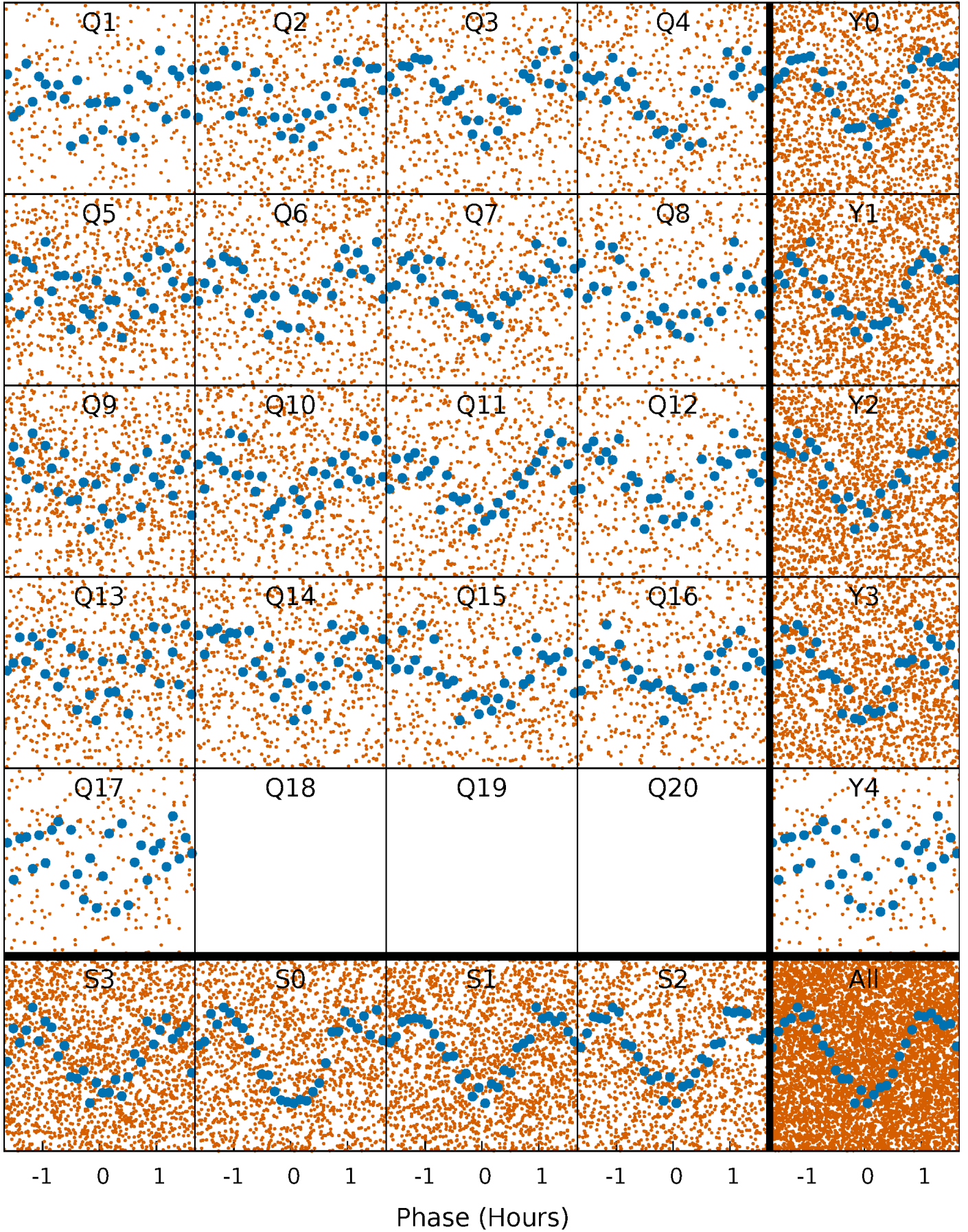


Non-Whitened Vs. Whitened Light Curve



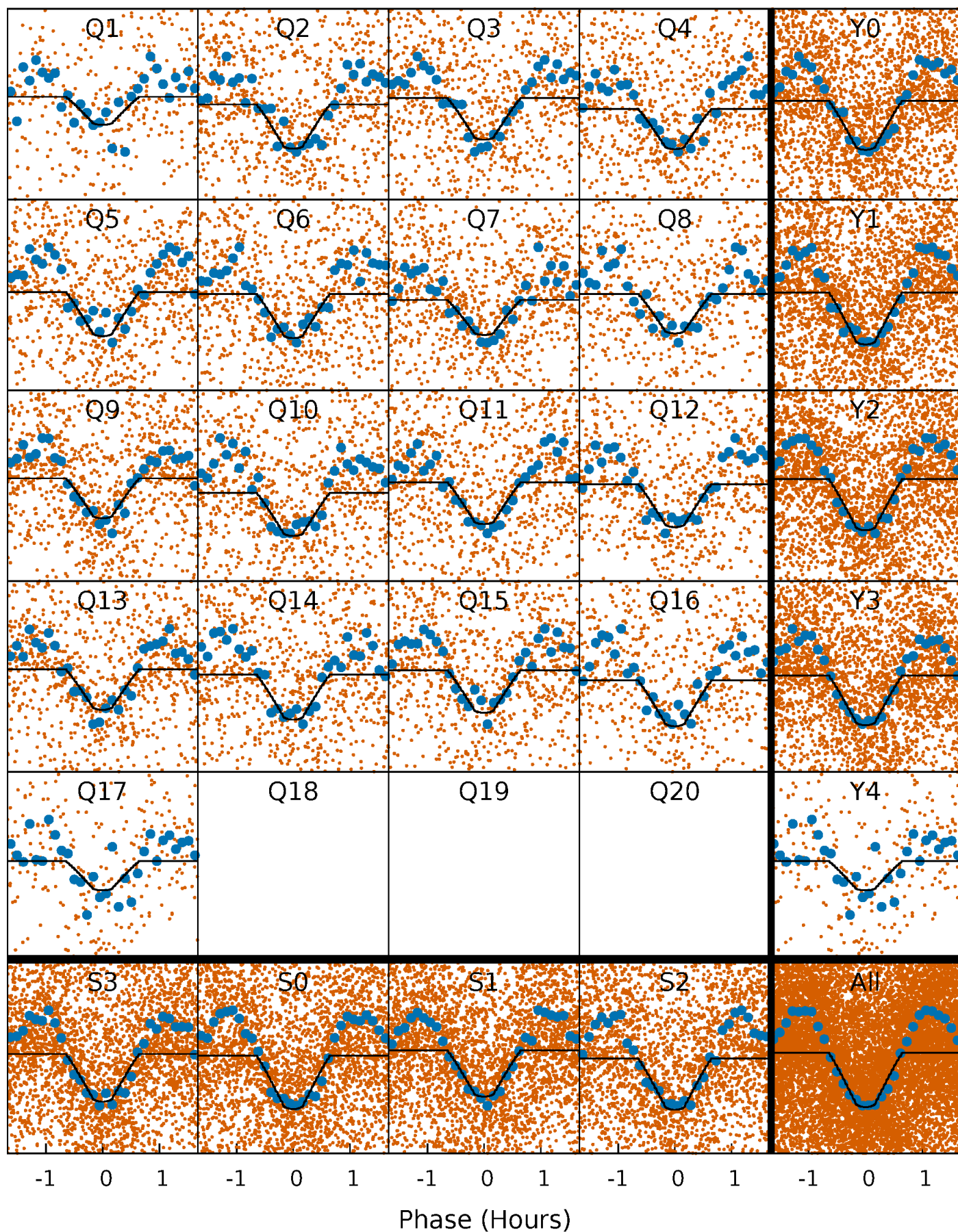
PDC Quarter-Phased Transit Curves

TCE 008782561-01 P= 0.581442 Days $T_0=132.029625$ (BKJD)



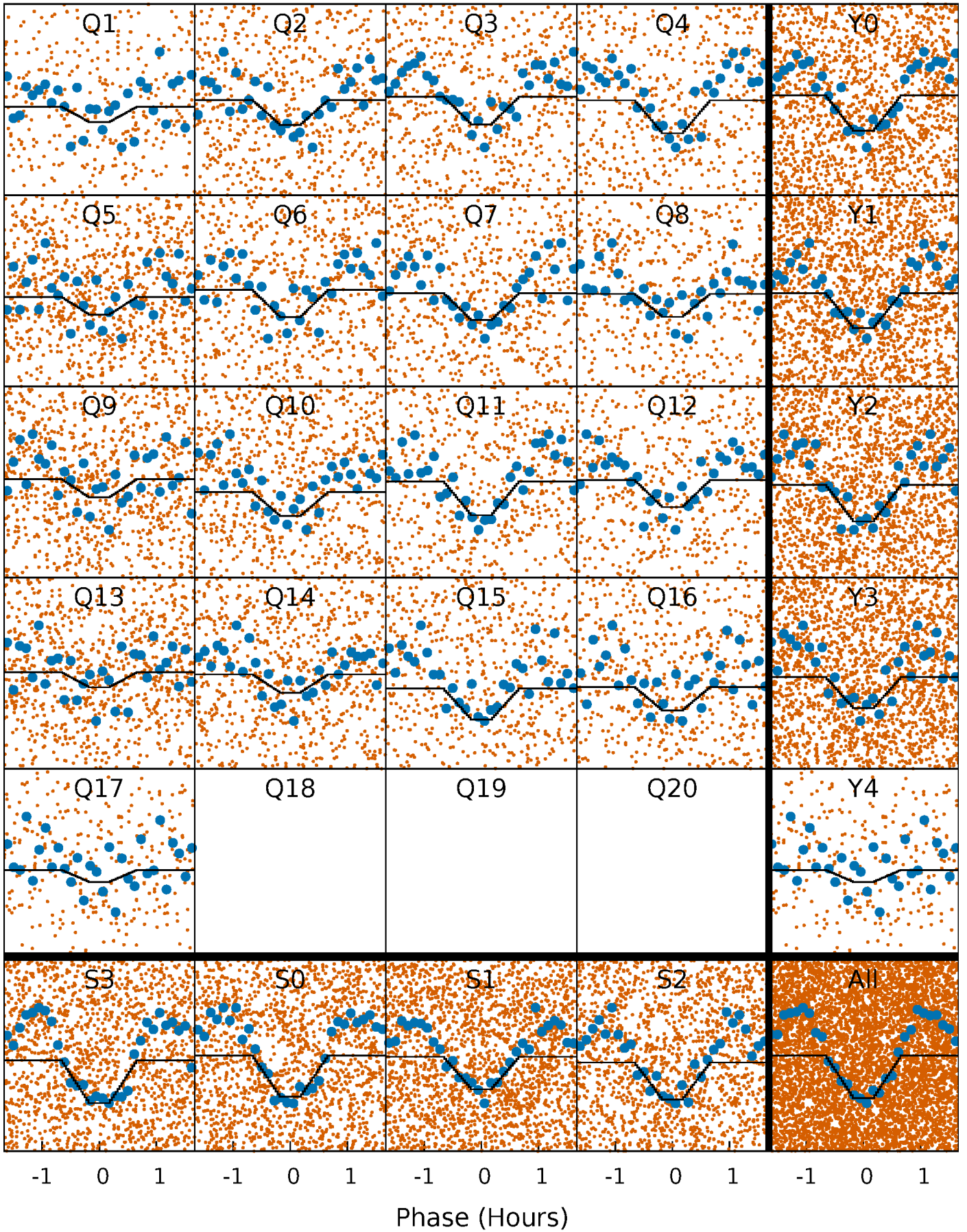
DV Quarter-Phased Transit Curves

TCE 008782561-01 P= 0.581442 Days $T_0=132.029625$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

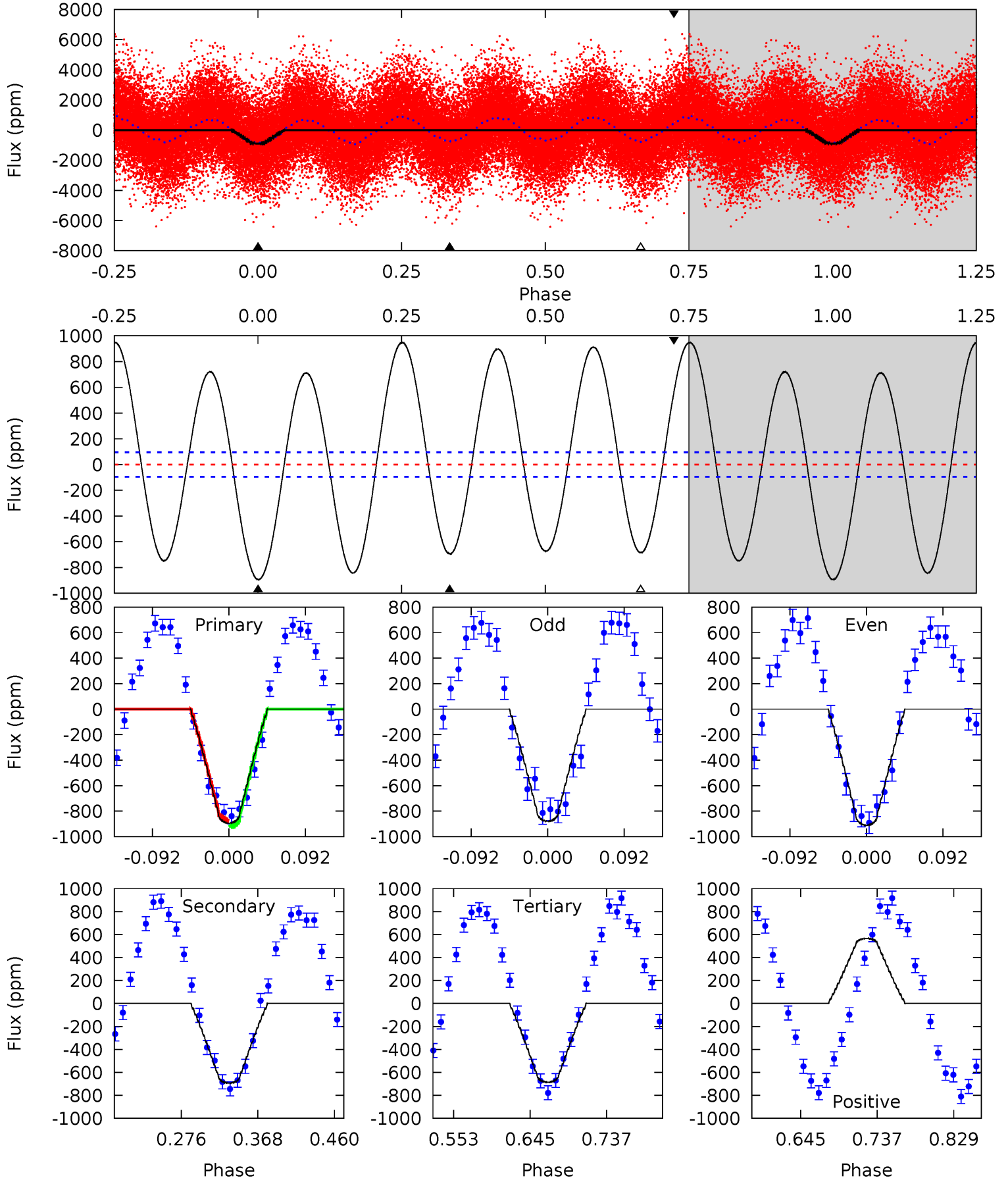
TCE 008782561-01 P= 0.581443 Days $T_0=132.029607$ (BKJD)



DV Model-Shift Uniqueness Test

008782561-01, P = 0.581442 Days, E = 131.448183 Days

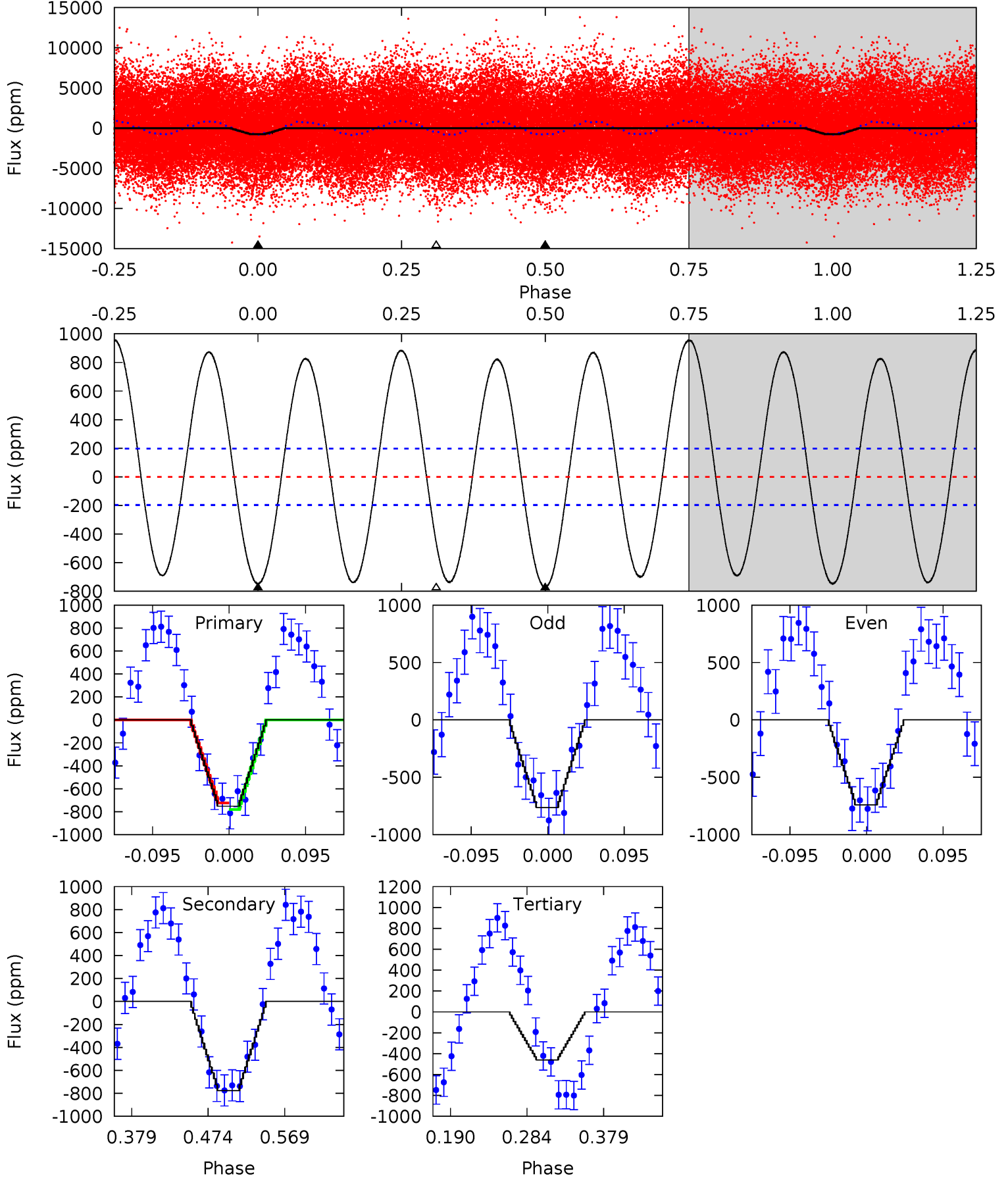
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.0	33.4	33.0	27.2	4.58	1.68	27.0	10.0	15.8	0.40	6.14	0.75	1.06	0.51	1.17



Alt Model-Shift Uniqueness Test

008782561-01, P = 0.581443 Days, E = 131.448164 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	18.0	10.7	0	4.58	1.67	12.8	6.79	17.5	7.36	18.0	0.26	1.11	0.55	0.66



Stellar Parameters For KIC 008782561

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7360^{+228}_{-304}	$3.628^{+0.495}_{-0.055}$	$-0.100^{+0.250}_{-0.300}$	$3.627^{+0.336}_{-1.903}$	$2.041^{+0.152}_{-0.608}$	$0.060^{+0.321}_{-0.011}$
	+3%/-4%	+14%/-2%	+250%/-300%	+9%/-52%	+7%/-30%	+533%/-18%
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 008782561-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-694 ± 21	$9.52^{+3.28}_{-3.33}$	6341^{+391}_{-807}	6604^{+1777}_{-1032}	$1.239^{+1.630}_{-0.542}$
Alt.	-777 ± 43	$9.65^{+3.11}_{-3.35}$	6304^{+439}_{-805}	6837^{+1884}_{-1055}	$1.364^{+1.761}_{-0.571}$

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 $A_{obs} \gg 1.0$

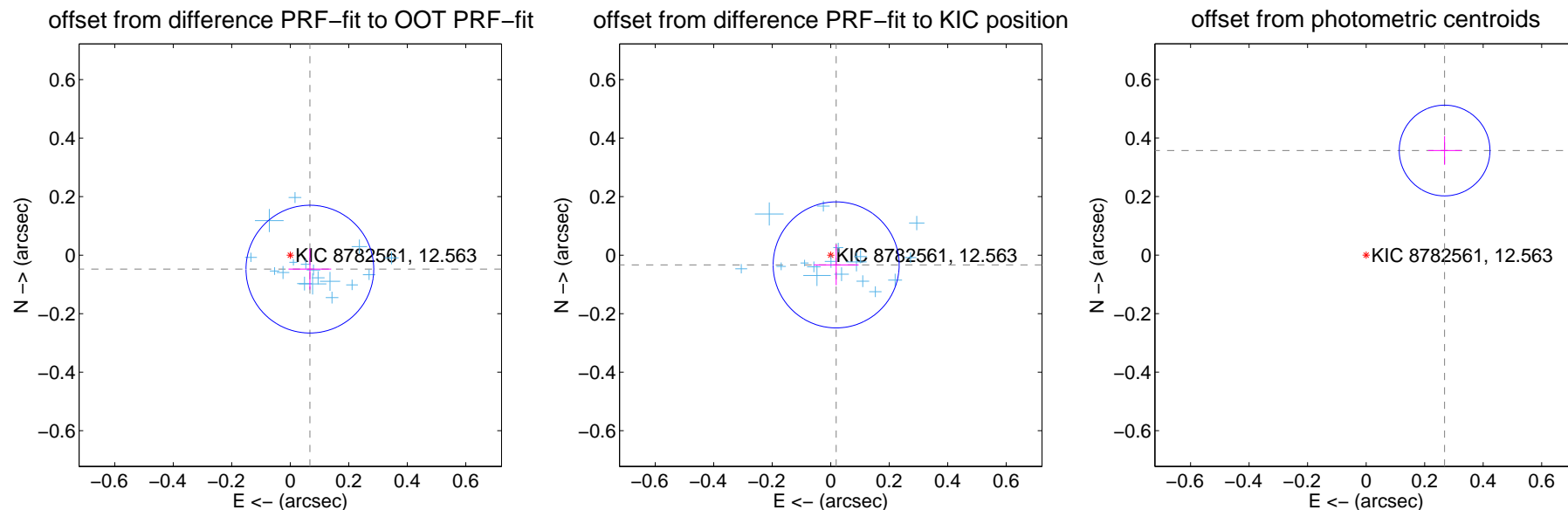
DV Centroid Data

Supplemental centroid analysis for 008782561-01. Kepler magnitude: 12.56. Transit SNR 25.34

There are 17 quarters with good PRF difference image offsets

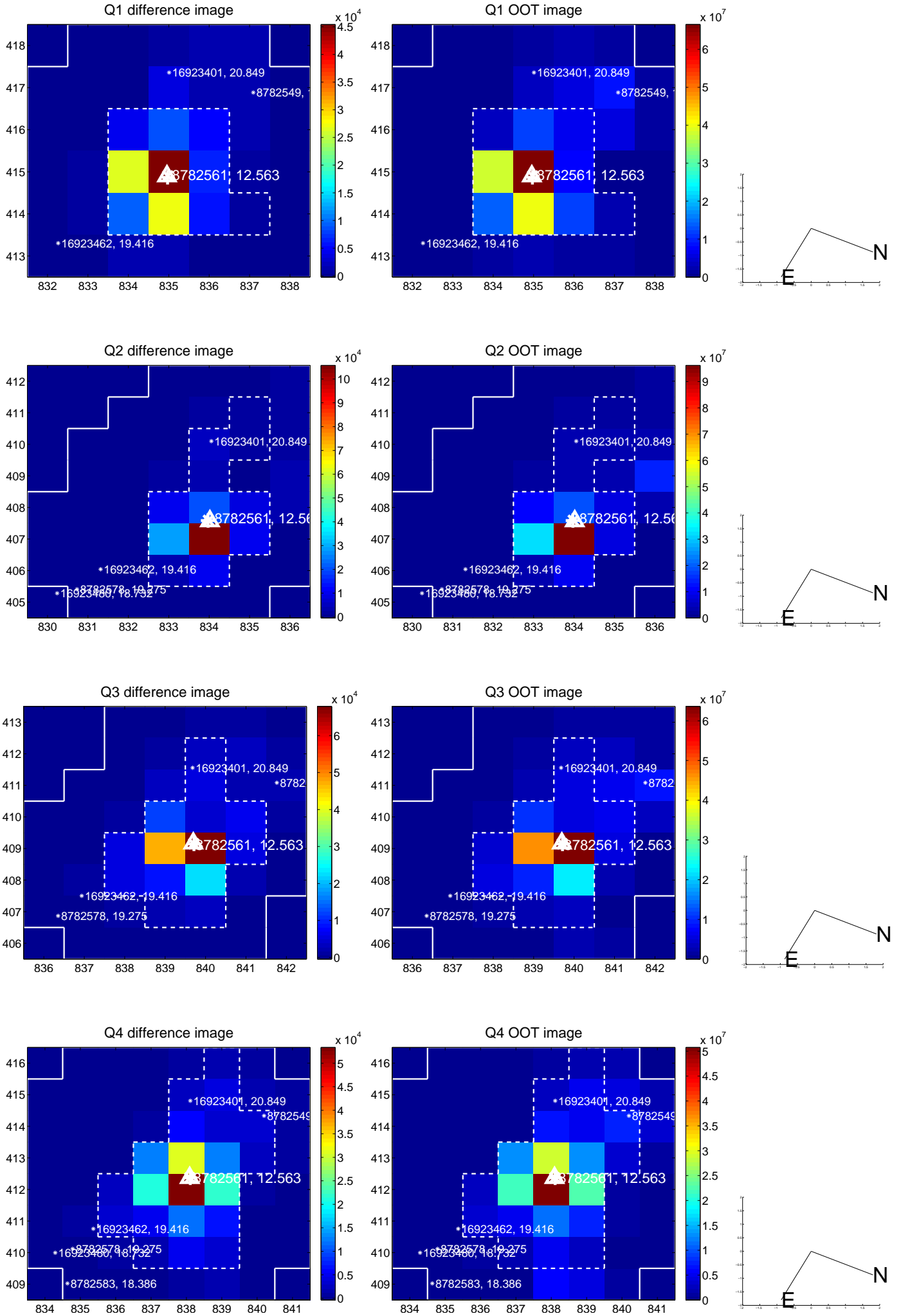
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.082 ± 0.073	1.13	-0.067 ± 0.073	-0.048 ± 0.070
PRF-fit source offset from KIC position	0.038 ± 0.072	0.53	-0.019 ± 0.077	-0.033 ± 0.069
photometric centroid source offset	0.45 ± 0.05	8.65	-0.27 ± 0.06	0.36 ± 0.05

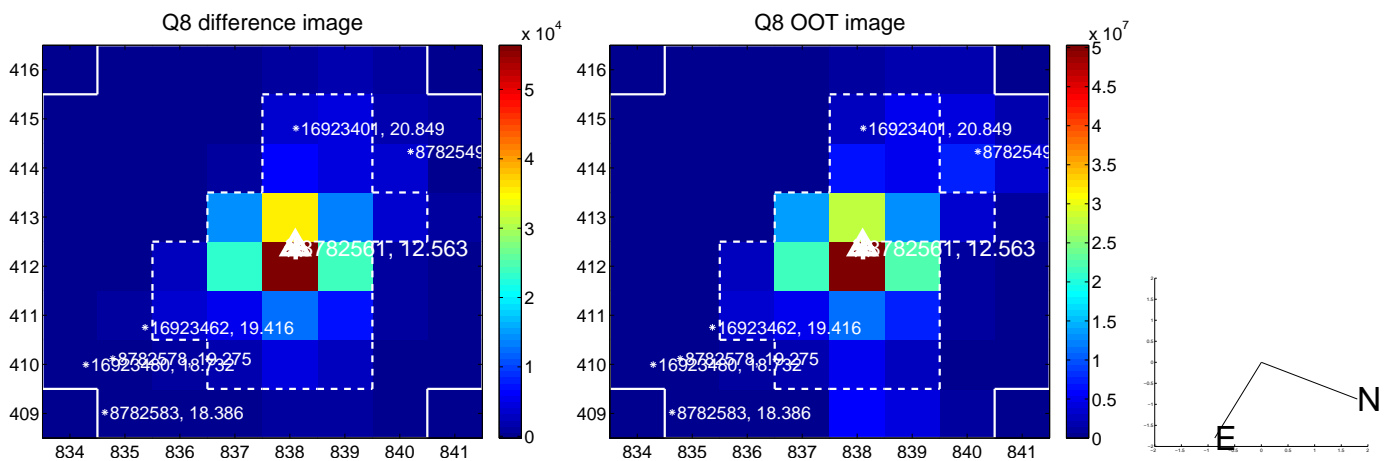
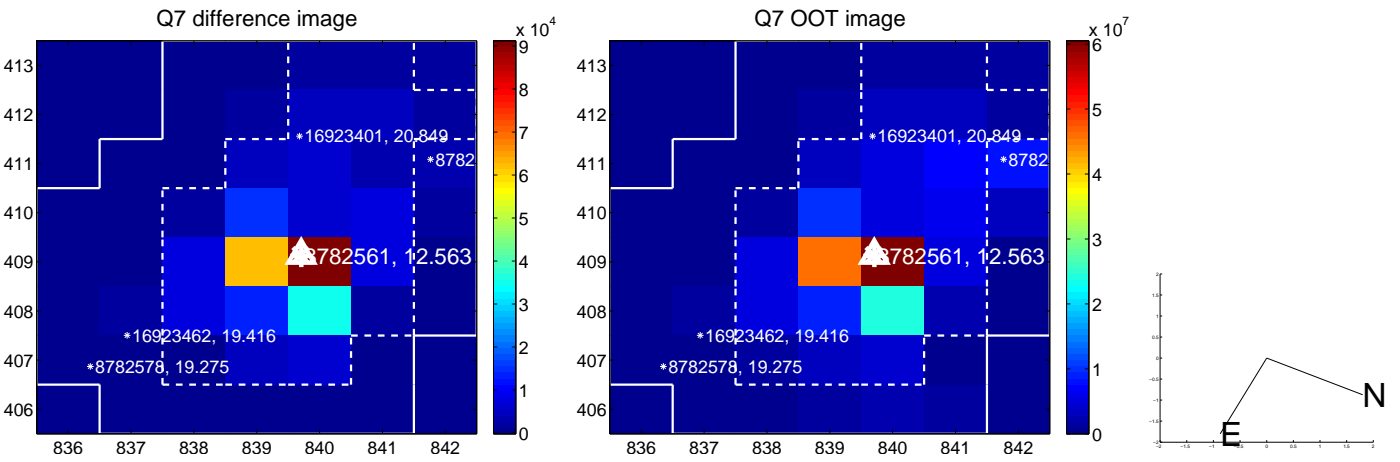
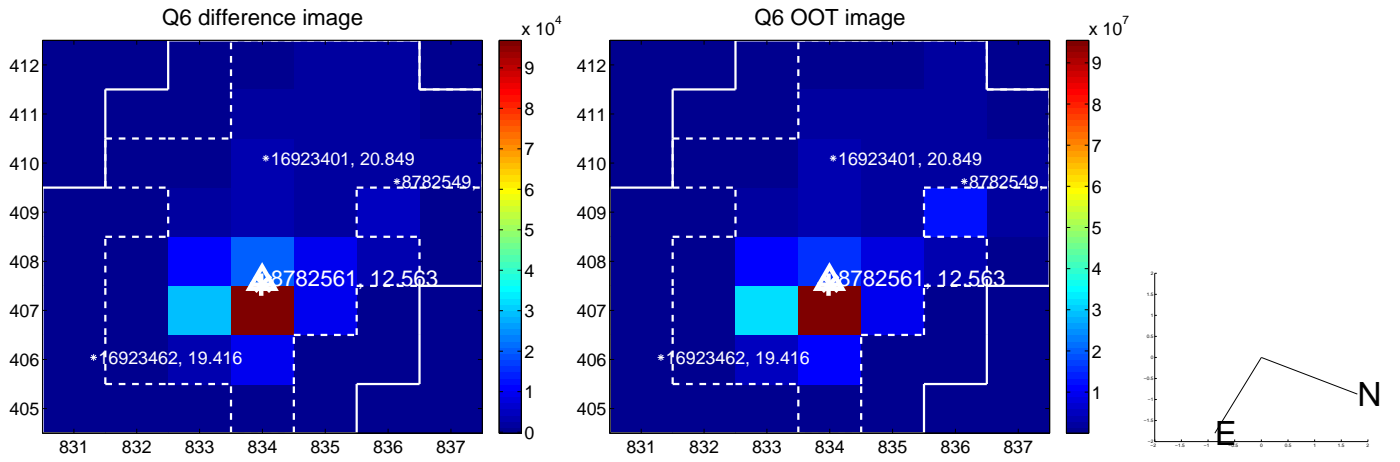
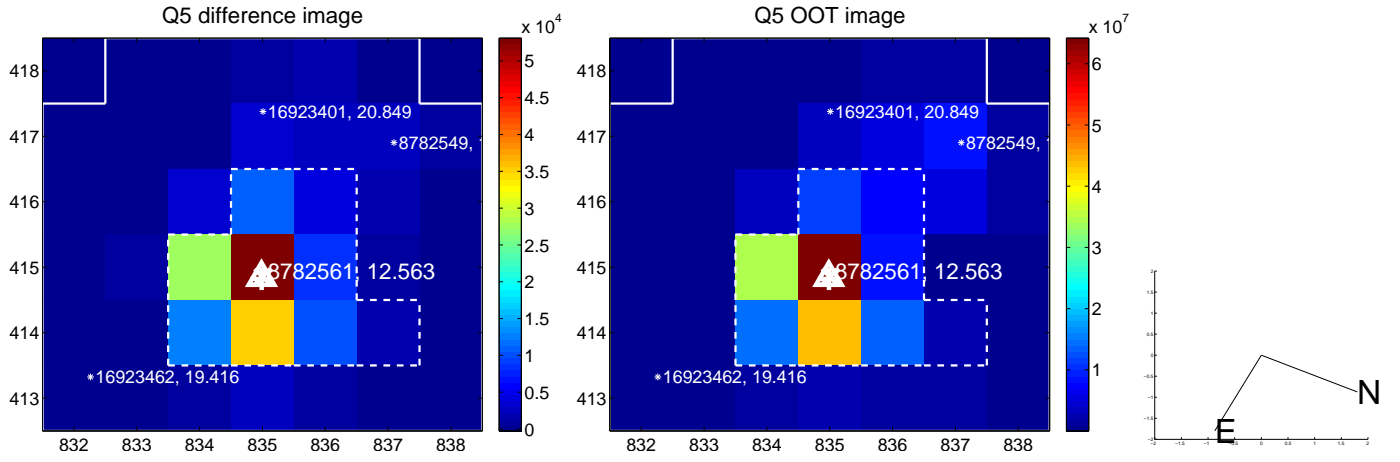


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

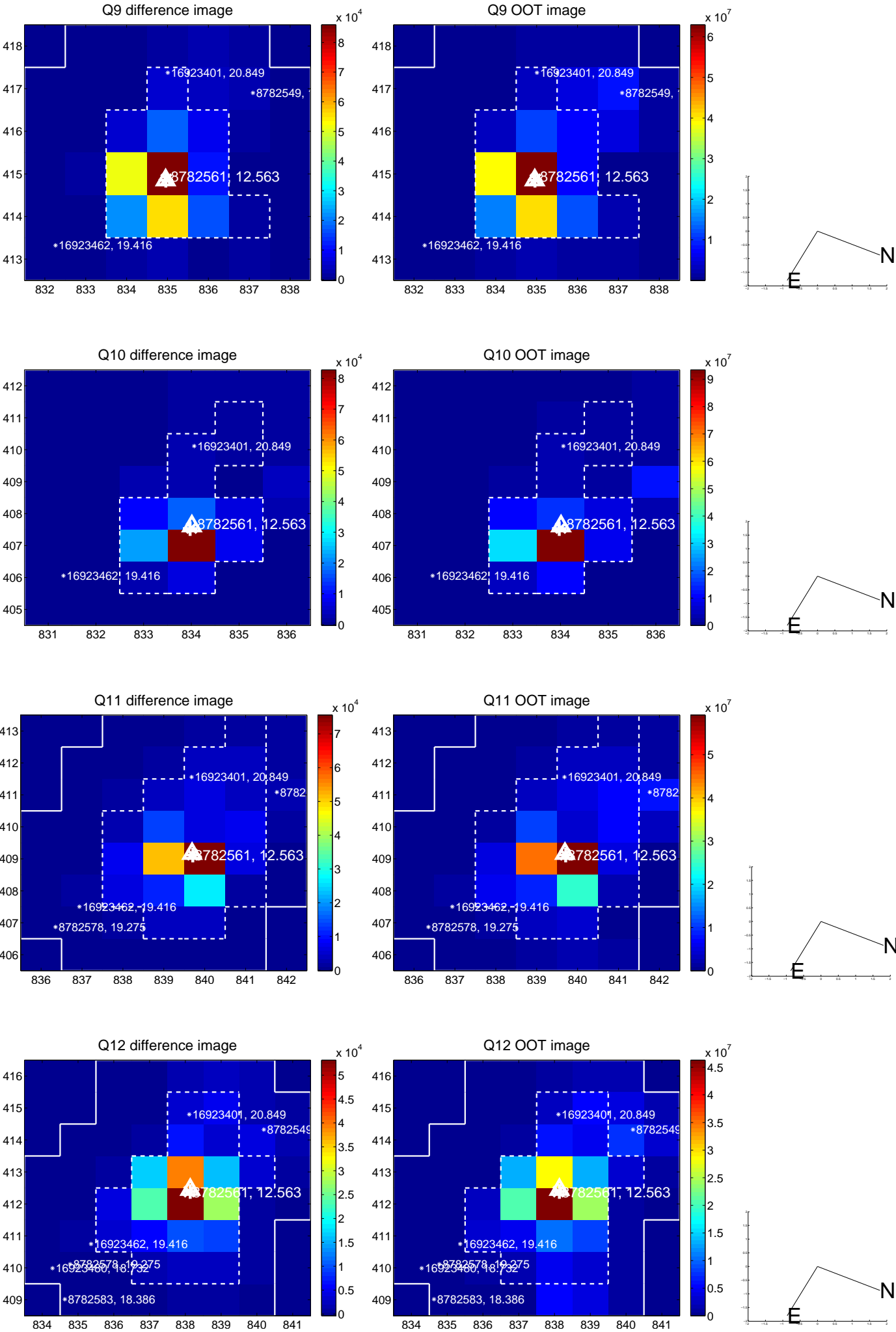
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



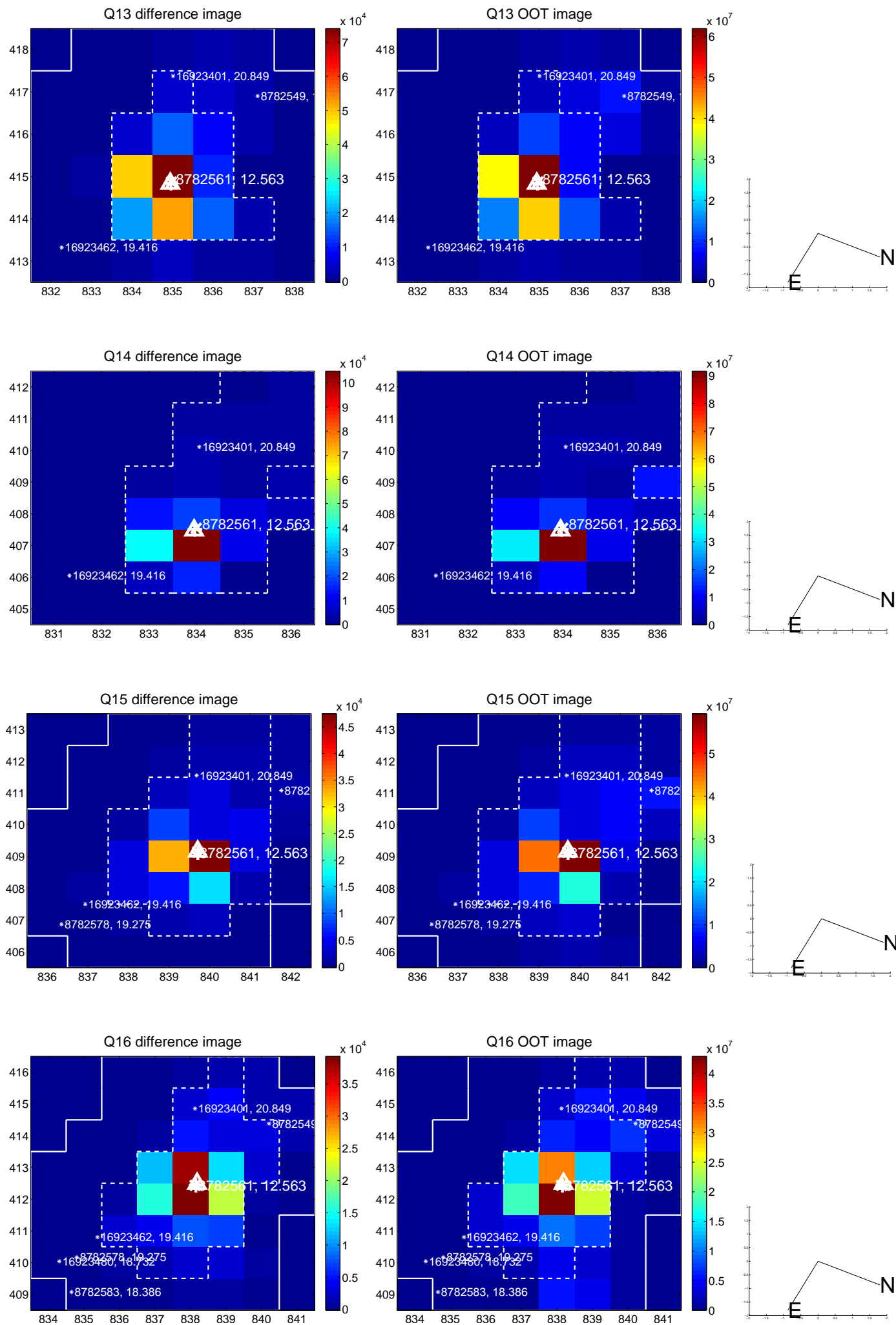
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



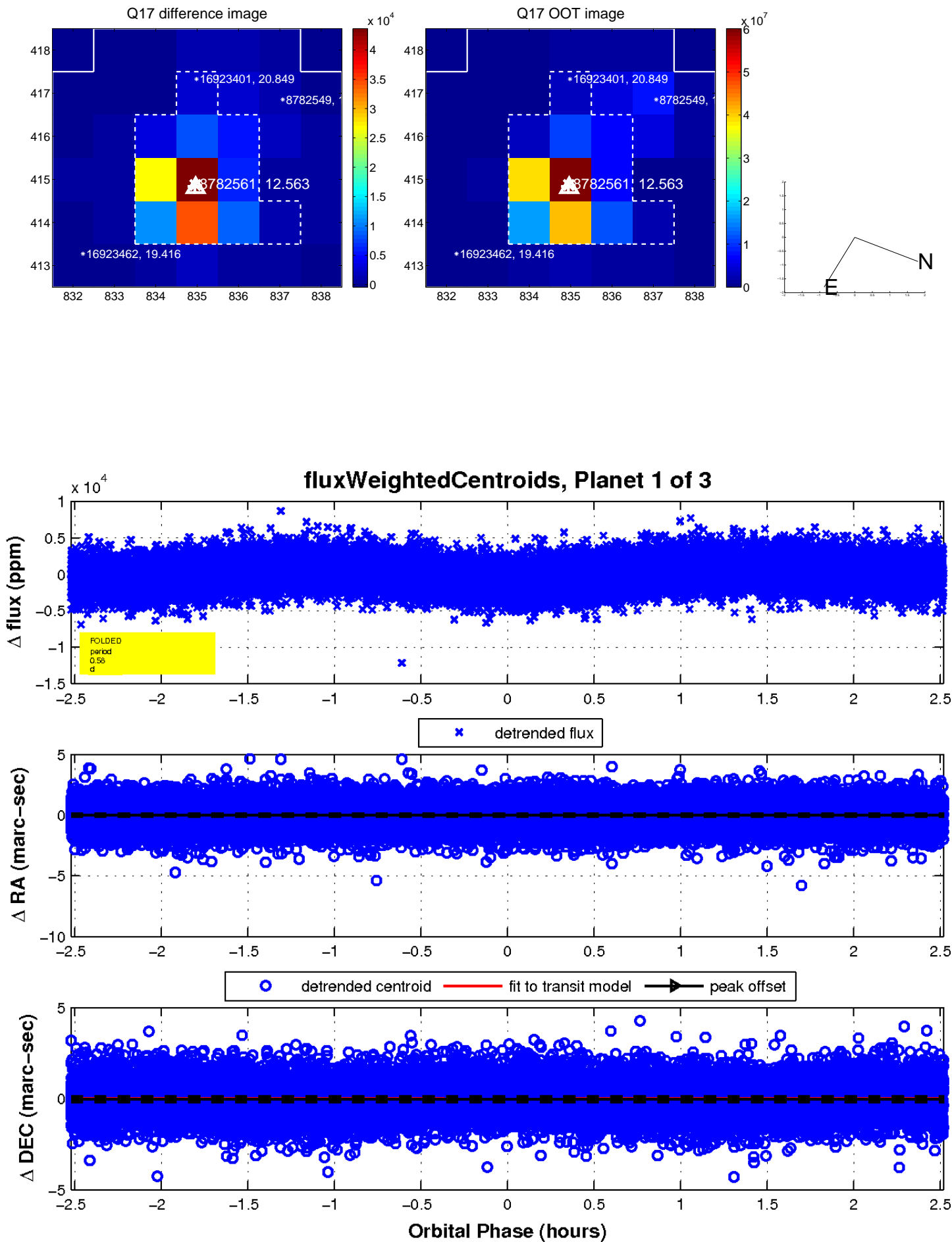
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

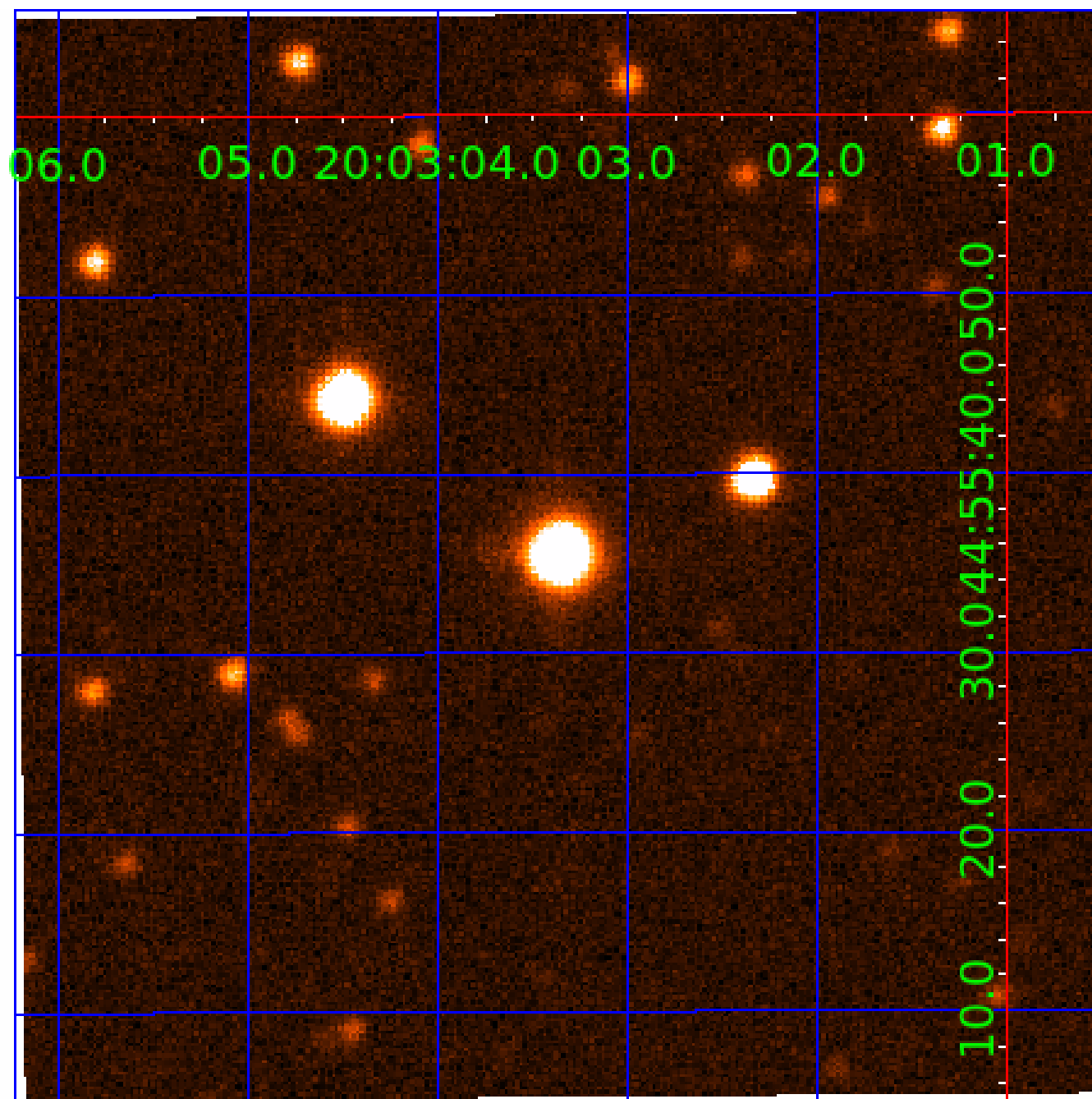


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008782561

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})
008782561-01	OBS	No	0.581442	132.029625	854.1	0.840	19.1	25.3	3.63	7360	10.86	0.00
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008782561-03	OBS	No	0.581437	131.549522	935.3	1.388	9.8	17.4	3.63	7360	12.92	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008782561-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008782561-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
008782561-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

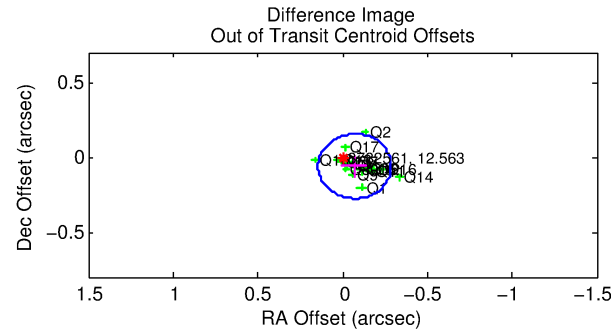
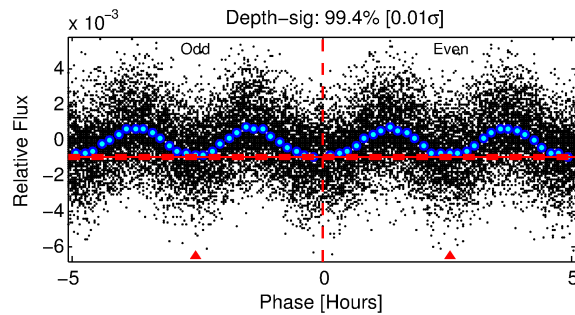
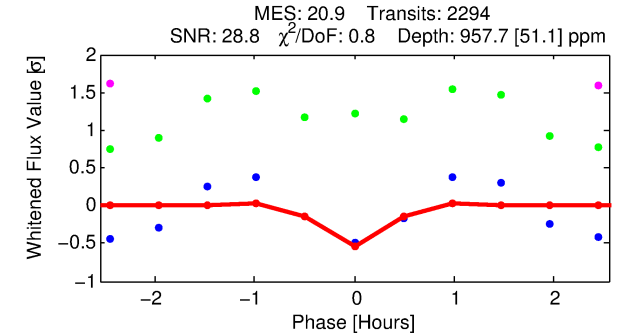
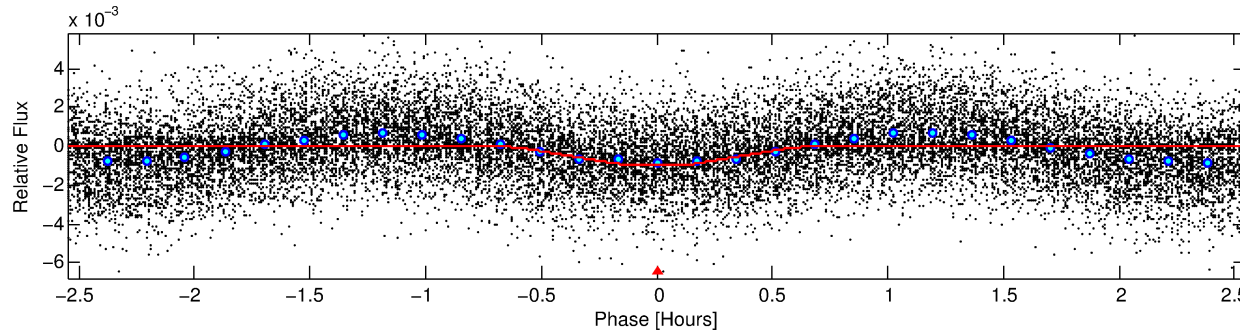
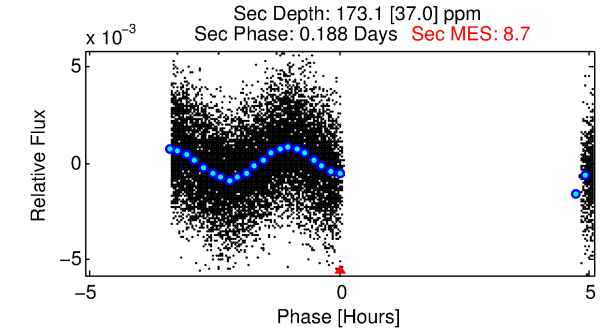
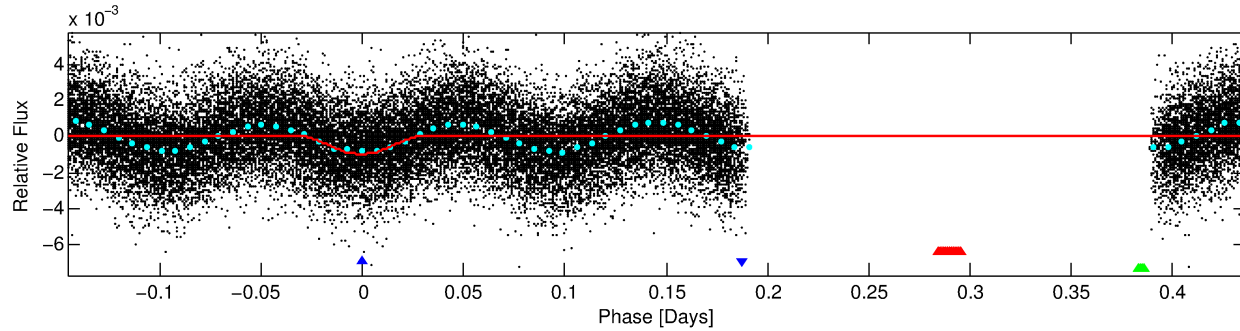
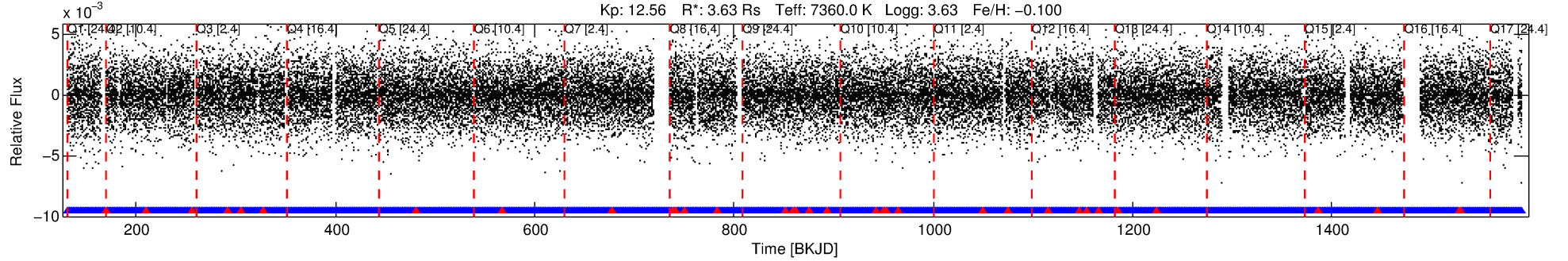
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008782561-02

No Significant Match Found

DV One-Page Summary

KIC: 8782561 Candidate: 2 of 3 Period: 0.581 d



DV Fit Results:

Period = 0.58144 [0.00000] d
Epoch = 131.7453 [0.0005] BKJD
Rp/R* = 0.0291 [0.0064]
a/R* = 5.40 [6.52]
b = 0.09 [14.56]
Seff = N/A
Teq = N/A
Rp = 11.50 [6.54] Re
a = N/A
Ag = N/A
Teffp = N/A

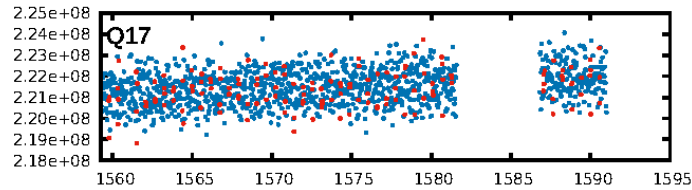
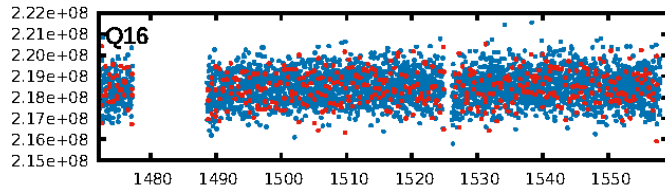
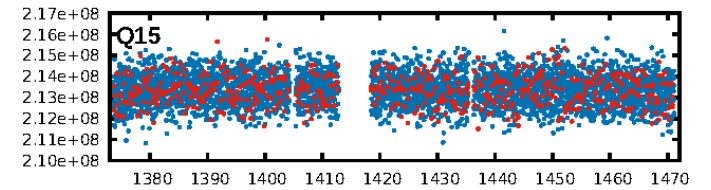
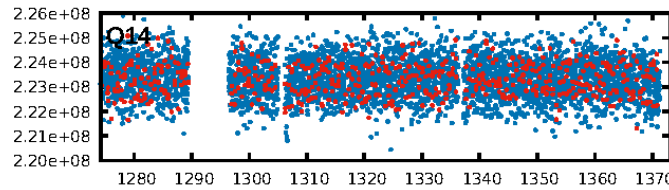
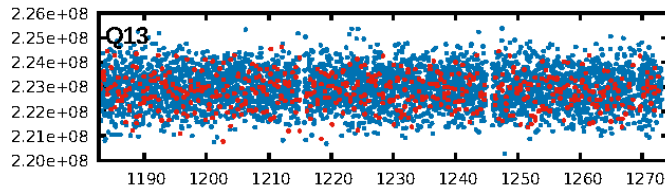
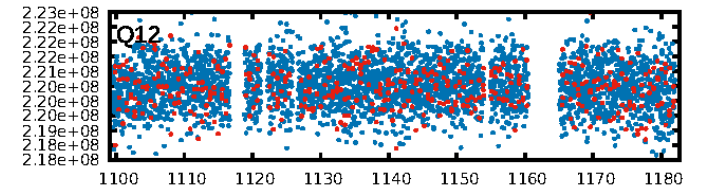
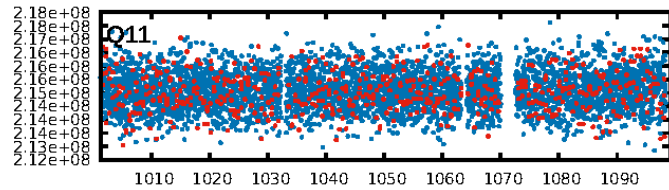
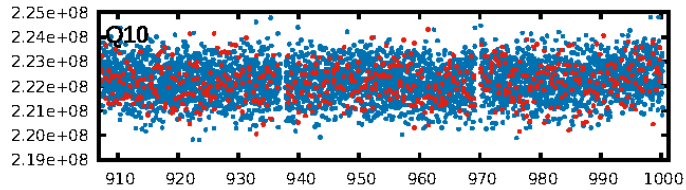
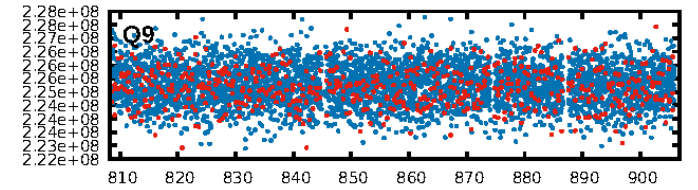
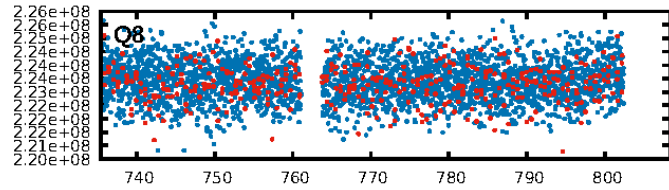
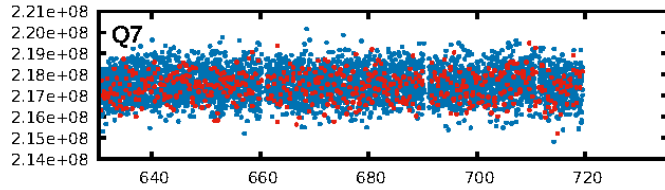
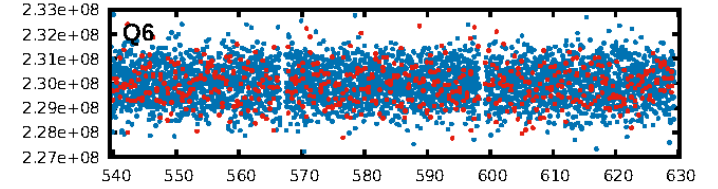
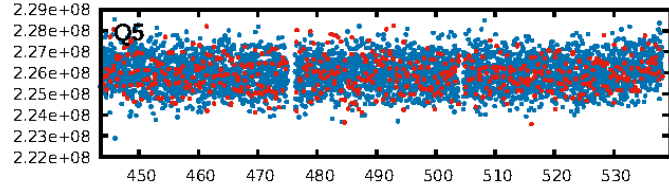
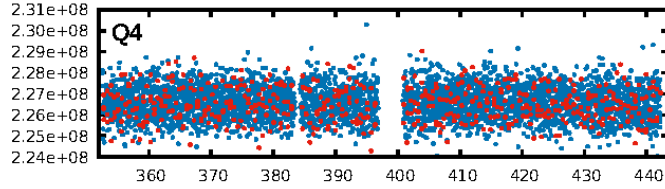
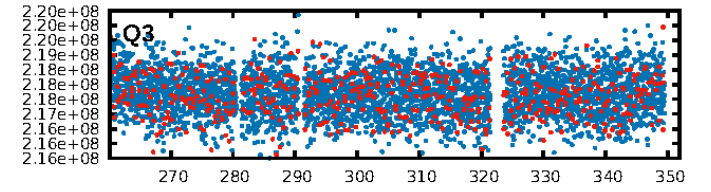
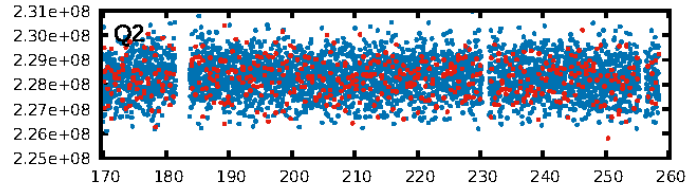
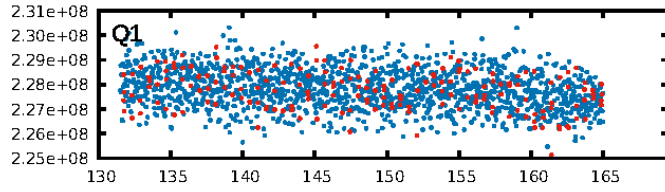
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.35e-146
RollingBand-fgt: 0.98 [2158/2192]
GhostDiagnostic-chr: 1.848
Centroid-sig: 0.0%
Centroid-so: 0.304 arcsec [6.58σ]
OotOffset-rm: 0.093 arcsec [1.29σ]
KicOffset-rm: 0.035 arcsec [0.49σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
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DiffImageOverlap-fno: 0.00 [0/17]

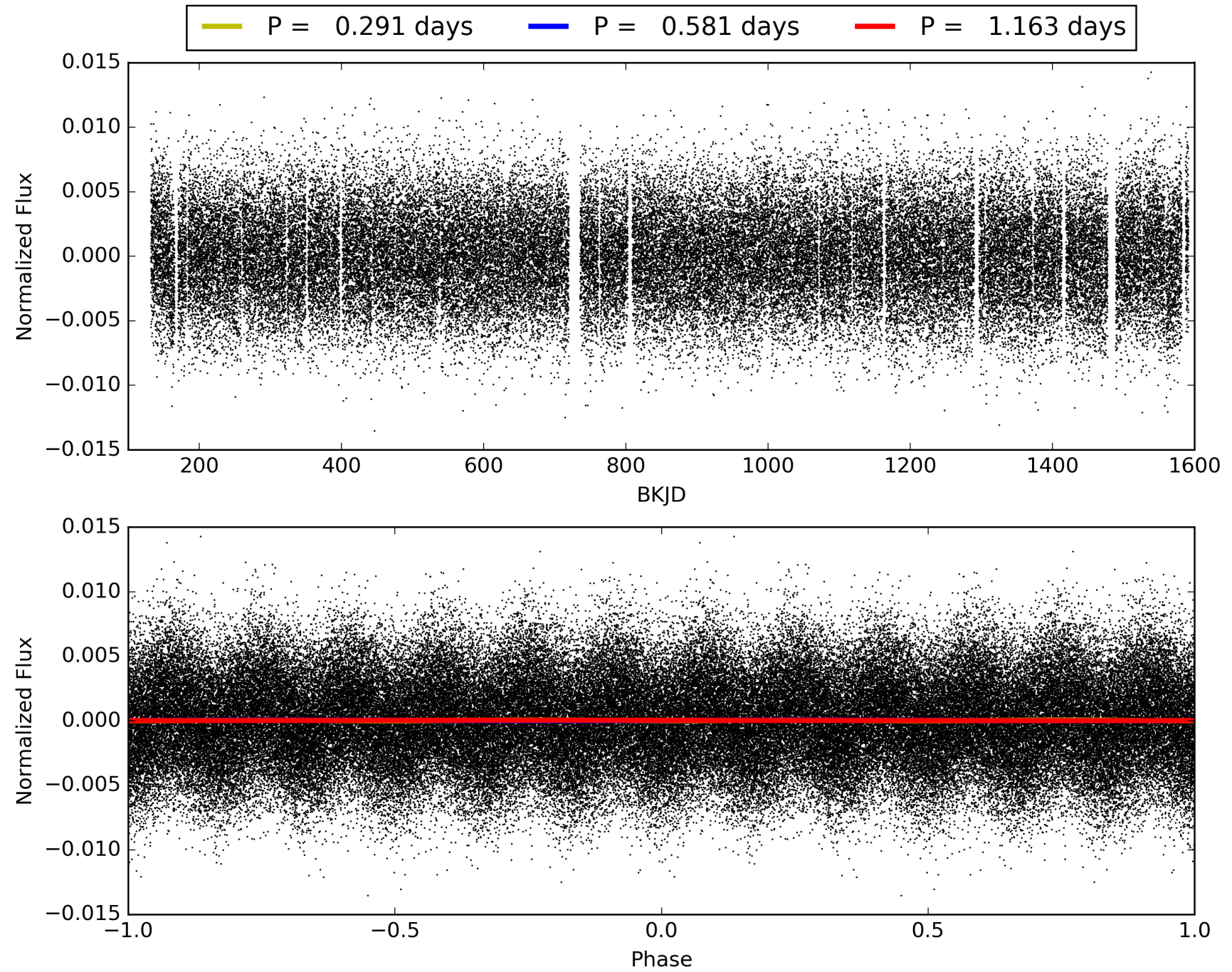
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008782561-02, PDC Light Curves

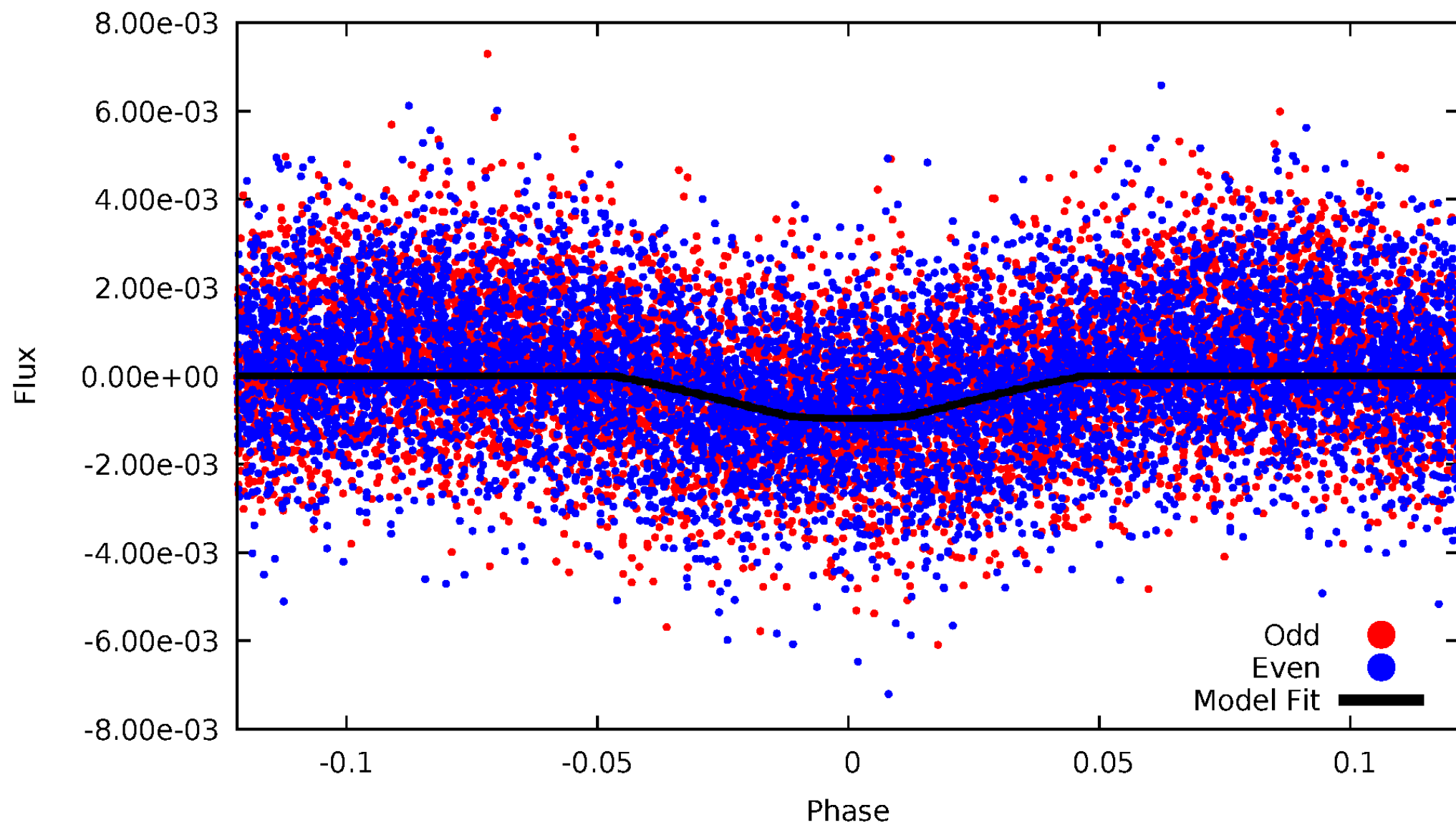


TCE 008782561-02



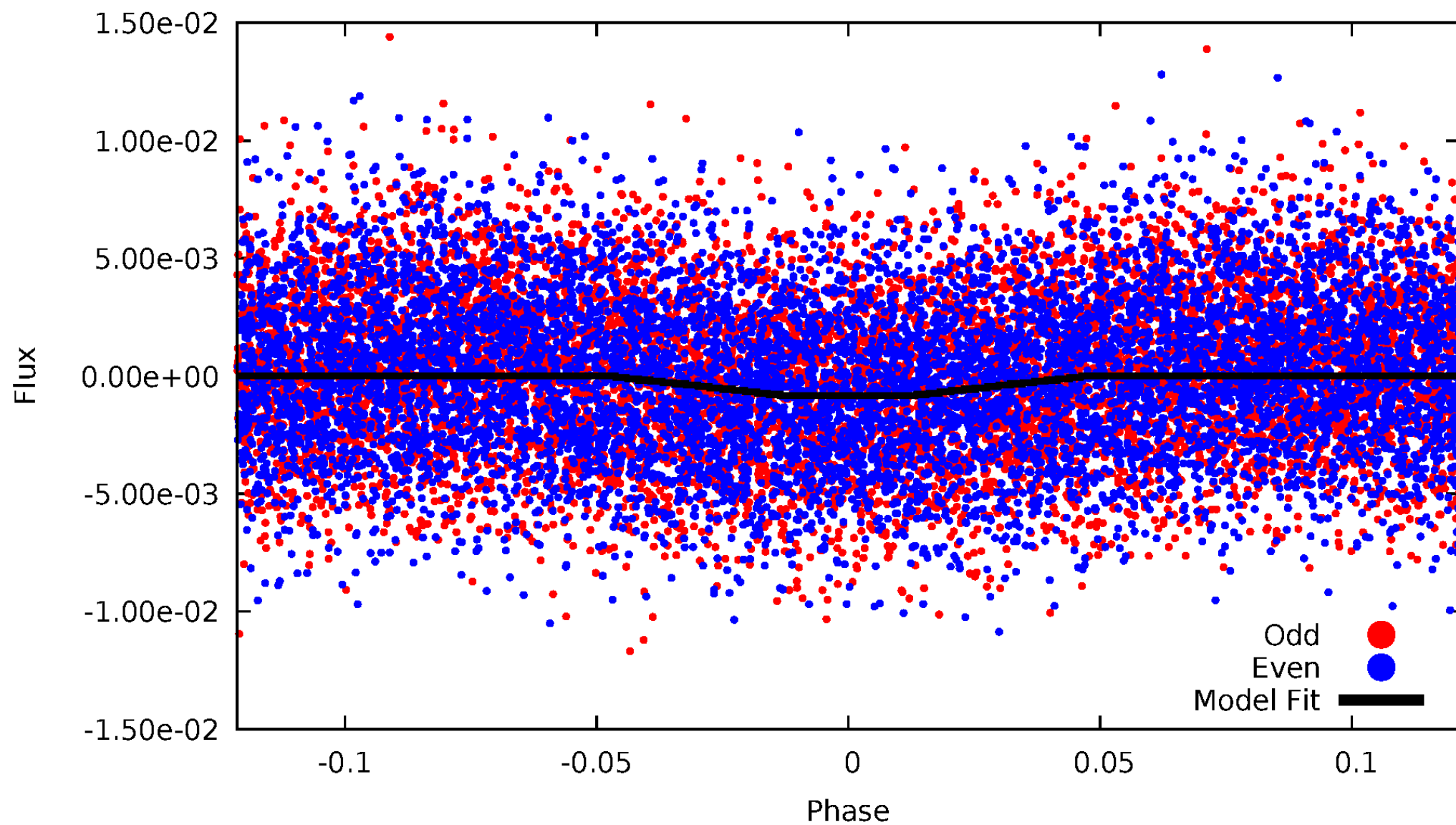
DV Odd/Even

TCE 008782561-02



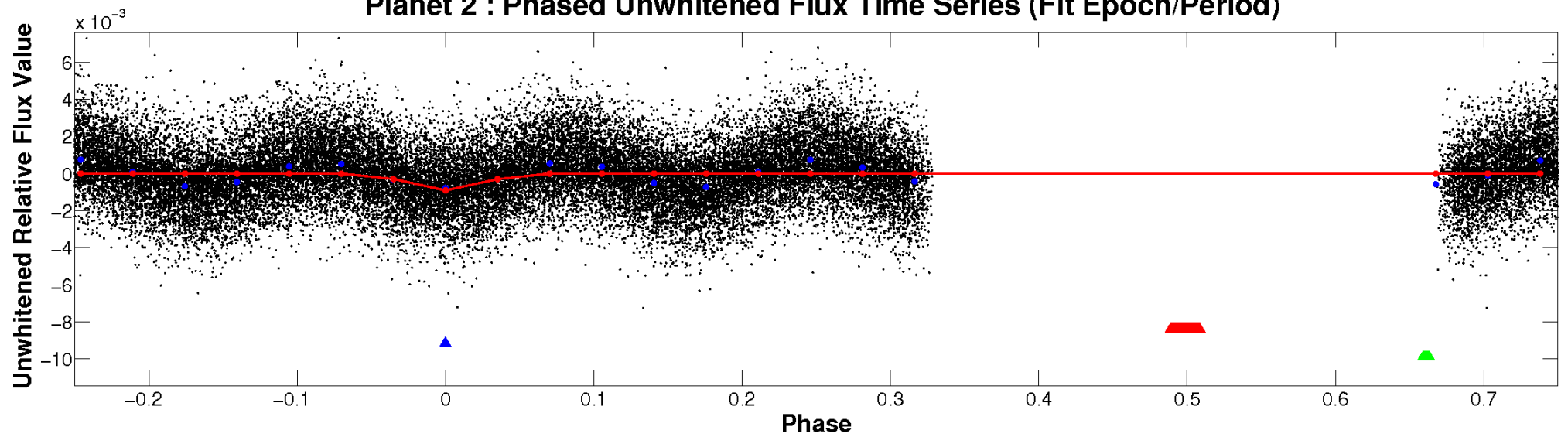
ALT Odd/Even

TCE 008782561-02

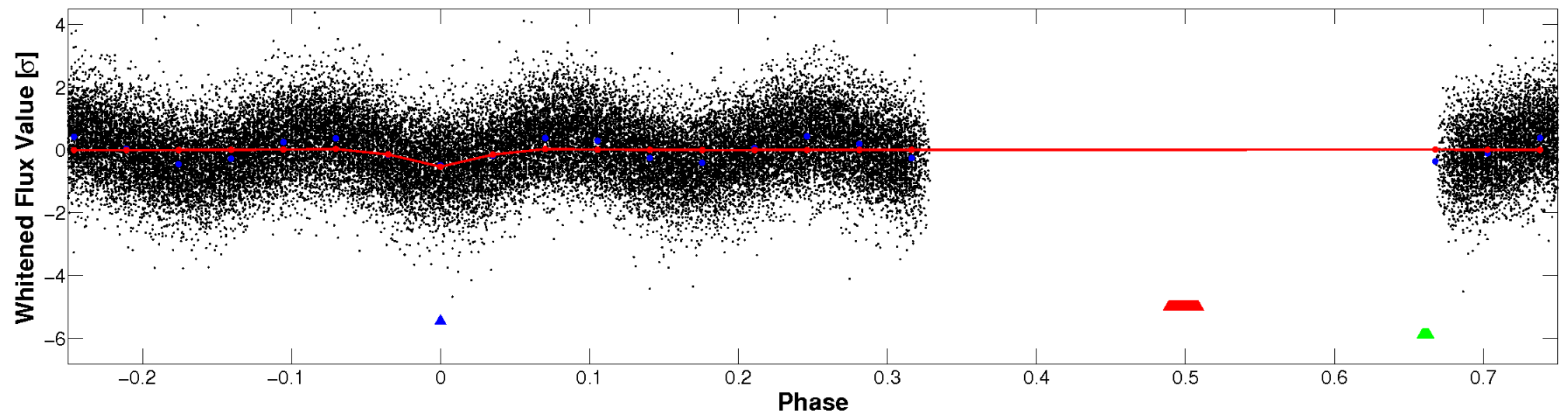


Non-Whitened Vs. Whitened Light Curve

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

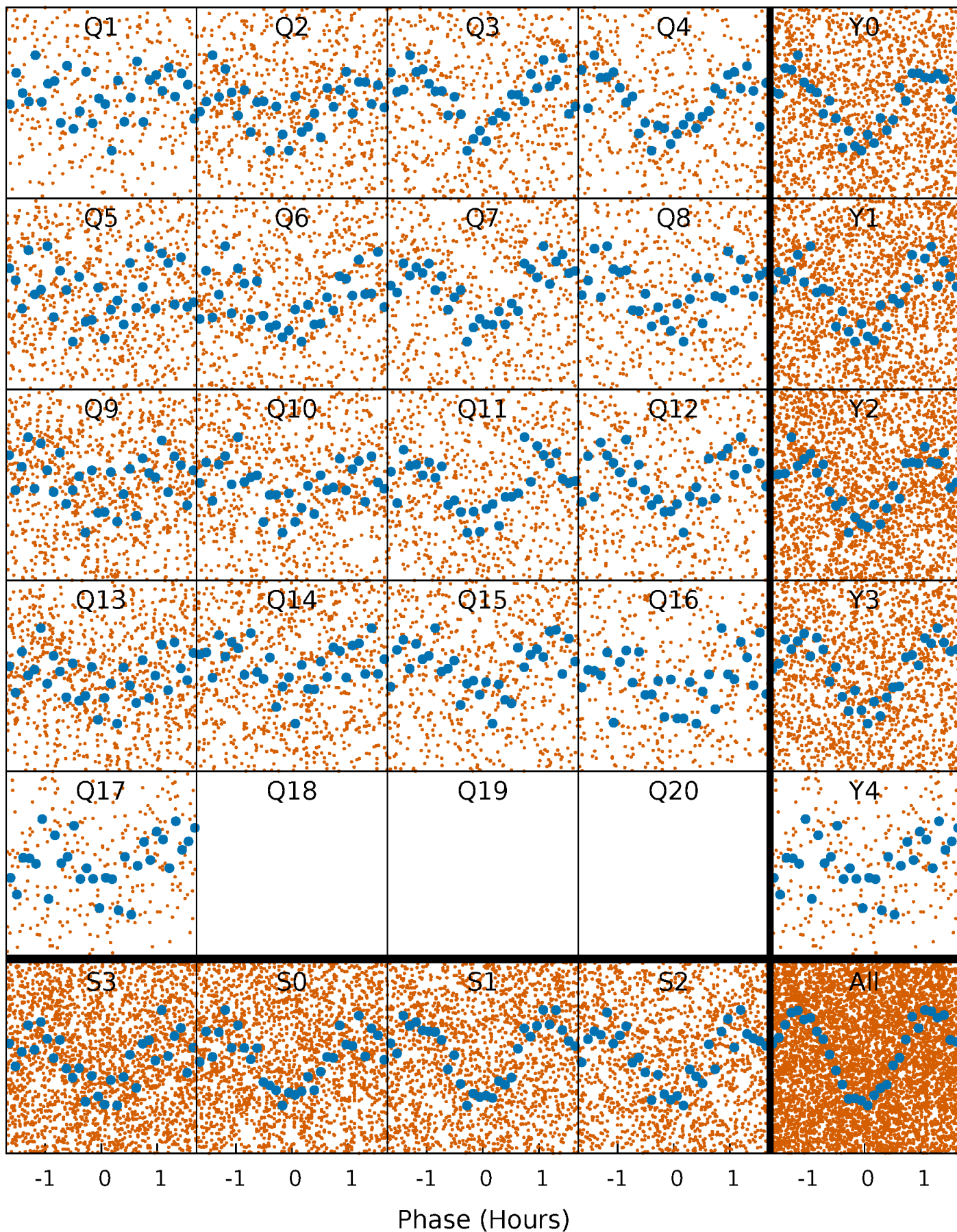


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



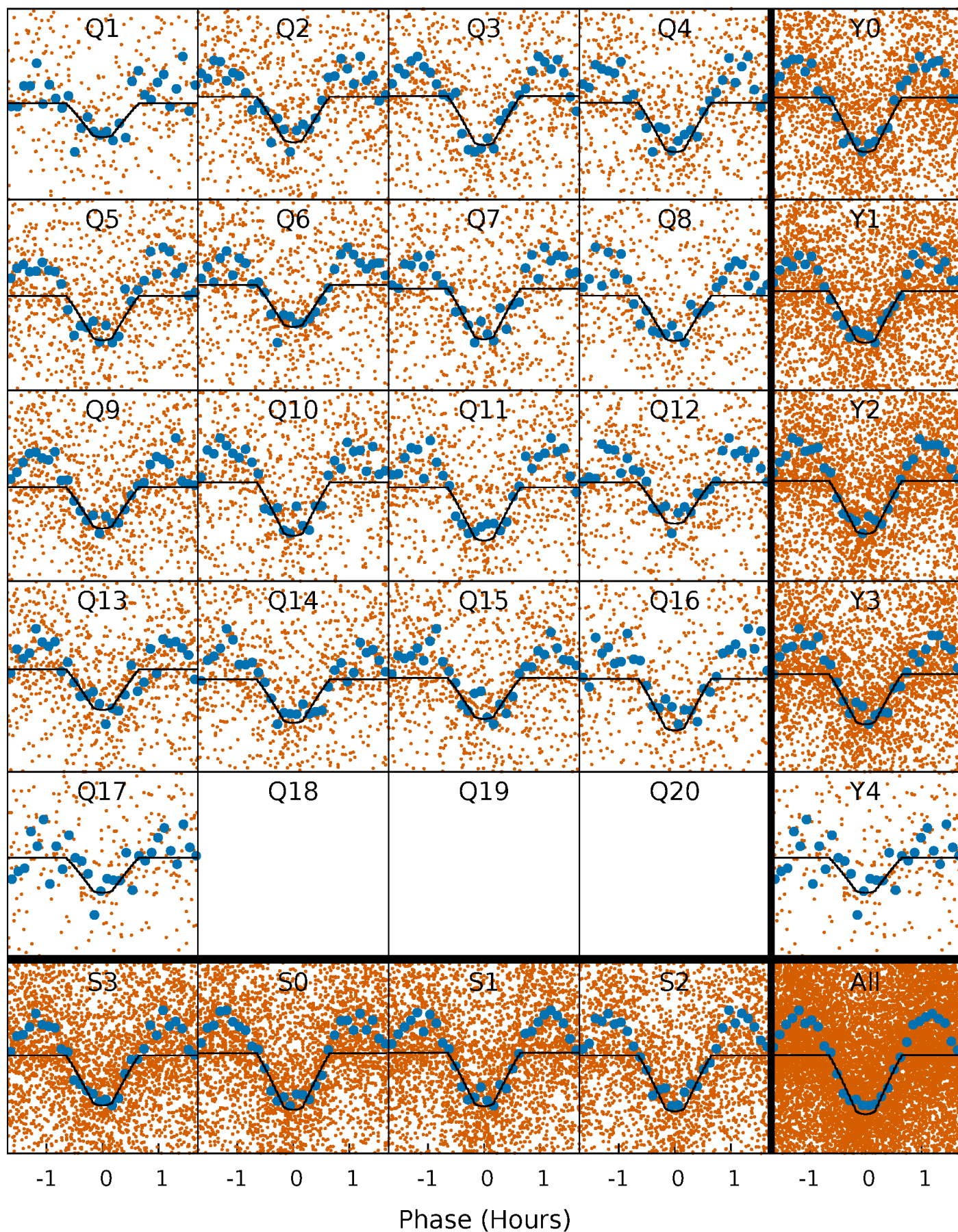
PDC Quarter-Phased Transit Curves

TCE 008782561-02 P= 0.581438 Days $T_0=131.745305$ (BKJD)



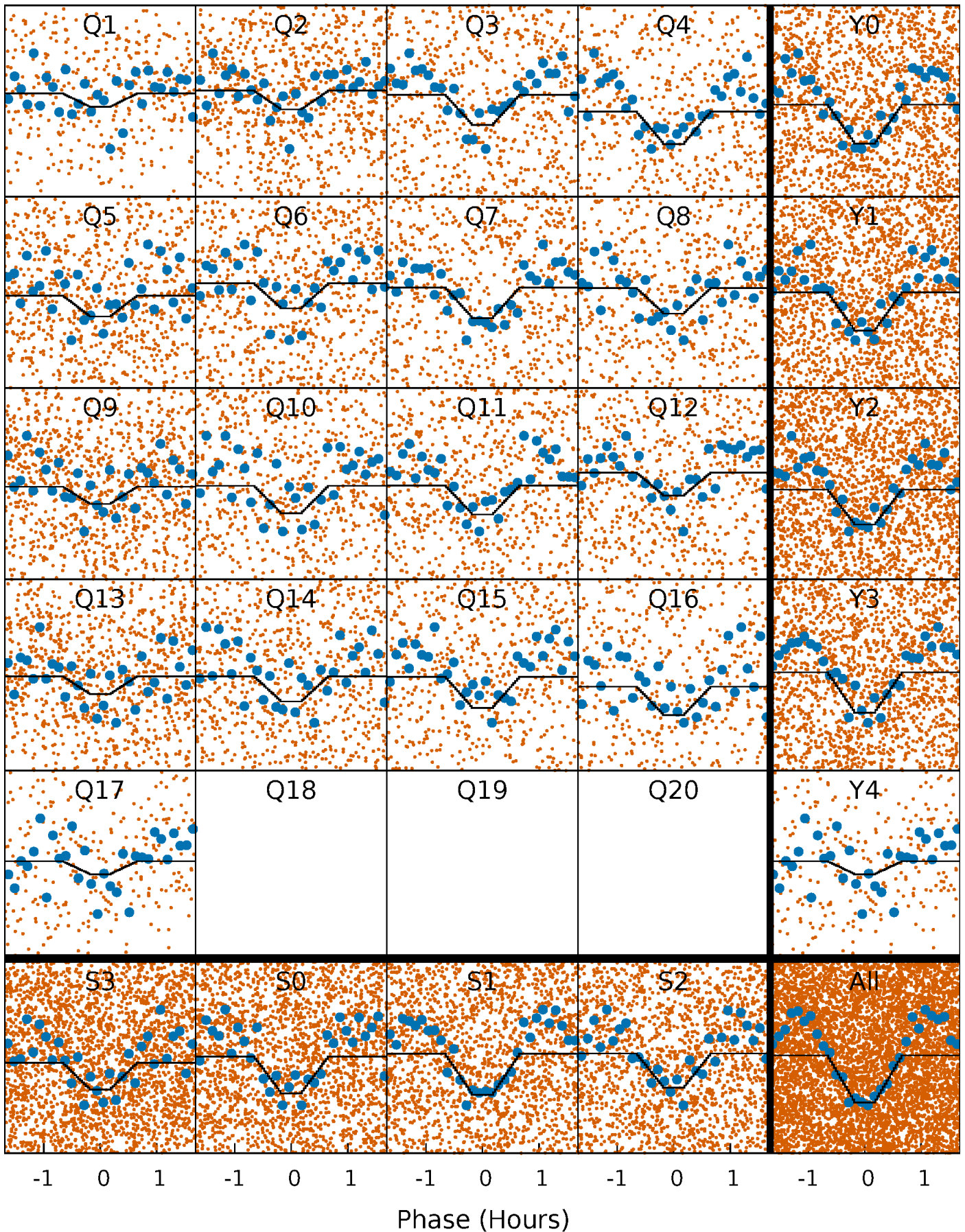
DV Quarter-Phased Transit Curves

TCE 008782561-02 P= 0.581438 Days $T_0=131.745305$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

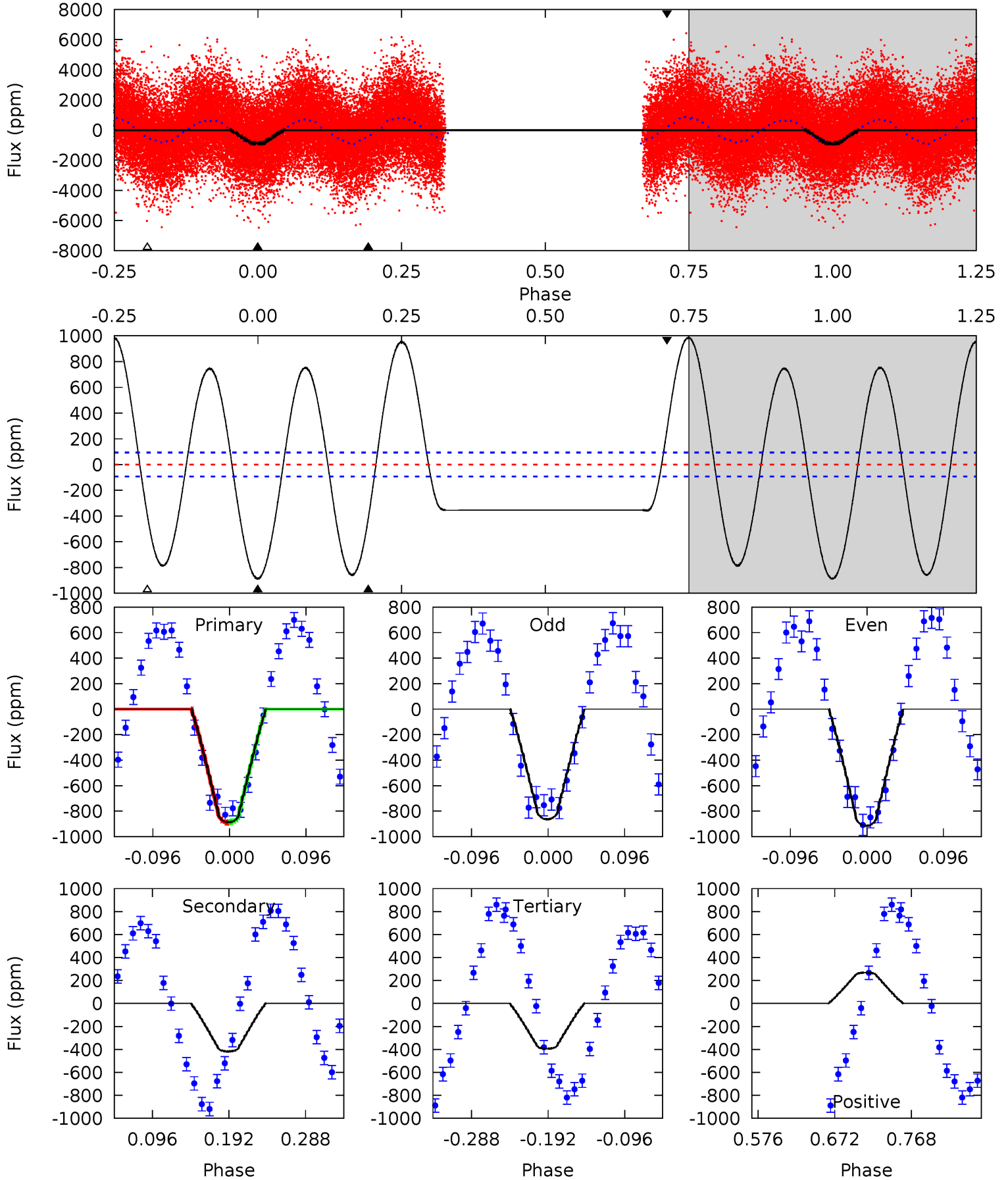
TCE 008782561-02 P= 0.581438 Days $T_0=131.745304$ (BKJD)



DV Model-Shift Uniqueness Test

008782561-02, P = 0.581438 Days, E = 131.163867 Days

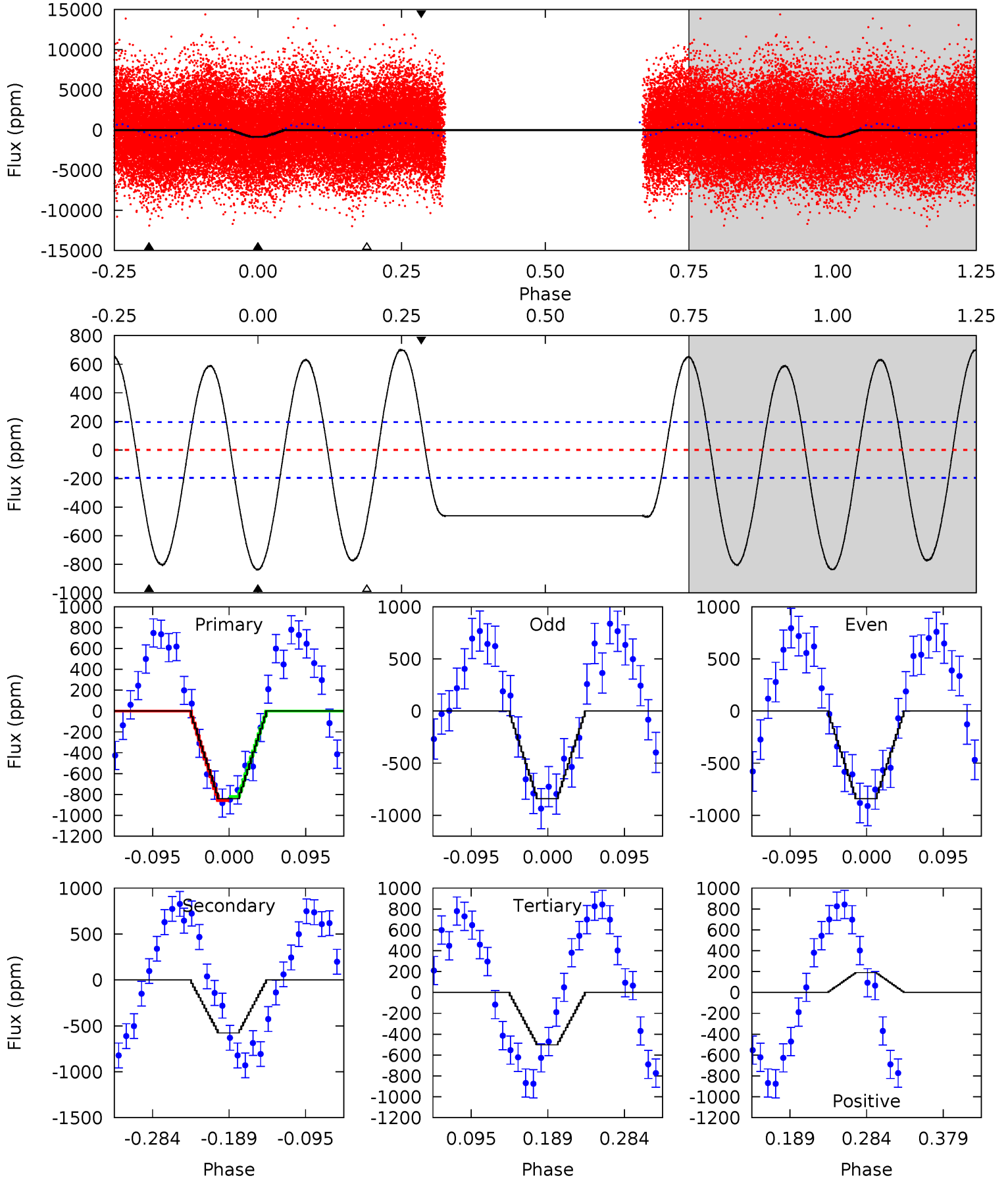
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.4	20.5	19.3	13.2	4.57	1.66	26.5	24.1	30.3	1.14	7.30	1.24	1.01	0.53	0.03



Alt Model-Shift Uniqueness Test

008782561-02, P = 0.581438 Days, E = 131.163866 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.7	13.6	11.8	4.47	4.58	1.67	11.0	7.93	15.3	1.77	9.11	0.02	1.02	0.46	0.45



Stellar Parameters For KIC 008782561

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7360^{+228}_{-304}	$3.628^{+0.495}_{-0.055}$	$-0.100^{+0.250}_{-0.300}$	$3.627^{+0.336}_{-1.903}$	$2.041^{+0.152}_{-0.608}$	$0.060^{+0.321}_{-0.011}$
	+3%/-4%	+14%/-2%	+250%/-300%	+9%/-52%	+7%/-30%	+533%/-18%
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 008782561-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-418 ± 20	$10.28^{+3.11}_{-3.30}$	6316^{+433}_{-769}	5308^{+1146}_{-1161}	$0.651^{+0.715}_{-0.261}$
Alt.	-578 ± 43	$9.94^{+3.30}_{-2.92}$	6306^{+443}_{-738}	6046^{+1208}_{-1022}	$0.937^{+0.890}_{-0.391}$

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

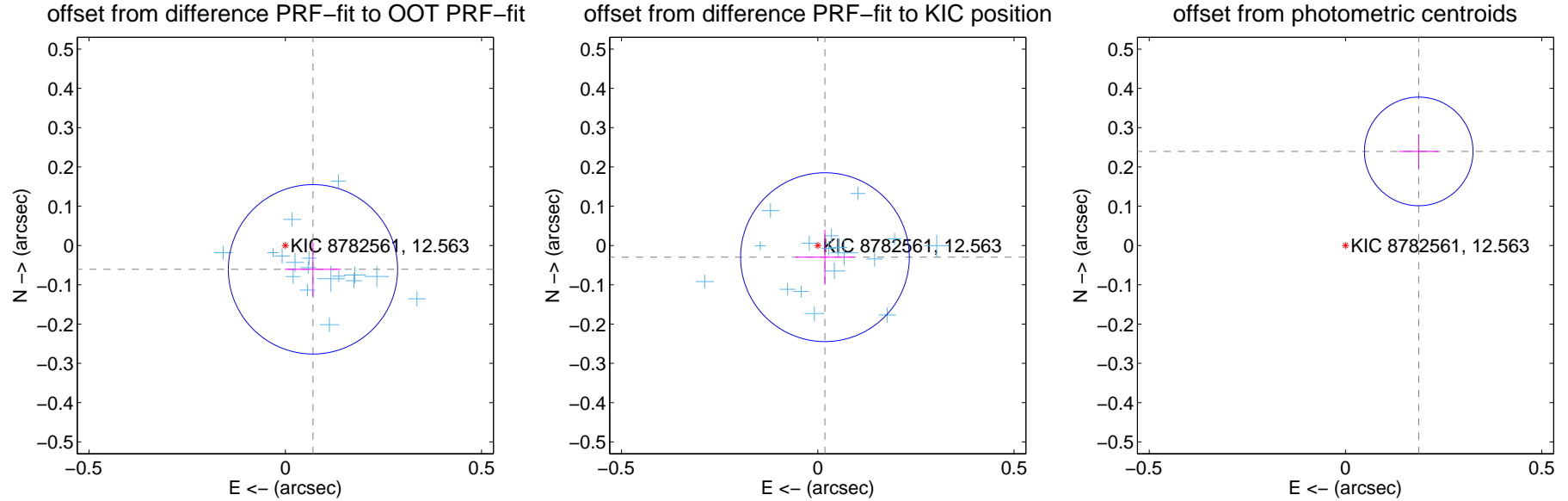
DV Centroid Data

Supplemental centroid analysis for 008782561-02. Kepler magnitude: 12.56. Transit SNR 28.78

There are 17 quarters with good PRF difference image offsets

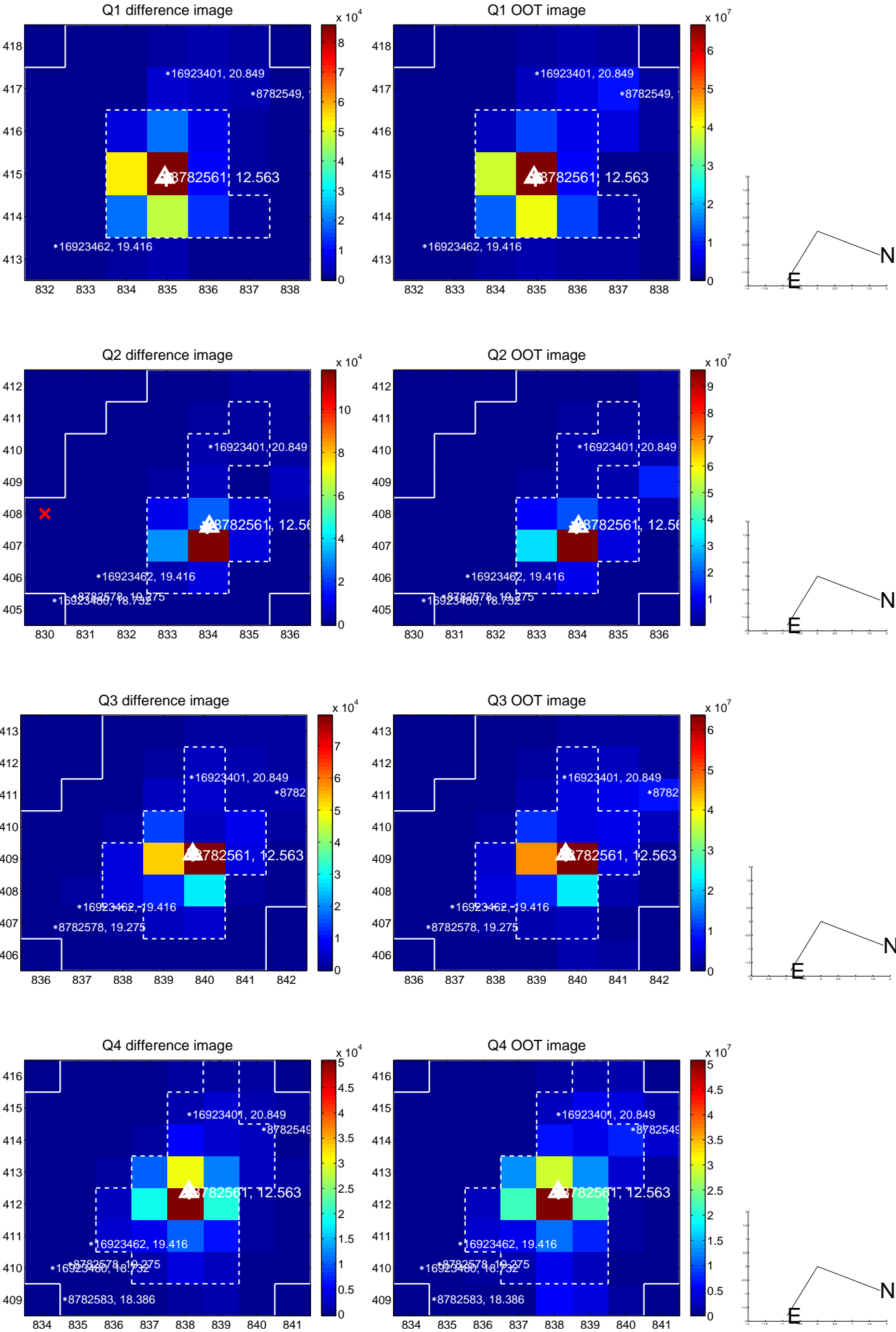
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.093 ± 0.072	1.29	-0.070 ± 0.071	-0.061 ± 0.069
PRF-fit source offset from KIC position	0.035 ± 0.072	0.49	-0.018 ± 0.075	-0.030 ± 0.070
photometric centroid source offset	0.30 ± 0.05	6.58	-0.19 ± 0.05	0.24 ± 0.04

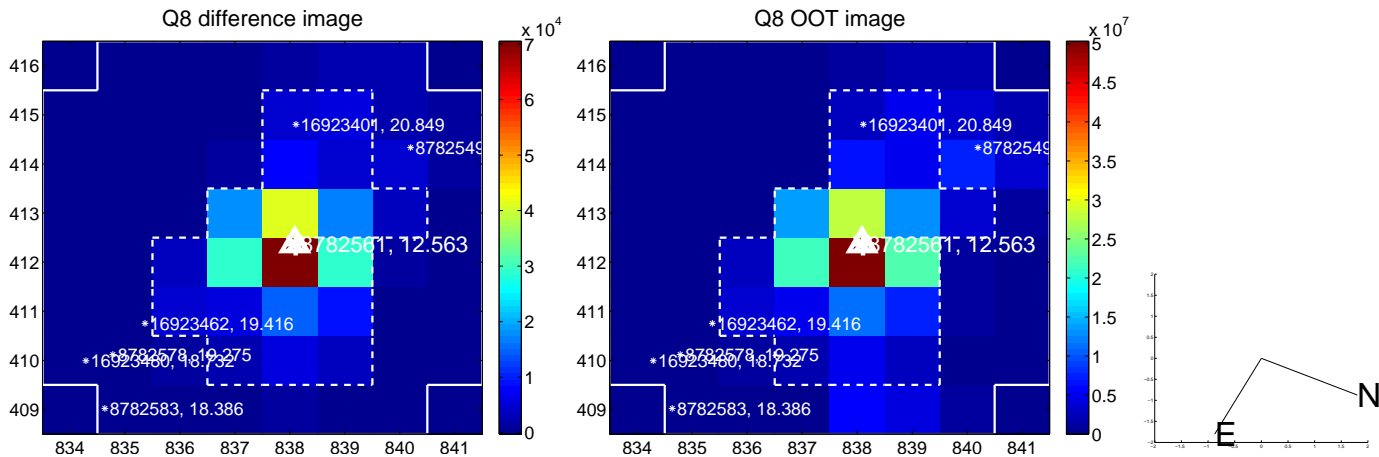
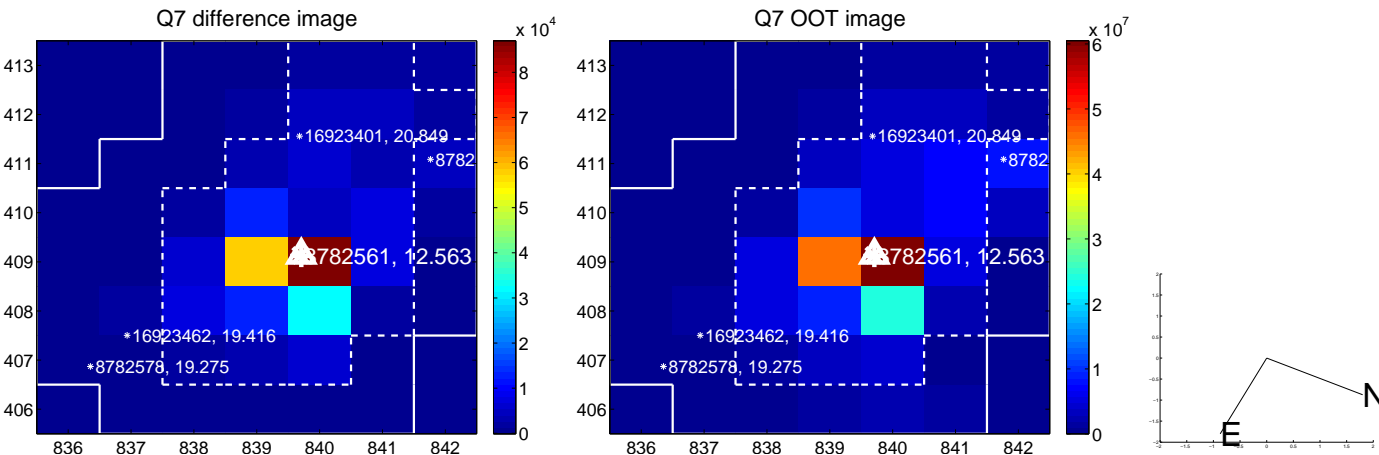
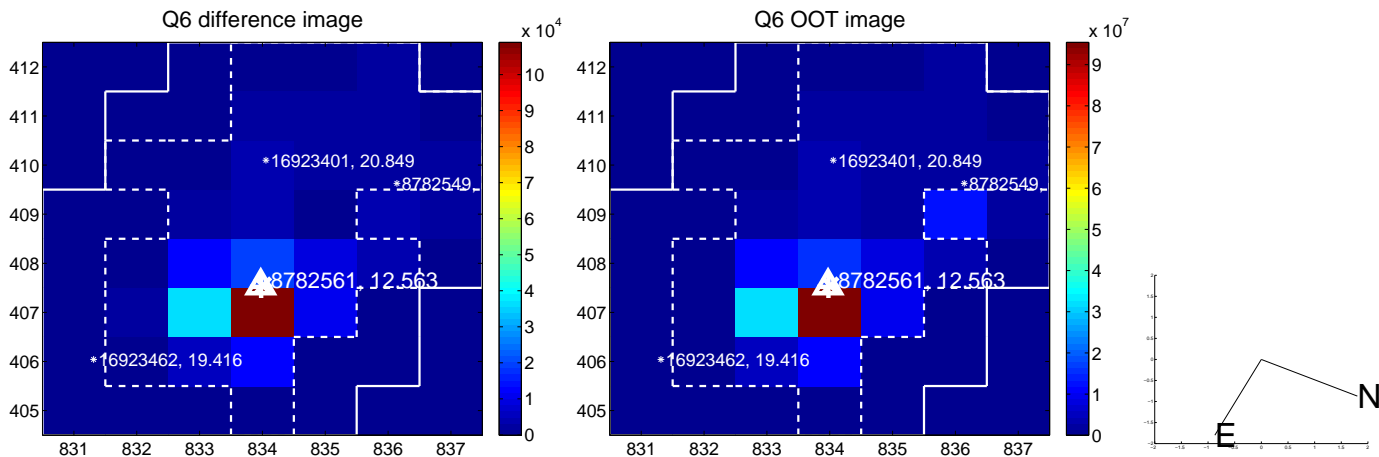
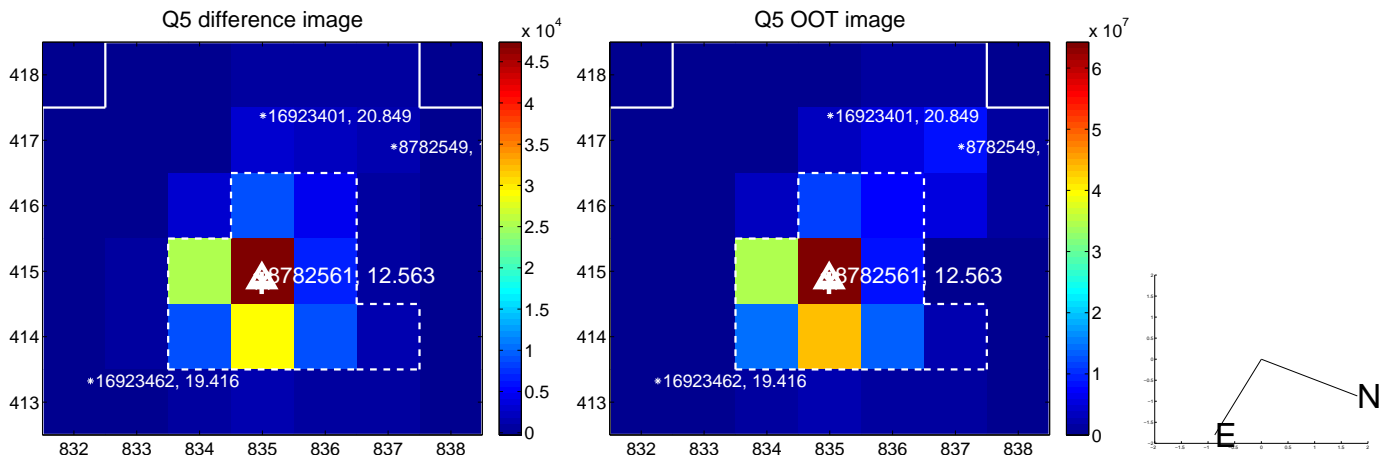


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

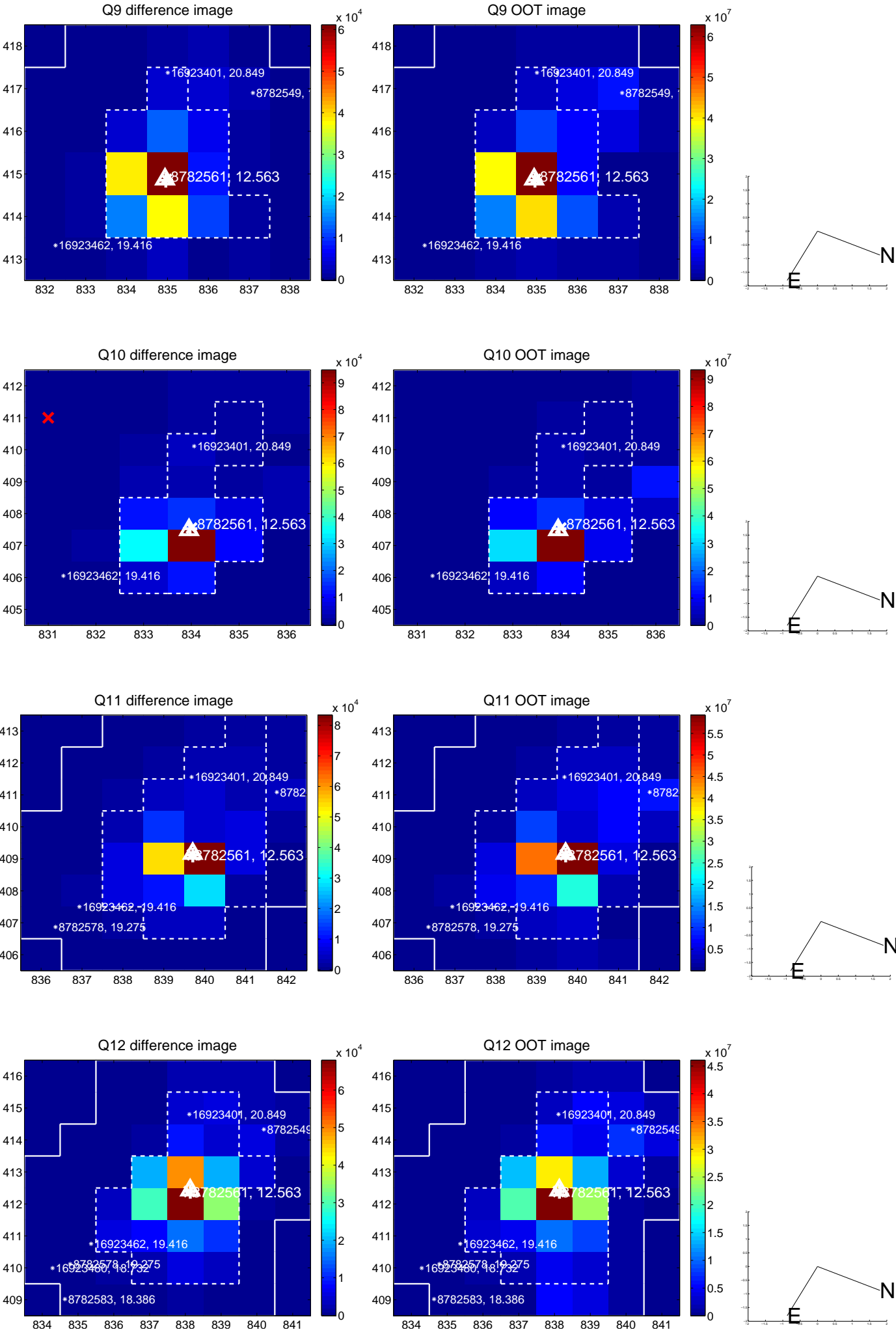
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



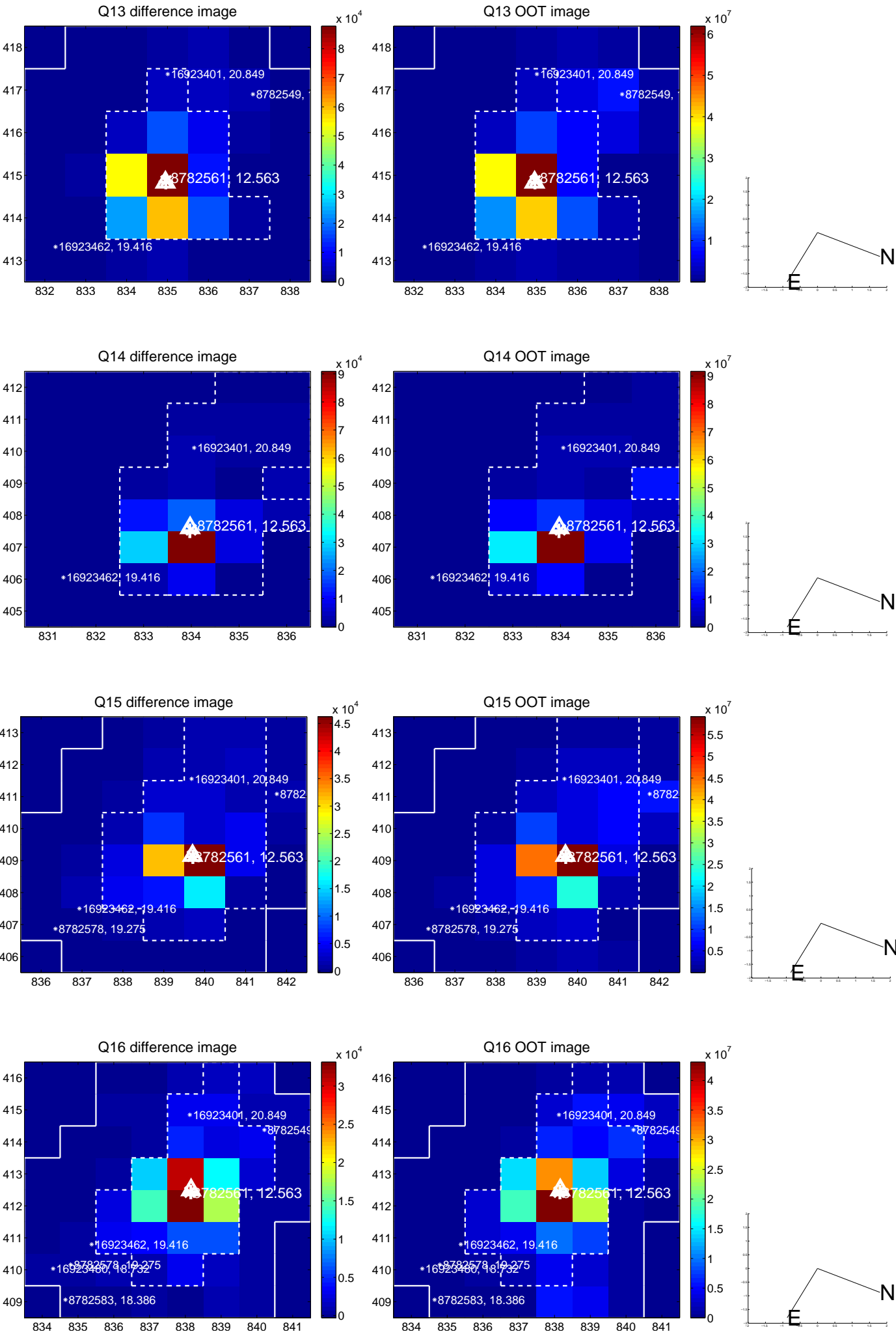
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



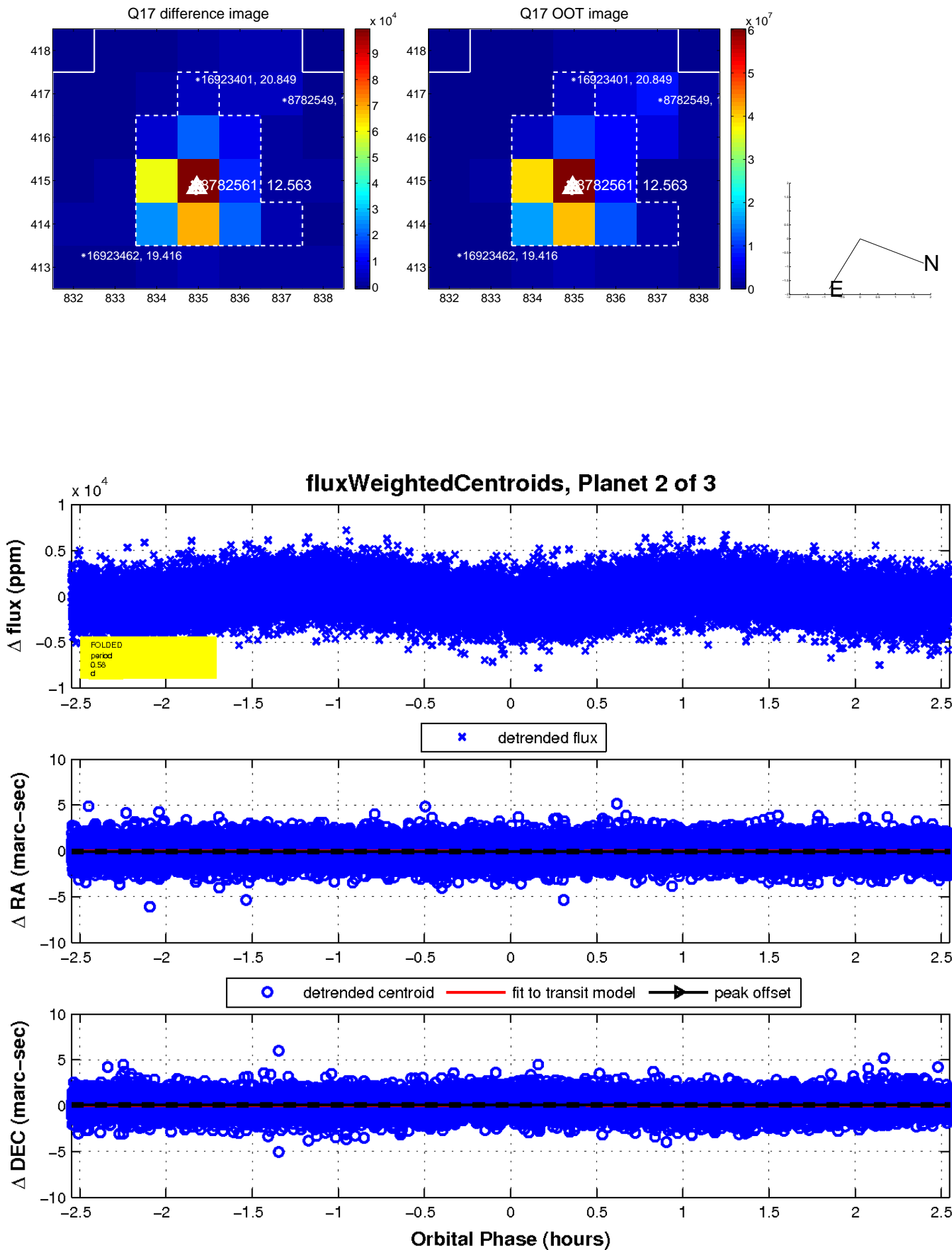
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

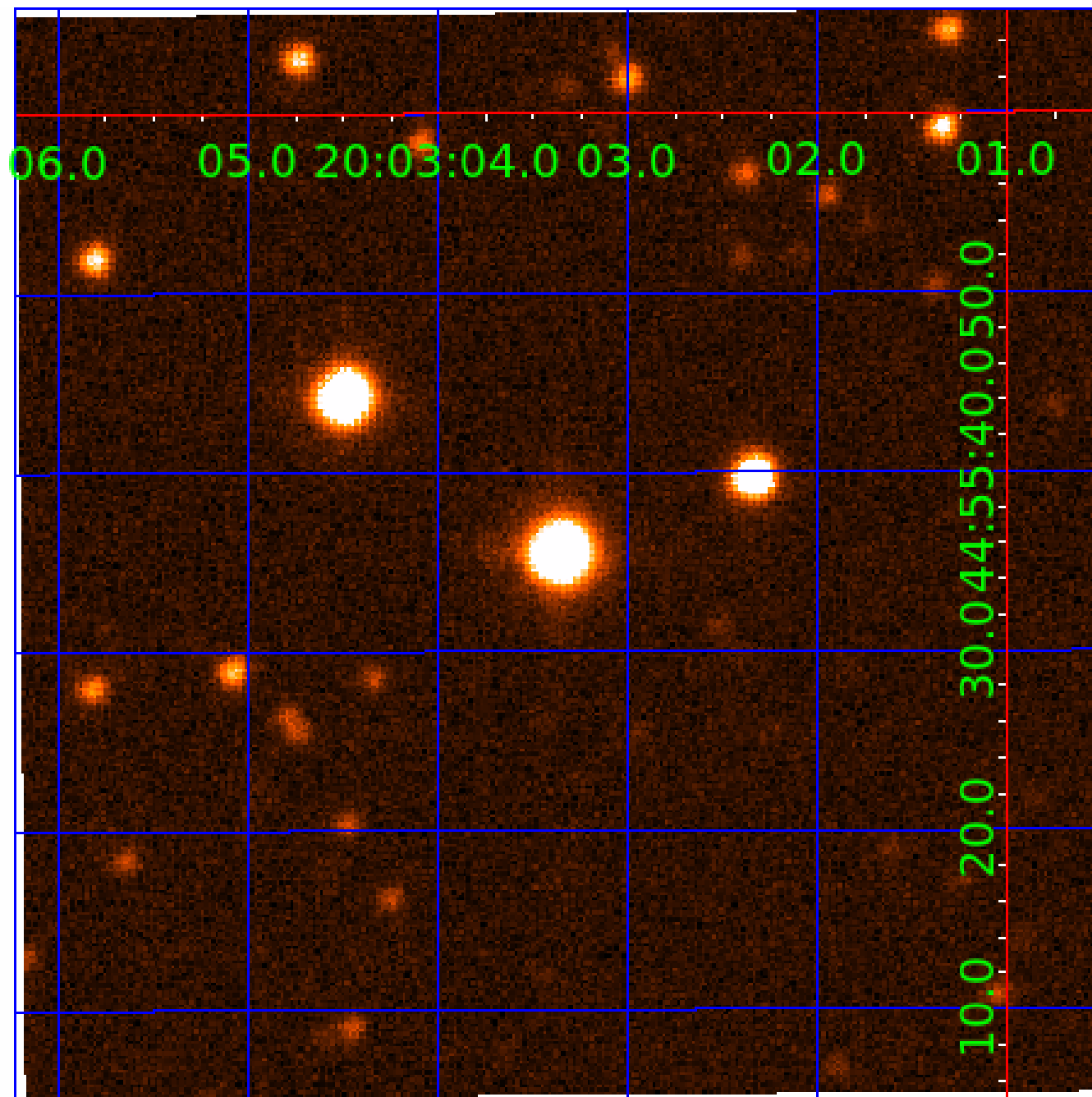


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008782561

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})
008782561-01	OBS	No	0.581442	132.029625	854.1	0.840	19.1	25.3	3.63	7360	10.86	0.00
008782561-02	OBS	No	0.581438	131.745305	957.7	0.850	20.9	28.8	3.63	7360	11.50	0.00
008782561-03	OBS	No	0.581437	131.549522	935.3	1.388	9.8	17.4	3.63	7360	12.92	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008782561-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008782561-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
008782561-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

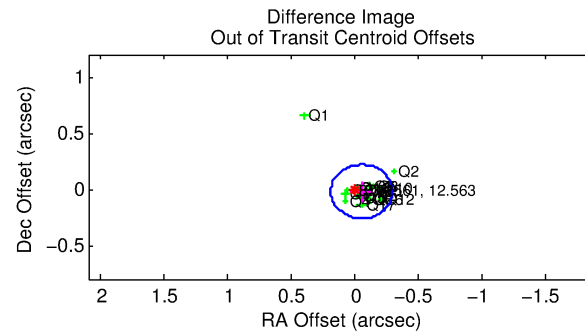
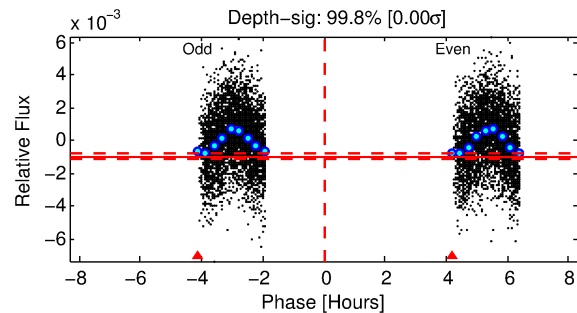
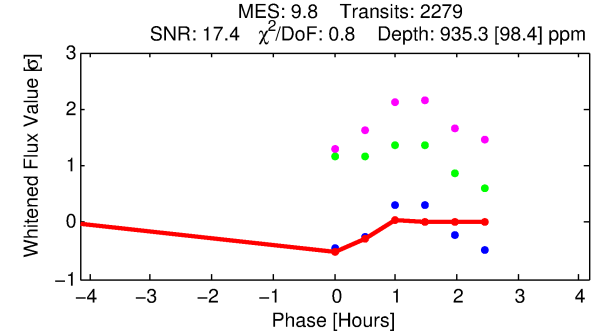
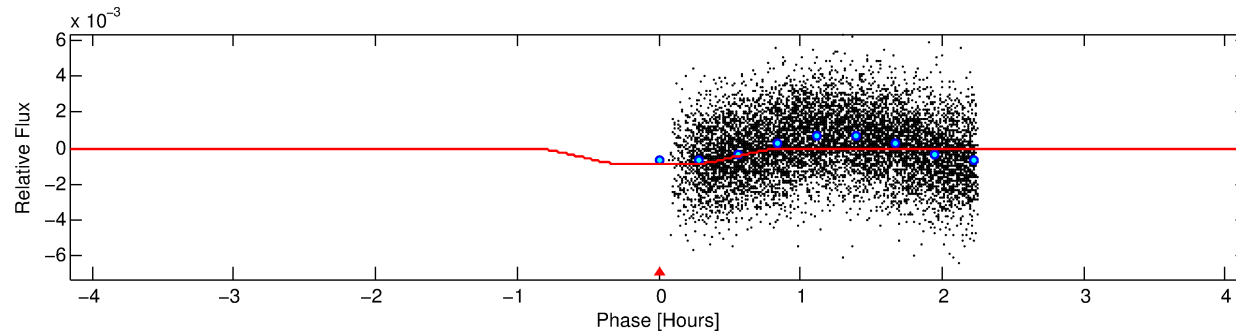
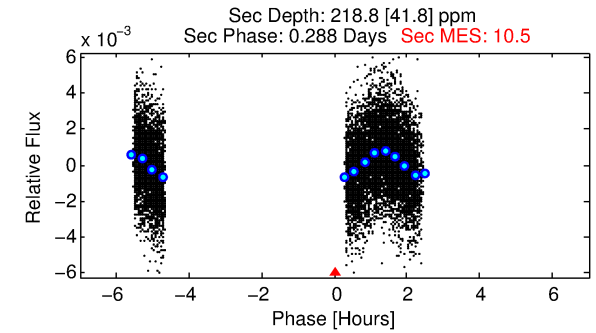
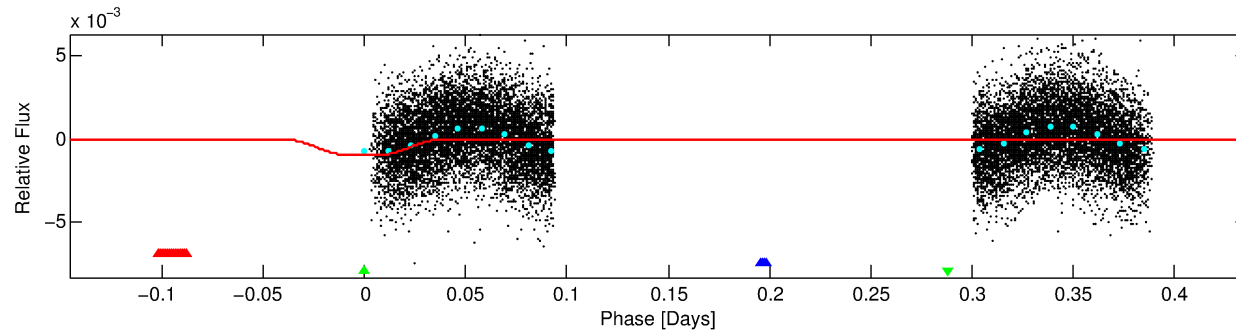
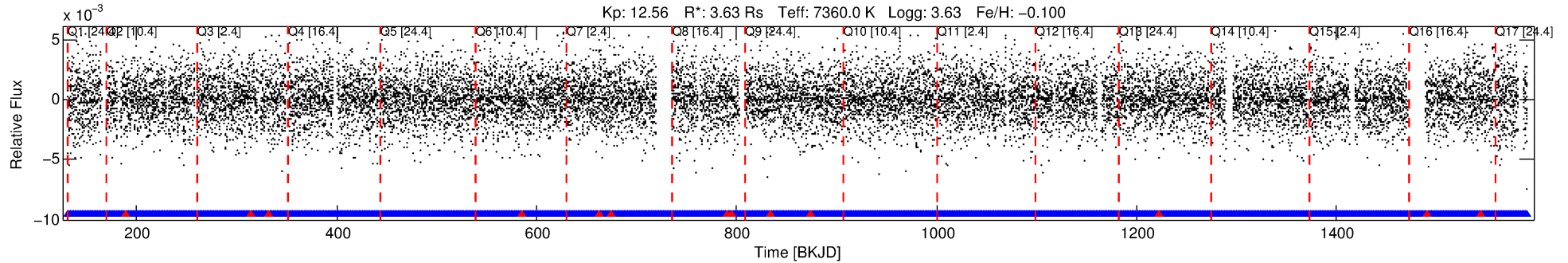
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008782561-03

No Significant Match Found

DV One-Page Summary

KIC: 8782561 Candidate: 3 of 3 Period: 0.581 d



DV Fit Results:

Period = 0.58144 [0.00001] d
Epoch = 131.5495 [0.0042] BKJD
Rp/R* = 0.0326 [0.0061]
a/R* = 1.88 [1.47]
b = 0.90 [0.21]
Seff = N/A
Teq = N/A
Rp = 12.92 [7.20] Re
a = N/A
Ag = N/A
Teffp = N/A

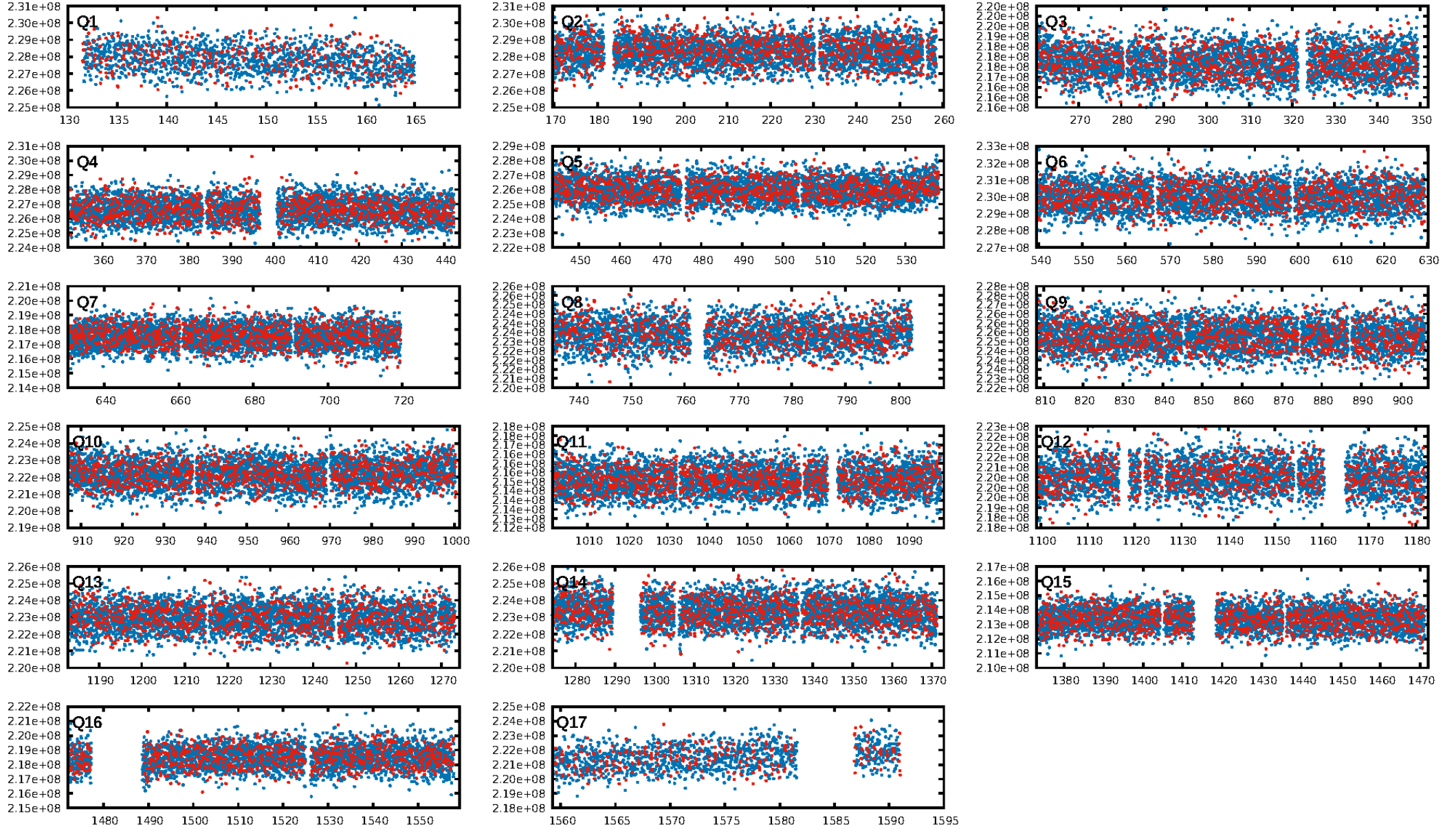
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.03e-47
RollingBand-fgt: 0.99 [2162/2175]
GhostDiagnostic-chr: 1.342
Centroid-sig: 8.7%
Centroid-so: 0.393 arcsec [9.86σ]
OotOffset-rm: 0.053 arcsec [0.66σ]
KicOffset-rm: 0.029 arcsec [0.36σ]
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]

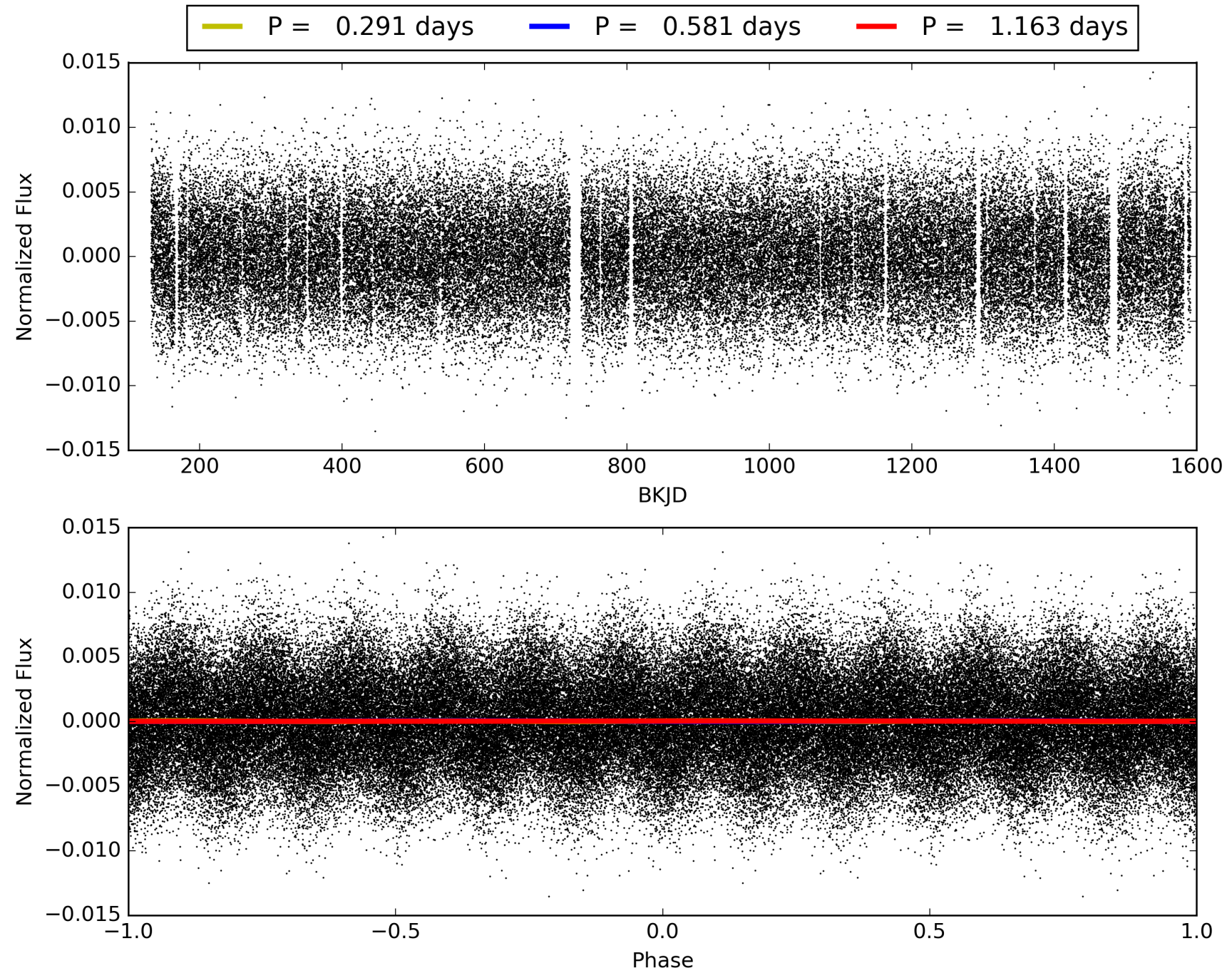
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:15:53 Z

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

TCE 008782561-03, PDC Light Curves

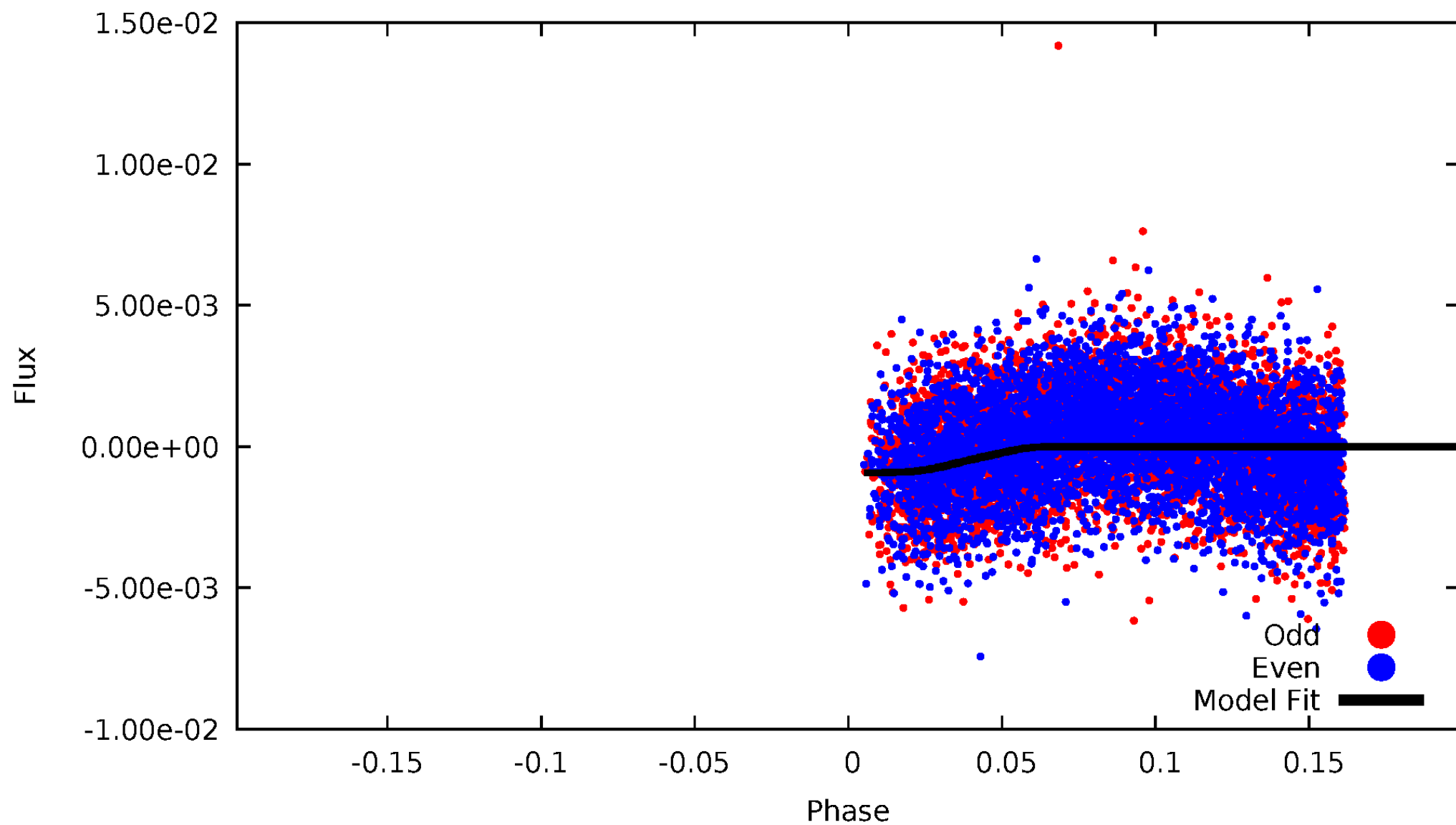


TCE 008782561-03



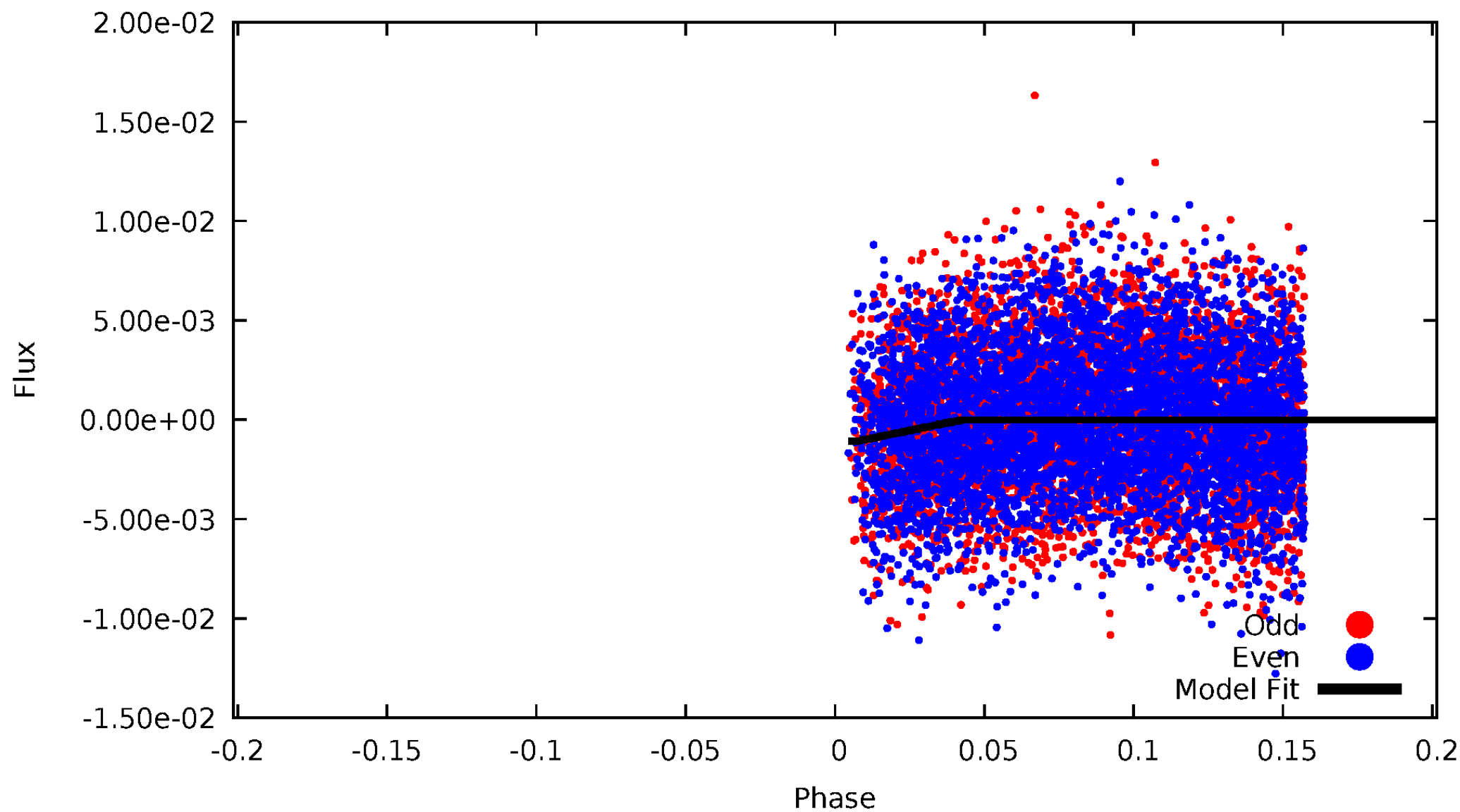
DV Odd/Even

TCE 008782561-03



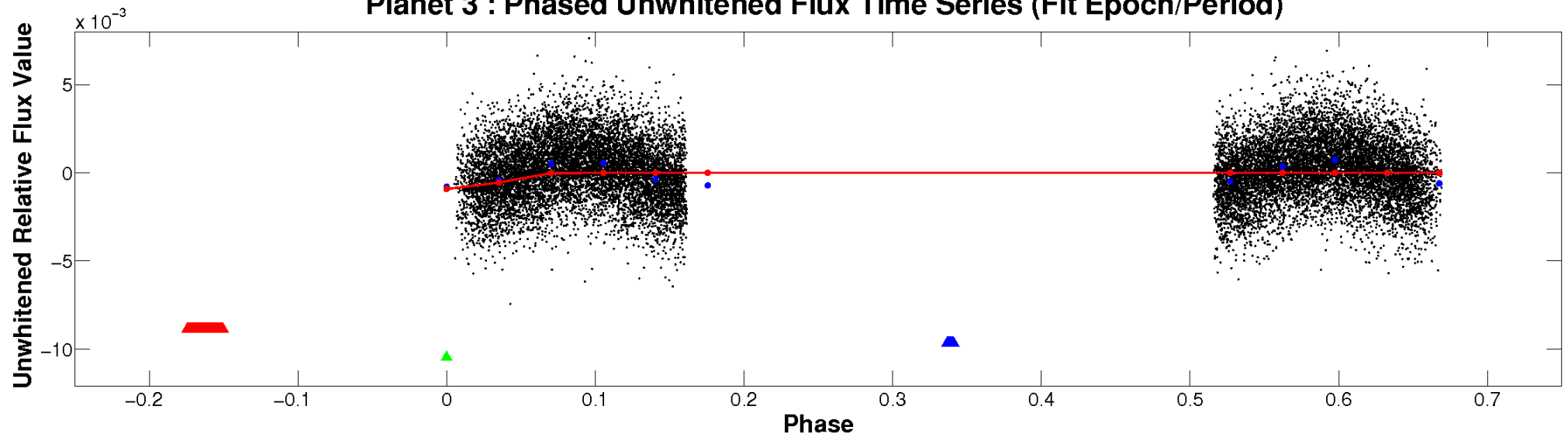
ALT Odd/Even

TCE 008782561-03

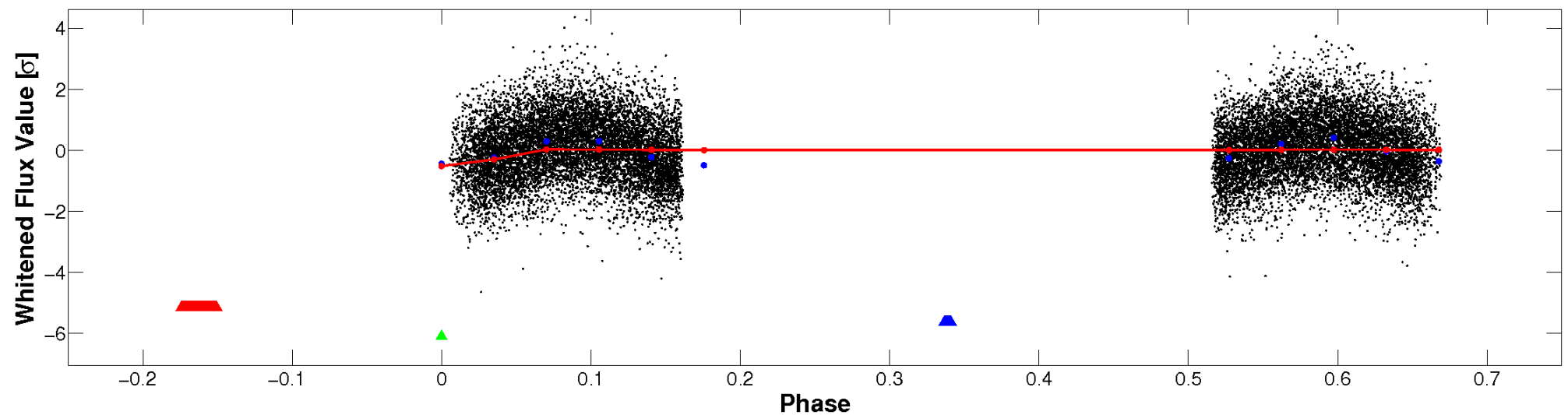


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

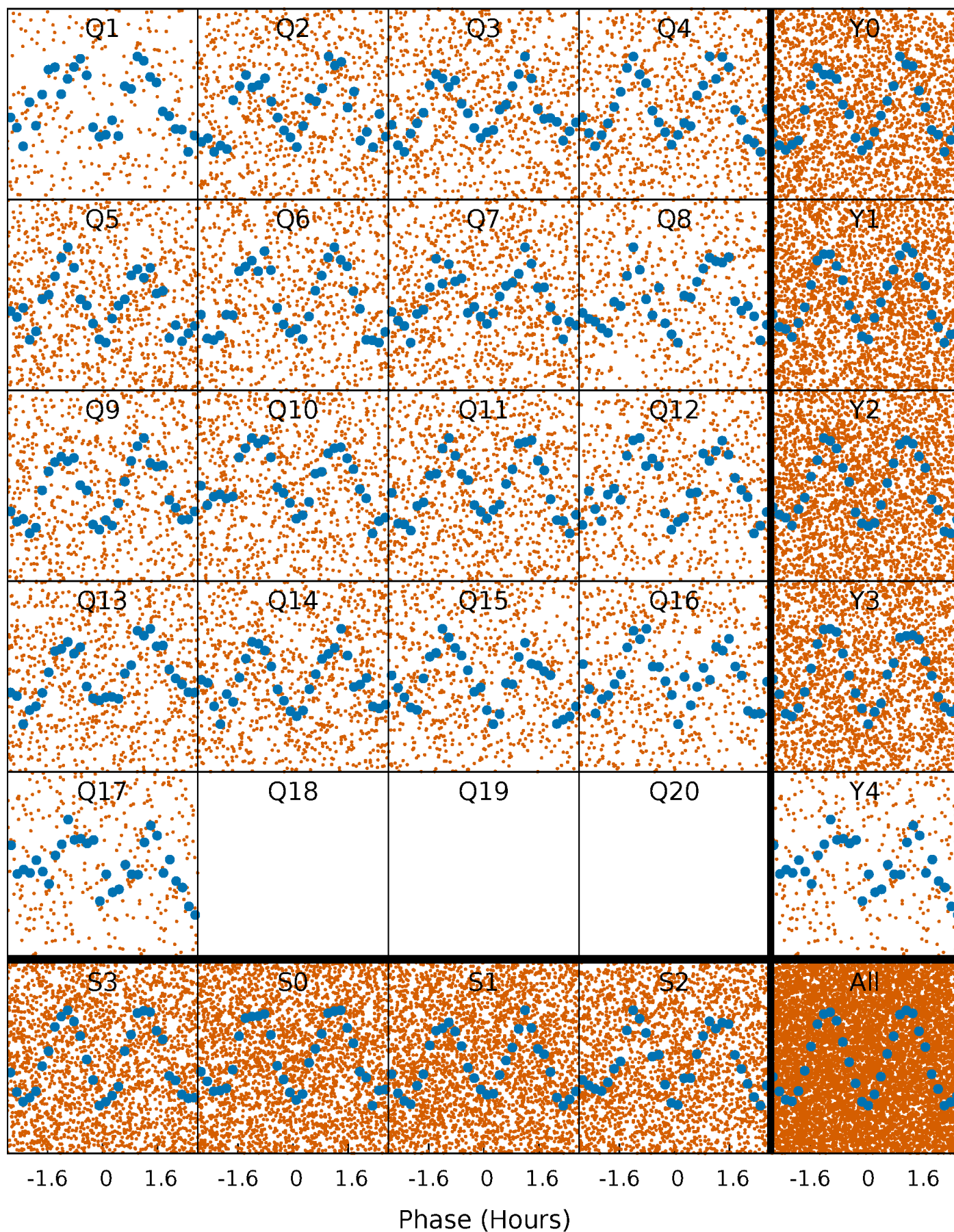


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



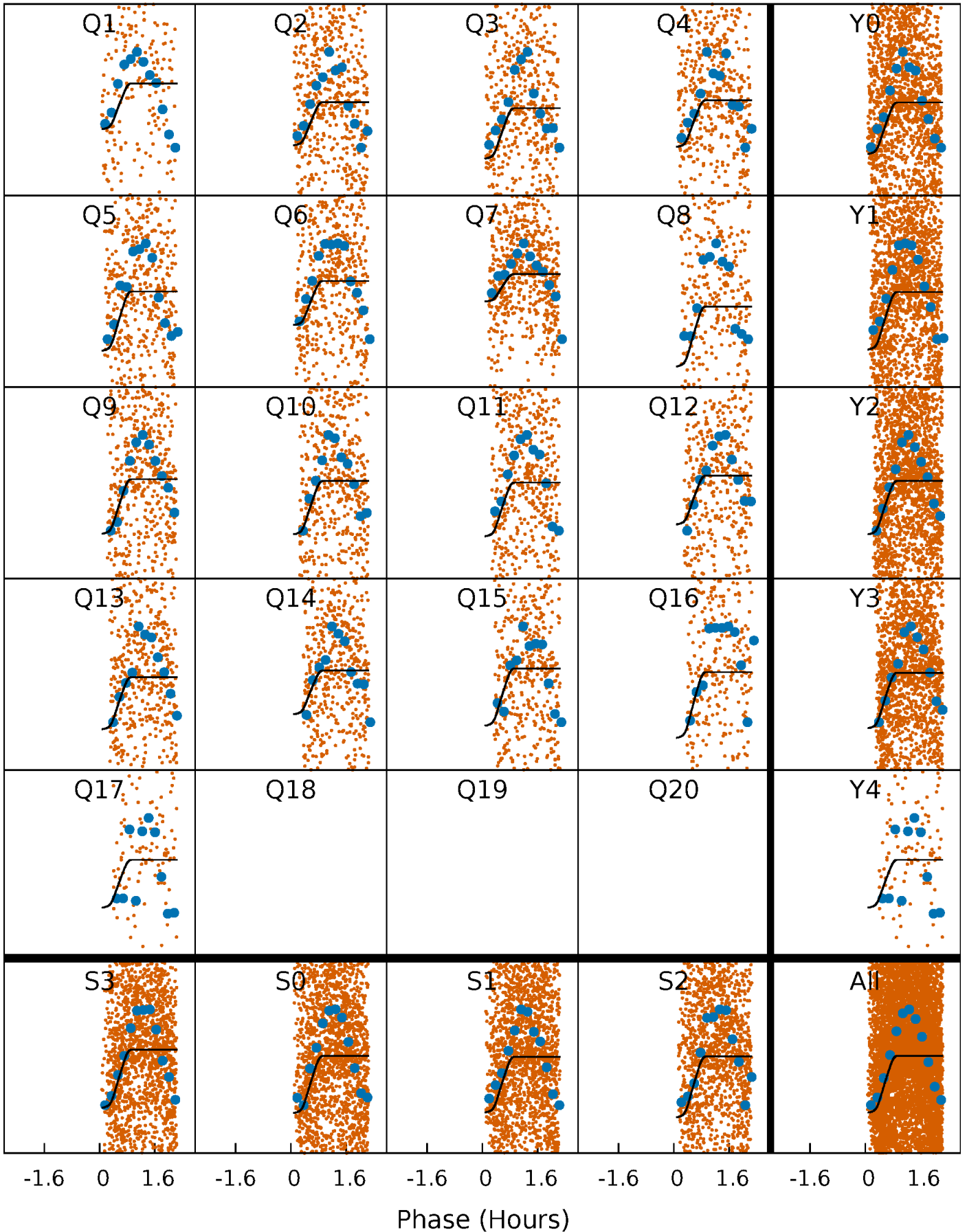
PDC Quarter-Phased Transit Curves

TCE 008782561-03 P= 0.581437 Days $T_0=131.549522$ (BKJD)



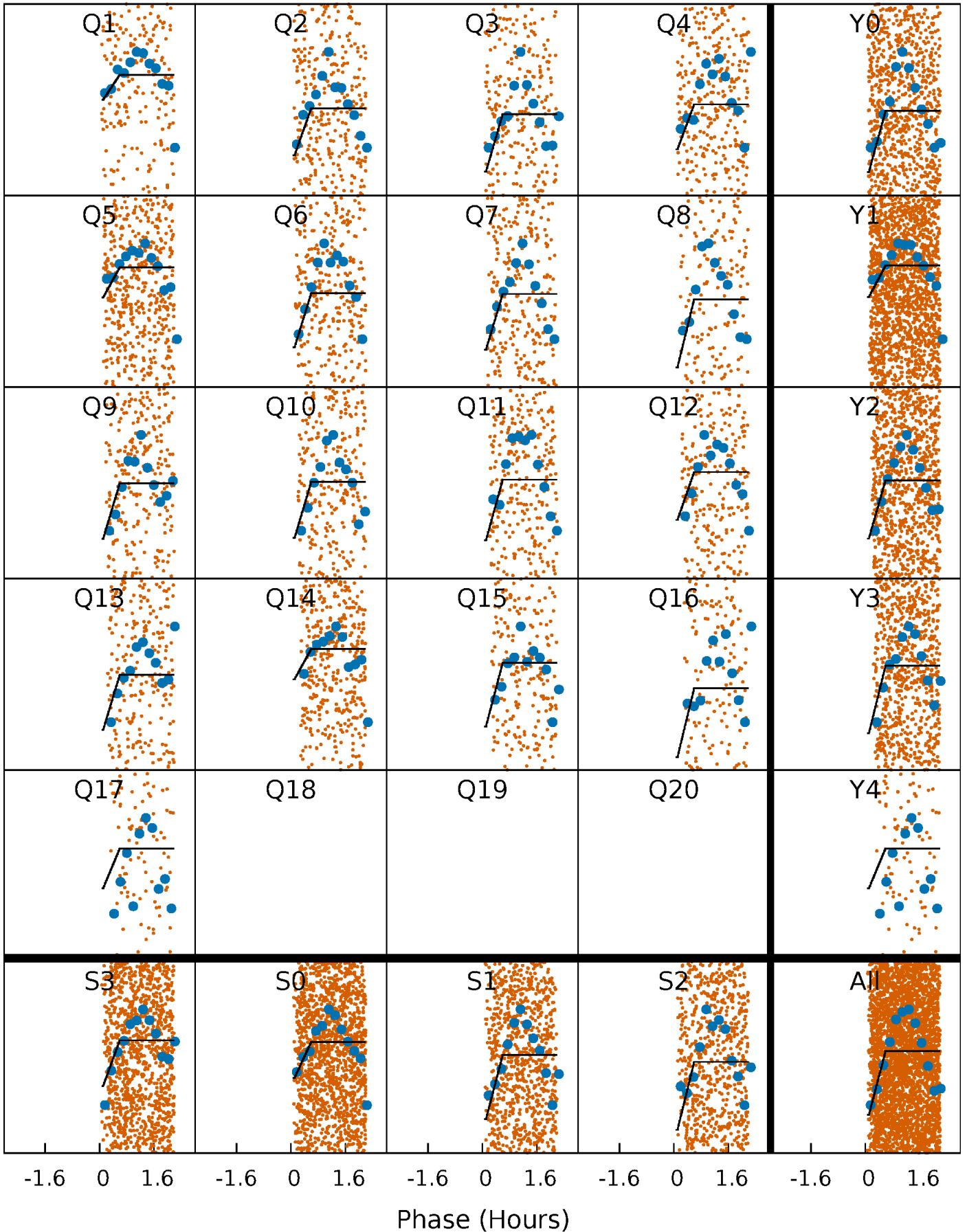
DV Quarter-Phased Transit Curves

TCE 008782561-03 P= 0.581437 Days $T_0=131.549522$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

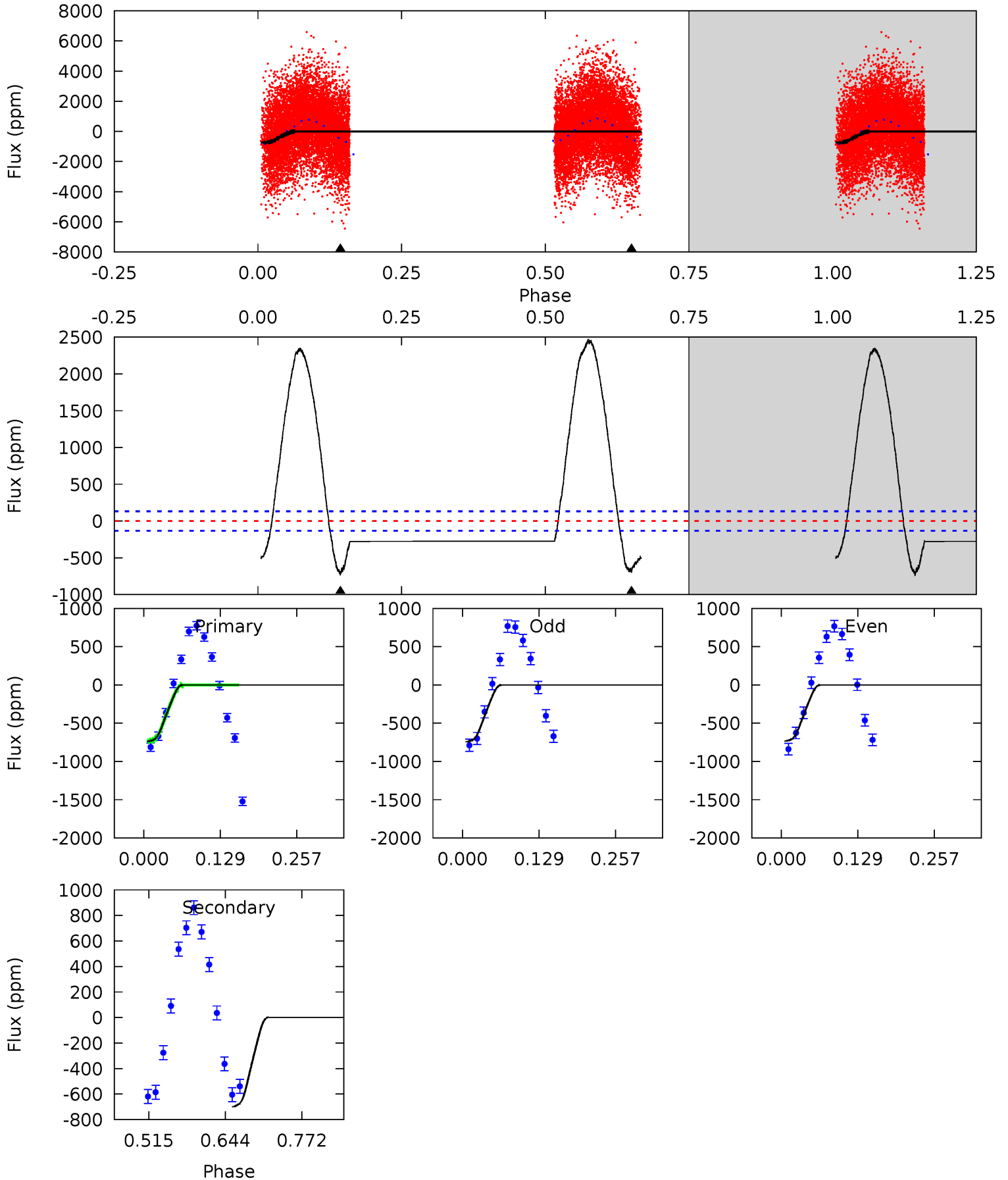
TCE 008782561-03 P= 0.581438 Days $T_0=131.549899$ (BKJD)



DV Model-Shift Uniqueness Test

008782561-03, P = 0.581437 Days, E = 131.549522 Days

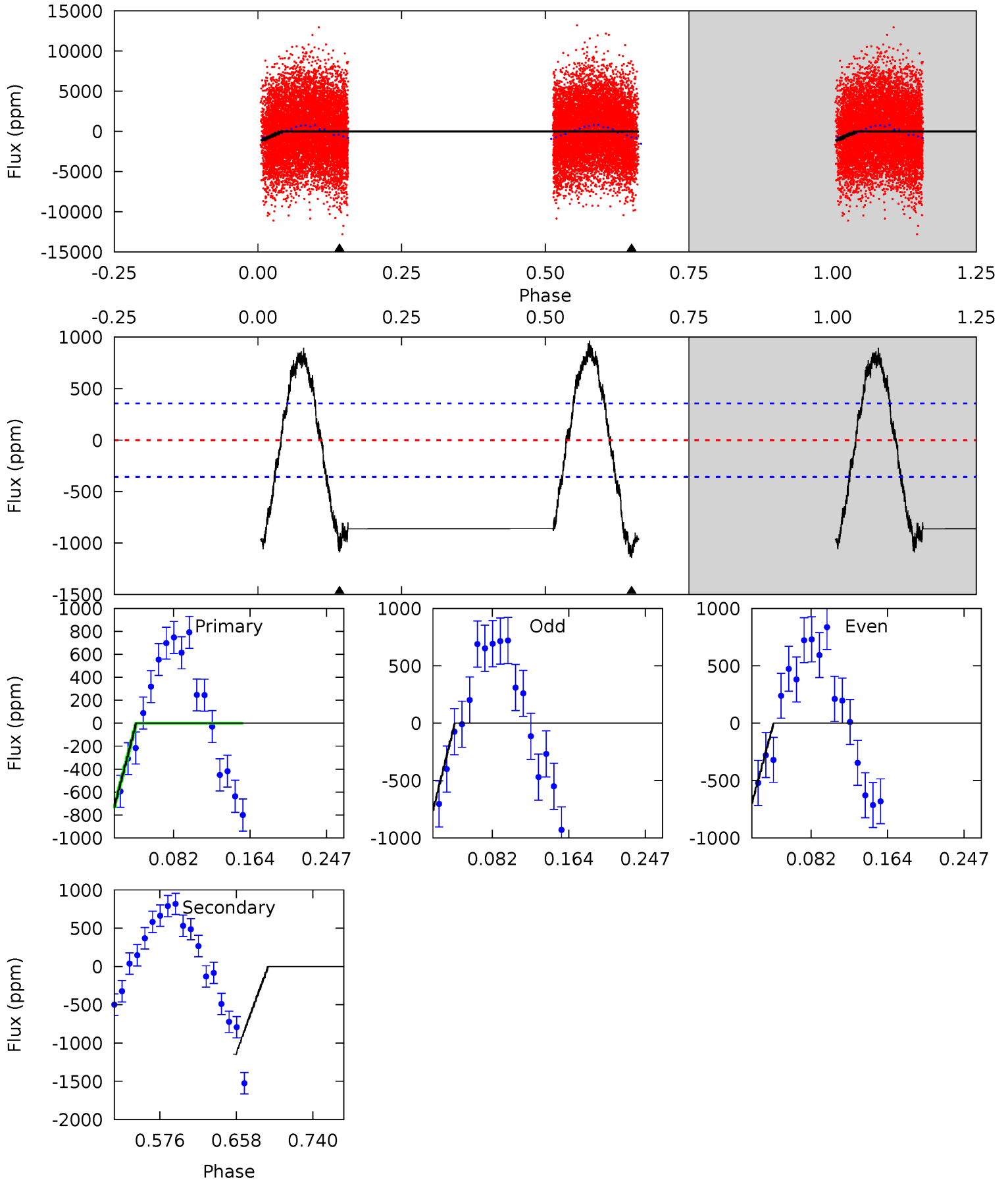
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.1	23.7	0	0	4.51	1.52	10.4	25.1	25.1	23.7	23.7	0.14	0.92	0.77	0



Alt Model-Shift Uniqueness Test

008782561-03, P = 0.581438 Days, E = 131.549899 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	14.8	0	0	4.61	1.74	6.53	14.1	14.1	14.8	14.8	0.57	0.85	0.46	0



Stellar Parameters For KIC 008782561

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	7360^{+228}_{-304}	$3.628^{+0.495}_{-0.055}$	$-0.100^{+0.250}_{-0.300}$	$3.627^{+0.336}_{-1.903}$	$2.041^{+0.152}_{-0.608}$	$0.060^{+0.321}_{-0.011}$
	+3%/-4%	+14%/-2%	+250%/-300%	+9%/-52%	+7%/-30%	+533%/-18%
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 008782561-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-700 ± 30	$11.60^{+3.16}_{-3.49}$	6328^{+420}_{-815}	5847^{+943}_{-824}	$0.858^{+0.780}_{-0.320}$
Alt.	-1146 ± 77	$11.84^{+3.59}_{-3.50}$	6371^{+379}_{-829}	6885^{+1206}_{-885}	$1.328^{+1.238}_{-0.491}$

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

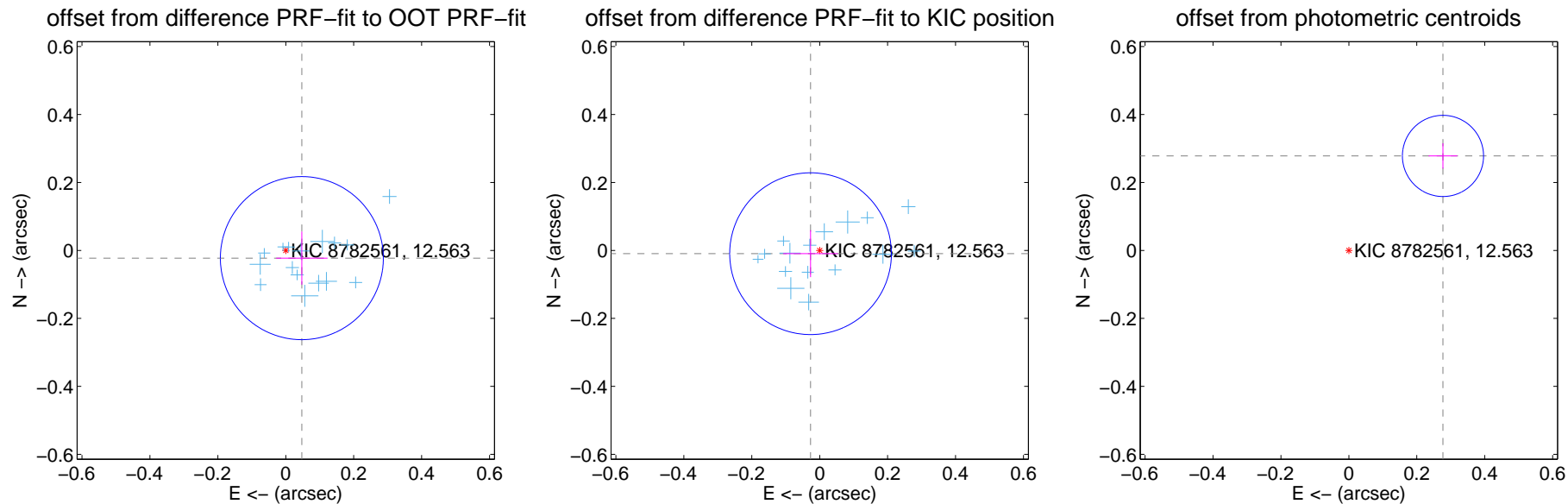
DV Centroid Data

Supplemental centroid analysis for 008782561-03. Kepler magnitude: 12.56. Transit SNR 17.39

There are 17 quarters with good PRF difference image offsets

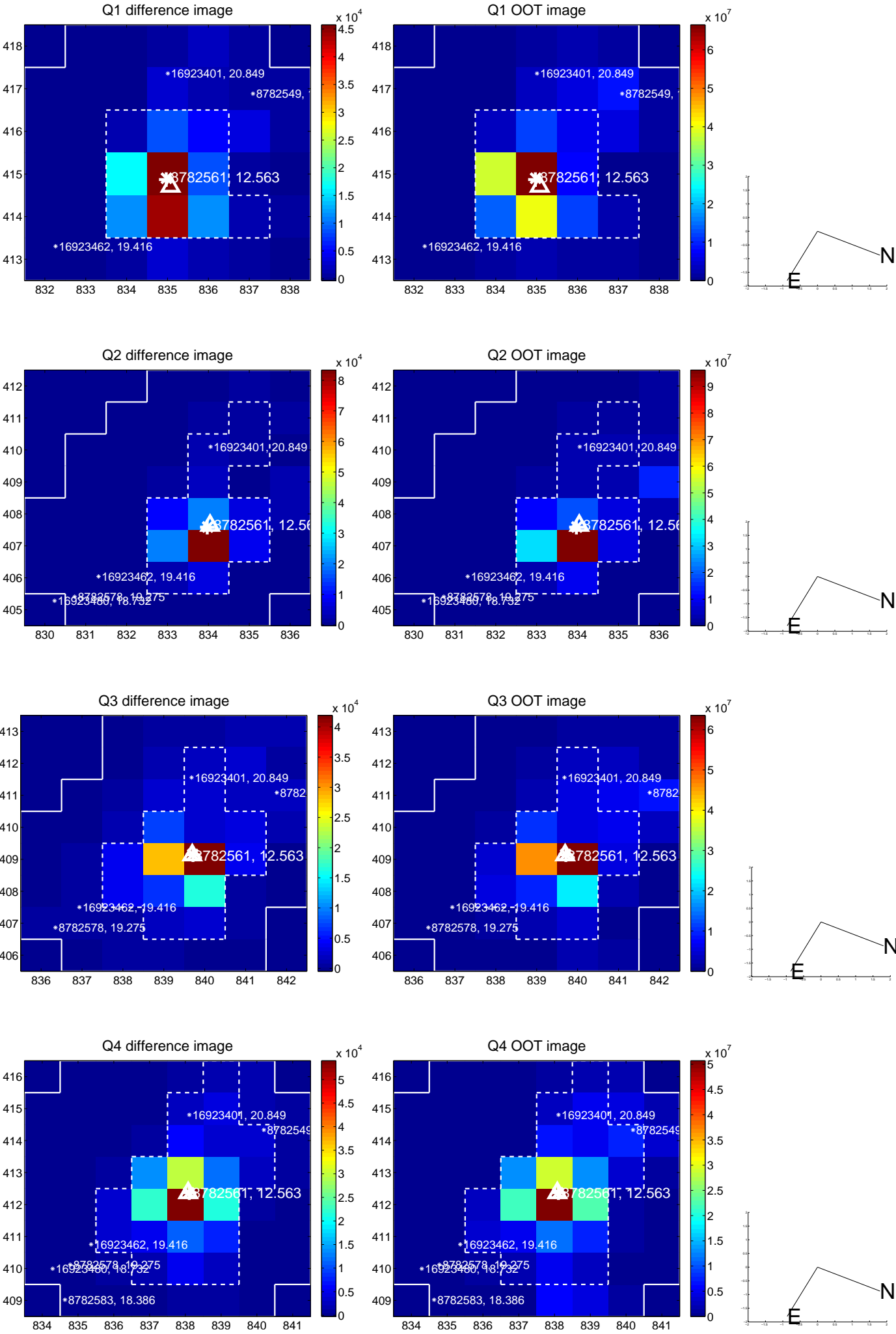
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.053 ± 0.080	0.66	-0.047 ± 0.076	-0.023 ± 0.078
PRF-fit source offset from KIC position	0.029 ± 0.079	0.36	0.027 ± 0.081	-0.010 ± 0.069
photometric centroid source offset	0.39 ± 0.04	9.86	-0.28 ± 0.04	0.28 ± 0.04

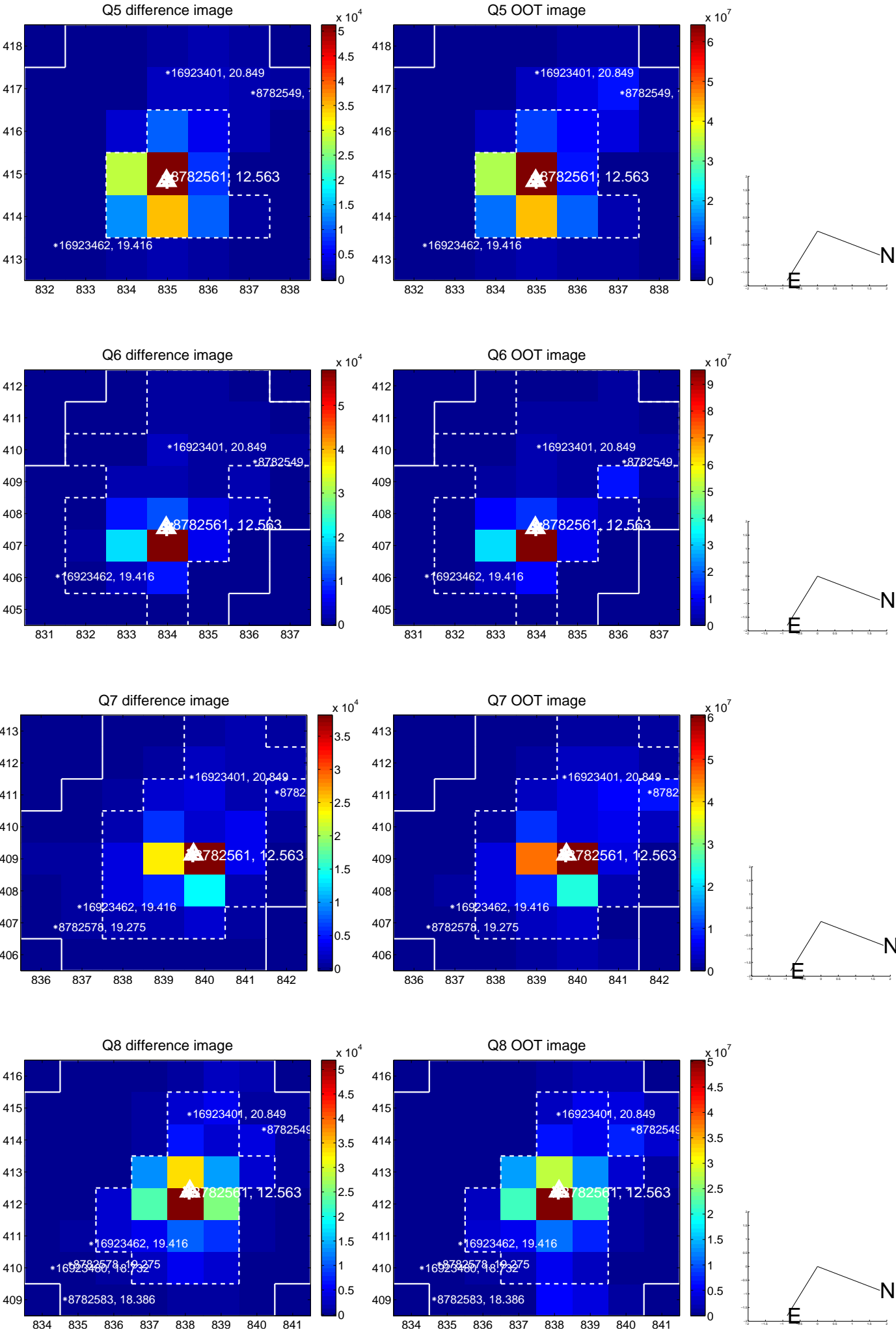


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

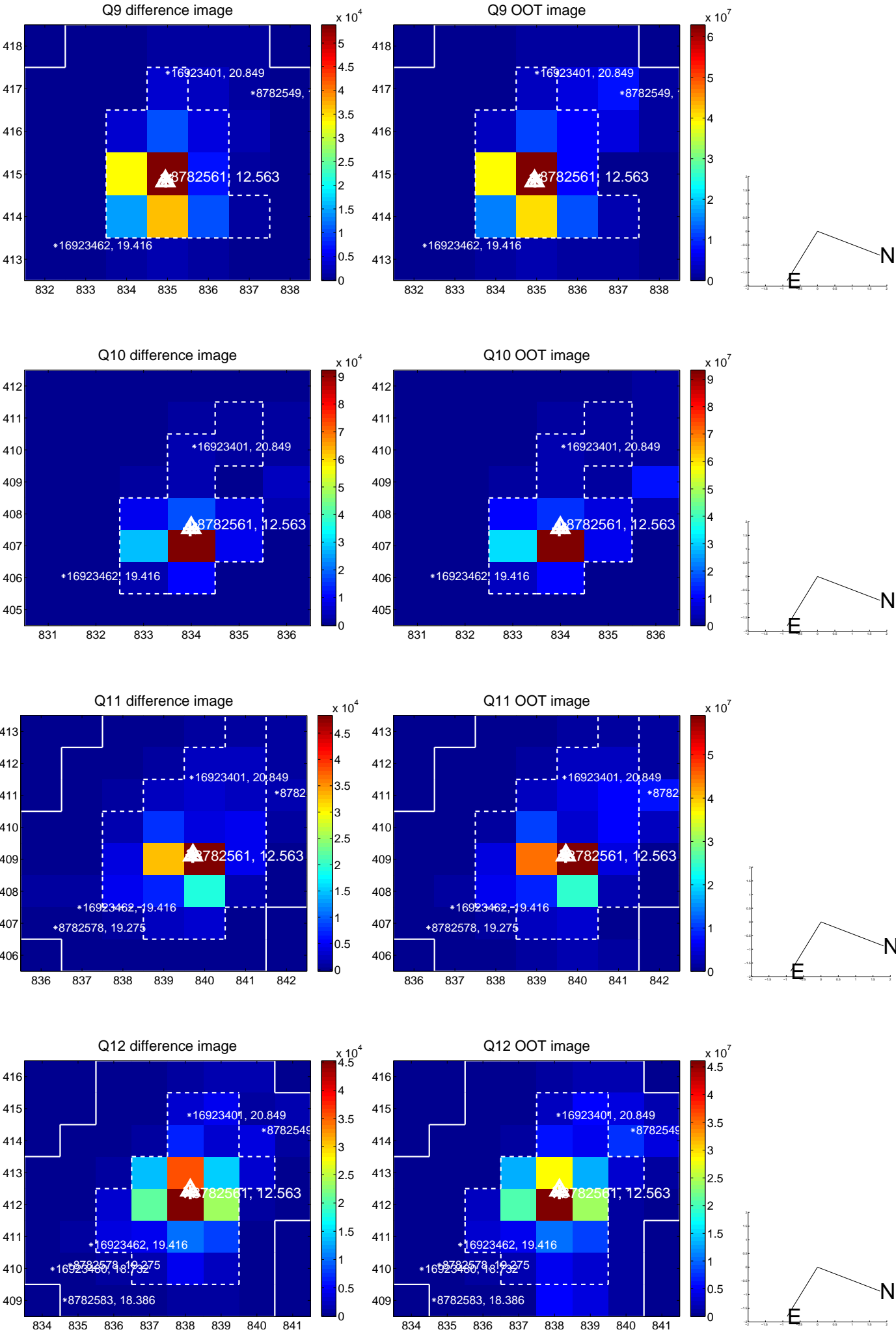
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



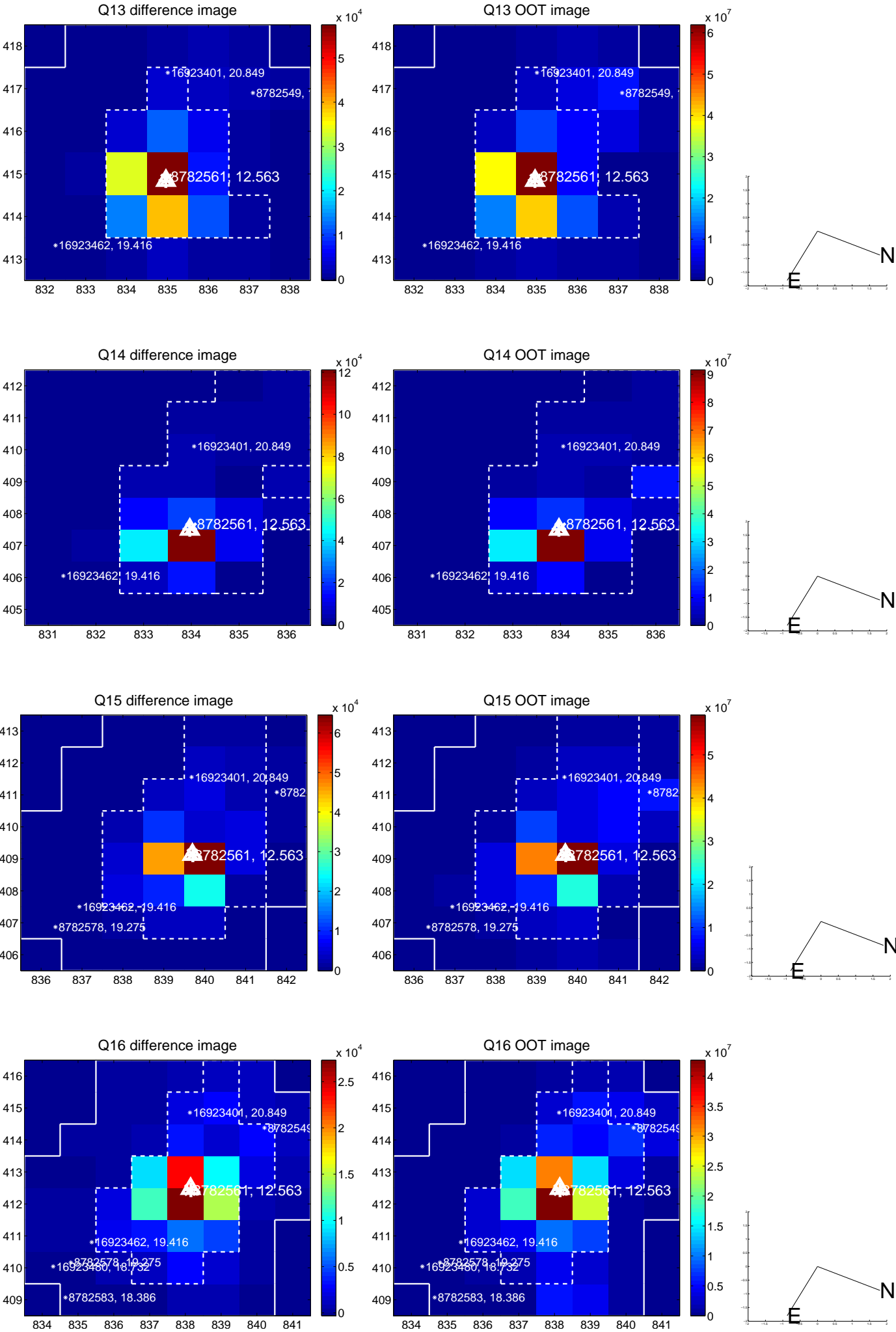
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



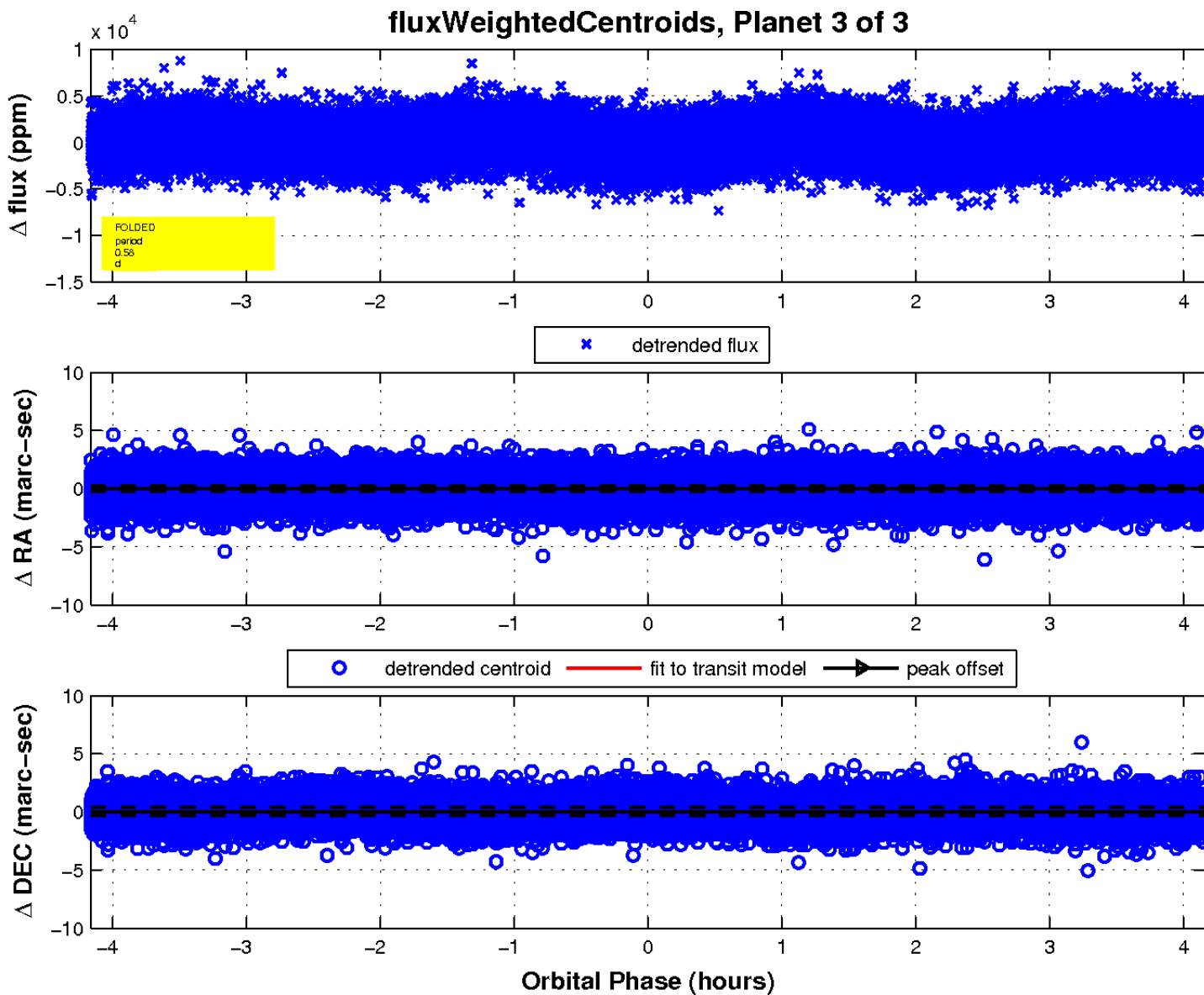
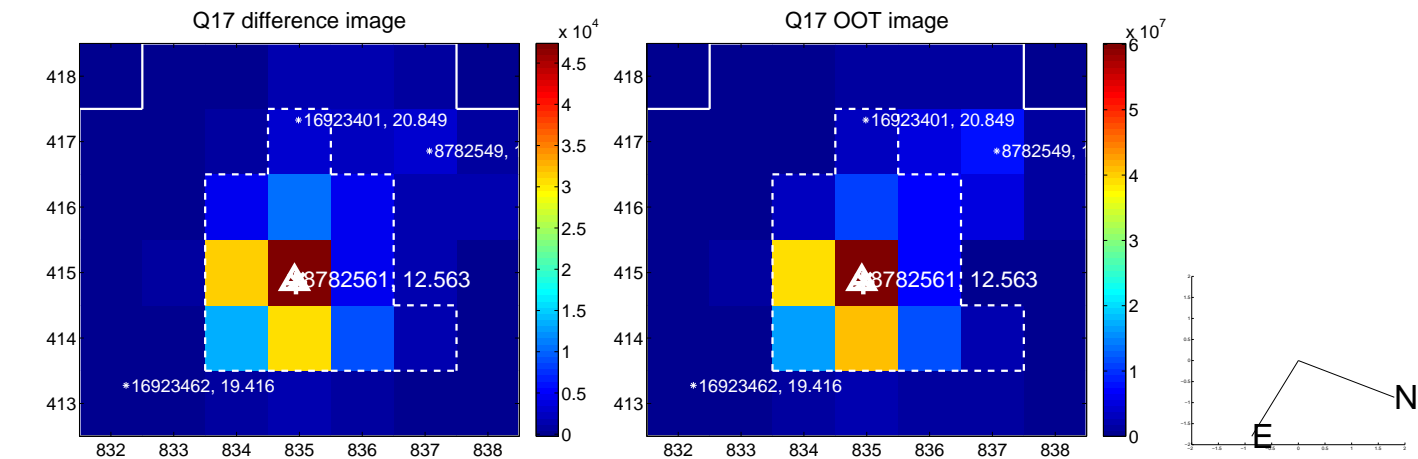
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

