

KIC 005738127

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})
005738127-01	OBS	No	0.564573	132.044501	214.9	1.698	9.1	10.4	1.54	6784	2.42	21059.84
005738127-02	OBS	No	0.564577	131.768102	167.3	3.573	9.1	11.2	1.54	6784	2.03	21059.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005738127-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005738127-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

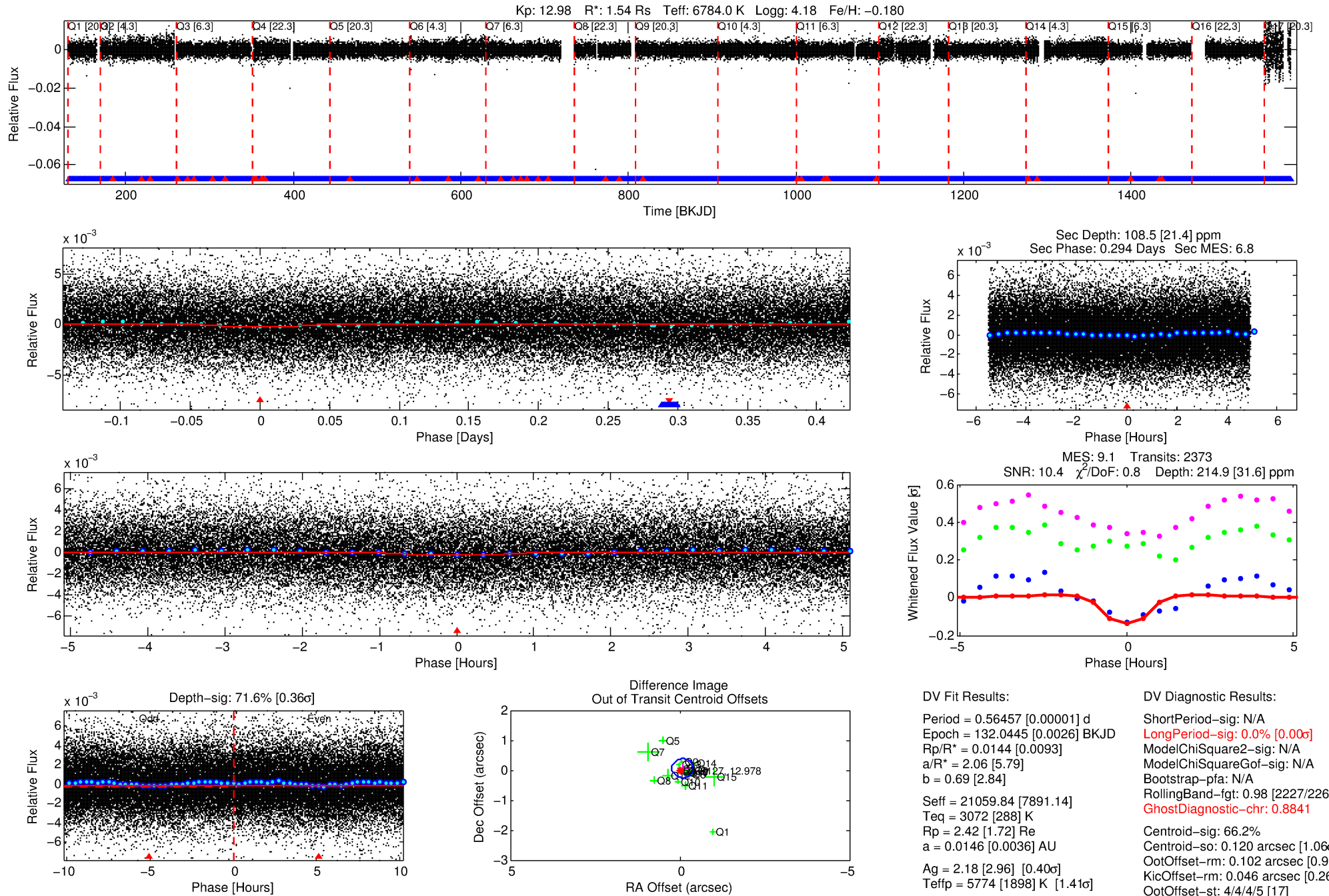
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005738127-01

No Significant Match Found

DV One-Page Summary

KIC: 5738127 Candidate: 1 of 2 Period: 0.565 d



DV Fit Results:

Period = 0.56457 [0.00001] d
Epoch = 132.0445 [0.0026] BKJD
Rp/R* = 0.0144 [0.0093]
a/R* = 2.06 [5.79]
b = 0.69 [2.84]
Seff = 21059.84 [7891.14]
Teff = 3072 [288] K
Rp = 2.42 [1.72] Re
a = 0.0146 [0.0036] AU
Ag = 2.18 [2.96] [0.40σ]
Teffp = 5774 [1898] K [1.41σ]

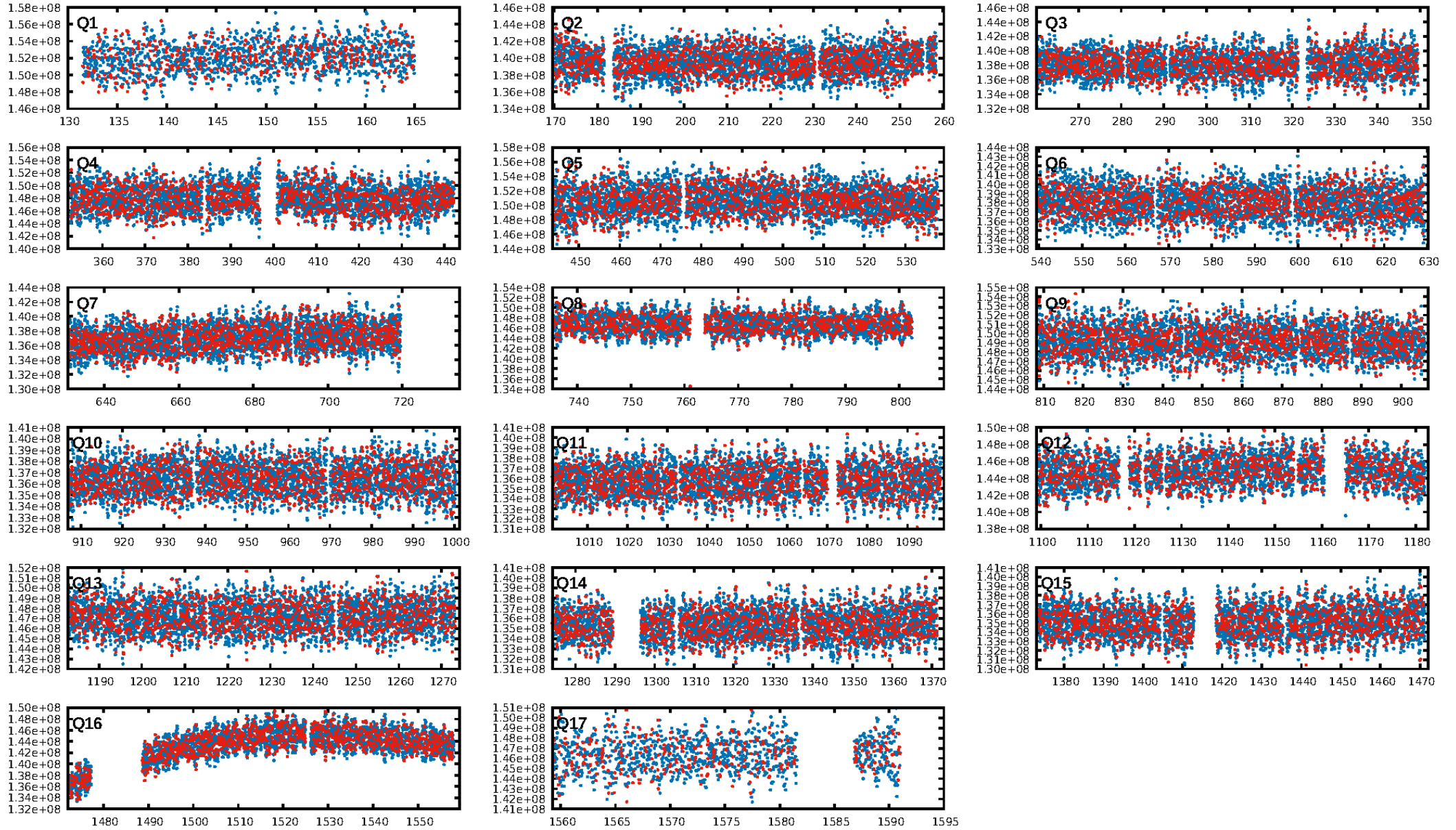
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [2227/2265]
GhostDiagnostic-chr: 0.8841
Centroid-sig: 66.2%
Centroid-so: 0.120 arcsec [1.06σ]
OotOffset-rm: 0.102 arcsec [0.97σ]
KicOffset-rm: 0.046 arcsec [0.26σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.00 [0/17]

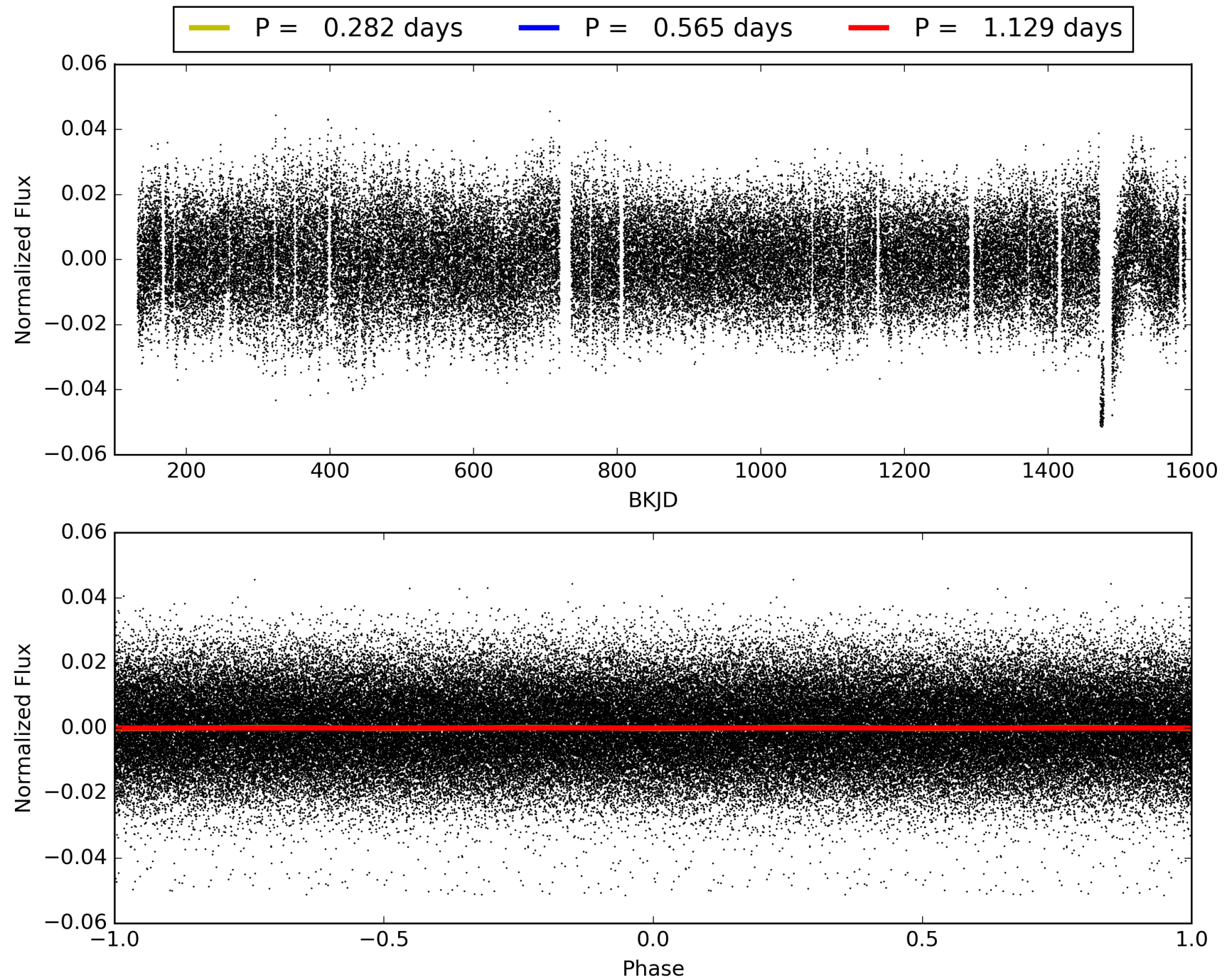
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:00:32 Z

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

TCE 005738127-01, PDC Light Curves

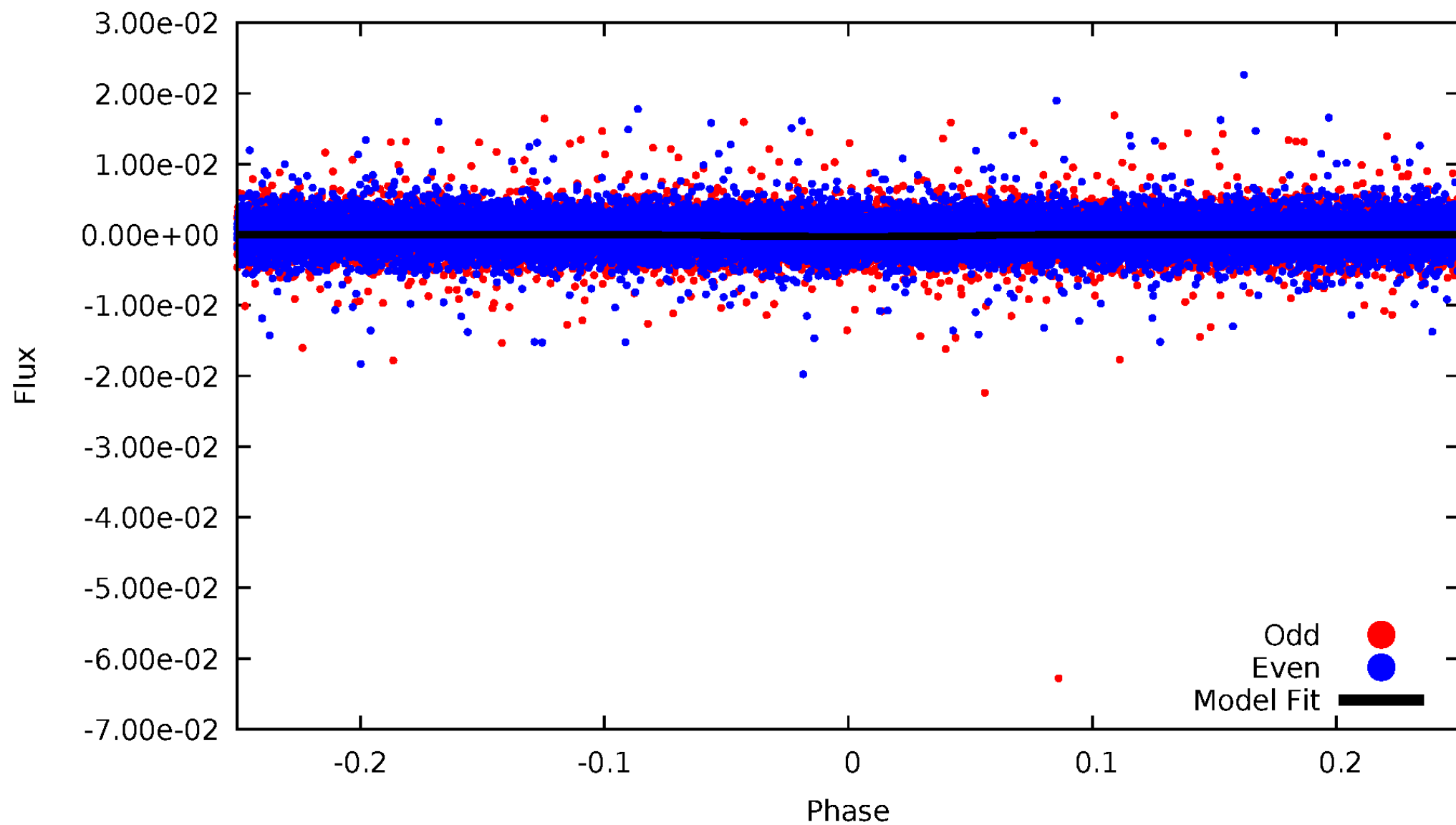


TCE 005738127-01



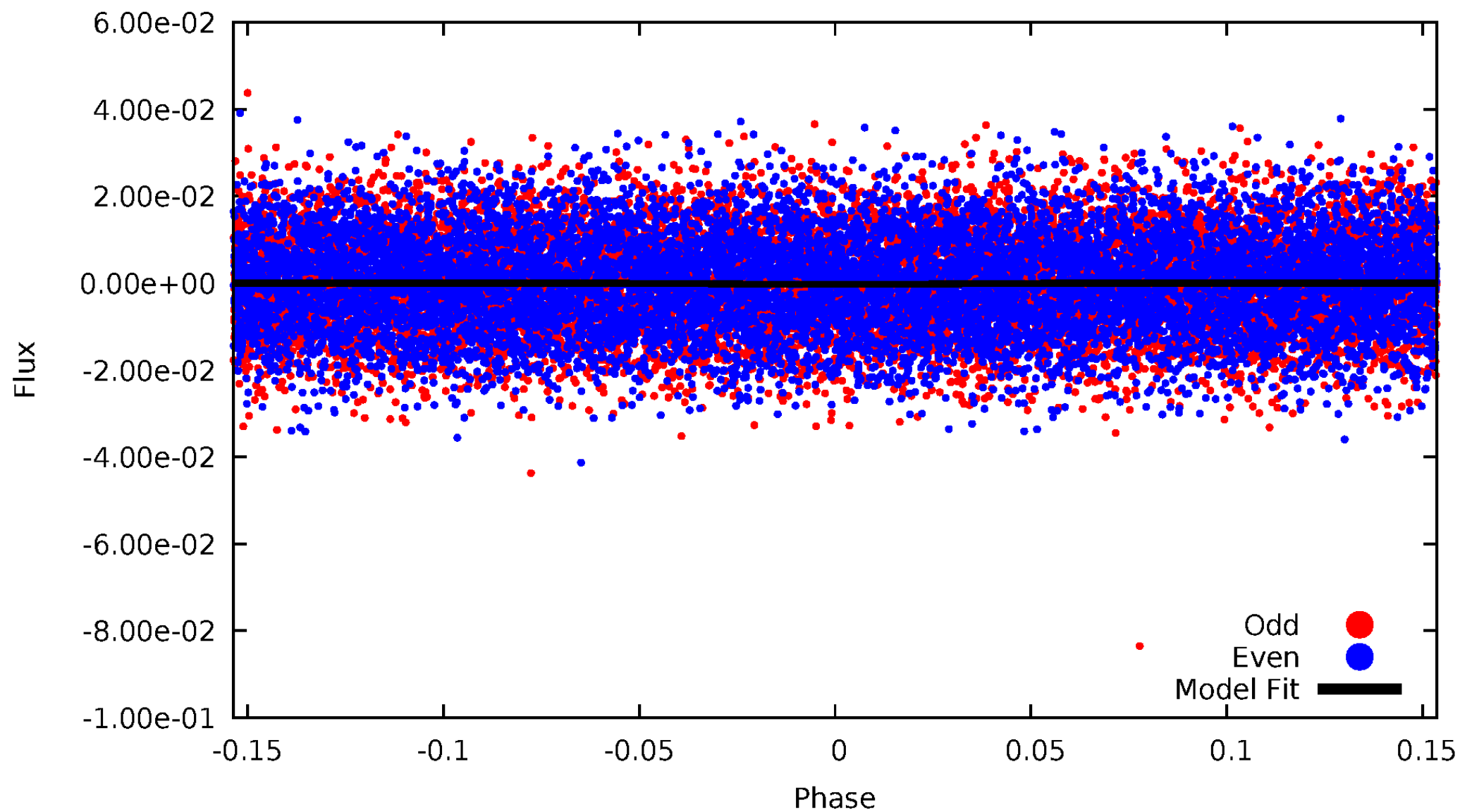
DV Odd/Even

TCE 005738127-01



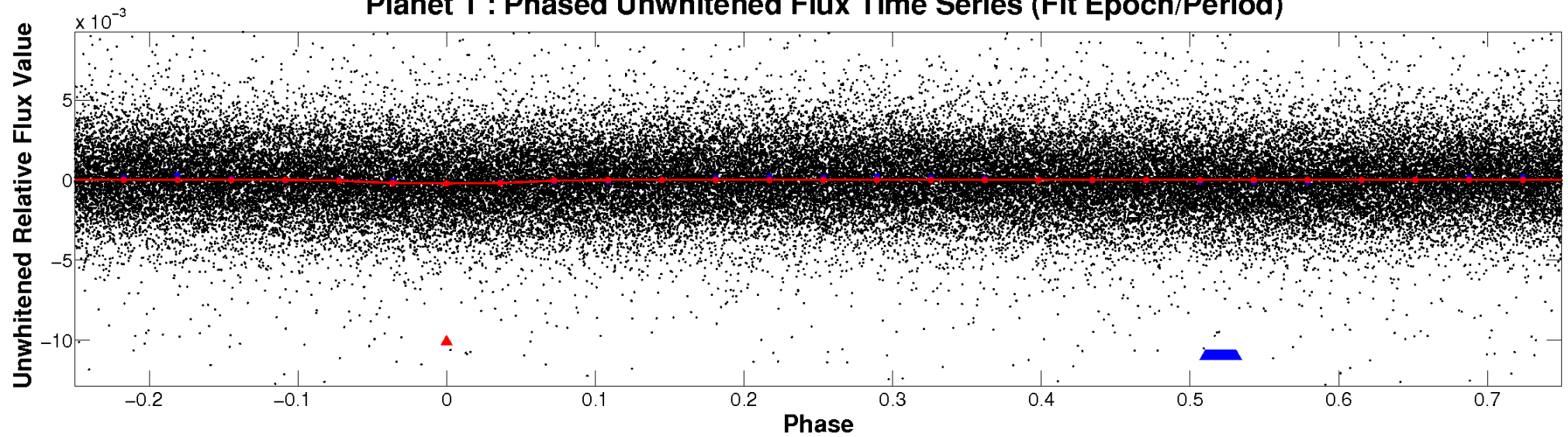
ALT Odd/Even

TCE 005738127-01

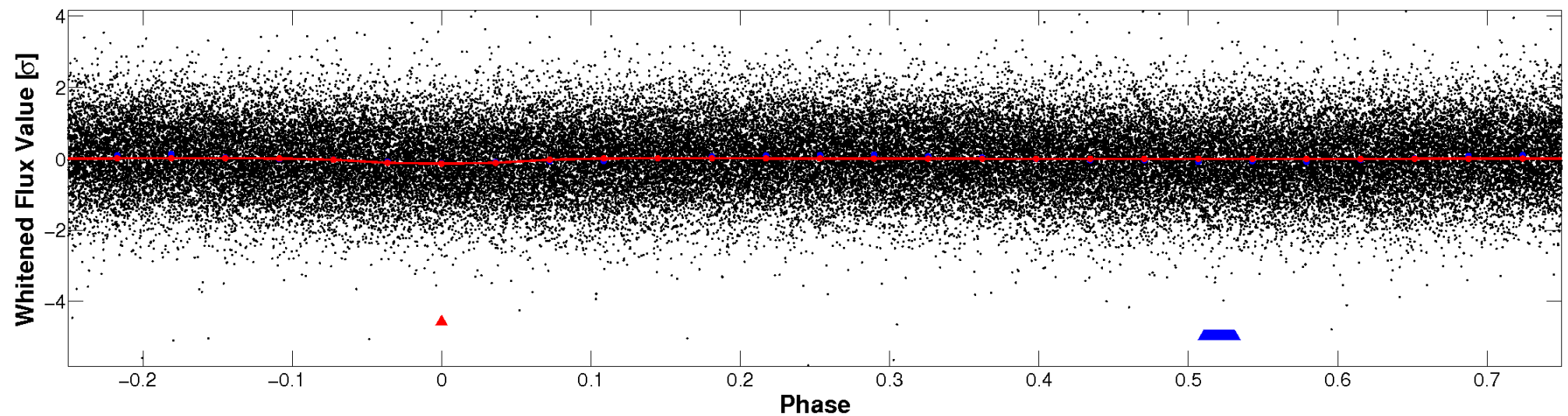


Non-Whitened Vs. Whitened Light Curve

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

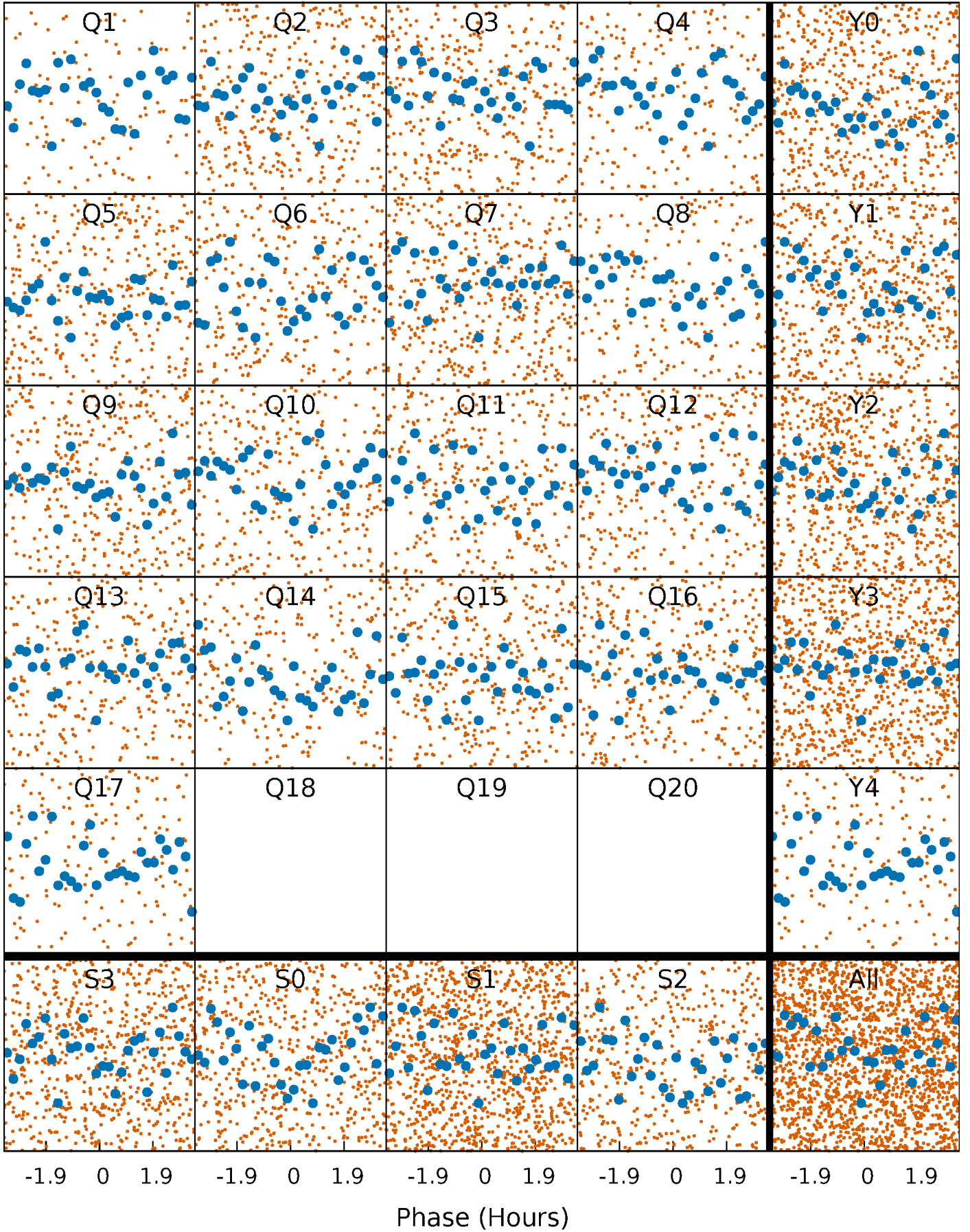


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



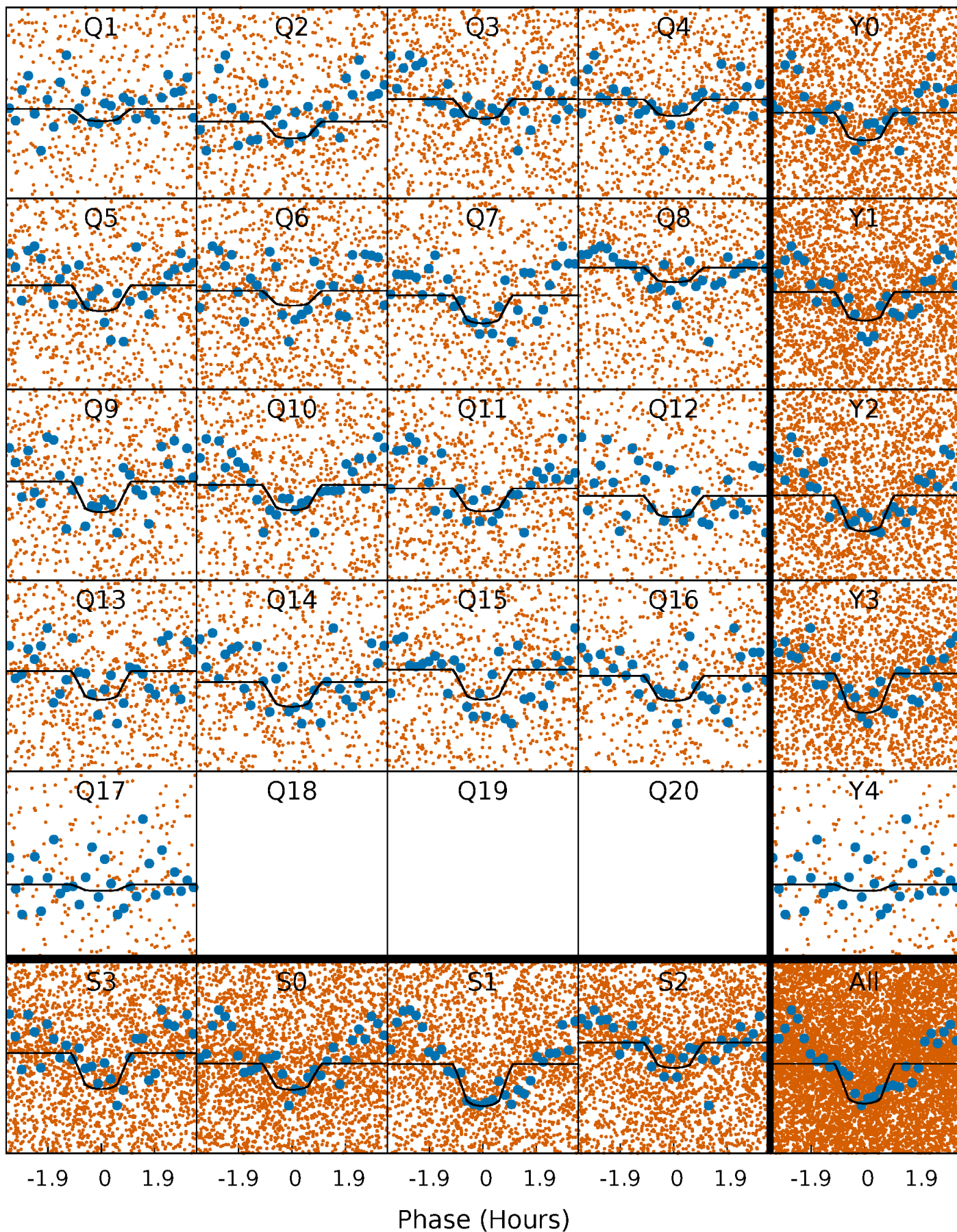
PDC Quarter-Phased Transit Curves

TCE 005738127-01 P= 0.564573 Days $T_0=132.044501$ (BKJD)



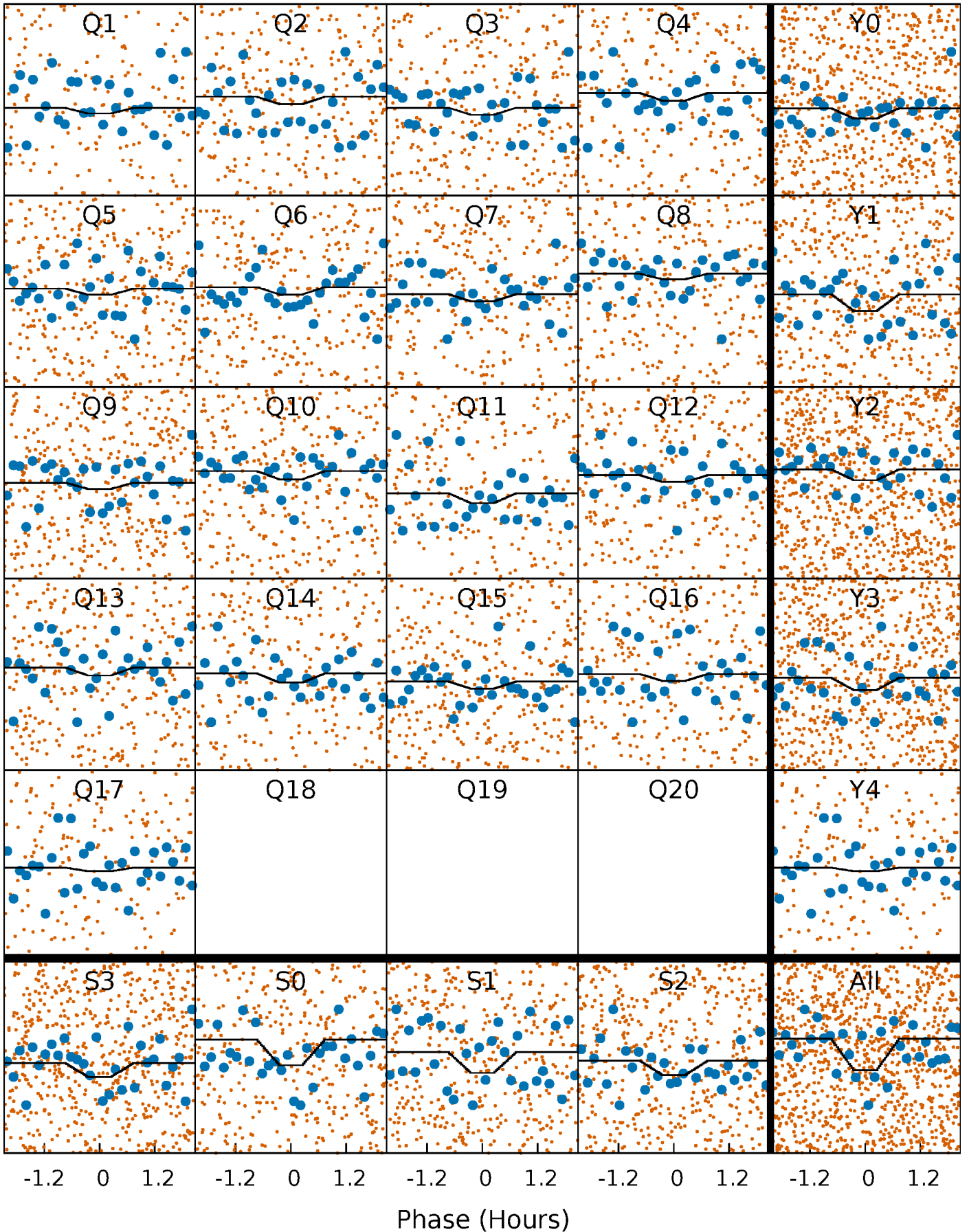
DV Quarter-Phased Transit Curves

TCE 005738127-01 P= 0.564573 Days $T_0=132.044501$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

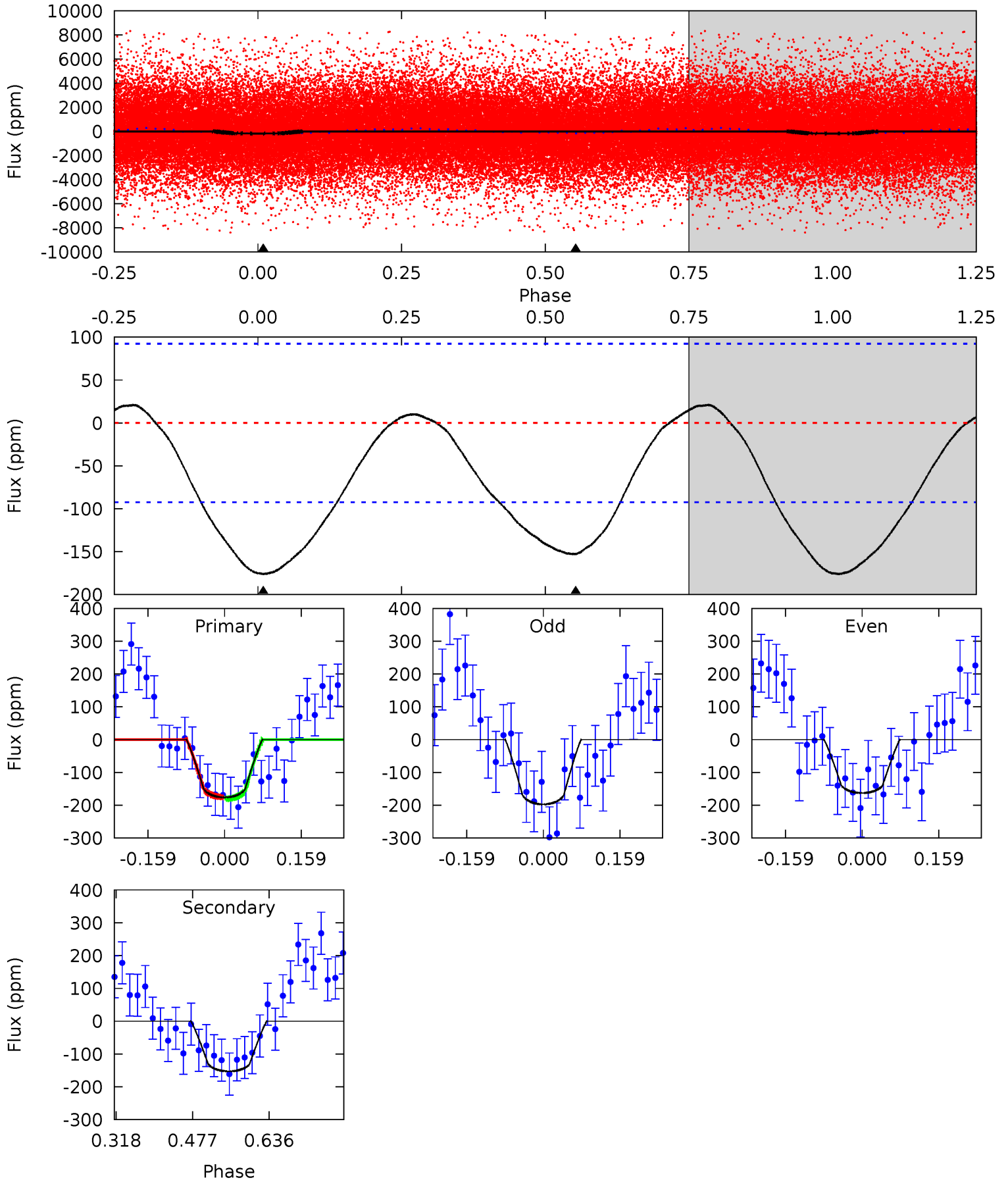
TCE 005738127-01 P= 0.564579 Days $T_0=132.041829$ (BKJD)



DV Model-Shift Uniqueness Test

005738127-01, P = 0.564573 Days, E = 131.479928 Days

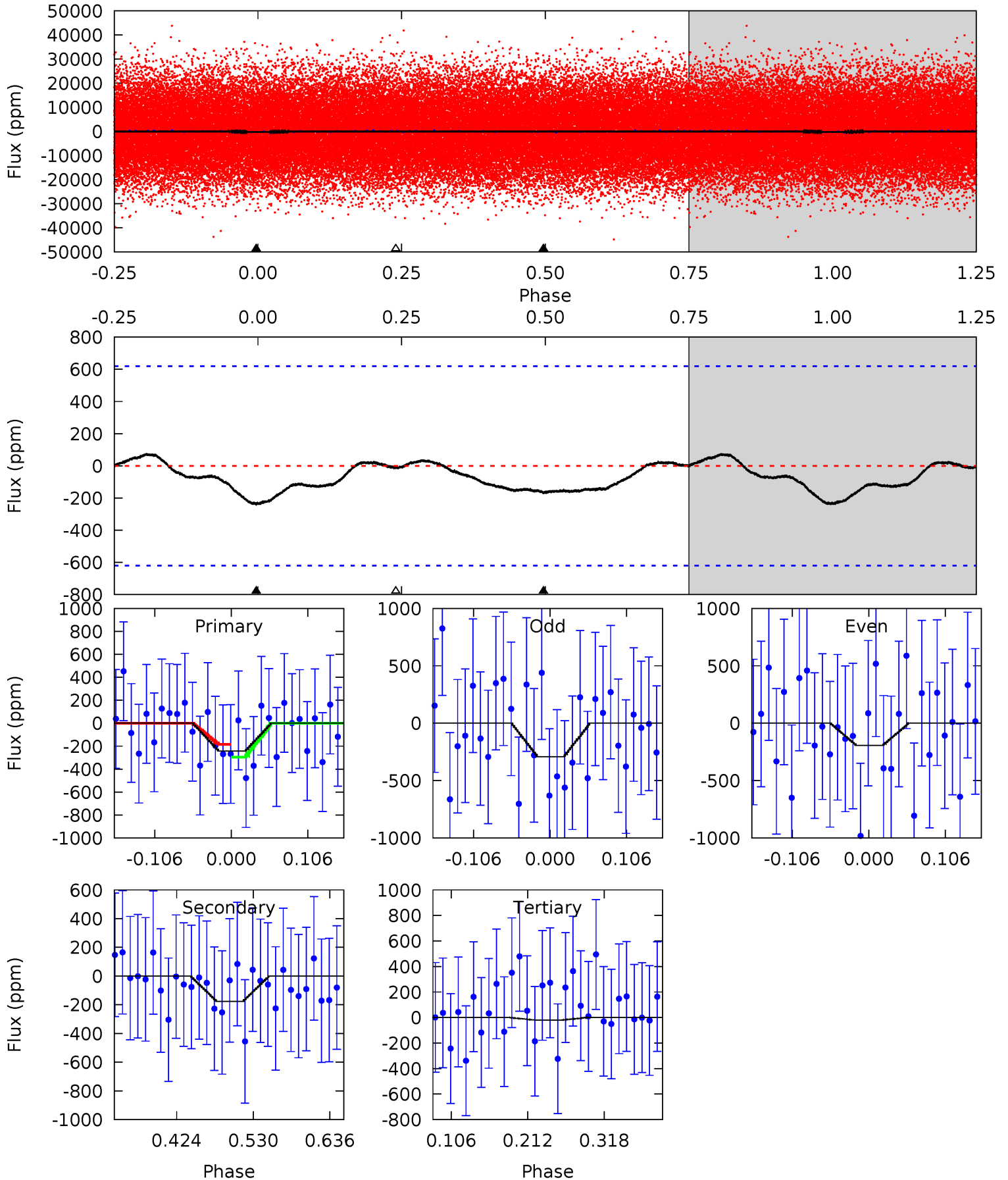
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.51	7.39	0	0	4.47	1.41	1.14	8.51	8.51	7.39	7.39	0.84	0.79	0.11	0.13



Alt Model-Shift Uniqueness Test

005738127-01, P = 0.564579 Days, E = 131.477250 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.78	1.29	0.15	0	4.55	1.62	0.39	1.63	1.78	1.14	1.29	0.36	0.62	0.25	0.41



Stellar Parameters For KIC 005738127

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6784^{+166}_{-238}	$4.180^{+0.153}_{-0.187}$	$-0.180^{+0.250}_{-0.300}$	$1.543^{+0.453}_{-0.329}$	$1.323^{+0.189}_{-0.210}$	$0.507^{+0.439}_{-0.249}$
	+2%/-4%	+4%/-4%	+139%/-167%	+29%/-21%	+14%/-16%	+86%/-49%
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 005738127-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-153 ± 21	$2.49^{+1.55}_{-1.45}$	4304^{+333}_{-273}	6013^{+4465}_{-1381}	$2.894^{+14.247}_{-1.810}$
Alt.	-176 ± 136	$2.82^{+1.69}_{-1.53}$	4313^{+311}_{-276}	5693^{+3496}_{-2387}	$2.423^{+9.250}_{-2.013}$

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

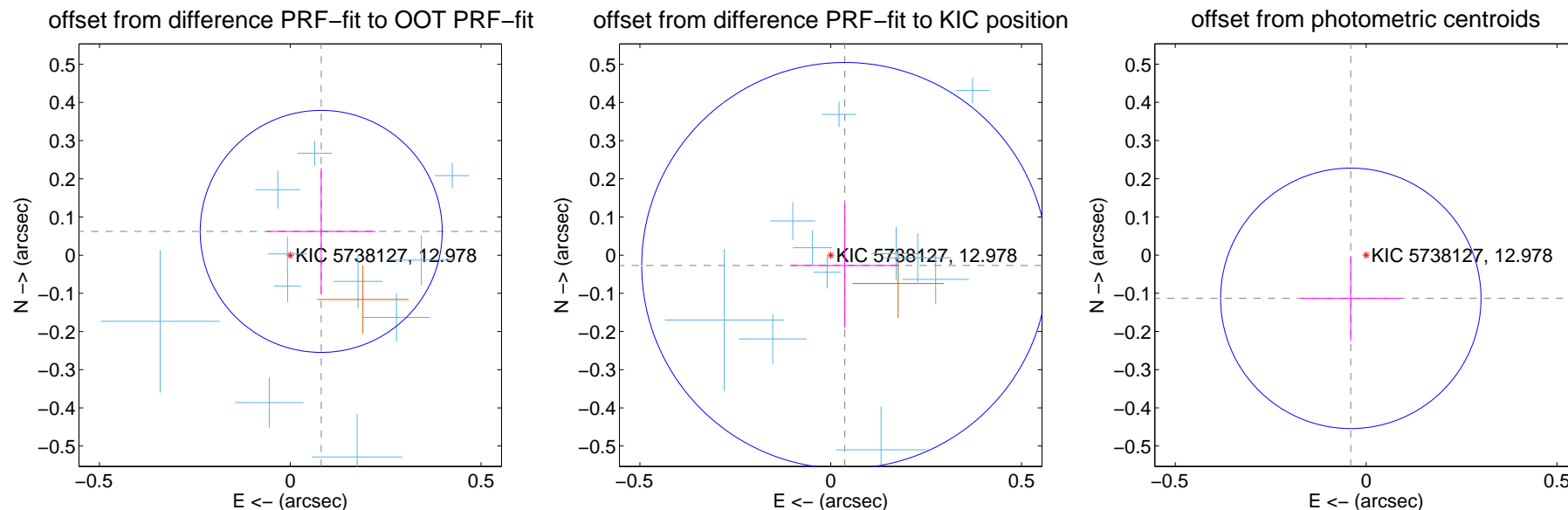
DV Centroid Data

Supplemental centroid analysis for 005738127-01. Kepler magnitude: 12.98. Transit SNR 10.39

There are 16 quarters with good PRF difference image offsets

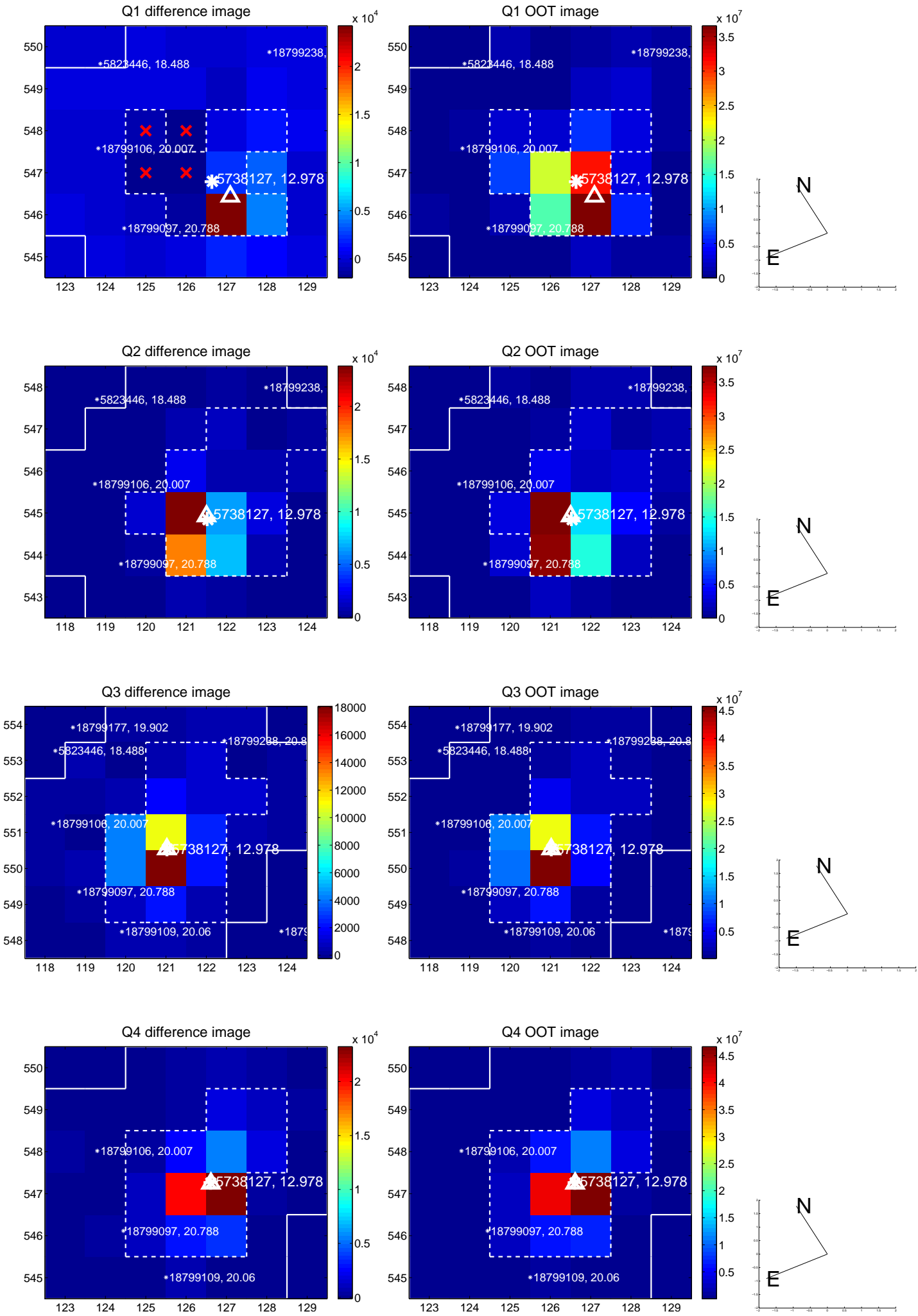
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.102 ± 0.106	0.97	-0.081 ± 0.142	0.062 ± 0.166
PRF-fit source offset from KIC position	0.046 ± 0.177	0.26	-0.037 ± 0.141	-0.027 ± 0.162
photometric centroid source offset	0.12 ± 0.11	1.06	0.04 ± 0.13	-0.11 ± 0.11

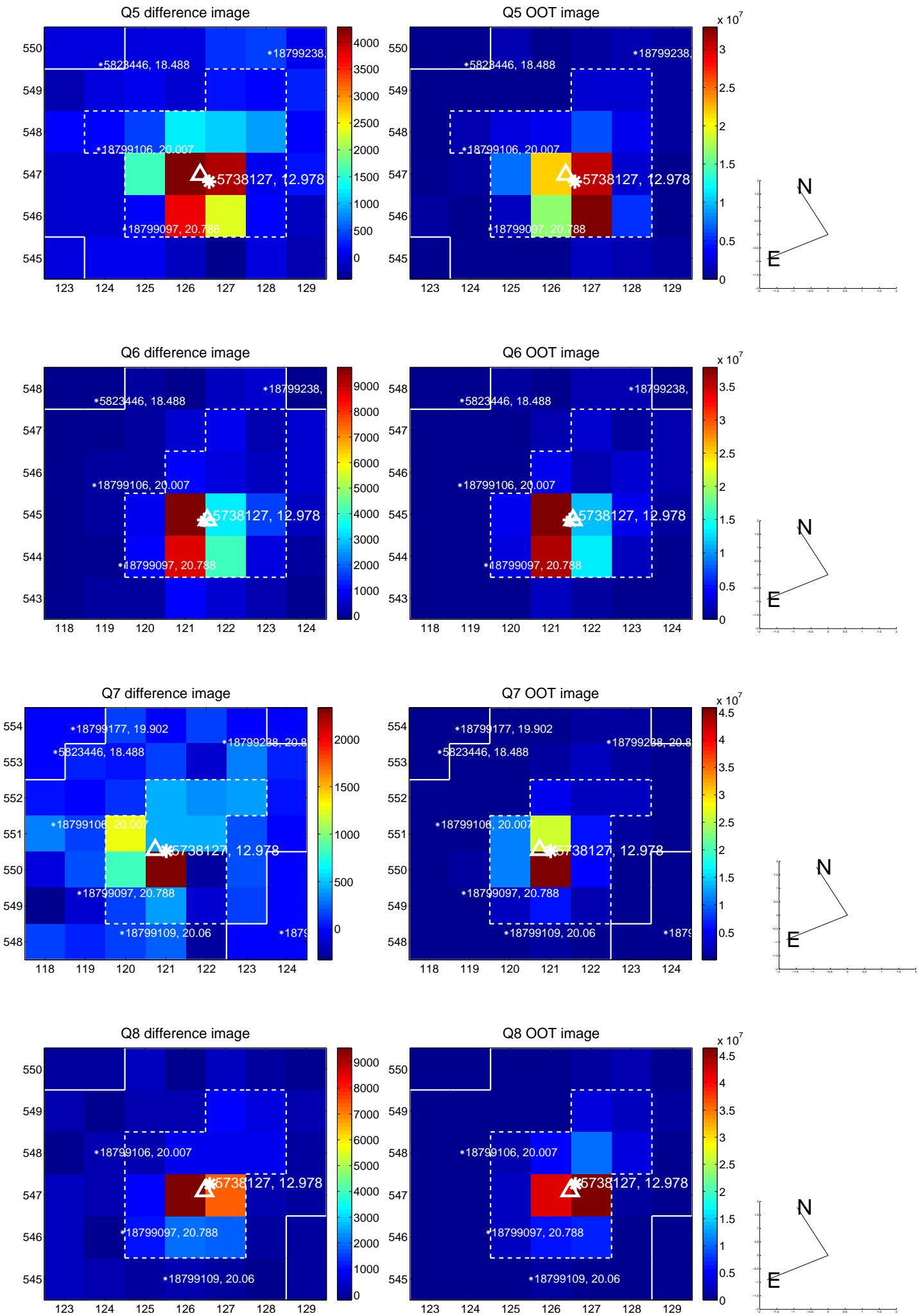


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

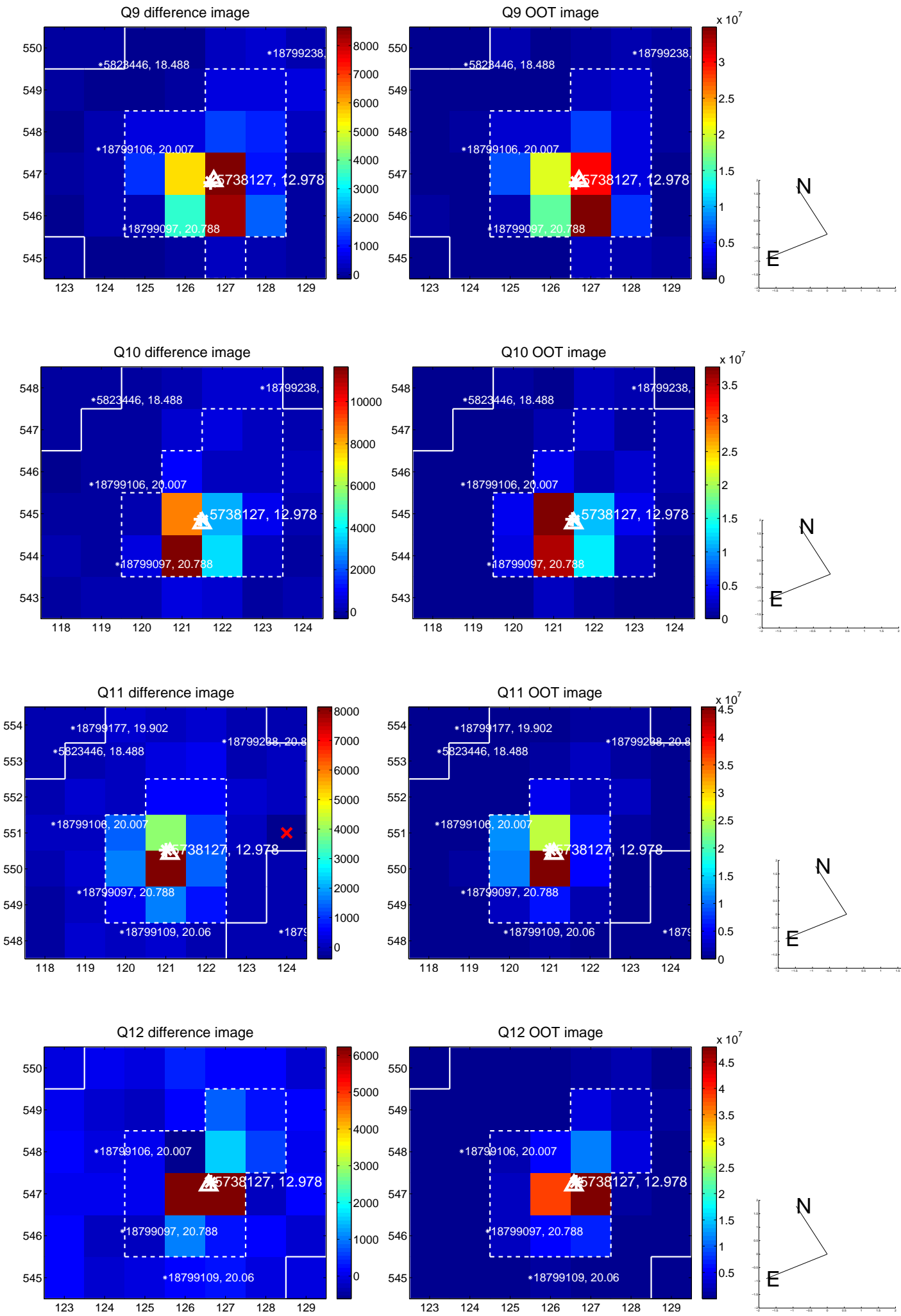
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



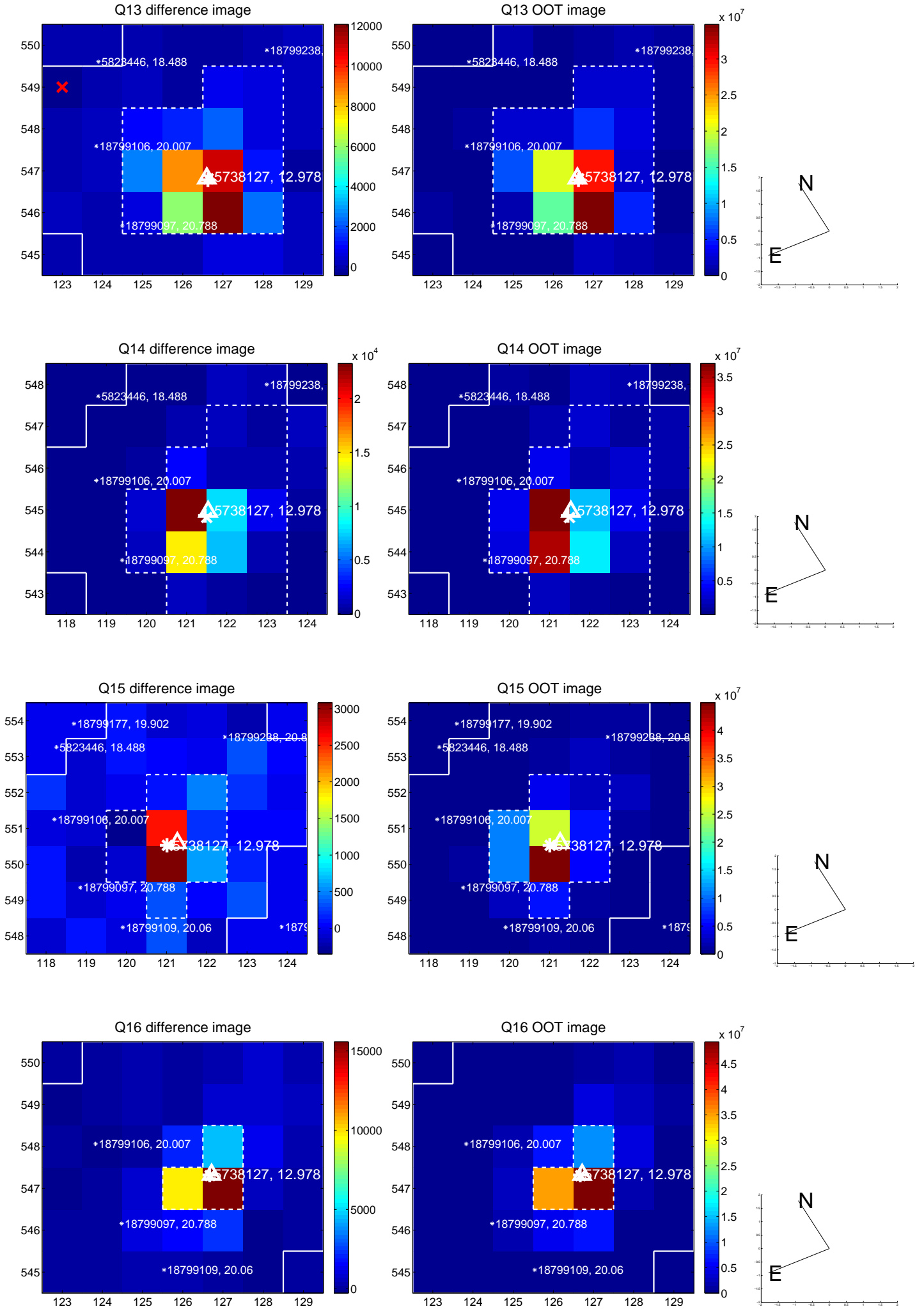
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



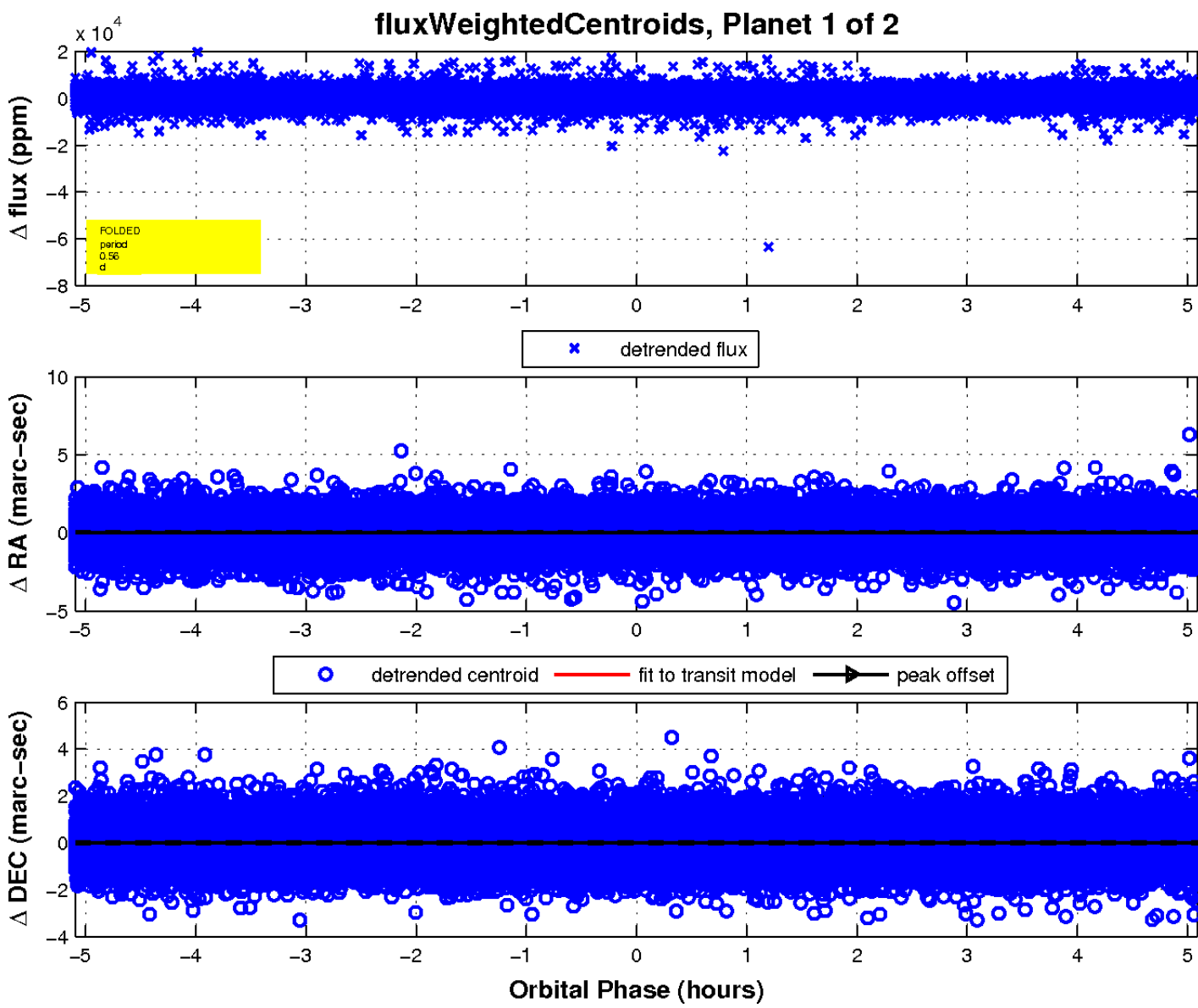
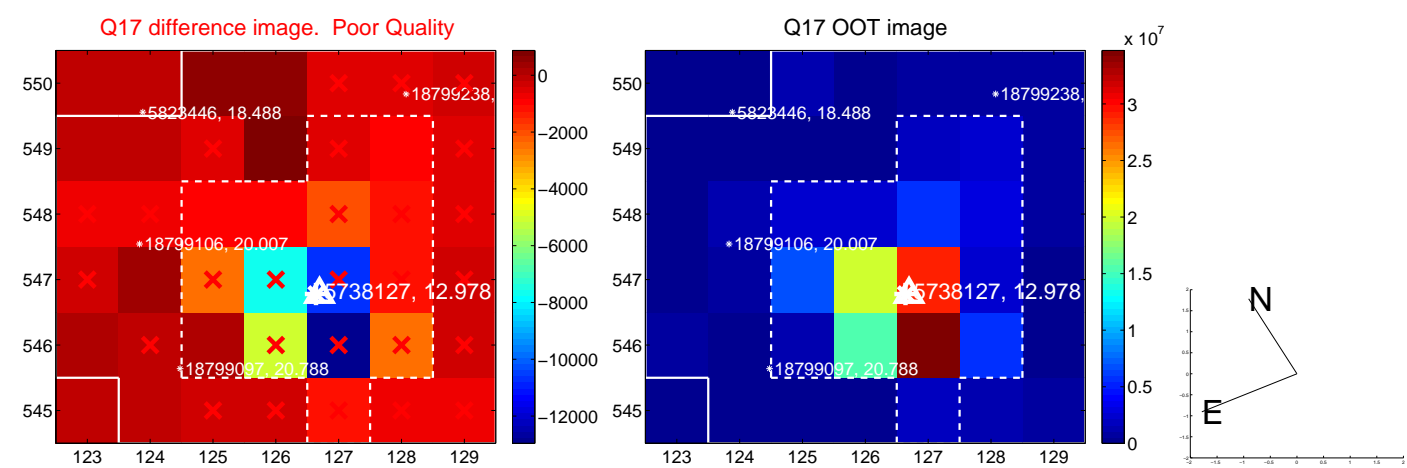
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

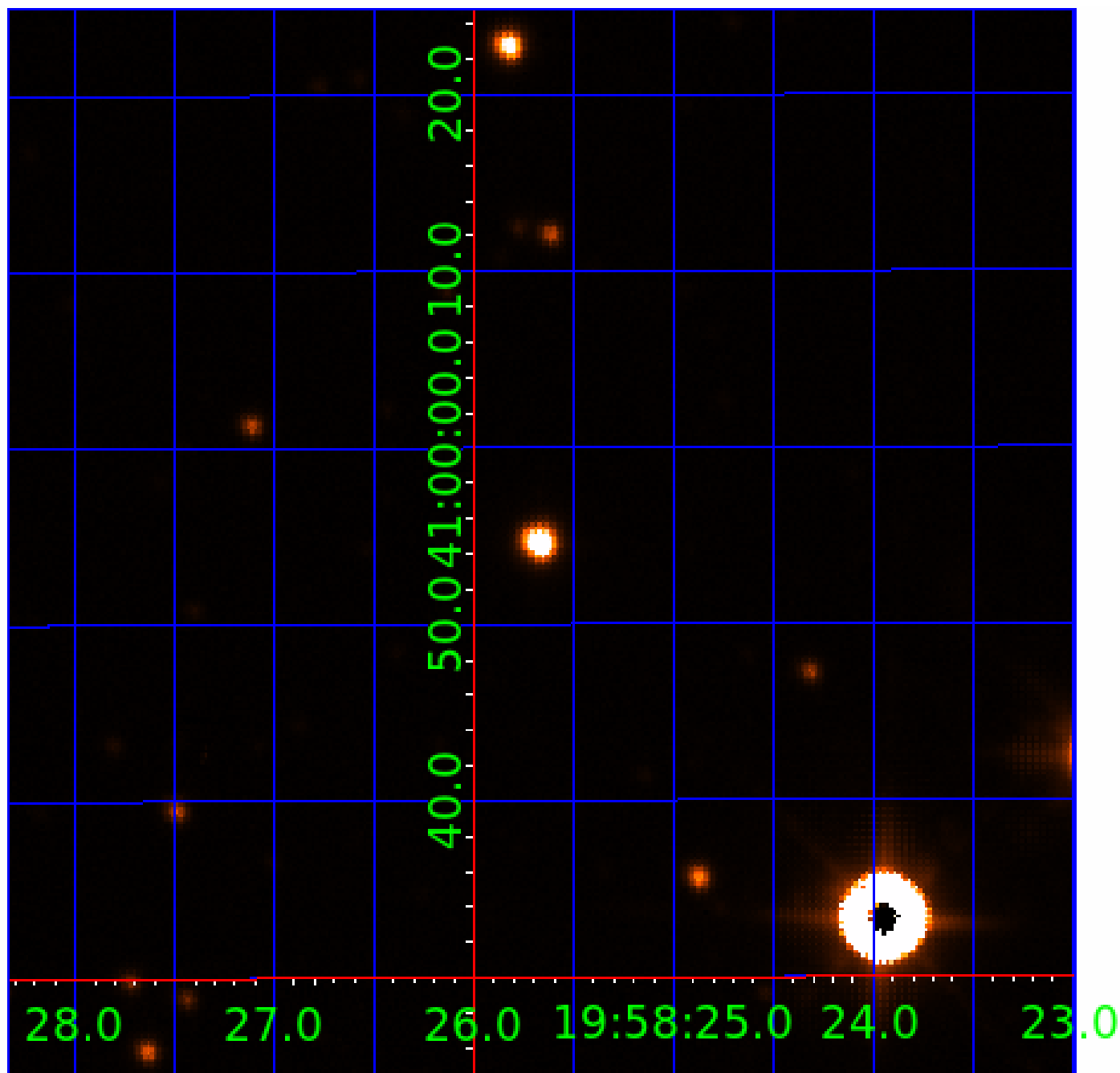


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005738127

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})
005738127-01	OBS	No	0.564573	132.044501	214.9	1.698	9.1	10.4	1.54	6784	2.42	21059.84
005738127-02	OBS	No	0.564577	131.768102	167.3	3.573	9.1	11.2	1.54	6784	2.03	21059.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005738127-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005738127-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

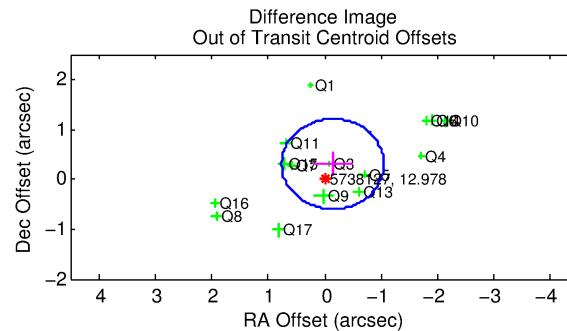
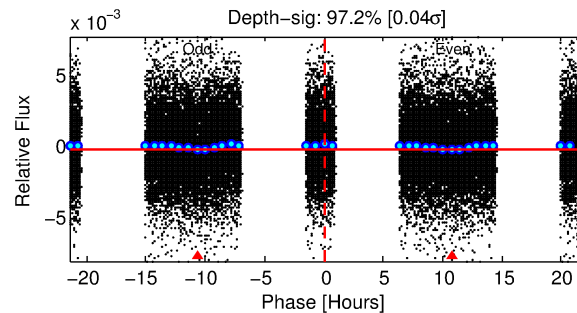
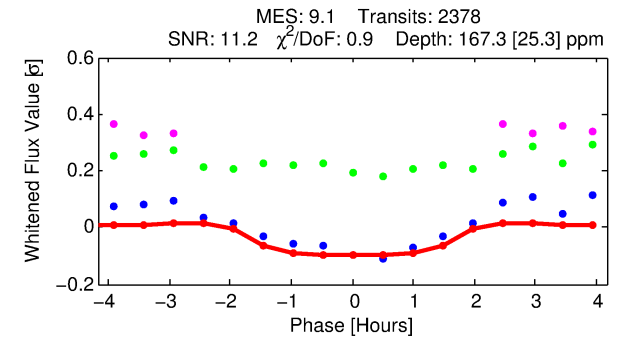
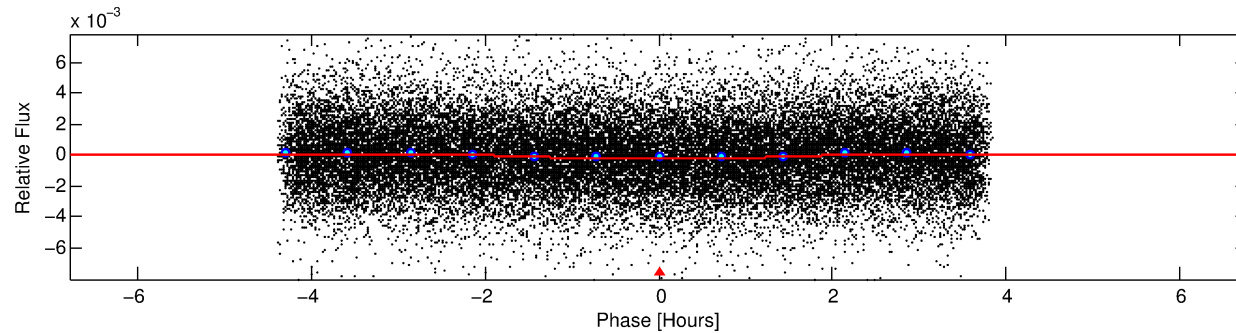
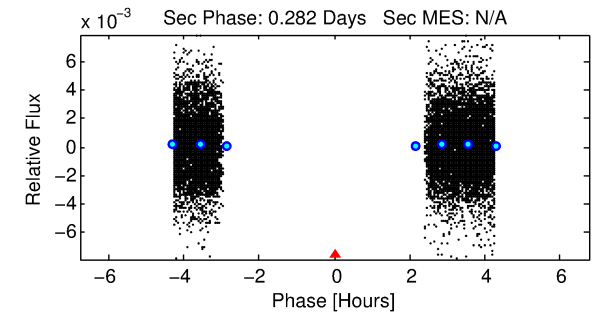
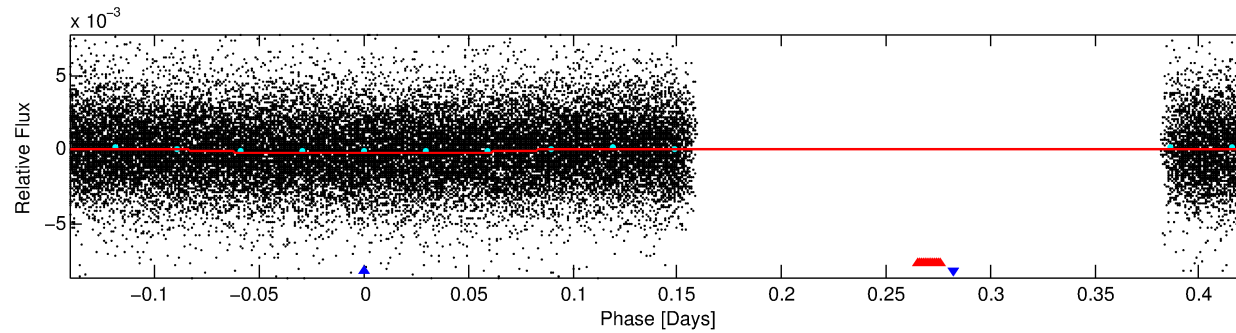
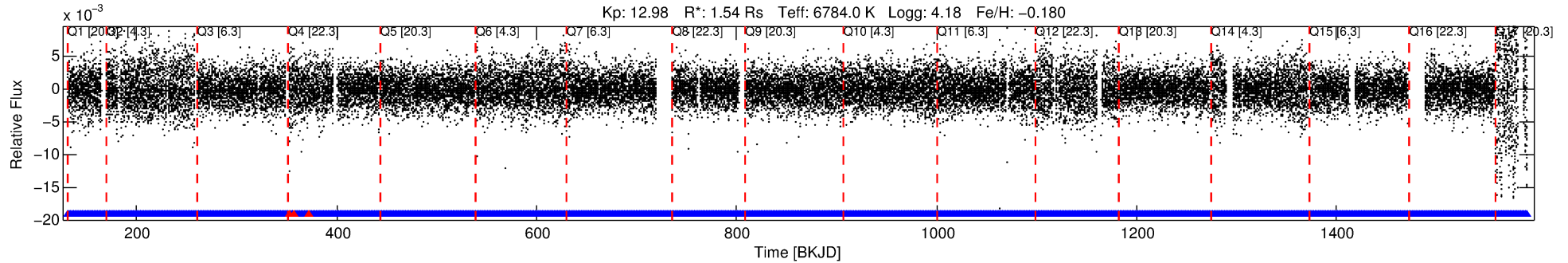
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005738127-02

No Significant Match Found

DV One-Page Summary

KIC: 5738127 Candidate: 2 of 2 Period: 0.565 d



DV Fit Results:

Period = 0.56458 [0.00001] d
Epoch = 131.7681 [0.0041] BKJD
Rp/R* = 0.0121 [0.0167]
a/R* = 1.35 [4.57]
b = 0.30 [23.35]
Seff = 21059.62 [7891.06]
Teq = 3072 [288] K
Rp = 2.03 [2.87] Re
a = 0.0146 [0.0036] AU

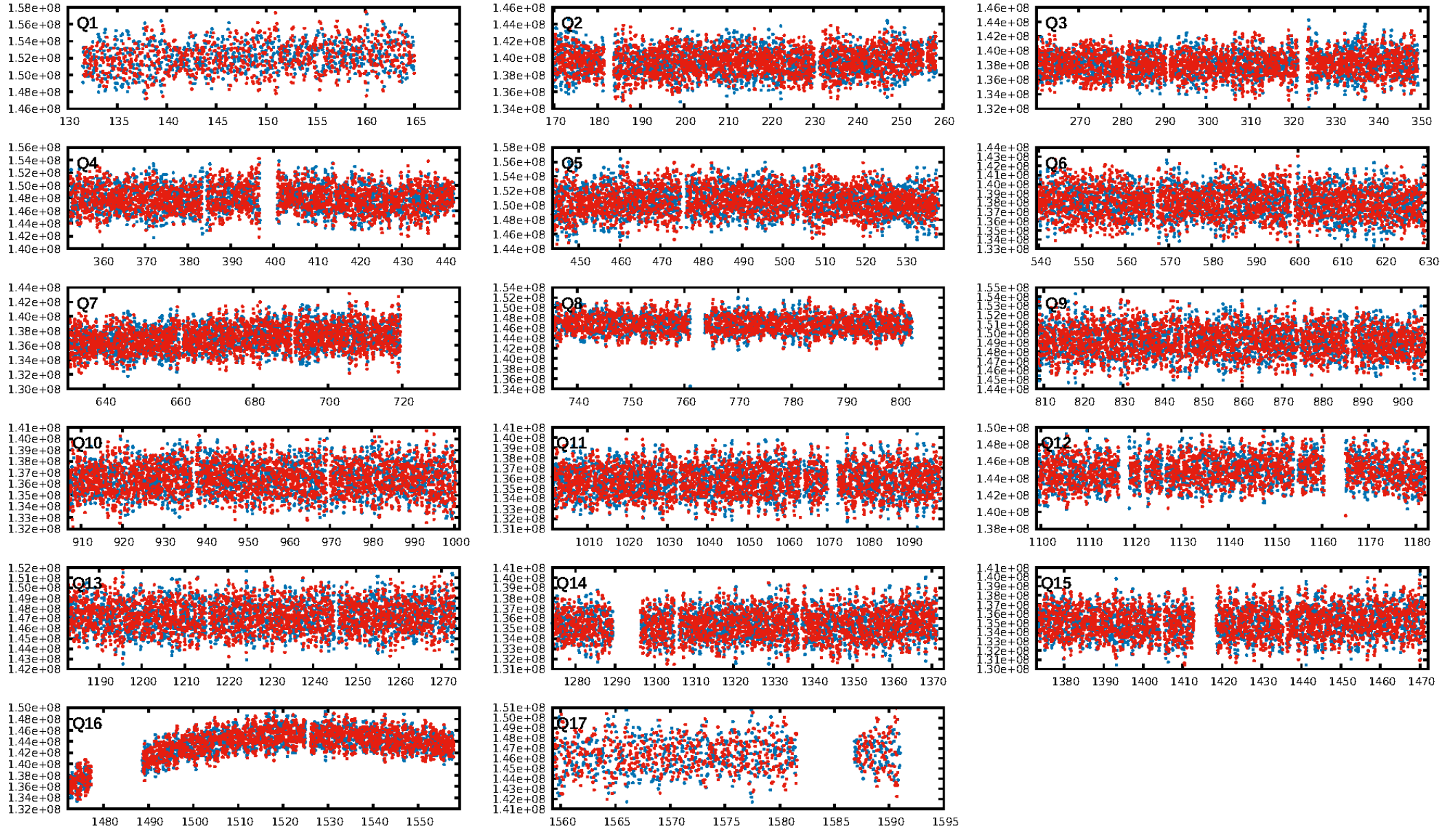
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2269/2272]
GhostDiagnostic-chr: 1.351
Centroid-sig: 0.1%
Centroid-so: 0.161 arcsec [1.39σ]
OotOffset-rm: 0.333 arcsec [1.11σ]
KicOffset-rm: 0.346 arcsec [1.31σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.93 [14/15]
DiffImageOverlap-fno: 0.00 [0/17]

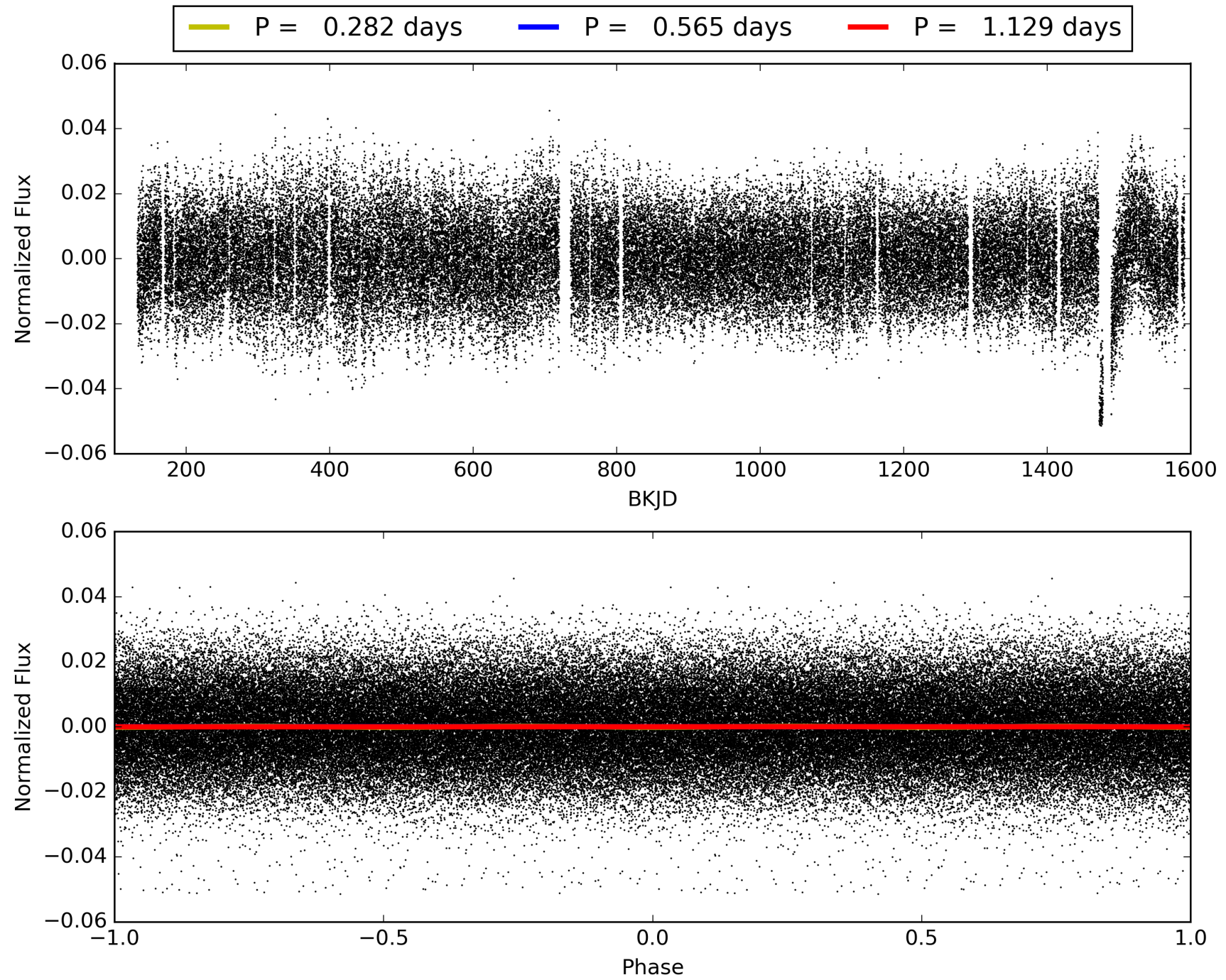
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:00:46 Z

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

TCE 005738127-02, PDC Light Curves

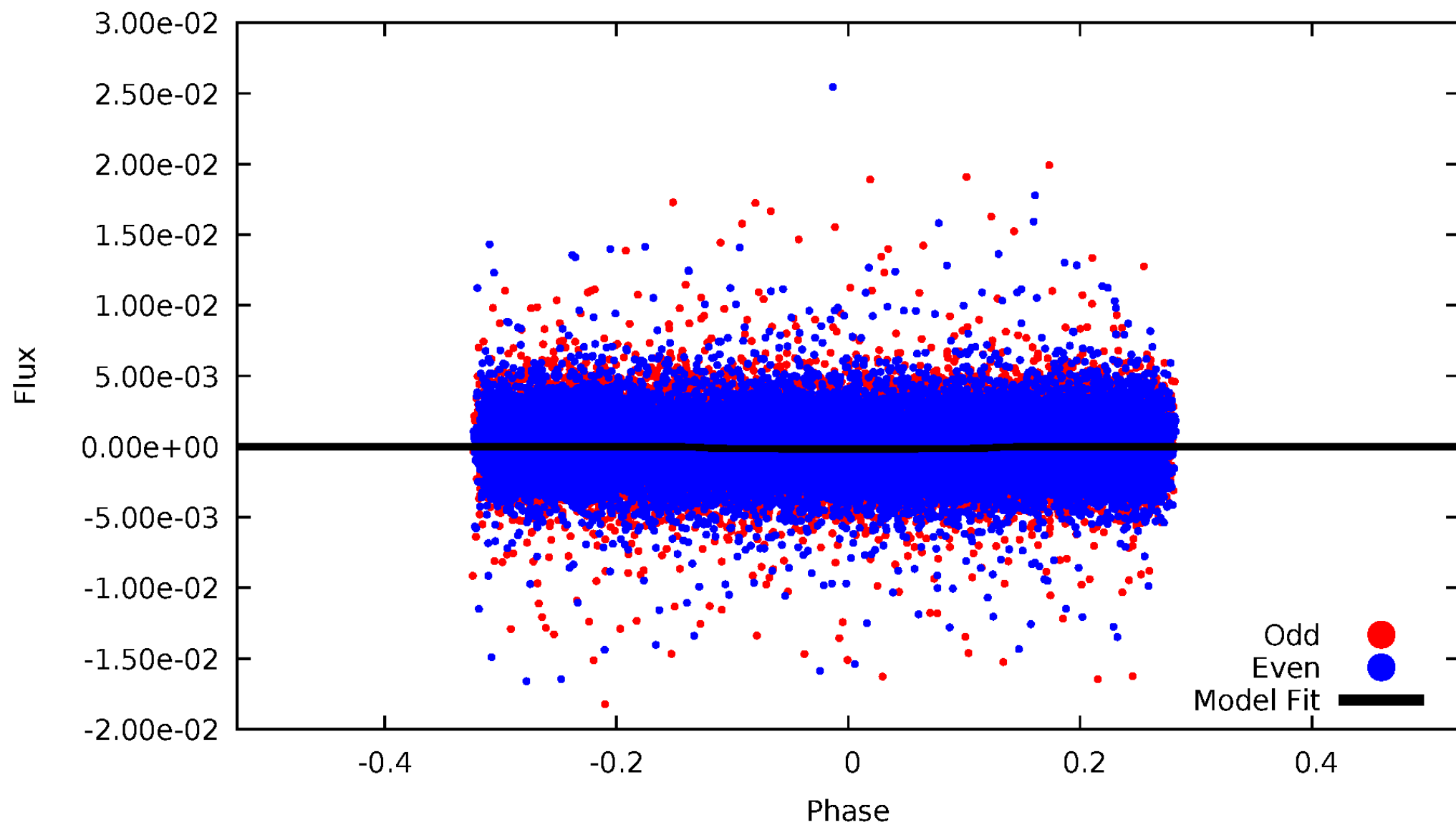


TCE 005738127-02



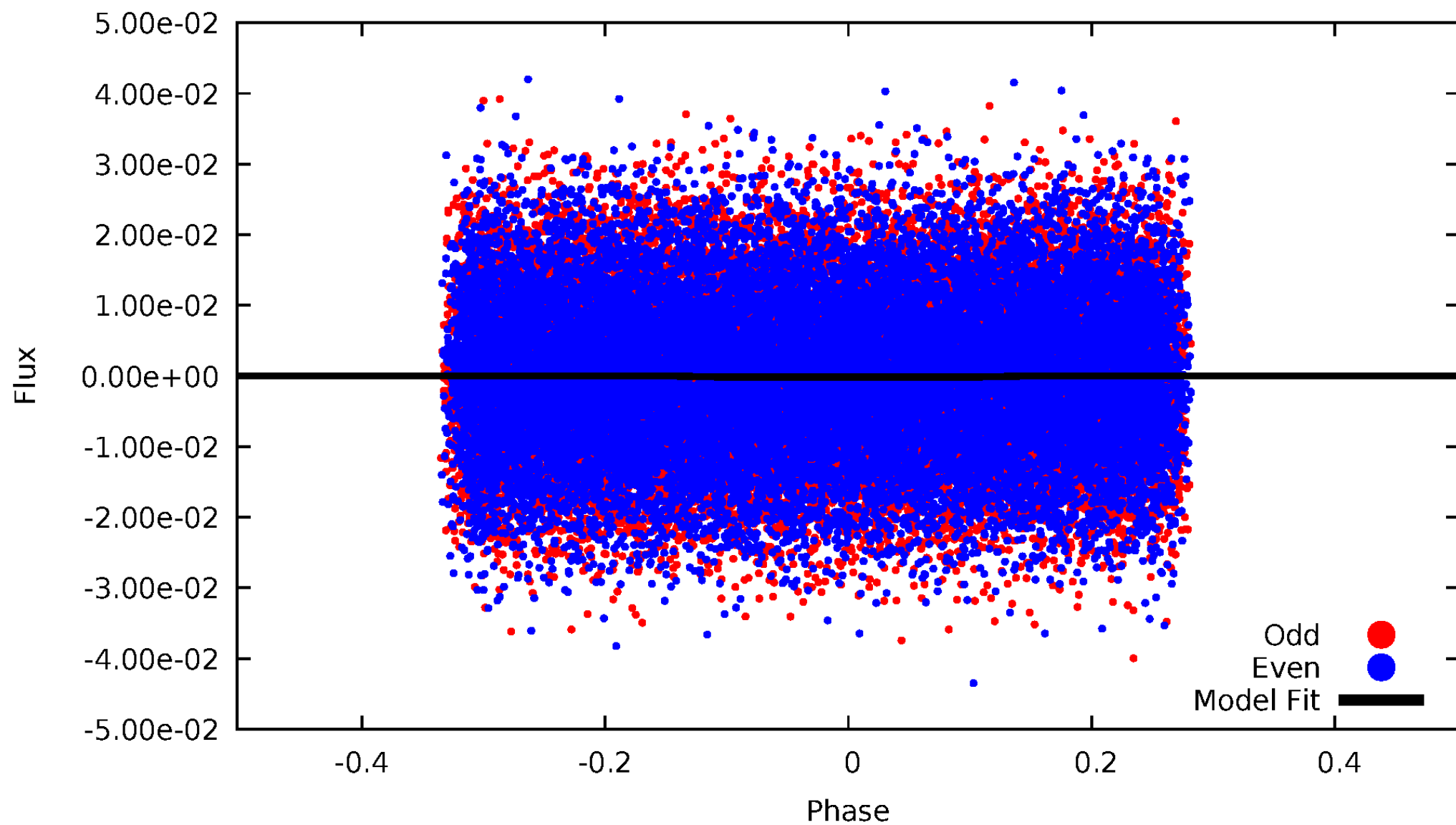
DV Odd/Even

TCE 005738127-02



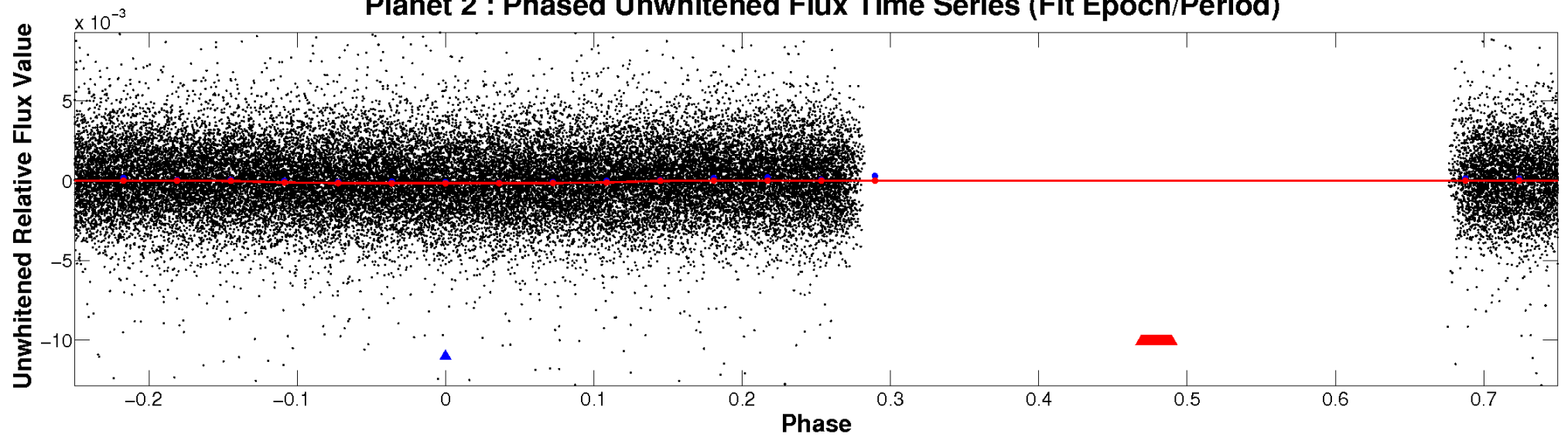
ALT Odd/Even

TCE 005738127-02

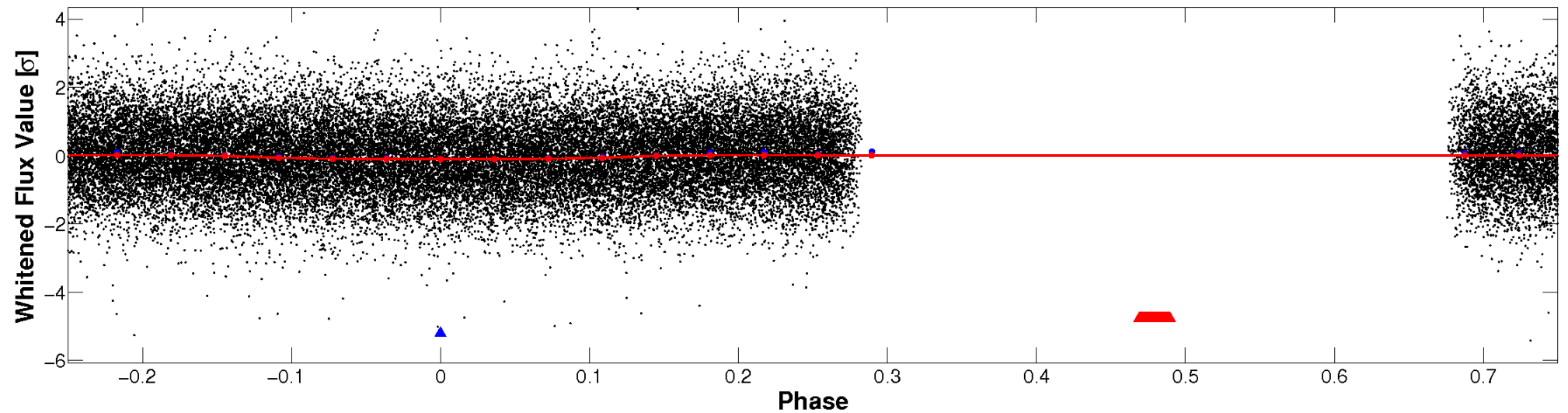


Non-Whitened Vs. Whitened Light Curve

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

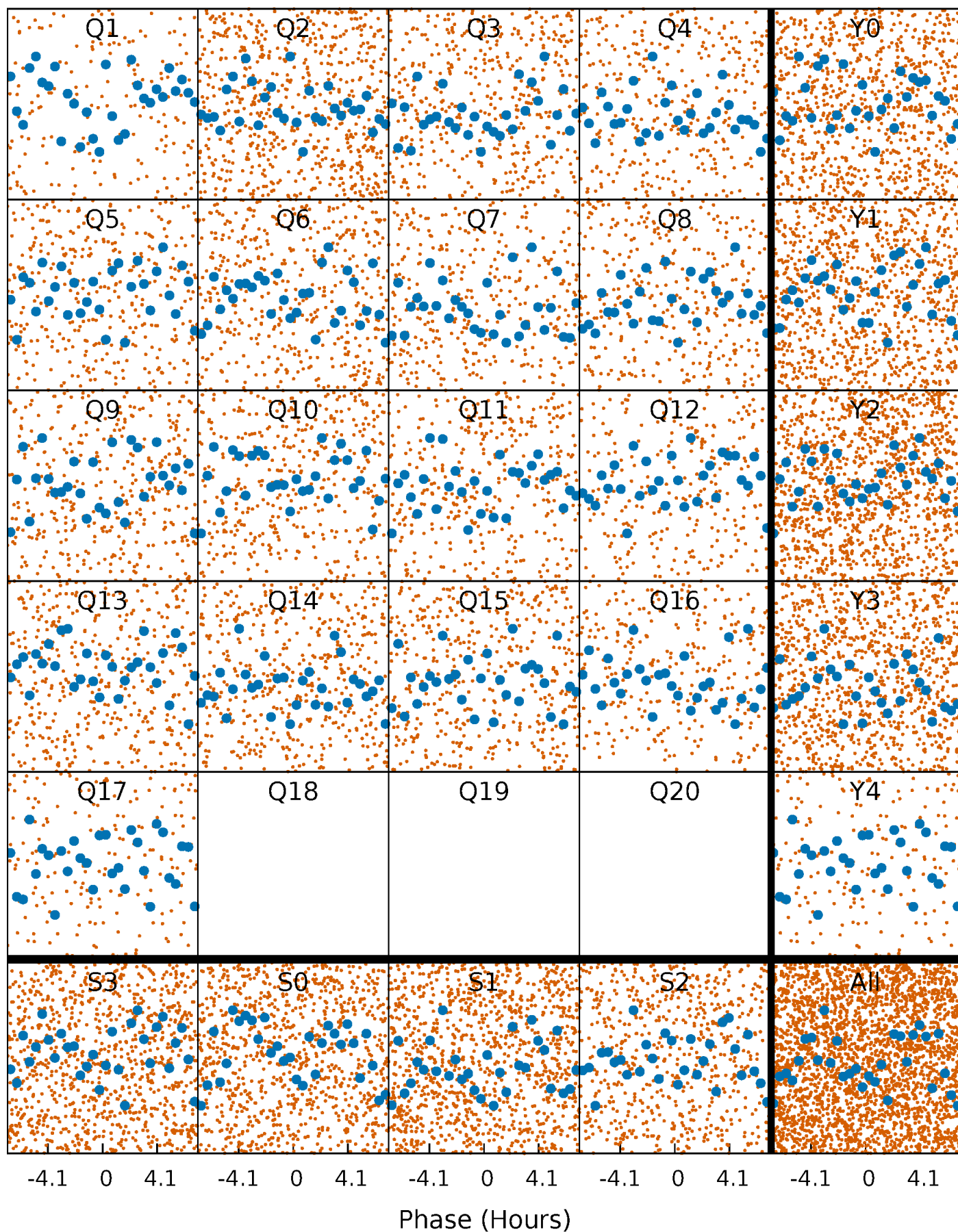


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



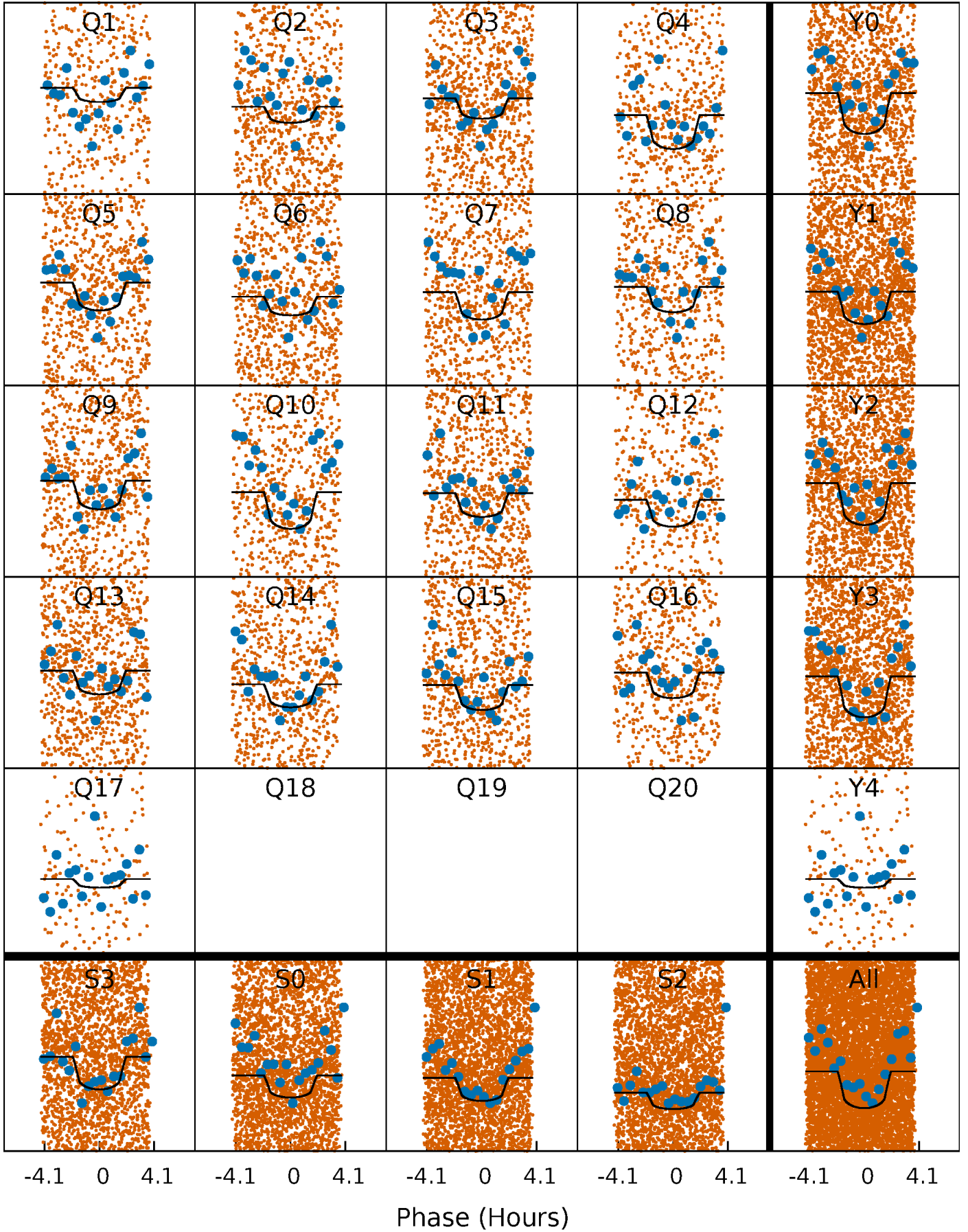
PDC Quarter-Phased Transit Curves

TCE 005738127-02 P= 0.564577 Days $T_0=131.768102$ (BKJD)



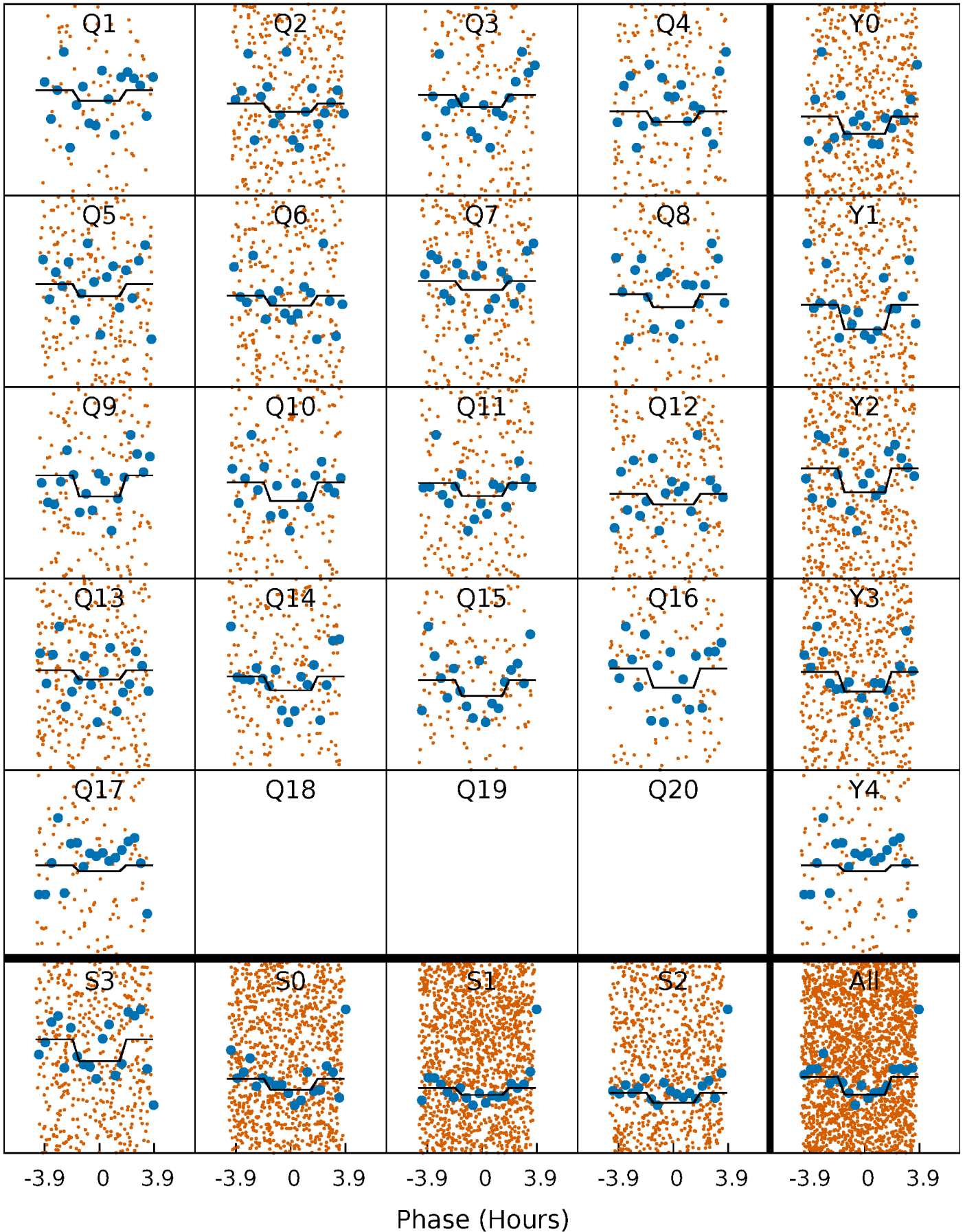
DV Quarter-Phased Transit Curves

TCE 005738127-02 $P = 0.564577$ Days $T_0 = 131.768102$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

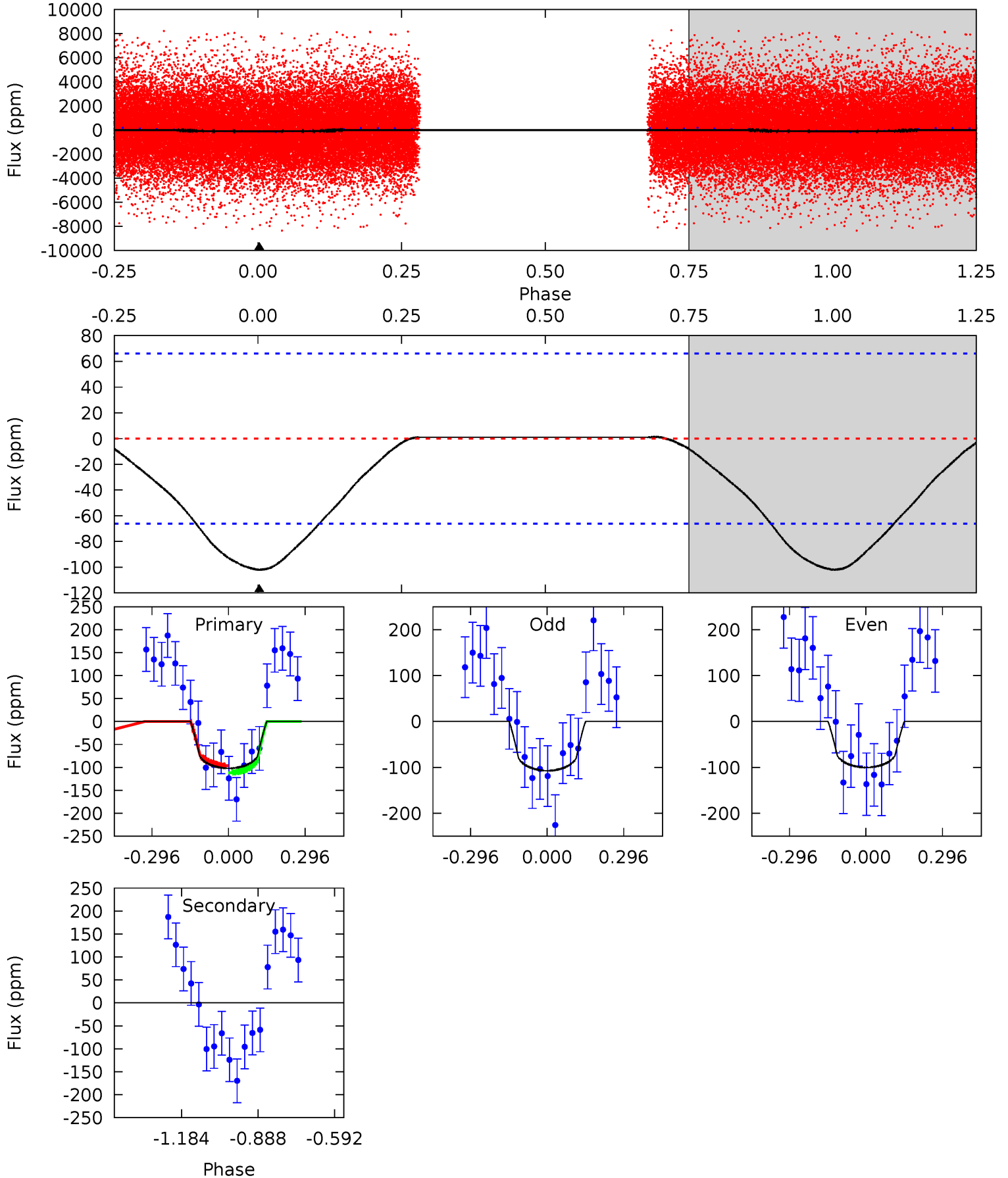
TCE 005738127-02 P= 0.564579 Days $T_0=131.768508$ (BKJD)



DV Model-Shift Uniqueness Test

005738127-02, P = 0.564577 Days, E = 131.203525 Days

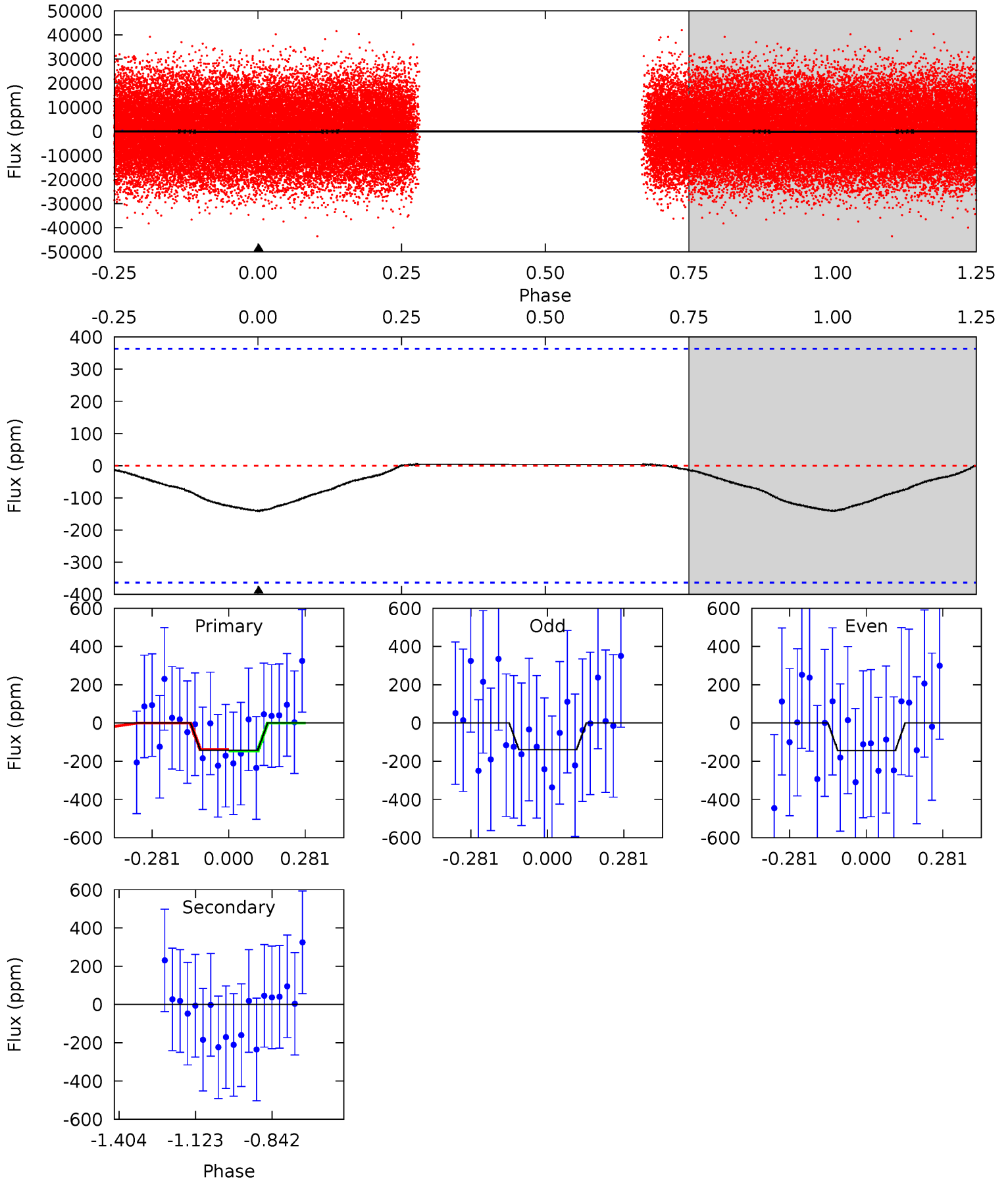
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.69	0	0	0	4.33	1.05	0.13	6.69	6.69	0	0	0.23	0.88	0.01	0.51



Alt Model-Shift Uniqueness Test

005738127-02, P = 0.564579 Days, E = 131.203929 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.70	0	0	0	4.34	1.08	0.04	1.70	1.70	0	0	0.03	1.07	0.04	0.05



Stellar Parameters For KIC 005738127

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6784^{+166}_{-238}	$4.180^{+0.153}_{-0.187}$	$-0.180^{+0.250}_{-0.300}$	$1.543^{+0.453}_{-0.329}$	$1.323^{+0.189}_{-0.210}$	$0.507^{+0.439}_{-0.249}$
	+2%/-4%	+4%/-4%	+139%/-167%	+29%/-21%	+14%/-16%	+86%/-49%
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 005738127-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 15	$2.92^{+2.53}_{-1.90}$	4308^{+328}_{-281}	-3849^{+7149}_{-627}	$0.008^{+0.396}_{-0.318}$
Alt.	0 ± 84	$2.87^{+2.72}_{-1.85}$	4323^{+321}_{-276}	-3890^{+9431}_{-1841}	$0.012^{+2.282}_{-1.853}$

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 $A_{obs} \gg 1.0$

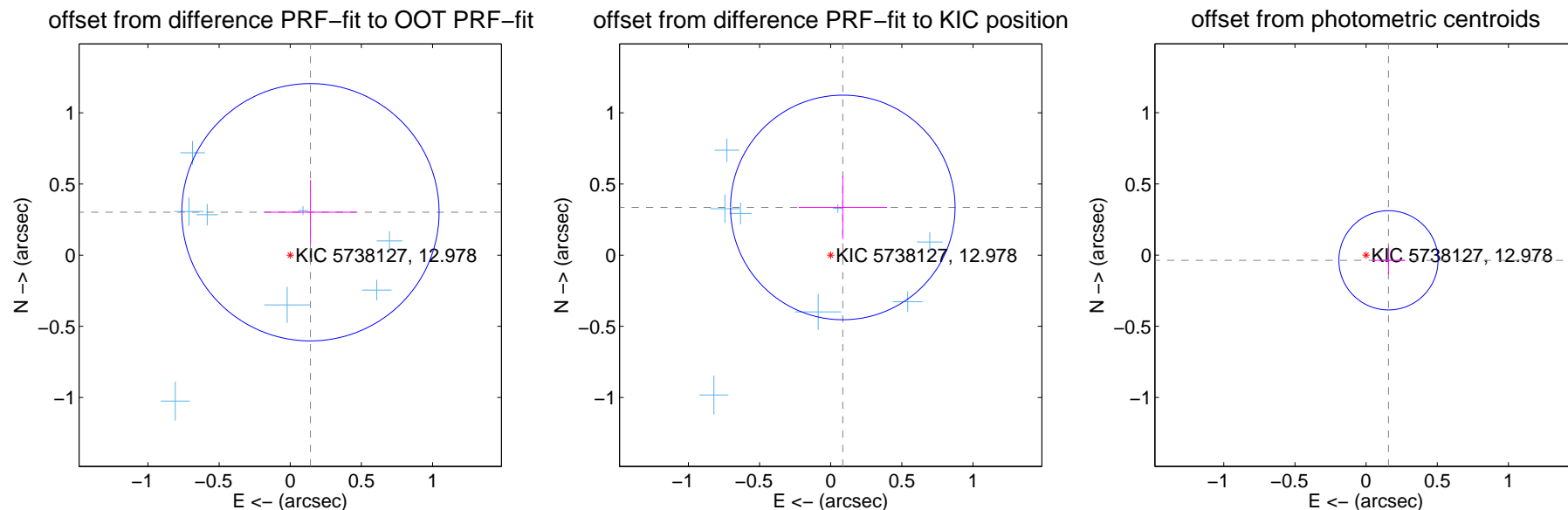
DV Centroid Data

Supplemental centroid analysis for 005738127-02. Kepler magnitude: 12.98. Transit SNR 11.15

There are 14 quarters with good PRF difference image offsets

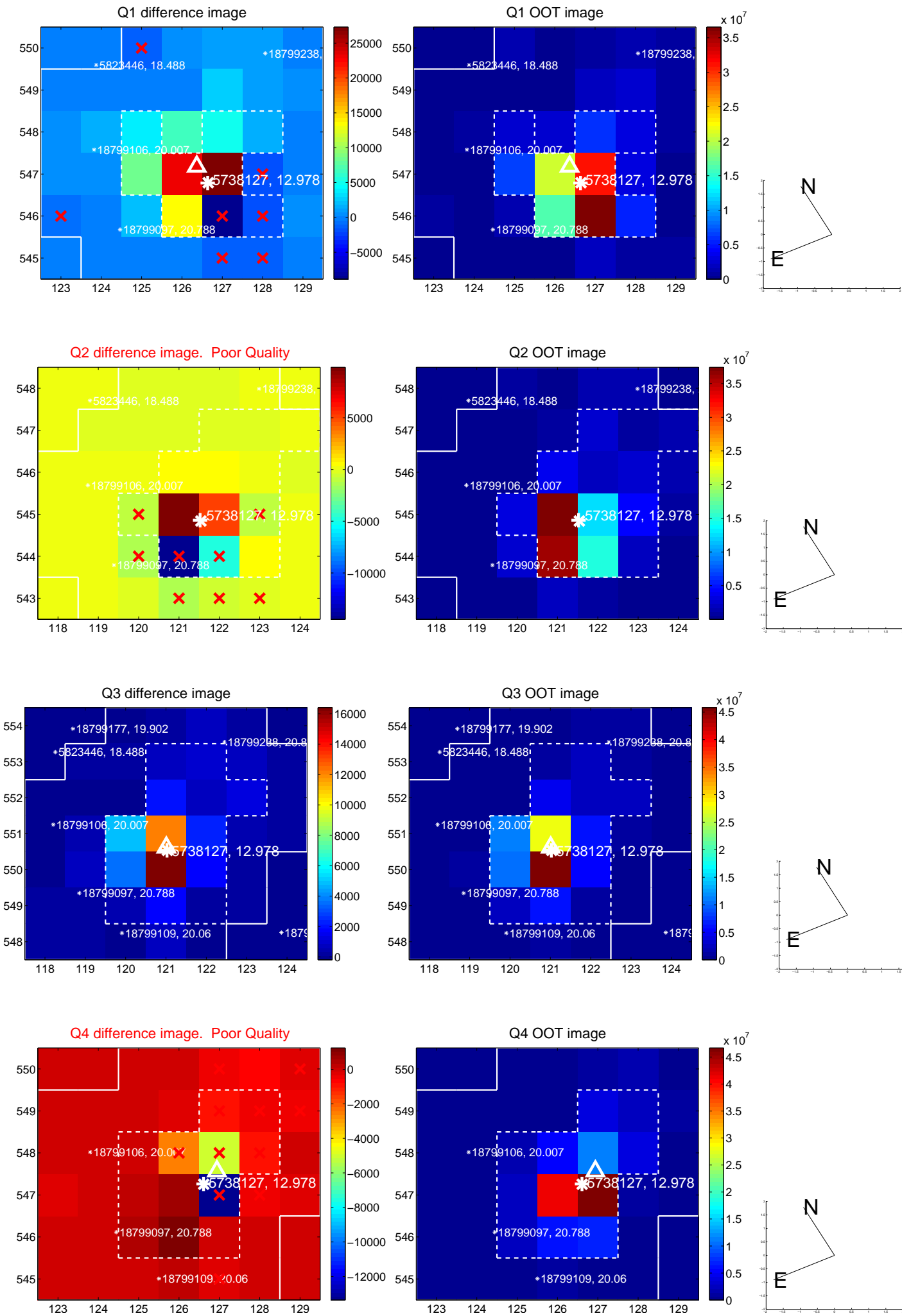
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.333 ± 0.301	1.11	-0.142 ± 0.323	0.301 ± 0.226
PRF-fit source offset from KIC position	0.346 ± 0.263	1.31	-0.085 ± 0.311	0.335 ± 0.222
photometric centroid source offset	0.16 ± 0.12	1.39	-0.16 ± 0.12	-0.04 ± 0.10

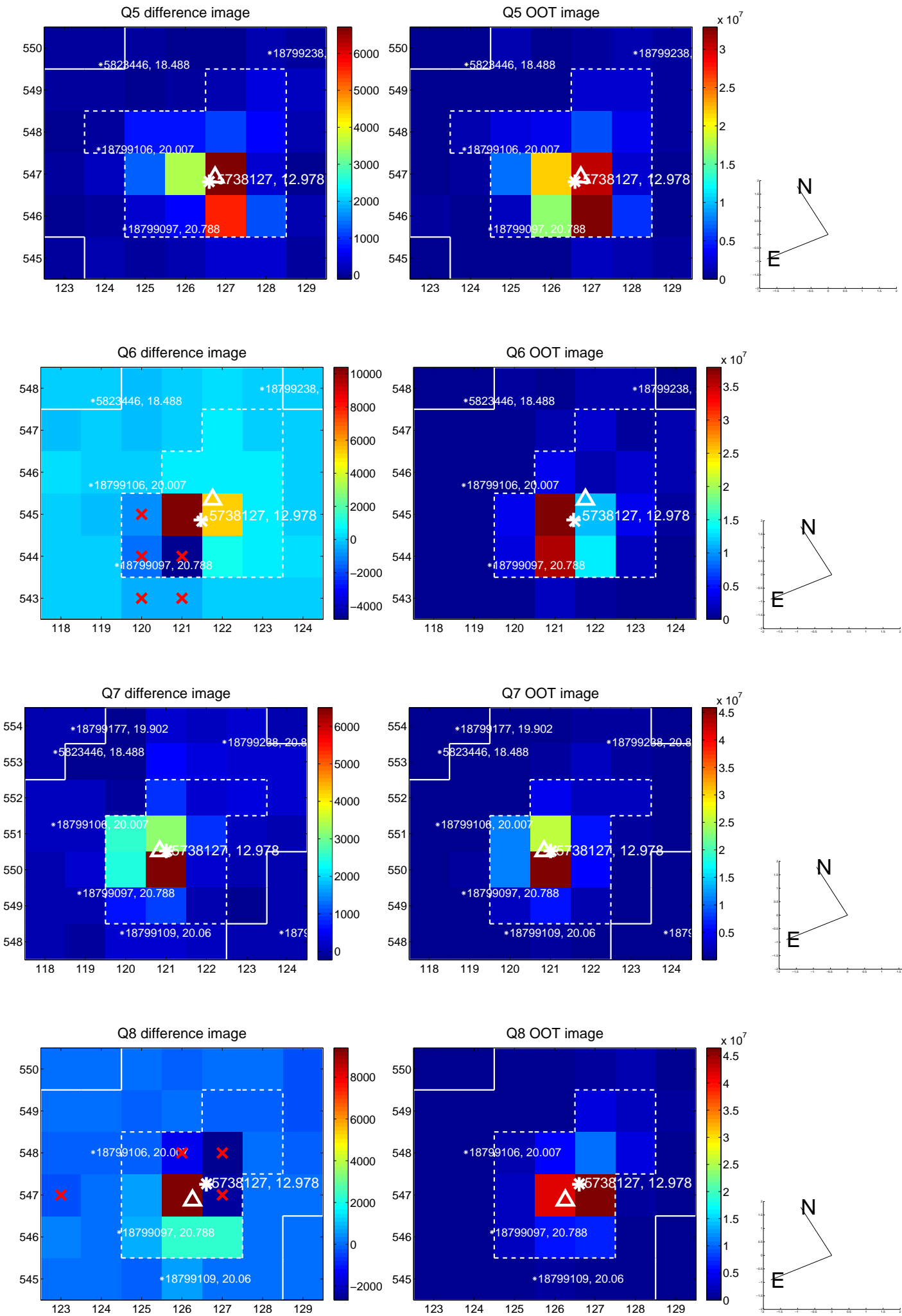


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

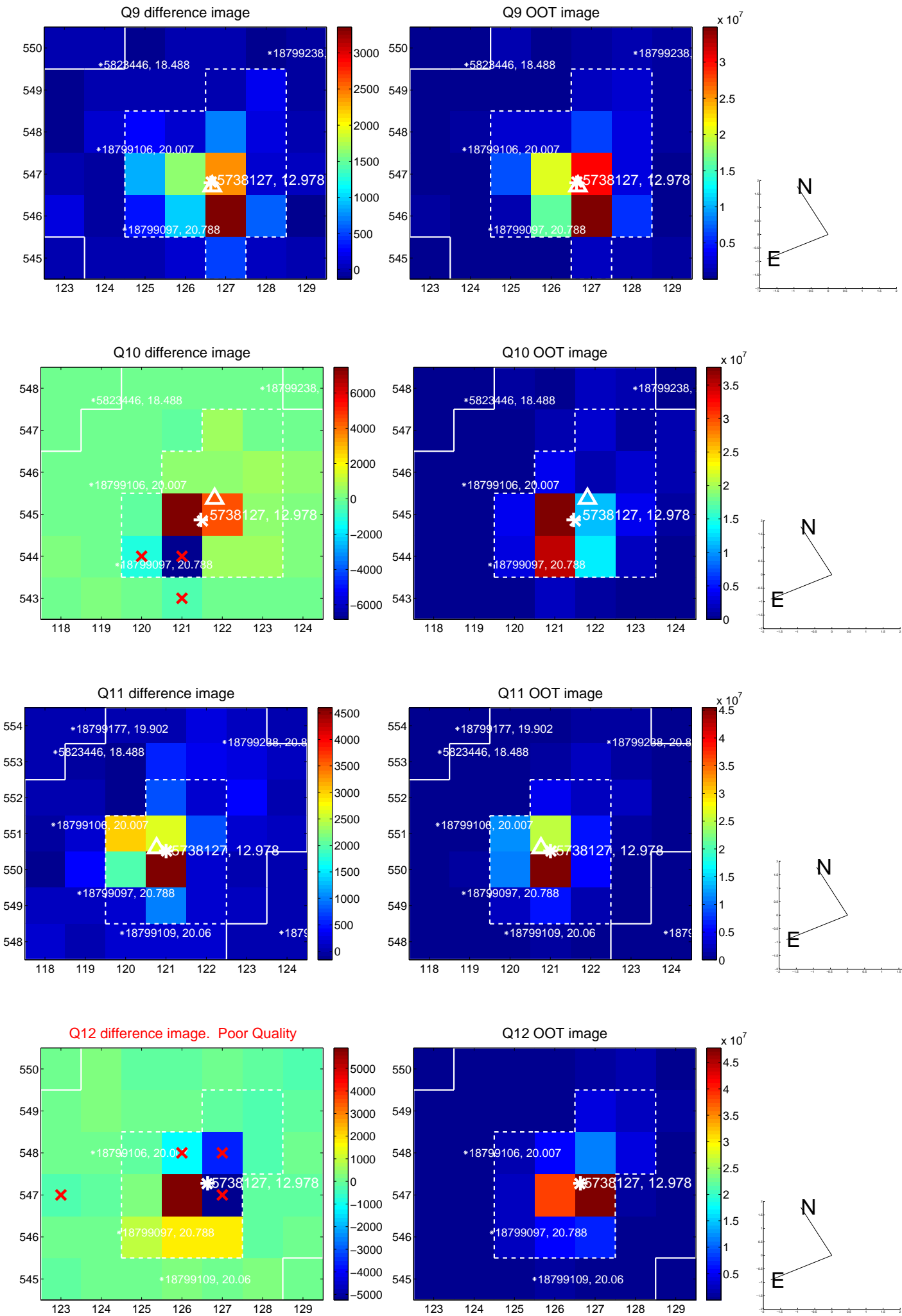
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



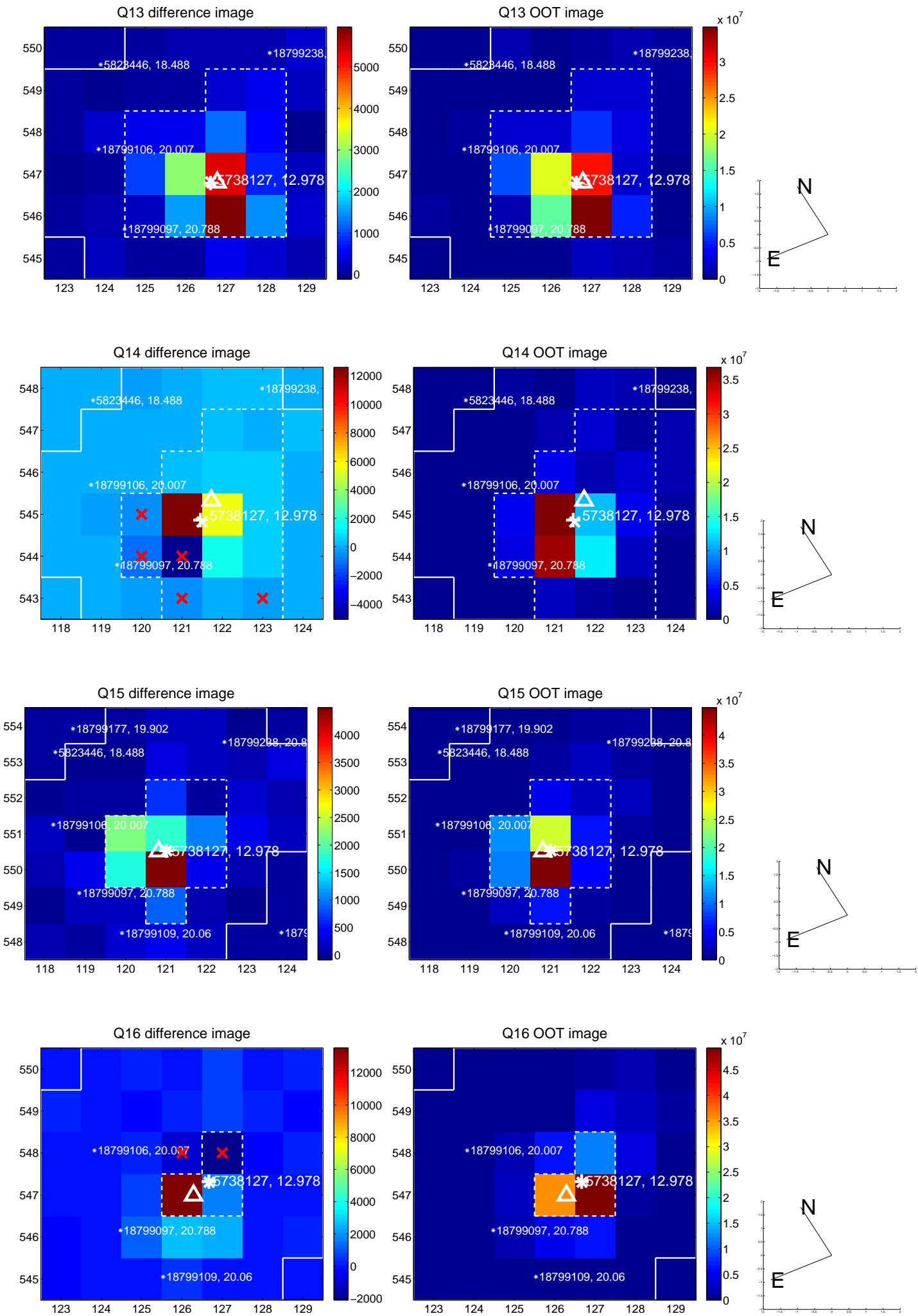
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



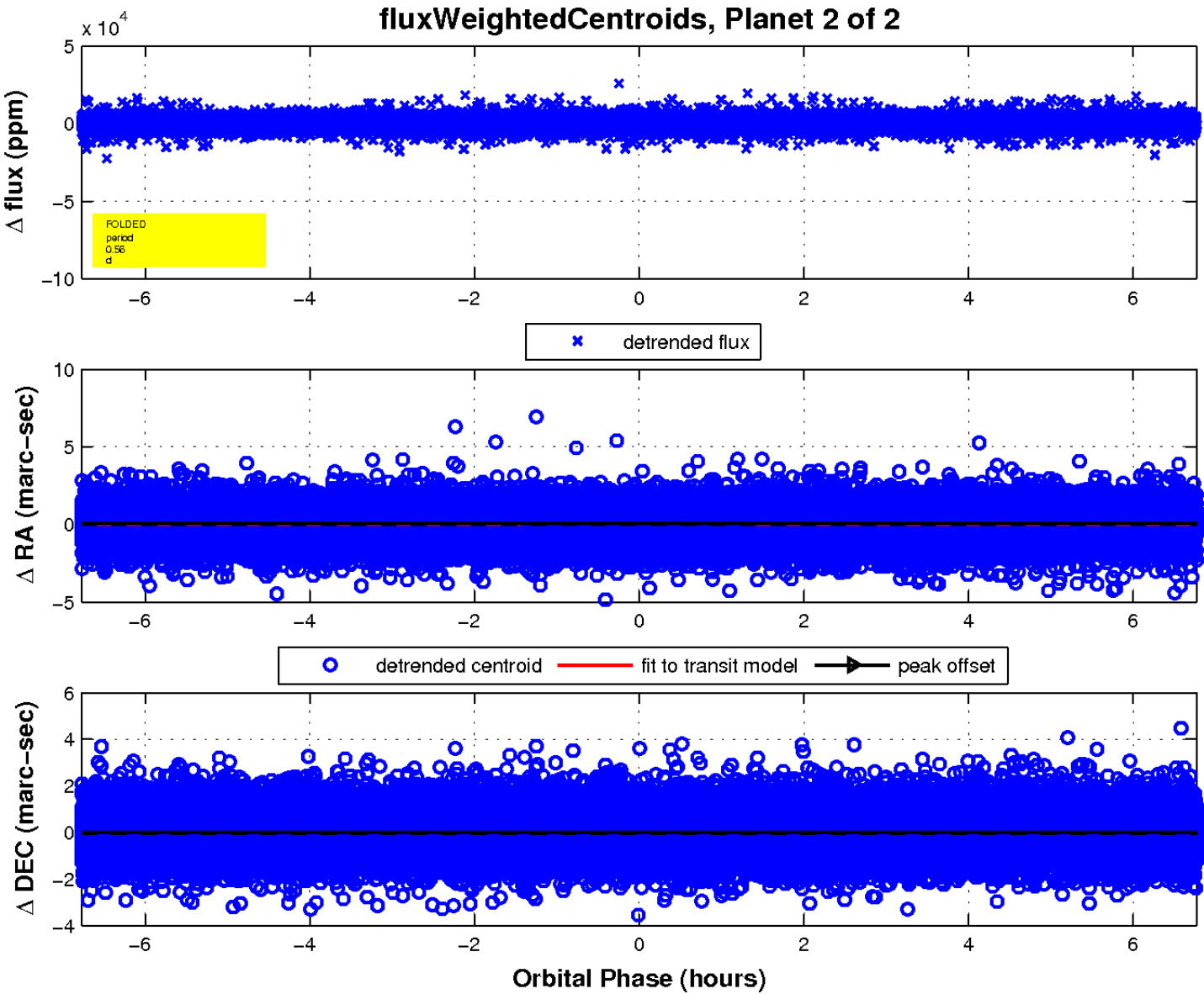
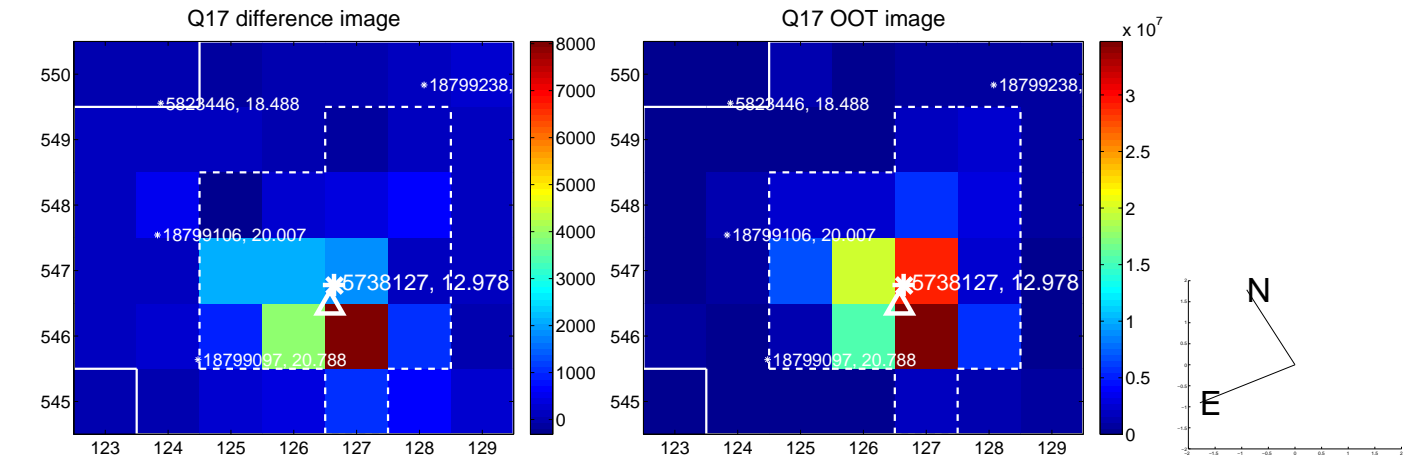
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

