

KIC 006635493

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})
006635493-01	OBS	No	0.665309	132.176867	74.2	1.864	14.1	7.8	1.22	6602	1.23	9950.60
006635493-02	OBS	No	0.665324	131.727151	49.9	2.140	9.3	5.1	1.22	6602	1.01	9950.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006635493-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006635493-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_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.

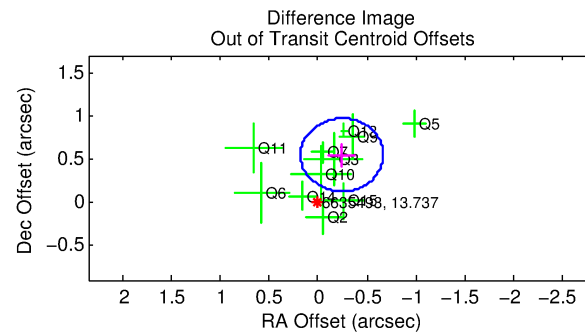
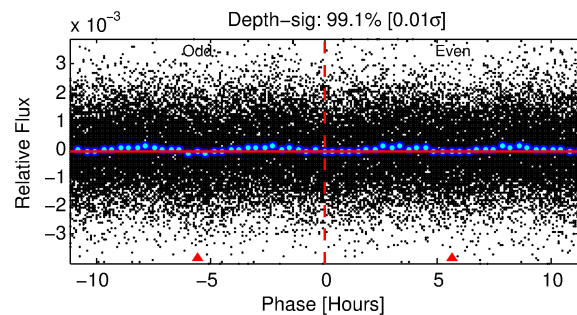
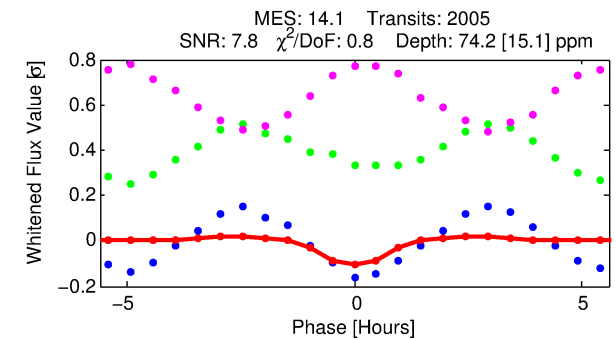
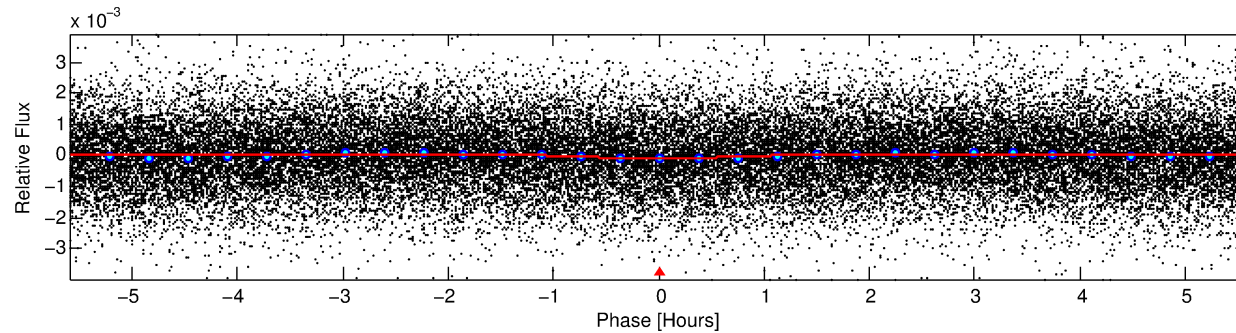
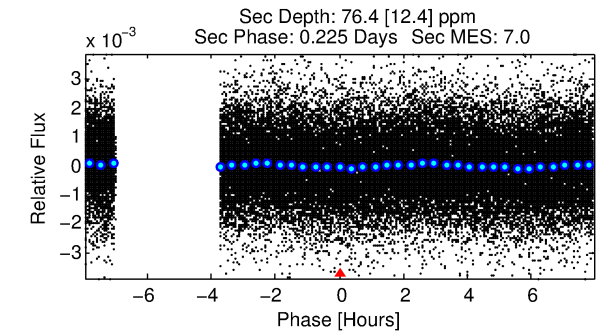
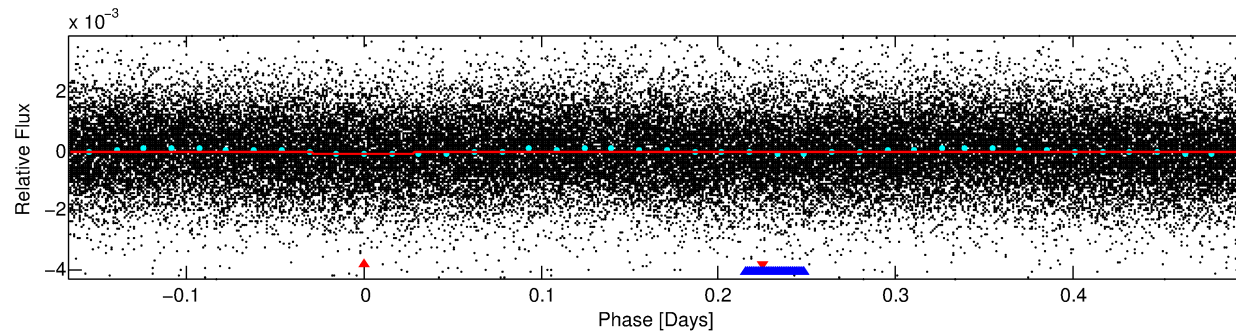
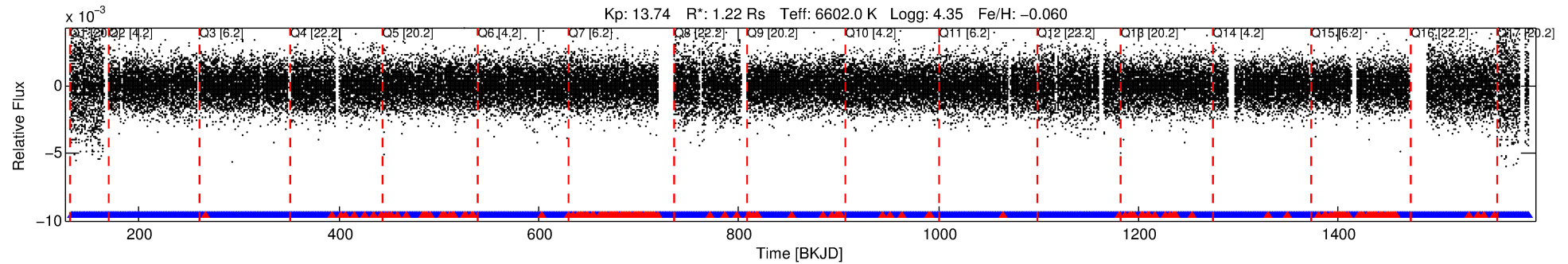
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006635493-01

No Significant Match Found

DV One-Page Summary

KIC: 6635493 Candidate: 1 of 2 Period: 0.665 d



DV Fit Results:

Period = 0.66531 [0.00001] d
Epoch = 132.1769 [0.0040] BKJD
Rp/R* = 0.0092 [0.0081]
a/R* = 1.56 [4.66]
b = 0.90 [1.09]
Seff = 9950.60 [4121.51]
Teff = 2547 [264] K
Rp = 1.23 [1.16] Re
a = 0.0160 [0.0045] AU
Ag = 7.09 [12.79] [0.48σ]
Teffp = 6425 [2836] K [1.36σ]

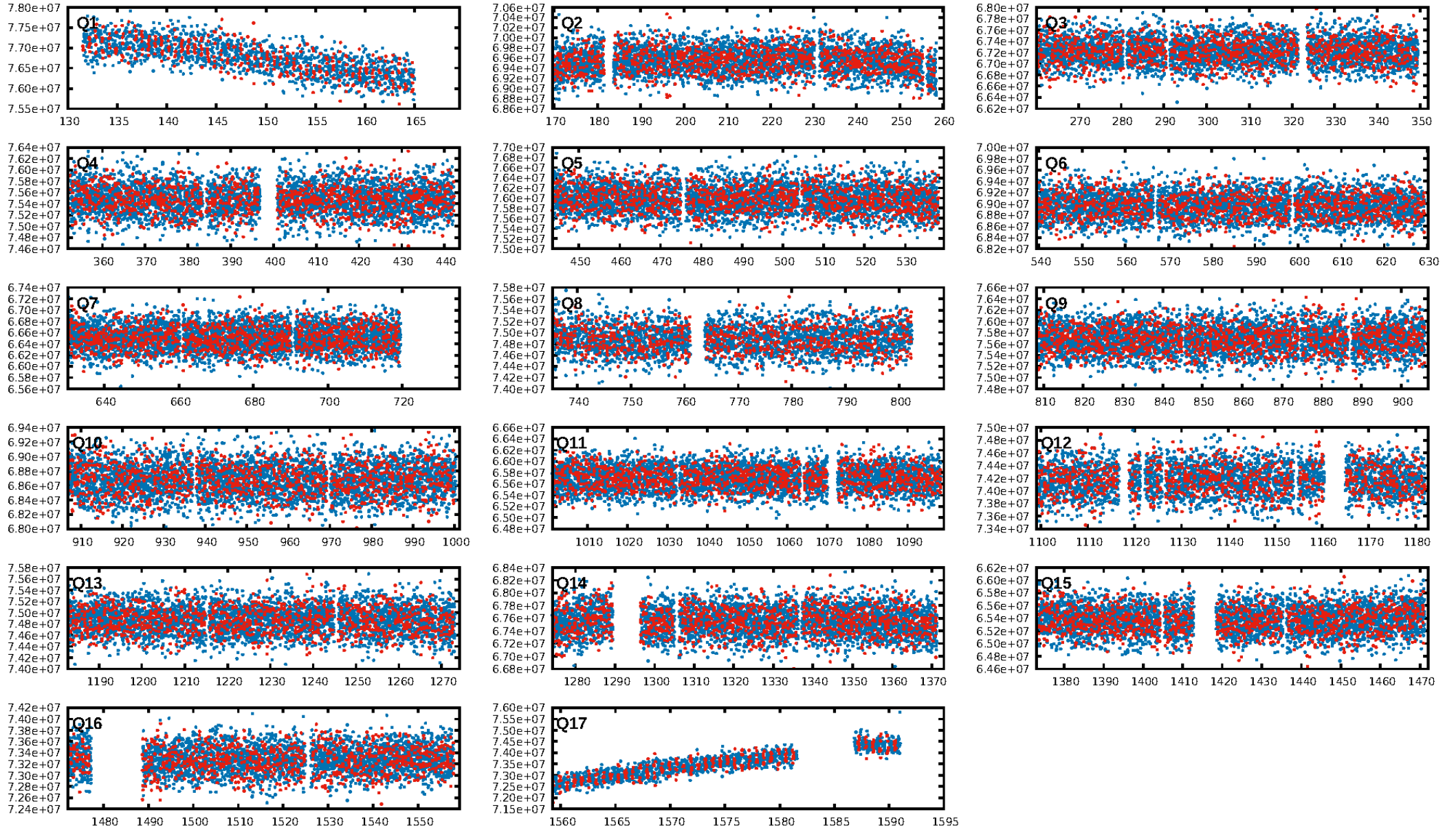
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.31e-42
RollingBand-fgt: 0.90 [1718/1914]
GhostDiagnostic-chr: 3.567
Centroid-sig: 0.0%
Centroid-so: 0.762 arcsec [1.15σ]
OotOffset-rm: 0.598 arcsec [4.25σ]
KicOffset-rm: 0.020 arcsec [0.04σ]
OotOffset-st: 4/4/0/3 [11]
KicOffset-st: 4/4/2/3 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 0.00 [0/17]

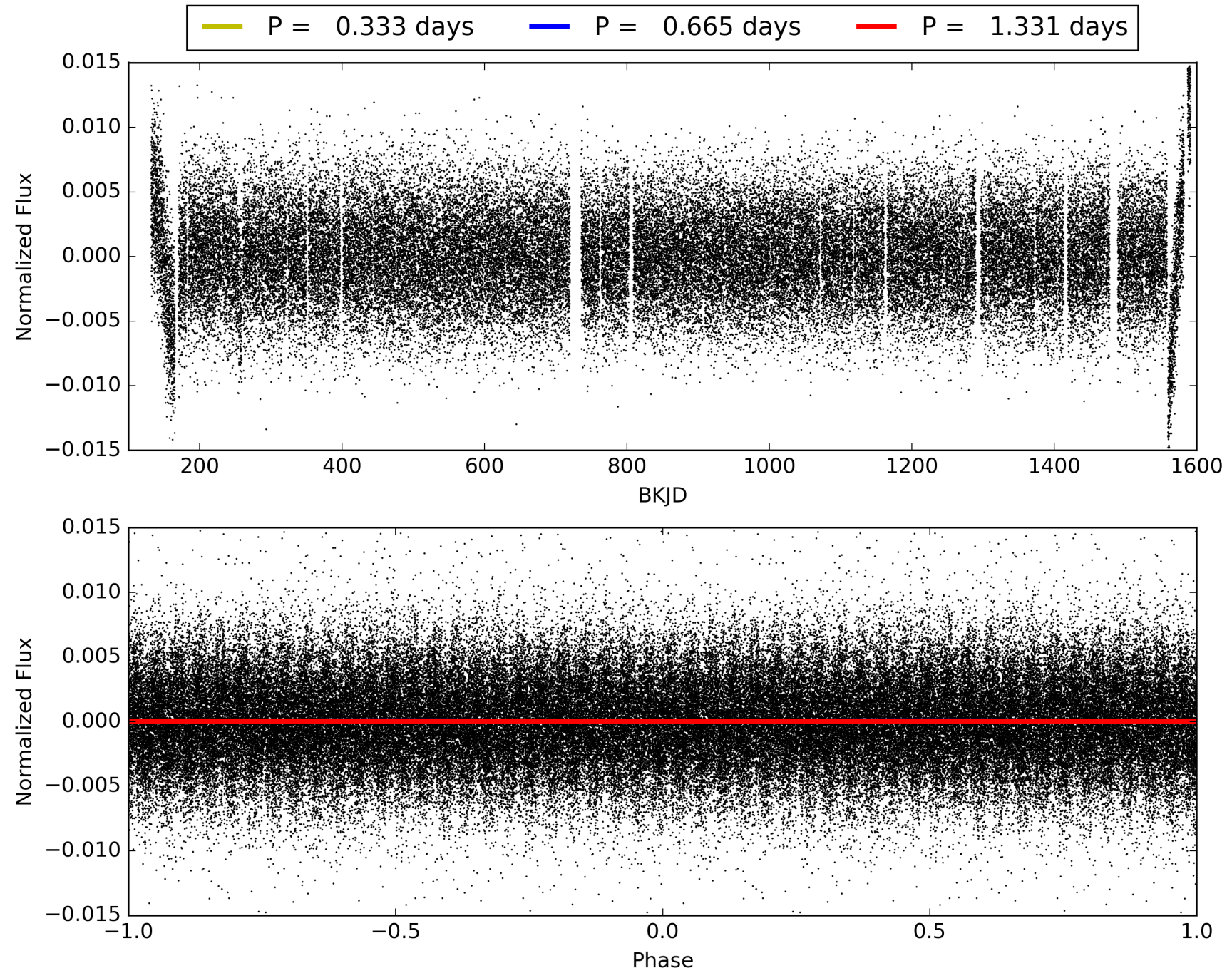
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:28:47 Z

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

TCE 006635493-01, PDC Light Curves

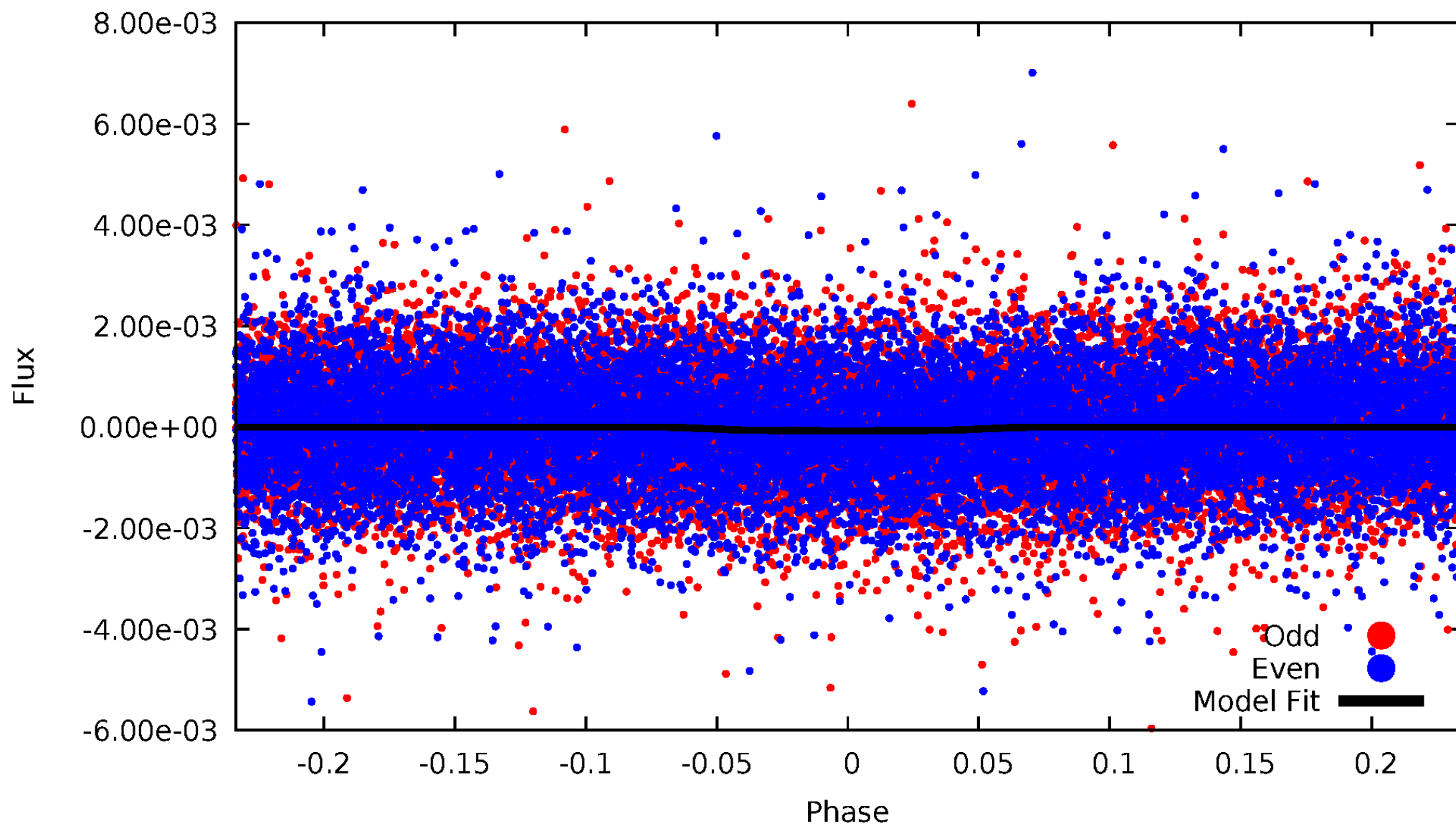


TCE 006635493-01



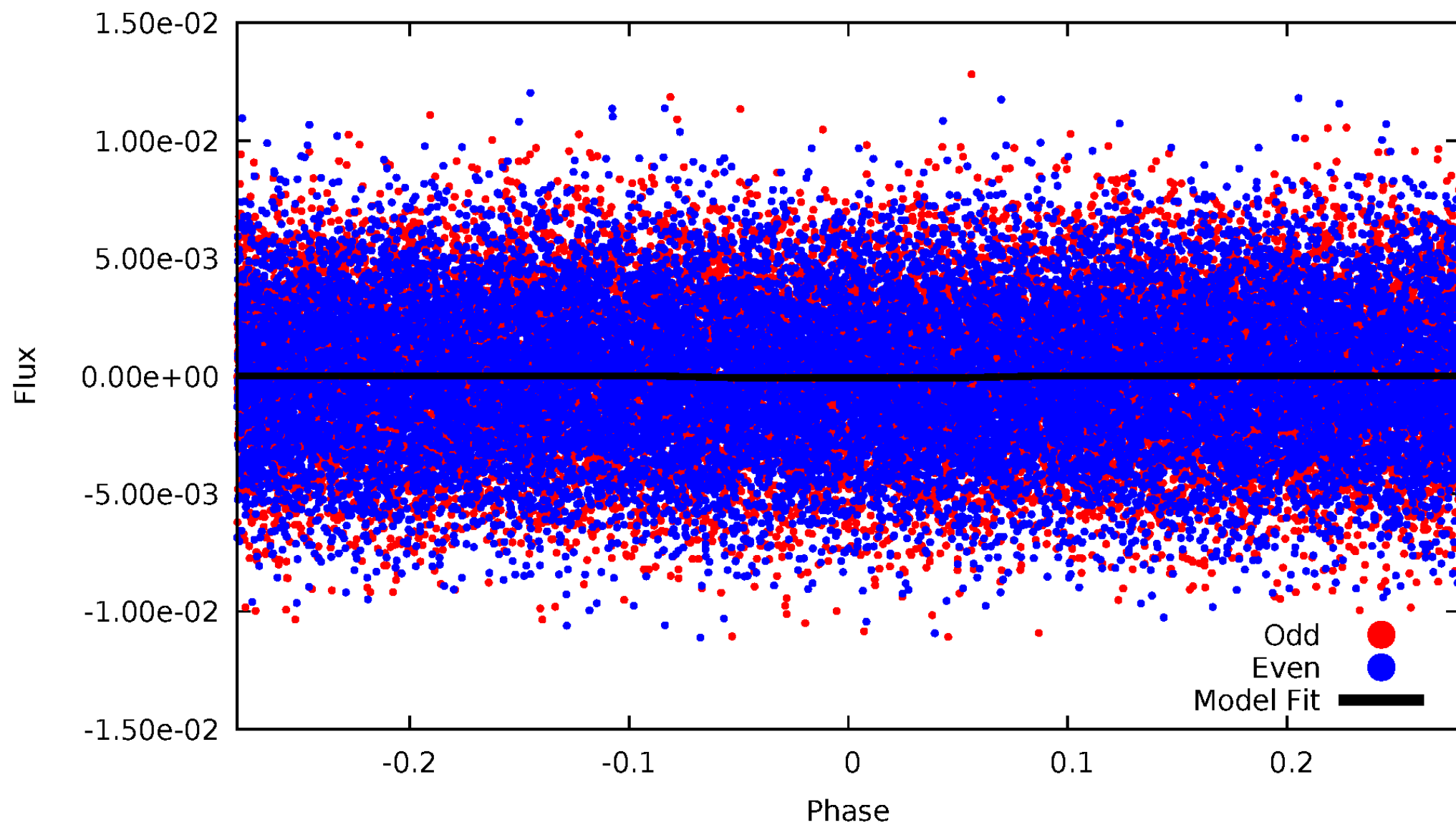
DV Odd/Even

TCE 006635493-01

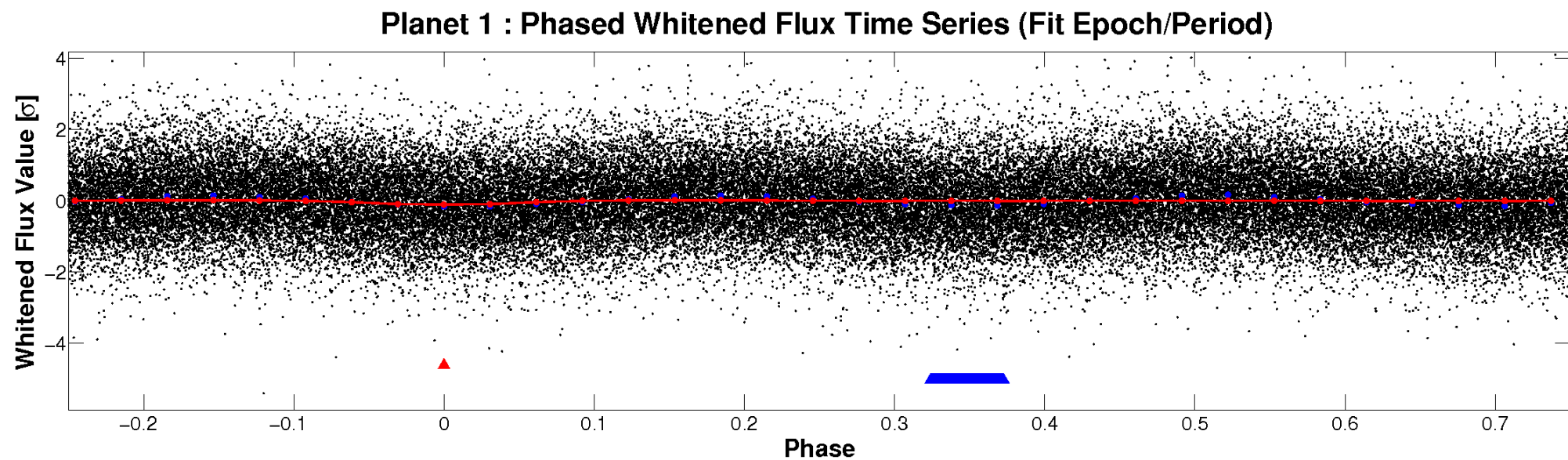
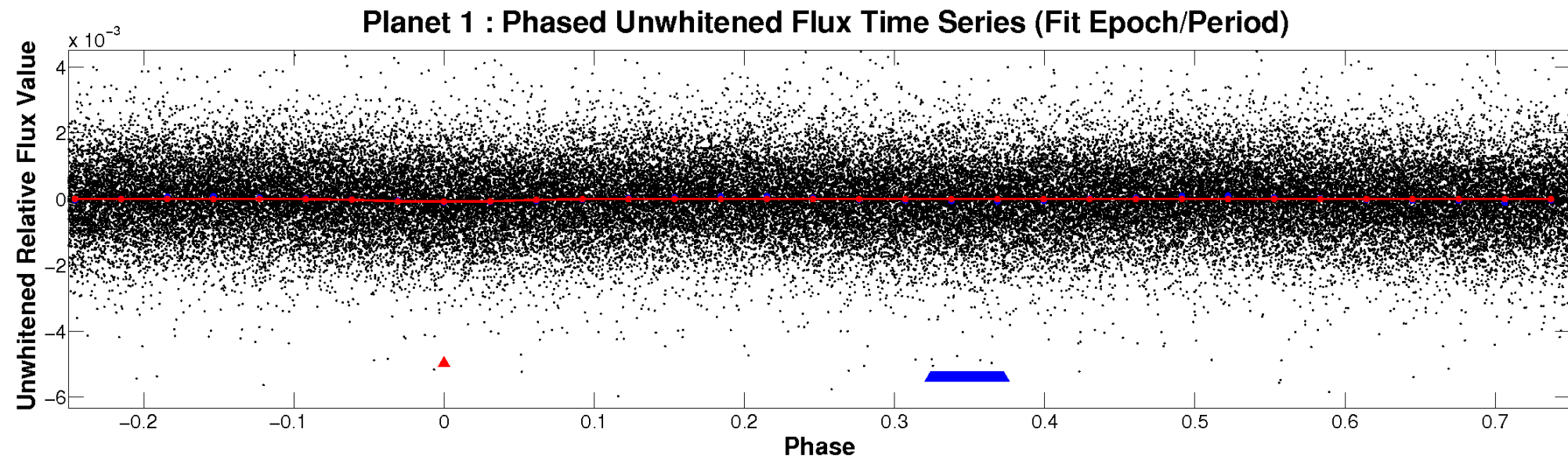


ALT Odd/Even

TCE 006635493-01

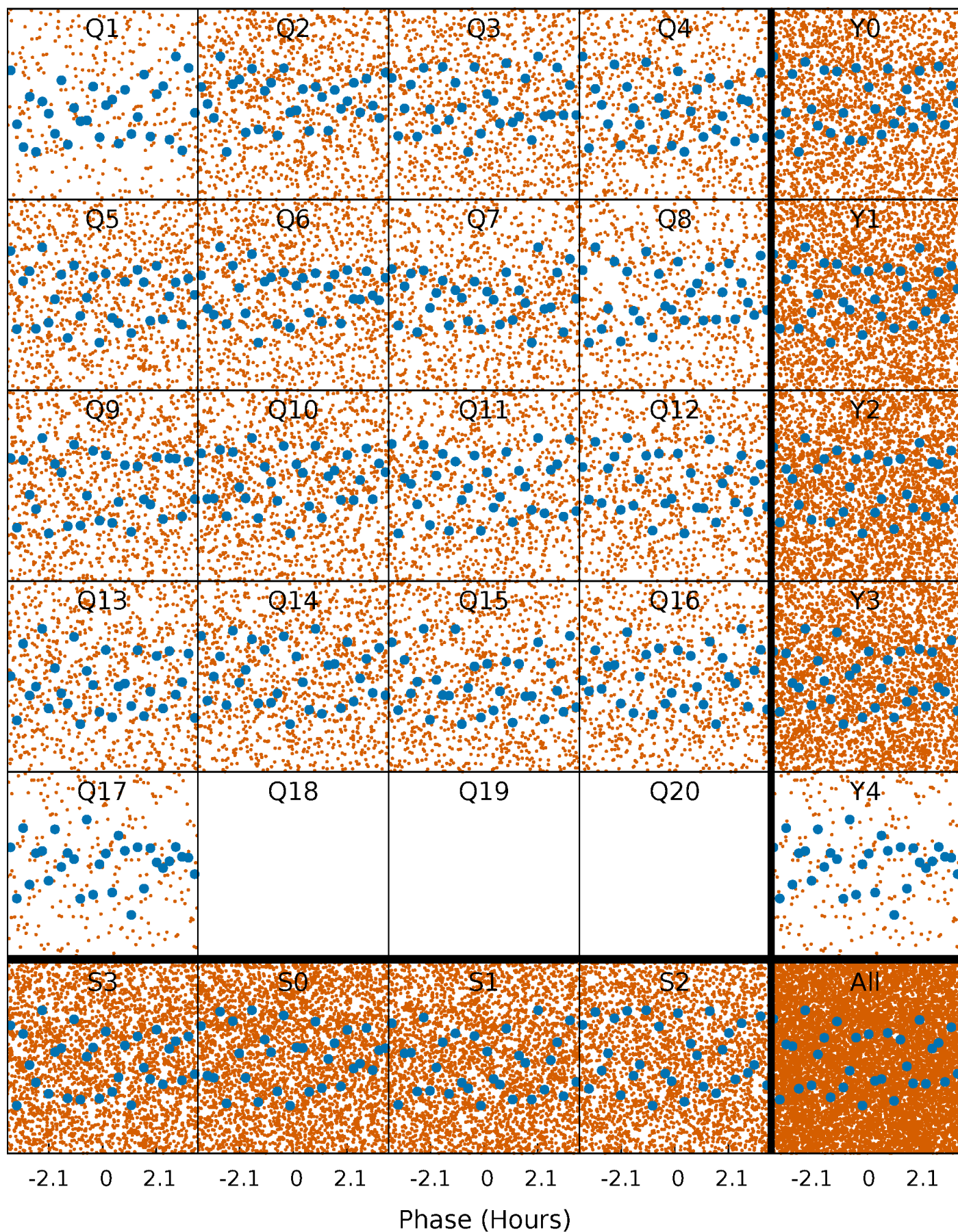


Non-Whitened Vs. Whitened Light Curve



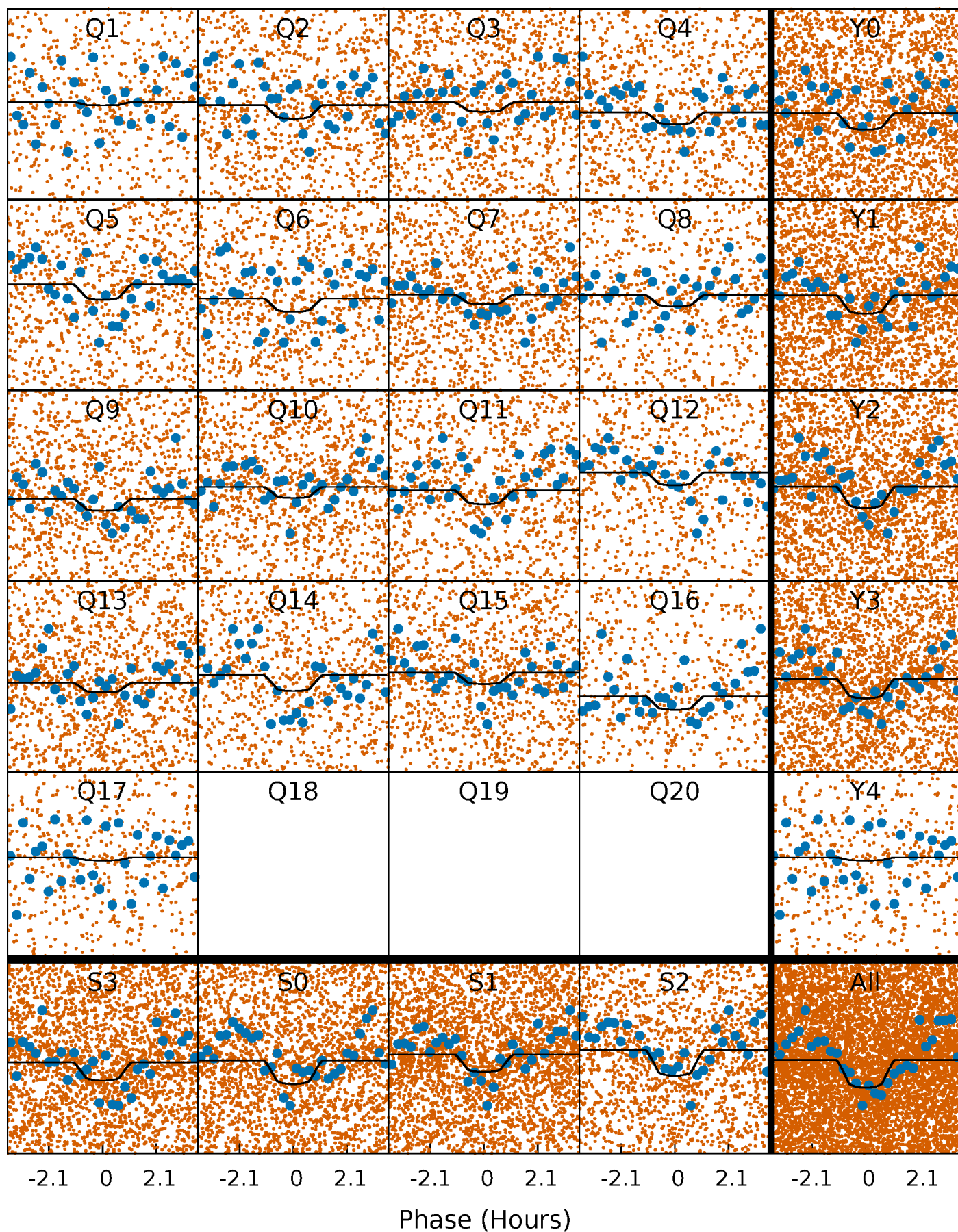
PDC Quarter-Phased Transit Curves

TCE 006635493-01 P= 0.665309 Days $T_0=132.176867$ (BKJD)



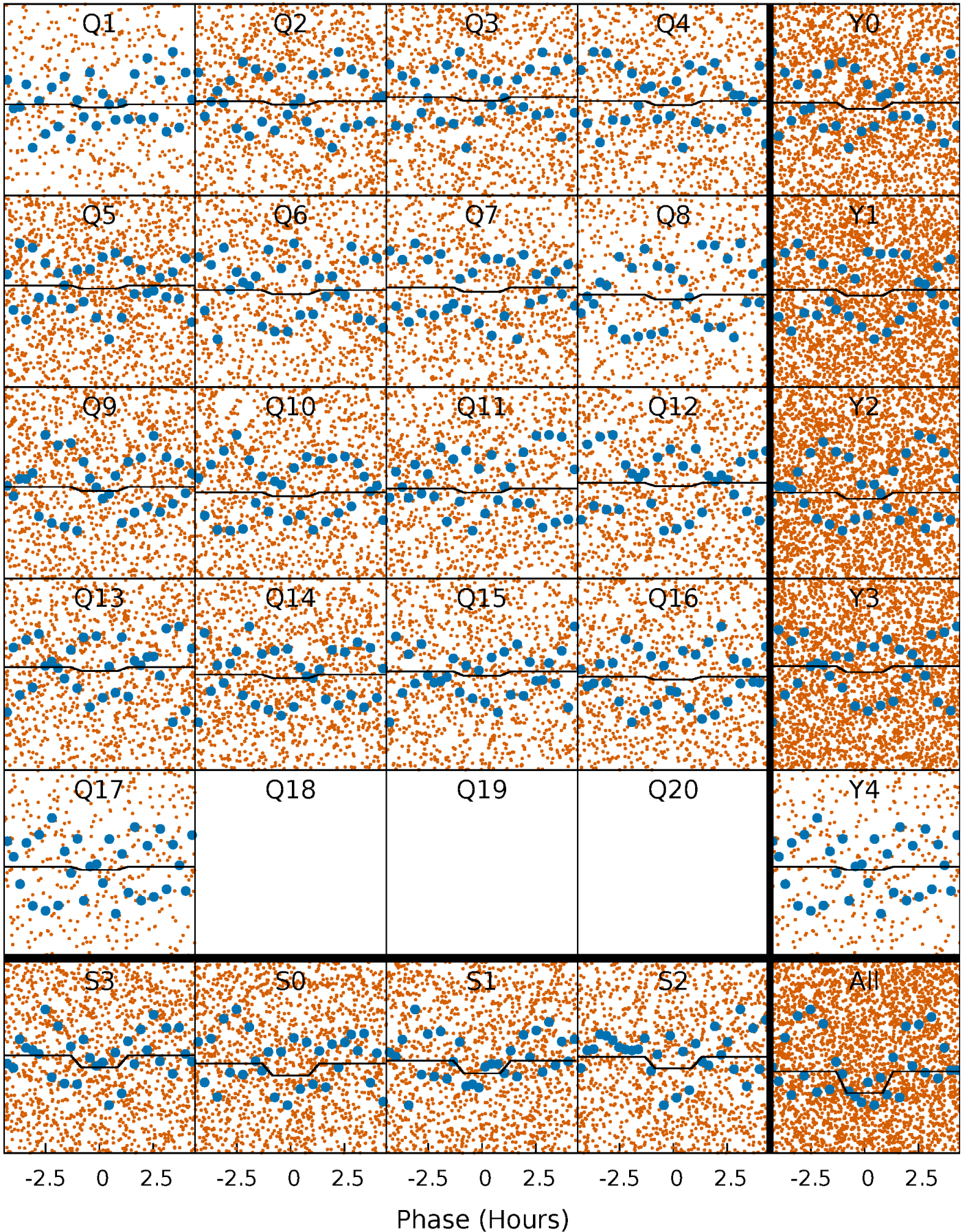
DV Quarter-Phased Transit Curves

TCE 006635493-01 P= 0.665309 Days $T_0=132.176867$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

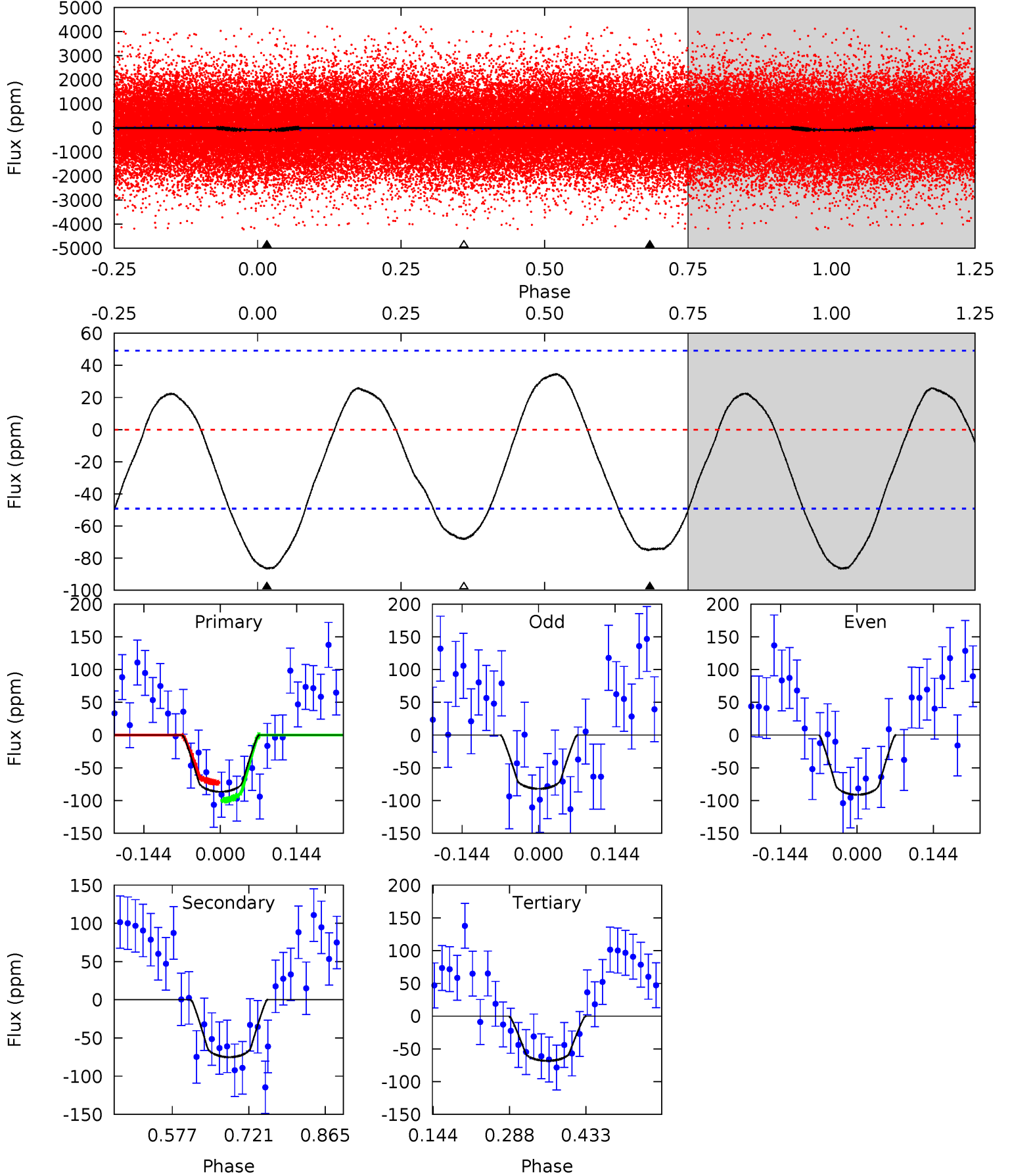
TCE 006635493-01 P= 0.665317 Days $T_0=132.176736$ (BKJD)



DV Model-Shift Uniqueness Test

006635493-01, P = 0.665309 Days, E = 131.511558 Days

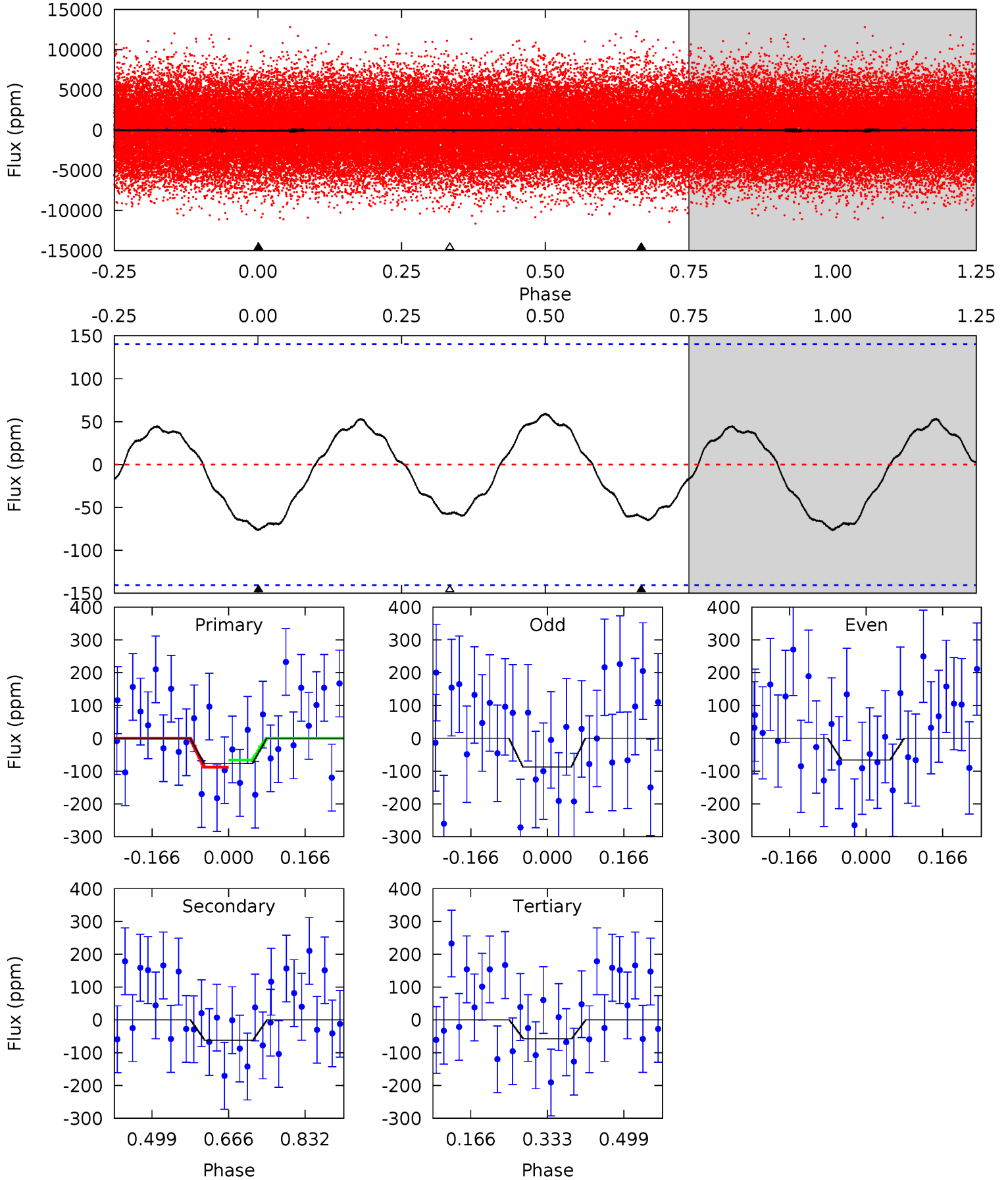
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.90	6.86	6.22	0	4.49	1.46	3.28	1.68	7.90	0.63	6.86	0.42	0.89	0.29	1.24



Alt Model-Shift Uniqueness Test

006635493-01, P = 0.665317 Days, E = 131.511419 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.45	1.97	1.83	0	4.46	1.38	1.25	0.62	2.45	0.14	1.97	0.34	0.90	0.44	0.34



Stellar Parameters For KIC 006635493

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6602^{+167}_{-218}	$4.354^{+0.065}_{-0.208}$	$-0.060^{+0.250}_{-0.300}$	$1.223^{+0.419}_{-0.140}$	$1.240^{+0.187}_{-0.168}$	$0.954^{+0.284}_{-0.519}$
	+3%/-3%	+1%/-5%	+417%/-500%	+34%/-11%	+15%/-14%	+30%/-54%
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 006635493-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-75 ± 11	$1.46^{+1.01}_{-0.91}$	3610^{+286}_{-172}	5934^{+5242}_{-1381}	$4.769^{+30.300}_{-3.099}$
Alt.	-62 ± 32	$1.44^{+1.01}_{-0.93}$	3613^{+279}_{-172}	5569^{+4578}_{-1496}	$3.866^{+29.309}_{-2.790}$

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

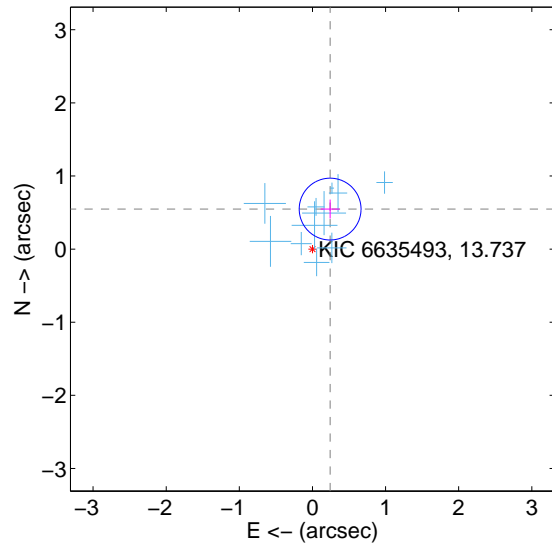
Supplemental centroid analysis for 006635493-01. Kepler magnitude: 13.74. Transit SNR 7.76

There are 12 quarters with good PRF difference image offsets

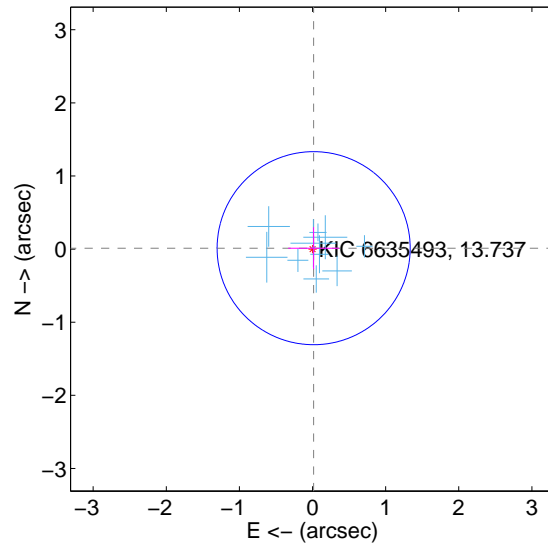
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.598 ± 0.141	4.25	-0.242 ± 0.130	0.547 ± 0.130
PRF-fit source offset from KIC position	0.020 ± 0.440	0.04	-0.015 ± 0.349	0.013 ± 0.287
photometric centroid source offset	0.76 ± 0.67	1.15	-0.35 ± 0.34	-0.67 ± 0.73

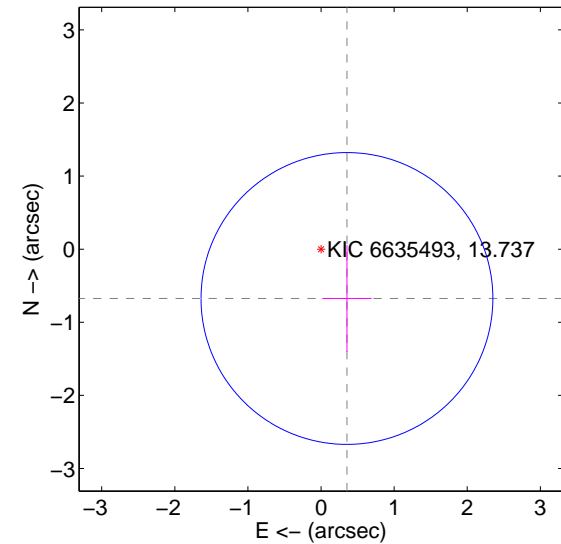
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

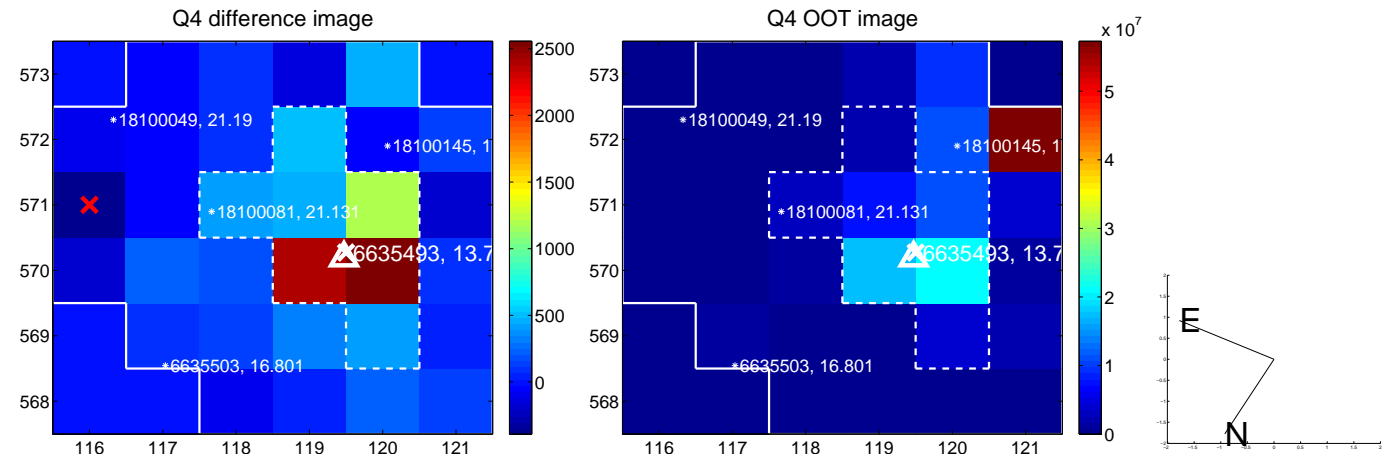
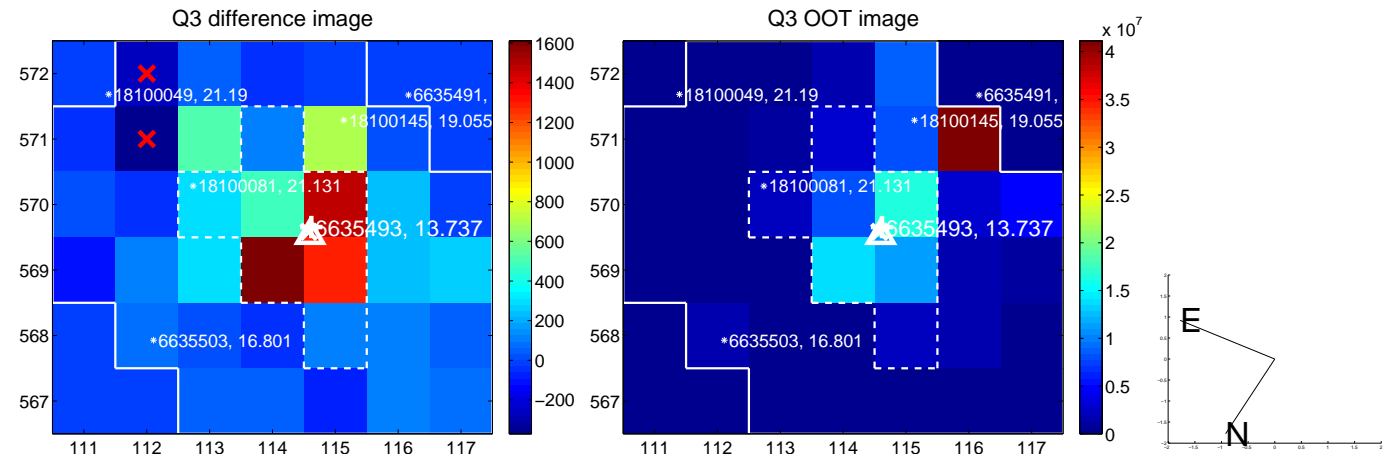
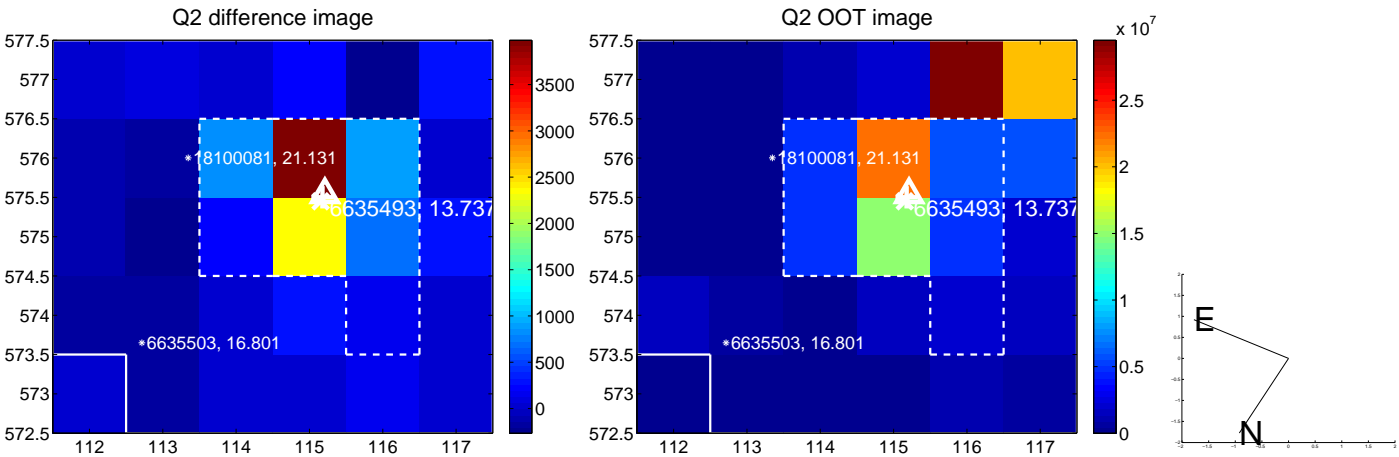
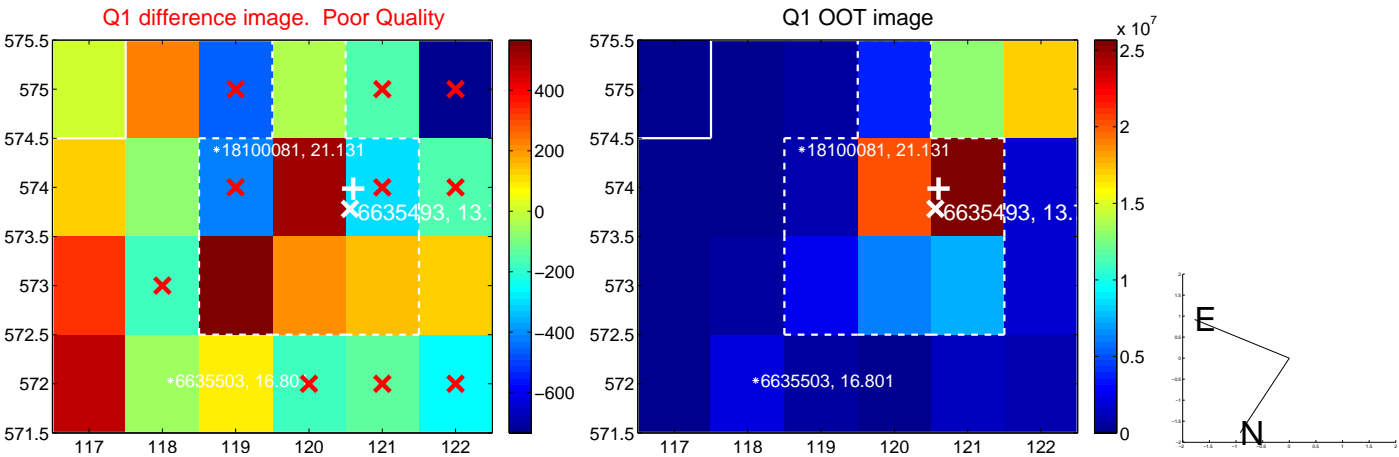


offset from photometric centroids

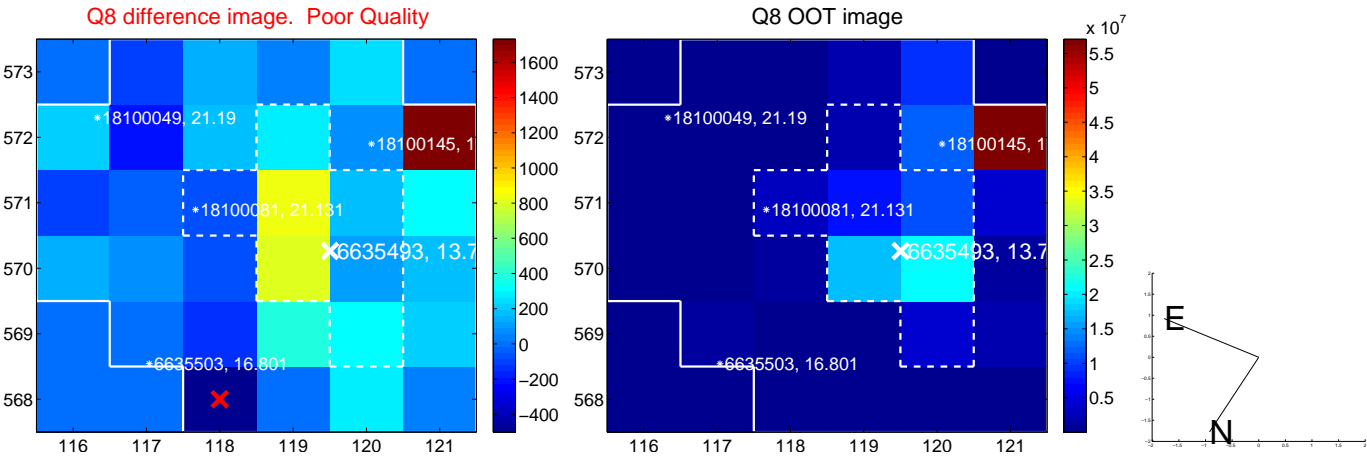
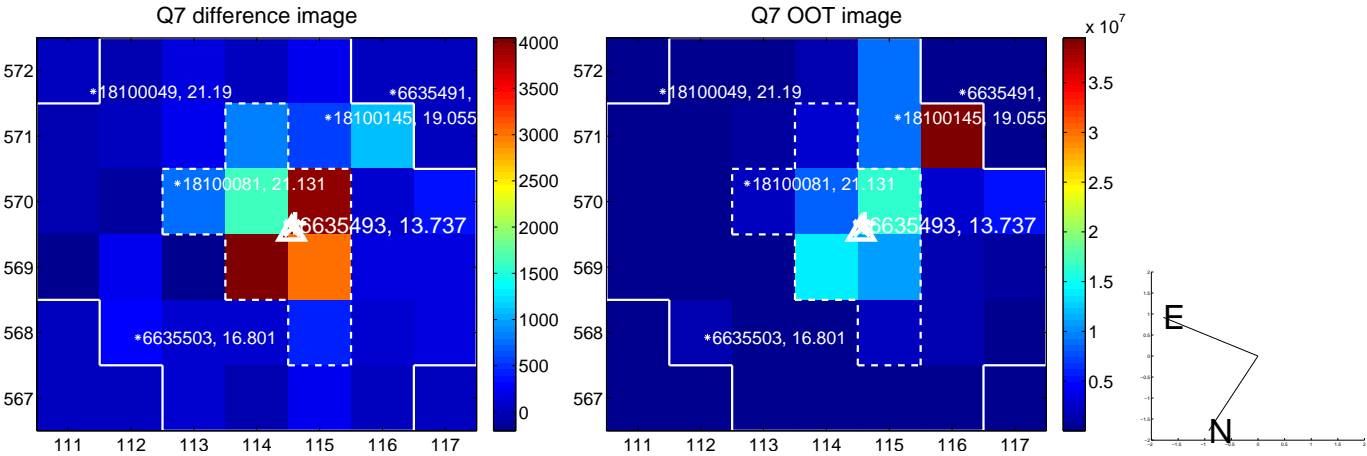
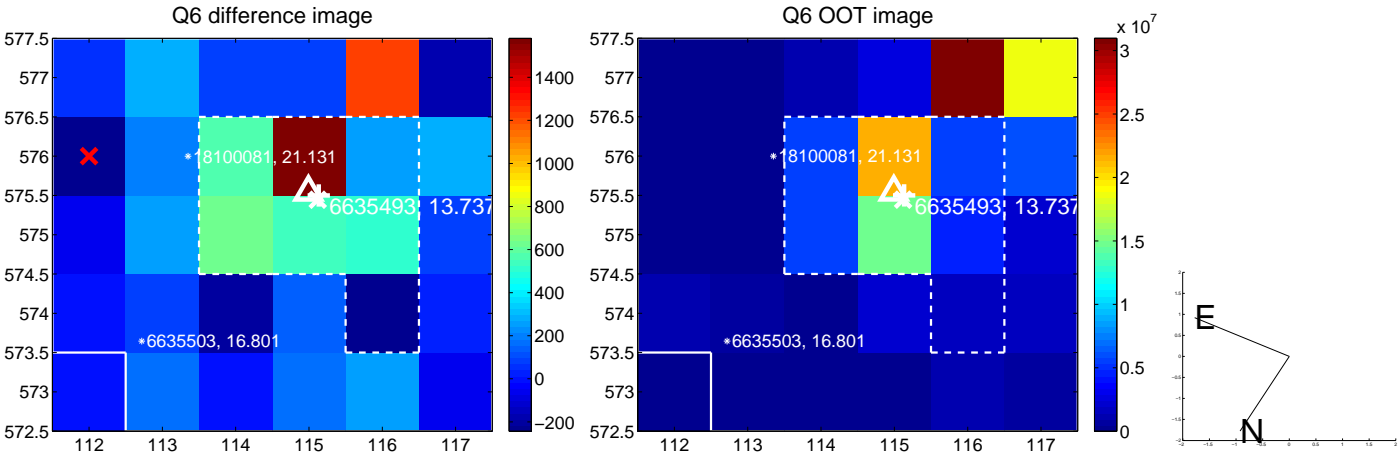
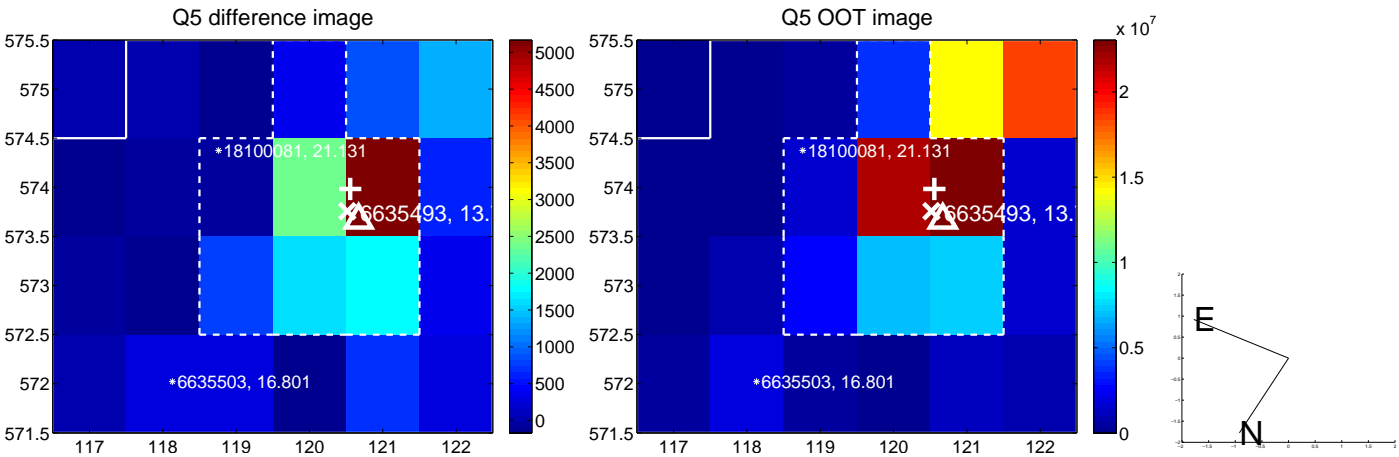


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

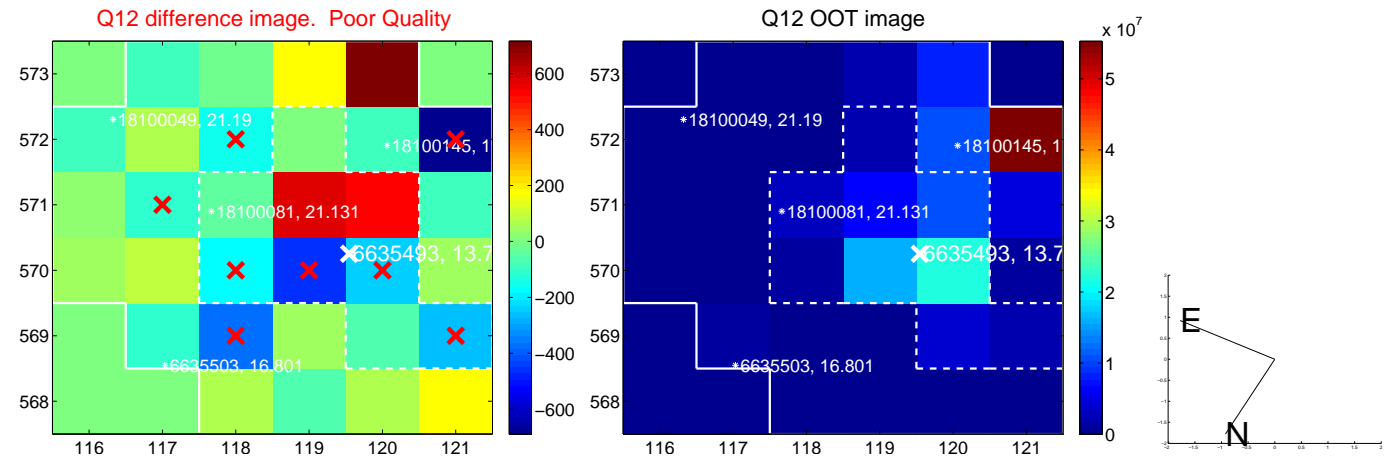
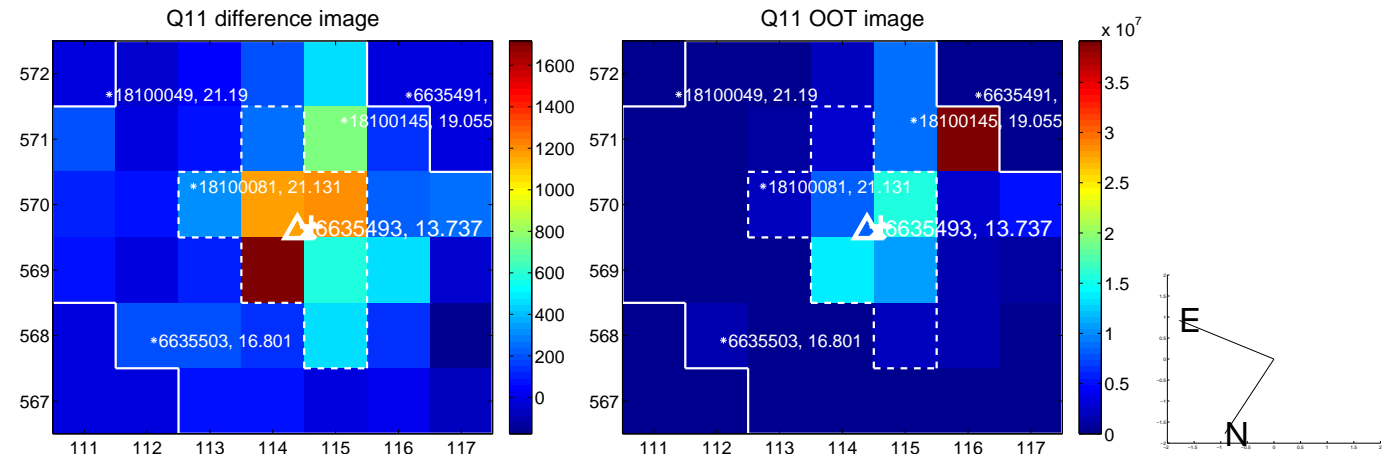
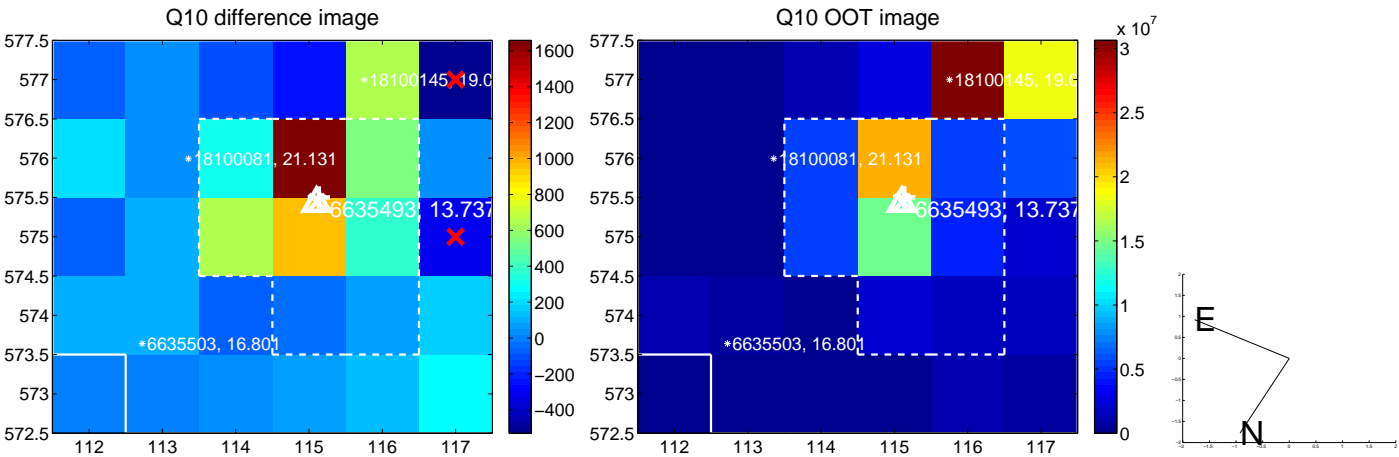
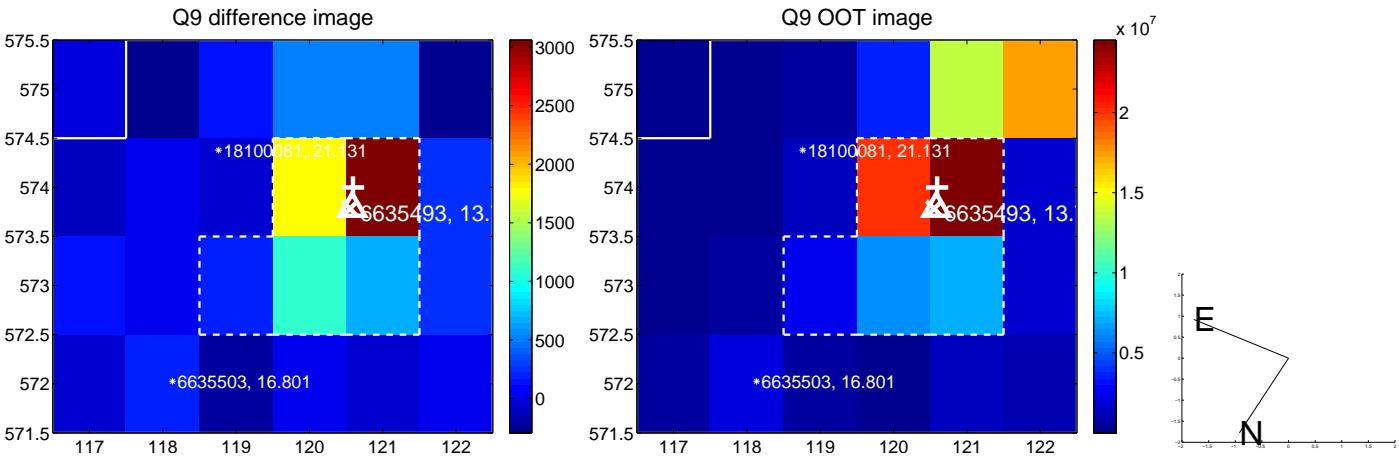
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



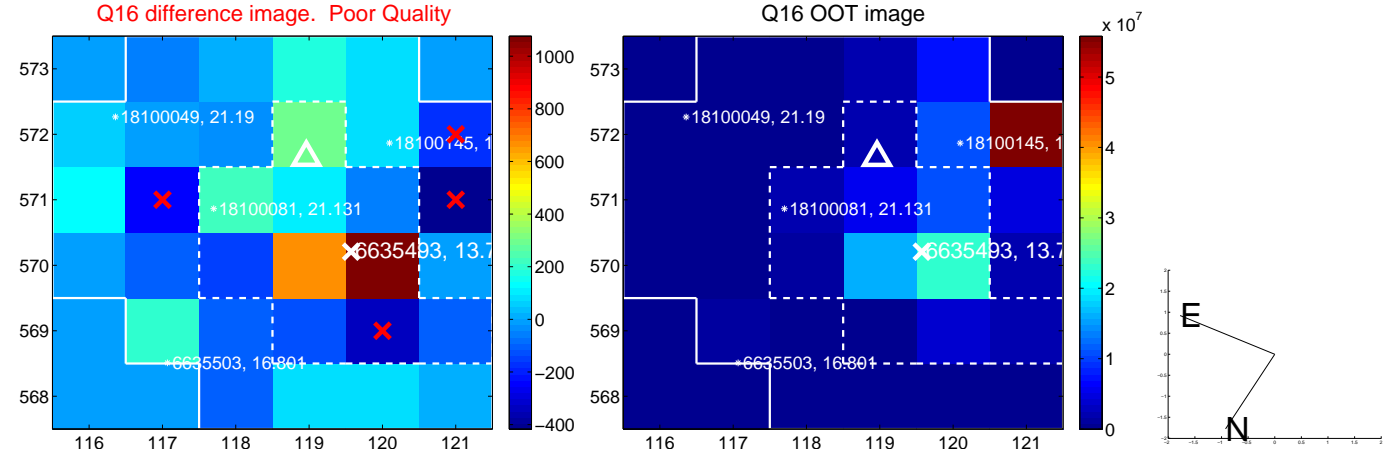
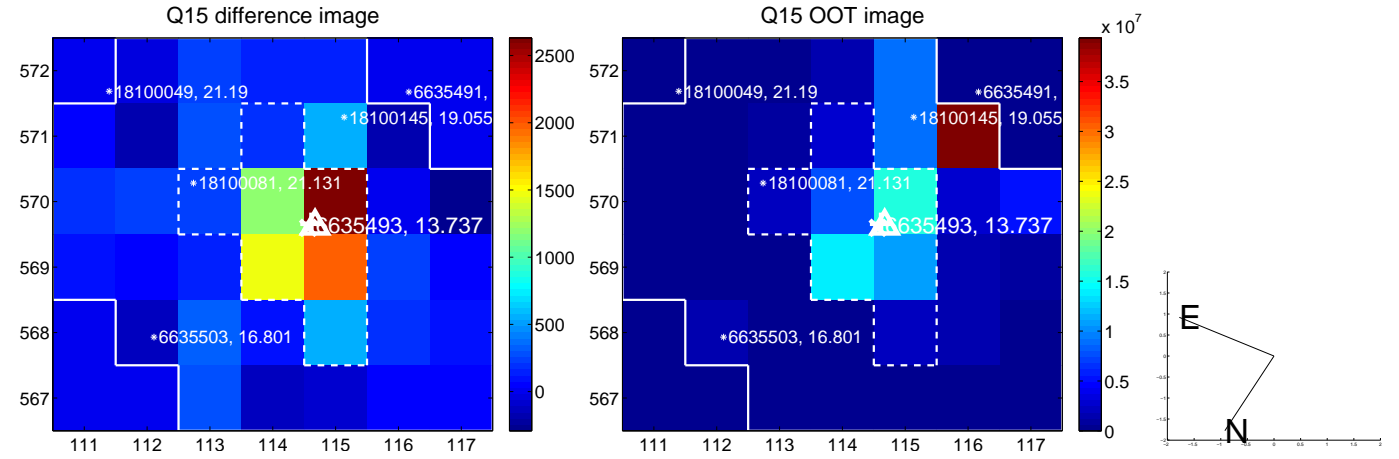
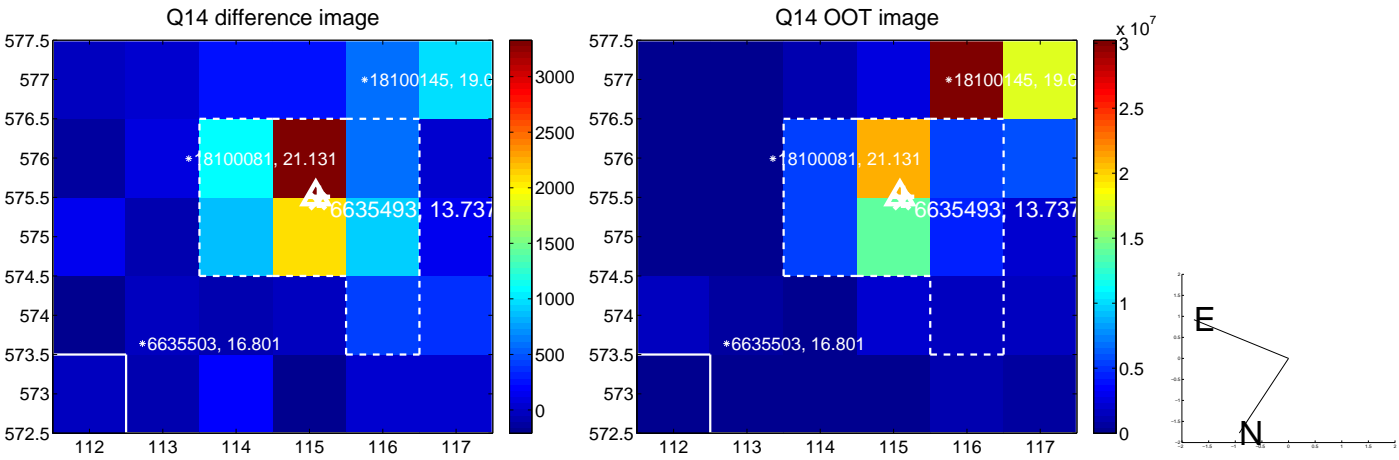
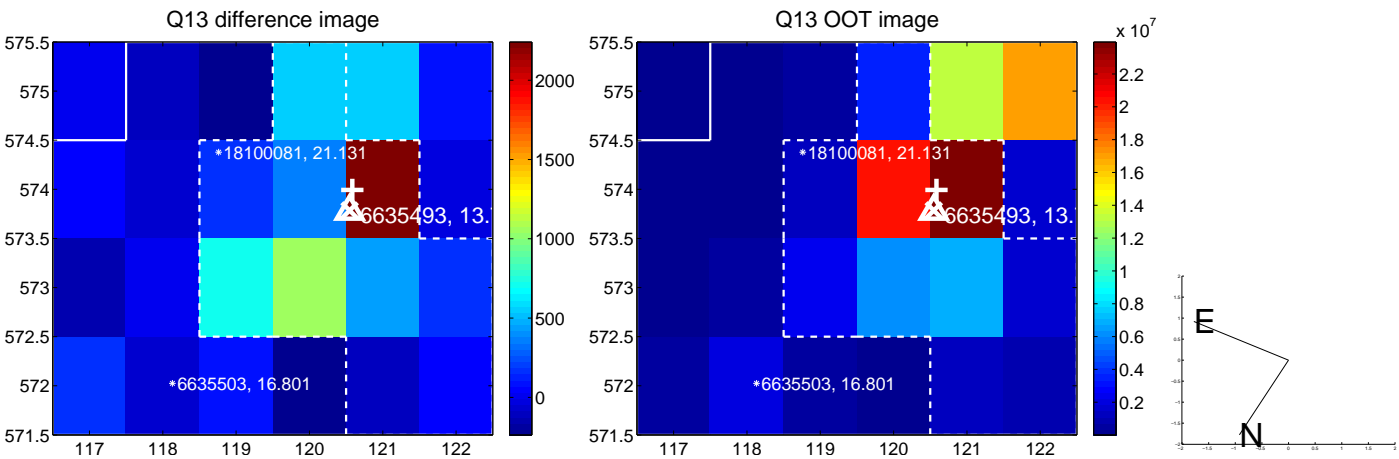
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



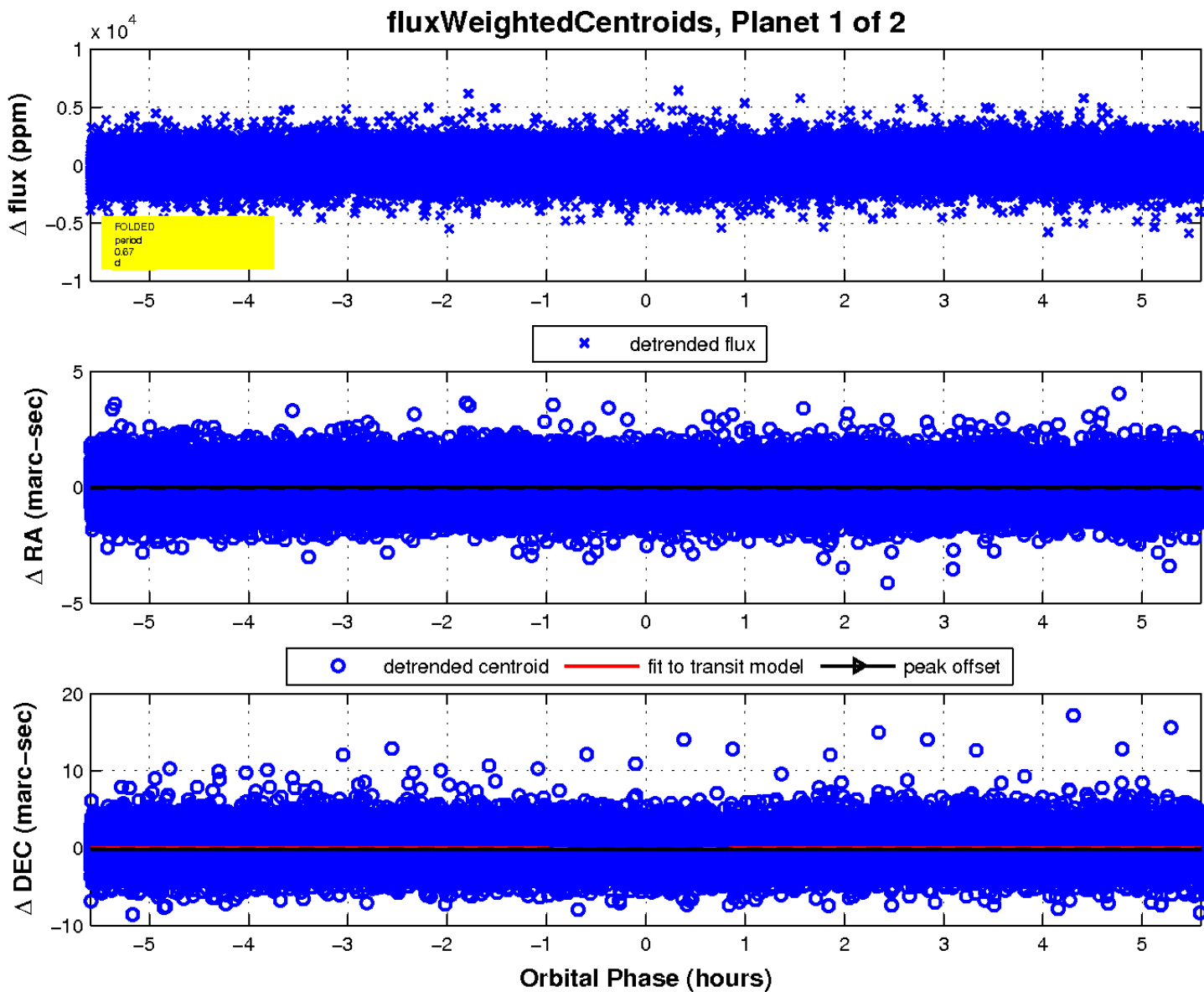
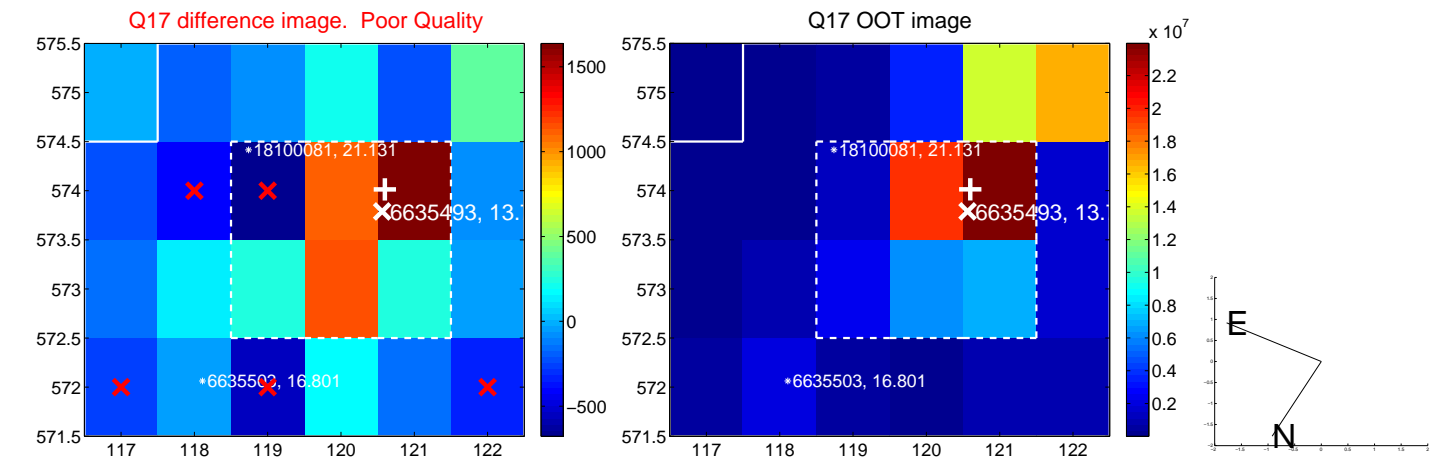
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

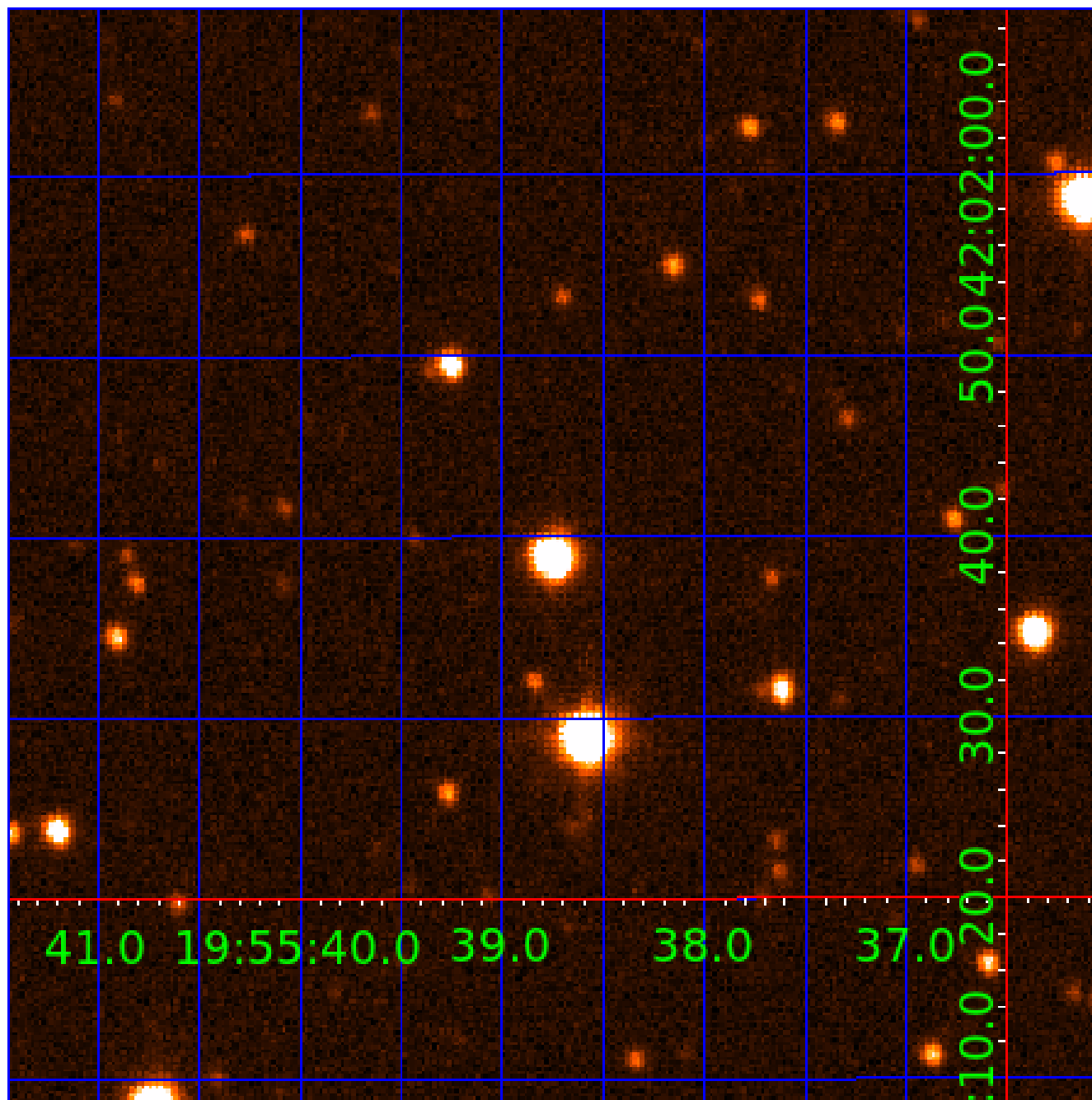


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006635493

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})
006635493-01	OBS	No	0.665309	132.176867	74.2	1.864	14.1	7.8	1.22	6602	1.23	9950.60
006635493-02	OBS	No	0.665324	131.727151	49.9	2.140	9.3	5.1	1.22	6602	1.01	9950.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006635493-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006635493-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_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.

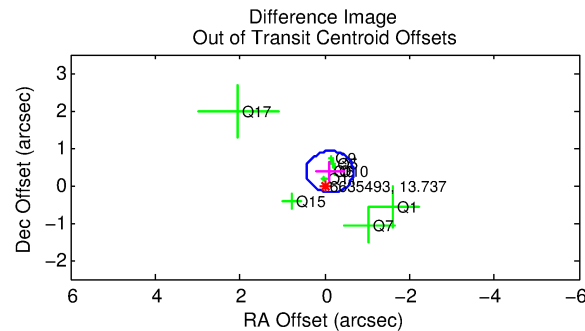
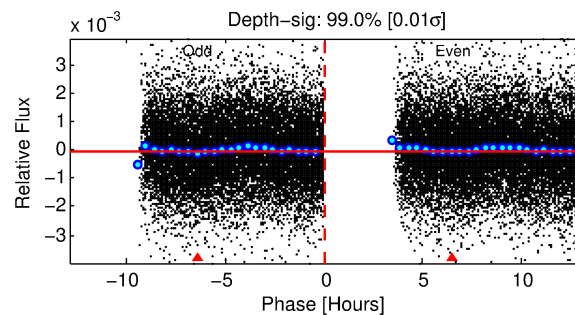
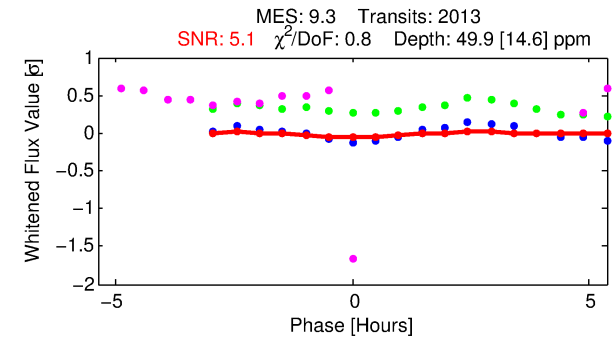
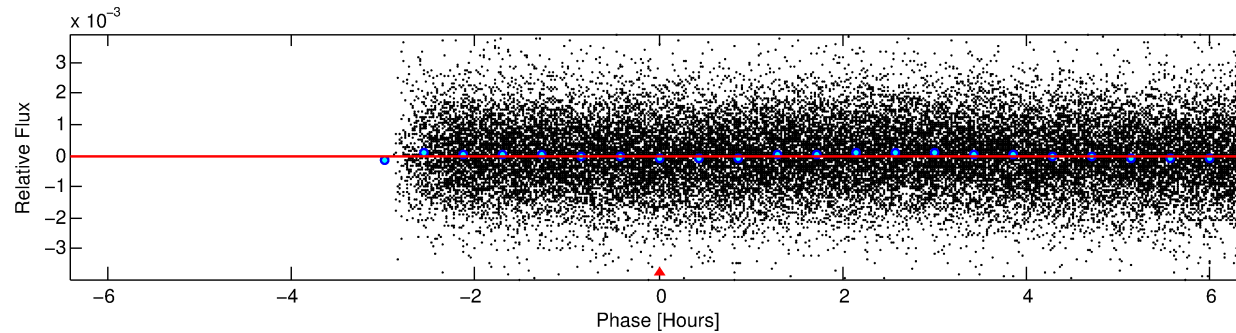
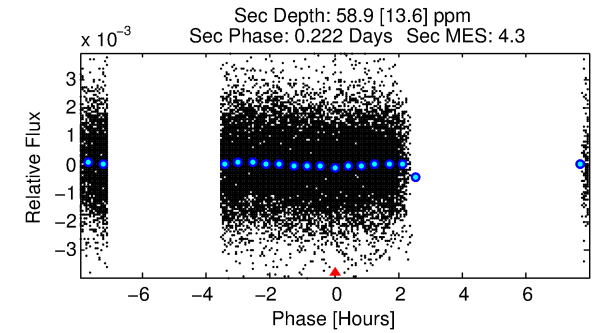
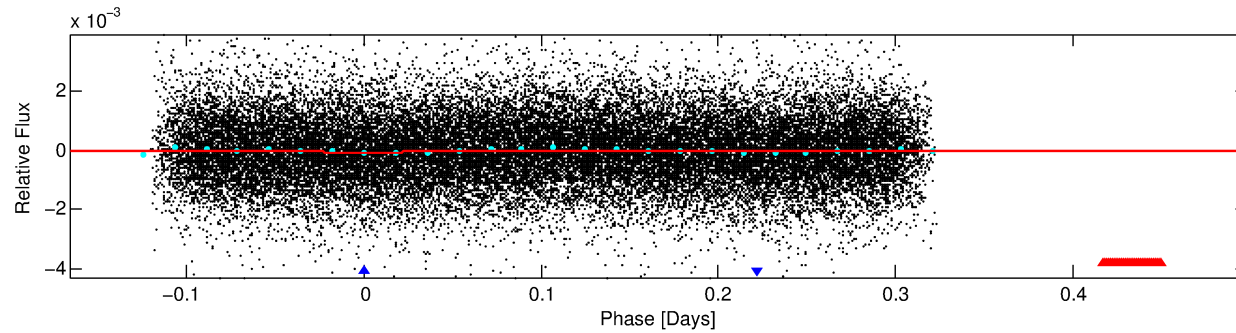
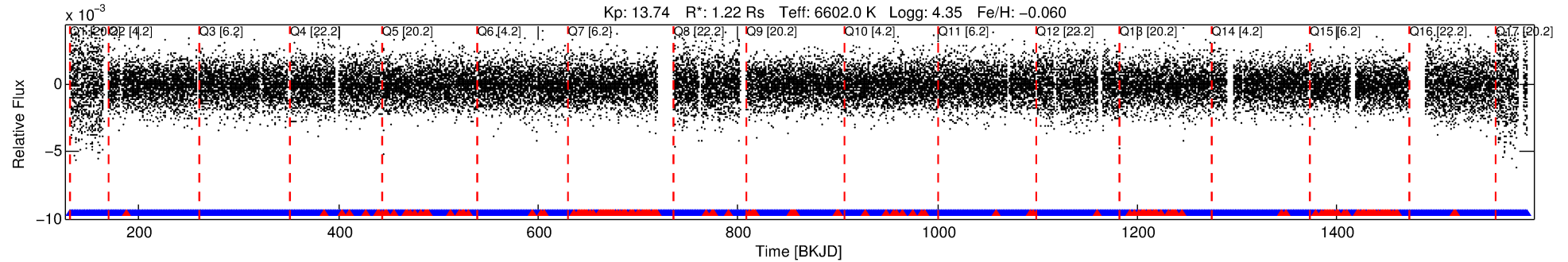
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006635493-02

No Significant Match Found

DV One-Page Summary

KIC: 6635493 Candidate: 2 of 2 Period: 0.665 d



DV Fit Results:

Period = 0.66532 [0.00002] d
Epoch = 131.7272 [0.0065] BKJD
Rp/R* = 0.0075 [0.0090]
a/R* = 1.44 [5.09]
b = 0.90 [1.52]
Seff = 9950.30 [4121.39]
Teq = 2547 [264] K
Rp = 1.01 [1.24] Re
a = 0.0160 [0.0045] AU
Ag = 8.16 [19.72] [0.36σ]
Teffp = 6655 [3974] K [1.03σ]

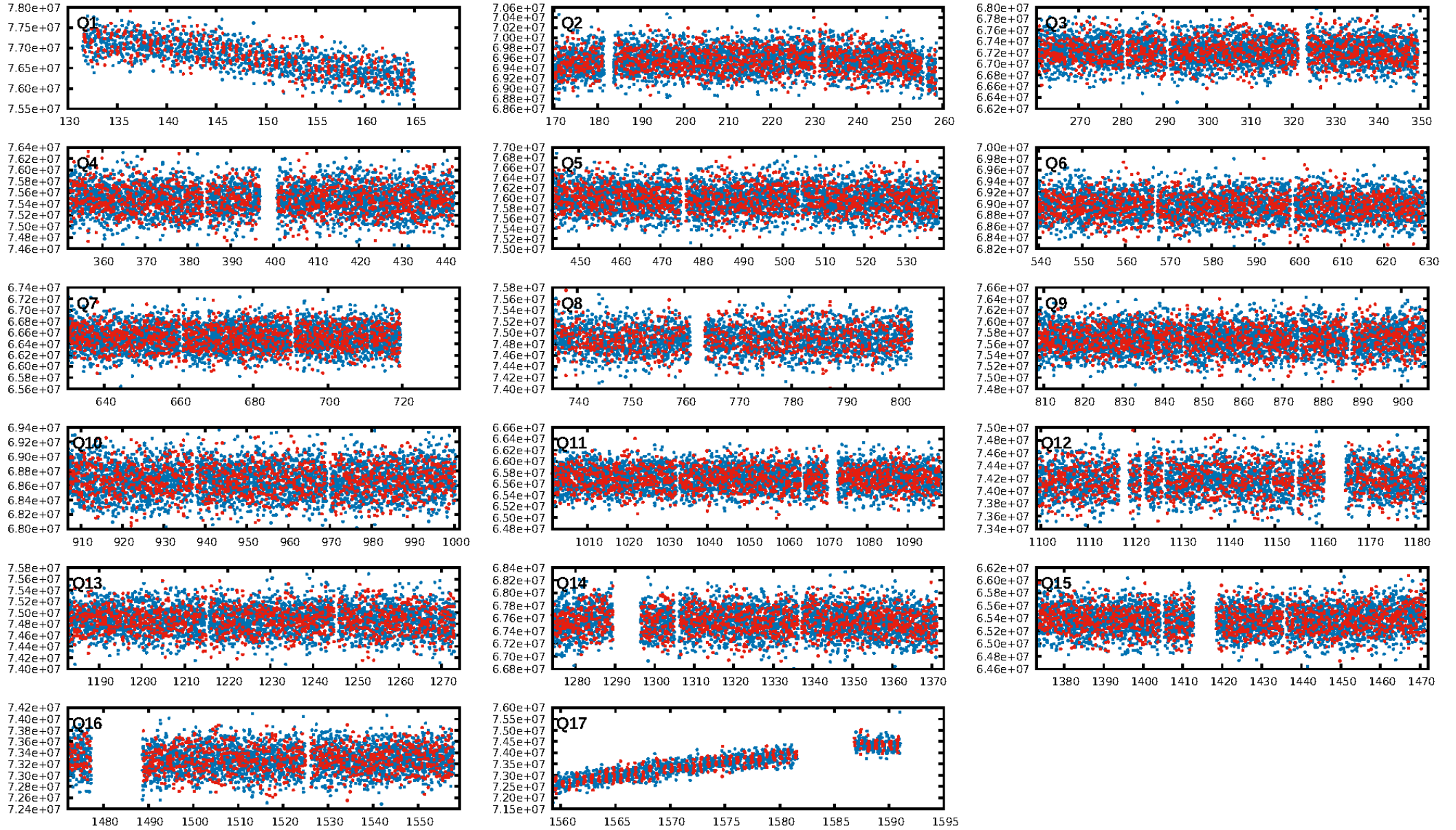
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.96e-17
RollingBand-fgt: 0.90 [1720/1921]
GhostDiagnostic-chr: 2.394
Centroid-sig: 0.0%
Centroid-so: 0.467 arcsec [0.78σ]
OotOffset-rm: 0.384 arcsec [2.08σ]
KicOffset-rm: 0.142 arcsec [0.99σ]
OotOffset-st: 2/3/0/4 [9]
KicOffset-st: 2/3/2/4 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.00 [0/17]

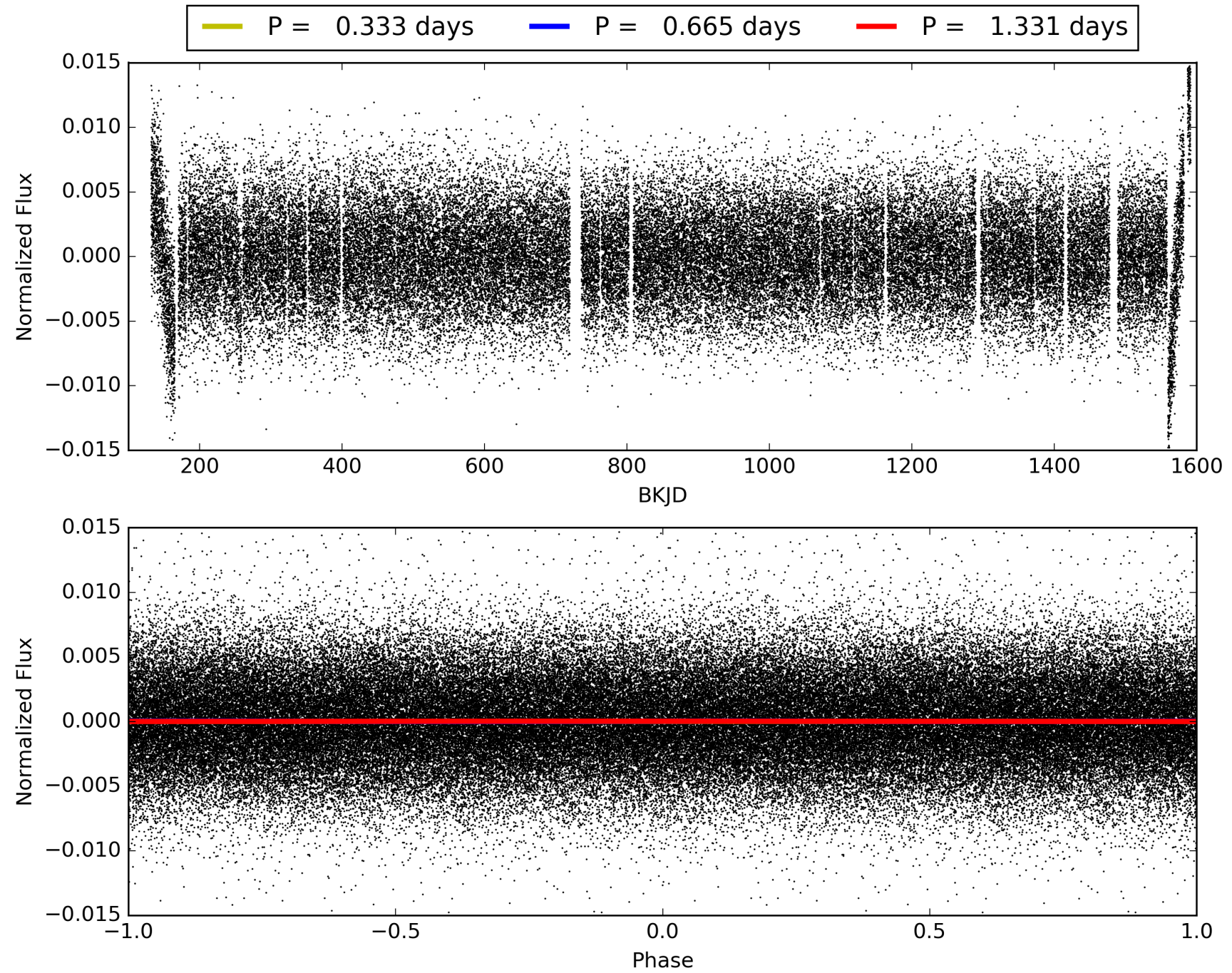
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:28:59 Z

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

TCE 006635493-02, PDC Light Curves

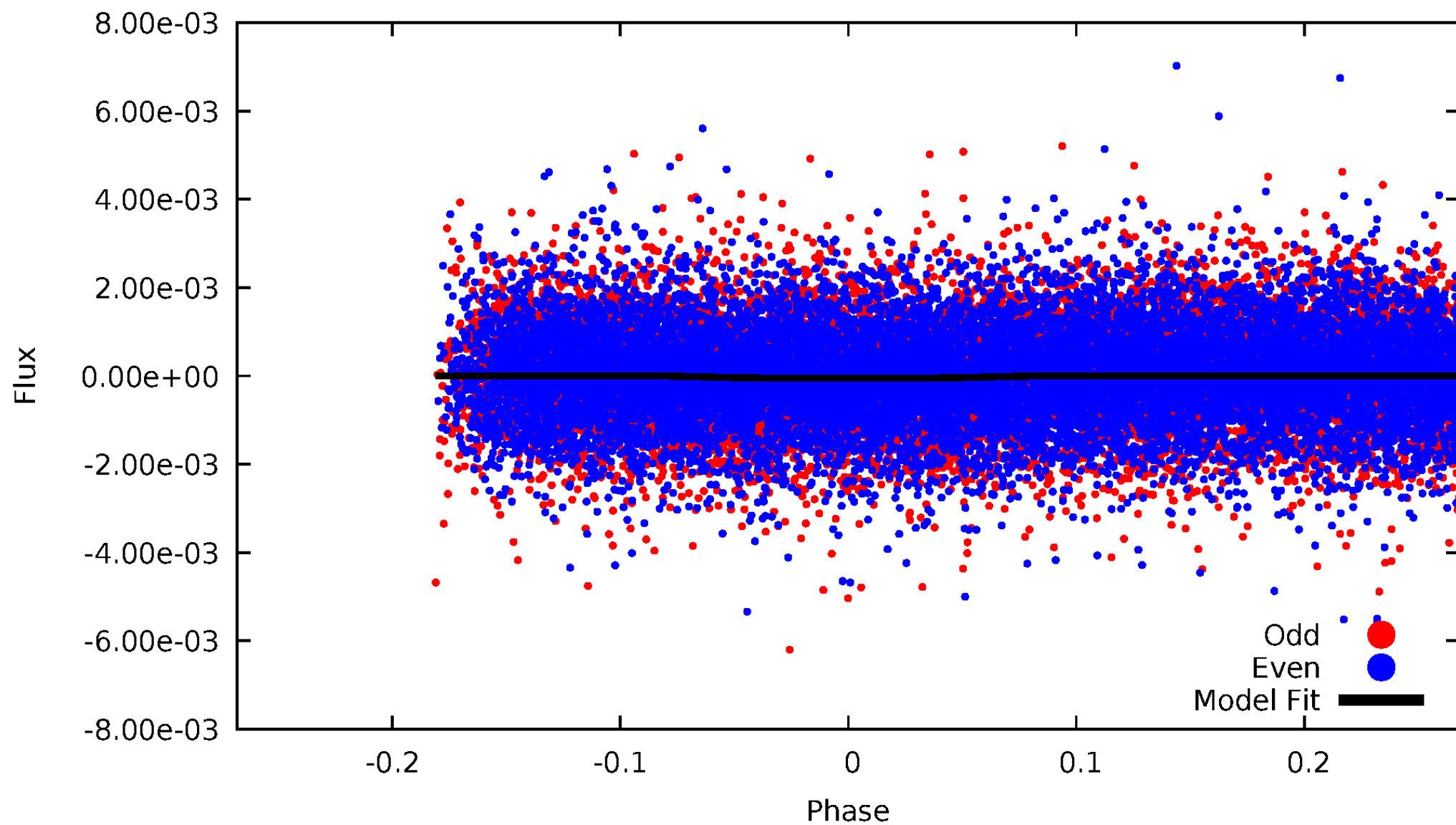


TCE 006635493-02



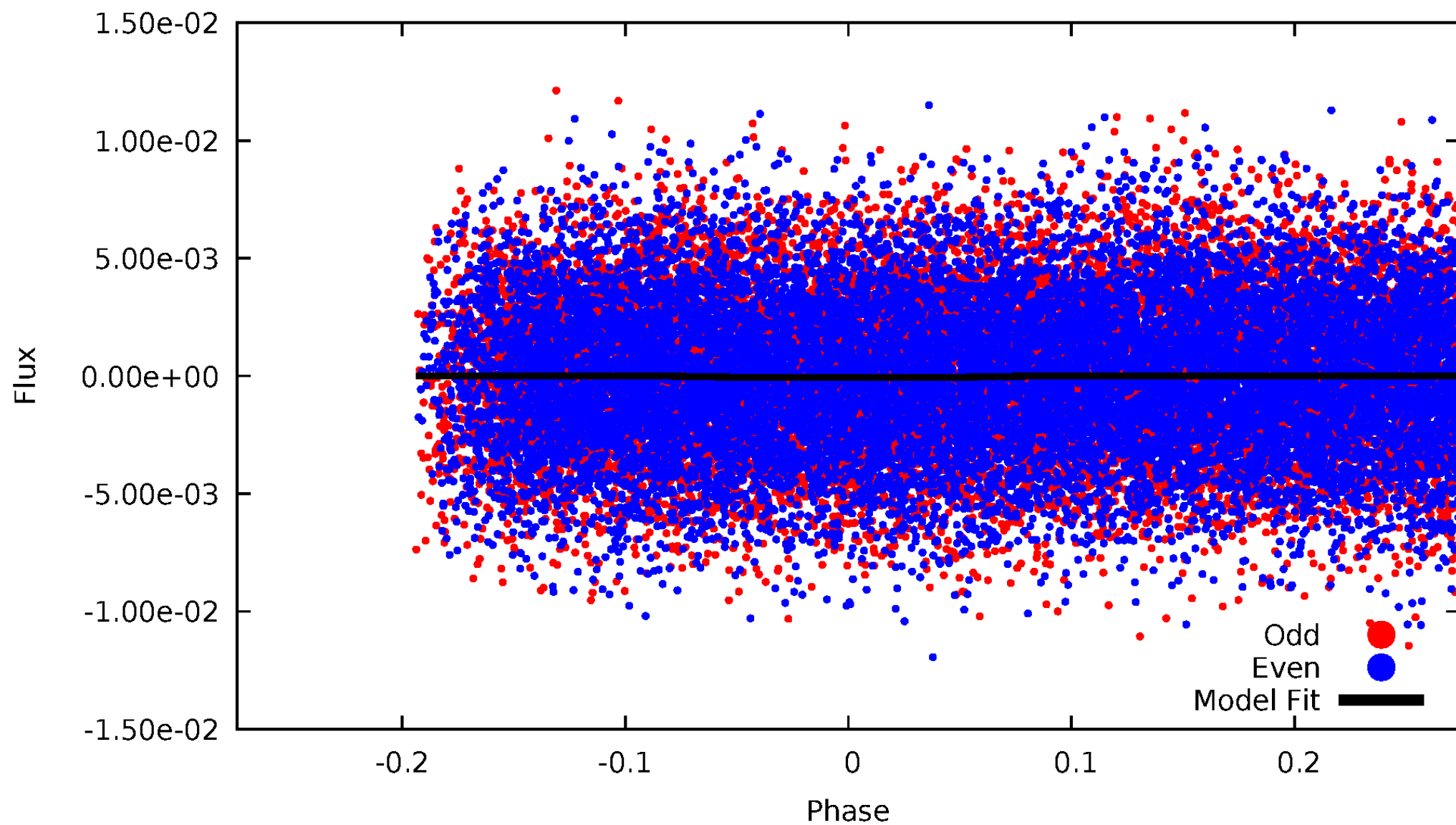
DV Odd/Even

TCE 006635493-02



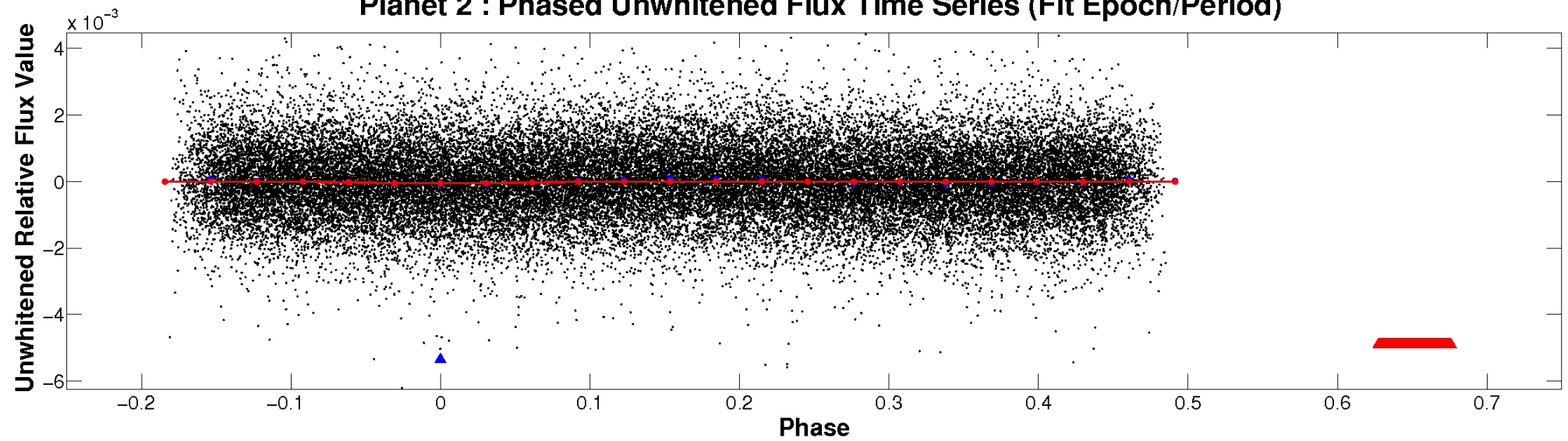
ALT Odd/Even

TCE 006635493-02

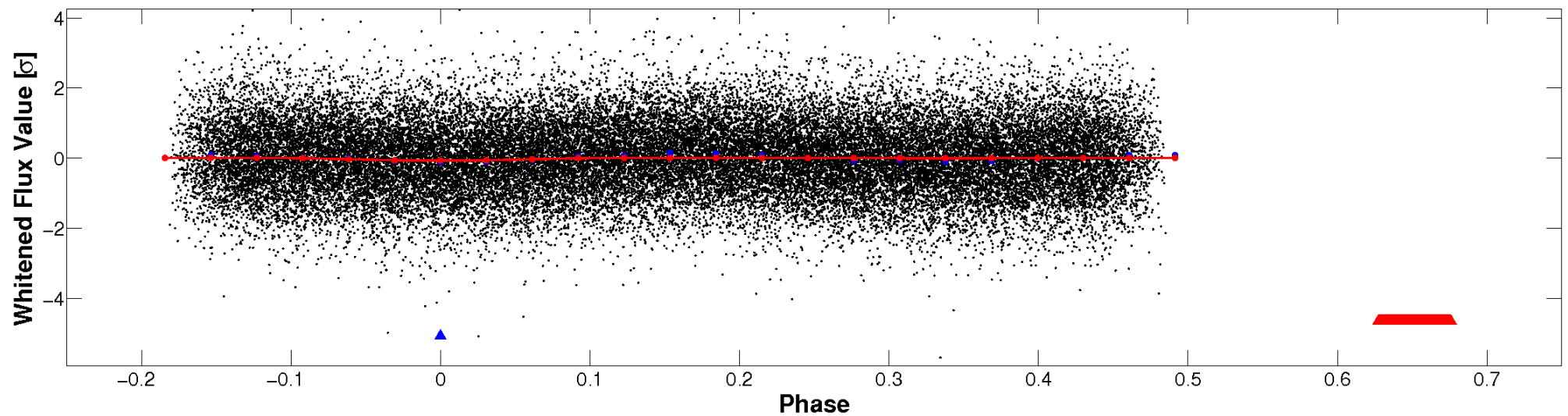


Non-Whitened Vs. Whitened Light Curve

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

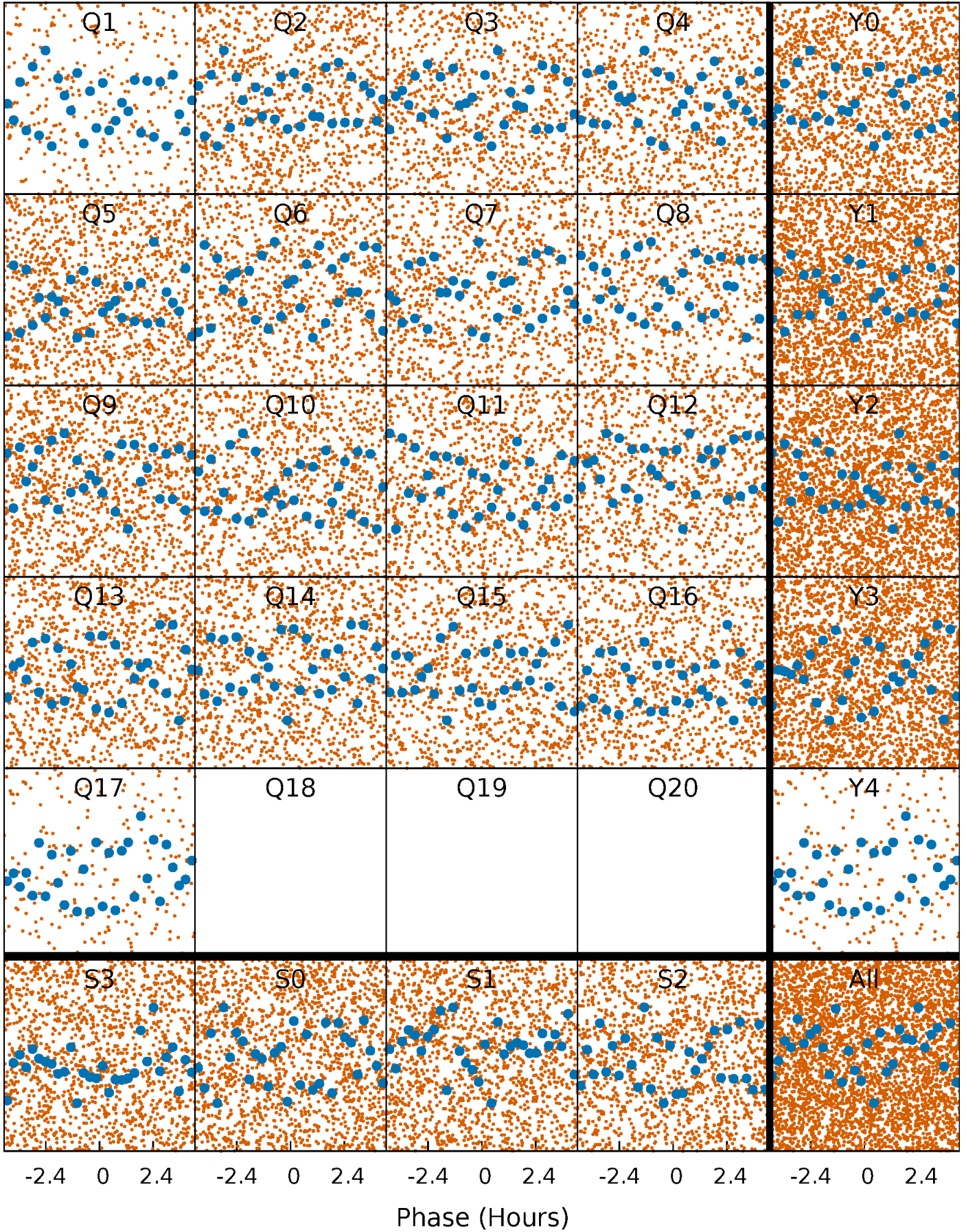


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



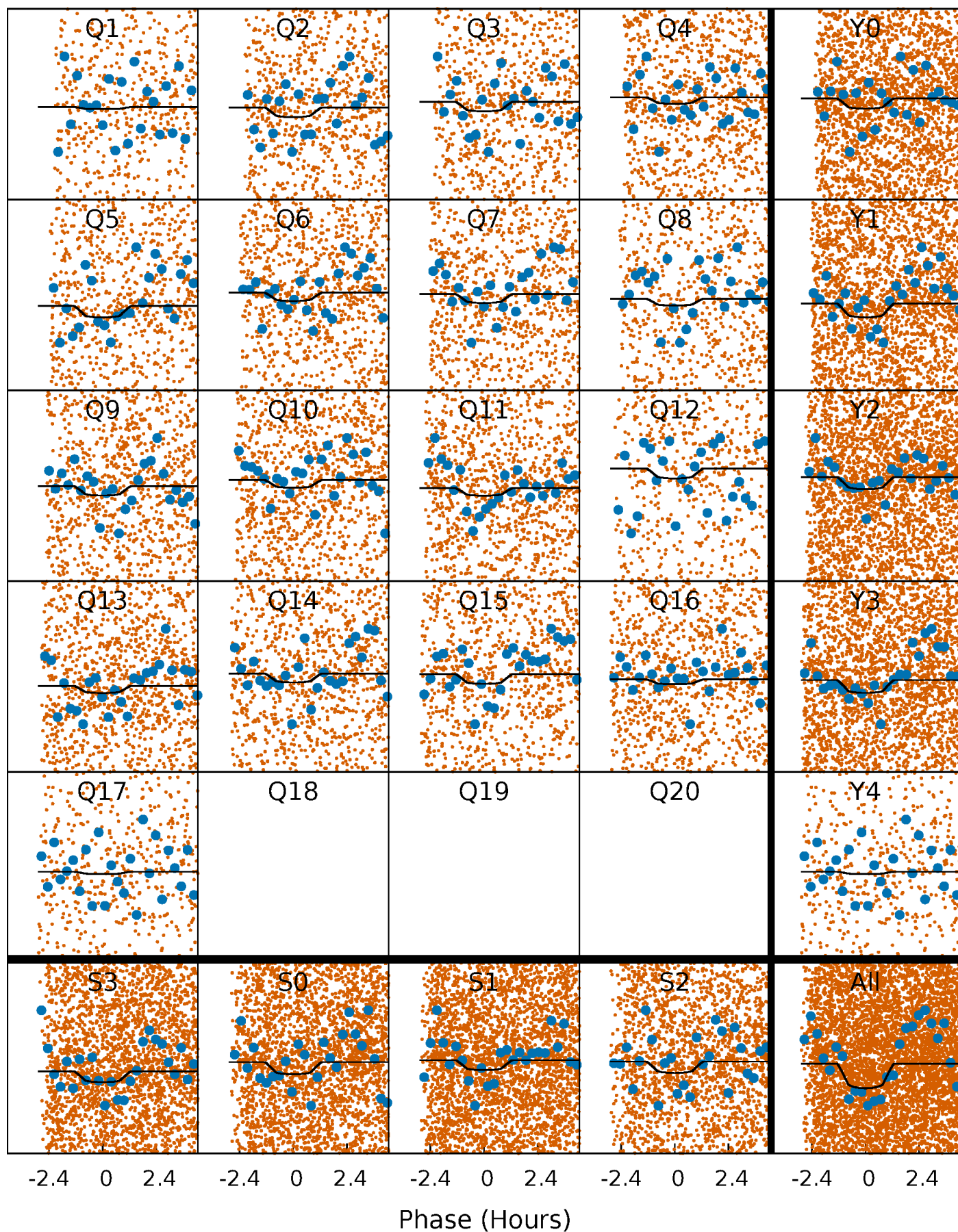
PDC Quarter-Phased Transit Curves

TCE 006635493-02 P= 0.665324 Days $T_0=131.727151$ (BKJD)



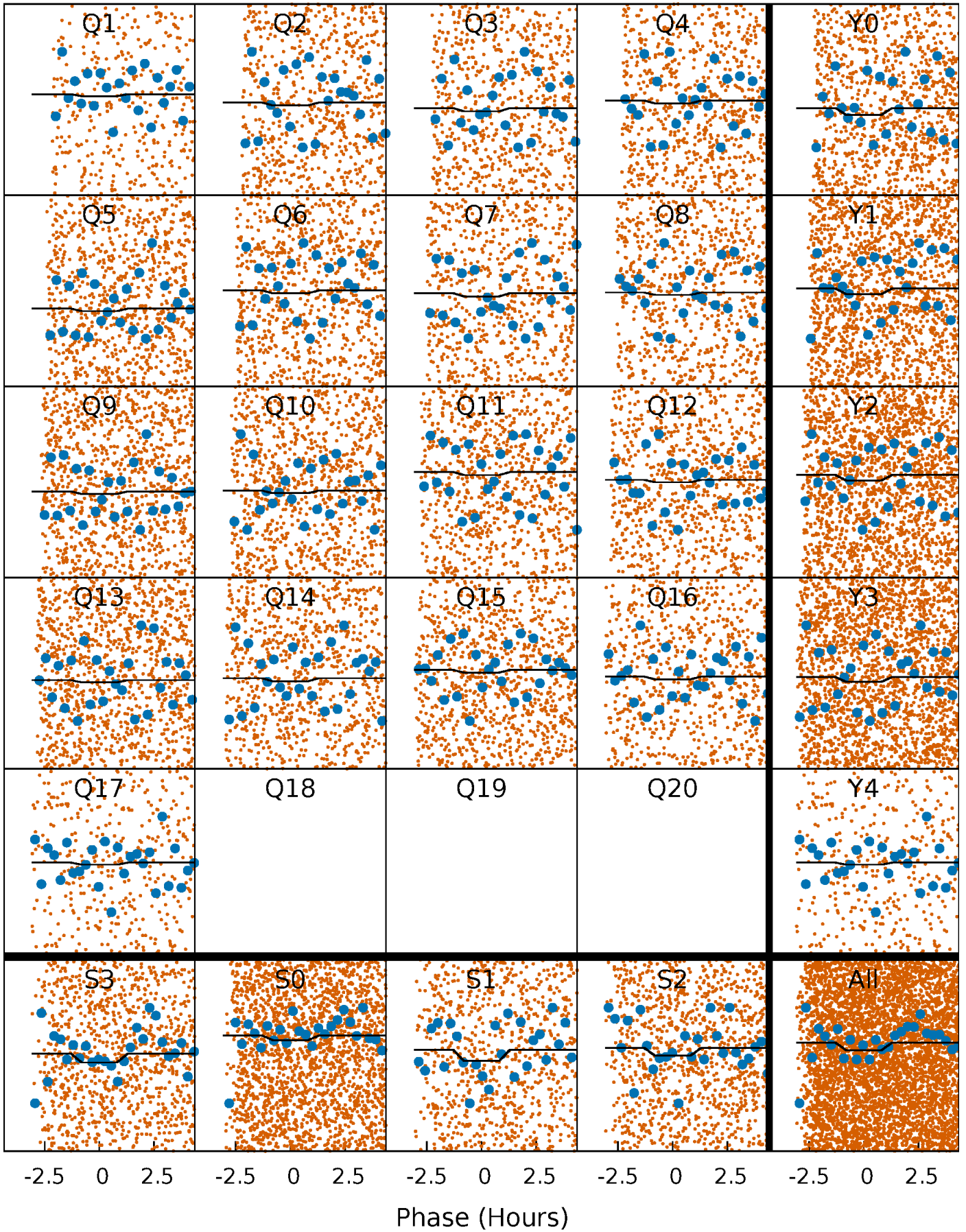
DV Quarter-Phased Transit Curves

TCE 006635493-02 P= 0.665324 Days $T_0=131.727151$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

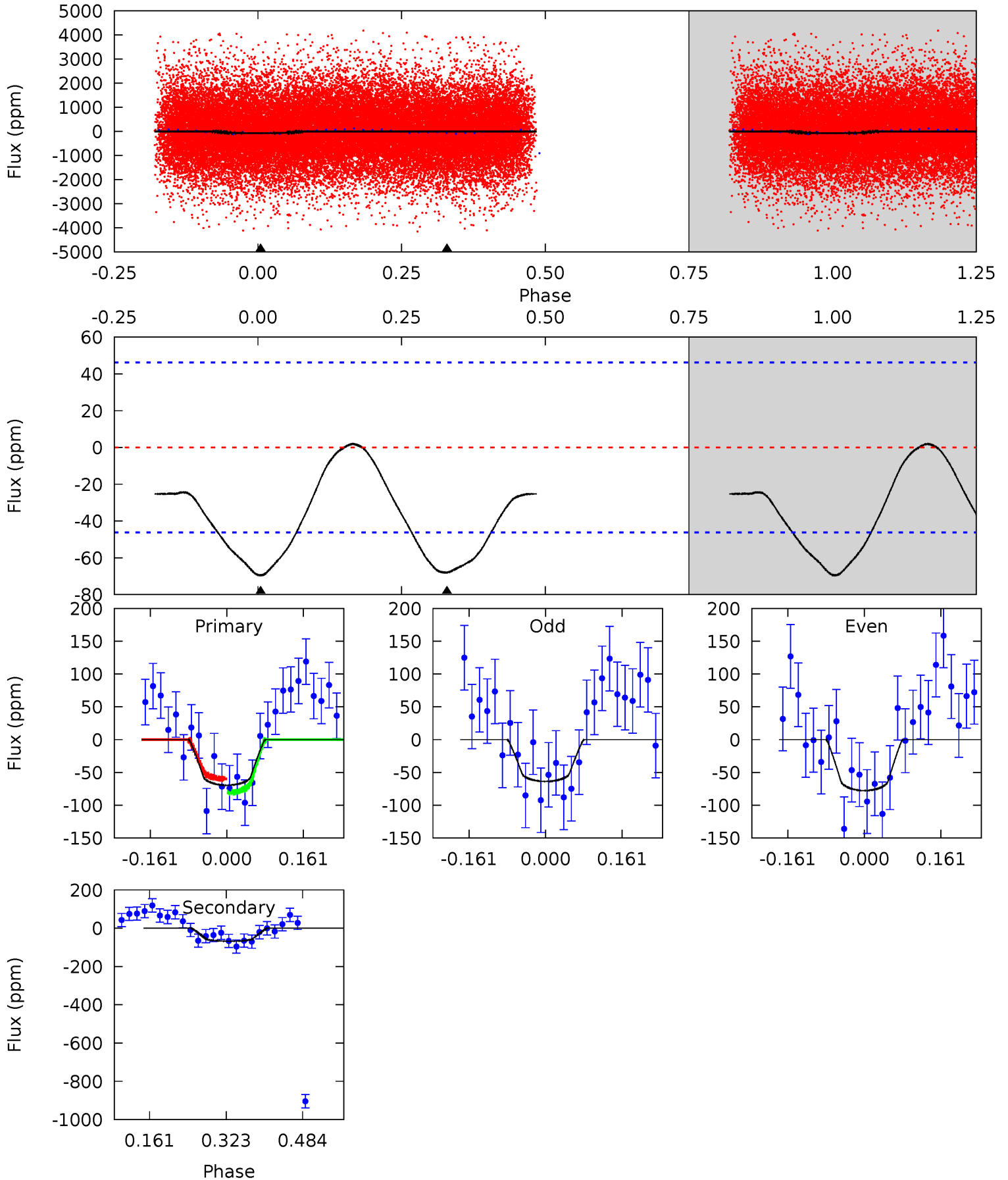
TCE 006635493-02 $P = 0.665328$ Days $T_0 = 131.727213$ (BKJD)



DV Model-Shift Uniqueness Test

006635493-02, P = 0.665324 Days, E = 131.061827 Days

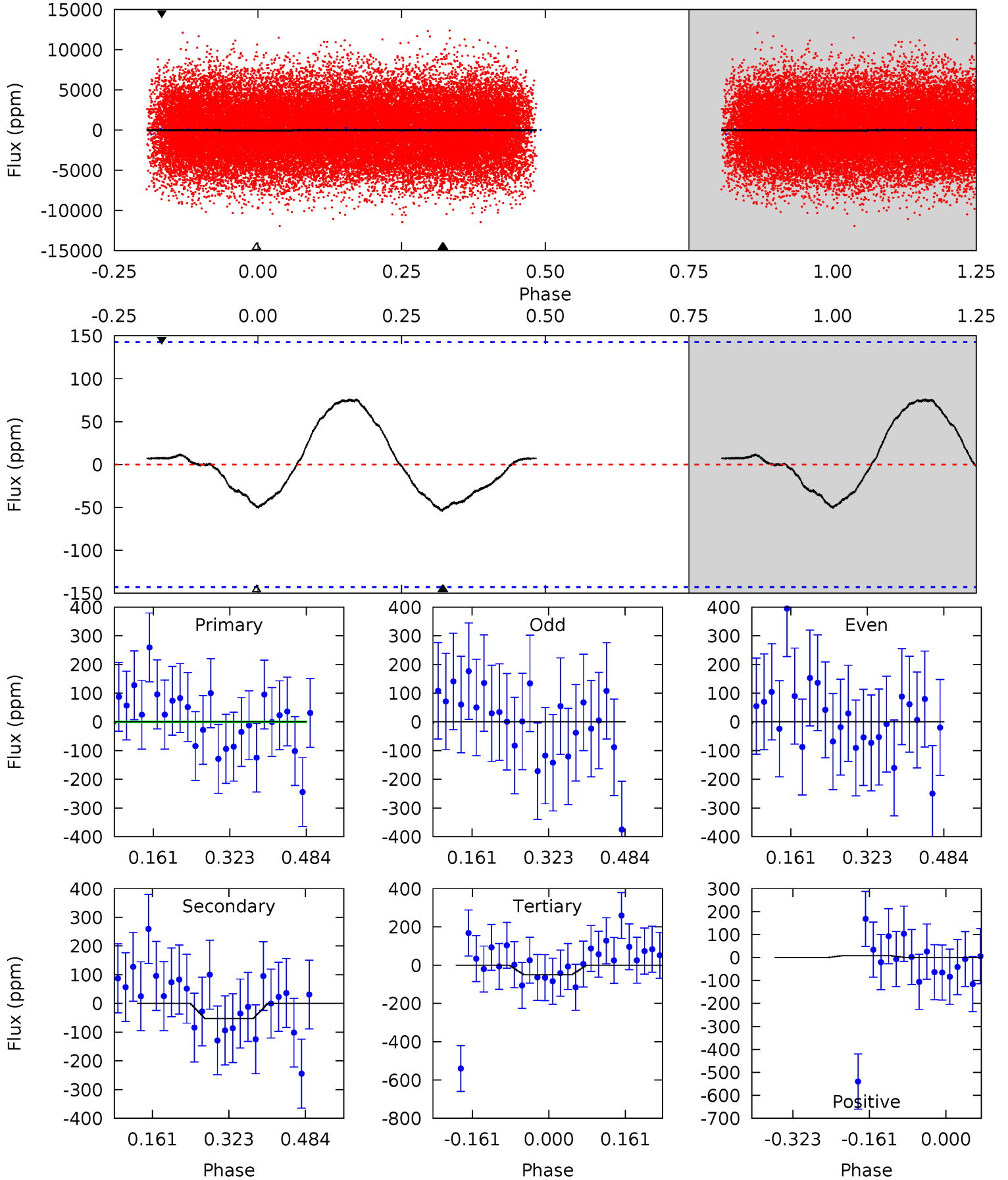
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.72	6.57	0	0	4.46	1.40	1.20	6.72	6.72	6.57	6.57	0.67	1.02	0.03	1.01



Alt Model-Shift Uniqueness Test

006635493-02, P = 0.665328 Days, E = 131.061885 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.69	1.65	1.55	0.24	4.46	1.40	1.13	0.13	1.44	0.09	1.40	0.05	0.68	0.58	0.09



Stellar Parameters For KIC 006635493

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6602^{+167}_{-218}	$4.354^{+0.065}_{-0.208}$	$-0.060^{+0.250}_{-0.300}$	$1.223^{+0.419}_{-0.140}$	$1.240^{+0.187}_{-0.168}$	$0.954^{+0.284}_{-0.519}$
	+3%/-3%	+1%/-5%	+417%/-500%	+34%/-11%	+15%/-14%	+30%/-54%
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 006635493-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-68 ± 10	$1.36^{+1.21}_{-0.90}$	3612^{+288}_{-174}	5937^{+6091}_{-1509}	$5.211^{+39.054}_{-3.795}$
Alt.	-53 ± 32	$1.42^{+1.14}_{-0.95}$	3615^{+271}_{-169}	5333^{+4766}_{-1721}	$3.152^{+23.250}_{-2.445}$

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 $A_{obs} \gg 1.0$

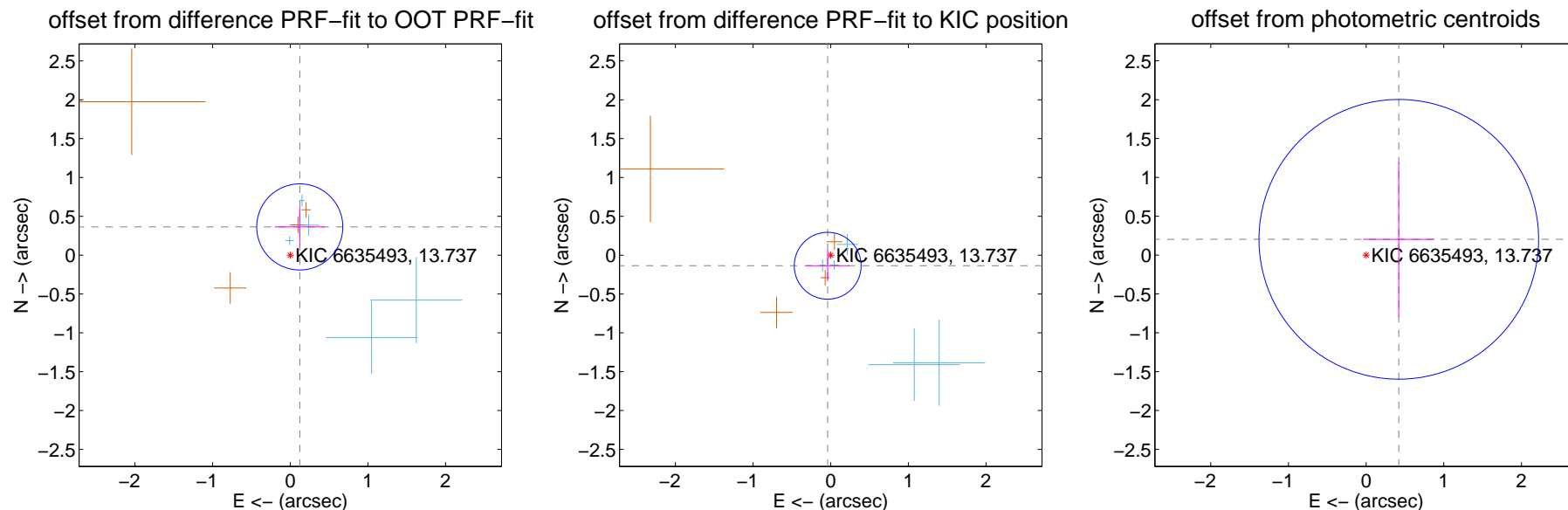
DV Centroid Data

Supplemental centroid analysis for 006635493-02. Kepler magnitude: 13.74. Transit SNR 5.06

There are 6 quarters with good PRF difference image offsets

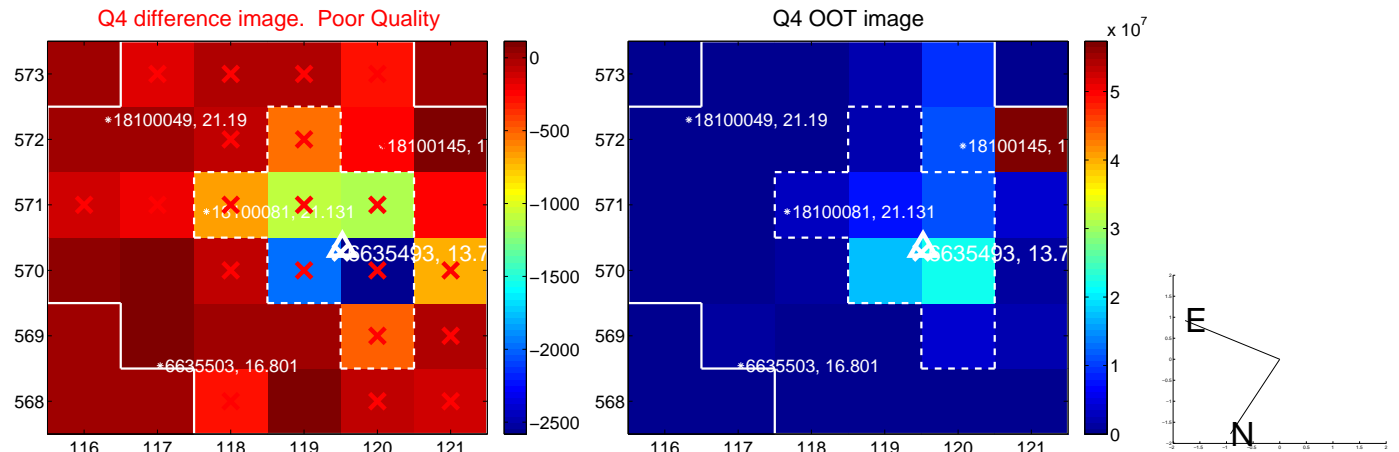
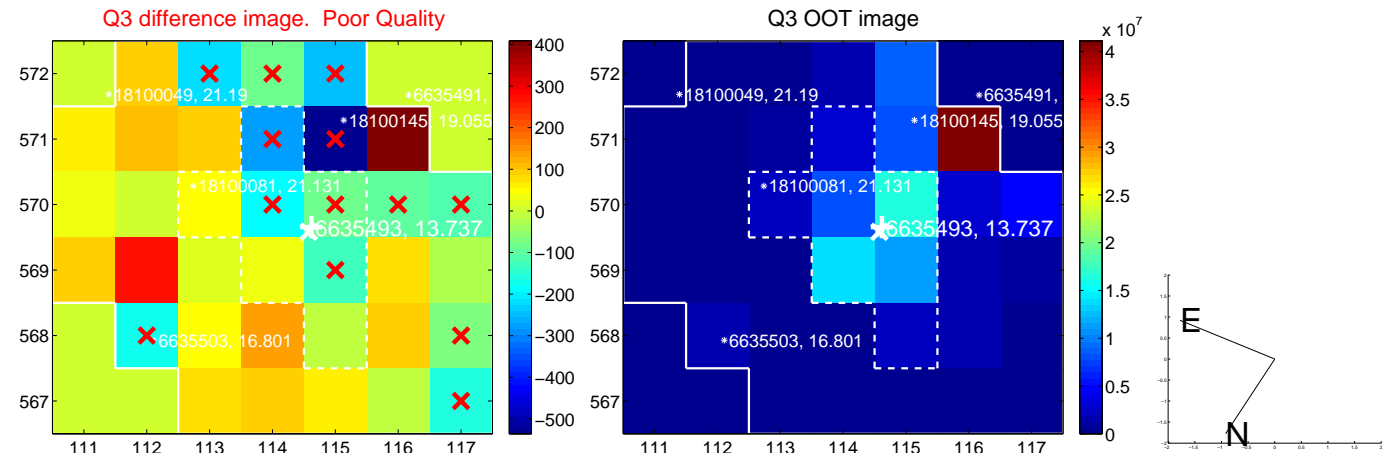
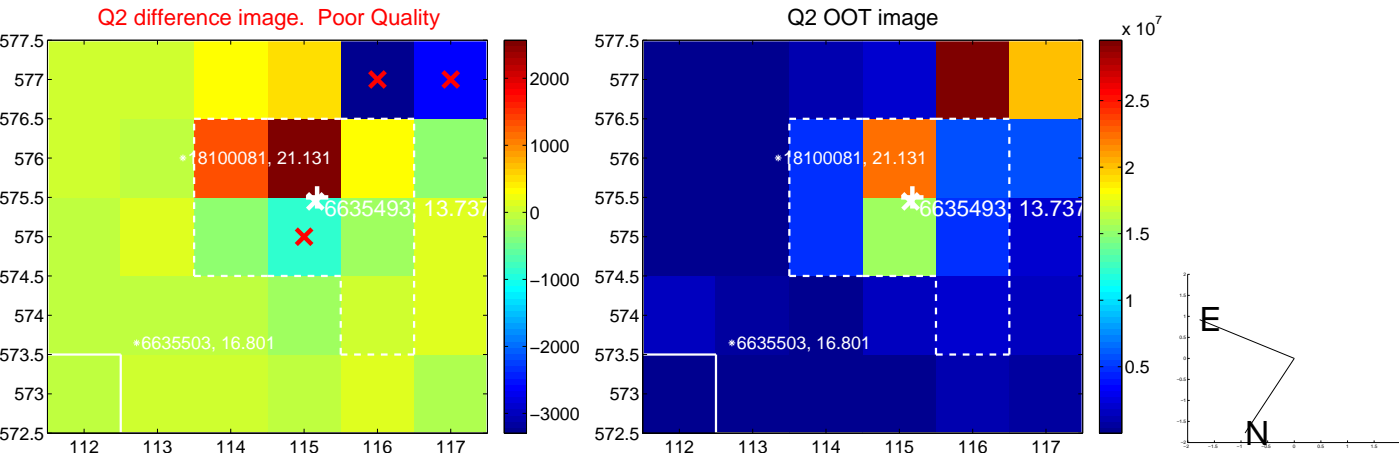
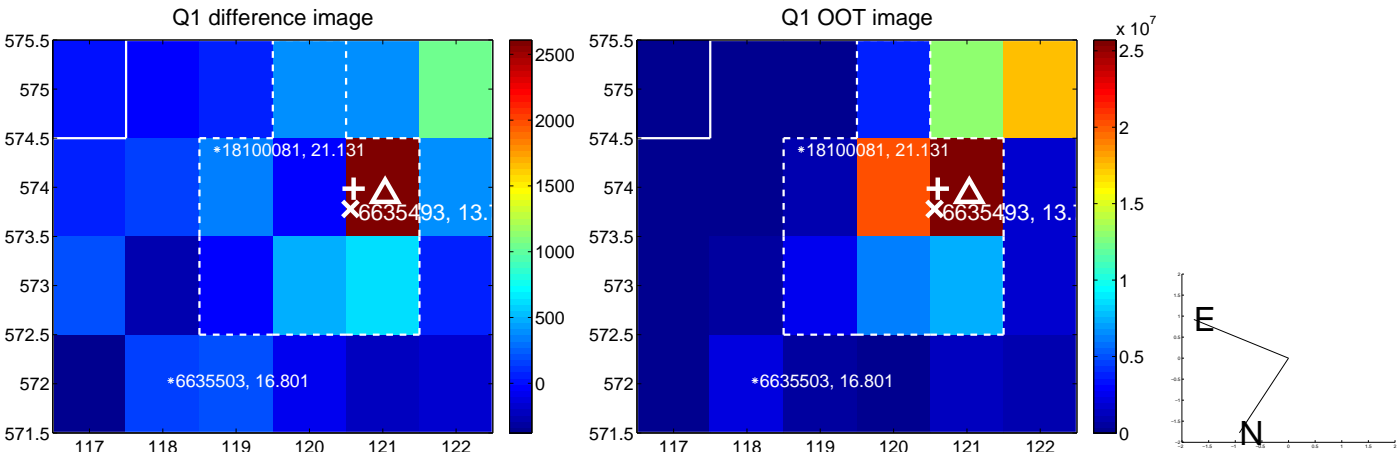
The direct PRF centroid is offset from the target star catalog position by about 0.91 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.384 ± 0.185	2.08	-0.122 ± 0.323	0.363 ± 0.253
PRF-fit source offset from KIC position	0.142 ± 0.143	0.99	0.039 ± 0.278	-0.136 ± 0.203
photometric centroid source offset	0.47 ± 0.60	0.78	-0.42 ± 0.46	0.20 ± 1.00

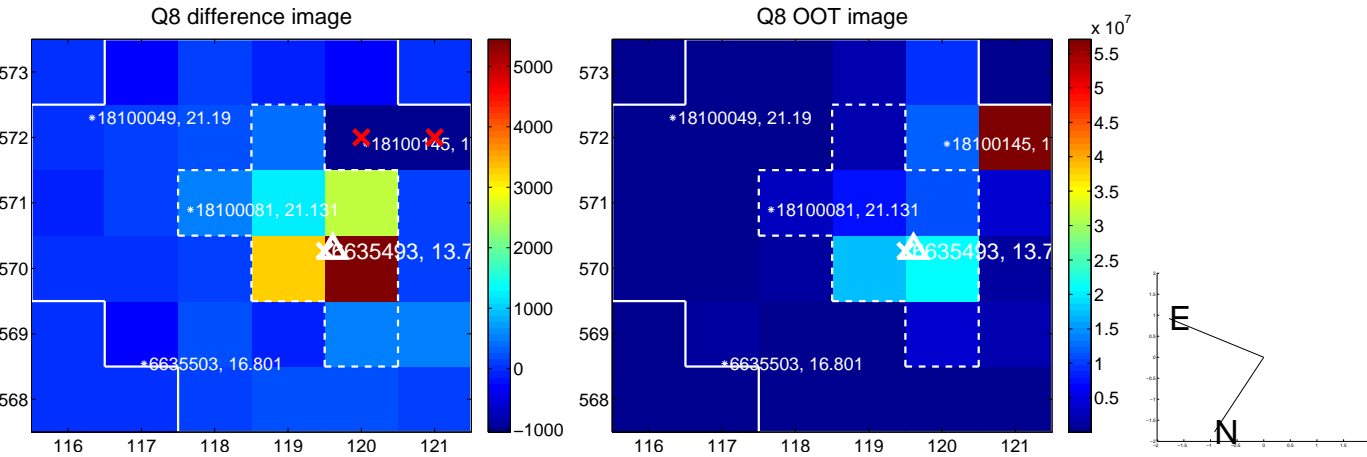
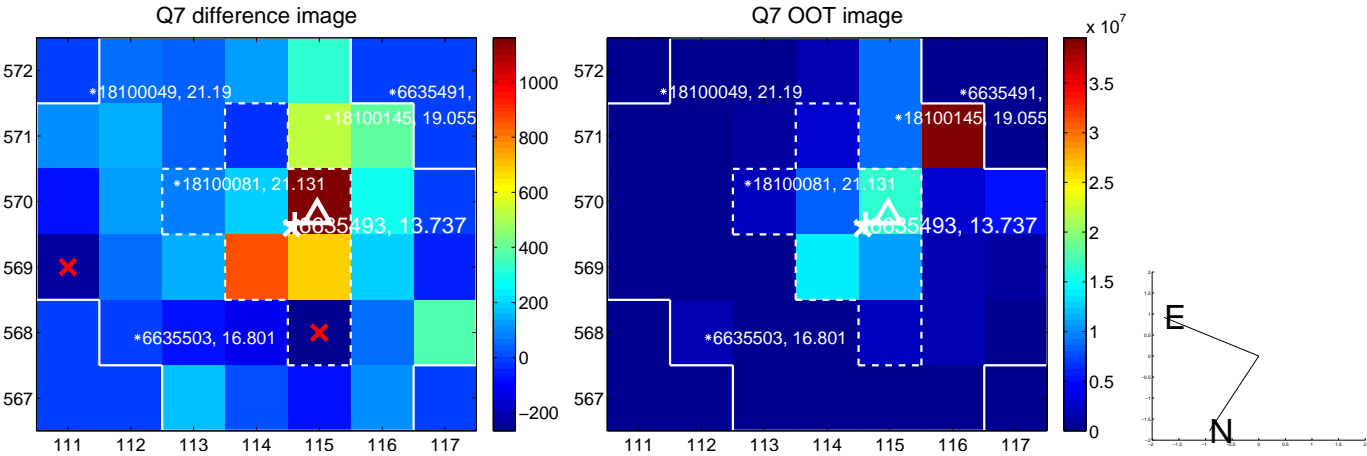
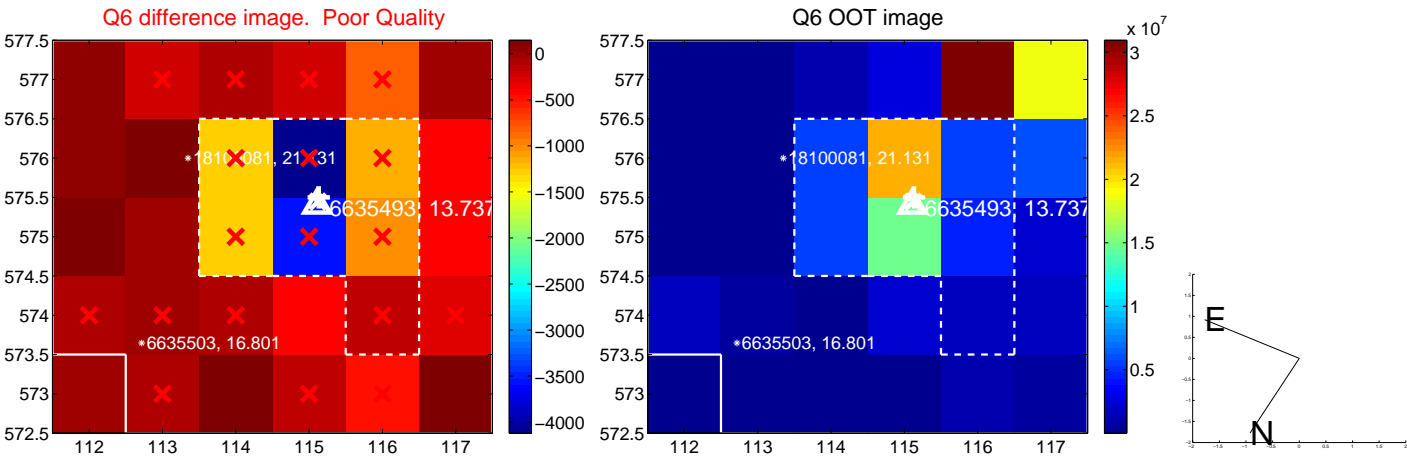
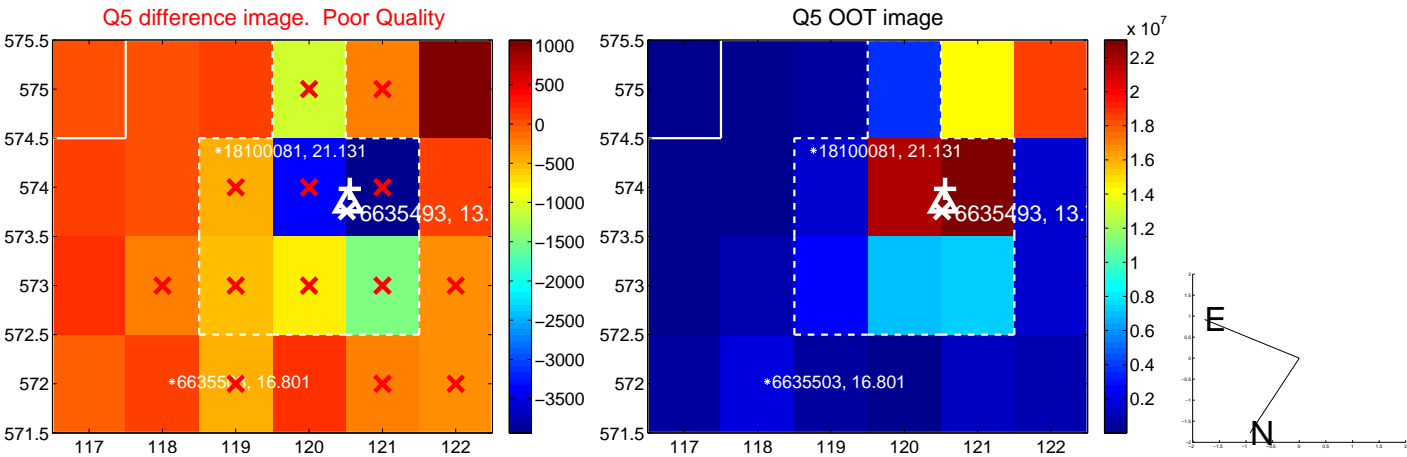


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

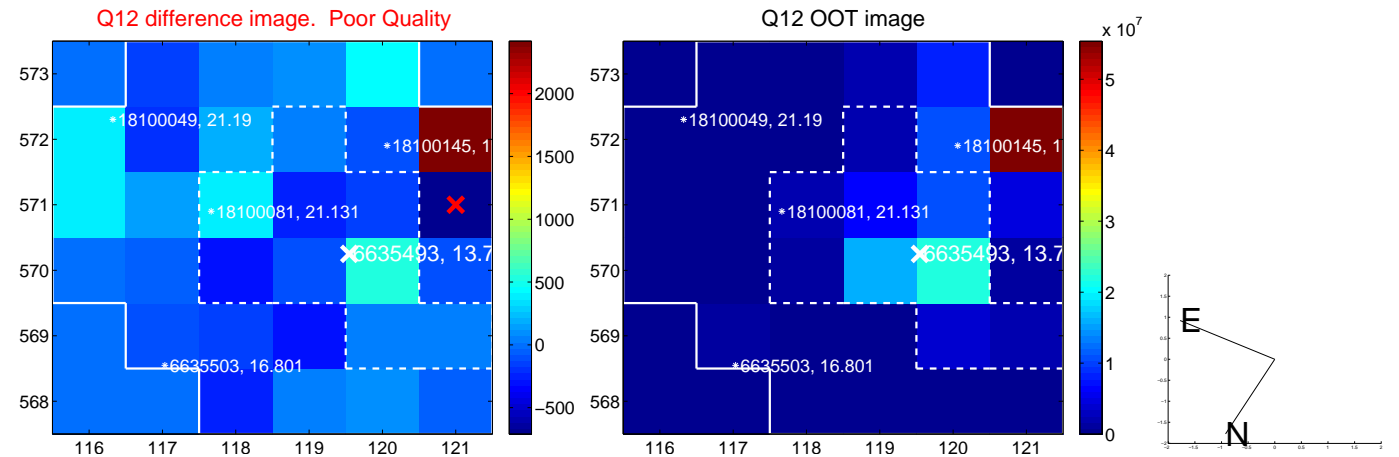
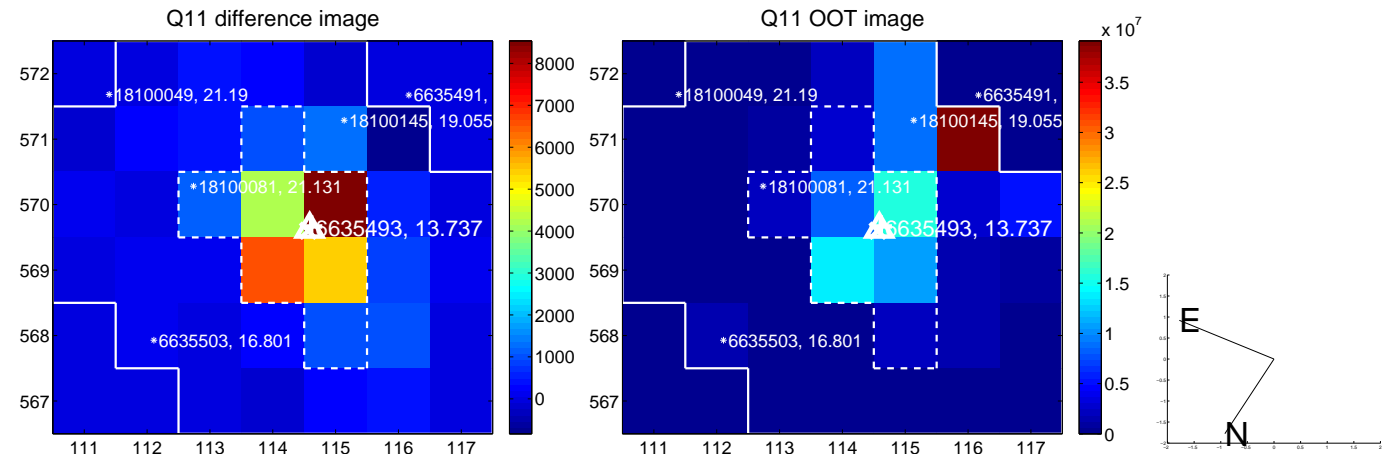
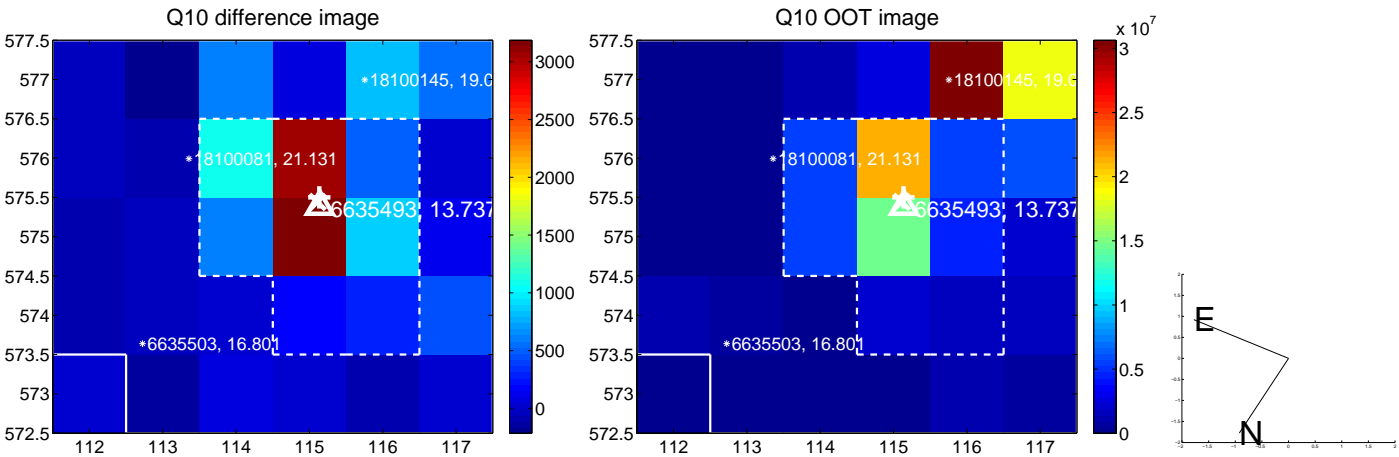
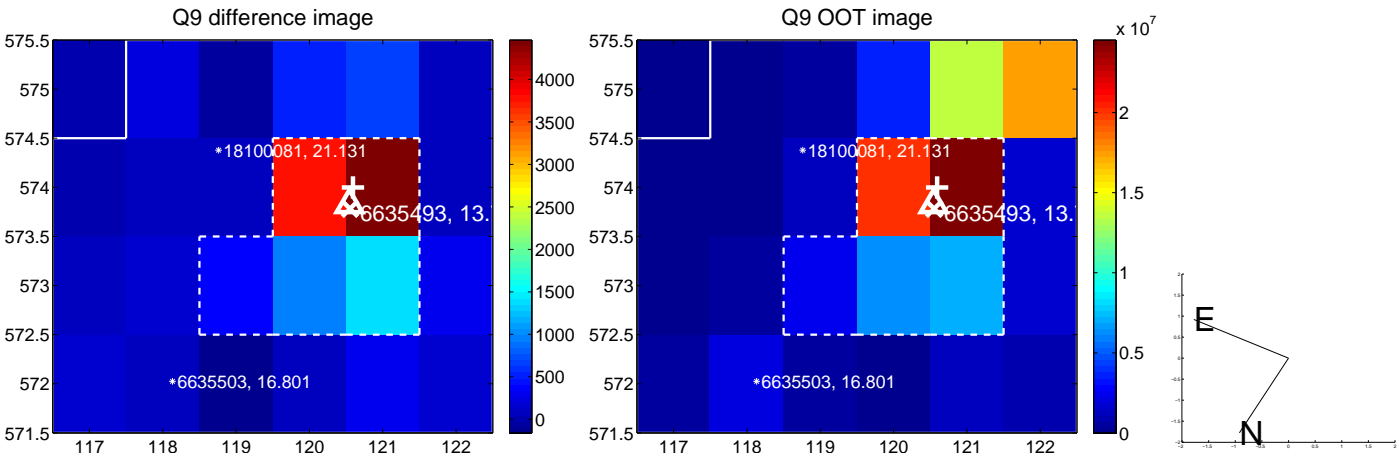
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



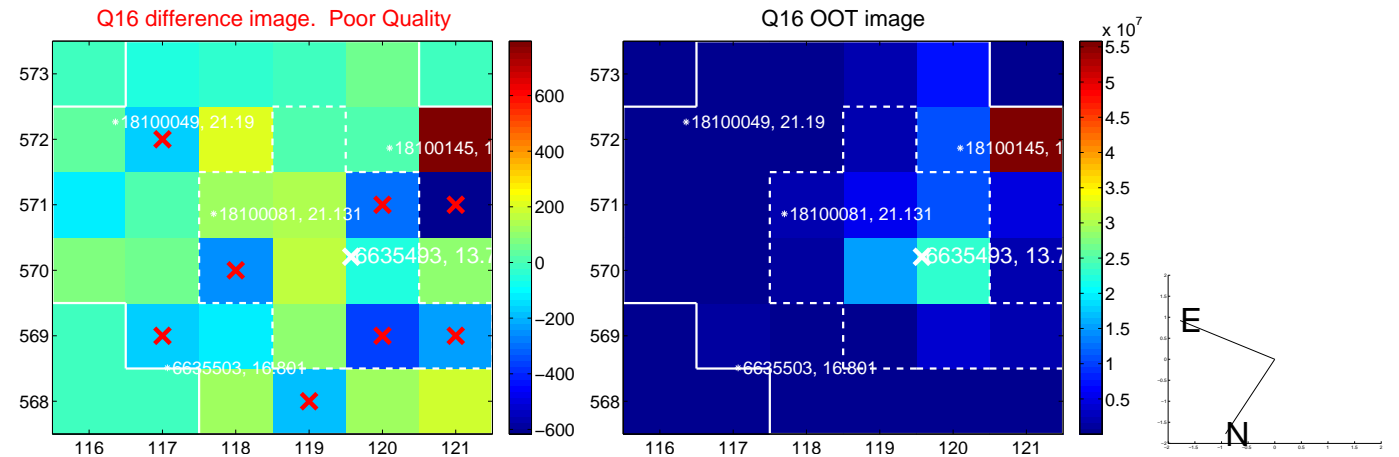
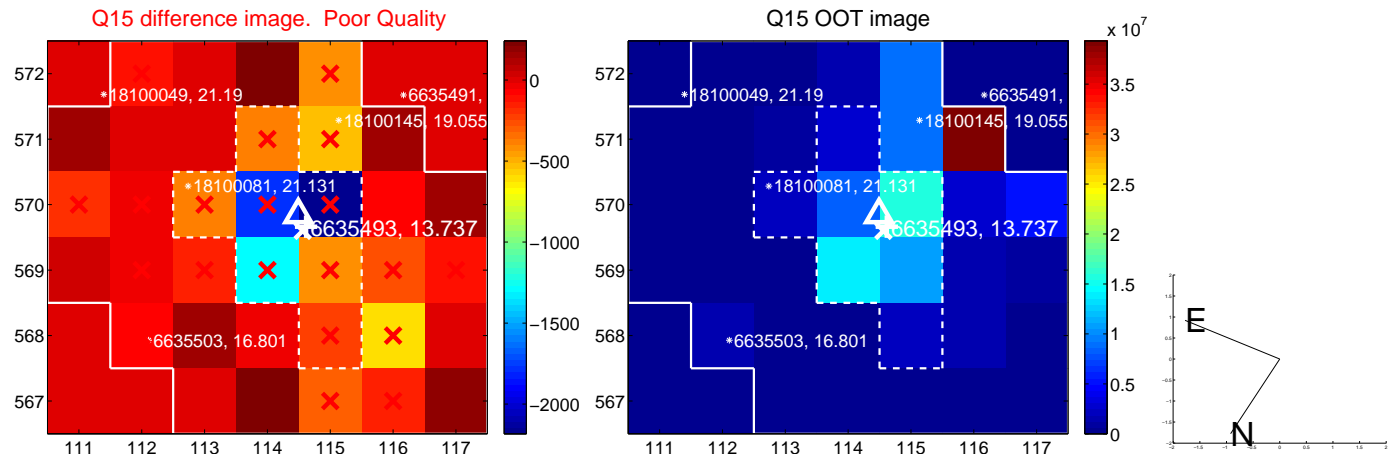
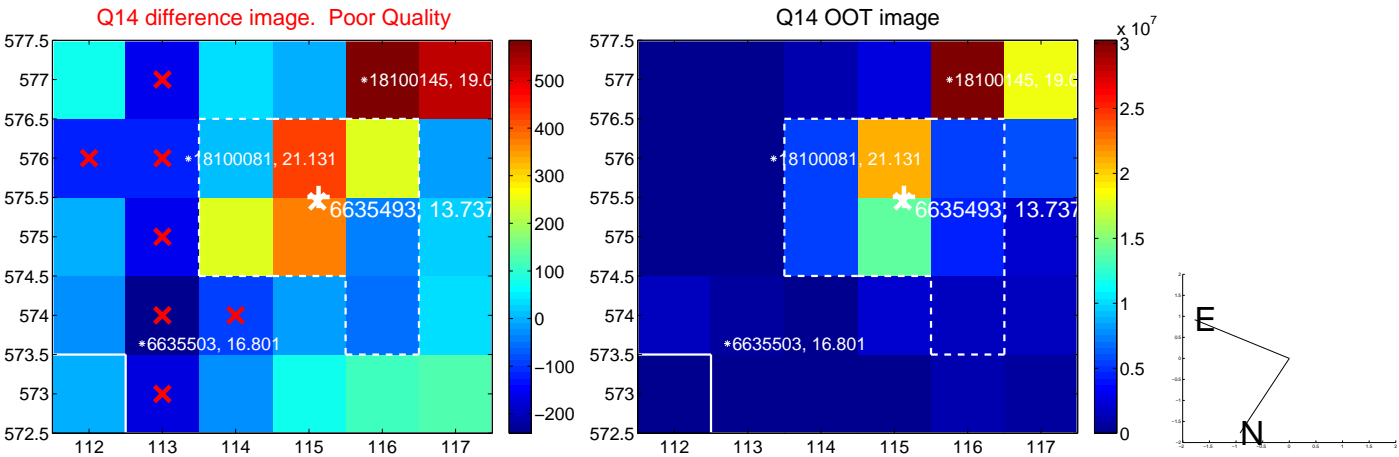
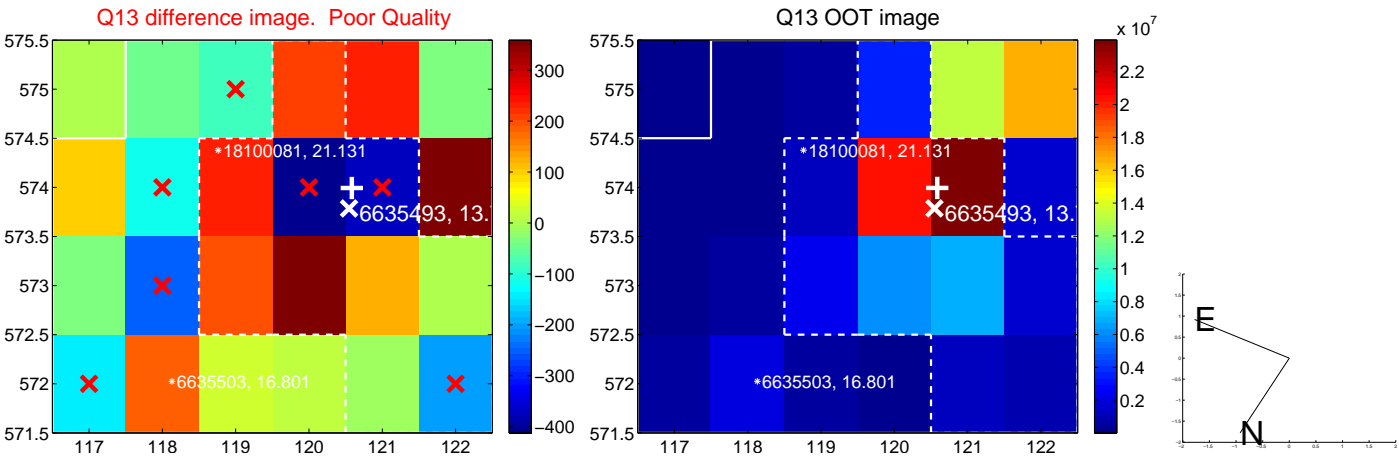
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



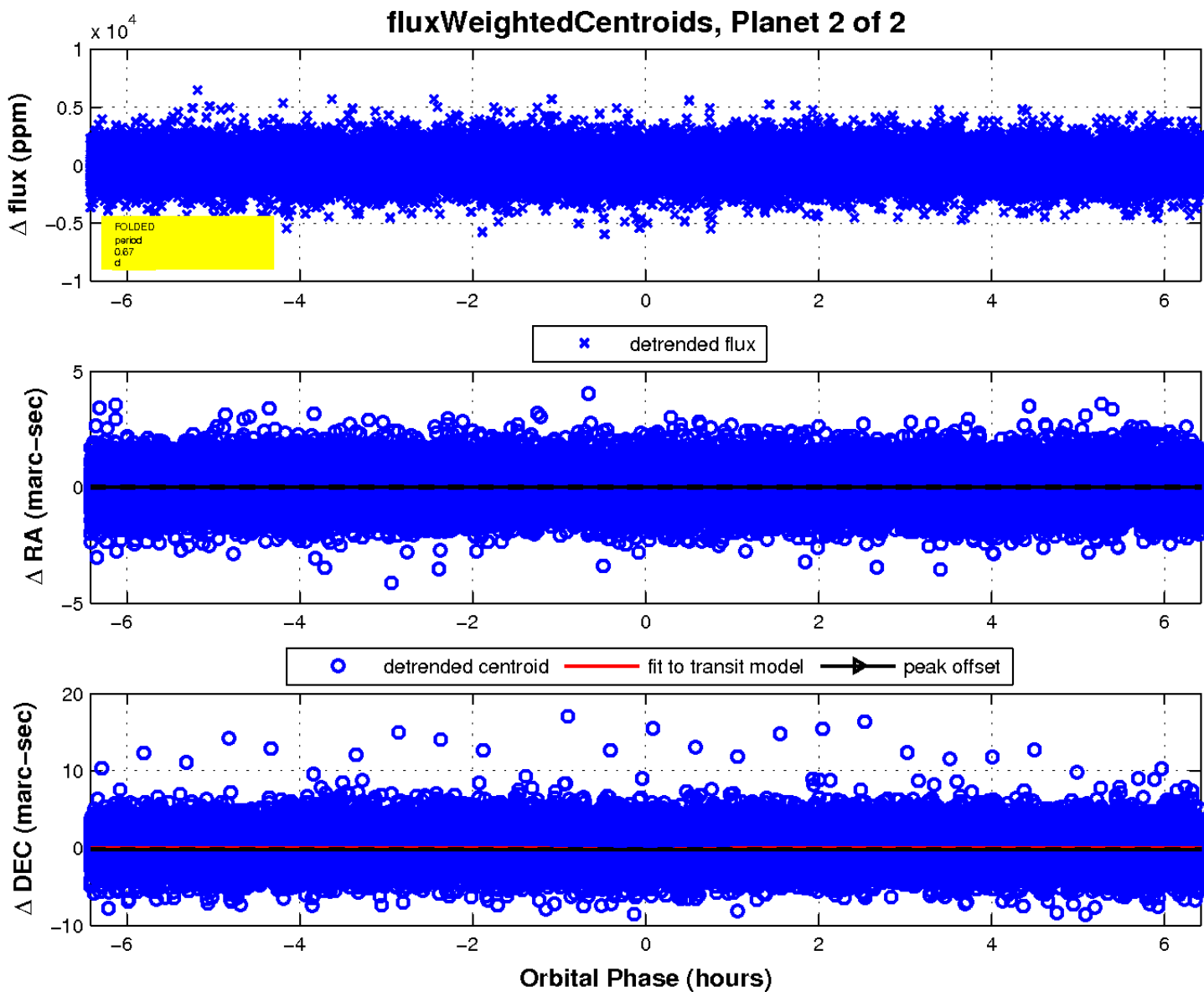
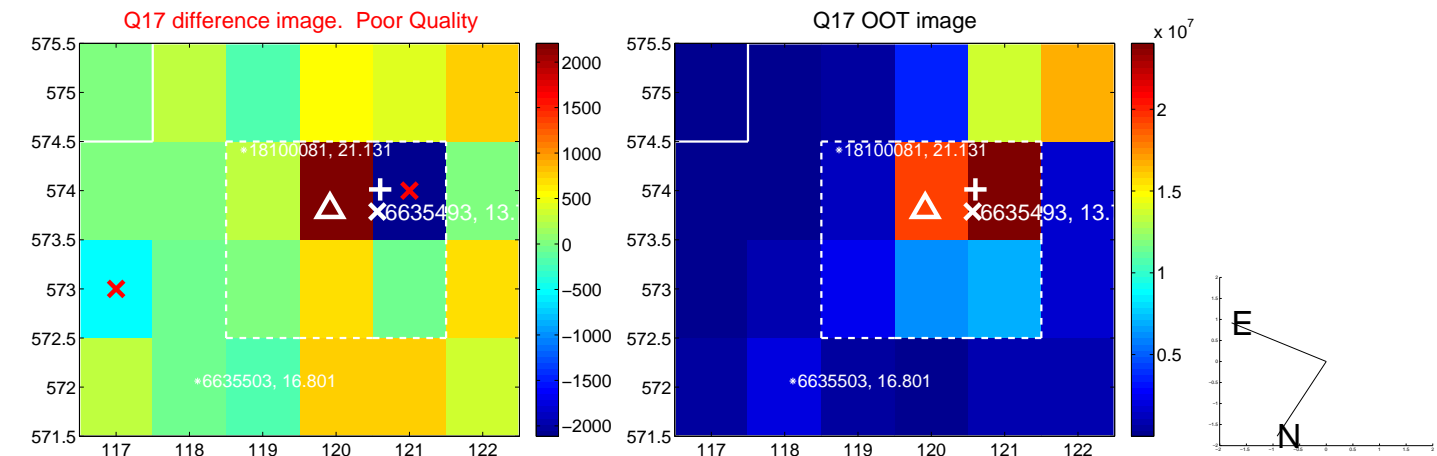
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

