

KIC 002571238

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})
002571238-01	OBS	0084.01	9.286974	135.993859	688.4	3.646	223.7	216.2	0.81	5546	2.50	79.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002571238-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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.

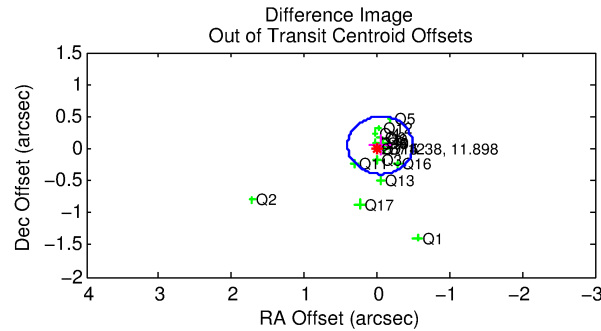
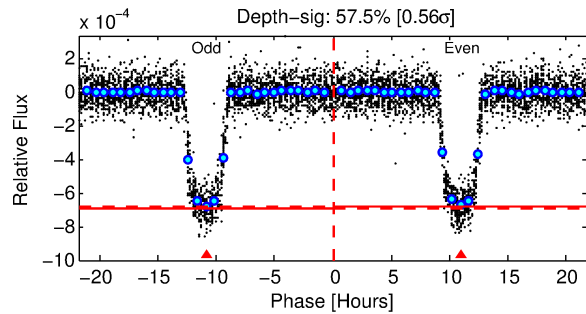
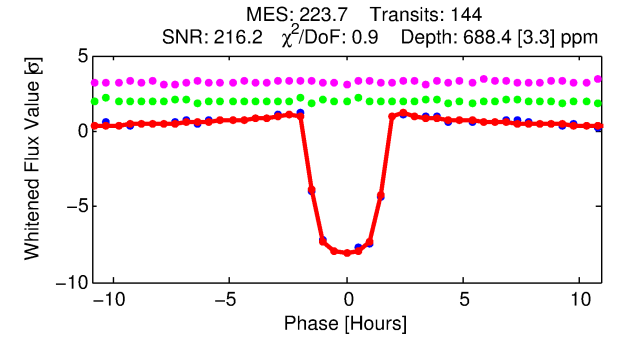
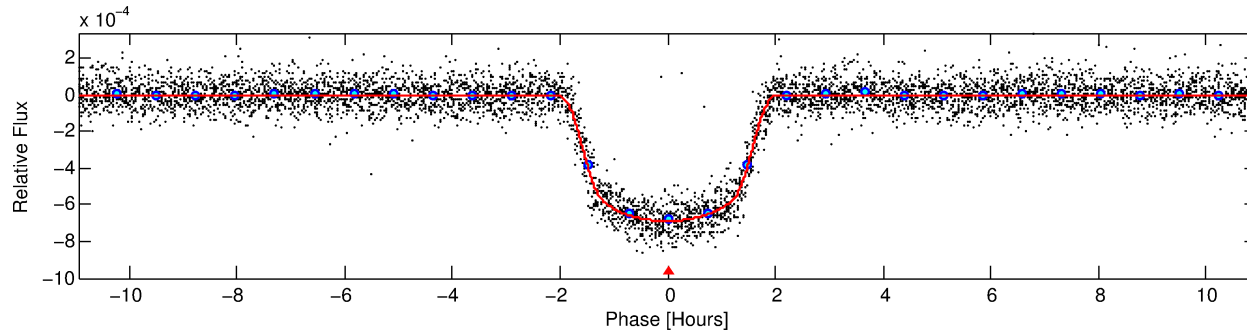
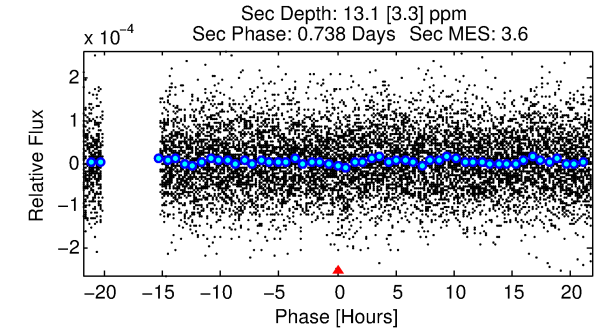
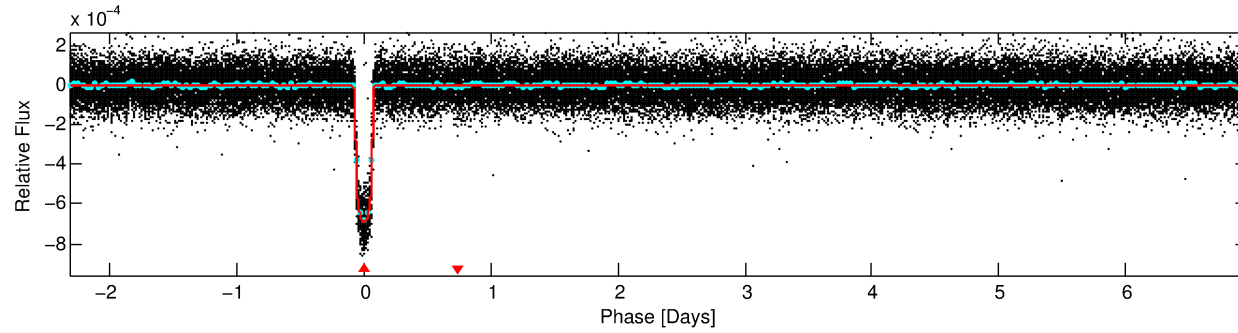
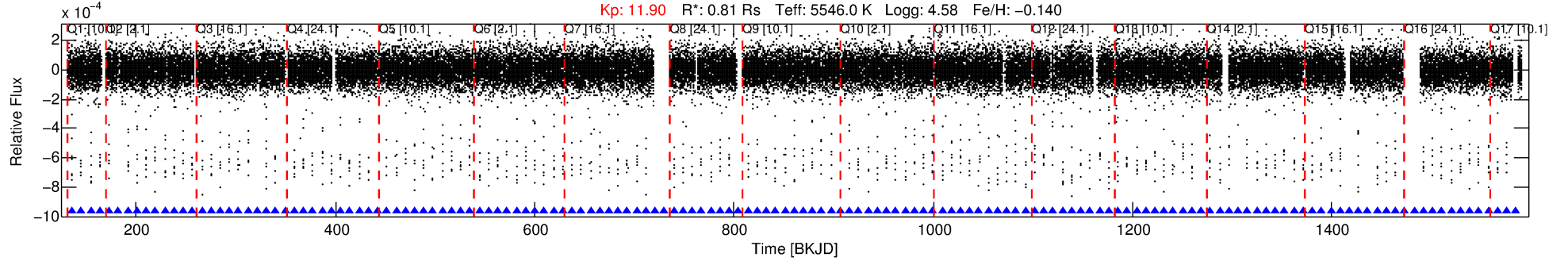
Ephemeris Match Information For 002571238-01

No Significant Match Found

DV One-Page Summary

KIC: 2571238 Candidate: 1 of 1 Period: 9.287 d
KOI: K00084.01 Name: Kepler-19b Corr: 0.962

Kp: 11.90 R*: 0.81 Rs Teff: 5546.0 K Logg: 4.58 Fe/H: -0.140



DV Fit Results:

Period = 9.28697 [0.00000] d
Epoch = 135.9939 [0.0003] BKJD
Rp/R* = 0.0283 [0.0004]
a/R* = 10.32 [0.55]
b = 0.88 [0.01]
Seff = 79.79 [15.47]
Teq = 762 [37] K
Rp = 2.50 [0.31] Re
a = 0.0835 [0.0094] AU
Ag = 8.02 [2.48] [2.84 sigma]
Teffp = 1983 [132] K [8.93 sigma]

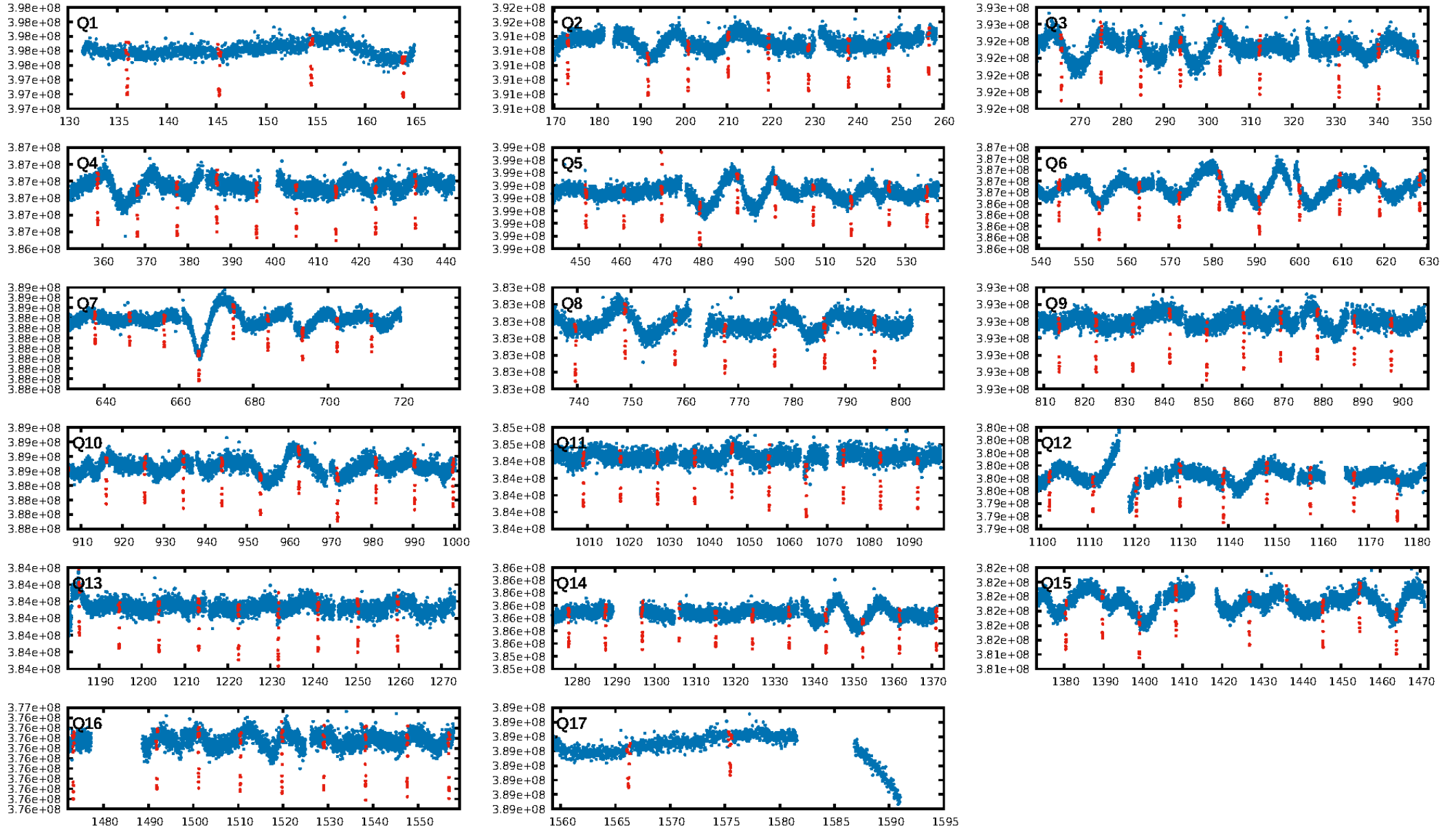
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [138/138]
GhostDiagnostic-chr: 10.31
Centroid-sig: 66.5%
Centroid-so: 0.432 arcsec [7.04 sigma]
OotOffset-rm: 0.069 arcsec [0.46 sigma]
KicOffset-rm: 0.352 arcsec [2.44 sigma]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

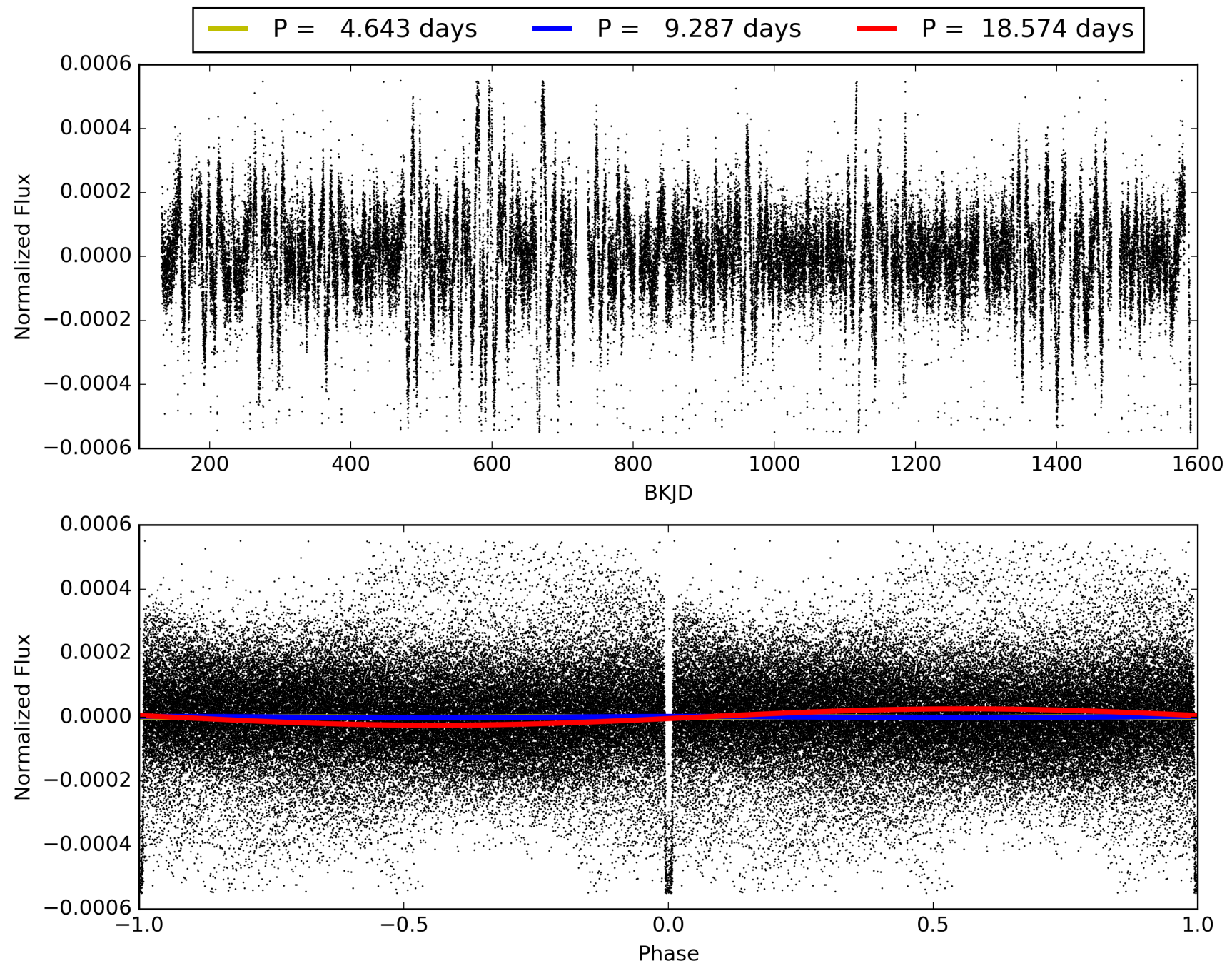
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:41:40 Z

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

TCE 002571238-01, PDC Light Curves

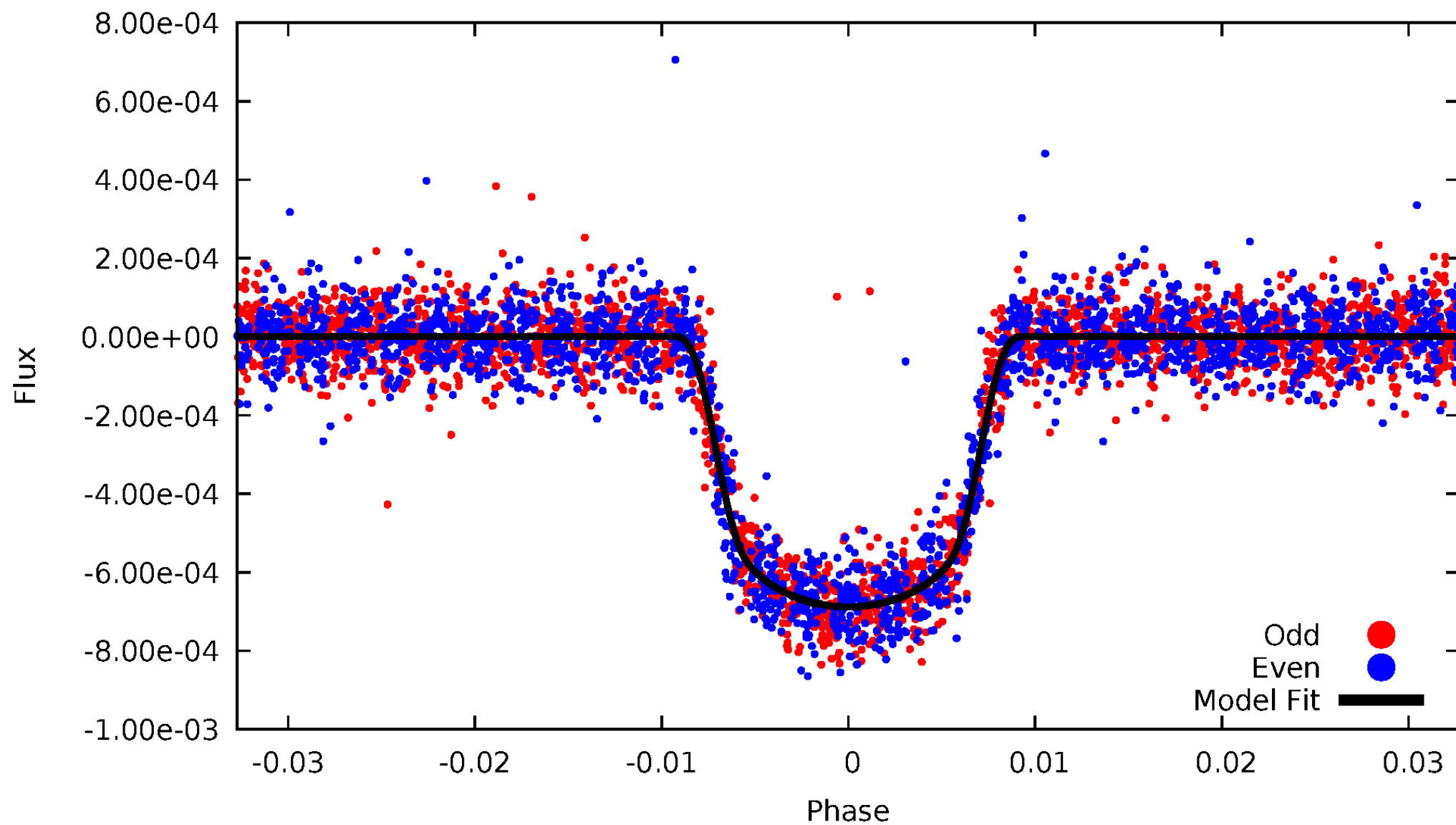


TCE 002571238-01



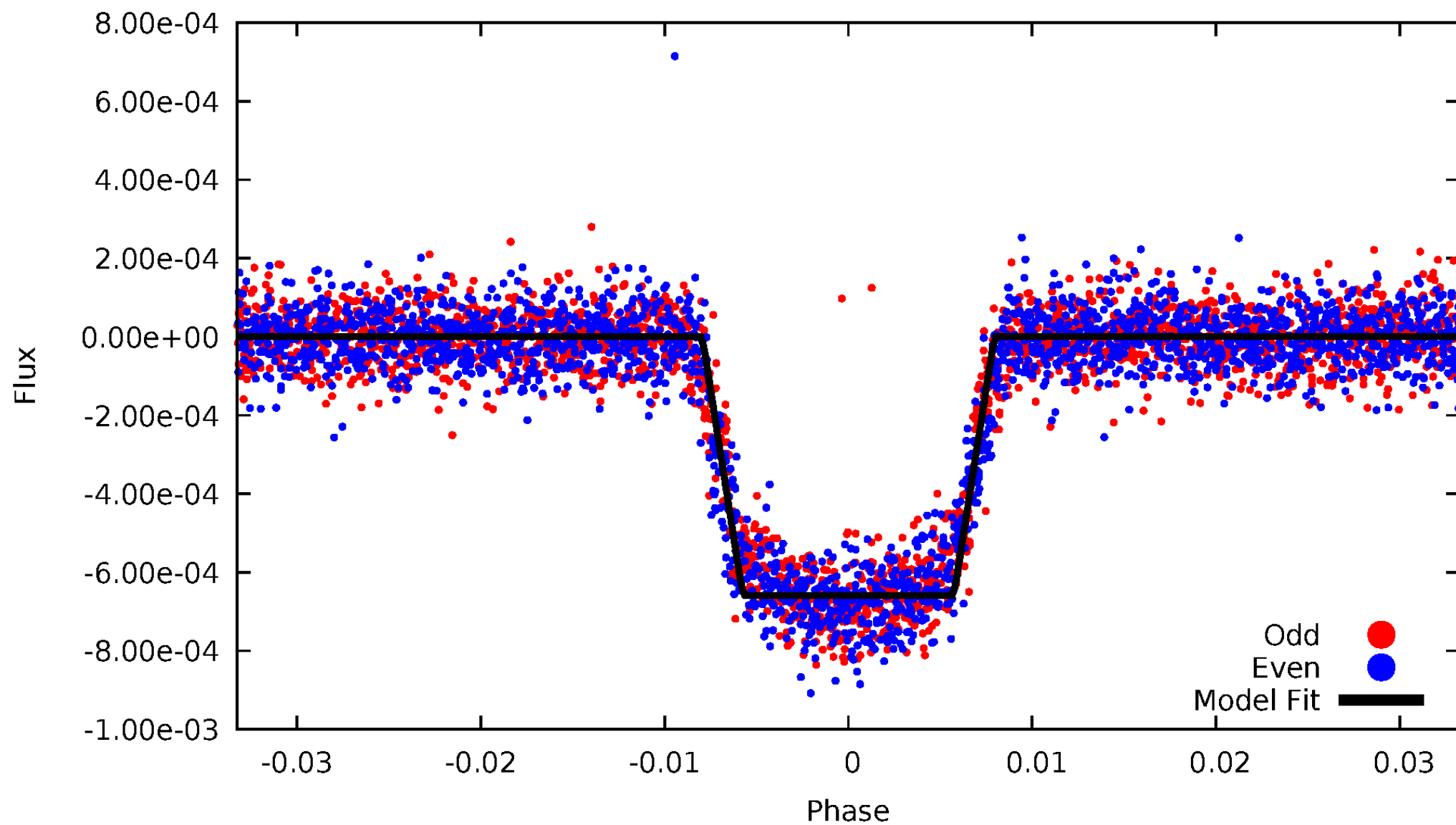
DV Odd/Even

TCE 002571238-01

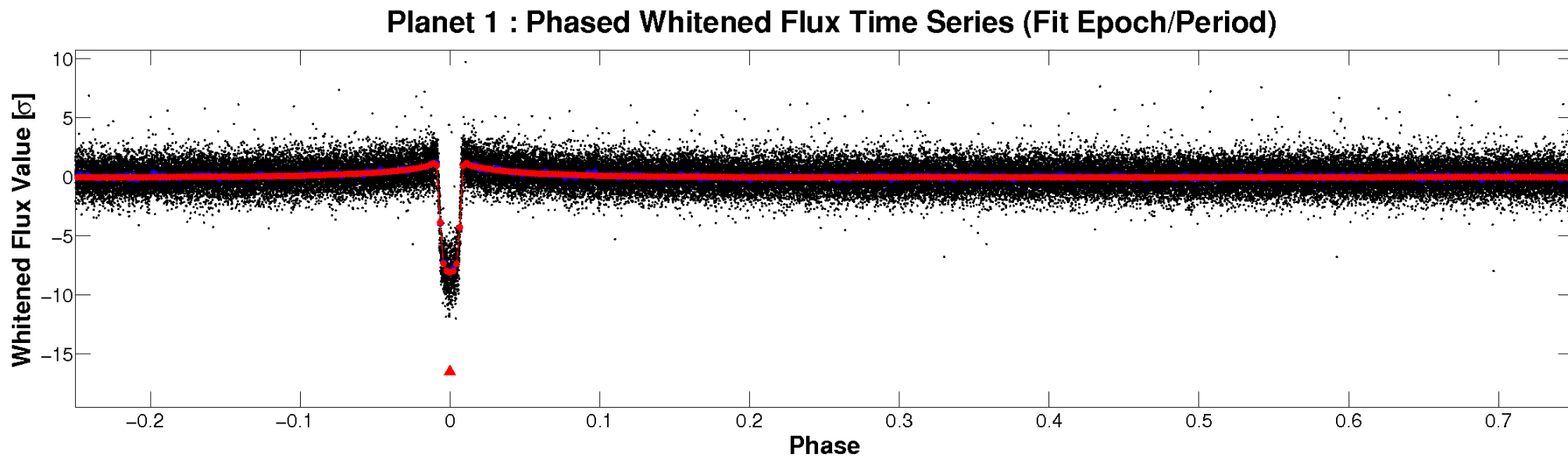
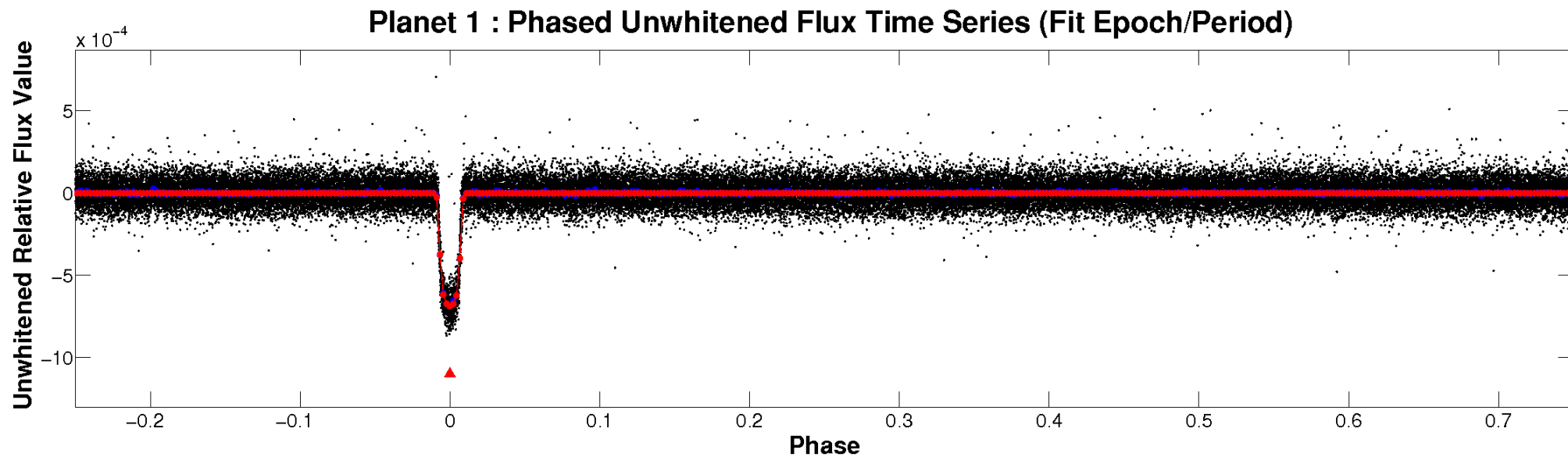


ALT Odd/Even

TCE 002571238-01

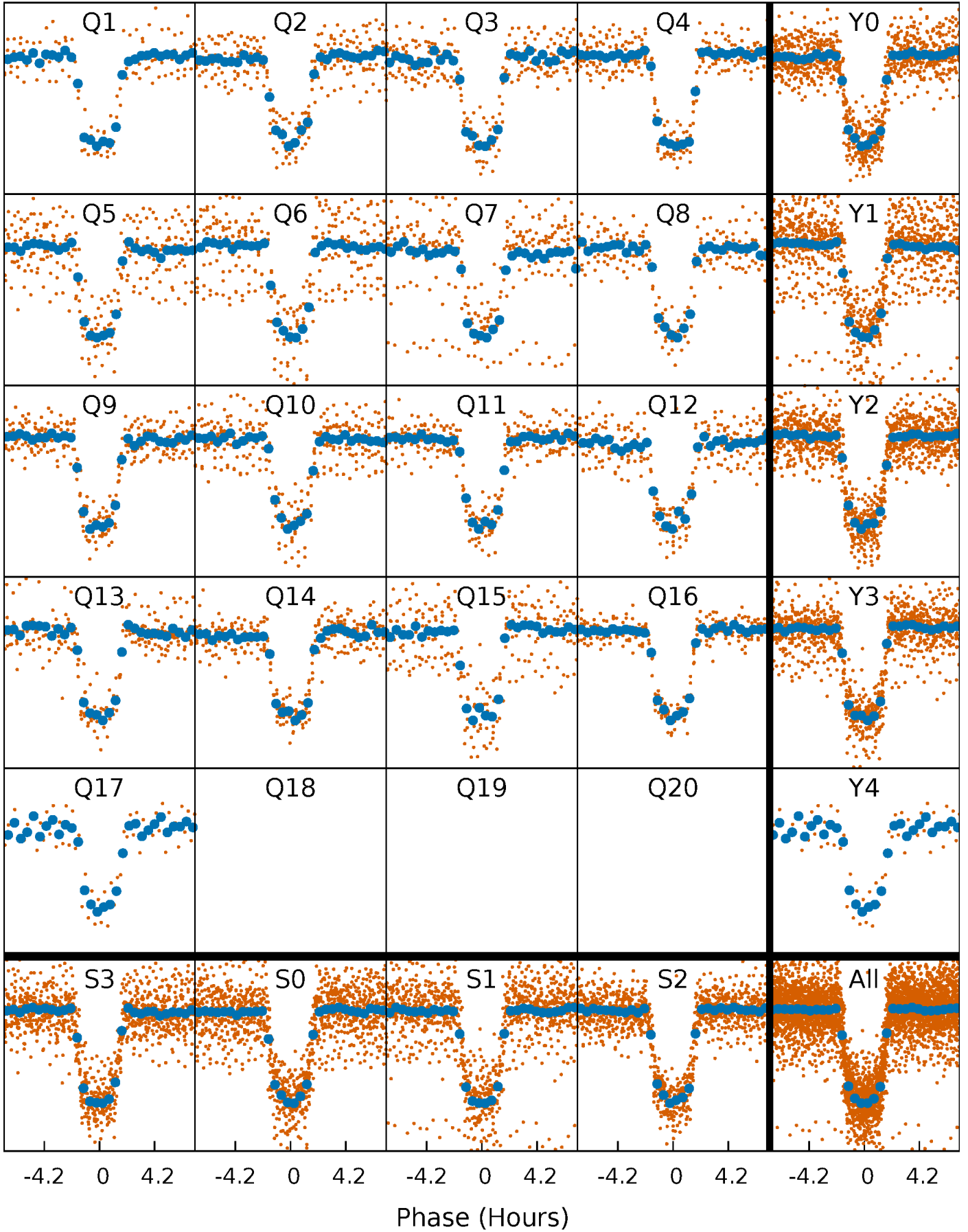


Non-Whitened Vs. Whitened Light Curve



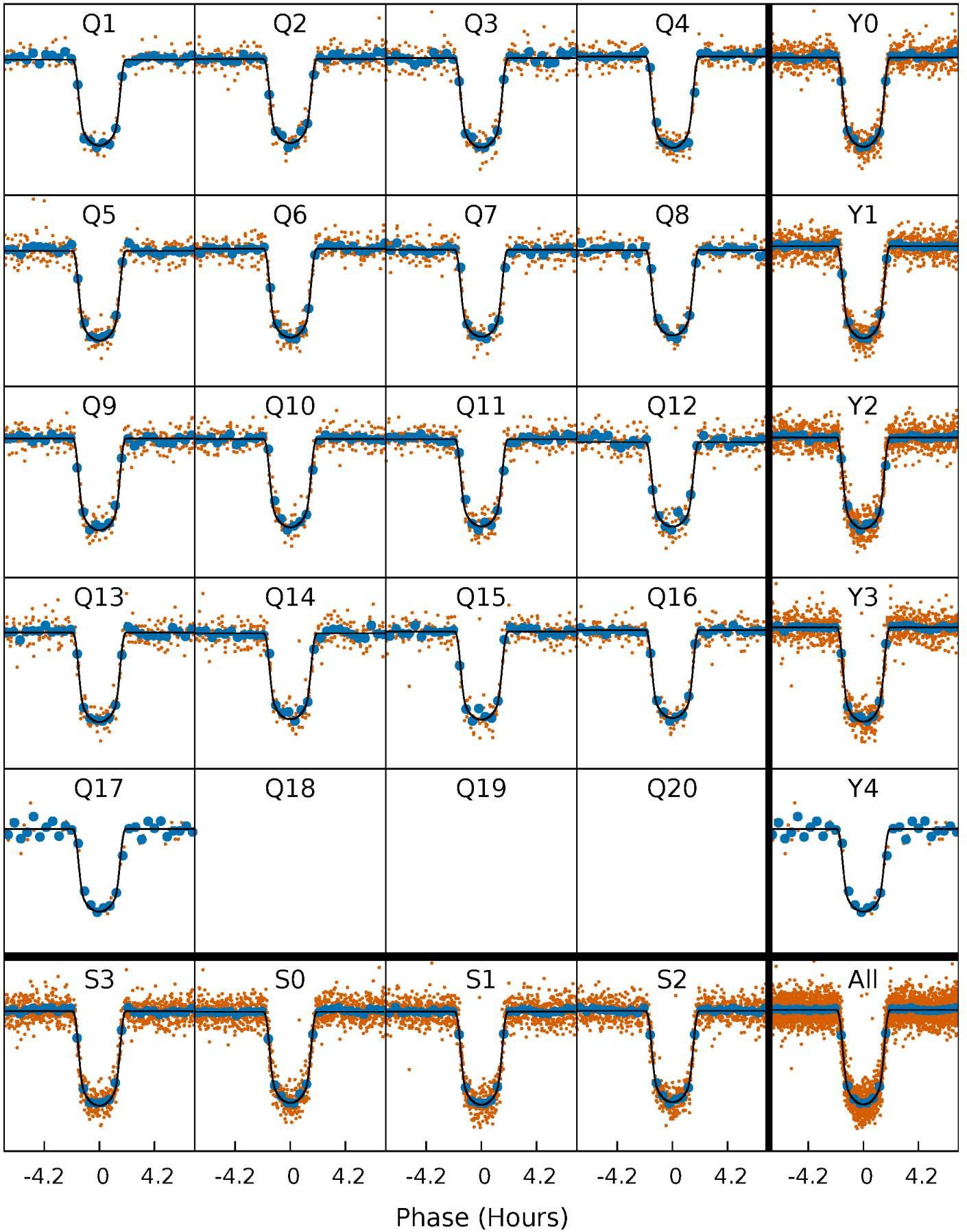
PDC Quarter-Phased Transit Curves

TCE 002571238-01 P= 9.286974 Days $T_0=135.993859$ (BKJD)



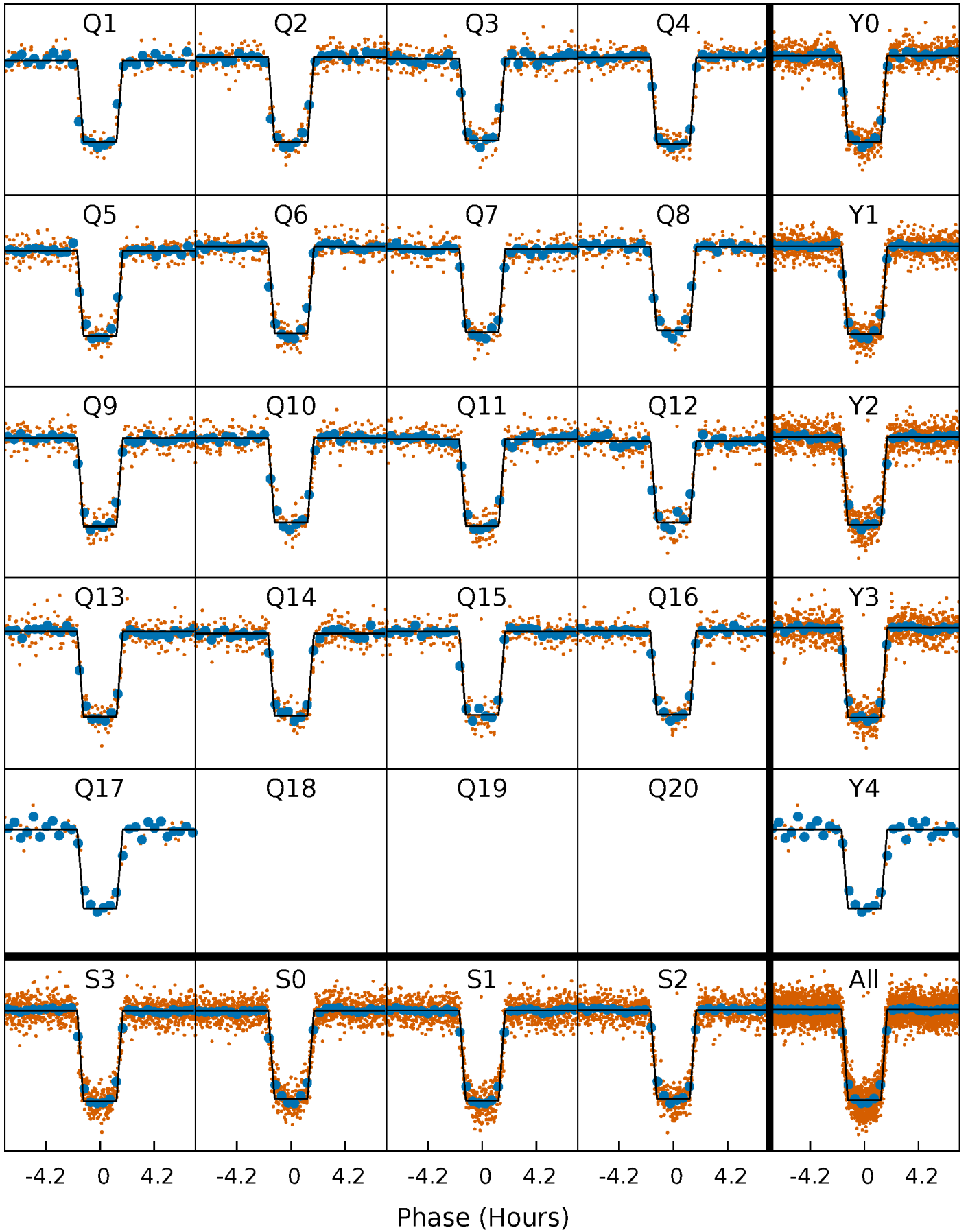
DV Quarter-Phased Transit Curves

TCE 002571238-01 P= 9.286974 Days $T_0=135.993859$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

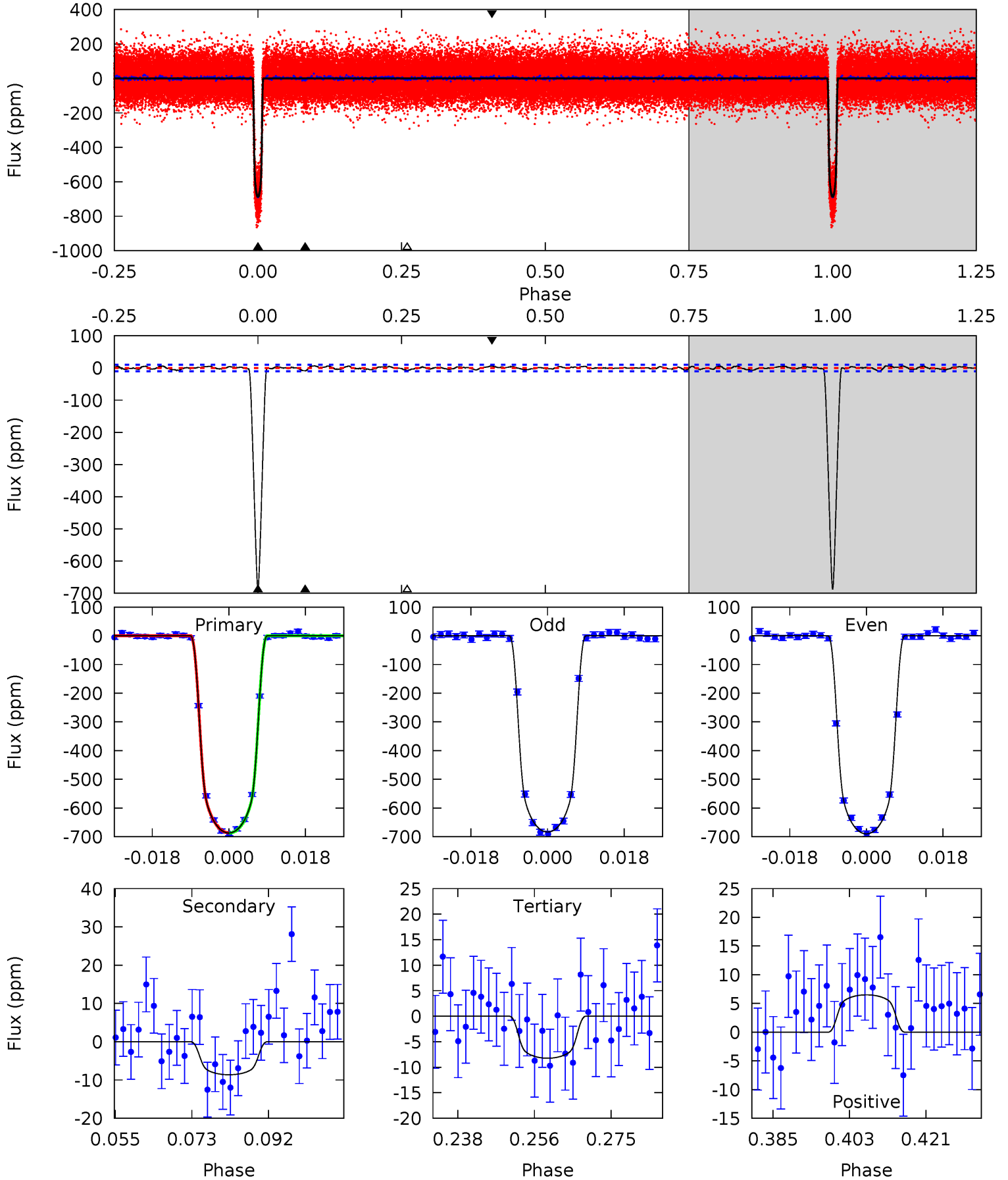
TCE 002571238-01 P= 9.286937 Days $T_0=135.996818$ (BKJD)



DV Model-Shift Uniqueness Test

002571238-01, P = 9.286974 Days, E = 126.706885 Days

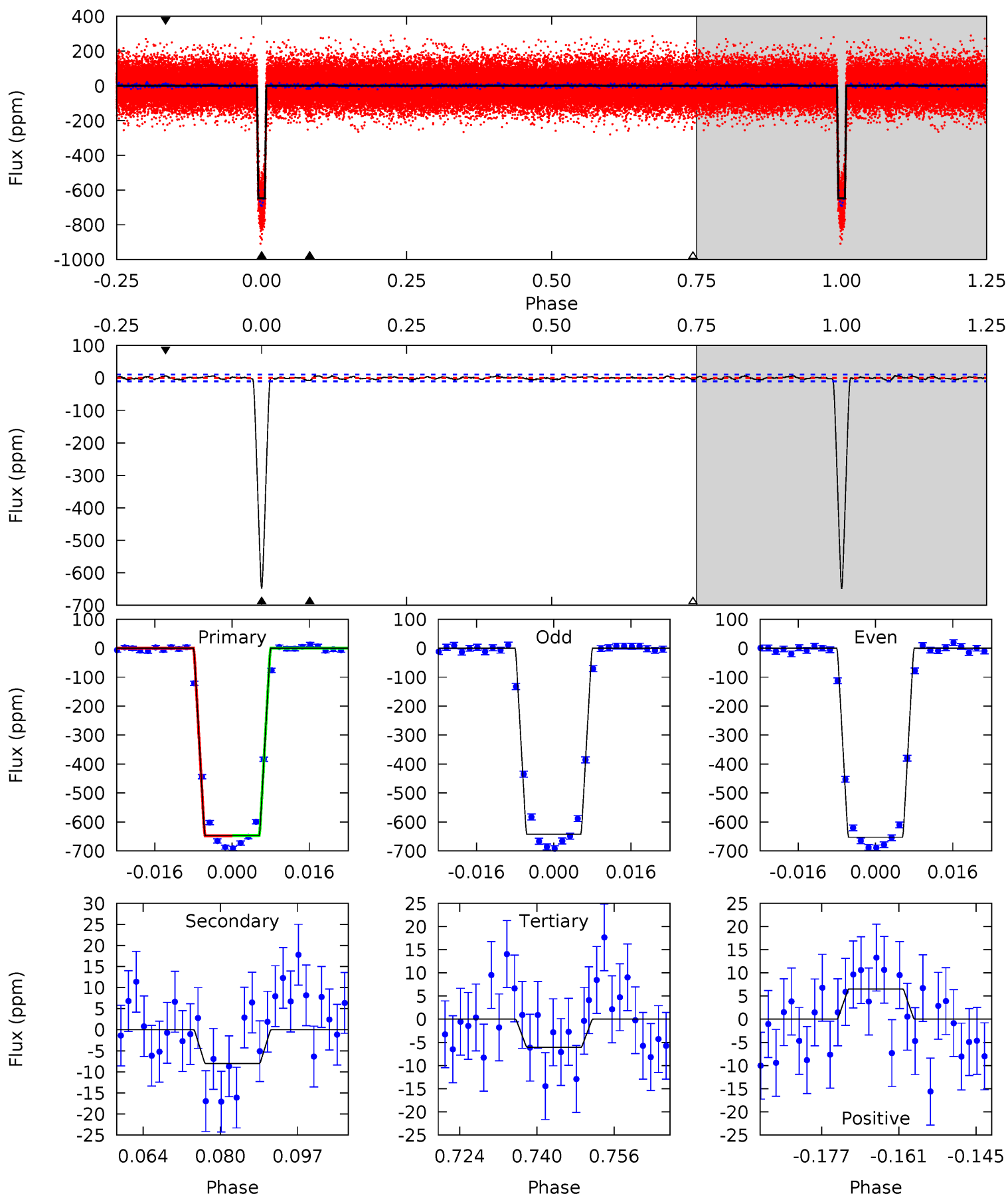
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
338.0	4.25	4.05	3.20	4.91	2.36	1.42	334.0	334.8	0.20	1.05	1.58	0.99	0.01	0.31



Alt Model-Shift Uniqueness Test

002571238-01, P = 9.286937 Days, E = 126.709881 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
304.9	3.77	2.84	3.06	4.93	2.41	1.22	302.0	301.8	0.93	0.71	2.42	1.00	0.01	0.28



Stellar Parameters For KIC 002571238

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5546^{+100}_{-111}	$4.575^{+0.018}_{-0.102}$	$-0.140^{+0.150}_{-0.150}$	$0.810^{+0.099}_{-0.040}$	$0.907^{+0.038}_{-0.076}$	$2.404^{+0.219}_{-0.707}$
	+2%/-2%	+0%/-2%	+107%/-107%	+12%/-5%	+4%/-8%	+9%/-29%
Source	SPE31	SPE31	SPE31	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 002571238-01 / KOI 0084.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 2	$2.55^{+0.17}_{-0.11}$	1080^{+36}_{-30}	2577^{+80}_{-101}	$4.899^{+1.259}_{-1.266}$
Alt.	-8 ± 2	$2.31^{+0.15}_{-0.10}$	1078^{+36}_{-28}	2621^{+90}_{-115}	$5.626^{+1.635}_{-1.662}$

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 $A_{obs} \gg 1.0$

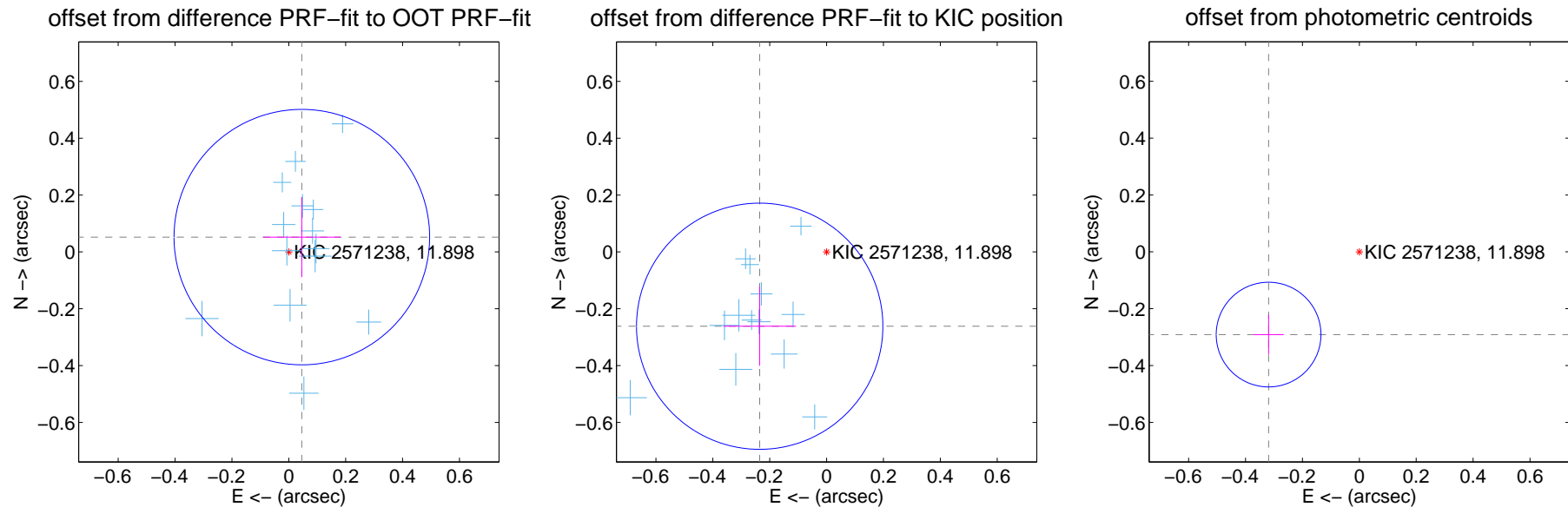
DV Centroid Data

Supplemental centroid analysis for 002571238-01. **Kepler magnitude: 11.90**. Transit SNR 216.20

There are 17 quarters with good PRF difference image offsets

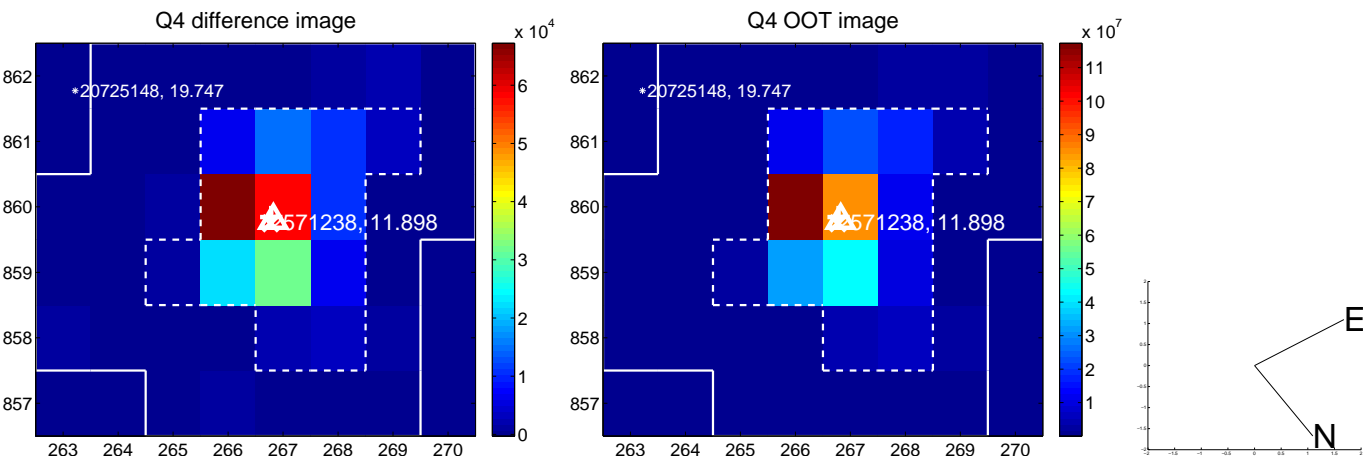
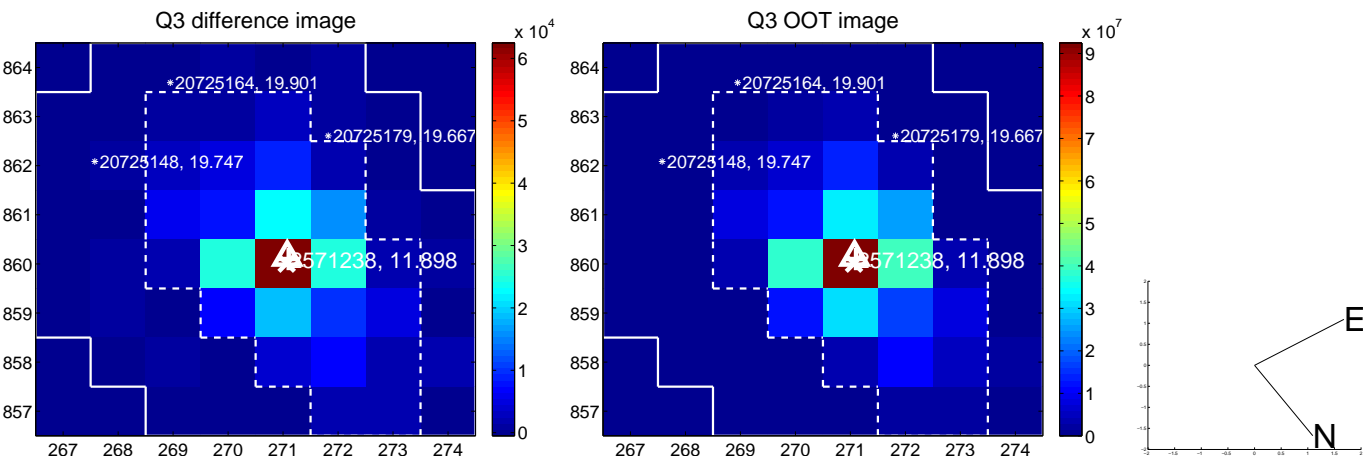
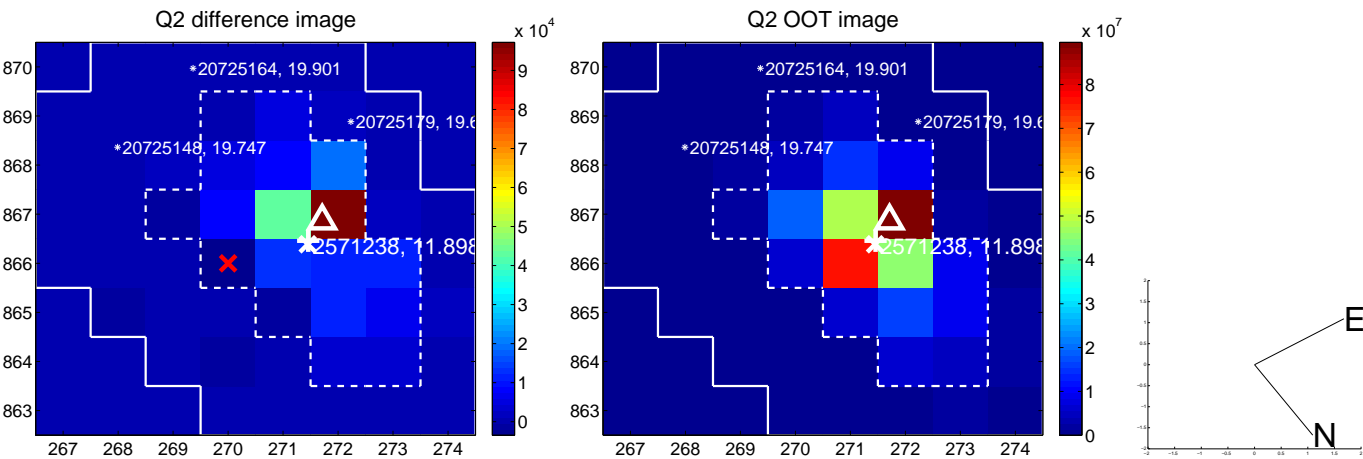
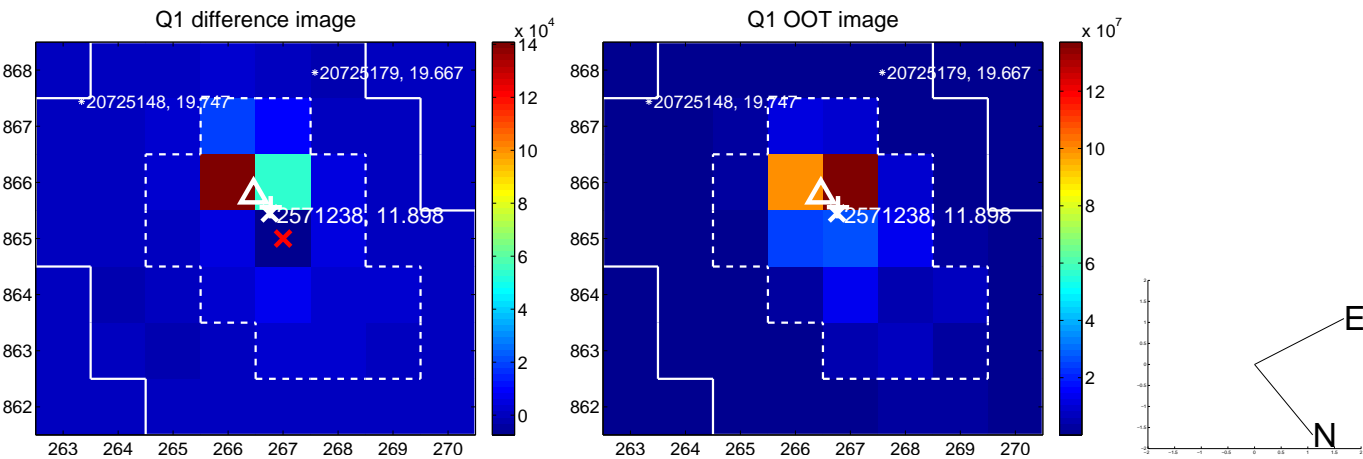
The direct PRF centroid is offset from the target star catalog position by about 0.55 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.069 ± 0.150	0.46	-0.046 ± 0.136	0.052 ± 0.141
PRF-fit source offset from KIC position	0.352 ± 0.144	2.44	0.235 ± 0.128	-0.261 ± 0.139
photometric centroid source offset	0.43 ± 0.06	7.04	0.32 ± 0.05	-0.29 ± 0.07

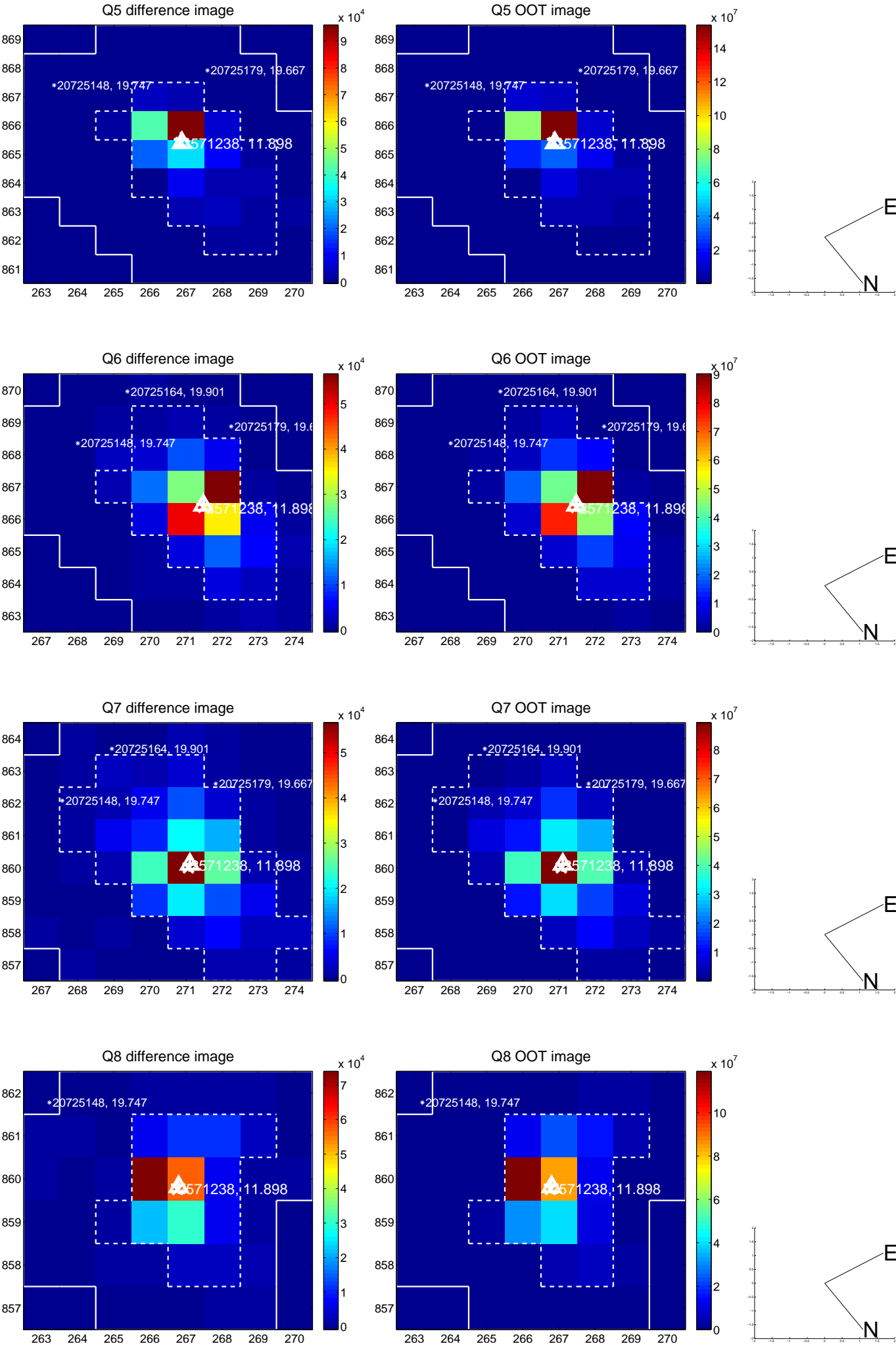


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

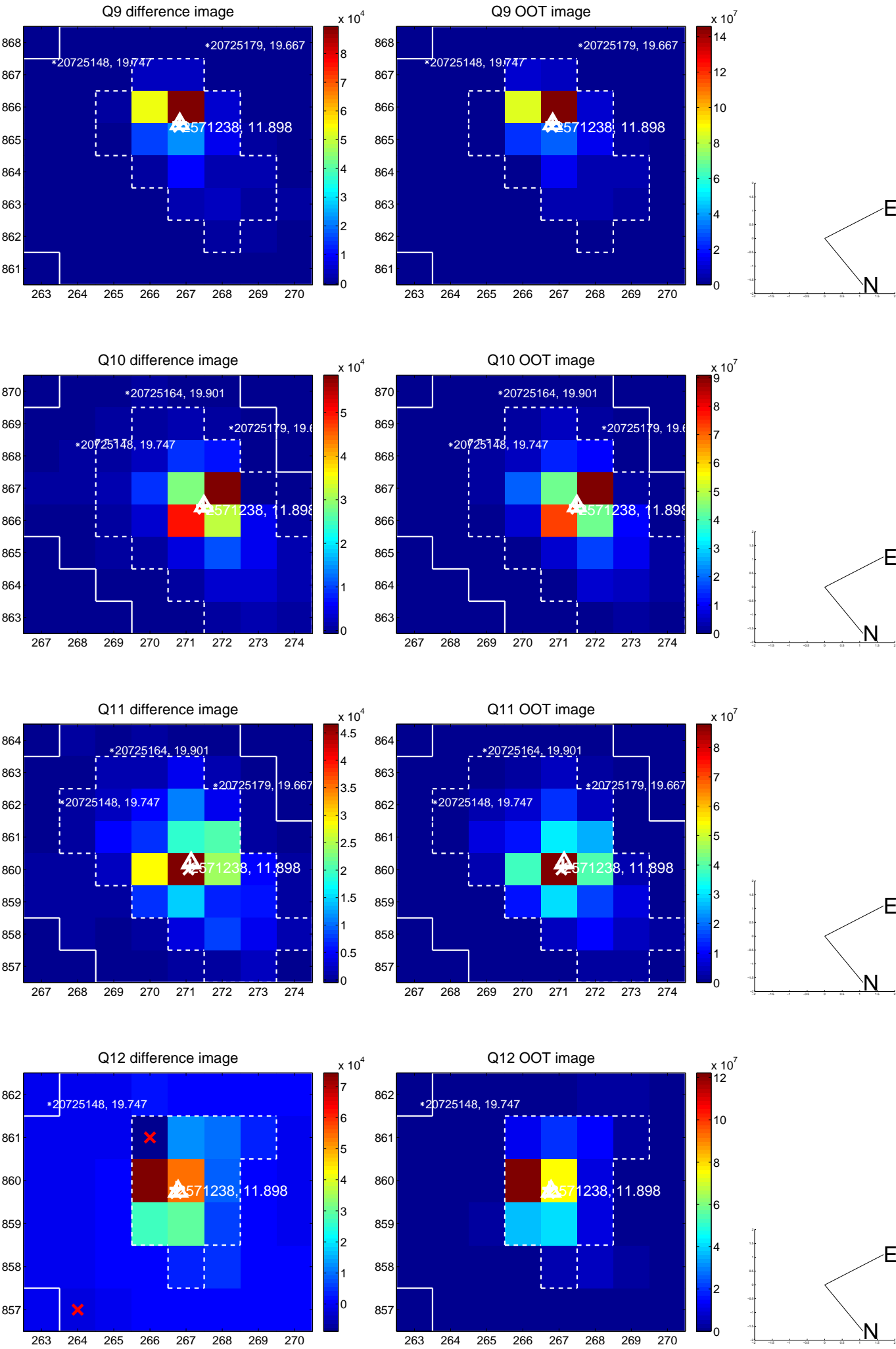
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



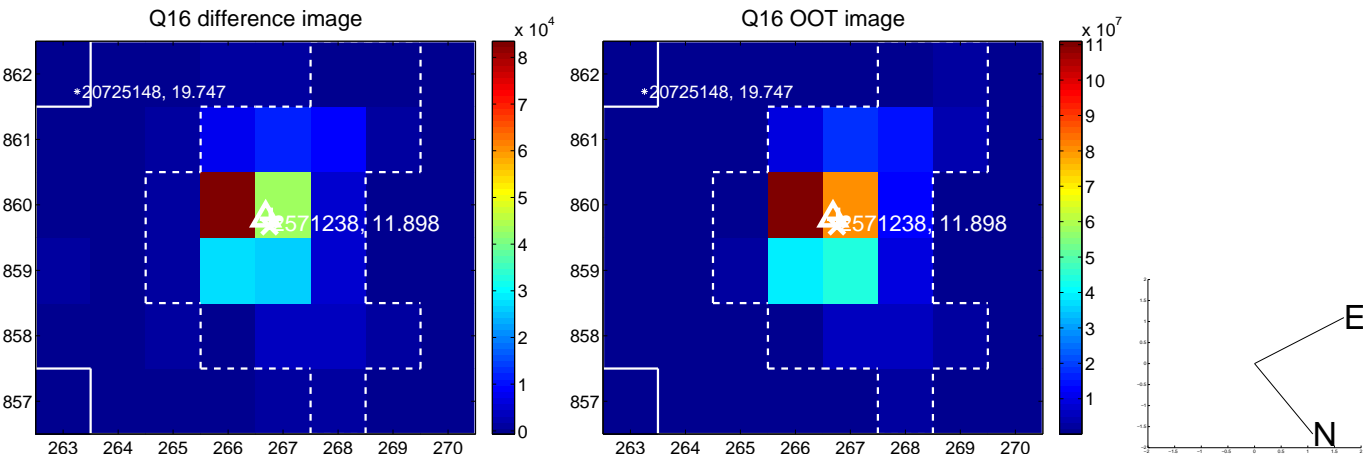
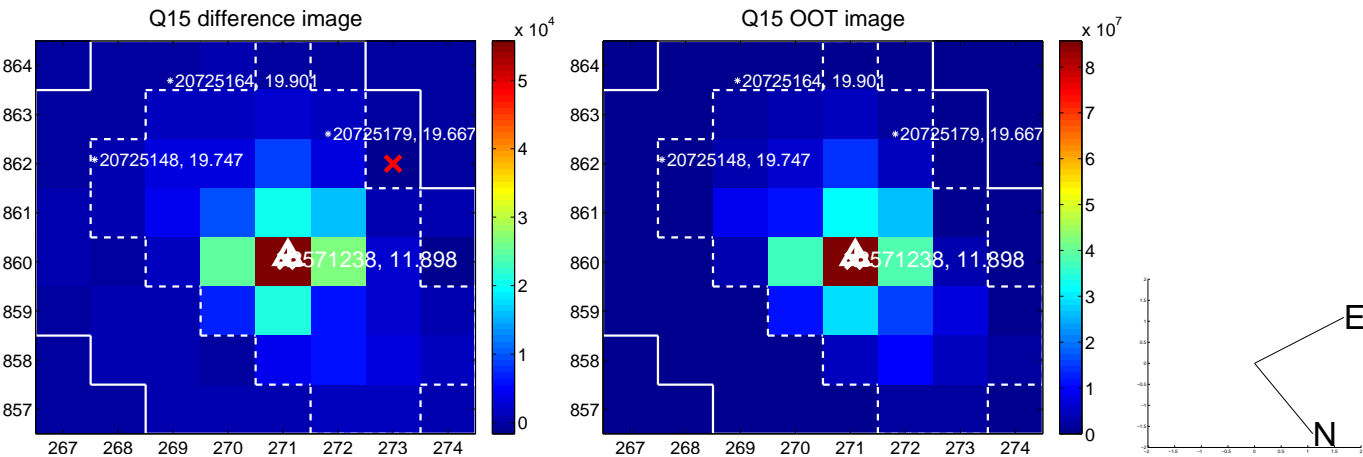
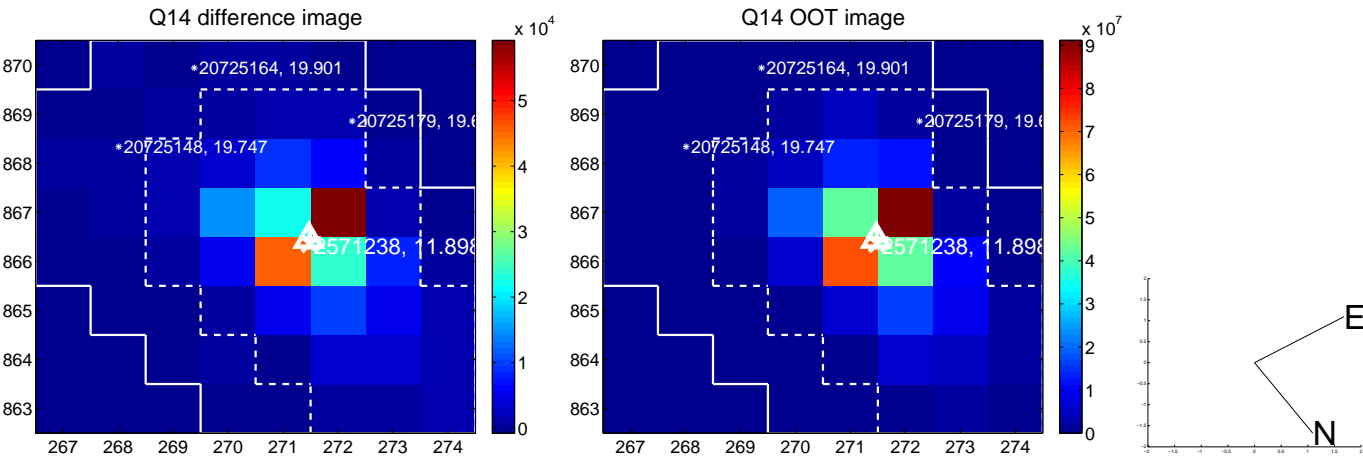
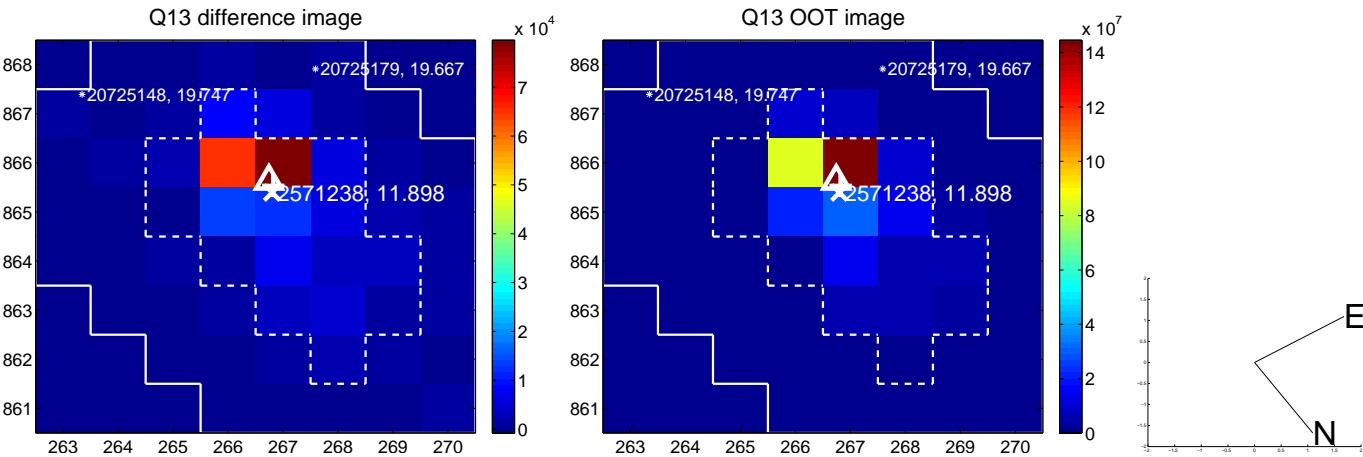
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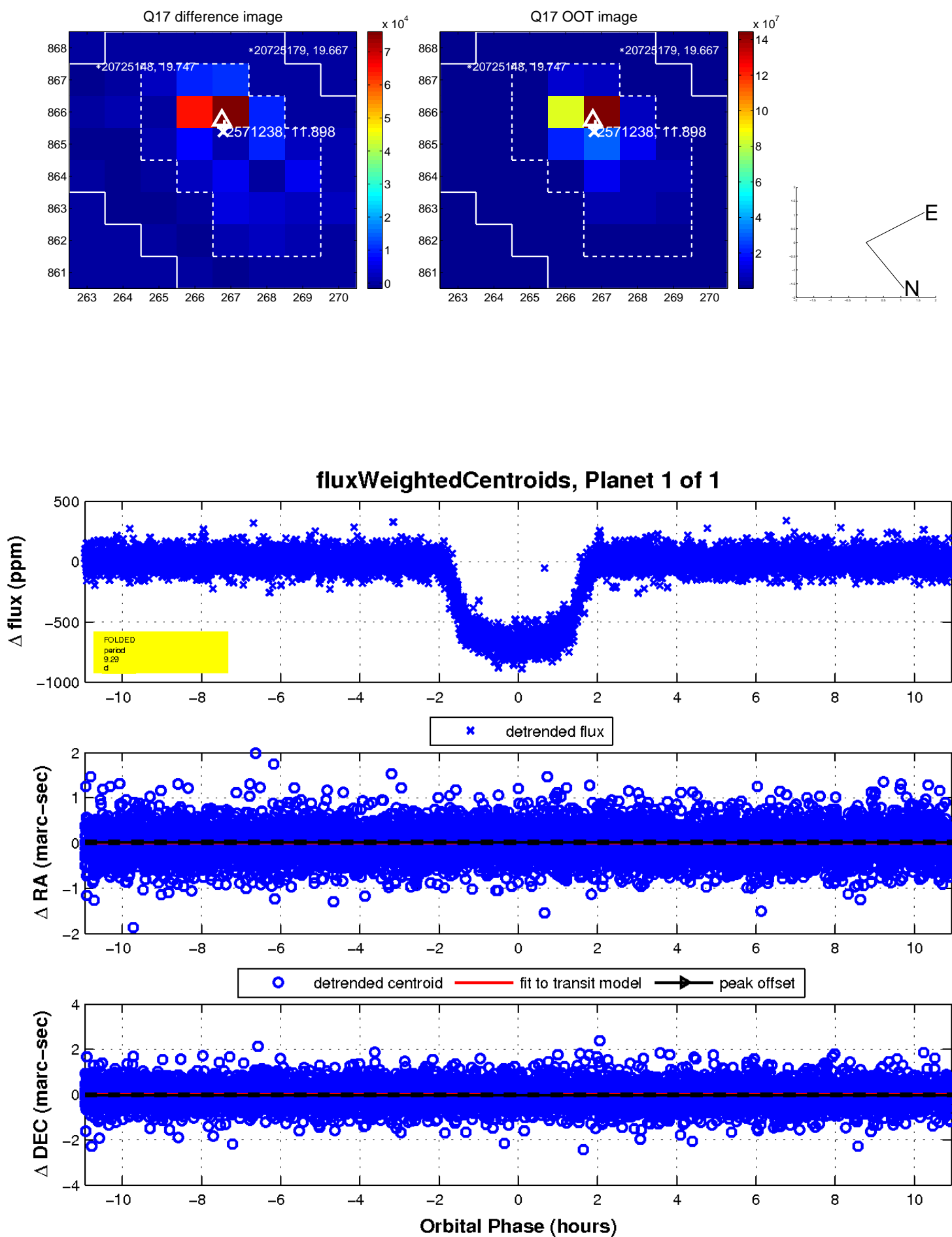
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43.0 42.0 41.0 19:21:40.0 50.0

50.037:51:00.010.0

50:40.0

43.0 42.0 41.0 19:21:40.0 50.0

50.037:51:00.010.0

50:40.0