

KIC 008681527

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})
008681527-01	OBS	No	0.576867	131.791121	183.4	5.609	40.0	7.1	0.58	3975	0.77	593.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008681527-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

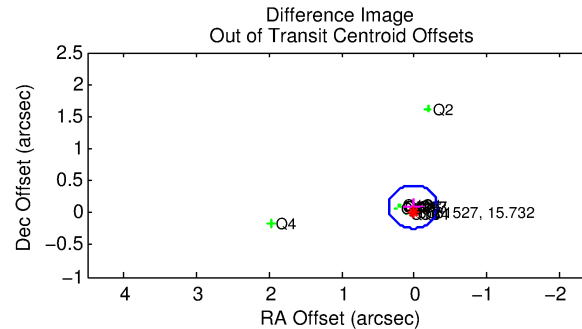
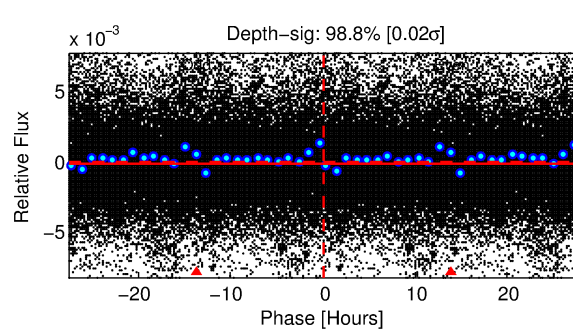
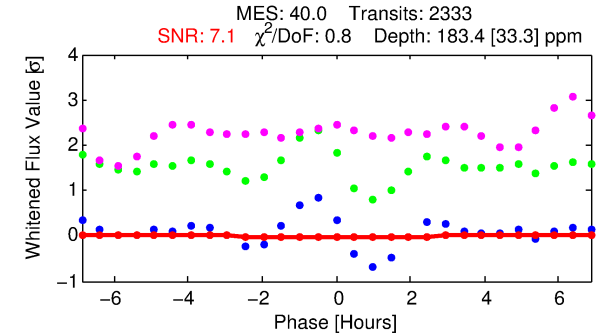
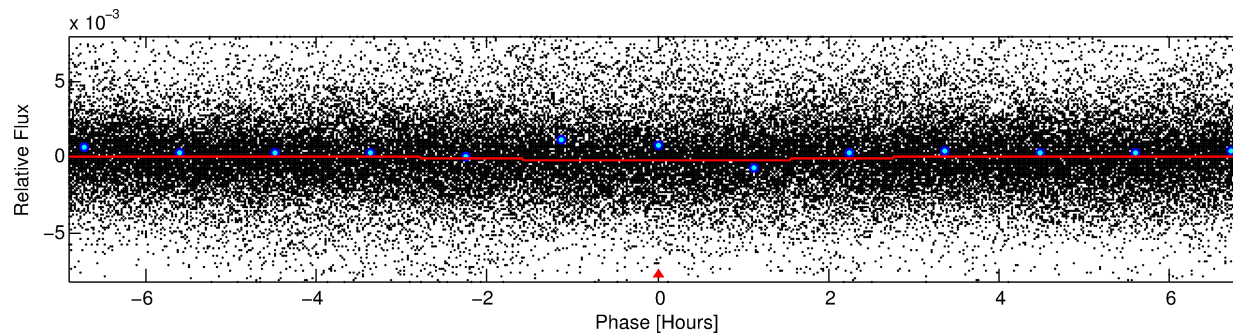
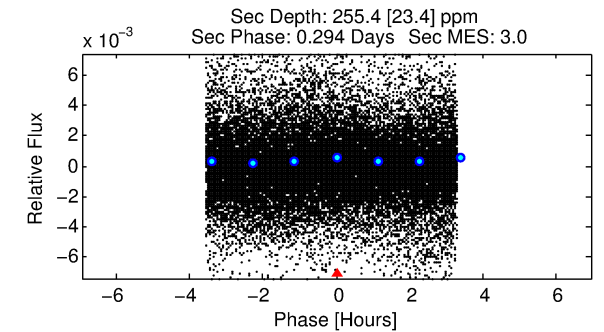
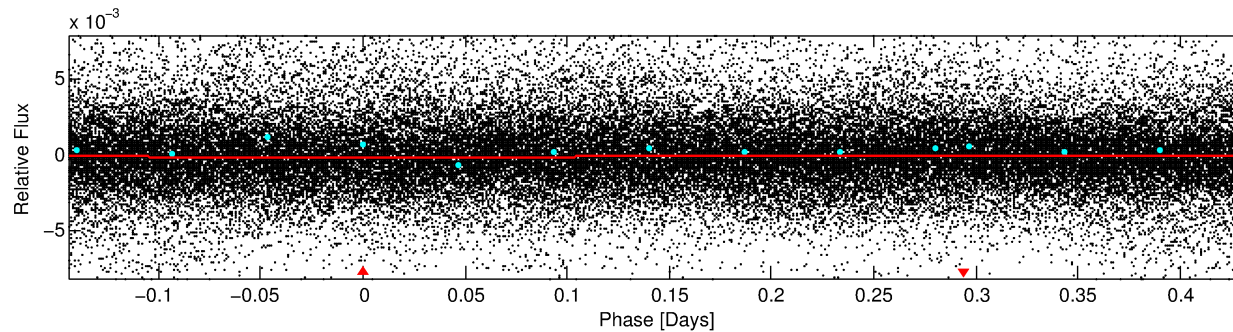
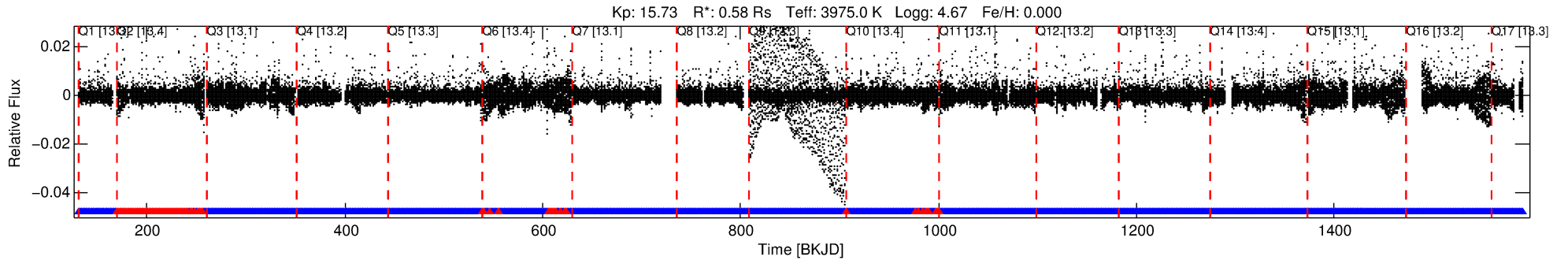
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008681527-01

No Significant Match Found

DV One-Page Summary

KIC: 8681527 Candidate: 1 of 1 Period: 0.577 d



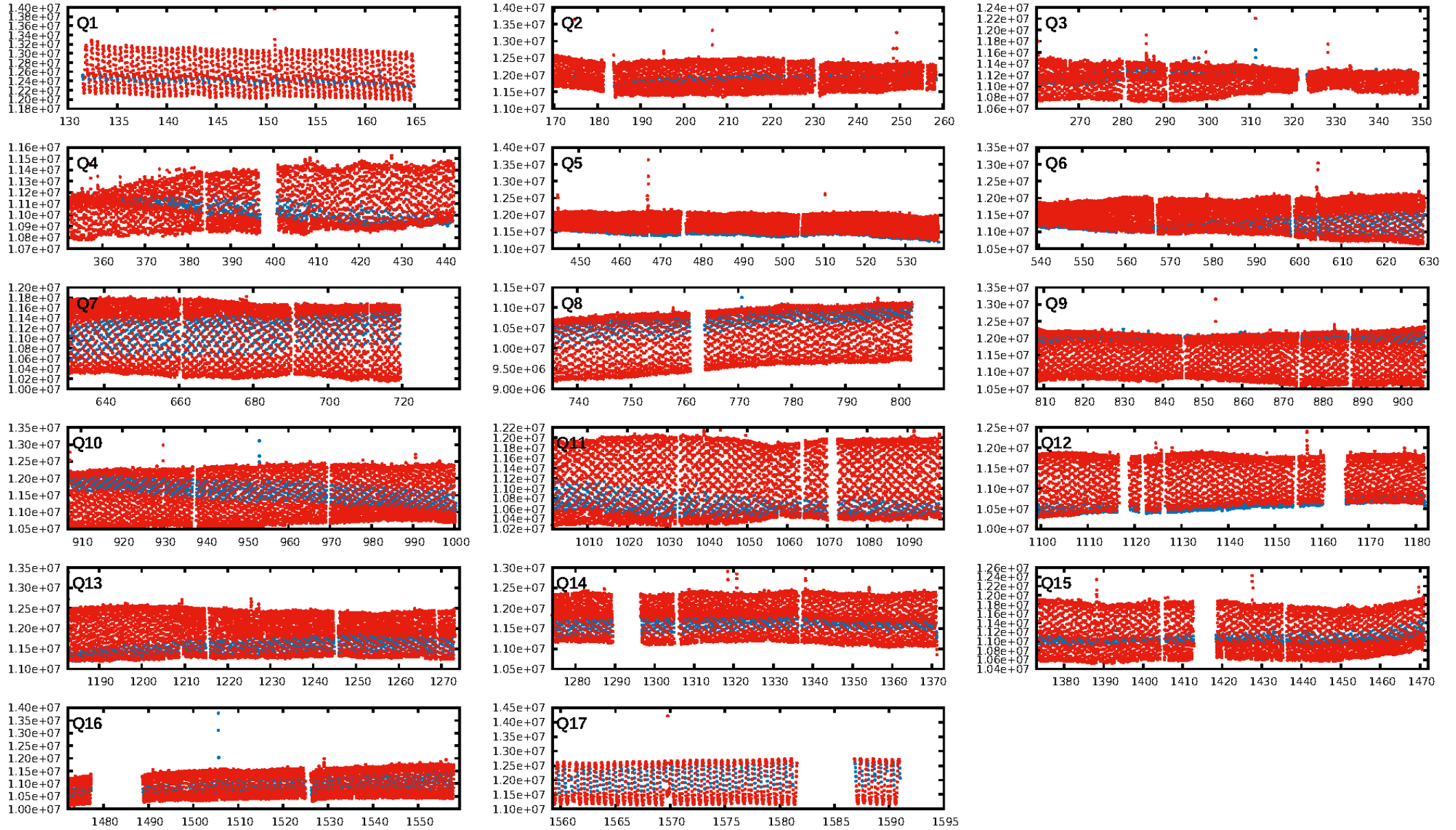
DV Fit Results:

Period = 0.57687 [0.00001] d
Epoch = 131.7911 [0.0037] BKJD
Rp/R* = 0.0121 [0.0075]
a/R* = 1.06 [0.26]
b = 0.00 [903.00]
Seff = 593.95 [79.02]
Teq = 1259 [42] K
Rp = 0.77 [0.48] Re
a = 0.0113 [0.0006] AU
Ag = 30.44 [38.08] [0.77σ]
Teffp = 4572 [1433] K [2.31σ]

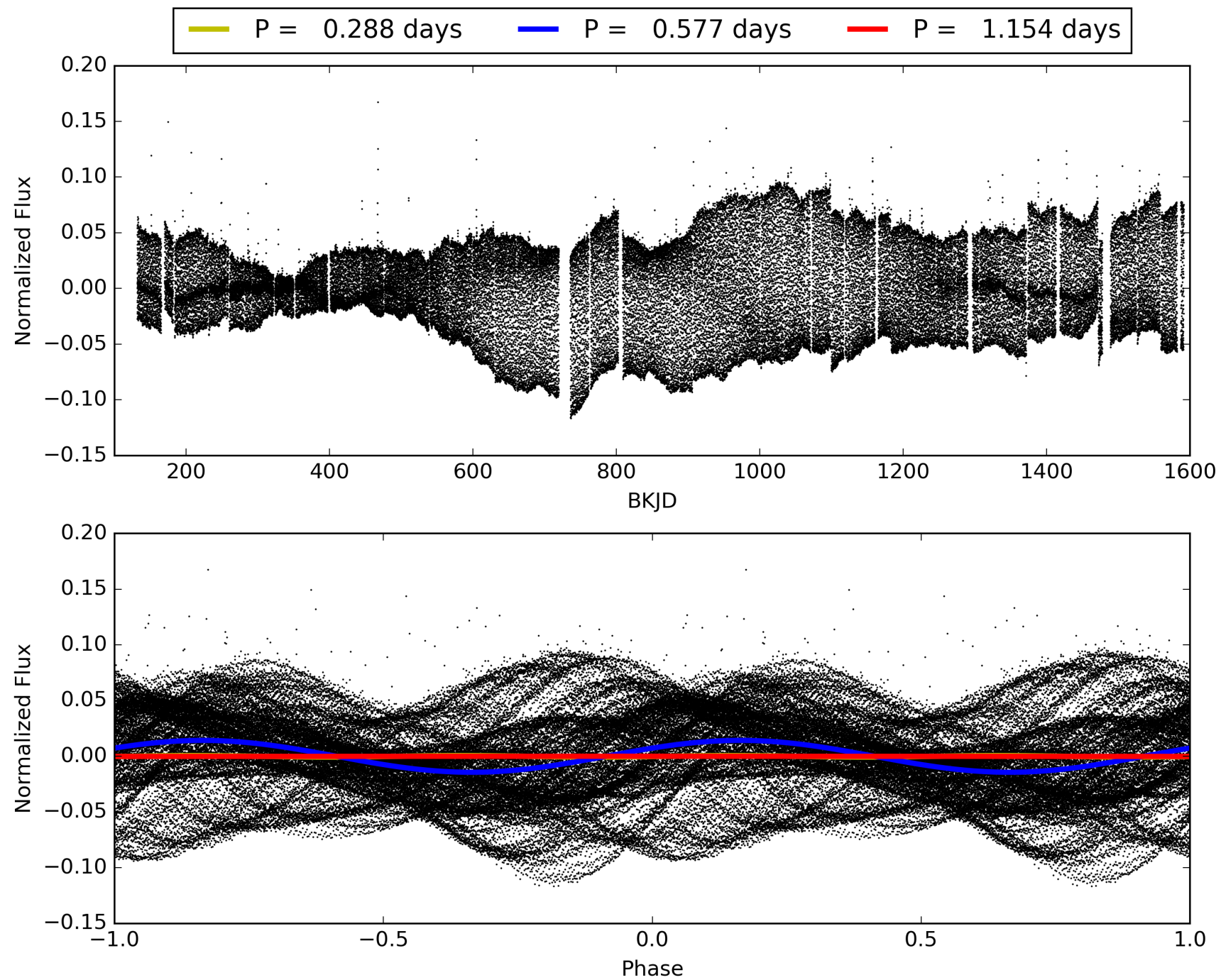
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.93 [2075/2229]
GhostDiagnostic-chr: 2.165
Centroid-sig: 5.7%
Centroid-so: 0.730 arcsec [1.58σ]
OotOffset-rm: 0.094 arcsec [0.84σ]
KicOffset-rm: 0.266 arcsec [1.89σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.41 [7/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008681527-01, PDC Light Curves

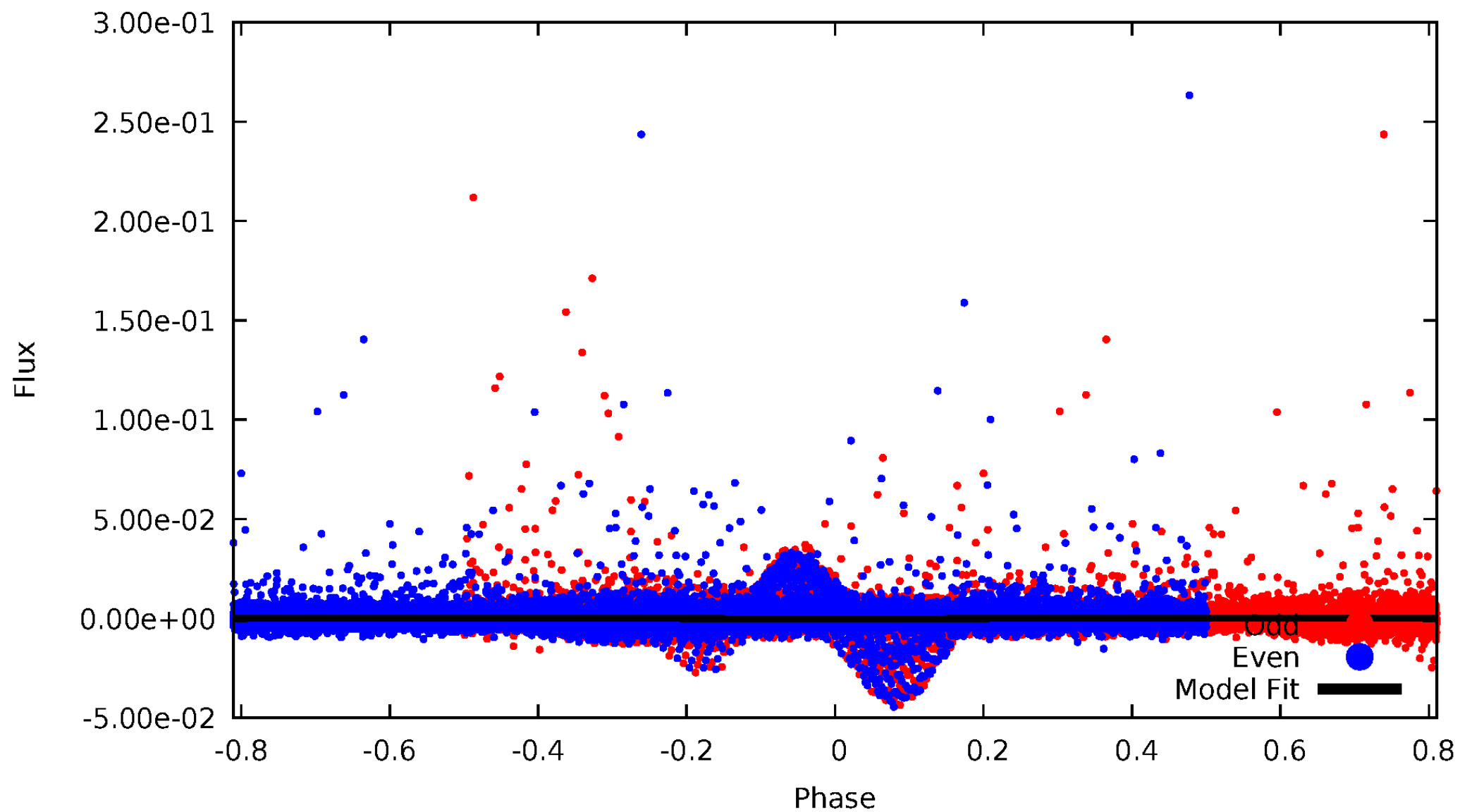


TCE 008681527-01



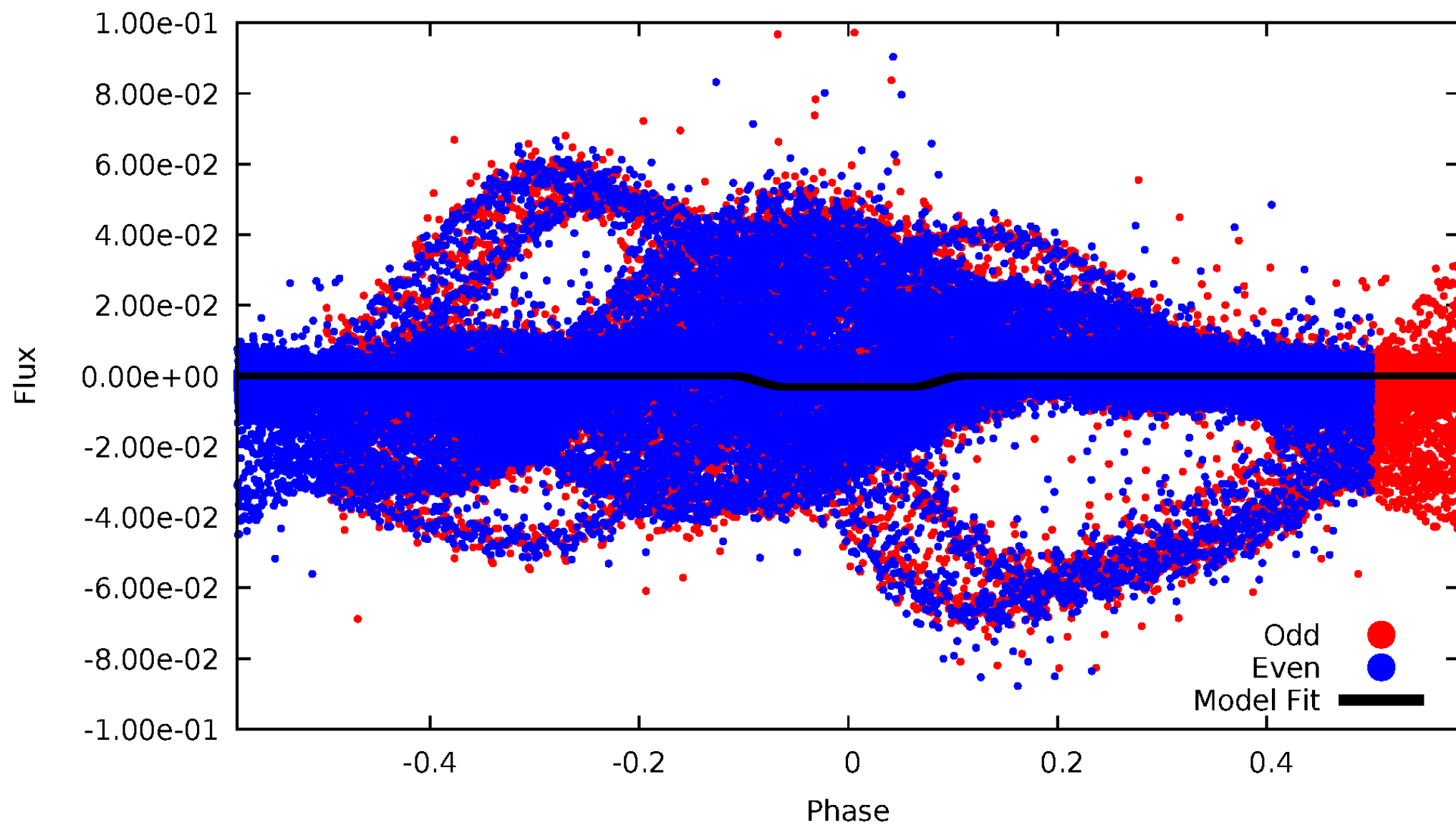
DV Odd/Even

TCE 008681527-01



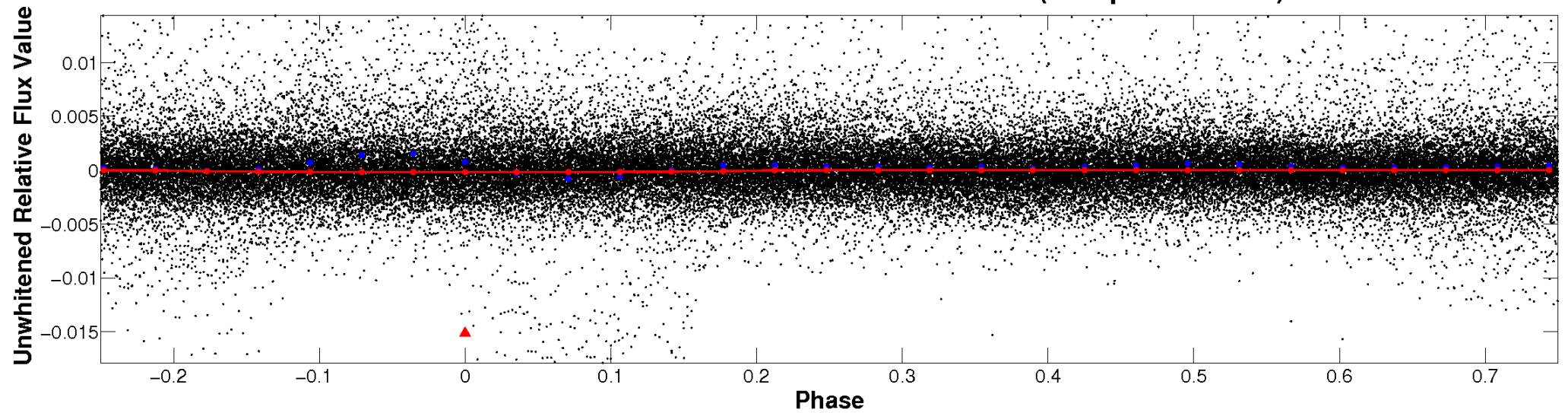
ALT Odd/Even

TCE 008681527-01

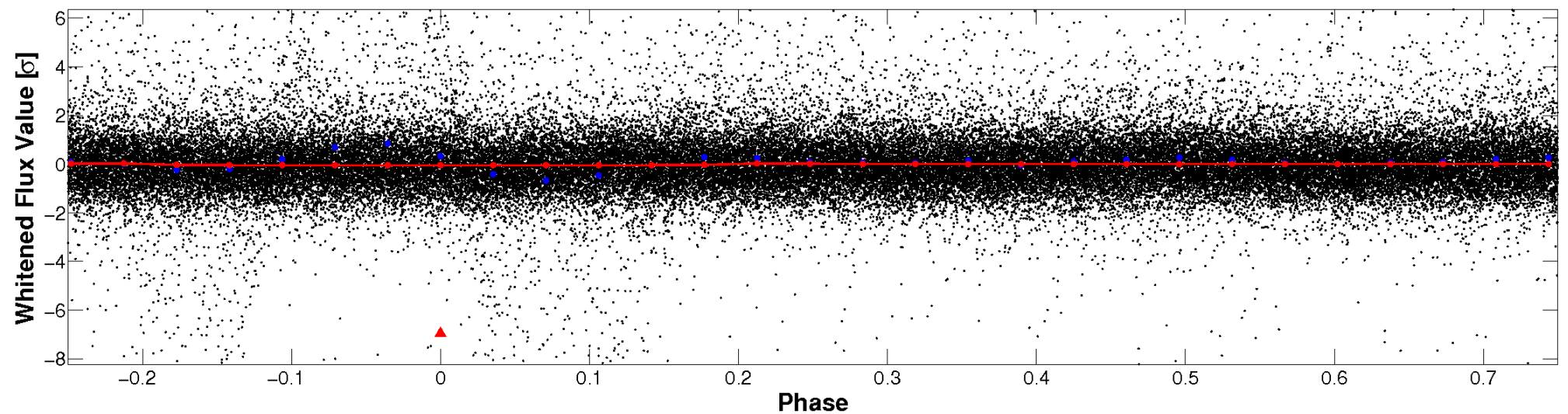


Non-Whitened Vs. Whitened Light Curve

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

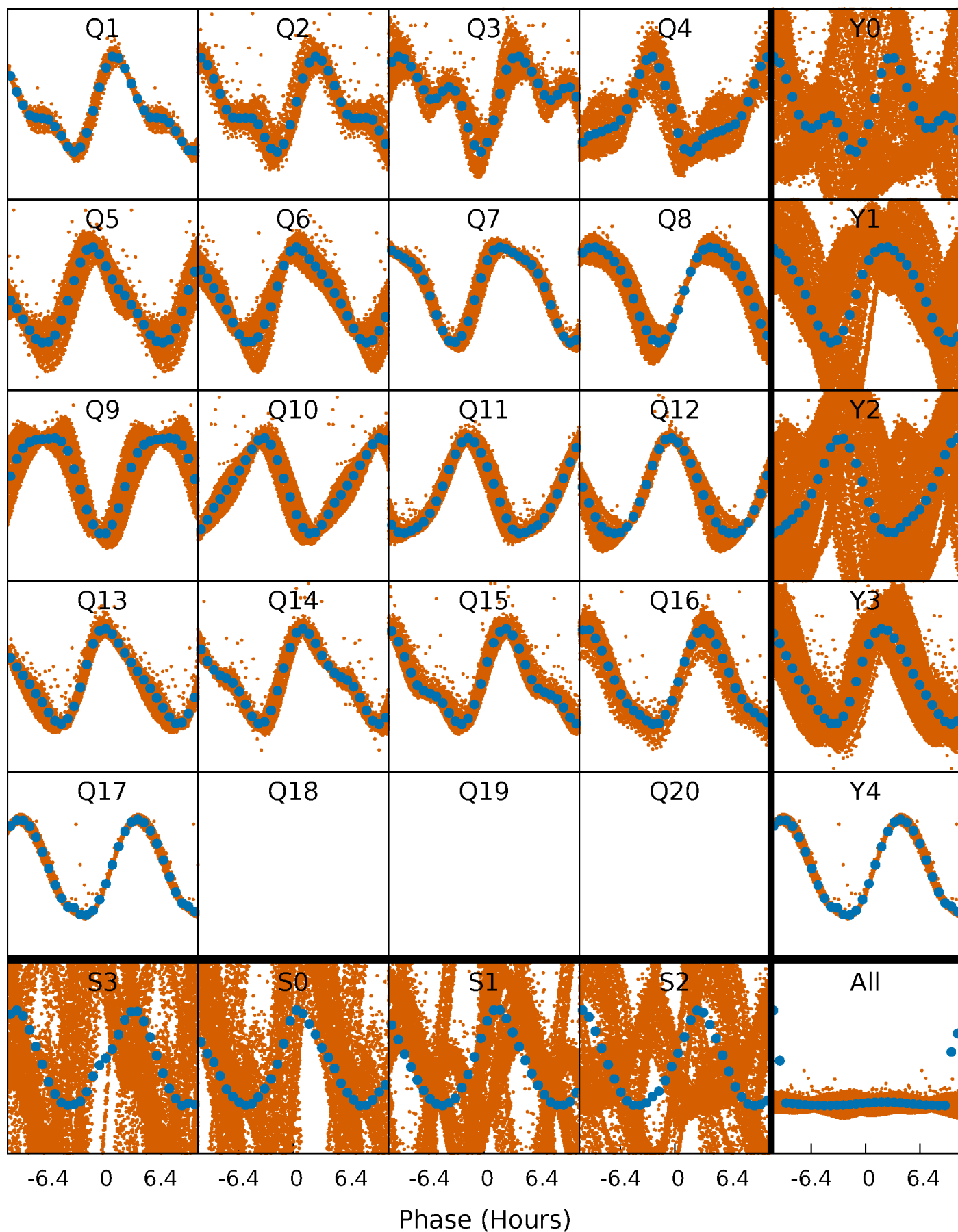


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



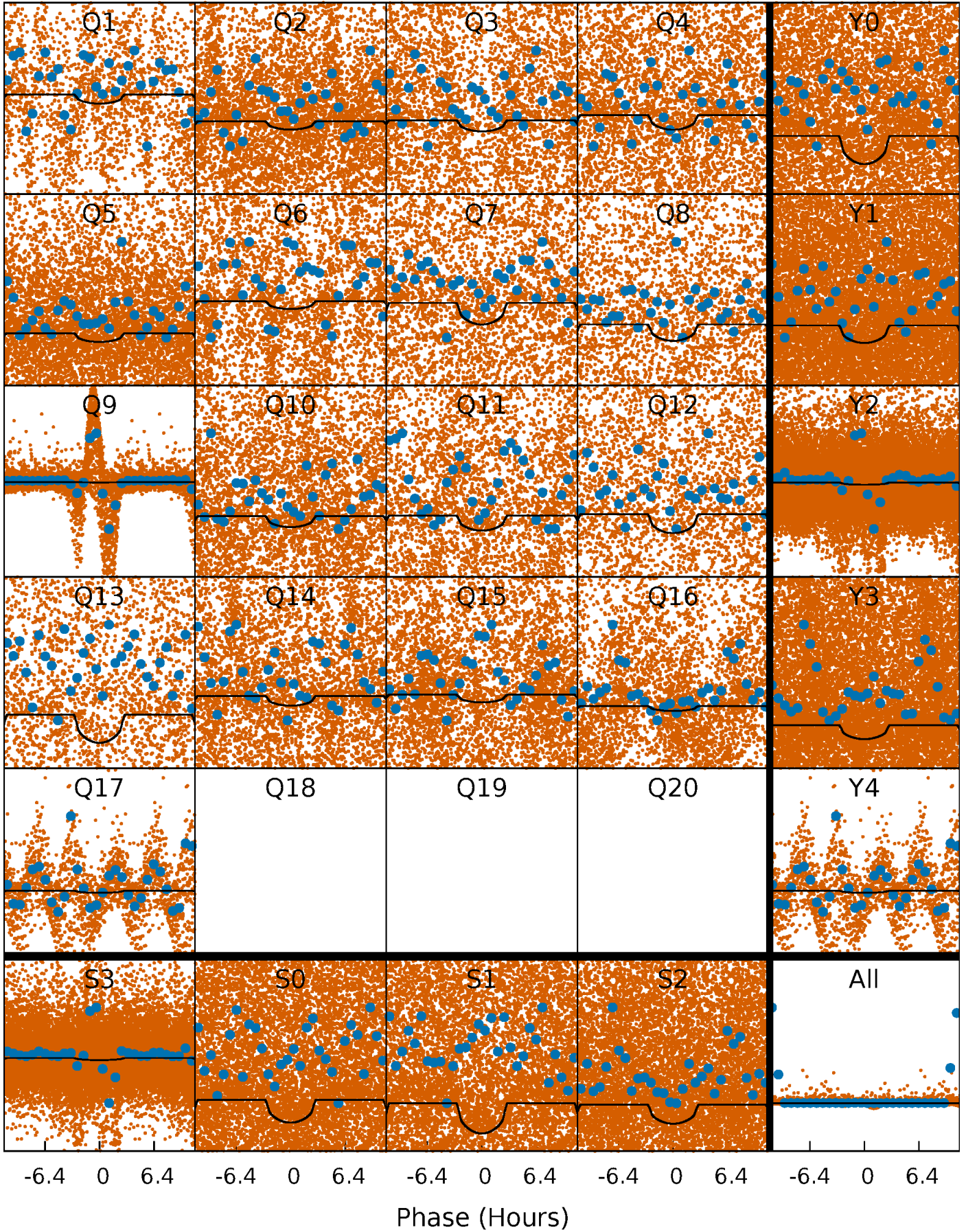
PDC Quarter-Phased Transit Curves

TCE 008681527-01 P= 0.576867 Days $T_0=131.791121$ (BKJD)



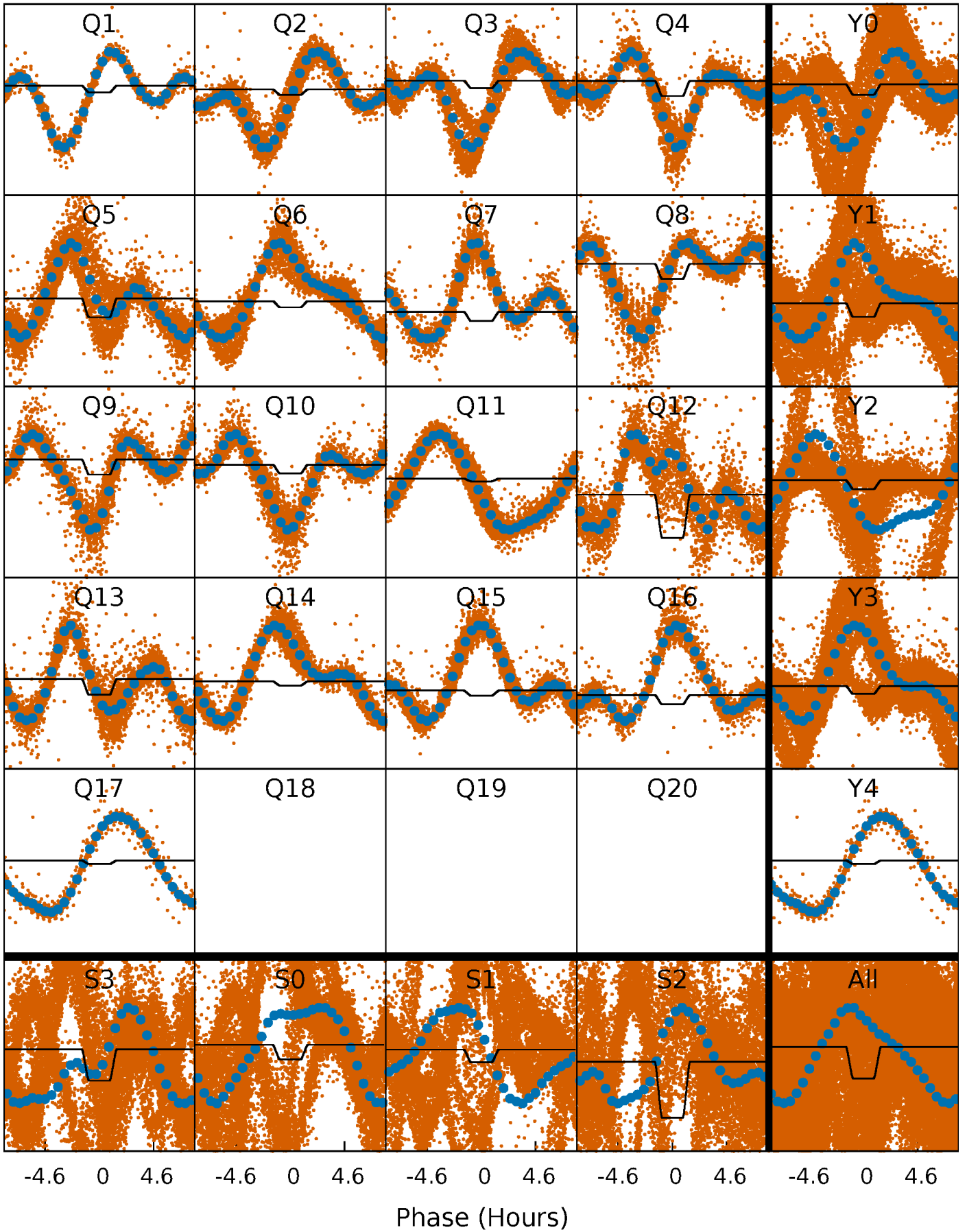
DV Quarter-Phased Transit Curves

TCE 008681527-01 P= 0.576867 Days $T_0=131.791121$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

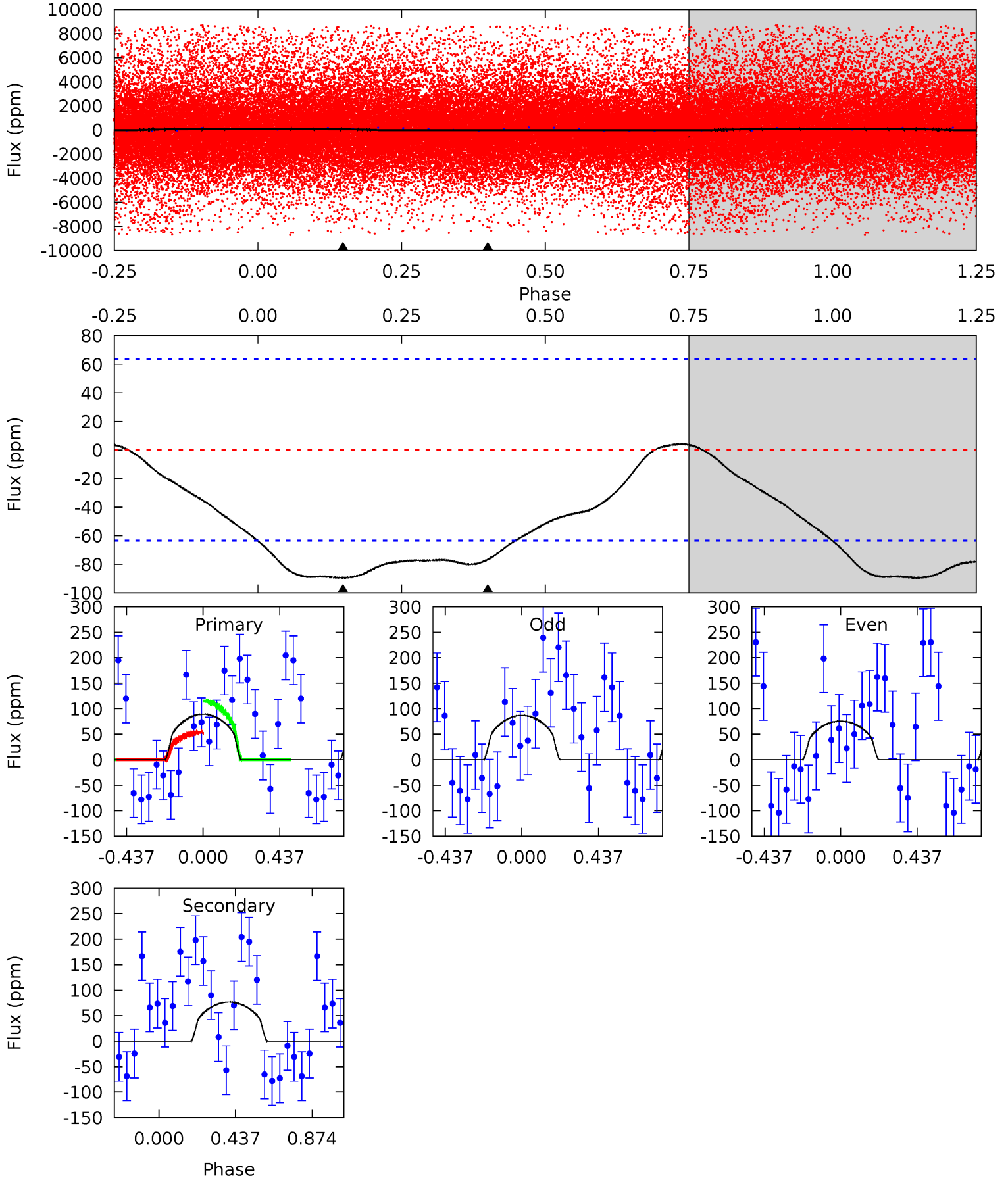
TCE 008681527-01 P= 0.576905 Days $T_0=131.801217$ (BKJD)



DV Model-Shift Uniqueness Test

008681527-01, P = 0.576867 Days, E = 131.214254 Days

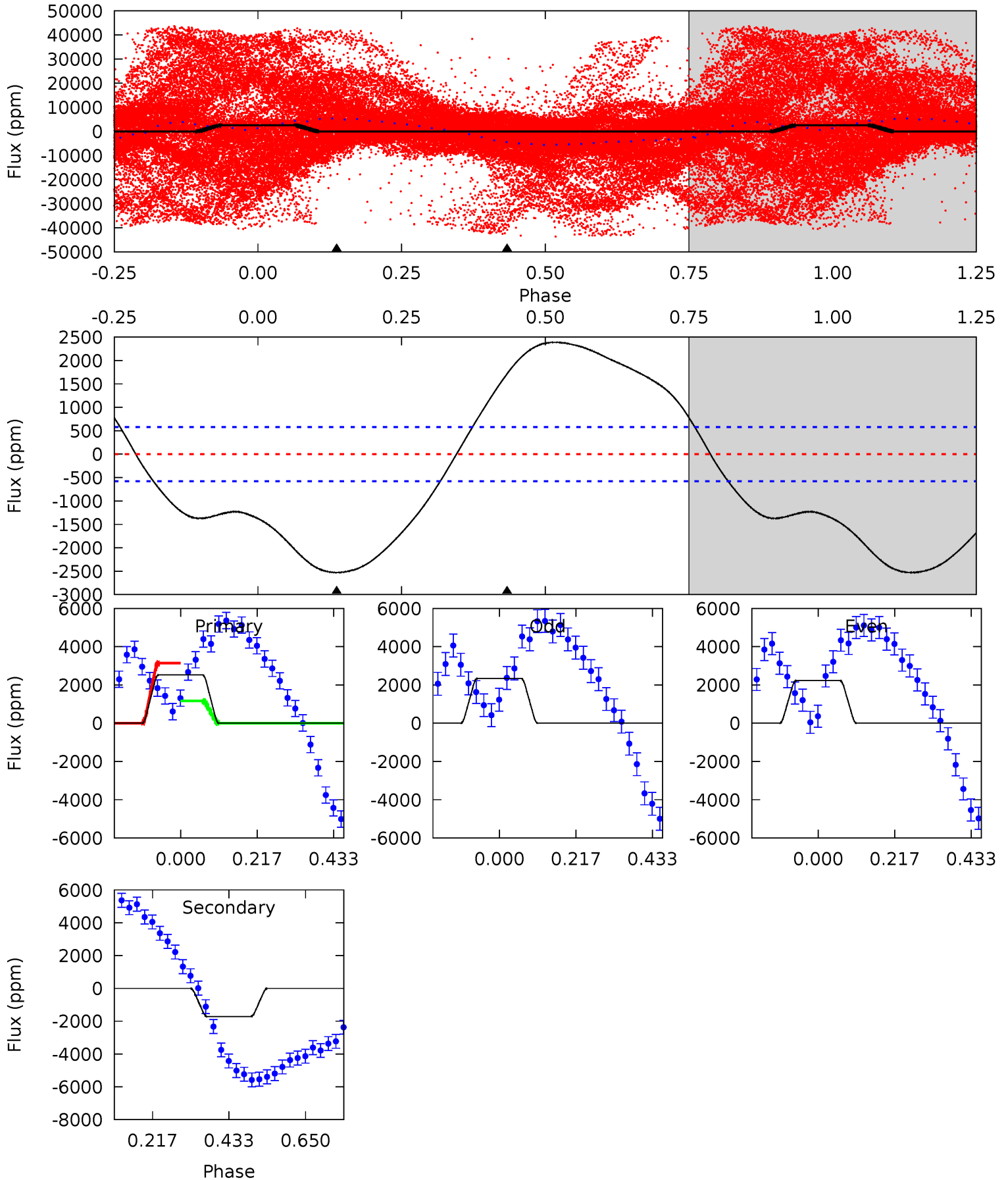
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.98	5.13	0	0	4.24	0.78	0.41	5.98	5.98	5.13	5.13	0.39	2.49	0.04	2.11



Alt Model-Shift Uniqueness Test

008681527-01, P = 0.576905 Days, E = 131.224312 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	-13.0	0	0	4.40	1.24	8.72	19.2	19.2	-13.0	-13.0	0.42	-9.55	0.49	11.1



Stellar Parameters For KIC 008681527

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3975^{+109}_{-1}	$4.671^{+0.039}_{-0.018}$	$0.000^{+0.200}_{-0.200}$	$0.584^{+0.032}_{-0.040}$	$0.583^{+0.043}_{-0.036}$	$4.128^{+0.741}_{-0.351}$
	+3%/-0%	+1%/-0%	+inf%/-inf%	+5%/-7%	+7%/-6%	+18%/-9%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 008681527-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-77 ± 15	$0.83^{+0.45}_{-0.45}$	1743^{+59}_{-84}	3424^{+1079}_{-468}	$7.895^{+28.442}_{-4.681}$
Alt.	1714 ± 132	$3.53^{+0.51}_{-0.48}$	1749^{+54}_{-89}	-3588^{+188}_{-227}	$-9.797^{+2.259}_{-3.602}$

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 $A_{obs} \gg 1.0$

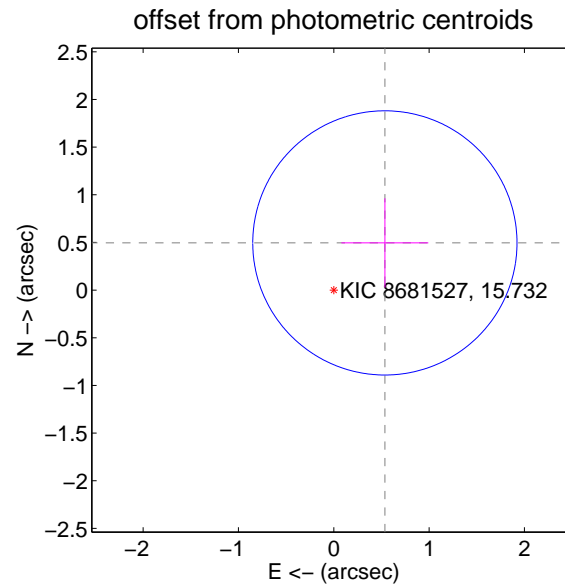
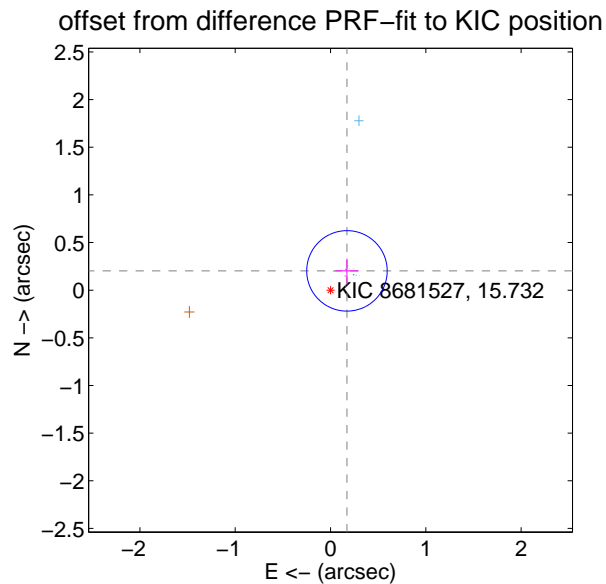
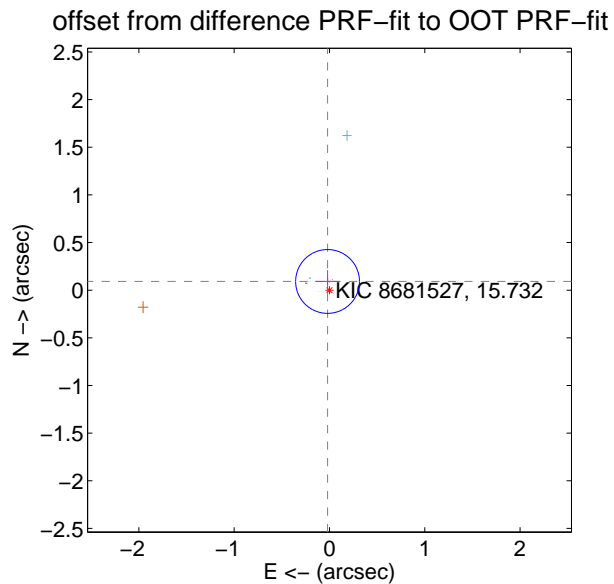
DV Centroid Data

Supplemental centroid analysis for 008681527-01. Kepler magnitude: 15.73. Transit SNR 7.08

There are 7 quarters with good PRF difference image offsets

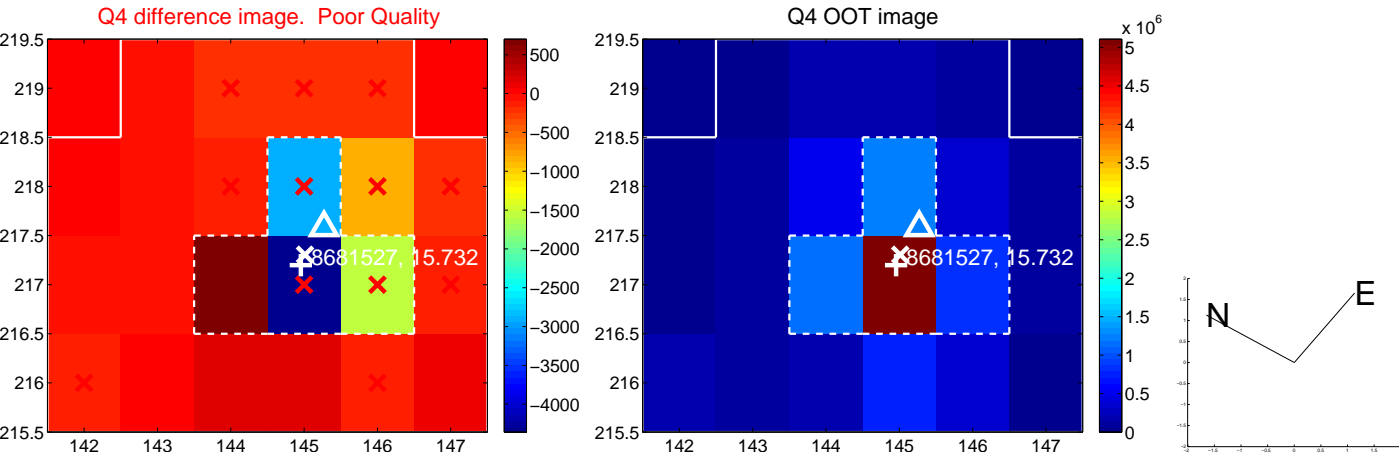
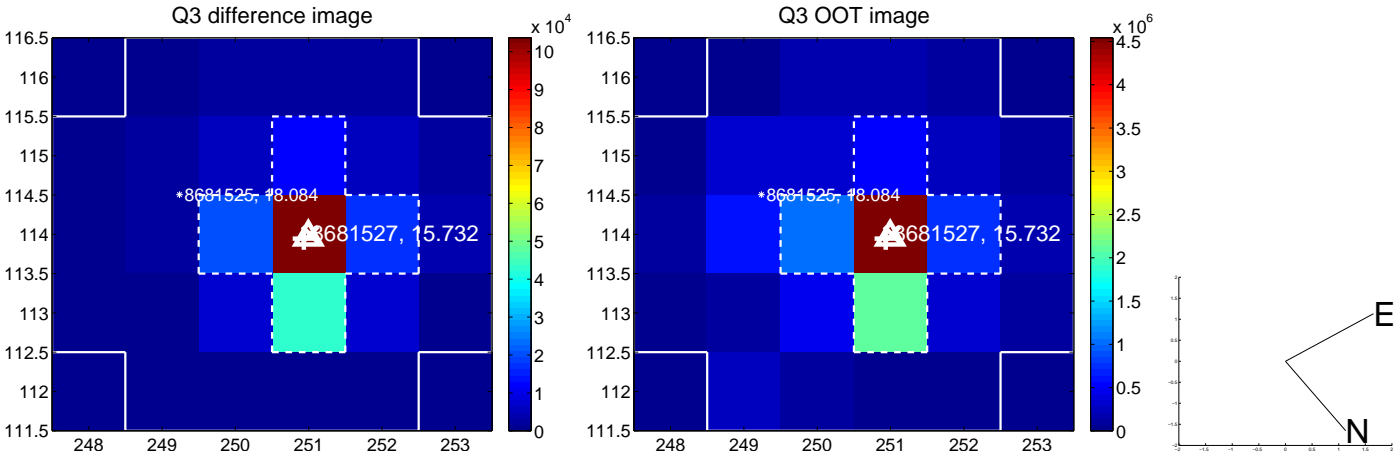
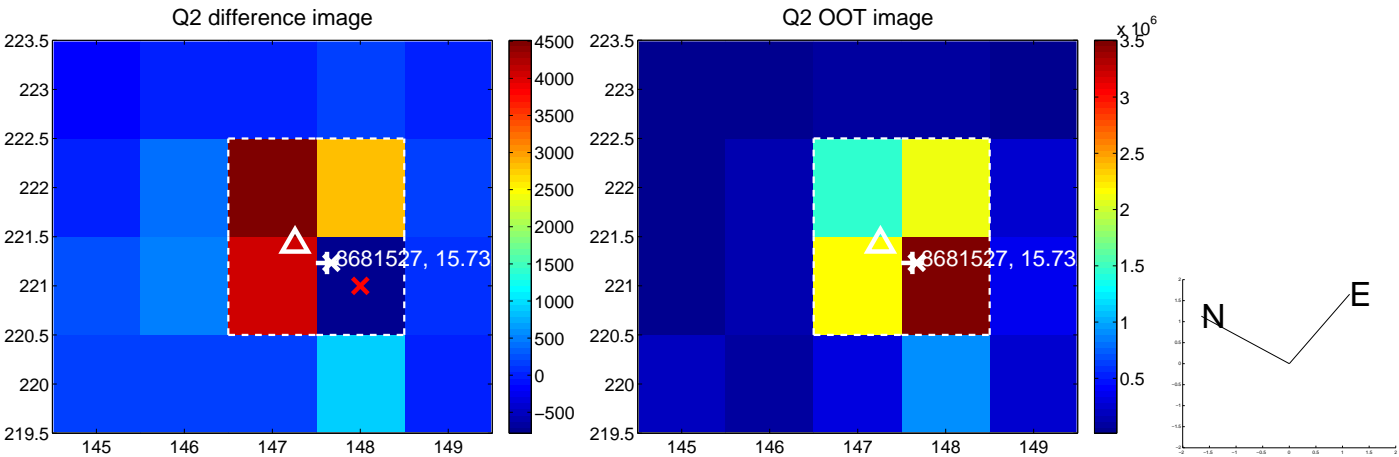
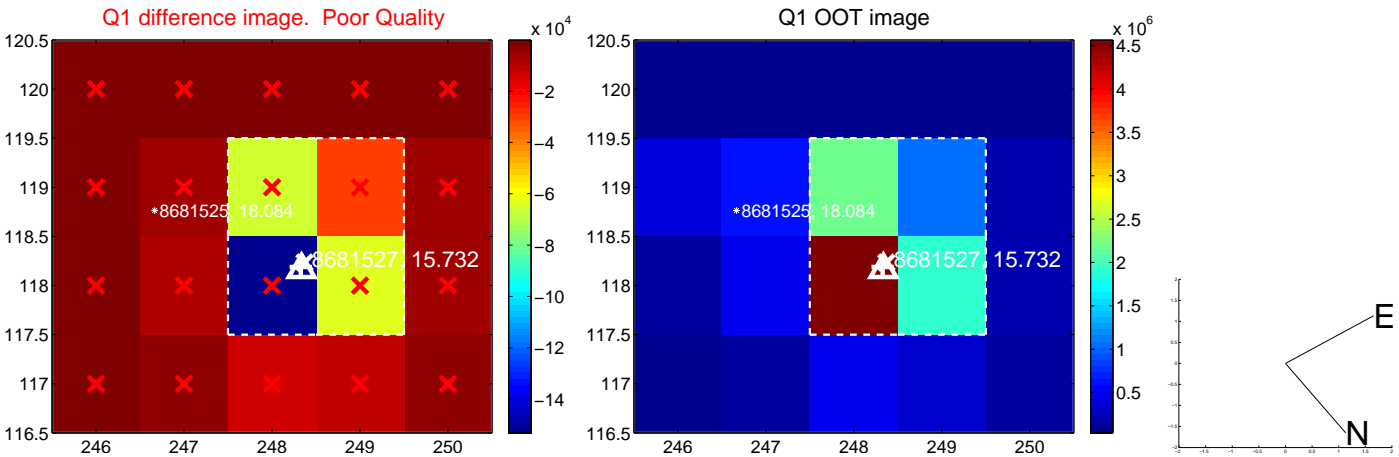
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.094 ± 0.112	0.84	0.020 ± 0.129	0.092 ± 0.118
PRF-fit source offset from KIC position	0.266 ± 0.141	1.89	-0.173 ± 0.122	0.202 ± 0.130
photometric centroid source offset	0.73 ± 0.46	1.58	-0.54 ± 0.46	0.50 ± 0.47

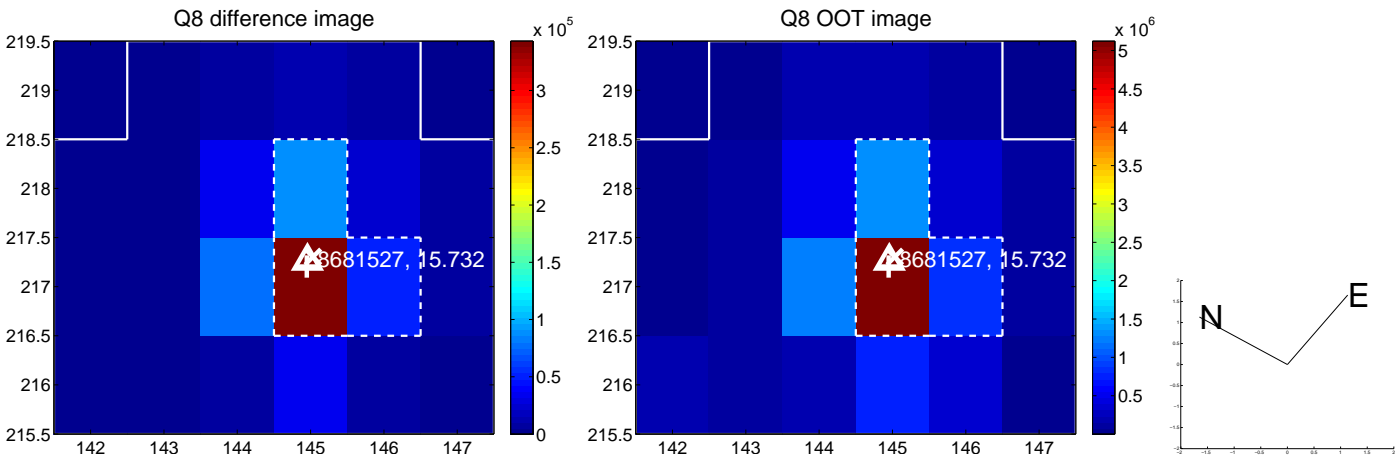
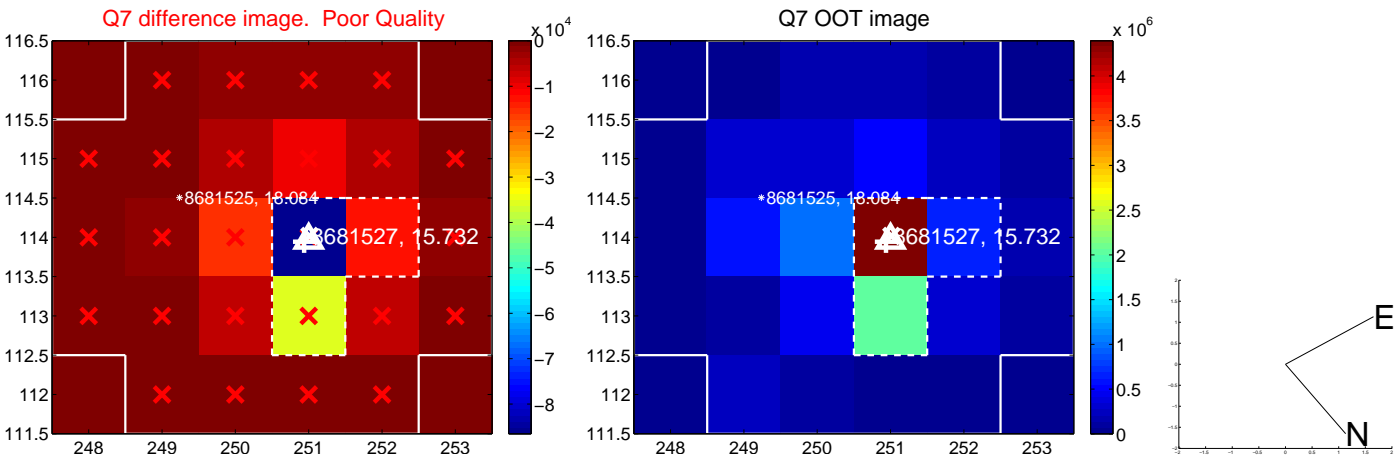
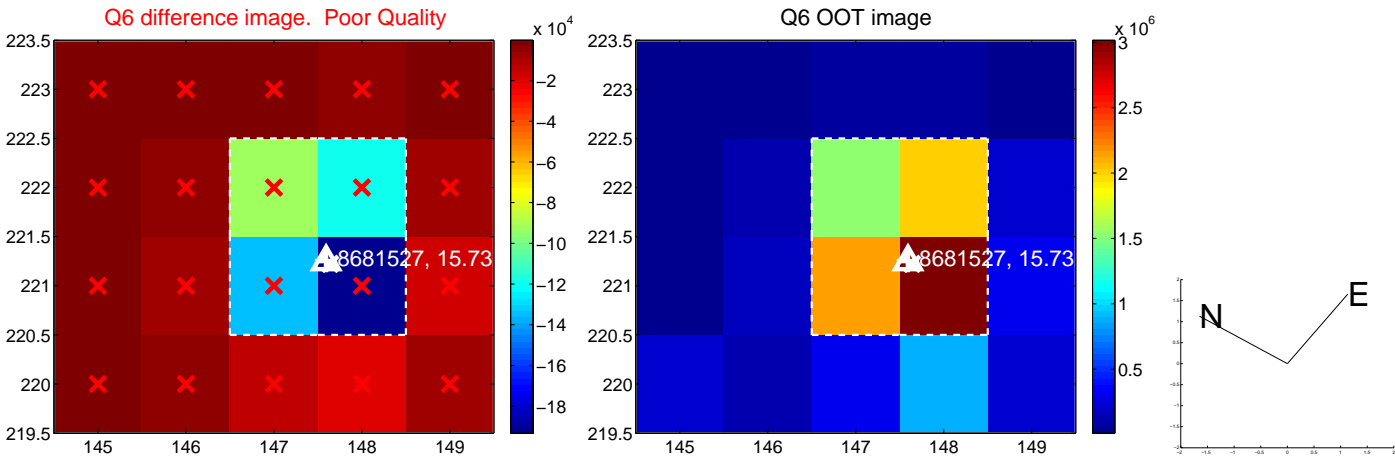
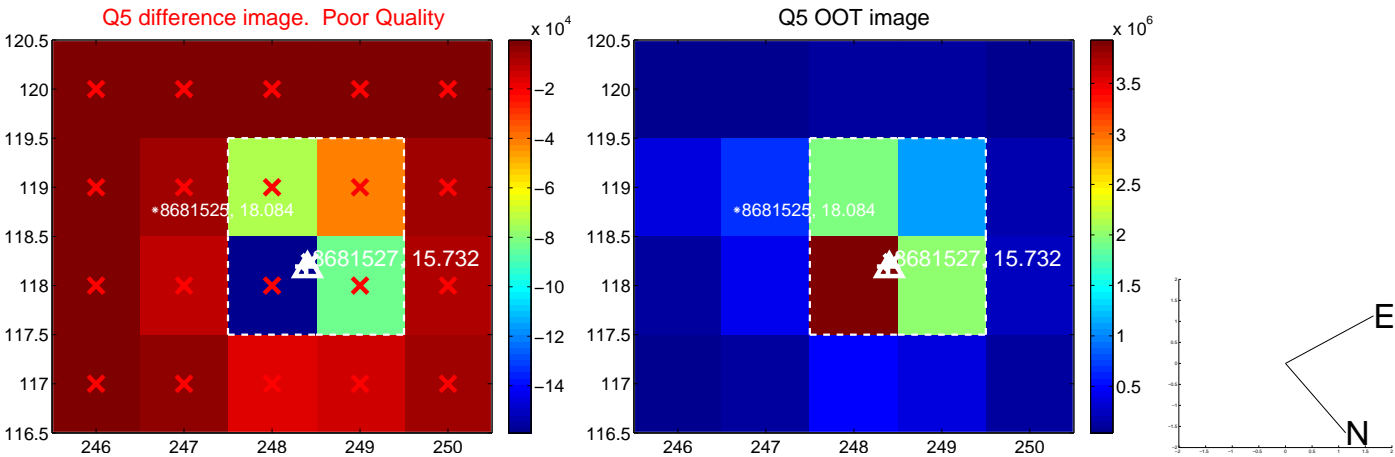


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

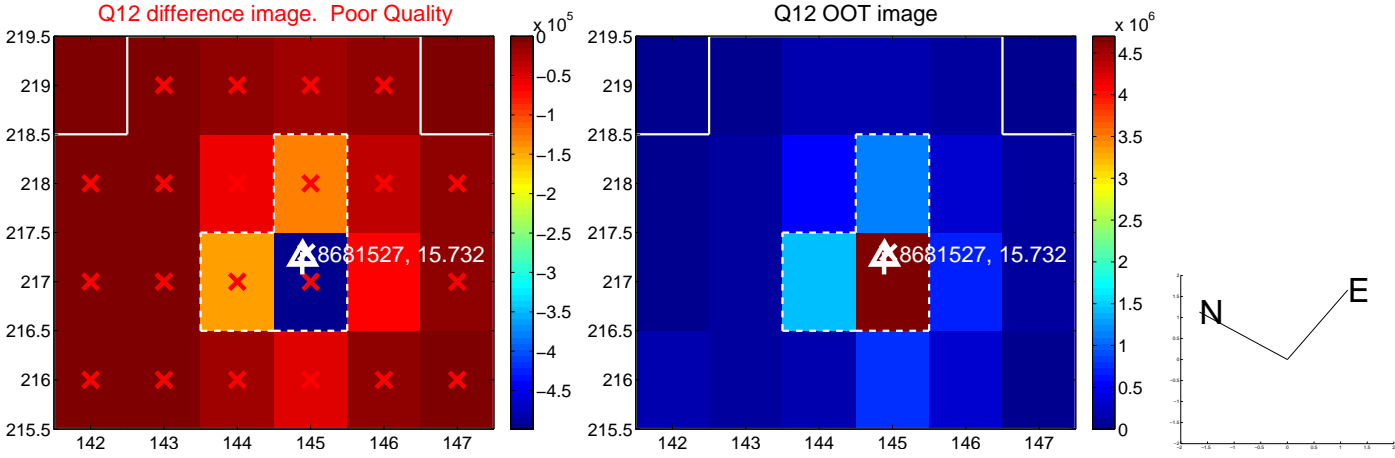
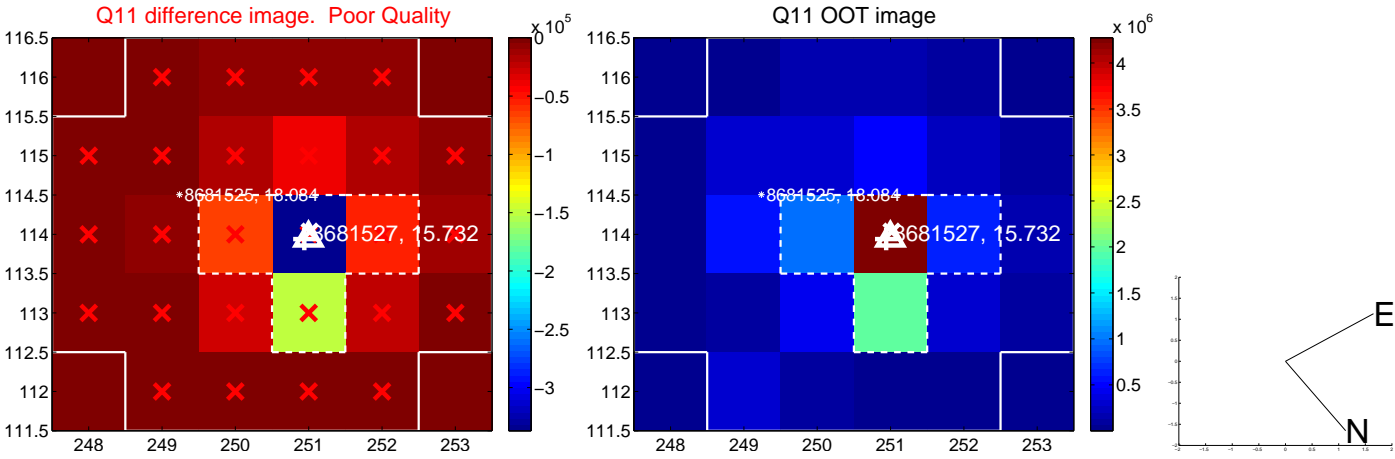
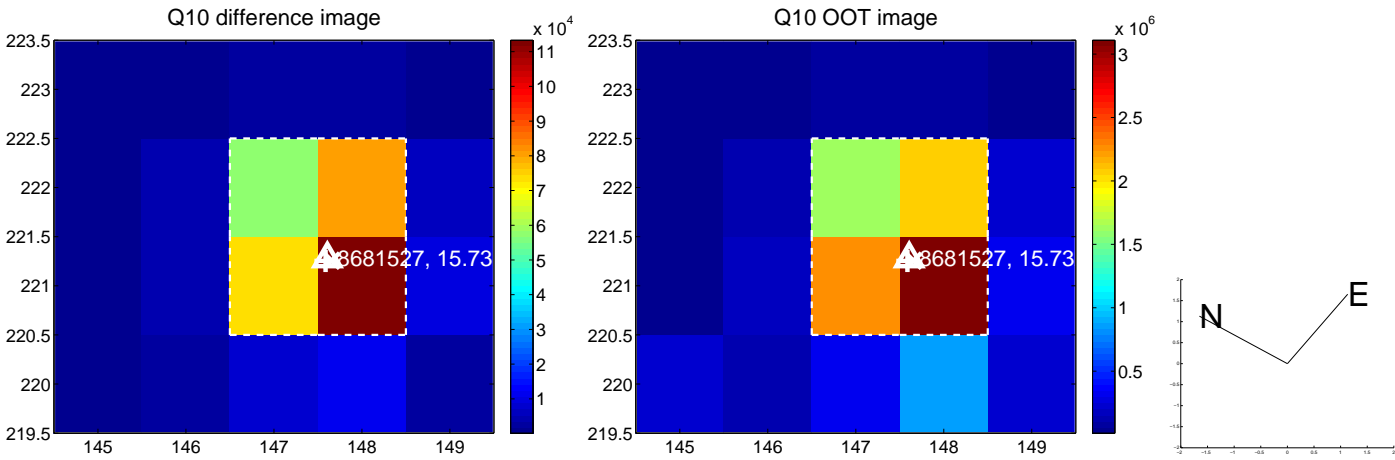
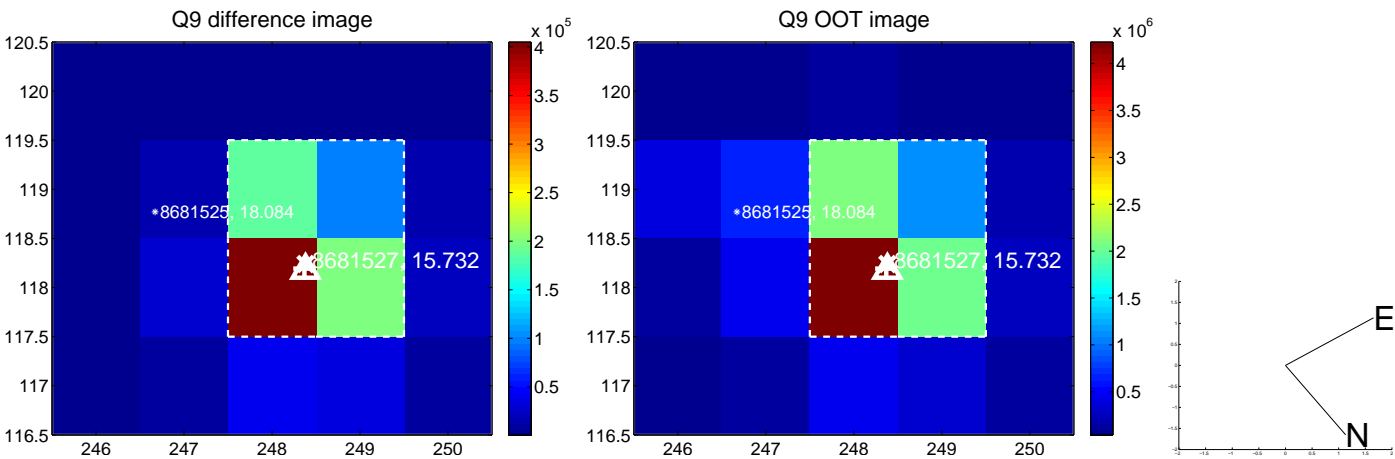
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



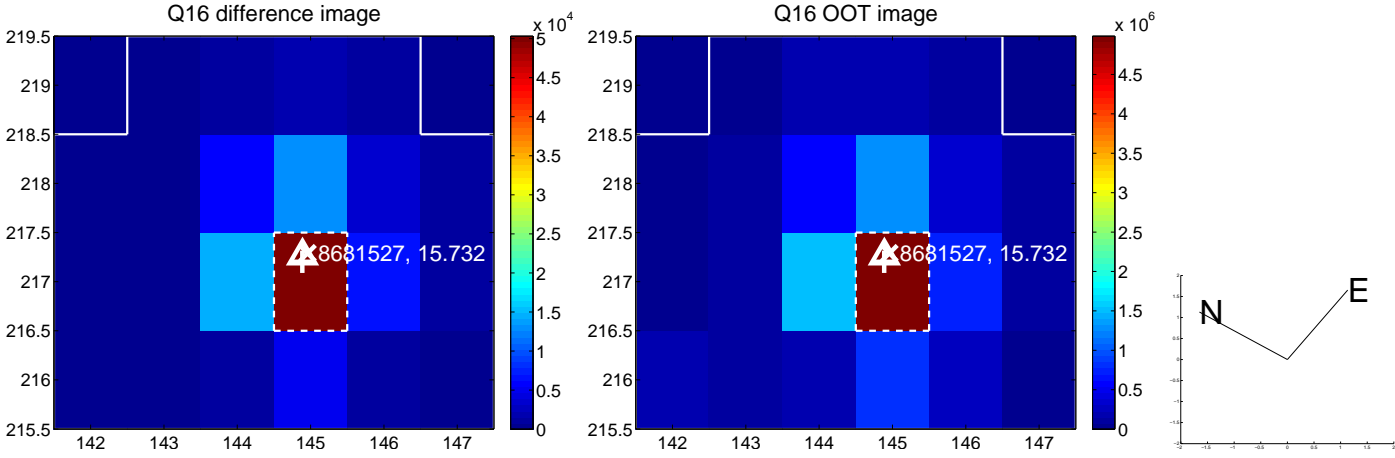
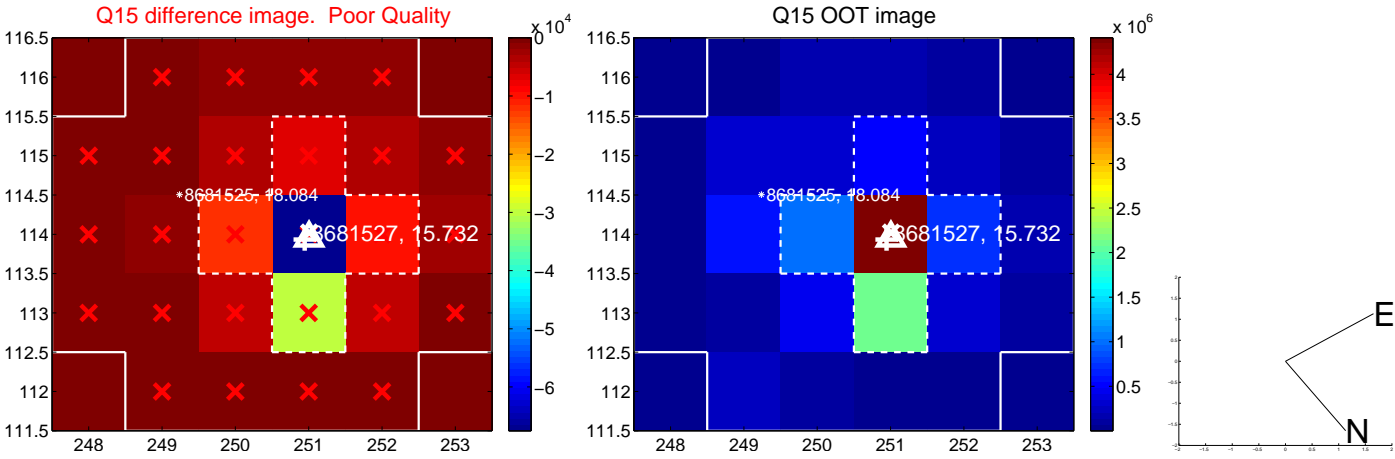
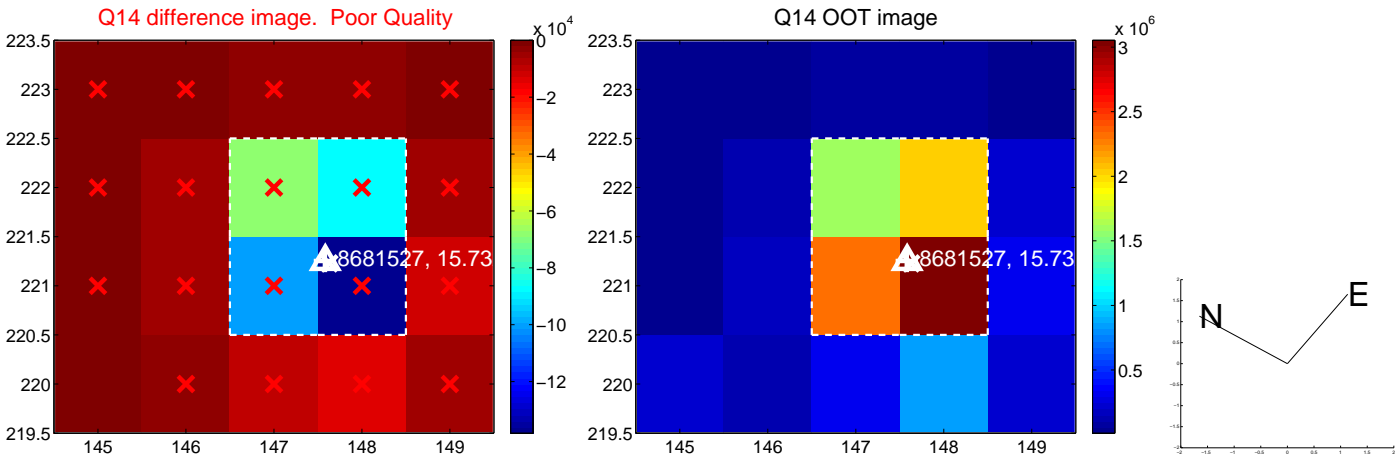
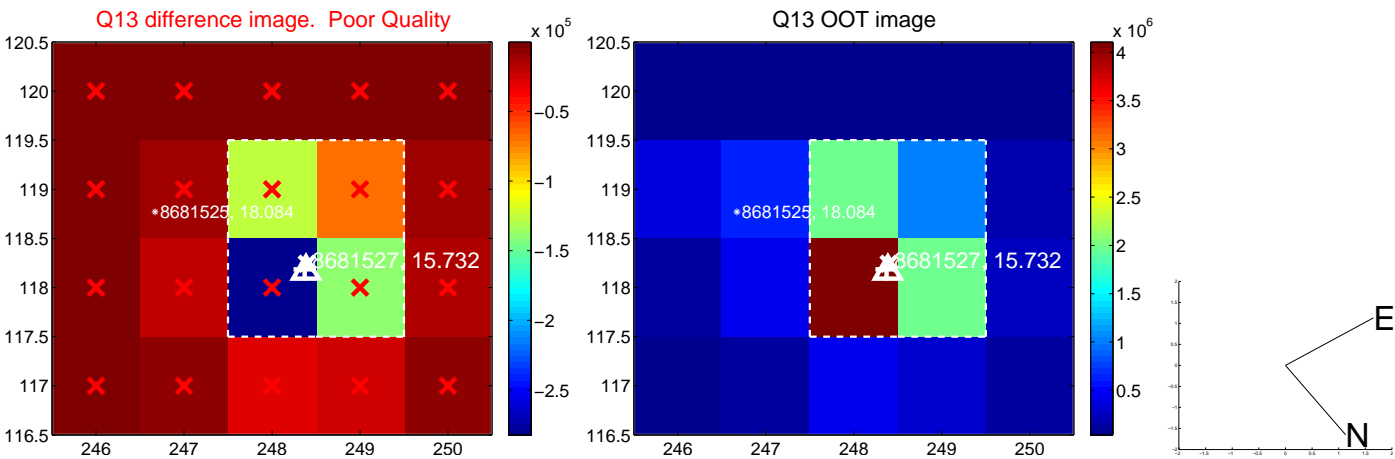
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

