

# KIC 007258889

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007258889-01	OBS	No	0.903917	131.999091	366584.1	3.605	2514.4	1451.3	1.36	6425	129.94	7848.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007258889-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

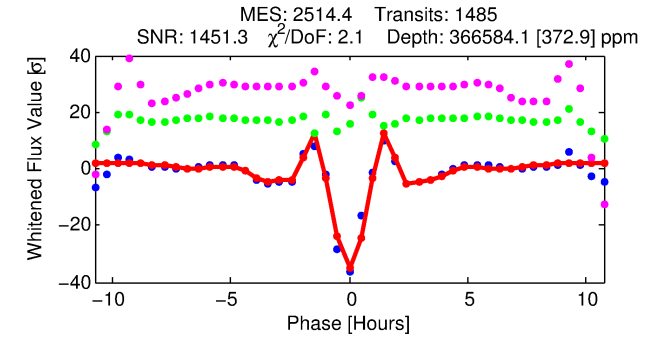
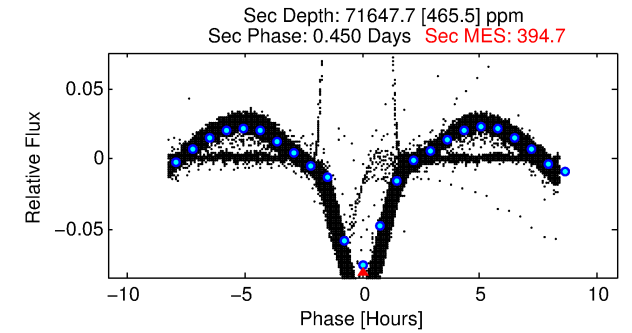
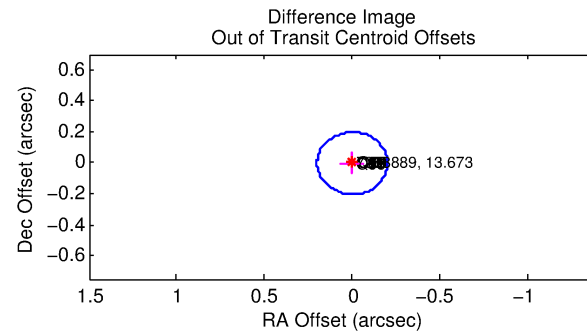
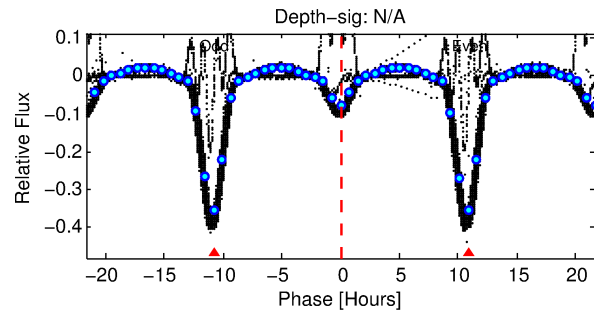
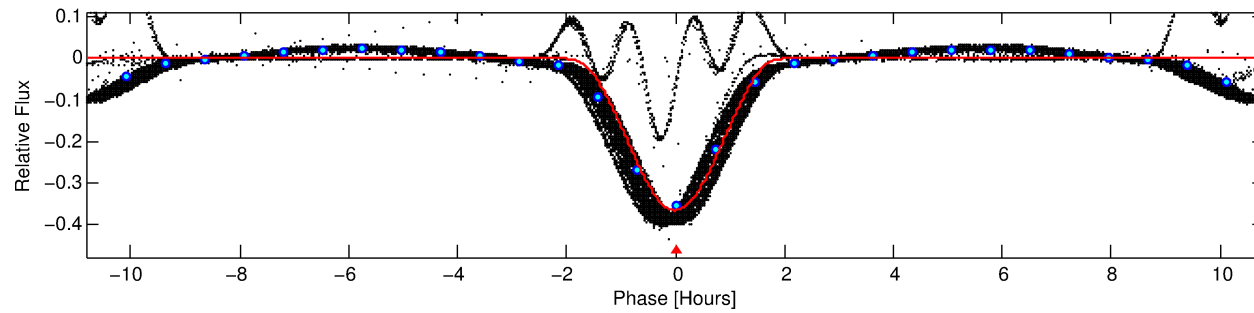
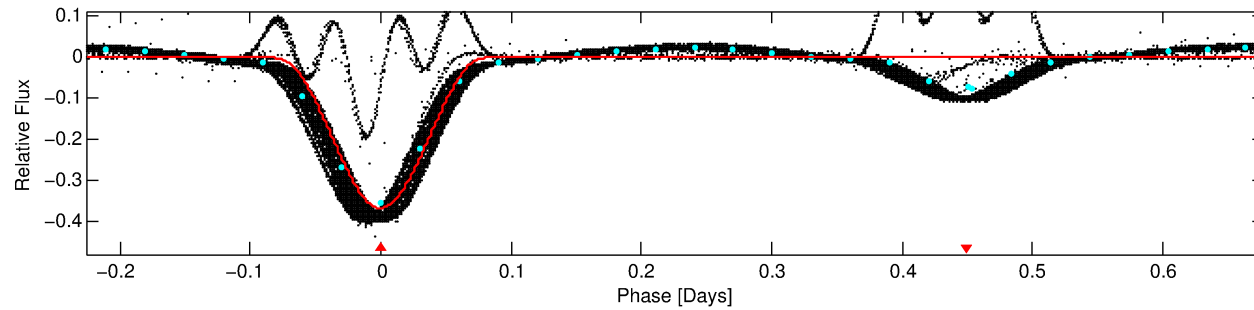
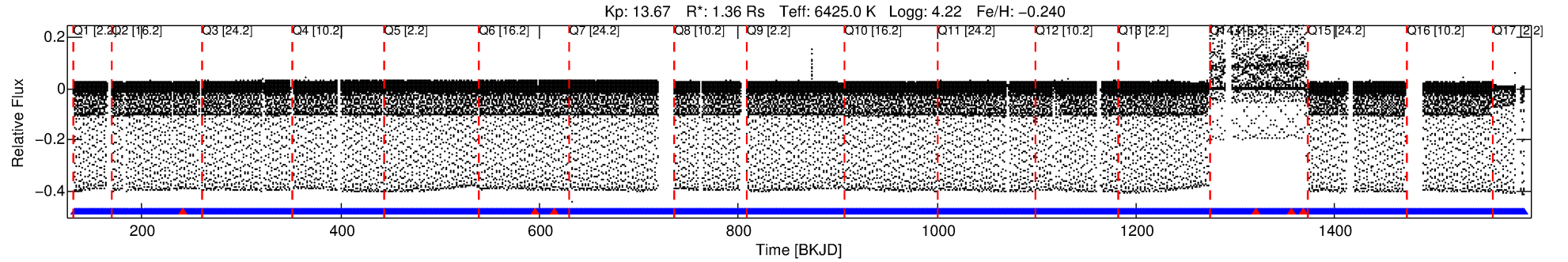
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007258889-01

No Significant Match Found

# DV One-Page Summary

KIC: 7258889 Candidate: 1 of 1 Period: 0.904 d



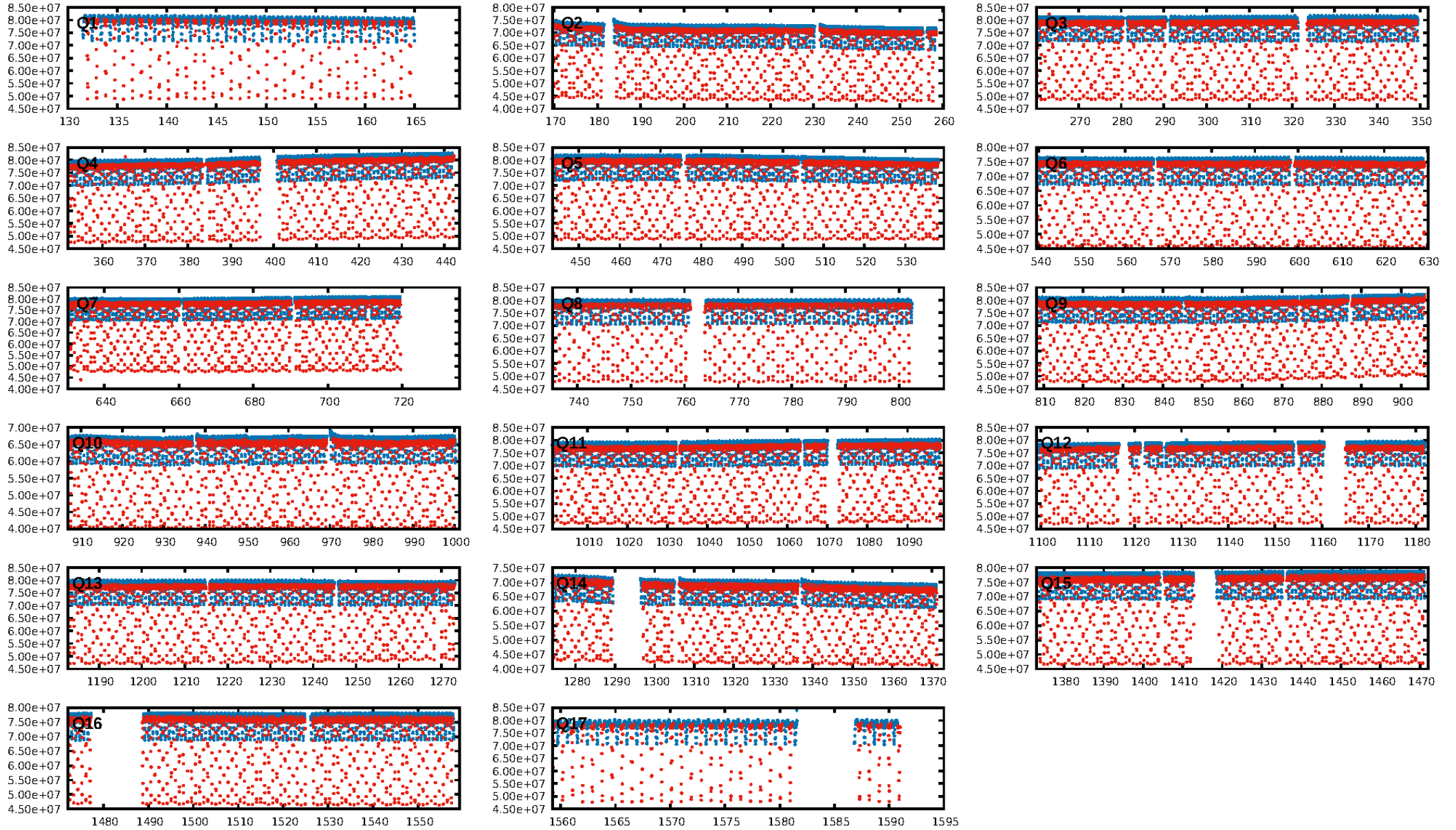
## DV Fit Results:

Period = 0.90392 [0.00000] d  
Epoch = 131.9991 [0.0000] BKJD  
Rp/R\* = 0.8749 [0.0023]  
a/R\* = 3.43 [0.00]  
b = 0.89 [0.00]  
Seff = 7848.51 [2813.17]  
Teff = 2400 [215] K  
Rp = 129.94 [39.81] Re  
a = 0.0190 [0.0046] AU  
Ag = 0.84 [0.28] [-0.56σ]  
Teffp = 3554 [108] K [4.80σ]

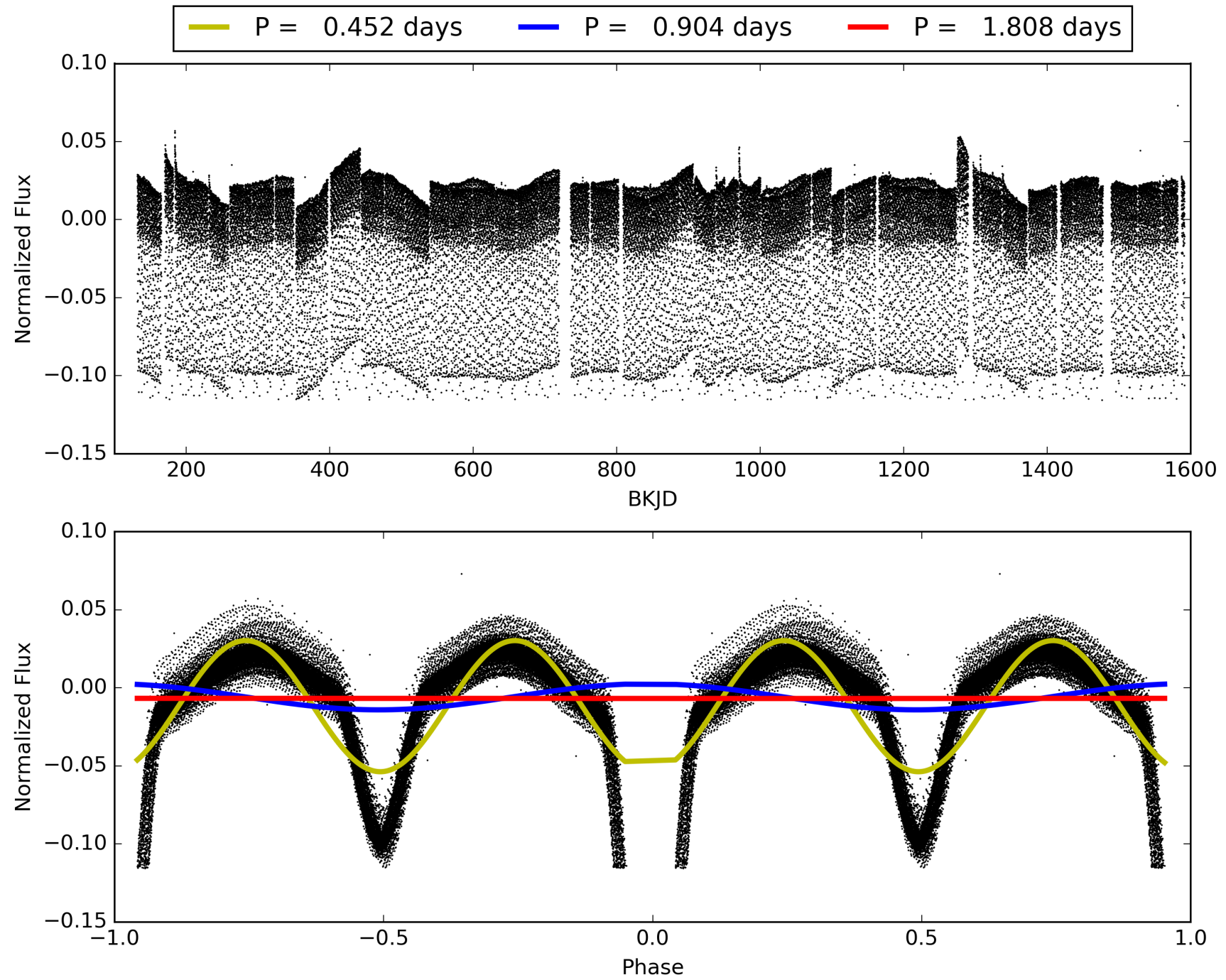
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1412/1418]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.003 arcsec [0.05σ]  
KicOffset-rm: 0.200 arcsec [2.90σ]  
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]

# TCE 007258889-01, PDC Light Curves

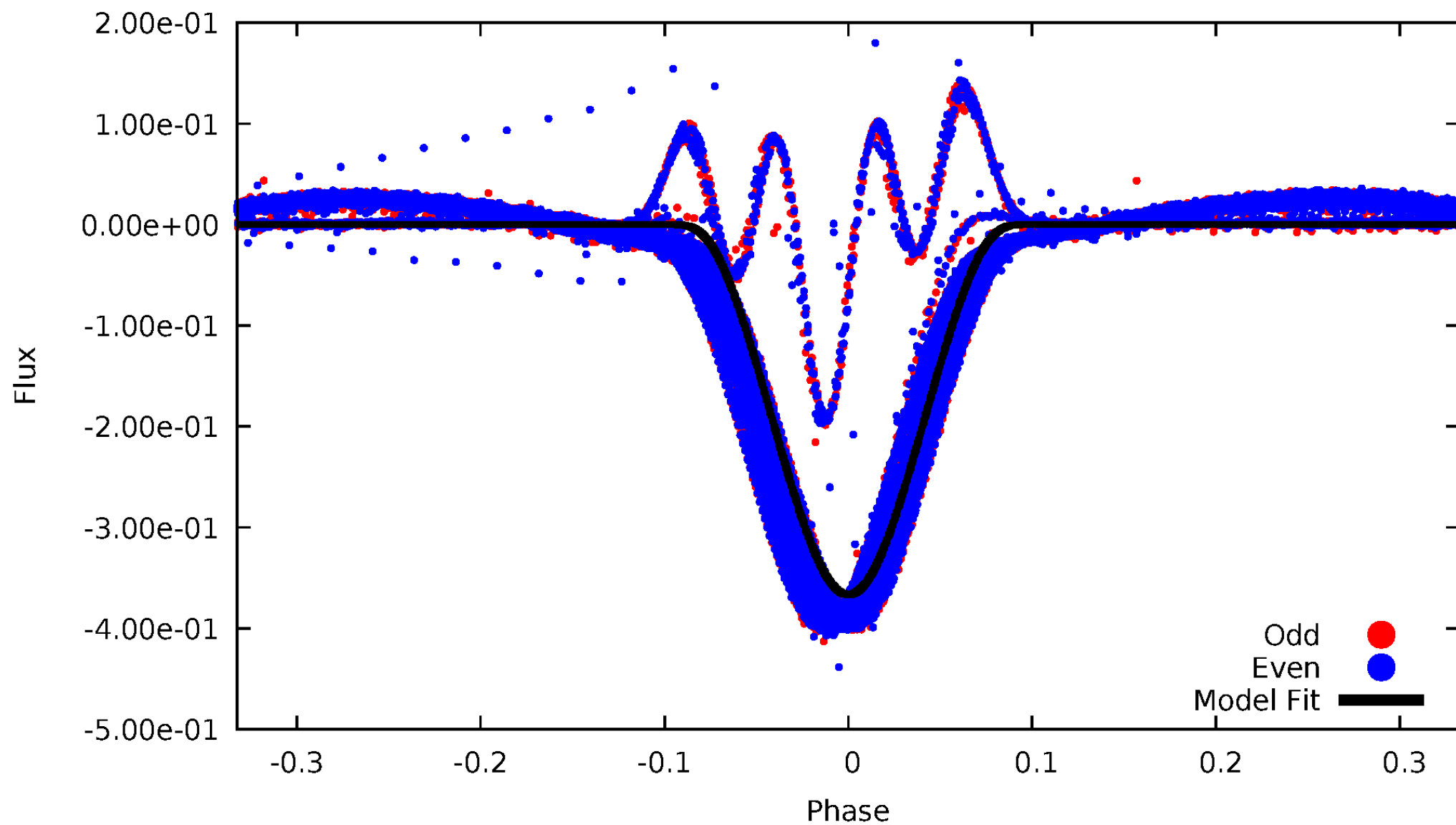


TCE 007258889-01



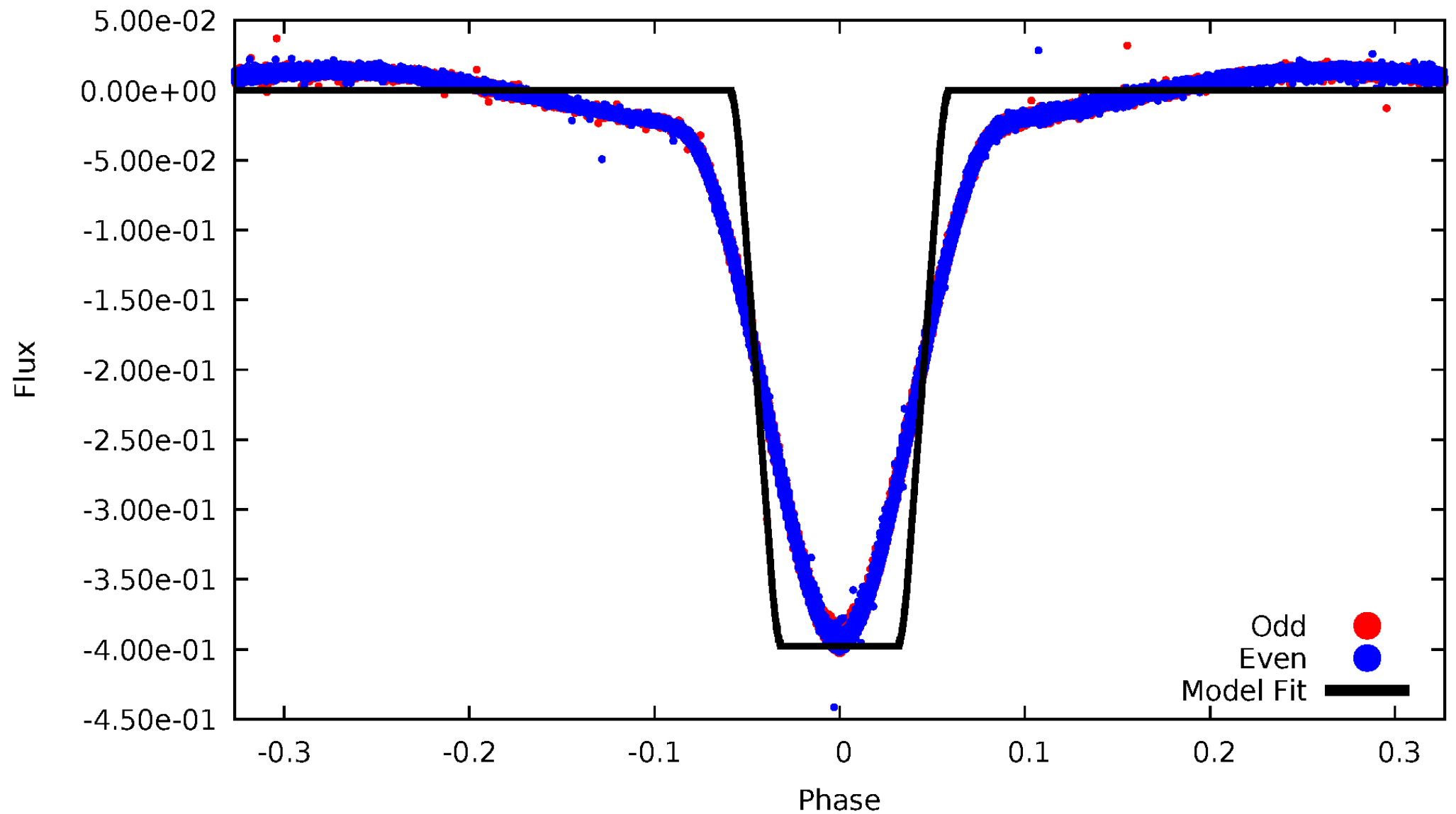
# DV Odd/Even

TCE 007258889-01



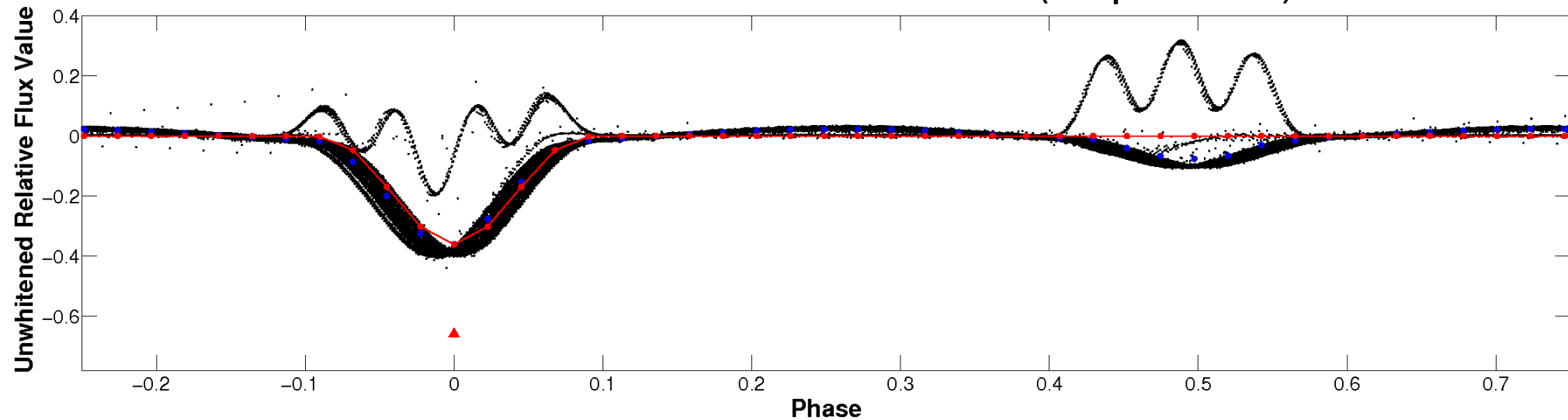
# ALT Odd/Even

TCE 007258889-01

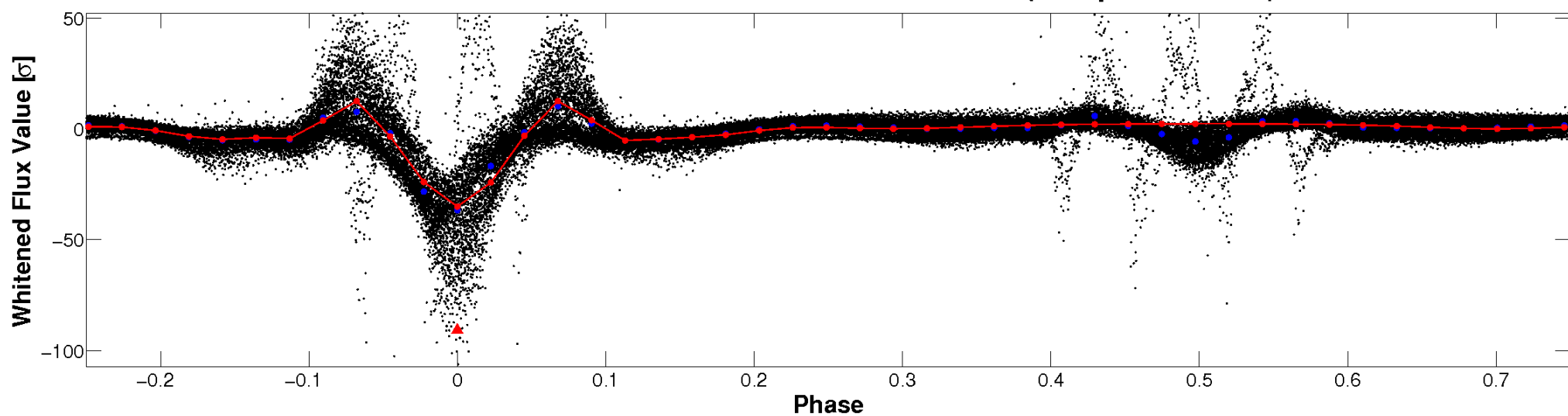


# Non-Whitened Vs. Whitened Light Curve

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



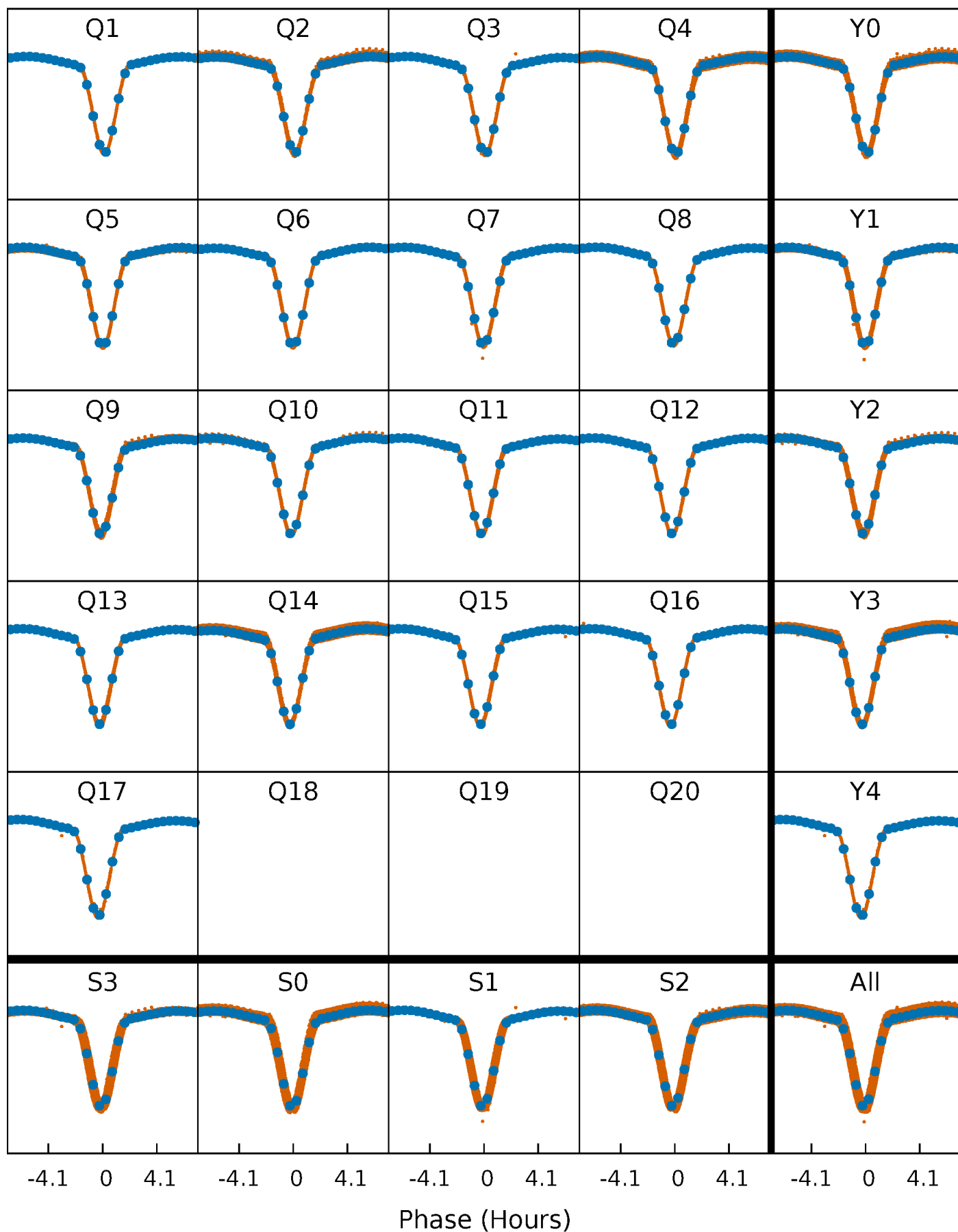
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

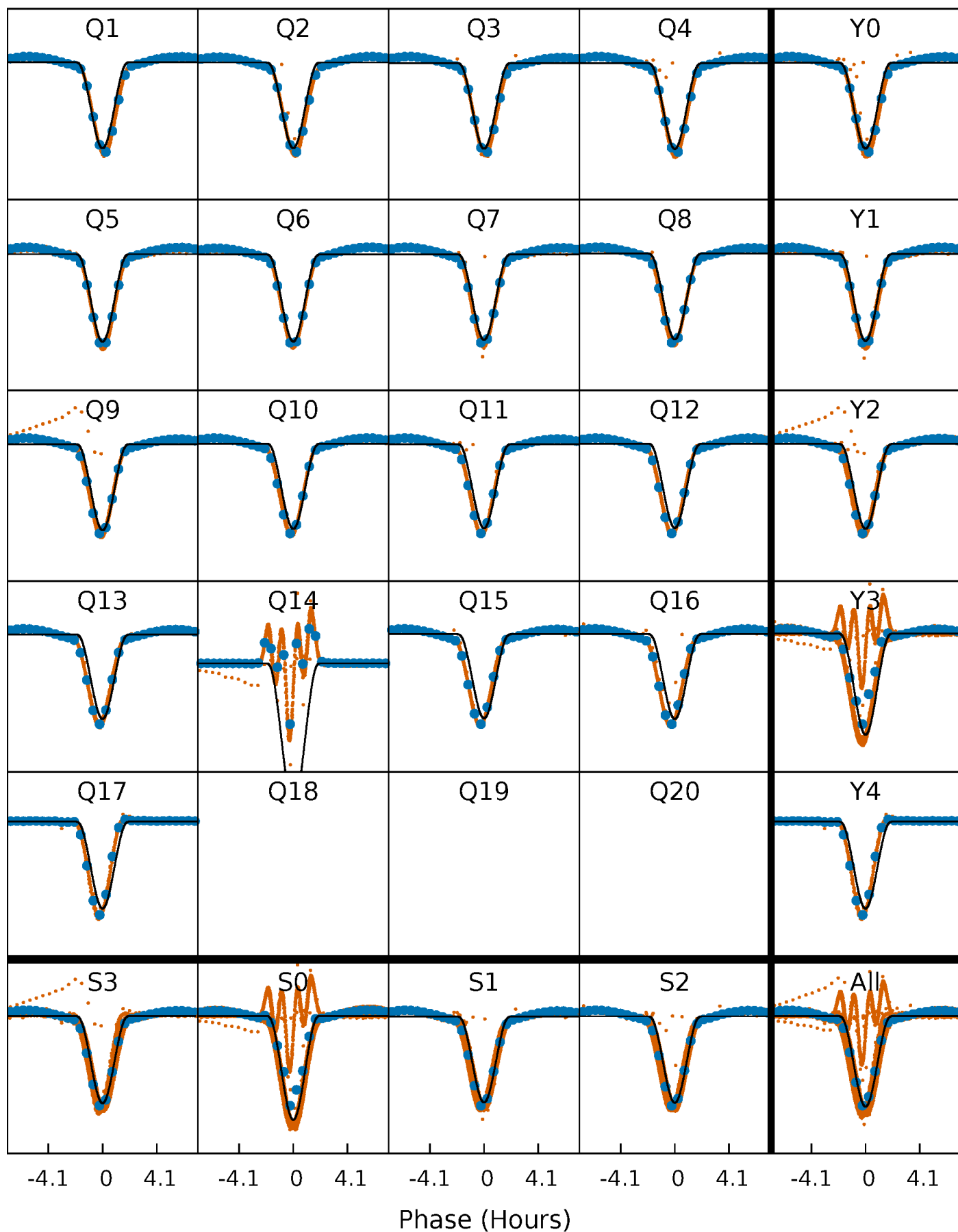
TCE 007258889-01 P= 0.903917 Days  $T_0=131.999091$  (BKJD)





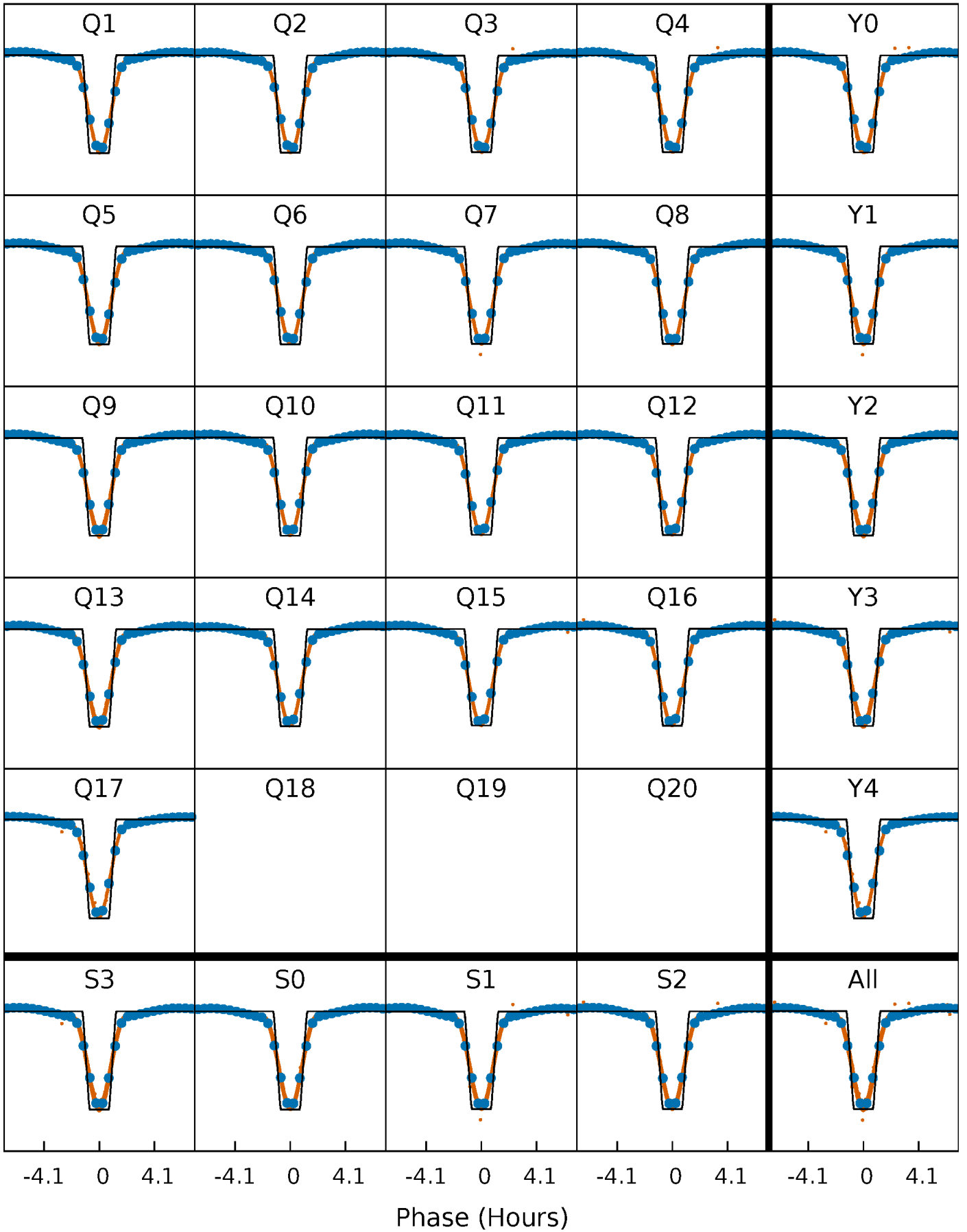
# DV Quarter-Phased Transit Curves

TCE 007258889-01 P= 0.903917 Days  $T_0=131.999091$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

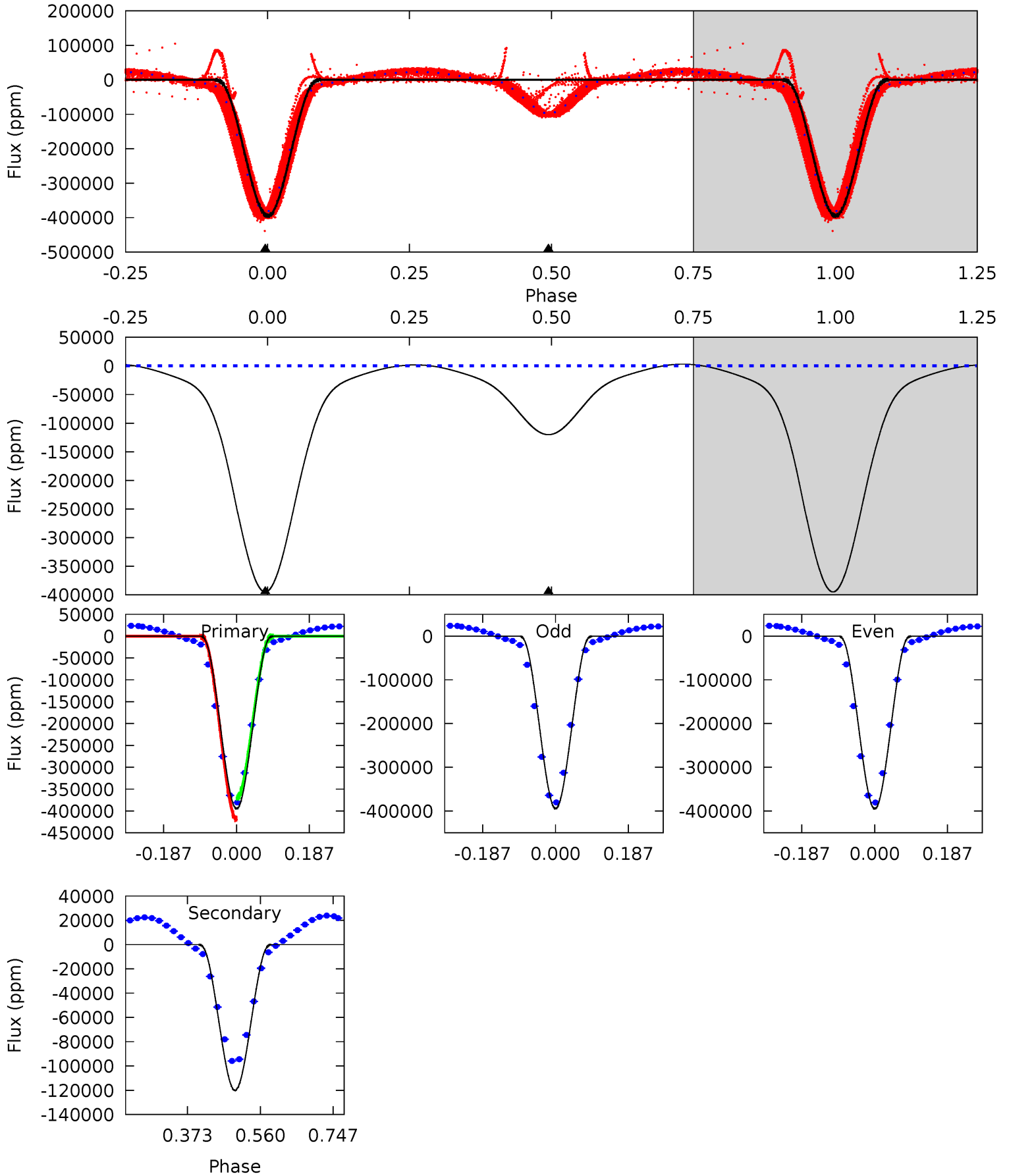
TCE 007258889-01 P= 0.903907 Days  $T_0=132.003135$  (BKJD)



# DV Model-Shift Uniqueness Test

007258889-01, P = 0.903917 Days, E = 131.095174 Days

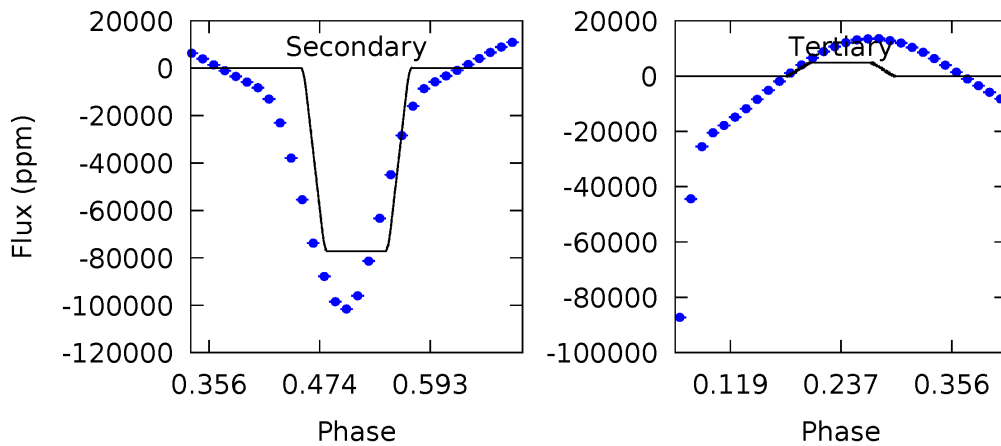
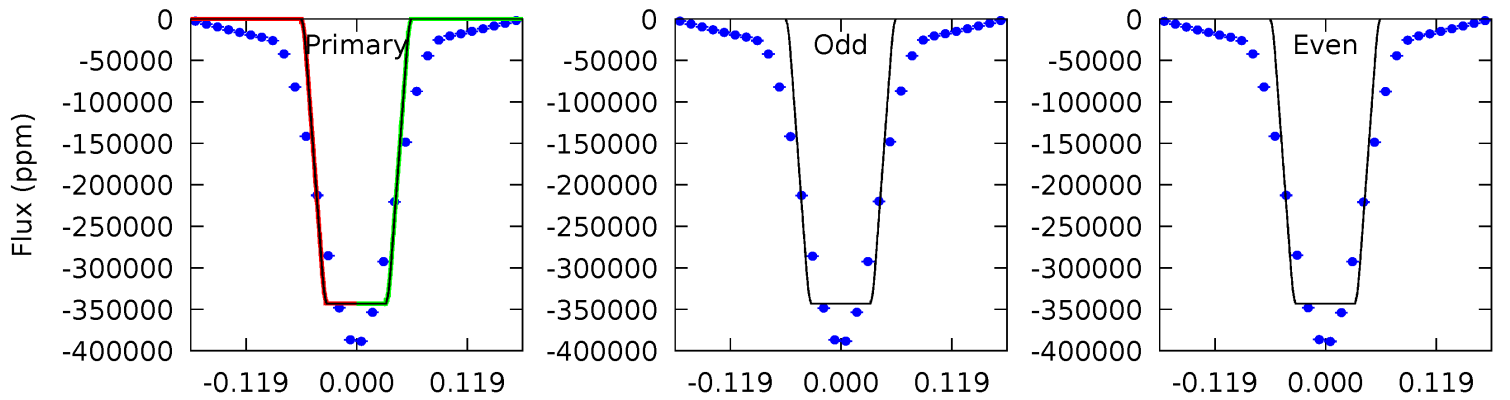
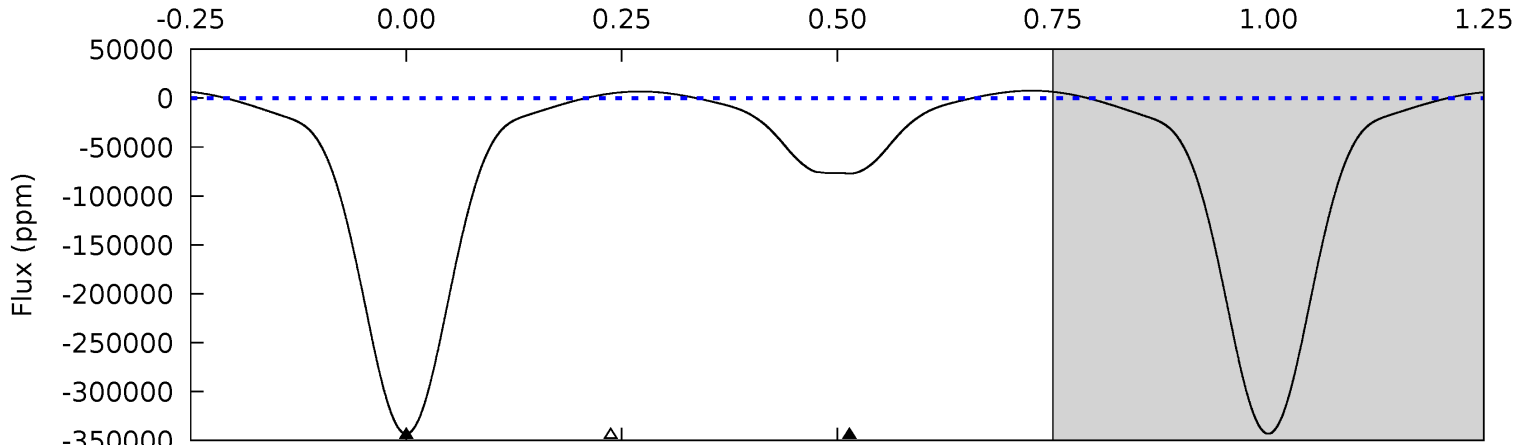
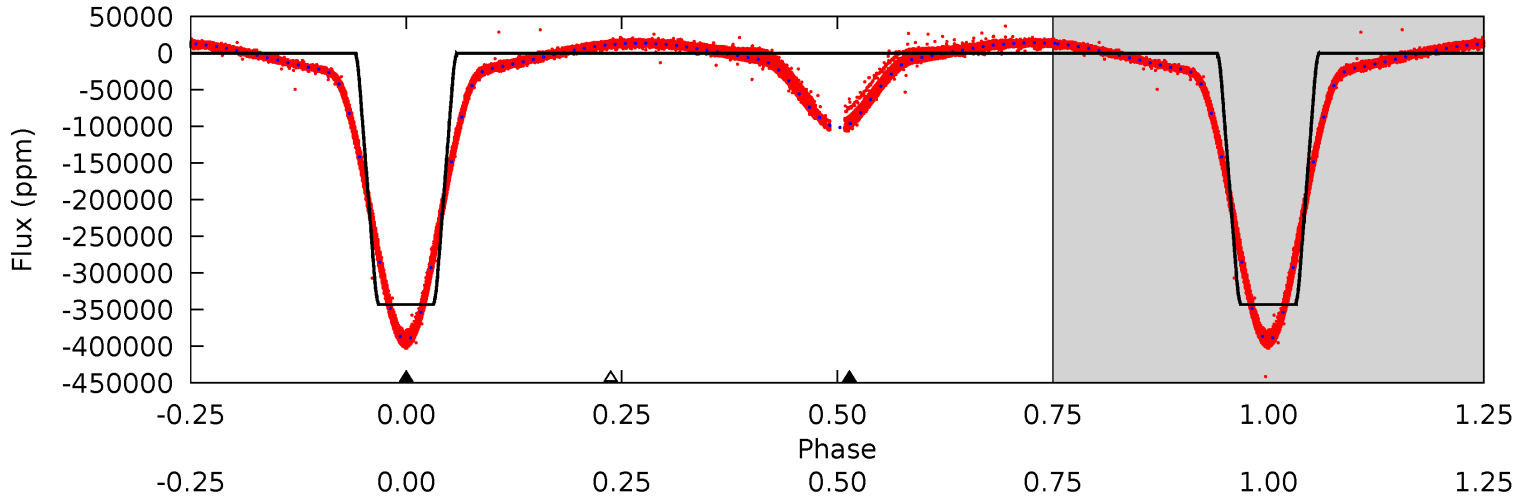
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1971	599.6	0	0	4.43	1.32	17.3	1971	1971	599.6	599.6	0.89	0.93	0.01	120.1



# Alt Model-Shift Uniqueness Test

007258889-01, P = 0.903907 Days, E = 131.099228 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3002	674.7	-42.0	0	4.53	1.56	79.1	3044	3002	716.7	674.7	0.38	1.00	0.02	0.94



### Stellar Parameters For KIC 007258889

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6425^{+162}_{-194}$	$4.218^{+0.175}_{-0.175}$	$-0.240^{+0.250}_{-0.300}$	$1.361^{+0.417}_{-0.278}$	$1.114^{+0.177}_{-0.145}$	$0.623^{+0.568}_{-0.294}$
	+3%/-3%	+4%/-4%	+104%/-125%	+31%/-20%	+16%/-13%	+91%/-47%
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 007258889-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-120072 \pm 200$	$128.45^{+21.70}_{-15.35}$	$3335^{+248}_{-220}$	$4213^{+100}_{-110}$	$1.621^{+0.502}_{-0.378}$
Alt.	$-77132 \pm 114$	$93.23^{+14.89}_{-10.75}$	$3338^{+245}_{-199}$	$4374^{+86}_{-114}$	$1.897^{+0.485}_{-0.437}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

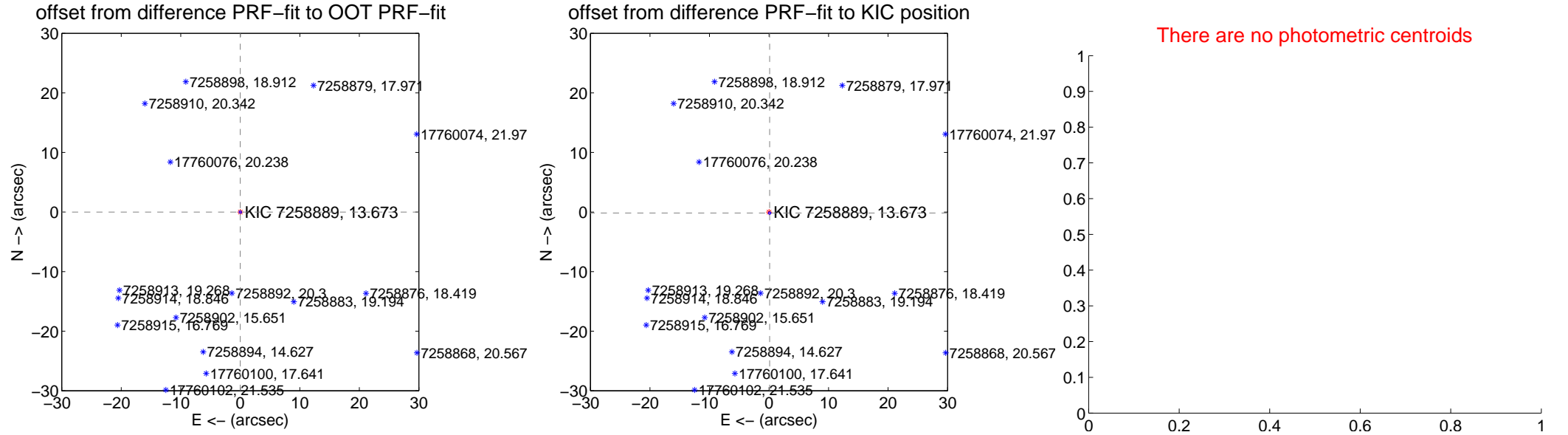
## DV Centroid Data

Supplemental centroid analysis for 007258889-01. Kepler magnitude: 13.67. Transit SNR 1451.27

There are 17 quarters with good PRF difference image offsets

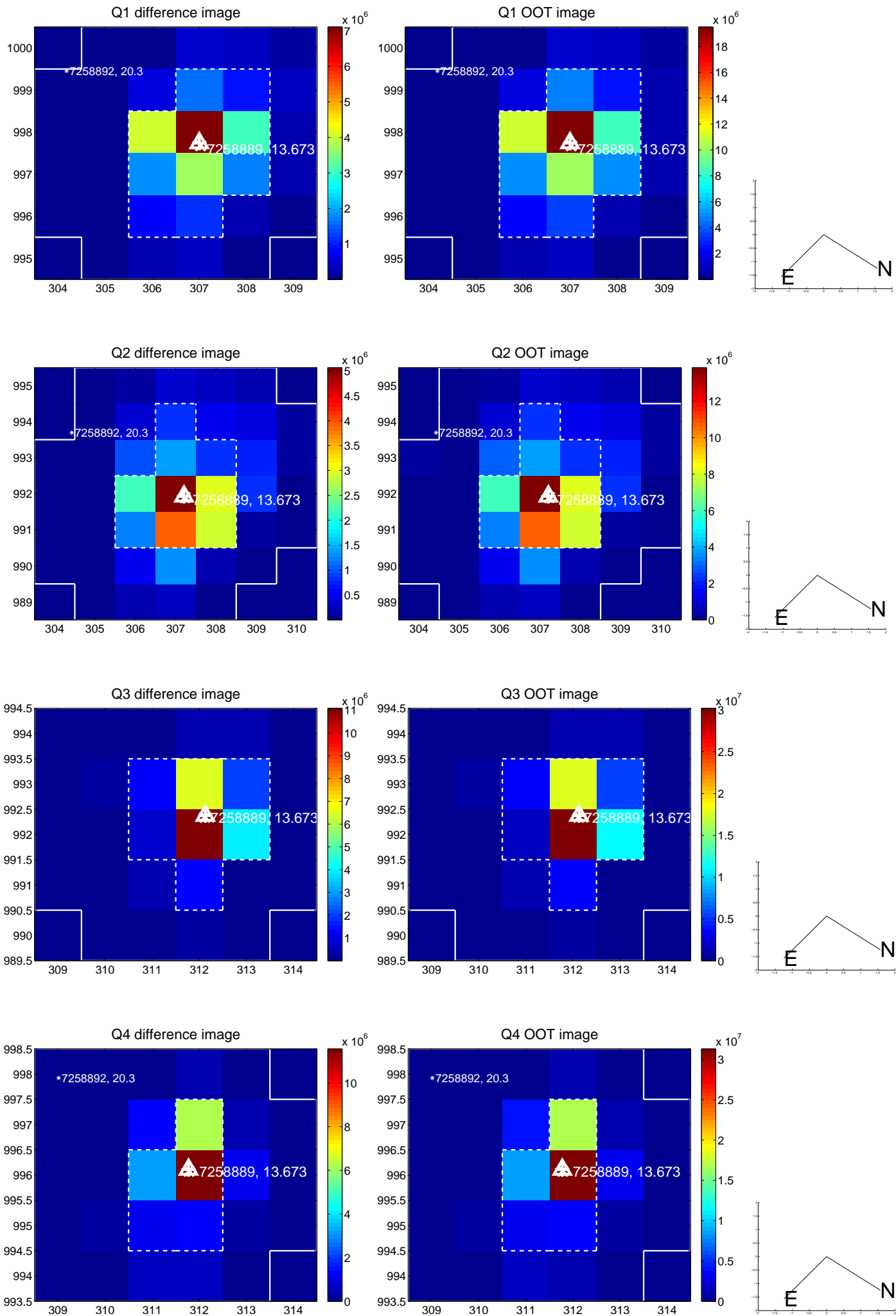
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.003 \pm 0.067$	0.05	$0.001 \pm 0.067$	$-0.003 \pm 0.067$
PRF-fit source offset from KIC position	$0.200 \pm 0.069$	2.90	$-0.107 \pm 0.067$	$-0.169 \pm 0.069$
photometric centroid source offset	—	—	—	—



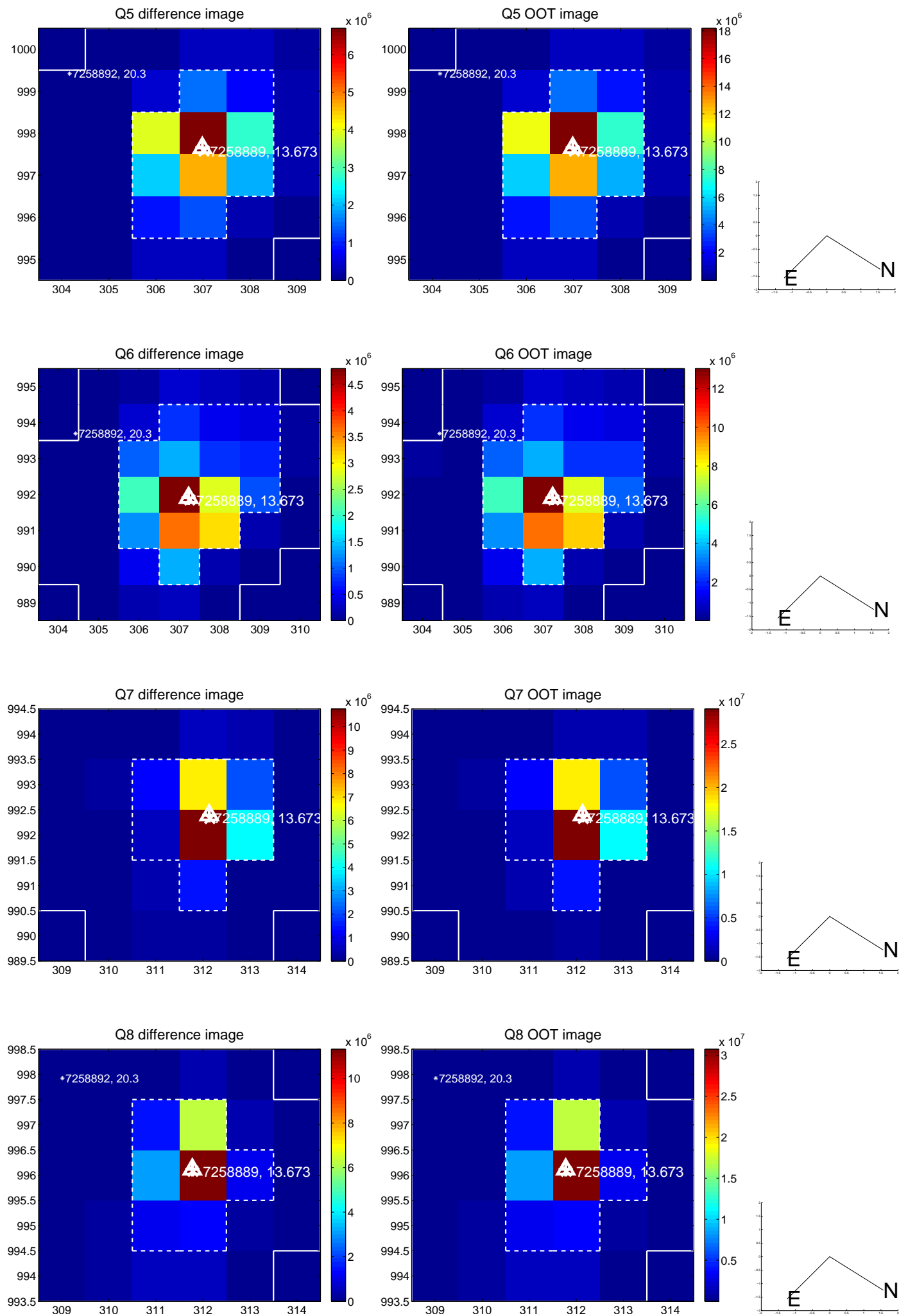
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

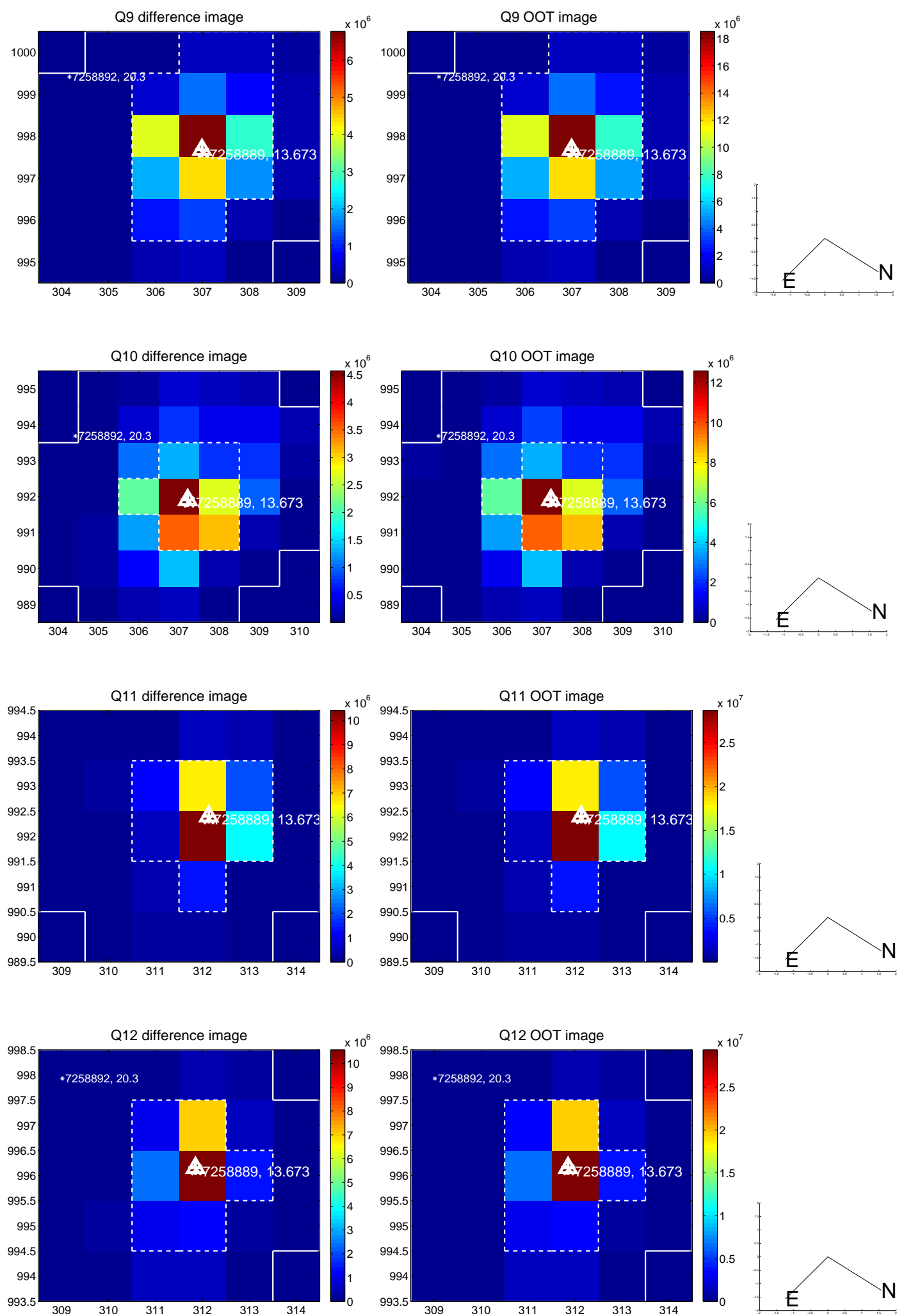




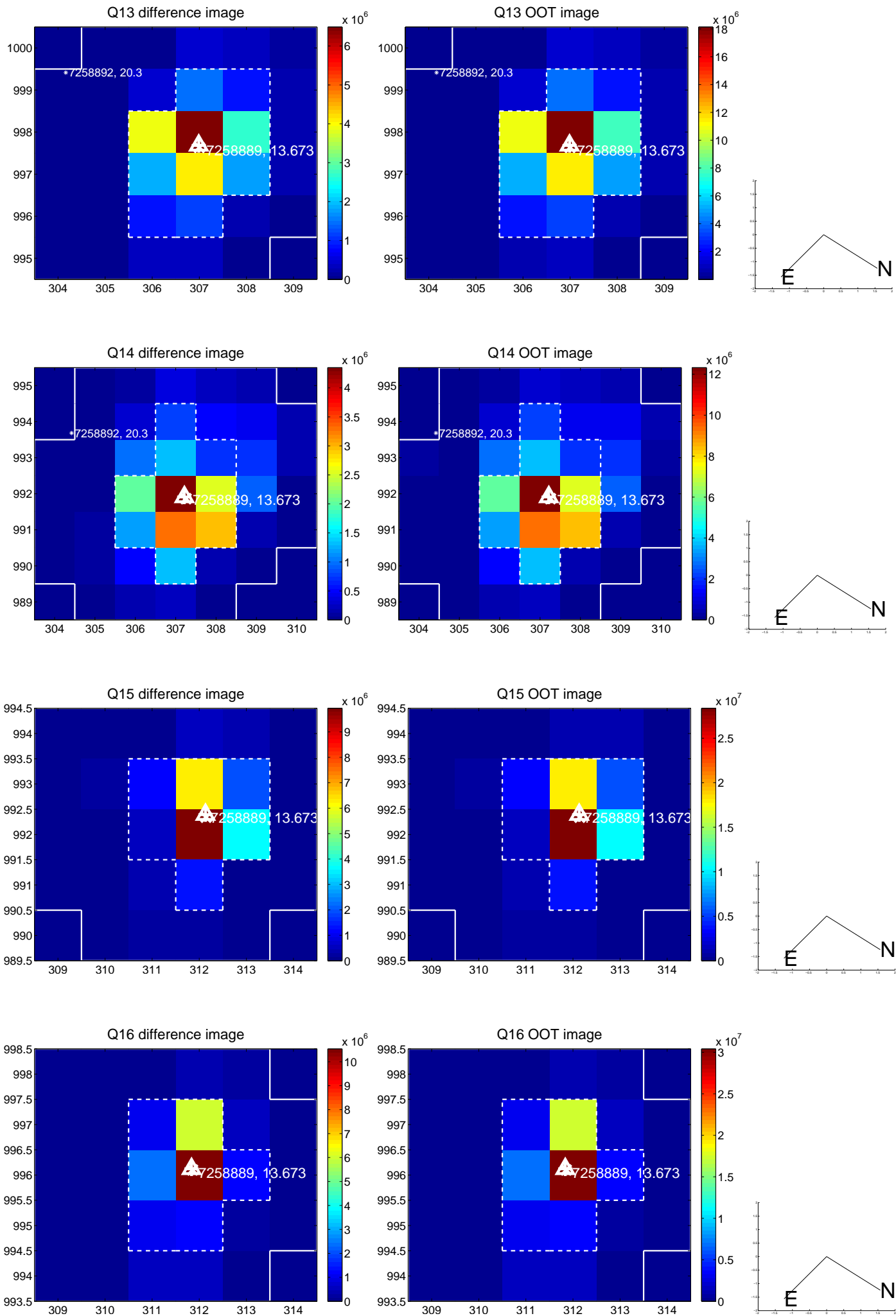
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



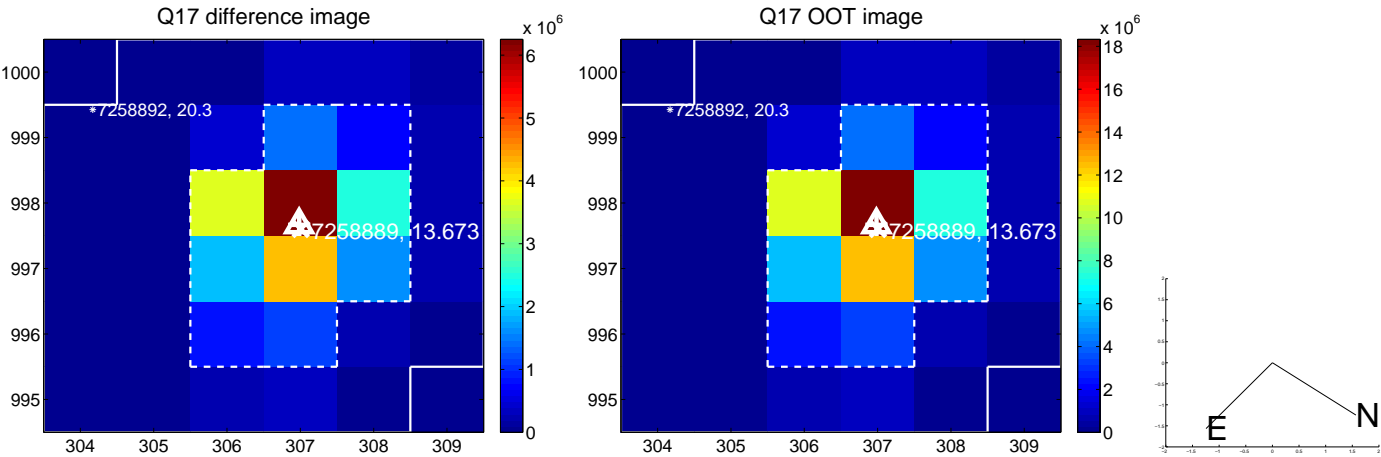
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

