

# TIC 198153540 STATISTICAL VALIDATION REPORT

This document is created by the SHERLOCK statistical validation report generator (<https://github.com/franpoz/SHERLOCK>) and focuses on the target star TIC 198153540.

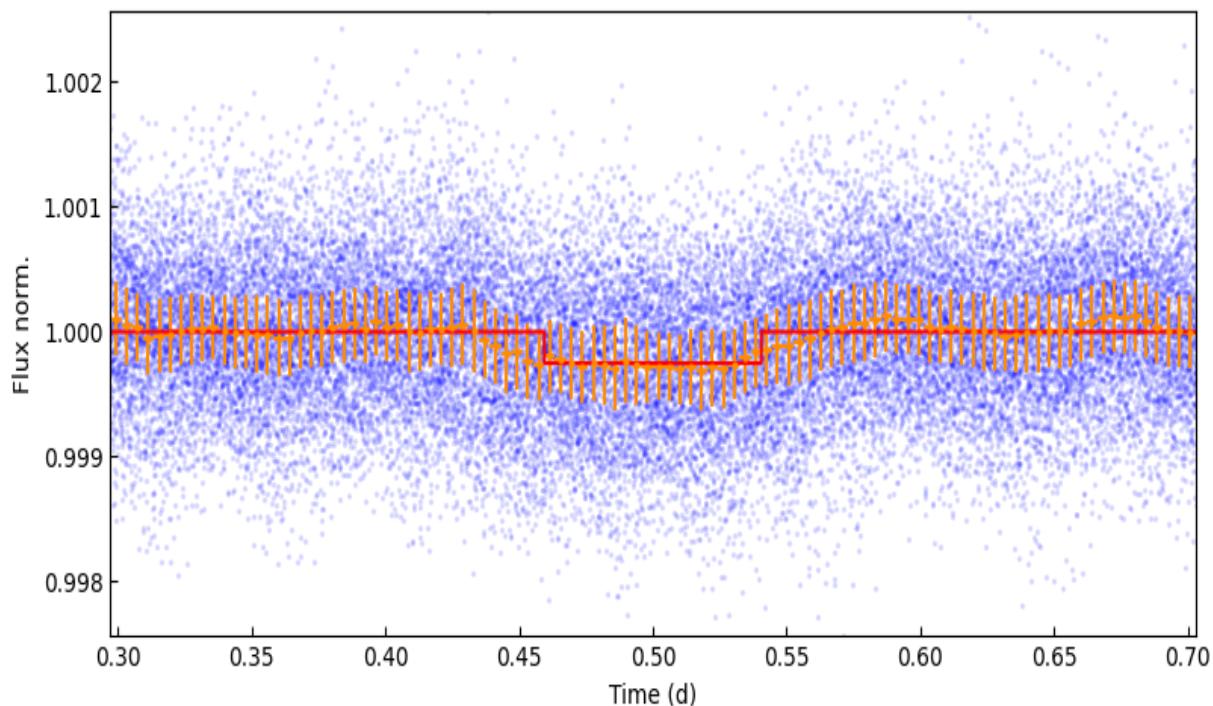
RA (deg)	Dec (deg)	V (mag)	J (mag)	H (mag)	K (mag)
14:04:22.59	46:31:09.84	11.36	9.8	9.36	9.24

**Table 1:** The proposed target parameters.

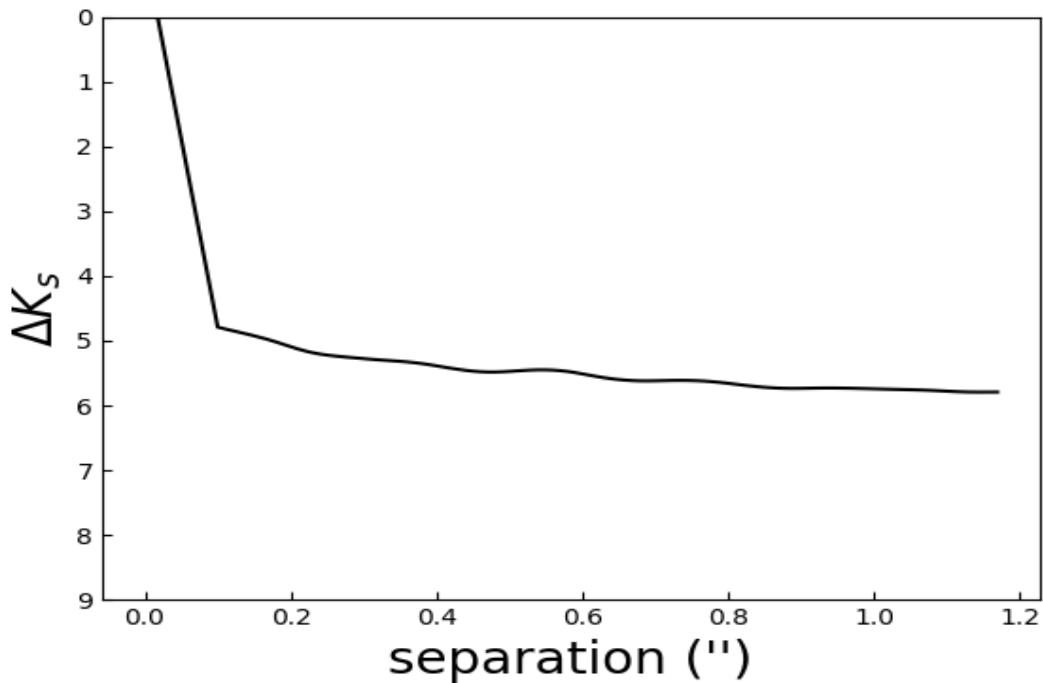
T0 (d)	Period (d)	Duration (h)	Depth (ppt)
1739.5119	0.4378	0.85	0.25

**Table 2:** The candidate parameters.

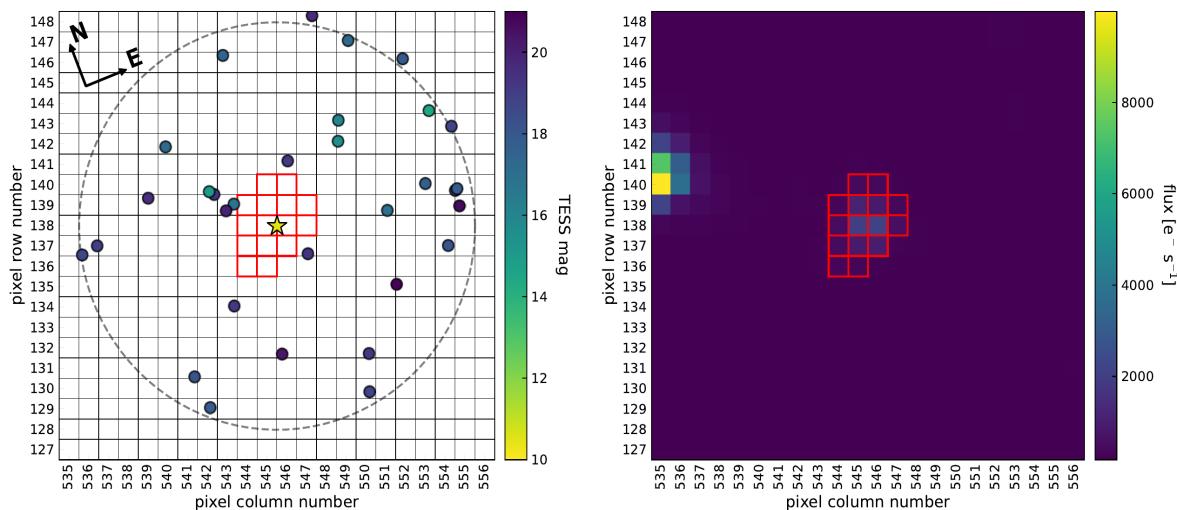
TIC 198153540 Folded Curve with P=0.44d and T0=1739.51. SNR=32.44



**Figure 1:** Folded curve of the found candidate.



**Figure 2:** Contrast curve for target.



**Figure 3:** Nearby stars for target and its aperture

ID	scenario	M_s	R_s	P_orb	inc	b	ecc	w	R_p	M_EB	R_EB	prob
198153540	TP	0.87	0.78	0.44	79.27	0.32	0.51	144.01	1.38	0.0	0.0	0.386972
198153540	EB	0.87	0.78	0.44	57.55	1.98	0.0	182.59	0.0	0.82	0.78	0.007402
198153540	EBx2P	0.87	0.78	0.88	77.26	0.95	0.56	185.95	0.0	0.86	0.78	0.051219
198153540	PTP	0.87	0.78	0.44	79.74	0.34	0.42	139.8	1.55	0.0	0.0	0.022641
198153540	PEB	0.87	0.78	0.44	57.63	1.97	0.0	139.91	0.0	0.81	0.78	0.001027
198153540	PEBx2P	0.87	0.78	0.88	76.7	1.12	0.5	190.71	0.0	0.85	0.78	0.006662
198153540	STP	0.62	0.63	0.44	80.74	0.28	0.54	141.46	2.95	0.0	0.0	0.011647
198153540	SEB	0.12	0.15	0.44	86.02	0.26	0.77	180.32	0.0	0.05	0.1	0.048178
198153540	SEBx2P	0.17	0.2	0.88	86.18	0.32	0.79	176.89	0.0	0.16	0.19	0.015065
198153540	DTP	0.87	0.78	0.44	79.76	0.28	0.53	132.08	1.35	0.0	0.0	0.030568



## SHERLOCK Statistical Validation Report: TIC 198153540

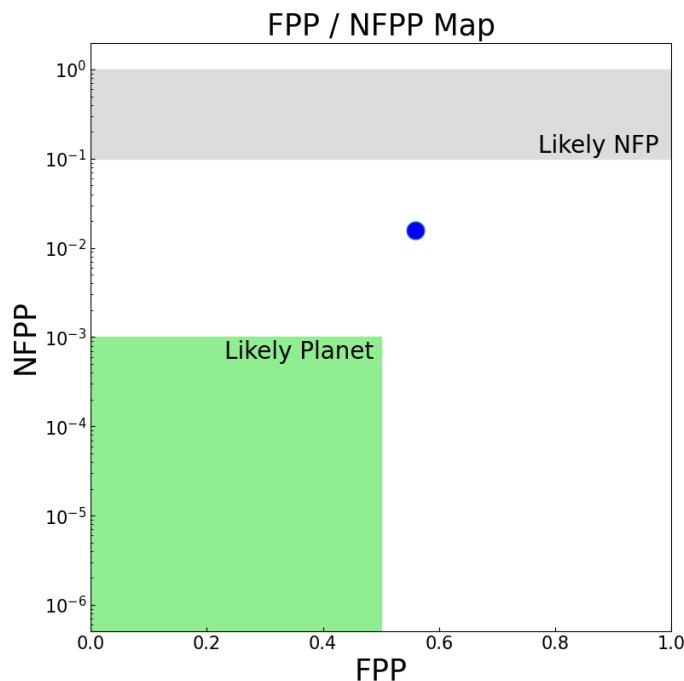
Mon, 23 January 2023, 08:45:49

198153540	DEB	0.87	0.78	0.44	57.59	1.98	0.0	166.86	0.0	0.82	0.78	0.00059
198153540	DEBx2P	0.87	0.78	0.88	76.98	1.05	0.51	186.64	0.0	0.85	0.78	0.003964
198153540	BTP	0.98	1.03	0.44	74.46	0.48	0.22	99.48	17.83	0.0	0.0	0.013596
198153540	BEB	0.97	1.03	0.44	78.41	0.42	0.17	61.14	0.0	0.21	0.24	0.288474
198153540	BEBx2P	0.9	0.96	0.88	70.76	1.47	0.1	79.73	0.0	0.87	0.9	0.096176
198153084	NTP	0.59	0.6	0.44	88.6	0.08	0.41	177.43	19.89	0.0	0.0	0.000129
198153080	NTP	0.34	0.36	0.44	88.16	0.12	0.47	180.07	16.54	0.0	0.0	0.000222
198153084	NEB	0.59	0.6	0.44	89.78	0.01	0.35	157.1	0.0	0.45	0.45	0.004121
198153080	NEB	0.34	0.36	0.44	88.95	0.05	0.6	161.29	0.0	0.13	0.15	0.006469
198153084	NEBx2P	0.59	0.6	0.88	88.03	0.2	0.16	54.87	0.0	0.56	0.57	0.001984
198153080	NEBx2P	0.34	0.36	0.88	85.08	0.39	0.57	136.02	0.0	0.33	0.35	0.002894

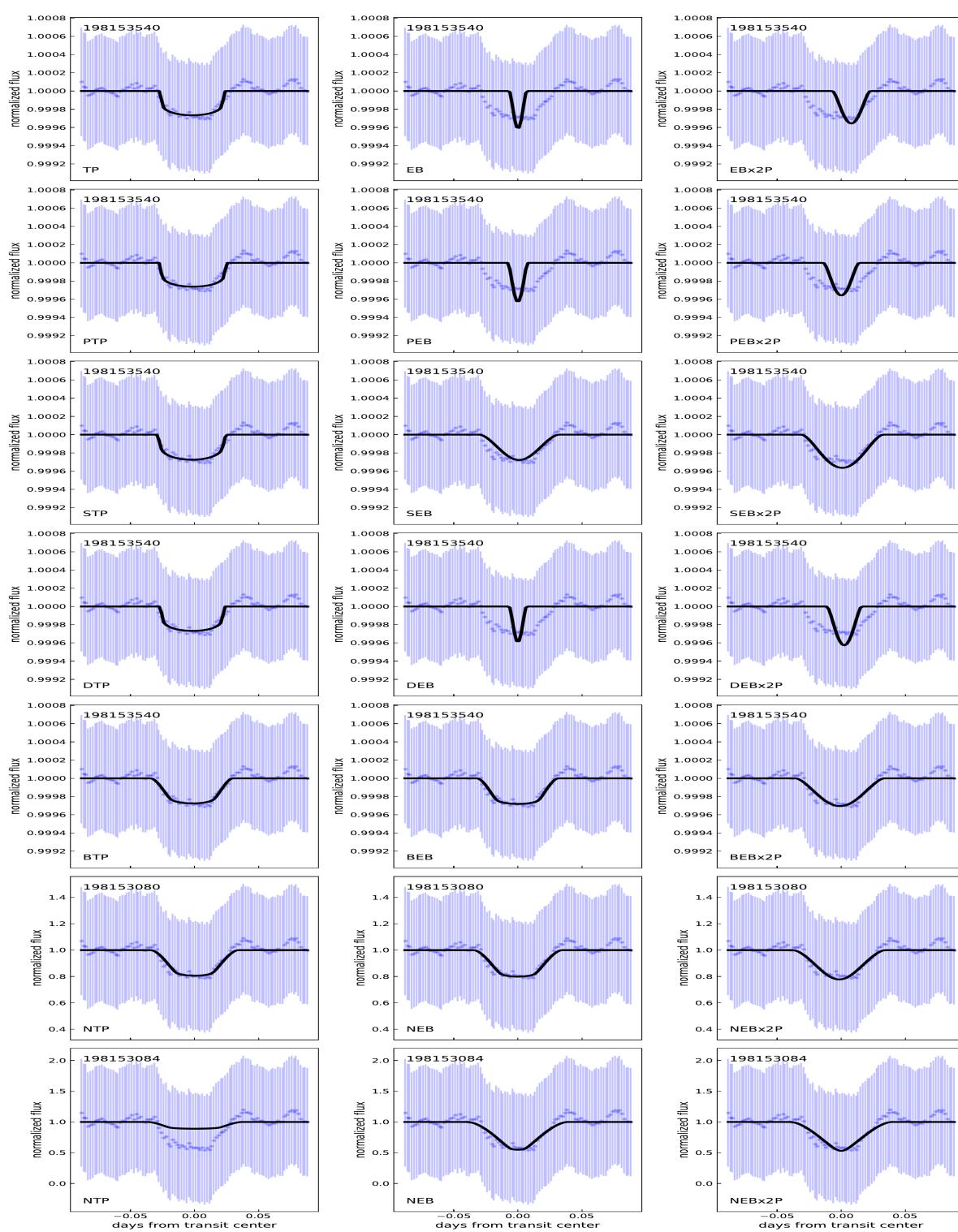
**Table 3:** Scenarios attributes and probabilities.

Scenario	FPP	NFPP	FPP2	FPP3+
0	0.559344	0.01583	0.04832	0.024758
1	0.560348	0.015802	0.048508	0.024857
2	0.559542	0.015836	0.048357	0.024778
3	0.559298	0.015811	0.048312	0.024754
4	0.560562	0.015818	0.048548	0.024878
MEAN	0.559819	0.015819	0.048409	0.024805

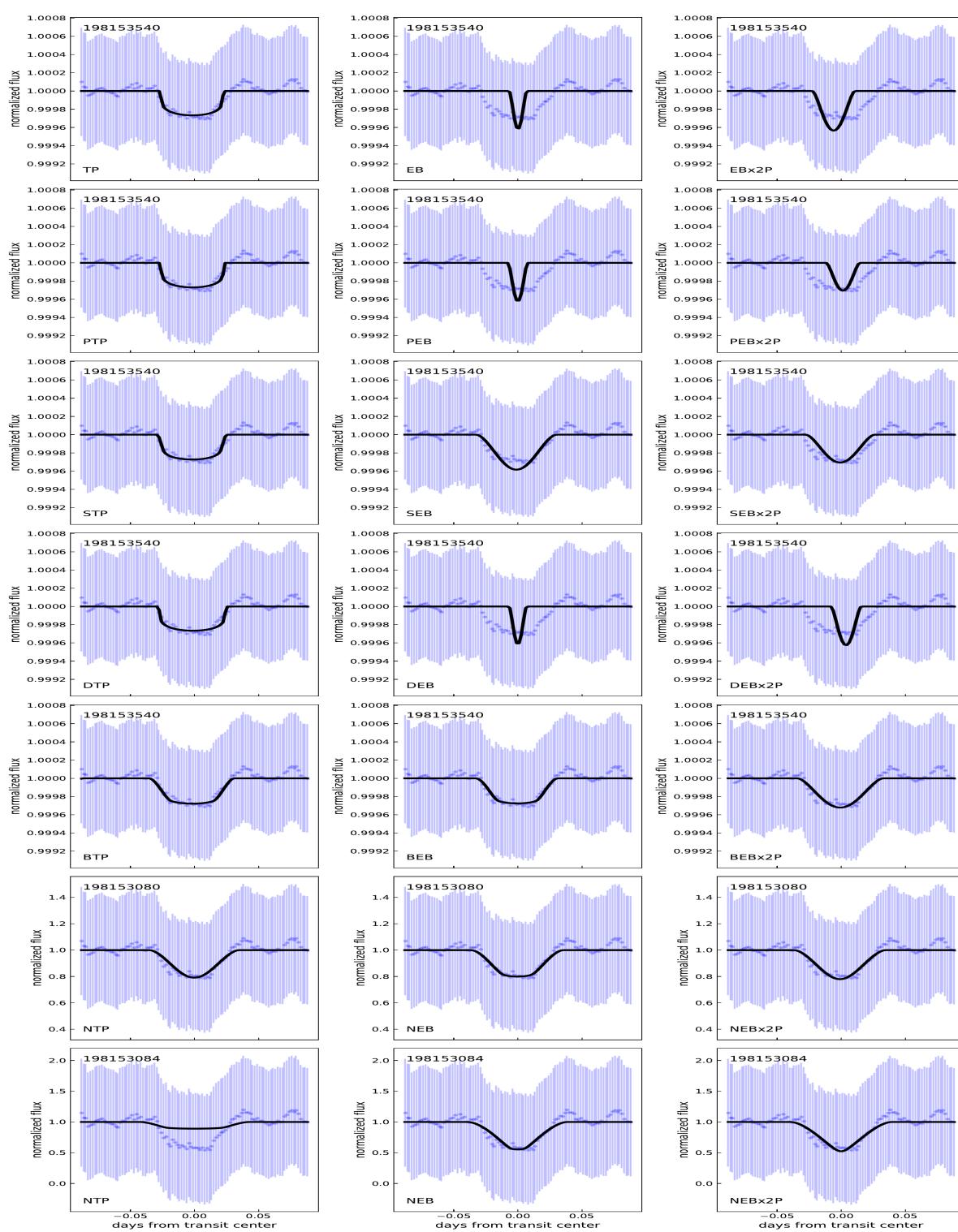
**Table 4:** Validation results.



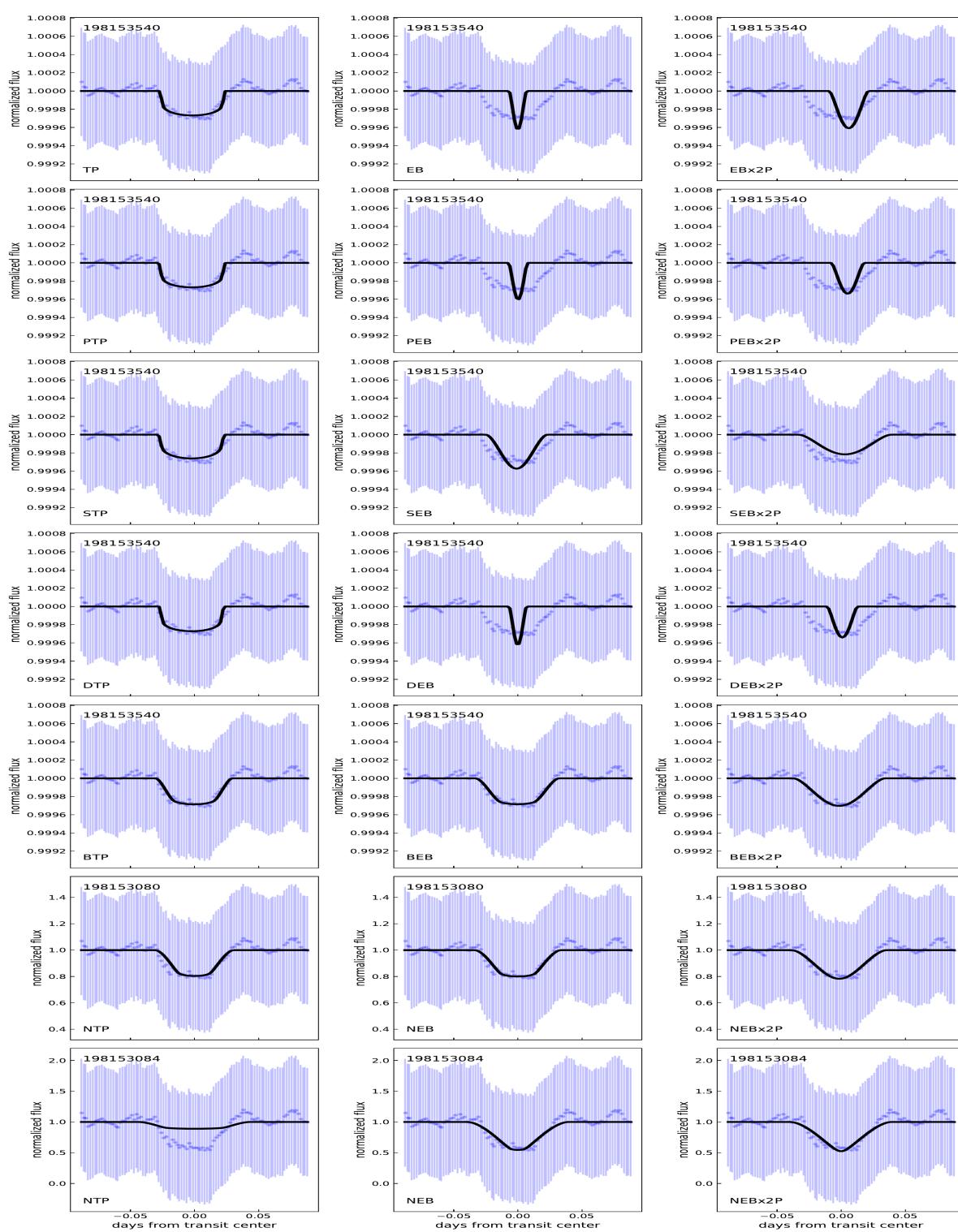
**Figure 4:** Validation map for the mean scenario.



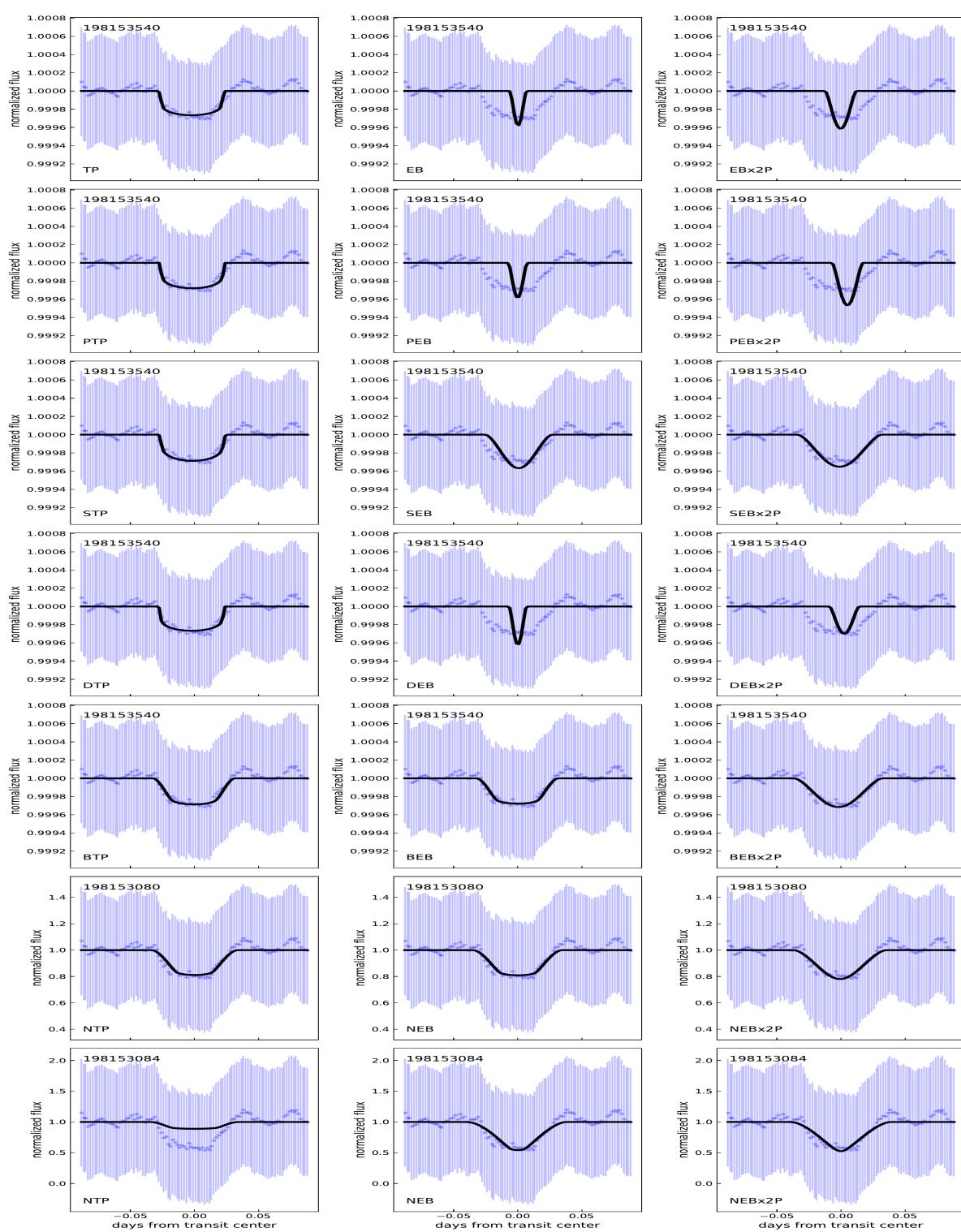
**Figure 5:** Best fits for scenario no. .0



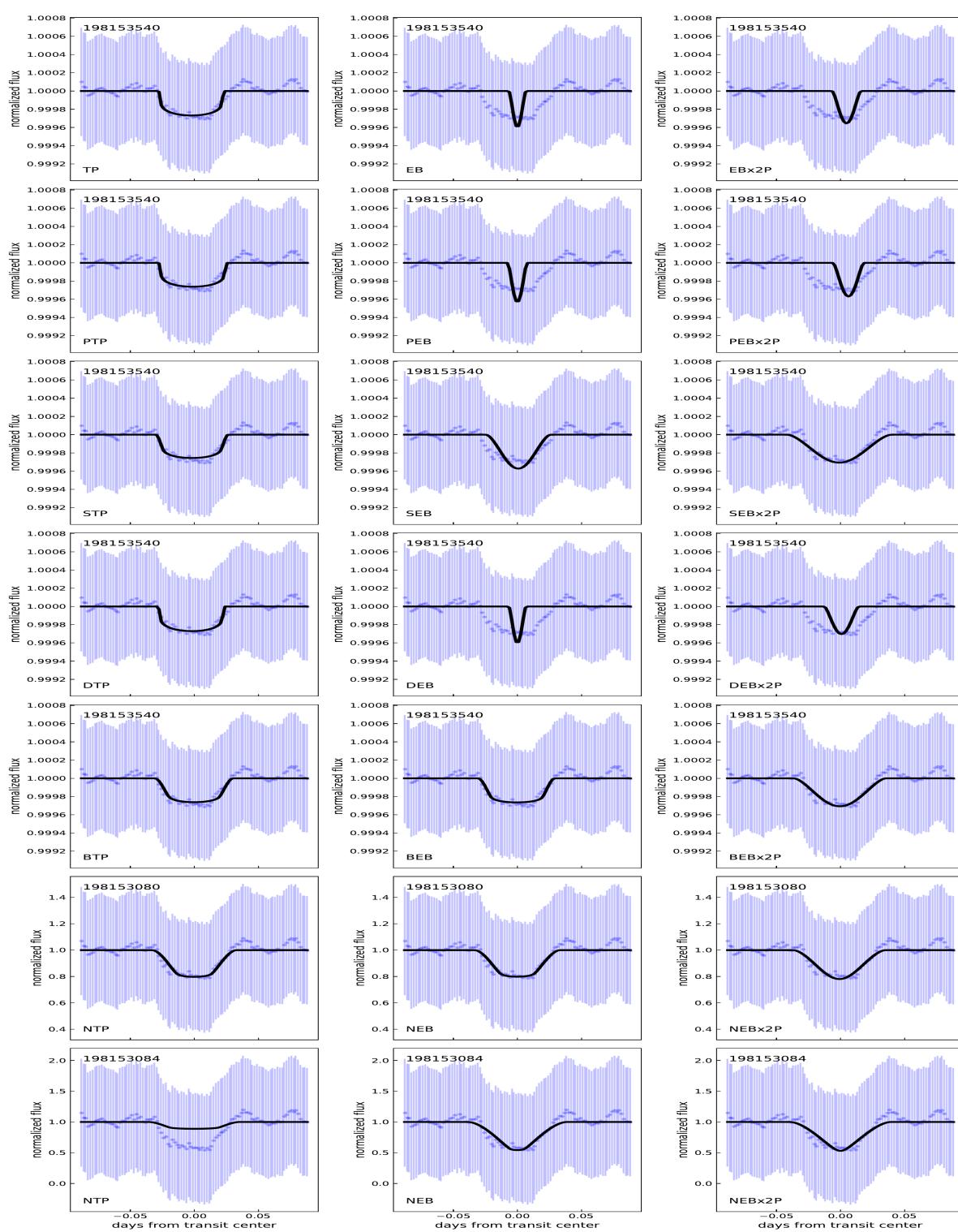
**Figure 6:** Best fits for scenario no. 1



**Figure 7:** Best fits for scenario no. .2



**Figure 8:** Best fits for scenario no. .3



**Figure 9:** Best fits for scenario no. .4