



BAV results of observations – transits of exoplanets in 2022

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December 2023

Abstract: *Eighty-eight results from the observation of 71 confirmed transit planets and 34 results from the observation of 33 planet candidates are documented. These observations were conducted by observers affiliated with the BAV in the year 2022*

All results were obtained in 2022 by photometry of CCD images and the subsequent evaluation of the light curves obtained using the ETD algorithm [1]. All times of mid transit are heliocentric UTC, expressed as Heliocentric Julian Date (HJD). The transit duration is given in minutes and the transit depth in mag. The mean errors are tabulated in columns “+/-”.

In cases in which no values for transit depth or transit duration were given, data from the literature were assumed to be given in the evaluation process.

Most results listed here have already been sent to the ETD and the project ExoClock [2]. For results that were not recorded in these two databases, the light curves are presented in the appendix.

Confirmed Planets

	HJD 24..	+/-	duration	+/-	depth	+/-	Filter	Obs	Rem
CoRoT-6 b	59785.40157	0.00129			0.0162	0.0014	Exo	RAT	
Gaia-2 b	59929.29712	0.00063	176.2	2.6	0.0198	0.0005	Exo	RAT	
GPX-1 b	59623.33688	0.00259	123.5	10.2	0.0065	0.0008	Clear	RAT	
HAT-P-3 b	59661.56648	0.00044	118.7	1.5	0.0147	0.0004	Clear	RAT	
HAT-P-4 b	59689.48273	0.00067	257.5	2.1	0.0107	0.0003	Clear	RAT	
HAT-P-6 b	59857.55106	0.00141			0.012	0.0013	Exo	RAT	
HAT-P-7 b	59822.41657	0.00137	241.1	4.2	0.0067	0.0004	R	RAT	
HAT-P-8 b	59107.56376	0.00099	236.5	3.1	0.0092	0.0004	R	RAT	
HAT-P-8 b	59827.42730	0.00087	235.6	2.9	0.0138	0.0004	R	RAT	
HAT-P-36 b	59698.53860	0.00064	129.3	2.2	0.0202	0.0008	Clear	RAT	TOI-1810.01
HAT-P-37 b	59807.53434	0.00106	134.2	3.9	0.0207	0.0011	Exo	RAT	
HAT-P-38 b	59895.57139	0.00351	175.6	11.3	0.0099	0.0018	Exo	RAT	
HAT-P-44 b	59688.44439	0.00050	189.2	1.8	0.0258	0.0005	Clear	RAT	
HAT-P-51 b	59859.58100	0.00090	198.4	3.2	0.0227	0.0008	Exo	RAT	
HAT-P-61 b	59639.38166	0.00052	89.2	1.8	0.0117	0.0005	Clear	RAT	2)
HAT-P-62 b	59861.59351	0.00136	204.7	4.4	0.0141	0.0008	Exo	RAT	
HAT-P-66 b	59642.40971	0.00166			0.0083	0.0005	Clear	RAT	
HD189733 b	59781.50001	0.00192	91.9	9.7	0.0836	0.0106	TR	WNZ_1	
Kelt-6 b	59666.47365	0.00176	322.6	6.8	0.0086	0.0011	I	RAT	
Kelt-23A b	59714.57793	0.00098			0.0189	0.0017	R	RAT	2)
Kelt-23A b	59775.46938	0.00052	133.4	1.9	0.0187	0.0005	R	RAT	2)

	HJD 24..	+/-	duration	+/-	depth	+/-	Filter	Obs	Rem
Kepler-6 b	59764.48545	0.00134	213.7	4.3	0.0127	0.0008	Exo	RAT	
Kepler-13 b	59773.44730	0.00124			0.0060	0.0007	R	RAT	KOI-13 b
Kepler-13 b	59780.50479	0.00104	191.8	3.2	0.0095	0.0004	R	RAT	KOI-13 b
Kepler-13 b	59886.32266	0.00069	204.2	2.2	0.0095	0.0003	I	RAT	KOI-13 b
Kepler-17 b	59776.52368	0.00096	131.9	3.5	0.0235	0.0015	Exo	RAT	
Kepler-17 b	59895.38231	0.00303	120.3	10.7	0.0210	0.0038	Exo	RAT	
Kepler-41 b	59796.48422	0.00719	154.9	26.8	0.0222	0.0074	Exo	RAT	
Kepler-76 b	59794.44800	0.00339	104.1	19.9	0.0065	0.0012	Exo	RAT	2) KOI-1658.01, TOI-4455.01
Kepler-76 b	59859.33733	0.00236	105.9	12.7	0.0069	0.0009	Exo	RAT	2) KOI-1658.01, TOI-4455.01
Kepler-423 b	59744.45416	0.00127	157.9	4.5	0.0241	0.0016	Exo	RAT	KOI-183.01, TOI-4434.01
Kepler-448 b	59800.49448	0.00281					Exo	RAT	KOI-12 b
KPS-1 b	59680.51958	0.00079	98.1	3.2	0.0122	0.0007	Clear	RAT	
Qatar-1b	59788.42593	0.00178	125.8	8.2	0.0314	0.0048	TRTGTB	WNZ_1a	
Qatar-3 b	59845.46309	0.00154	199.6	5.0	0.0106	0.0006	Exo	RAT	
Qatar-5 b	59516.38497	0.00053	167.8	1.9	0.0146	0.0004	TG	WNZ_4	
Qatar-6 b	59698.41246	0.00041	95.9	2.0	0.0177	0.0005	Clear	RAT	2)
Qatar-8 b	59659.54492	0.00101	227.6	3.4	0.0132	0.0004	Clear	RAT	
Qatar-10 b	59715.53611	0.00114	160.5	4.1	0.0204	0.0012	Exo	RAT	
TOI-1259A b	59646.62259	0.00024	147.2	0.9	0.0317	0.0004	Clear	RAT	
TOI-1259A b	59660.53431	0.00028	142.8	1.0	0.0314	0.0006	Clear	RAT	
TOI-1259A b	59681.40300	0.00041	149.3	1.6	0.0337	0.0006	Clear	RAT	
TOI-1259A b	59820.52156	0.00024	141.2	0.9	0.0293	0.0003	Exo	RAT	
TOI-1296 b	59652.57194	0.00178	256.9	5.4	0.0056	0.0004	Clear	RAT	2)
TOI-1296 b	59802.45933	0.00135	284.8	4.2	0.0076	0.0003	Exo	RAT	2)
TOI-1298 b	59664.59951	0.00079	234.4	2.3			Clear	RAT	2)
TOI-1333 b	59805.48439	0.00155	281.1	5.0	0.0062	0.0003	I	RAT	2)
TOI-1516 b	59799.49725	0.00035	172.8	1.2	0.0191	0.0004	Exo	RAT	2)
TOI-1728 b	59646.29742	0.00132			0.0051	0.0011	Clear	RAT	2)
TOI-3629 b	59886.48870	0.00135	124.0	4.8	0.0203	0.0020	Exo	RAT	
TOI-3629 b	59898.29600	0.00110	114.3	3.8	0.0186	0.0015	Exo	RAT	
TOI-3714 b	59883.45737	0.00073	101.3	2.8	0.0517	0.0025	Exo	RAT	
TOI-3757 b	59650.32179	0.00131	105.5	7.7	0.0280	0.0032	Clear	RAT	1)
TOI-4087 b	59657.63904	0.00134	181.1	4.9	0.0171	0.0012	Clear	RAT	
TOI-4329 b	59843.45954	0.00266	327.1	8.2	0.0044	0.0004	Exo	RAT	
TrES-2 b	59731.45961	0.00045	111.9	2.2	0.0166	0.0004	Exo	RAT	
TrES-4 b	59803.46231	0.00125	230.4	4.8	0.0117	0.0004	Exo	RAT	
TrES-5 b	59808.46797	0.00067	110.6	2.5	0.0247	0.0008	Exo	RAT	
WASP-1 b	59844.46729	0.00045	215.2	1.5	0.0157	0.0003	Exo	RAT	
WASP-1 b	59897.39046	0.00265	228.7	8.8	0.0153	0.0005	Exo	RAT	
WASP-2 b	59406.50810	0.00269	146.6	11.6	0.0287	0.0036	TRTGTB	WNZ_1	
WASP-2 b	59772.38210	0.00174	95.8	7.8	0.0154	0.0027	TRTGTB	WNZ_3	
WASP-11 b	59885.53850	0.00038	150.6	1.3	0.0243	0.0005	Exo	RAT	HAT-P-10 b
WASP-12 b	59647.37808	0.00042	176.7	1.4	0.0172	0.0004	Clear	RAT	
WASP-36 b	59591.58737	0.00256	129.2	9.9	0.0299	0.0038	TRTGTB	WNZ_3	
WASP-43 b	59665.38368	0.00129	63.6	5.3	0.0277	0.0038	TRTGTB	WNZ_3	
WASP-48 b	59825.46041	0.00073	185.9	2.7	0.0102	0.0003	Exo	RAT	
WASP-52 b	59816.42216	0.00060	107.1	2.4	0.0360	0.0014	TRTGTB	WKT	
WASP-58 b	59438.53339	0.00223			0.0169	0.0018	TG	WNZ_3	
WASP-69 b	59779.43510	0.00130	127.9	5.2	0.0179	0.0012	TG	WNZ_3	
WASP-77 b	59878.45320	0.00135	128.8	4.7	0.0202	0.0017	TRTGTB	WNZ_3	
WASP-77 b	59598.28514	0.00106	149.8	3.6	0.0357	0.0024	TRTGTB	WNZ_3	
WASP-92 b	59708.53288	0.00104			0.0141	0.0013	Exo	RAT	
WASP-92 b	59745.50122	0.00113	174.1	4.0	0.0137	0.0007	Exo	RAT	
WASP-104 b	59648.34569	0.00091	104.7	3.4	0.0149	0.0010	Clear	RAT	

	HJD 24..	+/-	duration	+/-	depth	+/-	Filter	Obs	Rem
WASP-104 b	59662.38892	0.00038	106.6	1.5	0.0176	0.0005	Clear	RAT	
WASP-113 b	59713.45027	0.00090	259.7	2.9	0.0118	0.0004	Exo	RAT	
WASP-114 b	59438.49065	0.00072	160.8	2.4	0.0110	0.0004	Clear	WNZ_2	
WASP-135 b	59778.46094	0.00053	104.7	2.1	0.0220	0.0007	Exo	RAT	2) TOI-2139.01
WASP-135 b	59858.34497	0.00181	102.4	6.4	0.0177	0.0013	Exo	RAT	2) TOI-2139.01
WASP-148 b	59709.43619	0.00086	184.6	2.8	0.0100	0.0005	Exo	RAT	2)
WASP-150 b	59751.50805	0.00581	185.9	18.4	0.0063	0.0023	Exo	RAT	
WASP-153 b	59804.42946	0.00146	204.1	4.8	0.0096	0.0007	Exo	RAT	
WASP-153 b	59824.42906	0.00183			0.0091	0.0012	Exo	RAT	
XO-2 b	59659.36570	0.00044	162.5	1.4	0.0156	0.0004	Clear	RAT	
XO-6 b	58949.35920	0.00054	174.8	1.9	0.0158	0.0004	R	RAT	
XO-6 b	59638.35565	0.00069	192.0	2.3	0.0147	0.0004	I	RAT	
XO-7 b	59687.51034	0.00079	166.1	2.9	0.0102	0.0003	R	RAT	2)

Candidate Planets

	HJD 24..	+/-	duration	+/-	depth	+/-	Filter	Obs	Rem
EPIC-									
211929937.01	59649.35074	0.00118	144.0	3.9	0.0165	0.0011	Clear	RAT	1)
TOI-1168.01	59763.45647	0.00106			0.0083	0.0011	Exo	RAT	
TOI-1169.01	59639.58897	0.00124	119.8	5.6	0.0074	0.0004	Clear	RAT	1)
TOI-1295.01	59686.40178	0.00067	214.7	2.2	0.0091	0.0004	Clear	RAT	1)
TOI-1355.01	59903.49214	0.00121	133.3	6.8	0.0089	0.0005	I	RAT	
TOI-1568.01	59926.36793	0.00112			0.0030	0.0003	R	RAT	
TOI-1709.01	59650.60127	0.00941			0.0107	0.0085	Clear	RAT	1)
TOI-1855.01	59641.52558	0.00067	62.5	3.9	0.0073	0.0004	Clear	RAT	1)
TOI-2040.01	59821.43878	0.00045	182.1	1.7	0.0169	0.0003	Exo	RAT	1)
TOI-2575.01	59638.52406	0.00103	211.1	3.4	0.0101	0.0006	Clear	RAT	1)
TOI-3646.01	59634.33678	0.00146	181.0	5.2	0.0274	0.0016	Clear	RAT	1)
TOI-3702.01	59660.40213	0.00161			0.0067	0.0012	Clear	RAT	1)
TOI-3758.01	59883.62871	0.00206	172.4	6.7	0.0106	0.0011	Exo	RAT	1)
TOI-3804.01	59651.63251	0.02220	173.3	3.1	0.0222	0.0013	Clear	RAT	1)
TOI-3812.01	59664.38992	0.00064	173.4	2.3	0.0194	0.0006	Clear	RAT	1)
TOI-3889.01	59647.63592	0.00052	134.4	1.9	0.0206	0.0006	Clear	RAT	1)
TOI-3907.01	59733.45697	0.00104	133.8	3.5	0.0110	0.0007	Exo	RAT	1)
TOI-3960.01	59706.46912	0.00115	174.5	4.6	0.0178	0.0008	Exo	RAT	1)
TOI-4004.01	59861.35983	0.00172	184.1	5.4	0.0123	0.0011	Exo	RAT	1)
TOI-4059.01	59862.34293	0.00094	127.4	3.2	0.0237	0.0012	Exo	RAT	1)
TOI-4103.01	59779.45236	0.00061	213.0	2.0	0.0120	0.0003	Exo	RAT	1)
TOI-4115.01	59727.51433	0.00112	91.2	6.4	0.0124	0.0009	Exo	RAT	1)
TOI-4118.01	59741.44704	0.00145	153.0	4.8	0.0116	0.0008	Exo	RAT	1)
TOI-4125.01	59661.36943	0.00136	200.7	5.2	0.0133	0.0006	Clear	RAT	1)
TOI-4141.01	59641.37002	0.00065	167.8	2.1	0.0110	0.0004	Clear	RAT	1)
TOI-4147.01	59651.35889	0.00139	214.1	4.6	0.0138	0.0008	Clear	RAT	1)
TOI-4160.01	59634.53649	0.00099			0.0118	0.0014	Clear	RAT	1)
TOI-4427.01	59649.51215	0.00035	153.2	1.4	0.0207	0.0004	Clear	RAT	1)
TOI-4427.01	59663.36632	0.00041	152.6	1.5	0.0209	0.0004	Clear	RAT	1)
TOI-4429.01	59663.56375	0.00108	185.9	3.7	0.0151	0.0007	Clear	RAT	1)
TOI-4436.01	59665.58919	0.00103	215.3	3.4	0.0114	0.0005	Clear	RAT	1)
TOI-4452.01	59662.55829	0.00145	153.6	5.5	0.0150	0.0009	Clear	RAT	1)
TOI-4468.01	59657.36231	0.00390	133.7	12.6	0.0141	0.0041	Clear	RAT	1)
TOI-5284.01	59777.46945	0.00132	104.0	5.4	0.0147	0.0012	Exo	RAT	1)

Remarks

- 1) not listed in ETD; Result of the data analysis is shown in appendix
- 2) not listed in ETD; listed in ExoClock database

Filter

Clear	without filter
I, R, V	Bessel, Cousins or Johnson
EXO	Astrodon ExoPlanet-BB (V to IR)
TR, TG	R or G pixel of Bayer Matrix
TRTGTB	All RGB pixel of Bayer Matrix were used

Observers and instruments

RAT	Raetz, Manfred Herges-Hallenberg SCT 280/1790 + Moravian Instruments G2-1600
WKT	Wickert, Volker Essen Newton 500 / 2500mm, Canon EOS 250 (Volkssternwarte Kirchheim)
WNZ_1	Wenzel, Bernhard Vienna NWT 200 / 900 mm, Canon 200D
WNZ_1a	Wenzel, Bernhard Vienna NWT 200 / 900 mm, Canon 1100D
WNZ_2	Wenzel, Bernhard Vienna Cass. 600/4800, SBIG STL 6303-3 (Volkssternwarte Kirchheim)
WNZ_3	Wenzel, Bernhard Vienna Newton 300/1200 mm, Canon 200 D
WNZ_4	Wenzel, Bernhard, Markus Rockenbauer Vienna Cass. 800/ 6640, FLI PL16803 (Vienna little telescope (vlt) Department of Astrophysics)

References

[1] *Poddany S., Brat L., Pejcha O., New Astronomy 15 (2010), pp. 297-301, Exoplanet Transit Database. Reduction and processing of the photometric data of exoplanet transits*

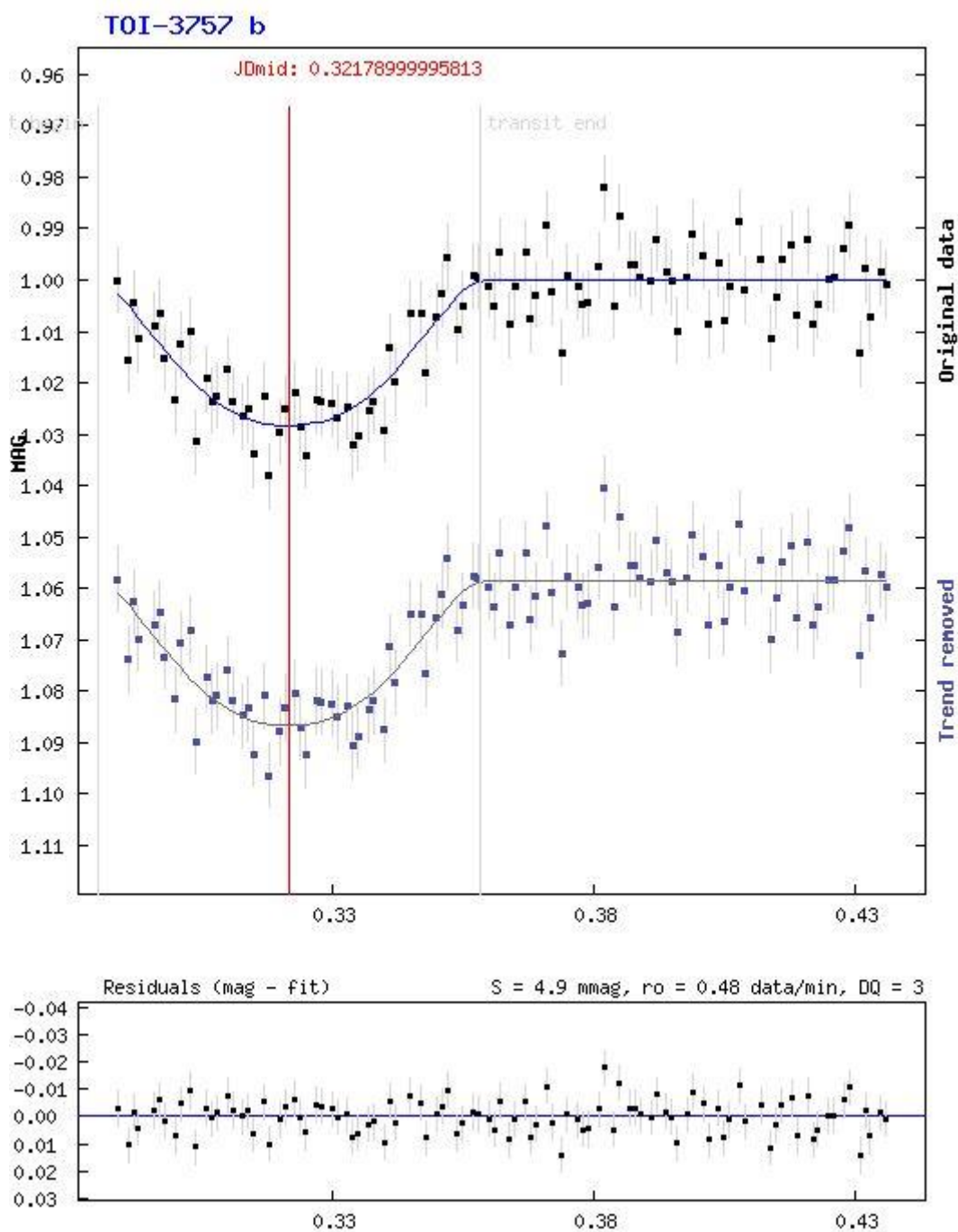
<http://arxiv.org/abs/0909.2548>

[2] *Kokori, A., Tsiaras, A., Edwards, B. et al., Experimental Astronomy (2021) ExoClock project: an open platform for monitoring the ephemerides of Ariel targets with contributions from the public*

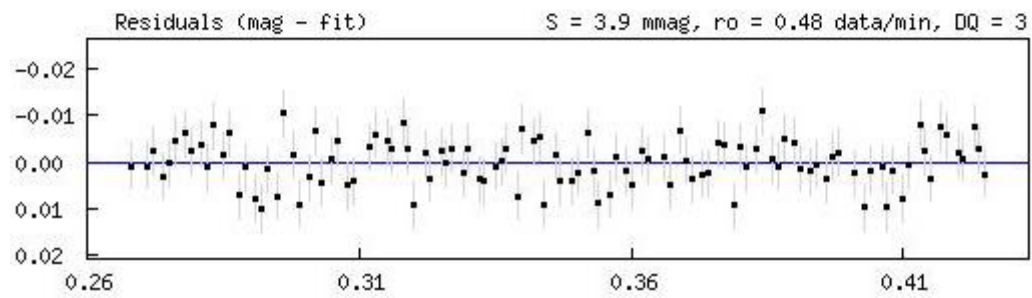
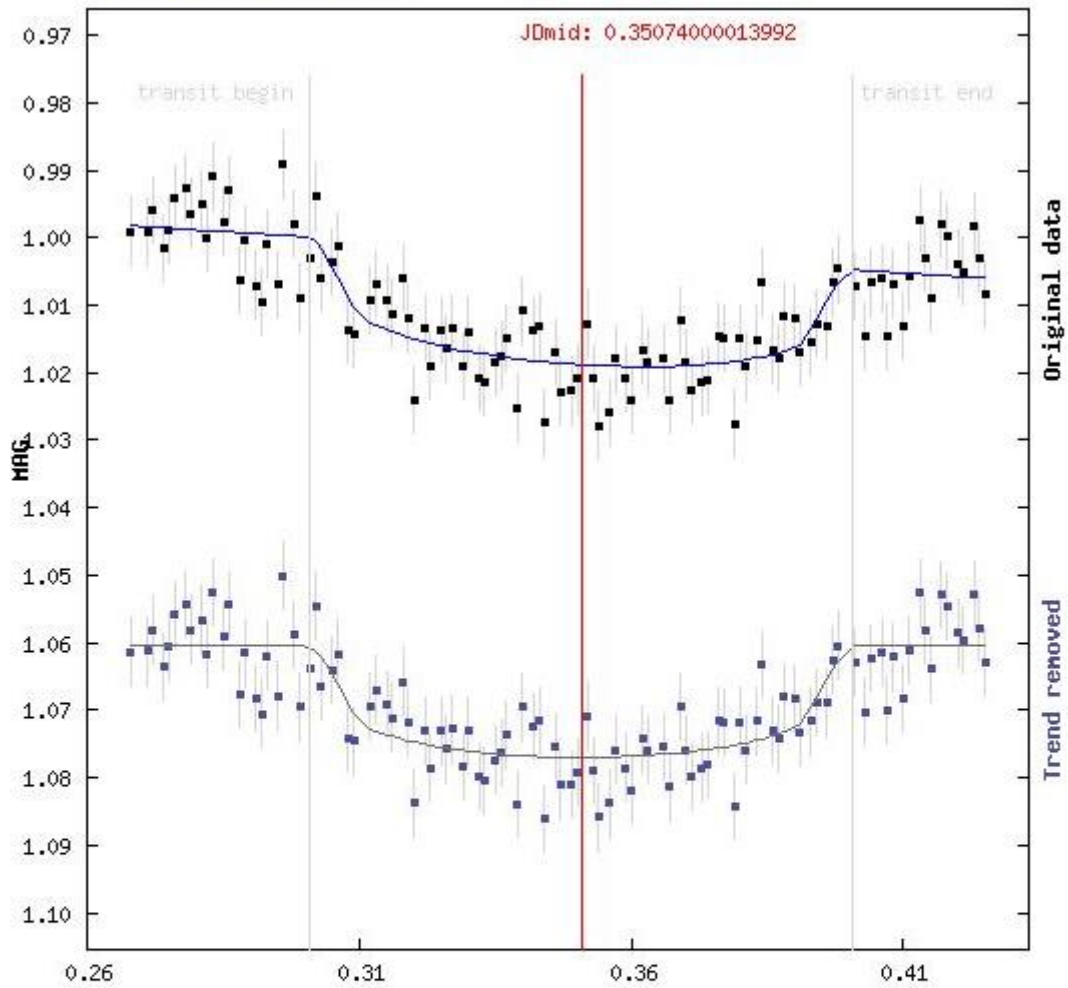
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Appendix

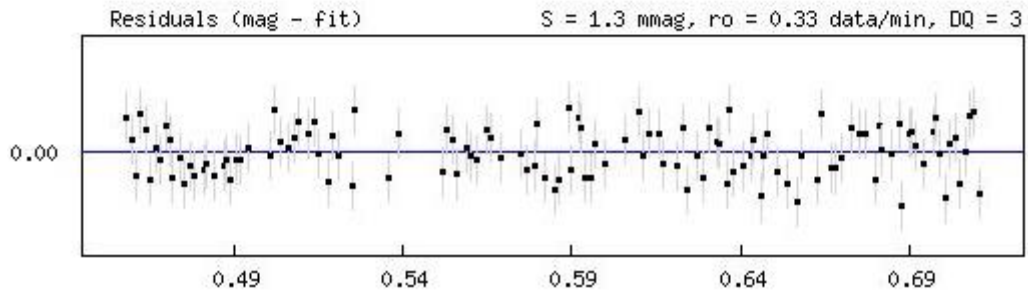
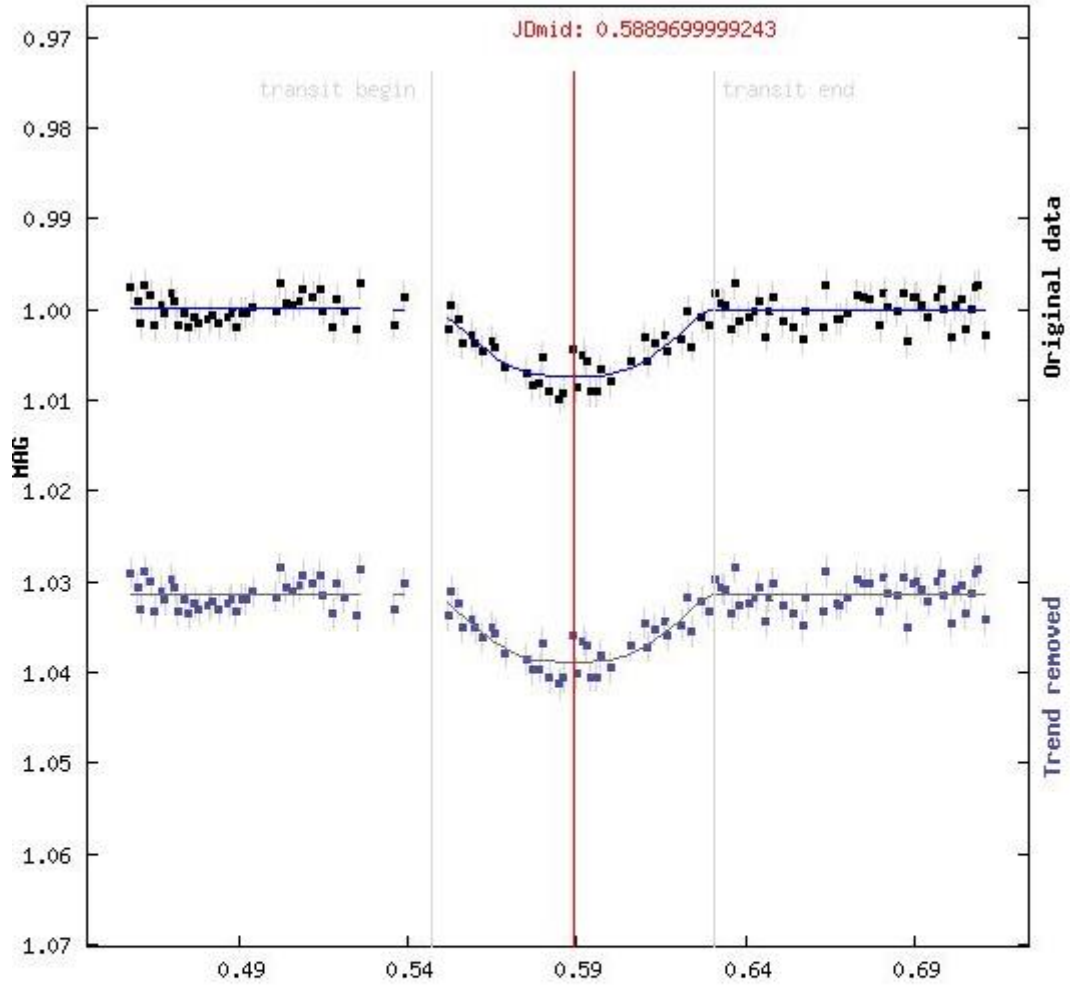
Results of exoplanets not listed in the ETD, analyzed with the algorithm of the ETD



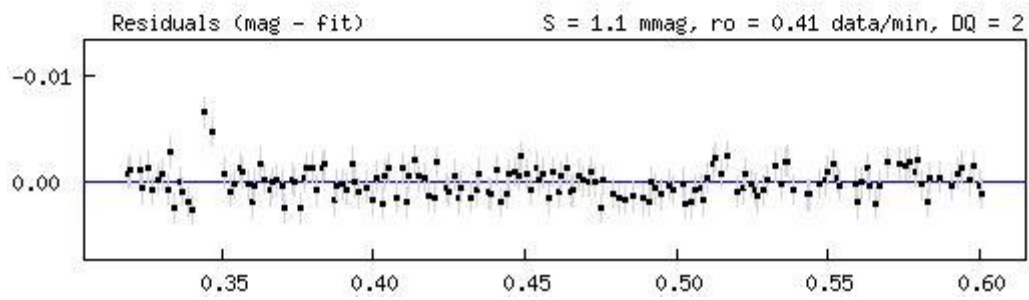
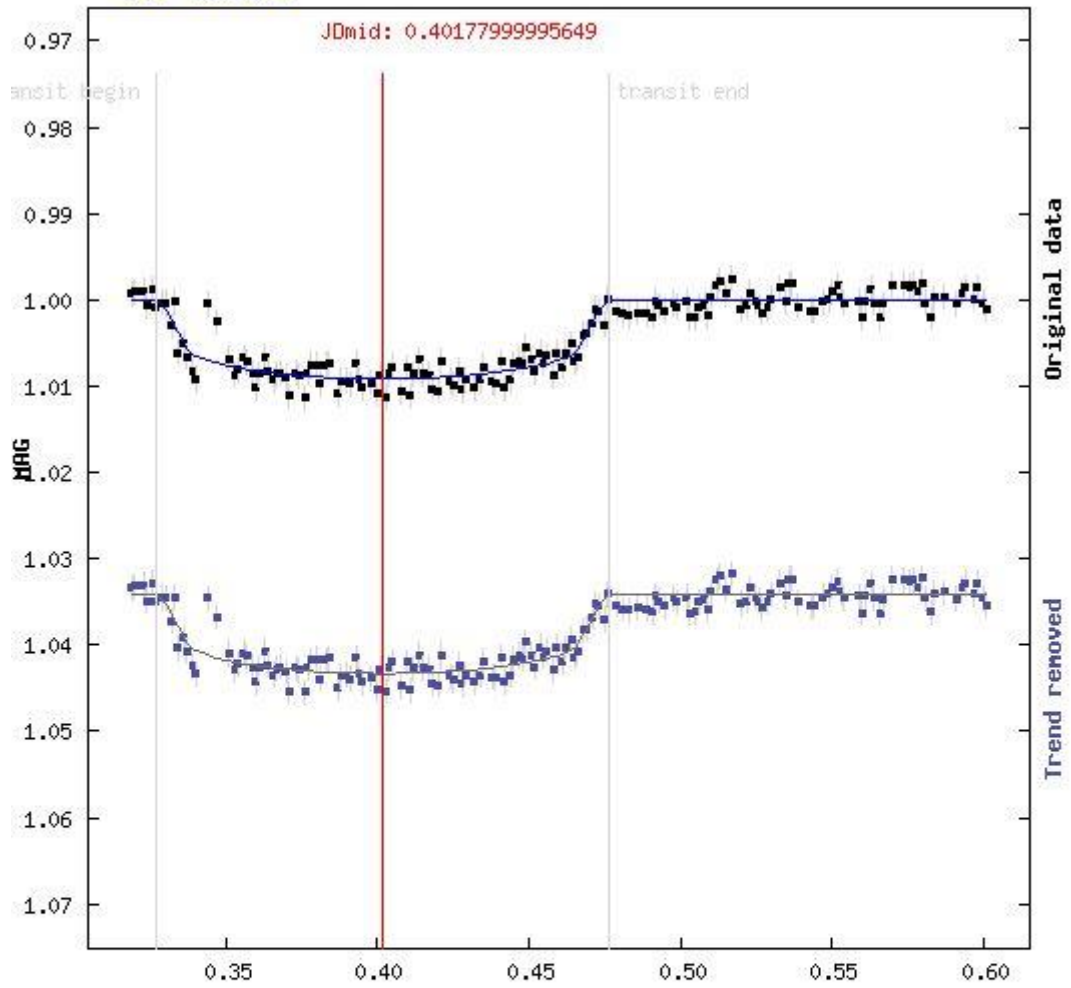
EPIC 211929937 b



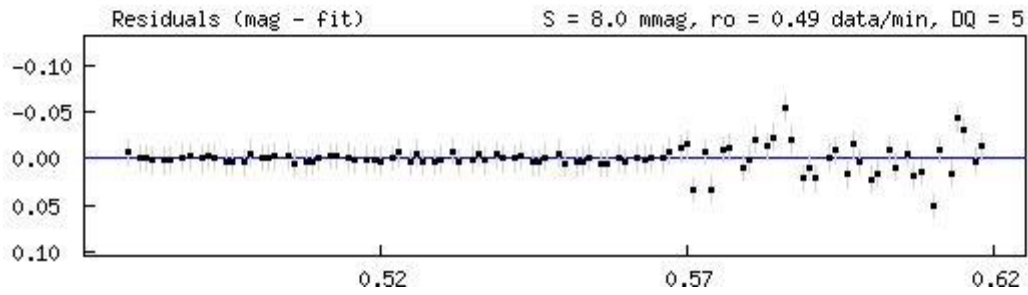
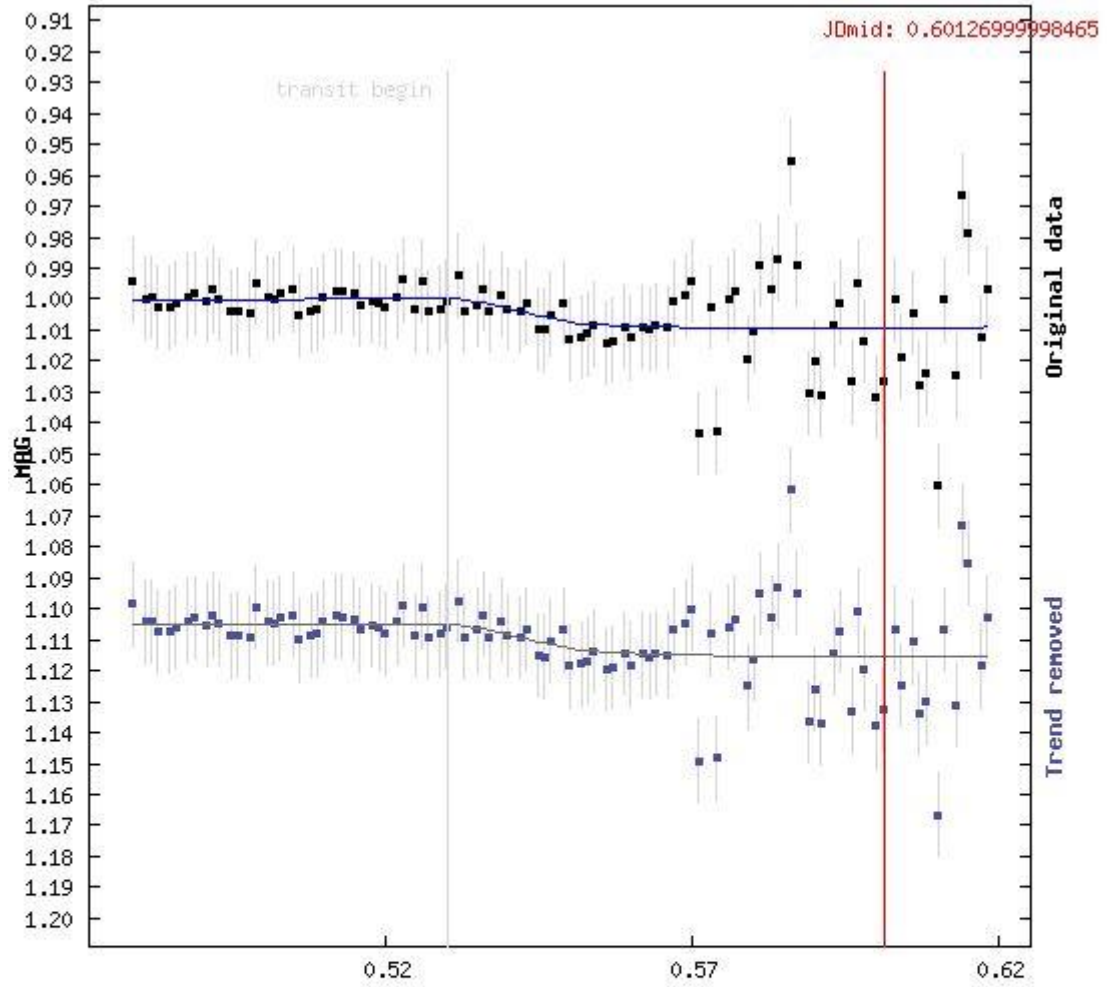
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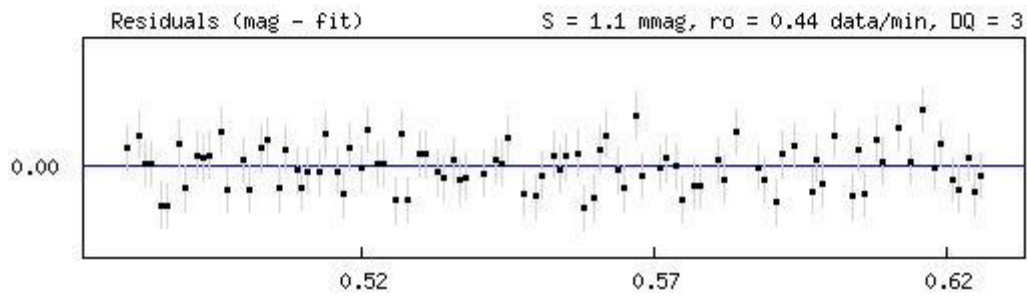
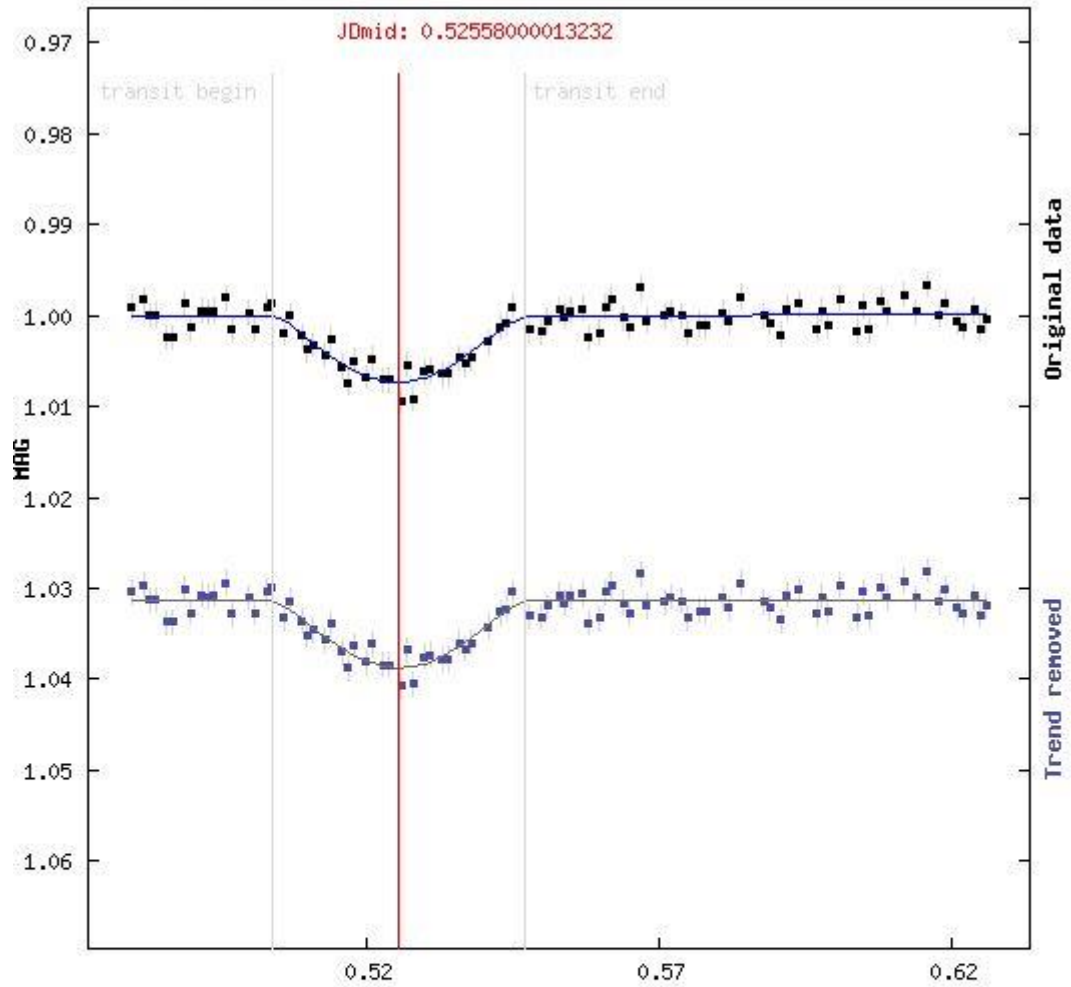
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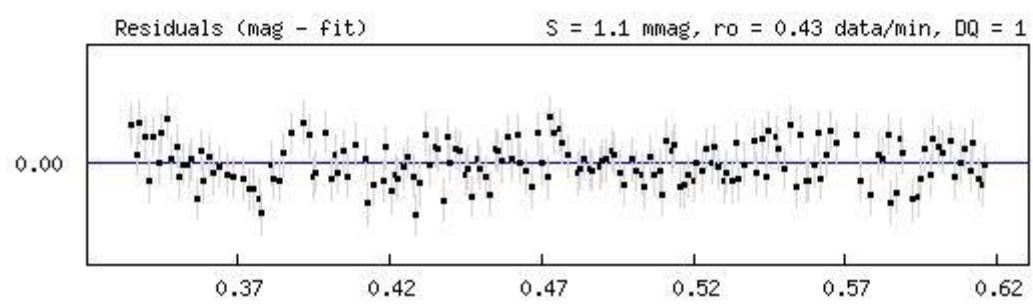
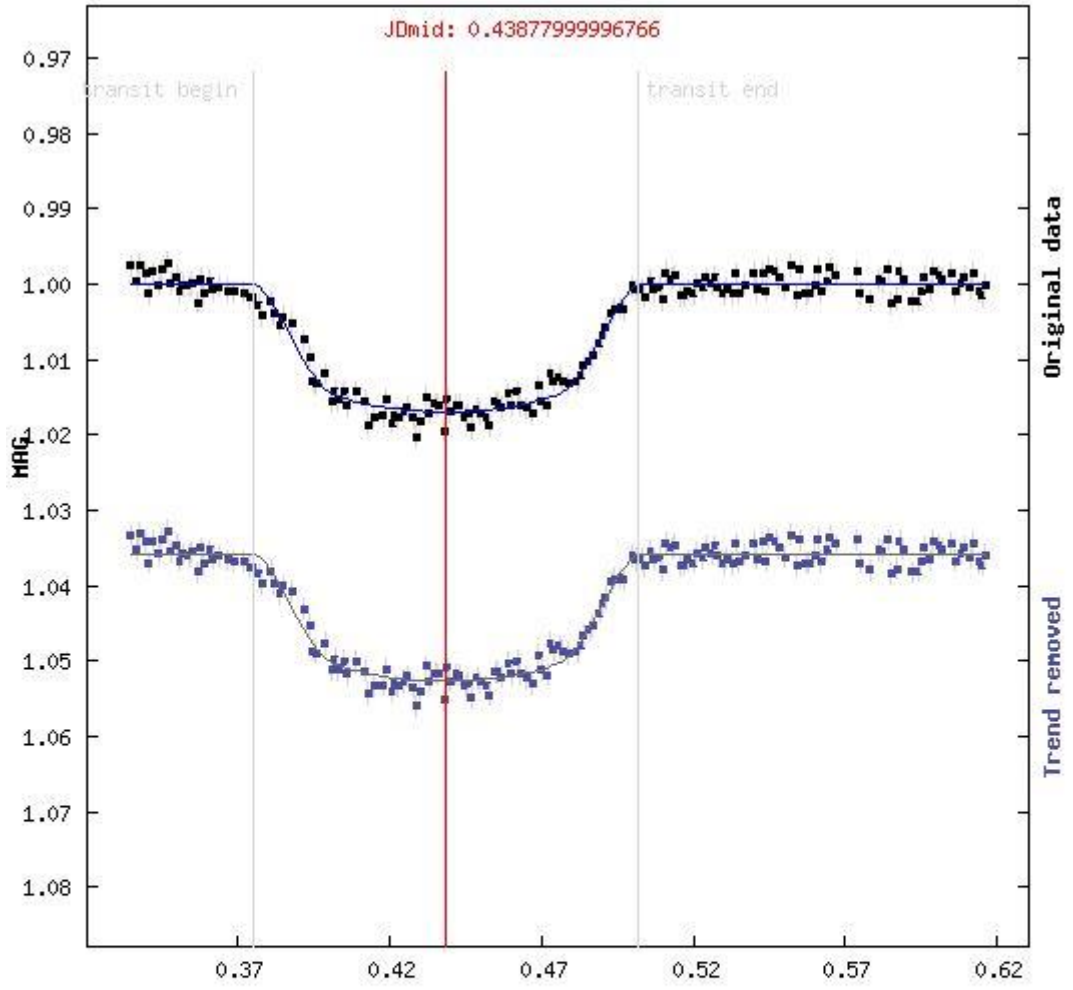
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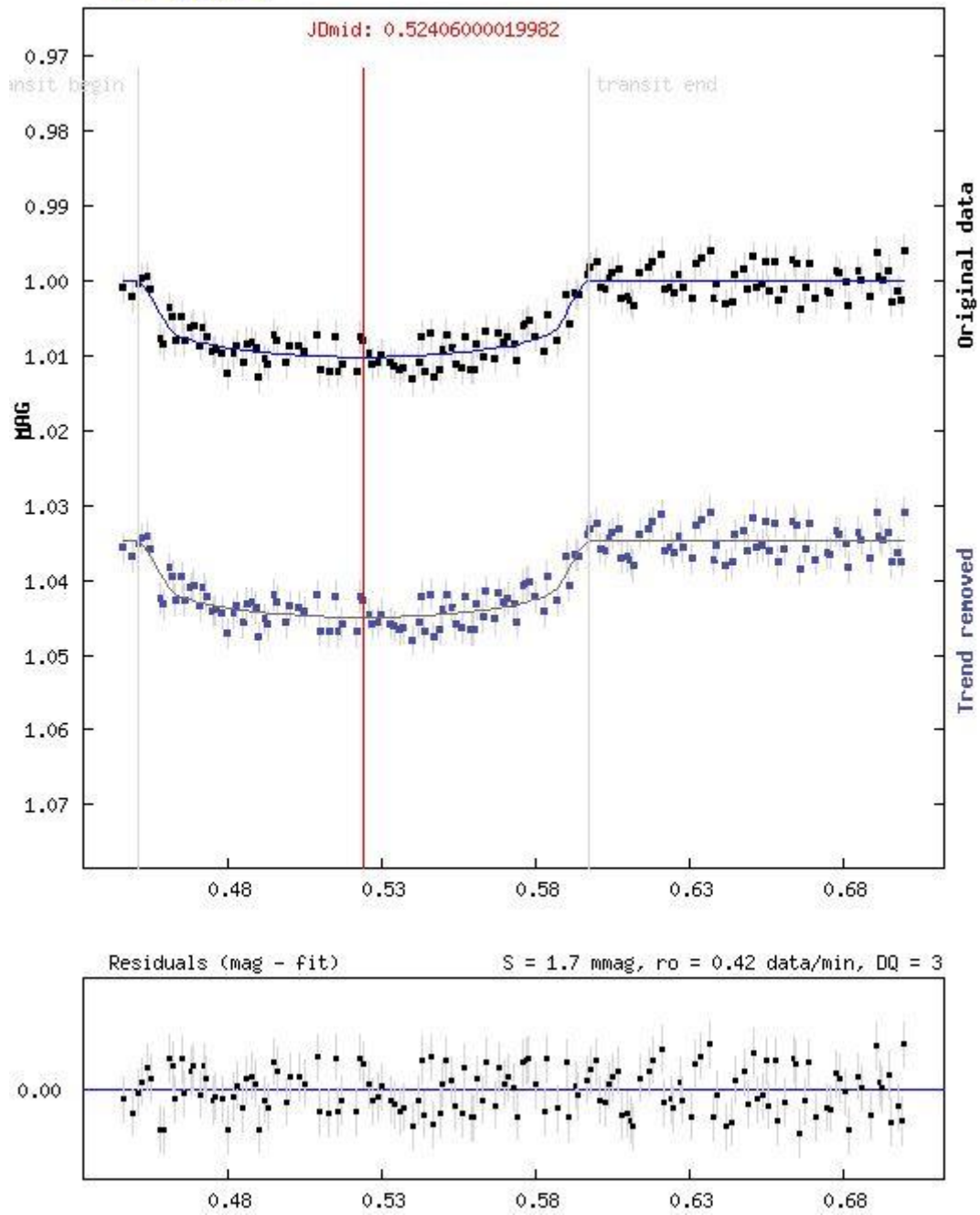
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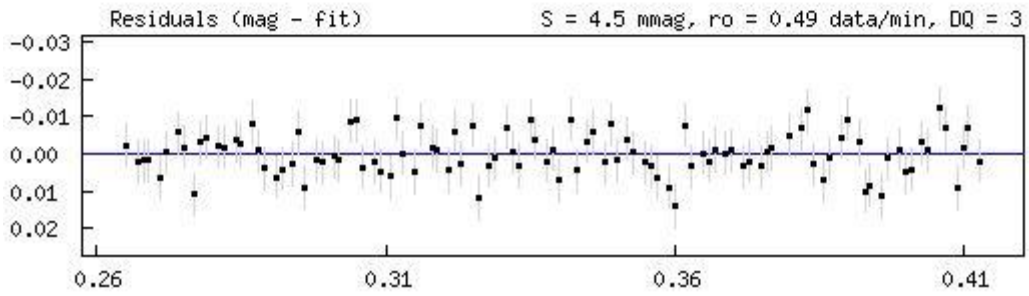
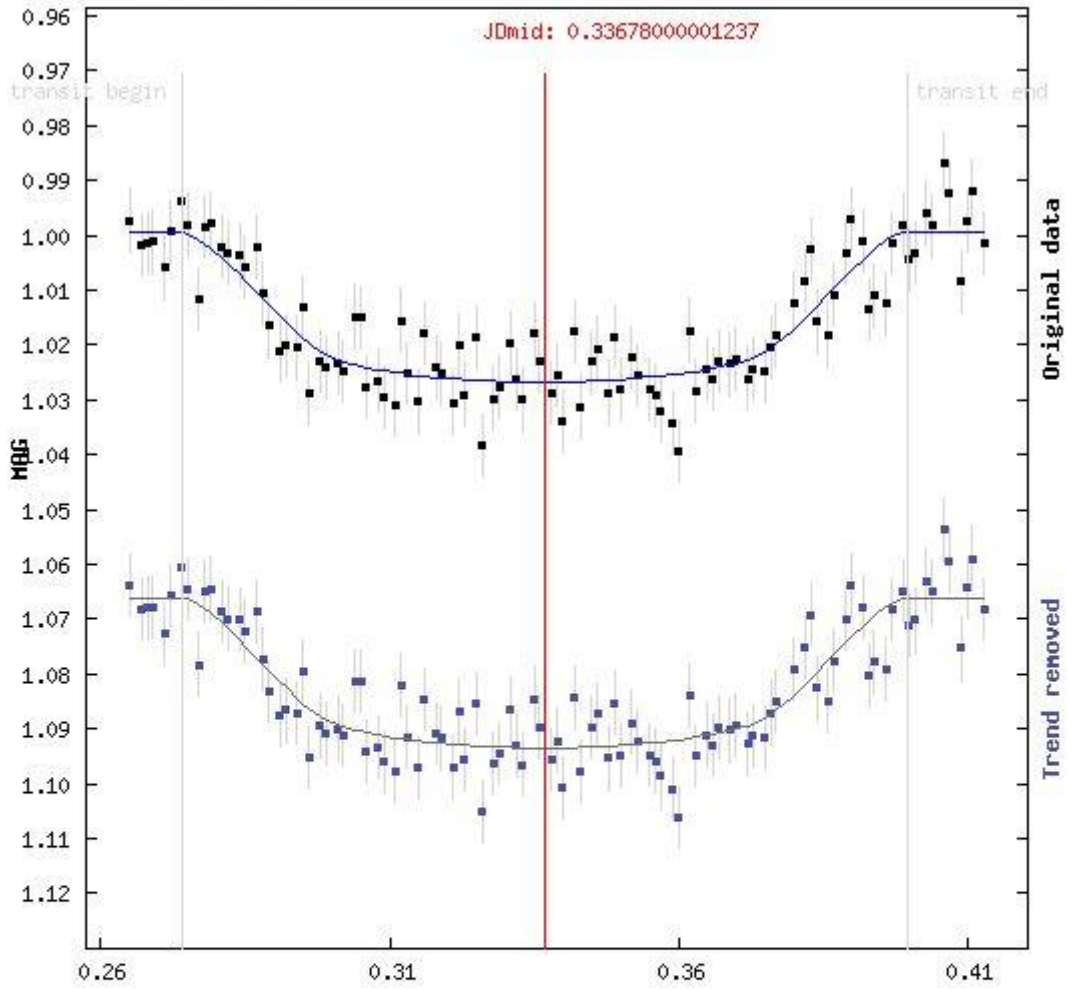
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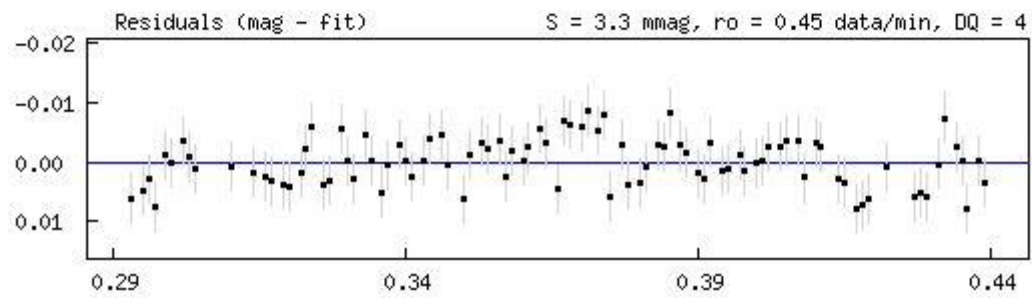
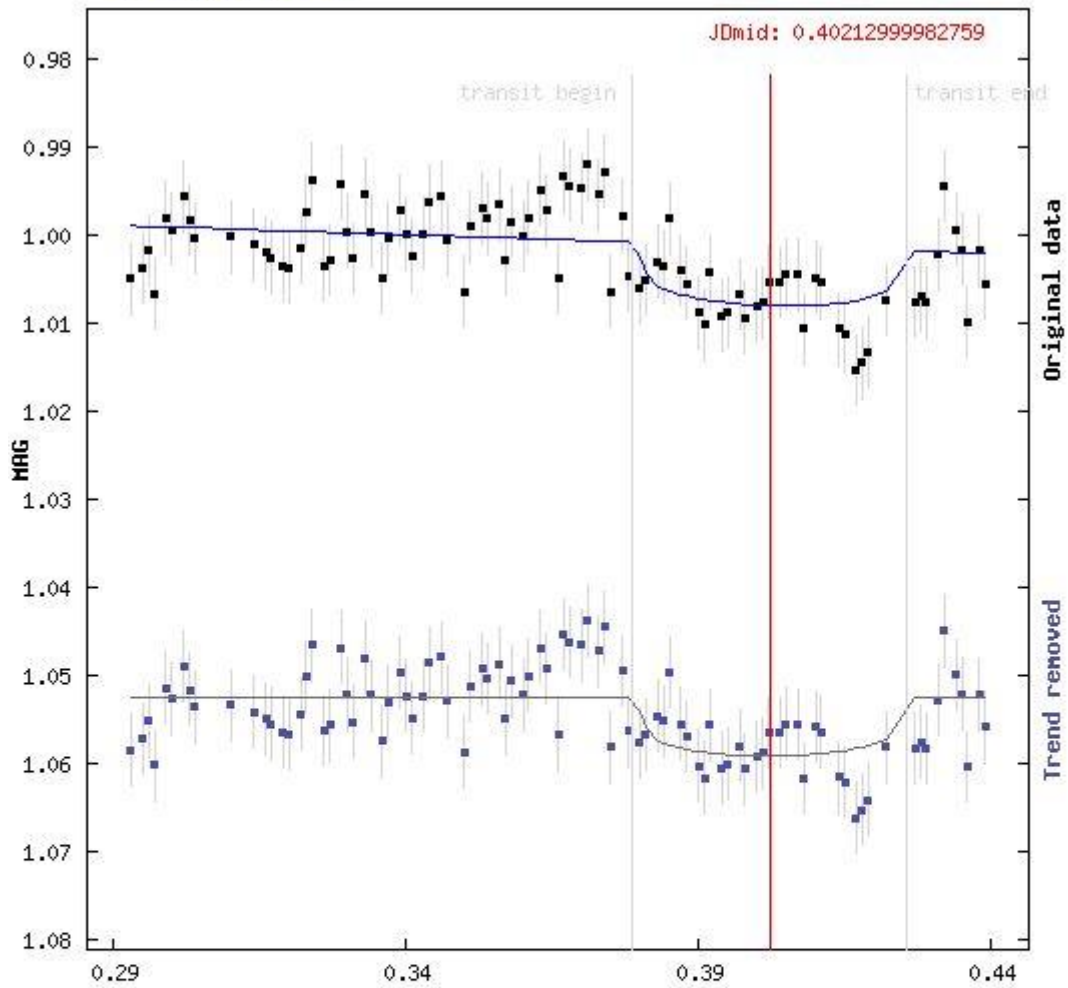
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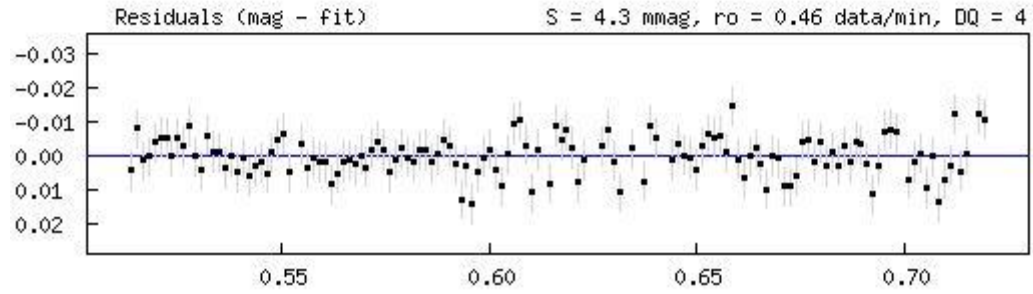
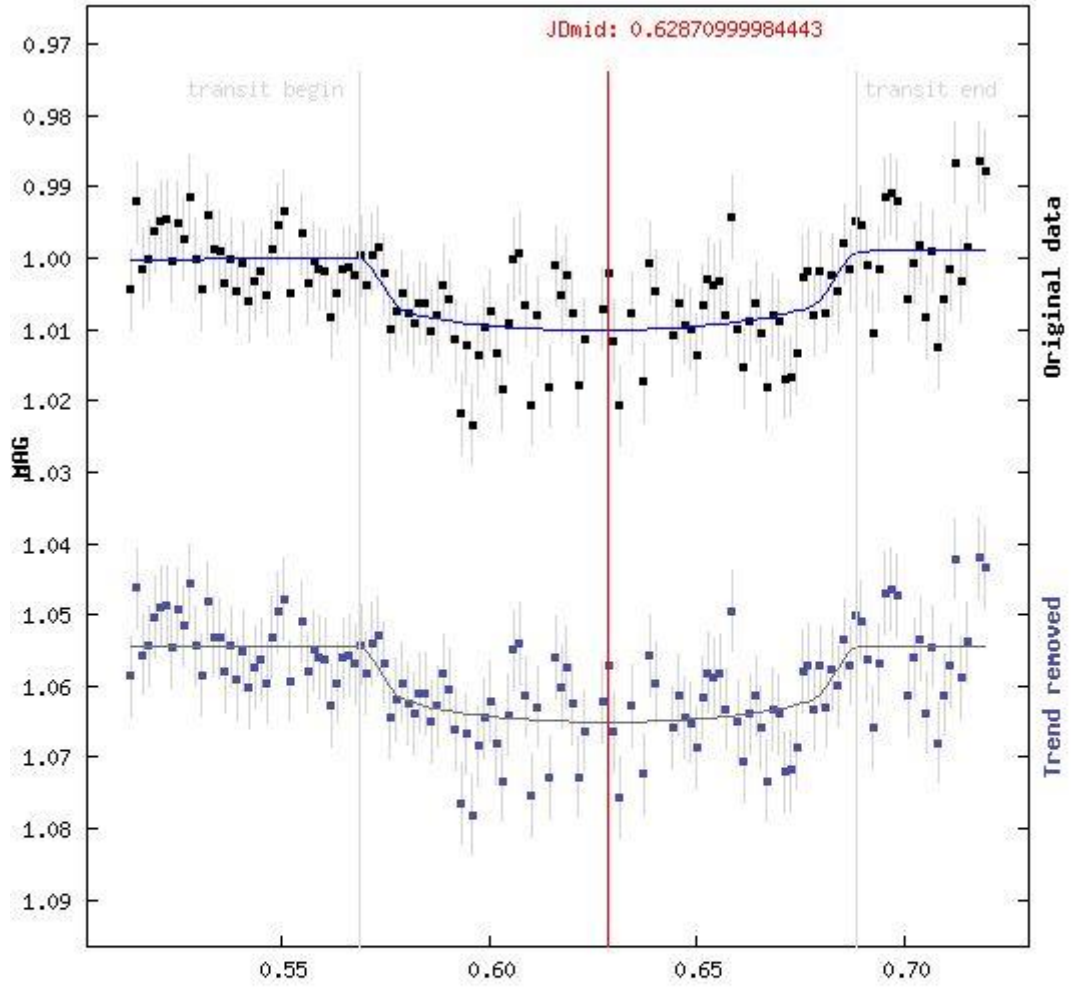
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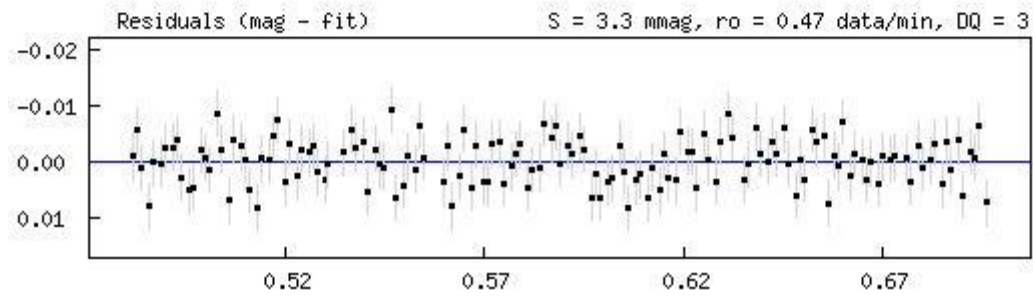
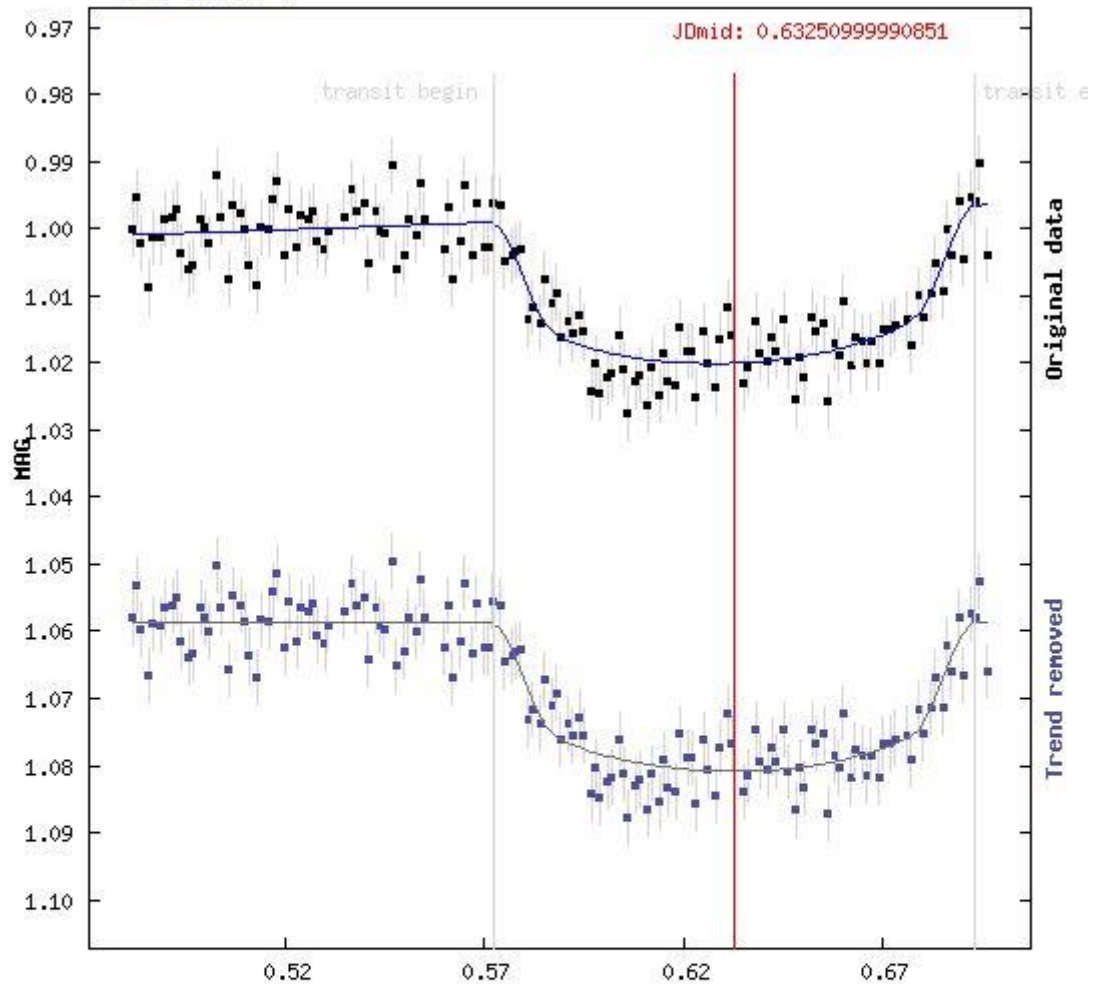
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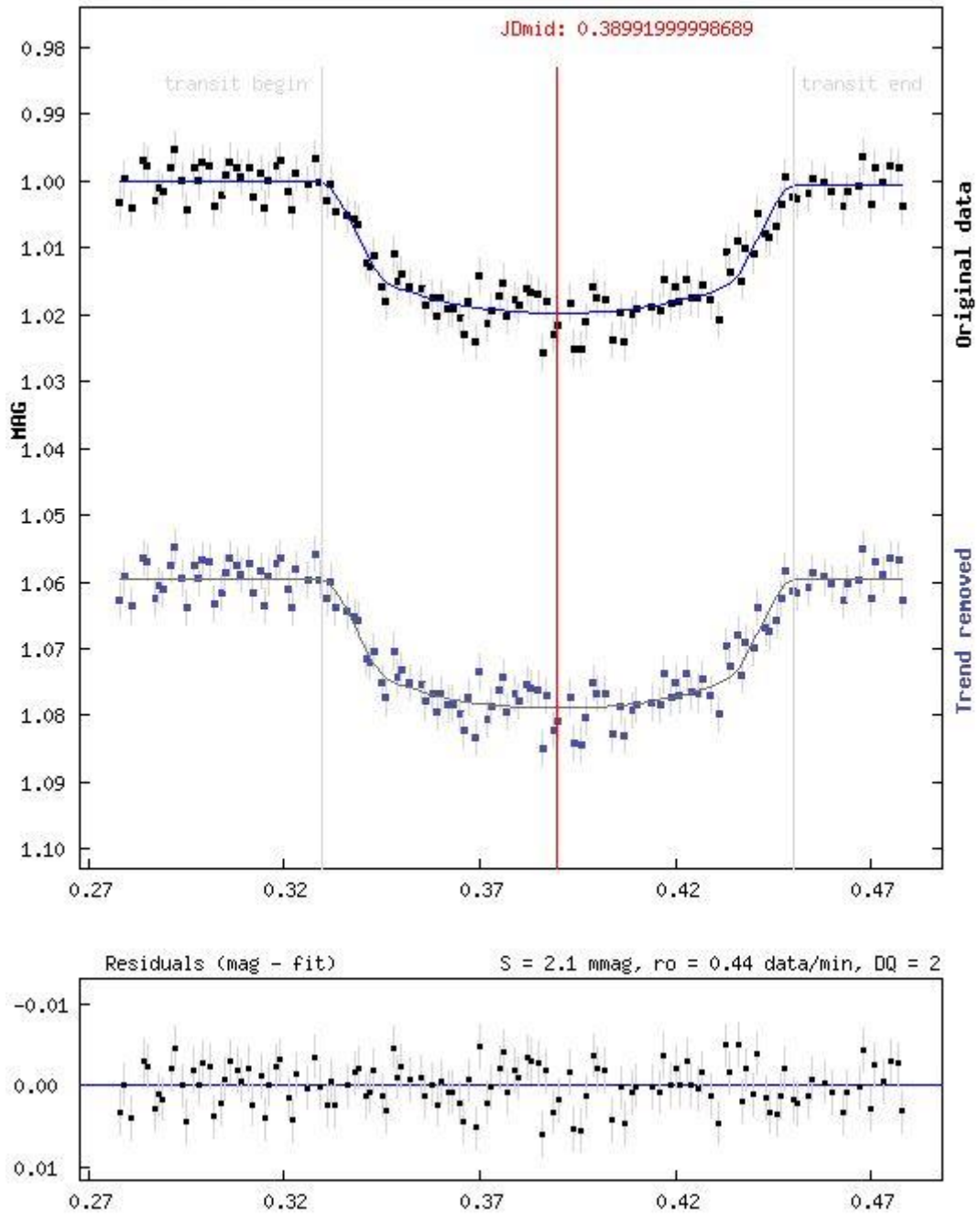
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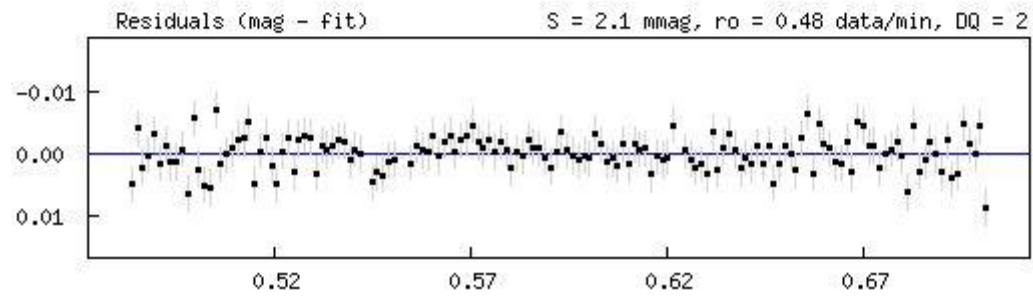
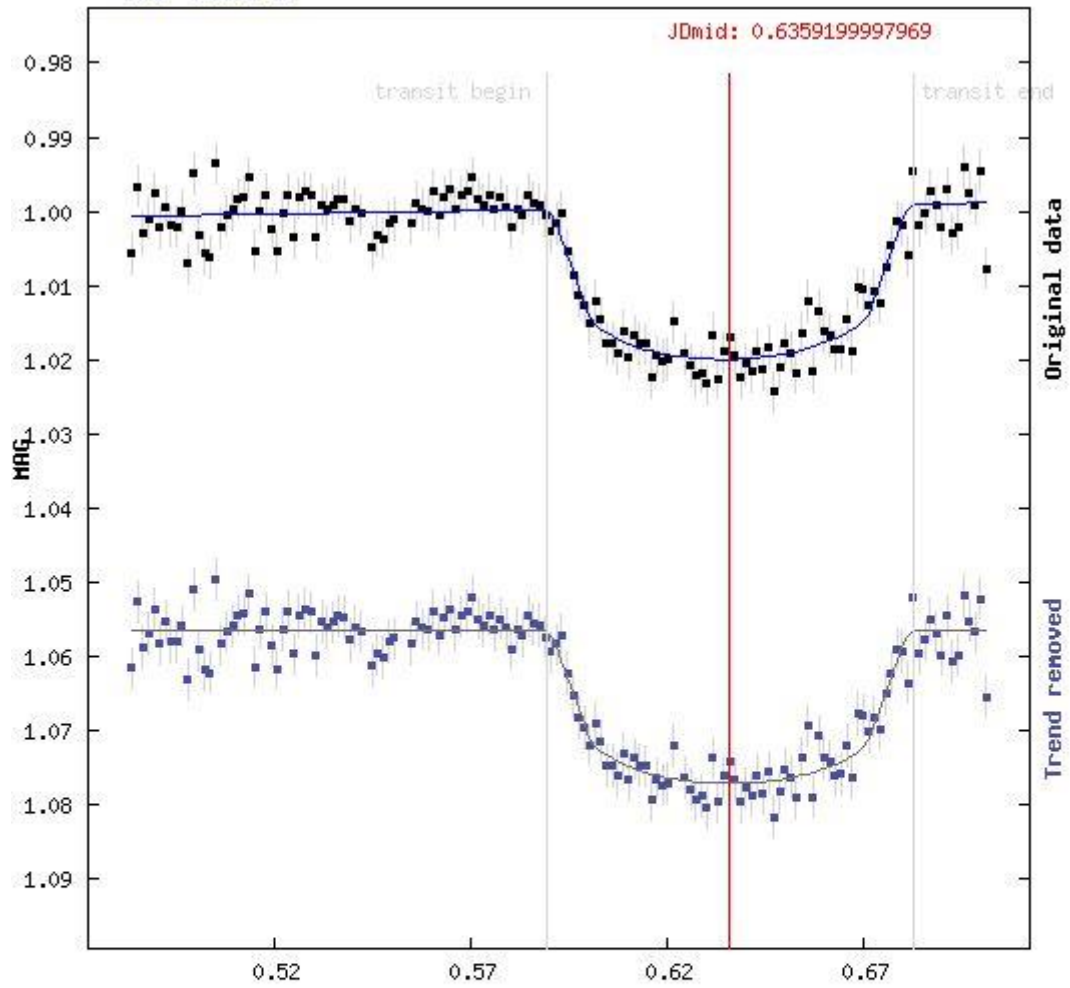
TOI-3804 b



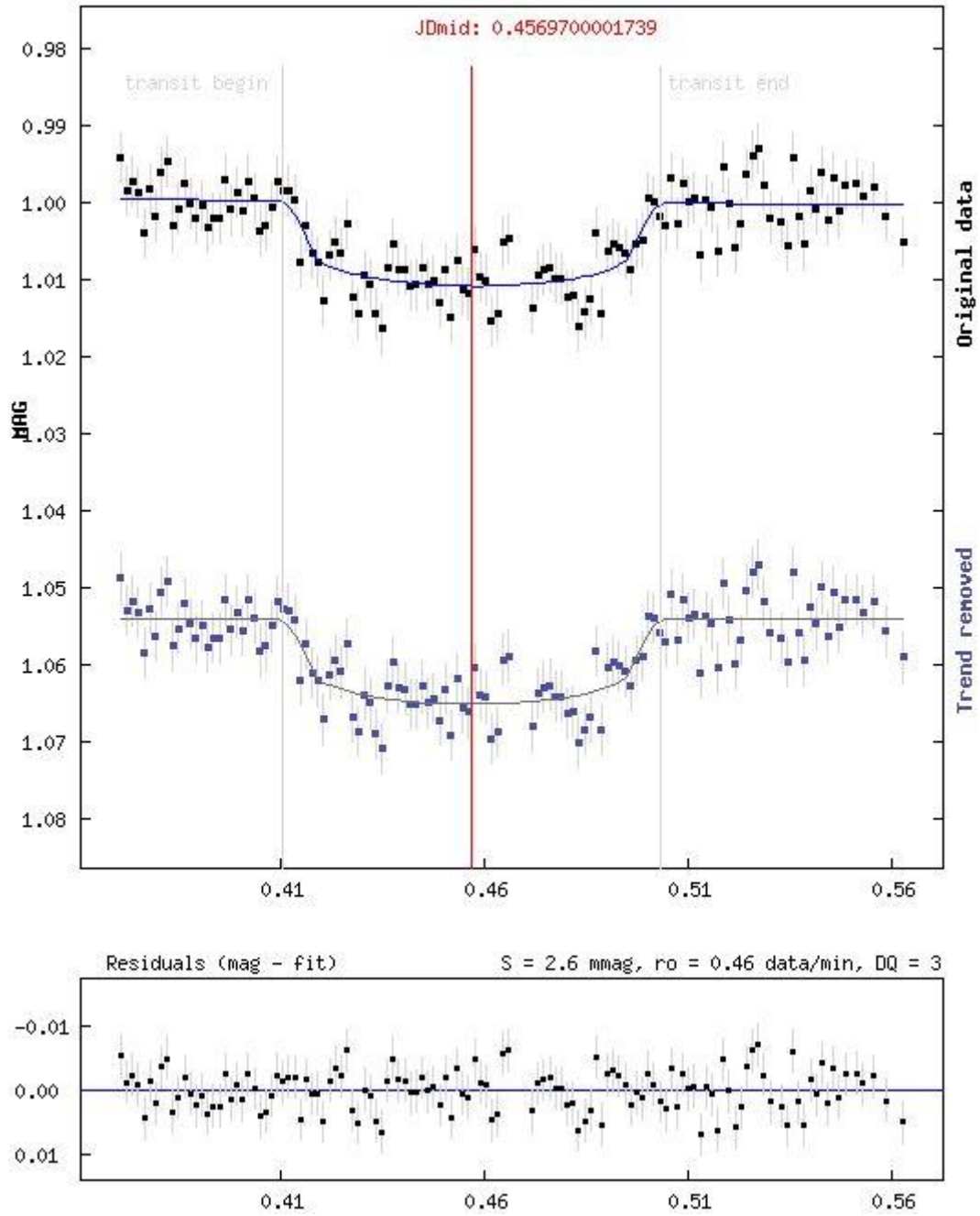
TOI-3812 b



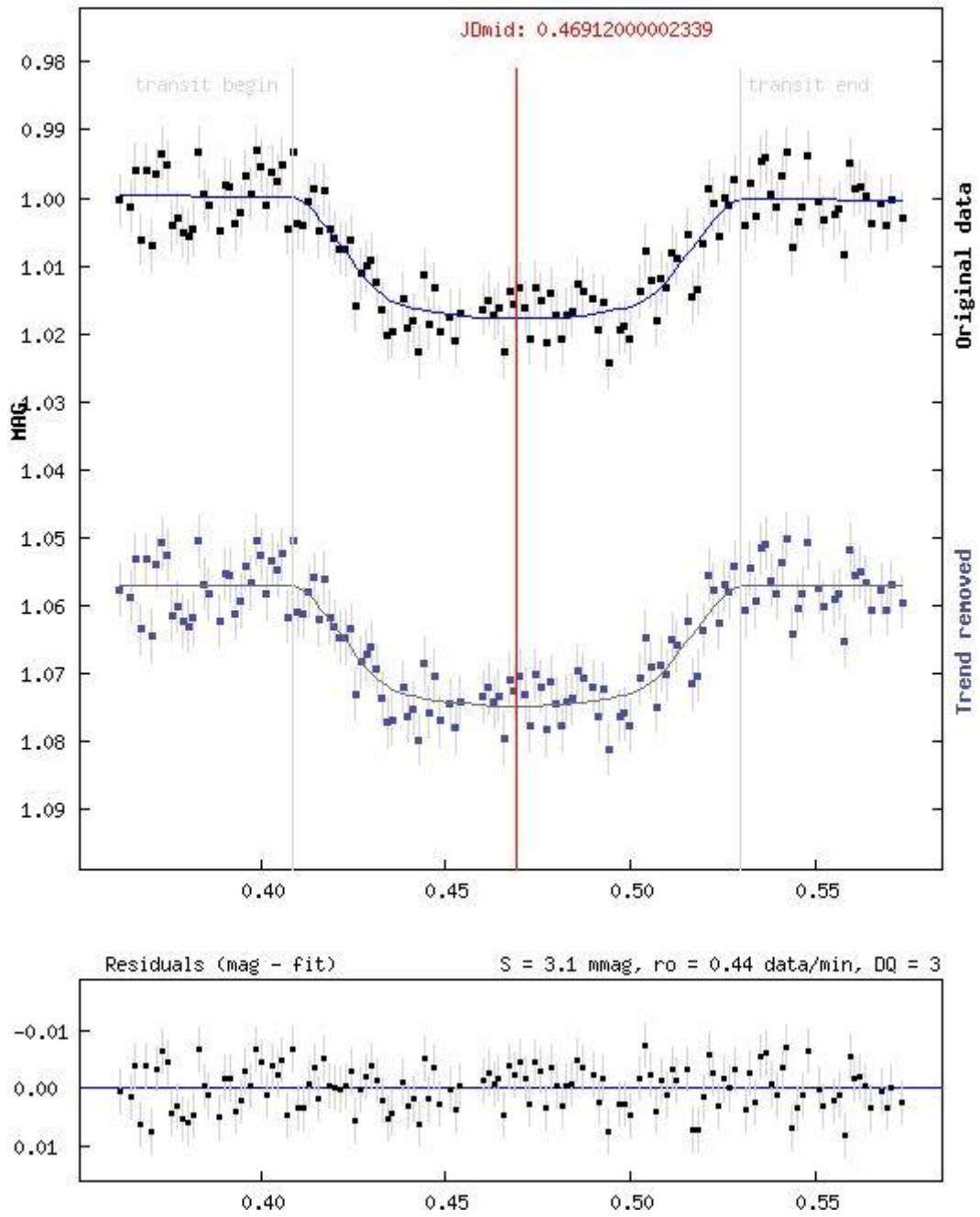
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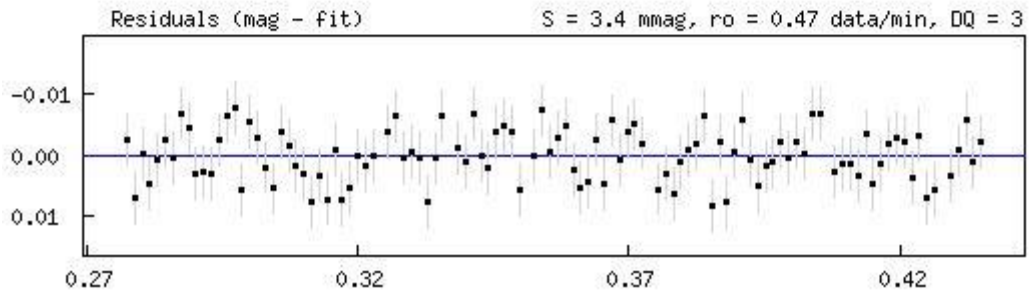
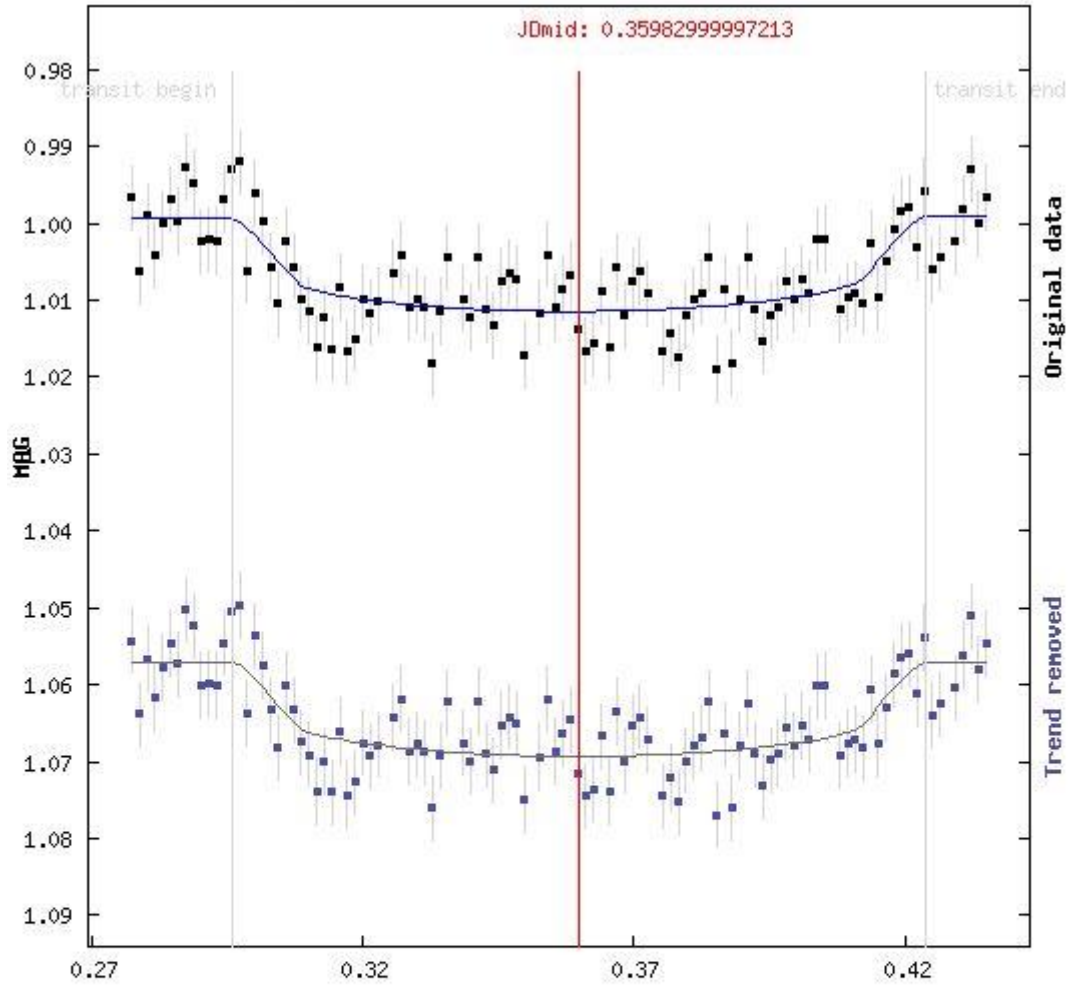
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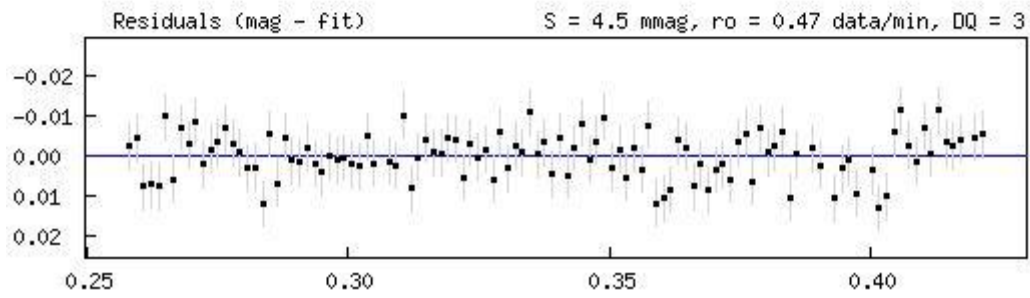
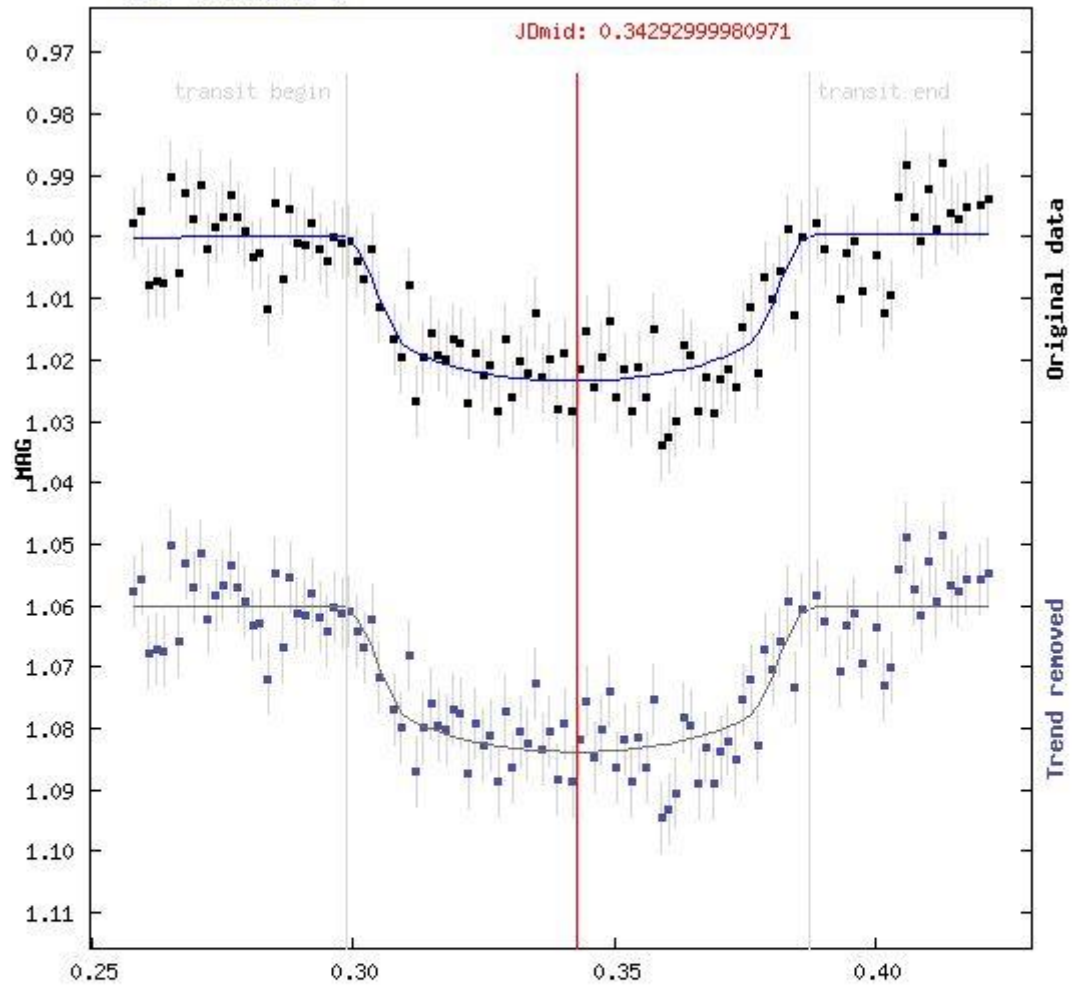
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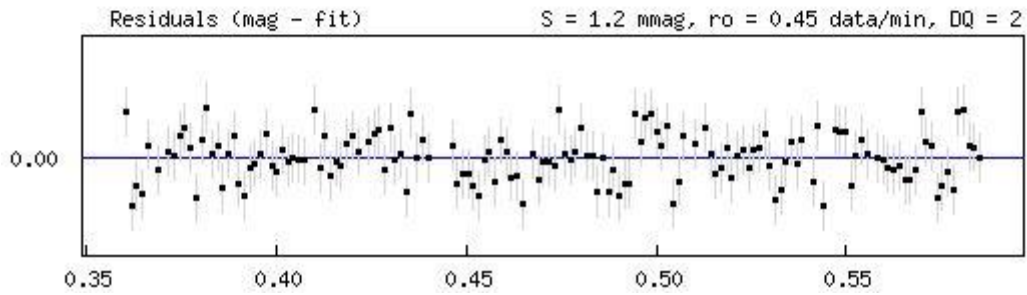
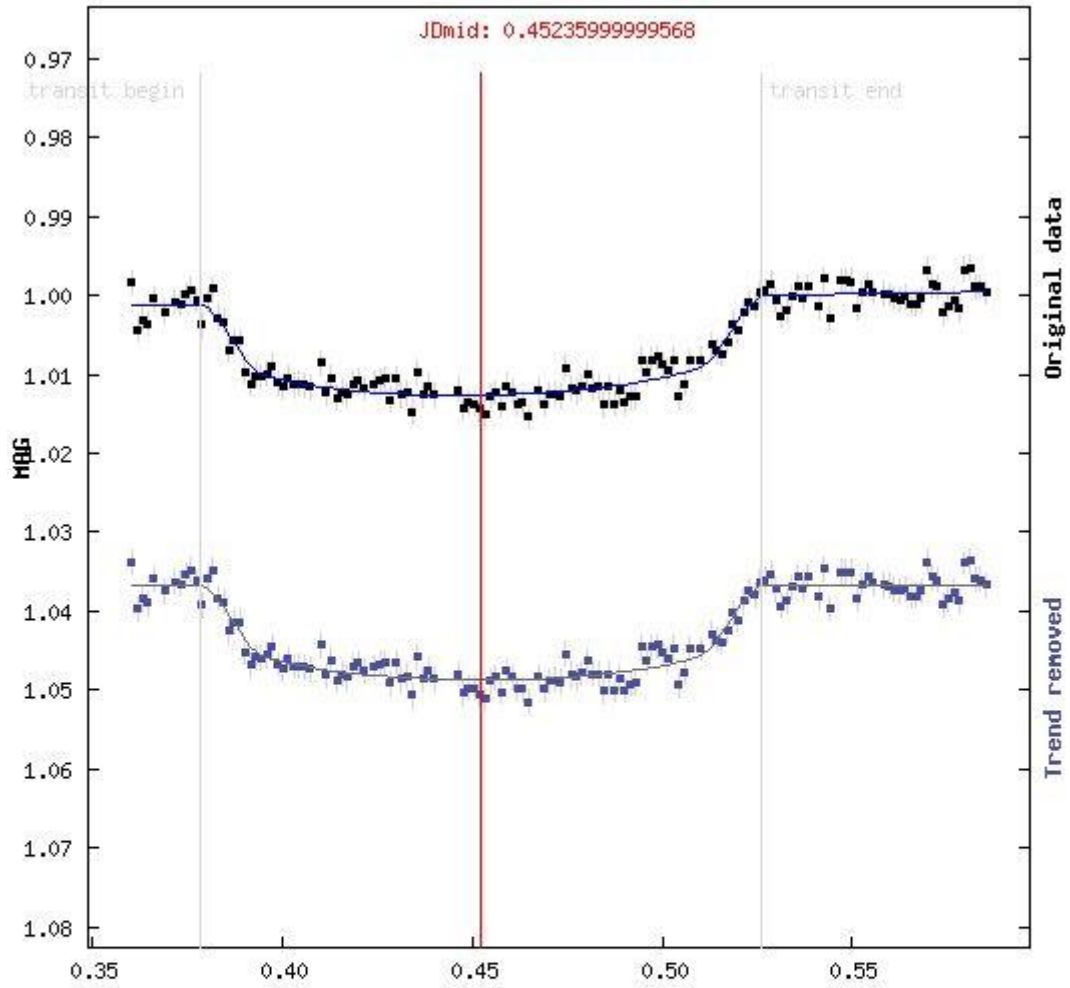
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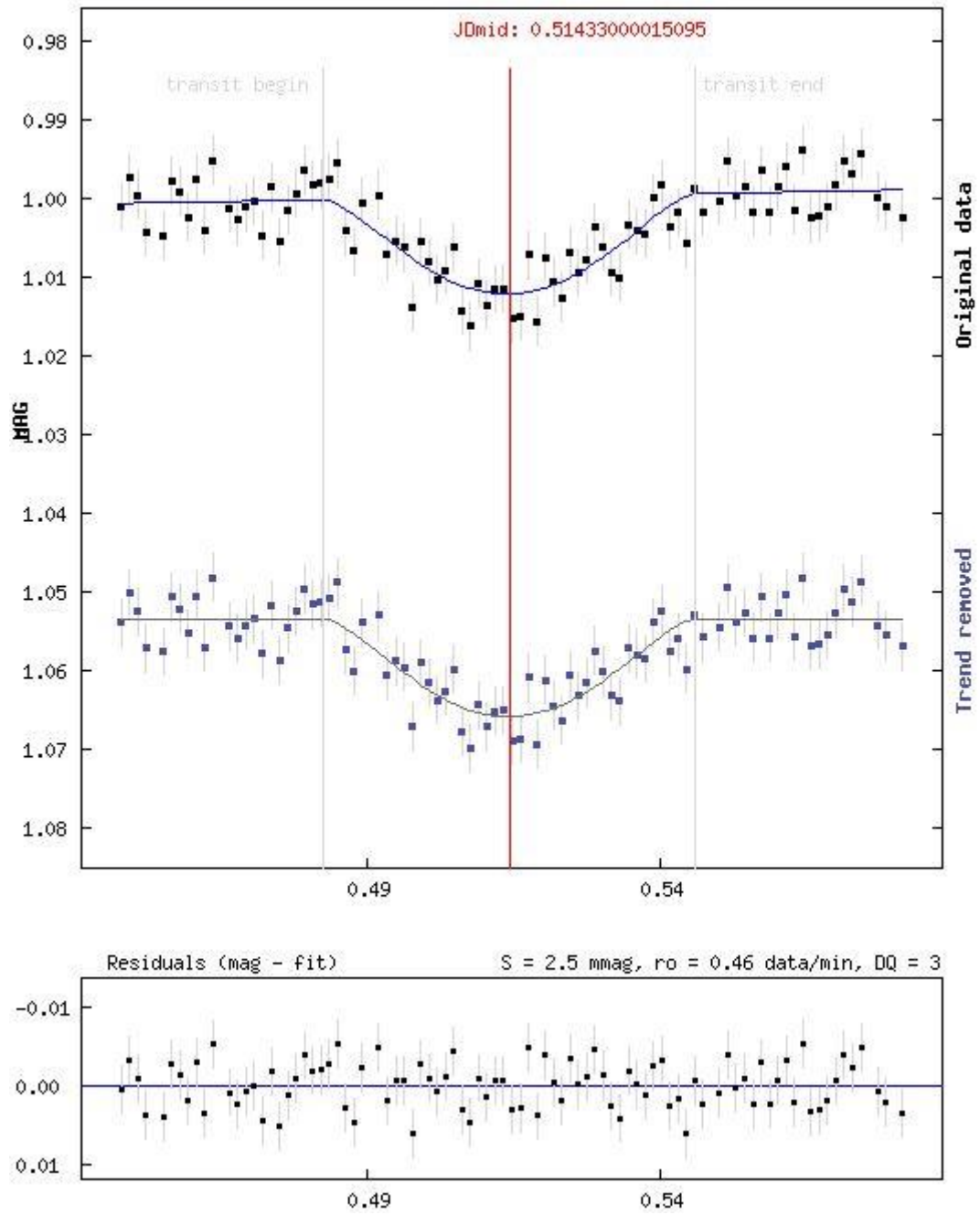
TOI-4059.01 b



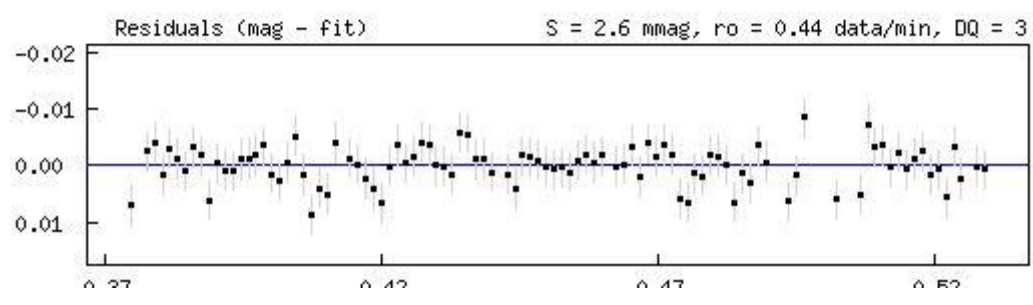
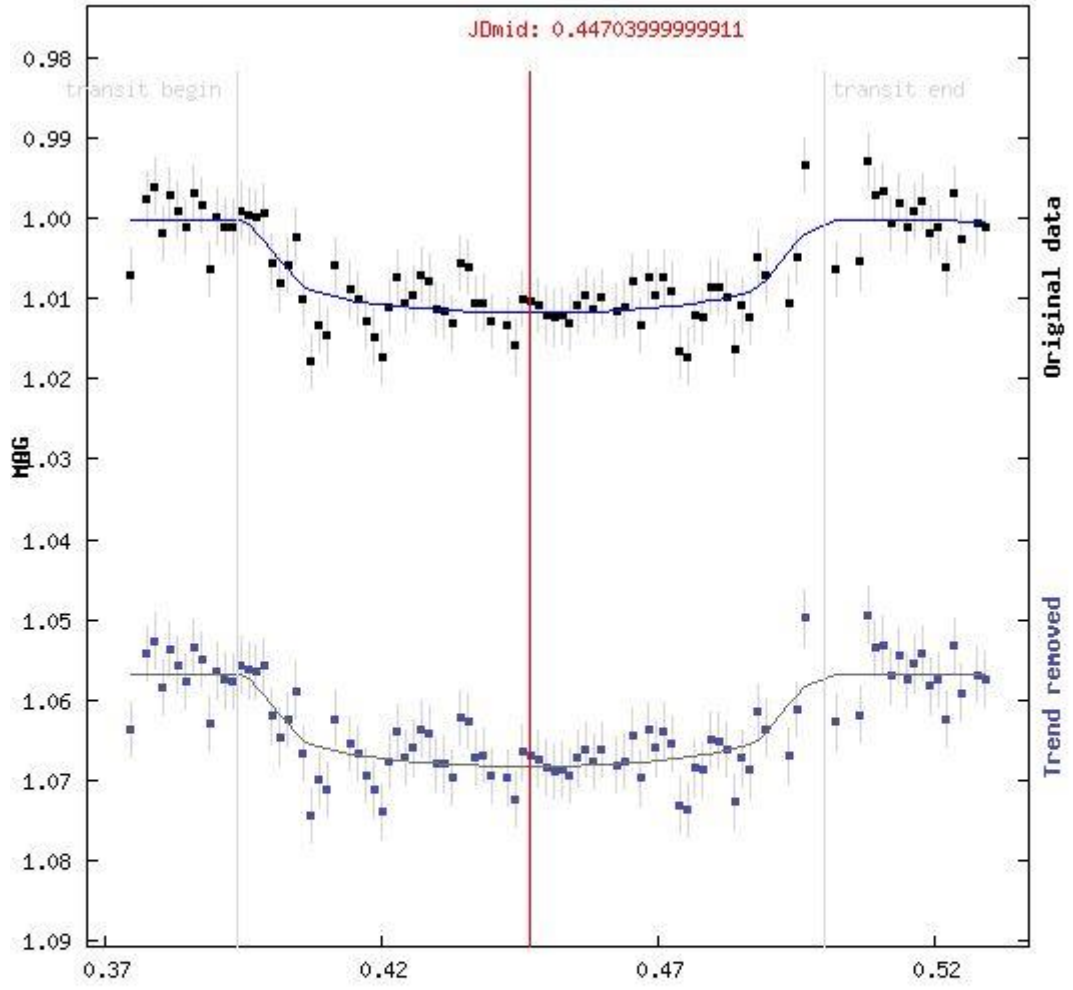
TOI-4103 b



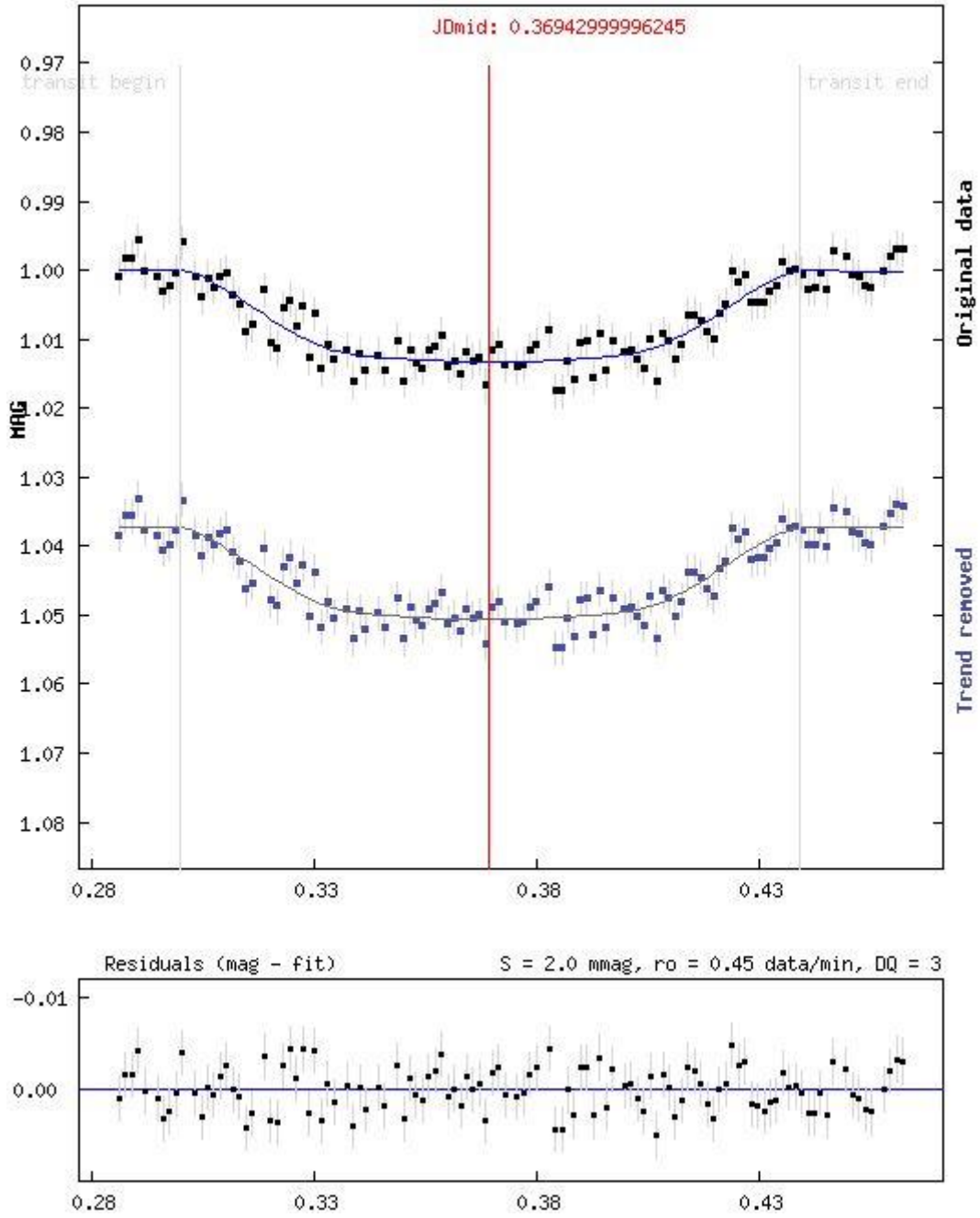
TOI-4115 b



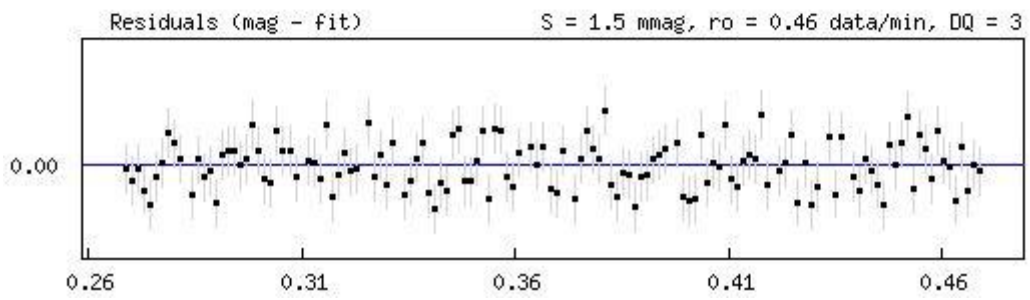
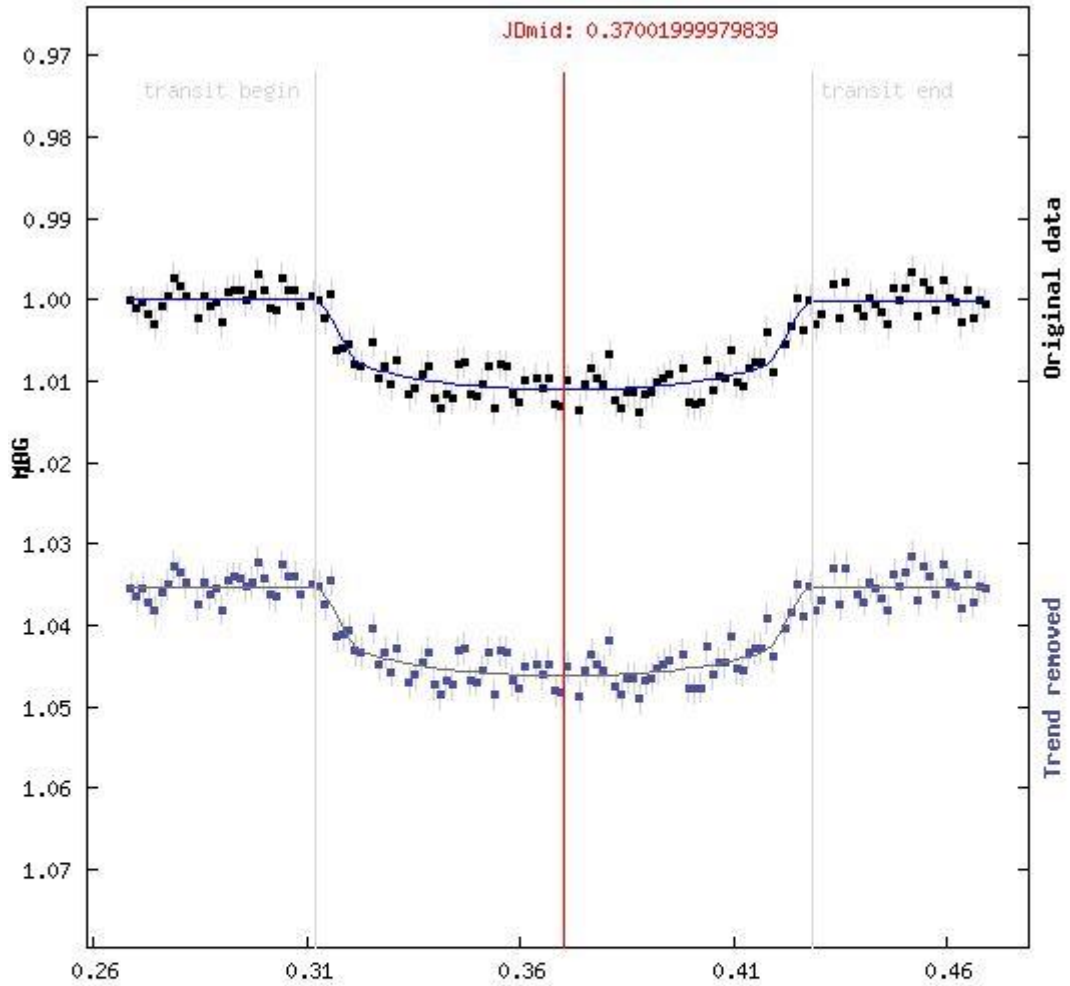
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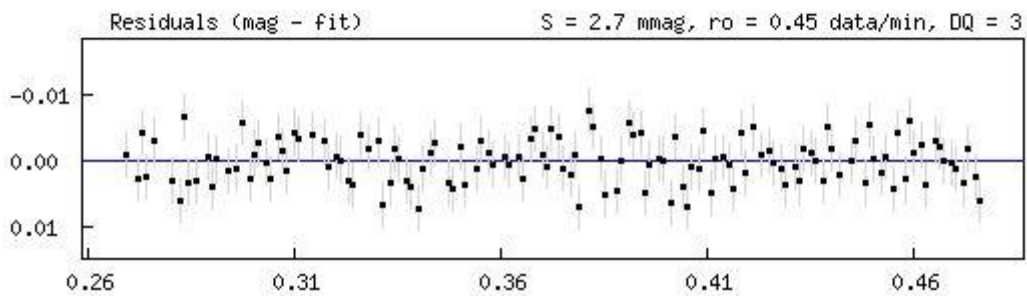
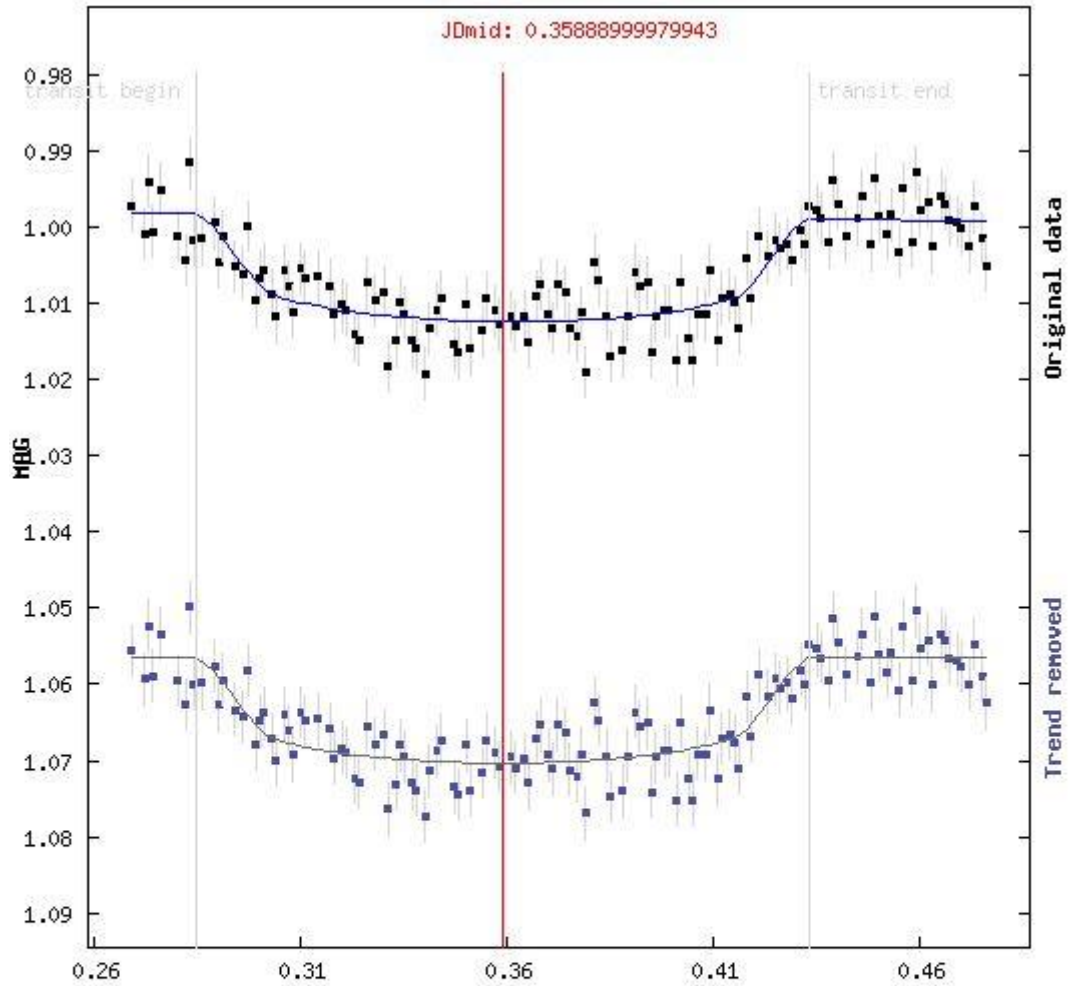
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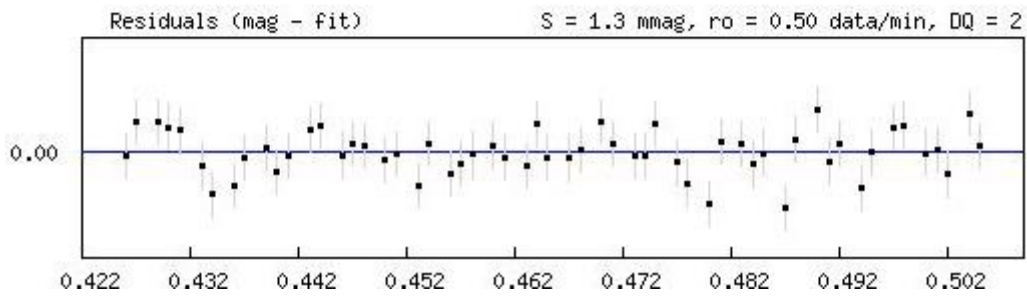
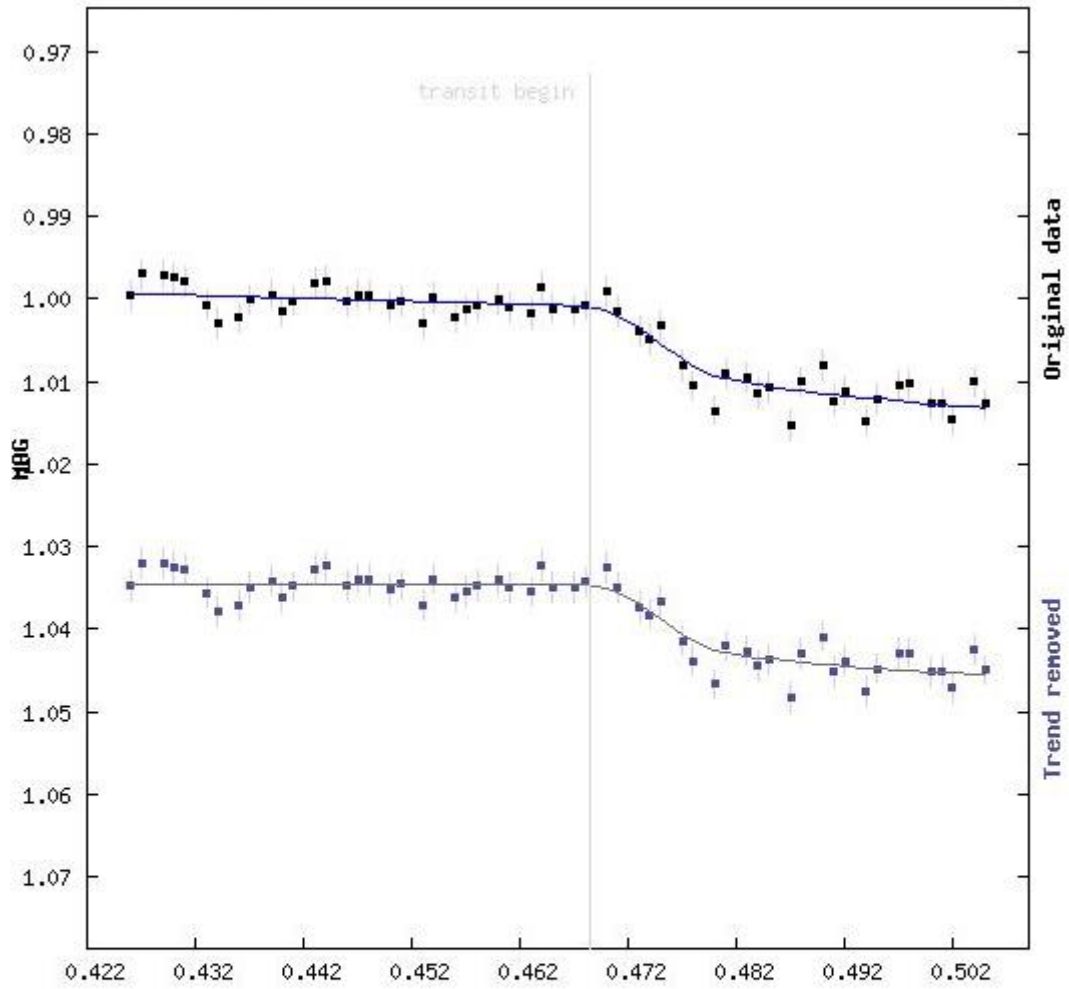
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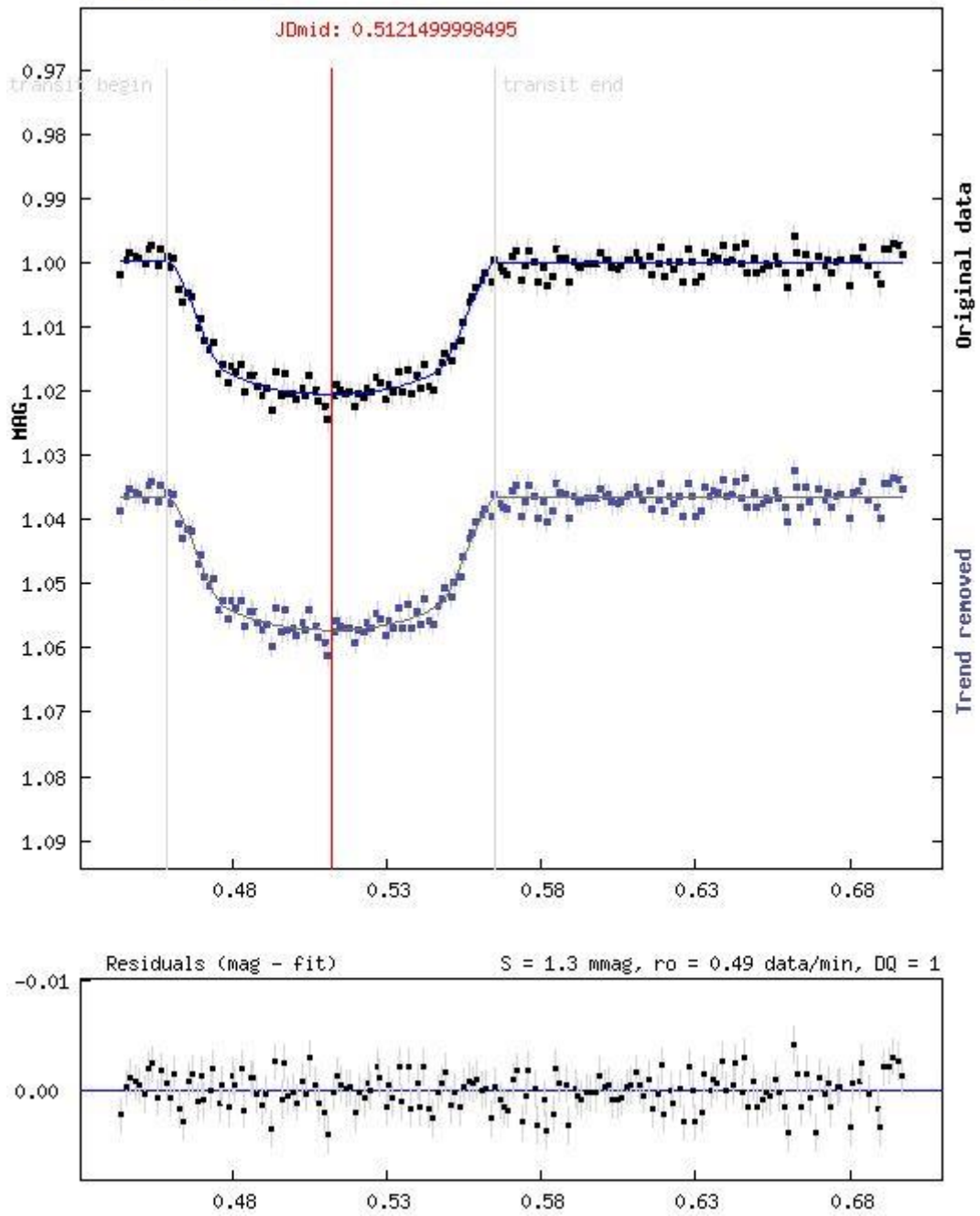
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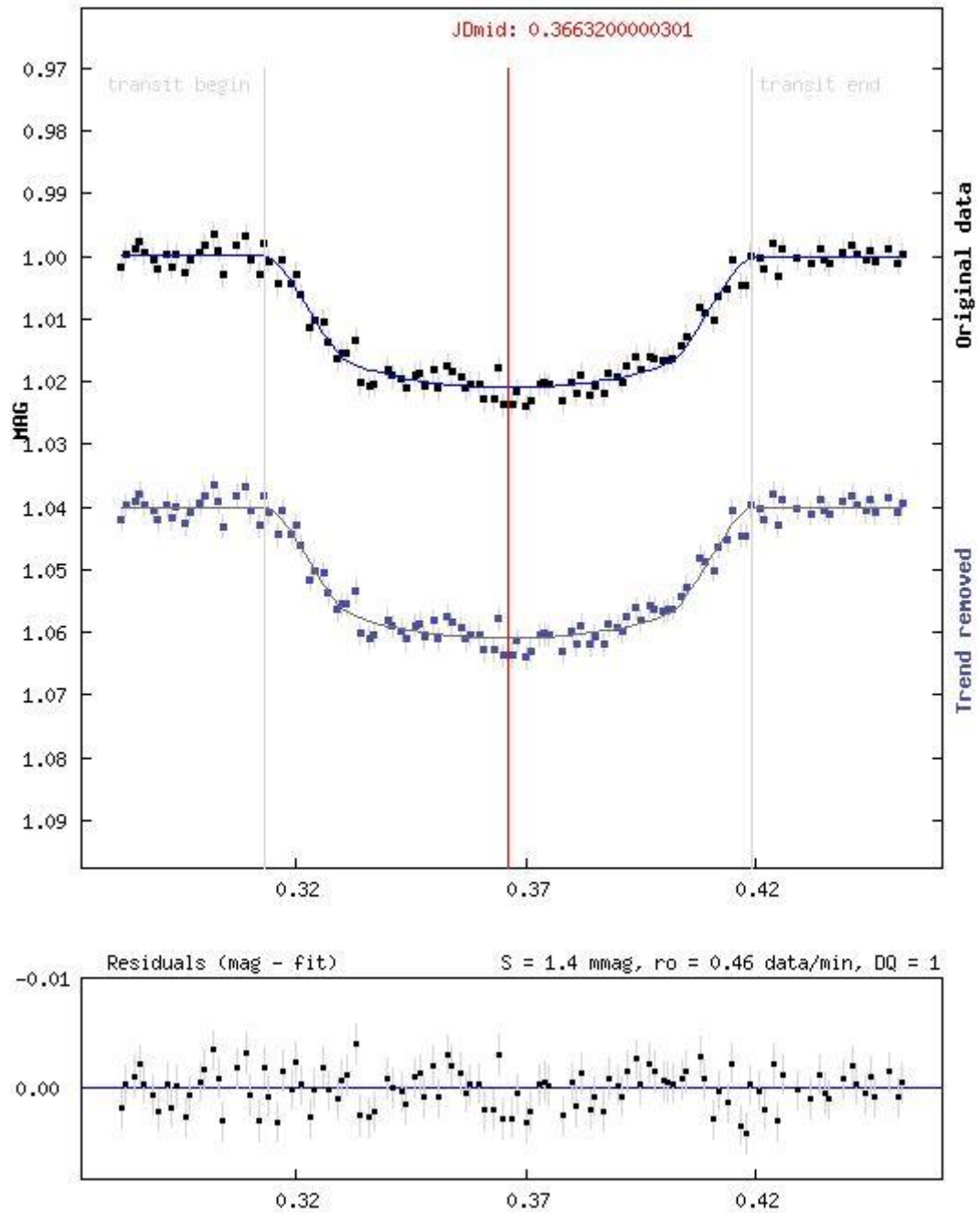
TOI-4160 b



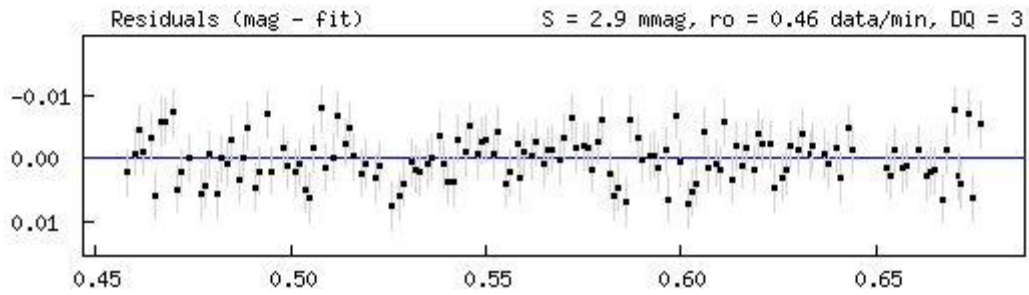
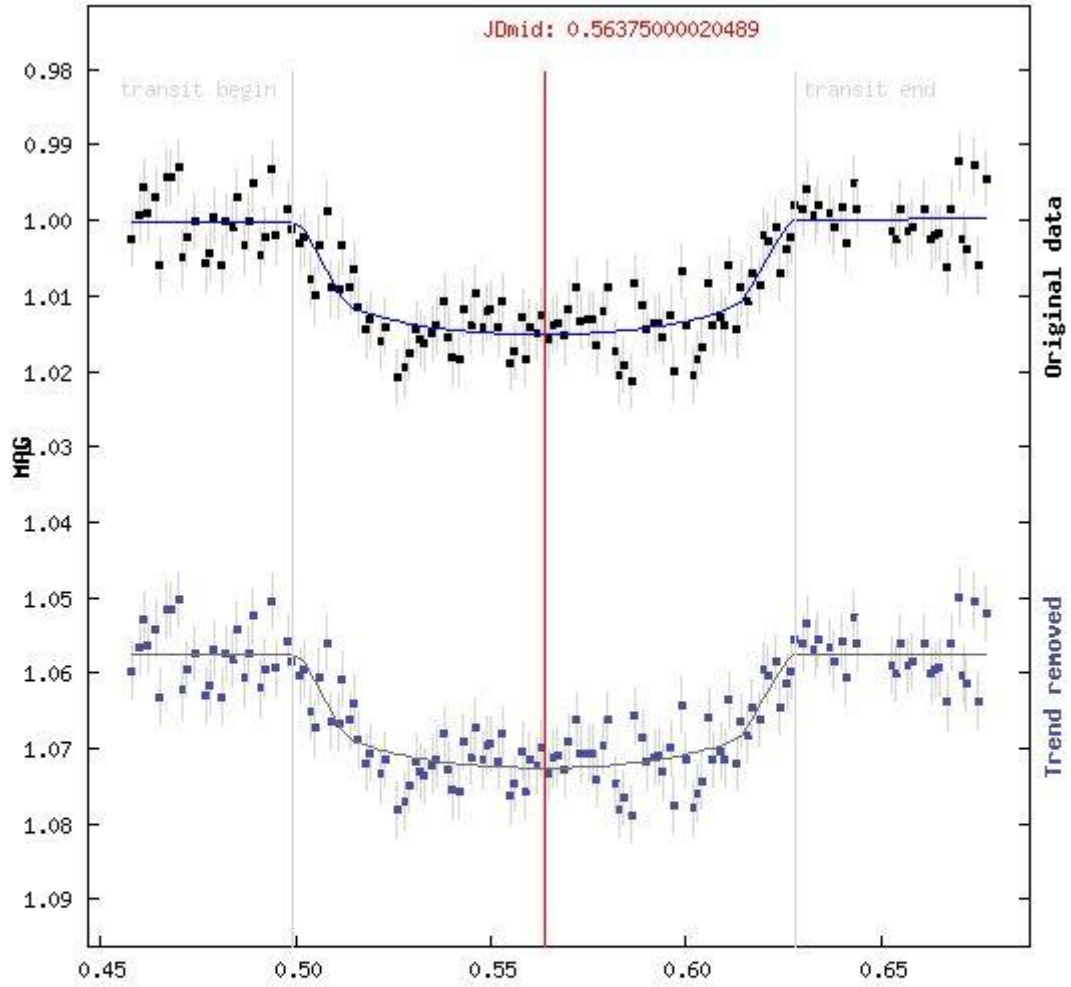
TOI-4427 b



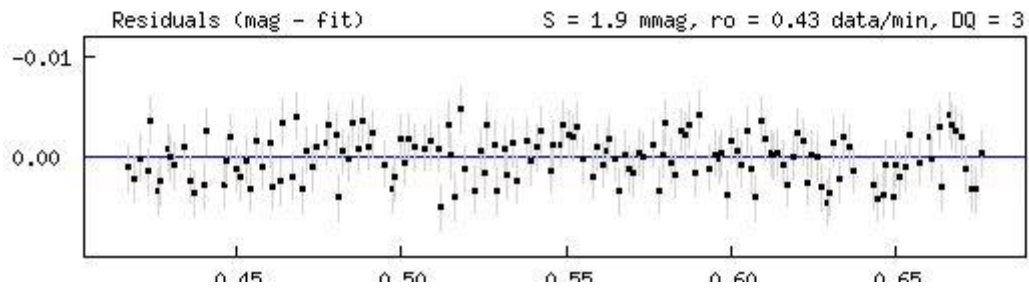
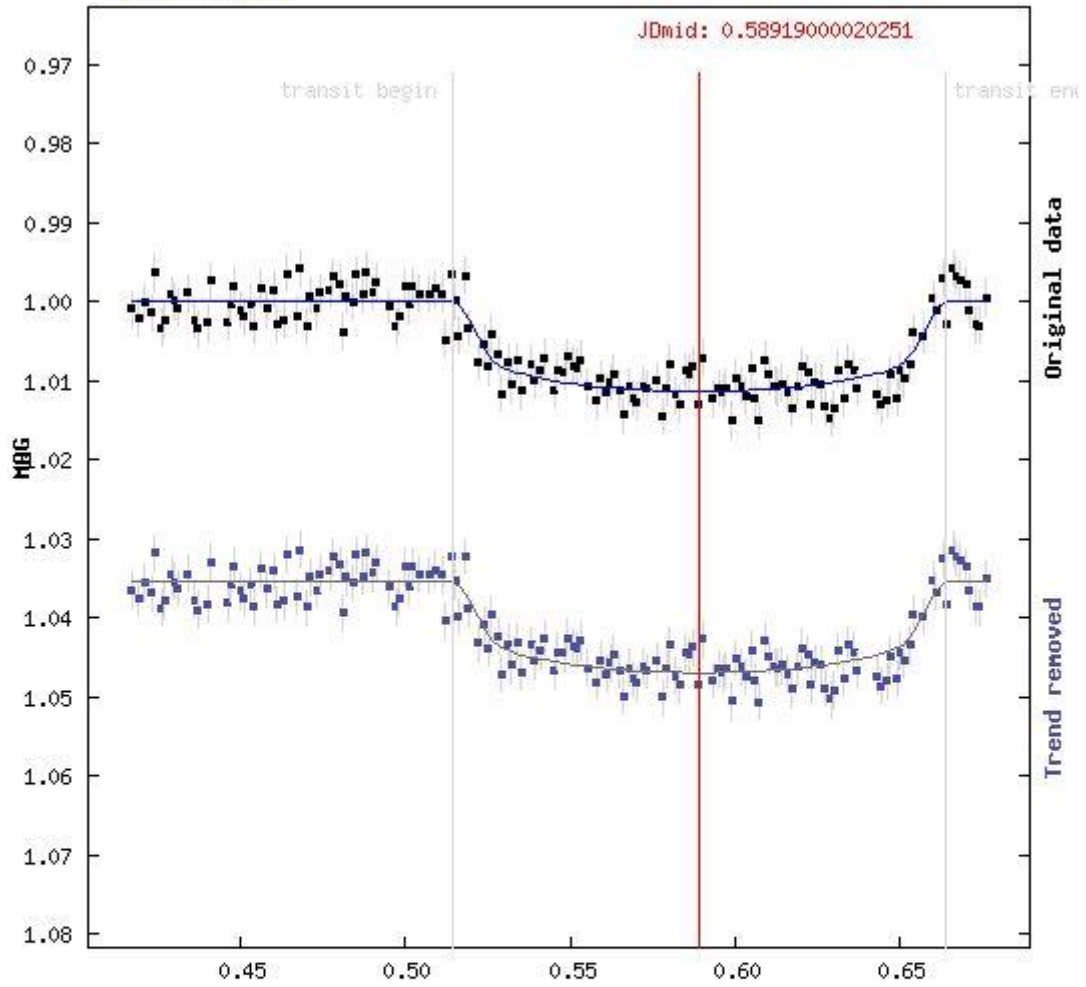
TOI-4427 b



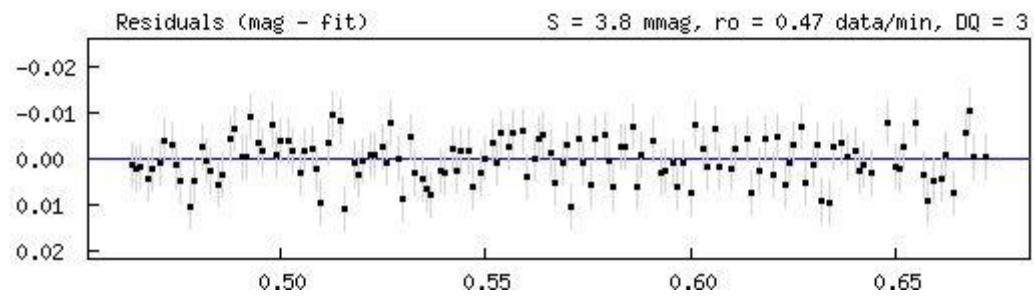
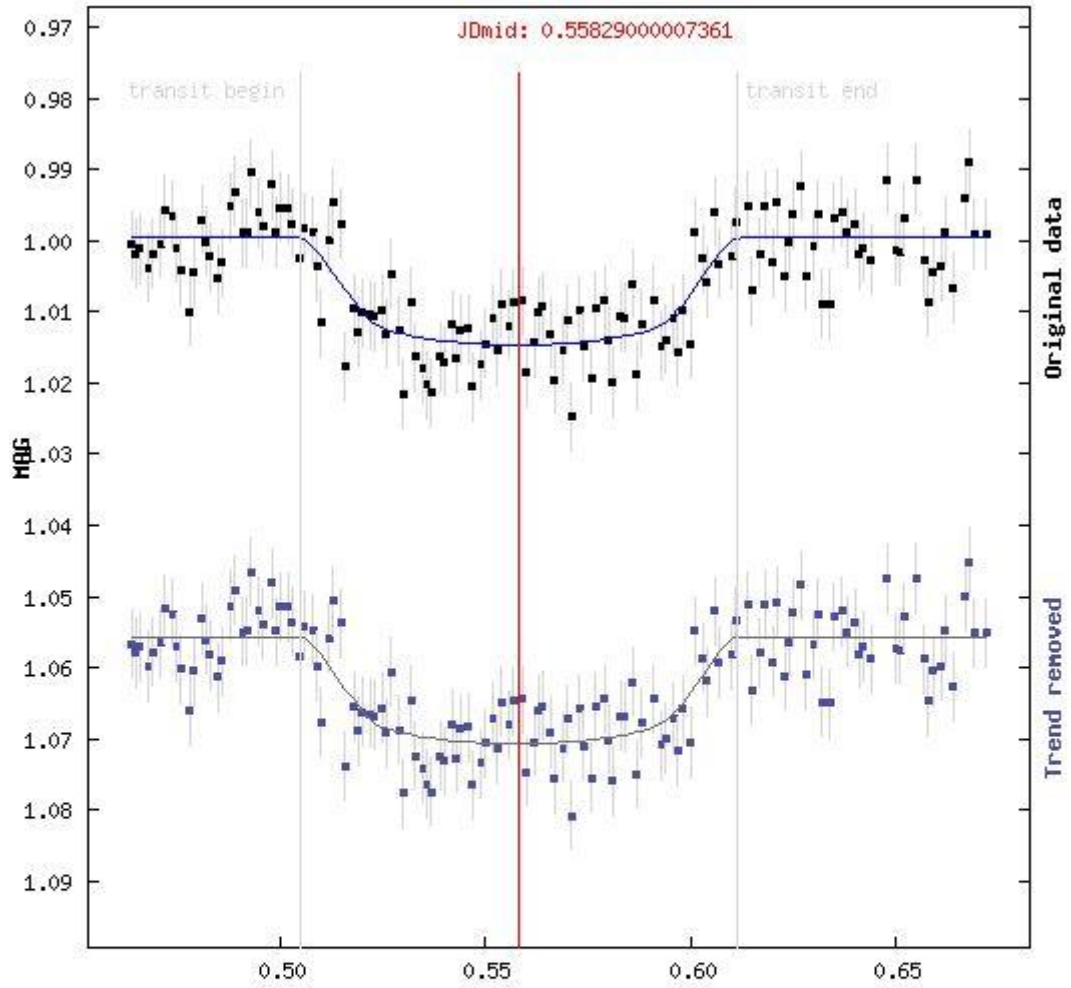
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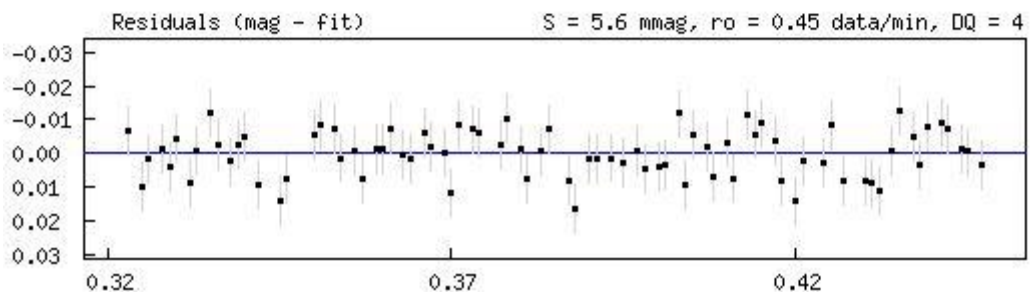
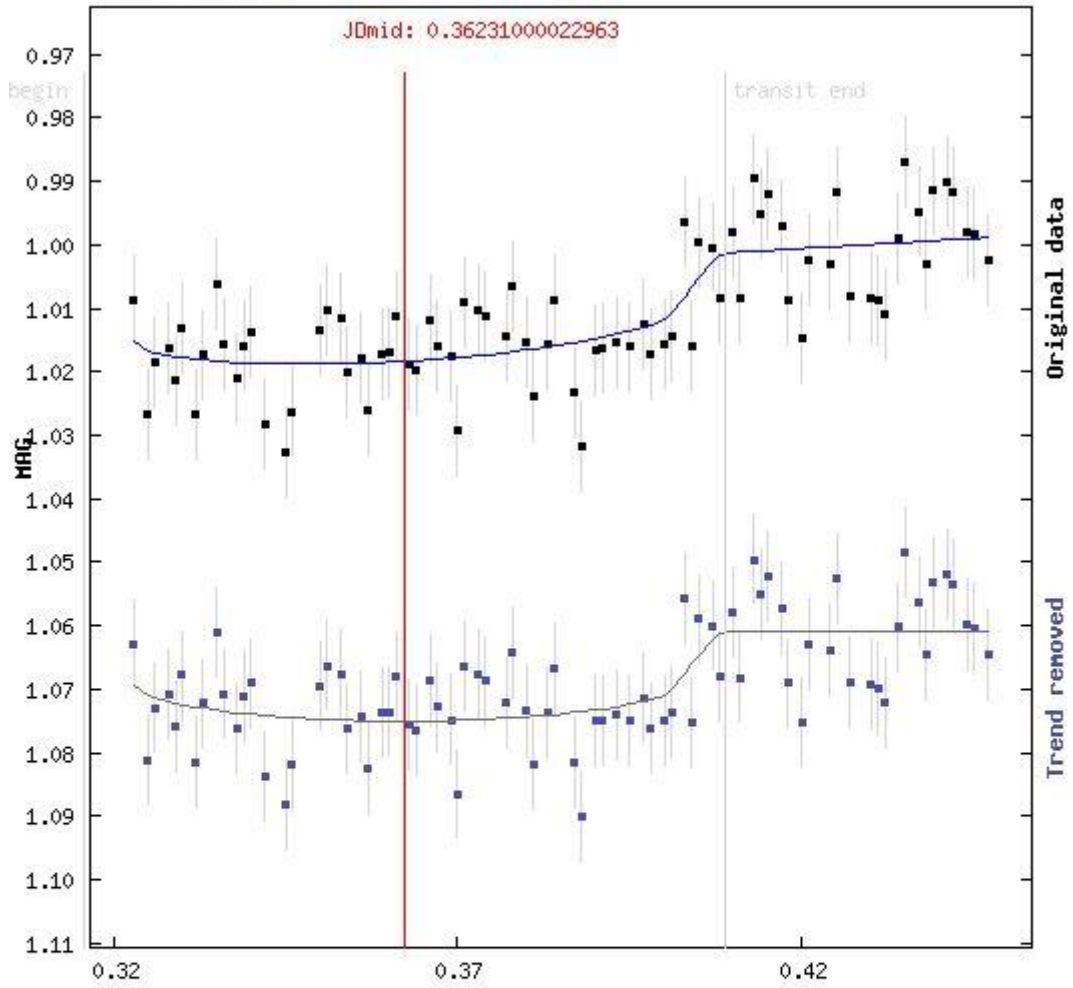
TOI-4436 b



TOI-4452 b



TOI-4468 b



TOI-5284 b

