

***original article***

# ***Simulation of nontribial zero point of Riemann zeta function***

Toshiro Takami\*  
mmm82889@yahoo.co.jp

## ***Abstract***

Tried to simulate the nontribial zero point of the Riemann zeta function.

At the beginning, we tried to be exactly the same value as the nontribial zero point of the Riemann Zeta function only with the degree of increase of the circle going up like wrapping  $x = 0.5$ , but the degree of increase varies from moment to moment extremely difficult It was judged impossible.

Then I created an expression that can take approximate values, but always take lower values than the nontribial zeros of the Riemann zeta function except for the initial values.

However, by increasing the degree of increase of the circle going up like winding  $x = 0.5$ , it became possible to take a value which can be said to be an approximate value.

The degree of increase in circle was based on the formula of the nuclear energy value of uranium.

Since the degree of increase of the zero point changes from moment to moment, satisfactory approximate values can not be obtained yet.

## ***Introduction***

$$2\pi(Xn) = Dn \quad (1)$$

$$14.1347 + 1.7(1 - \left[ \frac{\sin 1.3\pi \bmod (A1 - 0.9, 3.51)}{1.3\pi \bmod (A1 - 0.9, 3.51)} \right]^2) = C1 \quad (2)$$

$$D2 + 1.7(1 - \left[ \frac{\sin 1.3\pi \bmod (A2 - 0.9, 3.51)}{1.3\pi \bmod (A2 - 0.9, 3.51)} \right]^2) = C2 \quad (3)$$

$$D3 + 1.7(1 - \left[ \frac{\sin 1.3\pi \bmod (A3 - 0.9, 3.51)}{1.3\pi \bmod (A3 - 0.9, 3.51)} \right]^2) = C3 \quad (4)$$

$$Dn + 1.7(1 - \left[ \frac{\sin 1.3\pi \bmod (An - 0.9, 3.51)}{1.3\pi \bmod (An - 0.9, 3.51)} \right]^2) = Cn \quad (5)$$

In equation (1) I can give a value that approximates the nontrivial zero of the Riemann zeta function.

However, except for the initial value, the value is a little lower than the nontrivial zero point of the Riemann zeta function. It is also necessary to add the degree of increase of the circle ascending around  $x = 0.5$ .

At the beginning, efforts were made to have exactly the same value as the nontrivial point of the Riemann zeta function only with the degree of increase of the circle going up like winding  $x = 0.5$ , but since the degree of increase varies from moment to moment I tried, but judged impossible.

The degree of increase in circle was based on the formula of the nuclear energy value of uranium.

Expression of the circle's degree of increase was the result of various sought-after, and it became the expression from(2) to(5).

3.51 in the above equation is a value under the assumption that it will make a round at 3.51 times.

Also,  $A_n$  in the above equations (2) to (5)  $A_2, A_3, A_4, A_5 \dots A_n \dots = 1, 2, 3, 4, 5, 6 \dots n \dots$

I simulated the nontrivial zero point of Riemann's hypothesis.

Looking at every other degree of increase, there is a maximum point of increase in every fourth, third or fifth place and so on.

For that reason, I did not only change one another but I looked at differences from two, three, four, five, six, seven and so on, but the degree of increase has changed variously was observed.

This is reminiscent of the dragon which rises  $x = 0.5$  while changing the degree of freedom freely while drawing a circle.

Initially I tried to simulate a nontrivial point with only the degree of increase of the circle, but I thought that it was impossible without increasing regularity and I adopted  $\ln(X!)$ .

And averaged the increase.  $D_n$  is an approximation obtained by simulating the nontrivial zero point of the Riemann zeta function.

The first  $D_n (=D_1)$  are larger than the nontrivial zero of the Riemann zeta function, but all others are slightly small.

The average increase is  $2\pi * X_n = D_n$  (n is an integer starting from 1).

$$\ln(\Gamma(x + 1)) = 18 \text{ etc.}$$

$B_n$  are nontrivial zeros of Riemann's hypothesis.

when  $\ln(X!) = 1$ , when  $\ln(X!) = 2$ , when  $\ln(X!) = 3$  etc.

A	B	C	D	E
	Riemann	$D_2+1.7^*$	$2\pi x$	$B_2-B_1=$
1	14.1347251	15.8347251	14.52949456	
2	21.02203964	21.53660324	19.87264994	6.887314539

3	25.01085758	25.6938367	24.38331443	3.988817941
4	30.42487613	29.22067014	28.43859212	5.414018546
5	32.93506159	33.88084545	32.19346355	2.510185462
6	37.58617815	37.35427859	35.7300137	4.651116562
7	40.91871901	40.11442701	39.09809623	3.332540862
8	43.32707328	44.03042381	42.33074995	2.408354269
9	48.00515088	47.1088519	45.45124443	4.6780776
10	49.77383248	49.80034911	48.4767233	1.768681597
11	52.9703214	52.21019526	51.42026332	3.196488922
12	56.4462476	55.97238698	54.29211816	3.4759262
13	59.347044	58.73404246	57.10051076	2.9007964
14	60.83177852	60.87920999	59.85215983	1.484734525
15	65.11254405	64.25236706	62.55264225	4.280765523
16	67.07981053	66.85784502	65.20664998	1.967266482
17	69.54640171	69.15494551	67.81817674	2.466591181
18	72.06715767	71.18854349	70.39065701	2.520755963
19	75.7046907	74.6015601	72.92707062	3.637533025
20	77.14484007	77.07235393	75.43002393	1.44014937
21	79.33737502	78.93970194	77.9018129	2.192534951
22	82.91038085	82.04430997	80.34447305	3.573005834
23	84.73549298	84.40470076	82.75981949	1.825112126
24	87.42527461	86.49942182	85.14947938	2.689781633
25	88.80911121	88.3208612	87.5149184	1.383836595
26	92.49189927	91.52945717	89.85746259	3.682788063
27	94.65134404	93.82894388	92.17831657	2.15944477
28	95.87063423	95.52742585	94.4785787	1.219290188
29	98.83119422	98.45925398	96.75925398	2.96055999
30	101.317851	100.660113	99.02126488	2.486656787
31	103.725538	102.6285981	101.2654607	2.407687035
32	105.4466231	104.3067277	103.4926256	1.721085012
33	107.1686112	107.3775995	105.7034854	1.721988132
34	111.0295355	109.5571043	107.8987134	3.860924359
35	111.8746592	111.1388603	110.0789362	0.845123634
36	114.3202209	114.1567456	112.2447375	2.445561738
37	116.2266803	116.0299546	114.3966625	1.906459405
38	118.7907829	117.9115651	116.5352215	2.564102545
39	121.370125	119.4832581	118.6608928	2.579342136
40	122.9468293	122.4548897	120.7741254	1.576704291

41	124.2568186	124.5409299	122.875342	1.309989261
42	127.5166839	126.0360597	124.9649403	3.259865325
43	129.5787042	127.6906592	127.0432961	2.06202032
44	131.0876885	130.7391838	129.1107638	1.508984331
45	133.4977372	132.5572294	131.1676793	2.410048672
46	134.7565098	134.0450941	133.2143603	1.25877255
47	138.1160421	136.940978	135.2511084	3.359532301
48	139.736209	138.9503955	137.2782097	1.620166898
49	141.1237074	140.3783687	139.2959365	1.387498452
50	143.1118458	141.9580354	141.3045476	1.988138404
51	146.0009825	144.9287342	143.3042898	2.889136679
52	147.4227653	146.6981434	145.2953981	1.421782856
53	150.0535204	148.1173056	147.2780971	2.630755078
54	150.9252576	150.9501868	149.2526011	0.871737191
55	153.0246938	152.8972677	151.2191152	2.099436199
56	156.1129093	154.2716972	153.1778355	3.088215483
57	157.5975918	155.7886405	155.1289499	1.484682523
58	158.8499882	158.6942144	157.0726385	1.252396354
59	161.1889641	160.4249907	159.0090739	2.338975966
60	163.0307097	161.7862127	160.938422	1.84174555
61	165.5370692	164.5607415	162.8608419	2.506359501
62	167.18444	166.459944	164.7764868	1.64737079
63	169.0945154	167.7909106	166.6855037	1.910075437
64	169.9119765	169.2540072	168.5880345	0.817461064
65	173.4115365	172.1042291	170.4842155	3.49956004
66	174.7541915	173.8032294	172.3741781	1.342655004
67	176.4414343	175.1145305	174.2580492	1.687242774
68	178.3774078	177.831477	176.1359511	1.935973478
69	179.916484	179.6960718	178.0080016	1.539076244
70	182.2070785	180.9913813	179.8743149	2.290594464
71	184.8744678	182.4073362	181.7350011	2.667389364
72	185.5987837	185.2101002	183.5901666	0.724315829
73	187.2289226	186.8820489	185.4399144	1.630138906
74	189.4161587	188.1496255	187.2843441	2.187236073
75	192.0266564	190.8119256	189.1235522	2.610497705
76	193.0797266	192.649596	190.9576321	1.053070243
77	195.2653967	193.915513	192.7866743	2.185670076
78	196.8764818	195.2895456	194.6107665	1.611085161

79	198.0153097	198.0514682	196.4299939	1.138827835
80	201.2647519	199.6995901	198.2444389	3.249442267
81	202.4935945	200.9283736	200.0541816	1.22884257
82	204.1896718	203.5453721	201.8592999	1.696077289
83	205.3946972	205.3549824	203.6598692	1.205025399
84	207.9062589	206.5966849	205.4559628	2.511561686
85	209.5765097	207.9329578	207.2476523	1.670250829
86	211.6908626	210.6597267	209.0350067	2.114352879
87	213.3479194	212.2861792	210.8180937	1.657056764
88	214.5470448	213.4801928	212.5969788	1.199125424
89	216.1695385	216.064094	214.3717258	1.622493725
90	219.0675963	217.8398935	216.1423969	2.898057841
91	220.7149188	219.0617672	217.9090527	1.64732249
92	221.4307056	220.3636677	219.671752	0.715786715
93	224.0070003	223.0602346	221.4305524	2.5762947
94	224.9833247	224.6664299	223.1855097	0.976324415
95	227.4214443	225.8290273	224.9366787	2.43811961
96	229.3374133	228.383715	226.6841126	1.915969026
97	231.2501887	230.1269594	228.4278632	1.912775395
98	231.9872353	231.3327951	230.1679812	0.737046553
99	233.6934042	232.6031269	231.9045161	1.706168926
100	236.5242297	235.2737967	233.6375162	2.830825487
101	237.7698205	236.8606657	235.3670286	1.245590815
102	239.5554776	237.9946958	237.0930993	1.785657092
103	241.0491578	240.5125768	238.8157732	1.493680223
104	242.8232719	242.2349939	240.5350945	1.774114138
105	244.0708985	243.4281234	242.2511059	1.247626563
106	247.1369901	244.6692413	243.9638494	3.066091578
107	248.1019901	247.3176896	245.6733662	0.964999985
108	249.5736896	248.8859135	247.3796964	1.471699585
109	251.0149478	249.9938378	249.0828792	1.44125815
110	253.0699867	252.4744067	250.7829531	2.055038953
111	255.3062565	254.1798552	252.4799557	2.236269707
112	256.3807137	255.3632465	254.1739238	1.07445724
113	258.6104395	256.5771535	255.8648934	2.229725797
114	259.874407	259.2063935	257.5528999	1.263967498
115	260.8050845	260.7566176	259.2379777	0.930677515
116	263.5738939	261.8405966	260.9201608	2.7688094

117	265.5578518	264.2972387	262.5994822	1.983957934
118	266.6149738	265.9750709	264.2759746	1.057121943
119	267.9219151	267.1513958	265.9496697	1.306941301
120	269.970449	268.3398154	267.6205987	2.048533941
121	271.4940556	270.9521319	269.2887924	1.523606618
122	273.4596092	272.4851646	270.9542806	1.965553547
123	275.5874926	273.5471218	272.6170929	2.127883461
124	276.4520495	275.9750573	274.2772581	0.864556854
125	278.2507435	277.632303	275.9348046	1.798694027
126	279.2292509	278.8039844	277.5897601	0.978507398
127	282.4651148	279.9684145	279.2421519	3.235863837
128	283.2111857	282.5652852	280.8920068	0.746070968
129	284.835964	284.0822779	282.539351	1.624778248
130	286.6674454	285.1239489	284.1842105	1.831481382
131	287.9119205	287.52236	285.8266105	1.244475138
132	289.5798549	289.1616991	287.4665758	1.667934428
133	291.8462913	290.3309445	289.104131	2.2664364
134	293.5584341	291.4726994	290.7393001	1.71214281
135	294.9653696	294.0547242	292.3721066	1.40693548
136	295.5732549	295.5573188	294.0025738	0.60788526
137	297.9792771	296.5802896	295.6307243	2.406022183
138	299.8403261	298.9551544	297.2565807	1.861048992
139	301.6493255	300.5721641	298.8801648	1.808999408
140	302.6967496	301.7409877	300.5014984	1.047424127
141	304.8643713	302.8612304	302.1206027	2.167621751
142	305.7289126	305.428097	303.7374987	0.864541261
143	307.2194961	306.9185202	305.3522068	1.490583526
144	310.1094631	307.9242574	306.9647474	2.889967019
145	311.1651415	310.2743069	308.5751404	1.055678384
146	312.4278012	311.871572	310.1834053	1.26265965
147	313.9852857	313.0418085	311.7895614	1.557484551
148	315.4756161	314.1415769	313.3936278	1.490330358
149	317.7348059	316.6920934	314.9956229	2.259189853
150	318.8531043	318.1731716	316.5955653	1.118298314
151	321.1601343	319.1630459	318.193473	2.307030053
152	322.1445587	321.4870035	319.7893638	0.984424363
153	323.4669696	323.0669345	321.3832552	1.322410885
154	324.8628661	324.2402462	322.9751645	1.395896494

155	327.4439013	325.3204735	324.5651087	2.58103521
156	329.0330717	327.8527034	326.1531046	1.589170419
157	329.9532397	329.3277651	327.7391686	0.920168048
158	331.4744676	330.3030716	329.3233168	1.521227854
159	333.6453785	332.6038456	330.9055655	2.170910942
160	334.2113548	334.164536	332.4859304	0.565976308
161	336.8418504	335.3424144	334.0644269	2.630495595
162	338.3399929	336.4039461	335.6410704	1.498142422
163	339.8582167	338.9154748	337.2158759	1.518223875
164	341.0422611	340.3881146	338.7888584	1.184044386
165	342.0548775	341.3500881	340.3600325	1.012616399
166	344.6617029	343.6294126	341.9294126	2.60682543
167	346.3478706	345.1700432	343.497013	1.686167626
168	347.2726776	346.3538062	345.0628478	0.924807018
169	349.3162609	347.397414	346.6269308	2.043583286
170	350.4084193	349.8857645	348.1892756	1.092158478
171	351.878649	351.3594517	349.7498958	1.470229676
172	353.4889005	352.3092806	351.3088046	1.610251463
173	356.017575	354.5656546	352.8660151	2.528674489
174	357.1513023	356.0885948	354.4215402	1.133727275
175	357.9526851	357.2793807	355.9753928	0.80138285
176	359.743755	358.3057738	357.5275854	1.791069851
177	361.2893617	360.7689575	359.0781304	1.545606743
178	363.3313306	362.2465059	360.6270401	2.041968883
179	364.7360241	363.1853425	362.1743265	1.404693535
180	366.2127103	365.419201	363.7200017	1.476686174
181	367.9935755	366.9248756	365.2640773	1.780865193
182	368.9684381	368.1236336	366.806565	0.974862614
183	370.0509192	369.1334688	368.3474763	1.082481116
184	373.0619284	371.5706076	369.8868225	3.01100916
185	373.8648739	373.0535697	371.4246149	0.802945539
186	375.8259128	373.9825399	372.9608644	1.961038856
187	376.3240922	376.1951073	374.4955819	0.498179464
188	378.4366802	377.683178	376.0287783	2.112588019
189	379.8729753	378.8906571	377.5604642	1.436295097
190	381.4844686	379.8845466	379.09065	1.611493271
191	383.4435294	382.2964311	380.6193462	1.959060832
192	384.9561168	383.7845545	382.146563	1.512587365



193	385.8613008	384.7047653	383.6723106	0.905184031
194	387.2228902	386.8965988	385.1965988	1.361589376
195	388.8461284	388.3674525	386.7194377	1.623238132
196	391.4560836	389.5841893	388.240837	2.609955209
197	392.2450833	390.5627081	389.7608063	0.788999776
198	393.4277438	392.9520797	391.2793551	1.182660505
199	395.58287	394.4430362	392.7964929	2.155126167
200	396.3818542	395.3555822	394.312229	0.798984212
201	397.9187362	397.5265038	395.8265726	1.536881987
202	399.9851199	398.9813505	397.3395328	2.066383667
203	401.8392286	400.2076565	398.8511186	1.854108724
204	402.8619178	401.1713483	400.3613388	1.022689163
205	404.2364418	403.5426429	401.8702023	1.374524036
206	405.1343875	405.0322955	403.3777177	0.89794566
207	407.5814604	405.9382644	404.8838936	2.447072927
208	408.9472455	408.0887385	406.3887385	1.365785115
209	410.5138692	409.5282585	407.8922608	1.566623691
210	411.9722678	410.7642086	409.3944688	1.458398611
211	413.2627361	411.7135913	410.8953707	1.290468266
212	415.0188098	414.0719276	412.3949747	1.756073685
213	415.455215	415.5553509	413.8932887	0.436405241
214	418.3877058	416.4558276	415.3903206	2.932490793
215	419.8613648	417.5304082	416.8860784	1.473659029
216	420.6438276	420.0113271	418.3805699	0.782462807
217	422.0767101	421.2567432	419.8737957	1.432882434
218	423.7165796	422.1923206	421.3657842	1.639869569

Even if you change the formula so that C1 becomes 14.1347, which is the first of the nontrivial zero of the Riemann zeta function, the simulation has become extremely difficult.

## ***Discussion***

It is considered that the reason why the degree of increase at the beginning of the nontrivial point of the Riemann Zeta function is large is because the radius of the circle (dragon) surrounding  $x = 0.5$  is large.

When  $n = 200$  or more, the degree of increase is small, which is thought to be because the radius of the circle (dragon) surrounding  $x = 0.5$  is small.

As shown in the figure below, the nontrivial zero point of the Riemann zeta function and its simulated numerical value are up to  $n = 217$ , they are almost on the same line (Figure 1 and Figure 2).

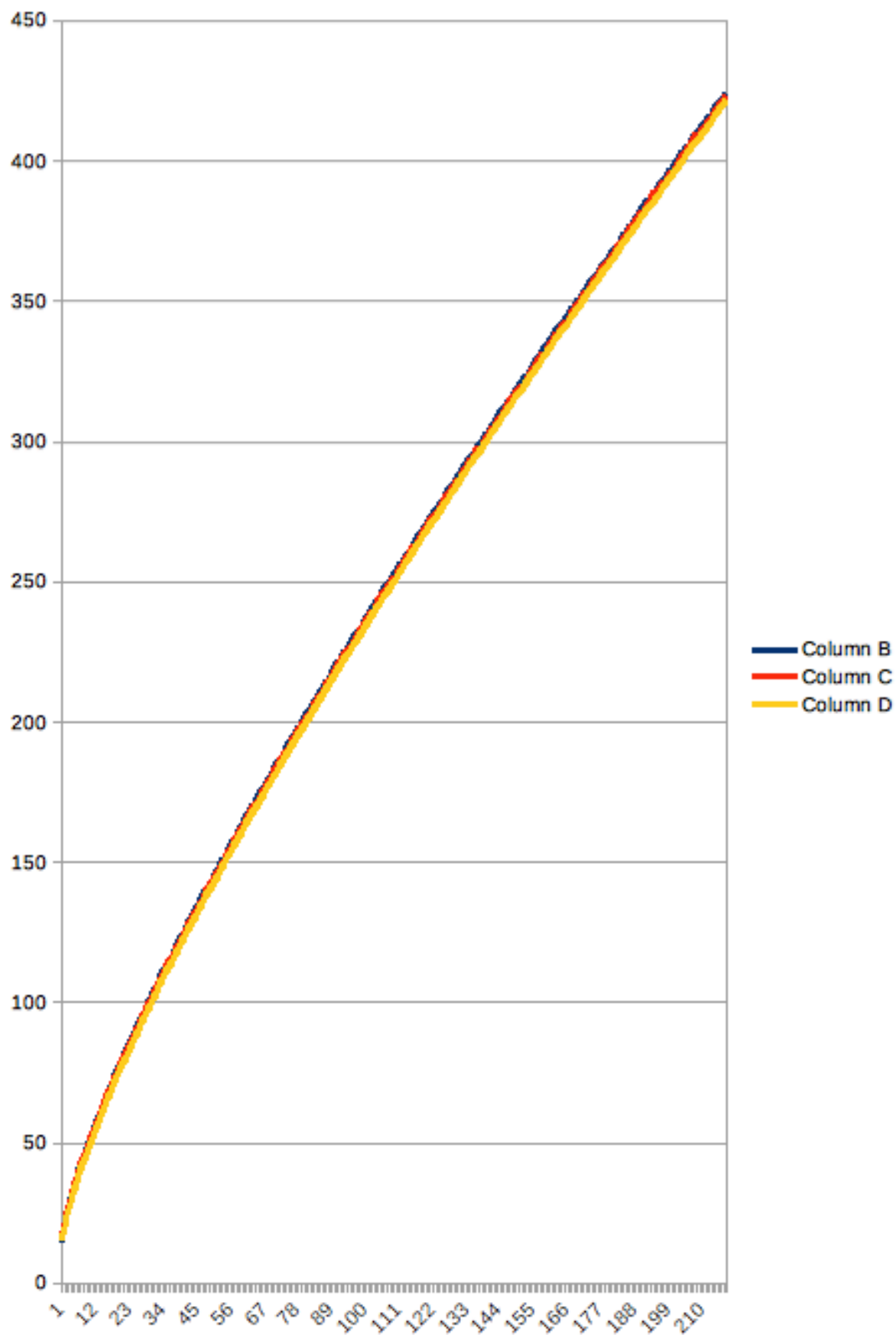
However, it is inferred from the graph that the approximate value obtained by equation (1) has a somewhat lower value (Figure 1).

Next graph (Figure 1).

Column B is nontrivial zero point of the Riemann zeta function.

The approximate value obtained by equation from (2) to (5) is Column C.

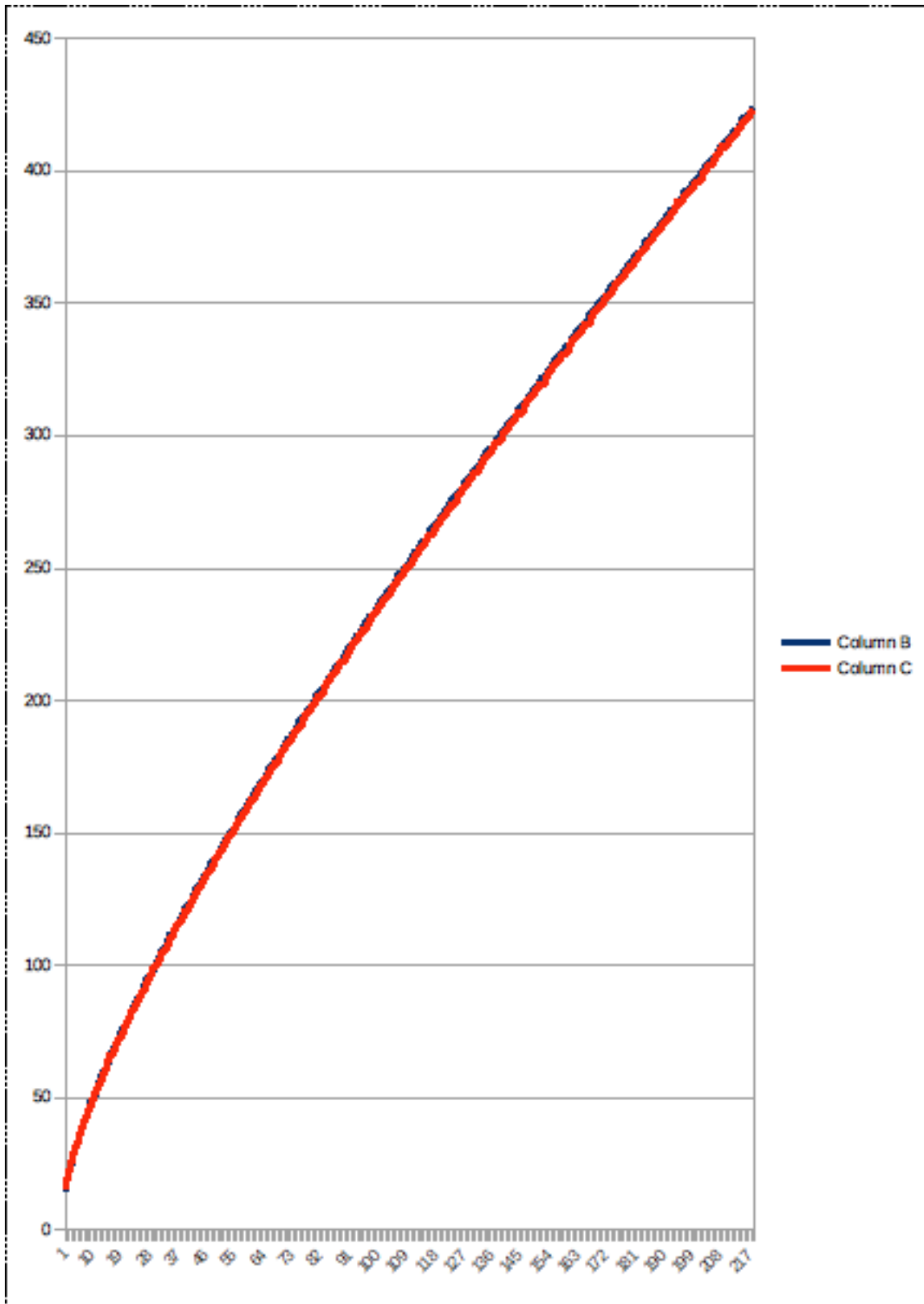
The value obtained by equation (1) is Column D.



Next graph(Figure 2).

Column B is nontrivial zero point of the Riemann zeta function.

The value obtained by equation from (1) is Column C.



***Postscript***

I got tired of finding a pattern where the degree of increase was changeable freely, I gave up finding that pattern and decided to make it public here.

This is reminiscent of the dragon which rises  $x = 0.5$  while changing the degree of freedom freely while drawing a circle.



## ***References***

1. Riemann, Bernhard (1859). "Ueber die Anzahl der Primzahlen unter einer gegebenen Grösse".
2. E. Bombieri, "Problems of the millennium: The Riemann hypothesis," CL Y, (2000).
3. John Derbyshire, Prime Obsession: Bernhard Riemann and The Greatest Unsolved Problem in Mathematics, Joseph Henry Press, 2003, ISBN 9780309085496.
4. [https://en.wikipedia.org/wiki/Riemann\\_hypothesis](https://en.wikipedia.org/wiki/Riemann_hypothesis)





I am a psychiatrist now and also a doctor of brain surgery before.



[mmm82889@yahoo.co.jp](mailto:mmm82889@yahoo.co.jp)

I would like to receive an email. I will not answer the phone.  
Currently 57 years old Born on November 26, 1961

(I am very poor of English. Almost all document are google-translation. )  
When converted to English by Google translation, it becomes cryptic to me.

But, I read letter by google translation.

In my case, if you translate it into English by google translation, I do not know what is written in my paper.

For me, foreign languages such as English (actually not good at Japanese) is a demon.

As soon as it is translated into English, it turns into a cipher for me.

(Postscript)

The cold when I found the first one is still continuing now and this may be my last post. I may have discovered another by surging my energy and it may not be counter example. It may be written as a will.

I am writing this at the limit of power. I write this with spitting blood. I will post it in a hurry, as long as I have not done it before I die.

(Postscript)

Until now, I have failed many times and it seems useless this time, but this time I have absolute confidence. Perhaps I will die today or tomorrow. I will write it as my will.

Also, for children's tuition, write as a will.

Although I could do mathematics, but I could not do anything afterwards, continued to be deceived by people, who did not understand the heart of men, only failed in life, as a will of repentance of a man who sent a life of anguish leave.

The prize money of 100 million yen is given to my two children.

(postscript)

Infinite next is 0 Therefore, .....

There are many ways to prove Riemann hypothesis

(postscript)

I will put out before my life goes down. I did the last inspection. Please give all the prize money to my child.

(postscript)

Please compile properly. I am very poor of English. Thanking you in advance.

(postscript)

I do not understand English translated into English by google translation, I translate again into Japanese by google translation again, and I can not understand the translation.







