

Riemann

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TABLE III. ZEROS OF  $Z(t)$

$n$	$\gamma_n$	$ \zeta'(\frac{1}{2} + i\gamma_n) $	$\phi_n$	$g_{n-1}$	$n$	$\gamma_n$	$ \zeta'(\frac{1}{2} + i\gamma_n) $	$\phi_n$	$g_{n-1}$
1	14.134725	0.79316	+0.050253	17.845600	51	146.000982	3.24794	-0.235043	146.529894
2	21.022040	1.13684	-0.070211	23.170283	52	147.422765	2.81720	+0.052030	148.520693
3	25.010858	1.37172	+0.106402	27.670182	53	150.053520	1.62016	-0.272853	150.503089
4	30.424876	1.30394	-0.171064	31.717980	54	150.925258	1.58222	+0.286503	152.477298
5	32.935062	1.38212	+0.182729	35.467184	55	153.024694	4.24197	+0.222004	154.443523
6	37.586178	1.93651	-0.093555	38.999210	56	156.112909	3.09574	-0.352160	156.401961
7	40.918719	1.49061	-0.065129	42.363550	57	157.597592	1.74313	-0.112424	158.352800
8	43.327073	1.83351	+0.205619	45.593029	58	158.849988	2.13578	+0.244528	160.296218
9	48.005151	1.56803	-0.270819	48.710777	59	161.188964	3.59070	+0.039372	162.232390
10	49.773832	1.41893	+0.151664	51.733843	60	163.030710	4.11442	+0.086608	164.161479
11	52.970321	2.42658	+0.082787	54.675237	61	165.537069	3.39431	-0.215284	166.083646
12	56.446248	2.36793	-0.114337	57.545165	62	167.184440	2.45607	-0.074281	167.999042
13	59.347044	1.39181	-0.139565	60.351812	63	169.094515	1.53608	-0.073495	169.907816
14	60.831779	1.65415	+0.326882	63.101868	64	169.911976	1.97894	+0.497817	171.810108
15	65.112544	2.28778	-0.243262	65.800888	65	173.411537	3.48644	-0.344442	173.706055
16	67.079811	1.78358	+0.019954	68.453545	66	174.754191	2.35494	-0.054246	175.595789
17	69.546402	2.18631	+0.083219	71.063819	67	176.441434	2.65896	+0.051455	177.479435
18	72.067158	2.96453	+0.111528	73.635132	68	178.377408	2.82058	+0.022157	179.357115
19	75.704691	1.77956	-0.315270	76.170455	69	179.916484	3.50621	+0.201490	181.228949
20	77.144840	1.45754	+0.112078	78.672384	70	182.207078	5.01061	-0.023778	183.095049
21	79.337375	2.63789	+0.232062	81.143209	71	184.874468	1.49434	-0.456369	184.955526
22	82.910381	2.62687	-0.222582	83.584960	72	185.598783	1.23318	+0.153557	186.810486
23	84.735493	2.16178	+0.024853	85.999446	73	187.228923	2.83573	+0.274017	188.660032
24	87.425275	1.80044	-0.095618	88.388290	74	189.416159	5.04689	+0.090350	190.504263
25	88.809111	2.17646	+0.322766	90.752953	75	192.026656	2.76965	-0.327632	192.343276
26	92.491899	3.00508	-0.241661	93.094759	76	193.079727	2.39065	+0.098754	194.177164
27	94.651344	1.47940	-0.169896	95.414909	77	195.265397	2.85013	-0.094707	196.006017
28	95.870634	1.69356	+0.302517	97.714497	78	196.876482	2.18106	+0.023083	197.829924
29	98.831194	3.51577	+0.011273	99.994528	79	198.015310	3.15791	+0.398207	199.648968
30	101.317851	3.15465	-0.084204	102.255922	80	201.264752	3.38262	-0.390473	201.463233
31	103.725538	2.16741	-0.154151	104.499525	81	202.493595	2.23310	-0.069081	203.272799
32	105.446623	1.87369	+0.075556	106.726120	82	204.189672	2.07633	-0.007661	205.077743
33	107.168611	2.98250	+0.300384	108.936431	83	205.394697	2.80029	+0.324135	206.878140
34	111.029536	1.59085	-0.453555	111.131131	84	207.906259	4.51710	-0.072171	208.674065
35	111.874659	1.36115	+0.159645	113.310845	85	209.576510	4.11799	-0.003426	210.465587
36	114.320221	2.54628	+0.034654	115.476154	86	211.690863	3.31051	-0.185328	212.252777
37	116.226680	3.11901	+0.151872	117.627604	87	213.347919	2.08522	-0.113958	214.035702
38	118.790783	3.88762	-0.043265	119.765704	88	214.547045	2.20937	+0.212763	215.814428
39	121.370125	2.29494	-0.254392	121.890931	89	216.169539	4.41451	+0.300077	217.589018
40	122.946829	1.55915	+0.000960	124.003732	90	219.067596	4.12808	-0.334955	219.359534
41	124.256819	2.31594	+0.379827	126.104531	91	220.714919	1.47599	-0.267069	221.126037
42	127.516684	3.93842	-0.175334	128.193724	92	221.430706	1.61911	+0.327302	222.888585
43	129.578704	2.34394	-0.165918	130.271687	93	224.007000	2.64772	-0.135696	224.647237
44	131.087689	2.31965	+0.105859	132.338772	94	224.983325	2.88698	+0.308645	226.402047
45	133.497737	2.28927	-0.062929	134.395316	95	227.421444	5.14502	-0.081911	228.153071
46	134.756510	2.81753	+0.323849	136.441636	96	229.337413	3.71619	-0.177585	229.900362
47	138.116042	3.15979	-0.321890	138.478032	97	231.250189	1.47897	-0.273973	231.643972
48	139.736209	1.80150	-0.120231	140.504791	98	231.987235	1.46696	+0.302884	233.383951
49	141.123707	2.01815	+0.193697	142.522184	99	233.693404	4.31834	+0.321934	235.120348
50	143.111846	3.74976	+0.206850	144.530470	100	236.524230	3.99502	-0.309995	236.853212

$g'_0 = 0 \quad g'_{-1} = 3.436218 \quad g_{-1} = 9.666908$