

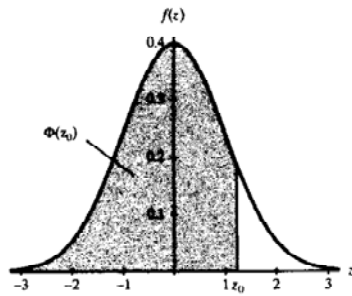
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附表一：随机数表

92459	46807	00742	98068	05715	91914	30368	76830	01471	31879
01990	61688	21317	58136	81372	32479	89450	54188	15032	52447
56357	03811	04824	53455	88755	30122	02839	71763	49639	06246
36783	05002	71761	35852	40640	62630	26769	02587	44623	95577
88822	11796	28561	27091	93013	64939	94299	98240	57450	18672
03478	89017	30466	54463	32998	45826	92196	84866	90728	60701
15272	84614	27404	33686	51283	72980	53589	61318	78649	06703
29596	47534	89805	95170	89816	58314	03649	64285	14682	12486
71904	81693	94887	45573	76874	74548	36851	48630	77916	78922
05201	51312	78986	27330	63194	98096	93212	74891	55099	02678
16510	95406	39078	31468	43577	67990	11287	27068	37874	61734
83316	94852	73159	76123	05010	08393	62827	13728	34709	39578
19962	86326	99855	14146	28341	93570	34163	59623	14103	63367
66852	52392	32115	75977	80723	96562	19388	64446	73949	83823
84161	37020	79694	35717	73417	15617	93437	46981	94838	12418
58837	30960	84272	38937	27926	95403	61816	32202	11343	99925
12971	62671	87151	80924	08413	22879	51701	84303	65556	20152
21036	13175	77916	31978	78896	69869	22225	13043	49858	81615
34152	24555	54366	40704	33111	00490	53198	52317	77478	30052
50434	17800	99805	32819	71033	83674	84640	67470	60922	25920
74643	91686	64861	13547	47668	02710	11434	82867	40442	23126
30774	56770	07259	58864	02002	78870	29737	79078	03891	96198
52766	31005	71786	78399	41418	73730	44254	81034	81391	60870
30583	57645	02821	46759	21611	81875	75570	71403	95020	90567
11411	87731	95412	14734	68216	24237	64399	57190	62003	08072

附表二：标准正态分布表



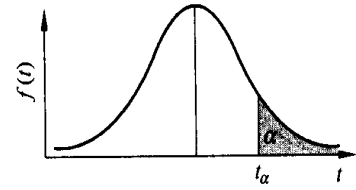
$$P(Z \leq z) = \Phi(z) = \int_{-\infty}^z \frac{1}{\sqrt{2\pi}} e^{-w^2/2} dw$$

$$\Phi(-z) = 1 - \Phi(z)$$

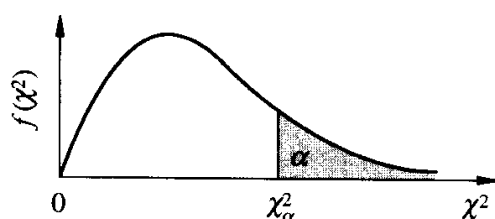
z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7703	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
α	0.400	0.300	0.200	0.100	0.050	0.025	0.020	0.010	0.005	0.001
z_α	0.253	0.524	0.842	1.282	1.645	1.960	2.054	2.326	2.576	3.090
$z_{\alpha/2}$	0.842	1.036	1.282	1.645	1.960	2.240	2.326	2.576	2.807	3.291

附表三：t 分布临界值表

(查表时注意：v 是指自由度，并分单侧和双侧两种类型)
 (左侧的示意图是单侧检验的情形)



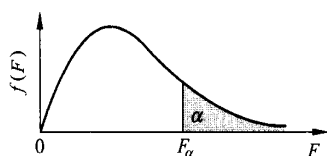
单侧	$\alpha=0.10$	0.05	0.025	0.01	0.005
双侧	$\alpha=0.20$	0.10	0.05	0.02	0.01
v=1	3.078	6.314	12.706	31.821	63.657
2	1.886	2.920	4.303	6.965	9.925
3	1.638	2.353	3.182	4.541	5.841
4	1.533	2.132	2.776	3.747	4.604
5	1.476	2.015	2.571	3.365	4.032
6	1.440	1.943	2.447	3.143	3.707
7	1.415	1.895	2.365	2.998	3.499
8	1.397	1.860	2.306	2.896	2.355
9	1.383	1.833	2.262	2.821	3.250
10	1.372	1.812	2.228	2.764	3.169
11	1.363	1.796	2.201	2.718	3.106
12	1.356	1.782	2.179	2.681	3.055
13	1.350	1.771	2.160	2.650	3.012
14	1.345	1.761	2.145	2.624	2.977
15	1.341	1.753	2.131	2.602	2.947
16	1.337	1.746	2.120	2.583	2.921
17	1.333	1.740	2.110	2.567	2.898
18	1.330	1.734	2.101	2.552	2.878
19	1.328	1.729	2.093	2.539	2.861
20	1.325	1.725	2.086	2.528	2.845
21	1.323	1.721	2.080	2.518	2.831
22	1.321	1.717	2.074	2.508	2.819
23	1.319	1.714	2.069	2.500	2.807
24	1.318	1.711	2.064	2.492	2.797
25	1.316	1.708	2.060	2.485	2.787
26	1.315	1.706	2.056	2.479	2.779
27	1.314	1.703	2.052	2.473	2.771
28	1.313	1.701	2.048	2.467	2.763
29	1.311	1.699	2.045	2.462	2.756
30	1.310	1.697	2.042	2.457	2.750
40	1.303	1.684	2.021	2.423	2.704
50	1.299	1.676	2.009	2.403	2.678
60	1.296	1.671	2.000	2.390	2.660
70	1.294	1.667	1.994	2.381	2.648
80	1.292	1.664	1.990	2.374	2.639
90	1.291	1.662	1.987	2.368	2.632
100	1.290	1.660	1.984	2.364	2.626
125	1.288	1.657	1.979	2.357	2.616
150	1.287	1.655	1.976	2.351	2.609
200	1.286	1.653	1.972	2.345	2.601
∞	1.282	1.645	1.960	2.326	2.576

附表四: χ^2 分布临界值表

自由度	$\chi_{0.995}^2$	$\chi_{0.990}^2$	$\chi_{0.975}^2$	$\chi_{0.950}^2$	$\chi_{0.900}^2$
1	0.000393	0.0001571	0.0009821	0.0039321	0.0157908
2	0.0100251	0.0201007	0.0506356	0.102587	0.210720
3	0.0717212	0.114832	0.215795	0.351846	0.584375
4	0.206990	0.297110	0.484419	0.710721	1.063623
5	0.411740	0.554300	0.831211	1.145476	1.61031
6	0.675727	0.872085	1.237347	1.63539	2.20413
7	0.989265	1.239043	1.68987	2.16735	2.83311
8	1.344419	1.646482	2.17973	2.73264	3.48954
9	1.734926	2.087912	2.70039	3.32511	4.16816
10	2.15585	2.55821	3.24697	3.94030	4.86518
11	2.60321	3.05347	3.81575	4.57481	5.57779
12	3.07382	3.57056	4.40379	5.22603	6.30380
13	3.56503	4.10691	5.00874	5.89186	7.04150
14	4.07468	4.66043	5.62872	6.57063	7.78953
15	4.60094	5.22935	6.26214	7.26094	8.54675
16	5.14224	5.81221	6.90766	7.96164	9.31223
17	5.69724	6.40776	7.56418	8.67176	10.0852
18	6.26481	7.01491	8.23075	9.39046	10.8649
19	6.84398	7.63273	8.90655	10.1170	11.6509
20	7.43386	8.26040	9.59083	10.8508	12.4426
21	8.03366	8.89720	10.28293	11.5913	13.2396
22	8.64272	9.54249	10.9823	12.3380	14.0415
23	9.26042	10.19567	11.6885	13.0905	14.8479
24	9.88623	10.8564	12.4011	13.8484	15.6587
25	10.5197	11.5240	13.1197	14.6114	16.4734
26	11.1603	12.1981	13.8439	15.3791	17.2919
27	11.8076	12.8786	14.5733	16.1513	18.1138
28	12.4613	13.5648	15.3079	16.9279	18.9392
29	13.1211	14.2565	16.0471	17.7083	19.7677
30	13.7867	14.9535	16.7908	18.4926	20.5992
40	20.7065	22.1643	24.4331	26.5093	29.0505
50	27.9907	29.7067	32.3574	34.7642	37.6886
60	35.5346	37.4848	40.4817	43.1879	46.4589
70	43.2752	45.4418	48.7576	51.7393	55.3290
80	51.1720	53.5400	57.1532	60.3915	64.2778
90	59.1963	61.7541	65.6466	69.1260	73.2912
100	67.3276	70.0648	74.2219	77.9295	82.3581
150	109.142	112.668	117.985	122.692	128.275
200	152.241	156.432	162.728	168.279	174.835
300	240.663	245.972	253.912	260.878	269.068
400	330.903	337.155	346.482	354.641	364.207
500	422.303	429.388	439.936	449.147	459.926

续表

自由度	$\chi_{0.100}^2$	$\chi_{0.050}^2$	$\chi_{0.025}^2$	$\chi_{0.010}^2$	$\chi_{0.005}^2$
1	2.70554	3.84146	5.02389	6.63490	7.87944
2	4.60517	5.99147	7.37776	9.21034	10.5966
3	6.25139	7.81473	9.34840	11.3449	12.8381
4	7.77944	9.48773	11.1433	13.2767	14.8602
5	9.23635	11.0705	12.8325	15.0863	16.7496
6	10.6446	12.5916	14.4494	16.8119	18.5476
7	12.0170	14.0671	16.0128	18.4753	20.2777
8	13.3616	15.5073	17.5346	20.0902	21.9550
9	14.6837	16.9190	19.0228	21.6660	23.5893
10	15.9871	18.3070	20.4831	23.2093	25.1882
11	17.2750	19.6751	21.9200	24.7250	26.7569
12	18.5494	21.0261	23.3367	26.2170	28.2995
13	19.8119	22.3621	24.7356	27.6883	29.8194
14	21.0642	23.6848	26.1190	29.1413	31.3193
15	22.3072	24.9958	27.4884	30.5779	32.8013
16	23.5418	26.2962	28.8454	31.9999	34.2672
17	24.7690	27.5871	30.1910	33.4087	35.7185
18	25.9894	28.8693	31.5264	34.8053	37.1564
19	27.2036	30.1435	32.8523	36.1908	38.5822
20	28.4120	31.4104	34.1696	37.5662	39.9968
21	29.6151	32.6705	35.4789	38.9321	41.4010
22	30.8133	33.9244	36.7807	40.2894	42.7956
23	32.0069	35.1725	38.0757	41.6384	44.1813
24	33.1963	36.4151	39.3641	42.9798	45.5585
25	34.3816	37.6525	40.6465	44.3141	46.9278
26	35.5631	38.8852	41.9232	45.6417	48.2899
27	36.7412	40.1133	43.1944	46.9630	49.6449
28	37.9159	41.3372	44.4607	48.2782	50.9933
29	39.0875	42.5569	45.7222	49.5879	52.3356
30	40.2560	43.7729	46.9792	50.8922	53.6720
40	51.8050	55.7585	59.3417	63.6907	66.7659
50	63.1671	67.5048	71.4202	76.1539	79.4900
60	74.3970	79.0819	83.2976	88.3794	91.9517
70	85.5271	90.5312	95.0231	100.425	104.215
80	96.5782	101.879	106.629	112.329	116.321
90	107.565	113.145	118.136	124.116	128.299
100	118.498	124.342	129.561	135.807	140.169
150	172.581	179.581	185.800	193.208	198.360
200	226.021	233.994	241.058	249.445	255.264
300	331.789	341.395	349.874	359.906	366.844
400	436.649	447.632	457.306	468.724	479.606
500	540.930	553.127	563.852	576.493	585.207

附表五: F 分布临界值表 ($\alpha=0.05$)

$V_2 \backslash V_1$	1	2	3	4	5	6	8	10	15
1	161.4	199.5	215.7	224.6	230.2	234.0	238.9	241.9	245.9
2	18.51	19.00	19.16	19.25	19.30	19.33	19.37	19.40	19.43
3	10.13	9.55	9.28	9.12	9.01	8.94	8.85	8.79	8.70
4	7.71	6.94	6.59	6.39	6.26	6.16	6.04	5.96	5.86
5	6.61	5.79	5.41	5.19	5.05	4.95	4.82	4.74	4.62
6	5.99	5.14	4.76	4.53	4.39	4.28	4.15	4.06	3.94
7	5.59	4.74	4.35	4.12	3.97	3.87	3.73	3.64	3.51
8	5.32	4.46	4.07	3.84	3.69	3.58	3.44	3.35	3.22
9	5.12	4.26	3.86	3.63	3.48	3.37	3.23	3.14	3.01
10	4.96	4.10	3.71	3.48	3.33	3.22	3.07	2.98	2.85
11	4.84	3.98	3.59	3.36	3.20	3.09	2.95	2.85	2.72
12	4.75	3.89	3.49	3.26	3.11	3.00	2.85	2.75	2.62
13	4.67	3.81	3.41	3.18	3.03	2.92	2.77	2.67	2.53
14	4.60	3.74	3.34	3.11	2.96	2.85	2.70	2.60	2.46
15	4.54	3.68	3.29	3.06	2.90	2.79	2.64	2.54	2.40
16	4.49	3.63	3.24	3.01	2.85	2.74	2.59	2.49	2.35
17	4.45	3.59	3.20	2.96	2.81	2.70	2.55	2.45	2.31
18	4.41	3.55	3.16	2.93	2.77	2.66	2.51	2.41	2.27
19	4.38	3.52	3.13	2.90	2.74	2.63	2.48	2.38	2.23
20	4.35	3.49	3.10	2.87	2.71	2.60	2.45	2.35	2.20
21	4.32	3.47	3.07	2.84	2.68	2.57	2.42	2.32	2.18
22	4.30	3.44	3.05	2.82	2.66	2.55	2.40	2.30	2.15
23	4.28	3.42	3.03	2.80	2.64	2.53	2.37	2.27	2.13
24	4.26	3.40	3.01	2.78	2.62	2.51	2.36	2.25	2.11
25	4.24	3.39	2.99	2.76	2.60	2.49	2.34	2.24	2.09
26	4.23	3.37	2.98	2.74	2.59	2.47	2.32	2.22	2.07
27	4.21	3.35	2.96	2.73	2.57	2.46	2.31	2.20	2.06
28	4.20	3.34	2.95	2.71	2.56	2.45	2.29	2.19	2.04
29	4.18	3.33	2.93	2.70	2.55	2.43	2.28	2.18	2.03
30	4.17	3.32	2.92	2.69	2.53	2.42	2.27	2.16	2.01
40	4.08	3.23	2.84	2.61	2.45	2.34	2.18	2.08	1.92
50	4.03	3.18	2.79	2.56	2.40	2.29	2.13	2.03	1.87
60	4.00	3.15	2.76	2.53	2.37	2.25	2.10	1.99	1.84
70	3.98	3.13	2.74	2.50	2.35	2.23	2.07	1.97	1.81
80	3.96	3.11	2.72	2.49	2.33	2.21	2.06	1.95	1.79
90	3.95	3.10	2.71	2.47	2.32	2.20	2.04	1.94	1.78
100	3.94	3.09	2.70	2.46	2.31	2.19	2.03	1.93	1.77
125	3.92	3.07	2.68	2.44	2.29	2.17	2.01	1.91	1.75
150	3.90	3.06	2.66	2.43	2.27	2.16	2.00	1.89	1.73
200	3.89	3.04	2.65	2.42	2.26	2.14	1.98	1.88	1.72
	3.84	3.00	2.60	2.37	2.21	2.10	1.94	1.83	1.67

F 分布临界值表 ($\alpha=0.01$)

续 表

$V_2 \backslash V_1$	1	2	3	4	5	6	8	10	15
1	4052	4999	5403	5625	5764	5859	5981	6065	6157
2	98.50	99.00	99.17	99.25	99.30	99.33	99.37	99.40	99.43
3	34.12	30.82	29.46	28.71	28.24	27.91	27.49	27.23	26.87
4	21.20	18.00	16.69	15.98	15.52	15.21	14.80	14.55	14.20
5	16.26	13.27	12.06	11.39	10.97	10.67	10.29	10.05	9.72
6	13.75	10.92	9.78	9.15	8.75	8.47	8.10	7.87	7.56
7	12.25	9.55	8.45	7.85	7.46	7.19	6.84	6.62	6.31
8	11.26	8.65	7.59	7.01	6.63	6.37	6.03	5.81	5.52
9	10.56	8.02	6.99	6.42	6.06	5.80	5.47	5.26	4.96
10	10.04	7.56	6.55	5.99	5.64	5.39	5.06	4.85	4.56
11	9.65	7.21	6.22	5.67	5.32	5.07	4.74	4.54	4.25
12	9.33	6.93	5.95	5.41	5.06	4.82	4.50	4.30	4.01
13	9.07	6.70	5.74	5.21	4.86	4.62	4.30	4.10	3.82
14	8.86	6.51	5.56	5.04	4.69	4.46	4.14	3.94	3.66
15	8.86	6.36	5.42	4.89	4.56	4.32	4.00	3.80	3.52
16	8.53	6.23	5.29	4.77	4.44	4.20	3.89	3.69	3.41
17	8.40	6.11	5.19	4.67	4.34	4.10	3.79	3.59	3.31
18	8.29	6.01	5.09	4.58	4.25	4.01	3.71	3.51	3.23
19	8.18	5.93	5.01	4.50	4.17	3.94	3.63	3.43	3.15
20	8.10	5.85	4.94	4.43	4.10	3.87	3.56	3.37	3.09
21	8.02	5.78	4.87	4.37	4.04	3.81	3.51	3.31	3.03
22	7.95	5.72	4.82	4.31	3.99	3.76	3.45	3.26	2.98
23	7.88	5.66	4.76	4.26	3.94	3.71	3.41	3.21	2.93
24	7.82	5.61	4.72	4.22	3.90	3.67	3.36	3.17	2.89
25	7.77	5.57	4.68	4.18	3.85	3.63	3.32	3.13	2.85
26	7.72	5.53	4.64	4.14	3.82	3.59	3.29	3.09	2.81
27	7.68	5.49	4.60	4.11	3.78	3.56	3.26	3.06	2.78
28	7.64	5.45	4.57	4.07	3.75	3.53	3.23	3.03	2.75
29	7.60	5.42	4.54	4.04	3.73	3.50	3.20	3.00	2.73
30	7.56	5.39	4.51	4.02	3.70	3.47	3.17	2.98	2.70
40	7.31	5.18	4.31	3.83	3.51	3.29	2.99	2.80	2.52
50	7.17	5.06	4.20	3.72	3.41	3.19	2.89	2.70	2.42
60	7.08	4.98	4.13	3.65	3.34	3.12	2.82	2.63	2.35
70	7.01	4.92	4.07	3.60	3.29	3.07	2.78	2.59	2.31
80	6.96	4.88	4.04	3.56	3.26	3.04	2.74	2.55	2.27
90	6.93	4.85	4.01	3.53	3.23	3.01	2.72	2.52	2.42
100	6.90	4.82	3.98	3.51	3.21	2.99	2.69	2.50	2.22
125	6.84	4.78	3.94	3.47	3.17	2.95	2.66	2.47	2.19
150	6.81	4.75	3.91	3.45	3.14	2.92	2.63	2.44	2.16
200	6.76	4.71	3.88	3.41	3.11	2.89	2.60	2.41	2.13
	6.63	4.61	3.78	3.32	3.02	2.80	2.51	2.23	2.04

附表六：单样本 K-S 检验统计量表

$$D_n = \sup_x [F_n(x) - F_0(x)]$$

$$\alpha = 1 - P(D_n \leq d)$$

双侧检验的右尾概率											
N	.200	.100	.050	.020	.010	N	.200	.100	.050	.020	.010
1	.900	.950	.975	.990	.995	21	.226	.259	.287	.321	.344
2	.684	.776	.842	.900	.929	22	.221	.253	.281	.314	.337
3	.565	.636	.708	.785	.829	23	.216	.247	.275	.307	.330
4	.493	.565	.624	.689	.734	24	.212	.242	.269	.301	.323
5	.447	.509	.563	.627	.669	25	.208	.238	.264	.295	.317
6	.410	.468	.519	.577	.617	26	.204	.233	.259	.290	.311
7	.381	.436	.483	.538	.576	27	.200	.229	.254	.284	.305
8	.358	.410	.454	.507	.542	28	.197	.225	.250	.279	.300
9	.339	.387	.430	.480	.513	29	.193	.221	.246	.275	.295
10	.323	.369	.409	.457	.489	30	.190	.218	.242	.270	.290
11	.308	.352	.391	.437	.468	31	.187	.214	.238	.266	.285
12	.296	.338	.375	.419	.449	32	.184	.211	.234	.262	.281
13	.285	.325	.361	.404	.432	33	.182	.208	.231	.258	.277
14	.275	.314	.349	.390	.418	34	.179	.205	.227	.254	.273
15	.266	.304	.338	.377	.404	35	.177	.202	.224	.251	.269
16	.258	.295	.327	.366	.392	36	.174	.199	.221	.247	.265
17	.250	.286	.318	.355	.381	37	.172	.196	.218	.244	.262
18	.244	.279	.309	.346	.371	38	.170	.194	.215	.241	.258
19	.237	.271	.310	.337	.361	39	.168	.191	.213	.238	.255
20	.232	.265	.294	.329	.352	40	.165	.189	.210	.235	.252
	.100	.050	.025	.010	.005		.100	.050	.025	.010	.005

单侧检验的右尾概率

如果 $N > 40$, 则按下面的计算得到近似的概率:

双侧检验的右尾概率				
.200	.100	.050	.020	.010
$1.07 \sqrt{N}$	$1.22 \sqrt{N}$	$1.36 \sqrt{N}$	$1.52 \sqrt{N}$	$1.63 \sqrt{N}$
.100	.050	.025	.010	.005
单侧检验的右尾概率				

附表七：符号检验界域表

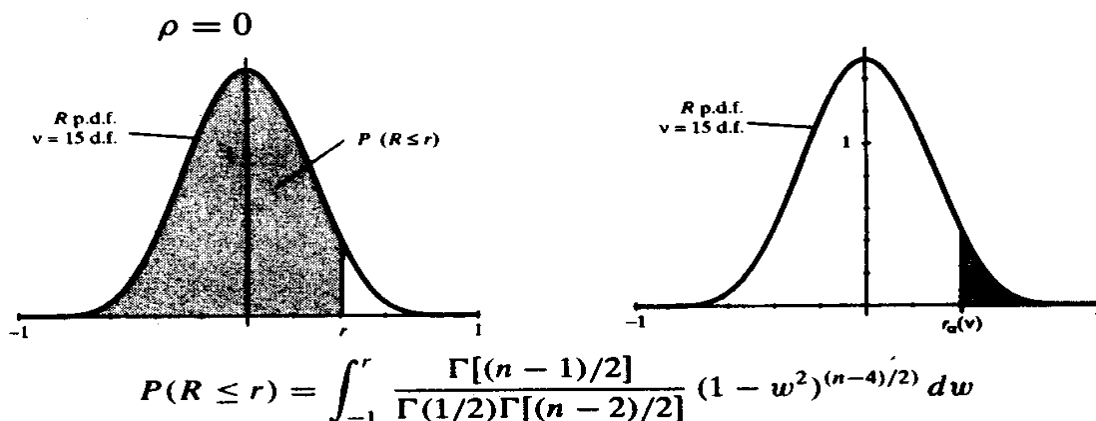
$N \backslash a$	0.05	0.01	$N \backslash a$	0.05	0.01	$N \backslash a$	0.05	0.01
≤8	0	0	36	11	9	64	23	21
9	1	0	37	12	10	65	24	21
10	1	0	38	12	10	66	24	22
11	1	0	39	12	11	67	25	22
12	2	1	40	13	11	68	25	22
13	2	1	41	13	11	69	25	23
14	2	1	42	14	12	70	26	23
15	3	2	43	14	12	71	26	24
16	3	2	44	15	13	72	27	24
17	4	2	45	15	13	73	27	25
18	4	3	46	15	13	74	28	25
19	4	3	47	16	14	75	28	25
20	5	3	48	16	14	76	28	26
21	5	4	49	17	15	77	29	26
22	5	4	50	17	15	78	29	27
23	6	4	51	18	15	79	30	27
24	6	5	52	18	16	80	30	28
25	7	5	53	18	16	81	31	28
26	7	6	54	19	17	82	31	28
27	7	6	55	19	17	83	32	29
28	8	6	56	20	17	84	32	29
29	8	7	57	20	18	85	32	30
30	9	7	58	21	18	86	33	30
31	9	7	59	21	19	87	33	31
32	9	8	60	21	19	88	34	31
33	10	8	61	22	20	89	34	31
34	10	9	62	22	20	90	35	32
35	11	9	63	23	20			

附表八：游程检验临界值表

表中对应于 n_1 与 n_2 的有两行数值。若 R 等于小于上行数值，或等于大于下行数值，则在 $\alpha=0.025$ （单侧检验）或 $\alpha=0.05$ （双侧检验）水平上判定序列为非随机的。

$n_1 \backslash n_2$	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2											2	2	2	2	2	2	2	2	2
3					2	2	2	2	2	2	2	2	2	3	3	3	3	3	3
4				2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4
				9	9														
5			2	2	3	3	3	3	3	4	4	4	4	4	4	4	4	5	5
			9	10	10	11	11												
6		2	2	3	3	3	3	4	4	4	4	5	5	5	5	5	5	5	6
			9	10	11	12	12	13	13	13	13								
7		2	2	3	3	3	4	4	5	5	5	5	5	5	6	6	6	6	6
				11	12	13	13	14	14	14	14	15	15	15	15				
8		2	3	3	3	4	4	5	5	5	6	6	6	6	6	7	7	7	7
				11	12	13	14	14	15	15	16	16	16	16	17	17	17	17	17
9		2	3	3	4	4	5	5	5	6	6	6	7	7	7	7	8	8	8
					13	14	14	15	16	16	16	17	17	18	18	18	18	18	18
10		2	3	4	4	5	5	6	6	7	7	7	8	8	8	9	9	9	9
					13	14	15	16	16	17	17	18	18	18	19	19	19	20	20
11		2	3	4	4	5	5	6	6	7	7	7	8	8	8	9	9	9	9
					13	14	15	16	17	17	18	19	19	19	20	20	20	21	21
12	2	2	3	4	4	5	6	6	7	7	7	8	8	8	9	9	9	10	10
					13	14	16	16	17	18	19	19	20	20	21	21	21	22	22
13	2	2	3	4	5	5	6	6	7	7	8	8	9	9	9	10	10	10	10
						15	16	17	18	19	19	20	20	21	21	22	22	23	23
14	2	2	3	4	5	5	6	7	7	8	8	9	9	9	10	10	10	11	11
						15	16	17	18	19	20	20	21	22	22	23	23	23	24
15	2	3	3	4	5	6	6	7	7	8	8	9	9	10	10	11	11	11	12
						15	16	17	18	19	19	20	20	21	21	22	22	23	23
16	2	3	4	4	5	6	6	7	8	8	9	9	10	10	11	11	11	12	12
							17	18	19	20	21	21	22	23	23	24	25	25	25
17	2	3	4	4	5	6	7	7	8	9	9	10	10	11	11	11	12	12	13
							17	18	19	20	21	22	23	23	24	25	25	26	26
18	2	3	4	5	5	6	7	8	8	9	9	10	10	11	11	12	12	13	13
							17	18	19	20	21	22	23	24	25	25	26	26	27
19	2	3	4	5	6	6	7	8	8	9	10	10	11	11	12	12	13	13	13
							17	18	20	21	22	23	23	24	25	26	26	27	27
20	2	3	4	5	6	6	7	8	9	9	10	10	11	12	12	13	13	13	14
							17	18	20	21	22	23	24	25	25	26	27	27	28

附表九：相关系数临界值表



v = n - 2 degrees of freedom	P(R ≤ r)			
	0.95 <i>r</i> _{0.05} (v)	0.975 <i>r</i> _{0.025} (v)	0.99 <i>r</i> _{0.01} (v)	0.995 <i>r</i> _{0.005} (v)
1	0.9877	0.9969	0.9995	0.9999
2	0.9000	0.9500	0.9800	0.9900
3	0.8053	0.8783	0.9343	0.9587
4	0.7292	0.8113	0.8822	0.9172
5	0.6694	0.7544	0.8329	0.8745
6	0.6215	0.7067	0.7887	0.8343
7	0.5822	0.6664	0.7497	0.7977
8	0.5493	0.6319	0.7154	0.7646
9	0.5214	0.6020	0.6850	0.7348
10	0.4972	0.5759	0.6581	0.7079
11	0.4761	0.5529	0.6338	0.6835
12	0.4575	0.5323	0.6120	0.6613
13	0.4408	0.5139	0.5922	0.6411
14	0.4258	0.4973	0.5742	0.6226
15	0.4123	0.4821	0.5577	0.6054
16	0.4000	0.4683	0.5425	0.5897
17	0.3887	0.4555	0.5285	0.5750
18	0.3783	0.4437	0.5154	0.5614
19	0.3687	0.4328	0.5033	0.5487
20	0.3597	0.4226	0.4920	0.5367
25	0.3232	0.3808	0.4450	0.4869
30	0.2959	0.3494	0.4092	0.4487
35	0.2746	0.3246	0.3809	0.4182
40	0.2572	0.3044	0.3578	0.3931
45	0.2428	0.2875	0.3383	0.3721
50	0.2306	0.2732	0.3218	0.3541
60	0.2108	0.2500	0.2948	0.3248
70	0.1954	0.2318	0.2736	0.3017
80	0.1829	0.2172	0.2565	0.2829
90	0.1725	0.2049	0.2422	0.2673
100	0.1638	0.1946	0.2300	0.2540

附表十: Spearman 等级相关系数临界值表

$$P(r_s \geq c_\alpha) = \alpha$$

$\alpha(2)$	0.20	0.10	0.05	$\alpha(2)$	0.20	0.10	0.05
$\alpha(1)$	0.10	0.05	0.025	$\alpha(1)$	0.10	0.05	0.025
n				n			
4	1.000	1.000		29	0.245	0.312	0.368
5	0.800	0.900	1.000	30	0.240	0.306	0.362
6	0.657	0.829	0.886	31	0.236	0.301	0.356
7	0.571	0.714	0.786	32	0.232	0.296	0.350
8	0.524	0.643	0.738	33	0.229	0.291	0.345
9	0.483	0.600	0.700	34	0.225	0.287	0.340
10	0.455	0.564	0.648	35	0.222	0.283	0.335
11	0.427	0.536	0.618	36	0.219	0.279	0.330
12	0.406	0.503	0.587	37	0.216	0.275	0.325
13	0.385	0.484	0.560	38	0.212	0.271	0.321
14	0.367	0.464	0.538	39	0.210	0.267	0.317
15	0.354	0.446	0.521	40	0.207	0.264	0.313
16	0.341	0.429	0.503	41	0.204	0.261	0.309
17	0.328	0.414	0.485	42	0.202	0.257	0.305
18	0.317	0.401	0.472	43	0.199	0.254	0.301
19	0.309	0.391	0.460	44	0.197	0.251	0.298
20	0.299	0.380	0.447	45	0.194	0.248	0.294
21	0.292	0.370	0.435	46	0.192	0.246	0.291
22	0.284	0.361	0.425	47	0.190	0.243	0.288
23	0.278	0.353	0.415	48	0.188	0.240	0.285
24	0.271	0.344	0.406	49	0.186	0.238	0.282
25	0.265	0.337	0.398	50	0.184	0.235	0.279
26	0.259	0.331	0.390	51	0.182	0.233	0.276
27	0.255	0.324	0.382	52	0.180	0.231	0.274
28	0.250	0.317	0.375	53	0.179	0.228	0.271

附表十一: Kendall τ 等级相关系数临界值表

$$P(K \geq c_\alpha) \leq \alpha$$

n	α		
	0.025	0.05	0.10
5	1.000	.800	.800
6	.867	.733	.600
7	.714	.619	.524
8	.643	.571	.429
9	.556	.500	.389
10	.511	.467	.378
11	.491	.418	.345
12	.455	.394	.303
13	.436	.359	.308
14	.407	.363	.275
15	.390	.333	.276
16	.383	.317	.250
17	.368	.309	.250
18	.346	.294	.242
19	.333	.287	.228
20	.326	.274	.221
21	.314	.267	.210
22	.307	.264	.203
23	.296	.257	.202
24	.290	.246	.196
25	.287	.240	.193
26	.280	.237	.188
27	.271	.231	.179
28	.265	.228	.180
29	.261	.222	.172
30	.255	.218	.172
31	.252	.213	.166
32	.246	.210	.165
33	.242	.205	.163
34	.237	.201	.159
35	.234	.197	.156
36	.232	.194	.152
37	.228	.192	.150
38	.223	.189	.149
39	.220	.188	.147
40	.218	.185	.144

附表十二：控制图系数表

样本大小 n	极差 R		$\bar{x} - R$ 图		
	系数		$\bar{x} \pm A_2 \bar{R}$	$D_3 \bar{R}$	$D_4 \bar{R}$
	d_2	d_3	A_2	D_3	D_4
2	1.128	0.853	1.880	—	3.267
3	1.693	0.888	1.023	—	2.575
4	2.059	0.880	0.729	—	2.282
5	2.326	0.864	0.577	—	2.115
6	2.534	0.848	0.483	—	2.004
7	2.704	0.833	0.419	0.076	1.924
8	2.847	0.820	0.373	0.136	1.864
9	2.970	0.808	0.337	0.184	1.816
10	3.038	0.797	0.308	0.223	1.777

 $x - R$ 图

$$x \text{ 图 } \begin{cases} \text{UCL} = \bar{x} + 2.66\bar{R}, \\ \text{LCL} = \bar{x} - 2.66\bar{R}, \end{cases} \quad R_2 \text{ 图 } \begin{cases} \text{UCL} = 3.27\bar{R}, \\ \text{LCL} < 0 \end{cases}$$

样本大小 n	\bar{x} 图	x 图(成组)	$\bar{x} - S$ 图		
	$\bar{x} \pm m_3 A_2 \bar{R}$	$\bar{x} \pm E_2 \bar{R}$	$\bar{x} \pm A_1^* \bar{S}$	$B_3 \bar{S}$	$B_4 \bar{S}$
	$m_3 A_2$	E_2	A_1^*	B_3	B_4
2	1.880	2.659	2.659	—	3.267
3	1.187	1.772	1.954	—	2.568
4	0.796	1.457	1.628	—	2.266
5	0.691	1.290	1.427	—	2.089
6	0.549	1.184	1.287	0.030	1.970
7	0.509	1.109	1.182	0.118	1.882
8	0.432	1.054	1.099	0.185	1.815
9	0.412	1.010	1.032	0.239	1.761
10	0.363	0.975	0.975	0.284	1.716
11			0.927	0.321	1.679
12			0.886	0.353	1.646
13			0.850	0.382	1.618
14			0.817	0.406	1.594
15			0.789	0.428	1.572
16			0.763	0.448	1.552
17			0.739	0.466	1.534
18			0.718	0.482	1.518
19			0.698	0.497	1.503
20			0.680	0.510	1.490
> 20			$\frac{3}{\sqrt{n}} \left(1 + \frac{1}{4n} \right)$	$1 - \frac{3}{\sqrt{2n}}$	$1 + \frac{3}{\sqrt{2n}}$

附表十三 威尔克逊秩和检验临界表 ($\alpha=0.01$)

$n_1 \backslash n_2$	4	5	6	7	8	9	10	11	12	13	14	15
4		15-35	22-44	29-55	38-66	48-78	58-92	70-106	83-121	96-138	111-155	127-173
5	10-30	16-39	23-49	31-60	40-72	50-85	61-99	73-114	86-130	100-147	115-165	131-184
6	17-33	17-43	24-54	32-66	42-78	52-92	63-107	75-123	89-139	103-157	118-176	135-195
7	11-37	18-47	25-59	34-71	43-85	54-99	66-114	78-131	92-148	107-166	122-186	139-206
8	12-40	19-51	27-63	35-77	45-91	56-106	68-122	81-139	95-157	111-175	127-195	144-216
9	13-43	20-55	28-63	37-82	47-97	59-112	71-129	84-147	99-165	114-185	131-205	148-227
10	13-47	21-59	29-73	39-87	49-103	61-119	74-136	88-154	102-174	118-194	135-215	133-237
11	14-50	22-63	30-78	40-93	51-109	63-126	77-143	91-162	106-182	122-203	139-225	157-248
12	15-53	23-67	32-82	42-98	53-115	66-132	79-151	94-170	109-191	126-212	143-235	162-258
13	15-57	24-71	33-87	44-103	56-120	68-139	82-158	97-178	113-199	130-221	148-244	167-268
14	16-60	25-75	34-92	45-109	58-126	71-145	85-165	100-186	116-208	134-230	152-254	171-279
15	17-63	26-79	36-96	47-114	60-132	73-152	88-173	103-194	120-216	138-239	156-264	176-289
16	17-67	27-83	37-101	49-119	62-133	76-158	91-179	107-201	124-224	142-248	161-273	181-299
17	18-70	28-87	39-105	51-124	64-144	78-165	93-187	110-209	127-233	146-257	165-283	185-310
18	19-73	29-91	40-110	52-130	66-150	81-171	96-194	113-217	131-241	150-266	169-293	190-320
19	19-77	30-95	41-115	54-135	68-156	83-178	99-201	116-225	134-250	154-275	174-302	195-330
20	20-80	31-99	43-119	56-140	70-162	85-185	102-208	119-233	138-258	157-285	178-312	200-240
21	21-83	32-103	44-124	58-145	72-168	88-191	105-215	123-240	142-266	161-294	182-322	204-351
22	21-87	33-107	45-129	59-151	74-174	90-198	108-222	126-248	145-275	165-303	187-331	209-351
23	22-90	34-111	47-133	61-156	76-180	93-204	110-230	129-256	149-283	169-312	191-341	214-371
24	23-93	35-115	48-138	63-161	78-180	95-211	113-237	132-264	152-292	173-321	196-350	219-381
25	23-97	36-119	50-142	64-167	81-191	98-217	116-244	135-272	156-330	177-330	200-360	224-391

附表十四 威尔克逊秩和检验临界表 ($\alpha=0.025$)

$n_1 \backslash n_2$	4	5	6	7	8	9	10	11	12	13	14	15
4	10-26	16-34	23-43	31-53	40-64	49-77	60-90	72-104	85-119	99-135	114-152	130-170
5	11-29	17-38	24-48	33-58	42-70	52-83	63-97	75-112	89-127	103-144	118-162	134-181
6	12-32	18-42	26-52	34-64	44-76	55-89	66-104	79-119	92-136	107-153	122-172	139-191
7	13-35	20-45	27-57	36-69	46-82	57-96	69-111	82-127	96-144	111-162	127-181	144-201
8	14-38	21-49	29-61	38-74	49-87	60-102	72-118	85-135	100-152	115-171	131-191	149-211
9	14-42	22-53	31-65	40-79	51-93	62-109	75-125	89-142	104-160	119-180	136-200	154-221
10	15-45	23-57	32-70	42-84	53-99	65-115	78-132	92-150	107-169	124-188	141-209	159-231
11	16-48	24-61	34-74	44-89	55-105	68-121	81-139	96-157	111-177	128-197	145-219	164-241
12	17-51	26-64	35-79	46-94	58-110	71-127	84-146	99-165	115-185	132-206	150-228	169-251
13	18-54	27-68	37-83	48-99	60-116	73-134	88-152	103-172	119-193	136-215	155-237	174-261
14	19-57	28-72	38-88	50-104	62-122	76-140	91-159	106-180	123-201	141-223	160-246	179-271
15	20-60	29-76	40-92	52-109	65-127	79-146	94-166	110-187	127-209	145-232	164-256	184-281
16	21-63	30-80	42-96	54-114	67-133	82-152	97-173	113-195	131-217	150-240	169-265	190-290
17	21-67	32-83	43-101	56-119	70-138	84-159	100-180	117-202	135-225	154-249	174-274	195-300
18	22-70	33-87	45-105	58-124	72-144	87-165	103-187	121-209	139-233	159-257	179-283	200-310
19	23-73	34-91	46-110	60-129	74-150	90-171	107-193	124-217	143-241	163-266	184-292	205-320
20	24-76	35-95	48-114	62-134	77-155	93-177	110-200	128-224	147-249	167-275	188-302	211-329
21	25-79	37-98	50-118	64-139	79-161	95-184	113-207	131-232	151-257	172-283	193-311	216-339
22	26-82	38-102	51-123	66-144	81-167	98-190	116-214	135-239	155-265	176-292	198-320	221-349
23	27-85	39-106	53-127	68-149	84-172	101-196	119-221	139-246	159-273	180-301	203-329	226-359
24	27-89	40-110	54-132	70-154	86-178	104-202	123-227	142-254	163-281	185-309	208-338	232-368
25	28-92	42-113	66-136	72-159	89-183	107-208	126-234	146-261	167-289	189-318	213-317	237-378

附表十五 威尔克逊秩和检验临界表 ($\alpha=0.05$)

$n_1 \backslash n_2$	4	5	6	7	8	9	10	11	12	13	14	15
4	11-25	17-33	24-42	32-52	41-63	51-75	62-88	74-102	87-117	101-133	116-150	132-168
5	12-28	19-36	26-46	34-57	44-68	54-81	66-94	78-109	91-125	106-141	121-159	138-177
6	13-31	20-40	28-50	36-62	46-74	57-87	69-101	82-116	95-133	110-150	126-168	143-187
7	14-34	21-44	29-55	39-66	49-79	60-93	72-108	85-124	99-141	115-158	131-177	148-197
8	15-37	23-47	31-59	41-71	51-85	63-99	75-115	89-131	104-148	119-167	136-186	153-207
9	16-40	24-51	33-63	43-76	54-90	66-105	79-121	93-138	108-156	124-178	141-195	159-216
10	17-43	26-54	35-67	45-81	56-96	69-111	82-128	97-145	112-164	128-184	146-204	164-226
11	18-46	27-58	37-71	47-86	59-101	72-117	86-134	100-153	116-172	133-192	151-213	170-235
12	19-49	28-62	38-76	49-91	62-106	75-123	89-141	104-160	120-180	138-200	156-222	175-245
13	20-52	30-65	40-80	52-95	64-112	78-129	92-148	103-167	125-187	142-209	161-231	181-254
14	21-55	31-69	42-84	54-100	67-117	81-135	96-154	112-174	129-195	147-217	166-240	186-264
15	22-58	33-72	44-88	56-105	69-123	84-141	99-161	116-181	133-203	152-225	171-249	191-274
16	24-60	34-76	46-92	58-110	72-128	87-147	103-167	120-188	138-210	156-234	176-258	197-283
17	25-63	35-80	47-97	61-114	75-133	90-153	106-174	123-196	142-218	161-242	181-267	202-293
18	26-66	37-83	49-101	63-119	77-139	93-159	110-180	127-203	146-226	165-251	186-276	208-302
19	27-69	38-87	51-105	65-124	80-144	96-165	113-187	131-210	150-234	170-259	191-285	214-311
20	28-72	40-90	53-109	67-129	83-149	99-171	117-193	135-217	154-242	175-267	196-294	219-321
21	29-75	41-94	54-113	69-134	85-155	102-177	120-200	139-224	159-249	180-275	202-302	225-330
22	30-78	43-97	57-117	72-138	88-160	105-183	123-207	142-232	163-257	184-284	207-311	230-340
23	31-81	44-101	58-122	74-148	90-166	108-189	127-213	146-269	167-265	189-292	212-320	236-349
24	32-84	45-105	60-126	76-148	93-171	111-195	130-220	150-246	171-273	194-300	217-329	242-358
25	33-87	47-108	62-130	78-153	96-176	114-201	133-227	154-253	176-230	199-308	222-333	247-368

附表十六 威尔克逊符号秩和检验临界表

m	$\alpha = 0.05$		$\alpha = 0.025$		$\alpha = 0.01$		$\alpha = 0.005$	
5	0	15						
6	2	19	0	21				
7	3	25	2	26	0	28		
8	5	31	3	33	1	35	0	36
9	8	37	5	40	3	42	1	44
10	10	45	8	47	5	50	3	52
11	13	53	10	56	7	59	5	61
12	17	61	13	65	9	69	7	71
13	21	70	17	74	12	79	9	82
14	25	80	21	84	15	90	12	93
15	30	90	25	95	19	101	15	105
16	35	101	29	107	23	113	19	117
17	41	112	34	119	28	125	23	130
18	47	124	40	131	32	139	27	144
19	53	137	46	144	37	153	32	158
20	60	150	52	158	43	167	37	173
21	67	164	58	173	49	182	42	189
22	75	178	66	187	55	198	48	205
23	83	193	73	203	62	214	54	222
24	91	209	81	219	69	231	61	239
25	100	225	89	236	76	249	68	257

附表十七 Durbin Watson 序列相关检验表($\alpha = 0.05$)

检验正序列相关:

如果 $d < d_L$, 拒绝 H_0 如果 $d > d_U$, 接受 H_0 如果 $d_L < d < d_U$, 没有结论

检验序列相关时, 把上述的 d 改为 $U - d$

n	P=2		P=3		P=4		P=5		P=6	
	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U
15	1.08	1.36	0.95	1.54	0.82	1.75	0.69	1.97	0.56	2.21
16	1.10	1.37	0.98	1.54	0.86	1.73	0.74	1.93	0.62	2.15
17	1.13	1.38	1.02	1.54	0.90	1.71	0.78	1.90	0.67	2.10
18	1.16	1.39	1.05	1.53	0.93	1.69	0.82	1.87	0.71	2.06
19	1.18	1.40	1.08	1.53	0.97	1.68	0.86	1.85	0.75	2.02
20	1.20	1.41	1.10	1.54	1.00	1.68	0.90	1.83	0.79	1.99
21	1.22	1.42	1.13	1.54	1.03	1.67	0.93	1.81	0.83	1.96
22	1.24	1.43	1.15	1.54	1.05	1.66	0.96	1.80	0.86	1.94
23	1.26	1.44	1.17	1.54	1.08	1.66	0.99	1.79	0.90	1.92
24	1.27	1.45	1.19	1.55	1.10	1.66	1.01	1.78	0.93	1.90
25	1.29	1.45	1.21	1.55	1.12	1.66	1.04	1.77	0.95	1.89
26	1.30	1.46	1.22	1.55	1.14	1.65	1.06	1.76	0.98	1.88
27	1.32	1.47	1.24	1.56	1.16	1.65	1.08	1.76	1.01	1.86
28	1.33	1.48	1.26	1.56	1.18	1.65	1.10	1.75	1.03	1.85
29	1.34	1.48	1.27	1.56	1.20	1.65	1.12	1.74	1.05	1.84
30	1.35	1.49	1.28	1.57	1.21	1.65	1.14	1.74	1.07	1.83
31	1.36	1.50	1.30	1.57	1.23	1.65	1.16	1.74	1.09	1.83
32	1.37	1.50	1.31	1.57	1.24	1.65	1.18	1.73	1.11	1.82
33	1.38	1.51	1.32	1.58	1.26	1.65	1.19	1.73	1.13	1.81
34	1.39	1.51	1.33	1.58	1.27	1.65	1.21	1.73	1.15	1.81
35	1.40	1.52	1.34	1.58	1.28	1.65	1.22	1.73	1.16	1.80
36	1.41	1.52	1.35	1.59	1.29	1.65	1.24	1.73	1.18	1.80
37	1.42	1.53	1.36	1.59	1.31	1.66	1.25	1.72	1.19	1.80
38	1.43	1.54	1.37	1.59	1.32	1.66	1.26	1.72	1.21	1.79
39	1.43	1.54	1.38	1.60	1.33	1.66	1.27	1.72	1.22	1.79

40	1.44	1.54	1.39	1.60	1.34	1.66	1.29	1.72	1.23	1.79
45	1.48	1.57	1.43	1.62	1.38	1.67	1.34	1.72	1.29	1.78
50	1.50	1.59	1.46	1.63	1.42	1.67	1.38	1.72	1.34	1.77
55	1.53	1.60	1.49	1.64	1.45	1.68	0.07	1.72	1.38	1.77
60	1.55	1.62	1.51	1.65	1.48	1.69	1.44	1.73	1.41	1.77
65	1.57	1.63	1.54	1.66	1.50	1.70	1.47	1.73	1.44	1.77
70	1.58	1.64	1.55	1.67	1.52	1.70	1.49	1.74	1.46	1.77
75	1.60	1.64	1.57	1.68	1.54	1.71	1.51	1.74	1.49	1.77
80	1.61	1.66	1.59	1.69	1.56	1.72	1.53	1.74	1.51	1.77
85	1.62	1.67	1.60	1.70	1.57	1.72	1.55	1.75	1.52	1.77
90	1.63	1.68	1.61	1.70	1.59	1.73	1.57	1.75	1.54	1.78
95	1.64	1.69	1.62	1.71	1.60	1.73	1.58	1.75	1.56	1.78
100	1.65	1.69	1.63	1.72	1.61	1.74	1.59	1.76	1.57	1.78