[-1.96, 1.96] ≈ 0.95　　[-1, 1] ≈ 0.6827

[-2.58, 2.58] ≈ 0.99

附表 2　正态分布表

$$\Phi(u) = \frac{1}{\sqrt{2\pi}}\int_{-\infty}^{u} e^{-\frac{v^2}{2}}dv \quad (u \leqslant 0)$$

u	0.00	0.01	0.02	0.03	0.04
-0.0	0.500 00	0.496 01	0.492 02	0.488 03	0.484 05
-0.1	0.460 16	0.456 21	0.452 24	0.448 28	0.444 33
-0.2	0.420 74	0.416 83	0.412 93	0.409 05	0.405 17
-0.3	0.382 09	0.378 28	0.374 49	0.370 70	0.366 93
-0.4	0.344 58	0.340 90	0.337 24	0.333 60	0.329 97
-0.5	0.308 54	0.305 03	0.301 53	0.298 06	0.294 60
-0.6	0.274 25	0.270 93	0.267 63	0.264 35	0.261 09
-0.7	0.241 97	0.238 85	0.235 76	0.232 70	0.229 65
-0.8	0.211 86	0.208 97	0.206 11	0.203 27	0.200 46
-0.9	0.184 06	0.181 41	0.178 79	0.176 19	0.173 61
-1.0	0.158 66	0.156 25	0.153 87	0.151 51	0.149 17
-1.1	0.135 67	0.133 50	0.131 36	0.129 24	0.127 15
-1.2	0.115 07	0.113 14	0.111 23	0.109 35	0.107 49
-1.3	0.096 80	0.095 10	0.093 42	0.091 76	0.090 12
-1.4	0.080 76	0.079 27	0.077 80	0.076 36	0.074 93
-1.5	0.066 81	0.065 52	0.064 26	0.063 01	0.061 78
-1.6	0.054 80	0.053 70	0.052 62	0.051 55	0.050 50
-1.7	0.044 57	0.043 63	0.042 72	0.041 82	0.040 93
-1.8	0.035 93	0.035 15	0.034 38	0.033 62	0.032 88
-1.9	0.028 72	0.028 07	0.027 43	0.026 80	0.026 19
-2.0	0.022 75	0.022 22	0.021 69	0.021 18	0.020 68
-2.1	0.017 86	0.017 43	0.017 00	0.016 59	0.016 18
-2.2	0.013 90	0.013 55	0.013 21	0.012 87	0.012 55
-2.3	0.010 72	0.010 44	0.010 17	0.009 90	0.009 64
-2.4	0.008 20	0.007 98	0.007 76	0.007 55	0.007 34
-2.5	0.006 21	0.006 04	0.005 87	0.005 70	0.005 54
-2.6	0.004 66	0.004 53	0.004 40	0.004 27	0.004 15
-2.7	0.003 47	0.003 36	0.003 26	0.003 17	0.003 07
-2.8	0.002 56	0.002 48	0.002 40	0.002 33	0.002 26
-2.9	0.001 87	0.001 81	0.001 75	0.001 69	0.001 64
0.0	0.500 00	0.503 90	0.507 98	0.511 97	0.515 95
0.1	0.539 83	0.543 79	0.547 76	0.551 72	0.555 67
0.2	0.579 26	0.583 17	0.587 06	0.590 95	0.594 83
0.3	0.617 91	0.621 72	0.625 51	0.629 30	0.633 07
0.4	0.655 42	0.659 10	0.662 76	0.666 40	0.670 03
0.5	0.691 46	0.694 97	0.698 47	0.701 94	0.705 40
0.6	0.725 75	0.729 07	0.732 37	0.735 65	0.738 91
0.7	0.758 03	0.761 15	0.764 24	0.767 30	0.770 35
0.8	0.788 14	0.791 03	0.793 89	0.796 73	0.799 54
0.9	0.815 94	0.818 50	0.821 21	0.823 81	0.826 39
1.0	0.841 34	0.843 75	0.846 13	0.848 49	0.850 83
1.1	0.864 33	0.866 50	0.868 64	0.870 76	0.872 85
1.2	0.884 93	0.886 86	0.888 77	0.890 65	0.892 51
1.3	0.903 20	0.904 90	0.906 58	0.908 24	0.909 88
1.4	0.919 24	0.920 73	0.922 19	0.923 64	0.925 06

续表

0.05	0.06	0.07	0.08	0.09	u
0.480 06	0.476 08	0.472 10	0.468 12	0.464 14	-0.0
0.440 38	0.436 44	0.432 51	0.428 58	0.424 66	-0.1
0.040 129	0.397 43	0.393 58	0.389 74	0.385 91	-0.2
0.363 17	0.359 42	0.355 69	0.351 97	0.348 27	-0.3
0.326 36	0.322 76	0.319 18	0.315 62	0.312 07	-0.4
0.291 16	0.287 74	0.284 34	0.280 96	0.277 60	-0.5
0.257 85	0.254 63	0.251 43	0.248 25	0.245 10	-0.6
0.226 63	0.223 63	0.220 65	0.217 70	0.214 77	-0.7
0.197 66	0.194 90	0.192 15	0.189 43	0.186 73	-0.8
0.171 06	0.168 53	0.166 03	0.163 54	0.161 09	-0.9
0.146 86	0.144 57	0.142 31	0.140 07	0.137 86	-1.0
0.125 07	0.123 03	0.121 00	0.119 00	0.117 03	-1.1
0.105 65	0.103 84	0.102 04	0.100 27	0.098 53	-1.2
0.088 51	0.086 91	0.085 34	0.083 79	0.082 26	-1.3
0.073 53	0.072 15	0.070 78	0.069 44	0.068 11	-1.4
0.060 57	0.059 38	0.058 21	0.057 05	0.055 92	-1.5
0.049 47	0.048 46	0.047 46	0.046 48	0.045 51	-1.6
0.040 06	0.039 20	0.038 36	0.037 54	0.036 73	-1.7
0.032 16	0.031 44	0.030 74	0.030 05	0.029 38	-1.8
0.025 59	0.025 00	0.024 42	0.023 85	0.023 30	-1.9
0.020 18	0.019 70	0.019 23	0.018 76	0.018 31	-2.0
0.015 78	0.015 39	0.015 00	0.014 63	0.014 26	-2.1
0.012 22	0.011 91	0.011 60	0.011 30	0.011 01	-2.2
0.009 39	0.009 14	0.008 89	0.008 66	0.008 42	-2.3
0.007 24	0.006 95	0.006 76	0.006 57	0.006 39	-2.4
0.005 39	0.005 23	0.005 09	0.004 94	0.004 80	-2.5
0.004 02	0.003 91	0.003 79	0.003 68	0.003 57	-2.6
0.002 98	0.002 89	0.002 80	0.002 71	0.002 64	-2.7
0.002 19	0.002 12	0.002 05	0.001 99	0.001 93	-2.8
0.001 59	0.001 54	0.001 49	0.001 44	0.001 39	-2.9
0.519 94	0.523 92	0.527 90	0.531 88	0.535 86	0.0
0.559 62	0.563 56	0.567 49	0.571 42	0.575 34	0.1
0.598 71	0.602 57	0.606 42	0.610 26	0.614 09	0.2
0.636 83	0.640 58	0.644 31	0.648 03	0.651 73	0.3
0.673 64	0.677 24	0.680 82	0.684 38	0.687 93	0.4
0.708 84	0.712 26	0.715 66	0.719 04	0.722 40	0.5
0.742 15	0.745 37	0.748 57	0.751 75	0.754 90	0.6
0.773 37	0.776 37	0.779 35	0.782 30	0.785 23	0.7
0.802 34	0.805 10	0.807 85	0.810 57	0.813 27	0.8
0.828 94	0.831 47	0.833 97	0.836 46	0.838 91	0.9
0.853 14	0.855 43	0.857 69	0.859 93	0.962 14	1.0
0.874 93	0.876 97	0.879 00	0.881 00	0.882 97	1.1
0.894 35	0.896 16	0.897 96	0.899 73	0.901 47	1.2
0.911 49	0.913 08	0.914 65	0.916 21	0.917 73	1.3
0.926 47	0.927 85	0.929 22	0.930 56	0.931 89	1.4

续表

u	0.00	0.01	0.02	0.03	0.04
1.5	0.933 19	0.934 48	0.935 74	0.936 99	0.938 22
1.6	0.945 20	0.946 30	0.947 38	0.948 45	0.949 50
1.7	0.955 43	0.956 37	0.957 28	0.958 18	0.959 07
1.8	0.964 07	0.964 85	0.965 63	0.966 37	0.967 11
1.9	0.971 28	0.971 93	0.972 57	0.973 20	0.973 81
2.0	0.977 25	0.977 78	0.978 31	0.978 82	0.979 32
2.1	0.982 14	0.982 57	0.983 00	0.983 41	0.983 82
2.2	0.986 10	0.986 45	0.986 79	0.987 13	0.987 45
2.3	0.989 28	0.989 56	0.989 83	0.990 10	0.990 36
2.4	0.991 80	0.992 02	0.992 24	0.992 45	0.992 66
2.5	0.993 79	0.993 96	0.994 13	0.994 30	0.994 46
2.6	0.995 34	0.995 47	0.995 60	0.995 73	0.995 85
2.7	0.996 53	0.996 64	0.996 74	0.996 83	0.996 93
2.8	0.997 44	0.997 52	0.997 60	0.997 67	0.997 74
2.9	0.998 13	0.998 19	0.998 25	0.998 31	0.998 36

0.05	0.06	0.07	0.08	0.09	u
0.939 43	0.940 62	0.941 79	0.942 95	0.944 08	1.5
0.950 53	0.951 54	0.952 54	0.953 52	0.954 48	1.6
0.959 94	0.960 80	0.961 64	0.962 46	0.963 27	1.7
0.967 84	0.968 56	0.969 26	0.969 95	0.970 62	1.8
0.974 41	0.975 00	0.975 58	0.976 15	0.976 70	1.9
0.979 82	0.980 30	0.980 77	0.981 24	0.981 69	2.0
0.984 22	0.984 61	0.985 00	0.985 37	0.985 74	2.1
0.987 78	0.988 09	0.988 40	0.988 70	0.988 99	2.2
0.990 61	0.990 86	0.991 11	0.991 34	0.991 58	2.3
0.992 86	0.993 05	0.993 24	0.993 43	0.993 61	2.4
0.994 61	0.994 77	0.994 92	0.995 06	0.995 20	2.5
0.995 98	0.996 09	0.996 21	0.996 32	0.996 43	2.6
0.997 02	0.997 11	0.997 20	0.997 28	0.997 36	2.7
0.997 81	0.997 88	0.997 95	0.998 01	0.998 07	2.8
0.998 41	0.998 46	0.998 51	0.998 56	0.998 61	2.9

附表3 正态分布上侧临界值(u_α)表

$$\alpha = \frac{1}{\sqrt{2\pi}}\int_{u_\alpha}^{\infty} e^{-\frac{v^2}{2}}dv$$

α	u_α	α	u_α	α	u_α	α	u_α
0.000	—	0.125	1.150	0.250	0.674	0.375	0.319
0.005	2.576	0.130	1.126	0.255	0.659	0.380	0.305
0.010	2.326	0.135	1.103	0.260	0.643	0.385	0.292
0.015	2.170	0.140	1.080	0.265	0.628	0.390	0.279
0.020	2.054	0.145	1.058	0.270	0.613	0.395	0.266
0.025	1.960	0.150	1.036	0.275	0.598	0.400	0.253
0.030	1.881	0.155	1.015	0.280	0.583	0.405	0.240
0.035	1.812	0.160	0.994	0.285	0.568	0.410	0.228
0.040	1.751	0.165	0.974	0.290	0.553	0.415	0.215
0.045	1.695	0.170	0.954	0.295	0.539	0.420	0.202
0.050	1.645	0.175	0.935	0.300	0.524	0.425	0.189
0.055	1.598	0.180	0.915	0.305	0.510	0.430	0.176
0.060	1.555	0.185	0.895	0.310	0.496	0.435	0.164
0.065	1.514	0.190	0.878	0.315	0.482	0.440	0.151
0.070	1.476	0.195	0.860	0.320	0.468	0.445	0.138
0.075	1.440	0.200	0.842	0.325	0.454	0.450	0.127
0.080	1.405	0.205	0.824	0.330	0.440	0.455	0.113
0.085	1.372	0.210	0.806	0.335	0.426	0.460	0.100
0.090	1.341	0.215	0.789	0.340	0.412	0.465	0.088
0.095	1.311	0.220	0.772	0.345	0.399	0.470	0.075
0.100	1.282	0.225	0.755	0.350	0.385	0.475	0.063
0.105	1.254	0.230	0.739	0.355	0.372	0.480	0.050
0.110	1.227	0.235	0.722	0.360	0.358	0.485	0.038
0.115	1.200	0.240	0.706	0.365	0.345	0.490	0.205
0.120	1.175	0.245	0.690	0.370	0.332	0.495	0.013

附表 4 t 分布的临界值表

4a

df	α(单侧) 0.25	0.2	0.15	0.1	0.05	0.025	0.01	0.005	0.0005
1	1.000	1.376	1.963	3.078	6.314	12.706	31.821	63.657	636.619
2	0.816	1.061	1.386	1.886	2.920	4.303	6.965	9.925	31.598
3	0.765	0.978	1.250	1.638	2.353	3.182	4.541	5.841	12.924
4	0.741	0.941	1.190	1.533	2.132	2.776	3.747	4.604	8.610
5	0.727	0.920	1.156	1.476	2.015	2.571	3.365	4.032	6.859
6	0.718	0.906	1.134	1.440	1.943	2.447	3.143	3.707	5.959
7	0.711	0.896	1.119	1.415	1.895	2.365	2.998	3.499	5.405
8	0.706	0.889	1.108	1.397	1.860	2.306	2.896	3.355	5.041
9	0.703	0.883	1.100	1.383	1.833	2.262	2.821	3.250	4.781
10	0.700	0.879	1.093	1.372	1.812	2.228	2.764	3.169	4.587
11	0.697	0.876	1.088	1.363	1.796	2.201	2.718	3.106	4.437
12	0.695	0.873	1.083	1.356	1.782	2.179	2.681	3.055	4.318
13	0.694	0.870	1.079	1.350	1.771	2.160	2.650	3.012	4.221
14	0.692	0.868	1.076	1.345	1.761	2.145	2.624	2.977	4.140
15	0.691	0.866	1.074	1.341	1.753	2.131	2.602	2.947	4.073
16	0.690	0.865	1.071	1.337	1.746	2.120	2.583	2.921	4.015
17	0.689	0.863	1.069	1.333	1.740	2.110	2.567	2.898	3.965
18	0.688	0.862	1.067	1.330	1.734	2.101	2.552	2.878	3.922
19	0.688	0.861	1.066	1.328	1.729	2.093	2.539	2.861	3.883
20	0.687	0.860	1.064	1.325	1.725	2.086	2.528	2.845	3.850
21	0.686	0.859	1.063	1.323	1.721	2.080	2.518	2.831	3.819
22	0.686	0.858	1.061	1.321	1.717	2.074	2.508	2.819	3.792
23	0.685	0.858	1.060	1.319	1.714	2.069	2.500	2.807	3.767
24	0.685	0.857	1.059	1.318	1.711	2.064	2.492	2.797	3.745
25	0.684	0.856	1.058	1.316	1.708	2.060	2.485	2.787	3.725
26	0.684	0.856	1.058	1.315	1.706	2.056	2.479	2.779	3.707
27	0.684	0.855	1.057	1.314	1.703	2.052	2.473	2.771	3.690
28	0.683	0.855	1.056	1.313	1.701	2.048	2.467	2.763	3.674
29	0.683	0.854	1.055	1.311	1.699	2.045	2.462	2.756	3.659
30	0.683	0.854	1.055	1.310	1.697	2.042	2.457	2.750	3.646
40	0.681	0.851	1.050	1.303	1.684	2.021	2.423	2.704	3.551
60	0.679	0.848	1.046	1.296	1.671	2.000	2.390	2.660	3.460
120	0.677	0.845	1.041	1.289	1.658	1.980	2.358	2.617	3.373
∞	0.674	0.842	1.036	1.282	1.645	1.960	2.326	2.576	3.291
df	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.001
	α(双侧)								

4b

附表 5 样本标准差分布的矩系数 c_4，c_5 表[①]

n	c_4[②]	c_5[③]	n	c_4	c_5
2	0.797 9	0.602 8	32	0.992 0	0.126 5
3	0.886 2	0.463 3	34	0.992 5	0.122 6
4	0.921 3	0.388 8	36	0.992 9	0.119 1
5	0.940 0	0.341 2	38	0.993 3	0.115 8
6	0.951 5	0.307 5	40	0.993 6	0.112 9
7	0.959 4	0.282 2	42	0.993 9	0.110 1
8	0.965 0	0.262 1	44	0.994 2	0.107 5
9	0.969 3	0.245 8	46	0.994 7	0.105 1
10	0.972 7	0.232 2	48	0.994 7	0.102 9
11	0.975 4	0.220 7	50	0.994 9	0.100 8
12	0.977 6	0.210 7	52	0.995 1	0.098 8
13	0.979 4	0.201 9	54	0.995 3	0.096 9
14	0.981 0	0.194 2	56	0.995 5	0.095 1
15	0.982 3	0.187 2	58	0.995 6	0.093 5
16	0.983 5	0.181 0	60	0.995 8	0.091 9
17	0.984 5	0.175 3	62	0.995 9	0.090 3
18	0.985 4	0.170 2	64	0.996 0	0.088 9
19	0.986 2	0.165 5	66	0.996 2	0.087 5
20	0.986 9	0.161 1	68	0.996 3	0.086 2
21	0.987 6	0.157 1	70	0.996 4	0.085 0
22	0.988 2	0.153 4	72	0.996 5	0.083 8
23	0.988 7	0.149 9	74	0.996 6	0.082 6
24	0.989 2	0.146 6	76	0.996 7	0.081 5
25	0.989 6	0.143 6	78	0.996 8	0.080 5
26	0.990 1	0.140 7	80	0.996 8	0.079 4
27	0.990 4	0.138 0	84	0.997 0	0.077 5
28	0.990 8	0.135 4	88	0.997 1	0.075 7
29	0.991 1	0.133 0	92	0.997 3	0.074 0
30	0.991 4	0.130 7	96	0.997 4	0.072 5
31	0.991 7	0.128 6	100	0.997 5	0.071 0

注：① $E(s)=c_4\sigma$，$\sigma_s=c_5\sigma$。

② $c_4=\dfrac{\Gamma\left(\frac{n}{2}\right)}{\sqrt{\frac{n-1}{2}}\Gamma\left(\frac{n-1}{2}\right)}$。

③ $c_5=\sqrt{1-(c_4)^2}$。

附表 6　χ^2 分布的上侧临界值(χ^2_α)表

$P(\chi^2_{df} > \chi^2_\alpha) = \alpha$

df	α					
	0.995	0.99	0.975	0.95	0.90	0.75
1	—	—	0.001	0.004	0.016	0.102
2	0.010	0.020	0.051	0.103	0.211	0.575
3	0.072	0.115	0.216	0.352	0.584	1.213
4	0.207	0.297	0.484	0.711	1.064	1.923
5	0.412	0.554	0.831	1.145	1.610	2.675
6	0.676	0.872	1.237	1.635	2.204	3.455
7	0.989	1.239	1.690	2.167	2.833	4.255
8	1.344	1.646	2.180	2.733	3.490	5.071
9	1.735	2.088	2.700	3.325	4.168	5.899
10	2.156	2.558	3.247	3.940	4.865	6.737
11	2.603	3.053	3.816	4.575	5.578	7.584
12	3.074	3.571	4.404	5.226	6.304	8.438
13	3.565	4.107	5.009	5.892	7.042	9.299
14	4.075	4.660	5.629	6.571	7.790	10.165
15	4.601	5.229	6.262	7.261	8.547	11.037
16	5.142	5.812	6.908	7.962	9.312	11.912
17	5.697	6.408	7.564	8.672	10.085	12.792
18	6.265	7.015	8.231	9.390	10.865	13.675
19	6.844	7.633	8.907	10.117	11.651	14.562
20	7.434	8.620	9.591	10.851	12.443	15.452
21	8.034	8.897	10.283	11.591	13.240	16.344
22	8.643	9.542	10.982	12.338	14.042	17.240
23	9.260	10.196	11.689	13.091	14.848	18.137
24	9.886	10.856	12.401	13.848	15.659	19.037
25	10.520	11.524	13.120	14.611	16.437	19.939
26	11.160	12.198	13.844	15.379	17.292	20.843
27	11.808	12.879	14.573	16.151	18.114	21.749
28	12.461	13.565	15.308	16.928	18.939	22.657
29	13.121	14.257	16.047	17.708	19.768	23.567
30	13.787	14.954	16.791	18.493	20.599	24.478
31	14.458	15.655	17.539	19.281	21.434	25.390
32	15.134	16.362	18.291	20.072	22.271	26.304
33	15.815	17.074	19.047	20.867	23.110	27.219
34	16.501	17.789	19.806	21.664	23.952	28.136
35	17.192	18.509	20.569	22.456	24.797	29.054
36	17.887	19.233	21.336	23.269	25.643	29.973
37	18.586	19.960	22.106	24.075	26.492	30.893
38	19.289	20.691	22.878	24.884	27.343	31.815
39	19.996	21.426	23.654	25.695	28.196	32.737
40	20.707	22.164	24.433	26.509	29.051	33.660
41	21.421	22.906	25.215	27.326	29.907	34.585
42	22.138	23.650	25.999	28.144	30.765	35.510
43	22.859	24.398	26.785	28.965	31.625	36.436
44	23.584	25.148	27.575	29.787	32.478	37.363
45	24.311	25.901	28.366	30.612	33.350	38.291

续表

df	α					
	0.25	0.10	0.05	0.025	0.01	0.005
1	1.323	2.706	3.841	5.024	6.635	7.879
2	2.773	4.605	5.991	7.378	9.210	10.597
3	4.108	6.251	7.815	9.348	11.345	12.838
4	5.385	7.779	9.488	11.143	13.277	14.860
5	6.626	9.236	11.071	12.833	15.086	16.750
6	7.841	10.645	12.592	14.449	16.812	18.548
7	9.037	12.017	14.067	16.013	18.475	20.278
8	10.219	13.326	15.507	17.535	20.090	21.955
9	11.389	14.684	16.919	19.023	21.666	23.589
10	12.549	15.987	18.307	20.483	23.209	25.188
11	13.701	17.275	19.675	21.920	24.725	26.757
12	14.845	18.549	21.026	23.337	26.217	28.299
13	15.984	19.812	22.362	24.736	27.688	29.819
14	17.117	21.064	23.685	26.119	29.141	31.319
15	18.245	22.307	24.996	27.488	30.578	32.801
16	19.369	23.542	26.296	28.845	32.000	34.267
17	20.489	24.769	27.587	30.191	33.409	35.718
18	21.605	25.989	28.869	31.526	34.805	37.156
19	22.718	27.204	30.144	32.852	36.191	38.582
20	23.828	28.412	31.410	34.170	37.566	39.997
21	24.935	29.615	32.671	35.479	38.932	41.401
22	26.039	30.813	33.924	36.781	40.289	42.796
23	27.141	32.007	35.172	38.076	41.638	44.181
24	28.241	33.196	36.415	39.364	42.980	45.559
25	29.339	34.382	37.652	40.646	44.314	46.928
26	30.435	35.563	38.885	41.923	45.642	48.290
27	31.528	36.741	40.113	43.194	46.963	49.645
28	32.620	37.916	41.337	44.461	48.278	20.993
29	33.711	39.081	42.557	45.722	49.588	52.336
30	34.800	40.256	43.773	46.979	50.892	53.672
31	35.887	41.422	44.985	48.232	52.191	55.003
32	36.973	42.585	46.194	49.480	53.486	56.328
33	38.058	43.745	47.400	50.725	54.776	57.648
34	39.141	44.903	48.602	51.966	56.061	58.964
35	40.223	46.059	49.802	53.203	57.342	60.275
36	41.304	47.212	50.998	54.437	58.619	61.581
37	42.383	48.363	52.192	55.668	59.892	62.883
38	43.462	49.513	53.384	56.896	61.162	64.181
39	44.539	50.660	54.572	58.120	62.428	65.476
40	45.616	51.805	55.758	59.342	63.691	66.766
41	46.692	52.949	56.942	60.561	64.950	68.053
42	47.766	54.090	58.124	61.777	66.206	69.336
43	48.840	55.230	59.304	62.990	67.459	70.616
44	49.913	56.369	60.481	64.201	68.710	71.893
45	50.985	57.505	61.656	65.410	69.957	73.166

续表

df	α					
	0.995	0.99	0.975	0.95	0.90	0.75
46	25.041	26.657	29.160	31.439	34.215	39.220
47	25.775	27.416	29.956	32.268	35.081	40.149
48	26.511	28.177	30.755	33.098	35.949	41.079
49	27.249	28.941	31.555	33.930	36.818	42.010
50	27.991	29.707	32.357	34.764	37.689	42.942
51	28.735	30.475	33.162	35.600	38.560	43.874
52	29.481	31.246	33.968	36.437	39.433	44.808
53	30.230	32.018	34.776	37.276	40.308	45.741
54	30.981	32.793	35.586	38.116	41.183	46.676
55	31.735	33.570	36.398	38.958	42.060	47.610
56	32.490	34.350	37.212	39.801	42.937	48.546
57	33.248	35.131	38.027	40.646	43.816	49.482
58	34.008	35.913	38.844	41.492	44.696	50.419
59	34.770	36.698	39.662	42.339	45.577	51.359
60	35.534	37.485	40.482	43.188	46.459	52.294
61	36.300	38.273	41.303	44.038	47.342	53.232
62	37.068	39.063	42.126	44.889	48.226	54.171
63	37.838	39.855	42.950	45.741	49.111	55.110
64	38.610	40.649	43.776	46.595	49.996	56.050
65	39.383	41.444	44.603	47.450	50.883	56.990
66	40.158	42.240	45.431	48.305	51.770	57.931
67	40.935	43.038	46.261	49.162	52.659	58.872
68	41.713	43.838	47.092	50.020	53.548	59.814
69	42.494	44.639	47.924	50.879	54.438	60.756
70	43.275	45.442	48.758	51.739	55.329	61.698
71	44.058	46.246	49.592	52.600	56.221	62.641
72	44.843	47.051	50.428	53.462	57.113	63.585
73	45.629	47.858	51.265	54.325	58.006	64.528
74	46.417	48.666	52.103	55.189	58.900	65.472
75	47.206	49.475	52.942	56.054	59.795	66.417
76	47.997	50.286	53.782	56.920	60.690	67.362
77	48.788	51.097	54.623	57.786	61.586	68.307
78	49.582	51.910	55.466	58.654	62.483	69.252
79	50.376	52.725	56.309	59.522	63.380	70.198
80	51.172	53.540	57.153	60.391	64.278	71.145
81	51.969	54.357	57.998	61.261	65.176	72.091
82	52.767	55.174	58.845	62.132	66.076	73.038
83	53.567	55.993	59.692	63.004	66.976	73.985
84	54.368	56.813	60.540	63.876	67.876	74.933
85	55.170	57.634	61.389	64.749	68.777	75.881
86	55.973	58.456	62.239	65.623	69.679	76.829
87	56.777	59.279	63.089	66.498	70.581	77.777
88	57.582	60.103	63.941	67.373	71.484	78.726
89	58.389	60.928	64.793	68.249	72.387	79.675
90	59.196	61.754	65.647	69.126	73.291	80.625

续表

df	α					
	0.25	0.10	0.05	0.025	0.01	0.005
46	52.056	58.641	62.830	66.617	71.201	74.437
47	53.127	59.774	64.001	67.821	72.443	75.701
48	54.196	60.907	65.171	69.023	73.683	76.969
49	55.265	62.038	66.339	70.222	74.919	78.231
50	56.334	63.167	67.505	71.420	76.154	79.490
51	57.401	64.295	68.669	72.616	77.386	80.747
52	58.468	65.422	69.832	73.810	78.616	82.001
53	59.534	66.548	70.993	75.002	79.843	83.253
54	60.600	67.673	72.153	76.192	81.069	84.502
55	61.665	68.796	73.311	77.380	82.292	85.749
56	62.729	69.919	74.468	78.567	83.513	86.994
57	63.793	71.040	75.624	79.752	84.733	88.236
58	64.857	72.160	76.778	80.936	85.950	89.477
59	65.919	73.279	77.931	82.117	87.166	90.715
60	66.981	74.397	79.082	83.298	88.379	91.952
61	68.043	75.514	80.232	84.476	89.591	93.186
62	69.104	76.630	81.381	85.654	90.802	94.419
63	70.165	77.745	82.529	86.830	92.010	95.649
64	71.225	78.860	83.675	88.004	93.217	96.878
65	72.285	79.973	84.821	89.177	94.422	98.105
66	73.344	81.085	85.965	90.349	95.626	99.330
67	74.403	82.197	87.108	91.519	96.828	100.554
68	75.461	83.308	88.250	92.689	98.028	101.776
69	76.519	84.418	89.391	93.856	99.228	102.996
70	77.577	85.527	90.531	95.023	100.425	104.215
71	78.634	86.635	91.670	96.189	101.621	105.432
72	79.690	87.743	92.808	97.353	102.816	106.648
73	80.747	88.850	93.945	98.516	104.010	107.862
74	81.803	89.956	95.081	99.678	105.202	109.074
75	82.858	91.061	96.217	100.839	106.393	110.286
76	83.913	92.166	97.351	101.999	107.583	111.495
77	84.968	93.270	98.484	103.158	108.771	112.704
78	86.022	94.374	99.617	104.316	109.958	113.911
79	87.077	95.476	100.749	105.473	111.144	115.117
80	88.130	96.578	101.879	106.629	112.329	116.321
81	89.184	97.680	103.010	107.783	113.512	117.524
82	90.237	98.780	104.139	108.937	114.695	118.726
83	91.289	99.880	105.267	110.090	115.876	119.927
84	92.342	100.980	106.395	111.242	117.057	121.126
85	93.394	102.079	107.522	112.393	118.236	122.325
86	94.446	103.177	108.648	113.544	119.414	123.522
87	95.497	104.275	109.773	114.693	120.591	124.718
88	96.548	105.372	110.898	115.841	121.767	125.913
89	97.599	106.469	112.022	116.989	122.942	127.106
90	98.650	107.565	113.145	118.136	124.116	128.299

附表 7　F 检验的临界值(F_α)表

$$P(F > F_\alpha) = \alpha$$

分母自由度 df_2	α	分子自由度 df_1							
		1	2	3	4	5	6	7	8
1	0.005	16 211	20 000	21 615	22 500	23 056	23 437	23 715	23 925
	0.010	4 052	4 999	5 403	5 624	5 763	5 859	5 928	5 981
	0.025	648.8	799.5	864.2	899.6	921.8	937.1	948.2	956.7
	0.050	161.4	199.5	215.7	224.6	230.2	234.0	236.0	238.9
2	0.005	198.5	199.0	199.2	199.2	199.3	199.3	199.4	199.4
	0.010	98.50	99.00	99.17	99.25	99.30	99.33	99.36	99.37
	0.025	38.51	39.00	39.17	39.25	39.30	39.33	39.36	39.37
	0.050	18.51	19.00	19.16	19.25	19.30	19.33	19.35	19.37
3	0.005	55.55	49.80	47.47	46.19	45.39	44.84	44.43	44.13
	0.010	34.12	30.82	29.46	28.71	28.24	27.91	27.67	27.49
	0.025	17.44	16.04	15.44	15.10	14.88	14.73	14.62	14.54
	0.050	10.13	9.552	9.277	9.117	9.014	8.941	8.887	8.845
4	0.005	31.33	26.28	24.26	23.15	22.46	21.97	21.62	21.35
	0.010	21.20	18.00	16.69	15.98	15.52	15.21	14.98	14.80
	0.025	12.22	10.65	9.979	9.604	9.364	9.197	9.074	8.980
	0.050	7.709	6.944	6.591	6.388	6.256	6.163	6.094	6.041
5	0.005	22.78	18.31	16.53	15.56	14.94	14.51	14.20	13.96
	0.010	16.26	13.27	12.06	11.39	10.97	10.67	10.46	10.29
	0.025	10.01	8.434	7.764	7.388	7.146	6.978	6.853	6.757
	0.050	6.608	5.786	5.410	5.192	5.050	4.950	4.876	4.818
6	0.005	18.63	14.54	12.92	12.03	11.46	11.07	10.79	10.57
	0.010	13.75	10.92	9.780	9.148	8.746	8.466	8.260	8.102
	0.025	8.813	7.260	6.599	6.227	5.988	5.820	5.696	5.600
	0.050	5.987	5.143	4.757	4.534	4.387	4.284	4.207	4.147
7	0.005	16.24	12.40	10.88	10.05	9.522	9.155	8.885	8.678
	0.010	12.25	9.547	8.451	7.847	7.460	7.191	6.993	6.840
	0.025	8.073	6.542	5.890	5.523	5.285	5.119	4.995	4.899
	0.050	5.591	4.737	4.347	4.120	3.972	3.866	3.787	3.726
8	0.005	14.69	11.04	9.596	8.805	8.302	7.952	7.694	7.496
	0.010	11.26	8.649	7.591	7.006	6.632	6.371	6.178	6.029
	0.025	7.571	6.060	5.416	5.053	4.817	4.652	4.529	4.433
	0.050	5.318	4.459	4.066	3.838	3.688	3.581	3.500	3.438

续表

分母自由度 df_2	α	分子自由度 df_1							
		9	10	12	15	20	30	60	120
1	0.005	24 091	24 224	24 426	24 630	24 836	25 044	25 253	25 359
	0.010	6 022	6 056	6 106	6 157	6 209	6 261	6 313	6 339
	0.025	963.3	968.6	976.7	984.9	993.1	1 001	1 010	1 014
	0.050	240.5	241.9	243.9	245.9	248.0	250.1	252.2	253.3
2	0.005	199.4	199.4	199.4	199.4	199.4	199.5	199.5	199.5
	0.010	99.39	99.40	99.42	99.43	99.45	99.47	99.48	99.49
	0.025	39.39	39.40	39.41	39.43	39.45	39.46	39.48	39.49
	0.050	19.38	19.40	19.41	19.43	19.45	19.46	19.48	19.49
3	0.005	43.88	43.69	43.39	43.08	42.78	42.47	42.15	41.99
	0.010	27.35	27.23	27.05	26.87	26.69	26.50	26.32	26.22
	0.025	14.47	14.42	14.34	14.25	14.17	14.08	13.99	13.95
	0.050	8.812	8.786	8.745	8.703	8.660	8.617	8.572	8.549
4	0.005	21.14	20.97	20.70	20.44	20.17	19.89	19.61	19.47
	0.010	14.66	14.55	14.37	14.20	14.02	13.84	13.65	13.56
	0.025	8.905	8.844	8.751	8.656	8.560	8.461	8.360	8.309
	0.050	5.999	5.964	5.912	5.858	5.802	5.746	5.688	5.658
5	0.005	13.77	13.62	13.38	13.15	12.90	12.66	12.40	12.27
	0.010	10.16	10.05	9.888	9.722	9.553	9.379	9.202	9.112
	0.025	6.681	6.619	6.525	6.428	6.328	6.227	6.122	6.069
	0.050	4.772	4.735	4.678	4.619	4.558	4.496	4.431	4.398
6	0.005	10.25	10.13	10.03	9.814	9.589	9.358	9.122	9.002
	0.010	7.976	7.874	7.718	7.559	7.396	7.228	7.057	6.969
	0.025	5.523	5.461	5.366	5.269	5.168	5.065	4.959	4.904
	0.050	4.099	4.060	4.000	3.938	3.874	3.808	3.740	3.705
7	0.005	8.514	8.380	8.176	7.968	7.754	7.534	7.309	7.193
	0.010	6.719	6.620	6.469	6.314	6.155	5.992	5.824	5.737
	0.025	4.823	4.761	4.666	4.568	4.467	4.362	4.254	4.199
	0.050	3.677	3.636	3.575	3.511	3.444	3.376	3.304	3.267
8	0.005	7.339	7.211	7.015	6.814	6.608	6.396	6.177	6.065
	0.010	5.911	5.814	5.667	5.515	5.359	5.198	5.032	4.946
	0.025	4.357	4.295	4.200	4.101	4.000	3.894	3.784	3.728
	0.050	3.388	3.347	3.284	3.218	3.150	3.079	3.005	2.967

续表

分母自由度 df_2	α	分子自由度 df_1							
		1	2	3	4	5	6	7	8
9	0.005	13.81	10.11	8.717	7.956	7.471	7.134	6.885	6.693
	0.010	10.56	8.022	6.992	6.422	6.057	5.802	5.613	5.467
	0.025	7.209	5.715	5.078	4.718	4.484	4.320	4.197	4.102
	0.050	5.117	4.256	3.863	3.633	3.482	3.374	3.293	3.230
10	0.005	12.83	9.427	8.081	7.343	6.872	6.545	6.302	6.116
	0.010	10.04	7.559	6.552	5.994	5.636	5.386	5.200	5.057
	0.025	6.937	5.456	4.826	4.468	4.236	4.072	3.950	3.855
	0.050	4.965	4.103	3.708	3.478	3.326	3.217	3.136	3.072
12	0.005	11.75	8.510	7.226	6.521	6.071	5.757	5.524	5.345
	0.010	9.330	6.927	5.953	5.412	5.064	4.821	4.640	4.499
	0.025	6.554	3.096	4.474	4.121	3.891	3.728	3.606	3.512
	0.050	4.747	3.885	3.490	3.259	3.106	2.996	2.913	2.849
15	0.005	10.80	7.701	6.476	5.803	5.372	5.071	4.847	4.674
	0.010	8.683	6.359	5.417	4.893	4.556	4.318	4.142	4.004
	0.025	6.200	4.765	4.153	3.804	3.576	3.415	3.293	3.199
	0.050	4.543	3.682	3.287	3.056	2.901	2.790	2.707	2.641
20	0.005	9.944	6.986	5.818	5.174	4.762	4.472	4.257	4.090
	0.010	8.096	5.849	4.938	4.431	4.103	3.871	3.699	3.564
	0.025	5.872	4.461	3.859	3.515	3.289	3.128	3.007	2.913
	0.050	4.351	3.493	3.098	2.866	2.711	2.599	2.514	2.447
30	0.005	9.180	6.355	5.239	4.623	4.228	3.949	3.742	3.580
	0.010	7.562	5.390	4.510	4.018	3.699	3.474	3.304	3.173
	0.025	5.568	4.182	3.589	3.250	3.026	2.867	2.746	2.651
	0.050	4.171	3.316	2.922	2.690	2.534	2.420	2.334	2.266
60	0.005	8.495	5.795	4.729	4.140	3.760	3.492	3.291	3.134
	0.010	7.077	4.977	4.126	3.649	3.339	3.119	2.953	2.823
	0.025	5.286	3.925	3.342	3.008	2.786	2.627	2.507	2.412
	0.050	4.001	3.150	2.758	2.525	2.368	2.254	2.166	2.097
120	0.005	8.179	5.539	4.497	3.921	3.548	3.285	3.087	2.933
	0.010	6.851	4.786	3.949	3.480	3.174	2.956	2.792	2.663
	0.025	5.152	3.805	3.227	2.894	2.674	2.515	2.395	2.299
	0.050	3.920	3.072	2.680	2.447	2.290	2.175	2.087	2.016

续表

分母自由度 df_2	α	分子自由度 df_1							
		9	10	12	15	20	30	60	120
9	0.005	6.541	6.417	6.227	6.032	5.832	5.625	5.410	5.300
	0.010	5.351	5.256	5.111	4.962	4.808	4.649	4.483	4.398
	0.025	4.025	3.964	3.868	3.769	3.667	3.560	3.449	3.392
	0.050	3.179	3.173	3.073	3.006	2.936	2.864	2.787	2.748
10	0.005	5.968	5.847	5.661	5.471	5.274	5.070	4.859	4.750
	0.010	4.942	4.849	4.706	4.558	4.405	4.247	4.082	3.996
	0.025	3.779	3.717	3.621	3.522	3.419	3.311	3.198	3.140
	0.050	3.020	2.978	2.913	2.845	2.774	2.700	2.621	2.580
12	0.005	5.202	5.086	4.906	4.721	4.530	4.331	4.123	4.015
	0.010	4.388	4.296	4.155	4.010	3.858	3.701	3.536	3.449
	0.025	3.436	3.374	3.277	3.177	3.073	2.963	2.848	2.787
	0.050	2.796	2.753	2.687	2.617	2.544	2.466	2.384	2.341
15	0.005	4.536	4.424	4.250	4.070	3.883	3.687	3.480	3.372
	0.010	3.895	3.805	3.666	3.522	3.372	3.214	3.047	2.960
	0.025	3.123	3.060	2.963	2.862	2.756	2.644	2.524	2.461
	0.050	2.588	2.544	2.475	2.404	2.328	2.247	2.160	2.114
20	0.005	3.956	3.847	3.678	3.502	3.318	3.123	2.916	2.806
	0.010	3.457	3.368	3.231	3.088	2.938	2.778	2.608	2.517
	0.025	2.836	2.774	2.676	2.573	2.464	2.349	2.223	2.156
	0.050	2.393	2.348	2.278	2.203	2.124	2.039	1.946	1.896
30	0.005	3.450	3.344	3.179	3.006	2.823	2.628	2.415	2.300
	0.010	3.066	2.979	2.843	2.700	2.549	2.386	2.208	2.111
	0.025	2.575	2.511	2.412	2.307	2.195	2.074	1.940	1.866
	0.050	2.211	2.165	2.092	2.015	1.932	1.841	1.740	1.684
60	0.005	3.008	2.904	2.742	2.570	2.387	2.187	1.962	1.834
	0.010	2.718	2.632	2.496	2.352	2.198	2.028	1.836	1.726
	0.025	2.334	2.270	2.169	2.061	1.944	1.816	1.667	1.581
	0.050	2.040	1.993	1.917	1.836	1.748	1.649	1.534	1.467
120	0.005	2.808	2.705	2.544	2.373	2.188	1.984	1.747	1.606
	0.010	2.559	2.472	2.336	2.192	2.035	1.860	1.656	1.533
	0.025	2.222	2.157	2.055	1.945	1.825	1.690	1.530	1.433
	0.050	1.959	1.910	1.834	1.750	1.659	1.554	1.429	1.352

附表 8 二项分布 φ 的置信区间表

$1-\alpha=0.95$

观测数 x	样本含量 n				观测分数 $\frac{x}{n}$	样本含量 n			
	10	15	20	30		50	100	250	1 000
0	0 31	0 22	0 17	0 12	0.00	0 7	0 4	0 1	0 0
1	0 45	0 32	0 25	0 17	0.02	0 11	0 7	1 5	1 3
2	3 56	2 40	1 31	1 22	0.04	0 14	1 10	2 7	3 5
3	7 65	4 48	3 38	2 27	0.06	1 17	2 12	3 10	5 8
4	12 74	8 55	6 44	4 31	0.08	2 19	4 15	5 12	6 10
5	19 81	12 62	9 49	6 35	0.10	3 22	5 18	7 14	8 12
6	26 88	16 68	12 54	8 39	0.12	5 24	6 20	8 17	10 14
7	35 93	21 73	15 59	10 43	0.14	6 27	8 22	10 19	12 16
8	44 97	27 79	19 64	12 46	0.16	7 29	9 25	11 21	14 18
9	55 100	32 84	23 68	15 50	0.18	9 31	11 27	13 23	16 21
10	69 100	38 88	27 73	17 53	0.20	10 34	13 29	15 26	18 23
11		45 92	32 77	20 56	0.22	12 36	14 31	17 28	19 25
12		52 96	36 81	23 60	0.24	13 38	16 33	19 30	21 27
13		60 98	41 85	25 63	0.26	15 41	18 36	20 32	23 29
14		68 100	46 88	28 66	0.28	16 43	19 38	22 34	25 31
15		78 100	51 91	31 69	0.30	18 44	21 40	24 36	27 33
16			56 94	34 72	0.32	20 46	23 42	26 38	29 35
17			62 97	37 75	0.34	21 48	25 44	28 44	31 37
18			69 99	40 77	0.36	23 50	27 46	30 42	33 39
19			75 100	44 80	0.38	25 53	28 48	32 44	35 41
20			83 100	47 83	0.40	27 55	30 50	34 46	37 43
21				50 85	0.42	28 57	32 52	36 48	39 45
22				54 88	0.44	30 59	34 54	38 50	41 47
23				57 90	0.46	32 61	36 56	40 52	43 49
24				61 92	0.48	34 63	38 58	42 54	45 51
25				65 94	0.50	36 64	40 60	44 56	47 53
26				69 96					
27				73 98					
28				78 99					
29				83 100					
30				88 100					

续表

$1-\alpha=0.99$

观测数 x	样本含量 n										观测分数 $\frac{x}{n}$	样本含量 n								
	10		15		20		30					50		100		250		1 000		
0	0	41	0	30	0	23	0	16			0.00	0	10	0	5	0	2	0	1	
1	0	54	0	40	0	32	0	22			0.02	0	14	0	9	1	6	1	3	
2	1	65	1	49	1	39	0	28			0.04	0	17	1	12	2	9	3	6	
3	4	74	2	56	2	45	1	32			0.06	1	20	2	14	3	11	4	8	
4	8	81	5	63	4	51	3	36			0.08	1	23	3	17	4	14	6	10	
5	13	87	8	69	6	56	4	40			0.10	2	26	4	19	6	16	8	13	
6	19	92	12	74	8	61	6	44			0.12	3	29	5	21	7	18	9	15	
7	26	96	16	79	11	66	8	48			0.14	4	31	6	24	9	20	11	17	
8	35	99	21	84	15	70	10	52			0.16	6	33	8	27	11	23	13	19	
9	46	100	26	88	18	74	12	55			0.18	7	36	9	30	12	25	15	21	
10	59	100	31	92	22	78	14	58			0.20	8	38	11	32	14	27	17	23	
11			37	95	26	82	16	62			0.22	10	40	12	34	16	30	19	26	
12			44	98	30	85	18	65			0.24	11	43	14	36	18	32	21	28	
13			51	99	34	89	21	68			0.26	12	45	16	39	19	34	22	30	
14			68	100	39	92	24	74			0.28	14	47	17	41	21	36	24	32	
15			70	100	44	94	26	74			0.30	15	49	19	43	23	38	26	34	
16					49	96	29	76			0.32	17	51	21	45	25	40	28	36	
17					55	98	32	79			0.34	18	53	22	47	26	42	30	38	
18					61	99	35	82			0.36	20	55	24	49	28	44	32	40	
19					68	100	38	84			0.38	21	57	26	51	30	46	34	12	
20					77	100	42	86			0.40	23	59	28	53	32	48	36	44	
21							45	88			0.42	24	61	29	55	34	51	38	46	
22							48	90			0.44	26	63	31	57	36	53	40	48	
23							52	92			0.46	28	65	33	59	38	55	42	50	
24							56	94			0.48	29	67	35	61	40	56	44	52	
25							60	96			0.50	31	69	37	63	42	58	46	54	
26							64	97												
27							68	99												
28							72	100												
29							78	100												
30							84	100												

附表 9　多重比较中的 Duncan 表

$r_{0.01}(k,df)$

df	k											
	2	3	4	5	6	7	8	9	10	20	50	100
1	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
2	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
3	8.26	8.5	8.6	8.7	8.8	8.9	8.9	9.0	9.0	9.3	9.3	9.3
4	6.51	6.8	6.9	7.0	7.1	7.1	7.2	7.2	7.3	7.5	7.5	7.5
5	5.70	5.96	6.11	6.18	6.26	6.33	6.40	6.44	6.5	6.8	6.8	6.8
6	5.24	5.51	5.65	5.73	5.81	5.88	5.95	6.00	6.0	6.3	6.3	6.3
7	4.95	5.22	5.37	5.45	5.53	5.61	5.69	5.73	5.8	6.0	6.0	6.0
8	4.74	5.00	5.14	5.23	5.32	5.40	5.47	5.51	5.5	5.8	5.8	5.8
9	4.60	4.86	4.99	5.08	5.17	5.25	5.32	5.36	5.4	5.7	5.7	5.7
10	4.48	4.73	4.88	4.96	5.06	5.13	5.20	5.24	5.28	5.55	5.55	5.55
11	4.39	4.63	4.77	4.86	4.94	5.01	5.06	5.12	5.15	5.39	5.39	5.39
12	4.32	4.55	4.68	4.76	4.84	4.92	4.96	5.02	5.07	5.26	5.26	5.26
13	4.26	4.48	4.62	4.69	4.74	4.84	4.88	4.94	4.98	5.15	5.15	5.15
14	4.21	4.42	4.55	4.63	4.70	4.78	4.83	4.87	4.91	5.07	5.07	5.07
15	4.17	4.37	4.50	4.58	4.64	4.72	4.77	4.81	4.84	5.00	5.00	5.00
16	4.13	4.34	4.45	4.54	4.60	4.67	4.72	4.76	4.79	4.94	4.94	4.94
17	4.10	4.30	4.41	4.50	4.56	4.63	4.68	4.72	4.75	4.89	4.89	4.89
18	4.07	4.27	4.38	4.46	4.53	4.59	4.64	4.68	4.71	4.85	4.85	4.85
19	4.05	4.24	4.35	4.43	4.50	4.56	4.61	4.64	4.67	4.82	4.82	4.82
20	4.02	4.22	4.33	4.40	4.47	4.53	4.58	4.61	4.65	4.79	4.79	4.79
30	3.89	4.06	4.16	4.22	4.32	4.36	4.41	4.45	4.48	4.65	4.71	4.71
40	3.82	3.99	4.10	4.17	4.24	4.30	4.34	4.37	4.41	4.59	4.69	4.69
60	3.76	3.92	4.03	4.12	4.17	4.23	4.27	4.31	4.34	4.53	4.66	4.66
100	3.71	3.86	3.98	4.06	4.11	4.17	4.21	4.25	4.29	4.48	4.64	4.65
∞	3.64	3.80	3.90	3.98	4.04	4.09	4.14	4.17	4.20	4.41	4.60	4.68

$r_{0.05}(k,df)$

df	k											
	2	3	4	5	6	7	8	9	10	20	50	100
1	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
2	6.09	6.09	6.09	6.09	6.09	6.09	6.09	6.09	6.09	6.09	6.09	6.09
3	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
4	3.93	4.01	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02
5	3.64	3.74	3.79	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
6	3.46	3.58	3.64	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68
7	3.35	3.47	3.54	3.58	3.60	3.61	3.61	3.61	3.61	3.61	3.61	3.61
8	3.26	3.39	3.47	3.52	3.55	3.56	3.56	3.56	3.56	3.56	3.56	3.56
9	3.20	3.34	3.40	3.47	3.50	3.52	3.52	3.52	3.52	3.52	3.52	3.52
10	3.15	3.30	3.37	3.43	3.46	3.47	3.47	3.47	3.47	3.48	3.48	3.48
11	3.11	3.27	3.35	3.39	3.43	3.44	3.45	3.46	3.46	3.48	3.48	3.48
12	3.08	3.23	3.33	3.36	3.40	3.42	3.44	3.44	3.46	3.48	3.48	3.48
13	3.06	3.21	3.30	3.35	3.38	3.41	3.42	3.44	3.45	3.47	3.47	3.47
14	3.03	3.18	3.27	3.33	3.37	3.39	3.41	3.42	3.44	3.47	3.47	3.47
15	3.01	3.16	3.25	3.31	3.36	3.38	3.40	3.42	3.43	3.47	3.47	3.47
16	3.00	3.15	3.23	3.30	3.34	3.37	3.39	3.41	3.43	3.47	3.47	3.47
17	2.98	3.18	3.22	3.28	3.33	3.36	3.38	3.40	3.42	3.47	3.47	3.47
18	2.97	3.12	3.21	3.27	3.32	3.35	3.37	3.39	3.41	3.47	3.47	3.47
19	2.96	3.11	3.19	3.26	3.31	3.35	3.37	3.39	3.41	3.47	3.47	3.47
20	2.95	3.10	3.18	3.25	3.30	3.34	3.36	3.38	3.40	3.47	3.47	3.47
30	2.89	3.04	3.12	3.20	3.25	3.29	3.32	3.35	3.37	3.47	3.47	3.47
40	2.86	3.01	3.10	3.17	3.22	3.27	3.30	3.33	3.35	3.47	3.47	3.47
60	2.83	2.98	3.08	3.14	3.20	3.24	3.28	3.31	3.33	3.47	3.48	3.48
100	2.80	2.95	3.05	3.12	3.18	3.22	3.26	3.29	3.32	3.47	3.53	3.53
∞	2.77	2.92	3.02	3.09	3.15	3.19	3.23	3.26	3.29	3.47	3.61	3.67

附表 10 百分数的 $\sin^{-1}\sqrt{P}$ 变换

%	%									
	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0	0	1.81	2.56	3.14	3.63	4.05	4.44	4.80	5.13	5.44
1	5.74	6.02	6.29	6.55	6.80	7.04	7.27	7.49	7.71	7.92
2	8.13	8.33	8.53	8.72	8.91	9.10	9.28	9.46	9.63	9.81
3	9.98	10.14	10.31	10.47	10.63	10.78	10.94	11.09	11.24	11.39
4	11.54	11.68	11.83	11.97	12.11	12.25	12.39	12.52	12.66	12.79
5	12.92	13.05	13.18	13.31	13.44	13.56	13.69	13.81	13.94	14.06
6	14.18	14.30	14.42	14.54	14.65	14.77	14.89	15.00	15.12	15.23
7	15.34	15.45	15.56	15.68	15.79	15.89	16.00	16.11	16.22	16.32
8	16.43	16.54	16.64	16.74	16.85	16.95	17.05	17.16	17.26	17.36
9	17.46	17.56	17.66	17.76	17.85	17.95	18.05	18.15	18.24	18.34
10	18.44	18.53	18.63	18.72	18.81	18.91	19.00	19.09	19.19	19.28
11	19.37	19.46	19.55	19.64	19.73	19.82	19.91	20.00	20.09	20.18
12	20.27	20.30	20.44	20.53	20.62	20.70	20.79	20.88	20.96	21.05
13	21.13	21.22	21.30	21.39	21.47	21.56	21.64	21.72	21.81	21.89
14	21.97	22.06	22.14	22.22	22.30	22.38	22.46	22.55	22.63	22.71
15	22.79	22.87	22.95	23.03	23.11	23.19	23.26	23.34	23.42	23.50
16	23.58	23.66	23.73	23.81	23.89	23.97	24.04	24.12	24.20	24.27
17	24.35	24.43	24.50	24.58	24.65	24.73	24.80	24.88	24.95	25.03
18	25.10	25.18	25.25	25.33	25.40	25.48	25.55	25.62	25.70	25.77
19	25.84	25.92	25.99	26.06	26.13	26.21	26.28	26.35	26.42	26.49
20	26.56	26.64	26.71	26.78	26.85	26.92	26.99	27.06	27.13	27.20
21	27.28	27.35	27.42	27.49	27.56	27.63	27.69	27.76	27.83	27.90
22	27.97	28.04	28.11	28.18	28.25	28.32	28.38	28.45	28.52	28.59
23	28.66	28.73	28.79	28.86	28.93	29.00	29.06	29.13	29.20	29.27
24	29.33	29.40	29.47	29.53	29.60	29.67	29.73	29.80	29.87	29.93
25	30.00	30.07	30.13	30.20	30.26	30.33	30.40	30.46	30.53	30.59
26	30.61	30.72	30.79	30.85	30.92	30.98	31.05	31.11	31.18	31.24
27	31.31	31.37	31.44	31.50	31.56	31.63	31.69	31.76	31.82	31.88
28	31.95	32.01	32.08	32.14	32.20	32.27	32.33	32.39	32.46	32.52
29	32.58	32.65	32.71	32.77	32.83	32.90	32.96	33.02	33.09	33.15
30	33.21	33.27	33.34	33.40	33.46	33.52	33.58	33.65	33.71	33.77
31	33.83	33.89	33.96	34.02	34.08	34.14	34.20	34.27	34.33	34.39
32	34.45	34.51	34.57	34.63	34.70	34.76	34.82	34.88	34.94	35.00
33	35.06	35.12	35.18	35.24	35.30	35.37	35.43	35.49	35.55	35.61
34	35.67	35.73	35.79	35.85	35.91	35.97	36.03	36.09	36.15	36.21
35	36.27	36.33	36.39	36.45	36.51	36.57	36.63	36.69	36.75	36.81
36	36.87	36.93	36.99	37.05	37.11	37.17	37.23	37.29	37.35	37.40
37	37.47	37.52	37.58	37.64	37.70	37.76	37.82	37.88	37.94	38.00
38	38.06	38.12	38.17	38.23	38.29	38.35	38.41	38.47	38.53	38.59
39	38.65	38.70	38.76	38.82	38.88	38.94	39.00	39.06	39.11	39.17
40	39.23	39.29	39.35	39.41	39.47	39.52	39.58	39.64	39.70	39.76
41	39.82	39.87	39.93	39.99	40.05	40.11	40.16	40.22	40.28	40.34
42	40.40	40.46	40.51	40.57	40.63	40.69	40.74	40.80	40.86	40.92
43	40.98	41.03	41.09	41.15	41.21	41.27	41.32	41.38	41.44	41.50
44	41.55	41.61	41.67	41.73	41.78	41.84	41.90	41.96	42.02	42.07
45	42.13	42.19	42.25	42.30	42.36	42.42	42.48	42.53	42.59	42.65
46	42.71	42.76	42.82	42.88	42.94	42.99	43.05	43.11	43.17	43.22
47	43.28	43.34	43.39	43.45	43.51	43.57	43.62	43.68	43.74	43.80
48	43.85	43.91	43.97	44.03	44.08	44.14	44.20	44.25	44.31	44.37
49	44.43	44.48	44.54	44.60	44.66	44.71	44.77	44.83	44.89	44.94

续表

%	%									
	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
50	45.00	45.06	45.11	45.17	45.23	45.29	45.34	45.40	45.46	45.52
51	45.57	45.63	45.69	45.75	45.80	45.86	45.92	45.97	46.03	46.09
52	46.15	46.20	46.26	46.32	46.38	46.43	46.49	46.55	46.61	46.66
53	46.72	46.78	46.83	46.89	46.95	47.01	47.06	47.12	47.18	47.24
54	47.29	47.35	47.41	47.47	47.52	47.58	47.64	47.70	47.75	47.81
55	47.87	47.93	47.98	48.04	48.10	48.16	48.22	48.27	48.33	48.39
56	48.45	48.50	48.56	48.62	48.68	48.73	48.79	48.85	48.91	48.97
57	49.02	49.08	49.14	49.20	49.26	49.31	49.37	49.43	49.49	49.54
58	49.60	49.66	49.72	49.78	49.84	49.89	49.95	50.01	50.07	50.13
59	50.18	50.24	50.30	50.36	50.42	50.48	50.53	50.59	50.65	50.71
60	50.77	50.83	50.89	50.94	51.00	51.06	51.12	51.18	51.24	51.30
61	51.35	51.41	51.47	51.53	51.59	51.65	51.71	51.77	51.83	51.88
62	51.94	52.00	52.06	52.12	52.18	52.24	52.30	52.36	52.42	52.48
63	52.53	52.59	52.65	52.71	52.77	52.83	52.89	52.95	53.01	53.07
64	53.13	53.19	53.25	53.31	53.37	53.43	53.49	53.55	53.61	53.67
65	53.73	53.79	53.85	53.91	53.97	54.03	54.09	54.15	54.21	54.27
66	54.33	54.39	54.45	54.51	54.57	54.63	54.70	54.76	54.82	54.88
67	54.94	55.00	55.06	55.12	55.18	55.24	55.30	55.37	55.43	55.49
68	55.55	55.61	55.67	55.73	55.80	55.86	55.92	55.98	56.04	56.11
69	56.17	56.23	56.29	56.35	56.42	56.48	56.54	56.66	56.60	56.73
70	56.79	56.85	56.91	56.98	57.04	57.10	57.17	57.23	57.29	57.35
71	57.42	57.48	57.54	57.61	57.67	57.73	57.80	57.86	57.92	57.99
72	58.05	58.12	58.18	58.24	58.31	58.37	58.44	58.50	58.56	58.63
73	58.69	58.76	58.82	58.89	58.95	59.02	59.08	59.15	59.21	59.28
74	59.34	59.41	59.47	59.54	59.60	59.67	59.74	59.80	59.87	59.93
75	60.00	60.07	60.13	60.20	60.27	60.33	60.40	60.47	60.53	60.60
76	60.67	60.73	60.80	60.87	60.94	61.00	61.07	61.14	61.21	61.27
77	61.34	61.41	61.48	61.55	61.62	61.68	61.75	61.82	61.89	61.96
78	62.03	62.10	62.17	62.24	62.31	62.37	62.44	62.51	62.58	62.65
79	62.72	62.80	62.87	62.94	63.01	63.08	63.15	63.22	63.29	63.36
80	63.44	63.51	63.58	63.65	63.72	63.79	63.87	63.94	64.01	64.08
81	64.16	64.23	64.30	64.38	64.45	64.52	64.60	64.67	64.75	64.82
82	64.90	64.97	65.05	65.12	65.20	65.27	65.35	65.42	65.50	65.57
83	65.65	65.73	65.80	65.88	65.96	66.03	66.11	66.19	66.27	66.34
84	66.42	66.50	66.58	66.66	66.74	66.81	66.89	66.97	67.05	67.13
85	67.21	67.29	67.37	67.45	67.54	67.62	67.70	67.78	67.86	67.94
86	68.03	68.11	68.19	68.28	68.36	68.44	68.53	68.61	68.70	68.78
87	68.87	68.95	69.04	69.12	69.21	69.30	69.38	69.47	69.56	69.64
88	69.73	69.82	69.91	70.00	70.09	70.18	70.27	70.36	70.45	70.54
89	70.63	70.72	70.81	70.91	71.00	71.09	71.19	71.28	71.37	71.47
90	71.56	71.66	71.76	71.85	71.95	72.05	72.15	72.24	72.34	72.44
91	72.54	72.64	72.74	72.84	72.95	73.05	73.15	73.26	73.36	73.46
92	73.57	73.68	73.78	73.89	74.00	74.11	74.21	74.32	74.44	74.55
93	74.66	74.77	74.88	75.00	75.11	75.23	75.35	75.46	75.58	75.70
94	75.82	75.94	76.06	76.19	76.31	76.44	76.56	76.69	76.82	76.95
95	77.08	77.21	77.34	77.48	77.61	77.75	77.89	78.03	78.17	78.32
96	78.46	78.61	78.76	78.91	79.06	79.22	79.37	79.53	79.69	79.86
97	80.02	80.19	80.37	80.54	80.72	80.90	81.09	81.28	81.47	81.67
98	81.87	82.08	82.29	82.51	82.73	82.96	83.20	83.45	83.71	83.98
99	84.26	84.56	84.87	85.20	85.56	85.95	86.37	86.86	87.44	88.19
100	90.00									

附表 11 由百分率坐标变为概率坐标表

百分率坐标	概率坐标	百分率坐标	概率坐标	百分率坐标	概率坐标	百分率坐标	概率坐标
1	-2.326	26	-0.643	51	0.025	76	0.706
2	-2.054	27	-0.613	52	0.050	77	0.739
3	-1.881	28	-0.583	53	0.075	78	0.772
4	-1.751	29	-0.552	54	0.100	79	0.806
5	-1.645	30	-0.524	55	0.126	80	0.842
6	-1.555	31	-0.496	56	0.151	81	0.878
7	-1.476	32	-0.468	57	0.176	82	0.915
8	-1.405	33	-0.440	58	0.202	83	0.954
9	-1.341	34	-0.413	59	0.228	84	0.995
10	-1.282	35	-0.385	60	0.253	85	1.036
11	-1.227	36	-0.359	61	0.279	86	1.080
12	-1.175	37	-0.332	62	0.306	87	1.126
13	-1.126	38	-0.306	63	0.332	88	1.175
14	-1.080	39	-0.279	64	0.359	89	1.227
15	-1.036	40	-0.253	65	0.385	90	1.282
16	-0.995	41	-0.228	66	0.413	91	1.341
17	-0.954	42	-0.202	67	0.440	92	1.405
18	-0.915	43	-0.176	68	0.468	93	1.476
19	-0.878	44	-0.151	69	0.496	94	1.555
20	-0.842	45	-0.126	70	0.524	95	1.645
21	-0.806	46	-0.100	71	0.552	96	1.751
22	-0.772	47	-0.075	72	0.583	97	1.881
23	-0.739	48	-0.050	73	0.613	98	2.054
24	-0.706	49	-0.025	74	0.643	99	2.326
25	-0.675	50	0.000	75	0.675		

附表 12　相关系数检验表

剩余自由度	$\alpha=0.05$ 独立自变量个数 k				剩余自由度	$\alpha=0.01$ 独立自变量个数 k			
	1	2	3	4		1	2	3	4
1	0.997	0.999	0.999	0.999	1	1.000	1.000	1.000	1.000
2	0.950	0.975	0.983	0.987	2	0.990	0.995	0.997	0.998
3	0.878	0.930	0.950	0.961	3	0.959	0.976	0.983	0.987
4	0.811	0.881	0.912	0.930	4	0.917	0.949	0.962	0.970
5	0.754	0.836	0.874	0.898	5	0.874	0.917	0.937	0.949
6	0.707	0.795	0.839	0.867	6	0.834	0.886	0.911	0.927
7	0.666	0.758	0.807	0.838	7	0.798	0.855	0.885	0.904
8	0.632	0.726	0.777	0.811	8	0.765	0.827	0.860	0.882
9	0.602	0.697	0.750	0.786	9	0.735	0.800	0.836	0.861
10	0.567	0.671	0.726	0.763	10	0.708	0.776	0.814	0.840
11	0.553	0.648	0.703	0.741	11	0.684	0.753	0.793	0.821
12	0.532	0.627	0.683	0.722	12	0.661	0.732	0.773	0.802
13	0.514	0.608	0.664	0.703	13	0.641	0.712	0.755	0.785
14	0.497	0.590	0.646	0.686	14	0.623	0.694	0.737	0.768
15	0.482	0.574	0.630	0.670	15	0.606	0.677	0.721	0.752
16	0.468	0.559	0.615	0.655	16	0.590	0.662	0.706	0.738
17	0.456	0.545	0.601	0.641	17	0.575	0.647	0.691	0.724
18	0.444	0.532	0.587	0.628	18	0.561	0.633	0.678	0.710
19	0.433	0.520	0.575	0.615	19	0.549	0.620	0.665	0.698
20	0.432	0.509	0.563	0.604	20	0.537	0.608	0.652	0.685
21	0.413	0.498	0.522	0.592	21	0.526	0.596	0.641	0.674
22	0.404	0.488	0.542	0.582	22	0.515	0.585	0.630	0.663
23	0.396	0.479	0.532	0.572	23	0.505	0.574	0.619	0.652
24	0.388	0.470	0.523	0.562	24	0.496	0.565	0.609	0.642
25	0.381	0.462	0.514	0.553	25	0.487	0.555	0.600	0.633
26	0.374	0.454	0.506	0.545	26	0.478	0.546	0.590	0.624
27	0.367	0.446	0.498	0.536	27	0.470	0.538	0.582	0.615
28	0.361	0.439	0.490	0.529	28	0.463	0.530	0.573	0.606
29	0.355	0.432	0.482	0.521	29	0.456	0.522	0.565	0.598
30	0.349	0.426	0.476	0.514	30	0.449	0.514	0.558	0.591
35	0.325	0.397	0.445	0.482	35	0.418	0.481	0.523	0.556
40	0.304	0.373	0.419	0.455	40	0.393	0.454	0.494	0.526
45	0.288	0.353	0.397	0.432	45	0.372	0.430	0.470	0.501
50	0.273	0.336	0.379	0.412	50	0.354	0.410	0.449	0.479
60	0.250	0.308	0.348	0.380	60	0.325	0.377	0.414	0.442
70	0.232	0.286	0.324	0.354	70	0.302	0.351	0.386	0.413
80	0.217	0.269	0.304	0.332	80	0.283	0.330	0.362	0.389
90	0.205	0.254	0.288	0.315	90	0.267	0.312	0.343	0.368
100	0.195	0.241	0.274	0.300	100	0.254	0.297	0.327	0.351
125	0.174	0.216	0.246	0.269	125	0.228	0.266	0.294	0.316
150	0.159	0.198	0.225	0.247	150	0.208	0.244	0.270	0.290
200	0.138	0.172	0.196	0.215	200	0.181	0.212	0.234	0.253
300	0.113	0.141	0.160	0.176	300	0.148	0.174	0.192	0.208
400	0.098	0.122	0.139	0.153	400	0.128	0.151	0.167	0.180
500	0.088	0.109	0.124	0.137	500	0.115	0.135	0.150	0.162