

## TABLES STATISTIQUES: DISTRIBUTION DU $\chi^2$

### I. TROUVÉ

Les tables et graphique suivants ont été calculés à partir du logiciel gratuit Scilab, développé par l'INRIA, et disponible sur le site "<http://www.scilab.org>".

REPRÉSENTATION GRAPHIQUE DE LA DENSITÉ D'UN  $\chi^2$  À 20 DEGRÉS DE LIBERTÉ

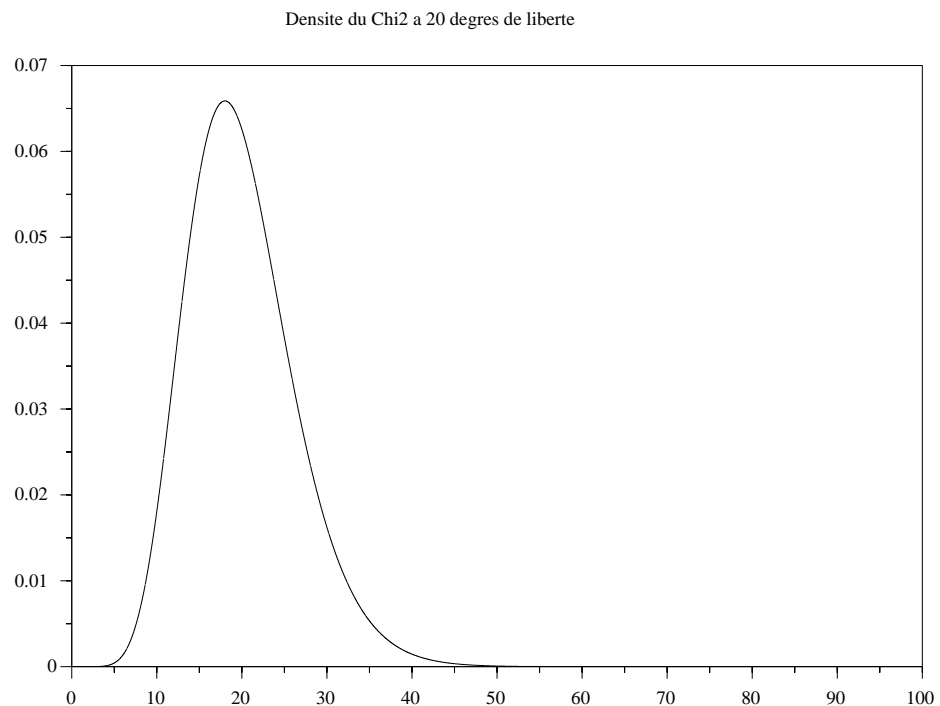


FIGURE 1. Densité de la loi du  $\chi^2$  à 20 degrés de liberté

### TABLE DE LOIS DU $\chi^2$

Sur la première colonne on lit le nombre de degrés de liberté. L'entête des autres colonnes donne la probabilité  $\alpha$  qu'un  $\chi^2$  excède la valeur  $t$  lue dans le tableau sur cette colonne. Si le nombre de degrés de liberté  $d$  est supérieur à 100, on approchera  $\sqrt{2\chi^2} - \sqrt{2d-1}$  par une gaussienne centrée réduite.

| $\alpha$ | 0.975  | 0.95   | 0.9    | 0.8    | 0.2     | 0.1     | 0.05    | 0.025   |
|----------|--------|--------|--------|--------|---------|---------|---------|---------|
| $d = 1$  | 0.001  | 0.004  | 0.016  | 0.064  | 1.642   | 2.706   | 3.841   | 5.024   |
| 2        | 0.051  | 0.103  | 0.211  | 0.446  | 3.219   | 4.605   | 5.991   | 7.378   |
| 3        | 0.216  | 0.352  | 0.584  | 1.005  | 4.642   | 6.251   | 7.815   | 9.348   |
| 4        | 0.484  | 0.711  | 1.064  | 1.649  | 5.989   | 7.779   | 9.488   | 11.143  |
| 5        | 0.831  | 1.145  | 1.61   | 2.343  | 7.289   | 9.236   | 11.07   | 12.833  |
| 6        | 1.237  | 1.635  | 2.204  | 3.07   | 8.558   | 10.645  | 12.592  | 14.449  |
| 7        | 1.69   | 2.167  | 2.833  | 3.822  | 9.803   | 12.017  | 14.067  | 16.013  |
| 8        | 2.18   | 2.733  | 3.49   | 4.594  | 11.03   | 13.362  | 15.507  | 17.535  |
| 9        | 2.7    | 3.325  | 4.168  | 5.38   | 12.242  | 14.684  | 16.919  | 19.023  |
| 10       | 3.247  | 3.94   | 4.865  | 6.179  | 13.442  | 15.987  | 18.307  | 20.483  |
| 11       | 3.816  | 4.575  | 5.578  | 6.989  | 14.631  | 17.275  | 19.675  | 21.92   |
| 12       | 4.404  | 5.226  | 6.304  | 7.807  | 15.812  | 18.549  | 21.026  | 23.337  |
| 13       | 5.009  | 5.892  | 7.042  | 8.634  | 16.985  | 19.812  | 22.362  | 24.736  |
| 14       | 5.629  | 6.571  | 7.79   | 9.467  | 18.151  | 21.064  | 23.685  | 26.119  |
| 15       | 6.262  | 7.261  | 8.547  | 10.307 | 19.311  | 22.307  | 24.996  | 27.488  |
| 16       | 6.908  | 7.962  | 9.312  | 11.152 | 20.465  | 23.542  | 26.296  | 28.845  |
| 17       | 7.564  | 8.672  | 10.085 | 12.002 | 21.615  | 24.769  | 27.587  | 30.191  |
| 18       | 8.231  | 9.39   | 10.865 | 12.857 | 22.76   | 25.989  | 28.869  | 31.526  |
| 19       | 8.907  | 10.117 | 11.651 | 13.716 | 23.9    | 27.204  | 30.144  | 32.852  |
| 20       | 9.591  | 10.851 | 12.443 | 14.578 | 25.038  | 28.412  | 31.41   | 34.17   |
| 21       | 10.283 | 11.591 | 13.24  | 15.445 | 26.171  | 29.615  | 32.671  | 35.479  |
| 22       | 10.982 | 12.338 | 14.041 | 16.314 | 27.301  | 30.813  | 33.924  | 36.781  |
| 23       | 11.689 | 13.091 | 14.848 | 17.187 | 28.429  | 32.007  | 35.172  | 38.076  |
| 24       | 12.401 | 13.848 | 15.659 | 18.062 | 29.553  | 33.196  | 36.415  | 39.364  |
| 25       | 13.12  | 14.611 | 16.473 | 18.94  | 30.675  | 34.382  | 37.652  | 40.646  |
| 26       | 13.844 | 15.379 | 17.292 | 19.82  | 31.795  | 35.563  | 38.885  | 41.923  |
| 27       | 14.573 | 16.151 | 18.114 | 20.703 | 32.912  | 36.741  | 40.113  | 43.195  |
| 28       | 15.308 | 16.928 | 18.939 | 21.588 | 34.027  | 37.916  | 41.337  | 44.461  |
| 29       | 16.047 | 17.708 | 19.768 | 22.475 | 35.139  | 39.087  | 42.557  | 45.722  |
| 30       | 16.791 | 18.493 | 20.599 | 23.364 | 36.25   | 40.256  | 43.773  | 46.979  |
| 40       | 24.433 | 26.509 | 29.051 | 32.345 | 47.269  | 51.805  | 55.758  | 59.342  |
| 50       | 32.357 | 34.764 | 37.689 | 41.449 | 58.164  | 63.167  | 67.505  | 71.42   |
| 60       | 40.482 | 43.188 | 46.459 | 50.641 | 68.972  | 74.397  | 79.082  | 83.298  |
| 70       | 48.758 | 51.739 | 55.329 | 59.898 | 79.715  | 85.527  | 90.531  | 95.023  |
| 80       | 57.153 | 60.391 | 64.278 | 69.207 | 90.405  | 96.578  | 101.879 | 106.629 |
| 90       | 65.647 | 69.126 | 73.291 | 78.558 | 101.054 | 107.565 | 113.145 | 118.136 |
| 100      | 74.222 | 77.929 | 82.358 | 87.945 | 111.667 | 118.498 | 124.342 | 129.561 |