Table A.10 Critical Values for Studentized Range Distributions

| m m  |     |              |              |              |              |              |              |              |              |               |               |               |
|------|-----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|
| ν    | α   | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10            | - 11          | 12            |
| 5    | .05 | 3.64<br>5.70 | 4.60<br>6.98 | 5.22<br>7.80 | 5.67<br>8.42 | 6.03<br>8.91 | 6.33<br>9.32 | 6.58<br>9.67 | 6.80<br>9.97 | 6.99<br>10.24 | 7.17<br>10.48 | 7.32<br>10.70 |
| 6    | .05 | 3.46<br>5.24 | 4.34<br>6.33 | 4.90<br>7.03 | 5.30<br>7.56 | 5.63<br>7.97 | 5.90<br>8.32 | 6.12<br>8.61 | 6.32<br>8.87 | 6.49<br>9.10  | 6.65<br>9.30  | 6.79<br>9.48  |
| 7    | .05 | 3.34<br>4.95 | 4.16<br>5.92 | 4.68<br>6.54 | 5.06<br>7.01 | 5.36<br>7.37 | 5.61<br>7.68 | 5.82<br>7.94 | 6.00<br>8.17 | 6.16<br>8.37  | 6.30<br>8.55  | 6.43<br>8.71  |
| 8    | .05 | 3.26<br>4.75 | 4.04<br>5.64 | 4.53<br>6.20 | 4.89<br>6.62 | 5.17<br>6.96 | 5.40<br>7.24 | 5.60<br>7.47 | 5.77<br>7.68 | 5.92<br>7.86  | 6.05<br>8.03  | 6.18<br>8.18  |
| 9    | .05 | 3.20<br>4.60 | 3.95<br>5.43 | 4.41<br>5.96 | 4.76<br>6.35 | 5.02<br>6.66 | 5.24<br>6.91 | 5.43<br>7.13 | 5.59<br>7.33 | 5.74<br>7.49  | 5.87<br>7.65  | 5.98<br>7.78  |
| 10   | .05 | 3.15<br>4.48 | 3.88<br>5.27 | 4.33<br>5.77 | 4.65<br>6.14 | 4.91<br>6.43 | 5.12<br>6.67 | 5.30<br>6.87 | 5.46<br>7.05 | 5.60<br>7.21  | 5.72<br>7.36  | 5.83<br>7.49  |
| . 11 | .05 | 3.11<br>4.39 | 3.82<br>5.15 | 4.26<br>5.62 | 4.57<br>5.97 | 4.82<br>6.25 | 5.03<br>6.48 | 5.20<br>6.67 | 5.35<br>6.84 | 5.49<br>6.99  | 5.61<br>7.13  | 5.71<br>7.25  |
| 12   | .05 | 3.08<br>4.32 | 3.77<br>5.05 | 4.20<br>5.50 | 4.51<br>5.84 | 4.75<br>6.10 | 4.95<br>6.32 | 5.12<br>6.51 | 5.27<br>6.67 | 5.39<br>6.81  | 5.51<br>6.94  | 5.61<br>7.06  |
| 13   | .05 | 3.06<br>4.26 | 3.73<br>4.96 | 4.15<br>5.40 | 4.45<br>5.73 | 4.69<br>5.98 | 4.88<br>6.19 | 5.05<br>6.37 | 5.19<br>6.53 | 5.32<br>6.67  | 5.43<br>6.79  | 5.53<br>6.90  |
| 14   | .05 | 3.03<br>4.21 | 3.70<br>4.89 | 4.11<br>5.32 | 4.41<br>5.63 | 4.64<br>5.88 | 4.83<br>6.08 | 4.99<br>6.26 | 5.13<br>6.41 | 5.25<br>6.54  | 5.36<br>6.66  | 5.46<br>6.77  |
| 15   | .05 | 3.01<br>4.17 | 3.67<br>4.84 | 4.08<br>5.25 | 4.37<br>5.56 | 4.59<br>5.80 | 4.78<br>5.99 | 4.94<br>6.16 | 5.08<br>6.31 | 5.20<br>6.44  | 5.31<br>6.55  | 5.40<br>6.66  |
| 16   | .05 | 3.00<br>4.13 | 3.65<br>4.79 | 4.05<br>5.19 | 4.33<br>5.49 | 4.56<br>5.72 | 4.74<br>5.92 | 4.90<br>6.08 | 5.03<br>6.22 | 5.15<br>6.35  | 5.26<br>6.46  | 5.35<br>6.56  |
| 17   | .05 | 2.98<br>4.10 | 3.63<br>4.74 | 4.02<br>5.14 | 4.30<br>5.43 | 4.52<br>5.66 | 4.70<br>5.85 | 4.86<br>6.01 | 4.99<br>6.15 | 5.11<br>6.27  | 5.21<br>6.38  | 5.31<br>6.48  |
| 18   | .05 | 2.97<br>4.07 | 3.61<br>4.70 | 4.00<br>5.09 | 4.28<br>5.38 | 4.49<br>5.60 | 4.67<br>5.79 | 4.82<br>5.94 | 4.96<br>6.08 | 5.07<br>6.20  | 5.17<br>6.31  | 5.27<br>6.41  |
| 19   | .05 | 2.96<br>4.05 | 3.59<br>4.67 | 3.98<br>5.05 | 4.25<br>5.33 | 4.47<br>5.55 | 4.65<br>5.73 | 4.79<br>5.89 | 4.92<br>6.02 | 5.04<br>6.14  | 5.14<br>6.25  | 5.23<br>6.34  |
| 20   | .05 | 2.95<br>4.02 | 3.58<br>4.64 | 3.96<br>5.02 | 4.23<br>5.29 | 4.45<br>5.51 | 4.62<br>5.69 | 4.77<br>5.84 | 4.90<br>5.97 | 5.01<br>6.09  | 5.11 6.19     | 5.20<br>6.28  |
| 24   | .05 | 2.92<br>3.96 | 3.53         | 3.90<br>4.91 | 4.17<br>5.17 | 4.37<br>5.37 | 4.54<br>5.54 | 4.68<br>5.69 | 4.81<br>5.81 | 4.92<br>5.92  | 5.01<br>6.02  | 5.10<br>6.11  |
| 30   | .05 | 2.89<br>3.89 | 3.49<br>4.45 | 3.85<br>4.80 | 4.10<br>5.05 | 4.30<br>5.24 | 4.46<br>5.40 | 4.60<br>5.54 | 4.72<br>5.65 | 4.82<br>5.76  | 4.92<br>5.85  | 5.00          |
| 40   | .05 | 2.86<br>3.82 | 3.44<br>4.37 | 3.79<br>4.70 | 4.04<br>4.93 | 4.23<br>5.11 | 4.39<br>5.26 | 4.52<br>5.39 | 4.63<br>5.50 | 4.73<br>5.60  | 4.82<br>5.69  | 4.90<br>5.76  |
| 60   | .05 | 2.83<br>3.76 | 3.40<br>4.28 | 3.74<br>4.59 | 3.98<br>4.82 | 4.16<br>4.99 | 4.31<br>5.13 | 4.44<br>5.25 | 4.55<br>5.36 | 4.65<br>5.45  | 4.73<br>5.53  | 4.81<br>5.60  |
| 120  | .05 | 2.80<br>3.70 | 3.36<br>4.20 | 3.68<br>4.50 | 3.92<br>4.71 | 4.10<br>4.87 | 4.24<br>5.01 | 4.36<br>5.12 | 4.47<br>5.21 | 4.56<br>5.30  | 4.64<br>5.37  | 4.71<br>5.44  |
| 00   | .05 | 2.77         | 3.31<br>4.12 | 3.63<br>4.40 | 3.86<br>4.60 | 4.03<br>4.76 | 4.17<br>4.88 | 4.29<br>4.99 | 4.39<br>5.08 | 4.47<br>5.16  | 4.55<br>5.23  | 4.62<br>5.29  |