

Erster Bericht der „Atom-Kommission“ der Internationalen Union für Chemie

1936.

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Die Kommission veröffentlicht hiermit ihre erste Isotopentabelle in der Hoffnung, daß sie den über Kernumwandlungen arbeitenden Kollegen von Nutzen sein wird. Es wird davon abgesehen, die zahlreichen Forscher zu benennen, auf deren Arbeiten die Tabelle basiert. Die Tabelle soll regelmäßig überprüft werden.

Eine Ergänzung durch die Einzelatomgewichte ist vorgesehen.

Die Verfasser von Abhandlungen auf dem einschlägigen Gebiete werden gebeten, Separata ihrer Arbeiten jedem der Mitglieder der Kommission zu übersenden.

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Internationale Tabelle der stabilen Isotope für 1936.

(Kursiv geschriebene Zahlen geben nur angenäherte oder indirekte Messungen; eingeklammerte Werte sind zweifelhaft. Die Buchstaben a, b, c usw. bezeichnen die Reihenfolge der Häufigkeit.)

| Symbol | Ordnungs- zahl (Z) | Massen- zahl (M) | Häufigkeit (in %) | Symbol | Ordnungs- zahl (Z) | Massen- zahl (M) | Häufigkeit (in %) |
|--------|--------------------------|------------------------|-------------------------|--------|--------------------------|------------------------|----------------------|
| II | 1 | 1 | 99.98 | N | 7 | 14 | 99.62 |
| | | | | | | 15 | 0.38 |
| D | | 2 | 0.02 | | | | |
| T | | 3 | (7 × 10 ⁻⁸) | O | 8 | 16 | 99.76 |
| | | | | | | 17 | 0.04 |
| He | 2 | 4 | 100 | | | 18 | 0.20 |
| | | | | F | 9 | 19 | 100 |
| Li | 3 | 6 | 7.9 | | | | |
| | | 7 | 92.1 | Ne | 10 | 20 | 90.00 |
| | | | | | | 21 | 0.27 |
| Be | 4 | (8) | (0.05) | | | 22 | 9.73 |
| | | 9 | 99.95 | | | | |
| | | | | Na | 11 | 23 | 100 |
| B | 5 | 10 | 20 | | | | |
| | | 11 | 80 | Mg | 12 | 24 | 77.4 |
| | | | | | | 25 | 11.5 |
| C | 6 | 12 | 99.3 | | | 26 | 11.1 |
| | | 13 | 0.7 | | | | |

| Symbol | Ordnungs- zahl (Z) | Massen- zahl (M) | Häufigkeit (in %) | Symbol | Ordnungs- zahl (Z) | Massen- zahl (M) | Häufigkeit (in %) |
|--------|--------------------------|------------------------|----------------------|--------|--------------------------|------------------------|----------------------|
| Al | 13 | 27 | 100 | Ni | 28 | 58 | 68.1 |
| Si | 14 | 28 | 89.6 | | | 60 | 27.2 |
| | | 29 | 6.2 | | | (61) | (1.7) |
| | | 30 | 4.2 | | | 62 | 3.8 |
| P | 15 | 31 | 100 | | | 64 | 0.9 |
| S | 16 | 32 | 96 | Cu | 29 | 63 | 68 |
| | | 33 | 1 | | | 65 | 32 |
| | | 34 | 3 | Zn | 30 | 64 | 50.4 |
| Cl | 17 | 35 | 76 | | | 66 | 27.2 |
| | | 37 | 24 | | | 67 | 4.2 |
| A | 18 | 36 | 0.33 | | | 68 | 17.8 |
| | | 38 | 0.05 | | | 70 | 0.4 |
| | | 40 | 99.62 | Ga | 31 | 69 | 61.5 |
| K | 19 | 39 | 93.4 | | | 71 | 38.5 |
| | | 40 | 0.01 | Ge | 32 | 70 | 21.2 |
| | | 41 | 6.6 | | | 72 | 27.3 |
| Ca | 20 | 40 | 96.76 | | | 73 | 7.9 |
| | | 42 | 0.77 | | | 74 | 37.1 |
| | | 43 | 0.17 | | | 76 | 6.5 |
| | | 44 | 2.30 | As | 33 | 75 | 100 |
| Sc | 21 | 45 | 100 | Se | 34 | 74 | 0.9 |
| Ti | 22 | 46 | 8.5 | | | 76 | 9.5 |
| | | 47 | 7.8 | | | 77 | 8.3 |
| | | 48 | 71.3 | | | 78 | 24.0 |
| | | 49 | 5.5 | | | 80 | 48.0 |
| | | 50 | 6.9 | | | 82 | 9.3 |
| V | 23 | 51 | 100 | Br | 35 | 79 | 50 |
| Cr | 24 | 50 | 4.9 | | | 81 | 50 |
| | | 52 | 81.6 | Kr | 36 | 78 | 0.42 |
| | | 53 | 10.4 | | | 80 | 2.45 |
| | | 54 | 3.1 | | | 82 | 11.79 |
| Mn | 25 | 55 | 100 | | | 83 | 11.79 |
| Fe | 26 | 54 | 6.5 | | | 84 | 56.85 |
| | | 56 | 90.2 | | | 86 | 16.70 |
| | | 57 | 2.8 | Rb | 37 | 85 | 72 |
| | | 58 | 0.5 | | | 87 | 28 |
| Co | 27 | 59 | 100 | Sr | 38 | 86 | 10.0 |
| | | | | | | 87 | 6.6 |
| | | | | | | 88 | 83.4 |
| | | | | Y | 39 | 89 | 100 |
| | | | | Zr | 40 | 90 | 48 |
| | | | | | | 91 | 11.5 |
| | | | | | | 92 | 22 |
| | | | | | | 94 | 17 |
| | | | | | | 96 | 1.5 |

| Symbol | Ordnungs- zahl (Z) | Massen- zahl (M) | Häufigkeit (in %) | Symbol | Ordnungs- zahl (Z) | Massen- zahl (M) | Häufigkeit (in %) | | | | | | |
|--------|--------------------------|------------------------|----------------------|--------|--------------------------|------------------------|----------------------|-----|-------|-----|-----|-----|-----|
| Nb | 41 | 93 | 100 | Sb | 51 | 121 123 | 56 44 | | | | | | |
| Mo | 42 | 92 | 14.2 | Te | 52 | 122 | 2.9 | | | | | | |
| | | 94 | 10.0 | | | 123 | 1.6 | | | | | | |
| | | 95 | 15.5 | | | 124 | 4.5 | | | | | | |
| | | 96 | 17.8 | | | 125 | 6.0 | | | | | | |
| | | 97 | 9.6 | | | 126 | 19.0 | | | | | | |
| | | 98 | 23.0 | | | 128 | 32.8 | | | | | | |
| Ru | 44 | 100 | 9.8 | J | 53 | 130 | 33.1 | | | | | | |
| | | 96 | 5 | | | 127 | 100 | | | | | | |
| | | (98) | | | | Xe | 54 | 124 | 0.08 | | | | |
| | | 99 | 12 | | | | | 126 | 0.08 | | | | |
| | | 100 | 14 | | | | | 128 | 2.30 | | | | |
| | | 101 | 22 | | | | | 129 | 27.13 | | | | |
| 102 | 30 | 130 | 4.18 | | | | | | | | | | |
| 104 | 17 | 131 | 20.67 | | | | | | | | | | |
| Rh | 45 | 103 | 100 | 132 | 26.45 | | | | | | | | |
| Pd | 46 | 102 | c | 134 | 10.31 | | | | | | | | |
| | | 104 | a | 136 | 8.79 | | | | | | | | |
| | | 105 | a | Cs | 55 | 133 | 100 | | | | | | |
| | | 106 | a | | | Ba | 56 | 135 | 5.9 | | | | |
| | | 108 | a | | | | | 136 | 8.9 | | | | |
| | | 110 | b | | | | | 137 | 11.1 | | | | |
| Ag | 47 | 107 | 52.5 | | | | | 138 | 74.1 | | | | |
| | | 109 | 47.5 | | | | | La | 57 | 139 | 100 | | |
| | | Cd | 48 | 106 | 1.5 | | | | | Ce | 58 | 140 | 89 |
| | | | | 108 | 1.0 | 142 | 11 | | | | | | |
| | | | | 110 | 15.6 | Pr | 59 | | | | | 141 | 100 |
| | | | | 111 | 15.2 | | | | | | | Nd | 60 |
| 112 | 22.0 | | | 143 | 11 | | | | | | | | |
| 113 | 14.7 | | | 144 | 30 | | | | | | | | |
| 114 | 24.0 | 145 | 5 | | | | | | | | | | |
| 116 | 6.0 | 146 | 18 | | | | | | | | | | |
| In | 49 | 113 | 4.5 | Sm | 62 | 144 | 3 | | | | | | |
| | | 115 | 95.5 | | | 147 | 17 | | | | | | |
| Sn | 50 | 112 | 1.1 | | | 148 | 14 | | | | | | |
| | | 114 | 0.8 | | | 149 | 15 | | | | | | |
| | | 115 | 0.4 | | | 150 | 5 | | | | | | |
| | | 116 | 15.5 | | | 152 | 26 | | | | | | |
| | | 117 | 9.1 | 154 | 20 | | | | | | | | |
| | | 118 | 22.5 | Eu | 63 | 151 | 50.6 | | | | | | |
| | | 119 | 9.8 | | | 153 | 49.4 | | | | | | |
| | | 120 | 28.5 | | | | | | | | | | |
| | | 122 | 5.5 | | | | | | | | | | |
| | | 124 | 6.8 | | | | | | | | | | |

| Symbol | Ordnungs- zahl (Z) | Massen- zahl (M) | Häufigkeit (in %) | Symbol | Ordnungs- zahl (Z) | Massen- zahl (M) | Häufigkeit (in %) | | | | | | |
|--------|--------------------------|------------------------|----------------------|--------|--------------------------|------------------------|----------------------|-------|------|-----|-------|-----|------|
| Gd | 64 | 155 | 21 | Os | 76 | 186 | 1.0 | | | | | | |
| | | 156 | 23 | | | 187 | 0.6 | | | | | | |
| | | 157 | 17 | | | 188 | 13.4 | | | | | | |
| | | 158 | 23 | | | 189 | 17.4 | | | | | | |
| | | 160 | 16 | | | 190 | 25.1 | | | | | | |
| | | | | 192 | | 42.5 | | | | | | | |
| Tb | 65 | 159 | 100 | Ir | 77 | 191 | 33 | | | | | | |
| Dy | 66 | 161 | 22 | | | 193 | 67 | | | | | | |
| | | 162 | 25 | Pt | 78 | 192 | d | | | | | | |
| | | 163 | 25 | | | 194 | b | | | | | | |
| | | 164 | 28 | | | 195 | a | | | | | | |
| | | 196 | a | | | | | | | | | | |
| Ho | 67 | 165 | 100 | | | 198 | c | | | | | | |
| Er | 68 | 166 | 36 | Au | 79 | 197 | 100 | | | | | | |
| | | 167 | 24 | | | Hg | 80 | 196 | 0.10 | | | | |
| | | 168 | 30 | (197) | (0.01) | | | | | | | | |
| | | 170 | 10 | 198 | 9.89 | | | | | | | | |
| | | 199 | 16.45 | | | | | | | | | | |
| Tm | 69 | 169 | 100 | 200 | 23.77 | | | | | | | | |
| | | Yb | 70 | 171 | 9 | 201 | 13.67 | | | | | | |
| | | | | 172 | 24 | 202 | 29.27 | | | | | | |
| | | | | 173 | 17 | 203 | 0.006 | | | | | | |
| | | | | 174 | 38 | 204 | 6.85 | | | | | | |
| 176 | 12 | | | Tl | 81 | 203 | 29.4 | | | | | | |
| | | 205 | 70.6 | | | | | | | | | | |
| Cp | 71 | 175 | 100 | Pb | 82 | (203) | | | | | | | |
| | | Hf | 72 | | | 176 | 5 | 204 | 1.50 | | | | |
| | | | | | | 177 | 19 | (205) | | | | | |
| | | | | | | 178 | 28 | 206 | 28.3 | | | | |
| | | | | | | 179 | 18 | 207 | 20.1 | | | | |
| 180 | 30 | | | 208 | 50.1 | | | | | | | | |
| | | | | (209) | | | | | | | | | |
| | | | | (210) | | | | | | | | | |
| Ta | 73 | 181 | 100 | Bi | 83 | 209 | 100 | | | | | | |
| | | W | 74 | | | 182 | 22.6 | Th | 90 | 232 | (100) | | |
| | | | | | | 183 | 17.3 | | | U | 92 | 235 | < 1 |
| | | | | | | 184 | 30.2 | | | | | 238 | > 99 |
| 186 | 29.9 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Re | 75 | 185 | 38.2 | | | | | | | | | | |
| | | 187 | 61.8 | | | | | | | | | | |