### Wichtige physikalische Konstanten

Die Fehlerangabe bezieht sich auf die letzte signifikante Stelle, z.B. \((6,673 \pm 10) \cdot 10^{-11} = (6,673 \pm 0,010) \cdot 10^{-11}\).

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<tbody>
<tr>
<td>Lichtgeschwindigkeit im Vakuum</td>
<td>9.3.3</td>
<td>(c)</td>
<td>299 792 458 (exakt)</td>
<td>m s(^{-1})</td>
</tr>
<tr>
<td>Influenzkonstante</td>
<td>6.1.1</td>
<td>(\varepsilon_0)</td>
<td>8,854187817 \cdot 10^{-12} (exakt)</td>
<td>A m(^{-1}) m(^{-1})</td>
</tr>
<tr>
<td>Induktionskonstante</td>
<td>6.8.3</td>
<td>(\nu_0 = 1/(\varepsilon_0 c^2) = 4\pi \cdot 10^{-7} ) V s A(^{-1}) m(^{-1})</td>
<td>1,2566370614 \cdot 10^{-6} (exakt)</td>
<td>V s A(^{-1}) m(^{-1})</td>
</tr>
<tr>
<td>Gravitationskonstante</td>
<td>1.7.1</td>
<td>(G)</td>
<td>(6,673 ± 10) \cdot 10^{-11}</td>
<td>N m(^2) kg(^{-2})</td>
</tr>
<tr>
<td>Avogadro-Konstante</td>
<td>5.1.5</td>
<td>(N_A)</td>
<td>(6,0221420 ± 5) \cdot 10^{23}</td>
<td>mol(^{-1})</td>
</tr>
<tr>
<td>Molvolumen bei Normalbedingungen</td>
<td>3.1.5</td>
<td>(V_{\text{mol}})</td>
<td>(22,41400 ± 4) \cdot 10^{-3}</td>
<td>m(^3) mol(^{-1})</td>
</tr>
<tr>
<td>Boltzmann-Konstante</td>
<td>5.1.2</td>
<td>(k)</td>
<td>(1,380650 ± 2) \cdot 10^{-23}</td>
<td>J K(^{-1})</td>
</tr>
<tr>
<td>Gaskonstante</td>
<td>5.2.2</td>
<td>(R = kN_A)</td>
<td>8,31447 ± 2</td>
<td>J K(^{-1}) mol(^{-1})</td>
</tr>
<tr>
<td>Elementarladung</td>
<td>6.1.5</td>
<td>(e)</td>
<td>(1,60217646 ± 6) \cdot 10^{-19}</td>
<td>C</td>
</tr>
<tr>
<td>Faraday-Konstante</td>
<td>6.4.4</td>
<td>(F = eN_A)</td>
<td>(9,6485342 ± 4) \cdot 10^{4}</td>
<td>C mol(^{-1})</td>
</tr>
<tr>
<td>Ruhmasse des Protons</td>
<td>18.1.2</td>
<td>(m_p)</td>
<td>(1,6726216 ± 1) \cdot 10^{-27}</td>
<td>kg</td>
</tr>
<tr>
<td>Ruhmasse des Neutrons</td>
<td>18.1.2</td>
<td>(m_n)</td>
<td>(1,6749272 ± 1) \cdot 10^{-27}</td>
<td>kg</td>
</tr>
<tr>
<td>Ruhmasse des Elektrons</td>
<td>6.4.1</td>
<td>(m_e)</td>
<td>(9,1093819 ± 7) \cdot 10^{-31}</td>
<td>kg</td>
</tr>
<tr>
<td>Spezifische Ladung des Elektrons</td>
<td>6.4.1</td>
<td>(e/m_e)</td>
<td>− (1,75882017 ± 7) \cdot 10^{11}</td>
<td>C kg(^{-1})</td>
</tr>
<tr>
<td>Ruhenergie des Elektrons</td>
<td>16.3.6</td>
<td>(m_e c^2)</td>
<td>0,51099890 ± 2</td>
<td>MeV</td>
</tr>
<tr>
<td>Massenverhältnis Proton/Elektron</td>
<td>18.1.2</td>
<td>(m_p/m_e)</td>
<td>(1836,152668 ± 4)</td>
<td></td>
</tr>
<tr>
<td>Atomare Masseneinheit</td>
<td>18.1.2</td>
<td>(1/12 m^{(12}\text{C}))</td>
<td>(1,6605387 ± 1) \cdot 10^{-27}</td>
<td>kg</td>
</tr>
<tr>
<td>Planck-Konstante</td>
<td>8.1.2</td>
<td>(h)</td>
<td>(6,6260688 ± 5) \cdot 10^{-34}</td>
<td>J s</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(h = h/(2\pi))</td>
<td>(1,05457160 ± 8) \cdot 10^{-34}</td>
<td>J s</td>
</tr>
<tr>
<td>Stefan-Boltzmann-Konstante</td>
<td>11.2.5</td>
<td>(\sigma = 2 \pi^5 k^4/(15 c^2 h^3))</td>
<td>(5,67040 ± 4) \cdot 10^{-8}</td>
<td>W m(^{-2}) K(^{-4})</td>
</tr>
<tr>
<td>Bohr-Radius</td>
<td>14.1.2</td>
<td>(r_1 = 4 \pi \varepsilon_0 h^2/(m_e c^2))</td>
<td>(0,529177208 ± 2) \cdot 10^{-10}</td>
<td>m</td>
</tr>
<tr>
<td>Rydberg-Konstante</td>
<td>14.1.2</td>
<td>(R_\infty = \alpha^2 m_e c^2/2h)</td>
<td>10 973 731,56855 ± 8</td>
<td>m(^{-1})</td>
</tr>
<tr>
<td>Compton-Wellenlänge des Elektrons</td>
<td>13.1.3</td>
<td>(\mu_C = h/(m_e c))</td>
<td>(2,42631022 ± 2) \cdot 10^{-12}</td>
<td>m</td>
</tr>
<tr>
<td>Bohr-Magneton</td>
<td>14.3.2</td>
<td>(v_\text{B} = e h /2m_e)</td>
<td>(9,2740090 ± 4) \cdot 10^{-24}</td>
<td>JT(^{-1})</td>
</tr>
<tr>
<td>Feinstrukturkonstante</td>
<td>14.1.3</td>
<td>(\alpha = e^2/(4\pi \varepsilon_0 c^2 h))</td>
<td>1/(137,0359998 ± 5)</td>
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