

EVRENSEL KABUL EDİLEN BAZI SABİTELER (BİLMİN FARZLARI)

Elektron yükü $e = 1.6 \cdot 10^{-19} \text{ C}$

Elektronun kütlesi $m_e = 9.11 \cdot 10^{-31} \text{ kg} = 511 \text{ keV}/c^2$

Protonun kütlesi $m_p = 1.673 \cdot 10^{-27} \text{ kg} = 938.272 \text{ MeV}/c^2$

Neutronun kütlesi $m_n = 1.675 \cdot 10^{-27} \text{ kg} = 939.566 \text{ MeV}/c^2$

Planck sabiti $h = 6.626 \cdot 10^{-34} \text{ J s} = 4.136 \cdot 10^{-15} \text{ eV s}$

Boltzmann sabiti $k = 1.38 \cdot 10^{-23} \text{ J K}^{-1} = 8.617 \cdot 10^{-5} \text{ eV K}^{-1}$

Işığın uzaydaki hızı $c = 3.00 \cdot 10^8 \text{ m s}^{-1}$

Boş uzayın dielektrik sabitiv $\epsilon_0 = 8.85 \cdot 10^{-12} \text{ F m}^{-1}$

Avogadro sabiti $N_A = 6.02 \cdot 10^{23} \text{ mol}^{-1}$

Rydberg sabiti $R = 1.10 \cdot 10^7 \text{ m}^{-1}$

Bohr magnetonu $\mu_B = 9.27 \cdot 10^{-24} \text{ J T}^{-1}$

Nükleer magneton $\mu_N = 5.0508 \cdot 10^{-27} \text{ J T}^{-1} = 3.1525 \cdot 10^{-14} \text{ MeV T}^{-1}$

İnce yapı sabiti $\alpha = 1/137$

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| Atomik kütle birimi $1u = 1.66 \cdot 10^{-27} \text{ kg} = 931.502 \text{ MeV}/c^2$ Enerji dönüşümü $1 \text{ eV} = 1.6 \cdot 10^{-19} \text{ J}$ $1 \text{ yıl} = 3.16 \cdot 10^7 \text{ s}$ Serbest düşüş ivmesi | g | 9.80665 m s^{-2} $32.1740 \text{ ft s}^{-2}$ |
| Havanın yoğunluğu | d | $0.7734 \text{ m}^3 \text{ kg}^{-1}$ 1.2929 kg m^{-3} |
| Atomik kütle birimi | amu m_u u | $1.66053873(13) \times 10^{-27} \text{ kg}$ $931.494013(37) \text{ MeV}$ $1.49241778(12) \times 10^{-10} \text{ J}$ |
| Avogadro sabiti | N_A | $6.02214199(47) \times 10^{23} \text{ mol}^{-1}$ |
| Boltzmann sabiti | k | $1.3806503(24) \times 10^{-23} \text{ J K}^{-1}$ $8.617342(15) \times 10^{-5} \text{ eV K}^{-1}$ $2.0836644(36) \times 10^{10} \text{ Hz K}^{-1}$ |
| Carbon-14 yarı ömrü | T | 5570 yıl |
| Elektron yük kütle oranı | $-e/m_e$ | $-1.758820174(71) \times 10^{11} \text{ C kg}^{-1}$ |

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| Proton yük kütle oranı | e/m_p | $9.57883408(38) \times 10^7 \text{ C kg}^{-1}$ |
| Elektron yükü | e e/h | $1.602176462(63) \times 10^{-19} \text{ C}$ $2.417989491(95) \times 10^{14} \text{ A J}^{-1}$ |
| Elektron yarıçapı | r_e | $2.817940285(31) \times 10^{-15} \text{ m}$ |
| Elektron compton dalgaboyu | λ_c | $2.426310215(18) \times 10^{-12} \text{ m}$ |
| Euler sabiti | γ C | 0.57721566490153286061 |
| Curie | Ci | $3.7 \times 10^{10} \text{ Bq}$ |
| Dünya'nın ortalama yoğunluğu | | $5.517 \times 10^3 \text{ kg m}^{-3}$ |
| Dünya'nın ortalama yarıçapı | R | $6.37 \times 10^6 \text{ m}$ |
| Dünya'nın kütlesi | M | $5.972 \times 10^{24} \text{ kg}$ |
| Dünya-Ay uzaklığı | | $3.844 \times 10^8 \text{ m}$ |
| Elektrik sabiti($1/\mu_0 c^2$) | ϵ_0 | $8.854187817 \times 10^{-12} \text{ F m}^{-1}$ |
| Elektron kütlesi | m_e | $9.10938188(72) \times 10^{-31} \text{ kg}$ $5.485799110(12) \times 10^{-4} \text{ u}$ $0.510998902(21) \text{ MeV}$ |
| Elektron molar kütlesi | $M(e)$ M_e | $5.485799110(12) \times 10^{-7} \text{ kg mol}^{-1}$ |
| Elektron- α -Parçacığı kütle oranı | m_e/m_α | $1.3709335611(29) \times 10^{-4}$ |
| Elektron-Proton kütle oranı | m_e/m_p | $5.446170232(12) \times 10^{-4}$ |
| Güneşin enerji üretimi | | $3.90 \times 10^{26} \text{ W}$ |
| Euler sabiti | γ C | 0.57721566490153286061 |
| Faraday sabiti | F | $96485.3415(39) \text{ C mol}^{-1}$ |
| Fermi sabiti | | $1.4 \times 10^{-50} \text{ J m}^{-3}$ |
| Serbest uzay geçirgenliği | μ_0 | $4\pi \times 10^{-7} \text{ N A}^{-2}$ $12.566370614 \times 10^{-7} \text{ N A}^{-2}$ |
| Gaz sabiti | R | $8.314 \text{ J K}^{-1} \text{ mol}^{-1}$ |
| Gaz molar sabiti | R | $8.314472(15) \text{ J mol}^{-1} \text{ K}^{-1}$ |
| Gravitation sabiti | G | $6.673(10) \times 10^{-11} \text{ N m}^2 \text{ kg}^{-2}$ |
| Gravitational ivme, (Ay) | | 1.619 m s^{-2} |
| Gravitational ivme, (dünya) | g | 9.80665 m s^{-2} $32.1740 \text{ ft s}^{-2}$ |
| Vacum(boşluk) direnci | Z_0 | 376.730313461Ω |
| Işık yılı | ly | $9.46052973 \times 10^{15} \text{ m}$ |
| Işık hızı (Boşlukta) | c | $299792458 \text{ m s}^{-1}$ |
| Magnetik sabiti | μ_0 | $4\pi \times 10^{-7} \text{ N A}^{-2}$ $12.566370614 \times 10^{-7} \text{ N A}^{-2}$ |
| Muon un kütlesi | m_μ | $1.88353109(16) \times 10^{-28} \text{ kg}$ |

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| | | 0.1134289168(34) u 105.6583568(52) MeV |
| Neutron un kütlesi | m_n | $1.67492716(13) \times 10^{-27}$ kg 1.00866491578(55) u $1.50534946(12) \times 10^{-10}$ J |
| Planck kütlesi $(\hbar c/G)^{1/2}$ | m_P | $2.1767(16) \times 10^{-8}$ kg |
| Proton un kütlesi | m_p | $1.67262158(13) \times 10^{-27}$ kg 1.00727646688(13) u $1.50327731(12) \times 10^{-10}$ J |
| Güneş in kütlesi | | 1.99×10^{30} kg |
| Tau nun kütlesi | m_τ | $3.16788(52) \times 10^{-27}$ kg 1.90774(31) u |
| Molar gaz sabiti | R | $8.314472(15)$ J mol ⁻¹ K ⁻¹ |
| Deuteron molar kütlesi | M_d | 2.013553214(24) u |
| Muon molar kütlesi | $M(\mu)$ M_μ | $0.1134289168(34) \times 10^{-3}$ kg mol ⁻¹ |
| Neutron molar kütlesi | $M(n)$ M_n | $1.00866491578(55) \times 10^{-3}$ kg mol ⁻¹ |
| Proton molar kütlesi | $M(p)$ M_p | $1.00727646688(13) \times 10^{-3}$ kg mol ⁻¹ |
| Tau molar kütlesi | $M(\tau)$ M_τ | $1.90774(31) \times 10^{-3}$ kg mol ⁻¹ |
| Planck molar sabiti | $N_A h$ $N_A hc$ | $3.990312689(30) \times 10^{-10}$ J s mol ⁻¹ $0.11962656492(91)$ J m mol ⁻¹ |
| Ay in ortalama yoğunluğu | | 3.33×10^3 kg m ⁻³ |
| Ay in kütlesi | | 7.33×10^{22} kg |
| Ay in ortalama yarıçapı | | 1.738×10^6 m |
| Dirac sabiti | \hbar (h bar) | $1.054571596(82) \times 10^{-34}$ J s $6.58211889(26) \times 10^{-16}$ eV s |
| Pi | π | 3.1415926535897932384626433832795 |
| Planck sabiti(h) | h | $6.62606876(52) \times 10^{-34}$ J s $4.13566727(16) \times 10^{-15}$ eV s |
| Planck sabiti (h/2π) | \hbar | $1.054571596(82) \times 10^{-34}$ J s $6.58211889(26) \times 10^{-16}$ eV s |
| Planck uzunluğu | l_P | $1.6160(12) \times 10^{-35}$ m |
| Planck zamanı | t_P | $5.3906(40) \times 10^{-44}$ s |
| Rydberg sabiti $\alpha^2 m_e c/2h$ | R_∞ $R_\infty c$ $R_\infty hc$ | $10973731.568549(83)$ m ⁻¹ $3.289841960368(25) \times 10^{15}$ Hz $2.17987190(17) \times 10^{-18}$ J |
| Mutlak sıfır | | -273.15 ° C |