

Einige Elementarteilchen und ihre Eigenschaften

		$I^G(J^{\pi C})$	mc ²	$\tau(\text{sec}), \Gamma$	Zerfälle	L	Ba	S	C	B
(Eich)bosonen	γ	$0, 1(1^{--})$	0	–	–					
	W^\pm	$J = 1$	80.33 GeV	2.07 GeV	$\ell\nu, \text{Hadronen} : q_1\bar{q}_2, \dots$					
	Z^0	$J = 1$	91.187 GeV	2.49 GeV	$\ell^+\ell^-, \text{Hadronen} : q\bar{q}, \dots$					
Leptonen (ℓ)	ν_e	$J = \frac{1}{2}$	< 15 eV	–	–	$L_e = 1$	0	0	0	0
	e^-	$J = \frac{1}{2}$	0.511 MeV	–	–	$L_e = 1$	0	0	0	0
	ν_μ	$J = \frac{1}{2}$	< 0.17 MeV	–	–	$L_\mu = 1$	0	0	0	0
	μ^-	$J = \frac{1}{2}$	105.66 MeV	$2.2 \cdot 10^{-6}$ s	$e^-\bar{\nu}_e\nu_\mu$	$L_\mu = 1$	0	0	0	0
	ν_τ	$J = \frac{1}{2}$	< 18.2 MeV	–	–	$L_\tau = 1$	0	0	0	0
	τ^-	$J = \frac{1}{2}$	1777 MeV	$290 \cdot 10^{-15}$ s	$\ell^-\bar{\nu}_\ell\nu_\tau, \rho^-\nu_\tau, \pi^-\nu_\tau, \dots$	$L_\tau = 1$	0	0	0	0
Mesonen	π^\pm	$1^-(0^-)$	139.6 MeV	$2.6 \cdot 10^{-8}$ s	$\mu^\pm\nu_\mu(99.9\%), e^\pm\nu_e(0.0123\%)$	0	0	0	0	0
	π^0	$1^-(0^+)$	135 MeV	$8.4 \cdot 10^{-17}$ s	$\gamma\gamma, \gamma e^+e^-$	0	0	0	0	0
	η	$0^+(0^+)$	548 MeV	1.2 keV	$\gamma\gamma, 3\pi^0, \pi^+\pi^-\pi^0, \dots$	0	0	0	0	0
	η'	$0^+(0^+)$	956 MeV	200 keV	$\pi^+\pi^-\eta, \rho\gamma, \pi^0\pi^0\eta, \dots$	0	0	0	0	0
	ρ^\pm	$1^+(1^-)$	769 MeV	150 MeV	$\pi^\pm\pi^0$	0	0	0	0	0
	ρ^0	$1^+(1^-)$	769 MeV	150 MeV	$\pi^+\pi^-$	0	0	0	0	0
	ω	$0^-(1^-)$	782 MeV	8.4 MeV	$\pi^+\pi^-\pi^0, \pi^0\gamma, \pi^+\pi^-$	0	0	0	0	0
	ϕ	$0^-(1^-)$	1019.4 MeV	4.4 MeV	$K^+K^-, K_L^0K_S^0, \pi^+\pi^-\pi^0, \dots$	0	0	0	0	0
	J/ψ	$0^-(1^-)$	3096.88 MeV	87 keV	$\ell^+\ell^-, \text{Hadronen}, \dots$	0	0	0	0	0
	$\psi(2S)$	$0^-(1^-)$	3686 MeV	280 keV	$J/\psi\pi\pi, \text{Hadronen}, \dots$	0	0	0	0	0
	$\psi(3770)$	$0^-(1^-)$	3770 MeV	24 MeV	$D^+D^-, D^0\bar{D}^0$	0	0	0	0	0
	$\Upsilon(1S)$	$0^-(1^-)$	9460.4 MeV	52 keV	$\ell^+\ell^-, \text{Hadronen}, \dots$	0	0	0	0	0
	$\Upsilon(2S)$	$0^-(1^-)$	10023.3 MeV	44 keV	$\Upsilon(1S)\pi\pi, \text{Hadronen}, \dots$	0	0	0	0	0
	$\Upsilon(4S)$	$0^-(1^-)$	10580 MeV	10 MeV	$B^+B^-, B^0\bar{B}^0$	0	0	0	0	0
	K^\pm	$\frac{1}{2}(0^-)$	493.7 MeV	$1.24 \cdot 10^{-8}$ s	$\mu^\pm\nu_\mu, \pi^\pm\pi^0, \dots$	0	0	± 1	0	0
	K^0/\bar{K}^0	$\frac{1}{2}(0^-)$	497.7 MeV	–	$\pi^-\ell^+\nu_\ell/\pi^+\ell^-\bar{\nu}_\ell$	0	0	± 1	0	0
	K_S^0	$\frac{1}{2}(0^-)$	497.7 MeV	$0.89 \cdot 10^{-10}$ s	$\pi^+\pi^-, \pi^0\pi^0$	0	0		0	0
	K_L^0	$\frac{1}{2}(0^-)$	497.7 MeV	$5.17 \cdot 10^{-8}$ s	$\pi^+\pi^-\pi^0, 3\pi^0$	0	0		0	0
	$K^{*\pm}$	$\frac{1}{2}(1^-)$	892 MeV	50 MeV	$K\pi$	0	0	± 1	0	0
	\bar{K}^{*0}	$\frac{1}{2}(1^-)$	892 MeV	50 MeV	$K\pi$	0	0	-1	0	0
	K^{*0}	$\frac{1}{2}(1^-)$	892 MeV	50 MeV	$K\pi$	0	0	+1	0	0
	D^+	$\frac{1}{2}(0^-)$	1869 MeV	$1.06 \cdot 10^{-12}$ s	$\bar{K}^0\ell^+\nu_\ell, K^-\pi^+\pi^+, \dots$	0	0	0	+1	0
	D^-	$\frac{1}{2}(0^-)$	1869 MeV	$1.06 \cdot 10^{-12}$ s	$K^0\ell^-\bar{\nu}_\ell, K^+\pi^-\pi^-, \dots$	0	0	0	-1	0
	D^0	$\frac{1}{2}(0^-)$	1865 MeV	$0.42 \cdot 10^{-12}$ s	$K^-\ell^+\nu_\ell, K^-\pi^+, \dots$	0	0	0	+1	0
	\bar{D}^0	$\frac{1}{2}(0^-)$	1865 MeV	$0.42 \cdot 10^{-12}$ s	$K^+\ell^-\bar{\nu}_\ell, K^+\pi^-, \dots$	0	0	0	-1	0
	D^{*+}	$\frac{1}{2}(1^-)$	2010 MeV	< 131 keV	$D^0\pi^+, D^+\pi^0, D^+\gamma$	0	0	0	+1	0
	D^{*0}	$\frac{1}{2}(1^-)$	2007 MeV	< 2.1 MeV	$D^0\pi^0, D^0\gamma$	0	0	0	+1	0
	B^+	$\frac{1}{2}(0^-)$	5279 MeV	$1.62 \cdot 10^{-12}$ s	$\bar{D}^{*0}\ell^+\nu_\ell, \bar{D}^{*0}\rho^+, J/\psi X, \dots$	0	0	0	0	+1
	B^-	$\frac{1}{2}(0^-)$	5279 MeV	$1.62 \cdot 10^{-12}$ s	$D^{*0}\ell^+\nu_\ell, D^{*0}\rho^+, J/\psi X, \dots$	0	0	0	0	-1
	\bar{B}^0, B^0	$\frac{1}{2}(0^-)$	5279 MeV	$1.56 \cdot 10^{-12}$ s	$D^{*0}\ell^+\nu_\ell, J/\psi K_S^0, \dots$	0	0	0	0	∓ 1
Baryonen	p	$\frac{1}{2}(\frac{1}{2}^+)$	938.3 MeV	> 10^{31} a	–	0	1	0	0	0
	n	$\frac{1}{2}(\frac{1}{2}^+)$	939.6 MeV	887 s	$pe^-\bar{\nu}_e$	0	1	0	0	0
	Λ	$0(\frac{1}{2}^+)$	1115.7 MeV	$2.6 \cdot 10^{-10}$ s	$p\pi^-, n\pi^0$	0	1	-1	0	0
	Σ^+	$1(\frac{1}{2}^+)$	1189.4 MeV	$0.8 \cdot 10^{-10}$ s	$p\pi^0, n\pi^+$	0	1	-1	0	0
	Σ^0	$1(\frac{1}{2}^+)$	1192.6 MeV	$7 \cdot 10^{-20}$ s	$\Lambda\gamma$	0	1	-1	0	0
	Σ^-	$1(\frac{1}{2}^+)$	1197.4 MeV	$1.48 \cdot 10^{-10}$ s	$n\pi^-$	0	1	-1	0	0
	Ξ^0	$\frac{1}{2}(\frac{1}{2}^+)$	1315 MeV	$2.90 \cdot 10^{-10}$ s	$\Lambda\pi^0$	0	1	-2	0	0
	Ξ^-	$\frac{1}{2}(\frac{1}{2}^+)$	1321 MeV	$1.64 \cdot 10^{-10}$ s	$\Lambda\pi^0-$	0	1	-2	0	0
	Ω^-	$0(\frac{3}{2}^+)$	1672 MeV	$0.8 \cdot 10^{-10}$ s	$\Lambda K^-, \Xi^0\pi^-, \Xi^-\pi^0$	0	1	-3	0	0
	Δ^{++}	$\frac{3}{2}(\frac{3}{2}^+)$	1230 MeV	120 MeV	$p\pi^+$	0	1	0	0	0
	Λ_c^+	$0(\frac{1}{2}^+)$	2285 MeV	$0.2 \cdot 10^{-12}$ s	$p\bar{K}^0, pK^-\pi^+, \Lambda\pi^+\pi^0, \dots$	0	1	0	1	0
	Ξ_c^0	$\frac{1}{2}(\frac{1}{2}^+)$	2470 MeV	$1 \cdot 10^{-13}$ s	$\Lambda\bar{K}^0, \Xi^-e^+\nu_e, \dots$	0	1	-1	1	0
	Λ_b	$0(\frac{1}{2}^+)$	5640 MeV	$1.1 \cdot 10^{-12}$ s	$\Lambda J/\psi, pD^0\pi^-, \Lambda_c\ell^-\bar{\nu}_\ell, \dots$	0	1	0	0	-1