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Glossary

$\left[{k \atop \ell}\right]$	number of Taylor coefficients of order ℓ of a function with k arguments
$\alpha_q^{(k)}$	k-th Cartan character of the differential equation $\mathcal{R}_q$
$\bar{\alpha}_q^{(k)}$	gauge corrected Cartan character
A_μ^a	vector potential of a Yang-Mills theory
$\beta_q^{(k)}$	number of equations of class k in symbol $\mathcal{M}_q$
$\bar{\beta}_q^{(k)}$	gauge corrected value of $\beta_q^{(k)}$
C_{bc}^a	structure constants of a Lie algebra
$C^{\mu\nu}$	Cotton tensor
C_P	characteristic variety at point $P \in \mathcal{R}_q$
$\mathcal{C}^\infty$	smooth functions
$\mathcal{C}^\omega$	analytic functions
d	exterior derivative
D_i	formal derivative with respect to x^i
$\mathcal{D}_\mu$	covariant derivative with respect to x^μ
$\eta_{\mu\nu}$	metric tensor of Minkowski space
E_k	k-dimensional integral element
$f_{j,k}$	number of functions of differentiation order j with k arguments in the general solution
$F_{\mu\nu}^a$	field strength of a Yang-Mills theory
$\mathcal{F}^\omega$	local analytic functions on $J_\infty\mathcal{E}$
$\Gamma_{loc}(\mathcal{E})$	sheaf of local sections of $\mathcal{E}$
$\Gamma_{\mu\nu}^\rho$	Christoffel symbols
$g_{\mu\nu}$	metric tensor of space-time
$G_{\mu\nu}$	Einstein tensor
$H(E_k)$	polar system of the integral element E_k
$H_q(r)$	Hilbert polynomial of the symbol $\mathcal{M}_q$
$\bar{H}_q(r)$	gauge corrected Hilbert polynomial
i_v	interior derivative
I_q	ideal of the analytic functions vanishing on $\mathcal{R}_q$
$j_q(\sigma)$	q-fold prolongation of section $\sigma \in \Gamma_{loc}(\mathcal{E})$
$J_q\mathcal{E}$	jet bundle of order q
$\mathcal{L}_v$	Lie derivative
$\mathcal{L}_>^\alpha$	leading derivatives with respect to the ranking $>$ of a system of differential equations belonging to the dependent variable u^α
$\Lambda^p T^*M$	p-forms on M
$\mathcal{M}_q$	symbol of the differential equation $\mathcal{R}_q$
$N^*\Sigma$	co-normal variety of submanifold Σ

$\hat{q}(m,n,q)$	upper bound for the number of prolongations needed to render the symbol $\mathcal{M}_q$ involutive
$\mathcal{P}^\perp$	annihilator of $\mathcal{P}$
$\mathcal{P}_q(\sigma)$	linearization of $\mathcal{R}_q$ at the section σ
$R_{\mu\nu}$	Ricci tensor
$\mathcal{R}_q$	differential equation of order q
$\mathcal{R}_{q+r}$	r-fold prolongation of $\mathcal{R}_q$
$\mathcal{R}_{q+r}^{(s)}$	s-fold projection of $(r+s)$-fold prolongation of $\mathcal{R}_q$
$s_k^{(n)}(q)$	modified Stirling number
S_nV	n-fold symmetric product of vector space V
$\mathcal{S}_k$	k-dimensional integral manifold
σ_χ	tableau
$\sigma_{[\chi^{(k)},\dots,\chi^{(n)}]}$	k-tableau
$\mathcal{T}[\chi]$	matrix of the tableau σ_χ
TM	tangent bundle of manifold M
T^*M	cotangent bundle of manifold M
$V\mathcal{E}$	vertical bundle of $\mathcal{E}$
$Z_q^{(0)}$	compatibility coefficient of $\mathcal{R}_q$
$\bar{Z}_q^{(0)}$	gauge corrected compatibility coefficient
$Z_q^{(1)}$	strength of $\mathcal{R}_q$
$\bar{Z}_q^{(1)}$	gauge corrected strength

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