⊳ Size-adaptive math

	(x)	parantheses
	[x]	brackets
	x	absolute value
	$ x ^2$	absolute value squared
{}	[x, y]	commutator
	$\langle x \rangle$	mean value

▶ Braket notation

	$\langle x $	bra
	$ x\rangle$	ket
{}	$\langle x y\rangle$	scalar product
{}	$ x\rangle\langle y $	ket-bra operator
{}{}	$\langle x y z\rangle$	matrix element
$\space{2mm} \space{2mm} \spa$	$\langle x y z\rangle$	small matrix element

⊳ Special functions

 $\delta(x)$	delta function
 $\theta(x)$	theta function
 $\exp(x)$	exponential function
 e^x	exponential function
 Re(x)	real part
 Im(x)	imaginary part

Named states

\ketPsi	$ \Psi$
\ketpsi	$ \psi angle$
\ketphi	arphi angle

Motus	 ↑\	anin un
\ketup	↑ >	spin up
\ketdn	$ \downarrow\rangle$	spin down
\ketzero	$ 0\rangle$	
\ketone	$ 1\rangle$	
\ketg	$ g\rangle$	ground state
\kete	$ e\rangle$	excited state
\vac	$ { m vac}\rangle$	vacuum
⊳ Vectors		
\vecr	\mathbf{r}	
\vecrone	\mathbf{r}_1	
\vecrtwo	$\mathbf{r_2}$	
\vecrn	$\mathbf{r_N}$	
\vecri	$\mathbf{r_i}$	
\vecrj	${f r_j}$	
\vecx	x	
\vecy	\mathbf{y}	
\vecz	${f z}$	
\vecxi	$\mathbf{x_i}$	
\vecxj	x_j	
\veck	k	
\vecq	\mathbf{q}	
\vecp	p	
Differentiation		
	$rac{\partial}{\partial x}$	partial differentiation
\laplace	∇^2	laplace operator

⊳ Integration

	$\int dx$	integral
{}{}	$\int\limits_{x}^{y}\!\mathrm{d}z$	integral with boundaries
{}	$\int \frac{\mathrm{d}x}{y}$	integral with fraction
\intvol	$\int \! \mathrm{d}^3 r$	integral over r space
\intvolp	$\int \! \mathrm{d}^3 r'$	integral over r' space
\intvold	$\int \! \mathrm{d}^3 r \int \! \mathrm{d}^3 r'$	double integral over space
\intk	$\int \! \mathrm{d}^3 k$	integral over k space
\intkp	$\int \! \mathrm{d}^3 k'$	integral over k' space
\intkn	$\int \frac{\mathrm{d}^3 k}{(2\pi)^3}$	normalized integral over k space
\intkpn	$\int \frac{\mathrm{d}^3 k'}{(2\pi)^3}$	normalized integral over k' space

⊳ Special symbols

\hc	h.c.	hermitian conjugate
\hamil	Ĥ	Hamilton operator
\hastobe	<u>!</u>	has to be
\eqhat	â	corresponds to, is equivalent
\id	1	identity matrix
\const	const.	hermitian conjugate

> Second quantization

\aop	a	annihilation operator
\aopd	a^{\dagger}	creation operator
\bop	b	annihilation operator
\bopd	b^{\dagger}	creation operator
\cop	c	annihilation operator
\copd	c^{\dagger}	creation operator
\nop	n	number operator

\psiop	$\hat{\psi}$	field operator
\psiopd	$\hat{\psi}^{\dagger}$	
\PsiOp	$\hat{\Psi}$	

 $\hat{\Psi}^{\dagger}$

Differences

\PsiOpd

\Dx Δx \Dy Δy \Dt Δt

▶ Trigonometry

\asin asin \acos \atan atan

⊳ Figures