Introduction to workshopsymbols.tex

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In writing a large, collective document, it is important to avoid conflicting macros from different author contributions. In the file workshopsymbols.tex, I have tried to provide a limited number of macros that present the main symbols needed for writing papers on particle physics. If you need the symbols below, please find them predefined in workshopsymbols.tex. If you need additional symbols, please try not to overwrite these macros. In general, you should give your new macros names that are unlikely to be used by others.

I apologize that this file does not contain a useful compendium of astrophysical symbols. If someone would be kind enough to send me suggestions, I will include them.

Beyond the list of macros, workshopsymbols.tex provides an easy mechanism for writing displayed equations. For a single-line equation, use \beq to begin the equation and \eeqn to end it. The macro \eeqn will assign a number to the equation. If you would like a reference to the number that you can use later, use \eeq{myname}. Then the macro \leqn{myname} will correctly print the equation number in parentheses. Thus,

generates

$$m_W^2 = m_Z^2 \cos^2 \theta_w \tag{2}$$

and then \leqn{custodial} generates a reference (2). For multi-line equations, use \beqa and \eeqan or \eeqa{myname}, use \CR as a smarter carriage return, and control the alignment in the usual way with the symbol &.

Now, then, here are the symbols defined by workshopsymbols:

First, text mode macros:

\ie i.e. \eg e.g. \etc etc. \etal et al. \ibid ibid.

The rest of the macros are to be used in math mode.

Expectation values:

\VEV{{A\over B}} $\left\langle \frac{A}{B} \right\rangle$ \vev{{A\overB}} $\left\langle \frac{A}{B} \right\rangle$ bra{A} $\left\langle A \right|$ \ket{A} $\left| A \right\rangle$ Relation symbols:

lsim $\lesssim \gsim \gtrsim \Im \Im \Re \Re \tr \tr$

Caligraphic letters:

$$oldsymbol{\mathsf{D}}$$
 $oldsymbol{\mathsf{L}}$ $oldsymbol{\mathsf{L}}$ $oldsymbol{\mathsf{M}}$ $oldsymbol{\mathsf{M}}$ $oldsymbol{\mathsf{M}}$ $oldsymbol{\mathsf{M}}$ $oldsymbol{\mathsf{M}}$ $oldsymbol{\mathsf{M}}$

Unit matrix and fractions:

\One 1 \half $\frac{1}{2}$ \thalf $\frac{3}{2}$ \third $\frac{1}{3}$ \tthird $\frac{2}{3}$

Derivatives and momenta:

\del ∂ \dslash $ot \emptyset$ \Dslash ot D \Dlr ot D \pslash $ot \emptyset$ \ETmiss $ot E_T$

Particle physics terminology:

For subscripts:

\Pl \eff \cm \CM \CM \GUT \GUT \X_\msb $X_{\overline{MS}}$ \X_\drb $X_{\overline{DR}}$ For supersymmetry:

\s q \tilde{q} \s \tau $\tilde{\tau}$ \ch 1 $\tilde{\chi}_1^+$ \chm 2 $\tilde{\chi}_2^-$ \neu 3 $\tilde{\chi}_3^0$ Units of measure in math mode:

\ifb ${\rm fb}^{-1}$ \eV ${\rm eV}$ \keV ${\rm keV}$ \MeV ${\rm MeV}$ \GeV ${\rm GeV}$ \TeV