

# The Fortran COMMONS accessible to user

Initial setting of the masses, charges, couplings, etc. is performed in the subroutine INITGRIDCONST, which should be called in the very beginning of a user application. The corresponding variables are stored in commons and then can be changed by user.

Table 1: Selected variables stored in the include 'CONSTCOM.'

Variable name	Description
<b>RMASS(i)</b>	The quark masses. For down-quark (i=2), up-quark(i=4), strange-quark(i=6) the default value of mass is set to 0. For charm-quark(i=8), beauty-quark(i=10), and top-quark(i=12) the default values are set to 1.5, 4.5, and 173. in units of GeV, respectively.
<b>CKM2(i,j)</b>	Elements of the CKM matrix squared. The indexes i,j run from 1 to 3. The default values are set to ones given in PDG review of 2010.
<b>KORDF2</b>	The order of QCD corrections to the Wilson coefficients of the light-flavor DIS structure functions $F_2$ and $F_T$ taken into account. The default value is 2 (NNLO case); other allowed values are 0 (LO) and 1 (NLO).
<b>KORDF3</b>	The order of QCD corrections to the Wilson coefficients of the light-flavor DIS structure function $F_3$ taken into account. The default value is 2 (NNLO case); other allowed values are 0 (LO) and 1 (NLO)
<b>KORDFL</b>	The order of QCD corrections to the Wilson coefficients of the light-flavor DIS structure function $F_L$ taken into account. The default value is 2 (NLO case); other allowed values are 1 (LO) and 3 (NNLO).
<b>KORDHQ</b>	The order of QCD corrections to the Wilson coefficients of the heavy-quark lepto-production structure functions $F_2$ , $F_T$ , $F_3$ taken into account. The default value is 1 (NLO); other allowed values are 0 (LO) and 2 (NNLO, applicable for the charged-lepton beam only).
<b>HQSCALE1</b> <b>HQSCALE2</b>	The heavy-quark lepto-production scale is defined as $\sqrt{Q^2 \cdot \text{HQSCALE1} + N_h^2 m^2 \cdot \text{HQSCALE2}}$ , where $Q^2$ is the 4-momentum transferred and $m$ is the heavy-quark mass. The default values of variables HQSCALE1 and HQSCALE2 are 1. The value of $N_h$ is number of the heavy quarks produced (2 for the charged-lepton beam and 1 for the (anti)neutrino beam, respectively).

Table 2: Selected variables stored in the include 'PDFCOM.'.

Variable name	Description
<b>KSCHEMEPDF</b>	The 3-flavor PDFs are invoked with the subroutine PDFFILLGRID from the LHAPDF library if KSCHEMEPDF=0 (default); other allowed values are 1 (4-flavor scheme) and 2 (5-flavor scheme).
<b>KORDPDF</b>	The NNLO PDFs are invoked with the subroutine PDFFILLGRID from the LHAPDF library if KORDPDF=2 (default); other allowed values are 0 (LO) and 1 (NNLO).
<b>KPDFSET</b>	Defines the PDF set uncertainty member invoked with the subroutine PDFFILLGRID from LHAPDF library. The default value is 0 (central PDF member).
<b>MSBARM</b>	The pole-mass definition for the Wilson coefficients of the heavy-quark lepto-production structure functions is employed if MSBARM=.false. (default). For MSBARM=.true. the running-mass definition is employed.
<b>HQNONS</b>	The nonsinglet term is included into the neutral-current heavy-quark lepto-production structure functions if HQNONS=.true. (default). If HQNONS=.false. this term is dropped.

Table 3: Selected variables stored in the include 'PRECCOM.'. The default values of the variables, which define the integration accuracy, are 1. For the bigger positive integers the integration accuracy rises steadily.

Variable name	Description
<b>NF2HQ</b>	Defines the integration accuracy for the heavy-quark lepto-production structure function $F_2$ .
<b>NFLHQ</b>	Defines the integration accuracy for the heavy-quark lepto-production structure function $F_L$ .
<b>NF3HQ</b>	Defines the integration accuracy for the heavy-quark lepto-production structure function $F_3$ .
<b>NF2QCD1</b>	Defines the integration accuracy for the light-flavor structure function $F_2$ at small $x$ .
<b>NF2QCD2</b>	Defines the integration accuracy for the light-flavor structure function $F_2$ at large $x$ .
<b>NFLQCD</b>	Defines the integration accuracy for the light-flavor structure function $F_L$ .
<b>NF3QCD</b>	Defines the integration accuracy for the light-flavor structure function $F_3$ .