

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
RMASS(i)	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.
CKM2(i,j)	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.
KORDF2	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).
KORDF3	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).
KORDFL	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).
KORDHQ	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).
HQSCALE1 HQSCALE2	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
KSCHEMEPDF	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).
KORDPDF	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 (NLO).
KPDFSET	Defines the PDF set uncertainty member invoked with the subroutine PDF-FILLGRID from LHAPDF library. The default value is 0 (central PDF member).
MSBARM	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.
HQNONS	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.
DDNNLOHQ	The parameter selecting between different variants of the NNLO term in the heavy-quark electroproduction Wilson coefficient given in [1205.5727] (DDNNLOHQ=0.: variant A (default), DDNNLOHQ=1.: variant B). For the non-round values of DDNNLOHQ the Wilson coefficients are taken as the linear interpolation between the variants A and B.

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
NF2HQ	Defines the integration accuracy for the heavy-quark lepto-production structure function F_2 .
NFLHQ	Defines the integration accuracy for the heavy-quark lepto-production structure function F_L .
NF3HQ	Defines the integration accuracy for the heavy-quark lepto-production structure function F_3 .
NF2QCD1	Defines the integration accuracy for the light-flavor structure function F_2 at small x .
NF2QCD2	Defines the integration accuracy for the light-flavor structure function F_2 at large x .
NFLQCD	Defines the integration accuracy for the light-flavor structure function F_L .
NF3QCD	Defines the integration accuracy for the light-flavor structure function F_3 .