

Ntuple Content (version 1.3.1)

Each events has ntrack 4-momenta (in practice ntrack = 2 or 3). The energy E , p_x , p_y and p_z are put in vectors (of 2 or 3 components) knowing that :

- the components 0 of these vectors are related to the photon
- the components 1 of these vectors is related to the hard parton
- the components 2 of these vectors is related to the parton which can be soft or collinear (here after denoted by 3)

i. e. the 4 momentum of the photon is $(E[0], p_x[0], p_y[0], p_z[0])$

iprovid is the origin of the events :

$$\begin{array}{l} \text{ntrack} = 3 \\ \text{ntrack} = 2 \end{array} \quad \begin{array}{l} \text{iprovid} = 34, 44 \\ \left\{ \begin{array}{l} \text{iprovid} = 21 : \\ \text{iprovid} = 23 : \\ \text{iprovid} = 10, 11 : \end{array} \right. \end{array} \quad \begin{array}{l} 2 \rightarrow 3 \\ \text{quasi } 2 \rightarrow 2 \text{ (3 collinear to the initial state)} \\ \text{quasi } 2 \rightarrow 2 \text{ (3 collinear to the photon)} \\ 2 \rightarrow 2 \text{ (10 : virtual, 11 : LO)} \end{array}$$

The knowledge of iprovid enables to reconstruct the 4-momentum of the particule 3 when it is collinear (if needed)

There are also the fragmentation variables x_3 . For the direct part, the fragmentation variable x_3 is always 1, for the fragmentation, it is the fraction of 4-momentum carried away by the photon from the parent parton.

There is also an array of weights : pdf_weight. The number of components of this array is the number of pdf sets used to determine the error : nb_member. The content is the ratio of a pdf set by the central set times the real weight which is ± 1 . Note that, this can be switched off in the parameter file and in this case pdf_weight has only one component.

In the header of the ntuple are stored a vector with three values. The first is the number of events generated, the second is the pseudo integrated cross section (be careful this number has in general no physical meaning), and the third is center of mass energy. The two first are used for the normalisation of the histograms (please see the example in pawres/read_tree_example.C)