



# Book-keeping

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## User requirements document

Document Version: 2  
 Document Date: 29 June 1999  
 Document Status: Draft  
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### Abstract

This is a document to reflect the physicist user requirements for the book-keeping of the LHCb data. This book-keeping will be apply to the Monte Carlo data and in the future to the real data.

## 1 Physics data

Under this heading, we will describe what we should find in this book-keeping.

### 1.1 DATA type

The type of data need to be identified. Mainly it will be real data, beam or Monte Carlo data.

Table 1

Type	Option
data type	

### 1.2 Physics channel

The type of production which have been produced need to be identified.

For example some value could be : minimum bias, bb inclusive,  $B_d \rightarrow \mu X$ ,  $B_d \rightarrow eX$ ,  $B_d \rightarrow 2\pi, \dots$

**Table 2**

Type	Option
Physics channel	channel lists

## 1.3 Generator

For the Monte Carlo data, different production are made with different generator. So we need to identify the parameter for each generator which are used. The production must be specify, the decay and the kinematical cuts.

**Table 3**

Type	Option
Generator	Production name Decay name Kinematical cut Parameter Version

## 1.4 Simulation

For the production, we have to know which simulation program have been used. We need to store the version of the database (detector database) which have been used and the version of the simulation program.

**Table 4**

Type	Option
Simulation	simulation version program detector database version geant version parameter

## 1.5 Reconstruction

For the production, we have to know which reconstruction program have been used. We need to store the version of the database (detector database) which have been used and the version of the reconstruction program.

Table 5

Type	Option
Reconstruction	reconstruction version program detector database version parameter

## 1.6 Statistics

We need to have some statistics on the production. The RUN number, the number of events, the seeds.

Table 6

Type	Option
statistic	run number UNIQUE number of event seed

## 1.7 Data location

We need to know where the production have been done and on which support the data are sitting.

Table 7

Type	Option
location	media name location

## 2 Remarks

- The book-keeping must be kept up to date. This implies that the updating must be done with short delay.
- The book-keeping must communicate with outside.
- We need to create some API in order to ease the communication with the book-keeping.
- We have to provide some interface to query interactively the book-keeping

- We must be able to query through a program.