

Cell ID Descriptors

It has been proposed to add cell id descriptors to LCIO. This page contains notes and links to code.

Proposed Convention

It is proposed to use the same convention currently used in SLIC/lcsim/CompactGeometry. This consists of a string encoded thus:

`<fieldDesc>[,<fieldDesc>...]`

`fieldDesc = name:[start]:[-]length`

For example

`layer:7,system:-3,barrel:3,theta:32:11,phi:11`

Where:

`name`: The name of the field

`start`: The start bit of the field. If omitted assumed to start immediately following previous field, or at the least significant bit if the first field.

`length`: The number of bits in the field. If preceded by - the field is signed, otherwise unsigned.

Bit numbering is from the least significant bit (bit 0) to the most significant (bit 63). For any particular collection this string would be stored as a string parameter (using what name?)

Existing Code

Java

The following classes deal with encoding/decoding cell id descriptors:

- [IDDescriptor](#)
- [IDEncoder](#)
- [IDDecoder](#)