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Subject: Simulation Requirements Document  
Posted by [dhiman](#) on Thu, 27 May 2004 15:18:56 GMT  
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Friends,

The Worldwide LC Simulation Working Group is preparing a document that lists the requirements for a common detector simulation program. A preliminary draft of this document is attached. We'll post updates on this forum, but you can find the latest version also at <http://nicadd.niu.edu/~dhiman/lcd/software/simulation/simreq doc.pdf>. We intend to finalize the document over this summer. Your comments, suggestions, and questions, as a potential developer or user, are most welcome.

This is only the first step, to be followed by analysis, design, and implementation of many components that must be realized concurrently. As you can see, tasks are many, developers few, and time rather limited. Please let us know if you'd like to join the development team.

On behalf of the Worldwide LC Simulation Working Group,  
Dhiman Chakraborty  
NIU/NICADD

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#### File Attachments

1) [simreqdoc.pdf](#), downloaded 1322 times

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Subject: LLR Simulation Meeting notes  
Posted by [mora](#) on Thu, 03 Jun 2004 08:11:47 GMT  
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Dear all,

Attached here you have some notes concerning the Simulation Meeting held on 26 April 2004 at the L.L.R.

Cheers, Paulo.

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#### File Attachments

1) [LLRSimulationMeeting.pdf](#), downloaded 1192 times

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Subject: A starting point on the requests to be answered by a common geometry API

Posted by [lima](#) on Sat, 05 Jun 2004 17:12:16 GMT  
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This list is the result of a discussion carried out during the LC simulations workshop at Argonne. Please add to this topic your comments and suggestions to this list. Comments from reconstruction algorithm developers are specially encouraged.

Guilherme, for the  
Worldwide LC Simulations working group

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Requests to be answered by a common geometry API  
a starting point

\* reqs on the geom system:

- . full detector
  - name/tag
  - version
  - others?
  
- . given (x,y,z):
  - material properties
    - density, radlen, intlen, others?
  - E-field
  - B-field
  - distance to closest detector element (is this needed)?
  - cell/channel
    - . id
    - . shape
      - . dimensions
    - . distance to closest edge
    - . volume, area, etc (needed?)
  
- . given volume (cell/channel) id
  - center position
  - local <--> global coords transformations
  - neighborhoods?
  - geant4 attributes
  
- . given A(xa,ya,za) and B(xb,yb,zb) (straight line only!)
  - distance

- # radlens
  - # intlens
  - integral E.dl or B.dl
  - collection of traversed volumes
- . hierarchical view: given a volume
- collection of mutually exclusive, non-overlapping subvolumes
  - parent volume
  - list of all parents
  - sensitivity
  - type (calorimeter or tracker)
- . given vecP(px,py,pz)...
- nothing from a geometry system, but from a client of the geometry system