

Special Geant4 session

BGM/OMPC

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Why Geant4?

- Geant4 is the successor of GEANT3, the world-standard toolkit for HEP detector simulation
 - + it has a large degree of functionality and flexibility
 - + large user base
 - it is complex and huge
 - not particularly optimized for our application
- Nonetheless we seem to have no other choice

Why now?

- History at Belle
 - Tajima/Katayama worked on the first implementation of BelleG4 3-4 years ago
 - We stopped because we needed to (re)write reconstruction software
 - Kibayashi/Katayama started to work last year
 - We were determined to get it going this time
 - You will see what we have now
 - We hope you will help us get going from now

Why do we need it for Super Belle?

- Optimize the design of each sub detector
- Optimize the overall design of the detector
- Optimize the design of interaction region with the machine people
- Understand the effectiveness of new frontend electronics through simulation
- Prepare for the reconstruction software for an immediate use upon startup of the machine

Today's talks

- We asked those who have been working on/using g4superb (Geant4 simulation program for super Belle) to give introductory talks on G4 and g4superb and its use
 - Geometry and Material (+RICH status)
 - Hits and digitization (+TOP status)
 - Physics and transport in G4 (+KLM status)
 - g4superb in basf (+ECL status)
 - tracking and overall status (March 20th)