discussion on Fast simulation

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What's available

- PravdaMC
  - main advantages:
    - available now
    - fast
    - room for some improvement
  - main disadvantages:
    - based on TRACKERR, a successful but old fortran code difficult to debug or maintain
    - poor treatment of low-momentum tracks: dE/dx and mult. scattering are used to calculate the Error matrix but don't affect the helix
    - no hit information: -->no pat. recognition, very difficult to include bkg

What we need

- PravdaMC is useful for a number of optimization and physics studies and it's the only option ready. However it has important intrinsic limitations and it must be replaced with a more complex simulation

- The new simulation should meet these requirements
  - detector description based on GDML
  - tracking algorithm taking into account dE/dx and mul. scat.
  - possibly pattern recognition, maybe switchtable on/off if processing time is an issue
  - accurate simulation of showers

Use of existing tools

- Given the lack of manpower it looks mandatory to exploit what already exists as much as possible. The new code should use the composition tools developed in Babar.

- Work is needed to export these tools outside the Babar framework

manpower

- The number of people active on the development of tools for fast simulation has been very small so far
- It must increase to meet the deadlines
  - one person working on the GDML det. description is needed (he/she may common to the full simu.)
  - a couple of people with experience on tracking