Preliminary planning for SuperIFR simulation

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- Detector optimization
  - ✓ resolution
  - ✓ configuration of active layers and absorber
  - ✓ …

  ↳ For these studies it is necessary to use a full simulation in order to have a detailed simulation of the hadronic shower

  ↳ A first idea for these studies is to use the babar framework since we need a reconstruction information from other detectors.
  ➔ In terms of interaction length, all detectors inside IFR of BaBar are not so different from the superB detectors

- From the babar simulation of superIFR
  - ✓ detector optimization
  - ✓ detailed parametrization of the hadronic shower to use in FAST SIMULATION
  - ✓ …

- Background from machine

  ✓ from the geant4 standalone simulation of the background group (Calderini etc) we can have root files with hit information ➔ extract a distribution of the rates due to the background

  ↳ We have to evaluate if this rate distribution could be used in the babar simulation (???) for superIFR.

  ↳ IF this thing is possible ➔ it is possible to evaluate something like an inefficency due to the background to use in the fast simulation.

- Maybe iteractive studies on geometry of superIFR and effect of the background could be necessary (???)

- Preliminary conclusions

  ✓ For detector optimization and evaluation of background effects on superIFR it is necessary a full simulation.

  ✓ To implement a fast simulation of superIFR it is necessary to know a detailed parametrization of the hadronic shower and to have something like an inefficiency due to the background