Biweekly GBP meeting

Sapphire sensitivity as a function of primary photon's energy

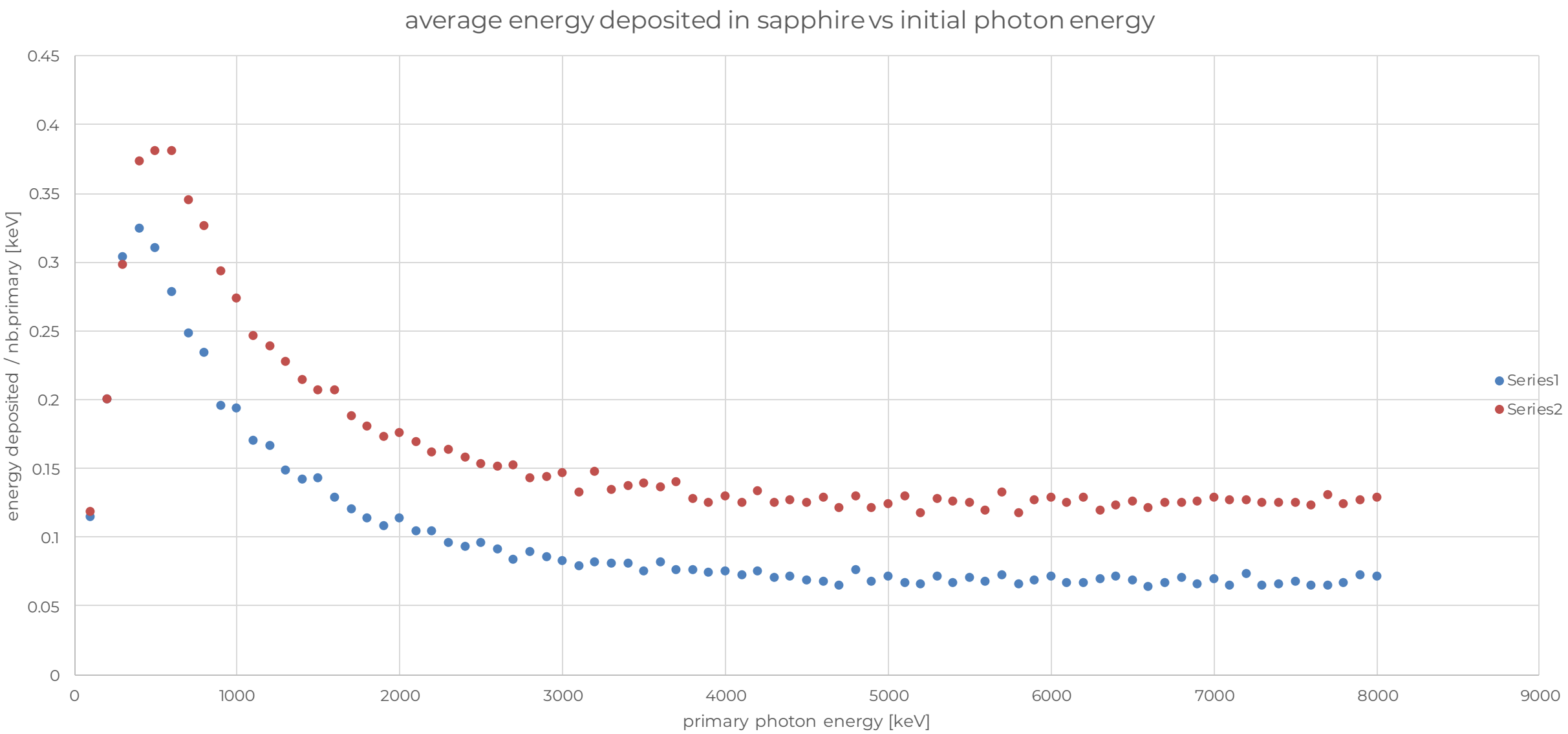
UNIVERSITÀ DEGLI STUDI DI PADOVA

Geant4 simulation setup

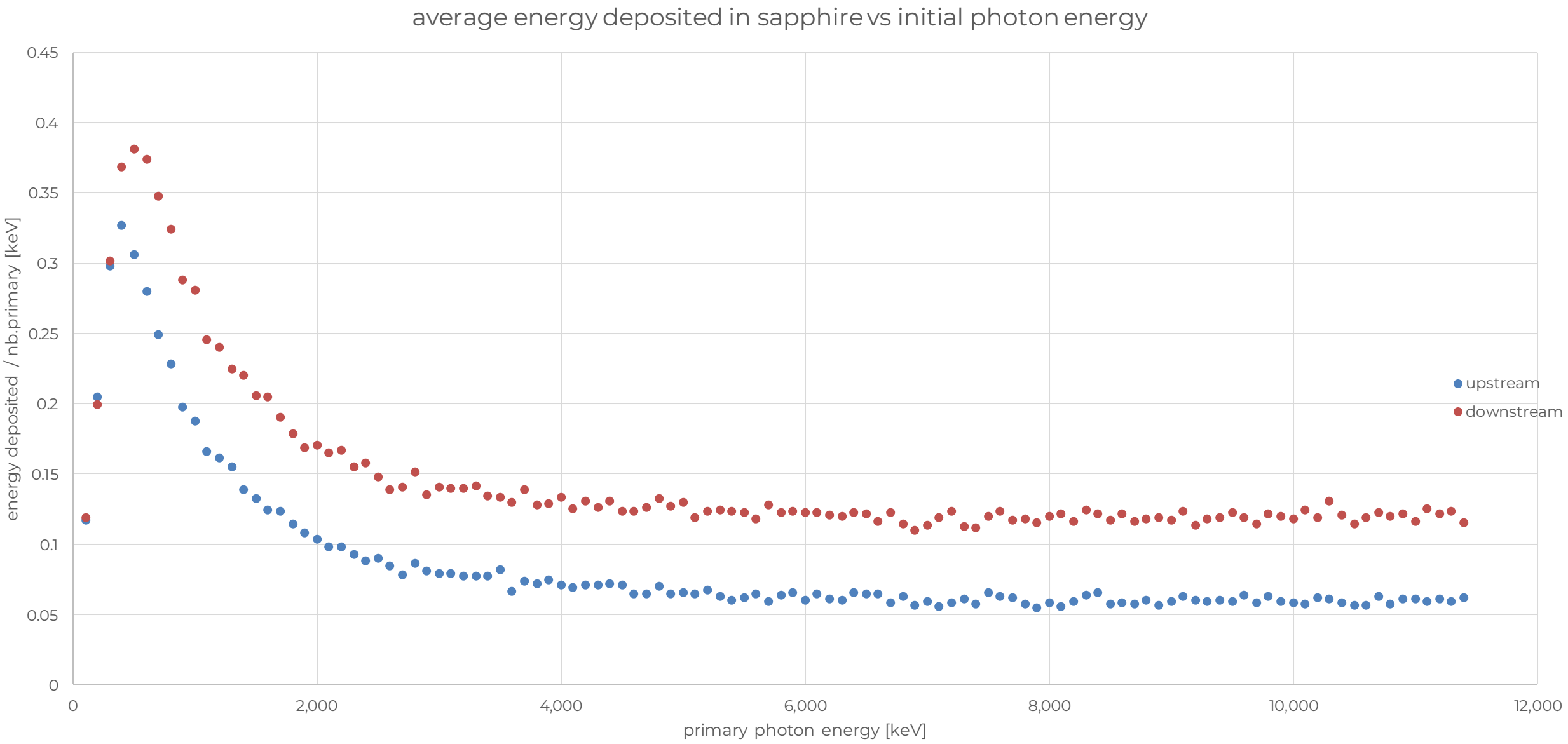
- Standalone GBP simulation is used
  - two sensors 100um each – upstream and downstream – separated 2cm each others;
  - beam pipe exit kapton window with thickness 200um;
  - FPFP_BERT hadronic physics list used;
  - simulation in air;
  - default cuts

- The event simulates the interaction of a monochromatic photon beam with sigmaX=sigmaY=0 shooting the center of the strip detectors (X=Y=0) and starting right before the beam pipe exit window, which is made of 200um kapton material.

Energy deposited in sapphire as function of initial photon's energy



Half-size kapton window



Half-size kapton window (normalized with MIP edep)