

Montecarlo simulation of dose contribution from environmental sources to a biological system in the RENOIR Radiobiology Experiment at INFN-LNGS



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- GEANT4-based estimate of the dose contribution from environmental sources to the biological system under study in the RENOIR project (Drosophila);
- We use as input particle flux measurements performed above/underground or from the literature and a detailed description of the geometry and materials of the experimental setup, and obtain:
 - Atmospheric muons: 17.2 nGy/h
 - Environmental gammas (0 – 3 MeV): 7.5 nGy/h
 - Environmental neutrons (thermal - 20 MeV): 1.4 nGy/h
- Final results will be used to build a modeling of the experimental conditions, to ease the interpretation of the biological results.

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Session: Applications