



Contribution ID: 48

Type: **not specified**

Silicon microdosimetry

Thursday 17 October 2013 15:00 (1 hour)

1. Introduction to Solid State microdosimetry
2. Electronic , calibration and sensitivity of Si microdosimeter
 - 2.1. Comparison of TEPC to Si-microdosimeter
3. Concept and design of Silicon on Insulator (SOI) microdosimeters
 - 3.1. Three generation of SOI microdosimeters
 - 3.2. Charge collection in Sensitive Volumes (SV) of SOI microdosimeters
4. Application of SOI microdosimeters
 - 4.1. Radiation protection (Cf-252 and Pu-Be Sources)
 - 4.2. Hadron Therapy
 - 4.2.1. Fast Neutron Therapy (FNT)
 - 4.2.2. Proton Therapy (PT)
 - 4.2.3. Heavy Ion Therapy.(HIT)
 - 4.2.4. LEM vs MKM –SOI microdosimetry experience
 5. 3D detector technology-future of Si microdosimetry.
 - 5.1. Peculiarities of charge collection in 3D Si detectors
 - 5.2. Concept and design of 3D Si microdosimeter.
 - 5.3. GEANT 4 modeling of 3D microdosimeter (avionics environment, isotopic neutron sources)
2. Other Si microdosimetric structures (DRAM , FGMOFET etc)
3. Conclusion and tips for thinking on new Si microdosimeters design

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Session Classification: Training Courses on Experimental Micro- and Nano-dosimetry