

## Discussion May 12, 2010: Nuclear Lunch Seminar

*Positron emission tomography: principles, technology, and recent developments*  
by S.I. Ziegler, Nucl. Phys. A 752 (2005) 679c-687c

### Questions stimulated by the paper:

1. What is the parallax error? [Cody](#)
2. What is the Sv (Sievert) unit? [Tony L.](#)
3. What is the difference between a PET scan, a MRI scan and a CT scan? [Sushil](#)
4. PET is about scanning of the functionality, but does it give you the location of the functionality/disorder. If so how accurately? [Shamin](#)
5. Why do the tumors appear dark on the figure? Is it related to density? [Bijaya](#)
6. How to detect a photon with a scintillator? [Harsha](#)
7. What is a coincidence window? [Youngshin](#)
8. What are avalanche photo-diode arrays and what do they do? [Ken](#)
9. How do you get ride of rays 2, 3, 4 shown in figure 1? [Shloka](#)
10. The paper says that to get a good image one needs to correct for dead time, random scatter and attenuation. How does one do that? [Anthony Paul](#)
11. How is it possible to restore a 3D picture from the flux of detected gamma? [Bing](#)
12. What is the extra dimension if the 4D PET? [Daniel](#)
13. How could time of flight improve signal-to-noise ratio? [Azamat](#)
14. What is the electronic collimation in the context of this paper? [Chen](#)
15. How does one force the radio-tracers to go to a specific region of the body? [Anton](#)