

Session 3 Assignments

1. What are the salient features of an antineutrino detector? What is the importance of radiopurity of detector elements?

Ref.: An Overview of the KamLAND 1-kiloton Liquid Scintillator *

F. Suekane, T. Iwamoto, H. Ogawa,

<http://arxiv.org/ftp/physics/papers/0404/0404071.pdf>

arXiv:0404071.pdf

2. What are the main sources of background interferences for antineutrino detection?

Ref.:

Electron antineutrino search at the Sudbury Neutrino Observatory

B. Aharmim et al, **SNO Collaboration**,

Physical Review D, Volume 70, 093014 – 1 to 8.

3. What are the main differences between kamLAND and SNO+ antineutrino detectors?

How do those differences effect the detection of antineutrinos for global radioactivity determination?

Ref.: Experimental investigation of geologically produced antineutrinos with KamLAND

T. Araki et al (kamLAND collaboration)

Nature 436, 499-503 (28 July 2005) doi:10.1038/nature03980.

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12.091 Basics of Analysis with Antineutrinos from Heat Producing Elements – K, U, Th in the Earth
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