

## Neutron Detector With Boron Lined Internal Structures

### **Disclosure Number**

201002404

### **Technology Summary**

Helium-3 is now so scarce as to be practically unavailable. Boron-10 is a well-known neutron converter isotope with energetic charged daughter particles. All known boron gaseous boron compounds are highly toxic and thus considered unsuitable for widespread deployment. Boron lined proportional chambers are among the most common low-efficiency neutron detectors. Changing the geometrical configuration of the neutron converter to maximize detection efficiency is an established practice. Geometrical leveraging of solid neutron converter layers to maximize neutron detection efficiency, however, has remained under developed due to the ready availability of high efficiency gas detectors that do not require the complexity of highly structured boron lined proportional tubes.

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