

High Spatial Resolution Radiation Detector with Nanosecond Timing

Disclosure Number

201002479

Technology Summary

The present invention provides improved spatial resolution (100 microns or less) for charge particle detection or cold neutron detection with extremely low sensitivity to other radiation such as x-rays or gamma rays, defining the time of the event within ~1 nanoseconds. Depending on how the invention is implemented, the spatial resolution can be larger or smaller than 100 microns as desired. The present invention is simpler than existing methods for such applications. Its higher signal to noise ratio results in lower false detection rates and higher real detection. The scintillation end of the fiber can be made by ion implantation or thermal diffusion.

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