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Low background radiation SOI pixel detector for Solar Axion search experiment.

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A solution to the strong CP problem was proposed by introducing a pseudoscalar particle, the Axion, in 1977. Both the experimental constraints and the theoretical predictions have been made by various approaches in Particle physics, Astrophysics and Cosmology so far.
We discuss configuration of the Solar Axion search experiment with a 57Fe foil, as an Axion-photon converter, sandwiched pixel detectors. The detector consists of SOI pixel sensor having a fine granularity and a good energy resolution with Event-driven mode, the peripheral circuit board and the radiation shield. In the experiment, low radiation background is the essential to maximize the sensitivity. We also discuss how to achieve the low radiation background detector with simulation and measurement.

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