

FleX-RAY: A flexible scintillating detector for X-ray applications and beyond

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Photographic films are still used in a number of medical and industrial x-ray imaging applications need to reconstruct an image on a flexible surface. We will present the FleX-RAY project, which aims to create an electronic X-ray detector with the flexibility of photographic film, suitable for a variety of applications.

FleX-RAY uses a sheet of flexible scintillating fibers to detect X-rays and guide the scintillation light to arrays of silicon photomultipliers. The detector also self-reports its curved shape using optical waveguides with Bragg gratings on a flexible glass substrate, which act as strain sensors.

In this contribution, we present the detector concept, simulations of the expected detector performance for pipe-inspections and results of the initial tests on the FleX-RAY prototype.

Alternate track

1. Detectors for Future Facilities, R&D, Novel Techniques

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