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# On sensitivity of detectors based on hydrogenated amorphous silicon (a-Si:H) for measuring radiation beams

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The HASPIDE project aims to investigate the use of a-Si:H as a material for detecting different types of ionizing radiation in applications like radiation flux measurement, dosimetry, and measurement of ionizing radiation in the spatial environment. The demand for radiation-resistant detectors capable of high dynamic range and precise measurement of fluxes is increasing and a-Si:H thanks to its characteristic of being very resistant to radiation damage, it's an excellent candidate. The project involves building detectors with different configurations and using different contact techniques. Preliminary results, shows good uniformity and low noise levels, and a linear correlation between dose rate and signal. Sensitivity, an important parameter for low radiation conditions, was extracted for photons and all the devices grants a sufficient sensitivity for radiation flow measurement ( $> \text{tens of pA}$ ) coupled with a low noise, it was also found that there's a dependence of the sensitivity on the geometric configuration of the detector. The next step is to test the sensitivity of the detectors to different types of ionizing radiation.

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