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## Optical characterization of lithium fluoride detectors for broadband X-ray imaging

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Novel X-ray imaging detectors based on photoluminescence of color centers in lithium fluoride have been proposed and tested for extreme ultraviolet, soft and hard X-rays up to 10 keV. For the first time we present the optical characterization of LiF crystals and thin films irradiated at the TOPO-TOMO beamline of synchrotron light source Anka (Karlsruhe, Germany) in the energy range (2-40 keV) for several exposure times. Absorption and photoluminescence spectra were analysed to obtain the optical response of the LiF-based detectors, which are characterized by a linear behaviour over two decades in the investigated radiation dose interval. High resolved X-ray imaging of commercial test patterns has been obtained on LiF crystals and films by optical readout with a confocal laser fluorescence microscope.

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