

Inverse Compton Scattering for EUV and X-Ray Applications

High fidelity EUV and X-ray radiation is important in many applications such as medical and material X-ray radiography, X-ray diffraction. Most commonly the high energy radiation is generated by accelerating charges in magnetic fields (for example in synchrotron facilities).

Another approach is using inverse Compton scattering where the magnetic field is replaced by an electromagnetic wave from a laser pulse. This process requires less effort to produce high energy radiation, but current sources have to be optimized further to produce higher quality output beams.

Researchers from Germany present an approach where they measure the spectral shape of the X-ray beam to characterize the radiation source. They use an in vacuum CCD camera to record the spectra by counting single photon events.

Featured Paper/ Publication: [Making spectral shape measurements in inverse Compton scattering a tool for advanced diagnostic applications](#), Scientific Reports, 2018

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Products used: [PIXIS-XO](#)