

Improving the Use of Strong Laser Fields in Plasmas for Synchrotrons

Particle accelerators and synchrotrons are our most perfect and brilliant light sources of visible to x-ray radiation for scientific research and development, from material to life science. Recently techniques using strong laser fields in plasmas have emerged as an alternative for acceleration because of their much smaller size (<1 meter vs. 100s of meters for synchrotrons).

However, the emerging particle beams still have significant quality issues compared to the currently used beams. Researchers at the Synchrotron SOLEIL in France report on work of improving the beam quality where they monitor the quality and shape of the radiation that is produced from them. Vacuum compatible scientific CCDs allow for sensitive detection of radiation from UV to soft x-rays in this application.

Featured Paper/ Publication: [Control of laser plasma accelerated electrons for light sources](#)
Nature Communications, 2018

Reference Lab: Synchrotron SOLEIL, France

Products used: [PIXIS-XO](#), [SOPHIA-XO](#)