MATTER AND TECHNOLOGIES

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The PERCIVAL soft X-ray imager

The PERCIVAL collaboration to develop a soft X-ray imager able to address the challenges of high brilliance light sources such as new-generation synchrotrons and Free Electron Lasers, has reached one of its major milestones: a full 2-MegaPixel (P2M) system (uninterrupted 4 x 4 cm2 active area) has already seen its first light.

Smaller prototypes of the device, a monolithic active pixel sensor based on CMOS technology, have already been fully characterised, and have demonstrated high frame rate, large dynamic range, and relatively high quantum efficiency.

The PERCIVAL modular layout allows for clover-leaf like arrangement of up to four P2M systems. Moreover, it will be post-processed in order to achieve a high quantum efficiency in its primary energy range (250 eV to 1 keV).

We will present the P2M system, its status and newest results, bring these in context with achieved prototype performance, and outline future steps.

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