

The world's smallest synchrotron, MIRRORCLE-6X, now commercially available

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Synchrotron light, the highly prized output from a synchrotron (a particular type of particle accelerator), is an extremely powerful investigative tool in many fields of science and technology. Once considered a parasitic loss, synchrotron light is now the sole reason why many synchrotrons are built. This tremendous utility found in synchrotron light however comes with a serious drawback, the very significant facility price tag. Synchrotron light is thus expensive, which ultimately constrains aspirations on its usage.

What makes MIRRORCLE-6X so intriguing is that for the first time it may be possible to proliferate synchrotron light with a very low entrance fee. This is the dream of Professor Hironari Yamada, researcher and inventor at Ritsumeikan University in Kusatsu, Japan. After more than 15 years of intense research into the development of miniature synchrotrons, the pinnacle of success was achieved with the construction and operation of MIRRORCLE-6X. Photon Production Laboratory, Ltd. (www.ppl-xray.com) has commercialized MIRRORCLE-6X and currently offers it as part of their product lineup.

MIRRORCLE-6X achieves its exceptional performance through a number of novel innovations. The result is very high synchrotron light generation efficiency, coupled with effective use of space. Naturally divergent, and highly coherent, MIRRORCLE-6X emits broadband X-rays ideal for many applications. Notable is the phase contrast imaging

capability where biological soft tissue is readily visible vs. conventional X-ray images, to nondestructive testing where metal, plastic, and rubber parts can be imaged simultaneously.

The future looks bright for the World's smallest synchrotron. Continued research promises to boost MIRRORCLE-6X output to even higher levels of performance. In a world where "bigger" is usually associated with better, MIRRORCLE-6X proves that good things come in small packages.

Source: Photon Production Laboratory, Ltd.

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