

## **Mitsubishi Electric Developed Ultra-compact Palm-sized Accelerator**

**Mitsubishi Electric Corporation recently developed an ultra-compact electron accelerator - called the "laptop accelerator" - that is only about the size a human palm, with an external diameter of 15cm and a weight of 10kg. Owing to its 990-keV electron beam, the device can emit an X-ray beam with a diameter of 10 $\mu$ m at the time of its emission, and which gets smaller as the energy of the particles increases. Expected applications are in nondestructive tests and diagnostic devices.**

Acceleration up to 990keV was made possible in the palm-sized laptop accelerator thanks to a unique accelerating method, whereby the electrons emitted by the electron gun are accelerated as a broad electron beam inside a doughnut-shaped vacuum duct, and to the development of an electromagnet that causes the electron beam to converge within a specified area as it is accelerated.

Mitsubishi Electric is proposing the new accelerator for incorporation by device manufacturers, and is working to realize models with greater output and reliability.

*Editor: Mio Kimuro, JAIF*