



No. 41

大学間連携オムニバス講義 (IPPS Lecture & Seminar)

Title: X-ray Physics and Medical X-ray devices

Lecturer: Dr. Jaegu Choi [Korea Electrotechnology Research Institute (KERI)]

Date & Time: December 6 2018, 15:10~16:40

Venue: Kurokami South W2[Sogo-kenkyutou](2nd Floor, 204 GP Conference room)

Abst.: X-ray has been widely used for medical applications as well as industrial ones since X-ray was discovered by Wilhelm Rontgen on November 8, 1895. X-rays are generated in the forms of the characteristic and braking radiation by an X-ray tube that uses a high voltage to accelerate the electrons released by a hot or cold cathode to a high velocity. X-ray detectors used for medical purposes were originally based on analog photographic film, but are now mostly replaced by various digital flat panel detectors. A medical X-ray device can consist of an X-ray tube, an X-ray detector and a gantry although the device can be more complex and huge according to the application. Typical X-ray devices for clinical uses are the general radiography system, the fluoroscopy system, the angiography system, the mammography system, the computed tomography system and the dental X-ray system.

In this talk, the following topics will be presented; X-ray physics, medical X-ray devices and selected X-ray research activities in KERI including X-ray scatter physics, digital breast tomosynthesis and a novel X-ray source.

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