

## Development of fast readout system for counting-type SOI detector 'CNPIX1'

Small pixel size X-ray counting-type detector is required in many X-ray diffraction experiments. Since the number of readout pixels becomes huge to cover large area, fast readout system is important. We are developing a data readout system for a new counting-type SOI detector 'CNPIX1'. CNPIX1 detector has 328 x 256 pixels of hexagonal pixels and frame rates more than 1 kHz is demanded to observe dynamic structure of the samples. We adopt KC705 evaluation board equipped with Kintex-7 FPGA, DDR3 memory, and Gigabit Ethernet interface as the base of our new system to meet this demand. The CNPIX1 detector signals are connected through FPGA mezzanine card interface. The status of new readout system construction and first imaging result of CNPIX1 will be shown.

**Primary author:** NISHIMURA, Ryutaro (SOKENDAI)

**Co-authors:** SONG, Longlong (IHEP); Prof. OUYANG, Qun (IHEP); Dr HASHIMOTO, Ryo (KEK); Prof. KISHIMOTO, Shunji (KEK); Prof. MIYOSHI, Toshinobu (KEK); Prof. ARAI, Yasuo (KEK); Dr LU, Yunpeng (IHEP)

**Presenter:** NISHIMURA, Ryutaro (SOKENDAI)

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