

Tektronix Real-Time Spectrum Analyzer Contributes to the Development of the Remarkable X-Ray Free Electron Laser

Swift Analysis of Individual Microwave Pulses Contributes to X-ray Laser Development

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Tektronix, Inc. , a leading worldwide provider of test, measurement and monitoring instrumentation, announced that the Tektronix RSA6114A Real-Time Spectrum Analyzer has been adopted by the X-ray Free Electron Laser (XFEL) Project in Japan. XFEL is a joint project between Japan Synchrotron Radiation Research Institute (JASRI) and RIKEN. XFEL has received national recognition as a key technology of national importance from the Japanese government. These institutes have established the SPring-8 Joint-Project for XFEL. By supporting the stable operation of klystron vacuum-tube amplifiers, the Tektronix RSA6114A Real-Time Spectrum Analyzer is contributing to the development of SPring-8 X-ray lasers.

"The Tektronix RSA6114A Real-time Spectrum Analyzer is the only product on the market that can meet our requirements," said Hirokazu Maesaka, Ph. D, RIKEN SPring-8 Center, The Institute of Physical and Chemical Research Advanced Electron Beam Physics Laboratory. "The frequency range measured by the RSA6114A is from 9 kHz to 14 GHz, which adequately covers the center frequencies of klystron: 2.856 GHz and 5.712 GHz. Memory depth for an acquisition bandwidth of 110 MHz is 1.706 seconds, and memory depth for an acquisition bandwidth of 60 MHz is 3.413 seconds. In addition, the RSA6114A is capable of measuring pulse rise time, pulse width, pulse peak power, pulse average power, and pulse-pulse phase frequency deviation. The unit also uniquely provides prompt analysis and listing of individual pulses."

Aiming to commence operations in fiscal 2010, the joint project has undertaken the construction of XFEL/SPring-8, with a total length of over 600 meters. When the facility is in operation, it will be capable of producing X-ray lasers with an oscillation wavelength of 0.06 nm, using 8 giga-electronvolts (GeV) of acceleration energy. The Joint-Project also plans to install 60 klystrons for handling 5.712 GHz microwaves, in order to bolster the linear accelerator. The Tektronix RSA6114A will also be utilized at XFEL/SPring-8 to analyze spectral differences before and after amplification of pulses by klystrons, and spectral change over time.

For further details about XFEL, please access: <http://www.harima.riken.jp/xfel/>

About RIKEN

The mission of RIKEN is to conduct comprehensive research in science and technology (excluding only the humanities and social sciences) as provided for under the "RIKEN Law," and to publicly disseminate the results of its scientific research and technological developments. RIKEN carries out high level experimental and research work in a wide range of fields, including physics, chemistry, medical science, biology, and engineering, covering the entire range from basic research to practical application. RIKEN was first organized in 1917 as a private research foundation, and reorganized in 2003 as an independent administrative institution under the Ministry of Education, Culture, Sports, Science and Technology.

About Tektronix

Tektronix is a leading supplier of test, measurement, and monitoring products, solutions and services for the communications, computer, and semiconductor industries -- as well as military/aerospace, consumer electronics, education and a broad range of other industries worldwide. With 60 years of experience,

Tektronix enables its customers to design, build, deploy, and manage next-generation global communications networks, advanced and pervasive technologies. Headquartered in Beaverton, Oregon, Tektronix has operations in 19 countries worldwide. Tektronix' Web address is <http://www.tektronix.com/>.

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