FPGA Spectrometer

The spectrometer is then used in two X-band electron spin resonance experiments, showing how the advantages of the system allow for superior results to that possible with the previous equipment. In ...

We present three applications, designed using this method, a 128 million channel, 200MHz bandwidth FPGA-based spectrometer, a GHz bandwidth polyphase FPGA spectrometer, and a custom 4096 ...

We have developed a digital fast Fourier transform (FFT) spectrometer made of an analog-to-digital converter (ADC) and a field-programmable gate array (FPGA). The base instrument has independent ...

The proposed SoC-FPGA architecture enabled significant instrument miniaturization and sensitivity improvement, resulting in a compact and performant NQR spectrometer.

light results of a 1024-channel spectrometer based on field programmable gate array (FPGA) hardware. This spectrometer is the prototype.

A solution to improve the universality of the FPGA-based digital spectroscopy system is presented in this work, and the implementation of the real-time digital signal processing unit is ...

We begin by discussing the design methodologies that might be considered when designing a spectrometer for scientific applications, such as wavelength resolvable imaging using a linear CCD. ...

In order to meet the demand for portable use of the spectrometer and improve the spectral acquisition rate, the driving circuit of the miniature fiber optic spectrometer was designed.

Its key feature is that a single Field-Programmable Gate-Array (FPGA) chip does most digital jobs of the spectrometer. It allows building digital hardware modules, called core modules, by writing a software ...

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