Software for dual-mode ultrasound array driver and imaging platform (DMUA-DIP)

A software to drive dual-mode ultrasound arrays in imaging and therapy modes in a synchronized fashion.

IP Status: Copyrighted

Applications

- Ultrasound imaging

Overview

This software platform is capable of generating arbitrary waveforms on 32 linear power amplifiers to drive the dual-mode ultrasound array driver (DMUA) in imaging and therapy modes in a highly synchronized manner. This invention employs a reconfigurable pipelined software architecture that allows for using field-programmable gate array (FPGA) platforms for waveform generation and data collection, GPUs for beamforming, signal processing, and image display, and CPUs for data management and user interface. In the current mode, the driver and the receiver circuitry are separate, but highly synchronized with some level of handshake capability for trigger, etc. The software is written in C++, CUDA, and VHDL.

Phase of Development

TRL: 6
Beta version. Representative model or prototype tested in a relevant environment.

Desired Partnerships

This technology is now available for:
- License
- Sponsored research
- Co-development

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Researchers

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Category
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Life Sciences/Health IT
Software & IT/End User Software
Software & IT/Health IT

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