New generic method for measuring the time of arrival of an electrical signal

**DESCRIPTION**

In the field of measurement and more particularly for the detection of events, a high degree of precision in the timing is fundamental. This precision can be obtained by implementing TDC - Time to Digital Converter on computer chips. Different methods are now available to achieve picosecond precision, and now the challenge is to achieve picoseconds at a moderate cost.

A solution based on a VHDL code implemented on an FPGA, or software code in post-processing on a computer (or on an embedded system) has been developed, showing that we can achieve a very high temporal resolution with a simple and inexpensive implementation.

**APPLICATIONS**

- TEP-Scan, Hadrontherapy, FLIM
- Depth sensing – LIDAR
- High Energy Physics
- Photon counting

**TARGET MARKETS**

- TDC providers
- Manufacturer of Electronics/photonics devices
- Embedded systems developers

**COMPETITIVE ADVANTAGES FOR AFM**

- Time resolution measured of the order of 1ps RMS
- Ease of implementation
- Cost reduction: Code on a single FPGA or code improvement of commercial TDC
- Short dead time between two measurements: a few ns
- Significant reduction in FPGA resource consumption
- Generic solution that can be adapted to the configuration of use

**STAGE OF DEVELOPMENT**

Working proof of concept prototype available

**INTELLECTUAL PROPERTY**

Working on a patent registration

**LABORATORIES**

- IP2I / CNRS / Université de LYON

**CONTACT**

David VITALE
+33(0)4 26 23 56 60
david.vitale@pulsalys.fr

**FIND OUT OUR OPPORTUNITIES**

pulsalys.fr/article/nos-offres-de-technologie