COMPARISON OF THE SOLUTION OF THE OPTOELECTRONIC SYSTEM BASED ON ARDUINO UNO AND USB-6009 IN THE PROGRAM LABVIEW

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In this article we consider the problem of implementing a microprocessor assembly Arduino Uno as a cheap and available analog of a data gathering device USB-6009 of National Instruments company, applied in developing the laser turbidity measuring system. The system is based on fixing light transmission and scattering by turbidimetric and nephelometric photodetectors. It takes into account the environment temperature and the temperature of a liquid sample, thus, it has temperature sensors. As sensor signals the system uses voltages, received from potentiometers (photodiode imitators). By adding an opto-electronic part such device makes it possible to compare and debug solutions received using Arduino Uno and USB-6009 under absolutely equal conditions without the system being significantly complicated. The hardware/software solution for working with these platforms is introduced in LabVIEW and its structural-functional scheme is also given.

Keywords

LabVIEW, NI USB-6009, Arduino Uno, turbidimeter, nephelometer, turbidity, laser measuring system, automation

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