Contribution ID: **15** Type: **Poster Presentation**

Digital Arduino Driven Spectrometer using Scientific MATLAB Orientated Interface and Protocol

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Abstract content
   (Max 300 words)

The Arduino.pde is the famous server sketch and Arduino IO Class, designed by the G. Campa, 12-Aug-2010, Version 2.5 (R2010a), continuously running on the ATMEGA328 micro-controller on the latest Ardiuno Uno development board, enabling digital/analog pin writing/reading capabilities, this is similar to the typical analog to digital controllers. This operational program allows for the user to use the Arduino together with MATLAB to engineer any creative scientific instrumentation. It is for this reason that the idea of a very inexpensive digital spectrometer was produced, to test the engineered program and the capabilities of MATLAB to perform such an electronically enhanced environment. This is digital web-cam driven spectrometer and the whole device is managed through USB, sensing devices and DC-motor and stepper-motor driving capabilities are tested in this project, and MATLAB's capability to create a graphical user interface to facilitate timer functions and object creation for the Arduino in general and the web-cam communications.

Apply to be
 consider for a student
   award (Yes / No)?

YES

Level for award
 (Hons, MSc,
   PhD)?

MSc

Main supervisor (name and email)
and his / her institution

Independent

Would you like to <br> submit a short paper <br> for the Conference
 Proceedings (Yes / No)?

No

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