Abstract Submitted
for the SES13 Meeting of
The American Physical Society

Laser Induced Breakdown Spectroscopy for Monitoring Trace Elements in Liquid Samples PRAKASH SHARMA, ALEJANDRA SANDOVAL, AKSHAYA KUMAR, Department of Physics, Tuskegee University — Laser Induced breakdown spectroscopy is a developing and promising technology of the coming era due to its simplicity and robustness. A high energy pulsed ND: YAG laser light is focused on the sample using lens to create plasma of the sample material. The plasma of the sample emits light during its cooling process. The optical light emitted from the plasma is collected by optical fibers and send to the spectrometer for spectral analysis. Various elements present in the sample have their characteristic emission wavelength signatures. The intensity of emission is captured by a CCD array detector and displayed on the computer. We have employed the LIBS technique to identify the trace elements in water. Various sample conditions and experimental parameters such as time delay between the laser pulse and detection device known as time delay has been changed to see its effect on LIBS signal. This technique can be used for real time monitoring of water quality.

Prakash Sharma
Tuskegee University

Date submitted: 20 Sep 2013 Electronic form version 1.4