Contribution ID: **74** Type: **not specified**

VICTOR CONTRERAS: Analysis of liquids impurities with LIBS assisted by acoustic levitation sampling.

Monday, 17 February 2020 16:45 (30 minutes)

Real-time and multi-elemental analysis for online water monitoring is an important task towards environmental safety, public health, water purification control, the adequate reuse of wastewater, and for many processes in engineering and industrial fields. However, the online water monitoring cannot be performed by analytical conventional techniques (LA-ICP-MS, ICP-OES or XRF) because they demand long operation times and/or specialized handling. Laser induced breakdown spectroscopy (LIBS) represents one of the most appealing alternatives for multi-elemental analysis where rapid information is required. For liquids analyses, it has been demonstrated that LIBS improve its analytical performance when drops are trapped and partially dried by an acoustic levitation system, enabling multi-elemental trace detection on liquids with relatively simple instrumentation requirements.
In this talk I will introduce the methodology based on LIBS assisted by acoustic levitation sampling. The talk will focus on the generation of acoustic potentials for single-axis acoustic levitation systems and the most interesting spectroscopic results based in the analysis of trace heavy metal detection contained in liquid samples acoustically levitated. The approach is addressed to develop a methodology for online monitoring applications demanding limited volumes of liquid samples with simple instrumentation.

Session Classification: SHORT TALKS

Track Classification: SYMPOSIUM ON LASER ABLATION