Laser-Induced Breakdown Spectroscopy – from Elemental Imaging to Industrial Process Control

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The last decade has seen rapidly increasing interest in the utilization of Laser-Induced Breakdown Spectroscopy (LIBS) for a range of applications, from elemental imaging to recycling, from Mars exploration to industrial process control. This development has, in part, been facilitated by improvements in pulsed lasers and fast camera detectors.

The talk will review the basics of LIBS and its applications in various fields, including medical, geochemical and nuclear. In particular, opportunities for improved process control in the aluminum industry through real-time chemical analysis of liquid metal will be discussed. Such technology has the potential to significantly impact the aluminum industry, with direct implications for the Nordic countries, considering that Norway and Iceland are the two largest producers of primary aluminum in Europe.