

ANALYTICAL CAPABILITIES OF TEA CO₂ LASER BASED LIBS SETUP

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Abstract. Laser-Induced Breakdown Spectroscopy (LIBS) has become a very popular analytical method given some of its unique features such as applicability to any type of sample, practically no sample preparation, stand-off sensing capability, speed of analysis, and a possibility to analysis even the light elements. In this paper, we present a unique laboratory LIBS setup developed in our research group. This system uses infrared TEA CO₂ laser as the excitation source and time-integrated spatially resolved (TISR) signal detection. In our recent publications, we have demonstrated the potential of using the cost-effective TEA CO₂ based LIBS system not only for the fast elemental analysis but also for the simultaneous determination of hardness of materials.

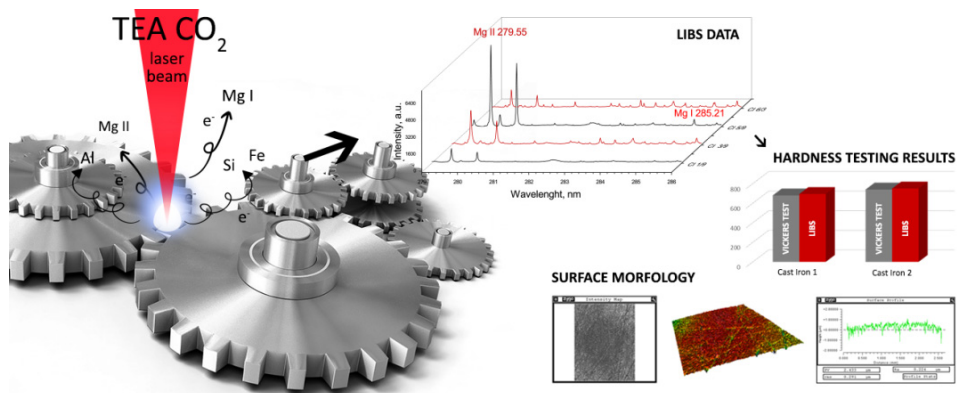


Figure 1: Graphical illustration of LIBS analysis

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