

Nanoparticle enhanced Laser Induced Breakdown Spectroscopy (NELIBS)

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In this paper the plasmon enhanced ablation for elemental analysis is investigated with several experiments in order to point out the crucial questions concerning the laser matter interaction under the effect of plasmonic coupling between the nanoparticle (NP) system and the laser ablation pulse. The correlation between the electromagnetic field enhancement and the signal enhancement during NP enhanced laser induced breakdown spectroscopy (NELIBS), as well as the laser matter interaction at the nanoscale, is discussed in the case of noble metal NPs deposited on metal samples. The effect of the size and concentration of NPs and the effect of laser pulse characteristics on NELIBS is also briefly discussed.

References:

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