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**High power lasers as a tool for meteorite composition studies
with an impact on the asteroid deflection**

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Keywords: *high-power lasers, LIBS, meteorite*

ABSTRACT

High power (TW) lasers represent a unique tool for the investigation of the meteorite composition, in particular, via laser induced break-down spectroscopy (LIBS). We will present recent results which were obtained during experiments on various laser systems (from femtosecond to nanosecond pulse duration) available in laboratories at Czech Academy of Sciences in Prague. During the experiments, the spectra of various meteorites and earth-minerals were studied via LIBS. Moreover, we also observe various laser absorption for different meteorite compositions – grains. This is tightly connected to the ablation rate and the laser absorption. Such an observation has a direct impact on the possible deflection of an asteroid from the collisional trajectory because in order to effectively deflect the potentially colliding asteroid the efficient laser absorption has to be guaranteed.
